

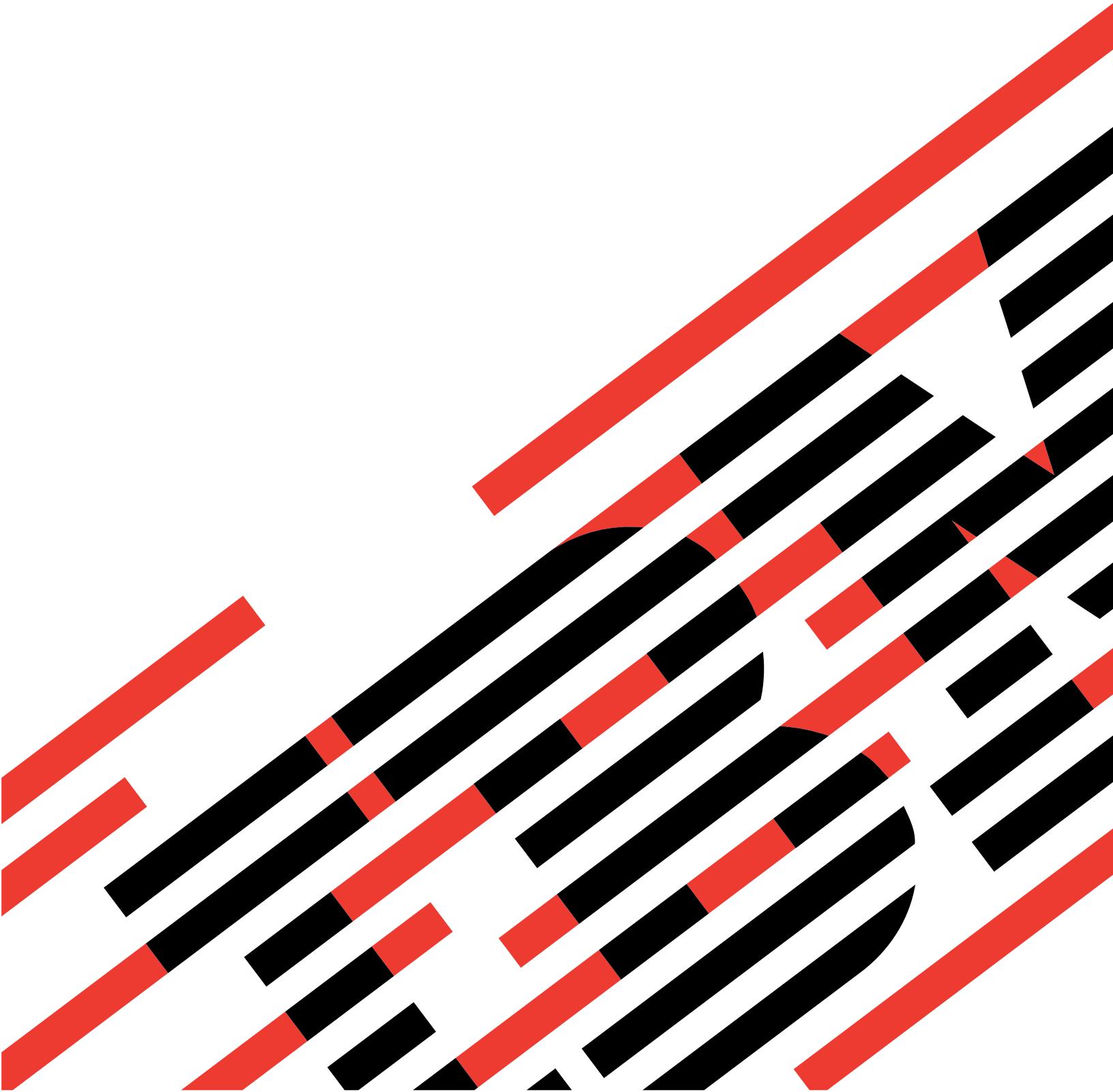
IBM

eserver

iSeries

Advanced Job Scheduler

Version 5 Release 3





eserver

iSeries

Advanced Job Scheduler

Version 5 Release 3

Note

Before using this information and the product it supports, be sure to read the information in "Notices," on page 27.

Fourth Edition (August 2005)

This edition applies to Version 5, Release 3, Modification 0 of IBM Operating System/400 (product number 5722-SS1) and Advanced Job Scheduler (product number 5722-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 Advanced Job Scheduler licensed program (5722-JS1) is a robust scheduler that allows unattended job processing 24 hours a day, 7 days a week. Choose standard, fiscal, or user-defined calendars to quickly describe and set up any job scheduling scenario that you need in the Advanced Job Scheduler. You may also view job completion history and manage notification of a job's status.

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 will gather job information that is needed from the central system. However, 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 may schedule tasks outside of the Management Central network. Under **My Connections** in iSeries Navigator, you have access to the Advanced Job Scheduler on that local system when you expand **Work Management**.

The following information will help you manage the Advanced Job Scheduler. You first need to install the licensed program, and then read about the tasks that allow you to customize the Advanced Job Scheduler. Finally, the remainder of the tasks allow you to work with and manage this scheduler.



"Advanced Job Scheduler for Wireless" on page 4

Learn how to use the wireless function of Advanced Job Scheduler to manage scheduled jobs.

"Install the Advanced Job Scheduler" on page 8

Follow these steps to install the Advanced Job Scheduler.

"Set up the Advanced Job Scheduler" on page 9

If you have installed the program and this is your first time using the Advanced Job Scheduler, customizing is your next step. See how to specify the general properties that are used by the Advanced Job Scheduler, according to your needs.

"Manage the Advanced Job Scheduler" on page 15

Set up jobs or groups of jobs that are dependent on each other. You can select the type of dependency that reflects how jobs are processed in your environment.

"Troubleshoot the Advanced Job Scheduler" on page 24

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

For more information about the Advanced Job Scheduler licensed program, see the Advanced Job Scheduler product Web site.

What's new in Advanced Job Scheduler for V5R3

In V5R3, Advanced Job Scheduler offers you new and improved ways to schedule jobs as well as enhancements when accessing your jobs from iSeries Navigator.

"Advanced Job Scheduler for Wireless" on page 4

You can work with Advanced Job Scheduler using a wireless device such as a PDA.

"Work with notification" on page 22

You can use the notification feature of Advanced Job Scheduler to automatically notify a specified recipient via email. Not only can you notify a recipient by e-mail, but also you can attach printer output in PDF format to e-mail messages.

The Send Distribution using Job Scheduler (SNDDSTJS) notification command that is supplied by the Advanced Job Scheduler is always available from the character-based interface. The command is always available even if you specify a different notification command on the Advanced Job Scheduler **General** properties page in iSeries Navigator.

New job properties

Prior to V5R3, these job properties were only available by using the character-based interface. Now, you can work with these job properties in iSeries Navigator.

- **"Create and work with local data area" on page 19**

You can now specify the local data area for a scheduled job. Use the local data area to store data specific to the job. Each command within a job has access to the job's local data area.

- **Command step**

You can use the Set Step using Job Scheduler (SETSTPJS) command in your CL program to keep track of a job's progress. Specify the command, along with a description, as many times as necessary in your program. The text description that is associated with the 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** dialog of an active job. The Command step field is automatically updated every time the job encounters the Set Step using Job Scheduler (SETSTPJS) command.

- **Create and work with job documentation**

Use the job's documentation page to specify text. This text may describe the job or special considerations associated with the job.

- **Monitor jobs not started within time limit**

Specify whether to send a notification message if a job does not start within the time limit. Specify the **Recipient** and **Limit** on the **Notification** page. Specify the default setting in the Job Control/Applications page.

- **Skip count feature**

When scheduling jobs, you can use the skip field to schedule jobs every other week, every third week, and so on. To do this, select **Weekly**, select only one day of the week, and specify a **Skip count**. A skip count of one runs a job every other week.

New Advanced Job Scheduler properties

- **"Set up a fiscal calendar" on page 13**

You can now set up a calendar based on the fiscal year. Use a fiscal calendar to specify a schedule that is unique to your business needs. In addition, you can assign a fiscal calendar to a scheduled job.

- **Job start time of day**

The time of day that you consider starts a new day. All jobs that are specified to use this time of day will have their job date changed to the previous day if the time the job starts is prior to the **Start time of day**.

- **"Assign data libraries to users" on page 11**

You can specify which data library a user accesses. One data library may be used by more than one user. A data library will contain all of the objects found in the QUSRIJS library. You can have any number of data libraries.

- **"Set up multiple scheduling environments" on page 14**

You can set up scheduling environments on the same system. By doing this, the original data library can act as the active data library and the copied data library can be used for testing. Therefore, you have two scheduling environments, one for testing and one that is the actual. In addition, the test data library can serve as a backup if there is a system failure on the original system. This feature gives you added protection if you create an error in the original data library because you have a backup copy of the data library.

- **Skip dependency**

When scheduling jobs, you can specify that a dependent job is skipped if its predecessors and successors run on a day that the dependent job is not scheduled to run. For example, you want a monthly job to run in between two weekly scheduled jobs. To do this, specify a time interval in minutes for the dependent job using the **Skip threshold** field in the **Job Dependency** properties. If the time difference between when the first weekly job finishes and the time the monthly job is scheduled to run is greater than the time value specified, the dependency is skipped and will continue with the next weekly job. The dependent job is run only when the time difference is less than or equal to the **Skip threshold**.

- **Report distribution**

Report distribution allows you to distribute spooled files produced by a job to additional output queues. Prior to V5R3, report distribution was available only in the character-based interface. Now you can use iSeries Navigator to set permission levels for jobs, functions of the product, and provide new job default permissions. In addition, you can attach printer output (in PDF format) to the e-mail notification messages.

- **“Specify permission levels” on page 11**

Prior to V5R3, you were able to specify permission levels in a character-based interface. Now you can use iSeries Navigator to set permission levels for jobs, functions of the product, and provide new job default permissions.

- **Initial disk pool group**

Under Advanced Batch Information you can specify the initial setting for the disk pool (also known as auxiliary storage pool (ASP)) group name for the initial thread of the submitted job. A thread can use the Set Auxiliary Storage Pool Group (SETASPGRP) command to change its library name space. When a disk pool group is associated with a thread, all libraries in the independent disk pools in the disk pool group are accessible and objects in those libraries can be referenced using regular library-qualified object name syntax. The libraries in the independent disk pools in the specified disk pool group plus the libraries in the system disk pool (ASP number 1) and basic user disk pools (ASP numbers 2-32) form the library name space for the thread.

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.

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

Print this topic

To view or download the PDF version of the Advanced Job Scheduler topic, select Advanced Job Scheduler (about 290 KB).

You can view or download this related topic:

- Work Management

You can view or print PDFs of related information from the Related information page.

Saving PDF files

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

1. Right-click the PDF in your browser (right-click the link above).
2. ➤ Click **Save Target As...** if you are using Internet Explorer. Click **Save Link As...** if you are using Netscape Communicator. <
3. Navigate to the directory in which you would like to save the PDF.

4. Click **Save**.

Downloading Adobe Acrobat Reader

» You need Adobe Acrobat Reader to view or print these PDFs. You can download a copy from the Adobe Web site (www.adobe.com/products/acrobat/readstep.html)  . 

Advanced Job Scheduler for Wireless

» AJS for Wireless is a software application that allows you to access Advanced Job Scheduler on multiple Internet-accessible devices, such as an Internet-ready phone, PDA Web browser or PC Web browser. The wireless feature of AJS resides on your iSeries system, where AJS 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 AJS monitor. AJS for Wireless allows each user to customize the settings and preferences of their browsing experience. For instance, a user can show activity, display jobs, and customize the jobs they display.

AJS for Wireless allows you to access your jobs when you are normally unable to access an iSeries terminal or emulator. Simply connect to the Internet with your mobile device and enter the URL for the AJS for Wireless servlet. This launches a menu that gives you real-time access to AJS.

AJS 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.

View the following topics for more information about Advanced Job Scheduler for Wireless.

“Hardware and software requirements” on page 5

Determine if you have all the necessary software and hardware to run Advanced Job Scheduler for Wireless.

“Select a device” on page 5

Choose devices that are compatible with Advanced Job Scheduler for Wireless.

“Configure your wireless environment” on page 5

Modify your web application server and firewall configuration so that Advanced Job Scheduler for Wireless will run properly.

“Connect to your iSeries” on page 7

Connect to your iSeries that contains the AJS product using your wireless device.

“Customize your connection” on page 7

Using your wireless device, you can customize the interface to your specific needs. For example, you may choose to view only certain jobs and specify not to view the job's group name. You also may 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.

“Manage Advanced Job Scheduler for Wireless” on page 7

Learn about the functions that are available through the wireless feature of Advanced Job Scheduler.

For more information on Advanced Job Scheduler for Wireless, see the Advanced Job Scheduler product Web site. 



Hardware and software requirements

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

- Licensed Program 5722-JS1: 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 server running OS/400^(R) 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 iSeries server
- Identify your HTTP server with the AJS wireless feature. To do this, connect to your iSeries system that has AJS installed by using the character-based interface. Then, specify the following command:

CALL QIJS/QIJSCINT

For more information, see “Advanced Job Scheduler for Wireless” on page 4.



Select a device

» Internet-ready telephones and wireless PDAs are a rapidly changing technology. They differ in screen size, in look-and-feel, and in many other significant characteristics. The following sections help you choose devices that are compatible with Advanced Job Scheduler for Wireless. Other wireless devices may also be compatible if they support wireless Internet browsing, but the interaction may 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.



Configure your wireless environment

» 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” on page 6
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 AJS.
2. Configure your firewall
This topic describes how to configure your firewall for iSeries Navigator for Wireless. These configuration steps also apply to Advanced Job Scheduler for Wireless. View this topic to determine if you need to modify your firewall to gain access to systems from a wireless device.

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 iSeries" on page 7 and begin using "Advanced Job Scheduler for Wireless" on page 4.



Configure your Web application server

► Before working with AJS 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 following installed:

- IBM^(R) HTTP Server (5722-DG1)

Note: The following instructions will 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.

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

Before working with AJS for Wireless, you need to initialize the Advanced Job Scheduler for Wireless on the HTTP server instance on your iSeries system. To do this, specify the following command from the character-based interface. This command runs a program that is supplied with the iSeries system.

```
CALL QIJS/QIJSCINT
```

After you configure your Web application server and initialize the AJS instance on the Web application server, you can continue "Configure your wireless environment" on page 5.



Select 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 "Connect to your iSeries" on page 7. 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. For more information on how to change your wireless device's display, see "Configure your wireless environment" on page 5.

Connect to your iSeries

» To begin using Advanced Job Scheduler for Wireless, specify the URL of your iSeries into your wireless device. When pointing your device to the URL on your iSeries, use the following format. Ensure that the end of the URL (/servlet/AJSPervasive) is typed exactly as shown:

host.domain:port/servlet/AJSPervasive

host: The host name of the iSeries.

domain: The domain where the iSeries is located.

port: The port that the instance of the Web server is listening to. Default is 8210.

To specify a specific language to use, see "Select a language" on page 6.

Internet-ready telephone and PDA browser layout

If you have successfully connected to the Advanced Job Scheduler for Wireless feature on your iSeries, the initial display contains summary information on 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 AJS main menu. Then, you can view more content in a single Web page.

After you have successfully connected to your system, you may want to "Customize your connection."

For more information, see "Advanced Job Scheduler for Wireless" on page 4.



Customize your connection

» 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 Advanced Job Scheduler product Web site.

For more information, see "Advanced Job Scheduler for Wireless" on page 4.



Manage Advanced Job Scheduler for Wireless

» 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 (AJS 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 AJS activity**

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

- **Internationalization**

AJS for Wireless uses the country and language codes associated with your iSeries^(TM) Java^(TM) 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 would like to use, you can easily change it. See the online help for more details.

See the online help for more details on performing specific tasks. See “Advanced Job Scheduler for Wireless” on page 4 to choose another topic.



Install the Advanced Job Scheduler

To install the “Advanced Job Scheduler,” on page 1 you must have previously installed IBM iSeries Access for Windows and the Advanced Job Scheduler licensed program (5722-JS1). Then, follow these steps to install the Advanced Job Scheduler:

1. From your **iSeries Navigator** window, click **File** from the menu bar.
2. Select **Install Options** —> **Install Plug-Ins**.
3. Select 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 **OS/400 User ID** and **Password**, and click **OK**.
5. Select **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.

To locate the scheduler, follow these steps:

1. Expand **Management Central**.
2. Click **Scan Now** in response to the message that iSeries Navigator has detected a new component. You may see this message again when you access systems from **My Connections**.
3. Expand **My Connections** —> the iSeries server that has the Advanced Job Scheduler licensed program installed —> **Work Management** —> **Advanced Job Scheduler**.

When you have finished this preliminary work with the Advanced Job Scheduler, you are ready to “Set up the Advanced Job Scheduler.” See “Advanced Job Scheduler,” on page 1 to choose another task.

Set up the Advanced Job Scheduler

To set up the Advanced Job Scheduler, select from the following tasks:



“Assign the general properties” on page 10

Specify how long to retain activity and log entries for the Advanced Job Scheduler, as well as the period that jobs will not be allowed to run. You may specify the working days that jobs will process, 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 will be 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.



“Assign data libraries to users” on page 11

Specify what data library is associated with each user. A data library will contain all the objects found in the QUSRIJS library. You can have any number of data libraries.



“Specify permission levels” on page 11

Specify the default permission levels. Specify permission levels for jobs, functions of the product, and provide new job default permissions.

“Set up a scheduling calendar” on page 12

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.

“Set up a holiday calendar” on page 12

Set up a calendar for days that you do not want to allow processing for a scheduled job. Alternate days may be specified for each exception day, or processing can be skipped completely for that day.



“Set up a fiscal calendar” on page 13

Set up a fiscal calendar of selected days for scheduling a job or job group. Use this type of calendar if you want to divide the fiscal year into periods other than months.



“Specify a mail server to use for notification” on page 14

Set up a mail server to use for e-mail notification messages. A mail server is required if you want to send e-mail notifications.



“Set up multiple scheduling environments” on page 14 (optional)

You can set up scheduling environments on the same system. By doing this, the original data library can act as the active data library and the copied data library can be used for testing. Therefore, you have two scheduling environments, one for testing and one that is the actual. In addition, the test

data library can serve as a backup if there is a system failure on the original system. This feature gives you added protection if you create an error in the original data library because you have a backup copy of the data library. 

For more information about these and other properties, refer to the online help for the Advanced Job Scheduler in iSeries Navigator. When you have finished this preliminary work with the Advanced Job Scheduler, you are ready to begin “Schedule jobs” on page 19. See “Advanced Job Scheduler,” on page 1 to choose another task.

Assign the general properties

Assign the General properties used by Advanced Job Scheduler. You may specify how long to retain activity records for jobs, as well as the period that jobs will not be allowed to run. You may specify the working days that jobs are allowed to process, and whether an application is required for each submitted job. You may have a notification product installed which allows you to receive a notification (message) when a job ends. You can define the notification command that will 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.

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

1. Expand **Work Management** from your **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler** and select **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 may specify a **Reserved period**.
Jobs will 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 may 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 “Create and work with applications/job controls” on page 21. 
8.  Click **Calendars** to set up the scheduling, holiday, and fiscal calendars to use. For more information on each type of calendar, see “Set up a scheduling calendar” on page 12, “Set up a holiday calendar” on page 12, and “Set up a fiscal calendar” on page 13. 
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 8:00 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.
10.  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 will have their job date changed to the previous day if the time the job starts is prior to the **Start time of day** field. 
11.  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 QLJS. 

12. In the **Notification command** field, you can specify a command. Use the Send Distribution using Job Scheduler “Work with notification” on page 22 (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. 

To continue setting up the Advanced Job Scheduler, see “Set up the Advanced Job Scheduler” on page 9.

Assign data libraries to users

 You can assign 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 **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler** and select **Properties**.
3. On the **Data Libraries** page use the **Add** button to specify a data library. The data libraries listed are available to all users on the system.
4. On the **Users** page, use the **Add** button to add new users.
5. Specify a name.
6. Select a data library.
7. Click **OK** to add the user.
8. Use the **Properties** button to change the data library assigned to a user.

With data libraries, you can “Set up multiple scheduling environments” on page 14. See “Set up the Advanced Job Scheduler” on page 9 to choose another task. 

Specify permission levels

 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 will transfer the New Job permissions based on the Application specified within the job definition. If no Application is used, it will transfer the *SYSTEM New Job permissions.

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

1. Expand **Work Management** from your **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler** and select **Properties**.
3. Select **Permissions**.
4. Select a function and select **Properties**.
5. On the Function Permissions Properties dialog, edit the permission level as necessary. You can grant or deny access to the public or specific users.

To specify permission levels to jobs, follow these steps:

1. Expand **Work Management** from your **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler** and select **Scheduled Jobs** to list jobs.
3. Right-click the scheduled job and select **Permissions**.

4. On the **Permissions Properties** dialog, 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.

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

1. Expand **Work Management** from your **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler** and select **Properties**.
3. Select **Job Controls/Applications**.
4. Select a job Control or application from the list and click **New Job Permissions**.
5. On the **Function Permissions Properties** dialog, 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.

See “Set up the Advanced Job Scheduler” on page 9 to choose another task. 

Set up a scheduling calendar

A **scheduling calendar** is a calendar of selected days that you may use for scheduling a job or job group. You may 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 may 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. Open **Work Management** from your **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler** and select **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 will be applied to the new calendar as if you merged the two calendars. You will 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 will be deselected when you click a different date.
9. Specify if you want certain days of the week to be included on the calendar.

See “Set up the Advanced Job Scheduler” on page 9 to choose another task.

Set up 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 may be specified for each exception day that you specify in a holiday calendar. You may 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 could 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 will be shown on the calendar with a black border.

You may 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 **iSeries 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 will be applied to the new calendar as if you merged the two calendars. You will 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 will be deselected when you click a different date.
9. Select an alternate day for the job to run. You may 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 **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler** and select **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 lefthand 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 select the correct **Alternate Day**.

See “Set up the Advanced Job Scheduler” on page 9 to choose another task.

Set up a fiscal calendar

➤ A **fiscal calendar** is a calendar of selected days that you may 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.

Set up a fiscal calendar

To set up a fiscal calendar, follow these steps:

1. Open **Work Management** from your **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler** and select **Properties**.
3. On the **General** page click **Calendars**.
4. On the **Fiscal Calendars** page, click **New**.
5. Specify a **Name**.
6. In the **Description** field, specify text to describe the calendar.
7. Click **New** on the **Fiscal Calendar Properties** dialog 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.

See "Set up the Advanced Job Scheduler" on page 9 to choose another task. 

Specify a mail server to use for notification

 To use the notification function of Advanced Job Scheduler, you need to specify a mail server. The mail server is used to send e-mail notifications.

To set up the notification properties, follow these steps:

1. Open **Work Management** from your **iSeries Navigator** window.
2. Expand **Advanced Job Scheduler**.
3. Right-click **Notification** and select **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.

For help specific to each field, see the online help.

See "Set up the Advanced Job Scheduler" on page 9 to choose another task. 

Set up multiple scheduling environments

 There are several reasons why you would want to set up multiple scheduling environments. You may 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 may have a system that is the backup for one or more other systems in which you would 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 could 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:

Step 1: Obtain a data library from a system

To create a data library, you need to obtain a data library from a system. The following are three ways that you can obtain a data library from the system:

- Save the data library from a system and restore it onto the production system. For more information on how to save and restore the data library, see [Backup and recovery](#).
- Duplicate the data library on the current system using the [Copy Library \(CPYLIB\)](#) command.
- Mirror a data library on the test system. These systems should be running the same version release level.

Note: The copied, restored, or mirrored data library uses a different name than the original system.

Step 2: “Assign data libraries to users” on page 11

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.

Step 3: Copy jobs from test data library to actual data library (optional)

If you are using a data library for testing purposes, you may 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 \(CPYJOBJS\)](#) command. For more information on the specific parameters for this command, see the online help.

See “[Set up the Advanced Job Scheduler](#)” on page 9 to choose another task. 

Manage the Advanced Job Scheduler

The following information will help you manage the Advanced Job Scheduler. First you need to schedule jobs using the Advanced Job Scheduler. Then, use the rest of the tasks to manage the jobs.

“Schedule job dependencies” on page 16

Set up jobs or groups of jobs that are dependent on each other. You can select the type of dependency that reflects how jobs are processed in your environment.

“Monitor job activity for the Advanced Job Scheduler” on page 17

View a job or a job group’s history or status. You can also set up the activity retention, which is how long you want to retain the activity records for a job.

“Monitor for messages with Advanced Job Scheduler” on page 18

Add message identifiers to any command within the command list of a job to monitor messages.

“Schedule jobs” on page 19

Use Advanced Job Scheduler to create, schedule, and work with jobs. Find out how to 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.

“Create and work with applications/job controls” on page 21

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 have 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.



“Work with notification” on page 22

Learn how to use the notification function of Advanced Job Scheduler.

“Work with library lists” on page 23

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

“Work with command variables” on page 23

A command variable (previously known as a parameter) is a variable you may 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.

See “Advanced Job Scheduler,” on page 1 to choose another task.

Schedule 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 will run. 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 will not let the specified job run. The selected job will be 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 will only run 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 an object and whether it meets the specified allocation level to be processed. For instance, JOBA can be set up so that it will only run when data area XYZ exists.

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 will only run when device TAP01 exists and has a status of Available.

Network file

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

Subsystem

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

To work with job dependencies, follow these steps:

1. Open **Work Management** from your **iSeries 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.

See "Manage the Advanced Job Scheduler" on page 15 to choose another task.

Monitor job activity for the Advanced Job Scheduler

The Advanced Job Scheduler allows you to view your jobs activity through the following:

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.

To specify the activity retention, follow these steps:

1. Open **Work Management** from your **iSeries Navigator** window.
2. Expand **Advanced Job Scheduler**.
3. Right-click **Scheduled Job Activity** and select **Properties**.

To view the scheduled job activity details, follow these steps:

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

To view the scheduled job activity for a specific job, follow these steps:

1. Open **Work Management** from your **iSeries Navigator** window.
2. Expand **Advanced Job Scheduler**.

3. Click **Scheduled jobs**.
4. Right-click the **Job Name** whose activity you want to display and select **Activity**.

Activity Log

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 on a date and time.

To view the activity log details, follow these steps:

1. Open **Work Management** from your **iSeries 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.

To view the activity log for a specific job, follow these steps:

1. Open **Work Management** from your **iSeries 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 select **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 SETSTPJS command in the program, the associated description is displayed in the **Last Run** page and on your wireless device. «

See "Manage the Advanced Job Scheduler" on page 15 to choose another task.

Monitor for messages with Advanced Job Scheduler

Each command in the command list of a job can have message identifiers that will be 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 ppmm00, 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. Open **Work Management** from your **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler**.
3. Click **Scheduled Jobs** to list jobs.
4. Right-click the scheduled job and select **Properties**.
5. Select the command from the list and click **Properties**.
6. Click **Messages**.
7. Enter the message identifiers to monitor and click **Add**.

See "Manage the Advanced Job Scheduler" on page 15 to choose another task.

Schedule jobs

The following information will help you manage the Advanced Job Scheduler when you want to create, schedule, and work with jobs.

"Create and schedule a job"

Schedule a job and specify the commands that are associated with the job. You can also specify starting and ending commands to run a special version of a scheduled job.

"Create and schedule a job group" on page 20

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.

"Create a temporary scheduled job" on page 20

Run a scheduled job now or in the future in addition to its normal schedule.

"Create predefined schedules" on page 20

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

See "Manage the Advanced Job Scheduler" on page 15 to choose another task.

When a job does not run at the scheduled time, you can "Troubleshoot the Advanced Job Scheduler" on page 24.

Create and schedule a job

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

1. Open **Work Management** from your **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler**.
3. Right-click **Scheduled Jobs** and select **New Scheduled Job**.

Note: ➤ If creating a job that requires a local data area, see "Create and work with local data area."

Refer to the online help for more information as you fill in details for the new job. See "Schedule jobs" or "Manage the Advanced Job Scheduler" on page 15 to choose another task. <<

Create and work 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 may 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 have to manually specify them each time the job starts.

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

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

Refer to the online help for more information as you fill in details for the local data area. See "Schedule jobs" or "Manage the Advanced Job Scheduler" on page 15 to choose another task. <<

Create and schedule a job group

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. Open **Work Management** from your **iSeries Navigator** window.
2. Select **Advanced Job Scheduler**.
3. Right-click **Job Groups** and select **New Job Group**.

» Refer to the online help for more information as you fill in details for the new job group. See “Schedule jobs” on page 19 or “Manage the Advanced Job Scheduler” on page 15 to choose another task.



Create a temporary scheduled job

At times it may 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 iSeries Navigator. It may also be necessary to process only a portion of the commands in the command list when setting up this special run.

The SBMJOBJS 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 SBMJOBJS command to start with sequence 20 and end with sequence 40. This would bypass sequence 10 and 50.

iSeries 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 iSeries Navigator, follow these steps:

1. Open **Work Management** from your **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler**.
3. Click **Scheduled Jobs** to list jobs.
4. Right-click on the scheduled job and select **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. See “Schedule jobs” on page 19 or “Manage the Advanced Job Scheduler” on page 15 to choose another task.



Create 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 iSeries 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 will be shown on the calendar with a black border.

To set up a schedule, follow these steps:

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

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

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

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

1. Expand **Work Management** from your **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler** and select **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 select the correct **Alternate Day**.

Refer to the online help for more information. See “Schedule jobs” on page 19 or “Manage the Advanced Job Scheduler” on page 15 to choose another task.

Create and work with applications/job controls

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/job controls on your system. You can add a new application/job control, add a new application/job control based on an existing one, or remove an application/job control. You can also select an application/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 **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler** and select **Properties**.
3. Click the **Applications/Job Controls** tab.
4. Click **New** and type a name for the application.
5. You may 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 may specify up to 5 contacts per application. You may also choose to add or remove contacts from the contact list.
7. You may type additional information to help you identify the application.
The information is associated with the new application. This information may be useful if any problems occur.

See "Manage the Advanced Job Scheduler" on page 15 to choose another task.

Work 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" on page 14.

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

Recipient

When scheduling a job, you can specify whether or not 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 and/or a duplicate of the spooled file in their output queue. You can access report distribution lists by selecting **Advanced Job Scheduler** —> **Notification** —> **Report distribution list**.

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.

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

1. Expand **Basic Operations** from your **iSeries Navigator** window.
2. Select **Printer Output**.
3. Right-click the spooled file and select **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**.

To stop a message from escalating, complete the following:

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

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

See “Manage the Advanced Job Scheduler” on page 15 to choose another task. 

Work with library lists

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

To add a new library list, follow these steps:

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

See “Manage the Advanced Job Scheduler” on page 15 to choose another task.

Work with command variables

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 will be 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 may 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 may select an existing command variable and display its properties to make changes.

To add a new command variable, follow these steps:

1. Open **Work Management** from your **iSeries Navigator** window.
2. Right-click **Advanced Job Scheduler** and select **Properties**.
3. Click the **Command Variables** tab.
4. Click **New** and type a name for the command variable.
5. You may 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 may 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.

See “Manage the Advanced Job Scheduler” on page 15 to choose another task.

Troubleshoot the Advanced Job Scheduler

To troubleshoot the Advanced Job Scheduler, first view the Job Scheduler frequently asked questions  Web page. Read about 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 packages.

Check job monitor

- Job QIJSSCD should be active in the QSYSWRK subsystem. If it is not, process the 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 command).
- If there is a message to answer, reply with a C (Cancel). The job monitor will go into a 90-second delay and then start monitoring again. Print the job log for the monitor job. This will contain the error messages.

Check the Advanced Job Scheduler log

Process the 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** dialog 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 will 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 DSPJOBS 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 may need to be journaled before trying to reproduce the problem. Also, the QUSRIJS library may be needed by IBM support.

See "Advanced Job Scheduler," on page 1 to choose another task.

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