IBM Workload Automation

Application Lab User's Guide

Version 9 Release 4

IBM Workload Automation

Application Lab User's Guide

Version 9 Release 4

Note
Before using this information and the product it supports, read the information in "Notices" on page 1.

This edition applies to version 9, release 4, modification level 0 of IBM Workload Scheduler (program number 5698-WSH) and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Overview

Use the Application Lab to create, run, and monitor a set of simple business processes that address specific business needs.

This is an interface dedicated to persons who require control and autonomy when driving workloads, but that are not required to handle complicated workload automation concepts. They can deliver business value faster with an easy-to-use interface.

Your organization might have a team of IT experts that automate complicated workloads. However, there might be individuals, or groups of individuals who could benefit from an easy-to-use tool to automate their personal business tasks. These individuals could be considered application developers. With the assistance of an administrator, they can be set up to use the Application Lab to develop their own sequence of steps or process and then choose to either automate the process or just run it on-demand when needed.

You can use Application Lab to accomplish a number of business tasks. Create a process to run any number of steps where steps can perform an array of business tasks. A step can perform simple operations such as:

- Transfer files to and from a server using FTP, SSH, or other protocols.
- Run a command on IBM® i systems.
- Run a program or script either locally or remotely
- Call a web service
- Run a Java™ class
- Allow Java applications in the same network to send and receive messages to and from a JMS destination.
- Run queries, SQL statements, and other actions on databases.

By integrating with external applications, it can also perform more complex operations such as:

- Collect, analyze, and assemble insightful business reports using IBM Cognos®.
- Integrate high volumes of data on demand from multiple data sources using IBM InfoSphere® DataStage®.
- Control SAP process integration communication channels.
- Invoke Open Services for Lifecycle Collaboration (OSLC) providers to manage automation and provisioning resources.
- Integrate with IBM SmartCloud® Provisioning to create an on-demand network environment.
- Run Sterling Connect: Direct programs to transfer one or more files from a primary node to a secondary node.
- Enable communications among applications that run in different distributed environment at different times, basing on WebSphere® MQ message exchange.
- Execute Salesforce batch APEX classes.
- Automate ERP workflows containing Oracle E-Business and Oracle PeopleSoft applications.
- Run SAP BusinessObjects Business Intelligence reports.

- Help enterprises find insights into new and emerging types of data by running BigInsights for Hadoop workbooks and applications.
- Schedule JSR 352 Java Batch applications and integrate them into more composite workflows, providing monitoring and restart capabilities.
- Manage *Internet of Things* devices connected to an MQTT message broker.
- Integrate with Apache Oozie to simplify and manage the execution of Oozie workflows and Hadoop jobs like MapReduce, Hive, Pig, and Sqoop.
- Run actions on the IBM Cloudant database, on its documents, or attachments.

Another way application developers can quickly create a process is to import an existing Cron or Windows Task scheduler job and benefit from the full set of IBM Workload Automation capabilities to better manage your workload automation. You eliminate the burden of maintaining multiple schedulers and IBM Workload Automation processes are not host-dependent and can be run and monitored on a multiple workstations.

In addition to defining the steps to be performed as part of your process, you also decide whether to run your process on demand or schedule your process to run daily, weekly, monthly, or every 3 days, or just on non-working days. You might even choose to run it when a particular event occurs. You define triggers to determine when your process runs. Whatever the schedule may be to run your process, you can also choose to publish your process to the Self-Service Catalog. The process is mapped to a service and you can conveniently submit the service to run from a mobile device whenever needed.

The interface contains contextual user assistance reducing the complexity of the tasks to assist users in completing them without the necessity of consulting additional documentation.

In some cases, to integrate with external applications you might need to complete some prerequisite steps. To find information about prerequisite steps see the user interface or, if you want to deepen your knowledge, see the section on creating job definitions in the *Dynamic Workload Console User's Guide*.

Basic concepts

A few basic concepts are necessary when you use the Application Lab.

You can use the Application Lab to create, run, schedule, and monitor a set of simple business processes that address specific needs, in a distributed environment.

A **process** is a sequence of **steps** where each step performs a specific action, such as running a query or posting a message into a message queue. A process can run in different ways, on demand, according to a scheduled time, or based on a specific event, using one or more **triggers**.

Processes that you create can be organized into categories in the Process Library. Processes are very versatile and can be run on any of the agent workstations listed in the Agents section. The agent workstations are dynamic agent workstations and each individual step in a process can be run on different agents, even if those agents have different operating systems.

End user tasks

End user tasks are those activities required to create and work with processes in theApplication Lab.

Use the Application Lab to create, run, and monitor a set of simple business processes. In addition to creating a process and defining the steps to be completed as part of your process, you can also decide when to run your process. You can also choose to publish your process to the Self-Service Catalog and submit it to run from a mobile device.

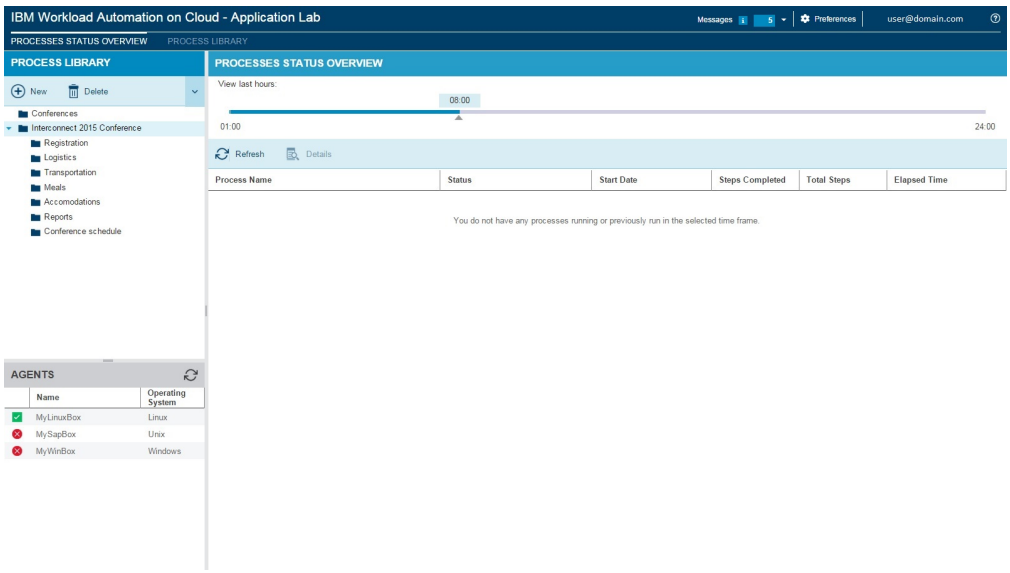
Getting started

You can access the Application Lab from any computer in your environment by using one of the supported web browsers through the secure HTTPS protocol.

To log in to the Application Lab, use the URL provided by your administrator. Log in with your Dynamic Workload Console credentials.

You can access the Application Lab also from the Single Entry Point page, see the topic about the product user interfaces available in the *User's Guide and Reference*. You can also log in using a tablet. Ensure that the pop-up blocking feature is disabled.

When you log in to the Application Lab the home page is displayed:



The home page is divided into three main sections:

Process Library
Keeps your automation processes organized into categories.

Agents
Contains the list of agents connected to the Application Lab.

Process Status Overview
Is the overview of your processes that are running or were previously run in the selected time frame.

Start working by creating new processes or by importing a crontab file or a Windows Task Scheduler task.

For an interactive overview of creating a new process, you can start the tutorial by clicking the question mark located at the upper-right corner of the page.

Creating a process

To begin working with the Application Lab, you must create your processes.

About this task

To create a new process in your Application Lab environment, complete the following steps:

Procedure

1. In the Application Lab main window, select a library from the Process Library and click the New icon in your library toolbar.
2. In the General tab, specify the attributes for the process that you are creating.
3. Optionally, click the Triggers tab and select New to define the conditions to run your process automatically.
4. Optionally, click the Variables tab and select New to create variables. You can use variables either in the Steps panel or in the Self-Service Catalog. You are not required to create variables, however, you might want to define a variable to reuse the same definition in different steps.
5. Click on the Steps tab and select New to specify what your process does as a simple series of steps. Select the step to be completed with its properties and the system where it runs. Use ^*variable_name*^ to reference any variable that you defined for the process in the Variable tab. The process is saved automatically.

Results

You can now manage, schedule, and monitor your process.

Import Cron and Windows Task Scheduler jobs

Control all your business tasks from a single point of control and reduce the risk and time involved in using multiple schedulers.

Before you begin

You can use this same procedure to import a previously exported Application Lab process.

About this task

Import a cron job or Windows Task Scheduler job into Workload Automation to take advantage of the powerful scheduling capabilities of IBM Workload Scheduler. You can use the simple intuitive Application Lab user interface to read crontab files or Windows Task Scheduler jobs and convert them into processes. The processes are added to your Process Library with the same specifications as the original jobs.

You can then modify, scheduler, and monitor them along with all of your other business processes or integrate them into a comprehensive business process.

To manage your Cron and Windows Task Scheduler jobs in your IBM Workload Scheduler environment, perform the following steps:

Procedure

1. In the Application Lab main window, click the down arrow in the Process Library toolbar and select **Import**.
2. Select into which folder in the Process Library you want to import the data.
3. Browse for and select your Cron or Windows Task Scheduler job and click **Upload**.
4. Application Lab identifies the file type and the wizard changes accordingly:

   Cron files
   Select the user to run the command specified in the cron file. You can choose between:

   Specified in the file
   The user that runs the command is defined in the cron file. This is the default value.

   Specify
   Select to specify the user that runs the command.

   One process is created for each command in the file. Each process is scheduled to run independently of the other processes, as defined in the cron file. For each process, you can specify the agent where you want the process to run and the rules to be imported.

   Windows Task Scheduler files
   Specify the agent where you want the process to run. A single process is created for all commands in the file, which are inserted in the process as steps.

   Previously exported Application Lab process
   Specify the agent where you want the process to run.
5. Click **Import**. Your scheduler files are now imported and available for use in Application Lab.

Results

You can now manage, schedule and monitor your Cron or Windows Task Scheduler job like any other process in Application Lab.

Limitations

About this task

There are some limitations that apply to the import of a Cron or Windows Task Scheduler job.

Cron

- You can use commas only for the second and third fields, indicating the hour and the day of the month, respectively. In all other fields, you must use the dash (-) to indicate a range. For example, a range from one to five must be specified as follows: 1-5. Consider the following example,

in which you specify that the job must run on the 30th day of each month once a minute, from 12;30 AM to 12;35 AM and from 12;30 PM to 12;35 PM:

```
30-35 0,12 30 * *
```

- The range-type syntax is not supported in the penultimate field of the rule
- In the last field of the rule, you can use a value between `zero` or `seven` and `six` only if in both the third and fourth field the value provided is `*`. In all other cases, the value of the last field must be `*`. The `zero` and `seven` values both indicate **Sunday** and can be used interchangeably.

Windows Task Scheduler

General tab
The following fields and options are not supported or are partially supported:

- Run only when user is logged on
- Run whether user is logged on or not
- Run with highest privileges
- Hidden
- Configure for

Trigger tab
Triggers are supported only if based on a schedule. The related advanced settings are not supported. Specifying how often the task should run is not supported.

Action tab
Only the Start a program action is supported.

Conditions tab
This tab is not supported.

Settings tab
Only the **If the task is already running, then the following rule applies** selection is supported, besides in that selection, the **Stop the existing instance** option is not supported.

Managing Application Lab processes

Use the Application Lab to manage your processes. After you create your process and, depending on your business needs, you can complete the following actions:

- Run the process immediately.
- Publish the process to the Self-Service Catalog to run it on-demand.
- Move your workload to the Dynamic Workload Console to run your process with more complex scheduling conditions.

You can then monitor your processes from the Application Lab.

See the following sections for instructions about managing your processes.

Running a process

In addition to the processes that are scheduled to run, you can also run a process immediately.

Select the process that you want to run in your library section, click Enable, and then Run now. The process is submitted to run.

Monitor the process status in the Processes Status Overview section or in the History tab of the process. For more details about monitoring your process, see "Monitoring your process" on page xiv.

Publishing a process in the Self-Service Catalog

The Self-Service Catalog is a solution to automate routine business tasks and run them from mobile devices. You can publish the process that you created by using the Application Lab to the Self-Service Catalog and use this interface from your mobile device to run the process whenever needed. The process is mapped to a service in the Self-Service Catalog and you can submit your process by simply submitting the service.

For more details about the Self-Service Catalog, see the Mobile Applications User's Guide.

Enhancing your workload

The Application Lab combines business efficiency with an easy-to-use interface that simplifies complicated workload automation concepts.

However, if your workload becomes more complex and you require more flexibility and control, you can seamlessly move your workload to the Dynamic Workload Console, a fast, powerful, and user-friendly interface of operational control for your entire IBM Workload Automation scheduling environment. With the Dynamic Workload Console, you can define, edit, and monitor your automated workflow. The Dynamic Workload Console processes are named job streams and the steps are named jobs.

Use the Dynamic Workload Console to get the following advantages:

Parallel flows
Jobs belonging to a job stream can run in parallel mode. You can use conditions or dependencies between jobs to build your workflow.

Reuse When a job is defined, its options are saved in a job definition that can be re-used across different flows.

Flexibility
For each job in a job stream, you can set several dependencies and conditions. For example, you can set complex conditions such as triggering jobs to run when others have completed successfully, or when a specific file is created.

More scheduling options
Plan when to run your jobs by setting a run cycle that specifies on which days to run the job stream. For example, tomorrow, next week, next year, weekends, or the second Friday in every month.

Graphical view
Use the graphical view to show your workflow in a graph. This view shows the selected job stream with all the jobs it contains and their associated dependencies.

If your workload requires more complex options, such as including dependencies between jobs, enhancing the process is the correct way to modify a process created

with the Application Lab. Otherwise, if the process is not enhanced, any changes made in the Dynamic Workload Console are overwritten when that process is enabled in the Application Lab.

After a process has been enhanced and modified using the Dynamic Workload Console, it can no longer be modified in the Application Lab, however, you can continue to use the Application Lab to monitor the outcome of the process. The changes made in the Dynamic Workload Console take effect immediately.

To enhance your workload, right-click your process in the **My processes** panel and select **Enhance**. A wizard is displayed to guide you through the enhancing process.

For more information about the Dynamic Workload Console, see Dynamic Workload Console User's Guide.

Monitoring your process

In the Process Status Overview section of the Application Lab home page, you can see a view of all your processes that are currently running or that previously ran in the selected time frame. You can use this view to have an overall picture of your processes.

To drill down to more detailed information about your process, click the History tab in the process definition. Select the occurrence that you want to monitor and click Details to have the complete step status information.

Administrative tasks

Administrative tasks required to work with the Application Lab

Administrative tasks are those activities required to enable users to create and work with Application Lab.

Users can create, schedule, run, and monitor simple business processes connected to a single Dynamic Workload Console engine. The processes run on dynamic agent workstations. The processes contain any number of steps to comprise a complete business process. When the process is saved from the Application Lab user interface, a job stream corresponding to the process is saved to the IBM Workload Scheduler database containing a number of jobs that correspond to the number of steps defined in the process. These objects are also accessible to the administrator from the Dynamic Workload Console. Administrators can identify the job streams and jobs created by users in the Application Lab because their names are prefixed by an environment ID that Administrators define when configuring access to the Application Lab in the security file. When Application Lab users require more sophisticated scheduling capabilities, Administrators might be required to modify the corresponding job stream in the Dynamic Workload Console.

You define the working environment ID for the end users. The working environment is identified by a two-letter prefix which you define in the IBM Workload Scheduler security file, as described in "Granting authorization to users in the security file" on page xviii. Because several users access the same working environment, it is a good practice to create a separate Process library for each user to prevent concurrent access to the same resources. Also, when installing the agents for a specific working environment, consider you must name them with the same <*environment_id*> prefix you define for the working environment.

The Application Lab is a simple, easy-to-use graphical user interface that connects to an existing Dynamic Workload Console . It connects to a distributed engine connection that is either shared or configured in single sign-on. Users access the Application Lab through a URL that Administrators compose and communicate to the users.

There are a number of tasks that require the intervention of the Administrator to enable users to create and work with processes in Application Lab:

- "Creating a database connection."
- "Configuring an engine connection" on page xvii
- "Granting authorization to users in the security file" on page xviii
- "Generating an access URL for users" on page xix

Creating a database connection

About this task

This section explains how to optionally configure the Application Lab database using the **db.properties** file. Supported databases are:

- Derby, both in the embedded and non-embedded (or client/server) configurations
- DB2

A Derby database embedded in WebSphere Application Server is created by default when you access Application Lab for the first time. If you want to modify the database, you can edit the **db.properties** file.

For example, if you want to use the IBM Workload Scheduler database, edit the parameters in the **db.properties** file with the appropriate values for DB2.

The configuration file is located in `JazzSM install_dir\profile\registry\SimpleUI`.

The **db.properties** file in this example contains the settings for the default configuration, Derby in the embedded environment:

```
databasePath=./registry/SimpleUI/SIMPLEUI_DB
protocol=jdbc:derby:
databaseUrl=localhost:1527
driver=org.apache.derby.jdbc.EmbeddedDriver
useDataSource=false
datasourceName=jdbc/TDWC
createDatabase=true
useAsEmbeddedConnection=true
user=admin
password=admin
encryptedPassword=false
```

where

databasePath

Derby database, both in the embedded and client/server configuration
The path where the database is installed.

DB2 The database name.

protocol
The protocol to be used for connecting to the database. Supported values are as follows:

Derby database, both in the embedded and client/server configuration
jdbc:derby:

DB2 jdbc:db2:

databaseUrl
The URL and port for connecting to the database. The default value is localhost:1527. This value applies to the Derby database, both in the embedded and client/server configuration.

driver The database driver.

Derby database in the embedded configuration
org.apache.derby.jdbc.EmbeddedDriver

Derby database in the client/server configuration
org.apache.derby.jdbc.ClientDriver

DB2 com.ibm.db2.jcc.DB2Driver

useDataSource
Specifies whether to use the local datasource configured for the Dynamic Workload Console. Supported values are `true` and `false`. The default value is `false`.

datasourceName
The name of the datasource to be used. Specify this value if you set **useDataSource** to `true`.

createDatabase
This parameter applies to Derby only. If you want to use a DB2 database, you must create it in advance. Specifies whether a database should be created. Supported values are `true` and `false`. The default value is `true`. When set to true, this value causes the creation of a Derby embedded database when you first access the Application Lab.

useAsEmbeddedConnection
Specifies whether to use the Derby Embedded configuration. Supported values are `true` and `false`. The default value is `true`.

If you want to use the Derby client/server configuration, set this value to false and set the **driver** parameter to `org.apache.derby.jdbc.ClientDriver`.

If you want to use the DB2 configuration, set this value to false and set the **driver** parameter to `com.ibm.db2.jcc.DB2Driver`.

user The database user.

password
The database user password.

encryptedPassword
Specifies whether the database user password is encrypted.

Configuring an engine connection

Define a distributed engine connection or use an existing connection for the Application Lab.

About this task

The Application Lab connects to an existing Dynamic Workload Console through this engine connection. You can create a new engine connection or use an existing definition. To allow Application Lab users to automatically connect to the engine when they sign in to Application Lab, share the credentials of the engine with all the Application Lab users who access it as well as sharing the engine connection itself. If the Dynamic Workload Console is configured in single sign-on, then the user ID and password are not required.

For information about configuring the Dynamic Workload Console to use single sign-on, see the section about configuring the Dynamic Workload Console in the *IBM Workload Scheduler: Administration Guide*.

Procedure

1. From the navigation toolbar, click **System Configuration** > **Manage Engines** .
2. Click **New**.
3. In **Engine Name**, type the name for the connection you are creating.
4. In **Engine Type**, select `Distributed`.
5. In **Host Name** , type the host name or TCP/IP address of the computer where the IBM Workload Scheduler engine is installed. The default is `localhost`.
6. In **Port Number**, leave the default value.

7. In the Connection Credentials section, enter the user ID and password required to establish a connection to the engine. If the Dynamic Workload Console is configured in single sign-on, you can leave these fields blank.
8. Select **Share credentials** to share the engine connection with the users of Application Lab.
9. Click **OK** to save the connection.
10. Select the new engine connection in the table and click **Share** to share the engine.

Results

You have now defined a new engine connection that is necessary to generate an access URL for those users who need to access the Application Lab.

What to do next

See "Generating an access URL for users" on page xix to use the engine connection information you just created to define an access URL for users.

Granting authorization to users in the security file

Update the security file with the working environment ID assigned to Application Lab users.

About this task

Before they can access Application Lab, users need to be granted authorization to their working environment in the IBM Workload Scheduler security file.

In the security file, you define an entry for each working environment you want to create. The working environment ID is identified by any two-letter prefix of your choice, with the exception of the ZZ sequence.

You can choose to edit only one line in the user section in the security file, replacing

```
LOB NAME=@ ACCESS=USE
```

with

```
LOB NAME=<environment_id> ACCESS=USE
```

With this option, the user can access only the objects identified by the *<environment_id>* prefix from the Application Lab.

Alternatively, you can edit the entire user section, as described in the example. This is the recommended procedure. By editing the entire user section, the user can access only the objects identified by the *<environment_id>* prefix from all the IBM Workload Scheduler interfaces, such as the Dynamic Workload Console, the Workload Editor, the Application Lab, conman, and composer.

In the example, the tws_user can work only with the objects having the *<environment_id>* prefix. Also, when installing the agents, consider they need to be named with the same *<environment_id>* prefix you plan to use in the security file.

```
USER MAESTRO
CPU=@+LOGON=<tws_user>
BEGIN
USEROBJ CPU=<environment_id>@ ACCESS=ADD,DELETE,DISPLAY,MODIFY,USE,ALTPASS,LIST,UNLOCK
JOB CPU=<environment_id>@ ACCESS=ADD,ADDDEP,ALTPRI,CANCEL,CONFIRM,DELDEP,DELETE,DISPLAY,KILL,MODIFY,RELEASE,REPLY,
```

```
RERUN,SUBMIT,USE,LIST,UNLOCK,SUBMITDB,RUN
SCHEDULE CPU=<environment_id>@ ACCESS=ADD,ADDDEP,ALTPRI,CANCEL,DELDEP,DELETE,DISPLAY,LIMIT,MODIFY,RELEASE,
REPLY,SUBMIT,LIST,UNLOCK
RESOURCE CPU=<environment_id>@ ACCESS=ADD,DELETE,DISPLAY,MODIFY,RESOURCE,USE,LIST,UNLOCK
PROMPT NAME=<environment_id>@ ACCESS=ADD,DELETE,DISPLAY,MODIFY,REPLY,USE,LIST,UNLOCK
FILE NAME=<environment_id>@ ACCESS=BUILD,DELETE,DISPLAY,MODIFY,UNLOCK
CPU CPU=<environment_id>@ ACCESS=ADD,CONSOLE,DELETE,DISPLAY,FENCE,LIMIT,LINK,MODIFY,SHUTDOWN,START,STOP,UNLINK,
LIST,UNLOCK,RUN,RESETFTA,MANAGE
PARAMETER CPU=<environment_id>@ ACCESS=ADD,DELETE,DISPLAY,MODIFY,LIST,UNLOCK
CALENDAR NAME=<environment_id>@ ACCESS=ADD,DELETE,DISPLAY,MODIFY,USE,LIST,UNLOCK
REPORT NAME=<environment_id>@ ACCESS=DISPLAY
EVENTRULE NAME=<environment_id>@ ACCESS=ADD,DELETE,DISPLAY,MODIFY,LIST,UNLOCK
ACTION PROVIDER=<environment_id>@ ACCESS=DISPLAY,SUBMIT,USE,LIST
EVENT PROVIDER=<environment_id>@ ACCESS=USE
VARTABLE NAME=<environment_id>@ ACCESS=ADD,DELETE,DISPLAY,MODIFY,USE,LIST,UNLOCK
WKLDAPPL NAME=<environment_id>@ ACCESS=ADD,DELETE,DISPLAY,MODIFY,LIST,UNLOCK
RUNCYGRP NAME=<environment_id>@ ACCESS=ADD,DELETE,DISPLAY,MODIFY,USE,LIST,UNLOCK
LOB NAME=<environment_id> ACCESS=USE
END
```

To modify the security file, perform the following steps:

1. Navigate to the *TWA_home*/TWS directory from where the **dumpsec** and **makesec** commands *must* be run.
2. Run the **dumpsec** command to decrypt the current security file into an editable configuration file.
3. Modify the contents of the editable security configuration file.
4. Close any open **conman** user interfaces using the **exit** command.
5. Stop any connectors on systems running Windows operating systems.
6. Run the **makesec** command to encrypt the security file and apply the modifications.
7. If you are using local security, the file will be immediately available on the workstation where it has been updated.

For more information about the security file, see the section about configuring user authorization and the security file in the Administration Guide.

Generating an access URL for users

Administrators must generate a URL for each user to access Application Lab.

Before you begin

Application developers must be granted access to work with Application Lab. This includes granting authorization in the security file, but it also includes the creation of a personal working environment ID which identifies both the Application Lab environment within which the application developer can work, as well as any objects created by the application developer. Objects such as jobs and job streams, corresponding to the processes created by the application developer, are prefixed with the environment ID so that Administrators can easily identify them.

To assemble the URL that will be used by users to access Application Lab, ensure that you have defined the database connection, created and shared the engine connection, and made the required changes to the security file, including the definition of a working environment ID.

About this task

The environment ID you define can be used by more than one user of the Application Lab. Several users can use the same environment, creating and scheduling their processes. Each user can create their own personal Process Library to keep their processes separate from other users. To provide users access to the same Application Lab environment, perform the following steps:

Procedure

1. Customize the base URL that users type to access the Application Lab. The base URL that users type to access Application Lab is composed as follows:

   ```
   https://host_name:port_number/dwc/Simple/index.jsp?
     skipTutorial=true&engineName=engine_name&engineOwner=engine_owner&tenantId=environment_id
   ```

   where,

   host_name
   The host name of the computer hosting the Dynamic Workload Console.

   port_number
   The port number of the computer hosting the Dynamic Workload Console.

   engine_name
   The name of the engine connection that was created and shared so that users of the Application Lab can use it when connecting to the Application Lab.

   engine_owner
   The user name of the user that created the engine connection on the Dynamic Workload Console and shared it with other users.

   environment_id
   The personal working environment ID prefix defined and entered into the security file.

   For example, if you created an engine named `ItalyHR`, and the engine owner is name `jsmith`, and the Dynamic Workload Console is installed on a computer with host name `italyhr.myserver.com`, with an environment ID `PQ`, the URL to be sent to the application developer to access Application Lab is:

   ```
   https:/italyhr.myserver.com:31117/dwc/Simple/index.jsp?
     skipTutorial=true&engineName=ItalyHR&engineOwner=jsmith&tenantId=PQ
   ```

2. Communicate the URL to all the users that will work in the same Application Lab environment. Remind them to define separate process libraries for their processes as a best practice. All of the processes created by these users will be prefixed by the environment ID you defined.

Results

The application developer can now access Application Lab and start automating business processes.

Personalizing UI labels

IBM Workload Scheduler provides the capability to customize user interface labels.

Before you begin

You might find this feature useful for your business users so that the tasks they perform are in the context of your line of business. You can personalize the UI labels for the following UIs:

- Application lab
- Self-Service Catalog and Self-Service Dashboards mobile applications

About this task

The properties file, `whitelabelling.properties`, from which you can modify UI labels must be created manually in a sub-folder named, `Labels`, which you must also create manually in the following path: `<JazzSM_profile_dir>/registry` directory.

Procedure

1. Create a new sub-directory named `Labels` in the following path:

   On Windows:
   `C:\Program Files\IBM\JazzSM\profile\registry`

   On UNIX:
   `/opt/ibm/JazzSM/profile/registry`
2. Create a text file named `whitelabelling.properties` in the sub-directory named `Labels`.
3. Add the following parameters to the `whitelabelling.properties` file and assign a value to the labels you want to modify.

   mobile.title=*<value>*
   ssc.title=*<value>*
   ssd.title=*<value>*
   applab.title=*<value>*
   applab.logo=*<value>*

   where *<value>* corresponds to the following labels:

   Self-Service Catalog and Self-Service Dashboards
   Replace *<value>* with the text to replace the current label:
   - **mobile.title**= *<value>* If defined, this label will appear instead of "IBM Workload Scheduler Mobile Apps"
   - **ssc.title**=*<value>* If defined, this label replaces "Self-Service Catalog"
   - **ssd.title**=*<value>* If defined, this label replaces "Self-Service Dashboards"

   Application Lab
   Replace *<value>* with the text or icon to replace the current values:
   - **applab.title**=*<value>* If defined, this label replaces "Workload Automation" currently found in the browser tab title and in the upper left corner of the Application Lab home page.
   - **applab.logo**=*<value>* If defined, this is the file name of the graphic file that replaces the current IBM logo present in the upper-right corner of the Application Lab UI. This file must be copied to a sub-folder named `logo` in the `Labels` folder and must not exceed 60X30 pixels. For example, to display your company logo in place of the IBM logo, copy the file, `mycompanylogo.gif` in the path: *JazzSM_profile_dir*`/registry/Labels/logo`.
4. Save your changes.

Troubleshooting Application Lab problems

Describes how to troubleshoot problems with the Application Lab.

This section describes the problems which could occur while using the Application Lab.

Communication failure with DB2 when working with the Application Lab

When trying to access the DB2® repository from the Application Lab you might receive a communication failure message.

Cause and solution:

To solve this problem, see the database connection settings defined in the database properties file. Refer to the Application Lab documentation: "Granting authorization to users in the security file" on page xviii

The engine connection does not work

You define an engine connection, you verify that the values entered for the engine connection are correct. The connection error message is returned.

Cause and solution:

Refer to the section about troubleshooting connection problems in the *IBM Workload Automation: Dynamic Workload Console User's Guide*.

Activating and deactivating traces in Application Lab

Describes how to activate or deactivate the Application Lab traces.

Activating traces

About this task

This task activates Application Lab traces.

Follow these steps to activate the Application Lab traces at run time:

1. Log in to the Application Lab as administrator of the WebSphere Application Server
2. In the Application Lab navigation pane select **Settings > WebSphere Admin Console**
3. Click Launch **WebSphere Admin Console**.
4. In the navigation tree, click **Troubleshooting** > **Logs and Trace** > *server name* (for example **tdwcserver**) > **Diagnostic Trace**.
5. Select:

   Configuration
   If you want to apply the changes to the trace settings after having restarted the server.

Run time
If you want to apply the changes to the trace settings without restarting the server.

6. Click **Change Log Detail Levels** under Additional Properties.
7. Choose the packages for which you want to activate the traces. For the Application Lab traces, make this selection:
   a. Scroll down to **com.ibm.tws.*** and expand the tree
   b. Click **com.ibm.tws.simpleui.*** and **com.ibm.twa.simpleui.***
   c. Either select **All Messages and Traces** or click **Messages and Trace Levels** and choose the trace level you require.
   d. Click **OK** > **Save**.
8. Stop and start the server, if necessary.

Alternatively, you can activate the Application Lab traces as follows:

1. Edit the following XML file:

   Installed on the WebSphere Application Server:
   JazzSM_profile_dir/config/cells/JazzSMNode01Cell/nodes/JazzSMNode01/servers/server1/server.xml

   where, the default value of *JazzSM_profile_dir* is:

   On Windows operating systems
   C:\Program Files\IBM\JazzSM\profile

   On UNIX operating systems
   /opt/IBM/JazzSM/profile
2. Change the value assigned to the property **startupTraceSpecification** from:
   com.ibm.tws.simpleui.*=info and com.ibm.twa.simpleui.*=info
   to:
   com.ibm.tws.simpleui.*=all and com.ibm.twa.simpleui.*=all.
3. Save the changes
4. Stop and start the server.

When you enable tracing at run time the traces are stored in the following file:

Installed on the WebSphere Application Server:
<*JazzSM_profile_dir*>/logs/twaserver<*n*>/trace.log, (where <n> is null, 1, 2, and so on)

Deactivating traces

About this task

This task deactivates Application Lab traces.

Follow the instructions for activating traces (see "Activating traces" on page xxiii), with these differences:

Deactivating traces using the Integrated Solutions Console
When you have selected **com.ibm.tws.simpleui.*** or **com.ibm.twa.simpleui.***, select **Messages Only**.

Deactivating traces by editing the startupTraceSpecification configuration
Change the value assigned to the property **startupTraceSpecification** from

com.ibm.tws.simpleui.*=all and com.ibm.twa.simpleui.*=all.to

| com.ibm.tws.simpleui.*=info and com.ibm.twa.simpleui.*=info

Notices

This information was developed for products and services offered in the US. This material might be available from IBM in other languages. However, you may be required to own a copy of the product or product version in that language in order to access it.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive, MD-NC119
Armonk, NY 10504-1785
US

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM websites are provided for convenience only and do not in any manner serve as an endorsement of those

websites. The materials at those websites are not part of the materials for this IBM product and use of those websites is at your own risk.

IBM may use or distribute any of the information you provide in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Director of Licensing
IBM Corporation
North Castle Drive, MD-NC119
Armonk, NY 10504-1785
US

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

The performance data discussed herein is presented as derived under specific operating conditions. Actual results may vary.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

This information is for planning purposes only. The information herein is subject to change before the products described become available.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to actual people or business enterprises is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

© (your company name) (year).
Portions of this code are derived from IBM Corp. Sample Programs.
© Copyright IBM Corp. _enter the year or years_.

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

IT Infrastructure Library is a Registered Trade Mark of AXELOS Limited.

Linear Tape-Open, LTO, the LTO Logo, Ultrium, and the Ultrium logo are trademarks of HP, IBM Corp. and Quantum in the U.S. and other countries.

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Cell Broadband Engine is a trademark of Sony Computer Entertainment, Inc. in the United States, other countries, or both and is used under license therefrom.

ITIL is a Registered Trade Mark of AXELOS Limited.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Terms and conditions for product documentation

Permissions for the use of these publications are granted subject to the following terms and conditions.

Applicability

These terms and conditions are in addition to any terms of use for the IBM website.

Personal use

You may reproduce these publications for your personal, noncommercial use provided that all proprietary notices are preserved. You may not distribute, display or make derivative work of these publications, or any portion thereof, without the express consent of IBM.

Commercial use

You may reproduce, distribute and display these publications solely within your enterprise provided that all proprietary notices are preserved. You may not make derivative works of these publications, or reproduce, distribute or display these publications or any portion thereof outside your enterprise, without the express consent of IBM.

Rights

Except as expressly granted in this permission, no other permissions, licenses or rights are granted, either express or implied, to the publications or any information, data, software or other intellectual property contained therein.

IBM reserves the right to withdraw the permissions granted herein whenever, in its discretion, the use of the publications is detrimental to its interest or, as determined by IBM, the above instructions are not being properly followed.

You may not download, export or re-export this information except in full compliance with all applicable laws and regulations, including all United States export laws and regulations.

IBM MAKES NO GUARANTEE ABOUT THE CONTENT OF THESE PUBLICATIONS. THE PUBLICATIONS ARE PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, AND FITNESS FOR A PARTICULAR PURPOSE.

Index

Product Number: 5698-WSH, 5698-T08

Printed in USA