



IBM i
Systems Management
Advanced job scheduler

7.1





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Note

Before using this information and the product it supports, read the information in "Notices," on page 37.

This edition applies to IBM Advanced Job Scheduler for i (product number 5770-JS1) and to all subsequent releases and modifications until otherwise indicated in new editions. This version does not run on all reduced instruction set computer (RISC) models nor does it run on CISC models.

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Advanced Job Scheduler

The IBM® Advanced Job Scheduler for i (5770-JS1) licensed program is a powerful scheduler that allows unattended job processing 24 hours a day, 7 days a week. This scheduling tool provides more calendar features and offers greater control over scheduled events than the Management Central scheduler. You can also view job completion history and manage notification of a job's status.

If you want to schedule jobs on several systems in your network, the product must be installed on each of your systems. If you want to use the Advanced Job Scheduler in System i® Navigator (and in Management Central), then you must install the client plug-in from a system that has the Advanced Job Scheduler installed.

However, it is not necessary to install the Advanced Job Scheduler licensed program on each endpoint system in your Management Central network. When you install the Advanced Job Scheduler on the central system, jobs or tasks that you define on an endpoint system gather job information that is needed from the central system. You must set up all job definition information on the central system.


If systems in your network have the Advanced Job Scheduler installed locally, you can schedule tasks outside of the Management Central network. Under **My Connections** in System i Navigator, you have access to the Advanced Job Scheduler on that local system when you expand **Work Management**.

Note: For ordering information, see the Job Scheduler for IBM i  Web site.

What's new for IBM i 7.1



New Advanced Job Scheduler functions are available for this release.

With the installation of IBM i 7.1 new functions and capabilities have been added to the Advanced Job Scheduler.

- Update capabilities for most of the functions of Advanced Job Scheduler within the Web interface. Using a Web browser, you can remotely access scheduled jobs, job groups, report distribution, notification features, scheduled job activity, and activity log information for Advanced Job Scheduler. For more information, see “Advanced Job Scheduler on the Web” on page 2.
- For details of additional enhancements, see the features page in Job Scheduler for IBM i .

How to see what's new or changed

To help you see where technical changes have been made, this information uses:

- The  image to mark where new or changed information begins.
- The  image to mark where new or changed information ends.

In PDF files, you might see revision bars (|) in the left margin of new and changed information.

To find other information about what's new or changed this release, see the Memo to Users.

PDF file for Advanced Job Scheduler

Use this to view and print a PDF version of this information.


To view or download the PDF version of this document, select Advanced Job Scheduler (about 220 KB).

Saving PDF files

To save a PDF on your workstation for viewing or printing:

1. Right-click the PDF link in your browser.
2. Click the option that saves the PDF locally.
3. Navigate to the directory in which you want to save the PDF.
4. Click **Save**.

Downloading Adobe Reader

You need Adobe Reader installed on your system to view or print this PDF. You can download a free copy from the Adobe Web site  .

Advanced Job Scheduler on the Web

Using a Web browser, you can remotely access scheduled jobs, job groups, report distribution, notification features, scheduled job activity, and activity log information for Advanced Job Scheduler. All these functions can be used without installing IBM i Access for Windows or System i Navigator.

Advanced Job Scheduler on the Web can be accessed through System i Navigator on the Web or IBM Systems Director Navigator for i. Advanced Job Scheduler is found under the Work Management task group. For IBM i Director, you must select the Show all Work Management tasks button. Refer to the Setting up System i Navigator tasks on the Web in the IBM i Information Center for instructions on how to setup and work with the System i Navigator tasks on the Web. You can also access Advanced Job Scheduler on the Web tasks directly by specifying the appropriate task ID (task=id).

Most of the features within the Advanced Job Scheduler have been added to the Advanced Job Scheduler on the Web. Many interface design similarities and concepts between the Advanced Job Scheduler client running in System i Navigator and Advanced Job Scheduler on the Web.

Summary of features found within Advanced Job Scheduler on the Web:

Web URL direct access

You can also access Advanced Job Scheduler on the Web tasks directly by specifying a URL with an appropriate task ID

The URL to access Advanced Job Scheduler on the Web directly would look something like:
`http://hostA:2001/webnav/WnServlet?task=schjob` where hostA must be replaced with the name or IP address of your IBM i.

Table 1. Task ID to access Advanced Job Scheduler on the Web

Name of task	Task ID (task = xxxxxx)	Description
Scheduled Jobs	schjob	Lists scheduled jobs
Job Groups	jobgrp	Lists job groups
Scheduled Job Activity	schact	Lists scheduled job activity
Activity Log	actlog	Lists activity log entries
AJS Properties	ajsprop	Displays AJS main properties
Start Scheduler	strsch	Starts the AJS job monitor
Stop Scheduler	endsch	Stops the AJS job monitor
New Scheduled Job	newschjob	Creates a scheduled job

Table 1. Task ID to access Advanced Job Scheduler on the Web (continued)

Name of task	Task ID (task = xxxxxx)	Description
Reset Scheduled Jobs	resetschjob	Resets scheduled jobs
Scheduled Job Properties	schjobprop	Displays scheduled job properties
New Job Group	newjobgrp	Creates a job group
Recipients	reciplst	Lists recipients
Report Distribution Lists	repdstlst	Lists report distribution lists
Output Queue Monitors	outqmon	Lists output queue monitors
Sent	sentemail	Lists e-mail messages
Escalation Lists	esclst	Lists escalation lists
Notification Properties	notifyprop	Displays Notification properties
New E-mail	newemail	Creates an e-mail
New Recipient	newrecip	Creates a recipient
New Report Distribution List	newrepdstlst	Creates a report distribution list
New Output Queue Monitor	newoqmon	Creates an output queue monitor
New Escalation List	newesclst	Creates an escalation list
Scheduled Job Activity Properties	schactprop	Displays the scheduled job activity properties
Activity Log Properties	actlogprop	Displays the activity log properties

Advanced Job Scheduler properties

The Advanced Job Scheduler Properties page provides you with a place to define the general properties for Advanced Job Scheduler. This page also allows you to work with predefined schedules, scheduling calendars, holiday calendars, data libraries, systems and groups, and users.

General Properties

The Advanced Job Scheduler Properties page provides you with a place to define the general properties for Advanced Job Scheduler.

Related tasks:

“Assigning the general properties” on page 9

You can follow these instructions to assign the general properties used by Advanced Job Scheduler. You can specify how long to retain activity and log entries for the Advanced Job Scheduler, as well as the period that jobs are not allowed to run.

Schedules

The Advanced Job Scheduler Properties page provides you with a place to work with predefined schedules.

Related tasks:

“Predefined schedules” on page 20

You can create schedules that contain information needed to schedule a job or calculate exception dates within a holiday calendar.

Data libraries

The Advanced Job Scheduler Properties page provides you with a place to work with data libraries.

| **Related tasks:**

| “Setting up multiple scheduling environments” on page 14

| You can set up multiple scheduling environments on the same system. The original data library can act as the active data library and the copied data library can be used for testing. Thus you have two scheduling environments, one for testing and one that is the actual. In addition, Advanced Job Scheduler product data can be replicated from a production system to a backup system. During a failover to the backup system, the production environment can be started for submitting its scheduled jobs.

| **Setting up systems and groups**

| The Systems and Groups page allows you to add, remove, and change existing IP addresses and other information for IBM i and non-IBM i systems used by the Advanced Job Scheduler.

| **Related concepts:**

| “Setting up systems and groups” on page 15

| The Systems and Groups page allows you to add, remove, and change existing IP addresses and other information for IBM i and non-IBM i systems used by the Advanced Job Scheduler.

| **Users**

| The Advanced Job Scheduler Properties page provides you with a place to work with users.

| The Users page provides you with a place to display all the users added to the Advanced Job Scheduler and its associated data library. The data library assigned to a user is used when that user accesses the Advanced Job Scheduler. A data library is a library consisting of all the data files and other objects used by the Advanced Job Scheduler. Each data library is a scheduling environment. From this page, you can add a new user to the list, change the data library for a user or remove a user. The user must exist on the system before it can be added to the list. The data library specified for the (Default) user is used for any user accessing the Advanced Job Scheduler that is not found in this list.

| **Calendars**

| The Advanced Job Scheduler Properties page provides you with a place to work with scheduling calendars and holiday calendars.

| For more information, see “Setting up a scheduling calendar” on page 11 and “Setting up a holiday calendar” on page 12.

| **Scheduled jobs**

| Under Scheduled Jobs you have the option to display a list of all scheduled jobs, create a new scheduled job, define the properties related to scheduling jobs and reset all scheduled jobs. When listing scheduled jobs, job-related processes and job management functions can be performed on the scheduled jobs.

| **Scheduled job list**

| Use the scheduled job list to view and change your list of scheduled jobs.

| When listing jobs, any column can be used for sorting or filtering. This list is helpful for selecting jobs that begin with certain letters and then sorting by the next scheduled date and time. Not only can you add new jobs and change existing jobs, there are options for managing your scheduled jobs. You can do the following to a scheduled job:

| **Properties**

| This option displays the definition of a scheduled job. You can change and update scheduled jobs.

| **Hold/Release Schedule**

| Use this option to hold or release a scheduled job.

| **Reset Scheduled Job**

| Use this option to reschedule a job into the future based on the current date and time.

| **Activity**

| Use this option to display entries for each time the selected job has run.

| **Activity Log**

| Use this option to display the activity log for the selected job.

| **New Based On**

| Use this option to create a job based on the properties on an existing job.

| **Add Selected Job to Group.**

| This option allows you to add the selected job to a Job Group. The confirmation requires you to select a Job Group where the job is to be added. The job is added as the last job in the Job Group.

| **Permissions**

| Select this option to update the permissions of a job. If more than one job is selected, each job is updated with the specified authority.

| **Run Now**

| This option allows you to run the job immediately, at a specific time in the future or at a specific number of minutes in the future. You have the option whether to check resource dependencies.

| You can also indicate if the running of this job affects the running of its dependencies.

| **Skip Next Run**

| Using this option skips the scheduled run of the job. Using this option multiple times continues to skip the next run. To reset the job back to the original schedule, use the Reset Scheduled Job option.

| **Rename**

| Select this option to rename a job.

| **Status** This option displays the status information of a job while it is running.

| **Job Dependencies**

| This option provides a list of the predecessor and successor jobs for the selected job with the option to edit the dependencies. Job dependencies refer to predecessor and successor relationships for jobs. Predecessor jobs are jobs that must run before the successor job runs. A successor job is a job that runs after all the predecessor jobs have been processed. There can be multiple successor jobs for a single predecessor job as well as multiple predecessor jobs for a single successor job. In addition, you can specify to skip a dependent job if its predecessors and successors run on a day that the dependent job is not scheduled to run.

| **Delete** This option deletes the selected job. A confirmation is required.

| **Creating a scheduled job**

| You can schedule a job and specify the commands that are associated with the job.

| For information about creating a new scheduled job, see “Creating and scheduling a job” on page 17.

| **Scheduled Job Properties**

| This page allows you to assign the general controls used by Advanced Job Scheduler for scheduling jobs.

- | • You can specify if an Application is required for each submitted job. This option cannot be selected if there are existing jobs that do not contain an application. For more information, see “Creating and working with application controls and job controls” on page 27.
- | • You can specify whether to base periodic frequency on start time of the job. When checked, jobs that are scheduled to run periodically base the next run time on the start time. For instance, a job is to run every 30 minutes, starting at 8:00 am. (For a job to run around the clock, you would also specify 7:59 am as the ending time.) The job runs for a total of 20 minutes. With this field checked, the job would run at 8:00 am, 8:30 am, 9:00 am, and so on. If this field is not checked, the job would run at 8:00 am, 8:50 am, 9:40 am, 10:30 am, and so on.

- You can specify if you want held jobs to be reset. When this option is checked, jobs that are held and have a schedule contain a next scheduled date and time to show when the job would have run if it were not held. There is a possible performance increase for the job monitor if the box is not checked. This consideration is especially true for those jobs that are held and are scheduled to run periodically.
- You can specify if the job scheduled date and time is reset after a change. When checked, jobs are reset any time the properties of a job are displayed and the OK button is used. This behavior occurs true even if nothing was changed. When this box is not checked, the schedule of a job has to change before the job is reset. Resetting a job recalculates the next scheduled date and time for that job.
- You can specify the start time of day. The time of day that you consider starts a new day. All jobs that specify to use this time of day have their job date changed to the previous day if the time the job starts is before the Start Time of Day. For instance, the Start Time of Day is 6:00 AM and a job that uses the Start Time of Day is submitted on November 12, 2009 at 11:00 PM. If the job starts after midnight and before 6:00 AM the job date of the job date will be changed to November 12, 2009.

Job groups

Job groups are a basic job dependency of the Advanced Job Scheduler.

Jobs in a job group run in order based on a predefined sequence. If a job in the job group completes abnormally, the subsequent jobs do not run. Under Job Groups, you have the option to display a list of all job groups and to create a job group.

Job group job list

The Job Group list allows you to view and change Job Groups in the list.

When listing Job Groups, any column can be used for sorting or filtering. This list is helpful for selecting Job Groups that begin with certain letters and then sorting by the next scheduled date and time. Not only can you add new job groups and change existing Job Groups, there are options for managing your Job Groups. You can do the following to a Job Group

Open Use this option to list all the jobs within the Job Group. You can manage the jobs as well as start the Job Group at a specific job.

Properties

This option displays the definition of a Job Group. You can change the description and the schedule.

Hold/Release

Use this option to hold or release a Job Group.

New Based On

Select this option to create a Job Group based on the properties on an existing Job Group. No jobs exist in the created Job Group.

Add New Job to Group

This option allows you to create a job and add it to the Job Group. The job is added as the last job in the Job Group.

Run Now

This option allows you to run the Job Group immediately starting at the first job in the group.

Resequence Jobs in Group

Use this option to change the order of jobs in the Job Group.

Rename

Select this option to rename a Job Group.

Delete This option allows you to delete the selected Job Group and all the jobs within the Job Group. A confirmation is required.

| **Creating a job group**

| You can set up and schedule a series of jobs that run consecutively in a specified order.

| **Related tasks:**

| “Creating and scheduling a job group” on page 20

| You can set up and schedule a series of jobs that run consecutively in a specified order. Jobs within a job group require completion before the next job is submitted for processing.

| **Notification**

| Notification allows you to specify recipient properties and report distribution list properties.

| With the Advanced Job Scheduler, you have the option to send e-mail notifications when: jobs complete normally or abnormally, when jobs do not start within a specific amount of time, and when a job is waiting on an error message. E-mail messages can escalate to other recipients until escalation is stopped. You can also distribute reports automatically by e-mail or to other output queues. See Working with notification for more information.

| To enable the e-mail capabilities within the Advanced Job Scheduler, see Specifying a mail server to use for notification.

| **Related tasks:**

| “Working with notification” on page 28

| Within notification, you can perform a series of tasks. Notification allows you to specify recipient properties and report distribution list properties. In addition, you can send e-mail messages and set up an escalation list in case a recipient does not respond within a specified amount of time.

| “Specifying a mail server to use for notification” on page 13

| A mail server is required if you want to send e-mail notification messages.

| **Scheduled job activity**

| Each time a job runs a history entry of the job is stored in the Advanced Job Scheduler.

| The history entry contains pertinent information such as the last run date, start and end time, elapsed time and completion status. The Schedule Job Activity Properties allows you to change the retention of the history entries.

| **Scheduled job activity list**

| When listing scheduled job activity, you can quickly see when a job ran, its completion status and how long it ran. Any column can be used for sorting or filtering.

| This list is helpful for selecting jobs that begin with certain letters and then sorting by the last time the job ran. You can display the properties of each Scheduled Job Activity entry to see how the job was defined at the time the job ran.

| **Scheduled job activity properties**

| This page allows you to assign the retention for Scheduled Job Activity.

| Activity retention specifies how long Advanced Job Scheduler activity records are to be retained. The possible values are 1 - 999 days or occurrences. For instance, select Occurrences per job and 30 if you want to keep the last 30 Scheduled Job Activity entries for each job.

| **Activity log**

| The Activity Log lists all messages associated with the Advanced Job Scheduler processing

| The Activity Log lists can include messages for when a job was added, changed, removed, and executed.
| The Activity Log is a great way of knowing the user that added or changed a job. You can also easily see
| the error messages that caused a job to end abnormally. The Activity Log Properties allows you to change
| the retention of the log entries

| **Activity log list**

| When listing the Activity Log, you can quickly see detailed history of Advanced Job Scheduler activities.

| The Activity Log list can include such things as changes to the job schedule, job processing including
| error messages, starting or ending the Advanced Job Scheduler job monitor, and so on. Any column can
| be used for sorting or filtering. This list is helpful for selecting specific messages and then sorting by the
| time issued. You can display the properties of each entry for more information.

| **Activity log properties**

| This page allows you to assign the retention for Activity Log entries.

| Activity Log retention specifies how long Advanced Job Scheduler activity records are to be retained. The
| possible values are 1 - 999 days. For instance, enter 30 if you want to keep the last 30 days of Activity
| Log

| **Features not supported**

| While most of the features of the Advanced Job Scheduler are found on the Web interface, there are some
| features not supported this release.

| There are features that you will not find on the web interface that will be provided in a future release.
| This list is not exhaustive. These features can still be found in Advanced Job Scheduler in System i
| Navigator.

- | • Resource dependencies
- | • Active dependencies
- | • Fiscal Calendars
- | • Work Flow Manager
- | • Defining a Library List
- | • Defining Command Variables
- | • Function Permissions
- | • Option on a spooled file to Send by Advanced Job Scheduler
- | • Option on a submitted job to Distribute Reports

Advanced Job Scheduler for Wireless

Advanced Job Scheduler for Wireless is an application that allows you to access Advanced Job Scheduler on multiple Internet-accessible devices, such as an Internet-ready telephone, PDA Web browser or PC Web browser.

The wireless feature of Advanced Job Scheduler resides on your system, where Advanced Job Scheduler is installed, and allows you to access your jobs and activity, as well as send messages to recipients on your system, and stop and start the Advanced Job Scheduler monitor. Advanced Job Scheduler for Wireless allows all users to customize the settings and preferences of their own browsing experience. For instance, a user can show activity, display jobs, and customize the jobs they display.

Advanced Job Scheduler for Wireless allows you to access your jobs when you are normally unable to access a System i terminal or emulator. Connect to the Internet with your mobile device and enter the URL for the Advanced Job Scheduler for Wireless servlet. This launches a menu that gives you real-time access to Advanced Job Scheduler.

Advanced Job Scheduler for Wireless works on two types of devices. A Wireless Markup Language (WML) device is an Internet-ready cellular phone. A Hypertext Markup Language (HTML) is a PDA or PC Web browser. Throughout this topic, the different devices are referred to as WML and HTML.

Scheduling jobs with Advanced Job Scheduler

To manage the Advanced Job Scheduler, you need to install the licensed program first, and then complete the tasks to customize the Advanced Job Scheduler. Finally, the remainder of the tasks allow you to work with and manage the Advanced Job Scheduler.

Installing the Advanced Job Scheduler

The first time that you connect to your Management Central server, System i Navigator asks if you want to install the Advanced Job Scheduler. If you chose not to install at that time but want to install later, you can do so by using the Install Plug-ins feature of System i Navigator.

1. From your **System i Navigator** window, click **File** from the menu bar.
2. Select **Install Options > Install Plug-ins**.
3. Click the source system where the Advanced Job Scheduler is installed and click **OK**. Check with the system administrator if you are not sure what source system to use.
4. Enter your i5/OS® **User ID** and **Password**, and click **OK**.
5. Click **Advanced Job Scheduler** from the Plug-in selection list.
6. Click **Next** and then click **Next** again.
7. Click **Finish** to complete and exit the setup.

You have now installed the Advanced Job Scheduler.

Locate the scheduler

To locate the scheduler, follow these steps:

1. Expand **Management Central**.
2. Click **Scan Now** in response to the message that System i Navigator has detected a new component. You might see this message again when you access systems from the **My Connections** container.
3. Expand **My Connections**, select the system that has the Advanced Job Scheduler licensed program installed and then select **Work Management > Advanced Job Scheduler**.

After you have finished this preliminary work with the Advanced Job Scheduler, you are ready to set up the Advanced Job Scheduler.

Setting up the Advanced Job Scheduler

Before you start scheduling jobs, you need to configure the Advanced Job Scheduler.

Assigning the general properties

You can follow these instructions to assign the general properties used by Advanced Job Scheduler. You can specify how long to retain activity and log entries for the Advanced Job Scheduler, as well as the period that jobs are not allowed to run.

You can specify the working days that jobs processes, and whether an application is required for each scheduled job. If you have a notification product installed, you can also set up the command that is used to send a notification when a job completes or fails or you can use the Send Distribution using Job Scheduler (SNDDSTJS) command to notify a recipient.

You can specify how long to retain activity records for jobs, as well as the period that jobs are not allowed to run. You can specify the working days that jobs are allowed to process, and whether an application is required for each submitted job.

You can have a notification product installed which allows you to receive a notification (message) when a job ends. You can define the notification command that sends a notification when a job completes or fails. Or you can use the Send Distribution using Job Scheduler (SNDDSTJS) command to notify a recipient.

To set up the general properties for the Advanced Job Scheduler, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler** and click **Properties**.
3. Specify the **Activity Retention**. The activity retention is how long you want to retain the activity records for jobs. The possible values are 1 to 999 days or occurrences. Click **Days** to specify if you want to keep activity for a certain number of days, or click **Occurrences per job** if you want to keep activity for a certain number of occurrences per job.
4. Specify the **Log retention**. The log retention specifies, in days, how long you want to retain Advanced Job Scheduler log entries.
5. You can specify a **Reserved period**. Jobs do not run during this time.
6. Specify the working days from the list. If a day is selected, it is designated as a working day and can be referenced when scheduling jobs.
7. Click **Application required for scheduled job** to designate whether an application is required for each scheduled job. **Applications** are jobs that have been grouped together for processing. This cannot be selected if existing jobs do not contain an application. If you choose to have an application required for certain jobs, go to working with applications.
8. Click **Calendars** to set up the scheduling, holiday, and fiscal calendars to use, set up holiday calendar, and set up fiscal calendar.
9. Click **Base periodic frequency on start time** to base the next run time on the start time for jobs that are scheduled to run periodically. For instance, a job is to run every 30 minutes, starting at 8 a.m. (For a job to run around the clock, specify 7:59 a.m. as the ending time.) The job runs for a total of 20 minutes. With this field checked, the job runs at 8 a.m., 8:30 a.m., 9 a.m., and so on. If this field is not checked, the job runs at 8 a.m., 8:50 a.m., 9:40 a.m., 10:30 a.m., and so on.
10. Click **Reset held jobs** to continue to recalculate and display the next date and time a held job runs.
11. Specify a **Start time of day**. This is the time of day that you consider starts a new day. All jobs that are specified to use this time of day have their job date changed to the previous day if the time the job starts is before the **Start time of day** field.
12. Specify a **Job monitor user**. This field specifies the name of the user profile to use as the owner of the monitor job. All jobs that have **Current user** specified use the user profile of the monitor job. The monitor job's default user profile is QIJS.
13. In the **Notification command** field, you can specify a command. Use the Send Distribution using Job Scheduler Notification (SNDDSTJS) command supplied with the system or a command specified by your notification software. The SNDDSTJS command uses the Advanced Job Scheduler notification function. The designated recipients can receive messages for normal and abnormal completions of job scheduled entries.

Related concepts:

“General Properties” on page 3

The Advanced Job Scheduler Properties page provides you with a place to define the general properties for Advanced Job Scheduler.

Specifying permission levels

This information explains how to specify permission levels for jobs, functions of the product, and provide new job default permissions.

You can specify permission levels for jobs, functions of the product, and provide new job default permissions to be associated with each Job Control/Application. The permissions for a job allow you to

grant or deny access to the following actions: submit, manage, permission, display, copy, update, or delete. You can also grant or deny access to individual functions of the product such as Work with Schedule Calendars, Send Reports, and Add Job.

Default permission levels are transferred to new jobs when they are added. In which case, the system transfers the New Job permissions based on the application specified within the job definition. If no application is used, it transfers the *SYSTEM New Job permissions.

Specifying permission levels for functions of the product:

To specify permission levels for functions of the product, follow these steps:

1. From System i Navigator, expand **Work Management**.
2. Right-click **Advanced Job Scheduler** and click **Properties**.
3. Click **Permissions**.
4. Select a function and click **Properties**.
5. On the Function Permissions Properties window, edit the permission level as necessary. You can grant or deny access to the public or specific users.

Specifying permission levels to jobs:

To specify permission levels to jobs, follow these steps:

1. From System i Navigator, expand **Work Management**.
2. Right-click **Advanced Job Scheduler** and click **Scheduled Jobs** to list jobs.
3. Right-click the scheduled job and click **Permissions**.
4. On the Permissions Properties window, edit the permission level as necessary. You can grant or deny access to the public or specific users. In addition, you can specify submit, manage, permission, display, copy, update, or delete permissions.

Specifying default permission levels:

To specify default permission levels for new jobs associated with a Job Control/Application, follow these steps:

1. From System i Navigator, expand **Work Management**.
2. Right-click **Advanced Job Scheduler** and click **Properties**.
3. Click **Job Controls/Applications**.
4. Select a job control or application from the list and click **New Job Permissions**.
5. On the Function Permissions Properties window, edit the permission level as necessary. You can grant or deny access to the public or specific users. In addition, you can specify submit, manage, permission, display, copy, update, or delete permissions.

Setting up a scheduling calendar

These instructions show how to set up a calendar of selected days for scheduling a job or job group. This calendar can specify the dates to be used for scheduling a job, or it can be used in conjunction with other schedules.

A **scheduling calendar** is a calendar of selected days that you can use for scheduling a job or job group. You can display scheduling calendars, add a new scheduling calendar, add a new scheduling calendar based on an existing one, or remove an existing calendar, provided it is not in use by a currently scheduled job.

You can select a calendar and display its properties to make changes. When you select a calendar, the details of the calendar are displayed under Details.

To set up a scheduling calendar, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler** and click **Properties**.
3. On the General page, click **Calendars**.
4. On the Scheduling Calendars page, click **New**.
5. Specify a **Name**.
6. In the **Description** field, specify text that describes the calendar.
7. Choose a **Reference calendar** if applicable. This is a calendar that was previously set up, and its properties are applied to the new calendar as if you merged the two calendars. You do not have reference calendars if this is your first time using the Advanced Job Scheduler.
8. Select the dates that you want to include on your calendar. You must specify whether each date you have selected is for the current year or for every year in the **Selected date** field, before you can add another date to the calendar. Otherwise, any date you select is deselected when you click a different date.
9. Specify if you want certain days of the week to be included on the calendar.

Setting up a holiday calendar

These instructions show how to set up a calendar for days that you do not want to allow processing for a scheduled job. Alternate days can be specified for each exception day, or processing can be skipped completely for that day.

A **holiday calendar** is an exception calendar for days that you do not want to process an Advanced Job Scheduler job. Alternate days can be specified for each exception day that you specify in a holiday calendar. You can display holiday calendars, add a new holiday calendar, add a new holiday calendar based on an existing one, or remove an existing calendar, provided it is not in use by a currently scheduled job.

Predefined schedules can be used in holiday calendars. You can create a schedule THIRDFRI that has a frequency of the third Friday of each month. When you use THIRDFRI in a holiday calendar, you cause all jobs that use this holiday calendar to not run on the third Friday of each month. One or more schedules can be used in a holiday calendar. Dates that are generated by the schedule are shown on the calendar with a black border.

You can select a calendar and display its properties to make changes. When you select a calendar, the details of the calendar are displayed under Details.

Setting up a holiday calendar:

To set up a holiday calendar, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler** and select **Properties**.
3. On the General page, click **Calendars**.
4. Click the **Holiday Calendars** tab.
5. Click **New** and type a name for the calendar.
6. In the **Description** field, specify text to describe the calendar.
7. Choose a **Reference calendar** if applicable. This is a calendar that was previously set up, and its properties are applied to the new calendar as if you merged the two calendars. You do not have reference calendars if this is your first time using the Advanced Job Scheduler.
8. Select the dates that you want to include on your calendar. You must specify whether each date you have selected is for the current year or for every year in the **Selected date** field, before you can add another date to the calendar. Otherwise, any date you select is deselected when you click a different date.

9. Select an alternate day for the job to run. You can choose the previous working day, next working day, a specific date or not at all. To select a specific date, click **Specific alternate date**, and type the date.
10. Select specific days of the week to be included on the calendar.

Adding a schedule to a holiday calendar:

To add a holiday calendar to a scheduled job, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler** and click **Properties**.
3. On the **General** page, click **Calendars**.
4. On the Holiday calendar page, select the holiday calendar and click **Properties**.
5. From the lower left hand corner of the tab, click **Schedules**.
6. Select the appropriate schedule and click **Add**.
7. To change the **Alternate day**, right-click the schedule from the **Selected Schedules** list and click the correct **Alternate Day**.

Setting up a fiscal calendar

If you want to divide the fiscal year into periods other than months, follow these steps to set up a fiscal calendar of selected days for scheduling a job or job group.

A *fiscal calendar* is a calendar of selected days that you can use for scheduling a job or job group. Use a fiscal calendar to define a fiscal calendar that is unique to your business. You can specify the start and end dates for each period in the fiscal year.

To set up a fiscal calendar, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler** and click **Properties**.
3. On the General window, click **Calendars**.
4. On the Fiscal Calendars page, click **New**.
5. Specify a **Name**.
6. In the **Description** field, type in text to describe the calendar.
7. Click **New** on the Fiscal Calendar Properties window to create a new entry.
8. Select a period and specify the start and end dates. You can specify up to 13 periods.
9. Click **OK** to save the fiscal calendar entry.
10. Repeat steps 7 through 9 as necessary.

Specifying a mail server to use for notification

A mail server is required if you want to send e-mail notification messages.

To set up the notification properties, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Expand **Advanced Job Scheduler**.
3. Right-click **Notification** and click **Properties**.
4. Specify how many days to store messages. Specify a number in the **Message retention** field.
5. Specify an **Outgoing mail server (SMTP)**. For example, SMTP.yourserver.com.
6. Specify a **Port**. The default port number is 25.
7. Specify an e-mail address in the **Reply address** field. All reply messages are sent to this address.
8. Select **Yes** or **No** in the **Log send activity** field. Send activity is used for problem determination.

9. Specify the **Number of banner pages** allowed. This is used in Report Distribution.
10. Click **OK** to save the notification properties.

Related concepts:

“Notification” on page 7

Notification allows you to specify recipient properties and report distribution list properties.

Related tasks:

“Creating and scheduling a job” on page 17

Scheduled jobs can be a single job, a member of a job group or an application. You can schedule a batch job to be submitted every week, every month, at a regular interval and so on, based on the schedule you specify. You can schedule jobs with user-defined calendars, holiday exception calendars and fiscal year calendars.

Setting up multiple scheduling environments

You can set up multiple scheduling environments on the same system. The original data library can act as the active data library and the copied data library can be used for testing. Thus you have two scheduling environments, one for testing and one that is the actual. In addition, Advanced Job Scheduler product data can be replicated from a production system to a backup system. During a failover to the backup system, the production environment can be started for submitting its scheduled jobs.

There are several reasons why you might want to set up multiple scheduling environments. You might want to have a production version and a test version of the product running at the same time. This type of environment allows you to test various job schedules before actually using them in the data library on the production system. Or you might have a system that is the backup for one or more other systems in which you can use a data-mirroring product to replicate the Advanced Job Scheduler data library (QUSRIJS) from the source system into a library named differently. In this case, the data library is active until there is a problem with the source system.

A scheduling environment is a duplicate of the QUSRIJS library except with different data. For instance, you can have another data library named QUSRIJSTST with all the objects as QUSRIJS. Each are considered data libraries.

To set up a multiple scheduling environment, follow these steps:

1. Add a data library to Advanced Job Scheduler
The Advanced Job Scheduler contains a list of data libraries (scheduling environments). To add a data library to the list, the data library must exist or you can select to create a new data library. The following are three additional ways that you can obtain a data library:
 - Save the data library from a system and restore it onto the production system.
 - Duplicate the data library on the current system using the Copy Library (CPYLIB) command.
 - Mirror a data library from another system. These systems should be running the same version release level.
- Note:** The copied, restored, or mirrored data library must use a different name than the original system.
2. Assign data libraries to users
After you obtain a test data library, add the data library to the Advanced Job Scheduler's properties and assign users to the data library. Therefore, when a user uses the Advanced Job Scheduler, the changes that the user makes are stored in the data library assigned to the user.
3. Copy jobs from test data library to actual data library (optional)
If you are using a data library for testing purposes, you might want to copy the jobs from the test data library to the actual data library in use. You only need to do this if you restored or copied a data library in step 1 and you have jobs that you want to move to the actual data library in use. You do not need to do this if you mirrored a data library from the actual system to a test system.

To copy jobs from one system's data library to another, use the Copy Job using Job Scheduler (CPYJOBS) command. For more information about the specific parameters for this command, see the online help.

Related concepts:

“Data libraries” on page 3

The Advanced Job Scheduler Properties page provides you with a place to work with data libraries.

Assigning data libraries to users

The data library stores any changes that the user does using the Advanced Job Scheduler. A data library contains all the objects found in the QUSRIJS library. You can have an unlimited number of data libraries.

To assign data libraries to users, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler** and click **Properties**.
3. On the Data Libraries window, click **Add** to specify a data library. The data libraries that are listed are available to all users on the system.
4. On the Users window, click **Add** to add new users.
5. Specify a name.
6. Select a data library.
7. Click **OK** to add the user.
8. Click **Properties** to change the data library assigned to a user.

With data libraries, you can set up multiple scheduling environments.

Setting up systems and groups

The Systems and Groups page allows you to add, remove, and change existing IP addresses and other information for IBM i and non-IBM i systems used by the Advanced Job Scheduler.

There are various system types that can be defined for a system such as IBM i, AIX®, UNIX, and Windows. System groups can be defined with one or more non-IBM i systems. In order for a scheduled job to process commands on a non-IBM i system, you must check the **Run as remote command** box below the list of commands and select the appropriate single system or system group on the **Batch Information** tab of the job. To run a scheduled job on a remote IBM i or LPAR, do not check the **Run as remote command** box and select the appropriate single system on the **Batch Information** tab. Advanced Job Scheduler must be installed on the remote IBM i.

The Run Remote Command (RUNRMTCMD) command is being used to issue the commands on the non-IBM i systems. The RUNRMTCMD command allows server users to run a command on a remote system that is running the target portion of this function. The target portion of this function can be a remote executing daemon (rexecd). The Incoming Remote Command (IRC) service of the IBM i Access for Windows is recommended on the remote systems to process the commands.

Attention: Commands that are processed on non-IBM i systems might report that the command ended normally even though the command did not complete normally. The main reason is that the rexecd being used does not return the appropriate error code information to the RUNRMTCMD. The process produces a spooled file with information about the process that helps to determine whether the command completed normally. The spooled file cannot be used by the scheduler because of translation issues and inconsistencies.

| **Related concepts:**

| “Setting up systems and groups” on page 4
| The Systems and Groups page allows you to add, remove, and change existing IP addresses and other information for IBM i and non-IBM i systems used by the Advanced Job Scheduler.

| **Adding a new system or system group:**

| Follow this procedure to add a new system or system group.

| To add a new system or system group, perform these steps.

- | 1. Access the Advanced Job Scheduler Properties and select the **Systems and Groups** tab.
- | 2. Existing systems and groups for Advanced Job Scheduler are listed. To add a new entry, select **New** and select the entry type.
- | 3. Select Single system type or System group.
- | 4. For a single system that is an IBM i, enter the following information: System name and Network ID, IP address, Description, and select the Communication type. The system name and network identifier are used in the definition of a scheduled job to determine the IP address of the remote system the job is to run on. After defining the target system on the source machine, define the source on the target machine. Use the same Communication type for both. For more information about the Communication type, see “Communication type.”
- | 5. For a single system that is non-IBM i, enter the following information: System name, IP address, Description, User, and Password. The User and Password are optional and are related to commands that are to be processed on the remote system and to the remote executing daemon (rexecd) running on the remote system.
- | 6. For a system group, enter the following information: Group name, Description, and select the systems to be associated with the group.
- | 7. Click OK when you are finished.

| *Communication type:*

| Describes how to communicate with a target system.

| When a job is ready to run on a remote IBM i, Advanced Job Scheduler uses the Communication type to determine how to communicate with the target system. The source system issues the job submission information and commands to the target system and the target system issues completion and log information back to the source system.

| Choose the communication type that is best for your situation.

| **Use Distributed Data Management (DDM)**

| All the communication between the source and target systems uses DDM over TCP/IP. A consideration for using DDM is that the Password required (PWDRQD) parameter on the Change DDM TCP/IP Attributes (CHGDDMTCPA) command must be set to *NO. This consideration might be a security issue that you are not allowed to change. If this type is used, the DDM server must be started manually in the start-up process. The DDM server can be started automatically by setting the Autostart server (AUTOSTART) parameter on the Change DDM TCP/IP Attributes (CHGDDMTCPA) command to *YES.

| **Use product TCP/IP server**

| All the communication between the source and target systems uses the TCP/IP server provided by Advanced Job Scheduler. This communication type eliminates the DDM password requirement using DDM. The server job is QIJSRVZ. It can be found in the QSYSWRK subsystem and is automatically started when the product is started using the Start Job Scheduler (STRJS) command. Job QIJSXRMTT is

| also used in the remote job process and can be found in the QSYSWRK and QUSRWRK subsystems. The default port used is 8250.

| This example shows how an IBM i target system could be defined on system PROD.

| **System name**

| TEST

| **Network ID**

| APPN

| **IP address**

| 192.168.200.201

| **Communication type**

| Use product TCP/IP server

| Source system defined on system TEST.

| **System name**

| PROD

| **Network ID**

| APPN

| **IP address**

| 192.168.200.247

| **Communication type**

| Use product TCP/IP server

| **Managing the Advanced Job Scheduler**

This information shows how to schedule jobs using the Advanced Job Scheduler.

Creating and scheduling a job

Scheduled jobs can be a single job, a member of a job group or an application. You can schedule a batch job to be submitted every week, every month, at a regular interval and so on, based on the schedule you specify. You can schedule jobs with user-defined calendars, holiday exception calendars and fiscal year calendars.

The scheduled job definition contains all of the information needed to submit the job, including the commands to process, the job description and user profile under which the job is run, the job queue to which the job is submitted, the message queue to which messages are sent and so on.

To create and schedule a new scheduled job, follow one of the following two steps:

1. From System i Navigator, expand **Work Management > Advanced Job Scheduler**. Right-click **Scheduled Jobs** and select **New Scheduled Job**.
2. From Advanced Job Scheduler on the Web, expand **Work Management > Advanced Job Scheduler** and select **New Scheduled Job**.

The following pages must be completed.

General Page

1. Enter the Job name in the Job name field. The maximum length for the name is 10 characters. All new jobs names must be unique.
2. Enter a brief description of the new job. This field is optional.
3. Select whether you want the job to be a scheduled job, non-scheduled job or an alternate job. NOTE: If you decide to create a non-scheduled job, the **Schedule** page will be omitted.
4. Add commands to the command list:

- a. Select **Add** beside the Command box.
 - b. Enter a command string. Select **Prompt** for assistance in entering a command.
 - c. Add message identifiers that will be associated with this command. When the job runs and an error message is issued matching one of the messages entered for the selected command, the job will log the error but continue processing with the next command in the list.
 - d. Select **OK** to add the command.
5. Enter the application that is associated with the new job in the space provided. You may select an application from a list of existing applications. For more information, see “Creating and working with application controls and job controls” on page 27.
 6. Enter the name of the report distribution list that the job will use when distributing spooled files to user's output queues. The spooled files to distribute are generated by the scheduled job. You may select a report distribution list from existing lists.

Schedule Page

1. There are two ways to specify the schedule for a scheduled job. You can select a pre-defined schedule to be associated with the job or define the schedule within the job. Even if a pre-defined schedule is used you are required to enter the scheduled times. The job can be defined to run up to 10 times per scheduled day or you may schedule the job to run every so many minutes. To define the schedule within the job, continue with the following steps.
2. To select specific dates for the schedule, select **On selected dates** under the **Frequency** parameter in the **Dates to run** box. To add specific dates, click the dates you want to include on the calendar. Up to 30 dates can be selected. All of the dates you have selected are summarized in the **Details** box. The date range of the calendar is automatically filled in for you below the calendar.
3. To select days of the week for the schedule, select **Weekly** under the **Frequency** parameter in the **Dates to run** box. There are two ways to select days of the week.
 - a. You may select the day of the week to select that specific day of the week. For example, if you want all Mondays to be included for that month, select any Monday shown and all of the Mondays will be subsequently highlighted and added to the calendar.
 - b. Alternatively, under the **Details** box, select the day of the week you want to add to the calendar.

For example, if you want all Fridays to be included on the calendar, simply select **Friday** under **Details**. All Fridays will be highlighted and automatically added to the calendar. If you need to remove any dates from the calendar, deselect the dates to remove.

4. To select certain days of the month for the schedule, select **Monthly** under the **Frequency** parameter in the **Dates to run** box. Select and highlight the days of the month that you want to include in the calendar. The days will be summarized in the **Details** box. For example, if you want the first day of every month to be included in your calendar, select the first of the current month. This day will be carried over to every month. Day 1 of every month will be displayed in the **Details** box. You may add up to 30 days. You may also specify if you want the first working day, last working day, first, second, third, fourth, fifth or last day of each month to be included on the schedule for the job.
5. To select certain dates of each year for the schedule, select **Yearly** under the **Frequency** parameter in the **Dates to run** box. Select and highlight the specific dates that you want to include in the calendar. The date carries over to every year. The dates will be summarized in the **Details** box. For example, if you select September 1, this date will be scheduled for every year. 09/01 every year will be displayed in the **Details** box. You may add up to 30 dates.

Batch Information Page

Specify the information that will be used when submitting a new scheduled job in batch.

Notification Page

The Notification page provides you with a place to specify how to notify your users the status of

a job. You can choose to send a completion message to a message queue. You must specify the message queue and library to which you want to send the message. Click Browse if you need to select the message queue from a list of existing queues. With the use of email notification, you may send a message regarding the successful or unsuccessful completion of the job, if the job has been submitted but does not start within a certain time limit or if the job is waiting on an error message. You must specify both the recipient of the message and the message itself.

Note: Before you can send an e-mail message, you need to specify a mail server to use for notification. See “Specifying a mail server to use for notification” on page 13 for more information.

Problem Recovery Page

1. Enter the maximum time in minutes that the job can run. You can enter a number between 1 and 9999. Specify the action that you want to take after the maximum run time has expired. The job can be ended or the system operator notified that the maximum run time has expired.
2. Select **Use alternate job if job fails** if you decide that you want to use an alternate job if the current one fails. Alternate jobs are used with jobs that do not process successfully. When Advanced Job Scheduler detects an unsuccessful job completion, it checks to see if there is an alternate job associated with the unsuccessful job. If there is, Advanced Job Scheduler processes the alternate job. Jobs are not required to have alternate jobs.
3. Enter the recovery action to be taken if the job cannot be submitted at the designated time because the system is powered down or in restricted state. The action specified on the parameter occurs at the next IPL or when the Advanced Job Scheduler system becomes active. Jobs submitted after an IPL or when the system comes out of restricted state are submitted in the same order that they would have been had the jobs been submitted at the times specified in the job schedule entries. If multiple occurrences of a recurring job are missed, the job is submitted only once. The first missed occurrence of the job is calculated from the current date.
4. Enter the reply that you want to assign to inquiry messages. You can specify that no change is made in the way that predefined messages are answered, that all inquiry messages require a reply, that a default reply is issued, or that the system reply list is selected for a matching reply as each predefined inquiry message is sent. Note: The product default when installed is to use the default reply.
5. Advanced Job Scheduler allows for extensive message logging. Enter the message level in the **Level** box, or use the drop-down arrow to bring up a list of possible values.
6. Enter the message severity in the **Severity** box, or use the drop down arrow to bring up a list of possible values.
7. Enter the message text in the **Text** box, or use the drop down arrow to bring up a list of possible values.

Local Data Area Page

The Local Data Area (LDA) page allows you to change the stored LDA for this job and assign variables to specific positions of the LDA. The LDA values that are displayed here are the LDA values that the job will use when submitted from Advanced Job Scheduler.

Documentation Page

Specify any text documentation for the scheduled job. For example, specify information for restarting the job, who is responsible, or who to contact during failures.

Related tasks:

“Creating and working with application controls and job controls” on page 27

Applications are jobs that are grouped for processing. They are broader than job groups and do not necessarily process sequentially. Jobs in applications can process simultaneously and one job does not need to wait for another to process. All jobs within the application can be worked with and can have their own set of job defaults. Job controls are the defaults assigned to a job as you add it to the job scheduler as well as defaults used when the job is submitted.

“Specifying a mail server to use for notification” on page 13

A mail server is required if you want to send e-mail notification messages.

Creating and scheduling a job group

You can set up and schedule a series of jobs that run consecutively in a specified order. Jobs within a job group require completion before the next job is submitted for processing.

Job groups are jobs that are grouped together to run consecutively in the order specified. A normal completion is required for each job in the group before the next job in the group is submitted for processing. If any job in the group does not complete normally, the processing stops for that group.

To create and schedule a new job group, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Click **Advanced Job Scheduler**.
3. Right-click **Job Groups** and click **New Job Group**.

Refer to the online help for more information as you fill in details for the new job group.

Related concepts:

“Creating a job group” on page 7

You can set up and schedule a series of jobs that run consecutively in a specified order.

Predefined schedules

You can create schedules that contain information needed to schedule a job or calculate exception dates within a holiday calendar.

For instance, you can create an ENDOFWEEK schedule that contains the day of the week to run, along with any additional calendars. The ENDOFWEEK schedule can then be used by all the jobs that match that scheduling frequency. You can access this feature only through System i Navigator.

You can use those same predefined schedules that are used in a job with your holiday calendars. You can create a schedule THIRDFRI that has a frequency of the third Friday of each month. When you use THIRDFRI in a holiday calendar, you cause all jobs that use this holiday calendar to not run on the third Friday of each month. You can use one or more schedules in a holiday calendar. Dates that are generated by the schedule is shown on the calendar with a black border.

Related concepts:

“Schedules” on page 3

The Advanced Job Scheduler Properties page provides you with a place to work with predefined schedules.

Setting up a predefined schedule:

To set up a predefined schedule, follow these steps.

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler** and click **Properties**.
3. Click the **Schedules** tab.
4. Click **New** and type a name for the schedule.

5. Type a description for the schedule.
6. Select the frequency and dates that you want to include in your schedule, as well as any additional calendars.

Refer to the online help for more information as you fill in details for the new schedule.

Adding a schedule to a scheduled job:

To add a schedule to a scheduled job, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler**.
3. Click **Scheduled Jobs** to list jobs.
4. Right-click the scheduled job and click **Properties**.
5. Click the **Schedule** tab.
6. From the upper right hand corner of the tab, select the appropriate Schedule option.

Adding a schedule to a holiday calendar:

A holiday calendar is an exception calendar for days that you do not want to process an Advanced Job Scheduler job. Alternate days can be specified for each exception day that you specify in a holiday calendar.

To add a schedule to a holiday calendar, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler** and click **Properties**.
3. On the **General** page, click **Holiday Calendars**.
4. On the Holiday Calendars page, select the holiday calendar and click **Properties**.
5. From the lower left hand corner of the tab, click **Schedules**.
6. Select the appropriate schedule and click **Add**.
7. To change the **Alternate day**, right-click the schedule from the **Selected Schedules** list and click the correct **Alternate Day**.

Refer to the online help for more information.

Creating a temporary scheduled job

At times it might be necessary to run a scheduled job now or in the future in addition to its normal schedule. Use the Submit Job using Job Scheduler (SBMJOBJS) command, option 7 from Work with Jobs display, or the **Run** option from System i Navigator. It might also be necessary to process only a portion of the commands in the command list when setting up this special run.

The SBJJOBJS command allows you to specify the Starting and Ending command sequences. For instance, JOBA has 5 commands, sequences 10 through 50. You can specify on the SBJJOBJS command to start with sequence 20 and end with sequence 40. This bypasses sequence 10 and 50.

System i Navigator allows you to select a starting command within the command list and an ending command.

To run a special version of a scheduled job with System i Navigator, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler**.
3. Click **Scheduled Jobs** to list jobs.
4. Right-click the scheduled job and click **Run**.

5. Specify whether to run the job now or in the future.
6. Select the starting and ending commands.

Refer to the online help for more information as you fill in details for the new job.

Scheduling job dependencies

The Advanced Job Scheduler allows you to set up dependencies that reflect how jobs are processed in your environment. Dependencies determine when a job or group of jobs can run. You can select to have all dependencies met before a job can run, or you can have at least one dependency met before the job can run.

Dependencies include the following:

- **Job dependencies**

Job dependencies refer to predecessor and successor relationships for jobs. Predecessor jobs are those that must run before the successor job runs. A successor job is a job that runs after all the predecessor jobs have been processed. There can be multiple successor jobs for a single predecessor job as well as multiple predecessor jobs for a single successor job. In addition, you can specify that a dependent job be skipped if its predecessors and successors run on a day that the dependent job is not scheduled to run.

- **Active dependencies**

Active dependencies are lists of jobs that cannot be active when the selected job is to be submitted. If any of the jobs are active, the Advanced Job Scheduler does not let the specified job run. The selected job is delayed until all the jobs in the list are inactive.

- **Resource dependencies**

Resource dependencies are based on several things. Each type that follows describes the areas that are checked. Following are the types of resource dependencies:

File The job is dependent on the existence or non-existence of a file and whether it meets the specified allocation level to be processed. It can also check whether records are present before the job is processed. For instance, JOBA can be set up so that it only runs when file ABC exists, and the file can be allocated exclusively and if records are present in the file.

Object

The job is dependent on the existence or non-existence of a QSYS type object and whether it meets the specified allocation level to be processed. For instance, JOBA can be set up so that it only runs when data area XYZ exists. The job can also be dependent on the existence or non-existence of an object found in the integrated file system. If the dependency is based on any object in the path, end the integrated file system path with a forward slash '/'.

Hardware configuration

The job is dependent on the existence or non-existence of a hardware configuration and its status to be processed. For instance, JOBA can be set up so that it only runs when device TAP01 exists and has a status of Available.

Network file

The job is dependent on the status of a network file in order to be processed.

Subsystem

The job is dependent on the status of a subsystem in order to be processed.

To work with job dependencies, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Expand **Advanced Job Scheduler**.
3. Click **Scheduled Jobs**.
4. Right-click the **Job Name** whose dependencies you want to work with.

5. Select one of the following: **Job Dependencies, Active Dependencies or Resource Dependencies.**
Refer to the online help for more information.

The Work Flow Manager

The Work Flow Manager allows you define units of work that consist of automated or manual steps. These units of work can then be scheduled or run interactively. The Work Flow Manager is located in the Advanced Job Scheduler container in the System i Navigator interface.

Each step within the work flow can have one or more predecessor Advanced Job Scheduler jobs and one or more successor Advanced Job Scheduler jobs. When a work flow starts, the first step is flagged to run. When it completes, the next step is flagged to run, and so on.

The following are some additional considerations when using the Work Flow Manager:

- You can manually start a work flow at any step. When you do so, you bypass all previous steps in the work flow.
- Automatic steps complete after all prior steps have completed. This includes all predecessor Advanced Job Scheduler jobs.
- After a step completes, the successor Advanced Job Scheduler jobs are flagged to run.
- Manual steps can complete in any sequence as long as the step's predecessor jobs have finished.
- You can mark completed manual steps as not complete and run them again as long as there are no subsequent incomplete automatic steps.
- You can cause a step to wait until the job completes before notifying of the step's completion by specifying predecessor jobs that are the same as the successor jobs of the previous step.
- You can notify other users when a particular step starts, stops, did not start by a specific time, or is taking too long. For example you can notify a user who is responsible for a particular manual step that the previous automated steps have completed.

When you use work flows, the activity log displays when the work flow started, the steps that were run, the status of automated steps (success or fail), when the work flow ended, and the final status of the work flow.

Table 2. Work Flow Example

Work Flow	PAYROLL
Scheduled	Every Friday at 1 p.m.
Notification	Clerk - Payroll work flow has started
Step 1	Automatic - Specifies a successor job to initialize payroll files
Step 2	Automatic: <ul style="list-style-type: none"> • Specifies the successor job from step 1 as a predecessor job for this step • Notifies Clerk that timecards can be entered
Step 3	Manual: <ul style="list-style-type: none"> • Clerk completes after timecards are entered • Specifies a successor job to process timecard files and print timecard report • Notifies Supervisor if step is not completed within 120 minutes
Step 4	Automatic: <ul style="list-style-type: none"> • Specifies successor job from previous step as a predecessor job • No Successor jobs • Notifies Clerk to check timecard report
Step 5	Manual: <ul style="list-style-type: none"> • Clerk completes after checking reports • Specifies a successor job to process payroll

Table 2. Work Flow Example (continued)

Work Flow	PAYROLL
Step 6	Automatic: <ul style="list-style-type: none"> • Specifies the successor job from previous step as a predecessor job • No Successor jobs • Notifies Clerk and Supervisor that payroll has completed

In this example the work flow PAYROLL starts every Friday at 1:00 p.m. A notification is sent to the Clerk that the work flow has started.

Because Step 1 is automatic and does not have any predecessor jobs, it flags the successor job that initializes the payroll files to run and then complete. Step 2 has the successor job for Step 1 as its predecessor. Step 2 waits for the job that initializes the payroll files to complete. After it has completed, Step 2 notifies the Clerk that he can enter timecards. There are no successor jobs to flag to run.

The Clerk manually completes Step 3 after all of the timecards are entered. The successor job that processes the timecard file and prints a timecard report is flagged to run. As a precaution, the Supervisor is notified if the step is not completed within 120 minutes. Because the predecessor job for Step 4 is the successor for Step 3, Step 4 waits until the job that processes the timecard file and prints a timecard report has completed.

After the job completes the Clerk is notified that the timecard report can be checked. There are no successor jobs to flag to run. After the timecard report is checked, the Clerk manually completes Step 5. The successor job that processes the payroll and produces the checks is flagged to run.

Because the predecessor job for Step 6 is the successor for Step 5, Step 6 waits until the job that processes the payroll and produces the checks has completed. After the job completes, it notifies the Clerk and Supervisor that Payroll has completed. The checks can now be printed and distributed.

For more detailed information about the Work Flow Manager, see the online help.

Creating a new work flow:

When you create a new work flow, you need to specify how the work flow is started, its maximum process time, the task steps and their run sequence, scheduling, notification and documentation details.

To create a new work flow, you must complete the following steps:

1. From System i Navigator, expand **My Connections** > *your system* > **Work Management** > **Advanced Job Scheduler**.
2. Right-click **Work Flow Manager** and select **New Work Flow**. The New Work Flow window is displayed.

For more information about how to complete the New Work Flow window, see the online help.

Once you have set up your work flow, you can manage the work flow by right-clicking the work flow name and clicking **Work Flow Status**.

Starting a work flow:

When you start a work flow, you can choose whether you want the work flow to start on the first sequence or on a specific sequence.

To start a work flow, do the following steps:

1. From System i Navigator, expand **Work Management** > **Advanced Job Scheduler** > **Work Flow Manager**, right-click a work flow, and select **Start**. The Start Work Flow window is displayed.
2. Select if you want the work flow to start on the first sequence or on a specific sequence. If you select to start at a sequence other than the first, all of the prior steps are marked as completed.

For more information about the Start Work Flow window, see the online help.

Working with work flows:

You can control and monitor the work flow as it runs by using the Work Flow Status window.

You can access the Work Flow Status window by expanding **My Connections** > *your system* > **Work Management** > **Advanced Job Scheduler** > **Work Flow Manager**. Right-click a work flow and select **Status**.

- The General window shows you the current status of the work flow.
- The Steps window provides you with a list of all steps currently defined to the work flow.
You can see whether a step has been defined to be either automated or manual and when the step has started and ended.
 - To mark a manual step as complete, select the correct step and check the **Complete** box.
 - Manual steps can be marked completed in any order if all of the predecessor Advanced Job Scheduler jobs for the step have completed.
 - Manual steps can be marked as not completed if there are no Automatic steps completed further in the list.
 - A work flow can be started manually at any step. This bypasses all previous steps.To refresh the list, click **Refresh**.
- The Documentation window shows you the documentation text for the work flow.

Monitoring job activity for the Advanced Job Scheduler

You can use the Advanced Job Scheduler to view the history or status of a job or a job group. You can also set up the activity retention, which is how long you want to retain the activity records for a job.

Scheduled job activity:

The scheduled job activity allows you to specify how long the Advanced Job Scheduler activity records are to be retained. The possible values are 1 to 999 days or occurrences. You can specify to keep activity for a certain number of days, or for a certain number of occurrences per job.

The following details about a scheduled job are displayed:

- Name The name of the scheduled job.
- Group The name of the job group for the job.
- Sequence The sequence number of the job within the group, if the job is in a job group.
- Completion Status The status of the job.
- Started When the job started running.
- Ended When the job ended.
- Elapsed Time The amount of time in hours and minutes the job took to process.

Specifying the activity retention:

These steps show how to specify the activity retention.

1. Expand **Work Management** from your System i Navigator window.
2. Expand **Advanced Job Scheduler**.

3. Right-click **Scheduled Job Activity** and click **Properties**.

Viewing the scheduled job activity details:

These steps show how to view the scheduled job activity details.

1. Expand **Work Management** from your System i Navigator window.
2. Expand **Advanced Job Scheduler**.
3. Double-click **Scheduled Job Activity**.

Viewing the scheduled job activity for a specific job:

These steps show how to view the scheduled job activity for a specific job.

1. Expand **Work Management** from your System i Navigator window.
2. Expand **Advanced Job Scheduler**.
3. Click **Scheduled jobs**.
4. Right-click the **Job Name** whose activity you want to display and click **Activity**.

Viewing the activity log details:

The activity log displays activity within the scheduler such as a job added, changed, or submitted. Security violations, sequences processed by a scheduled job, and any errors received are displayed. The dates and times for the previous activities are also displayed.

To view detailed message information, double-click a date and time. To view the activity log details, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Expand **Advanced Job Scheduler**.
3. Click **Activity Log**. The current day's entries are shown. To change the selection criteria, select **Include** from the Options menu.

Viewing the activity log for a specific job:

These steps show how to view the activity log for a specific job.

1. Expand **Work Management** from your System i Navigator window.
2. Expand **Advanced Job Scheduler**.
3. Click **Scheduled jobs**.
4. Right-click the **Job Name** whose activity log you want to display and click **Activity log**.

You can also use the **Last Run** page of a job's properties to view the progress of a job. Specify the Set Step using Job Scheduler (SETSTPJS) command before or after a step in the CL program along with a description that states the progress of the job. When the job reaches the SETSTPJS command in the program, the associated description is displayed in the Last Run page and on your wireless device.

Monitoring for messages with Advanced Job Scheduler

Each command in the command list of a job can have message identifiers that are used for monitoring. When the job runs and an error message is issued that matches one of the messages entered for the selected command, the job logs the error but continues processing with the next command in the list.

If zeros are specified in either two or all four of the rightmost positions, such as ppm00, a generic message identifier is specified. For example, if CPF0000 is specified, all the CPF messages are monitored.

To add message identifiers to a command, follow these steps:

1. Expand **Work Management** from your System i Navigator window.

2. Right-click **Advanced Job Scheduler**.
3. Click **Scheduled Jobs** to list jobs.
4. Right-click the scheduled job and click **Properties**.
5. Select the command from the list and click **Properties**.
6. Click **Messages**.
7. Enter the message identifiers to monitor and click **Add**.

Creating and working with local data area

A local data area is a portion of space that is allocated for a job. Not all jobs use their local data area but some do. Each command within a job has access to the job's local data area. You might want to use a local data area if you are scheduling a job that previously required you to manually specify additional parameters. Use the local data area to specify the additional parameters so you do not need to manually specify them each time the job starts.

To specify local data area information for a scheduled job, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Expand **Advanced Job Scheduler > Scheduled Jobs**.
3. Right-click a job and click **Properties**.
4. Edit the Local Data Area window as necessary.

Refer to the online help for more information as you fill in details for the local data area.

Creating and working with application controls and job controls

Applications are jobs that are grouped for processing. They are broader than job groups and do not necessarily process sequentially. Jobs in applications can process simultaneously and one job does not need to wait for another to process. All jobs within the application can be worked with and can have their own set of job defaults. Job controls are the defaults assigned to a job as you add it to the job scheduler as well as defaults used when the job is submitted.

Applications are jobs that have been grouped together for processing. For example, you might have a series of jobs that you use for payroll that you want to group together for an accounting process.

Job Controls are the defaults assigned to a job as you add it to the job scheduler as well as defaults used when the job is submitted. Job control defaults include such things as calendar, holiday calendar, job queue, job description and so on.

You can display all the existing applications or job controls on your system. You can add a new application control or a job control, add a new application controls or job controls based on an existing one, or remove an application control or a job control. You can also select an application or job control and display its properties to make changes.

To create a new application/job control, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler** and click **Properties**.
3. Click the **Applications/Job Controls** tab.
4. Click **New** and type a name for the application.
5. Type a description for the application.
6. Choose the contacts for the application. Contacts are the names of users who are contacted if you have a problem with a job within the application. You can specify up to 5 contacts per application. You can also choose to add or remove contacts from the contact list.
7. You can type additional information to help you identify the application. The information is associated with the new application. This information might be useful if any problems occur.

Related tasks:

“Creating and scheduling a job” on page 17

Scheduled jobs can be a single job, a member of a job group or an application. You can schedule a batch job to be submitted every week, every month, at a regular interval and so on, based on the schedule you specify. You can schedule jobs with user-defined calendars, holiday exception calendars and fiscal year calendars.

Working with notification

Within notification, you can perform a series of tasks. Notification allows you to specify recipient properties and report distribution list properties. In addition, you can send e-mail messages and set up an escalation list in case a recipient does not respond within a specified amount of time.

Before you can send an e-mail message, you need to specify a mail server to use for notification.

The following are highlights of the notification function of Advanced Job Scheduler:

Recipient

When scheduling a job, you can specify whether to send notification messages to specified recipients. You can send a notification message if a job fails, completes successfully, or does not start within a specified time limit. For each specified recipient, you need to define the recipient's properties. You can access the recipient's properties by selecting **Advanced Job Scheduler > Notification > Recipients**, and then select a recipient from the list of recipients.

Report distribution list

Use a report distribution list to specify a list of spooled files that are eligible for distribution. Each spooled file produced by a job is checked to see if a match exists within the spooled file list. If so, the recipients associated with that spooled file receives a copy of the spooled file via e-mail, a duplicate of the spooled file in their output queue, or both. You can access report distribution lists by selecting **Advanced Job Scheduler > Notification > Report distribution list**.

Output Queue Monitor

An Output Queue Monitor monitors for any spooled file created in its selected output queue. Once a spooled file has been created, the spooled file is checked against the spooled file entries within the Report distribution list assigned to the Output Queue Monitor. If a match is found, the spool file is distributed to one or more output queues, one or more e-mail addresses, or both. The distribution is based on the definition of the list.

Output queue monitor considerations:

1. Data queue QIJSOQM in library QUSRIJS is associated with the output queue. When adding a new monitor, an error occurs if a different data queue is already associated with the output queue.
2. For an Output Queue Monitor to distribute spooled files, the main job monitor for the data library that contains the Output Queue Monitor must be active.
3. The spooled file must be created with a Ready status in order for the monitor to attempt distribution.
4. Releasing a held spooled file triggers the data queue and possibly cause the spooled file to be distributed.
5. It is possible to monitor the same output queue multiple times. It is also possible for one monitor to remove the spooled file before the other monitor can distribute it.
6. Spooled files with graphics cannot be distributed.

E-mail You can send an e-mail message to any recipient that is defined in the list of recipients as well as specific e-mail addresses. The recipient's properties must specify an e-mail address to send the message to. When sending an e-mail message, you can attach a spooled file. The spooled file can be sent in PDF format. In addition, you can specify an escalation list to use if the intended recipient does not respond within a specified period of time.

Related concepts:

“Notification” on page 7

Notification allows you to specify recipient properties and report distribution list properties.

Specifying a spooled file to attach to an e-mail:

To specify a spooled file to attach to an e-mail, complete the following:

1. Expand **Basic Operations** from your System i Navigator window.
2. Click **Printer Output**.
3. Right-click the spooled file and click **Send via AJS**.
4. Specify a recipient, subject, and message.

Note: This also can be done from **Output Queues**.

Escalation list

An escalation list specifies a list of recipients in descending order. The recipients are notified in the order that they are listed. If the first recipient does not respond to the message, the message is sent to the next recipient. This process continues until a response is made. To define an escalation list, go to **Advanced Job Scheduler > Notification > Escalation Lists**.

Stopping a message from escalating:

To stop a message from escalating, complete the following:

1. Expand **Work Management** from your System i Navigator window.
2. Click **Advanced Job Scheduler > Notification > E-mail > Sent**.
3. Right-click the escalating message and click **Stop**.

Note: To view only escalating messages, select **View > Customize this view > Include** from the System i Navigator window. Then, in the **Type** field, select **Escalating**.

Working with library lists

Library lists are user-defined lists of libraries that are used by the Advanced Job Scheduler when a job is processing.

A **library list** is a user-defined list of libraries that is used by the Advanced Job Scheduler job to search for information it needs while processing. You can display library lists, add a new library list, add a new library list based on an existing one, or remove a library list, provided that it is not being used by a currently scheduled job.

You can select a list and display its properties to make changes. You can place up to 250 libraries on the library list.

To add a new library list, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler** and click **Properties**.
3. Click the **Library Lists** tab.
4. Click **New** and type a name for the library list.
5. Type a description for the library list.
6. Click **Browse** to see a list of existing libraries, and click a library.
7. Click **Add** to add the list of selected libraries.

Working with command variables

A command variable (previously known as a parameter) is a variable you can store and use in jobs submitted through the Advanced Job Scheduler. Examples of command variables include the beginning of each month, a division number, a company number, and so on.

Command variables (previously known as parameters) are variables that you store in the Advanced Job Scheduler and use in jobs submitted through the Advanced Job Scheduler. Command variables contain information that is replaced inside the command string of a scheduled job. Examples of command variables include the beginning of each month, a company division number, a company number and so on. You can display command variables, add a new command variable, add a new command variable based on an existing one, or remove a command variable, provided it is not currently in use by a scheduled job.

You can select an existing command variable and display its properties to make changes.

To add a new command variable, follow these steps:

1. Expand **Work Management** from your System i Navigator window.
2. Right-click **Advanced Job Scheduler** and click **Properties**.
3. Click the **Command Variables** tab.
4. Click **New** and type a name for the command variable.
5. Type a description for the command variable.
6. Type the length of the command variable. The length can range from 1 to 90.
7. Choose how you want to supply the replacement value:
 - a. Specify the data to use for the command variable. You use any character in this field. The number of characters in the data cannot be greater than the length specified in the Length field.
 - b. Type a formula to calculate the date. (For examples, see the online Help.)
 - c. Type the program name that you use to retrieve the replacement value.
 - d. Type the library that you use to retrieve the replacement value.
 - e. Choose whether you want the replacement value retrieved from the system operator at run time.

Working with Advanced Job Scheduler for Wireless

Advanced Job Scheduler for Wireless works on two types of devices. A Wireless Markup Language (WML) device is an Internet-ready cellular phone. A Hypertext Markup Language (HTML) is a PDA or PC Web browser. Throughout this topic, the different devices are referred to as WML and HTML.

Hardware and software requirements

Before you run Advanced Job Scheduler for Wireless, make sure that you have met all the necessary software and hardware requirements.

The following elements are required to run the Advanced Job Scheduler for Wireless:

- The Advanced Job Scheduler (5761-JS1) licensed program : The Advanced Job Scheduler product that includes Advanced Job Scheduler for Wireless.
- A device to run the function
 - An Internet-enabled telephone with a wireless internet service
 - A PDA with a Web browser, a wireless modem, and a wireless internet service
 - A traditional Web browser on a workstation
- A system running i5/OS V5R3 or later in a TCP/IP network.
- A Web application server running on your central system, such as any of the following:
 - ASF Jakarta Tomcat Application server
 - Any other application server that runs on the central system, having the capability to host servlets

- HTTP Server installed on the system
- Identify your HTTP server with the Advanced Job Scheduler wireless feature. To do this, connect to the system that has Advanced Job Scheduler installed by using the character-based interface. Then, specify the following command:

```
CALL QIJS/QIJSINT
```

Selecting a device

Internet-ready telephones and wireless PDAs are a rapidly changing technology. They differ in screen size, in user interface, and in many other significant characteristics. The information in this topic helps you choose devices that are compatible with Advanced Job Scheduler for Wireless. Other wireless devices are also compatible if they support wireless Internet browsing, but the interaction might be different.

Internet-ready telephones: Select an Internet-ready telephone to use with Advanced Job Scheduler for Wireless.

PDAs: Select a PDA to use with Advanced Job Scheduler for Wireless.

PCs: You can also use a traditional Web browser with Advanced Job Scheduler for Wireless.

Configuring your wireless environment

To ensure that the Advanced Job Scheduler for Wireless run properly, you need to modify your web application server and firewall configuration.

Before you begin using Advanced Job Scheduler for Wireless, ensure that you have properly configured or set up the following items:

1. Configure your Web application server: Set up Advanced Job Scheduler for Wireless to run using an ASF Jakarta Tomcat servlet engine. These instructions specify how to create and start your Web application server. In addition, it specifies a program that you need to run before working with the wireless function of Advanced Job Server.
2. Configure your firewall, if you have one.
3. Select a language: The default language is set to English, but you can configure your device to display your language of choice.

After you have completed these steps, you are ready to connect to your server and begin using Advanced Job Scheduler for Wireless.

Configuring your Web application server:

Before working with Advanced Job Scheduler for Wireless, you must start and configure the Web application server. The following procedures set up an ASF Tomcat servlet engine for HTTP Server (powered by Apache) to run Advanced Job Scheduler for Wireless.

Requirements

Before you begin, you must have QSECOFR authority and the IBM HTTP Server for i (5761-DG1) licensed program installed:

Note: The following instructions create a new instance of an HTTP Server; you cannot use the following instructions to set up Advanced Job Scheduler on an existing HTTP Server.

Initializing Advanced Job Scheduler for Wireless on the HTTP Server

Running the following command adds the Advanced Job Scheduler for Wireless servlet to the Apache Software Foundation Jakarta Tomcat servlet engine. It also sets up an IBM HTTP Server (powered by Apache) named Advanced Job SchedulerP that listens for requests on port 8210.

Before working with Advanced Job Scheduler for Wireless, you need to initialize the Advanced Job Scheduler for Wireless on the HTTP server instance on your system. To do this, specify the following command from the character-based interface.

```
CALL QIJS/QIJSCINT
```

This command runs a program that is supplied with your system.

After you configure your Web application server and initialize the Advanced Job Scheduler instance on the Web application server, you can continue configuring your Advanced Job Scheduler wireless environment.

Selecting a language:

When you connect to Advanced Job Scheduler for wireless, you can specify which language to use. If you do not want to specify a specific language, you can proceed to connecting to your system.

To specify a language, use the following URL:

```
host.domain:port/servlet/AJSPervasive?lng= lang
```

- *host*: The host name of the system that contains the product.
- *domain*: The domain where the host is located.
- *port*: The port that the instance of the Web server is listening to
- *lang*: The 2-character identifier for the language. The following is a list of available languages and their 2-character identifiers. (ar: Arabic de: German en: English es: Spanish fr: French it: Italian ja: Japanese)

Now you can begin working with Advanced Job Scheduler for Wireless.

Connecting to your IBM i operating system

You can use your wireless device to connect to the system that contains the Advanced Job Scheduler product.

| To begin using Advanced Job Scheduler for Wireless, specify the URL of your system into your wireless device. When pointing your device to the URL on your system, use the following format. Ensure that the end of the URL (after `http://host.domain:port/`) is typed exactly as shown:

- | • On V5R4, use: `http://host.domain:port/servlet/AJSPervasive`
- | • On 6.1 and later, use: `http://host.domain:port/AJSPervasive/AJSPervasive`

| Replace *host*, *domain*, and *port* with:

- | • *host*: The IBM i host name.
- | • *domain*: The domain where the system is located.
- | • *port*: The port that the instance of the Web server is listening to. Default is 8210.

| **Note:** The *host.domain* portion of the URL can be replaced with an external IP address.

Internet-ready telephone and PDA browser layout

If you have successfully connected to the Advanced Job Scheduler for Wireless feature on your system, the initial display contains summary information about your Internet-ready telephone or PDA. The summary specifies how current the information is, how many scheduled jobs exist, how many activity entries exist, and options to check the status of the job monitor or send a message to a recipient. In addition, the summary provides an overall status of OK or Attention at the top of the display. If Attention is specified, a job has a message that needs more attention. The job that requires attention contains an exclamation point.


Traditional browser layout

The traditional browser layout is exactly the same as the Internet-ready telephone and PDA display. However, the amount of content is smaller than the size of the display. Therefore, you can reduce the size of the Web browser to allow for more space to work with other applications while keeping the Advanced Job Scheduler for Wireless Web browser open. In addition, if you are using a traditional Internet browser on your PC, you can select to **Show all** from the Advanced Job Scheduler main menu. Then, you can view more content in a single Web page.

After you have successfully connected to your system, you might want to customize your connection.

Customizing your connection

Using your wireless device, you can customize the interface to your specific needs. For example, you might want to view only certain jobs and specify not to view the job's group name. You also might not want to access the list of scheduled activity. The Customize page on your wireless device allows you to filter jobs as well as change display preferences.

There are many ways to customize your connection whether you are using a PC, PDA, or Internet-ready telephone. To take advantage of these features, see the Job Scheduler for i5/OS  Web site.

Managing Advanced Job Scheduler for Wireless

You can use your wireless device to work with Advanced Job Scheduler.

The following features are available using a wireless device:

View active, held, and pending jobs

You can view a list of the regular jobs (Advanced Job Scheduler jobs) or Management Central jobs that have the active, held, or pending state. You can further customize the jobs displayed by sorting by job type, name, or time. In addition, you can specify which data library contains the data for jobs and activities.

View job dependencies

You can view the predecessor and successor jobs for a particular job. A successor is a job that is dependent on one or more jobs (predecessors) to run. In turn, a successor job can be a predecessor job to other successor jobs.

Display messages

If a job has a message waiting for it, you can view the message text and reply to the message using your wireless device.

Start jobs

You can use your wireless device to submit jobs. The options you can specify when submitting a job depend on what wireless device you use.

Work with Advanced Job Scheduler activity

You can interact with your Advanced Job Scheduler activity from a wireless device. Each activity has different options based on the status of the activity entry.

Internationalization


Advanced Job Scheduler for Wireless uses the country and language codes associated with your System i Java Virtual Machine to determine what language and date/time formatting to use on

your wireless devices. If the Java Virtual Machine defaults are not the codes you want to use, you can easily change it. See the online help for more details.

See the online help for more details about performing specific tasks.

Troubleshooting the Advanced Job Scheduler

When a job does not run at the scheduled time, these troubleshooting methods can help you find out what you can do.

To troubleshoot the Advanced Job Scheduler, first view the Frequently Asked Questions page at Job Scheduler for i5/OS  Web site. See the commonly asked questions that identify how to do certain functions with Advanced Job Scheduler.

Also, here are a list of items that you can review when a job does not run at the scheduled time:

Current fix level

The first thing you should verify is that your fixes are current. When you request fixes, be sure to request a list of all fixes. Not all fixes are included in the Cumulative PTF packages.

Check job monitor

- Job QIJSSCD should be active in the QSYSWRK subsystem. If it is not, process the Start Job Scheduler (STRJS) command.
- The job monitor can be in a loop if the status of the job is RUN for over ten minutes. If it is in a loop, end the job with *IMMED, and start the job monitor again (STRJS).
- If there is a message to answer, reply with a C (Cancel). The job monitor goes into a 90-second delay and then start monitoring again. Print the job log for the monitor job. This contains the error messages.

Check the Advanced Job Scheduler log

Process the Display Log for Job Scheduler (DSPLOGJS) command for the job. Press F18 to go to the end of the list. Entries exist to explain why the job did not run. Examples of the entries include a resource failure, active or job dependency situation, or submission error.

Dependency on another job

If the job is dependent on another job, take option 10 from the Work with Jobs display to display job dependencies. Press F8 to list all predecessor jobs. A dependent job cannot run unless all the predecessor jobs show *YES in the **Complete** column.

Track a job's progress

If a job is not functioning properly, you can use the Set Step using Job Scheduler (SETSTPJS) command before or after a step in your CL program to help determine what the problem is. Specify the command along with description text in your CL program. Use this command as many times as necessary. The text description that is associated with the current command is displayed in the Command step field on the Last Run page of the scheduled job properties. In addition, you can view the Command step field on the Status window of an active job. The Command step field is automatically updated every time the job encounters the SETSTPJS command. Use this command to help determine the progress of a job.

Collecting these data samples can help in your problem analysis:

Error message conditions

Print the job log for the interactive session, monitor job or scheduled job, depending where the error occurred.

Job schedule date is not correct

Process the DSPJOBJS command for the job with OUTPUT(*PRINT). Print a calendar report if a

calendar is used within the job. Print a holiday calendar report if a holiday calendar is used within the job. Press the Print key to print the display of each fiscal calendar entry for the fiscal calendar used within the job.

Advanced Job Scheduler log

Always print the Advanced Job Scheduler log for the time period in question.

Files QAIJSMST and QAIJSHST

Files QAIJSMST and QAIJSHST in library QUSRIJS might need to be journaled before trying to reproduce the problem. Also, the QUSRIJS library may be needed by IBM support.

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