Before using this information and the product it supports, read the information in "Notices" on page 453.

This edition applies to version 8, release 4, modification level 0, of IBM Tivoli Workload Scheduler Job Scheduling Console (program number 5697-WSZ, 5698-WSH) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces SC32-1257-06.

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About this publication

This Tivoli Workload Scheduler: Job Scheduling Console User’s Guide describes IBM® Tivoli® Job Scheduling Console version 8.4. It explains how to install the console and provides instructions for performing scheduling tasks using IBM Tivoli Workload Scheduler for z/OS and Tivoli Workload Scheduler for distributed engines.

What is new in this release

For information about the new or changed functions in this release, see Tivoli Workload Scheduling Suite: Overview.

For information about the APARs that this release addresses, see the Tivoli Workload Scheduler Download Document at [http://www.ibm.com/support/docview.wss?rs=672&uid=swg24016672](http://www.ibm.com/support/docview.wss?rs=672&uid=swg24016672).

What is new in this publication

This section describes what has changed in this publication since version 8.3 Fix Pack 01.

Note: Changed or added text is marked by a revision bar in the left margin.

Part 1. Planning and Installation

- Chapter 1, “Job Scheduling Console overview,” on page 3 has been updated to reflect the support for Internet Protocol version 6 (IPv6).
- Chapter 3, “Planning and installing the Job Scheduling Console,” on page 13 has been updated to reflect the new CDs.
- Chapter 4, “Planning and installing the z/OS connector,” on page 21 has been updated to reflect the new prerequisite information for the z/OS connector.
- Chapter 5, “Installing and adding language packs,” on page 23 has been changed to improve the installation using Software Distribution.
- Chapter 6, “Upgrading the Job Scheduling Console,” on page 27 has been added to reflect the new upgrade procedure.

Part 2. Getting Started

Chapter 11, “Authorizing users,” on page 57 has been added to document how to set user authorizations.

Part 4. Defining objects

- Chapter 19, “Creating engines,” on page 109 procedure has been updated to reflect the support for Internet Protocol version 6 (IPv6)
- Chapter 20, “Creating workstations,” on page 111 has been updated to reflect the support for Internet Protocol version 6 (IPv6)

Part 7. Managing plans

Chapter 61, “Launching the Tivoli Dynamic Workload Console Event Rule Editor from the Job Scheduling Console,” on page 363 has been added to document how to start the Tivoli Dynamic Workload Console Event Rule Editor from the Job Scheduling Console.
What is new in this publication

Part 8. Troubleshooting
Chapter 64, “Job Scheduling Console messages,” on page 373 has been updated to reflect the new messages.

Who should read this publication

This guide is intended for the following audience:

- **System administrators** responsible for installing the Job Scheduling Console. They should be familiar with one or more of the following operating systems:
  - Microsoft® Windows®
  - AIX®
  - HP-UX
  - Solaris Operating Environment
  - Linux®
- **Administrators** responsible for creating and updating object definitions and lists in the scheduler database and plan.
- **Operators** responsible for monitoring the scheduler plan.

What this publication contains

This guide contains the following sections:

**Part 1. Planning and installation**

Part 1 provides the information needed to plan and install the Job Scheduling Console. It contains the following chapters:

- **Chapter 1, “Job Scheduling Console overview,” on page 3**
  Describes where the Job Scheduling Console fits in the topology of Tivoli Workload Scheduler.
- **Chapter 3, “Planning and installing the Job Scheduling Console,” on page 13**
  Describes how to plan and install the Job Scheduling Console.
- **Chapter 4, “Planning and installing the z/OS connector,” on page 21**
  Describes how to plan and install the z/OS connector.
- **Chapter 7, “Importing Job Scheduling Console user preferences,” on page 31**
  Describes how to migrate the Job Scheduling Console user preferences.
- **Chapter 5, “Installing and adding language packs,” on page 23**
  Describes how to install and change languages.
- **Chapter 6, “Upgrading the Job Scheduling Console,” on page 27**
  Describes how to upgrade the Job Scheduling Console.
- **Chapter 8, “Uninstalling,” on page 35**
  Describes how to uninstall the various components that comprise the Job Scheduling Console.

**Part 2. Getting started**

Part 2 provides an overview of the Job Scheduling Console and a quick start to working with it. It contains the following chapters:

- **Chapter 9, “Job Scheduling Console objects and scheduling concepts,” on page 39**
  Describes the objects that are created and managed using the Job Scheduling Console.
Part 3. Quick reference guide

Part 3 provides a three part quick reference guide that describes the interface, working in a distributed environment, and working in a z/OS environment. It contains the following chapters:

- **Chapter 13, “Quick reference overview,” on page 67**
  Describes how the quick reference guide is organized.

- **Chapter 14, “Interface quick reference,” on page 69**
  Describes the Job Scheduling Console interface.

- **Chapter 15, “z/OS quick reference,” on page 79**
  Describes the quick steps you perform in the z/OS environment and then gives more detail for each of those steps.

- **Chapter 16, “Distributed quick reference,” on page 87**
  Describes the quick steps you perform in the distributed environment and then gives more detail for each of those steps.

- **Chapter 17, “Explorer View quick reference,” on page 101**
  Describes how to access the new Explorer View in the job stream editor.

- **Chapter 18, “Troubleshooting quick reference,” on page 105**
  Describes the locations of the various log files.

Part 4. Defining objects

Part 4 provides the information necessary for you to define database objects, and create the lists you use to manage them. It contains the following chapters:

- **Chapter 19, “Creating engines,” on page 109**
  Describes how to create engines in the z/OS and distributed environments.

- **Chapter 20, “Creating workstations,” on page 111**
  Describes how to create workstations in the z/OS and distributed environments.

- **Chapter 21, “Creating resources,” on page 121**
  Describes how to create resources in the z/OS and distributed environments.

- **Chapter 22, “Creating Windows users,” on page 127**
  Describes how to create Windows users in the distributed environment.

- **Chapter 23, “Creating parameters,” on page 129**
  Describes how to create parameters in the distributed environment.

- **Chapter 24, “Creating predefined prompts,” on page 131**
  Describes how to prompts in the distributed environment.

- **Chapter 25, “Creating calendars,” on page 133**
  Describes how to create calendars for the distributed environment.

- **Chapter 26, “Creating domains,” on page 137**
Guide contents

Describes how to create domains for the distributed environment.

- Chapter 27, “Creating workstation classes,” on page 139
  Describes how to create workstation classes in the distributed environment.

- Chapter 28, “Creating job definitions,” on page 141
  Describes how to create job definitions in the distributed environment.

- Chapter 29, “Creating job streams,” on page 147
  Describes how to create job streams in the z/OS and distributed environments.

- Chapter 31, “Creating forecast and trial plans,” on page 171
  Describes how to create forecast and trial plans in the distributed environment.

- Chapter 30, “Creating objects using Create Another,” on page 169
  Describes how to clone objects in the z/OS and distributed environments.

Part 5. Creating and using lists

Part 5 provides the information necessary for you to create and use plan and database lists. It contains the following chapters:

- Chapter 32, “Creating database lists,” on page 175
  Describes how to create database lists.

- Chapter 33, “Creating plan lists,” on page 185
  Describes how to create plan lists.

- Chapter 34, “Creating a group of lists,” on page 195
  Describes how to create a group of lists.

- Chapter 35, “Creating common plan lists,” on page 197
  Describes how to create plan lists that are common to z/OS and distributed engines.

- Chapter 36, “Working with lists,” on page 199
  Describes how to filter database and plan objects using lists.

Part 6. Managing database objects

Part 6 provides the information necessary for you to manage objects in the database after you have created them. It contains the following chapters:

- Chapter 37, “Managing engines,” on page 205
  Describes how to manage engines in the database.

- Chapter 38, “Managing workstations,” on page 211
  Describes how to manage workstations in the database.

- Chapter 39, “Managing z/OS job streams,” on page 213
  Describes how to manage z/OS job streams in the database.

- Chapter 40, “Managing distributed job streams,” on page 233
  Describes how to manage distributed job streams in the database.

- Chapter 41, “Managing resources,” on page 253
  Describes how to manage z/OS and distributed resources in the database.

- Chapter 42, “Managing job definitions,” on page 255
  Describes how to manage distributed job definitions in the database.

- Chapter 43, “Managing workstation classes,” on page 257
  Describes how to manage distributed workstation classes in the database.

- Chapter 44, “Managing domains,” on page 259
  Describes how to manage distributed domains.
Describes how to manage distributed domains in the database.

- **Chapter 45, “Managing Windows users,” on page 261**
  Describes how to manage distributed Windows users in the database.

- **Chapter 46, “Managing calendars,” on page 263**
  Describes how to manage distributed calendars in the database.

- **Chapter 47, “Managing prompts,” on page 265**
  Describes how to manage distributed prompts in the database.

- **Chapter 48, “Managing parameters,” on page 267**
  Describes how to manage distributed parameters in the database.

### Part 7. Managing plans

Part 7 provides the information necessary for you to manage objects in z/OS and distributed plans. It contains the following chapters:

- **Chapter 49, “Managing z/OS job stream instances,” on page 271**
  Describes how to manage z/OS job stream instances in the plan.

- **Chapter 50, “Managing distributed job stream instances in the plan,” on page 277**
  Describes how to manage distributed job stream instances in the plan.

- **Chapter 51, “Managing z/OS job instances,” on page 291**
  Describes how to manage z/OS job instances in the plan.

- **Chapter 52, “Managing distributed job instances in the plan,” on page 311**
  Describes how to manage distributed job instances in the plan.

- **Chapter 53, “Managing workstations in the plan,” on page 335**
  Describes how to manage workstations in the plan.

- **Chapter 54, “Managing resources in the plan,” on page 345**
  Describes how to manage resources in the plan.

- **Chapter 55, “Managing distributed file dependencies in the plan,” on page 351**
  Describes how to manage distributed file dependencies in the plan.

- **Chapter 56, “Managing distributed prompt dependencies in the plan,” on page 353**
  Describes how to manage distributed prompt dependencies in the plan.

- **Chapter 57, “Managing domains in the plan,” on page 355**
  Describes how to manage distributed domains in the plan.

- **Chapter 58, “Changing Windows user passwords in the plan,” on page 357**
  Describes how to manage Windows user passwords in the plan.

- **Chapter 59, “Setting an alternate plan,” on page 359**
  Describes how to set an alternate plan.

- **Chapter 60, “Restoring a plan,” on page 361**
  Describes how to restore the production plan after having set a plan different from it.

- **Chapter 61, “Launching the Tivoli Dynamic Workload Console Event Rule Editor from the Job Scheduling Console,” on page 363**
  Describes how to start the Tivoli Dynamic Workload Console Event Rule Editor from the Job Scheduling Console.

### Part 8. Troubleshooting
Part 8 provides troubleshooting information. It contains the following chapters:

- **Chapter 62, “Setting traces for the Job Scheduling Console,” on page 367**
  Describes how to set traces for the Job Scheduling Console.
- **Chapter 63, “Troubleshooting,” on page 369**
  Describes the most common problems and how they are resolved.
- **Chapter 64, “Job Scheduling Console messages,” on page 373**
  Describes the messages.

Part 9. Administration

Part 9 provides information about administration activities. It contains the following chapter:

- **Chapter 65, “Changing the TWSUser password for the z/OS connector,” on page 427**
  Describes how to change the TWSUser password.
- **Chapter 66, “Managing z/OS engines using WebSphere Application Server tools,” on page 431**
  Describes how to manage z/OS engines using WebSphere® Application Server (WAS) tools.

Part 10. Appendixes

Part 10 provides general information. It contains the following appendixes:

- **Appendix A, “Accessibility,” on page 435**
  Describes the accessibility features of the Job Scheduling Console.
- **Appendix B, “Starting the Job Scheduling Console from an external application,” on page 439**
  Describes how to start the Job Scheduling Console from an external application.
- **Appendix C, “Status description and mapping,” on page 441**
  Describes job and job stream states within the Job Scheduling Console and how to map between the console and engine states.
- **Appendix D, “Support information,” on page 445**
  Describes how to contact IBM support.

Publications

This section lists publications in the Tivoli Workload Scheduler library and any other related publications. It also describes how to access Tivoli publications online and how to order Tivoli publications.

**Tivoli Workload Scheduler library**

Tivoli Workload Scheduler comprises several separate products available for a variety of operating systems. The library is divided into:

**IBM Tivoli Workload Scheduling suite library**

This library contains all cross-platform and cross-product publications for Tivoli Workload Scheduler.
IBM Tivoli Workload Scheduler distributed library
This library contains all of the publications that refer to the use of Tivoli Workload Scheduler on operating systems other than z/OS.

IBM Tivoli Workload Scheduler for z/OS library
This library contains all publications that apply only to IBM Tivoli Workload Scheduler for z/OS.

IBM Tivoli Workload Scheduler for Applications library
This library contains all publications that apply only to IBM Tivoli Workload Scheduler for Applications.

IBM Tivoli Workload Scheduler for Virtualized Data Centers library
This library contains all publications that apply only to IBM Tivoli Workload Scheduler for Virtualized Data Centers.

IBM Tivoli Workload Scheduling suite library
The following publications are available in the IBM Tivoli Workload Scheduling suite library. This library includes publications that are common to all products, operating systems, and components.

- Tivoli Workload Scheduling Suite: Overview, SC32-1256
  Provides an overview of all Tivoli Workload Scheduler products, and the way they can be used together to provide workload management solutions for your whole enterprise.

Note: This manual used to be called "General Information".

- Tivoli Workload Scheduler: Dynamic Workload Console Installation and Troubleshooting Guide, SC32-1572
  Describes how to work with Tivoli Workload Scheduler, regardless of operating system, using a common Web-based GUI called the Dynamic Workload Console.

  This provides full information about downloading the product CD images. It also indicates the APARs that have been fixed in this release.

  This provides full information about the hardware and software prerequisites of the product.

- Tivoli Workload Scheduler: Job Scheduling Console User’s Guide, SC32-1257
  Describes how to work with Tivoli Workload Scheduler, regardless of operating system, using a common GUI called the Job Scheduling Console.

- Tivoli Workload Scheduler, version 8.3: Warehouse Enablement Pack version 1.1.1 Implementation Guide for Tivoli Data Warehouse, versions 1.2 and 1.3
  Provides information about enabling Tivoli Workload Scheduler for Tivoli Data Warehouse. This publication is only available on the Tivoli Workload Scheduler Engine Installation CD "TWS84_OTHER", in the following path:
  TDW_enablement_pack/tdw_weps/aws/v8300/doc/itws_for_TDW.doc
  You cannot access it online, in the same way that you can the other books (see "Accessing publications online" on page xxiv).
IBM Tivoli Workload Scheduler distributed library

The following publications are available in the IBM Tivoli Workload Scheduler distributed library. This library contains publications that refer to using the product on distributed operating systems (all operating systems except z/OS).

- **Tivoli Workload Scheduler: Quick Start Guide, GC23-6141**
  Provides information on how to get started with an installation of Tivoli Workload Scheduler on distributed operating systems.

  This provides full information about downloading the product CD images. It also indicates the APARs that have been fixed in this release.

  This provides full information about the hardware and software prerequisites of the product.

- **Tivoli Workload Scheduler: Planning and Installation Guide, SC32-1273**
  Describes how to plan for and install IBM Tivoli Workload Scheduler on distributed operating systems, and how to integrate Tivoli Workload Scheduler with NetView®, Tivoli Data Warehouse, Tivoli Monitoring, and Tivoli Enterprise Console®

- **Tivoli Workload Scheduler: Reference Guide, SC32-1274**
  Provides an explanation of the concepts of Tivoli Workload Scheduler and describes how the product is used. Also describes the Tivoli Workload Scheduler command line used on distributed operating systems, and how extended and network agents work.

- **Tivoli Workload Scheduler: Administration and Troubleshooting, SC32-1275**
  Provides information about how to administer Tivoli Workload Scheduler on distributed operating systems, and what to do if things go wrong. It includes help on many messages generated by the main components of Tivoli Workload Scheduler.

- **Tivoli Workload Scheduler: Database Views, SC32-2261**
  Provides information about the views of the IBM Tivoli Workload Scheduler database.

- **Tivoli Workload Scheduler: Using Microsoft Cluster Service on Windows Server 2003, SC23-6119**
  Describes how to use Tivoli Workload Scheduler with the Microsoft Cluster service on Windows Server 2003 to achieve high availability.

- **Tivoli Workload Scheduler: Limited Fault-tolerant Agent for i5/OS, SC32-1280**
  Describes how to install, configure, and use Tivoli Workload Scheduler limited fault-tolerant agents on i5/OS.

- **Java™ API documentation.**
  Provides information about using the Java Application Programming Interface (API). This is a set of available classes and methods running in a Java environment that you use to create a custom interface to manage scheduling objects in the database and in the plan. They cannot be used to manage the plan or to set global options.

  Documentation for the API is provided on all distributed product CDs. Mount the CD for your platform and open the following file with your Internet browser: `<CD_drive>/API/doc/index.html`. 
Publications


**IBM Tivoli Workload Scheduler for z/OS library**

The following publications are available in the Tivoli Workload Scheduler for z/OS library:

- **Tivoli Workload Scheduler for z/OS: Getting Started, SC32-1262**
  Discusses how to define your installation data for Tivoli Workload Scheduler for z/OS and how to create and modify plans.

- **Tivoli Workload Scheduler for z/OS: Installation Guide, SC32-1264**
  Describes how to install Tivoli Workload Scheduler for z/OS.

- **Tivoli Workload Scheduler for z/OS: Customization and Tuning, SC32-1265**
  Describes how to customize Tivoli Workload Scheduler for z/OS.

- **Tivoli Workload Scheduler for z/OS: Managing the Workload, SC32-1263**
  Explains how to plan and schedule the workload and how to control and monitor the current plan.

- **Tivoli Workload Scheduler for z/OS: Quick Reference, SC32-1268**
  Provides a quick and easy consultation reference to operate Tivoli Workload Scheduler for z/OS.

- **Tivoli Workload Scheduler for z/OS: Diagnosis Guide and Reference, SC32-1261**
  Provides information to help diagnose and correct possible problems when using Tivoli Workload Scheduler for z/OS.

- **Tivoli Workload Scheduler for z/OS: Messages and Codes, SC32-1267**
  Explains messages and codes in Tivoli Workload Scheduler for z/OS.

- **Tivoli Workload Scheduler for z/OS: Programming Interfaces, SC32-1266**
  Provides information to write application programs for Tivoli Workload Scheduler for z/OS.

- **Tivoli Workload Scheduler for z/OS: Scheduling End-to-end, SC32-1732**
  Provides information on how to integrate Tivoli Workload Scheduler for z/OS with Tivoli Workload Scheduler, controlling workload in a distributed environment from a z/OS master domain manager.

- **Tivoli Workload Scheduler for z/OS: Memo to Users, GI11-4209**
  Provides a summary of changes for the current release of the product.

- **Tivoli Workload Scheduler for z/OS: Program Directory, GI11-4248**
  Provided with the installation tape for Tivoli Workload Scheduler for z/OS, describes all of the installation materials and gives installation instructions specific to the product release level or feature number.

IBM Tivoli Workload Scheduler for Applications library
The following publications are available in the IBM Tivoli Workload Scheduler for Applications library:

- **Tivoli Workload Scheduler for Applications: User’s Guide, SC32-1278**
  Provides information on how to install, set up, and use the IBM Tivoli Workload Scheduler access methods that run and control jobs of the following applications:
  - Oracle
  - PeopleSoft
  - R/3
  - z/OS

- **Tivoli Workload Scheduler for Applications: Quick Start Guide, GC32-1538**
  Gives an overview on how to get started with Tivoli Workload Scheduler for Applications.

  This provides full information about downloading the product CD images. It also indicates the APARs that have been fixed in this release.

  This provides full information about the hardware and software prerequisites of the product.


IBM Tivoli Workload Scheduler for Virtualized Data Centers library
The following publications are available in the IBM Tivoli Workload Scheduler for Virtualized Data Centers library:

- **Tivoli Workload Scheduler for Virtualized Data Centers: User’s Guide, SC32-1454**
  Describes how to extend the scheduling capabilities of Tivoli Workload Scheduler to workload optimization and grid computing by enabling the control of IBM LoadLeveler® and IBM Grid Toolbox jobs.

- **Tivoli Workload Scheduler for Virtualized Data Centers: Release Notes, SC32-1453**
  Provides late-breaking information about Tivoli Workload Scheduler for Virtualized Data Centers.


Related publications
The following publications provide additional information:

- **IBM Redbooks: Getting Started with IBM Tivoli Workload Scheduler V8.3: Best Practices and Performance Improvements, SG24-7237**
  **Abstract:** IBM Tivoli Workload Scheduler is an IBM strategic scheduling product that runs on different platforms including the mainframe. The new version of the product, IBM Tivoli Workload Scheduler V8.3, comes with some important enhancements, such as relational database management system support, new advanced planning system, which allows the definition of plans that span more that 24 hours, removal of framework requirements, new application programming interface (API), Job Scheduling Console enhancements, and so on.
This IBM Redbook documents the architecture, deployment, best practices, and migration scenarios for IBM Tivoli Workload Scheduler V8.3 in a distributed environment. In addition, it covers IBM Tivoli Workload Scheduler V8.3 security, IBM DB2 and IBM WebSphere considerations, troubleshooting, tuning for performance, application programming interface, and JnextPlan, which has replaced the JnextDay process in this release.

Clients and Tivoli professionals who are responsible for installing, administering, maintaining, or using IBM Tivoli Workload Scheduler V8.3 will find this book a major reference.

This Redbook can be found on the Redbooks™ Web site at http://www.redbooks.ibm.com/abstracts/sg247237.html

- **IBM Redbooks: Customizing IBM Tivoli Workload Scheduler for z/OS V8.2 to Improve Performance, SG24-6352**

  **Abstract:** This IBM Redbook covers the techniques that can be used to improve the performance of Tivoli Workload Scheduler for z/OS (including end-to-end scheduling).

  This Redbook can be found on the Redbooks Web site at http://www.redbooks.ibm.com/abstracts/sg246352.html

- **IBM Redbooks: IBM Tivoli Workload Scheduler for z/OS: Best Practices, SG24-7156**

  **Abstract:** This IBM Redbook describes best practices for using Tivoli Workload Scheduler for z/OS. Topics covered include:
  - Installation best practices
  - Installation verification
  - Started tasks
  - Communication
  - Initialization statements and parameters
  - Security
  - Exits
  - Restart and cleanup
  - Dataset triggering and event trigger tracking
  - Variables
  - Audit report facility

  This Redbook can be found on the Redbooks Web site at http://www.redbooks.ibm.com/abstracts/sg247156.html

- **IBM Redbooks: Integrating IBM Tivoli Workload Scheduler with Tivoli Products, SG24-6648**

  **Abstract:** This IBM Redbook explains the benefits and technical merits of integrating IBM Tivoli Workload Scheduler Distributed and IBM Tivoli Workload Scheduler for z/OS with other IBM products. Scheduling is a mission critical process for any company. However, when you talk about scheduling, you are really talking about an ecosystem. In this ecosystem, each solution is a building block that adds value to the overall solution. With IBM Tivoli Workload Scheduler, you can collect and add data to and from each component. In addition, expanding the scheduling ecosystem to include monitoring, management, help desk, storage, and business systems management provides greater value.

  This book discusses all these integration points and provides detailed scenarios on how to integrate IBM Tivoli Workload Scheduler with these types of applications. Because workload management is widely considered the nucleus of the data center, there are numerous opportunities for you to integrate IBM Tivoli...
Related publications

Workload Scheduler with other products. This book addresses just some of these many opportunities. In terms of integration with IBM Tivoli Workload Scheduler, do not limit yourself to the products that this book discusses. Integration points discussed in this book should give you an idea of the potential value that IBM Tivoli Workload Scheduler integration can provide for your company.

This Redbook can be found on the Redbooks Web site at [http://www.redbooks.ibm.com/abstracts/sg246648.html](http://www.redbooks.ibm.com/abstracts/sg246648.html)

- **IBM Redbooks: WebSphere Application Server V6 System Management & Configuration Handbook, SG24-6451**

  **Abstract:** This IBM Redbook provides system administrators, developers, and architects with the knowledge to configure a WebSphere Application Server V6 runtime environment, to package and deploy Web applications, and to perform ongoing management of the WebSphere environment.

  One in a series of handbooks, the entire series is designed to give you in-depth information about the entire range of WebSphere Application Server products. In this book, we provide a detailed exploration of the WebSphere Application Server V6 runtime environments and administration process.

  This Redbook can be found on the Redbooks Web site at [http://www.redbooks.ibm.com/abstracts/sg246451.html](http://www.redbooks.ibm.com/abstracts/sg246451.html)

The *Tivoli Software Glossary* includes definitions for many of the technical terms related to Tivoli software. The *Tivoli Software Glossary* is available, in English only, at the following Web site:


**Accessing terminology online**

The *Tivoli Software Glossary* includes definitions for many of the technical terms related to Tivoli software. The *Tivoli Software Glossary* is available at the following Tivoli software library Web site:


The IBM Terminology Web site consolidates the terminology from IBM product libraries in one convenient location. You can access the Terminology Web site at the following Web address:


**Accessing publications online**

The Tivoli Workload Scheduler documentation CD contains the publications that are in the product library. The format of the publications is PDF, HTML, or both. The publications are found within a Tivoli Information Center. Place the CD in the CD drive of a Windows computer and the Information Center automatically opens. If the Information Center does not open automatically, or you require more information, consult the readme.txt file in the root of the CD.

IBM posts publications for this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli software information center Web site. There are two ways of accessing the Tivoli software information center:

**Directly access the IBM Tivoli Workload Scheduler Information Center**

Go directly to the Information Center at the following Web address:
Access the IBM Tivoli Workload Scheduler Information Center from the Tivoli Technical Product Documents Web site

Access the Tivoli software information center by following these steps:

1. Go to the Tivoli library at the following Web address:
2. Click Tivoli product manuals
3. In the Tivoli Technical Product Documents Alphabetical Listing window, click W (for Workload Scheduler) or scroll down to the W section of the product list
4. Click the appropriate Tivoli Workload Scheduler product link to access your product libraries at the Tivoli software information center. All publications in the Tivoli Workload Scheduler suite library, distributed library, and z/OS library can be found under the entry Tivoli Workload Scheduler. The Tivoli software information center page for Tivoli Workload Scheduler is displayed. It gives you access to the publications relating to the latest version of the product. Links are provided to the documentation of prior versions.
5. Click to access the Tivoli Workload Scheduler Information Center. The Information Center is Eclipse-based, and contains full instructions on how to use it to obtain information and search the publications for specific terms.

Note: If you print PDF publications on other than letter-sized paper, set the option in the File → Print window that enables Adobe Reader to print letter-sized pages on your local paper.

For all types of information about DB2®, go to the DB2 Information Center:
http://publib.boulder.ibm.com/infocenter/db2luw/v8/index.jsp

For all types of information about the Embedded Version of the WebSphere Application Server version 6.1, go to the WebSphere Application Server Information Center: http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp

Note: The Embedded Version of the WebSphere Application Server version 6.1 is not the same as WebSphere Application Server - Express. It is a runtime version of WebSphere Application Server, version 6.1 which is bundled in and managed by Tivoli Workload Scheduler.

For all types of information about the Oracle database, consult the documentation of Oracle Corporation. When this manual was published, the relevant documentation could be found on http://www.oracle.com/technology/documentation/index.html

Note: This information has been included as a courtesy, and IBM cannot guarantee that this URL will continue to be correct.
Related publications

Tivoli Workload Scheduler online books
All the books in the Tivoli Workload Scheduler for z/OS library are available in displayable softcopy form on CD in the IBM Online Library: z/OS Software Products Collection Kit, SK3T-4270. You can read the softcopy books on CD using these IBM licensed programs:
- BookManager® READ/2 (program number 5601-454)
- BookManager READ/DOS (program number 5601-453)
- BookManager READ/6000 (program number 5765-086)

All the BookManager programs need a personal computer equipped with a CD drive (capable of reading disks formatted in the ISO 9660 standard) and a matching adapter and cable. For additional hardware and software information, refer to the publications for the specific BookManager product you are using.

Updates to books between releases are provided in softcopy only.

Ordering publications
You can order many Tivoli publications online at the following Web site:

You can also order by telephone by calling one of these numbers:
- In the United States: 800-879-2755
- In Canada: 800-426-4968
- In other countries, contact your software account representative to order Tivoli publications. To locate the telephone number of your local representative perform the following steps:
  1. Go to the following Web site:
  2. Select your country from the list and click . The IBM Publications Center page is displayed.
  3. Click About this site in the main panel to see an information page which includes the telephone number of your local representative.

Accessibility

Accessibility features help users with a physical disability, such as restricted mobility or limited vision, to use software products successfully. With this product, you can use assistive technologies to hear and navigate the interface. You can also use the keyboard instead of the mouse to operate all features of the graphical user interface.

For additional information, see Appendix A, “Accessibility,” on page 435.
Tivoli technical training

For Tivoli technical training information, refer to the following IBM Tivoli Education Web site:

http://www.ibm.com/software/tivoli/education

Support information

If you have a problem with your IBM software, you want to resolve it quickly. IBM provides the following ways for you to obtain the support you need:

- Searching knowledge bases: You can search across a large collection of known problems and workarounds, Technotes, and other information.
- Obtaining fixes: You can locate the latest fixes that are already available for your product.
- Contacting IBM Software Support: If you still cannot solve your problem, and you need to work with someone from IBM, you can use a variety of ways to contact IBM Software Support.

For more information about these three ways of resolving problems, see Appendix D, “Support information,” on page 445.

Conventions used in this publication

This publication uses several conventions for special terms and actions, operating system-dependent commands and paths, command syntax, and margin graphics.

Typeface conventions

This publication uses the following typeface conventions:

**Bold**

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolumn lists, containers, menu choices, menu names, tabs, property sheets), labels (such as Tip, and Operating system considerations)
- Keywords and parameters in text

**Italic**

- Words defined in text
- Emphasis of words (words as words)
- New terms in text (except in a definition list)
- Variables and values you must provide

**Monospace**

- Examples and code examples
- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text
Conventions

- Message text and prompts addressed to the user
- Text that the user must type
- Values for arguments or command options

Operating system-dependent variables and paths

This publication uses the UNIX® convention for specifying environment variables and for directory notation, except where the context or the example path is specifically Windows.

When using the Windows command line, replace $variable with % variable% for environment variables and replace each forward slash (/) with a backslash (\) in directory paths. The names of environment variables are not always the same in Windows and UNIX environments. For example, %TEMP% in Windows is equivalent to $tmp in UNIX environments.

Note: If you are using the bash shell on a Windows system, you can use the UNIX conventions.

Command syntax

This publication uses the following syntax wherever it describes commands:

<table>
<thead>
<tr>
<th>Syntax convention</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of command</td>
<td>The first word or set of consecutive characters.</td>
<td>conman</td>
</tr>
<tr>
<td>Brackets ([ ])</td>
<td>The information enclosed in brackets ([ ]) is optional. Anything not enclosed in brackets must be specified.</td>
<td>[-file definition_file]</td>
</tr>
<tr>
<td>Braces ( { })</td>
<td>Braces ( { }) identify a set of mutually exclusive options, when one option is required.</td>
<td>{ -prompts</td>
</tr>
<tr>
<td>Underscore (_)</td>
<td>An underscore (_) connects multiple words in a variable.</td>
<td>prompt_name</td>
</tr>
<tr>
<td>Vertical bar (</td>
<td>)</td>
<td>Mutually exclusive options are separated by a vertical bar (</td>
</tr>
<tr>
<td>Bold</td>
<td>Bold text designates literal information that must be entered on the command line exactly as shown. This applies to command names and non-variable options.</td>
<td>composer add file_name</td>
</tr>
<tr>
<td>Italic</td>
<td>Italic text is variable and must be replaced by whatever it represents. In the example to the right, the user would replace file_name with the name of the specific file.</td>
<td>file_name</td>
</tr>
</tbody>
</table>
### Conventions

**Table 1. Command syntax (continued)**

<table>
<thead>
<tr>
<th>Syntax convention</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ellipsis (…)</td>
<td>An ellipsis (…) indicates that the previous option can be repeated multiple times with different values. It can be used inside or outside of brackets.</td>
<td>–x file_name]…&lt;br&gt;An ellipsis outside the brackets indicates that –x file_name is optional and may be repeated as follows: –x file_name1 –x file_name2–x file_name3  –x file_name…]&lt;br&gt;An ellipsis inside the brackets indicates that –x file_name is optional, and the file variable can be repeated as follows: –x file_name1 file_name2 file_name3  –x file_name [–x file_name]…&lt;br&gt;An ellipsis used with this syntax indicates that you must specify –x file_name at least once.</td>
</tr>
</tbody>
</table>
Part 1. Planning and installation
Chapter 1. Job Scheduling Console overview

This chapter describes the overall topology of Tivoli Workload Scheduler and where the Job Scheduling Console fits into that topology. It is divided into the following sections:

- “Tivoli Workload Scheduler topology”
- “Setting your local time zone” on page 46

Tivoli Workload Scheduler topology

The Job Scheduling Console is an interface for creating, modifying, monitoring, controlling, and deleting Tivoli Workload Scheduler objects.

Although the Job Scheduling Console is part of the Tivoli Workload Scheduler distributed topology, you can use it to work with both z/OS and distributed engines.

For a definition of the components of a Tivoli Workload Scheduler network, see Tivoli Workload Scheduling Suite: Overview.

Where the Job Scheduling Console fits in the topology

Your Tivoli Workload Scheduler topology can be complex or simple according to your job scheduling requirements.

Figure 1 on page 4 shows a single tier hierarchy in a distributed environment, where the agents are directly connected to the master domain manager.
Figure 1. Single tier topology

Figure 2 on page 5 shows a multi-tier hierarchy in a distributed environment where the agents are connected to a domain manager at the various tiers of the topology.
Domain A is the parent domain for domain C, and domain B is the parent domain for domains D and E.
Figure 3 shows an end-to-end topology with the Job Scheduling Console connected to the z/OS master domain.

Connection

Normally you connect the Job Scheduling Console to the master domain manager, however, you can connect to a domain manager or a fault-tolerant agent.

The Job Scheduling Console connects to engines through the embedded version of WebSphere Application Server and the relevant connector. When connection is involved, if you want to use the Job Scheduling Console on a fault-tolerant agent directly, you need to install a connector for the distributed connection, as illustrated in Figure 4 on page 7. The Job Scheduling Console communicates with the engine through the connector that translates Job Scheduling Console instructions into scheduler commands.
You can manage database objects using the Job Scheduling Console connected to a master or you can manage plan objects using the Job Scheduling Console connected to a master or to agent workstations.

**Support for Internet Protocol version 6**

Job Scheduling Console supports Internet Protocol version 6 (IPv6) in addition to the Internet Protocol version 4 (IPv4) both in a distributed and in a z/OS environment. To work with the IPv6 protocol in a z/OS environment you must install the IBM Tivoli Workload Scheduler for z/OS Connector Fix Pack 3 - PTF U813373. To assist you in the transition from an IPv4 environment to a complete IPv6 environment, Job Scheduling Console provides IP dual-stack support. This means that the product is designed to communicate using both IPv4 and IPv6 protocols simultaneously.
Support for Internet Protocol version 6
Chapter 2. Supported operating systems and requirements

This chapter lists the operating systems that are supported by the Job Scheduling Console and its system requirements. *Tivoli Workload Scheduler: Planning and Installation Guide* lists the operating systems that are supported by the distributed connector.

Table 2 identifies the operating systems supported.

<table>
<thead>
<tr>
<th>Operating systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AIX</strong></td>
</tr>
<tr>
<td>IBM AIX versions 5.2, 5.3</td>
</tr>
<tr>
<td><strong>HP-UX</strong></td>
</tr>
<tr>
<td>HP-UX version 11iV1 PA-RISC (see note 1)</td>
</tr>
<tr>
<td>HP-UX version 11iV2 Itanium® and PA-RISC</td>
</tr>
<tr>
<td><strong>Solaris</strong></td>
</tr>
<tr>
<td>Solaris Operating Environment versions 9, 10</td>
</tr>
<tr>
<td><strong>Windows</strong></td>
</tr>
<tr>
<td>Microsoft Windows Server 2003: Standard, Enterprise, Data Center</td>
</tr>
<tr>
<td>Microsoft Windows Server 2003: Standard, Enterprise, Data Center for 64-bit Itanium2 based systems - Supported in tolerance mode only (32 bit)</td>
</tr>
<tr>
<td>Microsoft Windows Server 2003: Standard and Enterprise for AMD64 and EMT64T Kernel 64 - Supported in tolerance mode only (32 bit)</td>
</tr>
<tr>
<td>Microsoft Windows XP Professional with SP2</td>
</tr>
<tr>
<td>Microsoft Windows Vista</td>
</tr>
<tr>
<td>Microsoft Windows Vista for AMD64 and EMT64T - Supported in tolerance mode only (32 bit)</td>
</tr>
<tr>
<td><strong>Linux</strong></td>
</tr>
<tr>
<td>RedHat Linux 3.0 xSeries® Kernel 32 and eSeries (AMD64 and EM64T) Kernel 32</td>
</tr>
<tr>
<td>RedHat Linux 3.0: pSeries® Kernel 64</td>
</tr>
<tr>
<td>Red Hat Linux 4.0 (see note 2): xSeries and eSeries (AMD64 and EM64T) Kernel 32</td>
</tr>
<tr>
<td>Red Hat Linux 4.0 for xSeries and eSeries (AMD64 and EM64T) Kernel 64 - Supported in tolerance mode only (32 bit)</td>
</tr>
<tr>
<td>Red Hat Linux 4.0: pSeries Kernel 64</td>
</tr>
<tr>
<td>SuSe Linux Enterprise Server 9 and 10 (see note 2): xSeries (IA32) and eSeries (AMD64 and EM64T) Kernel 32</td>
</tr>
<tr>
<td>SuSe Linux Enterprise Server 9 (see note 2): pSeries, Kernel 64</td>
</tr>
</tbody>
</table>

Notes:

1. HP-UX 11i V1 must have the quality pack of June 2004 and the patches listed for Java 1.4.2 at the HP support site.
2. InstallShield installation on Linux operating systems needs to have the `bc` utility installed.
Supported operating system matrix

IBM maintains a matrix showing the supported operating systems for all its Tivoli products: http://www-306.ibm.com/software/sysmgmt/products/support/Tivoli_Supported_Platforms.html.

Use the link to check the latest supported operating system information.

System requirements

The Job Scheduling Console has specific hardware requirements that must be met before it can be installed and considered functional. These requirements include hard disk space and minimum RAM requirements. The prerequisites listed in this section are the recommended environment for the Job Scheduling Console at the time of publication.

Hardware requirements

Table 3 lists the disk space occupied by the Job Scheduling Console, the language pack, and the z/OS connector.

Table 3. Hard disk space requirements in megabytes for the Job Scheduling Console and the language pack

<table>
<thead>
<tr>
<th>Hard Disk Space Requirements (MB)</th>
<th>Operating system</th>
<th>Job Scheduling Console</th>
<th>Language pack (all languages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM AIX</td>
<td>100</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>HP-UX</td>
<td>250</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Linux on x86 and x86-64</td>
<td>110</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Linux on POWER</td>
<td>110</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Solaris Operating Environment</td>
<td>120</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Microsoft Windows</td>
<td>100</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 lists the temporary disk space required to install the Job Scheduling Console.

Table 4. Temporary disk space requirements in megabytes for Job Scheduling Console installation

<table>
<thead>
<tr>
<th>Temporary Hard Disk Space Requirements (MB)</th>
<th>Operating system</th>
<th>Job Scheduling Console</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM AIX</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>HP-UX</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>Linux on x86 and x86-64</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Linux on POWER</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Solaris Operating Environment</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Microsoft Windows</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

Table 5 on page 11 lists the minimum and recommended RAM required to run the Job Scheduling Console.
Table 5. Minimum and recommended RAM requirements in megabytes to run the Job Scheduling Console

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Minimum</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>256</td>
<td>512</td>
</tr>
</tbody>
</table>

Software requirements

Before using the Job Scheduling Console, you must have the following software installed and running on your network:

**For use with Tivoli Workload Scheduler for z/OS:**
- Tivoli Workload Scheduler for z/OS Connector version 8.3.0.02 and 8.3.0.03 if you are using firewalls
- Tivoli Workload Scheduler for z/OS version 8.1, 8.2, or 8.3

**For use with Tivoli Workload Scheduler:**
- IBM Tivoli Workload Scheduler version 8.3, 8.4, and Tivoli Workload Scheduler Connector version 8.3 or 8.4.
Operating system matrix
Chapter 3. Planning and installing the Job Scheduling Console

This chapter describes installation of the Job Scheduling Console. It is divided into the following sections:

- “Planning installation of the Job Scheduling Console”
- “Installing using the installation wizard” on page 16
- “Installing using Software Distribution” on page 18

Planning installation of the Job Scheduling Console

The Job Scheduling Console can be installed on any workstation that has a TCP/IP connection. For information about supported platforms and system requirements, refer to the Release Notes.

Do not install more than one instance of the Job Scheduling Console on each computer, for example by logging on as a different user. Although this does not create problems for running the Job Scheduling Console, it does cause difficulties when migrating or uninstalling.

The connectors for the distributed environment are installed with the engine. For information about installing them, refer to the Tivoli Workload Scheduler: Planning and Installation Guide. For information about installing the z/OS connectors, see Chapter 4, “Planning and installing the z/OS connector,” on page 21.

The installation CDs

There are the following Job Scheduling Console installation CDs:

IBM Tivoli Workload Scheduler Job Scheduling Console for AIX
Contains the images to install on the AIX operating system. It includes the following directories:

INSTALLER
Contains the Job Scheduling Console installation executable.

JVM_CM
Contains the software package block to install the Java Virtual Machine.

LANG_PACK
Contains the installation executable and the software package block for the language packs.

launchpad
Contains launchpad specific code.

RESPONSE_FILES
Contains the directory required for performing a silent installation both for the Job Scheduling Console and the language packs.

IBM Tivoli Workload Scheduler Job Scheduling Console for HP-UX on Itanium
Contains the images to install on the HP-UX for Itanium operating system. It includes the following directories:
Installation CDs

**INSTALLER**  
Contains the Job Scheduling Console installation executable.

**JVM_CM**  
Contains the software package block to install the Java Virtual Machine.

**LANG_PACK**  
Contains the installation executable and the software package block for the language packs.

**launchpad**  
Contains launchpad specific code.

**RESPONSE_FILES**  
Contains the directory required for performing a silent installation both for the Job Scheduling Console and the language packs.

**IBM Tivoli Workload Scheduler Job Scheduling Console for HP-UX on PA-RISC**  
Contains the images to install on the HP-UX for PA-RISC operating system. It includes the following directories:

**INSTALLER**  
Contains the Job Scheduling Console installation executable.

**JVM_CM**  
Contains the software package block to install the Java Virtual Machine.

**LANG_PACK**  
Contains the installation executable and the software package block for the language packs.

**launchpad**  
Contains launchpad specific code.

**RESPONSE_FILES**  
Contains the directory required for performing a silent installation both for the Job Scheduling Console and the language packs.

**IBM Tivoli Workload Scheduler Job Scheduling Console for Linux on x86 and x86-64**  
Contains the images to install on the Linux operating system. It includes the following directories:

**INSTALLER**  
Contains the Job Scheduling Console installation executable.

**JVM_CM**  
Contains the software package block to install the Java Virtual Machine.

**LANG_PACK**  
Contains the installation executable and the software package block for the language packs.

**launchpad**  
Contains launchpad specific code.
RESPONSE_FILES
Contains the directory required for performing a silent installation both for the Job Scheduling Console and the language packs.

IBM Tivoli Workload Scheduler Job Scheduling Console for Linux on POWER
Contains the images to install on the Linux operating system. It includes the following directories:

INSTALLER
Contains the Job Scheduling Console installation executable.

JVM_CM
Contains the software package block to install the Java Virtual Machine.

LANG_PACK
Contains the installation executable and the software package block for the language packs.

launchpad
Contains launchpad specific code.

RESPONSE_FILES
Contains the directory required for performing a silent installation both for the Job Scheduling Console and the language packs.

IBM Tivoli Workload Scheduler Job Scheduling Console for Solaris SPARC
Contains the images to install on the Solaris operating environment. It includes the following directories:

INSTALLER
Contains the Job Scheduling Console installation executable.

JVM_CM
Contains the software package block to install the Java Virtual Machine.

LANG_PACK
Contains the installation executable and the software package block for the language packs.

launchpad
Contains launchpad specific code.

RESPONSE_FILES
Contains the directory required for performing a silent installation both for the Job Scheduling Console and the language packs.

IBM Tivoli Workload Scheduler Job Scheduling Console for Windows
Contains the images to install on the Windows operating system. It includes the following directories:

INSTALLER
Contains the Job Scheduling Console installation executable.
Installation methods

You can use the following methods to install the Job Scheduling Console:

- "ISMP Installation wizard"
- "Software Distribution"

ISMP Installation wizard

When you are installing the Job Scheduling Console on a single workstation, you can use the installation wizard in interactive or silent mode. In interactive mode, the wizard guides you through the installation steps. In silent mode, a response file provides the relevant information to the install process, which is run in background without user intervention. For information about installing using the wizard, see "Installing using the installation wizard."

Software Distribution

When you are installing the Job Scheduling Console on more than one workstation simultaneously, you can use a software package block (SPB) of Tivoli Configuration Manager in interactive or silent mode. In interactive mode, the Tivoli Desktop guides you through the installation steps. In silent mode, you can use a connected Tivoli Configuration Manager command line interface. For information about installing using Software Distribution, see "Installing using Software Distribution" on page 18 and IBM Tivoli Configuration Manager, User's Guide for Software Distribution.

Installing using the installation wizard

Using the wizard you can install directly from the CDs. On UNIX operating systems, you can copy the CD to a file system and mount that file system. On Windows operating systems, you can copy the CD to a network drive and map that network drive.

Installation uses a temporary directory for ISMP and a temporary directory for the Job Scheduling Console. You can set the installation wizard temporary directory using the -is:tempdir directory_name. The Job Scheduling Console temporary directory contains the installation log files. See "Job Scheduling Console installation log" on page 369.

This section is divided into the following subsections:

- "Installing the Job Scheduling Console in interactive mode" on page 17
- "Installing the Job Scheduling Console in silent mode" on page 17
When you are installing onto Windows operating systems using the installation wizard, perform the following steps before starting the installation:

1. Click Start ▶ Run in the Windows task bar.
2. Type dxdiag and click OK.
   The DirectX Diagnostic tool opens.
3. Click on Display and disable DirectDraw Acceleration and Direct3D Acceleration.

**Installing the Job Scheduling Console in interactive mode**

To perform a first-time product installation, complete the following steps:

1. Insert the CD relevant for your operating system in the CD ROM drive. See "The installation CDs” on page 13.
2. Navigate to the INSTALLER directory.
3. Run the installation executable:
   - Windows operating systems: setup.exe
   - UNIX and Linux operating systems: /setup.bin
4. Select the language of the installation wizard. Click OK.
5. Read the welcome information. Click Next.
6. Read and accept the license agreement. Click Next.
7. Accept the default installation directory, or click Browse, or type the path name to select a different directory. Click Next.

**Note:** The Job Scheduling Console installation directory inherits the access rights of the directory where the installation is performed. Because the Job Scheduling Console requires user settings to be saved, it is important to select a directory in which users are granted access rights.

8. Select the locations for the Job Scheduling Console icons. Click Next.
9. Review the installation settings. Click Next. The installation is started.

When the installation completes, a panel displays a successful installation or contains a list of items that failed to install and the location of the log file. See "Job Scheduling Console installation log” on page 369.
10. Click Finish.

**Installing the Job Scheduling Console in silent mode**

Silent installation allows you to install in background.

A template for a response file is provided in the CD\RESPONSE_FILES directory. See "The installation CDs” on page 13. You can copy the response file to your system and edit it as required. The instructions for editing the response file and the description of each parameter are provided in the response file itself.

The following options are available:
- Installation location
- Icon location
- Whether to overwrite existing Java Virtual Machine

To start the installation in silent mode on Windows systems, navigate to the directory where the setup.exe file resides and enter the following command:

```
setup.exe -silent -options filename
```
Installing the Job Scheduling Console in interactive mode

To start the installation in silent mode on UNIX and Linux operating systems, navigate to the directory where the setup file is located and enter the following command:

`.setup.bin -silent -options filename`

specifying the fully qualified path to the response file.

**Note:** Since the silent installation runs in background, to verify that the installation is proceeding you must check that the `wdinstsp` process is running. To check that the `wdinstsp` process is running using one of the following methods:

- **In a Windows environment**
  - The Task Manager
- **In a UNIX environment**
  - The `ps` command

Installing using Software Distribution

The Job Scheduling Console can be installed by distributing a software package block (SPB) using the software distribution component of Tivoli Configuration Manager, Version 4.1, 4.2, 4.2.1, 4.2.2, 4.2.3. When you install using software distribution, the Java Virtual Machine is not installed together with the Job Scheduling Console. You have to install it separately after installing the Job Scheduling Console using the software package blocks provided in the JVM_CM folder of the CD relevant for your operating system. A software package block is provided for each supported operating system. You can distribute the SPB locally or remotely, using either the command line interface or the Tivoli desktop.

Locate the CD appropriate for you operating system. See "The installation CDs” on page 13. The following two software package blocks exist for each supported operating system:

- **TWSConsole.spb**
  - Installs the Job Scheduling Console.
- **JRE142_operating_system.SPB**
  - Installs one or more language packs.

The Job Scheduling Console parameter used by the software package block to define the installation directory is the `INSTALL_DIR` variable. This variable is defined as a default variable in the software package and assumes a different value depending on the operating system you are working on as shown in Table 6. The `INSTALL_DIR` variable represents the fully qualified path to the location of the Job Scheduling Console installation. The `INSTALL_DIR` variable is optional because the path is created if it does not already exist.

<table>
<thead>
<tr>
<th>Default variable value</th>
<th>Operating system</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSTALL_DIR_Linux</td>
<td>Linux</td>
</tr>
<tr>
<td>INSTALL_DIR_Windows_NT</td>
<td>Windows</td>
</tr>
<tr>
<td>INSTALL_DIR_AIX</td>
<td>AIX</td>
</tr>
<tr>
<td>INSTALL_DIR_HP-UX</td>
<td>HP-UX</td>
</tr>
<tr>
<td>INSTALL_DIR_SunOS</td>
<td>Solaris</td>
</tr>
</tbody>
</table>
The INSTALL_DIR variable is resolved to the appropriate value depending on the operating system where you are installing. Default values for each operating system are listed in the Table 7. When you specify the INSTALL_DIR variable it overrides the operating system variables.

### Table 7. Operating system variables

<table>
<thead>
<tr>
<th>Default variable</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSTALL_DIR_Linux</td>
<td>/opt/JSC_8_4</td>
</tr>
<tr>
<td>INSTALL_DIR_Windows_NT</td>
<td>$(program_files)\JSC_8_4</td>
</tr>
<tr>
<td>INSTALL_DIR_AIX</td>
<td>/opt/JSC_8_4</td>
</tr>
<tr>
<td>INSTALL_DIR_HP-UX</td>
<td>/opt/JSC_8_4</td>
</tr>
<tr>
<td>INSTALL_DIR_SunOS</td>
<td>/opt/JSC_8_4</td>
</tr>
</tbody>
</table>

All languages are installed by default. Table 8 describes the language variables.

### Table 8. Language variables

<table>
<thead>
<tr>
<th>Language variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>de</td>
<td>German</td>
</tr>
<tr>
<td>es</td>
<td>Spanish</td>
</tr>
<tr>
<td>fr</td>
<td>French</td>
</tr>
<tr>
<td>it</td>
<td>Italian</td>
</tr>
<tr>
<td>ko</td>
<td>Korean</td>
</tr>
<tr>
<td>ja</td>
<td>Japanese</td>
</tr>
<tr>
<td>pt_BR</td>
<td>Brazilian Portuguese</td>
</tr>
<tr>
<td>zh_CN</td>
<td>Simplified Chinese</td>
</tr>
<tr>
<td>zh_TW</td>
<td>Traditional Chinese</td>
</tr>
</tbody>
</table>

To perform the installation, complete the following steps:

1. Import the software package block using the `wimpspo` command.
2. Install the software package block as COMMITTED. The software package block cannot be installed as UNDOABLE because the UNDO action does not rollback the product registry entries. To install, run the following command using the Software Distribution command line:

   ```
   winstsp -f TWSConsole.spb -D install_dir=variable TWSConsole.8.4.0.00
   ```

   where:

   - **TWSConsole.spb**
     Specifies the software package block. See “The installation CDs” on page 13 for the directory where the software package block is located.
   - **install_dir=variable**
     Specifies the directory where you installed the Job Scheduling Console. It depends on the operating system where you are performing the installation as specified in Table 6 on page 18.
   - **variable**
     Specifies the value you want to assign to the `install_dir` variable. If you do not specify any value, the `install_dir` variable assumes the value specified in Table 7.
Using Software Distribution

TWSConsole.8.4.0.00

Specifies the software package profile name.

For complete instructions about performing these steps, refer to the IBM Tivoli Configuration Manager, User’s Guide for Software Distribution.

Installing the Java Virtual Machine

When you install using software distribution, the Java Virtual Machine is not installed together with the Job Scheduling Console. You have to install it separately after installing the Job Scheduling Console using the software package blocks provided in the JVM_CM folder of the CD relevant for your operating system. A software package block is provided for each supported operating system.

Note: You are required to install this version of the Java Virtual Machine even if you have another Java Virtual Machine already installed on your computer.

The Java Virtual Machine software packages are to be installed in the Job Scheduling Console installation directory.

To perform the installation, complete the following steps:

1. Specifies the software package block appropriate for your operating system. See “The installation CDs” on page 9 for the directory where the software package block is located.

2. Import the software package block using the wimpspo command.

3. Install the software package block as COMMITTED. The software package block cannot be installed as UNDOABLE because the UNDO action does not rollback the product registry entries. To install, run the following command from the Software Distribution command line:

   winstsp -f JRE142_operating_system.spb -D install_dir=variable
   JRE_operating_system.8.4.0.00

   where:

   JRE142_operating_system.spb
   Specifies the Java Virtual Machine software package block appropriate for your operating system.

   install_dir
   Specifies the directory where you installed the Java Virtual Machine. It depends on the operating system where you are performing the installation as specified in Table 6 on page 18 table.

   variable
   Specifies the value you want to assign to the install_dir variable. If you do not specify any value, the install_dir variable assumes the value specified in Table 7 on page 19 table.

   JRE_operating_system.8.4.0.00
   Specifies the software package profile name.

For complete instructions about performing these tasks, refer to the IBM Tivoli Configuration Manager, User’s Guide for Software Distribution.
Chapter 4. Planning and installing the z/OS connector

This chapter describes the installation of the z/OS connector. You must install the z/OS connector to connect the Job Scheduling Console to the z/OS engine. To connect Job Scheduling Console version 8.4 to z/OS engine version 8.3 you must install the z/OS component of the IBM Tivoli Workload Scheduler Job Scheduling Console Fix Pack 2 - PTF U808971 or later. If you are connecting Job Scheduling Console version 8.4 to a z/OS connector version 8.3 through a firewall, you must install IBM Tivoli Workload Scheduler for z/OS Connector Fix Pack 3 - PTF U813373.

Note: For information about installing the connector for distributed engines, refer to Tivoli Workload Scheduler: Planning and Installation Guide.

Installing the z/OS connector

To install the connector, perform the following steps:

1. Insert the relevant CD in the CD-ROM drive. See “The installation CDs” on page 13.
2. Navigate to the operating system directory.
3. Run the setup according to the operating system where you are installing:
   - Windows: setup.exe
   - UNIX: setup
4. Select the language of the installation wizard. Click OK.
5. Read the Welcome information. Click Next. The installation verifies that you have the necessary rights to perform the installation. It also checks for previous installations of WebSphere Application Server and the connectors.
6. Read and accept the license agreement. Click Next.
7. Specify the user name and password of the TWSuser for which you are installing the connector. In Windows if the specified user does not exist it is created with the permission necessary to work with Tivoli Workload Scheduler. Click Next.
8. Browse for or type the directory where you want to install the z/OS connector.
9. Specify the relevant port data. Possible values are:
   
   **HTTP Transport**
   
   Set the port composer uses when the HTTP protocol is selected. The default value is 31125.

   **HTTPS Transport**
   
   Set the port composer uses when the HTTPS protocol is selected. The default value is 31126.

   **Bootstrap / RMI**
   
   Set the port the Job Scheduling Console uses when bootstrap / RMI protocol is selected. The default value is 31127.

   **SOAP Connector**
   
   Set the port the SOAP connector uses. The default value is 31128.
Using the installation wizard

Use the defaults unless you are sure they are already in use. Click Next.

10. Select **Configure a connection to a Tivoli Workload Scheduler for z/OS host** to supply connection configuration data to configure the z/OS connector. If you do not select it you can create the connector instance later using the `createZosEngine` WAS tool: Possible values are:

   **Tivoli Workload Scheduler for z/OS Engine Name**
   The name of the new instance.

   **Tivoli Workload Scheduler for z/OS Remote Host**
   The IP address or host name of the remote z/OS system where the scheduler subsystem is installed.

   **Tivoli Workload Scheduler for z/OS Remote TCP/IP Port**
   The TCP/IP port number of the remote z/OS system.

   Click Next.

11. Review the installation settings and click Next. The installation is started. When the installation completes, a panel displays a successful installation or contains a list of the items that failed to install and the location of the log file.

12. Click Finish.

Performing a silent installation

You use silent installation to install in background.

A template for a response file is provided on the installation CDs in the RESPONSE_FILES directory. You can copy the response file to your system and edit it as necessary. See “The installation CDs” on page 13.

The following options are available in the response file:

- WebSphere Application Server installation location
- Connector instance creation

To install in silent mode on Windows, navigate to the directory where the setup.exe file resides and enter the following command:

```
setup.exe -silent -options filename
```

To install in silent mode on UNIX, navigate to the directory where the setup.bin enter the following command:

```
./setup -silent -options filename
```

specifying the fully qualified path to the response file.

**Note:** The silent installation parameters are described in detail as comments in the response file.
Chapter 5. Installing and adding language packs

This chapter describes how you install or modify language packs.

Installing language packs

When you are installing language packs, you can use the installation wizard or a script.

Installing language packs using the installation wizard

To install languages, perform the following steps:

1. Insert the CD relevant for your operating system in the CD-ROM drive. See “The installation CDs” on page 13.
2. Navigate to the LANG_PACK directory.
3. Run the setup according to the operating system where you are installing:
   - Windows operating systems: setup.exe
   - UNIX and Linux operating systems: ./setup.bin
4. Select the language of the installation wizard. Click OK.
5. Read the welcome information. Click Next.
6. Read and accept the license agreement. Click Next.
7. Select the languages you want to install. Click Next.
8. Review the installation settings. Click Next.
   - When the installation completes, a panel displays a successful installation or contains a list of the items that failed to install and the location of the log file.
9. Click Finish.

Installing language packs in silent mode

To start the installation in silent mode on Windows systems, enter the following command:

```
SETUP.exe -silent -options filename
```

To start the installation in silent mode on UNIX and Linux operating systems, navigate to the directory where the setup is located and enter the following command:

```
./setup.bin -silent -options filename
```

specifying the fully qualified path to the response file.

**Note:** The parameters of the silent installation are described in detail as comments in the response file.

Installing the language pack using Software Distribution

This section describes how to install the language pack using Software Distribution.

To perform the installation, complete the following steps:
Using the installation wizard

1. Specify the software package block appropriate for your operating system. See “The installation CDs” on page 9 for the directory where the software package block is located.

2. Import the software package block using the wimpspo command.

3. Install the software package block as COMMITTED. The software package block cannot be installed as UNDOABLE because the UNDO action does not rollback the product registry entries. To install run the following command using the Software Distribution command line:

```
  winstp -f TWSConsoleLanguages.spb -D install_dir=variable
  TWSConsoleLanguages.8.4.0.00
```

where:

- `TWSConsoleLanguages.spb` Specifies the software package block.
- `install_dir` Specifies the directory where you installed the language pack. It depends on the operating system where you are performing the installation as specified in Table 6 on page 18.
- `variable` Specifies the value you want to assign to the `install_dir` variable. If you do not specify any value, the `install_dir` variable assumes the value specified in Table 7 on page 19.

- `TWSConsoleLanguages.8.4.0.00` Specifies the software package profile name.

For complete instructions about performing these tasks, refer to the IBM Tivoli Configuration Manager, User’s Guide for Software Distribution.

Adding language packs to an existing installation

To change languages installed on an existing installation, perform the following steps:

1. Insert the CD relevant for your operating system in the CD-ROM drive.
2. Navigate to the LANG_PACK directory.
3. Run the setup according to the operating system where you are installing:
   - Windows operating systems: `setup.exe`
   - UNIX and Linux operating systems: `./setup.bin`
4. Select the language of the installation wizard. Click OK.
5. Read the welcome information. Click Next.
6. Read and accept the license agreement. Click Next.
7. Select the languages you want to install. Click Next.
8. Review the installation settings. Click Next.
   
   When the installation completes, a panel displays a successful installation or contains a list of which items failed to install and the location of the log file.
9. Click Finish.

Note:

When you change a language, you must edit the appropriate console file (for example, NTConsole.bat, LinuxConsole.sh) and add the following lines:

```
  -Duser.language=xx
  -Duser.region=yy
```
where \( xx \) is the standard two-digit language code and \( yy \) is the standard two-digit region code. For example:

- `Duser.language=it`
- `Duser.region=IT`
Chapter 6. Upgrading the Job Scheduling Console

This chapter describes how to upgrade Job Scheduling Console version 8.3 to version 8.4. If you have a version prior to 8.3, there is no upgrade procedure and you must install version 8.4 directly. See Chapter 3, “Planning and installing the Job Scheduling Console,” on page 13. To upgrade, use one of the following methods:

• The (ISMP) wizard both in interactive or silent mode. See “Upgrading using the installation wizard”

• Tivoli Software Distribution, version 4.1 or the Software Distribution component of Tivoli Configuration Manager, version 4.2 or later. See “Upgrading using Software distribution” on page 28.

Before upgrading, back up the contents of your database, and set the Tivoli Environment as described in Table 6 on page 18.

Note: Even after upgrading to version 8.4 both the Job Scheduling Console icon and the program name in the Start+Program menu refer to version 8.3.

Upgrading using the installation wizard

This section is divided into the following subsections:

• “Upgrading in interactive mode”
• “Upgrading in silent mode” on page 28

Installation uses a temporary directory for ISMP and a temporary directory for the Job Scheduling Console. You can set the installation wizard temporary directory using -istempdir directory_name command. The Job Scheduling Console temporary directory contains the installation log files. See “Job Scheduling Console installation log” on page 369.

Upgrading in interactive mode

To upgrade the Job Scheduling Console in interactive mode, perform the following steps:

1. From the product CD, or from an image, run the setup installation command for the operating system on which you are upgrading the product. The setup installation commands are located on the operating system specific CD, in the INSTALLER directory. For example, the setup to install on a Windows operating system is located in the JSC_WIN CD. See “The installation CDs” on page 13.

Note: If you decide to perform the installation from an image ensure that the path where you copy the images does not contain blanks and to maintain the CD directory structure.

2. Run the setup program for the operating system:

   In a Windows environment
   setup.exe

   In a UNIX environment
   ./setup.bin

The installation starts. Follow the instructions provided in the wizard.
Upgrading in silent mode

To upgrade the Job Scheduling Console in silent mode, that is without user intervention, perform the following steps:

1. Insert the product CD for the operating system on which you are installing the product and run the setup command located in the INSTALLER directory. See "The installation CDs" on page 13 for the directory where the setup is located.

   **In a Windows environment**
   
   setup.exe -silent

   **In a UNIX environment**
   
   ./setup.bin -silent

   **Note:** Because the silent installation runs in background, to verify that the installation is proceeding you must check that the wdinstsp process is running. To check that the wdinstsp process is running using one of the following methods:

   **In a Windows environment**
   
   The Task Manager

   **In a UNIX environment**
   
   The ps command

2. Review the installation messages in the tmp\twscnsole_ismp.log file to check that installation was successful.

Upgrading using Software distribution

To upgrade from version 8.3 to 8.4, perform the following steps:

1. Locate the TWSConsole.spb software package blocks relevant for your operating system. See "The installation CDs" on page 13 for the directory where the software package block is located

2. Import the TWSConsole.spb software package blocks in a profile manager, by using the following Software Distribution command:

   winmpspo -c profile_manager_name -f src_path/TWSConsole.spb -t build
   -p dest_path/TWSConsole.spb TWSConsole.8.4.0.00

   where:

   **profile_manager_name**
   
   Specifies the name of the profile manager.

   **TWSConsole.spb**
   
   Specifies the Job Scheduling Console software package block.

   **install_dir**
   
   Specifies the directory where you installed the Job Scheduling Console.

   **TWSConsole.8.4.0.00**
   
   Specifies the software package profile name.

   **endpoint_name**
   
   Specifies the name of the endpoint.

3. Install the TWSConsole.spb software package block as COMMITTED. The software package block cannot be installed as UNDOABLE because the UNDO action does not rollback the product registry. To install use the following command:

   winstsp -f TWSConsole.spb -D install_dir TWSConsole.8.4.0.00 @endpoint_name
where:

**TWSConsole.spb**
Specifies the Job Scheduling Console software package block.

**install_dir**
Specifies the installation directory of the Job Scheduling Console.

**TWSConsole.8.4.0.00**
Specifies the software package profile name.

**endpoint_name**
Specifies the name of the endpoint.

For complete instructions about performing these tasks, refer to the *IBM Tivoli Configuration Manager, User’s Guide for Software Distribution*.
Using the installation wizard
Chapter 7. Importing Job Scheduling Console user preferences

This chapter describes how to import user preferences from existing Job Scheduling Console versions to Job Scheduling Console version 8.3. Because of a change of the database of Tivoli Workload Scheduler from a flat database to DB2, it is not possible to upgrade existing versions of the Job Scheduling Console. You must install the Job Scheduling Console version 8.4 and then import the user preferences.

The user preferences in version 8.4 are contained in the preferences.xml and Engines.xml files. These files are stored in user_home_directory/.twsconsole/userdata. The chapter is divided into the following sections:

- “Importing Job Scheduling Console user preferences from versions prior to 8.3”
- “Importing Job Scheduling Console user preferences from version 8.3 and 8.4”

Importing Job Scheduling Console user preferences from versions prior to 8.3

To import Job Scheduling Console user preferences from versions prior to 8.3, perform the following steps:

1. Open the user_home_directory/.tmeconsole/username@hostname_language/preferences.xml user preferences file.

2. Change all the occurrences of node name to reflect the engine names you defined in the preferences.xml file of the version of the Job Scheduling Console you are importing. For example, if you are importing your preferences file from version 8.2.1 to version 8.4 and in version 8.2.1 the node name was zos821Engine and in version 8.4 it is zos83Engine change all the node name occurrences from:

   <node name="zos821Engine>
   <map/>
   </node>

   to

   <node name="zos84Engine>
   <map/>
   </node>


The Load Preferences file panel displays.
Importing user preferences from versions prior to 8.3

4. Browse to the `user_home_directory/.twsconsole` and select the preferences.xml file.
5. Leave the Engine files field blank.
6. Click OK.

The Job Scheduling Console main window opens.
7. Verify that all the engines and lists you defined in the previous version are present.

You can now use the preferences.xml and Engines.xml files as common files for each of the Job Scheduling Console instances that require the same connection profiles.

Importing Job Scheduling Console user preferences from version 8.3 and 8.4

To import user preferences from a Job Scheduling Console version 8.4, perform the following steps:
1. Start the Job Scheduling Console version 8.4. See Chapter 12, “Starting the Job Scheduling Console,” on page 61.

The Load Preferences file panel displays.

2. Browse to the `user_home_directory/.twsconsole` and select the preferences.xml file.
4. Click OK.

The Job Scheduling Console main window opens.
5. Right-click an engine and select Properties.

The Properties - Engine panel displays.
6. Define the connection profile and default properties for lists. Click OK.
7. Perform this operation for each engine defined in your Engines.xml file.
8. Close the Job Scheduling Console.

You can now use the preferences.xml and Engines.xml files as common files for each of the Job Scheduling Console instances that require the same connection profiles.
Chapter 8. Uninstalling

This chapter describes the following topics:
- "Uninstalling language packs" on page 36
- "Uninstalling the Job Scheduling Console"
- "Uninstalling the z/OS connector" on page 36

Uninstalling language packs

This section describes how to uninstall the language packs.

Note: When you uninstall languages, all language packs are uninstalled. You cannot uninstall individual language packs.

To uninstall language packs, perform the following steps:
1. Close the Job Scheduling Console.
2. Navigate to the language uninstall directory (langsUninstaller on Windows, or ./langsUninstaller on UNIX).
3. Run the language uninstall according to the operating system from where you are uninstalling:
   - Windows: uninstallLanguages.exe
   - UNIX: uninstallLanguages.bin
   or use the shortcut icons if they were created at installation time.
   The Uninstall panel displays. Click Next
4. When uninstall completes, it lists the files that were not uninstalled. Delete those files manually. In addition, the .twsconsole directory is maintained in the user home directory. If the installation completes with errors, the log file is maintained in the product installation directory.
5. Click Finish.

Uninstalling the Job Scheduling Console

To uninstall the Job Scheduling Console, perform the following steps:
1. Close the Job Scheduling Console.
2. Navigate to the interface uninstall directory (uninstaller on Windows, or ./uninstaller on UNIX).
3. Run the uninstall according to the operating system from where you are uninstalling:
   - Windows: uninstall.exe
   - UNIX: uninstall.bin
   or use the shortcut icons if they were created at installation time.
   The Uninstall panel displays. Click Next
4. When uninstall completes, it lists the files that were not uninstalled. Delete those files manually. In addition, the .twsconsole directory is maintained in the user home directory. In case the uninstallation completes with errors, the log file is maintained in the product installation directory.
5. Click Finish.
Uninstalling the Job Scheduling Console

Uninstalling the Job Scheduling Console using the Software Distribution CLI

You can uninstall Job Scheduling Console using the Software Distribution command **wremovsp** as follows:
```
wremovsp @TWSConsole.8.2.1 [subscribers...]
```

Uninstalling the z/OS connector

To uninstall the z/OS connector, perform the following steps:

1. Close the Job Scheduling Console.
2. Navigate to the interface uninstall directory (\uninstall on Windows, or ./uninstall on UNIX).
3. Run the uninstall according to the operating system from where you are uninstalling:
   - Windows: **uninstall.exe**
   - UNIX: **uninstall.bin**
   
   or use the shortcut icons if they were created at installation time.
   
   The Uninstall panel displays. Click **Next**
4. When the uninstallation completes, a panel displays a successful completion or contains a list of items that failed to uninstall and the location of the log file.
5. Click **Finish**.
Part 2. Getting started
Chapter 9. Job Scheduling Console objects and scheduling concepts

This chapter describes the objects of the Job Scheduling Console interface and the scheduling concepts. It is divided into the following sections:

- “Job Scheduling Console objects”
- “Scheduling job streams using defined objects” on page 44

Job Scheduling Console objects

This section describes the main objects in the database. It is divided into the following subsections:

- “Common objects”
- “Distributed engine specific objects” on page 41
- “Lists” on page 43
- “Database” on page 43
- “Plan” on page 43

Common objects

Objects common to both the z/OS and distributed environments are:

- “Workstations”
- “Resources” on page 40
- “Job streams” on page 40

Workstations

Although workstations are common for both z/OS and distributed environments, their definitions differ:

z/OS workstations

The Tivoli Workload Scheduler z/OS environment is defined in terms of resources and workstations. A workstation describes how jobs have to be run. A workstation is not necessarily hardware. It is a stage in the processing that is controlled by the scheduler.

Workstations are usually created to represent specific elements in your system configuration. The availability of these workstations reflects the availability of those elements in the real world. For instance, a computer workstation might be created for each z/OS system in a scheduler complex. The availability of the computer workstation reflects the availability of the z/OS system it represents. This prevents the scheduler from submitting work to a z/OS system that is not physically available. Also, the accuracy of any planning predictions that the scheduler produces depends on how accurately you have described the installation to the scheduler.

The scheduler establishes the availability of a workstation by using open intervals in the list of available workstations in the database. These are the times when workstation resources and parallel servers are available to process work. Parallel servers and resources are usually necessary to run work at the workstation.
Job Scheduling Console object descriptions

z/OS workstations can also be used as the interface in the integration between Tivoli Workload Scheduler for z/OS and IBM Tivoli System Automation for z/OS. Integrate these two products to combine the scheduling power of the former and the "desired state" system maintenance of the latter.

Distributed workstations

A workstation is usually an individual computer, on which jobs and job streams are run. A workstation definition is required for every computer that runs jobs in the Tivoli Workload Scheduler network.

Primarily workstation definitions refer to physical workstations. However, in the case of extended agents, the workstations are logical definitions that must be hosted by a physical workstation.

Resources

Resources can represent either physical or logical resources on your system. After they are defined in Tivoli Workload Scheduler database, they can be used as dependencies for jobs and job streams. For example, you can define a resource named tapes with a unit value of two. Then, define jobs that require two available tape drives as a dependency. Jobs with this dependency cannot run concurrently because each time a job is run the tapes resource is in use.

Job streams

A job stream consists of a list of jobs that run as a unit (such as running a weekly backup), along with times, priorities and other dependencies that determine the order in which the jobs run.

z/OS engine specific objects

The following are objects that are specific to the z/OS environment:

Special Resources

Special resources are a special case of normal resources, and can be used to control the running of jobs that run outside Tivoli Workload Scheduler for z/OS.

For example, consider the following scenario.

- You have a daily job running outside the control of Tivoli Workload Scheduler for z/OS
- The job is a predecessor of a Tivoli Workload Scheduler for z/OS job, because it creates a file that the Tivoli Workload Scheduler for z/OS job needs to use
- You need to find a way to make the external job trigger the Tivoli Workload Scheduler for z/OS job, but only when it has completed.

A special resource can be used in the following way to resolve this scenario:

1. Create a special resource "file", set by default to Not available,
2. Define a data set triggering table that tells the event tracker to create a "Special resource availability" event for the special resource "file". Every time the data set in question is created or modified; the event sets the resource to Available
3. Create the Tivoli Workload Scheduler for z/OS job, defining that it must set the special resource "file" to Not available, on successful completion
4. When the job is inserted into the current plan (either by the daily plan batch or directly by a user) and uses the special resource "file", the job cannot start because the resource is Not available.

5. When the external process creates or modifies the data set, the event tracker enters the "Special resource availability" event, and the controller modifies the special resource "file" to make it Available.

6. Tivoli Workload Scheduler for z/OS finds the resource available and runs the Tivoli Workload Scheduler for z/OS job, using the data in the file. On successful completion it sets the resource to Not available.

   When the plan is generated next day, the resource is thus Not available again, and remains so until the external job is run successfully again.

In summary, you can define the following for each special resource:

- A behavior on successful completion
- An availability quantity that is decreased each time the resource is used and a behavior for when the quantity is exhausted

Also, the "Special resource availability" event can set a time limit for the availability of the resource.

**Distributed engine specific objects**

The following are objects that are specific to the distributed environment:

**Job definitions**

You can create job definitions in the database before you create a job stream, or you can create a job definition at the same time you are creating its job stream. A job definition consists of task information and recovery options.

**Workstation classes**

A workstation class is a group of workstations. Any number of workstations can be placed in a class. Job streams and jobs can be assigned to run on a workstation class, making replication across many workstations easy. If a job stream is defined on a workstation class, each job added to the job stream must be defined either on a single workstation or on the same workstation class that the job stream was defined on. If a resource is defined on a workstation class, each resource added must be defined either on a single workstation or on the same workstation class. If a file dependency is defined on a workstation class, each file dependency added must be defined either on a single workstation or on the same workstation class.

**Domains**

A domain is a named group of Tivoli Workload Scheduler workstations, consisting of one or more workstations and a domain manager acting as the management hub. All domains have a parent domain, except for the master domain.

**Windows Users**

When you are running jobs in a Windows environment, you need to create the user details in the Tivoli Workload Scheduler database. Windows users must be defined on the workstation where they launch job.
A calendar is a list of scheduling dates defined in the scheduler database. Assigning a calendar run cycle to a job stream causes that job stream to be run on the days specified in the calendar. As a calendar is defined to the scheduler database, it can be assigned to multiple job streams.

You can create as many calendars as required to meet your scheduling needs. For example:

**PAYDAYS**
Could contain a list of days on which payment is made.

**MONTHEND**
Could contain a list of the last working day of each month.

Two default calendars are provided:

**HOLIDAYS**
The HOLIDAYS calendar is used to determine non-workdays for the purpose of defining run cycles for your job streams. It also affects the definition of the `workdays` keyword as follows:

```
workdays=everyday except saturday, sunday and all the dates appearing in the HOLIDAYS calendar
```

Create a HOLIDAYS calendar with the dates of your holidays. A default HOLIDAYS calendar is supplied with the Job Scheduling Console.

**FREEDAYS**
Freedays calendars are intended as non-workdays for the purpose of defining run cycles for your job streams. The freedays calendar extends the role of the HOLIDAYS calendar by providing additional flexibility in defining `workdays`. When defining a job stream, if you decide to use a freedays calendar instead of HOLIDAYS, then the definition of `workdays` becomes:

```
workdays=everyday except saturday, sunday and all the dates appearing in the specified freedays calendar
```

If you decide to create a freedays calendar for a job stream, the redefined meaning of `workdays` is limited to that job stream. You might define more than one freedays calendar when your organization has different international locations, and the calendar must respond to local requirements.

When you do not specify a freedays calendar for a job stream the HOLIDAYS is used, if available.

There is a freedays calendar provided with the Job Scheduling Console that you can use when you are defining your job stream time restrictions.

**Prompts**
Prompts are used as dependencies for jobs and job streams. A prompt must be answered affirmatively for the dependent job or job stream to launch. For example, you can issue a prompt to make sure that a printer is online before a job that prints a report runs.

There are two types of prompt:


Ad hoc prompt

This is defined within the properties of a job or job stream and is unique to that job or job stream.

Predefined prompt

This is defined in the Tivoli Workload Scheduler database and can be used by any job or job stream.

Parameters

Parameters are used to substitute values in jobs and job streams. As parameters are stored in the Tivoli Workload Scheduler database, all jobs and job streams that use the parameter are updated automatically when the value changes. For scheduling, a parameter can be used as a substitute for all or part of:

- File dependency path names
- Text for prompts
- Logon, command, and script file names

Parameters cannot be used when scripting Extended Agent jobs.

Files

Files are not database objects as such, but dependencies whose existence a job or job stream must verify before they can start.

Lists

Lists are filters that allow objects in the database and in the plan to be filtered. There are standard default lists available in the Job Scheduling Console, or you can create lists that are specific to your needs.

When you create a list, you give it a name and specify the filtering criteria. When you run a list, it displays a filtered table of objects. Each list you create is represented by an icon in the Work with engines pane.

Default plan and database lists are provided. Common plan and database lists that relate to both the z/OS and the distributed environments are also provided.

Database

The scheduler database stores scheduling object definitions. Examples of common scheduling object definitions are:

- Workstations
- Resources
- Job Streams

Plan

The plan is the master control for the current production day. Object definitions in the database become instances in the current production day plan, where they can be monitored and modified. Examples of common object instances are:

- Job Streams
- Jobs

There are the following types of plan:

Forecast plan

The forecast plan is a projection over a selected time frame based on the job streams and dependencies defined in the database.

Preproduction plan

The preproduction plan is a high-level plan of system activity containing job streams and dependencies. It is created automatically when the production plan is created for the first time.
Distributed engine specific objects

time. It is extended if the production plan is extended. It is similar to the long-term plan used in Tivoli Workload Scheduler for z/OS.

Production plan
The production plan contains all job scheduling activity planned for a period. The plan is created or extended by the Jnextplan job or by planman. It is stored in the Symphony file, and consists of all the jobs, job streams, and dependency objects that are scheduled to run for that period, including any jobs or job streams carried forward from the previous plan.

Trial plan
The trial plan is a projection of the current production plan for a different period, using the same start date. You can use the trial plan to determine the effect of different plan decisions.

Scheduling job streams using defined objects
This section describes the main concepts of scheduling using the Job Scheduling Console.

You schedule your job streams and define their behavior using the following:

- "Time restrictions"
- "Dependencies"
- "Time Zones and the Job Scheduling Console" on page 45
- "Run cycles" on page 46

Time restrictions
Time restrictions determine the times before which, after which, or both, that a job or job stream cannot be run. Specifying both defines a time frame within which a job or job stream runs. Jobs can also have a repetition rate. For example Tivoli Workload Scheduler can launch the same job every 30 minutes between the hours of 8:30 a.m. and 1:30 p.m.

Dependencies
Dependencies are prerequisites that must be satisfied before a job stream or a job can start. The type of dependency that you can specify differs depending on the type of engine:

- "z/OS dependencies"
- "Distributed dependencies" on page 45

z/OS dependencies
When you create z/OS dependencies, you link jobs in a sequence. A successor job cannot begin until the predecessor job is complete. Dependencies determine when the successor job runs, even if the successor job has time restrictions.

For example, to print bank account statements, you must first subtract withdrawals from an account (Job A) before you calculate the account balance (Job B). Job A is the predecessor and Job B the successor.

External jobs represent jobs that are part of other job streams. You create a dependency between jobs in different job streams by creating a dependency on an external job. For example, if Job C in the Accounts job stream depends on Job B in the Reports job stream, you create an external job in the Accounts job stream to represent Job B, then you create a dependency between Job C and the external job.
Distributed dependencies
There are different types of dependencies in the distributed environment:

- "Internetwork dependencies"
- "External job stream dependencies"
- "External job dependencies"

Dependencies create predecessors for job streams. A predecessor must complete successfully before the successor job is launched.

Internetwork dependencies
An internetwork dependency is a dependency on a job that runs in another Tivoli Workload Scheduler network. Internetwork dependencies require a network agent workstation to communicate with the external scheduler network. For more information about configuring a network agent, refer to the Tivoli Workload Scheduler: Reference Guide.

You add internetwork dependencies in a job stream using the job stream editor. See Chapter 40, “Managing distributed job streams,” on page 233 for more information.

External job stream dependencies
An external job stream dependency is a dependency on a job stream that runs in the same Tivoli Workload Scheduler network.


External job dependencies
An external job dependency is a dependency on a job that runs in the same Tivoli Workload Scheduler network.


Time Zones and the Job Scheduling Console
Time zone support is an optional feature that is enabled by default. When enabled, you can use time zone support to manage workloads at a global level.

Time zone implementation also enables easy scheduling across multiple time zones and for jobs that need to run in the dead zone. The dead zone is the difference between the start of day time on the master domain manager and the time on the fault-tolerant agent in another time zone. For example, if an eastern master with a start of day of 6 a.m. initializes a western agent with a 3-hour time zone difference, the dead zone for this fault-tolerant agent is between the hours of 3 a.m. and 6 a.m. See Figure 5 on page 46.
In the Job Scheduling Console you can set time zone data at the following levels:

- Engines
- Workstations
- Job streams
- Time restrictions
- Forecast and trial plans

When the time zone feature is not enabled at the engine level, the Job Scheduling Console does not provide time zone support for the listed objects.

For information about enabling the time zone, see Planning and Installation Guide.

**Setting your local time zone**

Because of the expansion of time zone support, it is now possible for you to set your local time zone in the preferences.xml file. The user preferences file is located in `user_home_directory/.twsconsole/`.

To set your local time zone, add the following tag to your preferences.xml file under the `consoleUserPreferences` node:

```xml
<entry key="defaultTimeZone" value="time zone ID"/>
```

where time zone ID is the extended ID of your time zone. For example:

```xml
<entry key="defaultTimeZone" value="Europe/Rome"/>
```

For a list of the available time zone IDs, refer to the Tivoli Workload Scheduler: Reference Guide.

**Run cycles**

Run cycles specify when a job stream in the database is to run in the plan. Combinations of run cycles are used to include and exclude certain dates. Types of run cycle vary depending on the type of engine:

- [“z/OS run cycles” on page 47](#)
- [“Distributed run cycles” on page 47](#)
**z/OS run cycles**

After creating z/OS jobs and defining dependencies, you specify the scheduling information for the job stream using run cycles. Run cycles are generated from a combination of the following information:

- A calendar of workdays and freethays. The calendar is defined in Tivoli Workload Scheduler for z/OS. You specify its name in the Job Stream Properties panel (see "Creating z/OS job streams" on page 147).
- The validity date of the job stream, which you specify in the Job Stream Properties panel.

You can create two types of run cycle for z/OS:

- **Offset-based**
  Uses a combination of user-defined periods and offsets. For example, an offset of 3 in a period of 15 days is the third day from the beginning of the period. It is more practical to use offset-based run cycles when the cycle is based on cyclic periods.

- **Rule-based**
  Uses rules based on lists of ordinal numbers, types of days, and common calendar intervals or period names. For example, the last Thursday of every month. Rule-based run cycles are based on conventional periods, such as calendar months, weeks of the year, and days of the week, or periods that you define, such as a semester.

You can specify multiple run cycles when you create a job stream and add new ones afterwards. You can also mix rule-based and offset-based run cycles.

Run cycles can be either *inclusive* or *exclusive*. Inclusive run cycles specify the days that the job stream must run. Exclusive run cycles specify the days that the job stream must not run. You can add run cycles to generate more days, or to have multiple instances on the same day. You can add exclusive run cycles to exclude some of the days already generated.

You can also specify the frequency with which you want to run a job stream starting from the input arrival time by setting the *every* option. For example, if you want to run a job stream every 30 minutes from input arrival time, set the every option to 00:30. See "Time Restrictions page" on page 225 for detailed information on how to set the *every* option.

**Distributed run cycles**

For the distributed environment there are the following types of run cycle:

- **Simple Run Cycles**
  Based on specific calendar dates.

- **Calendar Run Cycles**
  Based on predefined calendars. For details about creating calendars, see Chapter 25, "Creating calendars," on page 133.

- **Daily Run Cycles**
  Based on the frequency a run is performed in days.

- **Weekly Run Cycles**
  Based on days of the week.

- **Monthly by Date**
  Based on numeric days of the month, such as 1st day of the month.
Monthly by Day
   Based on days of the month by day, such as 1st Sunday of the month.

As well as the types of run cycle, for distributed run cycles you also define:
- “Inclusive or exclusive run cycles”
- “Rule for freedays”

**Inclusive or exclusive run cycles**
You specify distributed run cycles for a job stream using the Run Cycle view of the Job Stream Editor. See “Adding run cycles to a job stream” on page 245.

When you define a run cycle, you must specify if it designates the days when the job stream is to run (inclusive) or when the job stream is not to run (exclusive).
- The days you mark in an inclusive run cycle are displayed as Days Included in the list of run cycles applied to the job stream.
- The days you mark in an exclusive run cycle are displayed as Days Excluded in the list of run cycles applied to the job stream. Excluded days always take precedence over included days.

For each job stream, you can define as many inclusive and exclusive run cycles as you want.

**Rule for freedays**
This rule is based on the definition of freedays. Freedays are non-workdays, such as holidays or weekends, and can be defined in one or more specific calendars. Freedays calendars can in other terms be considered as the list of non-workdays when there is no activity in your enterprise.

Based on a freedays calendar, you can specify a rule when you define the run cycle of a job stream. The rule determines what action Tivoli Workload Scheduler must take when the schedule of a job stream falls on a freeday. If the schedule date falls on a freeday, the scheduler can do one of the following:
- Run the job stream
- Not run the job stream
- Run the job stream on the closest workday before the freeday
- Run the job stream on the closest workday after the freeday

If no freeday rule is specified, the scheduler proceeds by default and runs the job stream even if the selected run date is a freeday.

Tivoli Workload Scheduler does not reschedule the same job stream more than once on a given production day if its run date was moved because of a freeday rule application.
Chapter 10. Job Scheduling Console task guide

This chapter describes the flow of tasks you perform using the Job Scheduling Console, and provides a map between those tasks that are common to both z/OS and distributed engines, and those tasks that are unique to each. It is divided into the following sections:

- “Task types”
- “Task flows”
- “Task mapping” on page 52
- “Command-line mapping” on page 54
- “Terminology mapping” on page 54

Task types

This section describes the task types that you can utilize in the Job Scheduling Console.

Definition tasks

You use the definition tasks to create the scheduling network, job streams and jobs, defining their resources and parameters depending on the type of engine to which they relate: z/OS or distributed. The types of resources and parameters vary according to the engine type, and for a clearer view of these differences refer to “Task flows.” When you have defined the environment, you can create filters to display monitoring information for database and plan objects.

Management tasks

You use management tasks to monitor the status of job streams and make adjustments both in the database and the plan.

Task flows

Task flows in the Job Scheduling Console can be grouped into definition tasks and management tasks.

Definition task flows

Figure 6 on page 50 illustrates the flow of definition tasks. The task flow depends on the type of environment in which you are working. For example, in a z/OS environment you create your job definitions while you are creating or modifying a job stream, but in a distributed environment you should create Windows users (when relevant), parameters, and job definitions before you create your job stream. You can perform the other activities for a distributed definition in the order you prefer, but you should be aware that for your job streams to function correctly you must complete most of the definition tasks.
Creating Object Lists in the definition task flow is important, because most of your monitoring activity is performed using lists. Create object lists before beginning any management tasks.

Management task flows

Figure 7 on page 51 illustrates the flow of management tasks. Using Object Lists is the first step in the management flow, because you use object lists to filter for the objects with which you want to work.
Using Object Lists

Managing Common tasks
- Distributed Plans
  - Job Stream Instances
  - Job Instances
  - Workstations
  - Resources
- z/OS Plans
  - Job Stream Instances
  - Job Instances
  - Workstations
  - Resources
- Database Objects
  - Managing Workstations
  - Managing Job Streams
  - Managing Resources
    - Managing Job Definitions
    - Managing Workstation Classes
  - Managing Domains
  - Managing Windows Users
  - Managing Calendars
  - Managing Prompts
  - Managing Parameters

Figure 7. Management task flows
The Job Scheduling Console has different task groups: administrative tasks, and operator tasks. The tasks that you can use are further divided by the type of engine: z/OS or distributed.

Table 9. z/OS and distributed task mapping

<table>
<thead>
<tr>
<th>Task</th>
<th>z/OS</th>
<th>Distributed</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition tasks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creating engines</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 19, “Creating engines,” on page 109</td>
</tr>
<tr>
<td>Creating workstations</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 20, “Creating workstations,” on page 111</td>
</tr>
<tr>
<td>Creating job streams</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 29, “Creating job streams,” on page 147</td>
</tr>
<tr>
<td>Creating resources</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 21, “Creating resources,” on page 121</td>
</tr>
<tr>
<td>Creating job definitions</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 28, “Creating job definitions,” on page 141</td>
</tr>
<tr>
<td>Creating workstation classes</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 27, “Creating workstation classes,” on page 139</td>
</tr>
<tr>
<td>Creating domains</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 26, “Creating domains,” on page 137</td>
</tr>
<tr>
<td>Creating Windows users</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 22, “Creating Windows users,” on page 127</td>
</tr>
<tr>
<td>Creating calendars</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 25, “Creating calendars,” on page 133</td>
</tr>
<tr>
<td>Creating prompts</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 24, “Creating predefined prompts,” on page 131</td>
</tr>
<tr>
<td>Creating parameters</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 23, “Creating parameters,” on page 129</td>
</tr>
<tr>
<td>Creating forecast and trial plans</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 31, “Creating forecast and trial plans,” on page 171</td>
</tr>
<tr>
<td>Creating using Create Another</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 30, “Creating objects using Create Another,” on page 169</td>
</tr>
<tr>
<td>Creating and using lists</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creating database lists</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 32, “Creating database lists,” on page 175</td>
</tr>
<tr>
<td>Creating plan lists</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 33, “Creating plan lists,” on page 185</td>
</tr>
<tr>
<td>Creating a group of lists</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 34, “Creating a group of lists,” on page 195</td>
</tr>
<tr>
<td>Creating common plan lists</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 35, “Creating common plan lists,” on page 197</td>
</tr>
</tbody>
</table>
Table 9. z/OS and distributed task mapping  (continued)

<table>
<thead>
<tr>
<th>Task</th>
<th>z/OS</th>
<th>Distributed</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working with lists</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 36, “Working with lists,” on page 199</td>
</tr>
<tr>
<td>Management Tasks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managing engines</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 37, “Managing engines,” on page 205</td>
</tr>
<tr>
<td>Managing workstations</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 38, “Managing workstations,” on page 211</td>
</tr>
<tr>
<td>Managing job streams</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 39, “Managing z/OS job streams,” on page 213 and Chapter 40, “Managing distributed job streams,” on page 233</td>
</tr>
<tr>
<td>Managing resources</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 41, “Managing resources,” on page 253</td>
</tr>
<tr>
<td>Managing job definitions</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 42, “Managing job definitions,” on page 255</td>
</tr>
<tr>
<td>Managing workstation classes</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 43, “Managing workstation classes,” on page 257</td>
</tr>
<tr>
<td>Managing domains</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 44, “Managing domains,” on page 259</td>
</tr>
<tr>
<td>Managing Windows users</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 45, “Managing Windows users,” on page 261</td>
</tr>
<tr>
<td>Managing calendars</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 46, “Managing calendars,” on page 265</td>
</tr>
<tr>
<td>Managing prompts</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 47, “Managing prompts,” on page 265</td>
</tr>
<tr>
<td>Managing parameters</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 48, “Managing parameters,” on page 267</td>
</tr>
<tr>
<td>Managing job stream instances in the plan</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 49, “Managing z/OS job stream instances,” on page 271 and Chapter 50, “Managing distributed job stream instances in the plan,” on page 277</td>
</tr>
<tr>
<td>Managing job instances in the plan</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 51, “Managing z/OS job instances,” on page 291 and Chapter 52, “Managing distributed job instances in the plan,” on page 311</td>
</tr>
<tr>
<td>Managing workstations in the plan</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 53, “Managing workstations in the plan,” on page 335</td>
</tr>
<tr>
<td>Managing resources in the plan</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 54, “Managing resources in the plan,” on page 345</td>
</tr>
</tbody>
</table>
### Task mapping

Table 9. z/OS and distributed task mapping (continued)

<table>
<thead>
<tr>
<th>Task</th>
<th>z/OS</th>
<th>Distributed</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing file dependencies in the plan</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 55, “Managing distributed file dependencies in the plan,” on page 351</td>
</tr>
<tr>
<td>Managing prompt dependencies in the plan</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 56, “Managing distributed prompt dependencies in the plan,” on page 353</td>
</tr>
<tr>
<td>Managing domains in the plan</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 57, “Managing domains in the plan,” on page 355</td>
</tr>
<tr>
<td>Managing Windows users in the plan</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 58, “Changing Windows user passwords in the plan,” on page 357</td>
</tr>
<tr>
<td>Setting an alternate plan</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 59, “Setting an alternate plan,” on page 359</td>
</tr>
<tr>
<td>Restore a plan</td>
<td>No</td>
<td>Yes</td>
<td>Chapter 60, “Restoring a plan,” on page 361</td>
</tr>
<tr>
<td>Starting the Tivoli Dynamic Workload Console Event Rule Editor from the Job Scheduling Console</td>
<td>Yes</td>
<td>Yes</td>
<td>Chapter 61, “Launching the Tivoli Dynamic Workload Console Event Rule Editor from the Job Scheduling Console,” on page 363</td>
</tr>
</tbody>
</table>

For a quick start to these tasks, see Part 3, “Quick reference guide,” on page 65.

### Command-line mapping

The Job Scheduling Console and the command-line interface have some actions in common. Wherever there is an interrelation between a command and a task it is listed in the Tivoli Workload Scheduler: Reference Guide, under the See Also section of each command description.

### Terminology mapping

The terminology used in the Job Scheduling Console varies from that used in Tivoli Workload Scheduler. Table 10 lists Tivoli Workload Scheduler distributed and z/OS terms and their Job Scheduling Console equivalents.

Table 10. Job Scheduling Console terminology mapping

<table>
<thead>
<tr>
<th>Tivoli Workload Scheduler</th>
<th>Tivoli Workload Scheduler for z/OS</th>
<th>Job Scheduling Console</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule</td>
<td>Application</td>
<td>Job stream</td>
<td>A sequence of jobs, including the resources and workstations that support them, and scheduling information.</td>
</tr>
</tbody>
</table>
Table 10. Job Scheduling Console terminology mapping  (continued)

<table>
<thead>
<tr>
<th>Tivoli Workload Scheduler</th>
<th>Tivoli Workload Scheduler for z/OS</th>
<th>Job Scheduling Console</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Application group</td>
<td>Job stream template</td>
<td>A group of job streams that provides scheduling information, such as a calendar, a free-day rule, and run cycles that can be inherited by all the job streams that were created using the template.</td>
</tr>
<tr>
<td>Symphony</td>
<td>Current plan</td>
<td>Plan</td>
<td>A detailed plan of system activity. The plan encompasses all job and job stream instances and the resources and workstations involved in running them.</td>
</tr>
<tr>
<td>External dependency</td>
<td>External dependency</td>
<td>External job, external job stream</td>
<td>A job or job stream that is a predecessor for a job in another job stream.</td>
</tr>
<tr>
<td>Not applicable</td>
<td>In-effect date for run cycles</td>
<td>Valid from</td>
<td>The first date that a run cycle is valid.</td>
</tr>
<tr>
<td>Start Time</td>
<td>Input arrival time</td>
<td>(Earliest) start time</td>
<td>The time when a job or job stream is planned to be ready for processing.</td>
</tr>
<tr>
<td>Exclusive run cycle</td>
<td>Negative run cycle</td>
<td>Exclusive run cycle</td>
<td>Specifies when a job stream must not run.</td>
</tr>
<tr>
<td>Schedule</td>
<td>Occurrence</td>
<td>Job stream instance</td>
<td>A job stream that is scheduled for a specific run date in the plan.</td>
</tr>
<tr>
<td>Engine</td>
<td>Controller</td>
<td>Engine</td>
<td>The component that runs on the controlling system, and that contains the tasks that manage the plans and databases.</td>
</tr>
<tr>
<td>Job</td>
<td>Operation</td>
<td>Job</td>
<td>A unit of work that is part of a job stream and that is processed at a workstation.</td>
</tr>
<tr>
<td>Job identifier</td>
<td>Operation number</td>
<td>Job identifier</td>
<td>The number that identifies a job.</td>
</tr>
<tr>
<td>Job (in the plan)</td>
<td>Operations in the current plan</td>
<td>Job instances</td>
<td>A job scheduled for a specific run date in the plan.</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Out-of-effect date for run cycles</td>
<td>Valid to</td>
<td>The last date that a run cycle is valid.</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Run cycle with offsets</td>
<td>Offset-based run cycle</td>
<td>Includes a user-defined period and an offset, such as the 3rd day in a 90-day period.</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Run cycle with rules</td>
<td>Rule-based run cycle</td>
<td>Includes a rule, such as the first Friday of March or the second workday of the week.</td>
</tr>
<tr>
<td>Resources</td>
<td>Special resources</td>
<td>Logical resources</td>
<td>Any type of limited resource, such as tape drives, communication lines, databases, files, or printers, that is needed to run a job.</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Task</td>
<td>Job</td>
<td>A job performed at a computer workstation.</td>
</tr>
</tbody>
</table>
Terminology mapping
Chapter 11. Authorizing users

This chapter describes how you set Job Scheduling Console user authorizations using a:
- Distributed engine. See “Authorizing users for a distributed engine”
- z/OS engine. See “Authorizing users for a z/OS engine” on page 58.

Authorizing users for a distributed engine

This section describes how you set Job Scheduling Console user authorizations for a distributed engine.

Security for a distributed engine is controlled by a configuration file called security file. In the security file you define access rights of users to objects in the database and in the plan. Each time a user runs Tivoli Workload Scheduler programs and commands both using the command line or the Job Scheduling Console the product determines if that user is allowed to perform those activities on the specified scheduling objects by comparing the name of the user with the user definitions in the security file. A template file named TWS_home/config/Security.conf is provided with the product. During the installation, a copy of the template file is installed as TWS_home/Security.conf, and a compiled, operational copy is installed as TWS_home/Security. For detailed information refer to the Tivoli Workload Scheduler: Reference Guide.

The procedure you use to define Job Scheduling Console user authorizations to work with a distributed engine is the same as the one you use to define user authorizations to work with any other Tivoli Workload Scheduler user interface. The section below summarizes the steps you must perform to modify the security file, each step is described in detail in the Tivoli Workload Scheduler: Reference Guide:

1. Run the dumpsec command to redirect the security file to a file that can be edited. This command writes in textual mode the information contained in the compiled security file and sends the output to a specific file. This file can be edited and then used as input for the makesec command. For example, to redirect the security file to the newsecfile file, run the following command:
   dumpsec newsecfile
2. Modify the contents of the security file by adding the required access rights.
3. Close any open conman user interfaces using the exit command.
4. Run the makesec command to upload the security file and apply the changes. The makesec command compiles and activates the modified security settings. For example, to compile and activate the changes made to the newsecfile file, run the following command:
   makesec newsecfile
5. Restart conman.

Sample security file

The example below shows how to configure the security file for the tiv0520 user to perform the action shown in Table 11 on page 58

```
USER MAESTRO2
   CPU=0+LOGON=tiv0520
BEGIN
```

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**Authorizing users for a z/OS engine**

This section describes how you set Job Scheduling Console user authorizations to work with a z/OS engine.

z/OS security is based on a mapping between the Job Scheduling Console user name you defined when you installed the z/OS connector and a RACF user ID. When the Job Scheduling Console user initiates an action in a z/OS environment the product uses the Job Scheduling Console user name to obtain the corresponding RACF user ID. The server startup job uses the RACF user ID to build the RACF environment for the user to access the Tivoli Workload Scheduler for z/OS services.

To define Job Scheduling Console user authorizations to work with a z/OS engine, perform the following steps:

1. Open the parameter file identified in the EQQPARM DD statement in the server startup job.
2. Specify the USERMAP parameter in the SERVOPTS initialization statement.
3. Open the file specified in the USERMAP parameter and define the associations between the Job Scheduling Console user and the RACF user ID.
For example, if the name of your server is TWSCJSC and the USERMAP parameter is USERS, you have the following information:

- In the SERVOPTS initialization statement:
  
  ```
  Server: TWSCJSC
  SERVOPTS
  USERMAP(USERS)
  ...
  ```

- In the USERS file:
  
  ```
  ...
  USER 'JSCUSER@PELICAN' RACUSER(SCOT) RACGROUP (GROUP1)
  ...
  ```

where JSCUSER is the user you use to connect to the Job Scheduling Console and PELICAN is the value of the `com.ibm.tws.zconn.usr.mapping.hostName` properties contained in the `TWSHome\appserver\profiles\twszconnprofile\properties\TWSConfig.properties` file. This value corresponds to the hostname of the workstation where you installed the z/OS connector. To change this value in the TWSConfig.properties file and make it effective, you must stop and start the WebSphere Application Server.

The definitions above activate for the JSCUSER user all the RACF checks defined for the SCOT user, including the RACF checking defined with the AUTHDEF controller initialization statement. For more information refer to *Tivoli Workload Scheduler for z/OS: Customization and Tuning.*
Chapter 12. Starting the Job Scheduling Console

This chapter describes the information necessary to sign on to the Job Scheduling Console.

Start the Job Scheduling Console in one of the ways described in Table 12.

Table 12. Starting the Job Scheduling Console

<table>
<thead>
<tr>
<th>On this operating system ...</th>
<th>In the ..\bin\java subdirectory of the installation path ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows</td>
<td>Enter NTconsole, or double-click the Job Scheduling Console icon on the Windows Desktop, or from the Start menu, if created at installation time.</td>
</tr>
<tr>
<td>AIX</td>
<td>Enter ./AIXconsole.sh or use the shortcut icons, if created at installation time.</td>
</tr>
<tr>
<td>SUN Solaris</td>
<td>Enter ./SUNconsole.sh or use the shortcut icons, if created at installation time.</td>
</tr>
<tr>
<td>HP-UX</td>
<td>Enter ./HPconsole.sh or use the shortcut icons, if created at installation time.</td>
</tr>
<tr>
<td>Linux</td>
<td>Enter ./LINUXconsole.sh or use the shortcut icons, if created at installation time.</td>
</tr>
</tbody>
</table>

The first time you log on the Load Preferences Files panel is displayed.

You can use this panel to load a common preferences file, and a common engines file thereby negating the need to set preferences in the Job Scheduling Console. Type the location of the common files, or browse for them. If you do not have a common files, click Cancel to continue.

Note: If there is a tag error in the preferences file, you can exit and correct the error, or continue and the default preferences file is used. When you continue, any modifications to the preferences file are lost.

Startup automatically opens TCP/IP port 9992 to listen for user commands directed to the logging utility. If you are concerned that this default might expose performance to network malfunctions, you can disable the mechanism by adding the following line to one of the startup commands listed in Table 12:

-Djava.jlog.noLogCmd=true
Starting the Job Scheduling Console

The port through which the logging utility listens can be changed by setting the system property `jlog.logCmdPort`.

Logging on to an engine

The first time you start the Job Scheduling Console, the Job Scheduling Console displays the following message:
The Job Scheduling Console did not find any engine defined. The Define a New Engine wizard starts to allow new engine definition.

Click OK, the Define a New Engine panel displays.

For information about creating engines, see Chapter 19, “Creating engines,” on page 109.

To access an engine, perform the following steps:

1. Click the engine icon in the Work with engines pane.
   
   If the login credentials of the engine have not been saved, the Engine Login panel displays.
The panel consists of the following:

**User Name**  
Type the user name of the administrator for the computer where the engine is installed.

**Password**  
Type the password of the administrator of the computer where the engine is installed.

**Save Password**  
When you select to save the login credentials it is not necessary to enter the administrator name and password each time that you access the engine.

The Job Scheduling Console main window opens. For a description of the interface, see Chapter 14, “Interface quick reference,” on page 69.

### Standard functions

This section lists the functionality that is standard throughout the Job Scheduling Console.

#### Standard buttons

When you have finished a procedure, perform the following operations:

- Click **OK** to close the window and save.
- Click **Cancel** to close the window without saving.
- Click **Apply** to save without closing the window.
- Click **Reset** to return all fields to the values of the last save.

#### Wildcards

The wildcards for Job Scheduling Console are:

- `?` Replaces one alphanumeric character.
- `%` Replaces one numeric character.
- `*` Replaces zero or more alphanumeric characters.

#### Unsupported characters

When you enter a character that is not supported, the field border turns red and a cross appears to the left of the field indicating that it is not supported.
Finding objects

The Job Scheduling Console uses a standard search functionality for finding objects in the database or plan. Whenever you see three ellipses (...), or an icon representing a torch, you can search for objects using a find pane. When searching you can use wildcard characters, such as an asterisk (*) to represent a string of characters, or a question mark (?) to represent a single character. Although the appearance of the Find panel varies slightly according to the type of object you are finding, the functionality is standard.

Deleting objects from a list

You can delete objects from any list and therefore from the database using the Delete function of the relevant pop-up menu. Run the list and select the object or objects you want to delete. Right-click and select Delete in the menu.

Pop-up menus

You can right-click objects in the panes to display a pop-up menu of tasks related to the object.

Required data

When data is required, it is indicated by an asterisk and a yellow background. When a notebook contains a page that has required fields or objects within it, the page has a yellow strip with an asterisk before the page name. When a field is required it has a yellow strip with an asterisk in it and a pale yellow background. All other data elements, are optional.
Part 3. Quick reference guide
Chapter 13. Quick reference overview

This quick reference guide is intended as a tool to help you quickly learn the basics of the Job Scheduling Console when you are a new user, or to refresh your memory when you are an expert user. It is divided into the following chapters:

- Chapter 14, “Interface quick reference,” on page 69
- Chapter 15, “z/OS quick reference,” on page 79
- Chapter 16, “Distributed quick reference,” on page 87
- Chapter 17, “Explorer View quick reference,” on page 101
- Chapter 18, “Troubleshooting quick reference,” on page 105

The interface quick reference describes the interface panels and panes, the menu bars, the toolbars and their icons.

The distributed and z/OS quick references list quick steps you perform in the environments and then describes in more detail each of those steps.

The troubleshooting quick reference describes the locations of the various log files.
Chapter 14. Interface quick reference

The user interface consists of the following main components:

- **Actions list** pane
- **Work with engines** pane
- **Object list** pane
- **Job Stream Editor** panel

### Actions list pane

The **Actions list** pane appears on the left side of the main window.

You can expand (▼) and collapse (▼) the nodes of this tree to navigate to the main definition functions, create engines, change password for Windows, submit job streams and jobs into the plan, generate new plans, set alternate plans, or restore plans.

You can hide (ubreve) the **Action list** pane when you are performing tasks that are not definition tasks. You can reattach (▼) the **Actions list** pane when you are performing definition tasks.
**Work with engines pane**

The **Work with engines** pane appears on the left side of the main window, to the right of the **Actions list pane**.

![Work with engines pane](image)

You can expand (++) and collapse (-) the nodes of this engine tree to navigate to the lists used in Job Scheduling Console to monitor and modify all the various objects. You can right-click on the icons at the various levels of the tree to open a pop-up menu that provides actions you can perform on that item in the tree. You can close (X) the **Work with engines** pane when you are performing definition tasks, or when you need more space for the object list view pane. You can open (O) the 'Work with engines' pane when you want to create a new list, or filter for objects to view in the object list view pane.

**Object list pane**

The **Object list** pane appears on the right side of the main window.

The view is in table format for all the objects:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Workstation</th>
<th>Valid from</th>
<th>Valid to</th>
<th>Draft</th>
<th>Time Zone</th>
<th>Priority</th>
<th>Limit</th>
<th>Updated by</th>
</tr>
</thead>
<tbody>
<tr>
<td>JBCORR1</td>
<td></td>
<td>FT130160</td>
<td></td>
<td></td>
<td>Active</td>
<td></td>
<td></td>
<td></td>
<td>mae05_09</td>
</tr>
<tr>
<td>JBCORR2</td>
<td></td>
<td>FT130160</td>
<td></td>
<td></td>
<td>Active</td>
<td></td>
<td></td>
<td></td>
<td>mae05_09</td>
</tr>
</tbody>
</table>

For jobs and job streams in the plan the view can be in:

- Explorer format:
From the Explorer view pop-up menu, you can **Expand all** that expands all the nodes of the tree that you have previously expanded, or collapse all.

- Hyperbolic format:

- Timeline format:

You can right-click on a row to open a pop-up menu that provides actions you can perform on the object in the view. You can detach (_detach) a view, allowing you to work with different filtered tables at the same time. You can reattach (_attach) a table.

---

**Impact View**

You can display predecessor and successor information of your job and job stream instances in an impact view. To display predecessor and successor information run a list of jobs and job stream instances, right-click one of them, and from the pop-up menu select **Impact View**:
Object list pane

Job stream editor

The Job Stream Editor panel is a detached panel that you can position anywhere on your screen and can minimize when you are not using it. The Job Stream Editor panel varies according to the type of engine with which you are working. To display the Job Stream Editor, run a list of job streams and double-click on the one you want to edit.
In the Job Stream Editor panel, you can right-click graphic representations of jobs to open a pop-up menu that provides actions you can perform on the job. You can add jobs to the job stream using the relevant buttons and menu options.

The main menu bar

<table>
<thead>
<tr>
<th>Menu</th>
<th>Use this menu to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Console</td>
<td>Detach an Objects list view pane, close an Objects list view pane, exit from the Job Scheduling Console</td>
</tr>
<tr>
<td>Selected</td>
<td>Perform an action on the object selected in the Object list pane</td>
</tr>
<tr>
<td>Edit</td>
<td>Undo the previous action, cut, copy, paste, and delete objects</td>
</tr>
<tr>
<td>View</td>
<td>Refresh the contents of the Objects list view pane, open and close the Actions list and Work with engines panes, export the current table</td>
</tr>
<tr>
<td>Window</td>
<td>Customize a session, including its look and feel, detach all the Objects list view panes you currently have open, reattach all the Objects list view panes you currently have detached, close all Objects list view panes you currently have open</td>
</tr>
<tr>
<td>Help</td>
<td>Launch the comprehensive online Help system, view Help for the current window, and display information about the product such as version and copyright information</td>
</tr>
</tbody>
</table>
The distributed job stream editor menu bar

<table>
<thead>
<tr>
<th>Menu</th>
<th>Use this menu to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>File</td>
<td>View the properties of a job stream, add external dependencies to a job stream, save a job stream, and close the job stream editor</td>
</tr>
<tr>
<td>Edit</td>
<td>Copy, paste, delete objects, and undo previous delete</td>
</tr>
<tr>
<td>View</td>
<td>Toggle between graph, explorer, timeline, and run cycle views</td>
</tr>
<tr>
<td>Actions</td>
<td>Add a job, add a job dependency, add a link between jobs, and set whether jobs should be monitored</td>
</tr>
<tr>
<td>Help</td>
<td>Launch the comprehensive online Help system, view Help for the current window, and display information about the product such as version and copyright information</td>
</tr>
</tbody>
</table>

The z/OS job stream editor menu bar

<table>
<thead>
<tr>
<th>Menu</th>
<th>Use this menu to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>File</td>
<td>View the properties of a job stream, save a job stream, and close the job stream editor</td>
</tr>
<tr>
<td>Edit</td>
<td>Copy, paste, delete objects, and undo previous delete</td>
</tr>
<tr>
<td>View</td>
<td>Toggle between graph, explorer, timeline, and run cycle views</td>
</tr>
<tr>
<td>Actions</td>
<td>Add a job, add an external job dependency, add a link between jobs, and set whether jobs should be monitored</td>
</tr>
<tr>
<td>Help</td>
<td>Launch the comprehensive online Help system, view Help for the current window, and display information about the product such as version and copyright information</td>
</tr>
</tbody>
</table>

The main window toolbar

<table>
<thead>
<tr>
<th>Button</th>
<th>Use this button to...</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Cut the currently selected object</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Copy the currently selected object</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Paste the contents of the clipboard</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Open the Work with engines pane</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Refresh the contents of the current Object list view</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Stop the current server request. This button becomes active when a request is made to the server and the Job Scheduling Console is waiting for a response.</td>
</tr>
</tbody>
</table>
## The distributed job stream editor toolbar

<table>
<thead>
<tr>
<th>Button</th>
<th>Use this button to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Button]</td>
<td>Add a job definition to the job stream you are working on</td>
</tr>
<tr>
<td>![Button]</td>
<td>Add multiple job definitions to the job stream you are working on.</td>
</tr>
<tr>
<td>![Button]</td>
<td>Add an internetwork dependency to the job stream you are working on</td>
</tr>
<tr>
<td>![Button]</td>
<td>Add a dependency on a job that is in a job stream other than the one you are working on</td>
</tr>
<tr>
<td>![Button]</td>
<td>Add a dependency on a job stream other than the one you are working on</td>
</tr>
<tr>
<td>![Button]</td>
<td>Add a link between job definitions in the job stream you are working on</td>
</tr>
<tr>
<td>![Button]</td>
<td>Switch to the graph view</td>
</tr>
<tr>
<td>![Button]</td>
<td>Switch to the explorer view</td>
</tr>
<tr>
<td>![Button]</td>
<td>Switch to the timeline view</td>
</tr>
<tr>
<td>![Button]</td>
<td>Switch to the run cycle view</td>
</tr>
</tbody>
</table>
**z/OS job stream editor toolbar**

### The z/OS job stream editor toolbar

<table>
<thead>
<tr>
<th>Button</th>
<th>Use this button to...</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Add JCL type job" /></td>
<td>Add a JCL type job to the job stream you are editing</td>
</tr>
<tr>
<td><img src="image" alt="Add started task type job" /></td>
<td>Add a started task type job to the job stream you are editing</td>
</tr>
<tr>
<td><img src="image" alt="Add printer type job" /></td>
<td>Add a printer type job to the job stream you are editing</td>
</tr>
<tr>
<td><img src="image" alt="Add general type job" /></td>
<td>Add a general type job to the job stream you are editing</td>
</tr>
<tr>
<td><img src="image" alt="Add setup type job" /></td>
<td>Add a setup type job to the job stream you are editing</td>
</tr>
<tr>
<td><img src="image" alt="Add write to operator type job" /></td>
<td>Add a write to operator type job to the job stream you are editing</td>
</tr>
<tr>
<td><img src="image" alt="Add fault-tolerant workstation (FTW) task" /></td>
<td>Add a fault-tolerant workstation (FTW) task to the job stream you are editing</td>
</tr>
<tr>
<td><img src="image" alt="Add automation task" /></td>
<td>Add an automation task to the job stream you are editing</td>
</tr>
<tr>
<td><img src="image" alt="Add dependency to job" /></td>
<td>Add a dependency to a job that runs in a job stream other than the one you are editing</td>
</tr>
<tr>
<td><img src="image" alt="Add a link between jobs" /></td>
<td>Add a link between jobs in the job stream you are editing</td>
</tr>
<tr>
<td><img src="image" alt="Switch to the explorer view" /></td>
<td>Switch to the explorer view</td>
</tr>
<tr>
<td><img src="image" alt="Switch to the graph view" /></td>
<td>Switch to the graph view</td>
</tr>
<tr>
<td><img src="image" alt="Switch to the timeline view" /></td>
<td>Switch to the timeline view</td>
</tr>
</tbody>
</table>
### z/OS job stream editor toolbar

<table>
<thead>
<tr>
<th>Button</th>
<th>Use this button to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Button Image]</td>
<td>Switch to the run cycle view</td>
</tr>
</tbody>
</table>

### The impact view toolbar

<table>
<thead>
<tr>
<th>Button</th>
<th>Use this button to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Button Image]</td>
<td>View the predecessors or successors radiating from the job icon</td>
</tr>
<tr>
<td>![Button Image]</td>
<td>View the predecessors or successors to the left of the job icon</td>
</tr>
<tr>
<td>![Button Image]</td>
<td>View the predecessors or successors to the right of the job icon</td>
</tr>
<tr>
<td>![Button Image]</td>
<td>View the predecessors or successors above the job icon</td>
</tr>
<tr>
<td>![Button Image]</td>
<td>View the predecessors or successors below the job icon</td>
</tr>
<tr>
<td><strong>Predecessors</strong></td>
<td>Toggle to the predecessors view</td>
</tr>
<tr>
<td><strong>Successors</strong></td>
<td>Toggle to the successors view</td>
</tr>
</tbody>
</table>
Impact view toolbar
Chapter 15. z/OS quick reference

This section describes the steps you need to take to get up and running in a z/OS environment.

Quick definition steps for a z/OS environment

The following steps provide an overview of how to start defining objects in a z/OS environment.

<table>
<thead>
<tr>
<th>Step</th>
<th>Why do this?</th>
<th>When and how often should I do this?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Create workstations</td>
<td>Perform this step to create your z/OS workstations.</td>
<td>Typically, you perform this step immediately after installing the Job Scheduling Console. After you have created your workstations, you perform this step when changes within your organization require it.</td>
</tr>
<tr>
<td>2. Create resources</td>
<td>When your jobs use resources, you must create them in the database.</td>
<td>You perform this task each time you have a job that requires use of a resource. You must create the resource before you create the job.</td>
</tr>
<tr>
<td>3. Create job streams</td>
<td>You must group your jobs into job streams for them to be able to run. A job stream can consist of a single job.</td>
<td>You perform this task each time you need a new job stream.</td>
</tr>
<tr>
<td>4. Create jobs</td>
<td>You must create at least one job for each job stream that you create.</td>
<td>You perform this task each time you need a new job, or each time you create a new job stream.</td>
</tr>
</tbody>
</table>

Create workstations

The steps involved in creating workstations are the same for z/OS and distributed. See “Create domains and workstations” on page 87.

Create resources

Perform these steps to create resources in the database:

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Expand the New Resource node of the Action list pane.</td>
<td><img src="image" alt="Actions list" /></td>
<td></td>
</tr>
</tbody>
</table>

© Copyright IBM Corp. 1991, 2007
<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Select a z/OS engine from the expanded list.</td>
<td><img src="image" alt="Property - Resource in Database" /></td>
<td>Complete the data according to the information provided in “General page” on page 122. Maximum characters for the resource name is 44.</td>
</tr>
<tr>
<td>3. Click Default Workstations.</td>
<td><img src="image" alt="Property - Resource in Database" /></td>
<td>Complete the data according to the information provided in “Default Workstations page” on page 123. Use to search for workstations.</td>
</tr>
<tr>
<td>4. Click Availability Intervals.</td>
<td><img src="image" alt="Property - Resource in Database" /></td>
<td>Complete the data according to “Availability Intervals page” on page 124.</td>
</tr>
</tbody>
</table>
## Create job streams

Perform these steps to create job streams in the database:

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Expand the New Job Stream node of the Action list pane.</td>
<td><img src="image" alt="Actions list" /></td>
<td>Complete the data according to “Creating z/OS job streams” on page 147.</td>
</tr>
<tr>
<td>2. Select a z/OS engine from the expanded list.</td>
<td><img src="image" alt="Properties - Job Stream" /></td>
<td>When you set the job stream as a template, the Job Stream Editor opens in the Timeline view and you can only add run cycle information. You must add at least one job to a z/OS job stream before you can save it. See “Create jobs” on page 82.</td>
</tr>
<tr>
<td>3. Click OK</td>
<td><img src="image" alt="Job Stream Editor" /></td>
<td></td>
</tr>
</tbody>
</table>
## Create jobs

Perform these steps to create a z/OS job in the database:

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Expand a z/OS engine in the <strong>Work with engines</strong> pane, and any sub-lists until a list containing the relevant job stream opens.</td>
<td><img src="image1.png" alt="List of engines" /></td>
<td>The job stream list could be somewhere other than under <strong>Default Database Lists</strong>. See {ch:12,sec:1} “Working with lists,” on page 199. If you have just created the job stream this step is not necessary.</td>
</tr>
<tr>
<td>2. Select the job stream where you want to create the job.</td>
<td><img src="image2.png" alt="Job stream editor" /></td>
<td>If you have just created the job stream this step is not necessary.</td>
</tr>
<tr>
<td>3. Click a job button according to the type of job you are adding.</td>
<td><img src="image3.png" alt="Job properties" /></td>
<td>See “The z/OS job stream editor toolbar” on page 76. The tabs for the different job types are the same, however when you save the job stream different validation policies are applied to the properties according to the job type you specified. Complete the data according to “General page” on page 153.</td>
</tr>
<tr>
<td>Action</td>
<td>Result</td>
<td>Notes</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>4. Click Task.</td>
<td><img src="image1.png" alt="Task Panel" /></td>
<td>Complete the data according to “Task page” on page 155.</td>
</tr>
<tr>
<td>4. Click Options.</td>
<td><img src="image2.png" alt="Options Panel" /></td>
<td>Complete the data according to “Options page” on page 155.</td>
</tr>
<tr>
<td>Action</td>
<td>Result</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>5. Click <em>Time Restrictions</em>.</td>
<td><img src="image1.png" alt="Time Restrictions Image" /></td>
<td>Complete the data according to “Time Restrictions page” on page 157.</td>
</tr>
<tr>
<td>6. Click <em>Resources</em>.</td>
<td><img src="image2.png" alt="Resources Image" /></td>
<td>You must create resources before you create the jobs that use them. Complete the data according to “Resources page” on page 157.</td>
</tr>
<tr>
<td>Action</td>
<td>Result</td>
<td>Notes</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>7. Click Automation.</td>
<td><img src="image" alt="Properties - Automation Task" /></td>
<td>If the job is to run on Tivoli System Automation for z/OS, complete the data according to &quot;Automation page&quot; on page 159.</td>
</tr>
</tbody>
</table>
Chapter 16. Distributed quick reference

This section describes the steps you need to take to get up and running in a distributed environment.

Quick definition steps for a distributed environment

The following steps provide an overview of how to start defining objects in a distributed environment.

<table>
<thead>
<tr>
<th>Step</th>
<th>Why do this?</th>
<th>When and how often should I do this?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Create workstations and domains</td>
<td>Perform this step to configure your scheduling network.</td>
<td>Typically, you perform this step immediately after installing the Job Scheduling Console.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After your Tivoli Workload Scheduler network is configured, you perform this step when changes within your organization require it.</td>
</tr>
<tr>
<td>2. Create parameters</td>
<td>When your job definitions or job streams have values that are relevant to several fields, you can create a parameter so that you do not need to enter the value each time you create a new object.</td>
<td>You perform this task each time you have a parameter that represents a value for an object.</td>
</tr>
<tr>
<td>3. Create job definitions</td>
<td>You can create job definitions before you create a job stream or at the same time you create a job stream.</td>
<td>You perform this task each time you need to create a new job stream.</td>
</tr>
<tr>
<td>4. Create calendars</td>
<td>When you have a job stream that requires a calendar other than the calendars provided, you need to create a calendar.</td>
<td>You perform this task each time you need a job stream to run with a calendar structure different from those calendars provided.</td>
</tr>
<tr>
<td>5. Create prompts</td>
<td>When you have a job or a job stream that requires a prompt to be answered before it starts, you must create the prompt before you create the job stream.</td>
<td>You perform this task each time you create a job or job stream that requires a prompt to be answered before it begins to run.</td>
</tr>
<tr>
<td>6. Create job streams</td>
<td>When you want to run jobs as a unit (such as running a weekly backup), along with times, priorities and other dependencies that determine the order in which the jobs run, you must group your jobs into job streams. A job stream can consist of a single job.</td>
<td>You perform this task each time you need a new job stream.</td>
</tr>
</tbody>
</table>

Create domains and workstations

Perform this step to configure your scheduling network.

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Plan your domain structure.</td>
<td></td>
<td>To correctly configure your scheduling network domain, you need to decide the structure and the names of the domains and domain managers.</td>
</tr>
</tbody>
</table>
### Distributed quick reference

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Expand the New Domain node of the Action list pane.</td>
<td><img src="image1.png" alt="Image" /></td>
<td>Complete the data according to the information provided in Chapter 26, “Creating domains,” on page 137. Perform these actions until you have created all the domains for your network. Maximum length for a domain name is 16 characters.</td>
</tr>
<tr>
<td>3. Select an engine from the expanded list.</td>
<td><img src="image2.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td>4. Expand the New Workstation node of the Action list pane.</td>
<td><img src="image3.png" alt="Image" /></td>
<td>The number of engines listed depends on your organization.</td>
</tr>
</tbody>
</table>
### Create parameters

Perform this step to create parameters in the database.

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 1. Expand the **New Parameter** node of the **Action list** pane. | | You can create parameters for the following fields for your job definitions:  
- Login  
- Script  
- Command  
- Prompt  
- File Dependencies |
### Create job definitions

Perform these steps to create job definitions in the database:

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Expand the <strong>New Job Definition</strong> node of the <strong>Action list</strong> pane.</td>
<td><img src="image" alt="Actions list" /></td>
<td>You can also create your job definitions at the same time as you create your job streams. See “Create job streams” on page 96.</td>
</tr>
</tbody>
</table>

**Create job definitions**

- **Action**: Expand the **New Job Definition** node of the **Action list** pane.
- **Result**: ![Actions list](image)
- **Notes**: You can also create your job definitions at the same time as you create your job streams. See “Create job streams” on page 96.
<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Select an engine from the expanded list.</td>
<td><img src="image" alt="Properties - Job Definition MyEngine" /></td>
<td>The task types that you can select provide the same properties panel. This scenario is to create a Windows Script. For a description of the task types, see Chapter 28, “Creating job definitions,” on page 141. Complete the data according to the information provided in Chapter 28, “Creating job definitions,” on page 141. Maximum length for the job definition name is 40 characters. When you created a parameter for the login details of a job definition, you can add it now using <strong>Add Parameter</strong>. In <strong>Workstation Name</strong> you can nominate a class to indicate that the job definition is relevant to more than one workstation. You can type the name of a parameter, or leave the field blank if you want to display all parameters.</td>
</tr>
<tr>
<td>3. Click <strong>Add Parameter</strong>.</td>
<td><img src="image" alt="Find Parameters" /></td>
<td></td>
</tr>
</tbody>
</table>

Chapter 16. Distributed quick reference 91
### Action | Result | Notes
--- | --- | ---
4. Click Start. | ![Screenshot of find parameters dialog](image) | Select a parameter from the list.

**Parameter Name** | **Parameter Text**
--- | ---
FIL.PAR | 00

Total 1 Displayed 1 Selected 1

5. Click OK. | ![Screenshot of job definition properties](image) | Complete the **Recovery Options** according to the information provided in Chapter 28, “Creating job definitions,” on page 141. In **Workstation Name** you can nominate a class to indicate that the job definition is relevant to more than one workstation.
6. Click Task.

You can use the same find functionality to add a parameter to the script field. Complete the Return Code Mapping as described in Chapter 28, “Creating job definitions,” on page 141.

Create calendars

Perform these steps to create calendars in the database:

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 1. Expand the New Calendar node of the Action list pane. | New Engine  
New Job Stream  
New Job Definition  
New Workstation  
New Resource  
New Workstation Class  
New Prompt  
New Parameter  
New Windows User  
New Domain  
New Calendar  
distributedEngine | If the default calendars are not sufficient for your job streams, you can create your own calendars. |
### Distributed quick reference

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Select an engine from the expanded list.</td>
<td><img src="image" alt="Properties - Calendar distributedEngine" /></td>
<td>Maximum length for the calendar name is eight characters. You can type a description for the calendar. Maximum length for the description is 64 characters.</td>
</tr>
<tr>
<td></td>
<td>Max length for the calendar name is eight characters.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>You can type a description for the calendar. Maximum length for the description is 64 characters.</td>
<td></td>
</tr>
<tr>
<td>3. Click <strong>Define Calendar</strong>.</td>
<td><img src="image" alt="Monthly Yearly Calendar" /></td>
<td>Specify days to the calendar definition. You can define these days on a monthly or an annual basis by selecting <strong>Monthly</strong> or <strong>Yearly</strong>. You can use the <strong>Select</strong> menu to select common days for each month over a given time range.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Create prompts

Perform these steps to create prompts in the database:

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Expand the New Prompts node of the Action list pane.</td>
<td><img src="image" alt="Actions list" /></td>
<td>Type the name and the text of the prompt. Maximum length of the prompt name is eight characters.</td>
</tr>
<tr>
<td>2. Select an engine from the expanded list.</td>
<td><img src="image" alt="Properties - Prompt" /></td>
<td></td>
</tr>
</tbody>
</table>
Create job streams

Perform these steps to create job streams in the database:

Note: It is not necessary to perform all of the steps documented here to create a job stream. Similarly, there are steps that are not documented here that you might need to perform. For a complete description of creating a distributed job stream, see “Creating distributed job streams” on page 161.

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Expand the New Job Stream node of the Action list pane.</td>
<td><img src="image" alt="Actions list" /></td>
<td>If you intend to use workstation classes, calendars, predefined prompts, or resources in your job stream, you must create them first. See Chapter 27, “Creating workstation classes,” on page 139, Chapter 25, “Creating calendars,” on page 133, Chapter 24, “Creating predefined prompts,” on page 131, Chapter 21, “Creating resources,” on page 121.</td>
</tr>
<tr>
<td>2. Select a distributed engine from the expanded list.</td>
<td><img src="image" alt="Properties: Job Stream" /></td>
<td>Complete the page according to the information provided in “General page” on page 162. Maximum length for the job stream name is 16 characters. Use the Comments page to add additional information about the job stream.</td>
</tr>
<tr>
<td>3. Click Dependency Resolution</td>
<td><img src="image" alt="Properties: Job Stream" /></td>
<td>Complete the page according to the information provided in “Dependency Resolution page” on page 163.</td>
</tr>
<tr>
<td>Action</td>
<td>Result</td>
<td>Notes</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>4. Click <strong>Time Restrictions</strong></td>
<td><img src="image1.png" alt="Image 1" /></td>
<td>Complete the page according to the information provided in “Time Restrictions page” on page 164.</td>
</tr>
<tr>
<td>5. Click <strong>Resources</strong></td>
<td><img src="image2.png" alt="Image 2" /></td>
<td>Complete the page according to the information provided in “Resources page” on page 165.</td>
</tr>
<tr>
<td>6. Click <strong>Prompts</strong></td>
<td><img src="image3.png" alt="Image 3" /></td>
<td>Complete the page according to the information provided in “Prompts page” on page 166.</td>
</tr>
<tr>
<td>7. Click <strong>Files</strong></td>
<td><img src="image4.png" alt="Image 4" /></td>
<td>Complete the page according to the information provided in “Files page” on page 166.</td>
</tr>
<tr>
<td>Action</td>
<td>Result</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>8. Click OK.</td>
<td><img src="image1.png" alt="Image 1" /></td>
<td>The Job Stream Editor opens with the newly created job stream. You can now add the job definitions that you created earlier, add new job definitions, modify the job stream properties, add dependencies between jobs and job streams, and so on.</td>
</tr>
<tr>
<td>Click...</td>
<td><img src="image2.png" alt="Image 2" /></td>
<td>You add a job to a job stream. You can type a job definition name or use ... (find). When you use ... the workstation of the job definition is completed automatically. For information about completing the job definition tabs, see “Adding a job to a job stream in the Graph View” on page 236.</td>
</tr>
<tr>
<td>Click...</td>
<td><img src="image3.png" alt="Image 3" /></td>
<td>You can add multiple job definitions.</td>
</tr>
<tr>
<td>Action</td>
<td>Result</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>Click...</td>
<td><img src="image" alt="Internetwork Dependency" /></td>
<td>You add internetwork dependencies. Click ... to find the network agent. Type the dependency in the format <code>workstation#jobstreamname.jobname</code>. Maximum length for the dependency is 16 characters for the workstation, 16 characters for the job stream and 40 characters for the job.</td>
</tr>
<tr>
<td>Click...</td>
<td><img src="image" alt="External Job Dependency" /></td>
<td>You add an external job dependency. If you use ... to find the job stream name, the workstation is automatically completed. Click Show Jobs to list the jobs in the job stream and select the job you want. Click OK.</td>
</tr>
<tr>
<td>Click...</td>
<td><img src="image" alt="External Job Stream Dependency" /></td>
<td>You add an external job stream dependency. Click Show Job Streams to list the job streams on the workstation and select the job stream you want. Click OK.</td>
</tr>
</tbody>
</table>
### Distributed quick reference

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click...</td>
<td>![Icon]</td>
<td>You add a link between job definitions in the job stream you are working on. There is no visible result when you click add link. You must click the first icon you want to link, hold down the left mouse button and click the second icon.</td>
</tr>
</tbody>
</table>
Chapter 17. Explorer View quick reference

The Explorer View consists of the following main components:

- **Tree View** pane
- **Table View** pane
- **Properties View** pane

This chapter describes the fundamental tasks you can perform using the Explorer View. The Explorer View is fundamentally the same for distributed and z/OS, but the functionality does change according to what type of Job Stream editor you are using. For the differences in functionality, refer to the descriptions of the two Job Stream editor types.

This quick reference uses the distributed type Job Stream editor for reference. It is divided into the following sections:

- “Opening a job stream in the Explorer View”
- “Adding a new job to a job stream in the Explorer View” on page 103

Opening a job stream in the Explorer View

Perform these steps to open the Explorer View.

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Expand an engine and the Default Database Lists in the Work with engines pane.</td>
<td>![Tree View]</td>
<td></td>
</tr>
</tbody>
</table>
## Explorer View quick reference guide

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Select All Job Streams.</td>
<td><img src="image" alt="Table View" /></td>
<td></td>
</tr>
</tbody>
</table>
| 3. Double-click the relevant job stream in the table view. | ![Job Stream Editor](image) | The job stream editor Explorer View consists of a:  
- Tree View  
- Table View  
- Properties View |

Click...
Adding a new job to a job stream in the Explorer View

Perform these steps to add a job to a job stream using the Explorer View.

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Expand an engine and the Default Database Lists in the Work with engines pane.</td>
<td>![Diagram of Work with engines]</td>
<td></td>
</tr>
<tr>
<td>2. Select All Job Streams.</td>
<td>![Diagram of All Job Streams]</td>
<td></td>
</tr>
<tr>
<td>3. Double-click the relevant job stream in the table view.</td>
<td>![Diagram of job stream editor]</td>
<td></td>
</tr>
</tbody>
</table>
## Explorer View quick reference guide

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Click <img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
</tr>
<tr>
<td>5. Click <img src="image4.png" alt="Image" /></td>
<td><img src="image5.png" alt="Image" /></td>
<td><img src="image6.png" alt="Image" /></td>
</tr>
<tr>
<td>7. Click <strong>OK</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chapter 18. Troubleshooting quick reference

To trace Job Scheduling Console errors, set the trace parameters described in Chapter 62, “Setting traces for the Job Scheduling Console,” on page 367.

Job Scheduling Console installation errors are traced in the following files:

On Windows operating systems:
C:\Documents and Settings\user_name\Local Settings\Temp

On UNIX and Linux operating systems:
user_home_dir/tmp

The log file names are twsconsole_ismp.log (ISMP) and TWSJSC^8.4.log (Software Distribution).

Connector installation errors are logged in the following directories:

On Windows operating systems:
C:\Documents and Settings\username\Local Settings\Temp

On UNIX operating systems:
user_home_dir/tmp

The log file name is tws4zosconn.log.

Note: For UNIX operating systems when the user does not have a home directory set, logs, errors, and stdout data are written to the stdout file and any user customization is not saved.
Part 4. Defining objects
Chapter 19. Creating engines

This chapter describes how you create engines.

To create an engine, perform the following steps:
1. In the Actions list pane, click New Engine.
2. Select the engine.

The Define a New Engine for Job Scheduling Console panel displays.

The panel consists of the following:

**Engine Name**  Type a name for the engine that you are creating.

**Engine Type**  The type of engine you are creating. Possible values are:
- **Distributed**  The engine is a distributed engine.

![Define a New Engine for Job Scheduling Console Panel](image-url)
Creating engines for the Job Scheduling Console

z/OS  The engine is a z/OS engine.

**Host Name**  Type the host name or TCP/IP address of the computer where the connector is installed. Since the Job Scheduling Console now supports the IPv6 protocol you can specify also an IPv6 address in addition to an IPv4 address as defined by your system administrator. An example of IPv6 address is 2002:957:80fe:235:9:132:235:62.

On a Windows server, if you installed the z/OS connector and the Job Scheduling Console in different domains, you need to specify the full computer name of the workstation where you install the z/OS connector to the machine name including its domain. For example, if the machine name is twswin2k and the domain name is lab.rome.ibm.com, the full computer name is twswin2k.lab.rome.ibm.com.

**Port Number**  Type the port number that is used to connect to the computer where the connector is installed. The default port number is 31117.

**Remote Server Name**  Specify it when the engine is a z/OS engine. The name of the instance of the connector specified in the Engine Name field during the installation of the z/OS connector or when you create the instance using the `createZosEngine` WAS tool. See Chapter 66, “Managing z/OS engines using WebSphere Application Server tools,” on page 431.

**User Name**  Type the user name of the TWSuser who accesses the computer where the connector is installed.

**Password**  Type the password of the user.

*Note:* For some operating systems only the first eight characters of the password are used for authentication.

**Save Password**  Save password is enabled when you type a password. When you save the password it is not necessary to enter the user name and password each time that you access the engine.
Chapter 20. Creating workstations

This chapter describes how you create workstations.

To create a workstation, perform the following steps:
1. In the Actions list pane, click New Workstation.
2. Select the engine.

The Properties - Workstation in Database panel depends on whether you are:
- “Creating a z/OS workstation” on page 112
- “Creating a distributed workstation” on page 117

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Creating a z/OS workstation

The Properties - Workstation in Database panel displays.

The panel consists of the following:
- "General page"
- "Resources page" on page 115
- "Open Time Intervals page" on page 116

General page

Use the General page to enter general information about the workstation.

The page consists of the following:

Name

The name of the workstation. The maximum length is 4 characters.

Description

A description of the workstation. The maximum length is 32 characters.
Creating a z/OS workstation

**Workstation Type**
The type of workstation. Possible values are:

- **General** For control of jobs and operations not normally controlled automatically.
- **Printer** For tracking, but not controlling the production of print output.
- **Computer** For running batch jobs and started tasks.

**Reporting Attribute**
A mechanism for reporting status updates on the jobs defined on the workstation:

- **Non reporting** When jobs on this workstation are set to complete as they become ready to start. Typically, you use this mechanism for dummy jobs created to simplify the sequencing of other jobs.
- **Automatic** When status changes of jobs are reported automatically in response to event records created by Tivoli Workload Scheduler. Typically, you use this mechanism for computer and print workstations, or for workstations that specify a user-defined destination.
- **Manual start and completion** When status changes of jobs are reported from the Ready List ISPF panel on the host or from the results of a workstation status list. Typically, you use this mechanism for general workstations used for job preparation, or other general workstations when the duration of a task needs to be tracked.
- **Completion only** When status changes of jobs are reported from the Ready List ISPF panel on the host or from the results of a workstation status list. Typically, you use this mechanism for general workstations that are not used for job preparation.

**Fault-tolerant**
Use fault-tolerant workstations to run distributed jobs in a z/OS plan. Fault-tolerant workstations are automatically defined as computer workstations with an automatic reporting attribute. When you select this box, all the properties for this workstation are disabled and set to their default value. Also the **Resources** and **Open Time Interval** pages are disabled.

**Automation**
Use this workstation to interface with Tivoli System Automation for z/OS. Tivoli System Automation for z/OS jobs can be defined to run on this workstation. Automation workstations are automatically defined as **General** workstations with an **Automatic** reporting attribute. When you select this box, the only property you can choose is **splittable**.

**Printout Routing**
A data definition name (ddname) of the daily printout data set where reports for this workstation are to be written.

**Destination**
A destination that corresponds to that specified on a ROUTOPTS initialization statement. For computer workstations and WTO general workstations, this is the name of the tracker. The default destination is the system where the engine is started.
Creating a z/OS workstation

**Control on servers**

The parallel servers required for jobs to start are available on the workstation. See "Parallel servers" on page 115.

**Planning on servers**

The parallel servers are for planning purposes only. Submit ready jobs regardless of the number of servers in use. See "Parallel servers" on page 115.

**Options: Splittable**

The jobs on the workstation can be interrupted. Use this attribute for general workstation jobs where you prepare JCLs for submission, or on printer workstations. When preparation of the JCL is interrupted by the issuing a TSAVE command, the operation is assigned status I. Preparation of the JCL job can continue at a later time. Computer workstations are not splittable.

**Options: Job Setup**

When using a general workstation to prepare job JCLs or started task JCLs manually. This attribute is not necessary when Tivoli Workload Scheduler can resolve JCL variables automatically.

**Options: Started task, STC**

When using a computer workstation that runs started tasks rather than jobs.

**Options: WTO**

When using a general workstation on which the scheduling facilities can issue a write-to-operator message to the operator console designated in Destination.

**Options: Wait**

Select this check box to define a workstation on which to run a general job that waits for the period of time defined in its duration. In this way you obtain a controlled delay between a sequence of jobs. To define a wait workstation you must set the Workstation Type to General and the Reporting Attribute to Non reporting. When running, jobs on wait workstations have the Status Details set to Running on a WAIT workstation to remind users that a delay in the defined sequence of jobs is occurring. When they complete the Status Details is blank.

**Defaults: Transport Time**

The time in HH:MM between the end of a predecessor job and the beginning of the present job. The transport time of the workstation is the default transport time for all the jobs defined on the workstation and is used for planning purposes only.

**Defaults: Duration**

The default estimated processing time in HH:MM:SS for all jobs on that workstation. Tivoli Workload Scheduler uses the estimated processing time when creating the plan, to work out a timetable for all jobs. You do not need to give an exact figure, because Tivoli Workload Scheduler can adjust it dynamically using actual durations. However, your estimation should be as accurate as possible. You can override this value by specifying a duration when you create a new job. The maximum is 99:59:01.

**Access methods: Name**

The name of the access method that handles the third-party product.
Access methods: Node Address
The TCP/IP address or host name of the fault–tolerant agent that is hosting the access method.

Access methods: Port number
The TCP/IP port number of the tracker agent that is hosting the access method.

Parallel servers
Use Control on servers and Planning on servers to specify how the workstation uses parallel servers. When you create a job, you specify how many parallel servers it requires. The workstation that the job is using must have that number of parallel servers available before the job can run. You set this value when you create the workstation. Select both Control on servers and Planning on servers so that Tivoli Workload Scheduler submits jobs only up to the limit of the number of servers specified.

If you select Planning on servers only, or nothing, then Tivoli Workload Scheduler does not evaluate the number of parallel servers when deciding when to start an operation. The number of parallel servers is used for planning purposes only, and plans cannot accurately predict the behavior of work in your system because Tivoli Workload Scheduler submits as many jobs as are ready.

If you select both Control on servers and Planning on servers, or Control on servers only, the number of parallel servers required by the job must also be available on the workstation before the job can start.

Resources page
Use the Resources page to define the resources for your workstation. You can define a maximum of fixed resources called Resource 1 (R1) and Resource 2 (R2), to schedule or run jobs on a workstation. The names R1 and R2 are provided by default.

The page consists of the following for each of the two fixed resources:
Name A 2-character unique name for the resource.
Used for Planning The resource is considered when a plan involving this workstation is built.
Used for Control The resource is used when a job runs on this workstation.

Note: The plan contains the best estimation of the time when operations start. If an unexpected problem occurs, such as a job exceeds its expected run time, Tivoli Workload Scheduler might need to reassess the start time of some of the operations. If you selected Control on servers, Tivoli Workload Scheduler considers the workstation resource when rescheduling its operations.

When defined, the two resources are associated to the workstation and are recognized automatically when you schedule and run jobs on the workstation. Resources are subject to the following limitations that might make it more practical to use logical resources:
• The maximum quantity for each resource is 99
Creating a z/OS workstation

- They cannot be shared by other workstations
- Their name is limited to two characters

R1 and R2 can represent any physical resource in your system that is significant for scheduling purposes. When you create a new job, you can specify how many workstation resources (R1, R2, or both) the job uses. If the specified quantity of resources is not available, the job does not start.

Open Time Intervals page

Use the Open Time Intervals page to define the availability of parallel servers, the capacity of workstation resources, and the name of an alternate workstation that enables jobs to run on the workstation. To add an open time interval, click Add Row. To delete an open time interval, select it and click Remove Row. Modify the values by double-clicking in the relevant cell.

The page consists of the following:

<table>
<thead>
<tr>
<th>Day</th>
<th>A day of the week. Possible values are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>Standard defines the values that are true at all times. The additional intervals that you specify indicate exceptions to the standard. When you define a new workstation there is a default Standard row. Use this row to enter the name of an alternate workstation and the quantities of parallel servers and workstation resources that you want to be available.</td>
</tr>
<tr>
<td>Specific Date</td>
<td>A specific date.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Status</th>
<th>The availability status of the workstation. Possible values are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defined</td>
<td>To specify that during the interval the workstation is available in the quantities and with the properties defined in the current row.</td>
</tr>
<tr>
<td>Closed</td>
<td>To specify that the workstation is not available during the interval. If you select this value, the remaining cells in the row are disabled.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>From Time</th>
<th>The start time of the interval time range. The default time range format is HH:MM AM/PM. The format depends on the setting of the z/OS workstation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Time</td>
<td>The end time of the interval time range. The default time range format is HH:MM AM/PM. The format depends on the setting of the z/OS workstation.</td>
</tr>
</tbody>
</table>

| Parallel Servers | The quantity of parallel servers available to the workstation during the time interval. Leave this field blank if you did not specify parallel servers in the "General page" on page 112. The maximum value is 99. |

| R1 Capacity | The available R1 resource quantities for each interval when you specified resources for this workstation in the "Resources page" on page 115. The maximum value is 99. |

| R2 Capacity | The available R2 resource quantities for each interval when you specified resources for this workstation in the "Resources page" on page 115. The maximum value is 99. |
Alternate Workstation

The name of a workstation of the same type that can be used during the interval if this workstation becomes unavailable.

Alternate Workstation is available for computer and WTO general workstations only.

Note: For the best results the configuration of the two workstations should be symmetrical.

Creating a distributed workstation

The Properties - Workstation in Database panel displays.

The panel consists of the following:
Creating a distributed workstation

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignore</td>
<td>The scheduler does not include this workstation in the plan. Ignore can be used to define workstations as database objects before they are installed.</td>
</tr>
<tr>
<td>Name</td>
<td>The name of the workstation. The name must start with a letter and can contain alphanumeric characters, dashes, and underscores. The maximum length is 16 characters. Workstation names must be unique and cannot be the same as workstation class and domain names.</td>
</tr>
<tr>
<td>Domain</td>
<td>The workstation domain name. The name must start with a letter and can contain alphanumeric characters, dashes, and underscores. The maximum length is 16 characters. Domain names must be unique and cannot be the same as workstation and workstation class names.</td>
</tr>
<tr>
<td>Use Master</td>
<td>Click Use Master to specify that the workstation is in the master domain.</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the workstation. The maximum length is 120 characters.</td>
</tr>
<tr>
<td>Workstation Type</td>
<td>The type of workstation. Possible values are:</td>
</tr>
<tr>
<td></td>
<td><strong>Domain Manager</strong></td>
</tr>
<tr>
<td></td>
<td>An agent workstation that is the manager of a domain of workstations.</td>
</tr>
<tr>
<td></td>
<td><strong>Fault-tolerant Agent</strong></td>
</tr>
<tr>
<td></td>
<td>An agent workstation that launches jobs and resolves local dependencies without a domain manager.</td>
</tr>
<tr>
<td></td>
<td><strong>Extended Agent</strong></td>
</tr>
<tr>
<td></td>
<td>An agent workstation that launches jobs only under the direction of its host. Extended agents can be used to interface Tivoli Workload Scheduler with non-Tivoli systems and applications. For more information refer to the user manual for the extended agent.</td>
</tr>
<tr>
<td></td>
<td><strong>Standard Agent</strong></td>
</tr>
<tr>
<td></td>
<td>An agent workstation that launches jobs only under the direction of its domain manager.</td>
</tr>
<tr>
<td>Operating System</td>
<td>The operating system of the workstation. Possible values are:</td>
</tr>
<tr>
<td></td>
<td>• UNIX</td>
</tr>
<tr>
<td></td>
<td>• Windows</td>
</tr>
<tr>
<td></td>
<td>• Other</td>
</tr>
<tr>
<td>Full Status</td>
<td><strong>Full Status</strong> is for fault-tolerant agents only. When you select Full Status the agent is updated with the status of jobs and job streams running on all other workstations in its domain and subordinate domains. Otherwise, the agent is updated with the status of jobs and job streams on other workstations that affect its own jobs and job streams. Select Full Status to keep an agent production plan at the same level of detail as its domain manager. Backup domain managers must always be full status.</td>
</tr>
<tr>
<td>Time Zone</td>
<td>The time zone of the workstation. Choose a time zone from the drop-down list. For a description of time zone names, refer to the Tivoli Workload Scheduler: Reference Guide. To ensure the accuracy of</td>
</tr>
</tbody>
</table>
Creating a distributed workstation

scheduling times, this time zone must be the same as the workstation operating system time zone. The Time Zone feature is enabled using the optman command. See Tivoli Workload Scheduler: Planning and Installation Guide.

Node Name

The host name or the TCP/IP address of the workstation. You can use fully-qualified domain names. Because the Job Scheduling Console now supports the IPv6 protocol you can specify also an IPv6 address in addition to an IPv6 address as defined by your system administrator. An example of an IPv6 address is 2002:957:80fe:235:9:132:235:62.

TCP Port

The netman TCP/IP port number that Tivoli Workload Scheduler uses for communication on the workstation. The default is 31111. The netman TCP/IP port number is defined in the localopts parameter nm port. The port number range is 1-65535.

SSL Communication

The type of Secure Socket Layer (SSL) communication. Possible values are:

- Disabled: The workstation does not use SSL authentication.
- Allow Incoming: The workstation uses SSL authentication to accept any incoming connection from its parent domain manager if it is not an SSL connection.
- Upward Forced: The workstation uses SSL authentication when it connects with its domain manager. The domain manager uses SSL authentication when it connects to a parent domain manager, and the master domain manager has SSL authentication enabled.
- All Forced: The workstation uses SSL authentication for all of its connections. It will refuse any incoming connection if it is not an SSL connection.

Disable SSL by selecting the blank space in the drop-down list.

SSL Port

The number of the secure port to be used for SSL communication. The default value is 31113. The range is 1-65535.

Mailman Server

Mailman Server is for fault-tolerant and standard agents only. It is a mailman server on the domain manager that handles communication with agents. Using servers reduces agent initialization time and improves message efficiency.

To specify a server, select a letter or a number (A-Z and 0-9) from the drop-down list. The IDs are unique to each domain manager, so you can use the same IDs in other domains without conflict. If more than 36 server IDs are required in a domain, consider dividing it into two or more domains.

When you do not specify a server, communication with agents is handled by the main mailman process on the domain manager.

When a domain manager starts it creates a separate server for each unique server ID. If the same ID is used for multiple agents, a single server is created to handle their communication. Define a server for groups of 8 agents.
Creating a distributed workstation

Behind Firewall
A firewall exists between the workstation and its domain manager.

Auto Link
Whether to open the link between workstations at startup. For fault-tolerant and standard agents, select this option to have the domain manager open the link to the agent when the domain manager is started. For a domain manager, select this option to have its agents open links to the domain manager when they are started. See Tivoli Workload Scheduler: Planning and Installation Guide.

Access Method
An access method for extended agents and network agents. Access Method is the name of a method file that resides in the TwShome/methods directory on the agent host workstation. For local UNIX extended agents, the method name is unixloc1. For remote UNIX extended agents the method name is unixrsh. For network agents, the method name is netmth. For more information about extended agents, refer to the extended agent user guide. For more information about network agents, refer to the Tivoli Workload Scheduler: Reference Guide.

Host
The name of the agent host workstation. Host is required for extended agents. The host is the workstation with which the extended agent communicates and where its access method resides. The host for an extended agent must be a master, domain manager, or fault-tolerant agent. The host can be specified as $MASTER, which assigns the master domain manager as host, and is useful if you need to switch masters in the domain. In this case the extended agent automatically connects to the new manager.
Chapter 21. Creating resources

This chapter describes how you create resources.

To create a resource, perform the following steps:
1. In the Actions list pane, click New Resource.
2. Select the engine.

The Properties - Resource in Database panel depends on whether you are:
• “Creating a z/OS resource”
• “Creating a distributed resource” on page 125

Creating a z/OS resource

The Resource in Database panel displays.

The panel consists of the following:
• “General page” on page 122
• “Default Workstations page” on page 123
• “Availability Intervals page” on page 124
General page

Use the General page to enter general information about the resource.

The page consists of the following:

Name  
The name of the resource.

Description  
A description of the resource.

Hiperbatch™  
Whether the resource is a data set eligible for Hiperbatch. Hiperbatch is a host performance enhancement that works with the Data Lookaside Facility (DLF) to enable batch jobs and started tasks to share access to data sets.

Group ID  
An identifier of the group to which the resource belongs. The group ID can be used as a list filter for selecting subsets of resources. The maximum length for this field is 8 characters.

Used for  
At which stage availability of the resource should be checked. Possible values are:

Planning  
When the current plan is extended. For example, this ensures that jobs with a high output that could slow your system do not run at the same time.

Control  
When a job that uses the resource starts.

Planning and control  
When the current plan is extended and the a job that uses the resource starts.

Neither planning nor control  
When the availability of the resource is not for planning or control.

On error  
The action to take when a job that allocates this resource ends in error and does not have an overriding keep-on-error specification in the job definition. Possible values are:

Free  
Free the full allocation of this resource, both exclusive and shared.

Keep  
Keep the full allocation of this resource. You might want critical jobs to keep their resources even when they fail, to avoid having to wait for resources when the job is restarted.

Free if exclusive  
Free the full exclusive allocation of this resource.

Free if shared  
Free the full shared allocation of this resource.

Assume system default  
Use the default specified in the ONERROR keyword of the RESOPTS statement. The default value is FREESR.

On Complete  
The action to take when the job finishes successfully (complete status). Possible values are:

Available  
Switch the global availability status of the resource to yes when a job that uses this resource completes successfully.

Unavailable  
Switch the global availability status of the resource to no when a job that uses this resource completes successfully.
Automatically reset
Switch the global availability status of the resource to blank when a job that uses this resource completes successfully.

Assume system default
Switch the global availability status and quantity of the resource to the default value when a job that uses this resource completes successfully. The system checks for the following, in order:
1. If the Default: Is Available field has been set for the resource, it makes the resource available, using the Default: Quantity value
2. If Default: Is Available is not set, the system uses the value in the ONCOMPLETE keyword of the RESOPTS statement to determine the availability status.

Max Usage Type
Indicates how to change the resource availability when Max Usage Limit is exceeded. It is optional and is valid only if Max Usage Limit is nonzero. Possible values are:
Available
Switch the global availability status of the resource instance to yes when the usage counter exceeds the value specified in Max Usage Limit
Unavailable
Switch the global availability status of the resource instance to no when the usage counter exceeds the value specified in Max Usage Limit

Automatically reset
Switch the global availability status of the resource instance to blank when the usage counter exceeds the value specified in Max Usage Limit

Max Usage Limit
Specifies the maximum number of allocations (quantity is not considered) after which the resource global availability is changed.

An internal usage counter is increased each time an operation allocates the resource. When this internal counter reaches Max Usage Limit the global availability is changed as specified by Max Usage Type. The default is zero, which means that no usage counter check is done. Possible values for this field are between 0 and 999999.

Default: Is Available
Whether the resource is usually available. Use the “Availability Intervals page” on page 124 to specify when the resource is not available.

Default: Quantity
A number in the range of 1-999 999 of this resource to be reserved when you select Is Available for the availability intervals associated with the resource. This information is used as the default.

Default Workstations page
Use the Default Workstations page to list the workstations associated with and reserved for the resource.
Creating z/OS resources

By default, all workstations are already added when the Resource Editor panel for a new resource opens.

To add one or more workstations, click Find.

To remove a workstation from the list, select it and click Delete From Table.

Availability Intervals page

Use the Availability Intervals page to define the time intervals when the resource can be used.

To add an availability interval, click Add Row and select the interval.

The page consists of the following:

<table>
<thead>
<tr>
<th>Day</th>
<th>The day of the availability interval. Possible values are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>Represents the norm where the resource is used with the values you entered in the other tabs.</td>
</tr>
<tr>
<td>Specific Date</td>
<td>Select a day or specific date when the resource is available with different Quantity, Availability, and Connected Workstations characteristics that you specify in the row.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>From Time</th>
<th>Together with To Time specifies the time interval when the resource is available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Time</td>
<td>Together with From Time specifies the time interval when the resource is available.</td>
</tr>
</tbody>
</table>

| Quantity          | The quantity of the resource that is available during the time interval. |

<table>
<thead>
<tr>
<th>Is Available</th>
<th>Whether the resource is available during the time interval. Possible values are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available</td>
<td>The resource is available during the time interval.</td>
</tr>
<tr>
<td>Not Available</td>
<td>The resource is not available during the time interval.</td>
</tr>
<tr>
<td>Default</td>
<td>The availability of the resource is specified in the “General page” on page 122.</td>
</tr>
</tbody>
</table>

| Workstations       | The names of one or more connected workstations, each separated by a blank or double-click the Workstation column and click Find Workstation. |
Creating a distributed resource

The Properties - Resource in Database panel displays.

![Properties - Resource in Database panel]

The panel consists of the following:

- **Name**: The name of the resource. The name must start with a letter and can contain alphanumeric characters, dashes, and underscores. The maximum length is 8 characters.

- **Workstation Name**: The name of the workstation or workstation class on which the resource is defined.

- **Description**: A description of the resource. The maximum length is 120 characters.

- **Quantity**: The number of available resource units. Values can be 0 through 1024.
Creating distributed resources
Chapter 22. Creating Windows users

This chapter describes how you create Windows users in a distributed environment.

To create Windows users, perform the following steps:
1. In the Actions list pane, click New Windows User.
2. Select the engine.

The Properties - Windows User panel displays.

The panel consists of the following:

**User Name**  
The Windows user name. The maximum length is 31 characters. Windows user names are case-sensitive. A Windows user needs access to the workstation where Tivoli Workload Scheduler launches jobs, and have the right to Log on as batch. When a name is not unique it is considered to be a local user, a domain user, or a trusted domain user, in that order.

**Windows Domain**  
The Windows domain of the user. If the name is not fully qualified (that is, no Windows domain is entered) or is not unique, it is considered to be a local user, a domain user, or a trusted domain user, in that order.

**Windows Workstation**  
The name of the Tivoli Workload Scheduler workstation where the user can launch jobs.

**Password**  
The user password as defined on the Windows computer.

**Confirmation**  
The user password again for confirmation.
Chapter 23. Creating parameters

This chapter describes how you create parameters for the distributed environment.

**Note:** If you rename a parameter and submit a job that refers to the old name an error occurs.

To create a new parameter, perform the following steps:
1. In the **Actions list** pane, click **New Parameter**.
2. Select the engine.

The Properties - Parameter panel displays.

The panel consists of the following:

**Name**
- The name of the parameter. The name must start with a letter and can contain alphanumeric characters, dashes, and underscores. The maximum length is 8 characters.

**Value**
- The value assigned to the parameter. Do not include the names of other parameters. If you are creating a parameter that is to be used in job scripts or commands, you cannot use double-quotes (" ) in the value.
Chapter 24. Creating predefined prompts

This chapter describes how you create predefined prompts for the distributed environment. For information about how to create ad hoc prompts, see "Creating distributed job streams" on page 161.

To create a prompt, perform the following steps:
1. In the Actions list pane, click New Prompt.
2. Select the engine.

The Properties - Prompt panel displays.

The panel consists of the following:

**Name**

The name of the prompt. The name must start with a letter and can contain alphanumeric characters, dashes, and underscores. The maximum length is 8 characters.

**Text**

The text of a prompt. The default behavior of a prompt is to display a message and wait for a reply. Based on the character preceding the text, the prompt can behave differently:

- If the text begins with a colon (:), the prompt is displayed, but no reply is required to continue processing.
- If the text begins with an exclamation mark (!), the prompt is displayed, but it is not recorded in the log file.

Refer to the *Tivoli Workload Scheduler: Reference Guide* for a detailed explanation on how to specify the text of a prompt.
Chapter 25. Creating calendars

This chapter describes how you create calendars for distributed engines. It is divided into the following sections:

- “Creating a calendar”
- “Defining a calendar” on page 134

Creating a calendar

To create a calendar in the database, perform the following steps:

1. In the Actions list pane, click New Calendar.
2. Select an engine.
   The Properties - Calendar panel displays.

   ![Properties - Calendar panel]

   The panel consists of the following:

   **Name**
   The name of the calendar. The name must start with a letter and can contain alphanumeric characters, dashes, and underscores. The maximum length is 8 characters.

   **Note:** You cannot use Tivoli Workload Scheduler keywords (for example, freedays and schedule).

   **Description**
   A description of the calendar. The maximum length is 120 characters.

   **Define Calendar**
   Click Define Calendar to specify the dates of the calendar. See “Defining a calendar” on page 134.

   **Note:** The maximum size of the calendars you create and manage depends on the size of your system RAM. For example, the maximum calendar size for a computer with 256 MB RAM is 1000 consecutive days (3 years). If you select a calendar for a job stream that is larger than your RAM can manage, the job stream definition process hangs, and must be stopped.
Defining a calendar

To define the dates of a calendar, perform the following steps:
1. Click Define Calendar. The Monthly Yearly Calendar panel displays.

2. Select Monthly or Yearly to view a monthly or yearly calendar.
3. To add a specific date to the calendar, click the date in the calendar view.
4. To add a specific day of the month, select Day of Month from the Select menu.
   The Day of Month panel displays.
5. To add a day of the month by number, select the day number in the Day drop-down list. To add the last day of the month, select the Last Day of Month option.

6. Select start and end dates for the calendar by selecting the month and year from the Start and End drop-down lists. The days you specify are selected for every month in this range. Click OK.

7. Click OK to close and save the calendar.
Defining a calendar
Chapter 26. Creating domains

This chapter describes how you create domains for distributed engines.

To create a domain, perform the following steps:
1. In the Actions list pane, click New Domain.
2. Select the engine.

The Properties - Domain panel displays.

The panel consists of the following:

**Domain Name**

The name of the domain. The name can start with a letter or with a number and can contain alphanumeric characters, dashes, and underscores. The maximum length is 16 characters.

**Note:** Domain names must be unique and cannot be the same as workstation and workstation class names.

**Description**

A description of the domain. The maximum length is 120 characters.

**Parent Domain**

The name of the parent domain. The default is the master domain.

**Domain Manager**

The name of the domain manager workstation. The domain manager must be a workstation defined:
- In the same domain
- As fault-tolerant agent with Full Status selected.
**Creating domains**

**Note**: When creating a new domain, you can specify a domain manager workstation that does not yet exist.

| **Is Master** | This read-only check box indicates that the domain is the master domain. |
Chapter 27. Creating workstation classes

This chapter describes how you create workstation classes for distributed engines.

To create a new workstation class, perform the following steps:
1. In the Actions list pane, click New Workstation Class.
2. Select the engine.

The Properties - Workstation Class panel displays.

The panel consists of the following:
- “General page”
- “Workstations page” on page 140

General page

Use the General page to enter general information for the workstation class.

The page consists of the following:

Name: The name of the workstation class. The name must start with a letter and can contain alphanumeric characters, dashes, and underscores. The maximum length is 16 characters.

Note: Workstation class name must be unique and cannot be the same as workstation and domain names.

Description: A description of the workstation class. Maximum length is 120 characters.

Ignore: The jobs that belong to this workstation class are not submitted into the plan.
Creating a distributed workstation class

Workstations page

Use the Workstations page to associate the workstations to the workstation class.

The page consists of the following:

Find Workstation

Click Find Workstations to search for the workstations to associate to the workstation class. In the Find Workstation panel, click Apply to add the workstation to the workstation class and keep the panel open to perform another selection, click OK to add the workstation to the workstation class and close the panel.

Add All Workstations

Click to add all the workstations in the database to the workstation class.

Delete From Table

Select a row and click to remove a workstation from the workstation class.
Chapter 28. Creating job definitions

This chapter describes how to create a job definition for a distributed engine.

To create a job definition, perform the following steps:

1. In the Actions list pane, click New Job Definition.

   **Note:** You can also create a job definition from the job stream editor. See “Adding a job to a job stream in the Graph View” on page 236.

2. Select the engine.

The Properties - Job Definition panel displays.

The panel consists of the following:

- “General page” on page 142
- “Task page” on page 144
Use the General page to provide general information about the new job definition.

The page consists of the following:

**Task Type**
Select the type of task. Possible values are:
- **Windows**
  The job is an executable file or a command on a Windows workstation.
- **UNIX**
  The job is an executable file or a command on a UNIX workstation.
- **Other**
  The job is an executable file or a command that runs on a workstation other than UNIX or Windows.
- **SAP**
  The job is a SAP job that runs on an Tivoli Workload Scheduler Extended Agent for SAP. The SAP task type is only displayed if the Extended Agent for SAP has been installed. For more information on SAP jobs, refer to *Tivoli Workload Scheduler for Applications: User's Guide*.

**Name**
The name of the job. The name must start with a letter, and can contain alphanumeric characters, dashes, and underscores. The maximum length is 40 characters.

**Workstation Name**
The name of the workstation or workstation class where the job runs.

**Description**
A description of the job. The maximum length is 120 characters.

**Login**
The name of the user who launches the job. The maximum length is 47 characters. Specify a user that can log on to the workstation where the job runs. For Windows jobs, the user must also be defined in the database. For more information, see Chapter 22, “Creating Windows users,” on page 127. To include a parameter, perform the steps described in “Adding parameters to jobs” on page 145.

**Recovery Options: Stop**
If the job ends in error and there is a follow dependency, processing does not continue with the next job. **Stop** is the default.

**Recovery Options: Continue**
If the job ends in error and there is a follow dependency, processing continues with the next job.

**Recovery Options: Rerun**
If the job ends in error, rerun the job.

**Recovery Options: Message**
The text of a recovery prompt to be displayed if the job ends in error. The text can contain up to 64 characters. The recovery prompt is an ad hoc prompt. The **Status of All Prompts** plan list shows all prompts. If the job ends in error the prompt status changes from **Not Asked** to **Asked**. If the job ends successfully, the status is **Not Asked**. A message is always displayed.
Recovery Options: Job

The name of a recovery job to run if the parent job ends in error. Recovery jobs are run only once for each instance of the parent job ended in error.

Recovery Options: Workstation Name

The name of the workstation where the recovery job runs. The name is entered automatically when you select a recovery job.

Not all jobs are eligible to have recovery jobs run on a different workstation. Follow these guidelines:

- If either workstation is an extended agent, it must be hosted by a domain manager or a fault-tolerant agent that runs in **Full Status** mode.
- The recovery job workstation must be in the same domain as the parent job workstation.
- If the recovery job workstation is a fault-tolerant agent, it must run in **Full Status** mode.

[Table 13](#) summarizes possible combinations of recovery options and actions. The table is based on the following criteria from a job stream called **sked1**:

- Job stream **sked1** has two **jobs**, **job1** and **job2**.
- If selected for **job1**, the recovery job is **jobr**.
- **job2** is dependent on **job1** and will not start until **job1** is complete.

### Table 13. Job stream recovery options

<table>
<thead>
<tr>
<th>Prompt / Job</th>
<th>Stop</th>
<th>Continue</th>
<th>Rerun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recovery prompt: No Recovery job: No</td>
<td>Intervention is required.</td>
<td>Run job2.</td>
<td>Rerun job1. If job1 ends in error, issue scheduler prompt. If reply is yes, repeat above. If job1 is successful, run job2.</td>
</tr>
<tr>
<td>Recovery prompt: Yes Recovery job: No</td>
<td>Issue recovery prompt. Intervention is required.</td>
<td>Issue recovery prompt. If reply is yes, run job2.</td>
<td>Issue recovery prompt. If reply is yes, rerun job1. If job1 ends in error, repeat above. If job1 is successful, run job2.</td>
</tr>
<tr>
<td>Recovery prompt: No Recovery job: Yes</td>
<td>Run jobr. If it ends in error, intervention is required. If it is successful, run job2.</td>
<td>Run jobr. Run job2.</td>
<td>Run jobr. If jobr ends in error, intervention is required. If jobr is successful, rerun job1. If job1 ends in error, issue scheduler prompt. If reply is yes, repeat above. If job1 is successful, run job2.</td>
</tr>
<tr>
<td>Recovery prompt: Yes Recovery job: Yes</td>
<td>Issue recovery prompt. If reply is yes, run jobr. If it ends in error, intervention is required. If it is successful, run job2.</td>
<td>Issue recovery prompt. If reply is yes, run jobr. Run job2.</td>
<td>Issue recovery prompt. If reply is yes, run jobr. If jobr ends in error, intervention is required. If jobr is successful, rerun job1. If job1 ends in error, repeat above. If job1 is successful, run job2.</td>
</tr>
</tbody>
</table>
General page

Notes:
1. **Intervention is required** means that job2 is not released from its dependency on job1, and therefore must be released by the operator.
2. The *continue* recovery option overrides the abend state, which may cause the schedule containing the job ended in error to be marked as successful. This will prevent the schedule from being carried forward to the next day.
3. If you select the *Rerun* option without supplying a recovery prompt, when the job is unsuccessful Tivoli Workload Scheduler creates a prompt that requests whether to proceed.
4. To reference a recovery job in conman, you must use the name of the original job (job1 in the scenario above, not jobr). Recovery jobs are run only one per abend.

Task page

Use the *Task* page to define the task.

The page consists of the following:

**Script**
When the task is a script, this is the file name and any options and arguments. The maximum length is 4095 characters. For Windows jobs, include the file extensions. Universal Naming Convention (UNC) names are permitted. Do not specify files on mapped drives. For task types other than Windows, if the file name contains spaces type the name in a file that does not have spaces and use the second file. For task types other than Windows, double quotes (" ) are not permitted.

**Command**
When the task is a command, this is the name of the command the job runs and any options and arguments. The maximum length is 4095 characters. Commands are run directly and the *jobmanrc* standard configuration script is not run. To include a parameter in the **Command** field, perform the steps described in "Adding parameters to jobs" on page 145. For task types other than Windows, double-quotes (" ) are not permitted.

**Add Parameter**
The script or command definition requires a parameter. For information about adding parameters, see "Adding parameters to jobs" on page 145.

**Is Interactive**
For Windows jobs, the job runs interactively on the Windows desktop.

**Return Code Mapping Expression**
The Return Code Mapping section enables users to define which return codes qualify the job as having completed successfully. In the **Expression** field, enter a logical expression that defines the success condition. Use the following syntax:

```
(RC <operator> <operand>)
```

where:

**RC** The instruction keyword

**operator**
The comparison operator. Allowed operators are comparison operators (\(=, != \) or \(>, >=, <, <= \)) that can be combined with logical operators (AND, OR, NOT).
operand

Any integer between -2147483647 and 2147483647.

For example, to accept a job as successful when the job ends with a return code less than or equal to 3, you enter the following expression:

\[(R\leq3)\]

The success condition can be a maximum of 256 characters.

Adding parameters to jobs

You can add parameters to Script, Command, or Login fields.

To include a parameter in a task, perform the following steps:

1. Type the parameter name within ^ (caret) or place the cursor in the field where you want to insert the parameter and click Add Parameter. The Find Parameters panel displays.
   a. Type a parameter name. The name can contain wildcard characters.
   b. Click Start. A list of all the parameters defined displays.
   c. Select a parameter name in the list and click OK.

   The parameter name displays in the related field.

2. Proceed with the other information.

Extended agent

Refer to the specific user guide for the Extended Agent you are working with for more information.

SAP job

Refer to the Tivoli Workload Scheduler for Applications User’s Guide for information about defining the task.
Chapter 29. Creating job streams

This chapter describes how you create job streams. For information about managing job streams, see Chapter 39, “Managing z/OS job streams,” on page 213 and Chapter 40, “Managing distributed job streams,” on page 233.

To create a job stream, perform the following steps:
1. In the Actions list pane, click New Job Stream.
2. Select the engine.

The Job Stream panel depends on whether you are:
- “Creating z/OS job streams”
- “Creating distributed job streams” on page 161

Creating z/OS job streams

Creating a z/OS job stream consists of the following:
- “Creating the job stream” on page 148
- “Creating a job” on page 150

After you have created a job stream and added at least one job, you use the job stream editor to manage it. See Chapter 39, “Managing z/OS job streams,” on page 213.
Creating a job stream for a z/OS engine

Creating the job stream

The Properties – Job Stream panel displays.

![Properties - Job Stream panel](image)

The panel consists of the following:

**Job Stream Name**

A name for the job stream or template.

*Note:* The name, valid date, and status uniquely identify each job stream or template. You can define up to four job streams and job stream templates that share the same name but have different valid dates.

**Description**

A description of the job stream or template.

**Owner**

Any information relevant to the owner of the job stream.

**Owner Description**

Any additional information about the owner of the job stream.

**Template**

That this is a job stream template. A job stream template contains...
Creating a job stream for a z/OS engine

run cycles but no jobs. All job streams defined as belonging to a template inherit the run cycles defined for the template.

Is Active That the job stream is ready.

Inherits from Template
The name of the template if you are defining a job stream that belongs to a job stream template. The job stream is scheduled using the template run cycle information.

Contains Monitored Job
Whether any of the jobs in this job stream are monitored by IBM Tivoli Business Systems Manager. Possible values are:

Yes The job stream contains a job with Monitored Job selected.
No The job stream does not contain a job with Monitored Job selected.

When you are creating a new job stream this field is always set to no.

Authority Group Name
A name to be used to generate a RACF® resource name for authority checking.

Calendar The name of the calendar of workdays and free days, including holidays, that you associate to the job stream. If you leave this field blank, the scheduler uses the calendar specified in the initialization parameter CALENDAR during startup of the TCP/IP server.

Note: The calendar that you specify here is used to display the run days of the job stream in the Run Cycle view of the Job Stream Editor. It is not necessarily the calendar that is used to determine the actual run days of the job stream instances that are generated.

Priority The priority of the job stream. The lowest priority is 1 and the highest priority is 9. For example when job streams are competing for resources a job stream with a priority of 3 runs before a job stream with a priority of 1. Other factors such as resource and workstation dependencies are considered in determining priority. This field does not apply to job stream templates.

Valid Date The interval of time for which the job stream is valid in the From and To range you specify. You can create up to four job streams with the same name but with different From dates. The scheduler selects the correct version for the day being planned. The To field is an information field that indicates the job stream is valid until 12/31/2071.

Feedback Options
The scheduler automatically monitors the actual deadline of job streams. It can use this deadline to modify the estimates in the application description (AD) database. Possible values are:

Smoothing Factor A number from 0 to 999 that determines how much a measured duration changes existing values in the AD database. If a measured deadline is outside the
Creating a job stream for a z/OS engine

Limit set by Limit for feedback, the smoothing factor is not applied and the AD database is not updated.

Limit for Feedback
A number from 100 to 999 to set the limit within which measured values are regarded as acceptable. A measured value outside the limit is ignored, no smoothing factor is applied, and the AD database is not updated.

Values entered in these fields override the default values in the JTOPTS options engine parameter.

Click OK.

Note: When you are creating a job stream template, the job stream editor opens the Timeline view, where you can open the Run Cycle view. You can add only run cycle information to a job stream template. See “Scheduling z/OS job streams” on page 216.

When you have created the job stream, you must create at least one job.

Creating a job
To create a job for a z/OS job stream, perform the following steps.

1. Run a list of z/OS job streams that contains the job stream where you want to add the job. See “Working with lists,” on page 199.

Note: When you have just created the job stream, the Job Stream Editor opens automatically.

2. Double-click the job stream in the list.
   The Job Stream Editor opens.
3. Click the icon relevant to the type of job you are adding. Possible icons are:

![Icon 1](image1)

Add a JCL type job to the job stream you are editing. A JCL job consists of JCL statements and runs on computer workstations.

![Icon 2](image2)

Add a started task type job to the job stream you are editing. A started task runs on computer workstations on which a started task (STC) is selected.

![Icon 3](image3)

Add a printer type job to the job stream you are editing. A printer job is a job to print the output of a predecessor job and runs on printer workstations.

![Icon 4](image4)

Add a general type job to the job stream you are editing. A general job is a job that includes activities other than printing and processing, such as manual activities and runs on general workstations.
Creating a job stream for a z/OS engine

Add a setup type job to the job stream you are editing. A setup job is a job that contains a set of JCL statements for a JCL or started task job and runs on general workstations on which Job setup is selected.

Add a write to operator type job to the job stream you are editing. A write-to-operator job is a job that contains an operator instruction displayed on the system console and runs on general workstations on which WTO is selected.

Add a fault-tolerant workstation (FTW) task to the job stream you are editing. An FTW job is a job to run on a fault-tolerant workstation.

Add an automation task to the job stream you are editing. The Properties - Job Type panel displays.
The property panels for the different job types are identical. However, when you save the job stream, Tivoli Workload Scheduler applies different validation policies to the properties that you specified, based on the job type. When you search for a target workstation, only workstations compatible with the specific job type are listed.

The panel consists of the following:
- “General page”
- “Task page” on page 155
- “Options page” on page 155
- “Time Restrictions page” on page 157
- “Resources page” on page 157
- “Automation page” on page 159

**General page**

Use the General page to enter general information for the job.

The page consists of the following:

**Name**  
The job name. The job name can be a number from 1-255.

**Target Workstation**  
The name of the workstation where the job is run. Click ... (find) to search for and select the workstation.

**Description**  
A description of the job. The maximum length is 24 characters.
Creating a job stream for a z/OS engine

Auto Hold Release
Release the job when it is not submitted by Tivoli Workload Scheduler and is in HOLD status. The job is released when all dependencies are satisfied and the requested resources are available. Auto Hold Release is the default.

Cancel if Late
Prevent the job from being started if it is late. Cancel if Late and No Restrictions in the Time Restrictions page are mutually exclusive. See “Time Restrictions page” on page 157.

Auto Error Completion
Mark the job ended-in-error (E) if an error occurs when it runs. If you clear it, the job is marked complete (C) when it ends regardless of the outcome.

Auto Job Submission
Start the job automatically or issue a WTO message (when all dependencies have been satisfied and all required resources are available). Auto Job Submission is selected by default.

Deadline WTO
Issue an operator message if the job passes its deadline. The message is also written to the message log.

Monitored Job
The running of this job is to be monitored by Tivoli Business Systems Manager. Changes to the monitored job status are not displayed in the job stream properties until you close and reopen the job stream.

Centralized Script
The script associated with the job resides on the master domain manager.

Highest Acceptable Return Code
The highest acceptable return code from any step in the job before the job is set to ended-in-error (E) status. If you leave this field blank, Tivoli Workload Scheduler for z/OS uses the value specified in HIGHRC in the initialization parameter JTOPTS. The range is from 0 to 4095.

Critical Job
The job is a critical job, which makes the job eligible for Tivoli Workload Scheduler internal or Workload Manager (WLM) service class promotion when the job runs late. Possible values are:
No
The job is not on the critical path.

Critical Path Target
The job is on the critical path, and must be managed by the Tivoli Workload Scheduler internal critical path prioritizing algorithms.

WLM
The job is on the critical path, and must be managed by Workload Manager (WLM). If you select this option, also supply the WLM Policy and Class.

WLM Policy
The WLM policy applied for WLM service class promotion when this job is late. Only applied if you select the WLM option for Critical Job. Possible values are:
Blank
No WLM policy is applied. This is the default value.
Deadline
The scheduler intervenes if the job runs beyond the deadline.

Conditional
The scheduler uses an algorithm to determine whether to apply the Deadline or the Latest start option.

Long Duration
The scheduler intervenes if the job takes longer than it should as compared to the statistics that it keeps.

Latest start
The scheduler intervenes immediately if the job starts after the latest start time.

WLM Class
The WLM class applied for WLM service class promotion when this job is late. Only applied if you select the WLM option for Critical Job.

Task page
Use the Task page to enter information about a program associated with the job.

The page consists of the following:

Task Name
The name of the task associated with the job. Together with the identifier you specified in the previous page, the task name labels the job in the Graph view of the job stream editor. The maximum length is 8 characters.

Form Number
The printer form number that appears on the daily plan and ready lists. For printer workstations with automatic reporting, it enables the engine to identify the different print operations that belong to a specific job. The maximum length is 8 characters.

Job Class
A single letter from A-Z that matches the host job class.

Output Class
A single letter from A-Z that matches the host output class.

Use Extended Information
The Extended task name is enabled.

Extended Task Name
A descriptive name for the job. The maximum length is 54 characters.

Use Scheduling Environment
The WorkLoad Manager scheduling environment task name is enabled.

Scheduling Environment Name
A descriptive name of the WorkLoad Manager scheduling environment associated with the job. The maximum length is 16 characters.

Options page
Use the Options page to enter information about the options that apply to the job.

The page consists of the following:

Restartable
Whether to restart the job if the related workstation becomes inactive. Possible values are:
Yes
The job can be restarted if the workstation becomes inactive and an alternate workstation has been specified.
Creating a job stream for a z/OS engine

No
The job is not restarted if the workstation becomes inactive.

Default
The installation default action specified in the OPRESTARTDEFAULT keyword of the JTOPTS statement is used. This is selected by default.

Reroutable
Whether to make the job eligible to be rerouted if its workstation becomes inactive. This option applies to the job only when it is in ready (R) or waiting (W) state. Possible values are:

Yes
The job is reroutable.

No
The job is not reroutable.

Default
The installation default action specified in the OPREROUTDEFAULT keyword of the JTOPTS statement is used. This is selected by default.

Restart and Cleanup
Which data set and job restart actions must be performed if the job ends in error. This option is not available for fault-tolerant workstations. Possible values are:

None
No cleanup and restart actions are performed. This is the default.

Immediate
Data set cleanup is performed immediately if the job ends in error. This option is not linked to a restart, which must be initiated separately.

Automatic
A data set cleanup is inserted automatically as the first step to be performed during the rerun of the failed job. This is the preferred method of running restart and cleanup.

Manual
Restart and cleanup actions are initiated manually from the Modify Current Plan ISPF panel.

Restart and CleanUp: Expanded JCL
The JCL used for step-level restarts and job reruns is the JCL image captured from the JESJCL sysout data set.

Restart and CleanUp: Use Sysout
The sysout data sets are used for job restarts.

Feedback Options
The scheduler automatically monitors the actual durations of jobs. It can use these durations to modify the estimates in the application description (AD) database. Possible values are:

Smoothing factor
A number from 0 to 999 that determines how much a measured duration changes existing values in the AD database. If a measured duration is outside the limit set by Limit for feedback, the smoothing factor is not applied and the AD database is not updated.

Limit for feedback
A number from 100 to 999 to set the limit within which measured values are regarded as acceptable. A measured value outside the limit is ignored, no smoothing factor is applied, and the AD database is not updated.
Values entered in these fields override the default values in the JTOPTS options.

**Time Restrictions page**
Use the Time Restrictions page to specify the period of time that the job is allowed to run and the amount of time the job requires.

The page consists of the following:

**Start**
The time at which the job can start. Possible values are:
- **No Restrictions**
  - The job runs as soon as all dependencies are met.
  - No time restrictions can result in more efficient processing for certain jobs when extending a plan.

*Note:* This choice is not valid if you selected **Cancel if Late** in the “General page” on page 153.

**Follow Job Stream Rules**
The earliest time the job can start is when the job stream starts. This is the default. This option is ignored if you clear **No Restrictions**.

**Specify Earliest Start Time**
The time before which the job does not start. Possible values are:
- **At**
  - Type a time according to your locale settings. For example type 12:00 if you do not want the job to start before noon.

**Delay for days**
Type a number of days to defer the start time. For example if you type 3 the job starts three days after the time you specify in **At**.

**Deadline**
The latest time that the job can end. Select **Specify** to enable the time fields. Possible values are:
- **At**
  - Type a time according to your locale settings. For example type 12:00 if you want the job to end before noon.

**Delay for days**
Type a number of days to defer the deadline. For example if you type 3 the job must end three days after the time you specify in **At**.

**Duration**
How long the job is expected to run, in hours, minutes, and seconds. The maximum is 99:59:01.

**Resources page**
Use the Resources page to define the parallel servers and the logical and workstation resources that the job uses.

The page gives you access to two types of resources, as follows:

**Target Resources**
Set the quantity of resources that the workstation needs to run the job. You cannot change the target resources listed, only the quantity of them required.
Creating a job stream for a z/OS engine

To set the quantity of target resources, perform the following steps:

1. If Logical Resources is shown, click its pull-down icon and select Target Resources.
2. Double-click each cell in the Quantity column to edit the amount of resources (Resource 1 and Resource 2) needed by the job.

### Logical Resources
Set the logical resources, such as printers, tapes, or disk space that are needed to run the job. You can add and remove logical resources, as follows:

#### Resource
For target resources this is an information field that lists the target resources. The Parallel Servers target resource represents the number of processes that can be run concurrently by the workstation. For logical resources this is an alphanumeric name for the resource. Click ... (find) to search for and select a resource. The maximum length is 44 characters.

#### Quantity
The quantity of the resource needed to run the job.

#### Access Type
For logical resources, the type of access for the resource. Possible values are:

- **Shared**: Other jobs use the resource.
- **Exclusive**: Only the current job uses the resource.

#### Keep on Error
For logical resources, the action to take on the resource if the job ends in error. Possible values are:

- **Yes**: The resource is reserved for the job when an error occurs.
- **No**: The resource is released from the job when an error occurs.
- **Default**: The default option specified for the ONERROR keyword in the RESOPTS statement is used.

#### Available on complete
The action to take when the job finishes successfully (complete status). Possible values are:

- **Available**: Switch the global availability status of the resource to yes when a job that uses this resource completes successfully.
- **Unavailable**: Switch the global availability status of the resource to no when a job that uses this resource completes successfully.
- **Automatically reset**: Switch the global availability status of the resource to blank when a job that uses this resource completes successfully.
Assume system default

Switch the global availability status and quantity of the resource to the default value when a job that uses this resource completes successfully. The system will check for the following, in order:

1. If the **Default: Is Available** field has been set for the resource, it makes the resource available, using the **Default: Quantity** value.
2. If **Default: Is Available** is not set, the system uses the value in the **ONCOMPLETE** keyword of the **RESOPTS** statement to determine the availability status.

To set logical resources, perform the following steps:

1. If **Target Resources** is shown, click its pull-down icon and select **Logical Resources**.
2. Click the to add a row to the table.
3. Type the name of the resource or click ... (find) to search and select a resource.

**Automation page**

Use the Automation page for jobs that are to be run on Tivoli System Automation. These jobs must be defined on workstations with the automatic attribute set.

The page consists of the following:

**Command Text**

The text string of the command to be run by Tivoli System Automation for z/OS. The string can contain Tivoli Workload Scheduler variables; before the operations are passed to Tivoli System Automation for z/OS, Tivoli Workload Scheduler performs the variable substitution processing. If any error occurs during this phase the job state is set to E with error code 0JC0.

**Completion Info**

A string (maximum 64 characters) containing one or more of the following parameters, separated by a comma.

**Maximum wait time**

The maximum wait time (optional). Specify the longest interval of time that the command is expected to take to complete under normal operating conditions, plus a small margin to cover items like minor delays and heavy network traffic.

If this value is specified, and the command does not complete within the indicated time interval, Tivoli System Automation for z/OS returns an error to Tivoli Workload Scheduler.

**Note:** In the case of an INGREQ command, the command is considered complete when the specified resource has reached the requested state or is already in the requested state. If
Creating a job stream for a z/OS engine

more than one resource is specified in the INGREQ command, all resources must be in the requested state before the command is considered complete.

Various time formats are accepted. See the Tivoli System Automation for z/OS documentation for details.

Maximum return code accepted as OK

The highest return code value from Tivoli System Automation for z/OS that Tivoli Workload Scheduler must treat as successful (optional). The default is 0.

Completion checking routine

The name of your completion checking routine (optional).

If this value is specified, the completion checking routine is responsible for ensuring that the command achieved the expected results before posting the operation complete. This allows you to perform commands that are independent of a Tivoli System Automation for z/OS controlled resource, for example a VTAM® major node. In this case, the command could be the activation of the VTAM major node, while the checking routine could “ping” the target node before posting the OPC operation complete by means of the OPCAPOST command. If Maximum wait time is also supplied, it can be passed to the checking routine, allowing the checking routine to return an error if the command does achieve the expected result within the indicated time.

The full syntax of the Completion Info string is as follows:

[maximum_wait_time],
[maximum_return_code],
[completion_checking_routine]

However, note that trailing commas must not be supplied. For example, to specify just the first two parameters, the field might look like this:

2:30,3

To specify just the third parameter, the field might look like this:

,,CHKEND

To not supply any of the parameters, leave the whole Completion Info field blank.

Automated Function

Specify the automated function (optional). When specified, the command is run on the NetView task associated with the indicated automated function in Tivoli System Automation for z/OS. You can use this parameter to serialize the commands. If this parameter is not specified, the command is run by any of the locally available NetView tasks.
Security Element
A token used for security tracking of the operation in the Tivoli System Automation for z/OS AOFEXC20 exit routine (optional).
Use it as an alternative to, or in conjunction with the job name.

Creating distributed job streams
The Properties - Job Stream panel displays.

The panel consists of the following:

- “Comments page” on page 163
- “Dependency Resolution page” on page 163
- “Time Restrictions page” on page 164
- “Resources page” on page 165
- “Prompts page” on page 166
- “Files page” on page 166

After you complete the pages described below, you can perform any of the actions described in Chapter 40, “Managing distributed job streams,” on page 233 by clicking the icon relevant to the type of job you are adding. Possible icons are:

Add a job definition to the job stream you are working on.
Creating distributed job streams

Add multiple job definitions to the job stream you are working on.

Add an internetwork dependency to the job stream you are working on.

Add a dependency on a job that is in a job stream other than the one you are working on.

Add a dependency on a job stream other than the one you are working on.

Add a link between the following objects:
- Job definitions in the job stream
- External job stream and job definitions
- External job and job definitions
- Internetwork dependency and job definitions

General page

Use the General page to enter general information for the job stream.

The page consists of the following:

- **Name**: The name of the job stream. The name must start with a letter, and can contain alphanumeric characters, underscores, and dashes. Maximum length is 16 characters.

- **Workstation Name**: The name of the workstation or workstation class on which the job stream is launched. If you specify a workstation class, it must match the workstation class of any jobs, resources, or file dependencies used in the job stream.

- **Valid from**: The date when the job stream first becomes active.

- **Valid to**: The date from when the job stream is no longer active.

- **Description**: A description of the job stream.

- **Time Zone**: The time zone in which you specify time restrictions. This list is available only if time zone support is enabled. For information about enabling the time zone, refer to Tivoli Workload Scheduler: Planning and Installation Guide.

- **Priority**: The priority of the job stream. Type a priority value or click:
Hold
Sets the priority to 0.

High
Sets the priority to 100.

Go
Sets the priority to 101.

Possible priority values are 0 through 101, where 101 is the highest priority. A priority value of zero prevents the job stream from launching. High and Go jobs are launched as soon as their dependencies are satisfied, overriding the workstation job limit, but not overriding the job stream job limit or the workstation job fence.

Limit
The number of jobs that can be running at the same time in the job stream. Possible values are 0 through 1024. If you specify a job limit of 0, no jobs are launched in the job stream.

Is Draft
The job stream is still in the development phase and is not included in the plan.

Carry Forward
The job stream is eligible to be carried forward to the next day production plan if it is not completed before the end of the current production day. Job streams that are carried forward retain the carryforward option and are carried forward again. You can control the number of days a job stream is carried forward by specifying a deadline time (UNTIL keyword) plus x number of days.

Monitored Job Stream
The job stream is monitored by Tivoli Business Systems Manager (TBSM) when it runs.

Use Default
Use the default free days calendar (usually named Holidays). The free days calendar is used during the definition of the run cycles for the job stream. It is associated with the free day rule, where you tell Tivoli Workload Scheduler how to handle a job stream if the schedule falls on a freeday.

Specify Calendar
Specify a freeday calendar other than the default calendar. When you select Specify Calendar, the Calendar Name is obligatory.

Calendar Name
The name of the freeday calendar. You can use ... (find) to search for the calendar.

Saturday
Whether Saturday is considered as a free day.

Sunday
Whether Sunday is considered as a free day.

Comments page
Use the Comments page to add any additional comments about the job stream.

Dependency Resolution page
Use the Dependency Resolution page to specify the defaults for resolving follows dependencies when the Use Defaults option is selected during follows dependency creation for job stream and its jobs.

The page consists of the following:
Creating distributed job streams

Closest Preceding
The follows dependencies used for resolution are the closest that preceded the job stream.

Same Scheduled Date
The dependencies used for resolution are those on the same scheduled date as the current job stream.

Within a Relative Interval
The dependencies used for resolution are those within the relative interval you specify in the Relative Interval Selection section.

Within an Absolute Interval
The dependencies used for resolution are those within the absolute interval you specify in the Absolute Interval Selection section.

Relative Interval Selection
This field is enabled when you select Within a Relative Interval. Type the From and To range of the relative interval. Select whether the interval starts before or after the job stream start time. The range is from 0 to 167 hours and 59 minutes.

Absolute Interval Selection
This field is enabled when you select Within an Absolute Interval. Type the At time and the number of days (For Days) for the absolute interval. Select whether the interval starts before or after the job stream. To select Before start time the For Days value must be greater than 0.

Time Restrictions page
Use the Time Restrictions page to specify the time constraints for the job stream.

The page consists of the following:

Time Zone
The time zone of the job stream time restrictions. This list is available only if time zone support is enabled. For information about enabling the time zone, refer to Tivoli Workload Scheduler: Planning and Installation Guide.

Start
The time before which the job stream must not start.

Specify Time
Select Specify Time when you want to set a start time for the job stream.

Time Dependent
The job stream has a time dependency. When you do not specify that the job stream is time dependent, the Start time indicates the time when the job stream is entered into the plan. This check is enabled only if you select Specify Time.

At
The time before which the job stream must not start. The time format is according to your locale.

Delay for Days
The number of days to offset the start time from the day the job stream is selected for inclusion in the production plan.

Latest Start Time
The latest time at which the job stream is allowed to start.
Creating distributed job streams

Specify Time
Select Specify Time when you want to set a latest start time for the job stream.

At
The latest possible start time at which the job stream is allowed to start.

Delay for Days
The number of days to offset the latest start time from the day the job stream is selected for inclusion in the production plan.

Action
The action to be performed in case the job stream does not start and the Latest Start Time expires.

Suppress
To specify that the job stream does not start, even if the error condition that prevented it from starting is corrected, and dependencies are not released. Suppress is the default.

Continue
To specify that the job stream starts when all necessary conditions are met and a notification message is written to the log when the until time elapses.

Cancel
To specify that the job stream is cancelled and dependencies are released.

Termination Deadline
The time by which the job stream must complete. Job streams that have not yet started or that are still running when the deadline time expires, are considered late in the plan. A message is written in the job log. The termination deadline does not prevent job streams from starting.

Specify Time
Select Specify Time when you want to set a deadline time for the job stream.

At
The time within which a job stream should complete.

Delay for Days
The number of days to offset the deadline time from the day the job stream is selected for inclusion in the production plan.

Resources page
To add a resource dependency for the job stream, perform the following steps:

1. Click +.
2. Click in Resource cell and click ... (find) to search for and select a resource.
3. Double-click in the Workstations cell to type the name of the workstation where the resource resides.
4. Double-click in the Quantity column and enter the number of resource units required by the job stream. The default is one. Resources can be defined with up to 1024 units, but they can only be allocated in increments of 32. For example, to allocate 1024 units of a resource to a job stream or job you would need to create 32 entries for the resource with 32 units each. The number of jobs and schedules using a resource at the same time cannot exceed 32.

To remove a resource dependency for the job stream, select the resource row in the list and click -.
Creating distributed job streams

Prompts page

Use the Prompts page to set ad hoc or predefined prompt dependencies for the job stream.

To add an ad hoc prompt for the job stream, perform the following steps:
1. From the drop-down list, select Ad Hoc Prompt.
2. Click .
3. Double-click in the Text cell and type the text of the prompt. The default behavior of a prompt is to display a message and wait for a reply. Based on the character preceding the text, the prompt can behave differently:
   • If the text begins with a colon (:), the prompt displays, but no reply is required to continue processing.
   • If the text begins with an exclamation mark (!), the prompt displays, but it is not recorded in the log file.
Refer to the Tivoli Workload Scheduler: Reference Guide for a detailed explanation on how to specify the text of a prompt.
You can include one or more scheduler parameters as part or all of the text string. To use a parameter, place its name between carets (^) .

To add a predefined prompt for the job stream, perform the following steps:
1. From the drop-down list, select Predefined Prompt.
2. Click .
3. Type the name of the prompt in the Name cell or click ... (find) to search for and select the prompt. The Text cell displays the text of the predefined prompt message. This field is read-only.

To remove a prompt dependency for the job stream, select the prompt row in the list and click .

Files page

To add a file dependency for the job stream, perform the following steps:
1. Click .
2. Double-click in the Filename cell and click ... (find) to search for and select a file. You can search for a file only if it resides on the workstation where the Job Scheduling Console resides.
3. Double-click in the Workstation cell and click ... (find) to search for and select a workstation.
4. Double-click in the Qualifiers cell and enter the test conditions for the file dependency. On UNIX, the valid qualifiers are the same as UNIX test command conditions. For more information, refer to your UNIX system documentation.
On Windows , only the following qualifiers are valid:
- d %p
  True if the file exists and is a directory.
- e %p
  True if the file exists.
- f %p
  True if the file exists and is a regular file.
Creating distributed job streams

- `r %p`
  True if the file exists and is readable.
- `s %p`
  True if the file exists and its size is greater than zero.
- `w %p`
  True if the file exists and is available for editing.

**Notes:**

a. On both UNIX and Windows, the expression `%p` inserts the file name.
b. Entering `notempty` is the same as entering `-s %p`. If no qualifier is specified, the default is `-f %p`.

To remove a file dependency for the job stream, select the file row in the list and click **x**.
Creating distributed job streams
Chapter 30. Creating objects using Create Another

This chapter describes how to create objects using the **Create Another** option.

To create a new object in the database using a copy, perform the following steps:

1. Run a list that contains the object you want to copy. See Chapter 36, “Working with lists,” on page 199 for more information.

2. In the list results, right-click the object you want to copy and select **Create another**.
   
   This displays a copy of the object in the relevant properties window.

3. In **Name**, change the name to the name of the new object.

4. Change the other properties as needed to define the new object.

**Note:** When you create job streams using **Create Another**, you can create another job stream with a new name, or you can create another version of the existing job stream maintaining the name. When you create a new job stream with a new name you cannot then rename the job stream to the original name.
Creating using Create Another
Chapter 31. Creating forecast and trial plans

This chapter describes how you create forecast and trial plans for the distributed environment.

To create a plan, perform the following steps:
1. In the Actions list pane, click Generate New Plan.
2. Select the engine.
   The Generate New Plan panel displays.

   ![Generate New Plan for MyEngine](image)

   The panel consists of the following:

   - **Plan Type**: Select the type of plan to generate. Possible values are:
     - Trial
     - Forecast
     See “Plan” on page 43.

   - **File Name**: Type the name of the file that contains the type of plan you selected.

   - **Start Time**: When the plan is a forecast plan, select the date and the time when the plan starts.

   - **Duration**: Select the duration of the plan in Hours and Minutes. Select the time zone of the plan from the drop-down.
Creating trial and forecast plans

Switch to the generated plan
Select Switch to the generated plan when you want the generated plan to be set as the alternate plan immediately.
Part 5. Creating and using lists
Chapter 32. Creating database lists

This chapter describes how you create database lists. It is divided into the following sections:

- “Creating job stream lists in the database” on page 177
- “Creating job definition lists in the database” on page 181
- “Creating workstation lists in the database” on page 179
- “Creating resource lists in the database” on page 180
- “Creating workstation class lists in the database” on page 182
- “Creating prompt lists in the database” on page 182
- “Creating parameter lists in the database” on page 182
- “Creating Windows user lists in the database” on page 183
- “Creating domain lists in the database” on page 183
- “Creating calendar lists in the database” on page 184

Notes:

1. Use the Properties - Engine panel to modify the default properties for lists, for example, the rate interval to refresh the content of your list. See Chapter 37, “Managing engines,” on page 205.

2. Filters for the database lists are case sensitive.

To create a database list, perform the following steps:

1. Right-click an engine or a group of lists in the Work with engines pane.

2. Select the type of list you want to create. Possible values are:

- Job Stream
- Job
- Workstation
- Resource
- Workstation Class
- Prompt
- Parameter
- Windows User
- Domain
- Calendar

The properties panel of the list type you selected displays.

Figure 9 on page 176 illustrates the properties panel for a distributed job stream list.
Creating database lists

Figure 10 on page 177 illustrates the properties panel for a z/OS job stream list.
Creating job stream lists in the database

You can create job stream lists for both the distributed and the z/OS environments.

The Properties - Job Stream List panel depends on whether you are:

- “Creating a z/OS job stream list”
- “Creating a distributed job stream list” on page 178

Creating a z/OS job stream list

The panel consists of the following:

**Name**
A name for the list. The maximum length is 80 characters.

**Periodic Refresh**
An automatic refresh interval in seconds.

**Period (seconds)**
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.
Creating a z/OS job stream list

Apply Defaults
The defaults specified in the engine properties panel are applied.

Job Stream Filter for job streams with this name.

Task Name Filter job streams where this task or JCL is used.

Extended Task Name Filter the job streams containing jobs that use a specific extended task name.

Owner Filter for job streams that belong to this owner.

Job Stream Template Filter for job streams that are part of this template.

Authority Group Filter for job streams that use this authority group for RACF authority checking.

Calendar Filter for job streams that use this calendar.

Workstation Filter for job streams containing jobs that run on this workstation.

Scheduling Environment Name Filter for job streams that contain jobs associated with this WorkLoad Manager scheduling environment. The maximum length is 16 characters.

Is a template Filter for job streams that are templates.

Exclude template Filter for job streams that are not templates.

Priority Filter for job streams that have a priority in the range of From and To.

Dates Filter for job streams that have a date in the range of From and To.

Status of Job Stream Filter for job streams according to whether they are active or inactive.

Contains Monitored Job Filter for job streams that contain a monitored or unmonitored job.

Creating a distributed job stream list

The panel consists of the following:

Name A name for the list. The maximum length is 80 characters.

Periodic Refresh An automatic refresh interval in seconds.

Period (seconds) The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

Apply Defaults The defaults specified in the engine properties panel are applied.

Job Stream Name Filter for job streams with this name.

Workstation Name Filter for job streams related to the workstations you specify.
Creating a distributed job stream list

Job Stream Status
Filter for job streams according to whether they are active.

Validity Range
Filter for job streams that have a validity in the range of From Date and To Date.

Use the Column Definition page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating workstation lists in the database

You can create workstation lists for both the distributed and the z/OS environments.

The Properties - Database Workstation List panel depends on whether you are:
• “Creating a z/OS workstation list”
• “Creating a distributed workstation list”

Creating a z/OS workstation list
The panel consists of the following:

Name
A name for the list. The maximum length is 80 characters.

Periodic Refresh
An automatic refresh interval in seconds.

Period (seconds)
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

Apply Defaults
The defaults specified in the engine properties panel are applied.

Workstation
Filter for workstations with the name you specify.

Reporting Attributes
Filter for workstations according to their reporting attributes. You can select any number of reporting attributes.

Workstation Types
Filter for workstations according to their workstation type. You can select any number of workstation types.

Is Fault-tolerant
Filter for workstations according to whether they are fault-tolerant.

Is For Automation
Filter for workstations according to whether they are used for the integration with Tivoli System Automation for z/OS.

Is Wait
Filter for Wait workstations.

Creating a distributed workstation list
The panel consists of the following:

Name
A name for the list. The maximum length is 80 characters.

Periodic Refresh
An automatic refresh interval in seconds.
Creating a distributed workstation list

- **Period (seconds)**: The frequency of the refresh rate in seconds. The minimum value is 30 seconds.
- **Apply Defaults**: The defaults specified in the engine properties panel are applied.
- **Workstation Name**: Filter for workstations with the name you specify.
- **Workstation Type**: Filter workstations according to the workstation type.
- **Domain Name**: Filter for workstations that belong to this domain.
- **Host Workstation Name**: Filter for the host workstation of extended agents.

Use the **Column Definition** page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating resource lists in the database

You can create resource lists for both the distributed and the z/OS environments.

The Properties - Database Resource List panel depends on the type of engine:
- Creating a z/OS resource list
- Creating a distributed resource list on page 181

Creating a z/OS resource list

The panel consists of the following:
- **Name**: A name for the list. The maximum length is 80 characters.
- **Periodic Refresh**: An automatic refresh interval in seconds.
- **Period (seconds)**: The frequency of the refresh rate in seconds. The minimum value is 30 seconds.
- **Apply Defaults**: The defaults specified in the engine properties panel are applied.
- **Resource**: Filter for resources according to the criteria you select in **Treat Input As**.
- **Treat Input As**: How the string that you specify in **Resource** is interpreted. Possible values are:
  - **Wildcard**
  - **Exact match**
  - **Prefix**
  - **Suffix**
- **Group ID**: Filter for all resources that belong to this group.
- **Hiperbatch**: Whether to list or exclude resources that can work with Hiperbatch.
Creating a distributed resource list

The panel consists of the following:

**Name**  A name for the list. The maximum length is 80 characters.

**Periodic Refresh**  
An automatic refresh interval in seconds.

**Period (seconds)**  
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

**Apply Defaults**  
The defaults specified in the engine properties panel are applied.

**Resource Name**  
Filter for all the resources with this name.

**Workstation Name**  
Filter for all workstations with this name.

Use the **Column Definition** page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating job definition lists in the database

You can create a list of job definitions for the distributed environment only.

The Properties - Job List panel displays.

The panel consists of the following:

**Name**  A name for the list. The maximum length is 80 characters.

**Periodic Refresh**  
An automatic refresh interval in seconds.

**Period (seconds)**  
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

**Apply Defaults**  
The defaults specified in the engine properties panel are applied.

**Job Name**  
Filter for all job definitions with this name.

**Workstation Name**  
Filter for all job definitions related to workstations of this name.

Use the **Column Definition** page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.
Creating distributed workstation class lists

Creating workstation class lists in the database

You can create a list of workstation classes for the distributed environment only.

The Properties - Workstation Class List panel displays.

The panel consists of the following:
Name A name for the list. The maximum length is 80 characters.
Periodic Refresh
An automatic refresh interval in seconds.
Period (seconds)
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.
Apply Defaults
The defaults specified in the engine properties panel are applied.
Workstation Class Name
Filter for all workstation classes with this name.

Use the Column Definition page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating prompt lists in the database

You can create a list of prompts for the distributed environment only.

The Properties - Prompt List panel displays.

The panel consists of the following:
Name A name for the list. The maximum length is 80 characters.
Periodic Refresh
An automatic refresh interval in seconds.
Period (seconds)
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.
Apply Defaults
The defaults specified in the engine properties panel are applied.
Prompt Name
Filter for prompts with this name.

Use the Column Definition page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating parameter lists in the database

You can create a list of parameters for the distributed environment only.

The Properties - Parameter List panel displays.

The panel consists of the following:
Creating distributed parameter lists

Name  A name for the list. The maximum length is 80 characters.

Periodic Refresh  
An automatic refresh interval in seconds.

Period (seconds)  
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

Apply Defaults  
The defaults specified in the engine properties panel are applied.

Parameter Name  
Filter for parameters with this name.

Use the Column Definition page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating Windows user lists in the database

You can create a list of Windows users for the distributed environment only.

The Properties - Windows User List panel displays.

The panel consists of the following:

Name  A name for the list. The maximum length is 80 characters.

Periodic Refresh  
An automatic refresh interval in seconds.

Period (seconds)  
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

Apply Defaults  
The defaults specified in the engine properties panel are applied.

Windows Domain\User Name  
Filter for users with this user name. You can use fully qualified domain names.

Workstation  
Filter for the workstation of the Windows user.

Use the Column Definition page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating domain lists in the database

You can create a list of domains for the distributed environment only.

The Properties - Domain List panel displays.

The panel consists of the following:

Name  A name for the list. The maximum length is 80 characters.

Periodic Refresh  
An automatic refresh interval in seconds.
Creating distributed domain lists

- **Period (seconds)**
  The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

- **Apply Defaults**
  The defaults specified in the engine properties panel are applied.

- **Domain Name**
  Filter for domains with this name.

- **Parent Domain**
  Filter for the domains that belong to this parent domain.

Use the **Column Definition** page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating calendar lists in the database

You can create a list of calendars for the distributed environment only.

The Properties - Calendar List panel displays.

The panel consists of the following:

- **Name**
  A name for the list. The maximum length is 80 characters.

- **Periodic Refresh**
  An automatic refresh interval in seconds.

- **Period (seconds)**
  The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

- **Apply Defaults**
  The defaults specified in the engine properties panel are applied.

- **Calendar Name**
  Filter for calendars with this name.

Use the **Column Definition** page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.
Chapter 33. Creating plan lists

This chapter describes how you create plan lists. It is divided into the following sections:

- “Creating job stream instance lists in the plan” on page 185
- “Creating job instance lists in the plan” on page 188
- “Creating workstation status lists in the plan” on page 192
- “Creating resource status lists in the plan” on page 192
- “Creating file status lists in the plan” on page 192
- “Creating prompt status lists in the plan” on page 193
- “Creating domain status lists in the plan” on page 193

To create a plan list right-click an engine or group of lists, choose Create Plan List in the pop-up menu and select the list type you want to create.

Notes:
1. Use the Properties - Engine panel to modify the properties of a list. See Chapter 37, “Managing engines,” on page 205.
2. Filters for plan lists are not case sensitive.

Creating job stream instance lists in the plan

You can create job stream instance lists for both the distributed and the z/OS environments.

The Properties - Job Stream Instance List panel depends on whether you are:
- “Creating z/OS job stream instance lists in the plan”
- “Creating distributed job stream instance lists in the plan” on page 187

Creating z/OS job stream instance lists in the plan

The Properties - Job Stream Instance List panel displays.

The panel consists of the following:

**Name**  A name for the list. The maximum length is 80 characters.

**Periodic Refresh**
An automatic refresh interval in seconds.

**Period (seconds)**
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

**Apply Defaults**
The defaults specified in the engine properties panel are applied.

**Job Stream**
Filter for job stream instances with this name.

**Job Stream Template**
Filter for job stream instances that are part of this template.
Creating job stream instance lists

Occurrence Token
Filter for job stream instance that is identified by this occurrence token in the plan. The token is a unique 16 character hexadecimal string assigned to the job stream by the scheduler. Wildcards and filter on first characters are not allowed for this field.

Owner
Filter for job stream instances that belong to this owner.

Authority Group
Filter for job stream instances that use this authority group for RACF authority checking.

Extended Task Name
Filter for job stream instances containing jobs that use a specific extended task name.

Scheduling Environment Name
Filter for job stream instances that contain jobs associated with this WorkLoad Manager scheduling environment.

Dates
Filter for job stream instances scheduled to run in the range you specify in Date and Time fields.

Priority
Filter for job stream instances that have a priority within the range you specify in the From and To fields.

Manually Added
Filter for job stream instances according to whether they were manually added to the plan.

Rerun Requested
Filter for job stream instances according to whether a rerun of the job stream was requested.

Contains Monitored Job
Filter for job stream instances according to whether they contain a monitored job.

Waiting for Scheduling Environment
Filter for job stream instances according to whether the associated jobs are waiting for a WorkLoad Manager scheduling environment.

Running on Wait Workstation
Filter for job stream instances according to whether the associated jobs are running on a Wait workstation.

Most Critical Job
Filter for job stream instances according to the start time of the most critical job in Hours and Minutes.

Status
Filter for job stream instances according to their status codes.

For a definition of the states see Appendix C, “Status description and mapping,” on page 441.

Internal Status
Filter for job stream instances their internal status codes.

For a definition of the states see Appendix C, “Status description and mapping,” on page 441.
Note: Status and internal status are mutually exclusive. However, they are both displayed among the properties of job stream instances. Internal status refers to the status code assigned by the specific job scheduling engine. It provides more detail than the broader status code assigned by the Job Scheduling Console.

Use the Column Definition page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating distributed job stream instance lists in the plan

The Properties - Job Stream Instance List panel displays.

The panel consists of the following:

- **General page**
- **Time Data page** on page 188
- **Dependencies page** on page 188

**General page**

The page consists of the following:

- **Name** A name for the list. The maximum length is 80 characters.
- **Periodic Refresh** An automatic refresh interval in seconds.
- **Period (seconds)** The frequency of the refresh rate in seconds. The minimum value is 30 seconds.
- **Apply Defaults** The defaults specified in the engine properties panel are applied.
- **Job Stream Name** Filter for job stream instances with this name.
- **Workstation Name** Filter for workstations with this name.
- **Status** Filter for job stream instances according to their status codes.
  
  For a definition of the states see Appendix C, “Status description and mapping,” on page 441.
- **Internal Status** Filter for job stream instances according to their internal status codes.
  
  For a definition of the states see Appendix C, “Status description and mapping,” on page 441.
- **Priority** Filter for job stream instances with a priority in the range of From to To.

Possible priority values are 0 through 101, where 101 is the highest priority. Click **Hold** to select priority 0, **High** to select priority 100, or **Go** to select priority 101.

**Note:** Status and internal status are mutually exclusive. However, they are both displayed among the properties of job stream instances. Internal status refers
**Creating job stream instance lists**

to the status code assigned by the specific job scheduling engine. It provides more detail than the broader status code assigned by the Job Scheduling Console.

**Time Data page**
The page consists of the following:

**Actual Start Time Range**
Filter for all job streams that start running within this time range.

**Latest Start Time**
Filter for all job streams that have a latest start time set within this time range.

**Finish Time Range**
Filter for job streams that are set to finish within this time range.

**Dependencies page**
The page consists of the following:

**Workstation Name**
Filter for job stream instances with job, job stream, resource, and file dependencies according to their associated workstation.

**Job Stream**
Filter for job stream instances with this job stream as a dependency.

**Job**
Filter for job stream instances with this job as a dependency.

**Name**
Filter for job stream instances with this resource as a dependency.

**File Name**
Filter for job stream instances with this file as a dependency.

**Name**
Filter for job stream instances with this prompt as a dependency.

**Prompt Number**
The number of the prompt indicated in the **Name** field.

When you are creating lists, you can use the Column Definition page to define the columns displayed in the list. The Column Definition page for a distributed job stream instance list consists of three sections: Job Stream Table, Job Table and Dependency.

You can choose the columns to display in each section of the list (job instance, job stream instance, or dependency) selecting or clearing the corresponding check box.

For a definition of the columns, refer to the Job Scheduling Console online help.

**Creating job instance lists in the plan**

You can create job instance lists for both the distributed and the z/OS environments.

The Properties - Job Instance List panel depends on whether you are:
- "Creating z/OS job instance lists in the plan” on page 189
- "Creating distributed job instance lists in the plan” on page 190
Creating z/OS job instance lists in the plan

The Properties - Job Instance List panel displays.

The panel consists of the following:

Name  A name for the list. The maximum length is 80 characters.

Periodic Refresh  
An automatic refresh interval in seconds.

Period (seconds)  
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

Apply Defaults  
The defaults specified in the engine properties panel are applied.

Job Stream  
Filter for job instances that are part of this job stream.

Job Identifier  
Filter for job instances that have this identifier.

Task Name  
Filter for job instances that are associated with this JCL task.

Extended Task Name  
Filter for job instances that use this extended task name.

Workstation  
Filter for job instances that run on this workstation.

Owner  
Filter for job instances that belong to this owner.

Authority Group  
Filter for job instances that use this authority group for RACF checking.

Scheduling Environment Name  
Filter for job instances associated with the specified WorkLoad Manager scheduling environment.

Dates  
Filter for job instances that are scheduled to run in the From and To range you specify.

Priority  
Filter for job instances that have a priority in the range of From and To.

Contains Monitored Job  
Filter for job instances according to whether they contain a monitored job.

Restart Option: CleanUp Type  
Filter for job instances that have the cleanup and restart options that you select.

Restart Option: CleanUp Status  
Filter for job instances that have the cleanup state that you select.

Status  
Filter for job instances according to their status codes.

For a definition of the states see Appendix C, “Status description and mapping,” on page 441.

Internal Status  
Filter for job instances according to their internal status codes.
Creating job instance lists

For a definition of the states see Appendix C, “Status description and mapping,” on page 441.

Critical Job
Filter for critical jobs, which are jobs that are eligible for Tivoli Workload Scheduler internal or Workload Manager (WLM) service class promotion when the job runs late. Possible values are:

- **No**: Select jobs which are not marked as Critical jobs.
- **Critical Path**: Select critical jobs which are managed by the Tivoli Workload Scheduler internal critical path prioritizing algorithms.
- **WLM**: Select critical jobs which are managed by Workload Manager (WLM).

**Ignore Criteria**
Select jobs regardless of whether they are marked as critical.

WLM Policy
Filter for job instances that are defined as critical jobs and have the selected WLM policy defined.

Waiting for Scheduling Environment
Filter for job instances waiting for a WorkLoad Manager scheduling environment.

Running on Wait Workstation
Filter for job instances running on a Wait workstation. Jobs started on wait workstations have the **Status Details** set to *Running on a WAIT workstation* to remind users that a delay in the defined sequence of jobs is occurring.

**Note**: Status and internal status are mutually exclusive. However, they are both displayed among the properties of job stream instances. Internal status refers to the status code assigned by the specific job scheduling engine. It provides more detail than the broader status code assigned by the Job Scheduling Console.

Use the **Column Definition** page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating distributed job instance lists in the plan
The Properties - Job Instance List panel displays.

The panel consists of the following:

- "General page"
- "Time Data page" on page 191
- "Dependencies page" on page 192

**General page**
The page consists of the following:

- **Name**: A name for the list. The maximum length is 80 characters.
- **Periodic Refresh**: An automatic refresh interval in seconds.
Creating job instance lists

Period (seconds)
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

Apply Defaults
The defaults specified in the engine properties panel are applied.

Job Name
Filter for job instances with this job name.

Job Stream Name
Filter for job instances that are part of this job stream.

Workstation (Job Stream)
Filter for job instances for the job streams that run on this workstation.

Login
Filter for job instances that are associated with the user with this login.

Status
Filter for job instances according to their status codes.
For a definition of the states see Appendix C, “Status description and mapping,” on page 441.

Internal Status
Filter for job instances according to their internal status codes.
For a definition of the states see Appendix C, “Status description and mapping,” on page 441.

Always Show Rerun Instances
Filter for all job instances that were rerun regardless of the status you specified.

Notes:
1. This option is significant only if you also specified a status for Status.
2. It makes no difference if the job status is the same as the rerun status.

Recovery Options
Filter for job instances with the recovery options you specify.

Priority
Filter for job instances with a priority in the range of From to To. Possible priority values are 0 through 101, where 101 is the highest priority. Click Hold to select priority 0, High to select priority 100, or Go to select priority 101.

Note: Status and internal status are mutually exclusive. However, they are both displayed among the properties of job instances. Internal status refers to the status code assigned by the specific job scheduling engine. It provides more detail than the broader status code assigned by the Job Scheduling Console.

Time Data page
The page consists of the following:

Actual Start Time Range
Filter for job instances according to their actual start time. When you use this filter, specify both a From Date and a To Date.

Latest Start Time
Filter for job instances according to their specified latest start time. When you use this filter, specify both a From Date and a To Date.
Creating job instance lists

Finish Time Range
Filter for job instances according to when they finished. When you use this filter, specify both a From Date and a To Date.

Dependencies page
The page consists of the following:

Job/Job Stream Dependency
Filter for job instances according to their job and job stream dependencies.

Resource Dependency
Filter for job instances according to their resource dependencies.

Prompt Dependency
Filter for job instances according to their prompt dependencies.

Use the Column Definition page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating workstation status lists in the plan

You can create workstation lists for both the distributed and the z/OS environments.

The Properties - Plan Workstation Status List panel depends on whether you are creating a z/OS or a distributed list.

“Creating workstation lists in the database” on page 179 defines the information necessary to create the workstation list. The workstation list for distributed engines in the plan has the following additional field:

Domain Name
Filter for workstations belonging to domains with this name.

Use the Column Definition page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating resource status lists in the plan

You can create resource status lists for both the distributed and the z/OS environments.

The Properties - Plan Resource Status List panel depends on whether you are creating a z/OS or distributed list.

“Creating resource lists in the database” on page 180 defines the information necessary to create a resource status list.

Creating file status lists in the plan

You can create file status lists for distributed engines only.

The Properties - File Status List panel displays.

The panel consists of the following:
Creating distributed file status lists

Name  A name for the list. The maximum length is 80 characters.

**Periodic Refresh**
An automatic refresh interval in seconds.

**Period (seconds)**
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

**Apply Defaults**
The defaults specified in the engine properties panel are applied.

**Filename**
Filter for file dependencies with this name.

**Workstation Name**
Specify the workstation where the file dependency resides.

---

Creating prompt status lists in the plan

You can create prompt status lists for distributed engines only.

The Properties - Prompt Status List panel displays.

The panel consists of the following:

**Name**  A name for the list. The maximum length is 80 characters.

**Periodic Refresh**
An automatic refresh interval in seconds.

**Period (seconds)**
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

**Apply Defaults**
The defaults specified in the engine properties panel are applied.

**Prompt Name**
Filter for prompts with this name.

**Status**  Filter for prompts according to their asked and answered states.

---

Creating domain status lists in the plan

You can create domain status lists for distributed engines only.

The Properties - Plan Domain Status List panel displays.

The panel consists of the following:

**Name**  A name for the list. The maximum length is 80 characters.

**Periodic Refresh**
An automatic refresh interval in seconds.

**Period (seconds)**
The frequency of the refresh rate in seconds. The minimum value is 30 seconds.

**Apply Defaults**
The defaults specified in the engine properties panel are applied.
Creating distributed domain status lists

Domain Name
Filter for domains with this name.
Chapter 34. Creating a group of lists

You can use the Job Scheduling Console to organize your lists into groups. You can organize your groups of lists by any criteria that help you to quickly display the objects that you want to work with. For example, you can create a group of lists that you then use to work with all the objects associated with a particular plan.

First you create a group and then you create the lists that you want in it. You can create a group of lists within an engine or within another group of lists available for each engine. To create a group of lists, perform the following steps:

1. In the **Work with engines pane**, right-click where you want to create the group and select **Create Group**. The Properties - Group of Lists panel displays.

2. Enter a name for the group. You can use the same name for more than one group. Different groups maintain their individual properties even if they have the same name. Use only alphanumeric and blank characters. The maximum supported length for this field is 80 characters.

3. Create the lists contained in the group as described in [Chapter 32, “Creating database lists,” on page 175](#) and [Chapter 33, “Creating plan lists,” on page 185](#).
Creating list groups
Chapter 35. Creating common plan lists

This chapter describes how you create default common plan lists. It is divided into the following sections:

- “Creating a common list of job stream instances”
- “Creating a common list of job instances”

Creating a common list of job stream instances

To create a common job stream instance list, perform the following steps:

1. In the Work with engines pane, right-click Common Default Plan Lists and select Job Stream Instance.
2. The Properties - Job Stream Instance Common List panel displays.

The fields in this dialog are a subset of the fields available in Properties - Job Stream Instance List described in “Creating z/OS job stream instance lists in the plan” on page 185. Use the Engine pull-down menu to specify which engines are used when creating the list. By default, all the engines to which the Job Scheduling Console is connected are selected.

Use the Column Definition page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.

Creating a common list of job instances

To create a common job instance list, perform the following steps:

1. In the Work with engines pane, right-click Common Default Plan Lists and select Job Instance.
2. The Properties - Job Instance Common List panel displays.

The fields in this dialog are a subset of the fields available in Properties - Job Instance List described in “Creating z/OS job instance lists in the plan” on page 189. Use the Engine pull-down menu to specify which engines are used when creating the list. By default, all the engines to which the Job Scheduling Console is connected are selected.

Use the Column Definition page to define the columns displayed in the list.

For a definition of the columns, refer to the Job Scheduling Console online help.
Chapter 36. Working with lists

This chapter describes how you work with lists. It is divided into the following sections:

- “Displaying a list of objects”
- “Detaching a list” on page 200
- “Modifying a list” on page 200
- “Unlocking locked distributed objects in a list” on page 201

Most of your monitoring activities require a list of objects from which you can work. Creating lists is described in Chapter 32, “Creating database lists,” on page 175 and Chapter 33, “Creating plan lists,” on page 185.

Displaying a list of objects

To display a list:

1. In the Work with engines pane, expand the engine tree until the list you want to work with displays.
2. Click the list you want to run. The list results are displayed in the right-hand pane.

You can display several lists in sequence. The newest list displays first. However, as long as a list is kept open, it is maintained and refreshed according to the refresh options specified.

The properties of lists are described in Part 6, “Managing database objects,” on page 203.

When you display a list of All scheduled jobs, or All scheduled job streams for z/OS or distributed engines (not common lists) an Explorer view pane is also present.
In end-to-end scheduling environments the start times displayed for job stream instances in the All Scheduled Job Streams view and those shown for job instances in the All Scheduled Jobs view might be different. This is due to a time zone difference: the job streams that are defined on OPCMASTER are bound to follow the UTC time zone, whereas the jobs defined on the fault-tolerant workstations follow the time zones specified locally.

### Detaching a list

Detaching a list frees the right-pane of the Job Scheduling Console to display other objects. You can detach multiple lists to view several objects simultaneously.

To detach a list display, perform the following steps:

1. Select a list and wait for the results to be displayed.
2. Select **Detach Task** in the upper right-corner of the panel. The list panel displays separately from the main window.
3. To reattach the list select **Attach Task** in the upper right-corner of the detached pane.

**Notes:**

1. The right-hand pane of the console is not disabled. This is so that you can run other lists or perform other tasks.
2. To prevent your system from overloading, do not have frequent refreshes of many detached panes open at the same time.

### Modifying a list

To modify the properties of a list:

1. In the **Work with engines** pane, select the engine.
2. Right-click the list you want to modify and select Properties.
3. The properties panel of the list displays.
4. Make your changes.

The properties of lists are described in Chapter 37, “Managing engines,” on page 205.

Unlocking locked distributed objects in a list

While you work on a distributed object in the database or in the plan it is locked, and can be viewed by other users only in read-only mode. When you have more than one session open you can unlock an object that you locked in another session.

To unlock an object in a list, perform the following steps:

1. Run a list that contains the object you want to unlock. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the list and select Unlock from the pop-up menu.
Unlocking objects in a list
Part 6. Managing database objects
Chapter 37. Managing engines

This chapter describes how you manage engines. To display and modify the properties of an engine, perform the following steps:

1. In the Work with engines pane, right-click the engine and select Properties.

The Properties - Engine panel depends on whether you are:

- “Managing a z/OS engine”
- “Managing a distributed engine” on page 207

Managing a z/OS engine

The Properties - z/OS Engine panel displays.

The panel consists of the following:

- “General page” on page 206
- “Scheduler Information page” on page 206
General page

General page
Use the General page to enter general information for the engine.

The page consists of the following:

Engine Name
Type a name for the engine that you are creating.

Host Name
Type the host name or TCP/IP address of the computer where the connector is installed.

Port Number
The port number that is used to connect to the computer where the connector is installed. The default port number is 31117.

Remote Server Name
The name of the instance of the connector specified at installation time.

User Name
Type the name of the TWSuser who accesses the computer where the engine is installed.

Password
Type the password of the user.

Note: For some operating systems only the first eight characters of the password are used for authentication.

Save Password
Save password is enabled when you type a password. When you save the password it is not necessary to enter the user name and password each time that you access the engine.

Periodic Refresh
Whether the engine lists are periodically refreshed.

Period (seconds)
When Periodic Refresh is set, the frequency with which the engine lists are refreshed. The range is 30 to 7200 seconds.

Buffer Size for Lists
Select a value from the drop-down list. The value determines at which rate the results of a list are sent to your screen. For example if you select 100, the results of a list are sent in blocks of 100 lines. The default value is 250. If you select a higher number, it takes more time to display the list initially, but less time to display the entire list when it is scrolled. The maximum value is 400.

Scheduler Information page
Use the Scheduler Information page to view data about the engine.

The page consists of the following:

Engine Time Zone
The time zone of the engine indicated as an offset of GMT.

Code Page
Display the code page defined on the engine.
Default for Submissions
Whether submissions should be according to the engine time or workstation time.

Managing a distributed engine

The Properties - Distributed Engine panel displays.

The panel consists of the following:
- "General page"
- "Engine Data page" on page 208

**General page**

Use the General page to enter general information for the engine.

The page consists of the following:

**Engine Name**
Type a name for the engine that you are creating.

**Engine Type**
The type of engine.
General page

Host Name
Type the host name or TCP/IP address of the connector where the connector is installed.

Port Number
The port number that is used to connect to the computer where the connector is installed. The default port number is 31117.

User Name
Type the user name of the TWSuser who accesses the computer where the engine is installed.

Password
Type the password of the user.

Note: For some operating systems only the first 8 characters of the password are used for authentication.

Save Password
Save password is enabled when you type a password. When you save the password it is not necessary to enter the user name and password each time that you access the engine.

Periodic Refresh
Whether the engine lists are periodically refreshed.

Period (seconds)
When Periodic Refresh is set, the frequency with which the engine lists are refreshed. The range is 30 to 7200 seconds.

Buffer Size for Lists
Select a value from the drop-down list. The value determines at which rate the results of a list are sent onto your screen. For example if you select 100, the results of a list are sent in blocks of 100 lines. The default value is 250. If you select a higher number, it takes more time to display the list initially, but less time to display the entire list when it is scrolled. The maximum value is 400.

Engine Data page
Use the Engine Data page to browse information about the engine.

The page consists of the following:

Engine Type
TWS

Version
The version of the engine.

Type
The type of workstation where the engine resides. Possible values are:

- MDM The workstation is a master domain manager.
- BKMM The workstation is a backup master.
- FTA The workstation is a fault-tolerant agent, domain manager, or backup domain manager.
- SA The workstation is a standard agent.

Name The name of the workstation.
Domain
The domain of the workstation.

Master Workstation
The workstation where the master domain manager resides.

Master Domain
The domain of the master domain manager.

Enabled
Whether the time zone feature is enabled for this engine.

Database
The time zone of the workstation where the database is installed.

Plan
The time zone of the workstation where the plan is installed.

Batchman Status
The status of the batchman process.

Run Number
The number of times jnextday has run.

Schedule Date
The date of the last run of jnextday.
Chapter 38. Managing workstations

This chapter describes managing workstations in the database. To display and modify the properties of a workstation, perform the following steps:

1. Run a list of workstations that contains the workstation you want to manage.
2. In the list results, double-click the workstation you want to display, or right-click the workstation and select Properties.
   The Properties - Workstation in Database panel displays.
3. Make your changes. See “Creating a z/OS workstation” on page 112 and “Creating a distributed workstation” on page 117.
Chapter 39. Managing z/OS job streams

This chapter explains how to modify job streams for z/OS engines. It is divided into the following sections:

- “Creating dependencies between jobs”
- “Scheduling z/OS job streams” on page 216
- “Adding, modifying, and deleting jobs and dependencies” on page 228
- “Viewing and modifying time restrictions” on page 229
- “Using the copy function to add an external job” on page 231

Note: You can also perform the functions described here using the Explorer View. For a brief description of the Explorer View, see Chapter 17, “Explorer View quick reference,” on page 101.

Creating dependencies between jobs

This section describes how you create dependencies in a z/OS environment. It is divided into the following subsections:

- “Creating dependencies within a job stream”
- “Creating dependencies between job streams” on page 214

Creating dependencies within a job stream

To create a dependency between jobs within the same job stream, perform the following steps:

1. Run a list of job streams that contains the job stream you want to manage. See Chapter 36, “Working with lists,” on page 199.
2. Double-click the job stream.
   The Job Stream Editor opens.
Creating dependencies within a job stream

3. Click .
4. Click the predecessor job and drag the link to the successor job. A line displays between the two jobs, with an arrow pointing to the successor job.
5. Repeat the previous steps to create as many dependencies as you need.

Creating dependencies between job streams

This section describes one way to add an external job to a job stream. Another method, based on the use of job stream lists, is described in “Using the copy function to add an external job” on page 231.

To create a dependency between job streams, perform the following steps:
1. Run a list of job streams that contains the job stream you want to manage. See Chapter 36, “Working with lists,” on page 199.
2. Double-click the job stream.
   The Job Stream Editor displays.
3. Click .
The Properties - External Job panel displays.
Creating dependencies between job streams

4. In Job Stream, type the name of the job stream containing the external job or click ... to search for and select a job stream.

5. Click Show Jobs. The jobs in the job stream are displayed.

6. Select a job and click OK. An icon for the external job displays in the Graph view.

7. Repeat the steps explained in “Creating dependencies between jobs” on page 213 to define links with the other jobs.

Scheduling z/OS job streams

This sections describes how you schedule z/OS job streams. It is divided into the following subsections:

- “Creating rule-based run cycles”
- “Creating offset-based run cycles” on page 223

Creating rule-based run cycles

To create a rule-based run cycle, perform the following steps:

1. Run a list that contains the job stream you want to modify. See Chapter 36, "Working with lists," on page 199.

2. Double-click the job stream in the list. The Job Stream Editor opens.

3. Click to open the Run Cycle view of the job stream.

4. Click .

The Properties - Rule-based Run Cycle panel displays.
The panel consists of the following:

- **“General page”**
- **“Time Restrictions page”**
- **“Rules page”** on page 218

**General page**
Use the General page to enter general information about the run cycle.

The page consists of the following:

**Name**
Type a name for the run cycle.

**Description**
Type a description of the run cycle.

**Rule for Freedays**
Specify how you want Tivoli Workload Scheduler for z/OS to treat freedays when calculating the rundays of the job stream, by selecting one of the following:

- **Count workdays only**
  Excludes freedays when calculating on which days the job stream runs.

- **Schedule on last workday before freeday**
  Counts both workdays and freedays. If the rundown falls on a freeday, it is shifted to the closest workday before the freeday.

- **Schedule on next workday after freeday**
  Counts both workdays and freedays. If the rundown falls on a freeday, it is shifted to the closest workday after the freeday.

- **Count workdays and freedays alike**
  Counts both workdays and freedays. The job stream is scheduled on the rundown, regardless of whether it is a freeday or a workday. This is the default.

- **If freeday, do not schedule at all**
  Counts both workdays and freedays. If the rundown falls on a freeday, the job stream is not scheduled to run.

**JCL Variable Table**
Type the name of the variable table that the scheduler can use on the days generated by this run cycle. Click ... (find) to search for and select a variable table.

**Exclusive Run Cycle**
Specify the days and times that a job stream cannot be run.

**Valid Date**
Set a time interval for which the run cycle is valid in the From and To range you specify.

**Time Restrictions page**
Use the Time Restrictions page to specify when and for how long the job stream must run.

The page consists of the following:

**Start**
Type the time at which the job stream must start running. The default is 00:00 of the scheduled day.

**Deadline**
Specify the latest time by which the job stream must complete.

**At**
Type a time according to your locale settings. For example, type 12:00 if you want the job stream to end before noon.
Delay for days
Type a number of days to defer the deadline. For example, if you type 3 the job stream must end three days after the time you specify in At.

Repeat Option
Select Specify time when you want to set how frequently a job stream must run. If you select Specify time, specify both a Repeat Every and a Repeat End Time.

Repeat Every
Type the frequency at which the job stream must run in the format hh mm. For example, if you specify 01 10, the job stream runs every hour and 10 minutes.

Repeat End Time
Type the end time until which the Repeat Every option applies in a format specific to your locale settings. It must be a value between one minute after the input arrival time of the run cycle and one minute before the calendar work day end time of the job stream.

After you set the Repeat Option, you can see the following information in the Run Cycle view:

- In the left-hand pane, the Number of Generated Instances column shows the number of instances generated.
- In the right-hand pane, the Calendar shows the day when the first generated instance runs.
- If an instance runs on the following day the Run Cycle view shows a message that indicates the number of instances that run on each day.

Rules page
Use the Rules page to specify the rules on which the run cycle is based.

The page consists of the following:

Periods
The period rules for the run cycle. Possible values are:

Week
The run cycle is based on a weekly period.

Month
The run cycle is based on a monthly period.

Year
The run cycle is based on an annual period.

User-defined
The run cycle is based on a calendar defined by the user in the scheduler.

Available Days
The days of the period to which the rule applies. The number of available days changes according to the period you select. You can also specify ordinal-last days to count backwards from the end of the period. The days you select are displayed in the Selected Days field.

Available Types of Days
The types of days to which the rule applies. The types of days you select are displayed in Selected Types of Days.

In the Following
The period names to which you want the rule to apply. Depending on the period you select (Week, Month, Year, User-defined), this option displays lists of weeks of the year by number, or months by name. If
you selected a user-defined period, a list of available periods displays in the **In the Following Periods** group. Select the check box next to the period you want to use.

You can set more than one period at a time for complex rules specifying more run cycles. For example you can select **Week** and **Month** and choose the days that apply to both rules. You do not need to select the same days twice because they are applied automatically to all run cycles. The highlighted period affects the other options of the periods group. The period that you select affects the number of days listed in the **Available Days** scroll-list. The **In the Following** group changes depending on the period you select.

**Frequency**
The frequency applied to the run cycle. Possible values are:

- **Only** Select this if the rule applies to only one day in the specified period. The rule does not repeat within the period. For example, **Only last Monday in Month** schedules the job stream to run on the last Monday of the month.

- **Every** Select this if the rule is used to calculate more than one day within the period. For example, **Every last Monday in Month** schedules the job stream to run on every last Monday in the month, because this rule generates a series of Mondays starting from the last Monday.

**Shift Origin**
If you use **Every**, you can shift the origin of the run cycle by the number of days you set in **Shift Origin**. You shift the origin of the run cycle with respect to the default origin, which is Monday in the **Week** period, and the first week with at least 4 days in the **Month** and **Year** periods. You can also shift the origin from the end, if you specify a combination of **Every** and ordinal-last days.

**Note:** **Every first day** yields the same run days as **Every day**.

[Figure 11 on page 220](#) illustrates a rule that schedules the job stream to run on the first day of every week where workdays and freddays are both counted.
**Example 1: Rule-based run cycle**

*Figure 12 on page 221* illustrates a rule-based run cycle starting from a Valid Date of November, 04, 2006, and where workdays and freedays are both counted. The number of generated instances is 361. In the right-hand pane, the Calendar shows that the day when the first generated instance occurs is November, 04, 2006. The Run Cycle view shows a message indicating that there are 360 instances that run on each day and one on the following day.
Example 2: Exclusive run cycle

Figure 13 on page 222 illustrates an exclusive run cycle WPREXCEP that prevents job stream TC1CLA from running on the 3rd and 4th Friday of October 2006.
Example 3: Exclusive run cycle defined

Figure 14 on page 223 illustrates a rule defined for the WPREXCEP exclusive run cycle. The selected days are equal to those for the WEEKLYPR run cycle. The week when the job stream must not run is specified in In the following weeks.
Creating offset-based run cycles

To create an offset-based run cycle, perform the following steps:

1. Run a list that contains the job stream you want to modify. See Chapter 36, "Working with lists," on page 199.

2. Double-click the job stream in the list.

3. Click to open the Run Cycle view of the job stream.

4. Click .

The Properties - Offset-based Run Cycle panel displays.
Creating offset-based run cycles

The panel consists of the following:

- “General page”
- “Time Restrictions page” on page 225
- “Offsets page” on page 226

**General page**

Use the General page to enter general information about the run cycle.

The page consists of the following:

**Name**
Automatically generated when you identify the period in the In the Following Period field on the Offsets page.

**Description**
Type a description of the run cycle.

**Rule for Freedays**
Specify how you want Tivoli Workload Scheduler for z/OS to treat freedays when calculating the rundays of the job stream, by selecting one of the following:

- **Count workdays only**
  Excludes freedays when calculating on which days the job stream runs.

- **Schedule on last workday before freeday**
  Counts both workdays and freedays. If the rundown falls on a freeday, it is shifted to the closest workday before the freeday.

- **Schedule on next workday after freeday**
  Counts both workdays and freedays. If the rundown falls on a freeday, it is shifted to the closest workday after the freeday.

- **Count workdays and freedays alike**
  Counts both workdays and freedays. The job stream is...
scheduled on the runday, regardless of whether it is a freeday or a workday. This is the default.

**If freeday, do not schedule at all**
Counts both workdays and freedays. If the runday falls on a freeday, the job stream is not scheduled to run.

**JCL Variable Table**
Type the name of the variable table that the scheduler can use on the days generated by this run cycle. Click ... (find) to search for and select a variable table.

**Exclusive Run Cycle**
Specify the days and times that a job stream cannot be run.

**Valid Date**
Set a time interval for which the run cycle is valid in the From and To range you specify.

**Time Restrictions page**
Use the Time Restrictions page to specify when and for how long the job stream must run.

The page consists of the following:

**Start**
The time at which the job stream must start running. The default is 00:00 of the scheduled day.

**Deadline**
Specify the latest time by which the job stream must complete.

- **At**
  Type a time according to your locale settings. For example, type 12:00 if you want the job stream to end before noon.

- **Delay for days**
  Type a number of days to defer the deadline. For example, if you type 3 the job stream must end three days after the time you specify in At.

**Repeat Option**
Select Specify time when you want to set how frequently a job stream must run. If you select Specify time, specify both a Repeat Every and a Repeat End Time.

- **Repeat Every**
  Type the frequency at which the job stream must run in the format hh mm. For example, if you specify 01 10, the job stream runs every hour and 10 minutes.

- **Repeat End Time**
  Type the end time until which the repeat every option applies in a format specific to your locale settings. It must be a value between one minute after the input arrival time of the run cycle and one minute before the calendar work day end time of the job stream.

After you set the Repeat Option, you can see the following information in the Run Cycle view:

- In the left-hand pane, the Number of Generated Instances column shows the number of instances generated.
- In the right-hand pane, the Calendar shows the day when the first generated instance runs.
- If an instance runs on the following day the Run Cycle view shows a message that indicates the number of instances that run on each day.
Creating offset-based run cycles

Offsets page
Use the Offsets page to define the offsets for the run cycle.

The page consists of the following:

In the Following Period
Type the name of a period or click ... (find) to search for and select a period. The period is also used as the run cycle name.

Available Offsets
The days when you want the job stream to run in the period. Select ordinal last days to count the days from the end of the period. The days you select are displayed in Selected Offsets.

Example 1: Offset-based run cycle
Figure 15 illustrates an offset-based run cycle named PER1. This run cycle schedules job stream PAYRO21 to run on every second day of each cycle, beginning from a Valid date of May 21, 2003.

![Properties - Offset-based Run Cycle](image)

Figure 15. Example 1: Offset-based run cycle

Example 2: Offset-based run cycle defined
Figure 16 on page 227 illustrates the offset for run cycle PER1. The offset is the second day of the user defined period, also named PER1.
Creating offset-based run cycles

Figure 16. Example 2: Offset-based run cycle defined
Adding, modifying, and deleting jobs and dependencies

To add, modify, or delete jobs and dependencies in an existing job stream:

1. Run a job stream list that contains the job stream you want to modify. See Chapter 36, “Working with lists,” on page 199.
2. Double-click the job stream you want to open. The Job Stream Editor opens.

You can perform your tasks using the following options:

- “Modifying a job in the Graph View”
- “Deleting a job or external job”
- “Deleting jobs simultaneously from a job stream”
- “Editing another job stream from an external job” on page 229
- “Removing a dependency between jobs in the Graph View” on page 229

Modifying a job in the Graph View

To modify a job in the Graph View, perform the following steps.

1. Right-click the job and select Properties from the pop-up menu.

   **Note:** If any of the job icons in the Graph view display a superimposed question mark, this is an indication that the definition of the workstation associated with the particular job cannot be found in the database. If job label displays (Not Found), an external job is missing because the job or the job stream to which it belongs was deleted.

2. Change the settings as necessary. See “Creating a job” on page 150.
3. Click Save.

Deleting a job or external job

To delete a job or external job from the job stream, perform the following steps:

1. Right-click the job or external job and select Delete from the pop-up menu, or click Delete in the toolbar.
2. Click OK in the confirmation window. The job is deleted from the job stream.

   **Note:** You can use the Undo Delete option in the same pop-up menu or in the toolbar of the Graph view to put the job back in the job stream. This option is valid until you save the job stream. A job stream must have at least one job.

3. Click Save.

Deleting jobs simultaneously from a job stream

To delete jobs simultaneously from the job stream, perform the following steps:

1. Click the

   ![Explorer View Editor](image)

   The Explorer View Editor opens.
2. In the Table View select the jobs you want to delete.
3. Rick-click and select Delete from the pop-up menu.
4. Click OK in the confirmation window. The jobs are deleted from the job stream.
5. Click Save.
Editing another job stream from an external job

To open a second Job Stream Editor and edit the job stream to which an external job belongs, perform the following steps:

1. Right-click the external job and select Edit ➤ External Job Stream. An additional Job Stream Editor panel displays.
2. Use the job stream editor views to work on the job stream and its components.

Removing a dependency between jobs in the Graph View

To remove a dependency between jobs in the Graph View, perform the following steps:

1. Right-click the line that represents the dependency. The line becomes red and a pop-up menu opens.
2. Select Delete from the pop-up menu. A confirmation panel displays.
3. Click OK in the confirmation panel. The dependency is removed.
4. Click Save.

Viewing and modifying time restrictions

The Timeline view of the Job Stream Editor shows the time restrictions of the jobs and run cycles of a job stream. You can modify the time restrictions of a job or of a run cycle in the same way you created them, by using either the Job Properties panel of the Graph view, or the Run Cycle Properties panel of the Run Cycle view.

In addition, you can view and modify time restrictions for more than one run cycle and more than one job in the Timeline view.

Changing time restrictions in the Timeline View

To change time restrictions in the Timeline View, perform the following steps:

1. Run a list of job streams that contains the job stream you want to modify. See Chapter 36, “Working with lists,” on page 199.
2. Double-click the job stream.
   The Job Stream Editor opens.

3. Click .
   The Timeline View opens.

The left-hand pane of the Timeline View displays the following job stream instance details:
Changing time restrictions in the Timeline View

The right-hand pane has activity bars that show the actual run time if the instances have begun, as well as the specified time restrictions for the instances.

By moving components of the activity bars, you can change the time restrictions of each instance and view the results of your changes, as you would by following the steps described in "Browsing and modifying job stream instances" on page 273 and going directly to the Time Restrictions tab of the Properties - Job Stream Instance panel.

The activity bar shows the runtime of a job stream instance in terms of the start and deadline times that were specified as time restrictions for the job stream. The deadline is indicated by a vertical black stripe at the end of the blue activity bar. As the instance starts, a horizontal black line unfolds inside the activity bar to show the actual runtime.

You can change the time restrictions of an instance that has yet to run, or that is running by performing one of the following operations:

- "Changing the instance"
- "Rescheduling the start time" on page 231
- "Rescheduling the deadline time" on page 231

Changing the instance

To change the instance, perform the following steps:

1. Move the activity bar by positioning the mouse pointer inside the bar and, when the pointer becomes cross-shaped, hold down the left mouse button while moving the bar in either direction.

   As you move the bar, a tooltip tells you the new deadline time at every position of the right end of the bar.
2. When you find the position you want, release the mouse button. The Properties - Job Stream Instance panel displays, showing the new start and deadline times.

**Rescheduling the start time**

To reschedule the start time, perform the following steps:

1. Position the mouse pointer on the left end of the bar. When the pointer becomes pointer becomes cross-shaped, hold down the left mouse button while moving the end of the bar. As you move your mouse, a tooltip tells you the corresponding start time at every new position of the left end of the bar.

2. When you find the position you want, release the mouse button. The Properties - Job Stream Instance panel displays, showing the new start time.

**Rescheduling the deadline time**

To reschedule the deadline time, perform the following steps:

1. Position the mouse pointer on the right end of the bar. When the pointer becomes cross-shaped, hold down the left mouse button while moving the end of the bar. As you move your mouse, a tooltip tells you the corresponding deadline time at every new position of the right end of the bar.

2. When you find the position you want, release the mouse button. The Properties - Job Stream Instance panel displays, showing the new deadline time.

---

**Using the copy function to add an external job**

You can use the copy function on a listed job stream to add any of the jobs that comprise it as external jobs to another job stream, as described in the following example:

1. Run a job stream list that contains the job stream you want to manage. See Chapter 36, “Working with lists,” on page 199.

2. Right-click a job stream and select **Open**. The Job Stream Editor opens.

3. Right-click another job stream in the list and select **Copy** from the pop-up menu.

4. Go to the Job Stream Editor where the first job stream is open.

5. Right-click anywhere in the panel and select **Paste** from the pop-up menu.

6. In the Properties - External Job panel, select **Show jobs**. All the jobs that comprise the second job stream are displayed.

7. Select the job or jobs that you want to add as external jobs of the first job stream.

8. Click **OK** to close the Properties - External Job panel. Icons for the added jobs are displayed in the **Graph** view of the first job stream.

**Note:** You can use **Add Link** to define dependencies between the jobs in the Job Stream Editor. For more information, see “Creating dependencies between job streams” on page 214.
Changing time restrictions in the Timeline View
Chapter 40. Managing distributed job streams

This chapter describes how to modify distributed job streams. It is divided into the following sections:

- “Adding external dependencies to a job stream in the Graph View”
- “Adding external dependencies to a job stream in the Explorer View” on page 235
- “Adding a job to a job stream in the Graph View” on page 236
- “Adding a job to a job stream in the Explorer View” on page 240
- “Using the copy function to add an external job to a job stream” on page 241
- “Adding an internetwork dependency to a job in the Graph View” on page 242
- “Adding an internetwork dependency to a job in the Graph View” on page 242
- “Adding an external job stream to a job stream” on page 242
- “Adding an external job to a job stream” on page 243
- “Creating dependencies between jobs in a job stream” on page 244
- “Adding run cycles to a job stream” on page 245
- “Deleting external dependencies from a job stream” on page 249
- “Deleting run cycles from a job stream” on page 250
- “Deleting jobs simultaneously from a job stream” on page 250
- “Checking time restrictions in the Timeline View” on page 250

Adding external dependencies to a job stream in the Graph View

To add external dependencies to a job stream, perform the following steps:

1. Run a list of job streams that contains the job stream you want to modify. See Chapter 36, “Working with lists,” on page 199.

2. Double-click the job stream in the list. The Job Stream Editor opens.

3. Select External Dependencies from the File menu. The Job Stream External Dependencies panel displays.
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From the drop-down list, select whether to:

- “Add an external job stream dependency”
- “Add an internetwork dependency”
- “Add an external job dependency”

Add an external job stream dependency

To add an external job stream dependency, perform the following steps:

1. Click \[+\].
2. Double-click in the **Job Name** column of the new row.
3. Click ... (find) to search for and select a job stream. The following information displays:
   
   **Job Stream Name**
   The name of the external job stream on which the job stream depends.

   **Workstation**
   The name of the workstation the job stream on which the job stream depends, is defined to run on.

   **Dependency Resolution**
   The dependency resolution criteria used for resoling dependencies. See "Dependency Resolution page" on page 163.

Add an internetwork dependency

To add an internetwork dependency, perform the following steps:

1. Click \[+\].
2. Double-click in the **Network Agent** column of the new row.
3. Click ... (find) in the **Network Agent** column to search for and select the name of the network agent. Internetwork dependencies require that a network agent is configured to communicate with the external scheduler network. For information about configuring a network agent, refer to the Tivoli Workload Scheduler: Reference Guide.
4. Double-click the **Dependency** cell enter either a dependency, or the job or job stream predecessor in the form workstation#jobstream.job.

Add an external job dependency

To add an external job dependency, perform the following steps:

1. Click \[+\].
2. Double-click in the **Job Name** column of the new row.
3. Click the ... (find) in the **Job Name** column to search for and select a job.

   **Job Name**
   The name of the job on which the job stream depends.

   **Job Stream Name**
   The name of the job stream that contains the job.

   **Job Stream Workstation Name**
   The name of the workstation the job stream containing the job, is defined to run on.
Dependency Resolution

The dependency resolution criteria used for resoling dependencies. See “Dependency Resolution page” on page 163.

Adding external dependencies to a job stream in the Explorer View

To add external dependencies to a job stream in the Explorer View, perform the following steps:

1. Run a list of job streams that contains the job stream you want to modify. See Chapter 36, “Working with lists,” on page 199.
2. Double-click the job stream in the list.
   The Job Stream Editor opens.

3. Click .
   The Explorer View opens.

4. Select the job in the Table View and click Predecessors in the Properties pane.
5. Click .
6. Select External from the Dependency Type column.
7. Double-click in the Job Stream column and click ... (find) to search for and select the job stream.
8. Double-click in the Job Name column and click ... (find) to search for and select the job.
9. Double-click in the Workstation column and click ... (find) to search for and select the workstation.
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10. Select how the dependencies of the job stream are resolved in the Dependency Resolution column.

Note: When you add dependencies in the Explorer View, you work with the links of the dependency and not the with the graphic icon in the Graph View. To remove the icon, switch to the Graph View and use the delete function.

Adding a job to a job stream in the Graph View

To add a job to a job stream in the Graph View, perform the following steps:
1. Run a list of job streams that contains the job stream you want to manage. See Chapter 36, “Working with lists,” on page 199.
2. Double-click the job stream in the list. The Job Stream Editor opens.
3. Click to open the Graph View.
4. Click in the toolbar.

The Properties - Job panel displays.

The panel consists of the following:
- “General page” on page 237
- “Time Restrictions page” on page 237
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- “Resources page” on page 239
- “Files page” on page 239
- “Prompts page” on page 239

General page

Use the General page to add general information about the job.

The page consists of the following:

Name  The name of the job. If you do not specify it the default is the name of the job definition.

Job Definition  The name of an existing job definition. Click ... (find) to search for and select a job definition.

Workstation Name  The workstation the job is defined to run on.

New  Click New to create a new job definition to add to the job stream.

Edit  Click Edit to edit the properties of an existing job definition.

Description  A description of the job definition.

Priority  The priority of the job. Type a priority value or click:
- Hold  Sets the priority to zero.
- High  Sets the priority to 100.
- Go  Sets the priority to 101.

Possible priority values are 0 through 101, where 101 is the highest priority. A priority value of zero prevents the job from launching.

Requires Confirmation  The job completion must be confirmed by the operator. When a job that requires confirmation completes, it remains in PEND until confirmation is received. Job and job stream successors are not released until confirmation is received. If confirmation is received before the job completes, its internal status is either SUCCP or ABENDP and other job and job stream successors are not released until the job completes. When the job completes its internal status is either SUCC or ABEND.

Monitored Job  The running of this job must be monitored by Tivoli Business Systems Manager. Changes to the monitored job status are not displayed in the job stream properties until you close and reopen the job stream.

Time Restrictions page

Use the Time Restrictions page to specify the time constraints for the job.

The page consists of the following:

Time Zone  The time zone of the job time restrictions. This list is available only if time zone support is enabled. For information about enabling the time zone, refer to Tivoli Workload Scheduler: Planning and Installation Guide.

Start  The time before which the job must not start.
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Specify Time
Select Specify Time when you want to set a start time for the job.

Time Dependent
The job has a time dependency. When you do not specify that the job is time dependent, the Start time indicates the time when the job is entered into the plan. This check is enabled only if you select Specify Time.

At
The time before which the job must not start. The time format is according to your locale.

Delay for Days
The number of days to offset the start time from the day the job is selected for inclusion in the production plan.

Latest Start Time
The latest time at which the job is allowed to start.

Specify Time
Select Specify Time when you want to set a latest start time for the job.

Delay for Days
The number of days to offset the latest start time from the day the job is selected for inclusion in the production plan.

Action
The action to be performed in case the job does not start and the Latest Start Time expires.

Suppress
To specify that the job does not start, even if the error condition that prevented it from starting is corrected, and dependencies are not released. Suppress is the default.

Continue
To specify that the job starts when the error condition that prevented it from starting is corrected.

Cancel
To specify that the job is cancelled and dependencies are released.

Termination Deadline
The time by which the job must complete. Jobs that have not yet started or that are still running when the deadline time expires, are considered late in the plan. The termination deadline does not prevent jobs from starting.

Specify Time
Select Specify Time when you want to set a deadline time for the job.

Delay for Days
The number of days to offset the deadline time from the day the job is selected for inclusion in the production plan.

Repeat Range
The interval of time in Hours and Minutes for each job run to be repeated. Using the Repeat Range information with the Start and Termination Deadline times allows you to run a job instance, for example every 15 minutes from 1:00 p.m. to 5:00 p.m.

Normal Elapsed Time
The estimated average time the job needs to run based on previous runs.
Resources page

To add a resource dependency for the job, perform the following steps:

1. Click \( \text{+} \).
2. Double-click in the Resources cell and click \( \ldots \) (find) to search for and select a resource.
3. Double-click in the Workstation cell to type the name of the workstation where the resource resides.
4. Double-click in the Quantity cell and enter the number of resource units required by the job. The number of jobs and schedules using a resource at any one time cannot exceed 32.

To remove a resource dependency for the job, select the resource row in the list and click \( \times \).

Files page

To add a file dependency for the job, perform the following steps:

1. Click \( \text{+} \).
2. Double-click in the Filename cell and click \( \ldots \) (find) to search for and select a file. You can search for a file only if it resides on the workstation where the Job Scheduling Console resides.
3. Double-click in the Workstation cell to search for and select a workstation.
4. Double-click in the Qualifiers column and enter the test conditions for the file dependency. On UNIX, the valid qualifiers are the same as UNIX test command conditions. For more information, refer to your UNIX system documentation.

For a list of the Windows qualifiers, see "Files page" on page 166.

On both UNIX and Windows, the expression \( \%p \) inserts the file name. Entering `notempty` is the same as entering `-s \%p`. If no qualifier is specified, the default is `-f \%p`.

To remove a file dependency for the job, select the file row in the list and click \( \times \).

Prompts page

Use the Prompts page to set ad hoc or predefined prompt dependencies for the job.

To add an ad hoc prompt for the job, perform the following steps:

1. From the drop-down list, select Ad Hoc Prompt.
2. Click \( \text{+} \).
3. Double-click in the Text cell and type the text of the prompt. The default behavior of a prompt is to display a message and wait for a reply. Based on the character preceding the text, the prompt can behave differently:
   - If the text begins with a colon (:), the prompt displays, but no reply is required to continue processing.
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- If the text begins with an exclamation mark (!), the prompt displays, but it is not recorded in the log file.

Refer to the Tivoli Workload Scheduler: Reference Guide for a detailed explanation on how to specify the text of a prompt.

You can include one or more scheduler parameters as part or all of the text string. To use a parameter, place its name between carets (^).

To add a predefined prompt for the job, perform the following steps:
1. From the drop-down list, select Predefined Prompt.
2. Click .
3. Type the name of the prompt in the Name cell or click ... (find) to search for and select the prompt. The Text cell displays the text of the predefined prompt message. This field is read-only.

To remove a prompt dependency for the job, select the prompt row in the list and click .

Adding a job to a job stream in the Explorer View

To add a job to a job stream using the Explorer View, perform the following steps:
1. Run a list of job streams that contains the job stream you want to manage. See Chapter 36, “Working with lists,” on page 199.
2. Double-click the job stream in the list.
   The Job Stream Editor opens.
3. Click to open the Explorer View.
4. Click in the toolbar.

The Properties - Job panel displays.
The panel consists of the following:

- “General page” on page 237
- “Time Restrictions page” on page 237
- “Resources page” on page 239
- “Files page” on page 239
- “Prompts page” on page 239

**Note:** You can also add multiple jobs to a job stream using the copy function. When you add multiple jobs you can edit their properties one at a time.

### Using the copy function to add an external job to a job stream

To use the copy function to add an external job to a job stream, perform the following steps:

1. Run a list that contains the job stream you want to modify. See Chapter 36, “Working with lists,” on page 199.
2. Right-click a job stream and select Open. The job stream opens in the Graph view of the job stream editor.
3. Right-click another job stream in the list and this time select Copy from the pop-up menu.
4. Go to the job stream editor where the first job stream is open.
5. Right-click anywhere in the window and select Paste from the pop-up menu.
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6. In the Dependencies Properties - External Job panel, select Show jobs. All the jobs that comprise the second job stream are displayed.

7. Select the job that you want to add as an external job of the first job stream.

8. Click OK to close the Properties - External Job panel. Icons for the added jobs are displayed in the Graph view of the first job stream.

**Note:** You must use Add Link to define dependencies between the jobs in the job stream editor. For more information, see “Adding external dependencies to a job stream in the Graph View” on page 233.

Adding an internetwork dependency to a job in the Graph View

To add an internetwork dependency, perform the following steps:

1. Run a list that contains the job stream you want to modify. See Chapter 36, “Working with lists,” on page 199.

2. Double-click the job stream that you want to modify. The Job stream Editor opens.

3. Click to open the Graph View.

4. Click Add Dependency on Internetwork in the toolbar. The Internetwork Dependency panel displays.

5. Click .. (find) to search for and select a network agent.

6. In Dependency, specify either the dependency, or the job or job stream predecessor in the format workstation#jobstream.job. The maximum length of this field is:
   - 16 for the workstation
   - 16 for the job stream
   - 40 for the job

**Note:** You must use Add Link to define dependencies between the jobs in the job stream editor. For more information, see “Adding external dependencies to a job stream in the Graph View” on page 233.

For information about using an internetwork dependency as a predecessor, see “Creating dependencies between jobs in a job stream” on page 244.

Adding an external job stream to a job stream

You add external job streams to a job stream to create predecessors for the jobs in the job stream you are editing.

To add an external job stream, perform the following steps:

1. Run a list that contains the job stream you want to modify. See Chapter 36, “Working with lists,” on page 199.

2. Double-click the job stream that you want to modify. The Job stream Editor opens.

3. Click to open the Graph View.

4. Click Add Dependency on External Job Stream in the toolbar. The External Job Stream Dependency panel displays.
5. Click ... (find) to search for and select the workstation on which the job stream runs.

6. Click **Show Job Streams** to list the job streams that run on the workstation.

7. Select a job stream from the list.

8. Add a link between the external job stream and its successor jobs.

For information about using an external job stream as a predecessor, see “Creating dependencies between jobs in a job stream” on page 244.

---

**Adding an external job to a job stream**

You add external jobs to a job stream to create predecessors for the jobs in the job stream you are editing. A predecessor must complete successfully before the successor job is launched.

You add external jobs in a job stream using the **Graph** view of the job stream editor. For more information, see Chapter 40, “Managing distributed job streams,” on page 233.

To add an external job, perform the following steps:

1. Run a list that contains the job stream you want to modify. See Chapter 36, “Working with lists,” on page 199.

2. Double-click the job stream that you want to modify. The Job stream Editor displays.
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3. Click Add Dependency on External Job in the toolbar. The External Job Dependency panel displays.

4. Click ... (find) to search for and select the job stream in which the job runs.

5. Click Show Jobs to list the jobs in the selected job stream that run on the selected workstation.

6. Select a job in the list.

7. Add a link between the external job and its successor jobs.

For information about using an external job as a predecessor, see “Creating dependencies between jobs in a job stream.”

Creating dependencies between jobs in a job stream

You can add dependencies between jobs to specify the order in which they run. A job that depends on the successful completion of another job is called a successor and the job or job stream that it depends on is called a predecessor.

You add dependencies between jobs in the Graph view of the job stream editor. For more information, see Chapter 40, “Managing distributed job streams,” on page 233. The dependencies are represented by arrows.
To add a dependency between jobs, perform the following steps:

1. Run a list that contains the job stream you want to modify. See Chapter 36 “Working with lists,” on page 199.
2. Double-click the job stream that you want to modify. The Job stream Editor displays.
3. Click Add Link in the toolbar.
4. Click the predecessor job or job stream and drag it to the successor job. When you release the mouse button, an arrow is drawn from the predecessor to the successor.

Notes:
1. Internetwork dependencies, external jobs, and external job streams cannot be successors.
2. Internetwork dependencies, external jobs, and external job streams that are not linked are not saved when the Job Stream Editor is closed.

To remove a dependency between jobs, select the arrow between the predecessor and the successor, then right-click the arrow and select Delete from the pop-up menu.

Adding run cycles to a job stream

You specify run cycles using the Job Stream Editor. To do this, perform the following steps:

1. Run a list that contains the job stream you want to modify. See Chapter 36 “Working with lists,” on page 199.
2. Double-click the job stream that you want to modify. The Job Stream Editor displays.
3. Click .

The Run Cycle View displays.
4. Click 📰. The Run Cycle panel displays.

![Run Cycle panel](image)

The panel consists of the following:
- “Rule page”
- “Time Restrictions page” on page 248

**Rule page**

Use the Rule page to set rules for the run cycle.

The page consists of the following:

**Name**
Type a name for the run cycle that you are creating.

**Description**
Type a description for the run cycle that you are creating.

**Starting**
The date at which the run cycle begins. The default is the current date.

**Ending**
The date at which the run cycle ends.

**Rule for freedays**
Select the rule to follow on free days. Possible values are:
- **None**
  Follow no rule. Run the job stream regardless of whether the schedule falls on a freeday or on a workday.
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If freeday, do not select
If the scheduled date falls on a freeday, do not run the job stream.

Select nearest workday before freeday
If the scheduled date falls on a freeday, run the job stream on the preceding workday.

Select nearest workday after freeday
If the scheduled date falls on a freeday, run the job stream on the following workday.

Inclusive
Select when the run cycle is to include the days set.

Exclusive
Select when the run cycle is to exclude the days set.

Type
Select the type of run cycle you are creating. Possible values are:
• “Simple run cycles”
• “Calendar run cycles”
• “Daily run cycles”
• “Weekly run cycles” on page 248
• “Monthly by date run cycles” on page 248
• “Monthly by day run cycles” on page 248
• “Yearly run cycles” on page 248

Simple run cycles

Note: It is not possible to create simple run cycles without using a mouse. If you need to create a run cycle and do not have access to a mouse, create another type of run cycle.

When you select to create a Simple run cycle, the Type data consists of the following:

Month
Select Month to set dates for your simple run cycle by month.

Year
Select Year to set dates for your simple run cycle by year.

Calendar run cycles

When you select to create a Calendar run cycle, the Type data consists of the following:

Calendar
Type the name of the calendar, or click ... (find) to search for and select the calendar.

Offset
Specify the offset for the run cycle. You can specify a negative or a positive offset, whether the offset should include all Days, Workdays only, or Weekdays only.

Daily run cycles

When you select to create a Daily run cycle, the Type data consists of the following:

Frequency
Specify the frequency of the run cycle as days, such as Every 3 Days.

On
Specify the types of day the run cycle is run. Possible values are:
• Everyday
• Workdays
• Freedays

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**Weekly run cycles**
When you select to create a Weekly run cycle, the Type data consists of the following:

**Frequency**
Specify the frequency of the run cycle in weeks, such as Every 3 Weeks.

**On**
Specify the day of the week.

**Monthly by date run cycles**
When you select to create a Monthly by Date run cycle, the Type data consists of the following:

**Frequency**
Specify the frequency of the run cycle in months, such as Every 3 Months.

**On the (ascending order)**
Specify the numeric day of the month when the run cycle runs in ascending order: 1st day, 2nd day, and so on.

**On the (descending order)**
Specify the numeric day of the month when the run cycle runs in descending order: Last day, 2nd last day, and so on.

**Monthly by day run cycles**
When you select to create a Monthly by Day run cycle, the Type data consists of the following:

**Frequency**
Specify the frequency of the run cycle in months, such as Every 3 Months.

**On the (ascending order)**
Specify the day of the month in days when the run cycle runs in ascending order: 1st Sunday, 2nd Sunday, and so on.

**On the (descending order)**
Specify the day of the month in days when the run cycle runs in descending order: Last Sunday, 2nd last Sunday, and so on.

**Yearly run cycles**
When you select to create a Yearly run cycle, the Type data consists of the following:

**Frequency**
Specify the frequency of the run cycle in years, such as Every 2 Years.

**Time Restrictions page**
The page consists of the following:

**Time Zone**
The time zone set in the job stream properties panel. This list is available only if time zone support is enabled. For information about enabling the time zone, refer to *Tivoli Workload Scheduler: Planning and Installation Guide*.

**Start**
The time before which the job stream must not start.

- **Specify time**
  Select Specify time when you want to set a start time for the job stream.

- **Time dependent**
  Select Time dependent when the job stream is time dependent. This check is enabled only if you select Specify Time.
Managing distributed job streams in the database

At
The time before which the job stream must not start. The time format is according to your locale.

Delay for Days
The number of days to offset the start time from the day the job stream is selected for inclusion in the production plan.

Latest Start Time
The latest time at which the job stream is allowed to start.

Specify Time
Select Specify Time when you want to set a latest start time for the job stream.

Delay for Days
The number of days to offset the latest start time from the day the job stream is selected for inclusion in the production plan.

Action
The action to be performed in case the job stream does not start and the Latest Start Time expires.

Suppress
To specify that the job stream does not start, even if the error condition that prevented it from starting is corrected, and dependencies are not released. Suppress is the default.

Continue
To specify that the job stream starts when the error condition that prevented it from starting is corrected.

Cancel
To specify that the job stream is cancelled and dependencies are released.

Termination Deadline
The time by which the job stream must complete. Job streams that have not yet started or that are still running when the deadline time expires, are considered late in the plan. The termination deadline does not prevent job streams from starting. Possible values are:

Specify Time
Select Specify Time when you want to set a deadline time for the job stream.

Delay for Days
The number of days to offset the deadline time from the day the job stream is selected for inclusion in the production plan.

Deleting external dependencies from a job stream
Job streams can be dependent on the successful running of other job streams, jobs in other job streams, and jobs or job streams in other Tivoli Workload Scheduler networks (internetwork dependencies). These external dependencies are also called predecessors.

To delete external dependencies for a job stream, perform the following steps:
1. Run a list that contains the relative job stream. See Chapter 36, “Working with lists,” on page 199.
2. Double-click the job stream. The Job Stream Editor displays.
3. Select External Dependencies from the File menu. This displays the Job Stream External Dependencies panel.
Managing distributed job streams in the database

4. Select **External Job Stream**, **Internetwork**, or **External Job** from the drop-down menu.
5. Click the row of the dependency in the list you want to delete and click **Delete Row**.

Deleting run cycles from a job stream

To delete a run cycle from a job stream, perform the following steps:

1. Run a list that contains the relative job stream. See [Chapter 36, “Working with lists,” on page 199](#).
2. Double-click the job stream. The Job Stream Editor displays.
3. Click . The Run Cycle view displays.
4. Select the run cycle you want to delete from the job stream.
5. Click **Delete**. If the run cycle was a calendar it is deleted from this job stream, but it is not deleted from the database and can still be used by other job streams.

Deleting jobs simultaneously from a job stream

To delete jobs simultaneously from the job stream, perform the following steps:

1. Run a list that contains the relative job stream. See [Chapter 36, “Working with lists,” on page 199](#).
2. Double-click the job stream. The Job Stream Editor displays.
3. Click the [Explorer View](#). The Explorer View Editor displays.
4. In the Table View select the jobs you want to delete
5. Right-click and select **Delete** from the pop-up menu.
6. Click **OK** in the confirmation window. The jobs are deleted from the job stream.
7. Click **Save**.

Checking time restrictions in the Timeline View

The **Timeline** view of the Job Stream Editor shows graphically the time restrictions of the jobs and run cycles of a job stream in the database. While you create a job stream, the **Timeline** view helps you to ensure that the time dependencies you specified are correct and coherent. The view can point out inconsistencies between the time restrictions of jobs and those of run cycles. It can also show if there are inconsistencies within the time restrictions of individual jobs.

To open the **Timeline** view of a job stream, click **Timeline** in the toolbar of any of the other views of the Job Stream Editor.

The **Timeline** view displays.
The panel has four panes. You can size the panes by dragging the horizontal and vertical lines that divide the panel. The left half of the window lists the job stream run cycles in the top pane, and the job stream jobs in the lower pane.

**Activity bars**

The right half of the window contains activity bars that represent, on a daily and hourly scale, the time restrictions defined for every run cycle and job. You can customize the timescale in the following way:

1. Right-click anywhere along the lower scale. A pop-up menu displays.
2. Move your pointer to **Timescale** to display available choices.
3. Select the radio button that matches your preference.

**Table frame**

The left half of the window contains columns that display the following information:

- A warning button for inconsistencies in time restrictions. This button marks a run cycle when Tivoli Workload Scheduler for z/OS detects that there are jobs with time restrictions outside the time restrictions of the run cycle.
- The run cycle name or job identifier.
- The expected start and deadline times of the run cycle or job.
- The expected duration of the job.

**Time restrictions**

In the upper right pane, the run cycle time restrictions are displayed by a blue bar that represents the time interval from the start to the deadline of the run cycle. The deadline is indicated by a vertical black line at the end of the blue bar. You can change the start and the deadline by dragging the left and right ends of the two bars, or by dragging the whole activity bar. As you move the bar, an indicator displays the selected time.
Checking time restrictions

Note: The run cycle time restrictions inherited from a template are displayed in read-only mode. To modify them, you have to open the Job Stream Editor window of the specific template.

Time restrictions for a job are shown by a thick blue bar that represents the time interval from the start to the deadline of the job, and by a thinner, light blue line that represents the expected duration. You can move the interval of time between the start and the deadline times of the job by dragging either end of the thicker bar (or the whole bar). You can only move the right end of the thinner bar because the start position is calculated automatically based on the job dependencies. The job deadline is indicated by a black vertical line. If a job has no specified deadline, the thick bar is replaced by a vertical stripe indicating the start. You can only move it forward or backward. To specify a deadline for the job, you have to double-click the job in the upper left pane and open a Time Restrictions page.

Other tasks

In the Timeline view you can also perform the following activities:
- View the earliest start time of the first job and latest deadline time for the last job to see the total run time of the job stream.
- Click a run cycle to see how it affects the jobs that start with the job stream. The activity bars for jobs that start with the job stream change position when you select different run cycles.
- Open the Time Restrictions page of a Run Cycle Properties panel or of a Job Properties panel by double-clicking on a run cycle or job in the Table frame.
- Change the earliest start time, duration, and deadline time of a job by moving different components of the activity bar. In the same way, you can change the earliest start time and deadline of a run cycle.
- See which jobs start according to the start time of the job stream, and how those jobs are affected by various rules.
Chapter 41. Managing resources

This chapter describes how you manage resources in the database. To display and modify the properties of a resource, perform the following steps:

1. Run a list of resources that contains the resource you want to manage. See Chapter 36, “Working with lists,” on page 199.

2. In the list results, double-click the resource you want to modify or right-click the resource and select Properties from the pop-up menu. The Properties - Resource in Database panel displays.

3. Make your changes. See “Creating a z/OS resource” on page 121 and “Creating a distributed resource” on page 125.
Chapter 42. Managing job definitions

This chapter describes how you manage job definitions in the database. It consists of the following sections:

- "Displaying and modifying job definitions"
- "Displaying job definition details"

Displaying and modifying job definitions

To display a job in the database, perform the following steps:

1. Run a list of jobs that contains the job you want to display. See Chapter 36, “Working with lists,” on page 199.

2. In the list results, double-click the job you want to display or right-click on the job and select Properties from the pop-up menu.
   This displays the job in the Properties - Job Definition panel.

3. Make your changes. See “Adding a job to a job stream in the Graph View” on page 236.

Displaying job definition details

To display job details in the database, perform the following steps:

1. Run a list of jobs that contains the job you want to display. See Chapter 36, “Working with lists,” on page 199.

2. In the list results, right-click the job you want to display and select Job Details from the pop-up menu.
   The Details for Job panel displays.
   The panel consists of the following:

   Logon         The user logon for the workstation where the job runs.

   Description   A description of the job.

   Script File   The name of the job script file.

   Options       The job recovery options. Possible values are:
                   - Stop
                   - Continue
                   - Rerun

   Job           The name of the recovery job for the job.

   Prompt        The prompt for the recovery job.

   Total Runs    The total number of times the job has run.

   Aborted Runs  The total number of job runs that ended in error.

   Successful Runs The total number of job runs that ended in success.

   Total CPU Time The total CPU time of the job.

   Total Elapsed Time The total elapsed time of the job.
Displaying job definition details

**Normal Elapsed Time**
The average elapsed time based on previous runs of the job.

**Run Date**
The date of the last job run.

**CPU Time**
The last minimum and maximum CPU times for the job.

**Elapsed Time**
The last minimum and maximum times for the job.
Chapter 43. Managing workstation classes

This chapter describes how you manage workstation classes. You can specify workstation classes for distributed engines only. To display and modify the properties of a workstation class, perform the following steps:

1. Run a list of workstation classes that contains the workstation class you want to manage. See Chapter 36, “Working with lists,” on page 199.

2. In the list results, double-click the workstation class you want to display or right-click the workstation class and select Properties from the pop-up menu. The Properties - Workstation Class in Database panel displays.


4. Click OK.
Chapter 44. Managing domains

This chapter describes how you manage domains. You can specify domains for distributed engines only. To display and modify the properties of a domain, perform the following steps:

1. Run a list of domains that contains the domain you want to display. See Chapter 36, “Working with lists,” on page 199.

2. In the list results, double-click the domain you want to display or right-click the domain and select Properties from the pop-up menu.

   The Properties - Domain panel displays.


4. Click OK.
Chapter 45. Managing Windows users

This chapter describes how you manage Windows users. You can specify Windows users for distributed engines only. To display and modify the properties of a Windows user, perform the following steps:

1. Run a list of users that contains the Windows user you want to manage. See Chapter 36, “Working with lists,” on page 199.
2. In the list results, double-click the Windows user you want to display or right-click on the Windows user and select Properties from the pop-up menu. The Properties - Windows User panel displays.
Chapter 46. Managing calendars

This chapter describes how you manage calendars. You can specify calendars for distributed engines only. To display and modify the properties of a calendar, perform the following steps:

1. Run a list of calendars that contains the calendar you want to manage. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the calendar and select Properties from the pop-up menu. The Properties - Calendar panel displays.
3. Make your changes. See “Creating a calendar” on page 133.
Chapter 47. Managing prompts

This chapter describes how you manage prompts. You can specify prompts for distributed engines only. To display and modify the properties of a prompt, perform the following steps:

1. Run a list of prompts that contains the prompt you want to manage. See Chapter 36, “Working with lists,” on page 199.

2. In the list results, double-click the prompt you want to display or right-click the prompt and select Properties from the pop-up menu. The Properties - Prompt panel displays.

Chapter 48. Managing parameters

This chapter describes how you manage parameters. You can specify parameters for distributed engines only. To display and modify the properties of a parameter, perform the following steps:

1. Run a list of parameters that contains the parameter you want to manage. See Chapter 36, “Working with lists,” on page 199.

2. In the list results, double-click the parameter you want to display or right-click the parameter and select Properties from the pop-up menu. The Properties - Parameter panel displays.

Part 7. Managing plans
Chapter 49. Managing z/OS job stream instances

This chapter explains how to manage z/OS job stream instances in the plan. It is divided into the following sections:

- “Submitting a job stream”
- “Browsing and modifying job stream instances” on page 273
- “Rerunning a job stream instance” on page 274
- “Deleting jobs simultaneously from a job stream instance” on page 274

As well as the actions listed above, you can perform the following actions using the pop-up menu:

- Set to Complete
- Set to Waiting
- Set All Jobs Monitored
- Unset All Jobs Monitored

Submitting a job stream

To submit an existing job stream into the plan, perform the following steps:

1. In the Actions list, select Submit ▶ Job Stream.
2. Select a z/OS engine.
   The Submit Job Stream panel displays.
Managing z/OS job stream instances in the plan

The panel consists of the following:

Job Stream Name
The name of the job stream. You can use ... (find) to search for and select the job stream.

Properties
Click Properties to change the properties of the job stream you are submitting. Properties are:

Priority
The priority of the job stream. The lowest priority is 1 and the highest priority is 9. A job stream with a priority of 3 runs before a job stream with a priority of 1 when they share resources or workstations. This value can be overridden by other factors, such as resource and workstation dependencies. This field does not apply to job stream templates.

JCL Variable Table
The name of the variable table that the scheduler can use on the days generated by this run cycle.
Managing z/OS job stream instances in the plan

**Owner**
The name of the person responsible for the job stream.

**Owner Description**
A brief description of the job stream owner.

**Authority Group Name**
The name used to generate a RACF resource name for authority checking.

**Job Stream Template**
The name of the job stream template to which the job stream belongs.

**Description**
A brief description of the job stream.

**Start**
The Date and Time when the job stream is scheduled to run. The default Engine Time Zone is that of the current Job Scheduling Console. You can modify it in the Settings tab of the engine properties or the Job Scheduling Console properties panels. After you modified the Properties of a job stream, you cannot modify the Scheduled Time.

**Deadline**
The latest Date and Time when the job stream can end. The defaults are the values in the first run cycle. The default Engine Time Zone is that of the current Job Scheduling Console. You can modify it in the Settings tab of the engine properties or Job Scheduling Console properties panels.

**Action Type**
The type of action for the submit. Possible values are:

- **Simple Submit**
  A job stream instance is created and is run when dependencies are satisfied.

- **Submit & Hold**
  A job stream instance is created, all jobs without a predecessor held so that you can modify the job stream at a later interval.

- **Submit & Edit**
  A job stream instance is created and the Job Stream Instance Editor displays to edit the job stream instance. The job stays in hold.

**Dependencies Resolution**
Dependency resolution for the job stream. Possible values are:

- **None**
  No dependency resolution is necessary.

- **Predecessors**
  Predecessor dependencies must be resolved.

- **Successor**
  Successor dependencies must be resolved.

- **All**
  Both predecessor and successor dependencies must be resolved.

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**Browsing and modifying job stream instances**

To browse and modify a job stream instance, perform the following steps:

1. Run a list of job stream instances that contains the job stream instance you want to modify. See Chapter 36, “Working with lists,” on page 199.

2. Right-click the job stream instance you want to modify and select Properties.
   The Properties - Job Stream Instance panel displays.

The panel consists of the following:

- **“General page” on page 274**
Managing z/OS job stream instances in the plan

- “Time Restrictions page”

General page

Most of the fields are read-only. However, you can modify the following settings:
- The name of the table of JCL variables used by the job stream. You can enter or change the name of a table. Click ... (find) to search for and select the variable table.
- The priority level. You can raise it or lower it if the instance has not yet started.
- Job stream template. The name of the job stream template, if any, to which the job stream belongs.

Time Restrictions page

The Time Restrictions page contains the earliest start time and deadline that you specified when you created the job stream. You can change the following time restrictions:

- **Start** The actual start time.
- **Deadline** The planned deadline.

Rerunning a job stream instance

To rerun a job stream instance, perform the following steps:
1. Run a list of job stream instances that contains the job stream instance you want to modify. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job stream instance and select **Rerun** from the pop-up menu. The Job Stream Instance Editor displays.
3. Right-click the job where you want to start the rerun and select **Start From**. A panel displays, showing information about the instance.
4. Click **Use Restart and Cleanup**.
5. Select a step from subset of the steps, excluding the one that you selected, in the following order:
   - **Step Restart** Select this to specify at which point in the JCL the job should restart.
   - **Data Set List** Select this to specify with which data set to restart.
   - **Edit JCL** Select this to edit the JCL for the job. When you click **OK**, the job stream instance is automatically run.
   - **Execute** Select this to run the restart and cleanup without specifying any instructions.

For more information on rerunning jobs, see “Restart and cleanup” on page 307.

Deleting jobs simultaneously from a job stream instance

To delete jobs simultaneously from the job stream instance, perform the following steps:
1. Click the

   ![Image]

   The Explorer View Editor displays.
2. In the Table View select the jobs you want to delete.
3. Right-click and select **Delete** from the pop-up menu.
Managing z/OS job stream instances in the plan

4. Click **OK** in the confirmation window. The jobs are deleted from the job stream instance.

5. Click **Save**.
Managing z/OS job stream instances in the plan
Chapter 50. Managing distributed job stream instances in the plan

This chapter describes how you manage distributed job stream instances in the plan. It is divided into the following sections:

- “Submitting a job stream into the plan”
- “Displaying and changing the properties of a job stream instance” on page 278
- “Displaying and changing the follows dependencies of a job stream instance” on page 285
- “Holding a job stream instance” on page 288
- “Releasing a job stream instance” on page 288
- “Showing predecessors and successors in the Impact View” on page 288
- “Cancelling a job stream instance” on page 288
- “Performing a cancel pending of a job stream instance” on page 288
- “Changing the limit of a job stream instance” on page 289
- “Changing the priority of a job stream instance” on page 289
- “Resubmitting a job stream instance” on page 290
- “Deleting jobs simultaneously from a job stream instance” on page 290

In addition you can perform the following actions using the pop-up menu:

- Select all Jobs for Monitoring
- Deselect all Jobs for Monitoring

Submitting a job stream into the plan

To submit a job stream that already exists in the database into the plan, perform the following steps:

1. In the Actions list pane, select Submit.
2. Click Job Stream and select an engine.

The Submit Job Stream into Plan panel displays.
Managing distributed job stream instances

The panel consists of the following:

- **Job Stream**
  The name of the job stream you want to submit into the plan.

- **Workstation Name**
  The name of the workstation where the job stream runs.

- **Scheduled Time**
  The time when the job stream is scheduled to run. The default is the current time. After you modified the **Properties** of a job stream, you cannot modify the **Scheduled Time**.

- **Alias**
  An alias for the job stream.

- **Properties**
  Click **Properties** to specify the properties of the job stream you are submitting. The Properties - Job Stream Instance panel displays. For information, see "Displaying and changing the properties of a job stream instance." For information about the Predecessors page, see "Predecessors page" on page 284.

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Displaying and changing the properties of a job stream instance

To display and modify the properties of a job stream instance in the plan, perform the following steps:

1. Run a list of job stream instances that contains the job stream instance you want to manage. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job stream instance and select **Properties** from the pop-up menu.
3. The Properties - Job Stream Instance panel displays.

The panel consists of the following:

- "General page" on page 279
- "Time Restrictions page" on page 280
- "Resources page" on page 281
- "Prompts page" on page 282
- "Files page" on page 281
- "Predecessors page" on page 284
Changing job stream instance properties

- **"Internetwork Predecessors page" on page** 284

After you modified the **Properties** of a job stream instance, you cannot modify the **Scheduled Time**.

**General page**

Use the **General** page to manage general information for the job stream instance in the plan.

The page consists of the following:

**Note:** Most of the information provided in the **General** page is read-only.

- **Name** The name of the job stream instance.
- **Workstation Name** The name of the workstation on which the job stream instance is launched.
- **Original Name** The original name of the job stream when the job stream instance is submitted with an alias.
- **Workstation Class Name** The name of the workstation class on which the job stream instance is launched.
- **Limit** The number of jobs that can be running at the same time in the job stream. Possible values are **0** through **1024**. If you specify a job limit of **0**, no jobs within the job stream instance are launched.
- **Information** Additional information about the job stream instance.
- **Production Date** The current date of the production cycle.
- **Priority** The priority of the job stream. Possible values are:
  - **Hold** Sets the priority to **0**.
  - **High** Sets the priority to **100**.
  - **Go** Sets the priority to **101**.

Possible priority values are **0** through **101**, where **101** is the highest priority. A priority value of zero prevents the job stream from launching. **High** and **Go** jobs are launched as soon as their dependencies are satisfied, overriding the workstation job limit, but not overriding the job stream job limit or the workstation job fence.

- **Carry Forward** This job stream instance is carried forward to the next processing day if it does not complete before the end of the current production day.

- **Monitored Job Stream** The job stream instance and every job that it contains are monitored by Tivoli Business Systems Manager. Changes to the monitored job status are not displayed in the job stream properties until you close and reopen the job stream.
Changing job stream instance properties


Number of Jobs  The total number of job instances in the job stream.

Number of Jobs Not Run  The number of job instances in the job stream that have not run.

Number of Jobs Abended  The number of job instances in the job stream that ended abnormally.

Number of Successful Jobs  The number of job instances in the job stream that ended successfully.

Number of Executing Jobs  The number of job instances in the job stream that are running.

Number of Failed Jobs  The number of job instances in the job stream that have failed to start running.

Start Time  The time and day the job stream instance started running.

Runtime  The duration of the job stream instance.

Est. Duration  The estimated duration of the job stream instance.

Time Restrictions page

Use the Time Restrictions page to specify time constraints for the job stream instance.

The page consists of the following:

Start  The time that the job stream instance should start. The job stream instance is not launched before this time.

Specify Date and Time  Select this to specify that entry of a start time is enabled.

Date  The start date that the job stream instance should start.

Time  The start time that the job stream instance should start.

Latest Start Time  The latest start time by which the job stream instance should start.

Specify Date and Time  Select this to specify that entry of a latest start time is enabled.

Date  The latest start date by which the job stream instance should start.

Time  The latest start time by which the job stream instance should start.

Action  The action to be performed in case the job stream instance does not start and the Latest Start Time expires.

Suppress  Select Suppress to specify that the job stream instance does not start,
Changing job stream instance properties

even if the not resolved dependency that prevented it from starting is corrected, and dependencies are not released. **Suppress** is the default.

**Continue**  
Select **Continue** to specify that the job stream instance starts when the error condition that prevented it from starting is corrected.

**Cancel**  
Select **Cancel** to specify that the job stream instance is cancelled and dependencies are released.

**Termination Deadline**  
The time within which a job stream must complete. Jobs or job streams that have not yet started or that are still running when the deadline time expires, are considered late in the plan. The termination deadline does not prevent jobs and job streams from starting.

**Specify Date and Time**  
Select this to specify that entry of a termination deadline is enabled.

**Date**  
The termination deadline date by which the job stream instance should end.

**Time**  
The termination deadline time by which the job stream instance should end.

**Resources page**  
Use the **Resources** page to specify resource dependencies for the job stream instance.

The page consists of the following:

**Resource**  
The name of the resource dependency.

**Workstation**  
The workstation on which the resource resides.

**Quantity**  
The number of units of the resource that are needed by the job stream instance to satisfy the dependency.

**Available**  
The number of units of the resource that are currently available.

**Release Status**  
The status of the resource dependency. The possible values are:

- **Not Released**  
The job stream instance is not released from the resource dependency.

- **Released**  
The job stream instance is released from the resource dependency.

To release the job instance from the resource dependency, click in the **Status** column and select **Released** from the drop-down menu.

For information about adding a resource dependency, see “Resources page” on page 165.

**Files page**  
Use the **Files** page to specify file dependencies for the job stream instance.

The page consists of the following:
Changing job stream instance properties

**Filename**
The name of the file dependency.

**Workstation**
The workstation on which the file dependency resides.

**Qualifiers**
The test conditions for the file dependency. See “Files page” on page 166.

**Release Status**
The status of the file dependency. Possible values are:
- **Not Released**
  The job stream instance is not released from the file dependency.
- **Released**
  The job stream instance is released from the file dependency.

To release the job instance from the file dependency, click in the Status column and select **Released** from the drop-down menu.

**Internal Status**
The internal status of the file dependency. Possible values are:
- **Not Checked**
  The file dependency has not been checked.
- **Checking**
  The file dependency is being checked.
- **Exists**
  The file dependency is satisfied.
- **Does Not Exist**
  The file dependency is not satisfied.

For information about adding a file dependency, see “Files page” on page 166.

### Prompts page

Use the Prompts page to set ad hoc or predefined prompt dependencies for the job stream instance.

To add an ad hoc prompt for the job stream instance, perform the following steps:

1. From the drop-down list, select **Ad Hoc Prompt**.
2. Click ▶.
3. Double-click in the **Message Text** cell and type the text of the prompt. The default behavior of a prompt is to display a message and wait for a reply. Based on the character preceding the text, the prompt can behave differently:
   - If the text begins with a colon (:), the prompt displays, but no reply is required to continue processing.
   - If the text begins with an exclamation mark (!), the prompt displays, but it is not recorded in the log file.

Refer to the *Tivoli Workload Scheduler: Reference Guide* for a detailed explanation on how to specify the text of a prompt.

You can include one or more scheduler parameters as part or all of the text string. To use a parameter, place its name between carets (^). In the row you can see also the information described in the list below. This information is filled in when the job stream instance is included in the plan.

**Number**
The number of the prompt dependency.
Changing job stream instance properties

Release Status
The status of the prompt dependency. Possible values are:
Not Released
The job stream instance is not released from the prompt dependency.
Released
The job stream instance is released from the prompt dependency.

Internal Status
The internal status of the prompt dependency. Possible values are:
Not Asked
The prompt has not been asked.
Asked
The prompt has been asked, but no response has been received.
Answered Yes
The prompt has been answered affirmatively.
Answered No
The prompt has been answered negatively.

Reply
The reply to the prompt dependency. To reply to a prompt that is in the ASKED state, click in this column and select Yes or No from the drop-down menu.

To add a predefined prompt for the job stream instance, perform the following steps:

1. From the drop-down list, select Predefined Prompt.
2. Click .
3. Type the name of the prompt in the Name cell or click ... (find) to search for and select the prompt. The following information displays:

Message Text
The text of the prompt.

Number
The number of the prompt dependency.

Release Status
The status of the prompt dependency. Possible values are:
Not Released
The job stream instance is not released from the prompt dependency.
Released
The job stream instance is released from the prompt dependency.

Internal Status
The internal status of the prompt dependency. Possible values are:
Not Asked
The prompt has not been asked.
Asked
The prompt has been asked, but no response has been received.
Answered Yes
The prompt has been answered affirmatively.
Answered No
The prompt has been answered negatively.

Reply
The reply to the prompt dependency. To reply to a prompt that is in the ASKED state, click in this column and select Yes or No from the drop-down menu.
Changing job stream instance properties

To remove a prompt dependency for the job stream instance, select the prompt row in the list and click \( \times \).

Predecessors page

Use the **Predecessors** page to add predecessor dependencies to the job stream instance.

The page consists of the following:

- **Job Stream**: The name of the predecessor job stream. Click ... (find) to search for and select a job stream.
- **Job**: The name of job in the predecessor job stream.
- **Workstation**: The name of the workstation of the predecessor job stream.
- **Scheduled Time**: The time when the predecessor job stream is scheduled to run. The default is the current time.
- **Release Status**: The status of the predecessor job or job stream.
- **Internal Status**: The Tivoli Workload Scheduler internal status of the predecessor job or job stream.

For more information on job or job stream status refer to Appendix C, “Status description and mapping,” on page 441.

To add an predecessor dependency to a job stream instance, perform the following steps:

1. Click \( \times \).
2. In the **Job Stream** and **Job**, cells click ... (find) to search for and select a job stream and a job. To insert this data in the row you are working on, click **Apply** in the Find panel.

Select a row and click \( \times \) to remove a row from the list.

For information about adding predecessor dependencies, see Chapter 40, “Managing distributed job streams,” on page 233.

Internetwork Predecessors page

Use the **Internetwork Predecessors** page to add internetwork dependencies to the job stream instance.

The page consists of the following:

- **Network Agent**: The network agent workstation to which the predecessor belongs.
- **Dependency**: A dependency on the job or job stream predecessor in the format
workstation#jobstream.job. The maximum length is 16 characters for workstation, 16 characters for the job stream, and 40 characters for the job.

**Release Status**
The release status of the internetwork predecessors. The possible states are:
- **Released**
- **Not Released**

To release the job stream instance from the internetwork predecessor dependency, click in the Release Status column and select Released from the drop-down menu.

**Internal Status**
The Tivoli Workload Scheduler internal status of the predecessor job or job stream. See Appendix C, "Status description and mapping," on page 441.

To add an internetwork predecessor dependency to a job stream instance, perform the following steps:

1. Click .
2. In the Network Agent cell click ... (find) to search for and select an agent.
3. Double-click in the Dependency cell and type the dependency.

Select a row and click to remove a row from the list.

For information about adding internetwork dependencies to a job stream, see Chapter 40, "Managing distributed job streams," on page 233.

### Displaying and changing the follows dependencies of a job stream instance

To display the follows dependencies of a job stream instance, perform the following steps:

1. Run a list that contains the job stream instance you want to manage. See Chapter 36, "Working with lists,” on page 199.
2. Right-click the job stream instance in the list and select Dependencies.

The Dependencies - Job Stream Instance panel displays.

The panel consists of the following:
- "Predecessors page” on page 286
Displaying and modifying dependencies

- “Internetwork Predecessors page”
- “Successors page” on page 287

Predecessors page

Use the Predecessors page to add predecessors to the job stream instance.

The page consists of the following:

**Job Stream**
- The name of a predecessor job stream instance.

**Job**
- The name of the job instance contained in the job stream instance.

**Workstation**
- The workstation of the predecessor job or job stream instance.

**Released Status**
- The status of the predecessor dependency. The possible values are:
  - Released
  - Not Released

To release the job stream instance from the predecessor dependency, click in the Release Status column and select Released from the drop-down menu.

**Internal Status**
- The Tivoli Workload Scheduler internal status of the predecessor job or job stream instance. See Appendix C, “Status description and mapping,” on page 441.

**Scheduled Time**
- The date and time when the job stream is scheduled to run.

To add an predecessor dependency to a job stream instance, perform the following steps:

1. Click ![+].
2. In the **Job Stream** and **Job**, cells click ... (find) to search for and select a job stream and a job. To insert this data in the row you are working on, click **Apply** in the Find panel.

Select a row and click ![X] to remove a row from the list.

For information about adding predecessor dependencies to a job stream, see Chapter 40, “Managing distributed job streams,” on page 233.

Internetwork Predecessors page

Use the Internetwork Predecessors page to add internetwork dependencies to the job stream instance.

The page consists of the following:

**Network Agent**
- The network agent workstation to which the predecessor belongs.

**Dependency**
- A dependency on the job or job stream predecessor in the format
workstation#jobstream.job. The maximum length 16 characters for workstation, 16 characters for the job stream, and 40 characters for the job.

**Release Status**
The release status of the internetwork predecessors. The possible states are:

- **Released**
- **Not Released**

To release the job stream instance from the internetwork predecessor dependency, click in the Release Status column and select Released from the drop-down menu.

**Internal Status**
The Tivoli Workload Scheduler internal status of the predecessor job or job stream. See Appendix C, “Status description and mapping,” on page 441.

To add an internetwork predecessor dependency to a job instance, perform the following steps:

1. Click ![button].
2. In the Network Agent cell click ... (find) to search for and select an agent.
3. Double-click in the Dependency cell and type the dependency.

Select a row and click ![button] to remove a row from the list.

For information about adding internetwork dependencies to a job stream, see Chapter 40, “Managing distributed job streams,” on page 233.

**Successors page**
Use the Successors page to view successor information for the job stream instance. Successors are jobs or job streams that have the job stream instance as predecessor.

The page consists of the following:

**Job Stream Name**
The name of the job stream to which the successor belongs.

**Job**
The name of the successor job.

**Workstation**
The name of workstation to which the successor belongs.

**Status**
The release status of the Internetwork successors. The possible states are:

- **Released**
- **Not Released**

To release the job stream instance from the successor dependency, click in the Release Status column and select Released from the drop-down menu.

**Internal Status**

**Scheduled Time**
The date and time when the job stream is scheduled to run.
Displaying and modifying dependencies

Holding a job stream instance

Changing a job stream instance to Hold sets the priority of the job instance to zero. Use Release to change the priority back to its original level at the start of the processing day.

To change a job stream instance to Hold:
1. Run a job stream instance list that contains the job stream instance you want to hold. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job stream instance you want to hold.
3. Select Hold from the pop-up menu.

Releasing a job stream instance

Release changes the status of a job stream instance from Hold. Release sets the priority back to the original setting at the start of the processing day.

To release a job stream instance, perform the following steps:
2. In the list results, right-click the job stream instance you want to release.
3. Select Release from the pop-up menu and click Yes.

Showing predecessors and successors in the Impact View

To show the predecessors of a job stream instance or its successors, right-click a job stream instance and select Impact View from the pop-up menu, then either Predecessors or Successors. The Impact View panel displays.

You can define the level of dependencies displayed in the Impact View by choosing Dependency Level in the Layout menu. In the Dependency Level panel, type a number ranging from 1 to 5 and click OK. The predecessors or successors up to the specified level are displayed in the Impact View.

Use Predecessors/Successors to toggle the view.

Cancelling a job stream instance

Cancelling a job stream instance in the plan prevents the job stream instance from running. A cancelled job stream instance can be resubmitted using an alias. For more information, see “Resubmitting a job stream instance” on page 290.

To cancel a job stream instance, perform the following steps:
1. Run a job stream instance list that contains the job stream instance you want to cancel. See Chapter 36, “Working with lists,” on page 199.
2. In the list results, right-click the job stream instance.
3. Select Cancel from the pop-up menu.

Performing a cancel pending of a job stream instance

Use this function to cancel a job stream instance when all its dependencies are resolved. To cancel a job stream instance, perform the following steps:
1. Run a list of job stream instances that contains the job stream instance you want to cancel. See Chapter 36, “Working with lists,” on page 199.

2. Right-click the job stream instance and select Cancel Pending from the pop-up menu.
   
   If the job stream has not been launched, cancellation is deferred until all of the dependencies, including an at time, are resolved. When all the dependencies are resolved, the job stream is cancelled and any jobs or job streams that are dependent on the cancelled job stream are released from the dependency. If the job stream has been launched, the job stream is cancelled when it completes and is moved to its final status.

### Changing the limit of a job stream instance

To change the limit of a job stream instance in the plan, perform the following steps:

1. Run a job stream instance list that contains the job stream instance you want to modify. See Chapter 36, “Working with lists,” on page 199.

2. In the list results, right-click the job stream instance.

3. Select Limit from the pop-up menu.
   
   The Change Limit - Job Stream Instance panel displays.


### Changing the priority of a job stream instance

To change the priority of a job stream instance, perform the following steps:

1. Run a job stream instance list that contains the job stream you want to modify. See Chapter 36, “Working with lists,” on page 199.

2. In the list results, right-click the job stream instance.

3. Select Priority from the pop-up menu.
   
   The Change Priority - Job Stream Instance panel displays.

4. Specify a new priority.

**Note:** If a single job stream instance is selected, Default sets the priority to the original value of the job stream instance at the start of the processing day. If multiple job stream instances are selected, the priority of each job stream instance is set back to what it was at start of the processing day.

### Releasing a job stream instance from dependencies

Releasing a job stream instance from its dependencies removes dependencies on the following objects:

- Time restrictions
- Predecessor jobs and job streams included internetwork dependencies
- Resources
- Files
- Prompts

You can release job stream instances that are in the waiting state.

To release a job stream instance from its dependencies, perform the following steps:
Displaying and modifying dependencies

2. In the list results, right-click the job stream instance.
3. Select Release All Dependencies from the pop-up menu.

Resubmitting a job stream instance

To resubmit a job stream instance in the plan, perform the following steps:
1. Run a job stream instance list that contains the job stream instance you want to submit. See Chapter 36, “Working with lists,” on page 199.
2. In the list results, right-click the job stream instance.
3. Select Re-Submit from the pop-up menu. The Re-Submit Job Stream Instance panel displays.
4. Specify an alias for the resubmitted job stream instance in Alias. If you do not specify an alias, a name is generated by Tivoli Workload Scheduler. The instance starts with the first six characters of the original job stream instance name followed by ten random numbers.
   When the job stream definition is not found in the plan, it is loaded from the database.

Deleting jobs simultaneously from a job stream instance

To delete jobs simultaneously from the job stream instance, perform the following steps:
1. Run a list that contains the relative job stream. See Chapter 36, “Working with lists,” on page 199.
2. Double-click the job stream. The Job Stream Editor displays.
3. Click the

   The Explorer View Editor displays.
4. In the Table View select the jobs you want to delete.
5. Rick-click and select Delete from the pop-up menu.
6. Click OK in the confirmation window. The jobs are deleted from the job stream instance.
Chapter 51. Managing z/OS job instances

This section describes how to manage z/OS job instances in the plan. It is divided into the following sections:

- “Browsing and modifying z/OS job instances”
- “Browsing and modifying job instance dependencies” on page 299
- “Changing time restrictions in the Timeline View” on page 301
- “Deleting a job instance” on page 302
- “Holding a job instance” on page 303
- “Releasing a job instance” on page 303
- “Showing dependencies in the Impact View” on page 304
- “Browsing the job log” on page 305
- “Setting a job instance to a non operational state (NOP) in the plan” on page 305
- “Restoring a job instance to operational in the plan (UN-NOP)” on page 305
- “Killing a job instance running on a fault-tolerant agent” on page 305
- “Running a job instance immediately” on page 306
- “Changing the status of a job instance” on page 306
- “Editing JCL” on page 306
- “Viewing operator instructions” on page 306
- “Modifying job setup” on page 306
- “Restart and cleanup” on page 307
- “Recovery information” on page 308
- “Automatic recovery” on page 308
- “Critical Path” on page 309

Browsing and modifying z/OS job instances

To browse or modify a job instance, perform the following steps:

2. Right-click on one of the job instances.
3. Select Properties from the pop-up menu.

The Properties - Job Instance panel displays.

The panel consists of the following:

- “General page” on page 292
- “Task page” on page 293
- “Time Restrictions page” on page 293
- “Details page” on page 294
- “Options page” on page 295
- “Resources page” on page 296
- “Automation page” on page 296
**General page**

Use the **General** page to view general information about the job instance in the plan.

The page consists of the following:

**Note:** Most of the data on this page is read-only.

**Identifier**  
The job identifier.

**Workstation**  
The name of the workstation running the job.

**Belongs To Job Stream**  
The name of the job stream to which the job belongs.

**Occurrence Token**  
The token is a unique 16-character hexadecimal string assigned to the job stream by the scheduler.

**JES Job Number**  
The job number assigned by JES.

**Description**  
A description of the job. The information in this field can be modified.

**Authority group**  
The name of the authority group of the job stream.

**Priority**  
The priority level of the job stream to which the job belongs.

**Started**  
The actual date the job instance started.

**Runtime**  
The time it took the instance to run if completed.

**Status: Internal status**  
The status of the job instance. Use the **Set Status** menu option to change the status.

**Status: Status details**  
Additional information about the status of the job instance, where available.

**Status: Error code**  
The code with which the instance ended in error, when applicable.

**Start time: Earliest**  
The earliest time at which the job instance can start. This value is produced based on the relative earliest start time that you specified when you created the job.

**Start time: Planned**  
The estimated start time, based on the durations of predecessors, that Tivoli Workload Scheduler for z/OS evaluates when the job instance starts.

**Start time: Latest**  
The latest that the job can start without making successor jobs and the job stream miss their deadline.

**Start time: Actual**  
The time the job started.
Task page

Use the Task page to view task information about the job instance in the plan.

The page consists of the following:

**Task Name**  The name of the task associated with the job instance.

**Form Number**  The printer form number if the job is a printer job.

**Job Class**  A single letter from A-Z that matches the host job class.

**Extended Task Name**  The job instance descriptive name.

**Scheduling Environment Name**  A descriptive name of the WorkLoad Manager scheduling environment associated with the job. The maximum length is 16 characters.

Time Restrictions page

Use the Time Restrictions page to view time restrictions information about the job instance in the plan.

The page consists of the following:

**Start**  The time at which the job can start. Possible values are:

- **No Restrictions**  The job runs as soon as all dependencies are met.
  No time restrictions can result in more efficient processing for certain jobs when extending a plan.

  Note:  This choice is not valid if you selected **Cancel if Late** in the “General page” on page 153.

- **Follow Job Stream Rules**  The earliest time the job can start is when the job stream starts. This is the default. This option is not valid if you clear **No Restrictions**.

- **Specify Earliest Start Time**  The date and time before which the job does not start:
  
  **Date**  Type the date or select a date from the calendar.
  
  **Time**  Type a time in a format specific to your locale.

**Deadline**  The latest time that the job can end. Select **Specify** to enable the time fields. Possible values are:

- **At**  Type a time according to your locale settings. For example type 12:00 if you want the job to end before noon.

- **Delay for days**  Type a number of days to defer the start time. For example if you type 3 the job must end three days after the time you specify in **At**.

**Duration**  How long the job is expected to run, in hours, minutes, and seconds. The maximum is 99:59:01.
Details page

Use the Details page to view details of the job instance in the plan.

The page consists of the following:

CleanUp Status
The status code of the data set cleanup action. Possible values are:
- Completed
- Error ended

If no status displays, either data set cleanup has been reset or has not yet started.

Latest Out Passed
Indicates whether a job has not yet started and the latest start time has passed.

JCL Preparation
Indicates whether the job instance requires JCL preparation.

Urgent
Indicates whether the job instance requires JCL preparation. This happens if its priority is 9, or it is not yet started, or both, and the conditions for Latest Out Passed are true.

Monitored Job
Whether the job is monitored by Tivoli Business Systems Manager. Changes to the monitored job status are not displayed in the job stream properties until you close and reopen the job stream.

Centralized Script
Whether the script associated to the job resides on the domain master or on the local machine.

Critical Job
Whether the job is defined as a critical job. If a critical job runs late, it is eligible for Tivoli Workload Scheduler internal or for Workload Manager (WLM) service class promotion. If you are using Tivoli Workload Scheduler version 8.4, possible values are:
- No
- Critical Path Target
  - The job is on the critical path, and must be managed by the Tivoli Workload Scheduler internal critical path prioritizing algorithms.
  - WLM
    - The job is on the critical path, and must be managed by Workload Manager (WLM). If you select this option, also supply the WLM Policy and Class.

On Critical Path in Job Stream
Indicates whether the job instance is on the internal critical path for the job stream.

WLM Policy
The policy applied for WLM service class promotion if the job is late. Select Critical Job to enable WLM Policy. Possible values are:
- Conditional
  - The scheduler uses an algorithm to determine whether to apply the Deadline or the Latest start option.
- Deadline
  - The scheduler intervenes if the job runs beyond the deadline.
Browsing and modifying z/OS job instances in the plan

Long Duration
The scheduler intervenes if the job takes longer than it should as compared to the statistics that it keeps.

Latest Start
The scheduler intervenes immediately if the job starts after the latest start time.

WLM Class
The class applied for WLM service class promotion if the job is late. Select the value WLM for Critical Job to enable WLM Class.

Planned Duration
The estimated processing time for the job.

Intermediate Start
If the job is interrupted, the time it restarts.

Actual End
The time the job instance ended.

Transport Time
The time needed for data to be transported from one workstation to another between jobs.

Predecessors
The number of jobs whose completion is necessary for this instance to run. See “Predecessors page” on page 300.

Completed Predecessors
The number of predecessors that have completed.

Successors
The number of jobs that depend on the completion of this instance. See “Successors page” on page 300.

Logical Resources
The number of logical resources reserved for the job.

Options page
Use the Options page to view option information about the job instance in the plan.

The page consists of the following:

Auto Hold Release
Whether the instance should be automatically released.

Cancel if Late
Whether the instance should be cancelled automatically if late.

Auto Error Completion
Whether the instance should be automatically completed when it ends in error.

Auto Job Submission
Whether the instance should be submitted automatically.

Highest Acceptable Return Code
The highest acceptable return code for the instance.

User Data
Indicates user data is available for editing.

Deadline WTO
Whether a write-to-operator message should be sent when the job misses its deadline.
Browsing and modifying z/OS job instances in the plan

Restart and CleanUp
Whether Restart and CleanUp is used if the job instance ends in error. Possible values are:
• None
• Immediate
• Automatic
• Manual

Expanded JCL
Indicates that the JCL used for step-level restarts and job reruns is the JCL image captured from the JESJCL sysout data set.

Use Sysout
Indicates that the sysout data sets are used for job restarts.

Restartable
Whether the instance should be made restartable. Possible values are:
• Yes
• No
• Default
Default maintains the original job definition value.

Reroutable
Whether the instance should be made reroutable. Possible values are:
• Yes
• No
• Default
Default maintains the original job definition value.

Resources page
Use the Resources page to define the parallel servers and the logical and workstation resources that the job uses.

The page gives you access to two types of resources, as follows:

Target Resources
Set the quantity of resources that the workstation needs to run the job. You cannot change the target resources listed, only the quantity of them required.

To set the quantity of target resources, perform the following steps:
1. If Logical Resources is shown, click its pull-down icon and select Target Resources.
2. Double-click each cell in the Quantity column to edit the amount of resources (Resource 1 and Resource 2) needed by the job.

Logical Resources
Set the logical resources, such as printers, tapes, or disk space that are needed to run the job. You can add and remove logical resources, as follows:

Resource
For target resources this is an information field that lists the target resources. The Parallel Servers target resource represents the number of processes that can be run concurrently by the workstation. For logical resources this
is an alphanumeric name for the resource. Click ... (find) to search for and select a resource. The maximum length is 44 characters.

**Quantity**

The quantity of the resource needed to run the job.

**Access Type**

For logical resources, the type of access for the resource. Possible values are:

- **Shared** Other jobs use the resource.
- **Exclusive** Only the current job uses the resource.

**Keep on Error**

For logical resources, the action to take on the resource if the job ends in error. Possible values are:

- **Yes** The resource is reserved for the job when an error occurs.
- **No** The resource is released from the job when an error occurs.
- **Default** The default option specified for the ONERROR keyword in the RESOPTS statement is used.

**Available on complete**

The action to take when the job finishes successfully *(complete status)*. Possible values are:

- **Available** Switch the global availability status of the resource to *yes* when a job that uses this resource completes successfully.
- **Unavailable** Switch the global availability status of the resource to *no* when a job that uses this resource completes successfully.

**Automatically reset**

Switch the global availability status of the resource to blank when a job that uses this resource completes successfully.

**Assume system default**

Switch the global availability status and quantity of the resource to the default value when a job that uses this resource completes successfully. The system will check for the following, in order:

1. If the **Default: Is Available** field has been set for the resource, it makes the resource available, using the **Default: Quantity** value.
2. If **Default: Is Available** is not set, the system uses the value in the ONCOMPLETE keyword of the RESOPTS statement to determine the availability status.
To set logical resources, perform the following steps:

1. If Target Resources is shown, click its pull-down icon and select Logical Resources.
2. Click the + to add a row to the table.
3. Type the name of the resource or click ... (find) to search and select a resource.

Automation page

Use the Automation page for jobs that are to be run on Tivoli System Automation for z/OS. These jobs must be defined on workstations with the automatic attribute set.

The page consists of the following:

Command Text

The text string of the command to be run by Tivoli System Automation for z/OS. The string can contain Tivoli Workload Scheduler variables; before the operations are passed to Tivoli System Automation for z/OS, Tivoli Workload Scheduler for z/OS performs the variable substitution processing. If any error occurs during this phase the job state is set to E with error code 0JCV.

Completion Info

A string (maximum 64 characters) containing one or more of the following parameters, separated by a comma.

Maximum wait time

The maximum wait time (optional). Specify the longest interval of time that the command is expected to take to complete under normal operating conditions, plus a small margin to cover items like minor delays and heavy network traffic.

If this value is specified, and the command does not complete within the indicated time interval, Tivoli System Automation for z/OS returns an error to Tivoli Workload Scheduler for z/OS.

Note: In the case of an INGREQ command, the command is considered complete when the specified resource has reached the requested state or is already in the requested state. If more than one resource is specified in the INGREQ command, all resources must be in the requested state before the command is considered complete.

Various time formats are accepted. See the Tivoli System Automation for z/OS documentation for details.

Maximum return code accepted as OK

The highest return code value from Tivoli System Automation for z/OS that Tivoli Workload Scheduler for z/OS must treat as successful (optional). The default is 0.
Completion checking routine

The name of your completion checking routine (optional).

If this value is specified, the completion checking routine is responsible for ensuring that the command achieved the expected results before posting the operation complete. This allows you to perform commands that are independent of a Tivoli System Automation for z/OS controlled resource, for example a VTAM major node. In this case, the command could be the activation of the VTAM major node, while the checking routine could “ping” the target node before posting the OPC operation complete by means of the OPCAPOST command. If Maximum wait time is also supplied, it can be passed to the checking routine, allowing the checking routine to return an error if the command does achieve the expected result within the indicated time.

The full syntax of the Completion Info string is as follows:
[maximum_wait_time],
[maximum_return_code],
[completion_checking_routine]

However, note that trailing commas must not be supplied. For example, to specify just the first two parameters, the field might look like this:
2:30,3

To specify just the third parameter, the field might look like this:
,,CHKEND

To not supply any of the parameters, leave the whole Completion Info field blank.

Automated Function

Specify the automated function (optional). When specified, the command is run on the NetView task associated with the indicated automated function in Tivoli System Automation for z/OS. You can use this parameter to serialize the commands. If this parameter is not specified, the command is run by any of the locally available NetView tasks.

Security Element

A token used for security tracking of the operation in the Tivoli System Automation for z/OS AOFEXC20 exit routine (optional). Use it as an alternative to, or in conjunction with the job name.

Browsing and modifying z/OS job instances in the plan

Browsing and modifying job instance dependencies

To browse and modify job instance dependencies, perform the following steps:

1. Display a job instance list that contains the instance you want to modify. See Chapter 36, “Working with lists,” on page 199.
2. Right-click on the job instance and select Dependencies from the pop-up menu.
Browsing and modifying z/OS job instance dependencies in the plan

The Dependencies - Job Instance panel displays.

The panel consists of the following:
- “Predecessors page”
- “Successors page”

Predecessors page

Use the Predecessors page to view and modify information about the job instances that must complete before this instance can start running.

The page consists of the following:

Job Stream Name
The name of the job stream to which the predecessor belongs, if it is external.

Job Stream Start
The start time of the job stream to which the predecessor belongs.

Task Name
The name of the task associated with the predecessor job.

Identifier
The identifier of the predecessor job.

Extended Task Name
Any extension to the job name.

On Critical Path
Whether the predecessor is on the critical path.

To add a predecessor, perform the following steps:

1. Click .
2. Click ... (find) to search for the Job Stream Name, Identifier, or Job Stream Start. To insert this data in the row you are working on, click Apply in the Find Job Instance panel.
3. Double-click each table cell to modify the values.

To remove a dependency, select the predecessor and click Delete From Table.

Successors page

Use the Successors page to view information about the job instances that depend on completion of this instance before they can start running.

The page consists of the following:

Job Stream Name
The name of the job stream to which the successor belongs, if it is external.

Job Stream Start
The start time of the job stream to which the successor belongs.

Task Name
The name of the task associated with the successor job.

Identifier
The identifier of the successor job.
Extended Task Name
Any extension to the job name.

On Critical Path
Whether the successor job is on the critical path

To add a successor, perform the following steps:

1. Click +.
2. Click ... (find) to search for the Job Stream Name, Identifier, or Job Stream Start. To insert this data in the row you are working on, click Apply in the Find Job Instance panel.
3. Double-click each table cell to modify the values.

To remove a dependency, select the successor and click Delete From Table.

Click Apply to save the changes and keep the panel open, click OK to save any changes you made and close the panel.

Changing time restrictions in the Timeline View

This section describes how you make changes to time restrictions in the Timeline View. It consists of the following subsections:

- “Elements of the Timeline View”
- “Rescheduling a job instance” on page 302
- “Rescheduling a job instance start time” on page 302
- “Rescheduling a job instance deadline time” on page 302

Elements of the Timeline View

The left-hand pane of the Timeline View displays the following job instance details:

- **Name**: The job name.
- **Status**: The current status.
- **Started**: The actual start time.
- **Runtime**: The actual duration.
- **Start at**: The planned start time.
- **Duration**: The planned duration.
- **Deadline**: The planned deadline.

The right-hand pane has activity bars that show the runtime of a job instance in terms of start, duration, and deadline times.

The deadline is indicated by a black stripe at the end of the blue activity bar. The activity bar represents the time difference between the earliest planned start and the planned end that were specified as time restrictions for the job. A pale blue bar represents the duration of the job. It turns red if the duration exceeds the deadline and it becomes diamond shaped if the duration is zero. A black line represents the actual runtime of the job instance.

By moving components of the activity bars, you can change the time restrictions of each instance and view the results of your changes.
Rescheduling a job instance
To reschedule a job instance in ready status, perform the following steps:
1. Move the activity bar by positioning the mouse pointer inside the bar. When
   the pointer becomes cross-shaped, hold down the left mouse button while
   moving the bar in either direction.
2. When you find the position you want, release the mouse button. The Properties
   - Job Instance Properties Time Restrictions page displays.
3. Click OK to save the new settings. The activity bar is set on the new position.

Rescheduling a job instance start time
To reschedule a job instance start time, perform the following steps:
1. Position the mouse pointer on the left end of the bar. When the pointer
   becomes a double-headed arrow, hold down the left mouse button while
   moving the end of the bar.
2. When you find the position you want, release the mouse button. The Properties
   - Job Instance Properties Time Restrictions tab displays, showing the new start
   time.
3. Click OK to save the new settings. The left end of the activity bar is set in the
   new position.

Rescheduling a job instance deadline time
To reschedule the deadline time, perform the following steps:
1. Position the mouse pointer on the right end of the bar. When the pointer
   becomes a double arrow, hold down the left mouse button while moving the
   end of the bar.
2. When you find the position you want, release the mouse button. The Properties
   - Job Instance Time Restrictions tab displays, showing the new deadline time.
3. Click OK to save the new settings. The right end of the activity bar is set in the
   new position.

Deleting a job instance
You can delete a single job instance or delete all jobs in a group of job instances. To
delete a single job instance see “Deleting objects from a list” on page 64, to delete
all jobs in a group of job instances follow the procedure described in the section
below:

Deleting all job instances
To delete all jobs in a group of job instances in the Timeline View, perform the
following steps:
1. Run a list of job instances that contains the instances you want to delete. See
   Chapter 36, “Working with lists,” on page 199
2. Click to switch to the Timeline View.
3. Right-click the arrow next to the job instance group.
4. Click Delete All.
Holding a job instance

This section describes how to hold job instances. It consists of the following subsections:

- "Holding a single job instance"
- "Holding all job instances"

Holding a single job instance

To change a single job instance to Hold, perform the following steps:
1. Run a list of job instances that contains the job you want to hold. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job instance and select Hold from the pop-up menu.

Holding all job instances

To hold all jobs in a group of job instances in the Timeline View, perform the following steps:
1. Run a list of job instances that contains the instances you want to hold. See Chapter 36, “Working with lists,” on page 199.
2. Click to switch to the Timeline View.
3. Right-click the arrow next to the job instance group.
4. Click Hold All.

Releasing a job instance

This section describes how to release a job instance that is in Hold, returning the job priority to its start of production day state. It consists of the following subsections:

- "Releasing a single job instance"
- "Releasing all job instances"

Note: Do not confuse Release with Release All Dependencies. It has no effect on job dependencies.

Releasing a single job instance

To change a single job instance to Release, perform the following steps:
1. Run a list of job instances that contains the job instance you want to release. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job instance you want release.
3. Select Release from the pop-up menu.

Releasing all job instances

To release all jobs in a group of job instances, perform the following steps:
2. Click to switch to the Timeline View.
3. Right-click the arrow next to the job instance group.
4. Click Release All.
Viewing z/OS job instance dependencies in the Impact View

Showing dependencies in the Impact View

To show job instance predecessors or successors in the Impact View, perform the following steps:

2. Right-click on the job instance you want to view.
3. Select Impact View from the pop-up menu.
4. Select either Predecessors or Successors from the pop-up menu.

The Impact View panel displays.

The Layout menu contains Direction and Dependency Level. Direction enables you to graphically show the job instances and their dependencies in the panel you choose.

Dependency Level helps you to define the level of dependencies displayed in the Impact View. In the Dependency Level panel, type a number ranging from 1 to 5 and click OK. The predecessors or successors up to the specified level, if any, are displayed in the Impact View. The value defined in the Dependency Level panel is stored and used whenever a new view is opened.

Use Predecessors/Successors to refresh the view.

Displaying dependencies

To display a dependency of a job instance, right-click the job instance and select Show Dependencies from the pop-up menu. Any dependent job instances are displayed.

Only the first level of dependent job instances displays. To display more than one level of dependency, right-click each dependent job instances and select Show Dependencies from the pop-up menu.

Note: If you display dependencies for more than one job, then refresh the display, only the first level of dependent job instances displays.
Set as root

You can reset the display using a job instance as the root job instance. Right-click the job instance you want as root and select Set As Root from the pop-up menu. The display is refreshed, showing the selected job instance as the root instance.

To reset the display in a separate panel, right-click the job instance you want as root and select Set As Root In New Frame from the pop-up menu.

Browsing the job log

To browse the job instance log, right-click a job instance and select Browse Job Log from the pop-up menu. The Job Instance Output panel displays.

Click Cancel to close the panel.

Setting a job instance to a non operational state (NOP) in the plan

You can use the NOP option to set a job instance that is already in the plan and is ready or waiting to run in a non-operational state (NOP). Use this option on job instances whose internal status is one of the following:

- Arriving
- Ready
- Ready-non reporting workstation
- Waiting
- Completed (only for workstations with automatic reporting)

To use the NOP option, right-click the name of a job instance and select NOP from the pop-up menu.

Restoring a job instance to operational in the plan (UN-NOP)

You can use the UN-NOP option to make an non-operational job instance to an operational job instance.

To do this, right-click the name of a job instance and select UN-NOP from the pop-up menu. The job instance is restored to the plan.

Killing a job instance running on a fault-tolerant agent

Use the kill function to stop a job instance that is currently running on a fault-tolerant agent or on a standard agent. To kill a job instance, perform the following steps:

1. Run a list of job instances that contains the job instance you want to kill. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job instance and select Kill from the pop-up menu. A confirmation message displays. When you kill a job instance both the Status and the Internal Status are set to Error. If the job instance has a recovery job associated and you want to stop it running too, see “Recovery information” on page 308.
Running a job instance immediately

You can use the **Execute** option to immediately run a job instance that is ready to run regardless of normal scheduling rules excluding dependencies. In order to run, the resources the job instance depends on must be available.

To run a job instance immediately, right-click the name and select **Execute** from the pop-up menu. If all conditions are met, the job instance is run immediately.

Changing the status of a job instance

You can set the status of a job instance manually. To do this, perform the following steps:

1. Right-click the name of a job instance and select **Set Status** from the pop-up menu. The Change Status panel displays.
2. Select the status you want. When you are changing to an **Error** status, you can type a code that you want to appear in the Properties panel of the job instance.

Editing JCL

You can modify the variables and instructions associated with a job instance before submitting a job, by editing the JCL associated with the instance.

To edit the JCL, perform the following steps:

1. In a list, right-click a job instance and select **Edit JCL** from the pop-up menu. The Edit JCL panel displays.
2. Make the changes you want.
3. Click **Import** to open a JCL file and copy JCL into the edit panel.
4. Click **Export** to save any JCL from the job you are editing.

Click **OK** to save the changes and close the panel.

Viewing operator instructions

You can view any operator instructions associated with a job instance. To do this, perform the following steps:

1. Right-click the name of a job instance and select **Browse Operator Instruction** from the pop-up menu. The Browse Operator Instruction panel displays.
2. Click **OK**.

Modifying job setup

The **Job Setup** option allows you to customize a job before it is submitted. To do this, right-click a job instance and select **Job Setup** from the pop-up menu. If there are promptable variables that have not yet been set, the Job Setup panel displays where you can change the values of the variables.

**Notes:**

1. You can only change the variable value. A default value displays, if it has been set beforehand.
2. After you save your changes, the job stays in the ready state. You can select **Set Status** to change the job status to COMPLETE that automatically starts the successors of the job.
When you have made your changes, click OK. A second Job Setup panel displays for each successor job instance. Each panel shows the JCL for the instance, reflecting the change made to the promptable variables.

For each Job Setup JCL panel, click OK to save the changes and close the panel.

**Restart and cleanup**

**Note:** Before using this function, you should refer to the Restart and Cleanup description in *Tivoli Workload Scheduler for z/OS Planning and Scheduling*.

You can restart a job instance or a step and perform cleanup operations, as follows.

Right-click a job instance and select **Restart** from the menu. Select one of the following:

**Restart and Cleanup**

The Restart and Cleanup panel displays. Some of the options listed below might not be available, depending on factors such as whether the job is restartable. Select one of the following:

**Step Restart**

Restart the job or the started task at the JCL step level and performs the appropriate cleanup actions. When you request a step restart, the scheduler shows you which steps are restartable and which is the best step, but you can choose to ignore the suggestion and restart at a different step.

**Job Restart**

Completely restarts the job, including the necessary cleanup actions. The scheduler shows you the list of data sets with the related steps, or the JCL before restarting.

**Start Cleanup**

Runs the subtask that simply cleans up the data set.

**Start Cleanup with AR**

Performs the same operation as Start Cleanup. In addition, the cleanup list is built respecting the restart step selected by the Automatic Recovery task. This option is allowed only for jobs in the error state defined with manual cleanup. When you select this option, the clean up list displays with the restart step name and number at the bottom of the panel.

**Display Clean Up Result**

View the results of the last cleanup.

**Use Expanded JCL**

This is for information only. If selected, the Job or Step restart uses Extended JCL. It can be enabled by selecting **Expanded JCL** in the Properties - Options page of the job prior to selecting one of the restart options described in this section.

Expanded JCL is the JCL extracted from the JOBLOG of the last run and is built from data store. When data store builds the expanded JCL, the EXEC statements that call for procedures are commented out and the called procedures are inserted in their expanded form. The result is a linear JCL without procedure calls.
Restart and cleanup

When you use expanded JCL, the same steps (along with the ones in the called procedures and INCLUDE) are rerun exactly as they were in the original run.

Fast Job Restart
Performs a Job Restart without giving you the option to modify the list of data sets with the related steps, or the JCL.

Fast Step Restart
Performs a Step Restart from the best step determined by the scheduler, without giving you the option to select a different step or modify any other aspects of the job.

Note: When run for the first time on a job or step, these options only create the job log. You must wait a few seconds and then launch the option again to use that job log to restart the job or step. If the job or step does not restart, repeat this operation until it does.

Recovery information

Recovery Info displays the recovery options defined in the job script, and can be displayed only in case the job fails. Most of the fields in the panel are read-only, because the recovery statements are coded within the job script, and cannot be modified using the graphical interface.

Right-click a job instance and select Recovery Info from the menu.

Recovery Option displays the recovery option specified in the job script. For more information on the recovery options, refer to Tivoli Workload Scheduler for z/OS: Customization and Tuning.

Prompt Information displays the information about prompt options defined in the job script, such as, Identifier and Status. If a message was defined in the job script, it displays in Message. Click Reply to Prompt to select an answer to the prompt. If you select Yes, the operation specified in Recovery Option is performed, if you select No, no operation is performed.

Recovery Job Information displays details concerning the recovery job, if any, to run if the parent job ends in error. In Recovery Job Information section you can perform the following actions:

Browse Job Log
To display the Job Instance Log File panel.

Kill
To stop the recovery job instance that is currently running on a fault-tolerant agent or on a standard agent. To stop the recovery job instance the Status must be Started. When you kill a job instance the Status is set to Error. Click Reload to refresh the screen and display the new status.

Click OK to save your selection and close the panel.

Automatic recovery

You use Automatic Recovery to request an automatic job recovery for jobs that ended in error, and that have a cleanup type other than automatic.

Right-click a job instance and select Automatic Recovery from the menu.
Critical Path

You use Critical Path to view a list of all jobs that are on the critical path of the selected job.

Right-click a job instance and select Critical Path from the menu. A list of the jobs in the critical path displays.

In the list results you can:

- Right-click any field in the record and perform the allowed actions.
- Double-click any field in the record to modify the properties.
Critical Path
Chapter 52. Managing distributed job instances in the plan

This section describes how to manage distributed job instances in the plan. It is divided into the following sections:

- “Submitting a job” on page 311
- “Submitting an ad hoc job” on page 313
- “Modifying the properties of a job instance” on page 321
- “Displaying and modifying job instance dependencies” on page 328
- “Deleting a job instance” on page 330
- “Holding a job instance” on page 330
- “Releasing a job instance” on page 331
- “Displaying and modifying job instance dependencies” on page 328
- “Deleting a job instance” on page 330
- “Holding a job instance” on page 330
- “Releasing a job instance” on page 331
- “Displaying and modifying job instance dependencies” on page 328
- “Deleting a job instance” on page 330
- “Holding a job instance” on page 330
- “Releasing a job instance” on page 331

Submitting a job

There are two methods to submit a job into a job stream:

- “Into a default job stream” on page 313
- “Into a specific job stream” on page 313

Into a default job stream

To submit a job using the default job stream instance, perform the following steps:

1. In the Actions list pane, click Submit.
2. Click Job and select an engine.
   The Submit Job into Plan panel displays.
The panel consists of the following:

**Job**
Set the information of the job you are submitting. Possible values are:
- **Name**: The name of the job that you want to submit to the plan. Click ... (find) to search for and select a job to submit into the plan.
- **Workstation**: The name of the workstation on which the job instance runs. This field is completed automatically when you select a job using ... (find).
- **Alias**: An alias name for the submitted job. An alias is needed only if JOBS contains another job instance of the same name. An error message displays if JOBS already has a job instance of the same name and you do not specify an alias.

**Into**
Set the information about the job stream you are submitting into. Possible values are:
- **Job Stream**: This field displays the name of the default job stream, JOBS.
- **Workstation**: The name of the workstation on which the job stream instance runs. You can specify a different workstation. Click ... (find) to search for and select a workstation.
- **Scheduled Time**: The time at which the job stream is scheduled to run. After you modified the Properties of a job instance, you cannot modify the Scheduled Time.
If you want to view or modify the properties of the job, click on Properties. See 
"Modifying the properties of a job instance” on page 321 for details. If you want to submit the job and close the panel, click OK.

Into a specific job stream
To submit a job using a specific job stream instance, perform the following steps:
1. Run a job stream instance list that contains the job stream into which you want to submit a job. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job stream instance.
3. Select Submit, then Job from the pop-up menu.

The Submit Job into Plan panel displays.

The panel consists of the following:

Job Set the information of the job you are submitting. Possible values are:
   Name The name of the job that you want to submit to the plan. Click ... (find) to search for and select a job to submit into the plan.
   Workstation The name of the workstation on which the job instance runs. This field is completed automatically when you select a job using ... (find).

Into Set the information about the job stream you are submitting into. Possible values are:
   Job Stream This read only field displays the name of the job stream.
   Workstation The name of the workstation on which the job stream instance runs. You can specify a different workstation. Click ... (find) to search for and select a workstation.

Alias An alias for the job. An alias is needed only if JOBS contains another job instance of the same name.

If you want to view or modify the properties of the job, click Properties. See "Modifying the properties of a job instance” on page 321 for details. If you want to submit the job and close the panel, click OK.

When you submit a job, you can also modify the job predecessors. See "Predecessors page” on page 319.

Submitting an ad hoc job
There are two methods to submit an ad hoc job into the plan:
• “Into a specific job stream”
• “Into a default job stream” on page 321

Into a specific job stream
To submit an ad hoc job into a specific job stream instance, perform the following steps:
1. Run a job stream instance list that contains the job stream into which you want to submit a job. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job stream instance and select Submit ► Ad Hoc Job from the pop-up menu. The Properties - Job Instance panel displays.

The panel consists of the following:
- “General page”
- “Task page” on page 315
- “Time Restrictions page” on page 316
- “Files page” on page 319
- “Prompts page” on page 317
- “Resources page” on page 316
- “Predecessors page” on page 319
- “Internetwork Predecessors page” on page 320

**General page**
Use the General page to enter general information for the ad hoc job.

The page consists of the following:

**Task Type**
Select the type of task from the drop-down menu. Possible values are:
- Windows
- UNIX
- Other
- SAP

**Login**
The UNIX or Windows user ID that launches the ad hoc job.

**Priority**
The priority of the submitted job. To change the priority, enter a value in the field or select one of:
- **Hold**
  Sets the priority to 0. This job will not run until the priority is raised.
- **High**
  Sets the priority to 100.
- **Go**
  Sets the priority to 101.
- **Default**
  Sets the priority to the default priority of the selected job.

Possible priority values are 0 through 101, where 101 is the highest priority. A priority value of zero prevents the ad hoc job from launching.

**Alias**
An alias for the ad hoc job.

**Workstation**
The name of the workstation of the ad hoc job. When you use ... (find) to search for a workstation, make sure the workstation you select is correct for the type of ad hoc job you are submitting.

**Job Stream**
The name of the job stream for the ad hoc job. The workstation for this job stream instance displays only when you selected to submit an ad hoc job from a job stream instance list. Otherwise, the job instance is submitted into JOBS on the workstation for the specified job.

**Scheduled Time**
The date and time when the job stream is scheduled to run.

**Recovery Options**
The behavior of the ad hoc job in case it ends in failure. Possible values are:
Submitting a distributed ad hoc job into a specific job stream

Action
The recovery action for the submitted ad hoc job. It can be Stop, Continue, or Rerun.

Message
The text of a recovery prompt. The maximum length is 64 characters. The default behavior of a prompt is to display a message and wait for a reply. If the string begins with a colon (:) the message displays but no reply is necessary. If the string begins with an exclamation mark (!), the message displays but not logged.

Job Name
The name of a recovery job to run if the parent job abends. Recovery jobs are run only once for each abended instance of the parent ad hoc job.

Workstation Name
Displays the name of the workstation on which the recovery job runs. The name is entered automatically when you select a recovery job.

Not all jobs are eligible to have recovery jobs run on a different workstation. Follow these guidelines:

- If either workstation is an extended agent, it must be hosted by a domain manager or a fault-tolerant agent that runs in Full Status mode.
- The recovery workstation of the recovery job must be in the same domain as the workstation of the parent domain.
- If the recovery workstation of the recovery job is a fault-tolerant agent, it must run in Full Status mode.

Requires Confirmation
The ad hoc job completion must be confirmed by the operator.

Monitored Job
The ad hoc job is monitored by Tivoli Business Systems Manager (TBSM).

Task page
Use the Task page to set task information for the job.

The page consists of the following:

Script
When the task is a script, this is the file name and any options and arguments. The maximum length is 4095 characters. For Windows jobs, include the file extensions. Universal Naming Convention (UNC) names are permitted. Do not specify files on mapped drives. For task types other than Windows, if the file name contains spaces, type the name in a file that does not have spaces and use the second file. If spaces or special characters are included, other than slashes (/) and backslashes (\), the entire string must be enclosed in quotes ("'). For task types other than Windows, double quotes (") are not permitted. To include a parameter in the Command field, perform the steps described in "Adding parameters to jobs” on page 145.

Command
When the task is a command, this is the name of the command the job runs and any options and arguments. The maximum length is 4095 characters. Commands are run directly and the jobmanrc standard configuration script is not run. For task types other than
Submitting a distributed ad hoc job into a specific job stream

Windows, double-quotes ("") are not permitted. To include a parameter in the Command field, perform the steps described in “Adding parameters to jobs” on page 145.

Add Parameter
The script or command definition requires a parameter. For information about adding parameters, see “Adding parameters to jobs” on page 145.

Is Interactive
For Windows jobs, the job runs interactively on the Windows desktop.

Return Code Mapping Expression
Which return codes cause the job to be successful. Enter a logical expression that defines the success condition. Allowed operators are comparison operators (=, != or <>), >=, <, <=) and logical operators (AND, OR, NOT).

Note: For task type SAP Job, refer to the Tivoli Workload Scheduler for Applications: User’s Guide for information about defining the task.

Time Restrictions page
Use the Time Restrictions page to set time restrictions for the ad hoc job.

Start
The time before which the ad hoc job does not start.

Latest Start Time
The time before which the ad hoc job must start. Specify a date and a time in the format specific to your locale.

Action
The action performed when the job instance does not start before the latest start time.

Suppress
The job instance does not start, even if the error condition that prevented it from starting is corrected, and dependencies are not released. This radio button is selected by default.

Continue
The job instance starts when the error condition that prevented it from starting is corrected.

Cancel
The job instance is cancelled and dependencies are released.

Termination Deadline
The time within which a job or job stream must complete. Jobs or job streams that have not yet started or that are still running when the deadline time expires, are considered late in the plan. The termination deadline does not prevent jobs and job streams from starting. Specify the date and time in a format specific to your locale.

Repeat Range
The range in hours and minutes at which the ad hoc job is repeated. The hour range is 00 to 23. The minute range is 00 to 59.

Resources page
Use the Resources page to set resource dependencies for the ad hoc job.

The page consists of the following:

Resource
The name of the resource.
## Submitting a distributed ad hoc job into a specific job stream

<table>
<thead>
<tr>
<th>Workstation</th>
<th>The workstation on which the resource resides.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>The number of units of the resource that are needed by the ad hoc job to satisfy the dependency.</td>
</tr>
<tr>
<td>Available</td>
<td>The number of units of the resource that are currently available.</td>
</tr>
<tr>
<td>Release Status</td>
<td>Whether the resource dependency is released. This field is read-only for submitted job instances. Possible values are:</td>
</tr>
<tr>
<td>Not Released</td>
<td>The job instance is not released from the resource dependency.</td>
</tr>
<tr>
<td>Released</td>
<td>The job instance is released from the resource dependency.</td>
</tr>
</tbody>
</table>

To add a resource dependency for the ad hoc job instance, perform the following steps:

1. Click ![add](Image).  
2. Double-click in the **Workstation** cell and click ... to search for and select a workstation.  
3. Double-click in the **Name** cell and click ... to search for and select a resource name.  
4. Double-click in the **Quantity** cell and specify the number of resource units required by the ad hoc job instance. The default is one.

To delete a resource dependency, select it and click ![delete](Image).

### Prompts page

Use the **Prompts** page to set ad hoc or predefined prompt dependencies for the ad hoc job.

To add an ad hoc prompt for the job stream instance, perform the following steps:

1. From the drop-down list, select **Ad Hoc Prompt**.
2. Click ![add](Image).  
3. Double-click in the **Message Text** cell and type the text of the prompt. The default behavior of a prompt is to display a message and wait for a reply. Based on the character preceding the text, the prompt can behave differently:
   - If the text begins with a colon (:), the prompt displays, but no reply is required to continue processing.
   - If the text begins with an exclamation mark (!), the prompt displays, but it is not recorded in the log file.

Refer to the **Tivoli Workload Scheduler: Reference Guide** for a detailed explanation on how to specify the text of a prompt.

You can include one or more scheduler parameters as part or all of the text string. To use a parameter, place its name between caret (^) characters. In the row you can see also the information described in the list below. This information is filled in when the job stream instance is included in the plan.

**Number**

- The number of the prompt dependency.

**Release Status**

- The status of the prompt dependency. Possible values are:
Submitting a distributed ad hoc job into a specific job stream

Not Released
The job stream instance is not released from the prompt dependency.

Released
The job stream instance is released from the prompt dependency.

Internal Status
The internal status of the prompt dependency. Possible values are:
Not Asked
The prompt has not been asked.
Asked
The prompt has been asked, but no response has been received.
Answered Yes
The prompt has been answered affirmatively.
Answered No
The prompt has been answered negatively.

Reply
The reply to the prompt dependency. To reply to a prompt that is in the ASKED state, click in this column and select Yes or No from the drop-down menu.

To add a predefined prompt for the job stream instance, perform the following steps:

1. From the drop-down list, select Predefined Prompt.
2. Click .
3. Type the name of the prompt in the Name cell or click ... (find) to search for and select the prompt. The following information displays:

Message Text
The text of the prompt.

Number
The number of the prompt dependency.

Release Status
The status of the prompt dependency. Possible values are:
Not Released
The job stream instance is not released from the prompt dependency.
Released
The job stream instance is released from the prompt dependency.

Internal Status
The internal status of the prompt dependency. Possible values are:
Not Asked
The prompt has not been asked.
Asked
The prompt has been asked, but no response has been received.
Answered Yes
The prompt has been answered affirmatively.
Answered No
The prompt has been answered negatively.

Reply
The reply to the prompt dependency. To reply to a prompt that is in the ASKED state, click in this column and select Yes or No from the drop-down menu.
Submitting a distributed ad hoc job into a specific job stream

To remove a prompt dependency for the job stream, select the prompt row in the list and click \[\text{X}\].

**Files page**
Use the Files page to set file dependencies for the ad hoc job.

The page consists of the following:

- **Filename**: The path and name of the file.
- **Workstation**: The workstation on which the file resides.
- **Qualifiers**: The test conditions for the file dependency.
- **Release Status**: Whether the file dependency is released. This field is read-only for submitted job instances. Possible values are:
  - **Not Released**: The ad hoc job is not released from the file dependency.
  - **Released**: The ad hoc job is released from the file dependency.

**Internal Status**: The internal status of the file dependency. This field is read-only for submitted job instances. Possible values are:

- **Not Checked**: The file dependency has not been checked.
- **Checking**: The file dependency is being checked.
- **Exists**: The file dependency is satisfied.
- **Does Not Exist**: The file dependency is not satisfied.

To add a file dependency to the ad hoc job instance, perform the following steps:

1. Click \[\text{+}\].
2. Double-click the **Filename** cell and type a file name and path, or click \(...\) (find) to search for and add a file.
3. Double-click the **Workstation** cell and click \(...\) (find) to search for and select the workstation where the file exists or will be created.
4. Double-click the **Qualifiers** cell and specify the test conditions for the file dependency. For a description of the possible qualifiers see “Files page” on page 166.

To delete a file dependency, select it and click \[\text{X}\].

**Predecessors page**
Use the Predecessors page to set predecessor dependencies for the ad hoc job.

The page consists of the following:

- **Job Stream**: The name of the predecessor job stream instance or the job stream that owns the predecessor job.
- **Job**: The name of a predecessor job instance.
- **Workstation**: The workstation of the predecessor job stream.
Submitting a distributed ad hoc job into a specific job stream

**Release Status**
Whether the predecessor dependency is released. Possible values are:

- **Released**
  The job instance is released from the predecessor dependency.

- **Not Released**
  The job instance is not released from the predecessor dependency.

**Internal Status**
The Tivoli Workload Scheduler internal status of the predecessor job or job stream.

For more information on job or job stream status refer to [Appendix C, “Status description and mapping,” on page 441](#).

**Scheduled Time**
The time at which the job stream is scheduled to run.

To add a predecessor to the ad hoc job instance, perform the following steps:

1. Click ![Add](image)
2. To specify a predecessor job stream, double-click in the **Job Stream** cell and click ... (find) to search for and insert the name of a predecessor job stream instance.
3. To specify a predecessor job, double-click in the **Job** cell and click ... (find) to search for and insert the name of a predecessor job instance.

To delete a predecessor from the ad hoc job instance, select it and click ![Remove](image).

**Internetwork Predecessors page**
Use the Internetwork Predecessors page to add predecessor dependencies from a remote Tivoli Workload Scheduler network.

The page consists of the following:

**Network Agent**
The network agent workstation to which the predecessor belongs.

**Dependency**
A dependency or the job or job stream predecessor in the format `workstation#jobstream.job`. The maximum length is 16 for workstation, 16 for the job stream, and 40 for the job.

**Release Status**
Whether the internetwork predecessor dependency is released. Possible values are:

- **Released**
  The job instance is released from the internetwork predecessor dependency.

- **Not Released**
  The job instance is not released from the internetwork predecessor dependency.

To release the job instance from the predecessor dependency, double-click in the **Release Status** column and select **Released** from the drop-down menu.

**Internal Status**
The Tivoli Workload Scheduler internal status of the predecessor job or job stream instance.
Submitting a distributed ad hoc job into a specific job stream

For more information about job or job stream status, see Appendix C, “Status description and mapping,” on page 441.

To add an internetwork predecessor dependency to a job instance, perform the following steps:

1. Click on the Network Agent cell and click ... (find) to search for and select an agent.
2. Double-click in the Dependency cell and type the dependency.

To delete a predecessor, select it and click on the Dependency cell.

Into a default job stream

To submit an ad hoc job using the default job stream instance, perform the following steps:

1. In the Action list pane, click Submit.
2. Click Ad hoc and select submit. The Properties job instance panel displays.

The panel consists of the following:

- “General page” on page 314
- “Task page” on page 315
- “Time Restrictions page” on page 316
- “Files page” on page 319
- “Prompts page” on page 317
- “Resources page” on page 316
- “Predecessors page” on page 319
- “Internetwork Predecessors page” on page 320

Modifying the properties of a job instance

To display the properties of a job instance in the plan, perform the following steps:

1. Run a job instance list that contains the job instance you want to modify. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job instance and select Properties from the pop-up menu.

The Properties - Job Instance panel displays.

The panel consists of the following:

- “General page” on page 322
- “Task page” on page 323
- “Time Restrictions page” on page 324
- “Resources page” on page 325
- “Prompts page” on page 325
- “Files page” on page 327

After you modified the Properties of a job instance, you cannot modify the Scheduled Time.
Modifying job instance properties in the plan

General page

Use the General page to modify the general properties of the job instance.

The page consists of the following:

Name
The name of the job instance.

Workstation (Job)
The name of the workstation on which the job instance is launched.

Job Stream Name
The name of the job stream this job instance belongs to.

Scheduled Time
The date and time when the job is scheduled to run.

Workstation (Job Stream)
The name of the workstation on which the job stream instance is launched.

Job Number
The PID assigned by the operating system when a job instance has been run in the production plan.

Login
The user ID of the person running the job instance.

Information
Additional information about the job instance.

Rerun Options
Whether this job instance has been rerun.

Requires Confirmation
The job instance does not go into the final state without confirmation.

Monitored Job
The running of this job is to be monitored by Tivoli Business Systems Manager. Changes to the monitored job status are not displayed in the job stream properties until you close and reopen the job stream.

Is Interactive
Whether this job instance is an interactive job. This information appears only for Windows jobs.

Priority
The priority of the job instance. Type a priority value or click:

- Hold
  Sets the priority to 0.
- High
  Sets the priority to 100.
- Go
  Sets the priority to 101.

Possible priority values are 0 through 101, where 101 is the highest priority. A priority value of zero prevents the job from launching. High and Go jobs are launched as soon as their dependencies are satisfied, overriding the workstation job limit, but not overriding the job stream job limit or the workstation job fence.

Status
The Job Scheduling Console status of the job instance.

For more information on job or job stream status refer to Appendix C, “Status description and mapping,” on page 441.
Internal Status
The Tivoli Workload Scheduler internal status of the job instance. For more information on job or job stream status refer to Appendix C, “Status description and mapping,” on page 441.

Start Time
The actual start time of the job instance, if it has completed running.

Duration
The actual duration of the job instance, if it has completed running. The actual time duration is calculated as the execution time rounded up to one minute for the elapsed time. For example, an execution time of 4 minutes 20 seconds would be rounded to 5 minutes, or an execution time of 10 minutes would be rounded to 11 minutes.

Recovery Options
The recovery options if the job instance ends in error. Possible values are:
- **Stop**
  Do not continue with the next job instance.
- **Continue**
  Continue with the next job instance.
- **Rerun**
  Rerun the job instance.
- **Job Name**
  The name of a recovery job to run. Recovery jobs are run only once for each instance of the parent job instance.

Workstation Name
The name of the workstation on which the recovery job runs. The name is entered automatically when you select a recovery job.

Not all jobs are eligible to have recovery jobs run on a different workstation. Follow these guidelines:
- If either workstation is an extended agent, it must be hosted by a domain manager or a fault-tolerant agent that runs in **Full Status** mode.
- The recovery job workstation must be in the same domain as the parent job workstation.
- If the recovery job workstation is a fault-tolerant agent, it must run in **Full Status** mode.

Message
The text of the recovery prompt when a job instance ends in error. The maximum length is 64 characters. The recovery prompt is local and you respond using the Job Scheduling Console.

Task page
Use the Task page to review information about the job instance task.

The page consists of the following:

- **Task Type**
  The task type of the job instance.

- **Command**
  The command or script that is called by the task.

- **Return Code**
  The return code assigned to the job instance.
Modifying job instance properties in the plan

Expression
The logical expression that defines the success condition.

Time Restrictions page
Use the Time Restrictions page to modify the time restriction properties of the job instance.

The page consists of the following:

Start
The date and time before which the job stream does not start. Possible values are:
Specify Date and Time
Select Specify Date and Time when you want to specify a start time for the job instance.
Date
The date before which the job stream does not start.
Time
The time before which the job stream does not start. The format is specific to your locale.

Latest Start Time
The latest time at which the job instance should start. Possible values are:
Specify Date and Time
Select Specify Date and Time when you want to specify a latest start time for the job instance.
Date
The date by which the job stream should start.
Time
The time by which the job stream should start. The format is specific to your locale.

Action
The action to be performed in case the job instance does not start before the Latest Start Time. Possible values are:
Suppress
Select Suppress to specify that the job instance does not start, even if the error condition that prevented it from starting is corrected, and dependencies are not released. Suppress is the default.
Continue
Select Continue to specify that the job instance starts when the error condition that prevented it from starting is corrected.
Cancel
Select Cancel to specify that the job instance is cancelled and dependencies are released.

Termination Deadline
The time by which the job instance should complete. Job instances still running at termination deadline are considered late in the plan. The termination deadline does not prevent jobs and job streams from starting. Possible values are:
Specify Date and Time
Select Specify Date and Time when you want to specify a deadline time for the job instance.
Date
The date by which the job stream should end.
Time
The time by which the job stream should end. The format is specific to your locale.

Repeat Range
The interval of time in hours and minutes for each run of the job to be repeated. Using the Repeat Range with the Start and Termination Deadline times allows you to run a job instance, for example, every 15 minutes from 1:00 p.m. to 5:00 p.m.
Resources page

Use the Resources page to set resource dependencies for the job instance.

The page consists of the following:

**Resource**
The name of the resource.

**Workstation**
The workstation on which the resource resides.

**Quantity**
The number of units of a resource are needed by the job instance to satisfy the dependency.

**Available**
The number of units of the resource that are currently available.

**Release Status**
Whether the resource dependency is released. Possible values are:

- **Not Released** The job instance is not released from the resource dependency.
- **Released** The job instance is released from the resource dependency.

To release the job instance from the resource dependency, double-click in the Release Status column and select Released from the drop-down menu.

To add a resource dependency to the job instance, perform the following steps:

1. Click 🟢.
2. Double-click in the Workstation cell and click ... to search for and select a workstation.
3. Double-click in the Resource cell and click ... to search for and select a resource name.
4. Double-click in the Quantity cell and specify the number of resource units required by the ad hoc job instance. The default is one.

To delete a resource dependency, select it and click ✗.

Prompts page

Use the Prompts page to set ad hoc or predefined prompt dependencies for the job instance.

To add an ad hoc prompt for the job instance, perform the following steps:

1. From the drop-down list, select Ad Hoc Prompt.
2. Click 🟢.
3. Double-click in the Message Text cell and type the text of the prompt. The default behavior of a prompt is to display a message and wait for a reply. Based on the character preceding the text, the prompt can behave differently:
   - If the text begins with a colon (:), the prompt displays, but no reply is required to continue processing.
   - If the text begins with an exclamation mark (!), the prompt displays, but it is not recorded in the log file.
Refer to the Tivoli Workload Scheduler: Reference Guide for a detailed explanation on how to specify the text of a prompt.
You can include one or more scheduler parameters as part or all of the text string. To use a parameter, place its name between carets (^). In the row you can see also the information described in the list below. This information is filled in when the job stream instance is included in the plan.

**Number**
The number of the prompt dependency.

**Release Status**
The status of the prompt dependency. Possible values are:
- Not Released
  The job instance is not released from the prompt dependency.
- Released
  The job instance is released from the prompt dependency.

**Internal Status**
The internal status of the prompt dependency. Possible values are:
- Not Asked
  The prompt has not been asked.
- Asked
  The prompt has been asked, but no response has been received.
- Answered Yes
  The prompt has been answered affirmatively.
- Answered No
  The prompt has been answered negatively.

**Reply**
The reply to the prompt dependency. To reply to a prompt that is in the ASKED state, click in this column and select Yes or No from the drop-down menu.

To add a predefined prompt for the job instance, perform the following steps:
1. From the drop-down list, select **Predefined Prompt**.
2. Click .
3. Type the name of the prompt in the **Name** cell or click ... (find) to search for and select the prompt. The following information displays:

**Message Text**
The text of the prompt.

**Number**
The number of the prompt dependency.

**Release Status**
The status of the prompt dependency. Possible values are:
- Not Released
  The job instance is not released from the prompt dependency.
- Released
  The job instance is released from the prompt dependency.

**Internal Status**
The internal status of the prompt dependency. Possible values are:
- Not Asked
  The prompt has not been asked.
- Asked
  The prompt has been asked, but no response has been received.
Modifying job instance properties in the plan

Answered Yes
The prompt has been answered affirmatively.

Answered No
The prompt has been answered negatively.

Reply
The reply to the prompt dependency. To reply to a prompt that is in the ASKED state, click in this column and select Yes or No from the drop-down menu.

To remove a prompt dependency for the job instance, select the prompt row in the list and click \( \times \).

Files page
Use the Files page to set file dependencies for the job instance.

The page consists of the following:

Filename
The path and name of the file. If the file resides on another workstation, it must have the Job Scheduling Console installed.

Workstation
The workstation on which the file resides.

Qualifiers
The test conditions for the file dependency. For a description of the possible qualifiers see “Files page” on page 166.

Release Status
Whether the file dependency is released. Possible values are:

Not Released
The job instance is not released from the file dependency.

Released
The job instance is released from the file dependency.

To release the job instance from the file dependency, double-click in the Release Status column and select Released from the drop-down menu.

Internal Status
The internal status of the file dependency. Possible values are:

Not Checked
The file dependency has not been checked.

Checking
The file dependency is being checked.

Exists
The file dependency is satisfied.

Does Not Exist
The file dependency is not satisfied.

To add a file dependency to the job instance, perform the following steps:

1. Click \( + \).
2. Double-click the Filename cell and type a file name and path, or click ... (find) to search for and add a file name.
3. Double-click the Workstation cell and click ... (find) to search for and select the workstation where the file exists or will be created.
4. Double-click the Qualifiers cell and specify the test conditions for the file dependency. For a description of the possible qualifiers see “Files page” on page 166.
Modifying job instance properties in the plan

To remove a file dependency from the job instance, select it and click **X**.

Displaying and modifying job instance dependencies

To display and modify the dependencies of a job instance, perform the following steps:

1. Run a list of job instances that contains the job instance you want to modify. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job instance and select Dependencies from the pop-up menu. The Dependencies - Job Instance panel displays.

The panel consists of the following:

- “Predecessors page”
- “Internetwork Predecessors page” on page 329
- “Successors page” on page 330

Predecessors page

Use the Predecessors page to set predecessor dependencies for the job instance.

The page consists of the following:

- **Job Stream**
  The name of a predecessor job stream instance or the job stream that owns the predecessor job.

- **Job**
  The name of a predecessor job instance.

- **Workstation**
  The workstation of the predecessor job or job stream.

- **Release Status**
  Whether the predecessor dependency is released. Possible values are:
  - **Released**
    The job instance is released from the predecessor dependency.
  - **Not Released**
    The job instance is not released from the predecessor dependency.

To release the job instance from the predecessor dependency, double-click in the Release Status column and select Released from the drop-down menu.
Internal Status
The Tivoli Workload Scheduler internal status of the predecessor job or job stream instance.

For more information about job or job stream status, see Appendix C, “Status description and mapping,” on page 441.

Scheduled Time
The time at which the job instance is scheduled to run.

To add a predecessor dependency to a job instance, perform the following steps:

1. Click .
2. To specify a predecessor job instance, double-click in the Job cell and click ... (find) to search for and select a predecessor job instance. This operation automatically displays the job stream to which the job belongs in the Job Stream cell.
3. To specify a predecessor job stream instance, double-click in the Job Stream cell and click ... (find) to search for and select the name of a predecessor job stream instance.

To delete a predecessor, select it and click .

Internetwork Predecessors page
Use the Internetwork Predecessors page to add predecessor dependencies from a remote Tivoli Workload Scheduler network.

The page consists of the following:

Network Agent
The network agent workstation to which the predecessor belongs.

Dependency
A dependency or the job or job stream predecessor in the format workstation#jobstream.job. The maximum length is 16 characters for workstation, 16 characters for the job stream, and 40 characters for the job.

Release Status
Whether the internetwork predecessor dependency is released. Possible values are:

- Released: The job instance is released from the internetwork predecessor dependency.
- Not Released: The job instance is not released from the internetwork predecessor dependency.

To release the job instance from the predecessor dependency, double-click in the Release Status column and select Released from the drop-down menu.

Internal Status
The Tivoli Workload Scheduler internal status of the predecessor job or job stream instance.

For more information about job or job stream status, see Appendix C, “Status description and mapping,” on page 441.

To add an internetwork predecessor dependency to a job instance, perform the following steps:
Modifying job instance properties in the plan

1. Click \( \text{add} \).
2. In the **Network Agent** cell click ... (find) to search for and select an agent.
3. Double-click in the **Dependency** cell and type the dependency.

To delete a predecessor, select it and click \( \text{x} \).

**Successors page**

Use the **Successors** page to view information about successor dependencies.

The page consists of the following:

- **Job Stream Name**
  - The name of the successor job stream instance or the name of the job stream that owns the successor job.
- **Job**
  - The name of the successor job.
- **Workstation**
  - The workstation to which the successor belongs.
- **Status**
  - The status of the job.
- **Internal Status**
  - The Tivoli Workload Scheduler internal status of the successor job.
- **Scheduled Time**
  - The time at which the job instance is scheduled to run.

**Deleting a job instance**

You can delete a single job instance or delete all jobs in a group of job instances. To delete a single job instance see “Deleting objects from a list” on page 64, to delete all jobs in a group of job instances follow the procedure described in “Deleting all job instances.”

**Deleting all job instances**

To delete all jobs in a group of job instances in the **Timeline View**, perform the following steps:

1. Run a list of job instances that contains the instances you want to delete. See Chapter 36, “Working with lists,” on page 199.
2. Click \( \text{tab} \) to switch to the **Timeline View**.
3. Right-click the arrow next to the job instance group.
4. Click **Delete All**.

**Holding a job instance**

This section describes how to hold job instances. It consists of the following subsections:

- “Holding a single job instance” on page 331
- “Holding all job instances” on page 331
Holding a single job instance

To change a single job instance to Hold, perform the following steps:
1. Run a list of job instances that contains the job you want to hold. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job instance and select Hold from the pop-up menu.

Holding all job instances

To hold all jobs in a group of job instances in the Timeline View, perform the following steps:
1. Run a list of job instances that contains the instances you want to hold. See Chapter 36, “Working with lists,” on page 199.
2. Click to switch to the Timeline View.
3. Right-click the arrow next to the job instance group.
4. Click Hold All.

Releasing a job instance

This section describes how to release a job instance that is in Hold, returning the job priority to its start of production day state. It consists of the following subsections:

- “Releasing a single job instance”
- “Releasing all job instances”

Note: Do not confuse Release with Release All Dependencies. It has no effect on job dependencies.

Releasing a single job instance

To change a single job instance to Release, perform the following steps:
1. Run a list of job instances that contains the job instance you want to release. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job instance you want release.
3. Select Release from the pop-up menu.

Releasing all job instances

To release all jobs in a group of job instances, perform the following steps:
2. Click to switch to the Timeline View.
3. Right-click the arrow next to the job instance group.
4. Click Release All.

Showing job instance predecessors and successors using the Impact View

To show the predecessors or successors of a job instance in the Impact View, perform the following steps:
Deleting a job instance

1. Run a list of job instances that contains the job instance you want to view. See Chapter 36, “Working with lists,” on page 199.

2. Right-click the job instance and select Impact View ▶ Predecessors or Successors. The Impact View panel displays.

Use the Layout menu to set Direction and Dependency Level.

**Direction** graphically shows the job instances and their dependencies in the panel.

**Dependency Level** sets the level of dependencies displayed in the Impact View ranging from 1 to 5. The predecessors or successors up to the specified level, if any, are displayed in the Impact View. The value defined in the Dependency Level panel is stored and used whenever you open another view.

At any time, you can reset the display using a job instance as the root job instance. Right-click the job instance you want to use as the root job instance and select Set As Root from the pop-up menu. The display is refreshed, showing the selected job instance as the root instance.

To reset the display in a separate panel, right-click the job instance you want to use as the root job instance and select Set As Root In New Frame from the pop-up menu.

**Predecessors/Successors** toggles the view.

**Browsing the job log**

A job instance log file is created for each job instance launched by Tivoli Workload Scheduler. Log files contain header and trailer banners, echoed commands, and errors and warnings. These files can be used to troubleshoot problems when jobs run.

To view the job instance log, perform the following steps:
Deleting a job instance

1. Run a list of job instances that contains the job instance you want to browse. See [Chapter 36, “Working with lists,” on page 199](#).
2. In the list results, right-click the job instance you want to display.
3. Select Browse Job Log from the pop-up menu. The job instance log file panel displays.

Rerunning a job instance

You can rerun a job instance when its internal state is one of the following:

- SUCC
- ABEND

To rerun a job instance, perform the following steps:

1. Run a list of job instances that contains the job instance you want to rerun. See [Chapter 36, “Working with lists,” on page 199](#).
2. In the list results, right-click the job instance you want to rerun.
3. Select Rerun from the pop-up menu. The Rerun Job panel displays.

The panel consists of the following:

**From Job Definition**

The job definition from which you want the job to taken.

**Workstation Name**

The workstation to run the job.

**Step**

The step from which you would like to rerun this job. The new job instance assumes the name specified here.

**Specify Date and Time**

Select this to specify that entry of a from time is enabled.

**Date**

The date from which the job can start.

**Time**

The time from which the job can start.

**Priority**

The priority of the submitted job. Possible values are:

- **Hold**
  - The priority of the submitted job. To change the priority, enter a value in the field or select one of:
    - **Hold**
      - Sets the priority to 0. This job will not run until the priority is raised.
    - **High**
      - Sets the priority to 100.
    - **Go**
      - Sets the priority to 101.

Possible priority values are 0 through 101, where 101 is the highest priority. A priority value of zero prevents the ad hoc job from launching.

Cancelling a job instance

Cancelling a job instance in the plan prevents the job from running. A cancelled job instance can be submitted anytime during the production cycle using an alias name. For more information, see “Submitting a job” on page 311.

To cancel a job instance, perform the following steps:
Deleting a job instance

1. Run a list of job instances that contains the job instance you want to cancel. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job instance and select Cancel from the pop-up menu.

Performing a cancel pending of a job instance

Use this function to cancel a job stream when all its dependencies are resolved. To cancel a job instance, perform the following steps:

1. Run a list of job instances that contains the job instance you want to cancel. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job instance and select Cancel Job Pending from the pop-up menu.

If the job has not been launched, cancellation is deferred until all of the dependencies, including an at time, are resolved. When all the dependencies are resolved, the job is cancelled and any jobs or job streams that are dependent on the cancelled job are released from the dependency. If the job has been launched, the job is cancelled when it completes and is moved to its final status.

Killing a job instance

Use the kill function to stop a job instance that is currently running. To kill a job instance, perform the following steps:

1. Run a list of job instances that contains the job instance you want to kill. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job instance and select Kill from the pop-up menu. A confirmation message displays. When you kill a job instance the Status is set to Error and the Internal Status is set to Abend.

Confirming a job instance status

Confirming a job instance status as SUCC or ABEND allows you to force the job instance into a state where either its successors can continue processing or job recovery options are started.

To confirm a job instance status to SUCC or ABEND, perform the following steps:

1. Run a list of job instances that contains the job instance you want to confirm. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job instance and select Confirm► SUCC or ABEND from the pop-up menu.

Releasing a job instance from dependencies

To release a job instance from its dependencies, perform the following steps:

1. Run a list of job instances that contains the job instance you want to release. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the job instance and select Release All Dependencies from the pop-up menu. This allows the job instance to run unless there are other higher priority jobs waiting to run, or if the job instance priority is below the fence for the workstation.
Chapter 53. Managing workstations in the plan

This chapter describes how you manage workstations in the plan. It is divided into the following sections:

- “Managing z/OS workstations in the plan”
- “Managing distributed workstations in the plan” on page 340

Managing z/OS workstations in the plan

This section describes how to monitor and update z/OS workstations in the plan. It consists of the following subsections:

- “Displaying the status of z/OS workstations in the plan”
- “Modifying z/OS workstation properties in the plan” on page 336
- “Linking fault-tolerant workstations” on page 338
- “Changing workstation status and rerouting scheduled job instances” on page 338
- “Displaying workstation job instances by status” on page 339
- “Modifying z/OS job instances scheduled on a workstation” on page 339

Displaying the status of z/OS workstations in the plan

To display a list of workstations in the plan, perform the following steps:

1. Run a the Status of all Workstations plan list. See Chapter 36, “Working with lists,” on page 199.

   The Status of all Workstations table displays in the Object list pane.

   ![Status of all Workstations Table](image)

   The table consists of the following:

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
<th>Internal Status</th>
<th>Fault Tolerant</th>
<th>Linked</th>
<th>Reporting All Type</th>
<th>Jobs Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>$SSSS</td>
<td>Available</td>
<td>No</td>
<td>No</td>
<td>Non report... Computer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$SSSS</td>
<td>Available</td>
<td>No</td>
<td>No</td>
<td>Automatic Computer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$SSSS</td>
<td>Available</td>
<td>No</td>
<td>No</td>
<td>Automatic Computer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$SSSS</td>
<td>Available</td>
<td>No</td>
<td>No</td>
<td>Manual sta... General</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$SSSS</td>
<td>Available</td>
<td>No</td>
<td>No</td>
<td>Manual sta... General</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$SSSS</td>
<td>Available</td>
<td>No</td>
<td>No</td>
<td>Manual sta... Computer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$SSSS</td>
<td>Available</td>
<td>No</td>
<td>No</td>
<td>Manual sta... General</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   The name of the workstation.

   The status of the workstation. Possible values are:

   - **Available** The workstation is free to run the job.
   - **Not Available** The workstation is not free to run the job.
   - **Unknown** The status of the workstation is not known.
   - **Active** When the workstation is fault-tolerant, it is ready to run a job.
   - **Offline** When the workstation is fault-tolerant, it is not connected.

   The internal status of the workstation is listed only when the status of the workstation is **Not Available**.

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Displaying z/OS workstation status in the plan

**Fault Tolerant** Whether the workstation is fault-tolerant.

**Automation** Whether the workstation is defined for integration with Tivoli System Automation for z/OS.

**Linked** Whether the workstation is connected. Possible values are:
- **Yes** The workstation is connected.
- **No** The workstation is not connected.

**Reporting Attribute**
The reporting attribute for the workstation. Possible values are:
- **Manual start and completion** Status changes of jobs are reported from the Ready List ISPF panel on the host, or from the results of a workstation status list.
- **Non reporting** Jobs on this workstation are set to complete as they become ready to start.
- **Automatic** Status changes of jobs are reported automatically in response to event records created by Tivoli Workload Scheduler.
- **Completion only** Status changes of jobs are reported from the Ready List ISPF panel on the host or from the results of a workstation status list.

**Type** The type of workstation. Possible values are:
- **General**
- **Computer**
- **Printer**

**Jobs Running** The number of jobs that are currently running on the workstation.

**Jobs Successful** The number of current plan jobs that completed successfully on the workstation.

**Total Runtime** The total time that completed jobs took to complete, in hours and minutes.

**Jobs Remaining** The number of current jobs scheduled to run on the workstation.

**Expected Runtime** The time that the remaining current plan jobs are expected to take to run, in hours and minutes.

**Modifying z/OS workstation properties in the plan**

To change the properties of a z/OS workstation in the plan, perform the following steps:

**Note:** The changes you make to a workstation in the plan do not change the workstation properties in the database.

1. Run a **Status of all Workstations** list that contains the workstation you want to modify. See **Chapter 36, “Working with lists,” on page 199**.
2. Right-click the workstation and select **Properties** from the pop-up menu.
   The Properties - Workstation in Plan panel displays. Several of the fields are read only.
Displaying z/OS workstation status in the plan

See “Creating a z/OS workstation” on page 112 for an idea of the panel appearance.

The panel consists of the following:

- “General page”
- “Resources page”
- “Job Summary tab”
- “Open Time Intervals page”

**General page**

Use the General page to review general information about the workstation, or to set the Reporting Attribute of the workstation. For a definition of the fields, see “Creating a z/OS workstation” on page 112.

**Resources page**

Use the Resources page to review details of the workstation resources. For each of the two resources the panel displays the name, the amount in use, and the type of use. For a definition of the fields, see “Creating a z/OS workstation” on page 112.

To change the type of use of each resource, select Used for control. This means that, if an unexpected event happens while job instances are running, the system considers the resource when it reschedules them.

**Job Summary tab**

Use the Job Summary page review a summary of the job instances scheduled to run on the workstation.

This page displays the number, estimated duration, and actual duration (where applicable) of all the job instances scheduled to run on the workstation. The information is provided for instances in the following status:

- Completed
- Interrupted
- Started
- Ready
- Jobs Waiting

**Open Time Intervals page**

Use the Open Time Intervals to review and modify the boundaries and modified values of the workstation open time intervals.

To add an open time interval for the workstation, perform the following steps:

1. Click +.
2. Double-click the Start Date cell and add a new day.
3. Double-click in the Start Time cell and enter the new time.
4. Double-click in the End Date cell and enter the new end date.
5. Double-click in the End Time cell and enter the new end time.
6. Double-click in the Planned PS cell and enter the number of parallel servers defined for the workstation.
7. Double-click in the Planned R1 cell and enter the quantity of available resources.
8. Double-click in the Planned R2 cell and enter the quantity of available resources.
Displaying z/OS workstation status in the plan

9. Double-click in the Planned Alternate cell and enter a workstation that can substitute the workstation if it is unavailable.

10. Double-click the Modified PS cell and enter the new parallel server quantity.

11. Double-click the Modified R1 cell and enter the new resource quantity.

12. Double-click in the Modified R2 cell and enter the new resource quantity.

13. Double-click in the Modified Alternate cell and to click ... (find) to search for and select an alternate workstation.

To delete an open time interval, select it and click .

Linking fault-tolerant workstations

To link a fault-tolerant workstation to the master workstation, perform the following steps:

1. Run a Status of all Workstations list that contains the workstation you want to modify. See Chapter 36, “Working with lists,” on page 199.

2. Right-click the workstation and select Link from the pop-up menu.

Changing workstation status and rerouting scheduled job instances

You can manually change the status of a workstation and reroute scheduled job instances to an alternate workstation. This overrides, for the duration of the current plan, the corresponding values defined in the database.

To do this, perform the following steps:

1. Run a Status of all Workstations list that contains the workstation you want to modify. See Chapter 36, “Working with lists,” on page 199.

2. Right-click the workstation and select Set Status from the pop-up menu.

The Change Status - Workstation panel displays.

The panel consists of the following:

**Active** When the workstation is functioning and available.

**Offline** When communication fails between Tivoli Workload Scheduler for z/OS and the workstation.

**Failed** When system failure makes the workstation unavailable.

**Started Jobs** Select the action to perform on started jobs. Possible values are:
Displaying z/OS workstation status in the plan

- Restart
- Leave
- Set to error

Reroute Jobs  Select to reroute jobs to the alternate workstation you specify in Alternate Workstation

Note: If the workstation is fault-tolerant, only the Active and Offline options are available.

Displaying workstation job instances by status

To display workstation job instances by status, perform the following steps:

1. Run a Status of all Workstations list that contains the workstation you want to modify. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the workstation and select List Jobs ▶ status from the pop-up menu.

Possible states are:

- **Arriving**: The job instances are scheduled to run on the workstation.
- **Complete**: The job instances completed without errors.
- **Deleted**: The job instances were cancelled.
- **Error**: The job instances ended in error.
- **Interrupted**: The job instances were interrupted.
- **Ready**: The job instances are ready to run.
- **Ready List**: The job instances are ready to run on the selected workstation, but have a predecessor on a non-reporting workstation.
- **Ready - Non Reporting Workstation**: The job instances are ready to run on the selected workstation, but have a predecessor on a non-reporting workstation.
- **Started**: The job instances are running.
- **Undecided**: The job instances have an unknown status.
- **Waiting**: The job instances are running on the selected workstation, but are keeping other scheduled jobs from running on the same workstation.

Modifying z/OS job instances scheduled on a workstation

To modify z/OS job instances scheduled on a workstation, perform the following steps:

1. Run a list of jobs scheduled on a workstation that contains the job instance you want to modify. See Chapter 36, “Working with lists,” on page 199.
2. Right-click a selected job and select one of the options from the pop-up menu.

Possible options are:

- **Properties**: Browse and modify the properties of the job instance.
- **Dependencies**: Browse and modify the dependencies of the job instance.
- **Delete**: Delete the job instance from the plan.
- **Hold**: Hold the job instance.
- **Release**: Release the job instance.
Displaying z/OS workstation status in the plan

Impact View  Show the predecessors and successors of the job instance
Browse Job Log  View the job log file.
NOP or UN-NOP  Set a job instance that is already in the plan and is in ready or waiting status to run in a non-operational state (NOP), or change a non-operational job instance to an operational job instance (UN-NOP).
Kill  Stop a job instance that is currently running on a fault-tolerant agent or on a standard agent.
Execute  Run the job instance immediately.
Set status  Change the status of the job instance.
Edit JCL  Modify the variables and instructions associated with a job instance.
Browse Operator Instruction  View operator instructions associated with a job instance.
Job Setup  Tailor job statements.
Restart  Restart a job instance and perform cleanup operations.
Recovery Info  Displays the recovery options defined in the job script.
Automatic Recovery  Displays whether automatic recovery is set.
Critical Path  Displays all jobs on the same critical path as the selected job.

For an explanation about how to use these options, see Chapter 51, “Managing z/OS job instances,” on page 291.

Managing distributed workstations in the plan

This section describes how to monitor and update distributed workstations in the plan. It consists of the following subsections:

- “Displaying the status of distributed workstations in the plan”
- “Displaying distributed workstation instance properties” on page 342
- “Changing the job limit of a workstation in the plan” on page 342
- “Changing the job fence of a workstation in the plan” on page 343
- “Starting a workstation instance” on page 343
- “Stopping a workstation instance” on page 343
- “Linking a workstation instance” on page 343
- “Unlinking a workstation instance” on page 343

Displaying the status of distributed workstations in the plan

To display the status of workstations in the plan, perform the following steps:


The Status of all Workstations table displays in the Object list pane.
Managing distributed workstations in the plan

<table>
<thead>
<tr>
<th>Name</th>
<th>Jobman Running</th>
<th>Link Status</th>
<th>Writer Running</th>
<th>Limit</th>
<th>Fence</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAB135079</td>
<td>Yes</td>
<td></td>
<td></td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>MONICAGE...</td>
<td>Yes</td>
<td>LINKED</td>
<td></td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>LAB235033</td>
<td>Yes</td>
<td>LINKED</td>
<td>Yes</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>LAB235011</td>
<td>Yes</td>
<td>LINKED</td>
<td></td>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

The table consists of the following:

**Name**
The workstation instance name.

**Jobman Running**
Whether or not the Jobman process on the workstation is running.

**Link Status**
The current link status of the workstation. A workstation can either be LINKED or UNLINKED.

**Writer Running**
Whether the writer process is able to send messages from the fault-tolerant agent to the master when the fault-tolerant agent is directly connected to the master. Possible values are: Yes or blank when the writer is down, or the state is unknown.

**Limit**
The total number of jobs that can be run concurrently on this workstation.

**Fence**
The job fence for this workstation. The job fence is the priority a job must exceed to run on this workstation. Setting the fence to 40, for example, prevents jobs with priorities of 40 or less from being launched. Valid values are from 0 to 101.

**Node**
The type of workstation and operating system in the format `os_wkstat`.

Possible `os` values are:
- WNT Windows.
- UNIX UNIX.
- Other Other workstation operating system.

Possible `wkstat` values are:
- FTA Fault-tolerant agent.
- Master Master.
- Manager Domain manager.
- SAGENT Standard agent.
- XAGENT Extended agent.

**Time Zone**
The time zone of the workstation.

**Node Port**
The port address of the workstation.

**CPU Type**
The scheduler workstation type. Possible values are:
- FTA Fault-tolerant agent.
- MASTER Master.
- MANAGER Domain manager.
- SAGENT Standard agent.
- XAGENT Extended agent.
Managing distributed workstations in the plan

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>The scheduler workstation that is hosting this workstation definition. For extended agents and network agents only.</td>
</tr>
<tr>
<td>Run</td>
<td>The run number of the production plan of the workstation. This number is used to synchronize the workstations in the network.</td>
</tr>
<tr>
<td>Start Time</td>
<td>The date and time the batchman process started on the workstation.</td>
</tr>
<tr>
<td>Jobman Init</td>
<td>Whether the jobman process on the workstation completed its startup initialization.</td>
</tr>
<tr>
<td>Method</td>
<td>The name of the access method when the workstation is an extended or network agent.</td>
</tr>
<tr>
<td>Domain</td>
<td>The domain to which the workstation belongs.</td>
</tr>
<tr>
<td>Version</td>
<td>The version of Tivoli Workload Scheduler installed on this workstation.</td>
</tr>
<tr>
<td>Node Information</td>
<td>Operating system information about the workstation.</td>
</tr>
<tr>
<td>Node Name</td>
<td>The node name of the workstation.</td>
</tr>
<tr>
<td>SSL Communication</td>
<td>Indicates whether the Secure Sockets Layer (SSL) protocol is enabled.</td>
</tr>
<tr>
<td>Behind Firewall</td>
<td>Indicates that a firewall exists between the workstation and its domain manager.</td>
</tr>
<tr>
<td>SSL Port</td>
<td>Indicates the number of the secure port used for SSL communication.</td>
</tr>
<tr>
<td>Mailman Server</td>
<td>The name of the mailman server for the workstation.</td>
</tr>
</tbody>
</table>

Displaying distributed workstation instance properties

To display a workstation instance in the plan, perform the following steps:

2. Right-click the workstation and select Properties from the pop-up menu. The Properties - Workstation in Plan panel displays. For descriptions of the field values, see “Displaying the status of distributed workstations in the plan” on page 340.

Changing the job limit of a workstation in the plan

To change the job limit of a workstation instance in the plan, perform the following steps:

2. Right-click the workstation you want to modify and select Limit from the pop-up menu. The Change Limit - Workstation panel displays.
Changing the job fence of a workstation in the plan

To change the job fence of a workstation instance in the plan, perform the following steps:

2. In the list results, right-click the workstation you want to modify.
3. Select Fence from the pop-up menu. The Change Fence - Workstation panel displays.
4. Specify a new job fence value or click one of the following:
   - High Sets the fence to 100.
   - Go Sets the fence to 101.

Starting a workstation instance

To start Tivoli Workload Scheduler running on a workstation instance, in a list of workstations, right-click the workstation you want to start and select Start from the pop-up menu.

Note: To start all the workstations in a domain, refer to “Starting the workstations in a domain” on page 355.

Stopping a workstation instance

To stop Tivoli Workload Scheduler running on a workstation instance, in a list of workstations, right-click the workstation you want to stop and select Stop from the pop-up menu.

Note: To stop all of the workstations in a domain, refer to “Stopping the workstations in a domain” on page 355.

Linking a workstation instance

To link a workstation instance, right-click the workstation you want to link and select Link from the pop-up menu.

Note: To link all of the workstations in a domain, refer to “Linking the workstations in a domain” on page 355.

Unlinking a workstation instance

To unlink a workstation instance, right-click the workstation you want to stop and select Unlink from the pop-up menu.

Note: To unlink all of the workstations in a domain, refer to “Unlinking the workstations in a domain” on page 356.
Managing distributed workstations in the plan
Chapter 54. Managing resources in the plan

This chapter describes how you manage resources in the plan. It is divided into the following sections:

- “Managing z/OS resources”
- “Managing distributed resources” on page 349

Managing z/OS resources

This section describes how to monitor and update z/OS resources allocated to the plan. It is divided into the following subsections:

- “Browsing and modifying resources”
- “Displaying the job instances associated with a resource” on page 347
- “Modifying job instances associated with a resource” on page 348

Browsing and modifying resources

To browse and modify the z/OS resources in the plan, perform the following steps:

1. Run a plan list of z/OS resources that contains the resource you want to modify. See Chapter 36, “Working with lists,” on page 199.
2. Right-click the resource in the list and select Properties from the pop-up menu. The Properties - Resource in Plan Resource page displays.

The changes you make to a resource in the current plan do not affect the resource in the database.

General page

Use the General page to browse and modify general information about the resource. Some of the information displayed is read-only.

The page consists of the following:

Name: The name of the resource.
Description: A description of the resource.
Hiperbatch: Whether the resource is enabled for Hiperbatch.
Group ID: The ID of the resource group.
Used for: Select the type of use made of the resource. Possible values are:
  - Planning
  - Control
  - Planning and control
  - Neither planning nor control

On Error: Specify the action to be taken if the job instance that allocates the resource ends in error. Possible values are:
  - Free
  - Keep
  - Free if exclusive
  - Free if shared
  - Assume system default

Deviation: Specify a deviation in the resource quantity that must be available.
while the plan is running. To change the deviation, enter a value. The deviation is an additional quantity with respect to the default quantity. A value of 0 means that no change in quantity was made for the plan.

Note: If you change the deviation, then verify in the Quantity field the new total quantity available as the sum of the default and deviation quantities. If you did not specify any changes, the Deviation field displays 0, meaning that no change in quantity was made for the plan.

Quantity Specify the quantity of the resource for the plan. It is the sum of the default quantity and the deviation. The value that you enter in this field overrides the value in the default Quantity field and remains in effect for all future plans until you change it to blank.

On complete Specify the action to take when the job finishes successfully (complete status). Possible values are:
- Available
- Unavailable
- Automatically reset
- Assume System Default

Max Usage Limit Specifies the maximum number of allocations (quantity is not considered) after which the resource global availability is changed. The usage counter is increased each time an operation allocates the resource. When this internal counter reaches Max Usage Limit the global availability is changed as specified by Max Usage Type. The default is zero, which means that no usage counter check is done. Possible values for this field are between 0 and 999999.

Max Usage Type Indicates how to change the resource availability when Max Usage Limit is exceeded. It is optional and is valid only if Max Usage Limit is nonzero. Possible values are:
- Available
- Unavailable
- Automatically reset

Usage Counter Contains the count of the current number of allocations. Change it to any value between 0 and Max Usage Limit.

Available Indicates whether the resource is available in the plan.

Last Updated Details of the most recent update of the resource in the plan, as follows:

Updated by The user that updated the resource
On The date and time of the update

Last Change Action The change that was made. Possible values are:
- Event Change
- Max Usage Limit Change
- On Complete Change
- Lifespan Change
Active Lifespan
The expiry date and action for the resource, as follows:

Action
The action that the system takes when the resource expires. The global availability will be switched to one of the following:
- Available
- Unavailable
- Automatically reset

Expiration Date
The date and time when the resource expires.

Default
Modify the default Is Available and Quantity values.

Note: Updates in the Quantity and Deviation fields are retained also through plan extensions, unless they are changed manually.

Default Workstations page
Use the Default Workstations page to add and remove default workstations.

Availability Intervals page
Use the Availability Intervals page to add, remove, or modify the availability of the resource.

The table consists of the following:

Date
Select the date when the resource is available.

From Time
Specify the time at which the resource becomes available.

To Time
Specify the time from which the resource is no longer available.

Quantity
Specify the quantity of the resource that is available during the availability interval.

Is Available
Specify whether the resource is available or not available during the availability interval. Possible values are:
- Available
- Not available
- Default

Default uses the value specified in the database.

Workstations
View the workstations defined for the resource. You can also modify the workstations defined in the **Default Workstations page.**

To add an availability interval, click +.

To remove an availability interval select it and click -.

Displaying the job instances associated with a resource
To display the job instances associated with a resource, perform the following steps:
Managing z/OS resources in the plan

1. Run a plan list that contains the resource you want to view. See Chapter 36, “Working with lists,” on page 199.

2. Right-click the resource and select List Jobs ➤ Waiting for Resource or Using Resource.

All the job instances scheduled to use the resource and in the status you selected are displayed in the bottom pane of the panel.

Modifying job instances associated with a resource

To modify job instances associated with a resource, perform the following steps:

1. Run a plan list that contains the resource you want to view. See Chapter 36, “Working with lists,” on page 199.

2. Right-click the resource and select List Jobs ➤ Waiting for Resource or Using Resource.

3. Right-click the job instance in the table and select the relevant action from the pop-up menu.

The actions you can perform on the job instance include:

**Properties**
Browse and modify the properties of the job instance.

**Dependencies**
Browse and modify the dependencies of the job instance.

**Delete**
Delete the job instance from the plan.

**Hold**
Hold the job instance.

**Release**
Release the job instance.

**Impact View**
Display predecessor and successor information of your job instance.

**Browse Job Log**
View the job instance log file.

**NOP**
Set the job instance to NOP.

**UN-NOP**
Set the job instance to UN-NOP.

**Execute**
Run the job instance immediately.

**Set Status**
Change the status of the job instance.

**Edit JCL**
Edit the JCL for the job instance.

**Browse Operation Instructions**
Browse the operation instructions associated to the job instance using the ISPF panels.

**Job Setup**
Tailor job statements.

**Restart**
Restart a job instance or a step and perform cleanup operations.
Managing z/OS resources in the plan

Recovery Info
Manage the recovery options.

Automatic Recovery
Manage the automatic recovery of the job instance.

Critical Path
View a list of all jobs that are on the critical path of the selected job instance.

For an explanation on how to use these options, see Chapter 51, “Managing z/OS job instances,” on page 291.

Managing distributed resources

This section describes how to monitor and update distributed resources allocated to the plan. It is divided into the following subsections:

• “Displaying resource dependencies status”
• “Displaying and modifying the properties of a resource dependency”
• “Changing the number of units of a resource dependency” on page 350

Displaying resource dependencies status

To display a list of resource dependencies in the plan, perform the following steps:

1. Run a Status of all Resources plan list. See Chapter 36, “Working with lists,” on page 199.

The resource status table displays.

The table consists of the following:

<table>
<thead>
<tr>
<th>Name</th>
<th>The name of the resource.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workstation</td>
<td>The name of the workstation where the resource resides.</td>
</tr>
<tr>
<td>Status</td>
<td>The status of the resource. Possible values are:</td>
</tr>
<tr>
<td>Available</td>
<td>The resource has units available.</td>
</tr>
<tr>
<td>Not Available</td>
<td>The resource has no units available.</td>
</tr>
<tr>
<td>Unknown</td>
<td>The status of the resource is unknown.</td>
</tr>
<tr>
<td>Quantity Defined</td>
<td>The total number of units defined for the resource.</td>
</tr>
<tr>
<td>Quantity Available</td>
<td>The number resource units that are not in use.</td>
</tr>
<tr>
<td>In Use</td>
<td>The number of resource units that are currently in use.</td>
</tr>
<tr>
<td>Holders</td>
<td>The names of job and job stream instances that require units of the resource and the number of units required.</td>
</tr>
</tbody>
</table>

Displaying and modifying the properties of a resource dependency

To display a resource dependency in the plan, perform the following steps:

1. Run a Status of all Resources plan list. See Chapter 36, “Working with lists,” on page 199.

2. Right-click the resource in a resource list and choose Properties from the pop-up menu.

The Properties - Resource in Plan panel displays.
Managing distributed resource dependencies in the plan

3. Change the units of the resource as required.

**Changing the number of units of a resource dependency**

To change the total number of defined units of a resource dependency, perform the following steps:

1. Run a **Status of all Resources** plan list. See Chapter 36, “Working with lists,” on page 199.

2. In the list results, right-click the resource you want to modify and select **Change Units** from the pop-up menu.

The Change Units - Resource in Plan panel displays.

3. Specify a new **Quantity Defined** value.
Chapter 55. Managing distributed file dependencies in the plan

This chapter describes how you manage distributed file dependencies in the plan.

Displaying file dependencies status

To display a list of file dependency states in the plan, perform the following step:


   The Status of all Files table displays.

   The table consists of the following:

   **Full Path Name**
   The path and name of the file.

   **Workstation**
   The name of the workstation that owns the file.

   **Qualifiers**
   Any qualifiers used with this file dependency. See “Files page” on page 166.

   **Status**
   The status of the file. Possible values are:
   - **Not Checked**: Not yet checked or the file was available and used to satisfy a job or job stream dependency.
   - **Checking**: File availability is being checked.
   - **Exists**: The file exists and is available.
   - **Does Not Exist**: The file does not exist or is not available.
Chapter 56. Managing distributed prompt dependencies in the plan

This chapter describes how you manage distributed prompt dependencies in the plan. It is divided into the following sections:

- "Displaying prompt dependencies status"
- "Replying to a prompt dependency"

Displaying prompt dependencies status

To display a list of prompt dependencies states in the plan, perform the following steps:


The table consists of the following:

- **Name**: The name of a predefined prompt or the number of an ad hoc prompt.
- **Dependency**: The jobs or job stream names that are dependent on this prompt.
- **Release Status**: The status of the prompt. Possible values are:
  - **ASKED**: The prompt has been issued, but no response has been received.
  - **NOT ASKED**: The prompt has not been issued.
  - **YES**: The prompt has been issued and a YES response has been received.
  - **NO**: The prompt has been issued and a NO response has been received.
- **Number**: The internal ID of the prompt.
- **Type**: The prompt type. Possible values are:
  - **Ad Hoc**: The prompt is locally defined in a job or job stream.
  - **Predefined**: The prompt has a name and is defined in the database.
  - **Recovery**: The prompt is locally defined in a job as a recovery prompt.
- **Message Text**: The text of the prompt message.

Replying to a prompt dependency

To reply to a prompt dependency, perform the following steps:

2. In the list results, right-click the prompt dependency you want to reply to.
3. Select Reply then Yes, or Reply then No from the pop-up menu.
Replying to a prompt dependency
Chapter 57. Managing domains in the plan

This chapter describes how you manage domains in the plan. It is divided into the following sections:

- “Starting the workstations in a domain”
- “Stopping the workstations in a domain”
- “Linking the workstations in a domain”
- “Unlinking the workstations in a domain” on page 356
- “Switching the domain manager in a domain” on page 356

Starting the workstations in a domain

To start Tivoli Workload Scheduler running on all of the workstations in a domain:
   The Status of all Domains table displays.
2. Right-click the domain you want to start and select Start Workstations from the pop-up menu.

Note: To start individual workstations, see “Starting a workstation instance” on page 343.

Stopping the workstations in a domain

To stop Tivoli Workload Scheduler running on all of the workstations in a domain:
   The Status of all Domains table displays.
2. Right-click the domain you want to stop and select Stop Workstations from the pop-up menu.

Note: To stop individual workstations, see “Stopping a workstation instance” on page 343.

Linking the workstations in a domain

To link all of the workstations in a domain, perform the following steps:
   The Status of all Domains table displays.
2. Right-click the domain you want to link and select Link Workstations from the pop-up menu.

Note: To link individual workstations, see “Linking a workstation instance” on page 343.
Unlinking the workstations in a domain

**Unlinking the workstations in a domain**

To unlink all of the workstations in a domain, perform the following steps:

1. Run a **Status of all Domains** plan list. See Chapter 36, “Working with lists,” on page 199.
   
   The Status of all Domains table displays.

2. Right-click the domain you want to unlink and select **Unlink Workstations** from the pop-up menu.

**Note:** To unlink individual workstations, see “Unlinking a workstation instance” on page 343.

**Switching the domain manager in a domain**

To switch the domain manager to a different workstation in a domain, perform the following steps:

1. Run a **Status of all Domains** plan list. See Chapter 36, “Working with lists,” on page 199.
   
   The Status of all Domains table displays.

2. Right-click the domain and select **Switch Manager** from the pop-up menu.
   
   The Switch manager - Domain panel displays.

3. Type the name of the domain or click ... (find) to search for and add the name of the new domain manager workstation. The new domain manager must be a member of the domain and it must be a fault-tolerant agent with **Full Status** selected or a workstation that you defined as backup master domain manager.
Chapter 58. Changing Windows user passwords in the plan

This chapter describes how to change a Windows user password in the plan. To change a Windows user password in the plan, perform the following steps:

1. In the Actions list pane, select Change Password.
2. Select the engine.
   The Change Password panel displays.

![Change Password Panel]

**Note:** When you change a Windows user password, it is only relevant to the current plan. **jnextplan** restores the Windows user password the next time it is run.

The panel consists of the following:

**Name**  The name of the user whose password you are changing. Click ... (find) to search for and select the user.

**Windows Domain**  The domain of the Windows user whose password you are changing. If you used ... (find) to find the user, this information is completed automatically when relevant.

**Windows Workstation**  The workstation of the user whose password you are changing. If you used ... (find) to find the user, this information is completed automatically when relevant.

**New Password**  Type the new password for the user. This password is restored to the database password the next time **jnextplan** is run.

**Confirmation**  Confirm the new password.
Chapter 59. Setting an alternate plan

This chapter describes how you can set a plan different from the production plan to analyze it and query on the objects in it.

To select a plan different from the production plan, perform the following steps:
1. In the Actions list pane, open Set alternate plan.
2. Select the engine.

The Set Alternate Plan Files panel displays.

The panel consists of the following:

**Symphony Type**

The type of plan you want to set. Possible values are:
- Trial
- Forecast
- Archived

**Filename**

The name of the log file assigned by the `stageman` command.

**Schedule Date**

The date the schedule file was created.

**Last Updated**

The time the symphony file was last updated.
Setting an alternate plan

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Start Time</strong></td>
<td>The actual date and time the plan began running. This column is blank for trial and forecast plans.</td>
</tr>
<tr>
<td><strong>Run Number</strong></td>
<td>The run number of times the plan was run. For trial and forecast plans this is always 0.</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>The size of the log file, in records.</td>
</tr>
<tr>
<td><strong>Plan Start</strong></td>
<td>The lowermost limit of plan extension expressed as date and time.</td>
</tr>
<tr>
<td><strong>Plan End</strong></td>
<td>The uppermost limit of plan extension expressed as date and time.</td>
</tr>
</tbody>
</table>
Chapter 60. Restoring a plan

This chapter describes how you can restore the production plan after having set a plan different from it using the procedure described in Chapter 59, “Setting an alternate plan,” on page 359.

To restore a plan, perform the following steps:

1. In the Actions list pane, open Restore plan.
2. Select the engine. The following message displays:

   The restore operation has been completed successfully
Chapter 61. Launching the Tivoli Dynamic Workload Console Event Rule Editor from the Job Scheduling Console

Event-driven workload automation adds the capability to perform on-demand workload automation in addition to plan-based job scheduling. It provides the capability to define rules that can trigger on-demand workload automation.

The object of event-driven workload automation in Tivoli Workload Scheduler is to carry out a predefined set of actions in response to events that occur on nodes running Tivoli Workload Scheduler (but also on non-Tivoli Workload Scheduler ones, when you use the sendevt command line). This implies the capability to submit workload and run commands on-demand, notify users via e-mail, or send messages to Tivoli Enterprise Console.

The main tasks of event-driven workload automation are:

- Trigger the running of batch jobs and job streams based on the reception or combination of real time events.
- Reply to prompts
- Notify users when anomalous conditions occur in the Tivoli Workload Scheduler scheduling environment or batch scheduling activity.
- Invoke an external product when a particular event condition occurs.

Event-driven workload automation is based upon the concept of event rule. In Tivoli Workload Scheduler an event rule is a scheduling object that includes the following items:

- Events
- Event-correlating conditions
- Actions

When you define an event rule, you specify one or more events, a correlation rule, and one or more actions that are triggered by those events. Moreover, you can specify validity dates, a daily time interval of activity, and a common time zone for all the time restrictions that are set.

To define event rules you use both the Tivoli Workload Scheduler command line and the Tivoli Dynamic Workload Console Event Rule Editor. Refer to the Tivoli Workload Scheduler: Reference Guide for a detailed description of the event-driven scheduling capabilities.

This chapter describes how to launch the Tivoli Dynamic Workload Console Event Rule Editor from the Job Scheduling Console. In this way you open the Event Rule Editor directly from the Job Scheduling Console and use all the objects defined both through the command line and the Job Scheduling Console to define event rules.

To start the Tivoli Dynamic Workload Console Event Rule Editor from the Job Scheduling Console, perform the following steps:

1. Authorize the user you used to connect to the Job Scheduling Console to perform the following actions:
   - Work with the Tivoli Dynamic Workload Console. If the user you use to access the Job Scheduling Console is not authorized to access the Tivoli
Launching the Tivoli Dynamic Workload Console Event Rule Editor

Dynamic Workload Console, the Tivoli Dynamic Workload Console login page is displayed and when you provide the correct credentials, you are automatically connected to the Event Rule Editor.

For example, if you have the `tws_oper_jsc` user that can define objects using the Job Scheduling Console and you have `tws_oper_tdwc` user that can create event rule objects using the Tivoli Dynamic Workload Console, you can use the Work with Event Rules feature providing the credentials of the `tws_oper_jsc` user on the login page of the Tivoli Dynamic Workload Console.

If you are using the Single Sign-On (SSO) method the connection is done automatically. Single Sign-On is a method of access control that allows a user to authenticate once and gain access to the resources of multiple applications sharing the same user registry. Refer to the Tivoli Workload Scheduler: Dynamic Workload Console Installation and Troubleshooting Guide.

- Manage event rules by adding the appropriate information in the security file. Refer to the Tivoli Workload Scheduler: Reference Guide.

2. Start the Job Scheduling Console as described in Chapter 12, “Starting the Job Scheduling Console,” on page 61.

3. From the Actions list pane, select Work with Event Rules. A list of available distributed engines is displayed.

4. Select the engine to work with. You must have already defined this engine in the Tivoli Dynamic Workload Console. The Set preferences for Event Rule Editor panel is displayed. The panel consists of the following:

   **Host name**
   
   Type the name of the workstation that you use to connect to the Tivoli Dynamic Workload Console. The maximum length is 51 characters.

   **Port number**
   
   Type the port number you use to connect to the Tivoli Dynamic Workload Console. Values can be 0 through 65535. The default port number is 29043.

   **Browser**
   
   Browse for or type the name of the client browser you use to connect to the Tivoli Dynamic Workload Console. The maximum length is 1024 characters.

   **In the future, do not show these preferences**
   
   Select this check box to not display this panel again. The next time you select Work with Event Rules`engine, the Rule Definition Editor is automatically displayed.

5. Click OK. The Job Scheduling Console saves all the information you defined in this panel in the preferences.xml file and communicates the user credentials to the Tivoli Dynamic Workload Console. The Tivoli Dynamic Workload Console Event Rules panel is displayed with all the event rule tasks defined.
Part 8. Troubleshooting
Chapter 62. Setting traces for the Job Scheduling Console

This chapter explains how to set tracing facilities for the Job Scheduling Console.

The first time you log in to the Job Scheduling Console, the logging.properties configuration file is copied to the user home directory in the .twsconsole subdirectory. This procedure prevents the information in the logging.properties file from being overwritten when another user logs in to the Job Scheduling Console. If you want to refresh the file contents, you can rename or move the existing logging.properties file so that the Job Scheduling Console creates a new one when you next log in.

Note: Even after upgrading to version 8.4 the following lines of the logging.properties file refer to version 8.3:

```
#MAIN LOGGER
...
com.tivoli.product=TWSConsole8.3
...
trace.com.ibm.product=TWSConsole8.3
...
msg.com.ibm.product=TWSConsole8.3
...
```

Table 14 defines the keys in the logging.properties file that you can customize.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>com.tivoli.logging</td>
<td>Enables and disables the tracing function. Possible values are true and false. The default value is false.</td>
</tr>
<tr>
<td>com.tivoli.level</td>
<td>Sets the error level to be recorded in the log file. Possible values are as follows:</td>
</tr>
<tr>
<td></td>
<td>OFF No data is traced.</td>
</tr>
<tr>
<td></td>
<td>INFO Informational messages are traced.</td>
</tr>
<tr>
<td></td>
<td>WARNING Warning information is traced.</td>
</tr>
<tr>
<td></td>
<td>ERROR Error information is traced. ERROR is the default.</td>
</tr>
<tr>
<td></td>
<td>FATAL Information on fatal errors is traced.</td>
</tr>
<tr>
<td></td>
<td>ALL All of the above data is traced.</td>
</tr>
<tr>
<td></td>
<td>All tracing levels, excluding OFF, also include the data recorded by lower tracing levels.</td>
</tr>
<tr>
<td>handler.file.fileName</td>
<td>Specifies the name for the log file. The file is created in .xml format.</td>
</tr>
<tr>
<td>handler.file.fileDir</td>
<td>Specifies the path where the log file is created. When you first log in to the Job Scheduling Console, the default value for the log file directory is changed to user_home_directory/.twsconsole/userdata. This procedure prevents the information in the log file being overwritten when another user logs in to the Job Scheduling Console.</td>
</tr>
</tbody>
</table>
### Table 14. Logging properties keys (continued)

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>handler.file.maxFiles</td>
<td>Specifies the maximum number of log files that can be created. The default value is 3.</td>
</tr>
<tr>
<td>handler.file.maxFileSize</td>
<td>Specifies the maximum size of the log files. The default value is 3072. If this value is exceeded, a new file is created. If the maximum number of log files is exceeded, the log files are overwritten in the order they were created.</td>
</tr>
<tr>
<td>handler.file.appending</td>
<td>Specifies whether the new information is appended in the log file, or if a new file is created. Possible values are true and false. The default value is false.</td>
</tr>
</tbody>
</table>
Chapter 63. Troubleshooting

This chapter provides information to help you diagnose common problems encountered with the Job Scheduling Console.

Note: For UNIX operating systems when the user does not have a home directory set, logs, errors, and stdout data are written to the stdout file and any user customization is not saved.

It is divided into the following sections:

- "Installation troubleshooting"
- "General troubleshooting” on page 370

Installation troubleshooting

This section describes how to locate the installation log files that assist you in finding and repairing installation problems.

Job Scheduling Console installation log

When using the installation wizard, a log file is generated in the following location:

on Windows operating systems:
C:\Documents and Settings\user_name\Local Settings\Temp

on UNIX and Linux operating systems:
user_home_dir/tmp

The log file names are twsconsole_ismp.log (ISMP) and TWSJSC^8.4.log (Software Distribution).

Connector installation log

When using the installation wizard, a log file is created in the following location:

on Windows operating systems:
C:\Documents and Settings\username\Local Settings\Temp

on UNIX and Linux operating systems:
user_home_dir/temp

The log file name is tws4zosconn.log.

Installation troubleshooting

The following problems might be encountered:

Symptom: When performing a language pack installation, or an uninstall, the installation wizard does not start.

Cause and solution:

This is probably due to the fact that installation wizard cannot find the user profile necessary to set the TWS_JDKHOME environment variable.
Troubleshooting

Make sure that the TWS_JDKHOME environment variable is set. If it is not set, set it using isjavahome jsc_installation_path\jvm_path where for HP-UX and Solaris systems the path to specify is jsc_installation_path\tools\_jvm\bin and for all other systems jsc_installation_path\tools\_jvm\jre\bin.

Symptom: Installation fails on AIX with the messages "DISSE0125E Error writing file filename and path" and "DISSE0005E Operation unsuccessful. An error occurred and the product installation failed. Look at the log file /tmp/twsconsole_ismp.log for details."

Cause and solution:
The installation wizard does detect the lack of file space, but does not allocate sufficient space to successfully perform the installation. The following rules should be considered:

- When file system expansion is required a warning is given in the summary panel of the installation wizard. You can choose to cancel installation if you do not want to expand the file system.
- When you are performing a silent installation, file system expansion is automatic.
- Only installation file systems can be expanded. File system expansion of temporary directories does not occur and therefore sufficient temporary directory space must be allocated before starting installation.
- Only a root user can expand the file system. If installation is performed by a non-root user the file system expansion does not occur.
- To prevent over expansion of the root file system on AIX versions earlier than version 5.0 you should create a separate file system for the default installation directory /opt/.

Symptom: For Windows operating systems, after starting the Job Scheduling Console installation the launch crashes after the splash screen and a system reboot is performed.
The installation launch seems to have been successful, however the installation hangs after the splash screen.

Cause and solution:
This problem is a known incompatibility issue between the Java rendering engine and DirectDraw acceleration. The problem is also related to the type of video card on your system.

You can resolve this problem performing the following steps:
1. Click Start ▶ Run in the Windows task bar.
2. Type dxdiag and click OK.
The DirectX Diagnostic tool displays.
Click on Display and disable DirectDraw Acceleration and Direct3D Acceleration.

General troubleshooting

This section describes general problems that you might encounter.

The tracing of Job Scheduling Console errors is optional. See Chapter 62, “Setting traces for the Job Scheduling Console,” on page 367.

The following problems might be encountered:
Symptom: When working with the Job Scheduling Console a request fails with a message similar to the following:
GJS0012E The job stream cannot load. Reason: AWSJCO005E WebSphere Application Server has given the following error: CORBA COMM_FAILURE 0x49421070 No; nested exception is: org.omg.CORBA.COMM_FAILURE: CONNECT_FAILURE_ON_SSL_CLIENT_SOCKET - JSSL0130E: java.io.IOException: Signals that an I/O exception of some sort has occurred. Reason: Connection refused: connect vmcid: 0x49421000 minor code: 70 completed: No.
   A similar message appears for any task you attempt to perform.

Cause and solution:
The connector has been stopped and restarted. Close and reopen the Job Scheduling Console.

Symptom: When working with the Job Scheduling Console from a remote connection there are problems with screen repainting.
   An error message displays indicating problems with repainting. When you close the message, the Job Scheduling Console continues normally.

Cause and solution:
This problem occurs when you are connecting using a remote terminal connector that is not supported. You can remotely connect to the Job Scheduling Console using Exceed or Terminal Server only.

Symptom: When you open the job stream editor, the buttons in the toolbar are not visible.
   Buttons for Add Job Definition, Add Dependency on Internetwork, Add Dependency on External Job, Add Dependency on External Job Stream, Add Links.

Cause and solution:
This problem is a known incompatibility issue between the Java rendering engine and DirectDraw acceleration. The problem is also related to the type of video card on your system.
You can resolve this problem performing the following steps:
1. Click Start ➤ Run in the Windows task bar.
2. Type dxdiag and click OK.
   The DirectX Diagnostic tool opens.
   Click on Display and disable DirectDraw Acceleration and Direct3D Acceleration.

Symptom: After starting the Job Scheduling Console and entering the user name, server, and password data the launch hangs.
   The launch seems to have been successful, however the initial window of the panel hangs in a grey state.

Cause and solution:
This problem is a known incompatibility issue between the Java rendering engine and DirectDraw acceleration. The problem is also related to the type of video card on your system.
You can resolve this problem performing the following steps:
1. Click Start ➤ Run in the Windows task bar.
2. Type dxdiag and click OK.
   The DirectX Diagnostic tool opens.
Click on Display and disable DirectDraw Acceleration and Direct3D Acceleration.

Symptom: The installation wizard, or the Job Scheduling Console will not start.
When you are attempting to start the installation wizard, or the Job Scheduling Console, nothing happens.

Cause and solution:
This usually occurs when you are running JRE 1.4.2 for Linux Red Hat Advanced Server 3.0 because it only supports KDE graphical environments and not Gnome.

Symptom: The job stream definition process hangs and must be stopped.
When creating a job stream, the process hangs and you must manually stop it.

Cause and solution:
This usually occurs when you are using a calendar that is too large for your system RAM to handle. For example, the maximum calendar size for a workstation with 256 MB RAM is 1000 days.
Create a new calendar with a size that is less than that you are currently trying to use, estimating 1000 days for every 256 MB of RAM.

Repairing the installation

In case the installed Job Scheduling Console is damaged or corrupted, you can repair the installation. To repair the installation, complete the following steps:
1. Navigate to the JSC directory. See [The installation CDs” on page 13.]
2. Run the setup according to the operating system where you are installing:
   a. Windows operating systems: setup.exe
   b. UNIX and Linux operating systems: ./setup.bin
3. Select the language of the installation wizard. Click OK.
4. Read the welcome information. Click Next.
5. Select Repair installation. Click Next.
6. Review the installation settings. Click Next. The installation is started.
7. When the installation completes, a panel displays a successful installation or contains a list of which items failed to install and the location of the log file containing the details of the errors.
8. Click Finish.
Chapter 64. Job Scheduling Console messages

This chapter lists the Job Scheduling Console messages. Many of the messages refer directly to the engine messages, and should be read in conjunction with the Tivoli Workload Scheduler: Administration and Troubleshooting. When a message is related to an engine message, the engine message number is returned as the reason code.

It is divided into the following message sets:

- **"Job Scheduling Console base messages"**
  These messages are common to both the z/OS and distributed environments.

- **"Job Scheduling Console z/OS messages" on page 392**
  These messages are unique to the z/OS environment.

- **"Job Scheduling Console distributed messages" on page 398**
  These messages are unique to the distributed environment.

- **"Job Scheduling Console starting and stopping messages" on page 423**
  These messages are issued when the Job Scheduling Console starts or finishes.

### Job Scheduling Console base messages

<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
<th>Reason Code</th>
<th>Explanation</th>
<th>System action</th>
<th>Operator response</th>
<th>See also</th>
</tr>
</thead>
<tbody>
<tr>
<td>GJS0001E</td>
<td>The job stream list cannot load.</td>
<td>VALUE_0</td>
<td>The job stream list could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.</td>
<td>The requested action did not complete successfully.</td>
<td>The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.</td>
<td>com.tivoli.jsc.views.JSBaseNavigator method runQuery()</td>
</tr>
<tr>
<td>GJS0002E</td>
<td>The plan view cannot load.</td>
<td>VALUE_0</td>
<td>The plan view could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.</td>
<td>The requested action did not complete successfully.</td>
<td>The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Operator response: The reason displayed in the message text.</td>
<td></td>
</tr>
<tr>
<td>GJS0003E</td>
<td>The resource list cannot load.</td>
<td>VALUE_0</td>
<td>The resource list could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.</td>
<td>The requested action did not complete successfully.</td>
<td>The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Operator response: The reason displayed in the message text.</td>
<td></td>
</tr>
<tr>
<td>GJS0004E</td>
<td>The resource plan view cannot load.</td>
<td>VALUE_0</td>
<td>The resource plan view could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.</td>
<td>The requested action did not complete successfully.</td>
<td>The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Operator response: The reason displayed in the message text.</td>
<td></td>
</tr>
</tbody>
</table>
message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS0005E** The workstation list cannot load.

**Reason:** VALUE_0

**Explanation:** The workstation list could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**See also:** com.tivoli.jsd.views.JSWorkstationQueryGUI method runQuery()

**GJS0006E** The job stream instance VALUE_0 cannot open.

**Reason:** VALUE_1

**Explanation:** The job stream instance could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS0007E** The job stream VALUE_0 cannot be updated.

**Reason:** VALUE_1

**Explanation:** The job stream could not be updated due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS0008E** The Job Stream Editor cannot open.

**Reason:** VALUE_0

**Explanation:** The Job Stream Editor could not be opened due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS0009E** The Job Stream Instance Editor cannot open.

**Reason:** VALUE_0

**Explanation:** The Job Stream Instance Editor could not be opened due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS0010E** The Resource Editor cannot open.

**Reason:** VALUE_0

**Explanation:** The Resource Editor could not be updated due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS0011E** The structure cannot build.

**Reason:** VALUE_0

**Explanation:** The structure could not be built due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS0012E** The job stream cannot load.

**Reason:** VALUE_0

**Explanation:** The job stream could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0017E**  The resource `VALUE_0` cannot be saved.

**Reason:** `VALUE_1`

**Explanation:** The resource could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0018E**  The dependency cannot be added.

**Explanation:** The dependency between the jobs could not be added because they are in the same job stream.

**System action:** The requested action did not complete successfully.

**Operator response:** Select a dependency on a job that is in another job stream.

---

**GJS0019E**  All of the fields in this window are obligatory.

**Explanation:** All of the fields in this window are required fields.

**System action:** The requested action did not complete successfully.

**Operator response:** Complete all the fields in the window before pressing OK.

---

**GJS0020E**  The jobs in the job stream instance were not found. Type different filter criteria and run the list again.

**Explanation:** The jobs in the job stream instance were not found.

**System action:** The jobs list is shown as empty.

**Operator response:** Try a new list by specifying different filter criteria.

---

**GJS0021E**  The job stream instance was not found. Type different filter criteria and run the list again.

**Explanation:** The job stream instance was not found.
### GJS0022E  The requested action did not complete successfully.

**Operator response:** Type different filter criteria and run the list again.

---

### GJS0022E  The dependency cannot be created because it creates a loop. Define a valid dependency.

**Explanation:** The current dependency cannot be created because it produces a loop.

**System action:** The requested action did not complete successfully.

**Operator response:** Define a valid dependency.

---

### GJS0024E  A job stream must be saved in the database before it can be scheduled.

**Explanation:** A job stream must be saved in the database before it can be scheduled.

**System action:** The requested action did not complete successfully.

**Operator response:** Save the job stream in the database and schedule it.

---

### GJS0025E  The job stream instance cannot be loaded because it is unknown. Try a different name.

**Explanation:** The job stream name cannot be loaded because it is unknown.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a different name for the job stream.

---

### GJS0026E  The workstation VALUE_0 cannot be saved.

**Reason:** VALUE_1

**Explanation:** The workstation could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

### GJS0027E  The workstation VALUE_0 cannot be saved.

**Reason:** VALUE_1

**Explanation:** The workstation could not be updated due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

### GJS0028E  Class Cast Exception.

**Reason:** VALUE_0

**Explanation:** There was a class cast exception due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

### GJS0029E  There is a problem with the job scheduling engine.

**Reason:** VALUE_0

**Explanation:** There is a problem with the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

### GJS0030E  The window cannot close.

**Reason:** VALUE_0

**Explanation:** The window could not be closed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.
GJS0031E  The job dependency cannot be added.
   Reason: VALUE_0

Explanation:  The job dependency could not be added due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0032E  The OK request cannot process.
   Reason: VALUE_0

Explanation:  The OK request could not be processed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0033E  The job cannot be changed.
   Reason: VALUE_0

Explanation:  The job could not be changed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0034E  The job cannot be added.
   Reason: VALUE_0

Explanation:  The job could not be added due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0035E  The instance cannot be modified.
   Reason: VALUE_0

Explanation:  The instance could not be modified due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0036E  The instance cannot be deleted.
   Reason: VALUE_0

Explanation:  The instance could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0037E  The instance cannot be held.
   Reason: VALUE_0

Explanation:  The instance could not be held due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0038E  The instance cannot be released.
   Reason: VALUE_0

Explanation:  The instance could not be released due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.
GJS0039E  The object cannot be deleted.
   Reason: VALUE_0

Explanation: The object could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0040E  The object cannot be undeleted.
   Reason: VALUE_0

Explanation: The object could not be undeleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0041E  The status in the database cannot be modified.
   Reason: VALUE_0

Explanation: The status in the database could not be modified due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0042E  The job cannot be removed.
   Reason: VALUE_0

Explanation: The job could not be removed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0043E  The job dependency cannot be removed.
   Reason: VALUE_0

Explanation: The job dependency could not be removed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0044E  The dependency cannot be removed.
   Reason: VALUE_0

Explanation: The dependency could not be removed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0045E  The external dependency cannot be removed.
   Reason: VALUE_0

Explanation: The external dependency could not be removed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0046E  The action on the selected objects cannot be performed.
   Reason: VALUE_0

Explanation: The action could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the
GJS0047E  The job stream operation cannot be performed.
    Reason: VALUE_0

Explanation: The job stream operation could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0048E  The action on the selected object cannot be performed.
    Reason: VALUE_0

Explanation: The action could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0049E  The action on the selected objects cannot be performed.
    Reason: VALUE_0

Explanation: The action could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0050E  The instance cannot be updated from services.
    Reason: VALUE_0

Explanation: The instance could not be updated due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

GJS0051E  The action specified on the selected object cannot be performed.
    Reason: VALUE_0

Explanation: The action could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0052E  The action specified on the selected objects cannot be performed.
    Reason: VALUE_0

Explanation: The action could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0053E  The action specified on the selected objects cannot be performed.
    Reason: VALUE_0

Explanation: The action could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS0054E  The action cannot be performed.
    Reason: VALUE_0

Explanation: The action could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0055E**  
**Message:** The workstation cannot open.  
**Reason:** VALUE_0

**Explanation:** The workstation could not be opened due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0056E**  
**Message:** The workstation editor cannot open.  
**Reason:** VALUE_0

**Explanation:** The workstation editor could not be opened due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0057E**  
**Message:** The action specified on the selected objects cannot be performed.  
**Reason:** VALUE_0

**Explanation:** The action could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0058E**  
**Message:** The workstation cannot be deleted.  
**Reason:** VALUE_0

**Explanation:** The workstation could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

---

**GJS0059E**  
**Message:** The selected workstations cannot be deleted.  
**Reason:** VALUE_0

**Explanation:** The selected workstations could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0060E**  
**Message:** The schedule specifications cannot be added.  
**Reason:** VALUE_0

**Explanation:** The schedule specifications could not be added due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0061E**  
**Message:** Another run cycle cannot be created.  
**Reason:** VALUE_0

**Explanation:** Another could not be created due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0062E**  
**Message:** The action cannot be performed.  
**Reason:** VALUE_0

**Explanation:** The action could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0063E** The operation cannot be interrupted.  
**Reason:** VALUE_0

**Explanation:** The operation could not be interrupted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0064E** The resource cannot be deleted.  
**Reason:** VALUE_0

**Explanation:** The resource could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0065E** The selected resources cannot be deleted.  
**Reason:** VALUE_0

**Explanation:** The resources could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0066E** Cannot get the resource header.  
**Reason:** VALUE_0

**Explanation:** The resource header could not be retrieved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

---

**GJS0067E** The resource cannot be opened.  
**Reason:** VALUE_0

**Explanation:** The resource could not be opened due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0068E** The resource dependency changes cannot be saved.  
**Reason:** VALUE_0

**Explanation:** The resource dependency could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0069E** The scheduling specifications cannot be added.  
**Reason:** VALUE_0

**Explanation:** The scheduling specifications could not be added due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0070E** The scheduling specifications cannot be added.  
**Reason:** VALUE_0

**Explanation:** The scheduling specifications could not be added due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0071W** The resource might be part of a dependency for a job scheduler object in the database. If it is renamed any action performed that refers to the old name returns an error.

**Explanation:** A resource might be part of a dependency for a job scheduler object in the database. When the resource is renamed, any action performed that refers to the old name returns an error.

**System action:** If OK is clicked the selected object is renamed. Otherwise the request is ignored.

**Operator response:** Click OK to rename the resource, or select Cancel to cancel the rename action.

---

**GJS0072W** The workstation might be part of a dependency for a job scheduler object in the database. If it is renamed any action performed that refers to the old name returns an error.

**Explanation:** A workstation might be part of a dependency for a job scheduler object in the database. When the workstation is renamed, any action performed that refers to the old name returns an error.

**System action:** If OK is clicked the workstation is renamed. Otherwise the request is ignored.

**Operator response:** Click OK to rename the workstation, or click Cancel to cancel the rename action.

---

**GJS0073E** This object is currently locked because it is being updated by another user. It is displayed in read-only mode until the user releases it. Try again later.

**Reason:** VALUE_0

**Explanation:** This object is currently locked because it is being updated by another user.

**System action:** Processing continues but the object displays in read-only mode.

**Operator response:** Try to update the object later, after it has been released.

---

**GJS0073W** The resource might be part of a dependency for a job scheduler object in the database. If it is renamed, all the dependency objects are also modified.

**Explanation:** A resource might be part of a dependency for a job scheduler object in the database. When the resource is renamed, related objects are also modified.

**System action:** If OK is clicked the selected object is deleted. Otherwise the request is ignored.

**Operator response:** Click OK to delete the resource, or click Cancel to cancel the delete action.

---

**GJS0075E** The connector cannot be linked. The connector is not present on the server.

**Explanation:** The connector could not be linked to because it is not present on the server being used.

**System action:** The requested action did not complete successfully.

**Operator response:** Ensure that a connector is installed on the server. If a connector is not installed, create an instance. See the IBM Tivoli Workload Scheduler Job Scheduling Console User’s guide for instructions.

---

**GJS0076E** This view cannot be detached. The maximum number of concurrent detachable views allowed is reached. Close one of the open views.

**Explanation:** This view cannot be detached. You reached the maximum number of concurrent detachable views allowed.

**System action:** The requested action did not complete successfully.

**Operator response:** Close one of the open views try to detach the view again.

---

**GJS0077E** The job stream cannot be saved. The Job Stream cannot contain an external job that has no link. Remove the external job that has no link or link it with another job.

**Explanation:** Cannot save the job stream. The Job Stream cannot contain an external job that has no link.

**System action:** The requested action did not complete successfully.

**Operator response:** Remove the external job that has no link or link it with another job.
**GJS0078E**  The external dependency cannot be pasted. A job stream cannot have external dependencies from other job scheduling engines.

**Explanation:** The external dependency could not be pasted. An attempt was made to paste a dependency from a different job scheduling engine. A job stream cannot have external dependencies from other job scheduling engines.

**System action:** The requested action did not complete successfully.

**Operator response:** Paste the dependency into a job stream on the same engine.

---

**GJS0079E**  The search objects cannot be found. Reason: VALUE_0

**Explanation:** The search objects could not be found due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0080W**  This job stream may be part of a dependency for a job scheduler object in the database. If the job stream is renamed, all dependency objects are also modified.

**Explanation:** A job stream may be part of a dependency for a job scheduler object in the database. If this job stream is renamed, all dependency objects are also modified.

**System action:** If OK is clicked the selected object is renamed. Otherwise the request is ignored.

**Operator response:** Click OK to rename the job stream, or click Cancel to cancel the rename action.

---

**GJS0081E**  The selected engine is not available. Reason: VALUE_0

**Explanation:** The selected engine is not available due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0082E**  The view cannot be attached. Reason: VALUE_0

**Explanation:** Cannot attach the view.

**System action:** The requested action did not complete successfully.

**Operator response:** The selected action did not complete successfully.

---

**GJS0083E**  The workstation plan view cannot be loaded. Reason: VALUE_0

**Explanation:** The workstation plan view could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS0084E**  The job output cannot be loaded. The job output uses an unsupported encoding. Reason: VALUE_0

**Explanation:** The job output could not be loaded because it uses an unsupported encoding.

**System action:** The requested action did not complete successfully.

**Operator response:** Select another job that uses the correct encoding.

---

**GJS0085E**  The job output cannot be loaded. Reason: VALUE_0

**Explanation:** The job output could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.
The common plan view for VALUE_1 cannot be loaded.

**Reason:** VALUE_0

**Explanation:** The plan view could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

The selected engine is not available. There might be a connection problem or it might have a version that is not valid.

**Explanation:** The selected engine not available, because it either has a connection problem or the engine version is not valid.

**System action:** The requested action did not complete successfully.

**Operator response:** Verify the connection for the selected engine and make sure that the version is compatible and try again.

---

This job stream might be part of a dependency for a job scheduler object in the database. If it is renamed, all the dependency objects are also renamed.

**Explanation:** A workstation might be part of a dependency for a job scheduler object in the database. If it is renamed, all the dependency objects are also modified.

**System action:** If OK is clicked the selected object is renamed. Otherwise the request is ignored.

**Operator response:** Click OK to rename the workstation or click Cancel to cancel the rename action.

---

The job VALUE_0 cannot be updated.

**Reason:** VALUE_1

**Explanation:** The job could not be updated due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** Try a different engine or upgrade the product.

---

The object that was locked in editing has been unlocked by another user or session. The data in the database might have been changed. Do you want to continue?

**Explanation:** The object being saved was locked during editing and then unlocked by another user or session. Changes that occurred after the object was unlocked will be overwritten.

**System action:** If the answer to the previous question was Yes, the object in the database is overwritten. Otherwise the object is left unchanged.

**Operator response:** Click Yes to overwrite the object in the database, or click No to cancel the save.

---

The window cannot be closed. The VALUE_0 list cannot be created because a list with the same name and the same path already exists.

**Explanation:** Two lists cannot be created with the same name in the same path.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a new list name.

---

The job stream cannot be loaded because it is unknown. Try a different name.

**Explanation:** The job stream was not found.

**System action:** The requested action did not complete successfully.

**Operator response:** Type different filter criteria and run the list again.

---

The specified engine uses an unsupported API level.

**Explanation:** This product version cannot work with the specified engine because it has an unsupported API level.

**System action:** The requested action did not complete successfully.

**Operator response:** Try a different engine or upgrade the product.

---

The window cannot be closed.

**Reason:** You cannot create the list VALUE_0 because a list with the same name and the same path already exists.

**Explanation:** Two lists cannot be created with the
same name in the same path.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a new list name.

---

**GJS0098W**  The IPv6 address you entered is an IPv4 compatible address and might not be supported on some platforms. Are you sure you want to proceed?

**Explanation:** See message.

**System action:** The program waits for your response.

**Operator response:** Provide your answer.

---

**GJS0099W**  The IPv6 address you entered is a Link Local Address. Its scope is limited to Data Link and the interface is not portable. Are you sure you want to proceed?

**Explanation:** See message.

**System action:** The program waits for your response.

**Operator response:** Provide your answer.

---

**GJS0100W**  The IPv6 address you entered is an IPv4 mapped address and might not be supported on some platforms. Are you sure you want to proceed?

**Explanation:** See message.

**System action:** The program waits for your response.

**Operator response:** Provide your answer.

---

**GJS00101W**  The selected file name is incorrect. Select a valid Browser program file.

**Explanation:** See message text.

**System action:** The requested action did not complete successfully.

**Operator response:** Select a valid Browser program file and try again.

---

**GJS3001W**  The number format is not correct.

**Explanation:** The number format is not correct. The value remains unchanged.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a new number in the correct format.

---

**GJS3003E**  The Workstation definition for VALUE_0 cannot be loaded.

**Reason:** VALUE_1

**Explanation:** The workstation definition could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS3004E**  The resource availability definition cannot be loaded.

**Reason:** VALUE_0

**Explanation:** The resource availability definition could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS3005E**  The job stream list cannot be loaded.

**Reason:** VALUE_0

**Explanation:** The job stream list could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS3006E**  The plan view cannot be loaded.

**Reason:** VALUE_0

**Explanation:** The plan view could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.
Administration and Troubleshooting manual.

GJS3007E  The resource list cannot be loaded.
          Reason: VALUE_0

Explanation: The resource list could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS3008E  The workstation plan view cannot be loaded.
          Reason: VALUE_0

Explanation: The workstation plan view could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS3009E  The workstation list cannot be loaded.
          Reason: VALUE_0

Explanation: The workstation list could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS3010E  The resource VALUE_0 cannot be saved.
          Reason: VALUE_1

Explanation: The resource could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS3011E  The resource availability definition for VALUE_0 cannot be loaded.
          Reason: VALUE_1

Explanation: The resource availability definition could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS3012E  The resource instance for VALUE_0 cannot be loaded.
          Reason: VALUE_1

Explanation: The resource instance could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS3013E  Class Name: VALUE_0 is not Fully Qualified.

Explanation: The current Class Name is not Fully Qualified.

System action: The requested action did not complete successfully.

Operator response: Specify a fully qualified class name.

GJS3014E  The date format is incorrect.

Explanation: The format of the date is incorrect. The date must be in the same format as the locale settings of the computer.

System action: The requested action did not complete successfully.

Operator response: Type the date, month, and year in the format specified in the locale settings on the computer.
GJS3015E  The typed deadline occurs before the start time. Type a later deadline.

Explanation:  The typed deadline occurs before the start time. A deadline must occur after the start time.
System action:  The requested action did not complete successfully.
Operator response:  Type a deadline that is later than the start time.

GJS3016E  The range for the deadline, in days VALUE_0, hours VALUE_0, minutes, must be greater than zero and less than or equal to 99VALUE_023VALUE_059.

Explanation:  The indicated deadline is not in the correct range.
System action:  The requested action did not complete successfully.
Operator response:  Type a deadline within the correct range.

GJS3029E  The operation cannot be performed on this job instance.

Explanation:  The operation could not be performed on this job instance.
System action:  The requested action did not complete successfully.
Operator response:  Select another instance on which to perform the operation.

GJS3030E  The specified calendar cannot be found.

Explanation:  The calendar could not be found.
System action:  The requested action did not complete successfully.
Operator response:  Specify another calendar.

GJS3031E  Name is a required field. Type a name for the object.

Explanation:  The Name field is a mandatory field.
System action:  The requested action did not complete successfully.
Operator response:  Type a name for the object.

GJS3032E  Owner is a required field. Type the owner's name.

Explanation:  The Owner field is mandatory.
System action:  The requested action did not complete successfully.
Operator response:  Type the owner's name.

GJS3033E  Target workstation is a required field. Type the target workstation.

Explanation:  The target workstation is mandatory.
System action:  The requested action did not complete successfully.
Operator response:  Specify the target workstation.

GJS3036E  Task is a required field. Type the task name.

Explanation:  Task is a required field.
System action:  The requested action did not complete successfully.
Operator response:  Type the task name.

GJS3039E  The input field is mandatory.

Explanation:  The input field is mandatory.
System action:  The requested action did not complete successfully.
Operator response:  Complete all mandatory fields. Mandatory fields are indicated by a yellow background.

GJS3040E  The value exceeds the maximum length of VALUE_0 characters.

Explanation:  The typed value exceeds the maximum length for the field.
System action:  The requested action did not complete successfully.
Operator response:  Type a value with a number of characters that is less than or equal to the allowed maximum length.

GJS3041E  The value is less than the minimum length of VALUE_0 characters.

(Single Byte Character Set)

Explanation:  The typed value is less than the minimum length for the field.
System action:  The requested action did not complete successfully.
Operator response:  Type a value with a number of characters that is greater than the minimum length.

GJS3042E  The input is incorrect. Type a valid IP address (for example 125.12.50.255) or a valid node name (for example Edison.rome.tivoli.com).

Explanation:  The node input is incorrect.
System action:  The requested action did not complete successfully.
Operator response: Type a valid IP address (for example: 125.12.50.255) or a valid node name (for example: Edison.rome.tivoli.com).

---

**GJS3043E** The string contains one or more characters that are not valid.

Explanation: The string contains one or more characters that are not alphanumeric.

System action: The requested action did not complete successfully.

Operator response: Type a string using alphanumeric characters only.

---

**GJS3044E** There has been an internal application error in the job stream editor.

Explanation: Internal application error.

System action: The requested action did not complete successfully.

Operator response: Contact customer support.

---

**GJS3045E** The view must run within a IBM Tivoli Workload Scheduler Job Scheduling Console.

Explanation: Internal application error.

System action: The requested action did not complete successfully.

Operator response: Contact customer support.

---

**GJS3046E** JSDefaultRunCyclePlugIn::throwing runtime exception

Explanation: Internal application error.

System action: The requested action did not complete successfully.

Operator response: Contact customer support.

---

**GJS3047E** The Job Stream Editor cannot be opened.

Reason: VALUE_0

Explanation: The Job Stream Editor could not be opened due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS3048E** There is a connection error caused by an oserv failure when running the connector. Details are logged in the Job Scheduling Console trace file.

Explanation: There is an internal application error in for the connector.

System action: The requested action did not complete successfully.

Operator response: Contact customer support.

---

**GJS3049E** A job stream must contain at least one job before it can be saved.

Explanation: A job stream must have at least one job defined before it can be saved.

System action: The requested action did not complete successfully.

Operator response: Define at least one job before saving the job stream.

---

**GJS3050E** The necessary localization resources were not found.

Explanation: The resources necessary to show the localized version were not found.

System action: Processing continues but the dialogs are shown without messages.

Operator response: Contact customer support.

---

**GJS3051E** The string is not a numeric value.

Explanation: The string is not valid because it is not a numeric value.

System action: The requested action did not complete successfully.

Operator response: Type a numeric string.

---

**GJS3052E** The input is outside the accepted range of VALUE_0 to VALUE_1.

Explanation: The input is outside the accepted range.

System action: The requested action did not complete successfully.

Operator response: Type an input within the accepted range.

---

**GJS3057E** The resource editor cannot be opened.

Reason: VALUE_0

Explanation: The resource editor could not be opened due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS3058E  The resource name is required.
Explanation: The resource name is a mandatory field.
System action: The requested action did not complete successfully.
Operator response: Type a name for the resource and save again.

GJS3060E  The typed start time occurs after the deadline time.
Explanation: The typed start time comes after the deadline time. The start time must occur before the deadline.
System action: The requested action did not complete successfully.
Operator response: Type a start time that is earlier than the deadline time.

GJS3061E  The job stream is not empty. A job stream template cannot contain jobs.
Explanation: A Job Stream has to be empty before it is saved as a template.
System action: The requested action did not complete successfully.
Operator response: Remove any jobs in the job stream before saving it as a template.

GJS3063E  The time format is not correct. The correct format is VALUE_0.
Explanation: The format used for the time is not correct.
System action: The requested action did not complete successfully.
Operator response: Type a correct format time.

GJS3064E  The Job Scheduler Explorer Console must run within the Tivoli Console.
Explanation: Internal application error.
System action: The requested action did not complete successfully.
Operator response: Contact customer support.

GJS3065E  There was an unexpected error while updating. Repeat the operation.
Explanation: Unexpected error while updating.
System action: The requested action did not complete successfully.
Operator response: Repeat the operation.

GJS3067E  Value: VALUE_0 must be a Time Zone.
Explanation: Internal application error.
System action: Processing continues.
Operator response: Contact customer support.

GJS3068E  The workstation name is required.
Explanation: The workstation name is a mandatory field.
System action: The requested action did not complete successfully.
Operator response: Type a name for the workstation and save again.

GJS3069W  This workstation might be part of a dependency for a job scheduler object in the database. If so, any action performed that refers to the old name returns an error.
Explanation: A workstation might be part of a dependency for a job scheduler object in the database. If the workstation is renamed, any action performed that refers to the old name returns an error.
System action: If OK is clicked then the selected object is renamed. Otherwise the rename action is ignored.
Operator response: Click OK to rename the workstation. Otherwise click Cancel to cancel the rename action.

GJS3070E  Blank is not a valid character.
Explanation: The blank character is not a valid character.
System action: The requested action did not complete successfully.
Operator response: Type the string again without using the blank character.

GJS3071E  The rule is not valid. Ensure that the shift origin field is consistent with the periods selected.
Explanation: The rule not valid.
System action: The requested action did not complete successfully.
Operator response: Type an inclusive shift origin value in the periods selected.

**GJS3073E** The duration of the job instance cannot be 0.

Explanation: The duration of the job instance has been set to 0. 0 is not a valid value for the duration of a job.

System action: The requested action did not complete successfully.

Operator response: Set the duration of the job instance to a value different from 0.

**GJS3089W** These resources might be part of a dependency for a job scheduler object in the database. If they are deleted any action performed that refers to the old resources returns an error.

Explanation: The resources might be part of a dependency for a job scheduler object in the database. If they are deleted any action performed that refers to the old resources returns an error.

System action: If OK is clicked then the selected objects are deleted. Otherwise the delete action is ignored.

Operator response:

**GJS3090E** In the Dates section, the To Date is earlier than the From Date. Type an earlier From Date, or type a later To Date.

Explanation: The query does not return any results because the From Date is later than the To Date.

System action: The requested action did not complete successfully.

Operator response: Type an earlier From Date, or type a later To Date.

**GJS3091E** In the Dates section, when you set a value for the Date field you must also set a value for the Time field.

Explanation: The query does not return any results because the Date filter is not set correctly.

System action: The requested action did not complete successfully.

Operator response: Set values for both Date and Time fields, or do set values for either Date and Time fields.

**GJS3092E** In the Dates section, when a value is set for the Time field a value must also be set for the Date field.

Explanation: The query does not return any results because the Date filter is not set correctly.

System action: The requested action did not complete successfully.

Operator response: Set values both for Time and Date fields, or do not set values for either Date and Time fields.

**GJS3093E** The engine with the specified name already exists.

Explanation: Two engines with the same name cannot exist for the same Job Scheduling Console.

System action: The requested action did not complete successfully.

Operator response: Type another engine name.

**GJS3094E** There is an error saving the engines to the engines file. Details are logged in the Job Scheduling Console trace file.

Explanation: An error occurred attempting to save the engines data to the engines file.

System action: The requested action did not complete successfully.

Operator response: Check the trace file and correct the cause of the error.

**GJS3095E** The host name could not be determined.

Explanation: The specified host name could nor be resolved.

System action: The requested action did not complete successfully.

Operator response: Check the host name and make sure the computer where the host is running is active.

**GJS3097E** The object `<VALUE_0>` cannot be loaded.

Reason: `<VALUE_1>`

Explanation: The object could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.
**GJS3100E**  
A run cycle with the same name already exists in the job stream.  

**Explanation:** Two run cycles with the same name cannot exist for the same job stream.  

**System action:** The requested action did not complete successfully.  

**Operator response:** Type a different name for the new run cycle.

---

**GJS3102E**  
The input is outside the accepted upper limit of `VALUE_0`.  

**Explanation:** The input is outside the accepted upper limit.  

**System action:** The requested action did not complete successfully.  

**Operator response:** Type an input within the accepted upper limit.

---

**GJS3103E**  
The imported Engine.xml file is corrupt. The Job Scheduling Console does not function correctly. Close the Job Scheduling console and delete the Engine.xml file from the `user_home_directory/.twsconsole`.  

**Explanation:** An error occurred while loading Engine.xml file. The Job Scheduling Console does not function correctly.  

**System action:** The requested action did not complete successfully.  

**Operator response:** Ignore any other messages and close the application. Delete the `user_home_directory/.twsconsole/Engine.xml` file and restart the Job Scheduling Console.

---

**GJS3104E**  
The job stream `VALUE_0` cannot be submitted.  

**Reason:** `VALUE_1`  

**Explanation:** An error occurred while submitting the job stream.  

**System action:** The requested action did not complete successfully.  

**Operator response:** Analyze the reason displayed in the message text and submit the job stream again.

---

**GJS3105E**  
Unable to add a dependency to the selected object.  

**Explanation:** See the message text.  

**System action:** The requested action did not complete successfully.  

**Operator response:** Analyze the reason displayed in the message text and try again.

---

**GJS3106E**  
Unable to add the dependency from `VALUE_0` to `VALUE_1`.  

**Reason:** `VALUE_2`  

**Explanation:** See the message text.  

**System action:** The requested action did not complete successfully.  

**Operator response:** Analyze the reason displayed in the message text and try again.

---

**GJS3107E**  
Cannot find the specified internal job.  

**Explanation:** See the message text.  

**System action:** The requested action did not complete successfully.  

**Operator response:** Verify that the specified internal job exists and try again.

---

**GJS3108E**  
Job can not depend on itself.  

**Explanation:** See the message text.  

**System action:** The requested action did not complete successfully.  

**Operator response:** Correct the job name and try again.

---

**GJS3109E**  
Cannot find the specified external dependency.  

**Explanation:** See the message text.  

**System action:** The requested action did not complete successfully.  

**Operator response:** Verify that the specified external dependency exists and try again.

---

**GJS3110E**  
Cannot find the specified Job Definition. Please specify another.  

**Explanation:** See the message text.  

**System action:** The requested action did not complete successfully.  

**Operator response:** Verify that the specified job definition exists and try again.

---

**GJS3111E**  
Cannot write file `VALUE_0`.

**Reason:** `VALUE_1`  

**Explanation:** See the message text.  

**System action:** The requested action did not complete successfully.  

**Operator response:** Verify that you have the correct permissions or that the file is not locked and try again.
GJS3112E • GJS3118E

**GJS3112E**  Cannot open file \VALUE_0.\nReason: \VALUE_1.  

Explanation: See the message text.  
System action: The requested action did not complete successfully.  
Operator response: Verify that you have the correct permissions or that the file is not locked and try again.  

---

**GJS3113E**  File \VALUE_0 does not exist.  

Explanation: See the message text.  
System action: The requested action did not complete successfully.  
Operator response: Verify that you have specified the correct name.  

---

**GJS3116E**  The same dependency cannot be defined twice in the same job stream.  

Explanation: A dependency between job streams must be unique.  
System action: The requested action did not complete successfully.  
Operator response: Verify that you have specified the correct name.  

---

**Job Scheduling Console z/OS messages**

**GJS1001E**  The z/OS engine \engine_name is not supported.  

Explanation: The z/OS engine version selected is not supported.  
System action: The requested action did not complete successfully.  
Operator response: Select a supported engine version.  

---

**GJS1002E**  The selected period was not found.  Period: \period  

Explanation: The selected period was not found in the z/OS database.  
System action: The requested action did not complete successfully.  
Operator response: Specify a valid period.  

---

**GJS1003E**  The setup of the selected job instance cannot be performed.  There are no valid successors for \object_name.  

Explanation: There are no valid successors for the selected object.  
System action: The requested action did not complete successfully.  
Operator response: Select at least one valid successor.  

---

**GJS1004E**  The setup of the selected job instance cannot be performed.  Reason: \reason  

Explanation: The setup of the selected job instance could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.  
System action: The requested action did not complete successfully.  
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.  

---

**GJS1005E**  There was an error in setting the step list.  error_message  

Explanation: An error occurred when setting step list because of one of the followings reasons:  
The selected Start Step is not restartable. Possible reasons are the JCL logic or the RCLOPTS initial parameter setting.  
The action field cannot be set to Start for more than one step.  
The action field cannot be set to End for more than one step.  

---

---

IBM Tivoli Workload Scheduler Job Scheduling Console: User’s Guide
A step marked as always executable was excluded from the selected Step List because of the RCLOPTS initial parameter setting.
A step marked as not executable was included in the selected Step List because of the RCLOPTS initial parameter setting.
The selected End Step must follow the selected Start Step.

**System action:** The requested action did not complete successfully.

**Operator response:** Identify which of the error conditions has occurred from the information in Explanation. Correct the input and retry.

---

**GJS1006E** The selected workstation cannot be linked.

**Reason:** *reason*

**Explanation:** The selected workstation could not be linked due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS1007E** The selected workstation cannot be unlinked.

**Reason:** *reason*

**Explanation:** The selected workstation could not be unlinked due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS1008E** The rerun operations on the selected job stream instance cannot be performed.

**Reason:** *reason*

**Explanation:** The rerun operation could not be performed on selected job stream instance due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS1009E** The restart and cleanup operations on selected job instance cannot be performed.

**Reason:** *reason*

**Explanation:** The restart and cleanup operations could not be performed on selected job instance due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS1011E** The specified value is not valid for the PARALLELSERVERS resource. The valid range is from 1 to 99.

**Explanation:** The PARALLELSERVERS resource values range is from 1 to 99.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a value for the PARALLELSERVERS resource that is within the range 1 to 99.

---

**GJS1012E** The specified job stream "job_stream_name" does not exist.

**Explanation:** The job stream does not exist.

**System action:** Processing continues.

**Operator response:** Click OK to continue, or Cancel to specify a new job stream.

---

**GJS1013E** The repeat time interval must be at least 1 minute. Specify a different interval.

**Explanation:** The repeat time interval should be not less than 1 minute and not more than 23 hours and 59 minutes.

**System action:** Processing continues.

**Operator response:** Click Close and specify a new interval.

---

**GJS1014E** The repeat end time must be between one minute after the start time of the run cycle and one minute before the calendar work day end time of the job stream. Specify a different repeat end time.
Job Scheduling Console z/OS messages

Explanation: See message.
System action: The properties are not saved.
Operator response: Click Close to dismiss the message and specify a repeat end time that is between one minute after the start time of the run cycle and one minute before the calendar work day end time of the job stream.

GJS4001E The availability interval cannot be defined if the "To Time" is equal to the "From Time".
Explanation: The availability interval cannot be defined if the To Time is equal to the From Time.
System action: The requested action did not complete successfully.
Operator response: Type a To Time that is later than the From Time.

GJS4002E The specified calendar was not found in the z/OS database. Specify a valid calendar name.
Explanation: The specified calendar was not found in the z/OS database.
System action: The requested action did not complete successfully.
Operator response: Specify a valid calendar name.

GJS4003E The option "Cancel if late" and the "Start time" specifications are in conflict. To cancel the job if it is late, an earliest start time and a deadline must be defined.
Explanation: The selected options are in conflict. Read the message text for a solution.
System action: The requested action did not complete successfully.
Operator response: Correct the conflicting properties and save again.

GJS4004E A dependency already exists. Define only one dependency between two jobs.
Explanation: Only one dependency between two jobs can be defined.
System action: The requested action did not complete successfully.
Operator response: Define only one dependency.

GJS4008E If the job stream inherits scheduling information from a template, it cannot use the specified calendar. Complete either the "Inherits from template" field or the "Calendar" field, but not both.
Explanation: The Inherits from template field and the Calendar field are mutually exclusive.
System action: The requested action did not complete successfully.
Operator response: Complete either the Inherits from template field or the Calendar field, but not both.

GJS4009E The specified template in the "Inherits from template" field does not exist. Specify a valid template.
Explanation: A template has been inserted in the Inherits from template field that does not exist.
System action: The requested action did not complete successfully.
Operator response: Specify a valid template in the Inherits from template field.

GJS4010W Do you want to NOP the selected scheduled instances?
Explanation: See message.
System action: The program waits for your response.
Operator response: Select Yes to NOP the selected scheduled instances or No to cancel the request.

GJS4011W Do you want to UN-NOP the selected scheduled instances?
Explanation: See message.
System action: The program waits for your response.
Operator response: Select Yes to UN-NOP the selected instances or No to cancel the request.

GJS4012W Do you want to NOP scheduled instance instance_identifier?
Explanation: See message.
System action: The program waits for your response.
Operator response: Select Yes to NOP the selected scheduled instance or No to cancel the request.

GJS4013W Do you want to set the status of the scheduled instance instance_identifier to "complete"?
Explanation: See message.
System action: The program waits for your response.
operator response: select yes to set the selected scheduled instance to "complete" or no to cancel the request.

GJS4014W  Do you want to set the status of the selected scheduled instances to complete?
Explanation: See message.
System action: The program waits for your response.
Operator response: Select Yes to set the selected scheduled instances to "complete" or No to cancel the request.

GJS4015W  Do you want to set the status of the selected scheduled instances to "waiting"?
Explanation: See message.
System action: The program waits for your response.
Operator response: Select Yes to set the selected scheduled instances to "waiting" or No to cancel the request.

GJS4016W  Do you want to set the status of the scheduled instance instance_identifier to "waiting"?
Explanation: See message.
System action: The program waits for your response.
Operator response: Select Yes to set the selected scheduled instances to "waiting" or No to cancel the request.

GJS4017W  Do you want to UN-NOP scheduled instance instance_identifier?
Explanation: See message.
System action: The program waits for your response.
Operator response: Select Yes to UN-NOP the selected scheduled instance or No to cancel the request.

GJS4018E  The Node Address field is mandatory when the port number is specified. Specify a Node Address in the Access Methods section.
Explanation: The Node Address field is mandatory when the port number is specified.
System action: The requested action did not complete successfully.
Operator response: Specify a valid "Node Address" in the "Access Methods" section.

GJS4019E  The Name field is mandatory when the Node Address is specified. Specify a Name in the Access Methods section.
Explanation: The Name field is mandatory when the Node Address is specified.
System action: The requested action did not complete successfully.
Operator response: Specify a valid Name in the Access Methods section.

GJS4020E  The Name and Node Address fields are mandatory when the Port Number is specified. Specify a Name and a Node Address in the Access Methods section.
Explanation: The Name and Node Address fields are mandatory when the Port Number is specified.
System action: The requested action did not complete successfully.
Operator response: Specify a Name and a Node Address in the Access Methods section.

GJS4021E  The identifier is not unique.
Explanation: The identifier must be unique.
System action: The requested action did not complete successfully.
Operator response: Type a unique identifier.

GJS4022E  The default calendar was not found in z/OS. All days will be counted as workdays.
Explanation: The default calendar was not found in z/OS. All days will be counted as workdays.
System action: The requested action did not complete successfully.
Operator response: Type a valid calendar name.

GJS4023E  The specified target workstation does not exist, or cannot run the type of task associated with this job. Type a valid workstation name.
Explanation: The target workstation specified in the job page must exist.
System action: The requested action did not complete successfully.
Operator response: Type a valid workstation name.
Job Scheduling Console z/OS messages

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<td>The Offset-based Run Cycle cannot contain offsets outside the defined interval.</td>
<td>The Offset-based Run Cycle cannot contain offsets outside the defined interval.</td>
<td>The requested action did not complete successfully.</td>
<td>Insert offsets that are included in the defined interval.</td>
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<tr>
<td>GJS4025E</td>
<td>The Rule-based Run Cycle cannot contain days outside the user-defined period.</td>
<td>The Rule-based Run Cycle cannot contain days outside the user-defined period.</td>
<td>The requested action did not complete successfully.</td>
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<tr>
<td>GJS4027E</td>
<td>The To Time precedes the From Time. Type a later To Time or an earlier From Time, or both.</td>
<td>See message.</td>
<td>The requested action did not complete successfully.</td>
<td>Type a later To Time or an earlier From Time, or both.</td>
</tr>
<tr>
<td>GJS4028E</td>
<td>The specified target workstation cannot run the type of task associated with this job. Type the name of a workstation that is enabled to run the task.</td>
<td>The target workstation must be enabled to run the type of task associated with a job.</td>
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<td>Type a name of a workstation that is enabled to run the task.</td>
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<tr>
<td>GJS4029E</td>
<td>The job you want to delete is the last one in the job stream. The job stream will also be deleted. Do you want to proceed?</td>
<td>See message.</td>
<td>The program waits for your response.</td>
<td>Select Yes to delete the last job and the job stream or No to cancel the request.</td>
</tr>
<tr>
<td>GJS4030E</td>
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<td>Link the job to other jobs or remove it from the job stream.</td>
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<tr>
<td>GJS4031E</td>
<td>The job duration cannot be zero.</td>
<td>The duration of the job has been set to zero.</td>
<td>The requested action did not complete successfully.</td>
<td>Set the duration of the job to a value greater than zero.</td>
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<tr>
<td>GJS4032E</td>
<td>The specified Open Time interval is not valid.</td>
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<tr>
<td>GJS4033E</td>
<td>The start time is earlier than the job stream Valid From date. Type a later start time.</td>
<td>The start time that you typed comes before the job stream Valid From date.</td>
<td>The requested action did not complete successfully.</td>
<td>Type a later start time.</td>
</tr>
<tr>
<td>GJS4034W</td>
<td>The logical resource resource_name is not defined. Do you want to proceed?</td>
<td>See message.</td>
<td>The program waits for your response.</td>
<td>Select Yes to continue, even though the resource is not defined, or No to cancel the request.</td>
</tr>
<tr>
<td>GJS4035W</td>
<td>The logical resources resource_names are not defined. Do you want to proceed?</td>
<td>See message.</td>
<td>The program waits for your response.</td>
<td>Select Yes to continue, even though the resource is not defined, or No to cancel the request.</td>
</tr>
</tbody>
</table>
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GJS4036E No duration alert will be issued for 99.59.01. Do you want to proceed?

Explanation: The duration of the job has been set to 99 H, 59 M, 1 S. This is an acceptable value but no alert will be displayed.

System action: The program waits for your response.

Operator response: Select Yes to continue, even though the alert will not be displayed, or No to cancel the request.

GJS4037E The job duration cannot be greater than 99.59.01.

Explanation: The duration of the job has been set greater than 99 H, 59 M, 1 S.

System action: The requested action did not complete successfully.

Operator response: Set the duration of the job to a value that is less than or equal to 99.59.01.

GJS4038E A Start Cleanup with AR action is being requested, but no restart step is available. The complete cleanup list will be returned.

Explanation: The action you have requested suggests that you expected to find a step, but no steps are available.

System action: The complete cleanup list is returned.

Operator response: Ensure you are working with the correct job before continuing with the cleanup.

GJS4039E A Start Cleanup action was requested, but the JCL contains recovery statements. Perform the Start Cleanup with AR action.

Explanation: See message.

System action: The Start Cleanup action is not commenced.

Operator response: Perform the Start Cleanup with AR action.

GJS4040E The selected period was not found in the z/OS database.

Explanation: The selected period was not found in the z/OS database.

System action: The requested action did not complete successfully.

Operator response: Specify a valid period.
GJS2001E  Job Scheduling Console distributed messages

GJS2001E  The version of the scheduler engine VALUE_0 is not supported.
Explanation: The scheduler engine version selected is not supported.
System action: The requested action did not complete successfully.
Operator response: Choose a scheduler engine that is a supported version.

GJS2002E  The From priority cannot be greater than the To priority.
Explanation: The availability interval cannot be defined if the From priority is greater than the To priority.
System action: The requested action did not complete successfully.
Operator response: Type a To priority greater than the From priority.

GJS2004E  The job definition name is mandatory.
Explanation: The job definition name field is mandatory.
System action: The requested action did not complete successfully.
Operator response: Type a valid job definition name and all the other mandatory fields present in the panel.

GJS2005E  The number of scheduled dependencies exceeds the maximum number allowed.
Explanation: The maximum number of scheduled dependencies has been reached.
System action: The requested action did not complete successfully.
Operator response: Delete the dependency.

GJS2006E  A job stream cannot contain two jobs with the same name.
Explanation: The job name has to be unique in a job stream.
System action: The requested action did not complete successfully.
Operator response: It is necessary to modify the names of the jobs to make them unique.

GJS2007E  You cannot define the same dependency twice in the same job.
Explanation: Dependencies between a job stream and a job must be unique.
System action: The requested action did not complete successfully.
Operator response: Modify a dependency in a job stream.

GJS2008E  A job stream cannot have a follows dependency from one of its own jobs.
Explanation: A follows dependency between a job stream and one of its job is not allowed.
System action: The requested action did not complete successfully.
Operator response: Delete the dependency.
**Explanation:** A job stream cannot have itself as a dependency.

**System action:** The requested action did not complete successfully.

**Operator response:** Delete the dependency.

---

**GJS2010E** The same dependency cannot be defined twice in the same job stream.

**Explanation:** A dependency between job streams must be unique.

**System action:** The requested action did not complete successfully.

**Operator response:** Modify the dependency in a job stream and another job stream to make them unique.

---

**GJS2011E** Resource dependencies can be defined at the job stream level or at the job level, but not at both levels.

**Explanation:** Resource dependencies can be defined for Jobs or Job Streams, but not for both.

**System action:** The requested action did not complete successfully.

**Operator response:** Delete one of the resource dependencies at the job level or job stream level.

---

**GJS2012E** The submit into job stream workstation name is mandatory.

**Explanation:** The job stream workstation name field is mandatory.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a valid job stream workstation name and all the other mandatory fields present in the panel.

---

**GJS2013E** The workstation name is mandatory.

**Explanation:** The workstation name field is mandatory.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a valid workstation name and all the other mandatory fields present in the panel.

---

**GJS2014E** The script field is mandatory.

**Explanation:** The script field is mandatory.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a valid script and all the other mandatory fields present in the panel.

---

**GJS2015E** The command field is mandatory.

**Explanation:** The command field is mandatory.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a valid command and all the other mandatory fields present in the panel.

---

**GJS2016E** The parameter in the task string is not valid. The ^ character must precede the first letter and follow the last letter of a valid parameter name.

**Explanation:** The format for the parameter in the task string is not valid.

**System action:** The requested action did not complete successfully.

**Operator response:** Enclose the parameter name in the ^ character.

---

**GJS2017E** The job file field is mandatory.

**Explanation:** The job file field is mandatory.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a valid job file and all the other mandatory fields present in the panel.

---

**GJS2018E** The login field is mandatory.

**Explanation:** The login field is mandatory.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a valid login and all the other mandatory fields present in the panel.

---

**GJS2019E** The workstation class name is mandatory.

**Explanation:** The workstation class name field is mandatory.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a valid workstation class name and all the other mandatory fields present in the panel.

---

**GJS2020E** The workstation class must contain at least one workstation or a wildcard.

**Explanation:** The workstation class field must contain at least one workstation or a wildcard.

**System action:** The requested action did not complete successfully.
Operator response: Type a valid workstation class or use a wildcard.

GJS2021E The parameter name is mandatory.
Explanation: The parameter name field is mandatory.
System action: The requested action did not complete successfully.
Operator response: Type a valid parameter name and all the other mandatory fields present in the panel.

GJS2022E The prompt name is mandatory.
Explanation: The prompt name field is mandatory.
System action: The requested action did not complete successfully.
Operator response: Type a valid prompt name and all the other mandatory fields present in the panel.

GJS2023E The domain manager name is mandatory.
Explanation: The domain manager name field is mandatory.
System action: The requested action did not complete successfully.
Operator response: Type a valid domain manager name and all the other mandatory fields present in the panel.

GJS2024E The domain name is mandatory.
Explanation: The domain name field is mandatory.
System action: The requested action did not complete successfully.
Operator response: Type a valid domain name and all the other mandatory fields present in the panel.

GJS2025E The calendar name is mandatory.
Explanation: The calendar name field is mandatory.
System action: The requested action did not complete successfully.
Operator response: Type a valid calendar name and all the other mandatory fields present in the panel.

GJS2026E At least one day must be defined for a calendar.
Explanation: At least one day must be defined for a calendar.
System action: The requested action did not complete successfully.
Operator response: Try again later.

GJS2027E The R/3 job information is mandatory.
Explanation: The R/3 job information is mandatory.
System action: The requested action did not complete successfully.
Operator response: Type the R/3 job information and all the other mandatory fields present in the panel.

GJS2028E A job stream must be selected in the list.
Explanation: At least one job stream must be selected in the list.
System action: The requested action did not complete successfully.
Operator response: Select a job stream in the list.

GJS2029E A job must be selected in the list.
Explanation: At least one job must be selected in the list.
System action: The requested action did not complete successfully.
Operator response: Select a job from the list.

GJS2030E The SAP job on the task panel was not selected for this workstation. Select a new SAP job on the task panel, or change the workstation to the workstation the SAP job is defined on.
Explanation: The selected SAP Job is not defined for the selected workstation.
System action: The requested action did not complete successfully.
Operator response: Select a new SAP Job on the task panel, or change the workstation to the workstation the SAP job is defined on.

GJS2031E Unable to validate r3batch workstation because it is not in the plan or the connection with r3batch system failed
Explanation: It is not possible to establish a connection with the R/3 system.
System action: The requested action did not complete successfully.
Operator response: Try again later.
GJS2032E  The job definition cannot be saved.
   Reason: VALUE_0

Explanation:  The job definition could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2033E  The job definition cannot be retrieved.
   Reason: VALUE_0

Explanation:  The job definition could not be retrieved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2034E  The job definition list cannot be loaded.
   Reason: VALUE_0

Explanation:  The job definition list could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2035E  The job definition cannot be deleted.
   Reason: VALUE_0

Explanation:  The job definition could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2036E  Another job definition cannot be created. The task type is unknown for job VALUE_0. Edit the properties for this job and select a new task type and workstation.

Explanation:  Another job definition could not be created because the task type is unknown for the selected job.

System action:  The requested action did not complete successfully.

Operator response:  Edit the properties for this job and select a new task type and workstation.

GJS2037E  Multiple job definitions cannot be deleted.
   Reason: VALUE_0

Explanation:  The job definitions could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2038E  The workstation classes cannot be loaded.
   Reason: VALUE_0

Explanation:  The workstation classes could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2039W  The workstation class cannot be loaded.
   Reason: VALUE_0

Explanation:  The workstation class could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action:  The requested action did not complete successfully.

Operator response:  The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the
GJS2040E  Multiple workstation classes cannot be deleted.  
Reason: VALUE_0

Explanation: The multiple workstation classes could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2041E  The workstation class cannot be saved.  
Reason: VALUE_0

Explanation: The workstation class could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2042E  The workstation class cannot be deleted.  
Reason: VALUE_0

Explanation: The workstation class could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2043E  The Windows user list cannot be loaded.  
Reason: VALUE_0

Explanation: The Windows user list could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2044E  The Windows user cannot be deleted.  
Reason: VALUE_0

Explanation: The Windows user could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2045E  The selected Windows users cannot be deleted.  
Reason: VALUE_0

Explanation: The selected Windows user list could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2046W  The Windows user cannot be retrieved.  
Reason: VALUE_0

Explanation: The Windows user could not be retrieved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2047E  The Windows user cannot be saved.  
Reason: VALUE_0

Explanation: The Windows user could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS2048E**  The Windows user instance cannot be saved.  
Reason: *VALUE_0*

Explanation: The Windows user instance could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

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**GJS2049E**  The parameters cannot be loaded.  
Reason: *VALUE_0*

Explanation: The parameters could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

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**GJS2050W**  The parameter cannot be retrieved.  
Reason: *VALUE_0*

Explanation: The parameter could not be retrieved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

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**GJS2051E**  The multiple parameters cannot be deleted.  
Reason: *VALUE_0*

Explanation: The multiple parameters could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS2052E**  The parameter cannot be saved.  
Reason: *VALUE_0*

Explanation: The parameter could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS2053E**  The parameter cannot be deleted.  
Reason: *VALUE_0*

Explanation: The parameter could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

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**GJS2054E**  The prompts cannot be loaded.  
Reason: *VALUE_0*

Explanation: The prompts could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

**GJS2055W**  The prompt cannot be retrieved.  
Reason: *VALUE_0*

Explanation: The prompt could not be retrieved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2056E The multiple prompts cannot be deleted.
Reason: VALUE_0

Explanation: The multiple prompts could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2057E The prompt cannot be saved.
Reason: VALUE_0

Explanation: The prompt could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2058E The prompt cannot be deleted.
Reason: VALUE_0

Explanation: The prompt could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2059E The calendars cannot be loaded.
Reason: VALUE_0

Explanation: The calendars could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2060W The calendar cannot be retrieved.
Reason: VALUE_0

Explanation: The calendar could not be retrieved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2061E The multiple calendars cannot be deleted.
Reason: VALUE_0

Explanation: The multiple calendars could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2062E The calendar cannot be saved.
Reason: VALUE_0

Explanation: The calendar could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2063E The calendar cannot be deleted.
Reason: VALUE_0

Explanation: The calendar could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.
Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2064E  The domains cannot be loaded.
Reason: VALUE_0
Explanation: The domains could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2065W  The domain cannot be retrieved.
Reason: VALUE_0
Explanation: The domain could not be retrieved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2066E  The multiple domains cannot be deleted.
Reason: VALUE_0
Explanation: The multiple domains could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2067E  The domain cannot be saved.
Reason: VALUE_0
Explanation: The domain could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2068E  The domain cannot be deleted.
Reason: VALUE_0
Explanation: The domain could not be deleted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2069E  The prompt cannot be replied to.
Reason: VALUE_0,
Reason: VALUE_1
Explanation: The selected prompt could not be replied to due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2070E  The multiple prompts cannot be replied to.
Reason: VALUE_0,
Reason: VALUE_1
Explanation: The selected multiple prompts could not be replied to due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2071E  The link action for the domain VALUE_0 cannot be performed.
Reason: VALUE_1
Explanation: The link action for selected domain could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.
System action: The requested action did not complete successfully.
Operator response: The reason displayed in the
message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS2072E**  The link action for the domains `VALUE_0` cannot be performed.
Reason: `VALUE_1`

**Explanation:** The link action for the selected domains cannot be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS2073E**  The unlink action for the domain `VALUE_0` cannot be performed.
Reason: `VALUE_1`

**Explanation:** The unlink action for the selected domain could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS2074E**  The unlink action for the domains `VALUE_0` cannot be performed.
Reason: `VALUE_1`

**Explanation:** The unlink action for the selected domains could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS2074W**  An unrecognized time zone value for the `VALUE_0` was specified.
Select a recognized time zone value, or no time zone is set for `VALUE_0`.

**Explanation:** See message.

**System action:** Processing continues.

**Operator response:** Select a recognized time zone value.

**GJS2075E**  Some of the start actions for the domain `VALUE_0` were not completed.
Reason: `VALUE_1`

**Explanation:** Some of the start actions were not completed for the domain due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS2075W**  An unrecognized time zone for the `VALUE_0` was specified.
The time zone displayed is that specified for the master domain manager.
Select a recognized time zone value or the master domain manager time zone value is used.

**Explanation:** See message.

**System action:** Processing continues.

**Operator response:** Select a recognized time zone value.

**GJS2076E**  The start action for the domains `VALUE_0` cannot be performed.
Reason: `VALUE_1`

**Explanation:** The start action for the selected domains cannot be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

**GJS2077E**  Some of the stop actions for the domain `VALUE_0` were not completed.
Reason: `VALUE_1`

**Explanation:** Some of the stop actions were not completed for selected domain due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.
Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2078E The stop action for the domains VALUE_0 cannot be performed.  
Reason: VALUE_1

Explanation: The stop action for the selected domains could not be performed due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2079E The manager for the domains VALUE_0 cannot be switched.  
Reason: VALUE_1

Explanation: The manager for the selected domains could not be switched due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2080E There is an internal calendar error.  
An unanticipated condition was encountered during the last operation: VALUE_0

Explanation: An internal calendar error occurred.

System action: The requested action did not complete successfully.

Operator response: Select another calendar.

GJS2081E A calendar name is required for all calendars. There is at least one calendar that has not been assigned a name.

Explanation: Every calendar must have a name. There is at least one calendar that has not been assigned a name.

System action: The requested action did not complete successfully.

Operator response: Make sure that all the calendars have a name defined.

GJS2082E There are no days selected in the calendar.

Explanation: At least one day must be defined for every calendar.

System action: The requested action did not complete successfully.

Operator response: Type at least one day for the calendar.

GJS2083E No check boxes are selected.

Explanation: At least one check box must be selected in the rule panel.

System action: The requested action did not complete successfully.

Operator response: Select at least one check box from the rule panel.

GJS2084E The password and confirmation password do not coincide. Type the passwords again.

Explanation: The password and confirmation password must coincide.

System action: The requested action did not complete successfully.

Operator response: Type the password and confirmation password again, making sure they are identical.

GJS2085E Passwords cannot exceed VALUE_0 characters.

Explanation: The password length cannot exceed the maximum length.

System action: The requested action did not complete successfully.

Operator response: Type a password with a number of characters that is less than or equal to the maximum length.

GJS2086E A problem occurred during password encryption.

Explanation: A problem occurred during password encryption.

System action: The requested action did not complete successfully.

Operator response: Contact customer support.
GJS2087E  Workstation Name is a required field.
Explaination: The Workstation Name field is mandatory.
System action: The requested action did not complete successfully.
Operator response: Type a valid Workstation Name and all the other mandatory fields present in the panel.

GJS2088E  The file name must include a path.
Explaination: The file name field must include a path.
System action: The requested action did not complete successfully.
Operator response: Type a valid file name: path + file name.

GJS2089W  The workstation class is being renamed.
VALUE_0
Explaination: The workstation class is being renamed. All dependencies for job scheduler objects in the database that include it are also updated.
System action: If OK is clicked the workstation class is renamed. Otherwise the rename action is ignored.
Operator response: Click OK to rename the workstation class or Cancel to cancel the rename action.

GJS2090E  All dependencies for job scheduler objects in the database that include this workstation name are also updated.
Explaination: A workstation class might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new name.
System action: If OK is clicked the workstation class is renamed. Otherwise the rename action is ignored.
Operator response: Click OK to rename the workstation class or click Cancel to cancel the rename action.

GJS2091W  The prompt is being renamed:
VALUE_0
Explaination: The prompt might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new name.
System action: If OK is clicked the prompt is renamed. Otherwise the rename action is ignored.
Operator response: Click OK to rename the prompt or Cancel to cancel the rename action.

GJS2092E  The prompt might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new name.
Explaination: The prompt might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new name.
System action: If OK is clicked the prompt is renamed. Otherwise the rename action is ignored.
Operator response: Click OK to rename the prompt or click Cancel to cancel the rename action.

GJS2092W  This prompt might be part of a dependency for a job scheduler object in the database. If so, any future action performed that refers to the old prompt returns an error.
Explaination: The prompt might be part of a dependency for a job scheduler object in the database. If it is deleted, any future action performed that refers to the old prompt returns an error.
System action: If OK is clicked the prompt is deleted. Otherwise the delete action is ignored.
Operator response: Click OK to delete the prompt or Cancel to cancel the delete action.

GJS2093W  The parameter is being renamed:
VALUE_0
Explaination: The parameter might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new name.
System action: If OK is clicked the parameter is renamed. Otherwise the rename action is ignored.
Operator response: Click OK to rename the parameter or click cancel to cancel the rename action.

GJS2094E  The parameter might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new name.
Explaination: The parameter might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new name.
System action: If OK is clicked the parameter is renamed. Otherwise the rename action is ignored.
Operator response: Click OK to rename the parameter or click Cancel to cancel the rename action.
**GJS2094W** The parameter is being deleted. The parameter might be part of a dependency for a job scheduler object in the database. If so, any later action performed that refers to the old parameter returns an error.

**Explanation:** The parameter might be part of a dependency for a job scheduler object in the database. If so, any later action performed that refers to the old parameter returns an error.

**System action:** If OK is clicked the parameter is deleted. Otherwise the delete action is ignored.

**Operator response:** Click OK to delete the parameter or click Cancel to cancel the delete action.

---

**GJS2095E** One or more errors occurred while the job list was being loaded.

**Explanation:** One or more errors occurred while the job list was being loaded.

**System action:** The requested action did not complete successfully.

**Operator response:** Contact customer support.

---

**GJS2096W** The calendar is being renamed.

**Explanation:** The calendar might be part of a run cycle for a scheduler object in the database. If so, the run cycle is also updated with the new name.

**System action:** If OK is clicked the calendar is renamed. Otherwise the rename action is ignored.

**Operator response:** Click OK to rename the calendar or click Cancel to cancel the rename action.

---

**GJS2097W** See the error.log file for details.

**Explanation:** An error has occurred. See the error.log file for details.

**System action:** Processing continues.

**Operator response:** See the error.log file for details.

---

**GJS2098E** The calendar might be part of a run cycle for a scheduler object in the database. If so, the run cycle is also updated with the new name.

**Explanation:** The calendar might be part of a run cycle for a scheduler object in the database. If so, the run cycle is also updated with the new name.

**System action:** If OK is clicked the calendar is renamed. Otherwise the rename action is ignored.

**Operator response:** Click OK to rename the calendar or click Cancel to cancel the rename action.

---

**GJS2099W** The domain is being renamed:

**Explanation:** This domain might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new name.

**System action:** If OK is clicked the domain is renamed. Otherwise the rename action is ignored.

**Operator response:** Click OK to rename the domain or click Cancel to cancel the rename action.

---

**GJS2100E** This domain might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new name.

**Explanation:** A domain might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new name.

**System action:** If OK is clicked, the domain is renamed. Otherwise the rename action is ignored.

**Operator response:**
GJS2102W This job might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new workstation data.

Explanation: This job might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new workstation data.

System action: If OK is clicked the workstation is modified. Otherwise the request is ignored.

Operator response: Click OK to modify the workstation, or click Cancel to cancel the modification request.

GJS2103E This job might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new workstation data.

Explanation: This job might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new workstation data.

System action: If OK is clicked the workstation is modified. Otherwise the request is ignored.

Operator response: Click OK to modify the workstation, or click Cancel to cancel the modify request.

GJS2104W This resource might be a dependency for a job scheduler object. If so, the dependency is also updated with the new workstation data.

Explanation: This resource might be a dependency for a job scheduler object. If so, the dependency is also updated with the new workstation data.

System action: If OK is clicked the workstation is modified. Otherwise the request is ignored.

Operator response: Click OK to modify the workstation, or click Cancel to cancel the modify request.

GJS2105W This job stream might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new workstation data.

Explanation: This job stream might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new workstation data.

System action: If OK is clicked the workstation is modified. Otherwise the request is ignored.

Operator response: Type the ^ character before the first letter and after the last letter of the parameter name.

GJS2106E This job might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new job name.

Explanation: This job might be part of a dependency for a job scheduler object in the database. If so, the dependency is also updated with the new job name.

System action: If OK is clicked the job is renamed. Otherwise the rename request is ignored.

Operator response: Click OK to rename the job, or click Cancel to cancel the rename request.

GJS2107E The parameter format for the login string is not valid.

The ^ character must precede the first letter and follow the last letter of a parameter name.

Explanation: The format for the parameter in the login string is not valid. The ^ character must precede the first letter and follow the last letter of a parameter name.

System action: The requested action did not complete successfully.

Operator response: Type the ^ character before the first letter and after the last letter of the parameter name.

GJS2108E The user login format for the MPE job is not valid.

The user login must have the following format: [user].[account]<,group> where each section can have a maximum of eight characters.

Explanation: The user login format for the MPE job is not valid.

System action: The requested action did not complete successfully.

Operator response: Type the user login in the following format: [user].[account]<,group>, where each section can have a maximum of eight characters.

GJS2109E The details field is mandatory.

\texttt{VALUE}_0

Explanation: The details field is mandatory.

System action: The requested action did not complete successfully.

Operator response: Type valid details and all the other mandatory fields presents in the panel.
<table>
<thead>
<tr>
<th>Code</th>
<th>Error Message</th>
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</thead>
<tbody>
<tr>
<td>GJS2110E</td>
<td>The time restrictions field contains a character that is not valid.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The time restrictions field has a character that is not valid.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The requested action did not complete successfully.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Type a valid time restriction and all the other mandatory fields in the panel.</td>
</tr>
<tr>
<td>GJS2111E</td>
<td>The repeat every field contains a character that is not valid.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The repeat every field contains a character that is not valid.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The requested action did not complete successfully.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Type a valid repeat every and all the other mandatory fields in the panel.</td>
</tr>
<tr>
<td>GJS2112E</td>
<td>The start year must precede the end year.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>In the &quot;Day of Month&quot; section, the start year field must precede the end year.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The requested action did not complete successfully.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Type a start year that precedes the end year.</td>
</tr>
<tr>
<td>GJS2113E</td>
<td>The start month must precede the end month.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>In the &quot;Day of Month&quot; section, the start month field must precede the end month.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The requested action did not complete successfully.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Type a start month that precedes the end month.</td>
</tr>
<tr>
<td>GJS2114W</td>
<td>The job name field is mandatory.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The job name field is mandatory.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The requested action did not complete successfully.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Type a valid job name and all the other mandatory fields in the panel.</td>
</tr>
<tr>
<td>GJS2115E</td>
<td>The network agent field is mandatory.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The network agent field is mandatory.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The requested action did not complete successfully.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Type a valid network agent and all the other mandatory fields in the panel.</td>
</tr>
</tbody>
</table>

The time restrictions field contains a character that is not valid.

The repeat every field contains a character that is not valid.

The start year must precede the end year.

The start month must precede the end month.

The job name field is mandatory.

The network agent field is mandatory.

The dependency value has exceeded the maximum field length.

The dependency value cannot exceed the maximum field length.

If the dependency value begins with a quote character it must end with a quote character.

If the dependency value begins with a quote character it must end with a quote character.

There are too many quote characters in the dependency field.

There are too many quote characters in the dependency field.

This dependency contains a workstation name that is not valid.

This dependency contains a workstation name that is not valid.

This dependency contains a job stream name that is not valid.

This dependency contains a job stream name that is not valid.
GJS2121E  This dependency contains a job name that is not valid.

**Explanation:** The job name in the dependency field is not valid.

**System action:** The requested action did not complete successfully.

**Operator response:** Correct the job name in the dependency field.

GJS2122E  The successors for the job stream cannot be retrieved.

**Reason:** VALUE_0

**Explanation:** The successor for the job stream could not be retrieved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2123E  The successors of the job cannot be retrieved.

**Reason:** VALUE_0

**Explanation:** The successors for the job could not be retrieved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2124E  The job or job stream cannot be submitted.

**Reason:** VALUE_0

**Explanation:** The job or job stream could not be submitted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2125E  The time zone field is required for the master when time zones are enabled.

**Explanation:** If the time zones are enabled, the time zone field is mandatory for the master.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a valid time zone.

GJS2126W  There is a Modify Step Error.

**Reason:** VALUE_0

**Explanation:** There is a Modify Step Error due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2128E  The specified workstation and/or job name was not found.

**Explanation:** The specified workstation and/or job name was not found.

**System action:** The requested action did not complete successfully.

**Operator response:** Type a valid workstation and/or a valid job name.

GJS2129E  The SAP job definition cannot be saved.

**Reason:** VALUE_0

**Explanation:** The SAP job definition could not be saved due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

**System action:** The requested action did not complete successfully.

**Operator response:** The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS2130W  This action modifies the SAP Job ID in the Tivoli Workload Scheduler job definition.

Modifying the SAP Job creates a new SAP Job and deletes the current one. The Tivoli Workload Scheduler job definition must be saved to save the new SAP Job ID. Otherwise, the Tivoli Workload Scheduler job definition is not valid.
Explanation: This action modifies the SAP Job ID in the Tivoli Workload Scheduler job definition. Modifying the SAP Job creates a new SAP Job and deletes the current one. The Tivoli Workload Scheduler job definition must be saved to save the new SAP Job ID. Otherwise, the Tivoli Workload Scheduler job definition is not valid.

System action: If OK is clicked the SAP Job ID is modified. Otherwise the request is ignored.

Operator response: Click OK to modify the SAP job ID or click Cancel to cancel the modify request.

---

GJS2131E The SAP job definition cannot be renamed. This is not valid for a modify operation.

Explanation: The SAP job definition could not be renamed.

System action: The requested action did not complete successfully.

Operator response: Click Save and Close to rename the job. Otherwise, enter the original job name and click Modify and Close to modify the job.

---

GJS2132E The file plan view cannot be loaded.

Reason: VALUE_0

Explanation: The file plan view could not be loaded due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

---

GJS2133E The job output could not be loaded because it uses an unsupported encoding.

Explanation: The job output could not be loaded because it uses an unsupported encoding.

System action: The requested action did not complete successfully.

Operator response: Contact customer support.

---

GJS2134W The deadline precedes or is equal to the start time. Do you want to proceed?

Explanation: The deadline precedes or is equal to the start time.

System action: The requested action did not complete successfully.

---

Operator response: The deadline must be greater than the start time, or one of two must be disabled.

GJS2135E The specified workstation and/or job stream name was not found.

Explanation: The specified workstation and/or job stream name was not found.

System action: The requested action did not complete successfully.

Operator response: Type a valid workstation and/or a valid job stream name.

---

GJS2136E There is not enough memory to complete this action successfully.

Explanation: The CPU memory has reached the 100% level. It is not possible to perform this action successfully.

System action: The action requested has not completed successfully.

Operator response: Data has exceeded the limit.

---

GJS2137E The specified calendar does not exist.

Explanation: The specified calendar does not exist.

System action: The requested action did not complete successfully.

Operator response: Specify another calendar.

---

GJS2138W The specified domain VALUE_0 does not exist.

Explanation: The domain does not exist.

System action: Processing continues.

Operator response: Click OK to continue, or click Cancel to specify a new domain.

---

GJS2139E The specified workstation was not found.

Explanation: The specified workstation was not found.

System action: The requested action did not complete successfully.

Operator response: Type a valid workstation.

---

GJS2141E The specified recovery workstation and job name combination was not found.

Explanation: The workstation and job name combination specified as a recovery option was not found. Either the workstation, or the job name, or both are incorrect.

System action: The requested action did not complete successfully.
Operator response: Make sure that the specified workstation and specified job name exist and are typed correctly.

GJS2142E The recovery option job cannot have the same name as the job being defined.
Explanation: The job name specified for the recovery option is the same as the job that is being defined.
System action: The requested action did not complete successfully.
Operator response: Type a recovery option job name that is different from the job being defined.

GJS2143E A job stream cannot have a dependency on one of its jobs when the resolution criteria is other than the default or the closest preceding.
Explanation: To create a dependency between a job stream and one of its jobs the resolution criteria must be either "Use default" or "Closest preceding".
System action: The requested action did not complete successfully.
Operator response: Change the resolution criteria for the dependencies of the job stream jobs.

GJS2144E A job stream cannot have a dependency on itself when the resolution criteria is other than the default or the closest preceding.
Explanation: To create a dependency on a job stream with itself the resolution criteria must be either "Use default" or "Closest preceding".
System action: The requested action did not complete successfully.
Operator response: Change the resolution criteria for the dependencies of the job stream.

GJS2145W The following jobs are already in the job stream: VALUE_0
Explanation: Some of the selected jobs are already present in the job stream. Continuing the action prevents those jobs from entering.
System action: When Yes is selected, the jobs already present are prevented from entering the job stream. Otherwise the action is cancelled.
Operator response: Click Yes to submit the selected jobs that are not already present in the job stream. Click No to cancel the operation.

GJS2146E The parameter in the login string is not valid. The ^ character must precede the first letter and follow the last letter of a valid parameter name.
Explanation: The format for the parameter in the login string is not valid.
System action: The requested action did not complete successfully.
Operator response: Enclose the parameter name in the ^ character.

GJS2147E The resource VALUE_0 does not exist.
Explanation: The specified resource does not exist.
System action: The requested action did not complete successfully.
Operator response: Choose a resource that exists.

GJS5001I A new run cycle is being created. If another run cycle of this kind already exists for this job stream, the two run cycles are merged by the mapper.
Explanation: A new run cycle is being created. If another run cycle of this kind already exists for this job stream, the two run cycles are merged by the mapper.
System action: If the answer to previous question is Yes then a new run cycle is created. Otherwise the request is ignored.
Operator response: Click Yes to create the new run cycle or click No to cancel the create request.

GJS5002W Do you want cancel the selected job instances?
Explanation: The selected job instances are being deleted.
System action: If the answer to previous question is Yes then the selected job instances are deleted. Otherwise the request is ignored.
Operator response: Click Yes to delete the job instances, or click No to cancel the delete request.

GJS5003W Do you want cancel the selected job stream instances?
Explanation: The selected job stream instances are being deleted.
System action: If the answer to previous question is Yes then the selected job stream instances are deleted. Otherwise the request is ignored.
Operator response: Click Yes to delete the job stream instances, or click No to cancel the delete request.
GJS5004W  Do you want to confirm the selected job instances?

Explanation: The selected job instances are being confirmed.

System action: If the answer to previous question is Yes then the selected job instances are confirmed. Otherwise the request is ignored.

Operator response: Click Yes to confirm the job instances, or click No to cancel the request.

GJS5005E  A job stream instance cannot have a dependency on itself or on its jobs.

Explanation: A job stream instance cannot have a dependency on itself or on its jobs

System action: The requested action did not complete successfully.

Operator response: Remove the job stream instance dependency on itself or on its jobs.

GJS5006E  A job instance cannot have a dependency on itself or on its job stream instance.

Explanation: A job instance cannot have a dependency on itself or on its job stream instance.

System action: The requested action did not complete successfully.

Operator response: Remove the job instance dependency on itself or on its job stream instance.

GJS5027W  Do you want to release all dependencies on the selected job instances?

Explanation: You are requesting that all the dependencies of the job instance are released.

System action: If the answer to previous question is Yes all dependencies on the selected job instances are released. Otherwise the request is ignored.

Operator response: Click Yes to release the dependencies or click no to cancel the release request.

GJS5028W  Do you want to release all dependencies on the selected job stream instances?

Explanation: You are requesting that all the dependencies of the job stream instance are released.

System action: If the answer to previous question is Yes then all dependencies on the selected job stream instances are released. Otherwise the request is ignored.

Operator response: Click Yes to release the dependencies or click no to cancel the release request.

GJS5034W  Do you want rerun the selected job instances?

Explanation: You are requesting a rerun of the selected job instances.

System action: If the answer to previous question is Yes then the selected job instances are rerun. Otherwise the request is ignored.

Operator response: Click Yes to rerun the selected job instances or click No to cancel the request.

GJS5035W  Do you want to resubmit all the selected instances?

Explanation: You are requesting a resubmit of the selected instances.

System action: If the answer to previous question is Yes the selected instances are resubmitted. Otherwise the request is ignored.

Operator response: Click Yes to resubmit the instances or click No to cancel the request.

GJS5042W  Do you want to stop the selected workstations?

Explanation: You are requesting a stop action on the selected workstations.

System action: If the answer to previous question is Yes the selected workstations are stopped. Otherwise the request is ignored.

Operator response: Click Yes to stop all the selected workstations or click No to cancel the request.

GJS5043W  Do you want to stop workstation VALUE_0?

Explanation: You are requesting to stop the selected workstation.

System action: If the answer to previous question is Yes the selected workstation is stopped. Otherwise the request is ignored.

Operator response: Click Yes to stop the workstation or click No to cancel the request.

GJS5046W  Do you want to unlink the selected workstations?

Explanation: You are requesting that the selected domains are unlinked.

System action: If the answer to previous question is Yes the selected workstations are unlinked. Otherwise the request is ignored.

Operator response: Click Yes to unlink the selected workstations or click No to cancel the request.
GJS5047W  Do you want to unlink workstation GJS5051W?

Explanation: You are requesting that the selected workstation is unlinked.

System action: If the answer to previous question is Yes the selected workstation is unlinked. Otherwise the request is ignored.

Operator response: Click Yes to unlink the selected workstation or click No to cancel the request.

GJS5048W  There is an error.
Reason: VALUE_0

Explanation: A problem has arisen due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler engine. Refer to the Administration and Troubleshooting manual.

GJS5049W  The start time is later than the latest start time. Do you want to proceed?

Explanation: The typed start time is later than the latest start time.

System action: The requested action did not complete successfully.

Operator response: Type an earlier start time.

GJS5050W  The latest start time is later than the deadline time. Do you want to proceed?

Explanation: The typed latest start time is later than the deadline time.

System action: The requested action did not complete successfully.

Operator response: Type an earlier start time.

GJS5051W  The parenthesis in the return code expression are not valid. VALUE_0 is not correct.

Explanation: Each open parenthesis must match a corresponding closed parenthesis

System action: The requested action did not complete. Return code expression must be corrected to finish the action

Operator response: Type a correct return code expression

GJS5052W  The return code expression contains some operators that are not valid: VALUE_0 is not correct.

Explanation: Only greater than or less than operands can be used.

System action: The requested action did not complete.

Operator response: Type a correct return code expression using only boolean operators.

GJS5053W  The return code expression is not valid: VALUE_0 is not correct.

Explanation: The return code expression is not valid.

System action: The requested action did not complete.

Operator response: Type a correct return code expression.

GJS5054W  Return code expression contains some invalid operands: VALUE_0 is not correct

Explanation: Only boolean operator can be used.

System action: The requested action did not complete. Return code expression must be corrected to finish the action

Operator response: Type a correct return code expression

GJS5055W  The plan cannot be submitted because an alternative plan was selected for the current engine.

Explanation: If an alternative plan is selected for an engine, its jobs or job streams cannot be submitted.

System action: The requested action did not complete successfully.

Operator response: Restore the plan before submitting it.

GJS5056W  The restore operation can be performed only if an alternative plan was previously selected for the current engine.

Explanation: The current engine symphony file has not been modified, therefore the plan cannot be restored.

System action: The requested action did not complete successfully.

Operator response: Select an alternate plan before performing the restore operation.
GJS5058E  Job is hosted by cpu VALUE_0, resource VALUE_1 is hosted by cpu VALUE_2
Explanation: To add a resource it must have the same workstation as the job.
System action: The requested action did not complete successfully.
Operator response: Select a resource that is resident on the same workstation as the job.

GJS5059E  The job output cannot be loaded because the STDLIST file is too large.
Explanation: The job output could not be loaded because the STDLIST file is too large.
System action: The requested action did not complete successfully.
Operator response: Remove some of the entries in the STDLIST file.

GJS5059W  The Windows user password cannot be changed because an alternate plan was selected for the selected engine.
Explanation: When an alternate plan is selected for the engine, the Windows user password cannot be changed.
System action: The requested action did not complete successfully.
Operator response: Restore the plan and then change the Windows user password.

GJS5063W  The following external job dependencies do not exist: VALUE_0.
Explanation: The given list of external job dependencies contains one or more nonexistent jobs.
System action: Processing continues.
Operator response: Make sure that all the specified dependencies are correctly defined before the job stream is run.

GJS5064W  The following external job stream dependencies do not exist: VALUE_0.
Explanation: The given list of external job stream dependencies contains one or more nonexistent job streams.
System action: Processing continues.
Operator response: Make sure that all the specified dependencies are correctly defined at before the job stream is run.

GJS5065W  The selected calendars might be part of a dependency for a job scheduler object in the database. If so, any future action performed that refers to the calendars returns an error.
Explanation: The selected calendars might be part of a dependency for a job scheduler object in the database.
If so, and they are deleted, any future action performed that refers to the old calendars returns an error.
System action: If the answer to previous question is Yes the calendars are deleted. Otherwise the request is ignored.
Operator response: Click Yes to delete the selected calendars or click No to cancel the delete request.

GJS5066W  The selected parameters might be part of a dependency for a job scheduling object in the database. If so, any future action performed that refers to the parameters returns an error.
Explanation: These parameters might be part of a dependency for a job scheduler object in the database.
If they are deleted, any future action performed that refers to the parameters returns an error.
System action: If the answer to previous question is Yes the parameters are deleted. Otherwise the request is ignored.
Operator response: Check that you have selected the correct parameters.

GJS5067W  The selected prompts might be part of a dependency for a job scheduling object in the database. If so, any future action performed that refers to the prompts returns an error.
Explanation: These prompts might be part of a dependency for a job scheduler object in the database.
If they are deleted, any future action performed that refers to the prompts returns an error.
System action: If OK is clicked the prompts are deleted. Otherwise the request is ignored.
Operator response: Click OK to delete the prompts or click Cancel to cancel the delete request.

GJS5069I  The job requires VALUE_0 units of resource VALUE_1, but only 1 is available.
Explanation: A number of units of the specified resource has been requested for the selected job, but the number exceeds the available resources.
System action: The requested action did not complete successfully.
Operator response: Modify the number of units of the specified resource to a value less than or equal to the number of units available, or remove the resource dependency from the job.

GJS5070I The job requires VALUE_0 units of resource VALUE_1, but only VALUE_2 are available.

Explanation: A number of units of the specified resource has been requested for the selected job, but the number exceeds the available resources.

System action: The requested action did not complete successfully.

Operator response: Modify the number of units of the specified resource to a value less than or equal to the number of units available.

GJS5074E In the VALUE_0 section, the To Date is earlier than the From Date. Type an earlier From Date, or type a later To Date.

Explanation: The query does not return any results because the From Date is later than the To Date.

System action: The requested action did not complete successfully.

Operator response: Type an earlier From Date, or type a later To Date.

GJS5075E In the VALUE_0 section, when a value for the Date field is set, a value for the Time field must also be set.

Explanation: The query does not return any results because the date filter is not set correctly.

System action: The requested action did not complete successfully.

Operator response: Set values for both Date and Time fields, or do set values for either Date and Time fields.

GJS5076E In the VALUE_0 section, when a value for the Time field is set, a value for the Date field must also be set.

Explanation: The query does not return any results because the date filter is not set correctly.

System action: The requested action did not complete successfully.

Operator response: Set values both for Time and Date fields, or do not set values for either Date and Time fields.

GJS5077E The password for the Windows user VALUE_0 cannot be changed. Reason: VALUE_1

Explanation: The specified password for the Windows user password could not be set. Some problem has been encountered during this operation.

System action: The requested action did not complete successfully.

Operator response: Make sure that the specified user name, Windows domain and workstation correctly correspond to an existing Windows user.
<table>
<thead>
<tr>
<th>Message ID</th>
<th>Description</th>
<th>Explanation</th>
<th>System action</th>
<th>Operator response</th>
</tr>
</thead>
<tbody>
<tr>
<td>GJS5078E</td>
<td>The object cannot be unlocked. Reason: VALUE_0</td>
<td>It is not possible to unlock the object. Some problem has been encountered during this operation.</td>
<td>The requested action did not complete successfully.</td>
<td>Refer to the reason indicated in the message to resolve the issue.</td>
</tr>
<tr>
<td>GJS5079W</td>
<td>The value specified for the upper limit of the time interval is lower than the one specified for the lower limit.</td>
<td>The values specified for the upper limit of the time interval is lower than that specified for the lower limit.</td>
<td>Processing continues.</td>
<td>Change one of the limits to grant consistent definition of the interval.</td>
</tr>
<tr>
<td>GJS5080E</td>
<td>The value specified for validity interval end is lower than the one specified for the validity interval start.</td>
<td>The value specified for validity interval end is lower than the one specified for the validity interval start.</td>
<td>Processing continues.</td>
<td>Change one of the limits to grant consistent definition of the interval.</td>
</tr>
<tr>
<td>GJS5081E</td>
<td>The Start time must be defined for a time dependent job. VALUE_0</td>
<td>When the job is a time dependent job it must have a start time defined.</td>
<td>The requested action did not complete successfully.</td>
<td>Define start time or set the job as time independent.</td>
</tr>
<tr>
<td>GJS5082E</td>
<td>The name specified for the Run Cycle is not valid.</td>
<td>The name specified for the run cycle is not valid.</td>
<td>The requested action did not complete successfully.</td>
<td>Specify a valid name for the run cycle.</td>
</tr>
<tr>
<td>GJS5083E</td>
<td>It is mandatory to specify a Run Cycle name.</td>
<td>The run cycle name field is a mandatory field.</td>
<td>The requested action did not complete successfully.</td>
<td>Type a name for the run cycle.</td>
</tr>
<tr>
<td>GJS5084E</td>
<td>One or more jobs in the job stream are defined on a different workstation class.</td>
<td>If a job stream is defined in a workstation class, then all of its jobs must be defined either on a workstation, or in the same workstation class.</td>
<td>The requested action did not complete successfully.</td>
<td>Set the workstation of this job stream to the original value or hit Cancel.</td>
</tr>
<tr>
<td>GJS5085W</td>
<td>The value specified for the upper limit of the time interval is equal to the one specified for the lower limit.</td>
<td>As the upper and lower limits for the time interval are equal, the interval itself is empty.</td>
<td>Processing continues.</td>
<td>Change one of the limits to define relevant interval.</td>
</tr>
<tr>
<td>GJS5086E</td>
<td>The run cycle cannot be saved because no days were selected in the list.</td>
<td>To save a run cycle a run cycle frequency must be specified.</td>
<td>The requested action did not complete successfully.</td>
<td>Select one or more days in the list in order to specify the Run Cycle frequency.</td>
</tr>
<tr>
<td>GJS5089E</td>
<td>The start date is later than the end date.</td>
<td>The end date must be later than the start date.</td>
<td>The requested action did not complete successfully.</td>
<td>Enter an end date that is later than the start date or leave the end date blank.</td>
</tr>
</tbody>
</table>
The offset field contains an value that is not valid.

Explanation: A value that is not valid was inserted in the offset field. The offset value must be numeric.

System action: The requested action did not complete successfully.

Operator response: Type a valid number of days in the offset field.

The selected workstation must have Other as its operating system.

Explanation: The selected workstation must have Other as the workstation type.

System action: The requested action did not complete successfully.

Operator response: Select another workstation that has Other as its operating system.

The prompt VALUE_0 does not exist.

Explanation: A dependency was specified on a prompt that does not exist. The prompt might have been removed from the database after the dependency was added.

System action: The requested action did not complete successfully.

Operator response: Remove the prompt dependency. Create the prompt and recreate the dependency.

The job VALUE_0 cannot be submitted.

Explanation: The job could not be submitted due to an error that occurred in the Tivoli Workload Scheduler engine. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler for Applications. Refer to the IBM Tivoli Workload Scheduler for Applications User’s Guide.

The Raise Event field is mandatory.

Explanation: The Raise Event field is a mandatory field.

System action: The requested action did not complete successfully.

Operator response: Type a valid values in the Raise Event field.

The Table Criteria is in error.

Reason: VALUE_0

Explanation: There is a problem with Table Criteria due to an error in the Tivoli Workload Scheduler for Applications. The error code is specified in the message text.

System action: The requested action did not complete successfully.

Operator response: The reason displayed in the message text represents an error code reported by the Tivoli Workload Scheduler for Applications. Refer to the IBM Tivoli Workload Scheduler for Applications User’s Guide.

The requested action cannot be performed because it is supported from XBP level 2.0 and ITWS for Applications 8.2.1 FP1.

Explanation: The XBP level available does not support the requested action. The action is supported from XBP 2.0 and ITWS for Applications 8.2.1 FP1.

System action: The requested action did not complete successfully.

Operator response: Choose another action, or upgrade to a supported level of XBP.

The specified plan cannot be generated.

Reason: VALUE_0

Explanation: It is not possible to generate the plan. The error reason is given in the message text.

System action: The requested action did not complete successfully.

Operator response: Fix the problem and try again.
| GJS5101E | The newly generated plan cannot be used as an alternate plan. Reason: \( \text{VALUE}_0 \) |
| Explanation: | The new plan was generated but it is not possible to set it as an alternate plan. The error reason is given in the message text. |
| System action: | The requested action did not complete successfully. |
| Operator response: | Fix the problem and try again. |

| GJS5102E | There is more than one instance of the selected job stream. Submit the job into the job stream with the ID \( \text{VALUE}_0 \)? |
| Explanation: | There is more than one instance of the selected job stream. Tivoli Workload Scheduler proposed an instance to be submitted in. |
| System action: | If OK is clicked, the job is submitted into the proposed job stream instance. If cancel is clicked the submit action is ignored. |
| Operator response: | Click OK to submit or click Cancel to cancel the submit action. |

| GJS5103I | The job definition "\( \text{VALUE}_0 \)" is being moved on the workstation class "\( \text{VALUE}_1 \)". verify that job streams that are using the job definition are defined on the workstation class "\( \text{VALUE}_0 \). Do you want to continue? |
| Explanation: | The selected job definition is used by one or more job streams. Verify that these job streams are defined on the same workstation class |
| System action: | If OK is clicked, the job definition is saved. If cancel is clicked the save action is ignored. |
| Operator response: | Click OK to submit or click Cancel to cancel the submit action. |

| GJS5104W | The plan cannot be generated because an alternative plan was selected for the current engine. |
| Explanation: | If an alternative plan is selected for an engine, neither a trial nor a forecast plan can be generated. |
| System action: | The requested action did not complete successfully. |
| Operator response: | Restore the plan before generate a new one. |

| GJS5105W | This instance of the job stream does not fall within the scheduled time range. Do you want to submit an instance of the job stream that falls within the scheduled time range? |
| Explanation: | The job stream instance that you selected in the search panel has a valid time range that is outside the scheduled time you set. You can choose to accept the suggested alternative, or change the scheduled time range. |
| System action: | If the answer to previous question is yes a job stream instance that falls within the scheduled time range is submitted. Otherwise the request is ignored. |
| Operator response: | Click OK to submit the job stream instance, or click Cancel to cancel the request and change the scheduled time range. |

| GJS5106W | This instance of the job stream does not fall within the scheduled time range. Do you want to load an instance of the job stream that falls within the scheduled time range? |
| Explanation: | The job stream instance that you selected in the search panel has a valid time range that is outside the scheduled time you set. You can choose to accept the suggested alternative, or change the scheduled time range. |
| System action: | If the answer to previous question is yes a job stream instance that falls within the scheduled time range is loaded. Otherwise the request is ignored. |
| Operator response: | Click OK to open the job stream instance properties, or click Cancel to cancel the request and change the scheduled time range. |

| GJS5107W | The job stream is being defined on a workstation class. Do you want to continue? |
| Explanation: | You are defining this job stream on a workstation class. You can choose to continue, or change the workstation for this job stream. |
| System action: | If the answer to previous question is yes the job stream is associated to the selected workstation class. Otherwise the request is ignored. |
| Operator response: | Click OK to add the job stream to the workstation class, or click Cancel to cancel the action. |

| GJS5108W | The resource is being defined on a workstation class. Do you want to continue? |
| Explanation: | You are defining this resource on a workstation class. You can choose to continue, or change the workstation for this resource. |

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System action: If the answer to previous question is yes the resource is associated to the selected workstation class. Otherwise the request is ignored.

Operator response: Click OK to add the resource to the workstation class, or click Cancel to cancel the action.

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GJS5109W  You are renaming the Job Stream.  
Do you want to proceed?  

Explanation: See message.

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GJS5110W  You are renaming the Job.  
Do you want to proceed?  

Explanation: See message.
Job Scheduling Console starting and stopping messages

GJS6001E Error logging in to the TMR host.
Please check the following:
On local workstation:
- password is spelled correctly
- Caps Lock is on / off.
On TMR host:
- remote connections are enabled
- login account is a TME Administrator
- login account has a valid group property on the TMR host.

Explanation: Error logging in to the TMR host.
System action: The requested action did not complete successfully.
Operator response: Check if on local workstation the password is spelled correctly and the Caps Lock is on / off, and if on TMR host the remote connections are enabled, the login account is a TME Administrator and the login account has a valid group property.

GJS6004E Fields are incorrectly specified. Re-enter the user name and password.

Explanation: No additional information is available for this message.

GJS6005E File VALUE_0 not found.
Please enter a new file name.

Explanation: No additional information is available for this message.

GJS6005W You specified an unrecognized time zone. Job Scheduling Console will use the workstation time zone where it is installed.

Explanation: See message.
System action: The Job Scheduling Console proceeds.
Operator response: Set a recognized time zone value.

GJS6006E URL entered is in error. Please enter a new URL.

Explanation: No additional information is available for this message.

GJS6007E Input/Output Error while attempting to get data from server.

Explanation: No additional information is available for this message.

GJS6008E URL entered is empty. Please enter a new URL.

Explanation: No additional information is available for this message.

GJS6009E An error occurred while loading the preferences. Restart the Job Scheduling Console and import non corrupted preferences files or load the default values.

Explanation: The only change allowed to the preferences.xml file is the addition of the time zone tag. Any other change, including comments, corrupts the file.
System action: The requested action did not complete successfully and the Job Scheduling Console is not started.
Operator response: Make sure no changes were made to the preferences files other than the addition of the time zone tag.

GJS6010I File VALUE_0 already exist.
Do you want to replace it?

Explanation: The file that the user is saving already exist.
System action: The system will overwrite the existing file if you choose the "OK" button. The system will display the file browser window if you choose the "Cancel" button.
Operator response: Choose the option you require.

GJS6011E The specified file VALUE_0 cannot be saved in the specified path VALUE_1. Make sure that the file is not locked by another application and that you have the correct permissions on the path or file.

Explanation: The selected file might already be open or you do not have the permissions necessary to modify or to access it. Only on UNIX Systems the selected path might be a NFS path containing blanks.
System action: The new version of the file cannot be saved.
Operator response: Make sure the file is not already open or in use by another application and that you have the correct permissions.
Part 9. Administration
Chapter 65. Changing the TWSUser password for the z/OS connector

When you installed the Job Scheduling Console you supplied a TWSUser and password. You also used this user ID and password to create engines. You might also use it to access the engines, unless, when you created the engine, you asked the Job Scheduling Console to remember the ID and password. This chapter describes how to change the password of the TWSUser, which you might be required to do to satisfy your enterprise’s security policy.

If you want to change the TWS_user, there are three or four macro steps to perform, depending on the type of operating system on which it is used.

The steps required to change the password are as follows:

- “Step 1: change the local operating system password”
- “Step 2: change WebSphere Application Server user ID password”
- “Step 3: change passwords used to connect to the engine” on page 429
- “Step 4: change the Windows services password” on page 429

Step 1: change the local operating system password

The first step is to change this password, using the options of the operating system.

If the user is an LDAP user, use your local mechanisms to change the LDAP user password.

Step 2: change WebSphere Application Server user ID password

Follow this procedure:

1. Log on to the computer where Tivoli Workload Scheduler is installed as the following user:
   - UNIX root
   - Windows Any user in the Administrators group.
2. Access the directory: TWS_home/wastools
3. Run the following script to stop the application server:
   - UNIX stopWas.sh -user TWSUser -password TWSUser_password
   - Windows stopWas.bat
4. From that same directory run the following script to create a file containing the current security properties:
   - UNIX showSecurityProperties.sh > my_file_name
   - Windows showSecurityProperties.bat > my_file_name

The contents of the file should look something like this:

WASX7357I: By request, this scripting client is not connected to any server process. Certain configuration and application operations will be available in local mode.

################################################################

Global Security Panel
Enable WebSphere Application Server user ID password

---

### Local OS Registry

- **LocalOSServerID**: twsuser
- **LocalOSServerPassword**: ********
- **LocalOSServerREALM**: IBM-308537EAD92

### LDAP Panel

- **LDAPUserFilter**: (uid=%v)(objectclass=ePerson)
- **LDAPGroupFilter**: (cn=%v)(|(objectclass=groupOfNames)(objectclass=groupOfUniqueNames))
- **LDAPUserIdMap**: *:uid
- **LDAPGroupIdMap**: *:cn
- **LDAPGroupMemberIdMap**: ibm-allGroups:member;ibm-allGroups:uniqueMember
- **LDAPCertificateFilter**: 
- **LDAPCertificateMapMode**: EXACT_DN

### SSL Panel

- **keyFileName**: $(USER_INSTALL_ROOT)/etc/TWSServerKeyFile.jks
- **keyFilePassword**: default
- **trustFileName**: $(USER_INSTALL_ROOT)/etc/TWSServerTrustFile.jks
- **trustFilePassword**: default

The fields you are interested in are highlighted.
5. **Note:** A template file of properties exists in this directory, but if you edit and use it in the command described below you overwrite the current settings with those in the template file, which are almost certainly incorrect.

a. Edit `my_file_name` and delete the text of the WASX7357I message.

b. Locate the LocalOSServerpassword and LDAPPassword entries. If you are not using LDAP authentication, you do not need to edit LDAPPassword, but you are advised to change both, regardless of the authentication method you are using.

**Note:** If you want to know which authentication system you are using, check the entry `activeUserRegistry`.

6. Change the appropriate entry or entries to the actual password value and save the file.

7. Change the password by running the command:

   - **Windows**  `changeSecurityProperties.bat my_file_name`
   - **UNIX**  `changeSecurityProperties.sh my_file_name`

**Notes:**

a. This command might display a message from the application server (WASX7357I). You can ignore this message.

b. The passwords are encrypted before being saved in the WebSphere Application Server configuration files.

8. Delete the file `my_file_name` that you created (to leave it on the disk with unencrypted passwords in it is a security risk).

9. Run the following script to restart the application server:

   - **UNIX**  `startWas.sh`
   - **Windows**  `startWas.bat`

---

**Step 3: change passwords used to connect to the engine**

Change the password for every engine defined using the Job Scheduling Console on this computer, as follows:

1. Open the Job Scheduling Console.

   **Note:** The engine icon shows with the `unavailable` icon.

2. For each engine in turn, do the following:

   a. Right-click the engine in the `Work with Engines` pane, and select `Properties`. (see Chapter 19, “Creating engines,” on page 109 for information about the fields on this panel).
   
   b. Type the new password in the `Password` field under the `Connection Profile` heading.
   
   c. Click `OK`. The engine icon changes to show that it is available.

---

**Step 4: change the Windows services password**

On Windows, the TWS_user account is used to start the following service that runs the z/OS Connector’s application server:
Change the Windows services password

- IBM WebSphere Application Server V6 - TASZCONNECTOR(TWS_user)

The password must be updated in the properties of this service, or it is not able to start at next reboot. This is done as follows:

1. Stop the Job Scheduling Console if it is not already stopped.
2. Open the Services panel (on Windows XP, for example, select Start -> Settings -> Control panel -> Administrative Tools -> Services).
3. Right-click the service and select Stop, or select the service and then select Action -> Stop.
4. Right-click the service and select Properties, or select the service and then select Action -> Properties.
5. Click the Log On tab and enter and confirm the current password assigned to the indicated user ID.
6. Click OK.
7. Right-click the service and select Start, or select the service and then select Action -> Start.
   The service starts.
8. Close the Services panel.

Note: There is a script updateWasService.bat in the TWS_home/wastools directory, but it cannot be used to change the Windows services password.
Chapter 66. Managing z/OS engines using WebSphere Application Server tools

This section describes how to manage z/OS engines using the WebSphere Application Server tools. These tools are located in the following directory:

**UNIX**  
`installation_directory/wastools`

**Windows**  
`installation_directory\wastools`

Using the tools you can:

- Create a z/OS connector instance using the `createZosEngine` tool. See "Creating a z/OS connector instance."
- Display the properties of a z/OS connector instance using the `displayZosEngine` tool. See "Displaying the properties of a z/OS connector instance" on page 432.
- Update the properties of a z/OS connector instance using the `updateZosEngine` tool. See "Updating the properties of a z/OS connector instance" on page 433.
- List all the z/OS connector instances using the `listZosEngine` tool. See "Listing all the z/OS connector instances" on page 433.
- Remove a z/OS connector instance using the `removeZosEngine` tool. See "Removing a z/OS connector instance" on page 434.

### Creating a z/OS connector instance

This section describes how to create a z/OS connector instance using the `createZosEngine` tool. Follow this procedure if installing the z/OS connector you:

- Did not supply the data to configure the z/OS connector by selecting the **Configure a connection to a Tivoli Workload Scheduler for z/OS host**.
- Want to create another instance.

To create a z/OS connector instance, perform the following steps:

1. Log on to the computer where Tivoli Workload Scheduler is installed as the following user:
   - **UNIX**  
     root
   - **Windows**  
     Any user in the `Administrators` group.

2. Access the `wastools` directory.

3. Run the following script to stop the application server:
   - **UNIX**  
     `stopWas.sh -user TWSUser -password TWSUser_password`
   - **Windows**  
     `stopWas.bat`

   **Note:** The user is the `TWSUser` you defined during the installation.

4. From this directory run the following script to create a file containing the current security properties:
   - **UNIX**  
     `createZosEngine.sh -name engineName -hostName hostName -portNumber portNumber [-connectionTimeoutCleanup timeout] [-maxConnections number] [-connectionTimeout timeout] [-unusedTimeout timeout] [-reapTime timeout] [-scaffoldSwitch boolean]`

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Creating a z/OS connector instance

Windows

createZosEngine.bat -name engineName -hostName hostName -portNumber portNumber [-connectionTimeoutCleanup timeout] [-maxConnections number] [-connectionTimeout timeout] [-unusedTimeout timeout] [-reapTime timeout] [-scaffoldSwitch boolean]

where:

**engineName**
Specify the name of the new instance.

**hostName**
Specify the TCP/IP address or host name of the remote z/OS system where the scheduler subsystem is installed.

**portNumber**
Specify the TCP/IP port number of the remote z/OS system.

5. Run the following script to restart the application server:

UNIX startWas.sh
Windows startWas.bat

Displaying the properties of a z/OS connector instance

This section describes how to display the properties of a z/OS connector instance using the displayZosEngine tool.

To display a z/OS connector instance, perform the following steps:
1. Log on to the computer where Tivoli Workload Scheduler is installed as the following user:

UNIX root
Windows Any user in the Administrators group.

2. Access the wastools directory.

3. From this directory run the following command:

UNIX

displayZosEngine.sh engineName

Windows

displayZosEngine.bat engineName

where:

**engineName**
Specify the name of the instance whose properties you want to display.

The following is an example of the output you receive when you submit the displayZosEngine tool for the zosengine engine:

name : zosengine
hostName : 9.87.130.95
portNumber : 20023
connectionTimeoutCleanup : 60 minutes
scaffoldSwitch : false
maxConnections : 10
connectionTimeout : 180 seconds
unusedTimeout : 1800 seconds
reapTime : 180 seconds
### Updating the properties of a z/OS connector instance

This section describes how to update the properties of a z/OS connector instance using the `displayZosEngine` tool.

To update a z/OS connector instance, perform the following steps:

1. Log on to the computer where Tivoli Workload Scheduler is installed as the following user:
   - UNIX: `root`
   - Windows: Any user in the `Administrators` group.
2. Access the `wastools` directory.
3. Run the following script to stop the application server:
   - UNIX: `stopWas.sh -user TWSUser -password TWSUser_password`
   - Windows: `stopWas.bat`

   **Note:** The user is the `TWSUser` you defined during the installation.
4. From this directory run the following command:
   - UNIX: `updateZosEngine.sh -name engineName -hostName hostname -portNumber portNumber [-connectionTimeoutCleanup timeout] [-maxConnections number] [-connectionTimeout timeout] [-unusedTimeout timeout] [-reapTime timeout] [-scaffoldSwitch boolean]`
   - Windows: `updateZosEngine.bat -name engineName -hostName hostname -portNumber portNumber [-connectionTimeoutCleanup timeout] [-maxConnections number] [-connectionTimeout timeout] [-unusedTimeout timeout] [-reapTime timeout] [-scaffoldSwitch boolean]`

   where:

   - `engineName`: Specify the name of the new instance.
   - `hostName`: Specify the TCP/IP address or host name of the remote z/OS system where the scheduler subsystem is installed.
   - `portNumber`: Specify the TCP/IP port number of the remote z/OS system.

5. Run the following script to restart the application server:
   - UNIX: `startWas.sh`
   - Windows: `startWas.bat`

### Listing all the z/OS connector instances

This section describes how to list all the z/OS connector instances you defined using the `listZosEngine` tool.

To list all the z/OS connector instances perform the following steps:

1. Log on to the computer where Tivoli Workload Scheduler is installed as the following user:
Listing all the z/OS connector instances

UNIX root
Windows Any user in the Administrators group.

2. Access the directory: wastools.
3. From this directory run the following command:

UNIX

```bash
listZosEngine.sh
```

Windows

```bash
listZosEngine.bat
```

---

Removing a z/OS connector instance

This section describes how to remove a z/OS connector instance using the `removeZosEngine` tool.

To remove a z/OS connector instance perform the following steps:

1. Log on to the computer where Tivoli Workload Scheduler is installed as the following user:
   UNIX root
   Windows Any user in the Administrators group.
2. Access the wastools directory.
3. Run the following script to stop the application server:
   UNIX
   ```bash
   stopWas.sh -user TWSUser -password TWSUser_password
   ```
   Windows
   ```bash
   stopWas.bat
   ```
   **Note:** The user is the TWSUser, not necessarily the user that you used to log in with.
4. From this directory run the following command:
   UNIX
   ```bash
   removeZosEngine.sh engineName
   ```
   Windows
   ```bash
   removeZosEngine.bat engineName
   ```
   where:
   ```bash
   engineName
   ```
   Specify the name of the instance you want to remove.
5. Run the following script to restart the application server:
   UNIX
   ```bash
   startWas.sh
   ```
   Windows
   ```bash
   startWas.bat
   ```
Appendix A. Accessibility

This appendix lists the accessibility features of the Job Scheduling Console. It is divided into the following sections:

- “Navigating the interface using the keyboard”
- “Magnifying what is displayed on the screen”
- “General mnemonics” on page 436
- “Main window mnemonics” on page 436
- “Menu mnemonics” on page 437

Accessibility features help users with physical disabilities, such as restricted mobility or limited vision, to use software products successfully. Depending on the operating system installed, the major accessibility features in this product enable users to do the following:

- Use assistive technologies, such as screen-reader software and digital speech synthesizer, to hear what is displayed on the screen. Consult the product documentation of the assistive technology for details on using those technologies with this product.
- Operate specific or equivalent features using only the keyboard.
- Magnify what is displayed on the screen.

In addition, the product documentation was modified to include features to aid accessibility:

- All documentation is available in both HTML and convertible PDF formats to give the maximum opportunity for users to apply screen-reader software.
- All images in the documentation are provided with alternative text so that users with vision impairments can understand the contents of the images.

Navigating the interface using the keyboard

Standard shortcut and accelerator keys are used by the product and are documented by the operating system. Refer to the documentation provided by your operating system for more information.

Magnifying what is displayed on the screen

You can enlarge information on the product windows using facilities provided by the operating systems on which the product is run. For example, in a Microsoft Windows environment, you can lower the resolution of the screen to enlarge the font sizes of the text on the screen. Refer to the documentation provided by your operating system for more information.

To set a high contrast for your Job Scheduling Console you need to modify the NTConsole.bat file and add the following option:

-Dswing.defaultlaf="com.sun.java.swing.plaf.windows.WindowsLookAndFeel"

The NTConsole.bat file is located in the JSCHome/bin/java directory. When you are running in a UNIX type environment there is an operating system script where you can add the option, such as LINUXconsole.sh, or SUNconsole.sh.
Accessibility

To change the font sizes of the Job Scheduling Console interface objects, you add the `fontSize` key to the preferences.xml file. The preferences.xml file is located in user_home_directory/../twsconsole/.

You can choose the font size from the following:

- **Small**  The font is 2 points down on the default.
- **Medium** The font is the default font size.
- **XLarge** The font is 4 points up on the default.
- **XXLarge** The font is 6 points up on the default.
- **XXXLarge** The font is 8 points up on the default.

The following is an example of the font size settings in preferences.xml file:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE preferences SYSTEM "http://java.sun.com/dtd/preferences.dtd">
<preferences EXTERNAL_XML_VERSION="1.0">
  <root type="user">
    <map>
      <entry key="portfolioHeight" value="602"/>
      <entry key="consoleHeight" value="746"/>
      <entry key="fontSize" value="XXXLarge"/>
      <entry key="infoAreaWidth" value="90"/>
      <entry key="infoAreaHeight" value="21"/>
      <entry key="consoleWidth" value="1032"/>
      <entry key="portfolioWidth" value="200"/>
    </map>
  </root>
</preferences>
```

**General mnemonics**

The following general mnemonics are available:

- **Ctrl+A**  Select all.
- **Ctrl+shift+A**  Deselect all.
- **Alt+F4**  Close current window.
- **Shift F10**  Open the pop-menu on the selected item.

**Main window mnemonics**

The following mnemonics are included in the main window:

- **Ctrl+T**  Show or hide the Actions list.
- **Ctrl+E**  Show or hide the Work with engines pane.
- **Alt+C**  Open the Console menu.
- **Alt+S**  Open the Selected menu.
- **Alt+E**  Open the Edit menu.
- **Alt+V**  Open the View menu.
- **Alt+W**  Open the Window menu.
- **Alt+H**  Open the Help menu.

**Up and down arrows**

Navigate up and down in open menus.
Menu mnemonics

The following mnemonics are available in the **Console** menu:

- **Alt+D** Detach the selected list.
- **Alt+l** Close the current task.
- **Alt+x** Exit.

The following mnemonics are available in the **Edit** menu:

- **Alt+U** Undo the previous action.
- **Alt+t** Cut the selected object.
- **Alt+C** Copy the selected object.
- **Alt+P** Paste the previously cut or copied object.
- **Alt+D** Delete the selected object.

The following mnemonics are available in the **View** menu:

- **Alt+R** Refresh.
- **Alt+E** Export the current table view.

The following mnemonics are available in the **Window** menu:

- **Alt+D** Detach all tasks.
- **Alt+A** Attach all tasks.
- **Alt+C** Close all tasks.
- **Alt+number** To switch between open views, where *number* is the number automatically allocated to the view.

The following mnemonics are available in the **Help** menu:

- **Alt+O** Open the task assistant.
- **Alt+D** Detach the task assistant.
- **Alt+i** Open the topic index.
- **Alt+S** Search for a topic.
- **Alt+T** Open the task assistant table of contents.
- **Alt+B** Open the About the Job Scheduling Console panel.
Accessibility
Appendix B. Starting the Job Scheduling Console from an external application

This appendix describes how to start the Job Scheduling Console from an external application to display a list of jobs or job streams in the plan using the LIC_JSC_operating_system script.

To start the Job Scheduling Console from an external application, perform the following steps:

1. From the installation_directory\configuration directory, edit the launchInContext.properties file to set the following options:
   - `launchInContext.enable=false`
     Specifies to enable (true) or disable (false) the running of this script. false is the default value.
   - `launchInContext.waitingTime=10`
     Specifies the number of seconds the script waits before attempting to open the Job Scheduling Console. 10 seconds is the default value.
   - `launchInContext.portNumber=39392`
     Specifies the TCP/IP port number to use to start the Job Scheduling Console from an external application. Both the connection and the handshake protocol are protected. 39392 is the default value.

2. From the installation_directory\bin\java directory, run the following script to start the Job Scheduling Console:
   - Windows
     LIC_JSC_WIN.bat ENGINE_NAME=engine_name OBJ_TYPE=object_type
     JS_NAME=job_stream_name JOB_NAME=job_name WORK_NAME=workstation_name
     TIME=input_arrival_time
   - Note: Enclose all the option values within double quotes (").
   - AIX
     LIC_JSC_AIX.sh ENGINE_NAME=engine_name OBJ_TYPE=object_type
     JS_NAME=job_stream_name JOB_NAME=job_name WORK_NAME=workstation_name
     TIME=input_arrival_time
   - HP-UX
     LIC_JSC_HP.sh ENGINE_NAME=engine_name OBJ_TYPE=object_type
     JS_NAME=job_stream_name JOB_NAME=job_name WORK_NAME=workstation_name
     TIME=input_arrival_time
   - Linux
     LIC_JSC_LINUX.sh ENGINE_NAME=engine_name OBJ_TYPE=object_type
     JS_NAME=job_stream_name JOB_NAME=job_name WORK_NAME=workstation_name
     TIME=input_arrival_time
   - Solaris
     LIC_JSC_SUN.sh ENGINE_NAME=engine_name OBJ_TYPE=object_type
     JS_NAME=job_stream_name JOB_NAME=job_name WORK_NAME=workstation_name
     TIME=input_arrival_time

   where:

   **engine_name**
   Specify the name of the engine on which you want to run the query. This is the name you specify in the Engine Name field of the Define a New Engine for the Job Scheduling Console panel. This parameter is required.
Starting the Job Scheduling Console from an external application

**object_type**
Specify the type of object for which you are submitting the query. Possible values are **job** or **jobstream**. This parameter is required.

**job_stream_name**
Specify the name of the job stream for which you are submitting the query. You can use wildcards, see “Wildcards” on page 63. This parameter is required.

**job_name**
Specify the name of the job for which you are submitting the query. You can use wildcard, see “Wildcards” on page 63. This parameter is required if **object_type** is **job**. This parameter is ignored if **object_type** is **jobstream**.

**workstation_name**
Specify the name of the workstation where the job or job stream runs. You can use wildcards, see “Wildcards” on page 63.

**input_arrival_time**
Specify the time when a job or job stream is planned to be ready for processing in the format aaaa/mm/gg hh:mm. In a z/OS environment it is the input arrival time. In a distributed environment it is the scheduled time. When the query displays, this value is reported in the Start at column.

The Job Scheduling Console displays the list of All scheduled jobs or All scheduled job streams that matches the selected criteria.
Appendix C. Status description and mapping

This appendix provides information about job and job stream status for the Job Scheduling Console and Tivoli Workload Scheduler.

For information about job and job stream status for Tivoli Workload Scheduler for z/OS, refer to Tivoli Workload Scheduler for z/OS Controlling and Monitoring the Workload.

Status overview

There are two types of status:

**Job Scheduling Console status**

This is a subset of internal status and is common for both Tivoli Workload Scheduler and Tivoli Workload Scheduler for z/OS.

**Internal status**

This refers to the Tivoli Workload Scheduler internal or engine status for the job or job stream. The internal status messages are unique to the scheduler.

Job status

This section describes the job status for both Job Scheduling Console and Tivoli Workload Scheduler internal status.

**Job Scheduling Console job status**

Table 15 lists Job Scheduling Console job states.

<table>
<thead>
<tr>
<th>This job status</th>
<th>Means that...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiting</td>
<td>The job instance is waiting for its dependencies to be resolved.</td>
</tr>
<tr>
<td>Ready</td>
<td>The dependencies of the job instance have been resolved and the job instance is ready to run.</td>
</tr>
<tr>
<td>Running</td>
<td>The job instance is running.</td>
</tr>
<tr>
<td>Successful</td>
<td>The job instance completed successfully.</td>
</tr>
<tr>
<td>Error</td>
<td>The job instance has stopped running with an error.</td>
</tr>
<tr>
<td>Cancelled</td>
<td>The job instance was cancelled.</td>
</tr>
<tr>
<td>Held</td>
<td>The job instance was put in hold.</td>
</tr>
<tr>
<td>Undecided</td>
<td>The job status is currently being checked.</td>
</tr>
<tr>
<td>Blocked</td>
<td>The job instance was blocked due to unfulfilled dependencies.</td>
</tr>
</tbody>
</table>

**Tivoli Workload Scheduler internal job status**

Table 16 lists internal job states.

<table>
<thead>
<tr>
<th>This job status</th>
<th>Means that...</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>The job terminated with a non zero exit code.</td>
</tr>
</tbody>
</table>
### Job status

<table>
<thead>
<tr>
<th>This job status ...</th>
<th>Means that ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND P</td>
<td>An ABEND confirmation was received, but the job is not completed.</td>
</tr>
<tr>
<td>ADD</td>
<td>The job is being submitted.</td>
</tr>
<tr>
<td>CANCEL</td>
<td>The job was cancelled.</td>
</tr>
<tr>
<td>CANCEL P</td>
<td>The job instance is pending cancellation. Cancellation is deferred until all of the dependencies, including an at time, are resolved.</td>
</tr>
<tr>
<td>DONE</td>
<td>The job completed in an unknown state.</td>
</tr>
<tr>
<td>ERROR</td>
<td>For internetwork dependencies only, an error occurred while checking for the remote status.</td>
</tr>
<tr>
<td>EXEC</td>
<td>The job is running.</td>
</tr>
<tr>
<td>EXEC+</td>
<td>Transitory state when the job that is launched is managed by the local batchman process.</td>
</tr>
<tr>
<td>EXTRN</td>
<td>For internetwork dependencies only, the status is unknown. An error occurred, a rerun action was just performed on the job in the external job stream, or the remote job or job stream does not exist.</td>
</tr>
<tr>
<td>FAILED</td>
<td>Unable to launch the job.</td>
</tr>
<tr>
<td>FENCE</td>
<td>The job’s priority is below the fence.</td>
</tr>
<tr>
<td>HOLD</td>
<td>The job is awaiting dependency resolution.</td>
</tr>
<tr>
<td>INTRO</td>
<td>The job is introduced for launching by the system.</td>
</tr>
<tr>
<td>INTRO+</td>
<td>Transitory state when the job that is introduced is managed by the local batchman process.</td>
</tr>
<tr>
<td>PEND</td>
<td>The job completed, and is awaiting confirmation.</td>
</tr>
<tr>
<td>READY</td>
<td>The job is ready to launch, and all dependencies are resolved.</td>
</tr>
<tr>
<td>R JOB</td>
<td>The job is running.</td>
</tr>
<tr>
<td>SCHED</td>
<td>The job’s at time has not arrived.</td>
</tr>
<tr>
<td>SUCC</td>
<td>The job completed with an exit code of zero.</td>
</tr>
<tr>
<td>SUCC P</td>
<td>A SUCC confirmation was received, but the job is not completed.</td>
</tr>
<tr>
<td>SUSP</td>
<td>The job was blocked due to unfulfilled dependencies.</td>
</tr>
<tr>
<td>USER STAT</td>
<td>The job was put in hold by the user.</td>
</tr>
<tr>
<td>WAIT</td>
<td>The job is waiting to fulfill its dependencies.</td>
</tr>
<tr>
<td>WAITD</td>
<td>The job is waiting to fulfill its dependencies.</td>
</tr>
</tbody>
</table>
Job stream status

This section describes the job stream status for both Job Scheduling Console and Tivoli Workload Scheduler internal status.

Job Scheduling Console job stream status

Table 17 lists Job Scheduling Console job stream states.

Table 17. Job Scheduling Console job stream states

<table>
<thead>
<tr>
<th>This job status ...</th>
<th>Means that ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiting</td>
<td>The job stream instance is waiting for its dependencies to be resolved.</td>
</tr>
<tr>
<td>Ready</td>
<td>The dependencies of the job stream instance have been resolved and the job stream instance is ready to run.</td>
</tr>
<tr>
<td>Running</td>
<td>The job stream instance is running.</td>
</tr>
<tr>
<td>Successful</td>
<td>The job stream instance completed successfully.</td>
</tr>
<tr>
<td>Error</td>
<td>The job stream instance has stopped running with an error.</td>
</tr>
<tr>
<td>Cancelled</td>
<td>The job stream instance was cancelled.</td>
</tr>
<tr>
<td>Held</td>
<td>The job stream instance was interrupted.</td>
</tr>
<tr>
<td>Undecided</td>
<td>The job stream status is currently being checked.</td>
</tr>
<tr>
<td>Blocked</td>
<td>The job stream instance was blocked due to unfulfilled dependencies.</td>
</tr>
</tbody>
</table>

Tivoli Workload Scheduler internal job stream status

Table 18 lists internal job stream states.

Table 18. Tivoli Workload Scheduler internal job stream states

<table>
<thead>
<tr>
<th>This job status ...</th>
<th>Means that ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>READY</td>
<td>The dependencies for the job stream have been met but the time restrictions for the job stream have not.</td>
</tr>
<tr>
<td>HOLD</td>
<td>The job stream instance is awaiting dependency resolution.</td>
</tr>
<tr>
<td>EXEC</td>
<td>The job stream instance is running.</td>
</tr>
<tr>
<td>STUCK</td>
<td>Job stream instance was interrupted. No jobs are launched without operator intervention.</td>
</tr>
<tr>
<td>ABEND</td>
<td>The job stream instance terminated with a non zero exit code.</td>
</tr>
<tr>
<td>SUCC</td>
<td>The job stream instance completed successfully.</td>
</tr>
<tr>
<td>CANCEL</td>
<td>The job stream instance was cancelled.</td>
</tr>
<tr>
<td>CANCEL P</td>
<td>The job stream instance is pending cancellation. Cancellation is deferred until all of the dependencies, including an at time, are resolved.</td>
</tr>
<tr>
<td>ADD</td>
<td>The job stream instance was added with operator intervention.</td>
</tr>
<tr>
<td>EXTRN</td>
<td>The job stream instance is in a remote Tivoli Workload Scheduler network and its status is unknown. An error occurred, a Rerun action was performed on the EXTERNAL job stream, or the INET job or job stream does not exist.</td>
</tr>
<tr>
<td>Get Job Status Error</td>
<td>This is for internetwork job streams and specifies that an error occurred while checking for the remote status.</td>
</tr>
</tbody>
</table>
Status mapping

This section provides a table of how Job Scheduling Console status maps to Tivoli Workload Scheduler internal status for jobs and job streams.

**Job status mapping**

Table 19 describes how Job Scheduling Console status correlates to Tivoli Workload Scheduler internal status for jobs.

<table>
<thead>
<tr>
<th>This console status ...</th>
<th>Maps to this Tivoli Workload Scheduler internal status ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiting</td>
<td>ADD, PEND, WAIT, WAITD, INTRO, HOLD, INTRO+</td>
</tr>
<tr>
<td>Ready</td>
<td>READY</td>
</tr>
<tr>
<td>Running</td>
<td>EXEC, EXEC+, SUCC, ABEND P, R JOB</td>
</tr>
<tr>
<td>Successful</td>
<td>SUCC</td>
</tr>
<tr>
<td>Error</td>
<td>ABEND, FAILED</td>
</tr>
<tr>
<td>Cancelled</td>
<td>Status of the job when it was cancelled. Cancelled flag is set.</td>
</tr>
<tr>
<td>Held</td>
<td>Priority = 0, WAITING, READY, USER STAT</td>
</tr>
<tr>
<td>Undecided</td>
<td>ERROR, EXTRN</td>
</tr>
<tr>
<td>Blocked</td>
<td>SUSP</td>
</tr>
</tbody>
</table>

**Job stream status mapping**

Table 20 describes how Job Scheduling Console status correlates to Tivoli Workload Scheduler internal status for job streams.

<table>
<thead>
<tr>
<th>This console status ...</th>
<th>Maps to this Tivoli Workload Scheduler internal status ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiting</td>
<td>ADD, PEND, WAIT, WAITD, INTRO, HOLD</td>
</tr>
<tr>
<td>Ready</td>
<td>READY</td>
</tr>
<tr>
<td>Running</td>
<td>EXEC</td>
</tr>
<tr>
<td>Successful</td>
<td>SUCC</td>
</tr>
<tr>
<td>Error</td>
<td>ABEND, FAIL</td>
</tr>
<tr>
<td>Cancelled</td>
<td>CANCEL, HOLD, CANCEL P</td>
</tr>
<tr>
<td>Held</td>
<td>HOLD</td>
</tr>
<tr>
<td>Undecided</td>
<td>EXTRN, ERROR</td>
</tr>
<tr>
<td>Blocked</td>
<td>STUCK</td>
</tr>
</tbody>
</table>
Appendix D. Support information

If you have a problem with your IBM software, you want to resolve it quickly. This section describes the following options for obtaining support for IBM software products:

- “Using IBM Support Assistant”
- “Searching knowledge bases” on page 446
- “Obtaining fixes” on page 447
- “Receiving weekly support updates” on page 447
- “Contacting IBM Software Support” on page 449

Using IBM Support Assistant

The IBM Support Assistant is a free, stand-alone application that you can install on any workstation. You can then enhance the application by installing product-specific plug-in modules for the IBM products you use.

The IBM Support Assistant saves you time searching product, support, and educational resources. The IBM Support Assistant helps you gather support information when you need to open a problem management record (PMR), which you can then use to track the problem.

The product-specific plug-in modules provide you with the following resources:

- Support links
- Education links
- Ability to submit problem management reports

The IBM Support Assistant Web site is at [http://www.ibm.com/software/support/isa/](http://www.ibm.com/software/support/isa/) Use this site for the following:

- Obtain general information about the IBM Support Assistant
- Download and install the IBM Support Assistant application. Full instructions are provided.
- Determine if a plug-in is available for a specific product (or go direct to the plug-ins page at [http://www.ibm.com/software/support/isa/plugins.html](http://www.ibm.com/software/support/isa/plugins.html))

To locate and download the plug-in for a product, use the IBM Support Assistant’s interface. Full instructions on how to use the application and plug-in are provided within the interface. For example, on version 3.0.1 of the IBM Support Assistant, click Updater, click New products and tools, expand Tivoli, select the plug-in, and click Install.

If you cannot find the solution to your problem in the IBM Support Assistant, see “Searching knowledge bases” on page 446.

Tivoli Workload Scheduler IBM Support Assistant plug-in version and upgrade issues

The IBM Tivoli Workload Scheduler plug-in for the IBM Support Assistant has not changed since version 8.3. If you have already installed it in the IBM Support Assistant you need take no further action. If you are planning to install it for the first time with version 8.4 you should be aware that the plug-in name and many
other references in the plug-in have "8.3" as the product version number. This does not mean that it will not work with version 8.4. The plug-in is fully compatible with version 8.4 and performs in exactly the same way as it does in version 8.3.

Searching knowledge bases

You can search the available knowledge bases to determine whether your problem was already encountered and is already documented.

Searching the local information center

IBM provides extensive documentation that you can install on your local computer or on an intranet server. You can use the search function of this information center to query conceptual information, instructions for completing tasks, and reference information.

The information center is included on the separate Quick Start CD available as part of the product bundle. Insert the CD in a CD drive on a Windows computer, and the information center automatically opens.

Searching the Internet

If you cannot find an answer to your question in the information center, search the Internet for the latest, most complete information that might help you resolve your problem.

To search multiple Internet resources for your product, use the Web search topic in your information center. In the navigation frame, click Troubleshooting and support ▶ Searching knowledge bases and select Web search. From this topic, you can search a variety of resources, including the following:

- IBM technotes
- IBM downloads
- IBM Redbooks
- IBM developerWorks®
- Forums and newsgroups
- Google

Search the IBM support Web site

The IBM software support Web site has many publications available online, one or more of which might provide the information you require:

2. Select Tivoli under the Select a brand and/or product heading.
3. Select IBM Tivoli Workload Scheduler under Select a product
4. Click Go.
5. Under the Primary support resources heading and Learn subheading, choose from the list of different types of product support publications:
   - Information center
   - Support Technical Exchange
   - IBM Tivoli software training
   - Manuals
   - Redbooks
A search for the selected documentation type is performed, and the results displayed.

6. Use the on-screen navigation to look through the displayed list for the document you require, or use the options in the Search within results for section to narrow the search criteria. You can add Additional search terms or select a specific Document type. You can also change the sort order of the results (Sort results by). Then click to start the search.

To access some of the publications you need to register (indicated by a key icon beside the publication title). To register, select the publication you want to look at, and when asked to sign in follow the links to register yourself. There is also a FAQ available on the advantages of registering.

Obtaining fixes

A product fix might be available to resolve your problem. To determine what fixes are available for your IBM software product, follow these steps:

2. Select Tivoli under the Select a brand and/or product heading.
3. Select IBM Tivoli Workload Scheduler under Select a product
4. Click Go.
5. Under the Primary support resources heading and Download, subheading, either choose one of the displayed most-popular downloads, or click View all downloads. A search for the downloads is performed, and the results displayed.
6. Use the on-screen navigation to look through the displayed list for the download you require, or use the options in the Search within results for section to narrow the search criteria. You can add Additional search terms, or select a specific Download type, Platform/Operating system, and Versions, and then click to start the search.
7. Click the name of a fix to read the description of the fix and to optionally download the fix.

For more information about the types of fixes that are available, see the IBM Software Support Handbook at [http://techsupport.services.ibm.com/guides/handbook.html]

Receiving weekly support updates

To receive weekly e-mail notifications about fixes and other software support news, follow these steps:

2. Click My support under the Personalized support heading in the upper-right corner of the page.
3. If you have already registered for My support, sign in and skip to the next step. If you have not registered, click register now. Complete the registration form using your e-mail address as your IBM ID and click Submit.
Receiving support updates

4. Click Edit profile.
5. In the Products list, select Software. A second list is displayed.
6. In the second list, select a product segment, for example, Systems Management. A third list is displayed.
7. In the third list, select a product sub-segment, for example, Job Scheduling. A list of applicable products is displayed.
8. Select the products for which you want to receive updates, for example, IBM Tivoli Workload Scheduler and IBM Tivoli Management Framework.
9. Click Add products.
10. After selecting all products that are of interest to you, click Subscribe to email on the Edit profile page.
11. In the Documents list, select Software.
12. Select Please send these documents by weekly email from the list.
13. Update your e-mail address as needed.
14. Select the types of documents that you want to receive information about.
15. Click Update.

If you experience problems with the My support feature, you can obtain help in one of the following ways:

Online
Send an e-mail message to erchelp@ca.ibm.com, describing your problem.

By phone
Call 1-800-IBM-4You (1-800-426-4968).
Contacting IBM Software Support

IBM Software Support provides assistance with product defects.

Before contacting IBM Software Support, your company must have an active IBM software maintenance contract, and you must be authorized to submit problems to IBM. The type of software maintenance contract that you need depends on the type of product you have:

- For IBM distributed software products (including, but not limited to, Tivoli, Lotus®, and Rational® products, as well as DB2 and WebSphere products that run on Windows, or UNIX operating systems), enroll in Passport Advantage® in one of the following ways:
  
  **Online**
  Go to the Passport Advantage Web site at [http://www.lotus.com/services/passport.nsf/WebDocs/Passport_Advantage_Home](http://www.lotus.com/services/passport.nsf/WebDocs/Passport_Advantage_Home) and click How to Enroll.

  **By phone**
  For the phone number to call in your country, go to the IBM Software Support Web site at [http://techsupport.services.ibm.com/guides/contacts.html](http://techsupport.services.ibm.com/guides/contacts.html) and click the name of your geographic region.

- For customers with Subscription and Support (S & S) contracts, go to the Software Service Request Web site at [https://techsupport.services.ibm.com/ssr/login](https://techsupport.services.ibm.com/ssr/login).


- For IBM eServer™ software products (including, but not limited to, DB2 and WebSphere products that run in zSeries, pSeries, and iSeries environments), you can purchase a software maintenance agreement by working directly with an IBM sales representative or an IBM Business Partner. For more information about support for eServer software products, go to the IBM Technical Support Advantage Web site at [http://www.ibm.com/servers/eserver/techsupport.html](http://www.ibm.com/servers/eserver/techsupport.html).

If you are not sure what type of software maintenance contract you need, call 1-800-IBMSERV (1-800-426-7378) in the United States. From other countries, go to the contacts page of the IBM Software Support Handbook on the Web at [http://techsupport.services.ibm.com/guides/contacts.html](http://techsupport.services.ibm.com/guides/contacts.html) and click the name of your geographic region for phone numbers of people who provide support for your location.

To contact IBM Software support, follow these steps:

1. “Determining the business impact” on page 450
2. “Describing problems and gathering information” on page 450
3. “Submitting problems” on page 450
Receiving support updates

Determining the business impact

When you report a problem to IBM, you are asked to supply a severity level. Therefore, you need to understand and assess the business impact of the problem that you are reporting. Use the following criteria:

Severity 1
The problem has a critical business impact. You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.

Severity 2
The problem has a significant business impact. The program is usable, but it is severely limited.

Severity 3
The problem has some business impact. The program is usable, but less significant features (not critical to operations) are unavailable.

Severity 4
The problem has minimal business impact. The problem causes little impact on operations, or a reasonable workaround to the problem was implemented.

Describing problems and gathering information

When describing a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Software Support specialists can help you solve the problem efficiently. To save time, know the answers to these questions:

• What software versions were you running when the problem occurred?
• Do you have logs, traces, and messages that are related to the problem symptoms? IBM Software Support is likely to ask for this information.
• Can you re-create the problem? If so, what steps were performed to re-create the problem?
• Did you make any changes to the system? For example, did you make changes to the hardware, operating system, networking software, and so on.
• Are you currently using a workaround for the problem? If so, be prepared to explain the workaround when you report the problem.

Submitting problems

You can submit your problem to IBM Software Support in one of two ways:

Online
Click Submit and track problems on the IBM Software Support site at [http://www.ibm.com/software/support/probsub.html](http://www.ibm.com/software/support/probsub.html) and type your information into the appropriate problem submission form.

By phone
For the phone number to call in your country, go to the contacts page of the IBM Software Support Handbook at [http://techsupport.services.ibm.com/guides/contacts.html](http://techsupport.services.ibm.com/guides/contacts.html) and click the name of your geographic region.

If the problem you submit is for a software defect or for missing or inaccurate documentation, IBM Software Support creates an Authorized Program Analysis Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Software Support provides a workaround that you can implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the
Receiving support updates

Software Support Web site daily, so that other users who experience the same problem can benefit from the same resolution.
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Glossary

A

access method. An executable file used by extended agents to connect to and control jobs on other operating systems (for example, z/OS) and applications (for example, Oracle Applications, PeopleSoft, and SAP R/3). The access method is specified in the workstation definition for the extended agent. See also extended agent.

actual start time. The time that a Tivoli Workload Scheduler job instance or job stream instance actually starts. See also:
- earliest start time
- latest start time
- planned start time
- scheduled time

ad hoc job. A job that is inserted into the current production plan. These jobs are unique to the plan, and are not saved in the database. See also:
- database
- plan

ad hoc prompt dependency. A prompt dependency that is defined within the properties of a job or job stream and is unique to that job or job stream. See also prompt dependency.

agent. An installed component that enables jobs to be run on a computer or a computer partition, provided that the computer or computer partition is also defined as a workstation in the Tivoli Workload Scheduler database. Agents can be standard, fault-tolerant, extended, or network. Specially configured agents are also used as backups for domain managers and the master domain manager. See also:
- backup domain manager
- backup master domain manager
- fault-tolerant agent
- network agent
- standard agent
- extended agent

audit. A process that logs modifications to the database and plan.

B

batchman. A production control process that interacts directly with a copy of the Symphony file distributed to workstations at the beginning of the production period and updates it, resolving dependencies. It is the only process that can update the Symphony file. See also:
- processes
- production period
- symphony file

backup domain manager. An agent in a distributed Tivoli Workload Scheduler network that can assume the responsibilities of its domain manager. It is installed as a full status, fault-tolerant agent. See also:
- fault-tolerant agent
- full status
- domain manager

backup master domain manager. An agent in a distributed Tivoli Workload Scheduler network that can assume the responsibilities of the master domain manager. It is installed as a full status, fault-tolerant agent. See also:
- fault-tolerant agent
- full status
- master domain manager

C

calendar. A list of scheduling dates. Calendars are defined in the database and are mostly assigned to run cycles. Calendars can be used either to identify the dates when job streams or jobs can be run (when used with inclusive run cycles), or when they cannot be run (when used with exclusive run cycles). A calendar can also be designated for use as a freedays calendar in a job stream. See also:
- exclusive run cycle
- freedays calendar
- inclusive run cycle

carry forward. If a job stream is not completed before the end of the current production period it can be carried forward to the next and then to subsequent periods, until the latest start time is reached or the job completes. See also latest start time.

command-line client. A component you use to run selected Tivoli Workload Scheduler master domain manager commands from any workstation where it is installed. It communicates by TCP/IP with the command-line server, which is part of the master domain manager. The command-line client does not need to be installed on the master domain manager, and is a selectable option for installation on other nodes in the network. For details of the supported
command-line server • engine

commands see the Tivoli Workload Scheduler: Planning and Installation Guide. See also master domain manager.

command-line server. See command line client.

coman. A command-line program for monitoring and managing the production environment. See also processes.

composer. A command-line program for managing the definitions of scheduling objects in the database. See also database.

connector. An installed component that provides the interface between the Job Scheduling Console and the engine. See also:
  • engine
  • job scheduling console

CPU. See workstation.

cpu time. The processor time used by a job. See also duration.

D
database. Contains definitions for scheduling objects (such as jobs, job streams, resources, and workstations). The database also contains data such as job and job stream statistics, user data, and the last time an object was modified. See also plan.

deadline. The time by which a job or job stream is set to complete. When a job or job stream passes the deadline, notifications are sent to users and integrated applications, but the job or job stream is not prevented from running if all time restrictions and dependencies are satisfied. Jobs or job streams that have not yet started or that are still running after the deadline time has expired are considered "late" in the plan. See also plan.

dependency. A prerequisite that must be satisfied before a job or job stream can start. See also:
  • external dependency
  • file dependency
  • follows dependency
  • prompt dependency
  • resource dependency

distributed network. A connected group of workstations that use the Tivoli Workload Scheduler distributed engine to perform workload scheduling. See also:
  • engine
  • workstation

distributed workstation. A workstation on which jobs and job streams are run using the distributed engine. See also:
  • engine
  • workstation

domain. A named group of workstations in a distributed Tivoli Workload Scheduler network, consisting of one or more agents and a domain manager acting as the management hub. All domains have a parent domain except for the master domain. See also:
  • domain manager
  • master domain manager

domain manager. An installed component in a distributed Tivoli Workload Scheduler network that is the management hub in a domain. All communication to and from the agents in the domain is routed through the domain manager. See also workstation.

duration. The elapsed time that a job is expected to take to complete (estimated duration) and actually takes (actual duration). See also:
  • cpu time
  • time restriction

E
earliest start time. The time before which a job or job stream cannot start. The job or job stream can start after the earliest start time provided that all other time restrictions and dependencies are satisfied. It is set using the at Job Scheduling Console option or in the command-line scheduling language using the at keyword. See also:
  • actual start time
  • latest start time
  • planned start time
  • scheduled time

end-to-end network. A network obtained by connecting one or more Tivoli Workload Scheduler fault-tolerant agents in a distributed network to a Tivoli Workload Scheduler for z/OS node in a z/OS network using TCP/IP, to perform workload scheduling. In this configuration, the Tivoli Workload Scheduler for z/OS node becomes the master domain manager of the fault-tolerant agents to schedule and manage jobs in the distributed network. See also:
  • engine
  • workstation

engine. The core software for the scheduling environment. The engine can be either a z/OS engine (installed as part of the product "Tivoli Workload Scheduler for z/OS") or a distributed engine (installed as part of the product "Tivoli Workload Scheduler").
exclusive run cycle. A run cycle that specifies the days and times that a job stream cannot be run. Exclusive run cycles take precedence over inclusive run cycles. See also [run cycle].

explorer view. A graphical view in the Job Scheduling Console used to modify and maintain job streams in the database and the plan. See also:

- database
- plan
- views

extended agent. An agent used to integrate Tivoli Workload Scheduler job control features with other operating systems (for example, z/OS) and applications (for example, Oracle Applications, PeopleSoft, and SAP R/3). Extended agents must be hosted by a master domain manager, domain manager, or an agent (not another extended agent), and use access methods to communicate with external systems. See also [access method].

external dependency. A dependency defined in one job or job stream that refers to another job stream or to a job in another job stream.

external job. A job referred to in an external dependency. See also [external dependency].

F

fault-tolerant agent. A installed agent component in a distributed Tivoli Workload Scheduler network capable of resolving local dependencies and launching its jobs in the absence of a domain manager.

fence. Regulates whether a job can be run on a workstation. The job fence is a priority level that the priority of a job must exceed before it can run.

file dependency. A dependency where a job or job stream cannot start until it finds a specific file is present in a specific path on a specific workstation. Sometimes called an opens file dependency. See also [dependency].

final job stream. The last job stream that is run in a production period. It contains scripts that generate the next production plan. See also:

- production period
- production plan

follows dependency. A dependency where a job or job stream cannot start until other jobs or job streams have completed successfully. See also [dependency].

forecast plan. A projection over a selected timeframe based on the job streams and dependencies defined in the database. See also:

- database

plan

freedays calendar. A calendar assigned to a job stream to represent the non-working days when job streams and jobs are not to be run. It can also be used to designate Saturdays or Sundays, or both, as workdays. See also:

- calendar
- holidays calendar

FTA. See [fault-tolerant agent].

full status. An attribute of an agent that enables it to be updated with the status of jobs and job streams running on all other workstations in its domain and in subordinate domains, but not on peer or parent domains. A backup domain manager or master domain manager must be full status. See also:

- backup domain manager
- domain
- master domain manager

G

global options. Configuration options defined on the master domain manager using optman. These options apply to all workstations in the Tivoli Workload Scheduler network. See also:

- local options
- optman
- user options

graph view. A graphical view in the Job Scheduling Console used to modify and maintain job streams in the database and the plan. See also:

- database
- plan
- views

H

holidays calendar. The default freedays calendar for all job streams. It is called "holidays". See also:

- calendar
- freedays calendar

host. A workstation required by extended agents. It can be any Tivoli Workload Scheduler workstation except another extended agent.

I

iCalendar. A standard (RFC 2445) for calendar data exchange. Specific iCalendars can be supplied in place of Tivoli Workload Scheduler calendars to determine the dates on which jobs or job streams should run. See also [calendar].
impact view. A graphical view in the Job Scheduling Console used to modify and maintain job stream instance dependencies in the plan. See also:

- plan
- views

inclusive run cycle. A run cycle that specifies the days and times that a job stream is scheduled to be run. Exclusive run cycles take precedence over inclusive run cycles. See also run cycle.

interactive jobs. A job that runs interactively on a Windows desktop.

internal status. The current status of jobs and job streams in the Tivoli Workload Scheduler engine. The internal status is unique to Tivoli Workload Scheduler. See also status.

internetwork dependencies. A dependency between jobs or job streams in separate Tivoli Workload Scheduler networks. See also network agent.

internetwork job or job stream. A job or job stream in a remote Tivoli Workload Scheduler network that is referenced by an internetwork dependency defined for a job or job stream in the local network. See also network agent.

J

Jnextday. The previously used term for: nextPlan.

Jnextplan. A job that creates or extends the production plan. See also production plan.

job. A unit of work that is processed at a workstation. The job definition consists of a unique job name in the database along with other information necessary to run the job. See also job definition.

job definition. A definition of a unit of work that resides in the database of the distributed Tivoli Workload Scheduler engine and can be added to a job stream. Job definitions can be created before creating a job stream, or can be created as part of the creation or modification of a job stream. See also job stream.

job instance. A job scheduled for a specific run date in the plan. See also job.

job scheduling console. A Java graphical user interface used to create, modify, and maintain job scheduling objects, and to manage the production environment. See also "views" on page 463.

job limit. See limit.

job status. See status.

job stream. A list of jobs that run as a unit (such as a weekly backup application), along with run cycles, times, priorities, and other dependencies that determine the exact order in which the jobs run.

job stream instance. A job stream that is scheduled for a specific run date in the plan. See also job stream.

jobman. A job management process that controls the launching of jobs under the direction of batchman and reports job status back to mailman. The jobman process is responsible for tracking job states and for setting the environment as defined in jobmanrc and .jobmanrc when requesting job launches. See also:

- batchman
- jobmon
- mailman

jobmon. A job management and monitoring process in the Windows version of Tivoli Workload Scheduler. A separate jobmon process is spawned to launch and monitor each job. It reports job status back to jobman. See also:

- jobman
- processes

JSC. See job scheduling console.

L

latest start time. The time before which the job or job stream must start. The job or job stream can start before the latest start time provided that all other dependencies are satisfied. It is set in the command-line scheduling language using the until keyword. See also:

- actual start time
- earliest start time
- planned start time
- scheduled time

limit. A means of allocating a specific number of job slots into which Tivoli Workload Scheduler is allowed to launch jobs. A job limit can be set for each job stream, and for each workstation. For example, setting the workstation job limit to 25 permits Tivoli Workload Scheduler to have no more than 25 jobs running concurrently on the workstation.

list. A means of filtering plan and database objects and presenting them in a table.

local options. Configuration options defined on each workstation in the localopts file. Each workstation in the Tivoli Workload Scheduler network must have a localopts file. The settings in this file are changed using a text editor, and apply only to that workstation. See also:

- global options
- user options
**logman.** A command that produces job statistics from the previous production plan log file, and updates the preproduction plan.

**M**

**makesec.** A command-line utility that compiles the security file. See also security file.

**mailman.** A mail management process. It routes messages to local and remote workstations. Additional **mailman** processes named ServerIDs are created on domain managers to divide the load on mailman and improve the efficiency of message handling. When the domain manager starts up, it creates a separate **mailman** process instance for each ServerID specified in the workstation definitions of the agents it manages. Each workstation then contacts its own ServerID on the domain manager instead of contacting the main **mailman** process. See also processes.

**master domain manager.** An installed component that performs the role of management hub of the top-level domain in the Tivoli Workload Scheduler network. It maintains the database of all scheduling objects in the domain and the central configuration files. The master domain manager generates the plan and creates and distributes the Symphony file. In addition, logs and reports for the network are maintained on the master domain manager. See also:

- backup master domain manager
- database
- domain
- plan

**MDM.** See master domain manager.

**metronome.** An application that takes a snapshot of the Tivoli Workload Scheduler configuration and generates an HTML report. It is used in problem determination to provide information to IBM Software Support.

**mozart.** The previously used term for the database.

**N**

**netman.** A network management process that is started by the Startup script in UNIX, or as a service in Windows. Netman behaves like a network listener program which receives conman start, stop, link or unlink requests from the network. The netman process examines each request received and either implements the request itself or spawns a local Tivoli Workload Scheduler process to do so. See also processes.

**network agent.** A logical extended agent used to create dependencies between jobs and job streams on separate Tivoli Workload Scheduler networks. See also internetwork dependencies.

---

**logman • predefined prompt dependency**

**O**

**offset-based run cycle.** A run cycle that uses a combination of user-defined periods and offsets. For example, an offset of 3 in a period of 15 days is the third day from the beginning of the period. It is more practical to use offset-based run cycles when the cycle is based on cyclic periods. This term is only used as such in Tivoli Workload Scheduler for z/OS, but the concept applies also to the distributed product. See also:

- rule-based run cycle
- run cycle

**opens file dependency.** See file dependency.

**optman.** A command-line program that maintains the global options in the product database.

**P**

**parameter.** An entity that enables job instance-specific values to be substituted in job and job stream scripts, either from values in the database or at run time. Parameters cannot be used when scripting extended agent jobs.

**plan.** The means of scheduling jobs. Objects in the database become instances in the plan. See also:

- database
- final job stream
- forecast plan
- JnextPlan
- planman
- preproduction plan
- production plan
- trial plan

**planman.** An application you use to create, extend, and reset plans of all types. See also plan.

**planned start time.** The time that Tivoli Workload Scheduler estimates a job instance will start. This estimate is based on start times of previous instances of the job. See also:

- actual start time
- earliest start time
- latest start time
- scheduled time

**predecessor.** A job or job stream that must complete successfully before successor jobs or job streams can be started. See also successor.

**predefined prompt dependency.** A prompt dependency that is defined in the database and can be associated to any job or job stream. See also prompt dependency.
priority. A way of determining the order in which jobs and job streams start. Priorities for each job and job stream range from 0 to 101. A job or job stream with a priority of 0 does not run.

preproduction plan. A high-level plan of system activity containing job streams and dependencies. It is created automatically when the production plan is created for the first time. It is extended if the production plan is extended. It is similar to the long-term plan used in Tivoli Workload Scheduler for z/OS. See also plan.

production period. The time frame covered by the production plan. See also production plan.

production plan. Contains all job scheduling activity planned for a period. The plan is created or extended by the Jnextplan job or by planman. It is stored in the Symphony file, and consists of all the jobs, job streams, and dependency objects that are scheduled to run for that period, including any jobs or job streams carried forward from the previous plan. See also:
- carry forward
- JnextPlan
- plan

processes. Network processes that control the production environment and network traffic. See also:
- batchman
- jobman
- jobmon
- mailman
- netman
- writer

prompt dependency. A dependency where an operator must respond affirmatively to a prompt so that the dependent job or job stream can run. See also:
- ad hoc prompt dependency
- predefined prompt dependency

R

resource. Either physical or logical system resources. Resources are used as dependencies for jobs and job streams. See also resource dependency.

resource dependency. A dependency where a job or job stream cannot start until the required quantity of the defined resource is available. See also resource.

rule-based run cycle. A run cycle that uses rules based on lists of ordinal numbers, types of days, and common calendar intervals (or period names in Tivoli Workload Scheduler for z/OS). For example, the last Thursday of every month. Rule-based run cycles are based on conventional periods, such as calendar months, weeks of the year, and days of the week. In Tivoli Workload Scheduler for z/OS, run cycles can also be based on periods that you define, such as a semester. This term is only used as such in Tivoli Workload Scheduler for z/OS, but the concept applies also to the distributed product. See also:
- offset-based run cycle
- run cycle

run cycle. Specifies the days that a job stream is scheduled to run. See also:
- calendar
- exclusive run cycle
- iCalendar
- inclusive run cycle
- rule-based run cycle
- simple run cycle
- weekly run cycle

S

schedule. See job stream.

scheduled time. The time when a job or job stream is scheduled to run. See also:
- actual start time
- earliest start time
- latest start time
- planned start time

security file. The file where access rights of users to objects in the database and the plan are defined. It is created by makesec. See also makesec.

simple run cycle. A specific set of user-defined days a job stream is run. A simple run cycle is defined for a specific job stream and cannot be used by other job streams. See also run cycle.

standard agent. An installed agent component in a distributed Tivoli Workload Scheduler network that runs jobs, but requires a domain manager to resolve local dependencies and launch the jobs.

status. The current job or job stream status within the Job Scheduling Console. The Job Scheduling Console status is common to Tivoli Workload Scheduler and Tivoli Workload Scheduler for z/OS. See also internal status.

successor. A job that cannot start until all of the predecessor jobs or job streams on which it is dependent are completed successfully. See also predecessor.

Symphony file. A file containing the scheduling information needed by the production control process (batchman) to run the plan. The file is built and loaded when the production plan is created or extended on the
master domain manager. During the production phase, it is continually updated to indicate the current status of production processing: work completed, work in progress, and work to be done. To manage production processing, the contents of the Symphony file (plan) can be displayed and altered using conman or the Job Scheduling Console. See also:

- batchman
- conman
- job scheduling console
- plan

**table view.** A graphical view in the Job Scheduling Console used to display database and plan object data in tabular format. See also:

- database
- job scheduling console
- plan
- views

**timeline view.** A graphical view in the Job Scheduling Console used to modify and maintain job stream instance time restrictions. See also:

- job scheduling console
- time restriction
- views

**time restriction.** Determines the times before which, after which, or both, that a job or job stream cannot be run. Specifying both defines a time frame within which a job or job stream runs. Jobs can also have a repetition rate. For example, Tivoli Workload Scheduler can launch the same job every 30 minutes between the hours of 8:30 a.m. and 1:30 p.m.

**trial plan.** A projection of the current production plan for a different period, using the same start date. It is used to determine the effect of different plan decisions. See also [plan].

**user options.** Configuration options defined for each user on a workstation, in a useropts file for each user on a workstation. The settings in this file apply only to that user on that workstation. See also:

- local options
- global options

**utility commands.** A set of utilities invoked from the operating system's command line for managing Tivoli Workload Scheduler.

**views.** Elements of the graphical user interface of the Job Scheduling Console used for viewing and modifying scheduling objects. See also:

- explorer view
- graph view
- impact view
- table view
- timeline view

**weekly run cycle.** A run cycle that specifies the days of the week that a job stream is run. For example, a job stream can be specified to run every Monday, Wednesday, and Friday using a weekly run cycle. A weekly run cycle is defined for a specific job stream and cannot be used by multiple job streams. See also [run cycle].

**workstation.** A definition of an individual computer or computer partition on which jobs and job streams are run. Types of workstation vary depending on the type of engine. See also:

- distributed workstation
- z/OS workstation

**workstation class.** A workstation class is a group of workstations with similar job-scheduling characteristics. Any number of workstations can be placed in a class. Job streams and jobs can be assigned to run on a workstation class. This makes replication of a job or job stream across many workstations easy. See also [workstation].

**writer.** A process started by netman. The writer process passes incoming messages to the local mailman process. The writer processes (there may be more than one on a domain manager workstation) are started by link requests and are stopped by unlink requests or when the communicating mailman process ends. See also [processes].

**x-agent.** See [extended agent].

**z/OS network.** A connected group of workstations that use the Tivoli Workload Scheduler z/OS engine to perform workload scheduling. See also:

- engine
- workstation
**z/OS workstation**

*z/OS workstation.* A representation of system configuration elements in the Tivoli Workload Scheduler for z/OS network. For the z/OS engine, workstations can be:

- Computer
- General
- Printer

See also [workstation](#).
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