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Introduction

About Robot Console

IBM i message management and monitoring can be a daunting manual task. Robot Console message management software automates message management, resource monitoring, and system log monitoring. It monitors system console messages and responds to, redirects, or suppresses them automatically. Robot Console is also monitoring software for resources such as subsystems, devices, and queues, as well as critical system logs, and application logs in the IFS.

- Message management
- Resource monitoring
- System log monitoring
- Application log monitoring
- Message notification
- Message history
- OPAL procedures



Learn more about Robot Console's features by using this guide.

The Info tab of the About Robot Console window displays a list of information about the GUI and its connection to the IBM i (OS/400, i5/OS) running on IBM Power Systems (System i, iSeries, AS/400). You can select one line or all of the information to be copied to the clipboard or to be saved on your system. Click a line of information then right-click to display the menu options. Use this information when troubleshooting system errors.

How Robot Console Works

When you start Robot Console (either manually or as part of your IPL procedures), it reads its message queue setup file to determine which message queues to monitor. Robot Console assigns a monitor program to each message queue. Because each monitor program stays in a wait state until a message is received on its assigned queue, the monitor programs use very few system resources.

The following diagram shows how Robot Console message queue monitoring works.



When a message is received, Robot Console determines if a message group exists for that message. If a message group exists, it executes any message sets in the group that apply to the message. If no message group exists, Robot Console executes the specific message set for the message and any other message sets that apply. If no message set exists, Robot Console places the message on the message center assigned to the message queue.

Robot Console can perform any of the following actions, according to the instructions in the message set:

- Reply to the message automatically.
- Suppress the message.
- Convert an informational message to a response-required message.
- Execute OPerator Assistance Language (OPAL) procedures.

Note: Message history and control files are updated for each message received. However, message set instructions may modify the process of updating these files. For example, for messages that are unconditionally suppressed, no history record or control record is written.

In addition to monitoring the message queues, Robot Console can also monitor resources, system event logs, and application logs.

The following diagram shows how Robot Console resource monitoring works:



The following diagram shows how Robot Console system event log monitoring works:



The following diagram shows how Robot Console application log monitoring works:



About this Guide

This user guide for Robot Console, message management software, describes the following major components:

- Message Centers
- Monitoring
- Message Sets
- Notification Lists

Accessing this Guide from the Robot Console Explorer

The user guide is meant to be used as a reference while you work. The topics within each section basically follow the order of the Robot Console options in the Explorer's Tree view. Press the **F1** key from most windows for topic-specific help.

Explorer

Explorer Overview

The Robot Console Explorer is the main navigation tool for Robot Console. It helps you quickly and easily manage system messages directly from a PC.

Use the Explorer to perform the following tasks:

- Manage message centers.
- Create message queue monitors, resource monitors, log monitors, and application log monitors.
- Create and manage message sets.
- Set up notification lists.
- Complete the Robot Console system setup.
- Generate reports and, if you are working in host mode, consolidated reports.

Explorer views

Explorer menus

Explorer toolbar

Defining Robot Console settings

Setting preferences

Explorer Views

Robot Console Explorer uses a top-down hierarchical structure to display your network configuration graphically.

When you select an item in the tree view, the list view displays details about that item. Similarly, when you select an item in the list view, the QuickView provides details.

System View Tools Help				
.ddress: stit 💽 🛛 🖋 🖉 🖉 🛣	📃 😓 🖾 🔍 💐 🗟 🛃 💻			
 stit Monitored Objects Monitored Objects Message Queue Monitors Icg Monitors Log Monitors Application Log Monitors Application S All Message Sets Assage False Message Groups Message Tables OPAL Tables System Setup Reports 	Name Name KSMESSAGEZ NETCENTER NOESCALATE QSYSOPR RECLAG RECLOGAUD RECLOGAUD RECLOGAUD RECLOGATP RECLOGAUT RECLOGATF RECLOGATT RECLOGTTP RECLOGTT RECLOGTT RECLOGTT RECLOGTT RECLOGTT RECLOGTT RECLOGTT RECLOGTT NOTIFY USERS WHEN A NEW MESS SEND A page using Robot Aler Redirect Wessages to another Redirect to Message Cente Target System for Redirect Wait Time before Redirect Wait Time before Redirect	KS Message Lenter - escal Msgs redirected to anothe Do Not Escalate INQ msgs Message center for Operat Robot Console APP Log M Robot Console Security Au Robot Console Security Au Robot Console Security Au Robot Console Resource N Robot Console Resource N Robot Console Resource N Robot Console Resource N Robot Console Ressage C roxy's center schedule messages Terri's MC Ters' for Doug age arrives: No Message Center if no reply: No Message Center if no reply: Yes r: HOST on: STITC	r sys ions onitors idit its tory lonitor enter CENTER	

Explorer menus

Explorer toolbar

Tree View

The Explorer tree breaks down Robot Console into major functional groups: Message Centers, Monitored Objects, Message Sets, Notification Lists, System Setup, and Reports. Under each group, you can see the types of objects that you can work with. When you select an option in the Tree view, the <u>List view</u> to the right displays a detailed list of the objects. The tree automatically organizes the objects you create and allows you to sort them by type as you work with them.

List View

The List view displays the detail of the selected object in the <u>Tree view</u>. For example, click Monitored Objects in the Tree view to display the types of objects that Robot Console monitors. When you click Message Queue Monitors in the Tree view, the List view displays all message queues.

QuickView

The QuickView is located below the <u>List view</u>. It displays detailed information about the selected item in the List view. For example, if you select a message queue from the List view, the QuickView displays a summary of the message queue's properties.

Explorer Menus

Menu Bar

The Robot Console Explorer menu bar contains four menus: System, View, Tools, and Help.

Menu	Function
<u>System</u>	Use to display, add, edit, or remove connection profiles, and to exit Robot Console. Also, use to connect or disconnect from a system, and to change the password needed to connect to a system.
View	Use to change the appearance of the Robot Console Explorer and to refresh the display.
Tools	Use to set your Robot Console preferences.
<u>Help</u>	Use to display technical information about Robot Console, access Robot Console online help, specify your level of log detail, and update your Robot products.

Other Explorer Menus

Throughout the Robot Console Explorer, you can display other menus. To determine whether there is a menu for a particular window or tab, <u>right-click</u> an object that's displayed. If a menu opens, the active menu options are black and the inactive menu options are disabled (grayed out).

System Menu

Use the System menu to manage your systems. You can connect or disconnect from an IBM i system, view, edit, or create connection profiles you use to connect to IBM i systems, or exit Robot Console.



Select **Connection Properties** to <u>create and maintain the connection profiles</u> you use to connect to systems. You can add profiles authorized to a standalone Robot Console system (direct connect) or to a Robot Network host (provided Robot Network is also installed on that system). You can edit or remove any of the profiles you've added, as well as change the profile's password.

Select Exit to close the Robot Console Explorer.

Connection Properties Window (Profile List)

To open the Connection Properties window, click the **System** menu and select **Connection Properties**.

Use this window to add, edit, and remove Robot Console Explorer connection profiles for the IBM i systems where Robot Console is installed. You can add profiles authorized to a standalone Robot Console system (direct connect) or to a Robot Network host (provided Robot Network is also installed on that system).

Connection Prop						
- connection Prop	erties					
Alias 🔺	IP Address 🔺	User Name 🔺	System Type 🔺	Secure 🔺	Cert Expiration 🔺	<u>A</u> dd
sa_da	da	qsecofr	Stand Alone	Yes	2018-Dec-01	
TED	TED	qsecofr	Stand Alone	No		Edit
						Remove
						Retrieve <u>C</u> ertificate
						Change <u>P</u> assword

You can do the following:

- Click Add to add a new connection profile. The Connection Properties window opens.
- Select a connection profile and click Edit to modify it. The <u>Connection Properties</u> window opens.
- Select one or more connection profiles and click **Remove** to remove them. You are asked to confirm the removal.
- Click Retrieve Certificate to retrieve certificates for systems which may have had their certificates updated. Multiple systems can be selected at once. See <u>Secure</u> <u>Connection</u> for more information.
- Select a connection profile and click Change Password to change the current user's password on the IBM i system. The <u>Change Password</u> window opens. When you change the password, it's changed on the IBM i system and also in the Connection Properties for Robot Console.

Note: You can also accomplish the above functions by right-clicking a profile and selecting an option from the menu that opens.

Connection Properties Window

To open the Connection Properties window, click the **System** menu and select **Connection Properties**. Then, either add a new profile or edit an existing one.

Use this window to add or edit a connection profile for Robot Console Explorer to an IBM i system that's running Robot Console.

Connection Properties X
Alias:
Connection Information
System Type: Standalone System Robot Network Host
IP Address:
Port: 7474
Connection Type: 🗌 Secure via IBMi Certificate
Login Confirmation
User Name: Advanced
Password:
Confirm Password: Verify
OK Cancel

Complete the following fields:

- Alias: Enter the system's alias.
- System Type: If Robot Console is a standalone installation on this system, select Standalone. If you also have the Robot Network host installed on this system and you want to run Robot Console Explorer in Host mode. be sure to select Robot Network Host.
- **IP Address:** Enter the **IP Address** for the system. Or, enter the system name if the IP address is unknown.
- **Port:** The default port number is displayed. If you selected Robot Network Host as the connection type, you can enter a different port number for the connection that is used by Robot Network.
- **Connection Type:** is where you assign whether or not a standalone connection will be secure. When the Secure via IBMi Certificate option is checked and you click **Verify** or **OK**, an attempt is made to retrieve a certificate from the standalone system specified. See <u>Secure Connection</u> for more information.
- Login Confirmation: Enter the User Name and Password for the system; enter the password again to confirm it. Click the Verify button to verify that the user name and password are valid on the system.

• Advanced: (For advanced users only.) Click the <u>Advanced</u> button if you are managing your ASP group from the GUI rather than from the user profile and you have an instance of the Robot products in *SYSBAS and/or an IASP. In the window that opens, you can identify the ASP Group and Product Library combination that you want to use for this connection profile.

Click **OK** to save your changes and return to the list of connection profiles.

Advanced Connection Properties Window

You can open the Advanced Connection Properties window from Connection Properties.

Use this window to identify the ASP Group and Product Library combination that you want to use for this connection profile.

Advanced Connect	tion Properties
ASP Group:	*CURUSR
Product Library:	*DEFAULT
	OK Cancel

Complete the following fields:

- **ASP Group:** Enter the name of the ASP Group that you want to work with. The default is *CURUSR. Other acceptable values are *SYSBAS or the name of the independent ASP (IASP). **Note:** If you use the default value, *CURUSR, the ASP group that will be used for this connection profile is the one associated with the user you entered under Login Confirmation on the <u>Connection Properties</u> window.
- **Product Library:** Enter the name of the product library that you want to work with. You can leave this as *DEFAULT if you installed into the default library (RBTCONLIB). Otherwise, enter the name of the product library that you installed into.

Click **OK** to save your changes.

Secure Connection

When you add or edit a standalone connection, you have the option of making the GUI connection secure. This type of connection requires that there is a valid certificate on the standalone system.

Note: The Secure Connection option is not required for a Robot Network Host connection, which is always secure via Transport Layer Security.

To add a new secure connection:

- 1. Click **Add** from the Connection Properties window.
- 2. Fill out the fields as shown in the <u>Connection Properites Dialog</u> section. Be sure to select the **Secure via IBMi Certificate** checkbox.
- 3. Click **OK**. If retrieval of the certificate from the system is unsuccessful, an error message will display.

To update certificates for existing connections:

- 1. From the Connection Properties window, select one or more system connections and click Retrieve Certificate.
- 2. If the retrieval is successful, the Certificate Expiration field in the connections grid will update with the new date. If retrieval of the certificate from the system is unsuccessful, an error message will display.

Change Password Window

There are two ways to open the Change Password window:

- In the Tree view, right-click the system you want to work with and select **Change Password**.
- Click the **System** menu, and select **Connection Properties**. Select a system and click **Change Password**.

Use this window to change the IBM i password for the current user.

View Menu

The View menu lets you change how the Robot Console Explorer looks and the options that display. Using this menu, you can display or hide the Toolbar, the Status Bar, and the QuickView, and you can change the look and feel of the Robot Console Explorer window.

Vie	w <u>T</u> ools <u>H</u> e	lp	_
	<u>T</u> ool Bar	Ctrl-T	💰 i ಿ i (
	Status <u>B</u> ar	Ctrl-B	
•	<u>Q</u> uickView	Ctrl-Q	💻 Message
	Look & Fee	•	<u>A</u> lloy [■]
	2 <u>R</u> efresh	F5	○ A <u>c</u> id
Application Log Monitors			○ <u>B</u> edouin
essage Sets		O Glass	
) All	Message Sets	l	

Click Tool Bar to display or hide the toolbar.

Click **Status Bar** to display or hide the status bar in the bottom of the Explorer window.

Click **QuickView** to display or hide the <u>QuickView</u>.

Select **Look & Feel** to change how the Robot Console Explorer window looks. Selecting a new look and feel changes the color and font scheme and how the buttons appear on the window. Robot Console is shipped with a default look and feel of Alloy.

Select **Refresh** to update the information displayed in the Tree view, the List view, and the QuickView.

Defining Robot Console Settings

Select **Preferences** under the **Tools** menu to control certain aspects of what Robot Console does at startup and while it's running.



Robot Console Preferences

Use the Preferences window to set up system sounds, software updates, notification, and message center preferences. There are three tabs: <u>General</u>, <u>Date/Time</u>, and <u>Resource Monitor</u> <u>Status</u>.

General Tab

Use the General tab in the Preferences window to set up general system behavior.

Preferences	;		X
General	Date/Time	Resource Monitor Status]
🗹 Play ap	oplication sour	ds	
Check	for software u	odates on the iSeries	
🗹 Notify	me when new	messages arrive	
NOT	E: Profile must	be the User to Notify or in a	Notification List for a Message Center
Notif	fication Refresh	n Rate: <u>30</u> Secon	ds
Image: Contract of the second seco	Display Messag	e Notifier after connecting	
Message	Center Default	Refresh Rate: 60 🖨	Seconds
Display	y Message Cen	ter after connecting: QS	(SOPR
			OK Cancel

You can change the following settings:

- Select **Play application sounds** to play sounds when you start and stop Robot Console.
- Select **Check for software updates on the iSeries** to automatically check for a newer version of the Robot Console GUI software when you start Robot Console.
- Select **Notify me when new messages arrive** to display a pop-up window when a new message arrives on one or more message centers for which you are specified as the person to be notified. An icon in the Windows system tray indicates when message notification is active (see <u>Message Notification</u> for more information).
 - Use Notification Refresh Rate to specify how often the message notification display should automatically refresh. You can specify any value between 5 seconds and 999 seconds (16.65 minutes). The default refresh rate is to refresh every 30 seconds.
 - Select Display Message Notifier after connecting to have the Message Notifier window open when you first connect to a system. It will stay open until you close it or you disconnect from the system. See <u>Message Notifier Window</u> for more information on the Message Notifier window.
- Use **Message Center Default Refresh Rate** to specify how often the message center display should automatically refresh. You can specify any value between 30 seconds

and 999 seconds (16.65 minutes). The default refresh rate is to refresh every 60 seconds.

 Select Display Message Center after connecting to specify a message center to automatically display when you connect to a system using the Explorer. Then, either type the name of the message center in the field, or click the finder button to locate and select a message center.

Date/Time Tab

Use the Date/Time tab in the Preferences window to select how you want the date and time to appear in Robot Console.

Preferences	
General Date/Time Res	ource Monitor Status
Select how you would like the	date and time to appear within this application.
Current date and time format	12/13/2014 21:11:32
Select a date format	Month Day Year 💌
Select a date separator	Slash 💌
Select a time separator	Colon
	OK Cancel

You can change the following settings:

- Current date and time format displays the date and time format currently being used. The default date format is mm/dd/yyyy (Month Day Year) using a slash (/) as a separator. Time is shown in an hh:mm:ss format. The default time separator is a colon (:).
- Use **Select a date format** to specify the format to use for dates. You can select Month Day Year, Day Month Year, or Year Month Day.
- Use **Select a date separator** to select the separator to use between the month, day, and year. You can select a slash (/), dash (-), dot (.), comma (,), or space ().
- Use **Select a time separator** to select the separator to use between the hours, minutes, and seconds. You can select a colon (:), dot (.), comma (,), or space ().

Resource Monitor Status Tab

Use the Resource Monitor Status tab in the Preferences window to specify the default settings for the Resource Monitor Status window. You specify the resources to display based on their monitoring status.

Preferences
General Date/Time Resource Monitor Status
Refresh Rate: 1 Minutes
Default Statuses
🗹 Failed 🗹 Held 🗹 Pending 🗹 Passed 🗹 Unknown
View Resource Monitor Status after connecting
OK Cancel

You can change the following settings:

- Use Refresh Rate to specify the rate (in minutes) at which the Resource Monitor display refreshes. You can specify any value between 1 and 1440 minutes (24 hours).
- Use **Default Statuses** to specify the types of resources that should display based on their monitored status. You can specify any combination of the following:
 - Failed The resource is not in its expected status.
 - Held The resource is currently held.
 - Pending A parent resource of the resource is held or failed.
 - **Passed** The resource is in its expected status.
 - Unknown The resource has not been checked or the object does not exist.
- Select View Resource Monitor Status after connecting to automatically display the Resource Monitor Status window when you open the Explorer and connect to a system.

Note: If you use the Resource Monitor Status window to change these settings dynamically during your session and then exit Robot Console, what you set here will be in effect when you start a new session.

Help Menu



Use the Help menu to display the Robot Console online help. The Help menu also allows you to start GUI logging or display the About Robot Console information.

- Select **Robot Console Help** to open the online product help. You can also open the help by pressing **F1** at any time.
- Select GUI Logging to start or stop writing troubleshooting information to a log file on your system. You can also specify the level of detail—Simple, or Detailed.

Note: You only need this information if requested by Robot Technical Support.

• Select **Update Software** to have Robot Console check to see if there is a more current version of Robot Console Explorer software available. Robot Console compares the version currently on the server to the one you are currently using.

Note: You can automatically check for later versions of Robot Console Explorer software at startup time. You set this up under **Tools > Preferences > General** tab.

Before you can load the latest Robot Console Explorer software, you must close any other Robot products that are currently running on the PC.

- To load the latest version of Robot Console Explorer and update your PC software, click **Yes** and follow the prompts that display.
- To skip this process, click No.
- Select About Robot Console to display technical details about Robot Console.
 - Click the **Info** tab to see information about Robot Console GUI and its connection to the IBM i. Right-click to save the information to a file or copy to the clipboard for troubleshooting system errors or if you need to contact Robot Technical Support.
 - Click the **Release Notes** tab to display the Robot Console source software agreements.

Right-Click Menus

The Robot Console Explorer and its <u>toolbar</u> contain additional menus that provide standard functions. To display a menu for a particular object, right-click the object. Active menu options display in black; inactive menu options are grayed out.

DLS4	Watch NETNODE Logs D	eta
SYS1 🛛		'n
ISYS2	Prop <u>e</u> rties	
SYS3) Display <u>M</u> essages 🦉	
SYS4	St <u>a</u> rt	
SYSOPI	🔲 Sto <u>p</u>	
ISYSOPI	🔁 <u>N</u> ew	
BCDIAC	Depy	ł
BCLOG	-	
BCRSC	😢 <u>D</u> elete Delete	_
BCTEST	🜆 Export to an XML file	
CHEDU	Send <u>T</u> o	

Creating, Editing, Copying, and Deleting Objects

You can create new objects, and edit or delete existing objects, directly from the Robot Console Explorer by using the right-click menus.

To create a new object, right-click the object type and select **New**. The Properties window opens, allowing you to name the new object and specify its properties.

To edit an existing object, right-click it and select **Properties**. The Properties window opens, allowing you to make the changes you need.

To create a new object from a copy, right-click the object and select **Copy**. The Properties window for a new object (the copy) opens. You can then rename the object and modify its information.

To delete an object, right-click it and select **Delete**. A confirmation window displays asking you to verify the deletion. The confirmation window also describes any other effect the deletion might have.

Copying Information to the Clipboard or Saving to a File

Many Robot Console right-click menus include the following options: Copy To Clipboard, Select All, and Save Selected. Use these options to copy the selected contents of the active table, tab, listing, or area to the clipboard or a text (.txt) file. You can then reuse this data with other applications, such as spreadsheets and text editors.

To save some or all of the information displayed in a window, highlight the portion you want to save, or right-click and click **Select All**. Then, right-click and select **Save Selected** to save

the contents to a file, or **Copy to Clipboard** to copy the selected data to the clipboard. A window displays asking if you want to include the table column header information.

If you save the selected data to a text file (.txt), a window displays allowing you to name the file and select the location where it will be saved.

Explorer Toolbar

The Robot Console Explorer toolbar allows you quick access to common views and tasks. You can show or hide the toolbar by using the <u>View menu</u>.

💉 🚜 i 😌 i 😪 🚆 i 🔜 🤤 🖾 i 🔤 🕻 🦉 i 🚍

Connect (\mathbf{M}) to or disconnect (\mathbf{M}) from an IBM i system.

- Refresh the Robot Console Explorer display.
- Set up a new message set using the wizard.
- Import XML files containing Robot Console objects.
- Display message history.
- List the active message sets.
- View the status of your resource monitors.
- Display the disk status for the system.
- Display the status of the system.
- Work with spooled files using a spooled file viewer.
- Work with the active jobs on the system.
- Display a message center so you can work with its messages.

Note: For many of the above icons, if you click the icon when you are working in <u>Host mode</u>, you'll be able to select which system (the host or one of the nodes) that you want to view.

Filtering Data and Displays

In various parts of the Robot Console Explorer you have the option to filter data and displays using the Data Filter Manager and standard filters supplied with Robot Console or filters that you create. You can also sort information using column headings.

Data Filter Manager

The Data Filter Manager allows you to work with data filters for certain Robot Console displays that can be filtered, such as the Status Center. You can use the Data Filter Manager to copy existing filters, to rename and edit filters, to create new filters from scratch, to set a particular filter as the default for a display, and to export/import filters to/from other locations.

For details on how to create and use data filters, see Data Filter Manager Window.

Sorting Information

If a column heading on a Robot Console Explorer tab contains up and down arrows, you can use them to sort the information in the column based on the type of information.

When you click an arrow, the column redisplays with the information re-sorted.

- The up arrow sorts from oldest to newest, least to greatest, or in alphabetical order (A-Z).
- The down arrow sorts from newest to oldest, greatest to least, or in reverse alphabetical order (Z-A).

Note: The column with the highlighted arrow is the one by which the list is sorted.

Options Available at the System Level

• Import XML

Note: If you are working in Host mode and you right-click a host, your menu will be different. For details, see <u>Working with Host Systems</u>.

Starting or Stopping Robot Console

To start or stop Robot Console, right-click a system you are connected to and select **Start Robot Console** or **Stop Robot Console**. You're asked to confirm your decision.

When Robot Console is started, its status changes to Active. When it's stopped, its status changes to Inactive. You can see this status in the status bar, provided you have that enabled. For details on enabling it, see the <u>View Menu</u>. Even if you don't have the status displayed, you can still check the status by right-clicking a system and selecting **Show Robot Console Status**.

Note: You can still work in Robot Console Explorer, even if Robot Console is inactive (stopped). But, be aware that no messages are processed while Robot Console is inactive.

Showing Robot Console's Status

When Robot Console is started, its status changes to Active. When it's stopped, its status changes to Inactive. You can see this status in the status bar, provided you have that enabled. For details on enabling it, see the <u>View Menu</u>. Even if you don't have the status displayed, you can still check the status by right-clicking a system and selecting **Show Robot Console Status**.

If the connection is secure, that secure status will also display in the lower right corner. If the connection is not secure, no secure status will display.

Starting or stopping Robot Console

Editing the Library List

You can use this window to edit the library list for the current session. This may be useful, for example, if you have a message set containing OPAL code that calls a program in a specific library. **Important:** When you edit the library list for a system, the change is in effect only during the current session.

To open this window, right-click a system in the Tree view and select **Edit Library List** from the menu.

Follow these steps:

- 1. Type a different ASP group name in the ASP Group field or click the drop-down list to select one.
- 2. Click **Add** to add a library to the library list. Type the library name in the blank line, or click the Finder icon () to select from a list of libraries.
- 3. To remove a library from the list, select the library and click **Remove**.
- 4. When you select a library, the **Move Up** and **Move Down** buttons become active. Use these buttons to change the library's position in the library list.
- 5. Click **Import** to display the Job Description Finder window. It lists the job descriptions within an ASP group, by library. Use this to find and import a library list that replaces the current one. **Note:** After you import a library list, you can always make changes to it by using the **Add**, **Remove**, **Move Up**, and **Move Down** buttons.
- 6. Click **OK** to save your changes, or **Cancel** to cancel them.

View Disk Status Window

The View Disk Status window shows performance and status information about the disk units on the system you selected. This is the same as entering WRKDSKSTS from a command line in the green screen.

There are two ways to open this window:

- Right-click a system in the Tree view and click **View Disk Status**. If you are working in Host mode, you can right-click either the host or a node.

2	Unit	Туре	Size (MB)	% Used	I/O Requ	Request	Read Req	Write Req	Read Data	Write Data	% Busy	ASP	Protection Type	Protection Status	Compression
	1	4327	70,565	27.3	19.6	15.0	11.1	8.5	20.3	8.2	9	1	None		No
	2	4327	70,565	27.3	9.8	15.1	6.5	3.3	18.7	7.9	4	1	None		No
	3	4327	70,565	27.3	17.6	6.9	5.2	12.4	10.4	5.5	9	1	None		No
	4	4327	70,565	27.3	11.7	8.3	4.6	7.2	9.2	7.8	6	1	None		No

The table shows the following data:

- Unit: This is the same number used by the display disk configuration function of system service tools. If the disk unit identifier is 0, the disk unit is not configured.
- Type: The type of disk unit.
- Size (MB): The total amount of storage (in MB) that the unit can contain.
- % Used: The percentage of the disk that is currently allocated. If the unit is an independent ASP which is currently in a varied off state, this field may be blank.
- I/O requests: The average number of I/O requests for read and write operations that occurred per second during the elapsed time.
- Request size (KB): The average size of an I/O request in KB during the elapsed time.
- Read requests: The average number of requests per second to transfer data from the disk unit during the elapsed time.
- Write requests: The average number of requests per second to transfer data to the disk unit during the elapsed time.
- Read Data (KB): The average amount of data, in KB, transferred from the disk unit, per request, during the elapsed time.
- Write Data (KB): The average amount of data, in KB, transferred to the disk unit, per request, during the elapsed time.
- % Busy: The estimated percentage of time the disk unit is being used during the elapsed time. This estimate is based on the number of I/O requests, the amount of

data transferred, and the performance characteristics of the type of disk unit. This field is blank if the performance characteristics of the disk unit are not available.

- ASP: The auxiliary storage pool identifier for the unit.
- Protection Type: This field shows whether the unit is under mirrored protection provided by the system software, and the type of protection.
- Protection Status: The protection status of the individual unit.
- Compression: Indicates whether or not the data on the unit is compressed.

System Status Window

The View System Status window displays information about the system you selected.

There are two ways to open this window:

- Click the View System Status icon () in the <u>toolbar</u>. If you are working in <u>Host</u> <u>mode</u>, you then select the host or a node.
- Right-click a system in the Tree view and click **View System Status**. If you are working in Host mode, you can right-click either the host or a node.

The following information is displayed:

Server Date/Time

• Displays the current date and time on the server.

CPU Status

• CPU Utilization %: Percentage of the system's processor currently being used.

Auxiliary Storage Status

- System ASP (MB): Amount of auxiliary storage, in MB, dedicated to memory pools.
- % System ASP Used: Percentage of total auxiliary storage being used.
- Total Auxiliary Storage (MB): Amount of auxiliary storage, in MB.

Jobs Status

- Jobs in System: Total number of jobs currently on the server.
- Batch Jobs Running: Number of batch jobs currently active on the system.

Users Status

• Currently Active Users: The number of interactive users who are currently active on the system.

Storage Pools

- System pool: System memory pool number.
- Pool size (MB): Size of the memory pool, in MB.
- Reserved size (KB): Amount of space reserved for the memory pool, in KB.
- Pool name: Name of the memory pool.
- Pool description: Description of the memory pool.

Work with Spooled Files Window

The Work with Spooled Files window displays a list of the spooled files on the system. Use it to view, print, and delete any of the spooled files. You can work with all of the spooled files on the system, just the ones belonging to the user profile that is using the viewer, or create a custom filter to display certain spooled files.

There are two ways to open this window:

- Click the Work with Spooled Files icon (
 in the toolbar. If you are working in Host mode, you then select the host or a node.
- Right-click a system in the Tree view and click **Work with Spooled Files**. If you are working in Host mode, you can right-click either the host or a node.

Initially, you can filter the display using the following options:

- All Spooled Files
- Current User (the default setting)

Select a Data Filter to narrow the list. Or, click the filter icon (\bigcirc) to view or create your own data filters using the Data Filter Manager. See <u>Filtering Data and Displays</u> for more information.

For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see Copying Information to the Clipboard or Saving to a File.

Date Queue Date QUENCIAL 12/15/2014 09:02:24 C QPDSPJOB QUSRSYS/QEZDEBUG RBTUSER QPRTJOB 12/15/2014 09:02:1 QCOSCUCTOR OF OCCUCTOR OF OCUCUTOR OF OCUC	ata Filter: All Sp	ooled Files				•				
12/15/2014 09:02:2 OCCULCENTER ALL ALLERCYC (CETRENUG QUSER QZDASOINIT 12/15/2014 08:59: View JG RBTUSER QPRTJOB 12/15/2014 08:59: Display Properties JG QUSER QZDASOINIT 12/15/2014 08:59: Display Properties JG QUSER QZDASOINIT 12/12/2014 14:06: Display Properties JG QUSER QZDASOINIT 12/12/2014 14:06: Edit Properties OG QPADEV0001 STEVEF QPADEV0001 12/12/2014 10:32: Delete Delete OG B25196 RBTUSER B25196 12/12/2014 10:32: Release Delete Nove to Top of Queue RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32: Move to Top of Queue RBC406 KENSECOFR QPRTJOB Delete RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32: Copy to Clipboard Ctrl-C RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32: Select All Ctrl-A RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32: Select All Ctrl-A RBC406 KENSECOFR	Creatio Date	י 🗸	File 🔦		- pr	1	User Data 🔺	User 🔦	Job Name 🔦	Ji
I2/15/2014 08:59: View JG RBTUSER QPRTJOB 12/15/2014 08:59: Display Properties JG QUSER QZDASOINIT 12/12/2014 14:05: Display Properties JG QUSER QZDASOINIT 12/12/2014 14:05: Edit Properties OG QPADEV0001 STEVEF QPADEV0001 12/12/2014 14:05: Delete Delete OG B25196 RBTUSER B25196 12/12/2014 10:32: Pelete Delete OG B25196 RBTUSER B25196 12/12/2014 10:32: Release RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32: Move to Top of Queue RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32: Copy to Clipboard Ctrl-C RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32: Select All Ctrl-C RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32: Select All Ctrl-A RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32: Select All Ctrl-S RBC406	12/15/2014 09	:02:24 C	QPDSPJOB	QUSRSYS/	QEZDEB	UG		RBTUSER	QPRTJOB	
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12/12/2014 10:32:4 Move to Top of Queue RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32:4 Copy to Clipboard Ctrl-C RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32:4 Copy to Clipboard Ctrl-C RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32:4 Select All Ctrl-A RBC406 KENSECOFR QPRTJOB 12/12/2014 10:32:4 Select All Ctrl-A RBC406 KENSECOFR QPRTJOB 12/12/2014 10:18:5 Save selected Ctrl-S RBC406 KENSECOFR QPRTJOB	12/12/2014 10	:32:4					RBC406	KENSECOFR	QPRTJOB	
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	12/12/2014 10	12/12/2014 10:08:46 C RBC406P QGPL/QPRINT					RBC406	KENSECOFR	QPRTJOB	

See the following sections for information on the tasks you can perform by right-clicking a file and selecting an option from the menu.

Viewing a Spooled File

To view a spooled file: In the Work with Spooled Files window, right-click a single row and select **View**. The <u>View Spooled File</u> window is displayed, where you can search for a text string.

Note: The View option is not available if you select multiple rows.

Displaying and Editing Spooled File Properties

To view a spooled file's properties:

- 1. In the Work with Spooled Files window, right-click a single file and select **Display Properties**. For details about these properties, refer to the appropriate IBM documentation.
- Right-click one or more properties to save the property information to a file or copy it to the clipboard. See <u>Copying Information to the Clipboard or Saving to a File</u> for more information.
- 3. Click Close.

To edit a spooled file's properties:

1. In the Work with Spooled Files window, right-click a single file and select **Edit Properties**.
- 2. Change the properties you want in the Spooled File Edit Properties window.
- 3. Click OK.

Holding, Releasing, and Queuing Spooled Files

To hold one or more spooled files: In the Work with Spooled Files window, select the files. Then, right-click them and select **Hold**.

Notes:

- The job's other spooled files, if any, continue to print. However, the selected spooled files won't print until you release the hold.
- Held spooled files show a status of *HELD in the Work with Spooled Files window,

To release one or more held spooled files so they start printing again: In the Work with Spooled Files window, select the files. Then, right-click them and select **Release**.

To move one or more spooled files to the top of the print queue: In the Work with Spooled Files window, select the files. Then, right-click them and select **Move to Top of Queue**. If you are moving several files, they will all move to the top of the print queue, with the oldest ones queued first.

Deleting Spooled Files

To delete one or more spooled files from the system.

- 1. In the Work with Spooled Files window, select the files.
- 2. Right-click the files and click **Delete**. You're asked to confirm the deletion.
- 3. Click **Yes** to delete, or **No** to cancel.

View Spooled File Window

Use the View Spooled File window to display the spooled file.

There are several controls at the top of the page that allow you to work with the spooled file.

🗟 View Spooled File (551982/SECOFR/QPRTJOB RBC406P 12) - HS4	- • •
Page: 1 of 1	Font Size: Medium 💌
Search For:	Bar Color:

You can do the following:

- **Page:** Enter a page number and click the Jump button () to display a particular page of the spooled file.
- Search For: Enter a text string and click the Find Text button () to search the spooled file for it. Or, click the Search For drop-down and select a previously entered text string. The results of the search are highlighted in the viewer. To repeat the search, click the Find Next Text button (). Select Match Case to perform a case-sensitive text search.
- Font Size: Select from the Font Size drop-down list to change the size of the font used in the display.
- **Bar Color:** Click the Bar Color button () to change the color of the alternating bars that display in the spooled file. Changing the color can make it easier to locate items in a spooled file. The Bar Color window allows you to select a color for the spooled file from five palettes:
 - The Swatches palette allows you to select a color from a color palette. It also displays the recent colors selected.
 - The HSV, HSL, RGB, and CMYK palettes allow you to create your own colors and gradients manually.

Spooled File Properties Window

To view the Spooled File Display Properties window, open the <u>Work with Spooled Files</u> <u>window</u>, right-click a file, and select **Display Properties**. The properties of the spooled file are displayed along with their associated values.

lob: 554193/QUSER/QZDASOINIT	Spooled File/Number: QSQSVCDMP/1	
Property	Value	
Accounting Code		4
Align Page	No	
ASP	1	
Characters Per Inch	10.0	
Copies Left to Produce	1	
Copies	1	
Date/Time file was opened	12/16/2014 10:34:13 CST	
Date File Last Used	12/16/2014	
Device Type	PRINTER	
File Becomes Available	*FILEEND	
Form Feed	*DEVD	
Form Type	*STD	
Hold Before Written	No	
Last Page Printed	0	
Lines Per Inch	6.0	
Output Priority	5	
Output Queue	QUSRSYS/QEZDEBUG	
Overflow Line Number	60	
Page Count Estimate	No	
Page Range Start	1	
Page Range End	*END	5

To edit the spooled file properties, open the <u>Work with Spooled Files window</u>, right-click a file, and select **Edit Properties**. The Spooled File Edit Properties window opens. It allows you to change the values of the spooled file properties. When you are finished, click **OK**.

Spooled File Edit Prop	erties - HS4			×
Job: 554193/QUSER/	QZDASOINIT	Spooled File/Number:	QSQSVCDMP/1	
Align Page:	○Yes			
Copies:				
Form Feed:	Device [-		
Form Type:	*STD			
Output Queue:	QUSRSYS/QEZDEBUG	Q		
Page Range Start:	Start Page [Page Range End:	End Page	
Print Quality:	Standard [•		
Restart Printing:	Start Page [•		
Save After Written:				
User Data:				
			ОКСа	ancel

Work with Active Jobs Window

The Work with Active Jobs window contains information about all of the jobs currently active in your IBM i. Use the Work with Active Jobs window to display job attribute and job log information for the active jobs on your system. You also can hold or end a job and display the job QHST log from this window.

There are two ways to open this window:

- Click the Work with Active Jobs icon (
) in the toolbar. If you are working in Host mode, you then select the host or a node.
- Right-click a system in the Tree view and click **Work with Active Jobs**. If you are working in Host mode, you can right-click either the host or a node.

You can filter the display using the following options:

- All Jobs (the default setting)
- RBTSLEEPER Subsystem
- Current User

👤 Worl	k with Active Jobs	- YOG				- • •
Data Fi	ilter: All Jobs	[•			
2	Subsystem	~	Job Name 🔺	User \land	Number 🔺	Туре 🔨
RB	STSYSLIB/RBTSLEE	PER	NETWORK	RBTUSER	038101	2: Batch 🔺
RB	TSYSLIB/RBTSLE	Job Attrib		RBTNETPT	038102	2: Batch
RB	TSYSLIB/RBTSLEE	JOD Attrib	utes	RBTNETPT	038103	2: Batch
Q	SYS/QUSRWRK	End job		QUSER	025714	2: Batch
Q	SYS/QUSRWRK	Hold job		QSYS	011405	4: Subsystem m 📃
Q	SYS/QUSRWRK	Release jo	b	QUSER	011509	2: Batch
Q	SYS/QUSRWRK	Display Jo	b QHST Log	QUSER	011432	2: Batch
Q	SYS/QUSRWRK	Display Jo		QUSER	011512	2: Batch
Q9	SYS/QUSRWRK	Uspiay Ju	QZRC3RV3	QUSER	011903	2: Batch

See the following sections for information on the tasks you can perform by right-clicking a job and selecting an option from the menu.

Job Attributes

To display a job's attributes, right-click a job in the Work with Active Jobs window and select **Job Attributes**. The Display Job Attributes window contains information about the job's attributes organized by status, definition, run, and library list. Use this information for troubleshooting when job problems occur. (For specific information about the information displayed, refer to the appropriate IBM documentation.)

To copy or save the information from any tab in this window, right-click a row, then select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

Ending Jobs

If you have the proper authority, you can end any job from the Work with Active Jobs window. To end a job:

- 1. Right-click the job in the Work with Active Jobs window and select End Job.
- 2. When the confirmation window is displayed, check the **Use *IMMED when ending** box to end the job immediately (this is the default setting). If you clear the checkbox, the job is ended in a controlled manner (*CNTRLD).
- 3. Click Yes to end the job, or No to cancel.



Note: Your IBM i user profile authority determines which functions you can perform on the system. The Robot Console Explorer does not override this authority.

Holding and Releasing Jobs

You can hold and release jobs and their associated spooled files using the Work with Active Jobs window. When you hold or release a job, the window refreshes and the job's new status displays. You can only hold or release one job at a time.

Note: If the job is currently held, the Hold Job option is unavailable (grayed out); conversely, if the job is active, the Release Job option is unavailable (grayed out).

To hold a job:

- 1. Right-click the job in the Work with Active Jobs window and select Hold Job.
- 2. When the confirmation window is displayed, check the **Hold the spooled files for the job also** box if that's what you want to do (this is the default setting). Clear the checkbox if you don't want the job's spooled files held.
- 3. Click Yes to end the job, or No to cancel.



To release a job: In the Work with Active Jobs window, right-click the job and select **Release**.

Displaying the Job QHST Log

Use the Display Job QHST Log option to display the message history log (QHST) entries for the selected job.

- 1. Right-click the job in the Work with Active Jobs window and select **Display Job QHST Log**. The History Log window is displayed. The log shows the contents of the job log associated with the job message history.
- 2. From the History Log window, you can save one or more of the displayed messages to a file or the clipboard (instructions are below).
- 3. Also, from the History Log window, you can display details about a message in the QHST message history log. Right-click a single message, then select **Message details**.
- 4. From the <u>Message Details window</u>, you can save some or all of the message detail to a file or the clipboard (instructions are below).

To copy or save the information from the History Log or Message Details windows, rightclick a row and select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

Displaying the Job Log

Use the Display Job Log option to display the system messages for the job you have selected.

- 1. Right-click the job in the Work with Active Jobs window and select **Display Job Log** to display the contents of the job log associated with the job.
- 2. From the Job Log window, you can save one or more of the log entries to a file or the clipboard (see below).
- 3. Also, from the Job Log window, you can display details about a message in the job log. Right-click a single message, then select **Message details**.
- 4. From the <u>Message Details window</u>, you can save some or all of the message detail to a file or the clipboard (see below).

To copy or save the information from the Job Log or Message Details windows, right-click a row and select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

Message Details Window

Use the Message Details window to display details for the selected job log or history log message.

Attribute	Value
Job	039559/RBTNETPT/NETHOST
Message ID	CPCA980
Message Severity	0
Node Date Sent	12/18/2014 07:43:14
Message Type	Completion
Environment variable added.	
	ent variable 'COMPUTERNAME' has been added.
Environment variable added. Cause : Environma	ent variable 'COMPUTERNAME' has been added.

To copy or save the information, right-click a row in the top section and select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see Copying Information to the Clipboard or Saving to a File.

Importing and Exporting Objects

Several types of import and export operations are available in Robot Console:

- Importing from XML or exporting to XML.
- Importing from RBCMRGLIB or exporting to RBCMRGLIB.

See the following sections for more information on the above import and export operations.

Exporting to an XML File

To export Robot Console objects to an XML file:

- 1. Choose an object type or an individual object to export:
 - From the Tree view, right-click an object type and select Export to an XML file (or Export > Export to an XML File) to export all of the Robot Console objects of that type.

- From the List view or in a window, select the objects. Use the Shift or Ctrl keys
 to select more than one. Then, right-click the objects and select Export to an
 XML file (or Export > Export to an XML File) to export only that object and its
 related objects.
- 2. The Export to XML window lists all the objects that are associated with what you selected in step 1.

Export to XML	×
What do you want to export?	
Message Groups	
Message Sets	(7)
Message Tables	(7)
OPAL Tables	
Message Queue Monitors	
Message Centers	NOESCALATE
Notification Lists	
File Name:	Q
	OK Cancel

You might see three different indicators:

- Objects that must be part of the export (grayed out and checked).
- Objects that cannot be exported (grayed out and not checked).
- Optional objects that may or may not be exported (check boxes are active).

By default, all of the active, optional boxes are checked (all of those objects will be imported). Clear the checkmark by any object type you do not wish to import.

- 3. Enter a file name, or click the Finder () button to display the window you can use to locate or specify a file.
- 4. Click **OK** to start the export, or **Cancel** to cancel it. Robot Console notifies you when the export process is complete.

Export Confirmation

Use the export confirmation window to confirm the export operation and indicate whether the exported records should be added to or replace the records in RBCMRGLIB. Check the **Clear RBCMRGLIB before export** box if you want your export to replace the records already in RBCMRGLIB. Clear the checkmark if you want your export to be added to the records.

Importing From XML

To import Robot Console objects from an XML file:

- 1. Right-click the system in the Tree view and select **Import XML**. Or, click the Import from XML icon () on the Explorer toolbar.
- 2. Use the Select XML File window to locate and select the XML file that you want Robot Console to import. Click **Select**.
- 3. The Import Robot Console Objects window displays, listing the objects in the XML file by type. The number in parenthesis () indicates the number of objects of each type that are in the file.

By default, all the boxes are checked (all objects will be imported). Clear the checkmark by any object type you do not wish to import.

Import Robot Console Objects	\times
What do you want to import?	
Message Sets	(5)
Message Tables	(5)
File Name: C:\temp\Console 6 Exports\msg_tables.xml	
ОК Са	ncel

4. Click **OK** to start the import process, or **Cancel** to cancel it.

Note: Robot Console will not overwrite any existing object that has the same name as an object in the XML file.

Using RBCMRGLIB to Export and Import

Exporting to RBCMRGLIB

You can export Robot Console message sets to the RBCMRGLIB library and use that to move them to another system by transferring the library to the other system and importing the objects into the Robot Console database there. Exporting to RBCMRGLIB uses the Robot Console Merge Objects command (RBCMRG). It works differently from exporting to XML, and the types of objects you can export are limited. You can export message sets to the RBCMRGLIB using Robot Console Explorer or by using the Robot Console RBCMRG command. In either case, you can export message sets individually, by group, or by application. You can append the objects to the records already in RBCMRGLIB, or clear RBCMRGLIB before copying the objects.

To export to RBCMRGLIB:

- 1. Do one of the following:
 - In the Tree view under Message Sets, select All Message Sets, an application, or a message group. Then, in the List view, right-click the object you want to export and select **Export**, then **Export** (or **Export Group**). The Export window displays.
- In the Export window, check the box if you want to Clear RBCMRGLIB before export. This clears all existing objects in RBCMRGLIB before the objects are exported. Remove the check mark if you want to append the objects you are exporting to the records already in RBCMRGLIB.
- 3. Click **OK** to start the export. A message displays when the export completes successfully.

Note: When you export message sets to RBCMRGLIB, Robot Console doesn't export other objects, except for message groups and applications. that are attached to the message sets and affect how they operate. These can include: message tables, message queues, OPAL objects, Robot Schedule calendars, and so on. If you need those objects exported, use the <u>Export to XML</u> feature instead.

Importing From RBCMRGLIB

To import objects, use the RBCMRG command in the green screen to copy the records from RBCMRGLIB to the Robot Console database. After importing from RBCMRGLIB, the objects are displayed in the Explorer. The copied objects are identical to those on the original system. You can edit the copied objects as needed for the new system.

Importing and Exporting Data Filters

You can use the Data Filter Manager to import and export your data filters as XML files. This can be useful when you want to store a filter, or copy a filter to use on a different PC. You can export the filter to a location on your PC (or a network drive) and then use the Robot Console Explorer on a different PC to import the filter from the location where you exported it.

Note: You only can import and export filters that you created using the same Data Filter Manager—for example, the Data Filter Managers for the Message Center, Spooled Files, Message History, Resource Monitor Status, or Distribution History.

Use the Data Filter Manager window to export and import filters.

- To export a filter, select the filter, click **Export**, and specify the location using the Select export file window.
- To import a filter, click **Import** and select the file to import using the Select Import file window.

Miscellaneous Windows in Robot Console

The following sections describe several windows that you may see as you are working in Robot Console.

Data Filter Manager Window

The Data Filter Manager window is available in several of the windows, such as Message History, Resource Monitor Status, Work with Spooled Files, and Work with Active Jobs.

You can use the Data Filter Manager to create data filters for those displays that allow filtering. You can add, edit, copy, and delete existing filters; set a filter as the default for a particular display; and import and export filters.

Note: Filters that are bold in the list are system filters. They cannot be edited or deleted. Custom filters that you've added or imported are shown in regular text. They can be edited and deleted.

📃 Data Filter Manager	×
All Messages Application Log Monitor Messages Log Monitor Messages Messages Waiting for a Response Resource Monitor Messages Today's Messages [Default] R25	<u>Set Default</u> <u>Edit</u> <u>New</u> <u>Copy</u> <u>Delete</u> <u>Import</u> <u>Export</u>
Selec	

- Select a filter and click **Set Default** to set the filter as the default for that display.
- To modify a filter, select it and click the **Edit** button. See <u>List Filter Window</u> below for details on editing the filter.

- Click **New** to create a new filter.
- To duplicate a filter, select it and click **Copy**. In the <u>List Filter window</u> (see below), rename the copy and modify it, as needed.
- To delete a filter, select it and click **Delete**. You are asked to confirm the deletion.
- If you want to use a filter on another system, select the filter and click Export. Enter a name for the filter and save it to your PC. When you connect to another system from the same PC, click the Import button to import the filter. For details, see Importing and Exporting Data Filters.
- To filter the display, select the filter you want in to use and click **Select**. This is useful when you create or import a filter and want to implement it immediately without going back to the display and selecting it there.

Message history

Resource monitor status

Work with spooled files

Work with active jobs

List Filter Window

The <u>Data Filter Manager</u> allows you to work with data filters for certain Robot Console displays that can be filtered, such as Message History, Resource Monitor Status, Work with Spooled Files, Work with Active Jobs, and the <u>List view for Message Sets</u>.

When you use the Data Filter Manager to add, edit, or copy filters, or when you use Quick Filter for message sets, you use the List Filter window to create a data filter that restricts the items displayed in a window to those you want to see. You can choose to match *any* or *all* of the restrictions you specify.

- 1. Click the Data Filter Manager icon (\mathbb{S}) on any window that allows filtering.
- 2. To add a filter, click **New**. To edit a filter, select a filter from the list and click **Edit**. You can only edit filters that you've created.

3. Enter a unique Name for the filter.

🗔 List Filter	X
Name: R25 Messages	
Match all 💌 of the following conditions:	
Message Set Name contains R25 Image: Set Name Image:	- + * - + - +
Clear OK	Cancel

- 4. Select how the filter should Match the conditions you add. You can select 'all' or 'any'.
- 5. To add conditions:
 - a. In the first column, select an object or attribute from the list. The available items depend on the page you came from (Message History, Resource Monitor Status, and so on).
 - b. In the second column, select the comparison condition.
 - c. In the third column, enter or select a value to compare to the criteria you entered in steps 5a and 5b. The value determines what's displayed in the list.
 - d. If you need to add more than three conditions, click the plus button (+) by a condition to add a row immediately after it.
- 6. To remove a single condition, click the minus button (-) by it. To remove all the conditions, click **Clear**.
- 7. Click **OK** to save the filter and return to the Data Filter Manager.

Library Finder Window

Use the Library Finder to select from a list of the libraries on your system. Use the following fields to filter the list:

- ASP Group: Select * to display all libraries in all ASP groups. Or, select a specific ASP group from the list to display only the libraries in that group.
- Library Filter: Select *ALL to display all libraries in the system. Select *LIBL to display all libraries in your library list.

Click **Refresh** to display the most current system information.

Object Finder Window

Use the Object Finder to locate an object, for example, an output queue for a report. Note that the title in the window reflects what you are looking for. So, for example, if you are looking for a program, the title will be Program Finder.

When you change the filters on the Object Finder, click **Refresh** to see the most current system information. When you find the object you are looking for, highlight it and click **Select**.

Use the following to filter the list:

- ASP Group: Select * to display all objects in all ASP groups. Or, select a specific ASP group from the list to display only the objects in that group
- Library Filter: Select *ALL to display all libraries in the system. Select *LIBL to display
 all libraries in your library list. Or, you can click the <u>Library Finder</u> () to search for a
 specific library.
- Type Filter: If available, select the type of object you are looking for,
- Object Filter: Select *ALL to display all objects in the system. Select *LIBL to display all objects in your library list.

Where Used

The Where Used window is available for a number of Robot Console objects. It lists other Robot Console objects that use the object you are working with. To open the window, right-click a single object in the List view and select **Where Used** from the menu,

🗟 Prop <u>e</u> rties	
💻 D <u>i</u> splay	
🕒 <u>N</u> ew	
📄 <u>С</u> ору	
😣 <u>D</u> elete	Delete
🛗 Where Used	
Export to an XML fi	le
💐 Send <u>T</u> o	

The Where Used window has tabs for each of the object types that can use the object you are working with. In the pictured example, we're working with the message center QSYSOPR. The window has tabs that show what other message centers, message queue monitors, message groups, and message sets use the message center QSYSOPR. You can display "where used" information for message centers, resource monitors, message sets, message set applications, message groups, message files, message tables, OPAL tables, and notification lists.

Where Used: Message	Center QSYSOPR				×
Message Centers	Message Queue Monitors	Messa	age Groups	Message Sets	
<u></u>	Name		Description		
QSYSOPR KR	Rroperties		perator me	ssage queue	
	Copy to Clipboard	Ctrl-C			
	Select All	Ctrl-A			
	🗟 Save Selected	Ctrl-S			
[<u> </u>				C	lose

To display the properties of an object that's listed in the Where Used window, double-click it or right-click it and select **Properties**.

To copy or save the information from any tab in this window, right-click a row, then select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

Message Centers

Message Centers Overview

A Robot Console message center is a logical view of a message queue. It's a central location for answering and working with related messages. On the message center, you see:

- Messages sent to message queues assigned to the message center.
- Messages from other message centers that were copied or redirected to the center. These messages may have been copied or redirected from other systems in your IBM i network.

To speed message replies, Robot Console makes sure you see the message. If you do not have the message center displayed, you can have a pop-up window notify you immediately that a message is waiting (see <u>Message Notification</u>). You can even have the Message Notifier window remain open during your Robot Console session (set up in <u>Preferences</u>). You can go directly to the message center from the notification window.

Each time the message center display refreshes, any new messages since the last refresh are displayed. You can refresh the message center manually by using the Refresh button, and you can specify the default refresh rate (frequency) for message centers under <u>Preferences</u>.

When you right-click a message center in the List view, you can do the following:

- View or edit the message center's properties.
- Display the message center.
- Create a new message center.
- Copy the message center as a template for another message center.
- Delete the message center.
- Display information about where the message center is used.
- Export the message center objects to an XML file.
- Send the message center objects to other systems (Host mode only)

You can use message centers to diagnose problems on the network. If you are working on the Robot Network host, you can use Robot Console to diagnose problems on any system in the network. Use Robot Console to see the messages sent from a node on the network. Then, select a problem-solving option for a message. No additional signon is necessary—Robot Console and Robot Network work together seamlessly. Defining a message center

Working with message centers

Displaying a message center

Working with messages

RBCDIAG Message Center

A message center named RBCDIAG is defined when you install Robot Console. This message center receives the following diagnostic messages:

- Messages reporting problems to Robot Console.
- Messages when Robot Console starts or stops, or when a Robot Console job fails.
- Messages that OPAL code redirects to a message center that no longer exists.
- Cross-system messages that have been redirected to a nonexistent message center.
- Security code messages.
- Messages when FTP, history, security audit log monitoring, or application log monitoring starts or stops.
- Messages when resource monitoring starts or stops .
- Messages when emergency suppression mode is activated or deactivated.

Note: The user in charge of Robot Console should see these messages. Edit the definition for the RBCDIAG message center so that the User to Notify is the user in charge of Robot Console (for more information, see <u>Defining Message Centers</u>).

Defining a Message Center

Use the Message Center Properties window to define a message center (add or edit).

- To create a new message center, right-click **Message Centers** in the Tree view and select **New**.
- To view or edit the properties of an existing message center, right-click the message center in the List view and select **Properties**.

Message Center Properties	×
Name:	
Description:	
User Notification Device Notification Message Redirection	
□ Notify users when a new message arrives	
◎ User Name:	
O Notification List Name:	
□ Send Answered Messages to the Robot Network Host	
Informational Messages	
Notify Users of Informational Messages	
Minimum Severity Level: 99	
□ Send Informational Messages to the Robot Network Host	
Minimum Severity Level:	
OK Car	ncel

Add or edit the following fields:

- Name: Enter a unique name for the message center with no spaces in it. Max length: 10 characters. **Note:** You cannot change the name of an existing message center.
- Description: Enter an identifying description for the message center. Max length: 30 characters.

See the following sections for information on completing each of the tabs.

User Notification tab

Device Notification tab

Message Redirection tab

Overview of message centers

Working with message centers

User Notification Tab

The User Notification tab of the Message Center Properties window allows you to set up the details for message notification for this message center.

User Notification Device Notification Message Redirection
Notify users when a new message arrives
User Name:
O Notification List Name:
Send Answered Messages to the Robot NETWORK Host
Informational Messages
Notify Users of Informational Messages
Minimum Severity Level: 99
Send Informational Messages to the Robot NETWORK Host
Minimum Severity Level:

To complete the fields:

- Notify users when a new message arrives: Check this box to have a user or list of users be notified when a message is received by the message center.
 - User name/Notification List Name: Enter the name of the user profile or a notification list to be notified when a message is received by the message center. Or, click the finder button () for either field to select from a list of user profiles or notification lists.
- Send Answered Messages to the Robot Network Host: Check this box if answered messages should be sent to the Robot Network host system.
- Notify Users of Informational Messages: Check this box if the user should be notified of informational messages. Then, select a severity level (see below). **Note:** The user is only notified of the message; no other escalation occurs

- Minimum Severity Level: Select a severity level. The user will be notified of every informational message at that severity level or higher. The message does not have to be waiting for a reply or response.
- Send Informational Messages to the Robot Network Host: Check this box if informational messages should be sent to the Robot Network host system. Then, select a severity level (see below).
 - Minimum Severity Level: Select a severity level. All informational messages at that severity level or higher will be sent to the host system.

Define a message center

Device Notification tab

Message Redirection tab

Overview of message centers

Working with message centers

Device Notification Tab

The Device Notification tab of the Message Center Properties window is where you set up message escalation. This is where you set up Robot Alert paging for messages that are waiting for a reply.

User Notification Device N	otification	Message Redirection	on
🗹 Send a page using Robot A	LERT if no r	reply	
Robot ALERT Device:	NCYA	Q	
Wait Time before Paging:	120	0⊕ Seconds	

To complete the fields:

- Send a page using Robot Alert if no reply: Check this box if you have Robot Alert installed on your system and you want to send a pager or email message automatically when a message is waiting for a reply.
- Robot Alert Device: Initially, the field is set to the default device from the Message Center tab of the System Defaults window (see <u>System Setup Defaults</u>). To change

the default device, type the name of another device. or click the finder button () to select from a list of devices.

• Wait Time before Paging: Specify the number of seconds Robot Console should wait before sending the message with Robot Alert.

Define a message center

User Notification tab

Message Redirection tab

Overview of message centers

Working with message centers

Message Redirection Tab

Robot Console can automatically redirect a message to another message center. It waits the specified time and then removes the message from this message center and sends it to the other message center. Use the Message Redirection tab to specify the message center, system, and time delay for message redirection.

Note: If device notification is also being used (see the previous section) the redirection time will start after the device notification time is complete.

User Notification	Device Notific	ation	Message F	Redirect	ion
Redirect Messag	ges to another M	essage	Center if no	reply	
Redirect to Me	sage Center:	HOST	CENTER		Q
Target System	for Redirection:	YOG			Q
Wait Time befo	re Redirecting:		120 🌩	S	Seconds

To complete the fields:

- Redirect Messages to another Message Center if no reply: Check this box if you want to start redirecting messages.
- Redirect to Message Center: Initially, the field is set to the default message center from the Message Center tab of the System Defaults window (see <u>System Setup</u>

<u>Defaults</u>). To change the default redirection, type the name of the message center you want the messages to go to. Or, click the Finder icon () to select from a list.

- Target System for Redirection: Type the name of the target system for the message center. The default is the local system. If you are running in <u>Host mode</u>, you can click the Finder icon () to select from a list of systems defined to Robot Network.
- Wait Time before Redirecting: Specify the number of seconds Robot Console should wait before redirecting the message to another message center. The minimum wait time is 15 seconds; the maximum is 9000 seconds (2.5 hours).

Define a message center

User Notification tab

Device Notification tab

Overview of message centers

Working with message centers

Working with Message Centers

There are several things you can do with message centers in Robot Console. When you rightclick a message center in the List view, you can choose from the following:

Properties (or New)

Display

Copy

<u>Delete</u>

Where Used

Export to an XML file

<u>Send To</u> (Host mode only)

Copying a Message Center



When you have message centers with similar definitions, it will save time if you create a new center from a copy of another one. To do so, right-click the message center in the List view and select **Copy**. This opens a Message Center Properties window that duplicates the properties of the center you selected. Use this to set up a new message center from the copy.

Deleting Message Centers

To delete one or more message centers from the List view:

- 1. Select the message centers to delete. Use the Shift and Ctrl keys to select more than one center.
- 2. Right-click the message centers and click **Delete**.
- 3. Click **Yes** to delete the centers or **No** to cancel.

Displaying a Message Center

To display a Message Center, right-click it in the List view and select **Display**. The Message Center window that opens lists the messages that have been received by the message center. From this window, you can view additional information about a message, select options to work with the message, or remove it from the message center.

Use the toolbar to filter the list, access other windows, and set the automatic refresh rate.

Right-click a message to display a list of available options.

ata Filter: All Messages		💽 💎 🙊 🍰 🛃 A	uto Refresl	h 60 🜩		
🖻 🛛 Status \land	Message ID 🔺	Te	xt		Reply	Туре
🕕 Waiting	CPA7050	Message Details		p	Reply	Inquiry
🕕 Waiting	CPA7025	Reply Directly			Reply	Inquiry
🕕 Waiting	CPA7026	Respond			Reply	Inquiry
 Information 	CAE9003	🔙 Message History				Information
 Information 	CPF0777	8 Delete	Delete	not closed.		Information
🕕 Waiting	CPA7025	🚔 <u>P</u> rint			Reply	Inquiry
🕕 Waiting	CPA7025	Redirect			Reply	Inquiry
🕕 Waiting	CPA7025	<u>C</u> opy			Reply	Inquiry
😫 Alert Sent Reply	CPA7025	Suspend Escalation				Inquiry
🕕 Waiting	CPA7025	🖙 Page using Robot Alert			Reply	Inquiry
🕕 Waiting	CPA7025	Message Centers with a Copy.			Reply	Inquiry
🕕 Waiting	CPA7025	Message Set Maintenance		C)	Reply	Inquiry
😭 Alert Sent Reply	CPA7025	Message Set Simulator				Inquiry
😭 Alert Sent Reply	CPA7025	Display Job	•			Inquiry
😭 Alert Sent Reply	CPA7025	Open Telnet				Inquiry
😭 Alert Sent Reply	CPA7025	Copy to Clipboard	Ctrl-C			Inquiry
💻 Message Center	CPA7025	Select All	Ctrl-A Ctrl-S	fully saved. (I C)		Inquiry

Each message entry identifies the message with its status, message ID, message text, message type, severity, the date and time the message was received, and the message queue.

Not only can you resize the columns, you can also rearrange them. To move a column: select it, drag it to a new location, and drop it in place. Additionally, if there's an arrow in the column heading, click it to sort the column in ascending (up arrow) or descending (down arrow) order (for more on sorting, see <u>Sorting Information</u>). **Note:** Robot Console saves your settings, even after you close this session.

Overview of message centers

Working with message centers

Define a message center

Working with messages

Message center toolbar

Message Center Window – Column Descriptions

Column	Function
Status	Shows the current status of the message. An icon on the left of the status provides a visual reminder of the message status. The possible statuses are:
	Waiting - Waiting for a reply.
	Response - Waiting for a response.
	Message Default - Reply came from the message default.
	Message Center - Reply came from a message center.
	Message Set - Reply came from a message set.
	• System Reply - Reply came from the system reply list.
	 Information - Informational message.
	Outside Console - Message was answered outside of Robot Console.
	• Sent Reply - Reply sent back to the system that created the message; changes to a status of Message Center when confirmation is received.
	• Robot Alert - Reply came from a Robot Alert pager or via email.
Message ID	Shows the message ID.

Column	Function
Text	Shows the message text. It can be the original message text or the alternative text defined for the message by a message set. The color is determined by the display options you specified when you created the message set. The message appears in the color selected (the other attributes—blinking, reverse image, or underscore—are not used).
	Note: If the message color selected was green, messages appear as black (for more information on message colors, see <u>Message Sets</u>).
Reply	Click the Reply button to reply to the message (for more information, see Replying to a Message).
Туре	Displays the possible message types:
	Completion
	Diagnostic
	• Escape
	Information
	Inquiry
	Log Monitoring Information (specific to Robot Console)
	Log Monitoring Inquiry (specific to Robot Console)
	Notify
	Reply
Coverity	Request Displays the passible asystity layels:
Severity	Displays the possible severity levels:
	00 Information
	• 10 Warning
	• 20 Error
	30 Severe error
	40 Abnormal end of program
	 50 Abnormal end of job
	60 System status
	70 Device integrity
	80 System alert
	90 System integrity
	• 99 Action
Date/Time	The date and time the message was sent.
Message Queue	The monitored message queue that received the message.

Message Center Toolbar

The toolbar in the Robot Console Message Center window provides quick access to common tasks and other useful windows.

Data Filter: All Messages 🛛 👻 🖓 🕵 🕵 🔽 Auto Refresh 🛛 🔞

Use the toolbar to do the following:

- Select a Data Filter to filter the messages that are displayed. See the <u>Data filter</u> <u>Manager Window</u> for more information.
- Click the Data Filter Manager icon (S) to display the Data Filter Manager. You can
 use the Data Filter Manager to create new filters or edit existing ones. See the Data
 Filter Manager Window for more information.
- Click the **Remove Replied Messages** icon () to remove all of the messages, from the message center display, that have received a reply.
- Click the **Remove All Messages** icon () to remove all of the messages currently displayed in the message center. Any messages waiting to be answered will be answered automatically using the default reply defined for the message ID.
- Click **Work with active jobs on this system** () to display the jobs currently active on the system. You can display their job logs and attributes, and hold, end, or release the jobs. See <u>Work with Active Jobs</u> for more information on this window.
- Click Work with a list of spooled files on this system (

 is a spooled file viewer. See <u>Work with Spooled Files</u> for more information on this window.
- Check or uncheck **Auto Refresh** to toggle the auto refresh feature on (the default value) and off. When Auto Refresh is active, the messages displayed in the message center automatically refresh at the rate specified.
- Specify the rate, in seconds, at which the message center display should refresh. You can specify any rate between 30 and 9999 (approximately 2.7 hours). When Auto Refresh is active, the message center display automatically refreshes at the rate you specified.

Messages

Working with Messages on a Message Center

To work with a message on the message center, right-click the message in the Message Center window and select an option from the menu. You can choose from the following:	<u>M</u> essage Details <u>R</u> eply Directly Resp <u>o</u> nd	
Message Details	Belete Message <u>H</u> istory	Delete
Reply Directly	<mark>隧 <u>D</u>elete </mark>	Delete
Respond	R <u>e</u> direct	
Message History	<u>C</u> opy Suspend Escalation	
Delete	🖙 Page using Robot Alert	
Print	Message Centers with a Copy S Message Set Maintenance	
Redirect	Message Set Sim <u>u</u> lator	
Сору	Display <u>J</u> ob Image: Job Display Job Display Job Display Job Display D	•
Suspend Escalation	Copy to Clipboard	Ctrl-C
Page using Robot Alert	_	Ctrl-A
Message Centers with a Copy	🖬 Save Selected	Ctrl-S
Message Set Maintenance		

Message Set Simulator

Display Job

Open Telnet

Copy to Clipboard, Select All, and Save Selected

Message Detail Window

The Message Detail window displays detailed information about a message. To access this window, right-click a message in the Message Center display window and select **Message Details**.

Message Detail				×
Message ID:	RNQ0907	Message Type:	Inquiry	
Severity:	99	Message Status:	Waiting	
Date/Time Sent:	01/02/2015 09:57:17	Message Queue:	QSYS/QSYSOPR	
Assigned Group:				
Message Histor	y Text Message Fil	e Text Extended	Details Reply	
Decimal-data e	rror occurred (C G D F	Э.		
Second Level Te	ext from Message Hist	ory		
Causa		P in program KELD(GMS/DECERR found a decimal-data error at statement 12. A packed or zoned value does not	-1
	umeric data. A digit a			
			ram maintenance to determine the cause of the problem. A response of 'D' will cause an RPG	.
	p which may be user. red in an expression.	ii in determining w	hich field has the decimal-data error. However, it may be an intermediate value that has the error,	т
	es for replying to mes	sage		
	RPG formatted dump.			
	ystem dump. Ie processing at *GETI	N		
C Cancel.		IN.		
	ull formatted dump.			
				se

Tab	Description
History Text	This tab shows you the message text using any alternate first- or second-level text from a message set, if it exists. If no alternate text exists, the text displayed will be the same as the Message File Text (see below). For more information on first- and second-level text, see <u>Setting Alternate Text</u> .
	This tab shows you the second-level message text from the message file and other message information.

Tab	Description
Extended Details	This tab shows you the following message attributes.
	Message Group Name: If the message was processed by a message group the message group name is shown. If the message set is not in a message group, this field is blank.
	Message Set Name: If the message was processed by a message set, the message set name is shown.
	Message Set Condition Met: This field indicates whether a message set OPAL condition was met. The condition is met if the IF statement in the OPAL code is true (see <u>Message Sets</u> for more information).
	From Program: The program that sent the message.
	Alert Option: Indicates whether the message is a system alert message.
	Message Queue: The monitored message queue that received the message.
	Instruction: The number of the machine instruction in the program.
	From Job: The job that sent the message.
	Message File: The message file containing the message ID.
Reply	This tab shows you information about the message reply or response. If a reply has been received, the reply history is shown.
	If the message is waiting for a reply or response, you can send it from this tab.
	 For replies: For certain messages, you can select a reply option from a list of choices or type an unformatted reply. Then, click Reply to send it.
	 For responses: Simply, click Confirm to send the response.

Overview of message centers

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Replying to a Message

If the status of a message is Waiting, it is waiting for a reply.

ta Filter: All Messages		🔽 💎 🙊 🧞 🐻 💁 🗆 Aut	o Refresh	60 🖨			
Status 🔦	Message ID 🔺	Text			Reply	Туре	Severit
🛀 Alert Sent Reply	JOB0001	IOB //KELJOB is not ACTIVE.				Information	00
🕕 Waiting	CPA0701	received by ARNDCOHE at (CDTR) Message Details		1	Reply	Inquiry	99
💻 Message Center	CPA5335	En Reply Directly				Inquiry	99
🕕 Waiting	CPA5316	V. Respond			Reply	Inquiry	99
🕕 Waiting	CPA7025	Ke Spond		ver fully saved. (I C)	Reply	Inquiry	99
🕕 Waiting	CPA5316	V 😣 Delete	Delete		Reply	Inquiry	99
\rm Waiting	CPA5316	Vi 🚔 Print			Reply	Inquiry	99
🚯 Waiting	CPA7025	K Redirect		ver fully saved. (I C)	Reply	Inquiry	99
\rm Waiting	CPA7025	Кі Сору		ver fully saved. (I C)	Reply	Inquiry	99
Nesponse 🖏	JOB0001	JC Suspend Escalation			Reply	Information	00
Outside Console	L100006	Yi 🔄 Page using Robot Alert		on 11/21/14.		Inquiry	40
Outside Console	L100006	Ye Message Centers with a Cop	L	ys, on 11/21/14.		Inquiry	40
Outside Console	L100006	Ye Dessage Set Maintenance		on 11/21/14.		Inquiry	40
Outside Console	L100006	Ye Message Set Simulator		ys, on 11/21/14.		Inquiry	40
Outside Console	L100006	Ye Display Job	•	on 11/21/14.		Inquiry	40
Outside Console	L100006	Yı 🔤 Ope <u>n</u> Telnet		ys, on 11/21/14.		Inquiry	40
Outside Console	L100006	Ye Dopy to Clipboard	Ctrl-C	on 11/21/14.		Inquiry	40
Outside Console	L100006	Ye Select All	Ctrl-A	ys, on 11/21/14.		Inquiry	40

To reply to a message:

- 1. In the Message Center window, click the **Reply** button for the message or right-click the message and select **Reply Directly**.
- 2. Select **Values**, then select a reply from the drop-down list. Or, select **Unformatted** and type the reply in the box. Click **OK** to send the reply.

Note: If the message is actually waiting for a response (a simple acknowledgement) rather than a reply, you are asked to confirm that you've read the message. In that case, click **Confirm**.

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Responding to a message

Responding to a Message

If the status of a message is Response, it is waiting for a response. A response is a simple acknowledgement that you've read the message.

Filter: All Messages		- 9	🛛 🙊 🍰 📕 🚨 📄 Auto Refre	sh 60				
Status \land	Message ID \land		Text			Reply	Туре	Seve
🖏 Response	JOB0014	Job 042	Message Details		reply.	Reply	Information	00
💻 Message Center	CPA4067	Save fil	Reply Directly		(C G)		Inquiry	99
Outside Console	CPA4067	Save file	Respond		(C G)		Inquiry	99
Outside Console	CPA4067	Save file	Service History		(C G)		Inquiry	99
🕸 Response	JOB0014	Job 000	😣 <u>D</u> elete	Delete		Reply	Information	00
🕕 Waiting	L100006	Your Rd	🚔 <u>P</u> rint		/09/15.	Reply	Inquiry	40
🕕 Waiting	STD8002	Your Re	Redirect			Reply	Inquiry	40
🕕 Waiting	STD8002	Your Re	<u>C</u> opy			Reply	Inquiry	40
🕕 Waiting	L100003	Your Ro	Suspend Escalation			Reply	Inquiry	00
🕕 Waiting	R156001	The Rol sending	Page using Robot Alert Message Centers with a Copy		occured while	Reply	Inquiry	00
🕕 Waiting	L100004	Your Ro	Message Set Maintenance			Reply	Inquiry	40
Waiting	R156001	The Rol sending	Message Set Simulator		occured while	Reply	Inquiry	00
🕕 Waiting	L100004	Your Re	Display Job	•		Reply	Inquiry	40
🕕 Waiting	R156001	The Rol sendinc	Open Telnet Opy to Clipboard	Ctrl-C	occured while	Reply	Inquiry	00
🚯 Waiting	L100004	Your Rc	Select All	Ctrl-A		Reply	Inquiry	40
Waiting	R156001	The Rol	🗟 Save Selected	Ctrl-S	occured while	Reply	Inquiry	00

To respond to one or more messages:

1. In the Message Center window:

To respond to one message, click the **Reply** button for the message or right-click the message and select **Respond**.

To respond to more than one message, select the messages (use the **Shift** and **Ctrl** keys to select more than one). Then, right-click them and select **Respond**.

2. Click **Confirm** to send the response.

Note: If the message is actually waiting for a reply instead of a response, the appropriate window opens that allows you to send the reply. See <u>Replying to Messages</u> for details.

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Message History

If you are unsure how to reply to a message, use the Message History window to see how the message was answered in the past. It's likely that you'll answer the same way. The Message History window lists each time the message was received. Also, from this window, you can view past replies. For details, <u>see below</u>.

To open the Message History window for a particular message, right-click a message center in the List view. Then, right-click the message you are interested in and select **Message History**. **Note:** This is the same window that you see when you click the View Message History icon (____) in the Explorer toolbar, or right-click the system and select **View Message History**; it's just filtered for a specific message. See <u>Viewing Message History</u> for more information about this window, including a description of the columns.

🛃 Message History - YOG						
Data Filter: Message ID CPA4067 🛛 👻 🕵 🗟						
Message ID 🔺	Text	Туре	Severity 🔺	Date/		
CPA4067	Save file RSC042103 in KELPGMS already contains data. (C G)	Inquiry	99	01/02/2015 1		
CPA4067	Save file RSC042097 in KELPGMS already contains data. (C G)	Inquiry	99	01/02/2015 1		
CPA4067	Save file RSC042100 in KELPGMS already contains data. (C G)	Inquiry	99	01/02/2015 1		
				Þ		
	Message ID CPA4067 CPA4067	Message ID Text CPA4067 Save file RSC042103 in KELPGMS already contains data. (C G) CPA4067 Save file RSC042097 in KELPGMS already contains data. (C G) CPA4067 Save file RSC042100 in KELPGMS already contains	Message ID Text Type CPA4067 Save file RSC042103 in KELPGMS already contains data. (C G) Inquiry CPA4067 Save file RSC042097 in KELPGMS already contains data. (C G) Inquiry CPA4067 Save file RSC042097 in KELPGMS already contains data. (C G) Inquiry CPA4067 Save file RSC042100 in KELPGMS already contains data. (C G) Inquiry	ID67 Text Type Severity Message ID Text Type Severity CPA4067 Save file RSC042103 in KELPGMS already contains data. (C G) Inquiry 99 CPA4067 Save file RSC042097 in KELPGMS already contains data. (C G) Inquiry 99 CPA4067 Save file RSC042100 in KELPGMS already contains data. (C G) Inquiry 99 CPA4067 KELPGMS already contains data. (C G) Inquiry 99		

The toolbar in the Message History window provides quick access to common tasks and other useful windows.

Data Filter: Message ID CPA4067	-	\mathbf{P}	3	Q	
---------------------------------	---	--------------	---	---	--

Use the toolbar to do the following:

- Select a **Data Filter** to filter the messages that are displayed. See the <u>Data filter</u> <u>Manager Window</u> for more information.
- Click the Data Filter Manager icon (S) to display the Data Filter Manager. You can
 use the Data Filter Manager to create new filters or edit existing ones. See the Data
 Filter Manager Window for more information.
- Click **Work with active jobs on this system** () to display the jobs currently active on the system. You can display their job logs and attributes, and hold, end, or release the jobs. See Work with Active Jobs for more information on this window.
- Click Work with a list of spooled files on this system (

 is a spooled file viewer. See <u>Work with Spooled Files</u> for more information on this window.

To see the message details and its reply history, double-click the message in the Message History window. Or, right-click it and select **Display All Info**. The Message History Detail window opens (for more information, see <u>Message History Detail</u>).

Display All Info (Message History Detail)

Display Job

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Deleting Messages

To delete one or more messages from the message center:

- 1. Select the messages to delete. Use the Shift and Ctrl keys to select more than one message.
- 2. Right-click the messages and click **Delete**.
- 3. Click **Yes** to delete the message or **No** to cancel.

Note: When you delete a message in Robot Console, it's removed from the message center, but not from the system.

Printing from Robot Console

You can print several types of objects in Robot Console. This includes messages, job logs, message sets, message groups, and resource monitors. Robot Console prints the details for these objects to your default output queue. However, you can specify a different output queue.

To print from Robot Console:

- 1. Select one or more items to be printed. Use the Shift or Ctrl keys to select more than one.
- 2. Right-click the items and click **Print**.
- In the Output Queue box, type the library and name of the output queue where the output should be sent. Use the format *library/outputqueue*. Or, click the Finder icon (

 is select an output queue.

Print Message Deta	ils	×	
Print Options Output Queue:	QGPL/QPRINT	٩	
		Print Cancel)

4. Click **Print**. The print process submits a job to product the spool file output. You may see another window displaying the job submission information.

Note: See <u>Printing Reports</u> for information on printing Robot Console reports.

Redirecting Messages

Sometimes you get a message that you don't know how to handle. Robot Console lets you redirect the message to an expert to handle it. You can redirect the message to the expert's message center, even if the message center is on another system. Redirection removes the message from the original message center and sends it to another message center. You can redirect any message to another message center.

To suspend automatic redirection:

A message center can redirect messages automatically. If you don't respond to a message after a period of time, the message is removed from the message center and sent to another message center. If the message center is set up for automatic redirection and you don't want a message redirected, you can suspend the redirection. This is useful when you want to reply to the message, but you're currently busy. Right-click on a message and select the <u>Suspend</u> <u>Escalation</u> option from the drop-down list to get more time to reply before the message is redirected.

To manually redirect a message:

- 1. In the message center, right-click the message and click **Redirect**.
- Type the name of the message center and system where the message will be redirected. Click the Finder icons (

 to select from a list of message centers or systems. Note: If you redirect the message to a message center on another system, a copy of the message remains in the NETCENTER message center on the originating system.

💻 Redirect Message	—
Message ID:	RNQ0907
From Message Center:	QSYSOPR
To Message Center:	KELMC 🔎
On System:	YOG
	OK Cancel

3. Click OK.

Overview of message centers

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Redirecting Messages to the HOSTCENTER

If your IBM i is a node in a network of Power Systems servers controlled by Robot Network, you may want to redirect a message to the host system. To do this, redirect the message to the HOSTCENTER message center. Robot Network automatically sends the message to HOSTCENTER on the host system and places a copy of the redirected message in the NETCENTER message center on the node system.

To manually redirect a message to HOSTCENTER:
- 1. In the message center, right-click the message and click **Redirect**.
- 2. Type HOSTCENTER as the message center in the Redirect Message window.

💻 Redirect Message	—
Message ID:	L100006
From Message Center:	QSYSOPR
To Message Center:	HOSTCENTER
On System:	YOG
	OK Cancel

3. Click **OK**.

For information on displaying the HOSTCENTER message center or the Status Center on the host system, see the *Robot Network User Guide*.

Copying Messages to Other Message Centers

You may want to copy a message that has arrived in a message center to another message center. You can specify the message center where the message will be copied, Copying a message does not remove it from the original message center.

Note: You cannot copy Inquiry or response-required messages until they've been answered.

- 1. In the message center, right-click the message you want to copy and select **Copy**.
- 2. In the Copy Message window, type the name of the message center where the message should be copied. Click the Finder icons () to select from a list of message centers or systems.

💻 Copy Message	—
Message ID:	OUT0001
From Message Center:	QSYSOPR
To Message Center:	Q
On System:	YOG
	OK Cancel

3. Click **OK** to copy the message or **Cancel** to cancel the process.

Suspending Message Escalation

If you cannot reply to a message immediately, you can suspend escalation of the message (for 5 minutes) so it's not automatically redirected to another message center or sent to a pager. This gives you more time to enter a reply.

Note: You cannot suspend message escalation on the message center NETCENTER, because a copy of the message has already been sent to another message center.

The suspension time is added to the normal escalation wait. For example, if Robot Console usually waits 10 minutes before escalating, but you suspend the message and the suspension time limit is 5 minutes, you'll have 15 minutes (the original 10 minutes plus the additional 5 minutes) to reply to the message before it is escalated. The length of time that escalation is suspended is set under **System Setup > System Defaults > Message Centers** tab. For more information, see the <u>Message Centers Tab</u> or ask your Robot Console administrator.

To keep a waiting message from being redirected automatically to another message center, right-click the message and select **Suspend Escalation**.

Sending a Message Using Robot Alert

If Robot Alert is installed on your system, you can use Robot Alert to send a message from the message center. Use this option to notify an expert of a message you want them to handle.

- 1. In the message center, right-click the message you want to work with and click **Page using Robot Alert**.
- In the Device Name box on the Page With Message window, enter the name of the device or broadcast list where the message should be sent. Click the Finder icon () to select from a list of the devices and broadcast lists defined to Robot Alert. You can even add a device or broadcast list from the window that opens (provided you are not working in Host mode).

Note: If you have Robot Alert 5 or higher, and your vendor supports two-way messaging, selecting a two-way device allows Robot Console to receive a reply from the device. For details, see the *Robot Alert User Guide*.

3. The **Message** box contains the original message text from the message center. You can use this text, or delete it and type the message you want to send.

Page With Mess	age 💽
Device Name:	SLFOUT
Message:	Length or start position is out of range for the string operation (C G D F).
	OK Cancel

4. Click **OK**.

Select a Robot Alert Device Window

Use the Select a Robot Alert Device window to locate a Robot Alert device or broadcast list to send this message to. The objects listed in this window are the devices and broadcast lists defined to the instance of Robot Alert installed on the system you are currently connected to with Robot Console. When you find the object you are looking for, highlight it and click **Select**.

	Robot Alert D	1	ation A	X
🔁 Type \land			ption \land	<u>Properties</u>
	NELIST	NE list		
	SLFOUT	steve email		Add
&	TW DEVICE	Properties		Сору
		Copy	Device Broadcast List	S Delete
				Select Cancel

You have the following options in this window:

- Properties: Right-click a line and select **Properties** (or click the **Properties** button) to open the Properties window for the device or broadcast list. From this window, you can change the device definition except for the name. See below for information on defining devices and broadcast lists.
- Add: Click the **Add** button and select either **Device** or **Broadcast List**. This opens a blank properties window. See below for information on defining devices and

broadcast lists. **Note:** You cannot add devices or broadcast lists if you are working in Host mode.

- Copy: Right-click a line and select **Copy** (or click the **Copy** button) to open the Properties window for the device or broadcast list. You need to enter a unique **Name** for the device or list. The rest of the information from the original object has been copied and can be changed. See below for information on defining devices and broadcast lists.
- Delete: Right-click a line and select **Delete** (or click the **Delete** button) to delete the device or broadcast list. You are asked to confirm the deletion.

Note: Any changes you make to the devices and broadcast lists (adding, editing, and deleting), are automatically made in the instance of Robot Alert installed on the system you are currently connected to with Robot Console. In order to add or edit a device or broadcast list in Robot Console, you must be authorized to the Directory Menu or have All Object authority in Robot Alert.

Defining a Robot Alert device

Defining a Robot Alert broadcast list

Defining a Robot Alert Device

Use the Robot Alert Device Properties window to define a Robot Alert device that you can use to send messages. Whatever changes you make in this window, are automatically made in the instance of Robot Alert installed on the system you are currently connected to with Robot Console. **Note:** In order to add or edit a device in Robot Console, you must be authorized to the Directory Menu or have All Object authority in Robot Alert.

You can access this window from a message center after you right-click a message and select **Page Using Robot Alert**. You can also access it under **System Setup > System Defaults > Message Centers** tab.

Device Properties	
Name:	TW EMAIL
Status:	RELEASED
Description:	Messages sent to TW email account
Department Name:	DEV
Vendor Name:	2WAY
User Assigned to Device:	КАТНҮК
Alternate Device :	
E-Mail Address:	kathy@helpsystem.com
Allow Attachments	
Include Subject in Mes	sage
Number of bytes to ignor	e: 0 -
	OK Cancel

Complete the following:

- Name: Type a unique name, 10 characters max. Spaces and special characters are allowed. This field is required.
- Status: The status is automatically entered from Robot Alert. When you add a device, by default its status is RELEASED.
- Description: Type a Description that will help you identify this device.
- Department Name: Type the department this broadcast list is in.
- Vendor Name: Type the name of the vendor for this device. Or, click the Finder icon () to select from a list of vendors that have been set up in Robot Alert. **Note:** the fields you have to enter on this window will change depending on the type of vendor you select. There are two connection types for vendors. The first is modem, which covers phones and pagers. The second is TCP/IP, which covers email. This field is required.
- User Assigned to Device: Type the user profile name of the user who will receive messages from this device. Or, click the Finder icon () to select from a list of user profiles for this system. This field is required.
- Alternate Device: Type the name of an alternate device, if any, that should be used if the original device is in a held state. Or, click the Finder icon () to select from a list of devices. Some rules about alternate devices:

- An alternate device must be an existing device.
- The same device can be an alternate device for multiple devices.
- An alternate device must have a different name than its device (for example, the device PALM cannot have an alternate device named PALM).
- An alternate device cannot have an alternate device (only one level of alternate device is allowed).
- An alternate device can be a different type of device than the original device (for example, an email device can have a modem alternate device).
- If both the original and alternate device are in a held status, the message will be in a held status.
- If the original device is in a released status, the message is sent to the original device.
- You cannot use a broadcast list as an alternate device, but a device defined to a broadcast list can be an alternate device. Therefore, if you use the Finder, only devices will be available in the list, no broadcast lists will be present.
- Phone Number: If you selected a modem vendor above, type the phone or pager number assigned to the device.
- E-Mail Address: If you selected a TCP/IP vendor above, type the email address where the message should be sent. **Note:** You may only have one email address for a device.
- Allow Attachments: Check this box to allow attachments to be sent with email messages.
- Include Subject in Message: Check this box to have the email subject line appear in the message body. Note: This only applies to one-way messages. Two-way messages must have a subject.
- Number of bytes to ignore: Specify whether to ignore the first xx number of bytes of data in the reply to the message. You can select from 0-99 bytes to ignore. Use this option to delete unnecessary characters that the device to which you are sending a message may add to the message when it sends a reply.

Click **OK** to save the device.

Defining a Robot Alert broadcast list

Defining a Robot Alert Broadcast List

A Robot Alert broadcast list allows you to send a message to multiple devices at the same time. If your devices have a two-way vendor, Robot Alert can send a message and receive a

response. For a two-way message, Robot Alert contacts the messaging vendor once to send the message and again to receive a response. If it does not receive a response in the specified time limit, Robot Alert continues sending the message until it reaches the repeat limit, provided the repeat limit is greater than zero.

Use the Robot Alert Broadcast List Properties window to define a broadcast list. Whatever changes you make in this window, are automatically made in the instance of Robot Alert installed on the system you are currently connected to with Robot Console. **Note:** In order to add or edit a broadcast list in Robot Console, you must be authorized to the Directory Menu or have All Object authority in Robot Alert.

You can access this window from a message center after you right-click a message and select **Page Using Robot Alert**. You can also access it under **System Setup > System Defaults > Message Centers** tab.

Broadcast List Properties									—
Name:	TW LIST								
Description:	Sending to th	e TW list							
Department:	DEV								
Robot Schedule Calender:	STANDARD	۵							
Response Required Option:	All Devices Re	equired to Respo	ond	-					
Repeat Limit if no Response:	3								
Minutes Between Repeat:	1								
Devices									
Alert Mon T Device	Fue Wed Th	hu Fri Sat	Sun	Work Wor From To	k Non Work	Non Work To	Repeat Limit	Repeat Minutes	Add
				05:00 14:00	00:00		3	1	
				00:00 00:00	14:01		3	1	8 Remove
									Move Up
									OK Cancel

Complete the following:

- Name: Type a unique name, 10 characters max. Spaces and special characters are allowed. This field is required.
- Description: Type a Description that will help you identify this broadcast list. This field is required.
- Department: Type the department this broadcast list is in.
- Robot Schedule Calendar: If Robot Schedule is installed on this system and you are using Robot Schedule calendaring, you can type the name of the Robot Schedule calendar you want used for indicating working and non-working days. Click the Finder icon (
) to select the calendar from a list. Note: If you don't select a

calendar, working days are Monday - Friday, and non-working days are Saturday and Sunday.

- Response Required Option: If you are using two-way messaging with the devices on this broadcast list, select a response type from the list. You can choose from: no response required, all devices required to respond, page only if prior device did not respond.
- Repeat Limit if no Response: If you are using two-way messaging, enter the number of times you want Robot Alert to send the message if no response is received the first time it's sent. You can choose a number from 1-9.
- Minutes Between Repeat: If you set a repeat limit greater than zero (see above), enter the number of minutes Robot Alert should wait for a response before sending a repeat message. You can choose a number from 1-99.
- Devices: Add one or more devices to this broadcast list.
 - Click Add to add a device. In the window that opens, select the device and click **Select**.

For each device, you can change the messaging schedule, even if you selected a Robot Schedule calendar above. Check the boxes by the days on which you want Robot Alert to send messages. Under **Work From** and **Work To**, enter the range of hours (24-hour clock) during which messages can be sent on working days using this broadcast list. Leave "00:00" in the fields if there are no restrictions on when the messages can be sent. Under **Non-Work From** and **Non-Work To**, enter the range of hours during which messages can be sent on non-working days. For more on working and non-working days, see <u>Robot</u>. <u>Schedule Calendar</u> above. Finally, change the Repeat Limit and Repeat Minutes, if necessary. For more on these values, see <u>Repeat Limit if no Response</u> and <u>Minutes Between Repeat</u> above.

- Select a device and click **Remove** to delete it from this broadcast list. This does not delete the device from Robot Alert.
- Select a device and use the **Move Up** and **Move Down** buttons to reposition the device in the list. Positioning is important if you selected 'Page Only if Prior Device Did Not Respond' under the Response Required Option above.

Note: While it is possible to save a broadcast list without any devices defined to it, we recommend that you always add devices. Keep in mind that a broadcast list will not work unless it has devices defined to it.

Click **OK** to save the broadcast list.

Defining a Robot Alert device

Displaying the Message Centers that Have a Copy of a Message

You may want other users to see a message that has arrived on the message center. To see which message centers, if any, already have received a copy of the message, right-click the message in the message center and select **Message Centers with a Copy**. The Associated Message Centers window lists the centers that have a copy of the message.

Associated Mes	sage Centers			×
2	Message Center		System	
DUGCTR		YOG		
				Close

Copy a message to another message center

Message Set Maintenance

You can view and change the properties of the message set associated with a message right from a message center.

To do so, right-click a message in the message center and select **Message Set Maintenance** to display the <u>Message Set Properties window</u> for the message. If there's no message set for the message, a blank Message Set Properties window displays that you can use to create a message set.

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Working with messages

Using the Message Set Simulator

The message set simulator shows the message sets for the selected message ID, message file, and message queue. The message sets display in the order they would be processed by Robot Console. Right-click on a message in the message center and select **Message Set Simulator** from the drop-down list to start the simulator.

Only the message sets that are active when you run the simulator are displayed.

To open the Message Set Simulator: display a message center (right-click the message center in the List view and select **Display**); then, right-click the message you want to work with and select **Message Set Simulator**. You can also access it from the <u>Test Message Data</u> <u>Properties window</u>. When you access the Message Set Simulator from the message center, it displays using the specifications of the message you selected. This window displays all the message sets that would process the selected message ID, in the order they would process. Only active message sets are displayed. If the message queue selected is QJOBMSGQ, only the first message set to run is displayed.

Click **Print** to print the Message Simulator List report showing the message sets that would process the message ID. You are prompted for the name of a print queue.

Overview of message centers

Working with message centers

Viewing a message center

Working with messages

Message Set Simulator Window

The message group, message file, message ID, and message queue appear at the top of the window.

Message Set Simu	lator						x
Message Group:							
Message File:	QSYS/	QCPFMSG					
Message ID:	CPA0	701 - &3 received	by &1 at &4. (C D	IR)			
Message Queue:	DD/DI	DES					
Message Sets wou	ıld be p	processed in the c	rder displayed				
Messa		Message	Message Set	Message		Description	
Group N		Set Name CPA0701	Message Queue *ALL	Set Type Single ID	testing		
						Print Clo	ose

Menu	Function
Message Group Name	The message group to which each message set belongs. If the message set is not in a message group, nothing displays.
	The message sets that would process the message.
	Note: Message sets that contain OPAL code are listed on the display, whether or not they would actually process the message. The message set simulator does not check the OPAL conditions for a set.
Message Set Message Queue	The message queue to which each message set applies. A Message set can apply to a single message queue or all message queues.
-	The message set type. A message set can apply to a single message ID, a
Type Description	message table, a range of message IDs, or all messages. A brief description of the message set.

Using the Display Job Options to Diagnose Problems

A message can be a symptom of a serious problem. Someone needs to investigate the cause of the message and solve the problem before it gets worse. Robot Console message centers provide job options to help.

If the message indicates a problem with a job, right-click the message and select one of the Display Job options. If the job is still on the system, you can display and print the job log, and see the following job information:

Several of the right-click menus have an option on them called **Display Job**. Under this option, you can do the following:

- View the job's attributes.
- View a list of spooled files for the job.
- Display the job log.
- Print the job log.
- Display the message history log (QHST).



Job Attributes Window

Use the Job Attributes window to view detailed information about a job. The information is displayed under four tabs: Status Attributes, Definition Attributes, Run Attributes, and Library Lists. Use this information for troubleshooting when problems with the job occur.

You can get to this window by selecting Display Job Attributes from the right-click menu of the <u>Work with Active Jobs</u> window, or via the <u>Display Job option</u> on the right-click menu of the Message Center window.

To copy or save the information from any tab in this window, right-click a row, then select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

Job Log Window

Use the Job Log window to display the messages in the job log for the selected job, and to see the details for any of the messages.

You can get to this window by selecting Display Job Log from the right-click menu of the <u>Work with Active Jobs</u> window, or via the <u>Display Job option</u> on the right-click menu of the Message Center window.

From the Job Log window, you can:

- Save one or more of the log entries to a file or the clipboard (see below).
- Display details about a message in the log. To do so, right-click a message, then select **Message details**. From the <u>Message Details window</u>, you can save some or all of the message detail to a file or the clipboard (see below).

To copy or save the information from the Job Log or Message Details windows, right-click a row and select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

History Log (QHST) Window

Use the History Log window to display history log entries for a selected job.

You can get to this window by selecting Display Job QHST Log from the right-click menu of the <u>Work with Active Jobs</u> window, or via the <u>Display Job option</u> on the right-click menu of the <u>Message Center</u> or <u>Message History</u> windows.

From the History Log window, you can:

- Save one or more of the log entries to a file or the clipboard (see below).
- Display details about a message in the log. To do so, right-click a message, then select **Message details**. From the <u>Message Details window</u>, you can save some or all of the message detail to a file or the clipboard (see below).

To copy or save the information from the History Log or Message Details windows, rightclick a row and select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

Open Telnet

Several of the right-click menus in Robot Console Explorer, such when you right-click a message in your message center, have an Open Telnet option. Click this option to connect to an IBM i system where you can access the Robot Console green screen.

Emergency Suppression Mode

What is Emergency Suppression Mode?

Emergency suppression mode is a type of suppression used by Robot Console to prevent the batch jobs in Robot Console (such as the RBCQSYSOPR monitor job and the RBCMANAGER job) from using large amounts of system resources while processing multiple occurrences of the same message.

If a message queue that is monitored by Robot Console receives a large number of messages in a short period of time, the batch jobs take time to process all the messages, tying up valuable system resources. Emergency suppression mode prevents this by being activated when identical messages are received by a message queue within a specified number of seconds (for example, when a program is in a loop). A message is considered identical if all of the following are equal:

- Message queue
- Message queue library
- Message ID
- Job number of the job sending the message
- Program name sending the message
- Either the first-level message text (including any substitution variables used in the text) or the message data (including all substitution variables)

Emergency Suppression Mode Settings

The following are the default emergency suppression mode settings. **Note:** The setup page for the emergency suppression mode cannot be accessed from the Robot Console Explorer view; it can only be accessed from the green screen. For access from the green screen, be sure you are in the Robot Console library. Then, enter this command: CALL RBC9000.

- Robot Console is shipped with emergency suppression mode enabled.
- By default, emergency suppression mode is activated if 15 identical messages are received within 10 seconds.
- By default, emergency suppression mode is deactivated if the same message is received and the specified number of seconds (30) has elapsed, or if a new message is received and the specified number of seconds (30) has elapsed.
- By default, emergency suppression mode checks the first-level text, including any substitution variables, when determining if messages are identical.
- Robot Console sends a message to the RBCDIAG message center when emergency suppression mode is activated or deactivated.
- If Robot Network is installed on your system, Robot Console sends a status to the Robot Network Status Center when emergency suppression mode is activated or deactivated.

Message Notification

You can reply directly to the message, or right-click on the message icon to display the menu of options.

If you are specified as the user to notify for a message center, or you are on a notification list for a message center, you can have a pop-up notification bubble display whenever a message requires your attention. When more than one message arrives, or there are multiple messages on the center, the message bubble indicates the number of new messages and the total number of messages.



Click the message link to open the Message Notifier window. Use this window to see details about the message, reply to the message, remove the message, or remove all of the messages in the notification window. See Message Notifier Window for more information.

Note: You receive notifications only if message notification is active, and you are the User to Notify (or on the notification list) for a message center.

You can start and stop message notification using several different methods:

- Change preferences: Click Tools, then Preferences. On the General tab, check the Notify me when new messages arrive box to enable message notification. When you connect to a system using Robot Console, message notification will be on by default. Clear the check mark to disable message notification by default. See the <u>General Tab</u> for more information on the other notification preference settings.
- Right-click system: After you connect to a system, you can start message notification for the system by right-clicking it and selecting Start Message Notification. When you end the session, Robot Console reverts to your default preference settings.
- **Right-click notification icon:** Stop message notification by right-clicking the Robot Console notification icon in the Windows system tray and selecting **Exit Notifier**. A confirmation window displays to verify your decision. When you end the session, Robot Console reverts to your default preference settings.



Note: When you start or stop message notification, it starts or stops immediately—you do not need to reconnect to the system.

Message Notifier window

Preferences

Message centers

Notification lists

Message notification in Host mode

Message Notifier Window

There are a few ways to open the Message Notifier window:

• A message notification bubble displays whenever a message arrives in a message center where you are specified as the user to notify, or you are on the message center's notification list. Click the bubble to display the Message Notifier window.

- You can set a preference to have the Message Notifier window open automatically whenever you connect to a system in Robot Console. For details, see the <u>General tab</u> <u>under Preferences</u>.
- Right-click the Robot Console notifications icon on your taskbar and select **Show Notifications** to open the window.

Within the Message Notifier window, right-click any message to display a menu of options. You can view the message details, reply or respond to the message, display the message center for the message, or remove one or more messages from the notification window. The options are described below. **Note:** Several of the options (Reply Directly, Respond, and Remove) allow you to work with one or more messages at the same time. To do so, use the Shift or Ctrl keys to select the message you want to work with. Then, right-click the messages and select the option you want.

< Robot Co	onsole Me	ssage Notifier		_		\times
 Response Response Waiting Waiting Response 	JOB / JOB / Your Your Subsy	Message <u>D</u> etails Re <u>p</u> ly Directly Resp <u>o</u> nd <u>Message Center</u>	d. :d. tart	16:02:32 16:02:30 15:55:04 15:55:04 15:55:03	Re Re	iply (*) iply iply iply iply
💩 Response	job R Subsy job R Subsyste	<u>R</u> emove Remove <u>A</u> II m RBTSLEEPER cannot start auto	tart	15:55:03 15:55:03	_	
🖏 Response	Subsyste job RBNS	STRHOST. m RBTSLEEPER cannot start auto STRNODE.	ostart	15:55:03	_	
 Response Response Response 	Critical s	torage lower limit reached. torage lower limit reached. torage condition may exist.		15:54:40 15:54:03 15:39:23	Re	ply ply ply ▼

- Select **Message Details** to see more information about a message. The <u>Message</u> <u>Detail window</u> displays the Message History tab. This tab shows you the secondlevel message text from the message history and other message information.
- Select Reply Directly to reply to one or more messages (see <u>Replying to a Message</u>).
 Note: Alternatively, you can click the **Reply** button to quickly reply to a single message.
- Select **Respond** to respond to one or more messages (see <u>Responding to a Message</u>).
 Note: Alternatively, you can click the **Reply** button to quickly respond to a single message.
- Select **Display Message Center** to display the <u>Message Center window</u> that lists the messages that have been received by a message center.
- You can remove one, several, or all the messages from the Message Notifier window. When you remove messages, they're cleared from the window, but remain in the message center.

- To remove one or more messages, select them, right-click and select **Remove**. You are asked to confirm the removal.
- To remove all of the messages, select **Remove All**. You are asked to confirm the removal.

Message notification

Message History

Message History Overview

Robot Console writes a record for each message received by anything that it's monitoring: message queues, resources, logs, and application logs. The only exception is messages suppressed by an <u>unconditional instruction in a message set</u>. You can use Robot Console's message history to investigate device failures, or gather evidence for application improvements. The message information for your entire system is all there.

Important: Log monitoring can significantly increase the amount of disk space used for message history. We recommend that you delete message history records regularly to avoid disk space problems (for details, see <u>Deleting Message History</u>).

Viewing message history

Printing message history

Deleting message history

Viewing Message History

Use the Message History window to work with the history for all messages. This includes seeing how the message was answered in the past.

There are several ways to access the Message History window:

- Right-click a system and select **View Message History**. If you are running in Host mode, you can only view message history for a node, not the host.
- Click the View Message History icon () in the Explorer toolbar. If you are running in Host mode, you'll also have to select a node.
- Display a message center. Then, right-click a message and select **Message History**. This displays the Message History window already filtered for the message you selected.

Filter: All Messages		🔽 💎 🛃 🗟				
Status \land	Message ID 🔺	Text			Туре	Severi
 Information 	CPF1261	Job description not found in libra	ary BGBLIB.	Notify		40
 Information 	CPF1246	Message queue library BGBLIB n	Display All Info.			40
📵 Information	CPF9810	Library BGBLIB not found.		.		40
 Information 	CPF9898	***Job setup for BGBINDJOB2 is 01/09/15 09:25:01.	Display Job	•	Job <u>A</u> ttri	butes
🗊 Information	CPF1261	Job description not found in libr	Copy to Clipboa	rd Ctrl C	👌 Job Spoo	led Files.
 Information 	CPF1246	Message queue library BGBLIB n			Display J	-
 Information 	CPF9810	Library BGBLIB not found.	Select All	Ctrl-A	Print Job	
 Information 	CPF9898	***Job setup for BGBINDJOB2 is Save Selected 01/09/15 09:00:01.		Ctrl-S Display		
 Information 	A012001	File netnodelog.log matched Erro NODE.	or filter for monitor	Information	ı	00
🕕 Waiting	L100005	Your Robot ALERT license code today.	will expire at noon	Inquiry		40
 Information 	A012001	File netnodelog.log matched Erro NODE.	or filter for monitor	Information	1	00
🕕 Waiting	L100006	Your Robot CONSOLE license co on 01/16/15.	de will expire in 7 days,	Inquiry		40
🦻 Message Default	STD9050	** Robot SCHEDULE ENTERPRISE Robot SCHEDULE Enterprise licer Reason code 2015, **		Inquiry		00

You can sort the Message History display by clicking any column heading that contains an arrow. For more on sorting, see <u>Sorting Information</u>.

The toolbar in the Message History window provides quick access to common tasks and other useful windows.

Use the toolbar to do the following:

- Select a **Data Filter** to filter the messages that are displayed. See the <u>Data filter</u> <u>Manager Window</u> for more information.
- Click the Data Filter Manager icon (S) to display the Data Filter Manager. You can
 use the Data Filter Manager to create new filters or edit existing ones. See the Data
 Filter Manager Window for more information.
- Click **Work with active jobs on this system** () to display the jobs currently active on the system. You can display their job logs and attributes, and hold, end, or release the jobs. See <u>Work with Active Jobs</u> for more information on this window.
- Click Work with a list of spooled files on this system (

 is a spooled file viewer. See <u>Work with Spooled Files</u> for more information on this window.

To see the message details and its reply history, double-click the message in the Message History window. Or, right-click it and select **Display All Info**. The Message History Detail window opens (for more information, see <u>Message History Detail</u>).

To copy or save the information from the Message History window, right-click a row and select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see Copying Information to the Clipboard or Saving to a File.

Message history overview

Display All Info (Message History Detail)

Printing message history

Display Job

Deleting message history

Message History Window – Column Descriptions

Column	Function			
Status	Shows the current status of the message. An icon on the left of the status provides a visual reminder of the message status. The possible statuses are:			
	Waiting - Waiting for a reply.			
	Response - Waiting for a response.			
	• Message Default - Reply came from the message default.			
	Message Center - Reply came from a message center.			
	Message Set - Reply came from a message set.			
	• System Reply - Reply came from the system reply list.			
	Information - Informational message.			
	• Outside Console - Message was answered outside of Robot Console.			
	• Sent Reply - Reply sent back to the system that created the message; changes to a status of Message Center when confirmation is received.			
	• Robot Alert - Reply came from a Robot Alert pager or via email.			
Message ID	Shows the message ID.			
Text	Shows the message text. It can be the original message text or the alternative text defined for the message by a message set. The color is determined by the display options you specified when you created the message set. The message appears in the color selected (the other attributes—blinking, reverse image, or underscore—are not used).			
	Note: If the message color selected was green, messages appear as black (for more information on message colors, see <u>Message Sets</u>).			

Column	Function		
Туре	Displays the possible message types:		
	Completion		
	Diagnostic		
	Escape		
	Information		
	Inquiry Log Monitoring Information (analific to Data t Canada)		
	Log Monitoring Information (specific to Robot Console)		
	Log Monitoring Inquiry (specific to Robot Console)		
	Notify		
	Reply		
Severity	Request Displays the possible severity levels:		
Seventy	Displays the possible seventy levels.		
	00 Information		
	• 10 Warning		
	• 20 Error		
	30 Severe error		
	40 Abnormal end of program		
	 50 Abnormal end of job 		
	60 System status		
	70 Device integrity		
	80 System alert		
	90 System integrity		
	• 99 Action		
Date/Time	The date and time the message was sent.		
Message Queue	The monitored message queue that received the message.		

Displaying Message History Detail

The Message History Detail window provides additional information about the message, including the message reply and who replied to the message.

You can get to this window by right-clicking a message in the <u>Message History window</u> and selecting **Display All Info**.

There are four tabs in this window: Message History Text, Message File Text, Extended Details, and Reply.

- The Message History Text and Message File Text tabs display the first- and secondlevel message text from the message file and the Robot Console message history.
- The Extended Details tab shows extended details for the message history entry.
- The Reply tab indicates whether the message was replied to and gives information about the reply. **Note:** You will only see this tab on messages that require a reply or response.

Printing Message History

From the Message History window, you can print the history for one or more messages.

- 1. Select the messages you want to print. Use the Shift and Ctrl keys to select multiple messages.
- 2. Right-click the messages and select **Print**.
- 3. You can specify a print Output Queue or click the Finder icon () to select from a list of queues.
- 4. Click Print.

The message history includes not only the first-level and second-level text for the message, but its reply history and attributes as well. You also can see the job history and job log for the message.

Note: For information on printing message history in a report, see <u>Robot Console Reports</u>.

Deleting Message History

Robot Console writes a history record for every message it processes (except for unconditionally suppressed messages) and for any log monitoring it performs. Depending on the message traffic on your system, the message history files can become very large. After you print any message history reports you need, we recommend that you delete the old message history records.

On the <u>Message Queue Monitor Properties window</u> you specify whether to remove messages from the message queue after they are processed. If you did not select this option, messages remain on the queue. Robot Console purges old processed messages from all monitored message queues whenever you enter a purge message history request. Robot Console does not remove the messages waiting for a reply or response, or messages received after the purge request. Use the Delete Message History window to submit a purge message history request. You can submit the request immediately or schedule it as a regular cleanup job on Robot Schedule.

To delete message history (submit a purge request):

1. Right-click a system and select **Delete Message History**.

Delete Message History	—
Purge Records Over Days Old:	7 束
Remove Reply Messages	
Maximum Severity to Purge:	99
System Records to Purge:	
Schedule	Submit Cancel

- 2. In the **Purge Records Over Days Old** field, select the minimum age in days of the records to be purged. The default is 7; the minimum value you can specify is 1.
- 3. Check the **Remove Reply Messages** box to purge records for messages that required a reply or response. This is not checked by default.
- 4. In the **Maximum Severity to Purge** field, select the maximum severity level of the message records to be purged (00-99). For example, a value of 10 means that only records for messages of severity 10 or less should be purged. The default value is 50.
- 5. In the **System Records to Purge** field, enter the name of a system in the network to purge only the records for messages from that system. Click the Finder icon () to select from a list of systems in the network. The default value, blank, purges records from all systems.
- 6. Click **Submit** to submit the request immediately, click **Schedule** to <u>schedule it as a</u> <u>regular cleanup job on Robot Schedule</u> (you must have Robot Schedule installed), or click **Cancel** to cancel the process.

Message history overview

Viewing message history

Printing message history

Robot Schedule - Job Setup Window

You can use Robot Console to schedule certain jobs in Robot Schedule, such as deleting message history, printing reports, or monitoring resources, provided you have Robot Schedule installed on the system. If the task you are performing can be scheduled in Robot Schedule, you will see a **Schedule** button or menu option that you can click to set up the job.

Use the Robot Schedule - Job Setup window to schedule jobs in Robot Schedule.

Complete the following fields:

- Name: Enter a name for the job.
- Description: Enter a description for the job.
- Run Times: Enter the run times for the job. Use a 24-hour clock.
- Run Days: Click the arrow for each day you want the job to run and select the week of the month (or every week) on which you want the job to run.

Purging message history

Printing reports

Working with resources

Monitoring

Monitoring Overview

You can use Robot Console to monitor message queues, IBM i resources (such as lines and controllers), as well as FTP, system history, security audit, and application logs.

Message queue monitoring

Resource monitoring

Log monitoring

Application log monitoring

Message Queue Monitoring

You set up the message queues on your IBM i. Robot Console can monitor those message queues and answer any message sent to a queue. You define a message set for the message and specify the message queue. Then, you specify an automatic reply for the message. When a message arrives in the queue, Robot Console uses the reply specified on the message set to respond to the message and writes the reply to a message center for its history records. If no message set exists, you can use the message center to reply to the message.

You might want to monitor message queues to keep a record of how users reply to messages. Robot Console lets you specify a message center where messages should be routed. For example, you can define a message center specifically for a certain type of message to track its replies.

The following diagram shows how Robot Console message queue monitoring works:



Defining message queue monitors

Working with message queue monitors

Virtual message queues

Defining Message Queue Monitors

Use the Message Queue Monitor Properties window to define a message queue monitor (adding or editing). To open this window:

- Right-click Message Queue Monitors from the Tree view, and select New.
- Right-click a message queue monitor in the List view, and select **Properties** or **New**.

Note: You cannot change the properties for a monitor while Robot Console is actively monitoring the message queue. If you need to make changes, you must stop monitoring the queue first. To do so, right-click the message queue monitor in the List view and select **Stop**.

Message Queue Monitor Properties		
Message Queue:	QUSRSYS/QUSER	
Description:	Check user messages	
Status:	Inactive	
Direct all Messages to Message Center: TW_MC		
Remove Messages after Processing		
Allow Message Queue to be Monitored		
Establish Robot Console exclusive lock		
	OK Canc	el

Option	Description		
Message Queue	The library/name for the monitored message queue. For an existing monitor, you cannot change this information. For a new monitor, type the library/name in the field, or click the Finder icon () to select a message queue from a list. The list of message queues does not include message queues that already have been assigned to message centers or workstation queues.		
Description	Enter a description for this message queue monitor.		
Status	The current <u>status</u> of the monitor.		
Direct all Messages to Message Center	Enter the name of the message center that should display the messages received by the message queue. Click the Finder icon () to select from a list of message centers.		
Remove Messages after Processing	Check this box if informational and inquiry messages should be automatically removed from the message queue. These messages are then removed after they're recorded in the Robot Console message history.		

Option	Description		
Allow Message Queue to be Monitored	Check this box if Robot Console should automatically begin monitoring the message queue each time Robot Console starts. Do not check this box if you are setting up a monitor, but you don't want it used yet. Monitoring cannot be started until this box is checked.		
Establish Robot Console exclusive lock	Robot Console does not require an exclusive lock on a message queue in order to monitor it for messages. Even if Robot Console is monitoring a message queue, you can display the queue with a program outside of Robot Console and use it to answer messages. Robot Console monitors for messages you answer outside of a message center, checks the reply, and then records the information in its history file.		
	However, check this box if you want to lock the message queue, so only Robot Console can be used to work with its messages.		

Message queue monitoring

Working with message queue monitors

Message Queue Monitor Status

Following are the statuses you might see for your message queue monitor.

Option	Description		
Active	Robot Console is monitoring the message queue.		
Inactive	Robot Console is not monitoring the message queue.		
Ending	Monitoring of the message queue is ending.		
Starting	Monitoring of the message queue is starting.		
Fail-Alc	Robot Console could not allocate the queue because it is already allocated. User queues are allocated when the user signs on. Deallocate the queue and try again.		
Fail-Aut	Robot Console could not begin monitoring the queue because the program owner does not have authority to monitor the queue. If you want the program's owner to be able to start and stop queue monitoring, have QSECOFR give the program owner *CHANGE authority to the queue.		
Fail-Clr	Robot Console queue monitoring failed because the RCVMSG command encountered an error. Clear the message queue to be monitored and try again.		
Fail-Dmp	An unknown error caused Robot Console to fail. Review the batch job log and dump to determine the reason for the failure.		
Fail-Sbm	Robot Console queue monitoring failed because the submit command failed. Review the interactive job log to see why the submit failed.		

Working with Message Queue Monitors

To work with a message queue monitor, right-click it in the List view and select an option from the menu. You can display the monitor's properties, and display the messages from the message queue that are in the message center. You also can start or stop monitoring of the message queue, and also create, copy, or delete a message queue monitor.

- Properties: Displays the <u>Message Queue Monitor</u> <u>Properties window</u>, allowing you to view and change the properties.
- Display Messages: Opens the <u>Display Messages</u> <u>window</u>, allowing you to view and work with the messages in the queue.
- Start/Stop: Starts or stops the monitoring of messages received by the message queue. Use the Shift or Ctrl keys to select more than one monitor to start or stop. You're asked to confirm starting or stopping the



monitors. **Note:** If you want to automatically start monitoring a message queue whenever Robot Console is started, go into **Properties** for the monitor and check the box for **Allow Message Queue to be Monitored**.

- New: Displays a blank Message Queue Monitor Properties window, allowing you to set up a new message queue monitor.
- Copy: Displays a Message Queue Monitor Properties window that duplicates the properties of the monitor you selected. Use this to set up a new monitor from the copy.
- Delete: Deletes the message queue monitor. Use the Shift or Ctrl keys to select more than one monitor to delete. You are asked to confirm the deletion.
- Export to an XML file: Displays the <u>Export to XML window</u>, allowing you to export the message queue, and any associated message centers and notification lists to an XML file that you specify.
- Send To or Delete From: For information, see <u>Sending and Deleting Information</u> (Host mode only).

Display Messages Window

The Display Messages window shows the messages sent to a message queue. To get to this window, right-click a message queue monitor in the List view and select **Display Messages**. **Note:** You cannot display the messages from a <u>virtual message queue</u>.

To see message details, double-click a message in the Display Messages window. Or, rightclick it and select **Message Details**. The Message Details window opens (for more information, see <u>Message Details</u>).

To copy or save information about the messages in the Display Messages window, select the messages. Use the Shift or Ctrl keys to select more than one. Then, right-click and select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see Copying Information to the Clipboard or Saving to a File.

Display Messages Window – Column Descriptions

Column	Function		
Message ID	Shows the message ID.		
Text	Shows the message text. It can be the original message text or the alternative text defined for the message by a message set. The color is determined by th display options you specified when you created the message set. The message appears in the color selected (the other attributes—blinking, reverse image, or underscore—are not used).		
	Note: If the message color selected was green, messages appear as black (for more information on message colors, see <u>Message Sets</u>).		
Туре	Displays the possible message types:		
	Completion		
	Diagnostic		
	• Escape		
	Information		
	Inquiry		
	Log Monitoring Information (specific to Robot Console)		
	Log Monitoring Inquiry (specific to Robot Console)		
	• Notify		
	• Reply		
	Request		

Column	Function	
Severity	Displays the possible severity levels:	
	00 Information	
	• 10 Warning	
	• 20 Error	
	30 Severe error	
	40 Abnormal end of program	
	• 50 Abnormal end of job	
	60 System status	
	70 Device integrity	
	• 80 System alert	
	90 System integrity	
	• 99 Action	
Date/Time	The date and time the message was sent.	

Virtual Message Queue Monitors

Robot Console includes several virtual message queues that are used to emulate normal message queue processing. When Robot Console monitors for messages that do not originate from a message queue, the monitor program writes the messages to the message history. The traffic manager (RBCMANAGE2) checks for messages and places them in the appropriate message center. Robot Console uses virtual message queues for log and resource monitoring. You cannot copy, delete, or rename a virtual queue, or start or stop the monitoring process.

Robot Console uses the following virtual message queues for log and resource monitoring. You cannot monitor these message queues as you would other message queues. Messages from virtual message queues are sent to corresponding message centers that are created when you start log and resource monitoring.

RBCDIAG - Monitors for diagnostic messages.

RBCLOGAUD - Monitors the security audit log.

RBCLOGFTP - Monitors FTP transaction activity.

RBCLOGHST - Monitors the system history log.

RBCRSCQ - Monitors Robot Console resources.

Note: Depending on your configuration, you may see more virtual message queues besides the ones listed above. Whenever you create an <u>application log monitor</u>, a corresponding virtual message queue monitor is also created.

Resource Monitoring

Many IBM i objects, such as controllers, subsystems, servers, or jobs can be set up as Robot Console resources. Robot Console can then monitor those resources for a desired status and, if necessary, take actions based on that status. The resource definitions you create identify the IBM i objects (resources) to be monitored, the status each resource should have, and how often the status is checked. Resource monitoring notifies Robot Console when resources are not available (not in the expected state) and when they become available again. If a resource's status is not its expected status, an event is triggered that creates a message.

The following diagram shows how Robot Console resource monitoring works:



Defining a resource

Resource configuration table

Working with resources

Primary and Secondary Resources

Resources can be dependent on other resources. For example, devices are dependent on controllers, and controllers are dependent on lines. To reduce the number of messages from unavailable resources, you can define some resources as primary resources and the resources dependent on those resources as secondary resources. When a primary resource is detected in an unexpected status, or when you manually hold it, its secondary resources are placed in a Pending status and Robot Console does not monitor them.

Note: Only the message for the primary resource displays on the message center.

Held Resources

Robot Console does not monitor resources that are held. If a primary resource is held by a user, its secondary resources are placed in a Pending status and Robot Console does not monitor them. When the primary resource is released, the secondary resources are released. If a secondary resource is placed on hold separately, you must release it separately.

Grouping Resources

You can use an application to group resources together. This is useful for exporting the resources to an XML file. It also can be useful if you routinely hold and release a group of resources at once. You can create an application as you are defining the resource (see <u>Adding a Resource</u> for details).

The applications listed under Resource Monitors in the Tree view only hold resources and are not associated with the applications listed under Message Sets. Applications of a particular type (resource monitor or message set) must all have unique names.

IPL Monitoring

During a system IPL, resources may have a status other than the expected status. Robot Console delays monitoring of resources during the IPL to allow time for the resources to start. Even so, it is possible for a resource to have a transitional status the first time it is checked. (A resource can have a transitional status only the first time it is checked by the resource monitor.) Robot Console resource monitoring rechecks the status of any resource that was in a transitional status outside of the normal priority frequency.

Resource monitoring provides a detailed history of the status checks. You can include a summary of resource status on the <u>Good Morning Report</u>. The <u>Resource History List Report</u> and <u>Resource Setup Report</u> also help you work with resources.

Resource Monitoring Commands

Robot Console provides five commands that you can use to work with resource monitoring from a command line or program:

- **RBCSTRRMON** Starts resource monitoring.
- **RBCHLDRSC** Holds a resource.
- **RBCRLSRSC** Releases a resource.
- **RBCCHKRSC** Checks the status of a resource.
- **RBCRSCLOG** Sends a resource history log message.

See IBM i Commands for more information.

Defining a Resource

Use the Resource Monitor Properties window to define a Robot Console resource (add or edit). **Note:** If you are editing a resource, you cannot change any of the information that identifies the resource (the IBM i object), such as it's name. See the <u>Configuration Resource</u> <u>Information Table</u> for details.

Monitor Information Tab

The Monitor Information tab of the Resource Monitor Properties window allows you to identify the resource (the IBM i object) and to define what will be monitored.

The images in this section show how you might define a Controller or a CPU Usage resource. Other types of resources require different <u>Configuration Resource</u> <u>Information</u>.

 Enter the information identifying the resource (the IBM i object) you want to monitor. What you need to enter is determined by the type of resource you are adding. See the <u>Configuration Resource Information Table</u> for a summary of the information required for each resource type. Note: If you are editing an existing resource, you will be unable to change some (or any) of this information.

If you are adding a resource and you enter or select an existing resource, you will receive an error message. Robot Console prevents you from creating a duplicate resource.

If you are adding a resource and you enter a resource name (object name) that doesn't exist on the IBM i server, you will receive a message asking if you want to add the resource. You can still add it, but nothing will be monitored because that IBM i object doesn't exist.

Monitor Information Additional Options Resource Hierarchy				
Configuration Resour	Configuration Resource Information			
Controller: QPACT	L01			
Resource Information Image: Monitor this Resource Priority: 3				
Expected Status:	ACTIVE 🔽 🚺	Details		
Primary Resource:	ETH00	Q		
Primary Expected Status: INACTIVE				
Application:		۵		

- Check the Monitor this Resource box to have the resource checked automatically by Robot Console. If you clear this box, you must check the resource status manually, or by using the RBCCHKRSC command (for more information, see IBM i Commands). Note: You define the default setting on the Resource Monitors tab of the <u>System Defaults</u> window.
- Specify the **Priority** for the resource. The priority determines how often the resource is checked for its status. You can enter a priority value from 1 to 4.
 Note: You set the time intervals for each priority level on the Resource Monitors tab of the <u>System Defaults</u> window.
- 4. Select the **Expected Status** the resource should have when it's checked by the monitor. Click the arrow to select from a list of status values for the type of resource you are defining.

Click **Details** to display the <u>Expected Status Criteria window</u>. This window lists the range of logical status values that are valid for the expected status you specified above.

If the resource you are defining is a secondary resource, you can specify an existing primary resource for it. Enter the primary resource's name in the field.
 Or, click the Finder icon (
 Or to select from a list of valid primary resources
for this resource type. See <u>Primary and Secondary Resources</u> for more details.

Leave this field blank if the resource you are defining is a primary resource.

Note: You can define secondary resources up to three levels below the primary resource.

 If the resource type and the Expected Status you selected allows you to set a minimum or maximum value to monitor for, enter that **Threshold**. Click **Details** and view the <u>expected status criteria</u> to determine what kind of threshold you need to set (min or max).

Monitor Information	Additional Options	Resource Hierarchy
System CPU Informat	ion	
System CPU Resource	e: CPU	
Resource Information		
Expected Status:	PU 🔻 Details]
Threshold:	85 🜩	
Application: JN	٨	٥

7. If this resource should be grouped with others, enter a new or existing **Application** name. To create a new application, enter a unique name in the field. To select an existing application, enter its name in the field, or click the Finder icon () to select from a list of application names defined to resources. For more on applications, see <u>Grouping Resources</u>.

Additional Options Tab

The Additional Options tab of the Resource Monitor Properties window allows you to set additional parameters for monitoring and reporting.

Monitor Information	Additional Options	Resource Hierarchy
Iterations until Unavaila	ble: 1 🜩	
Continue to Notify	After Fail	
🗹 Include on Good M	orning Report	

- Resources sometimes become unavailable for a period of time during normal processing. For example, a job waiting for an IBM i object may not be active when it is checked. To prevent a resource from being reported as unavailable, use **Iterations until Unavailable** to specify the number of times (1-999) the resource can be in a failed status before it's reported as unavailable.
- You're always notified when your resource is not in the expected status. Check Continue to Notify After Fail if you want to get another notification of this failure each time the resource status is checked. Note: You define the default setting on the Resource Monitors tab of the <u>System Defaults</u> window.
- Check Include on Good Morning Report to include a summary of the resource status on the Good Morning Report. Clear the box if you don't want the status included. Note: You define the default setting on the Resource Monitors tab of the <u>System Defaults</u> window.

Note: Some users may see another option on this tab: Use Resource Message Set (previously known as OPAL Recovery). You'll see this if you've used this option in a version prior to Robot Console version 6. Check **Use Resource Message Set** to use the predefined message set (in the message group Console) that's associated with this resource type. This includes all the instructions in the message set, including any OPAL code that would be executed. If you clear this box, you need to set up your own message set to handle the messages for this resource. You define the default setting for this on the Resource Monitors tab of the System Defaults window.

Resource Hierarchy Tab

The Resource Hierarchy tab displays, in a hierarchical manner, the primary and secondary relationships that you defined for this resource.

Monitor Information	Addition	al Options	Resou	irce Hierarch	y 🗋
ETH00 (LINE) (INACT		_			
∲- 🖾 <mark>QPACTL01 (CTLI</mark> └─ 🖾 BOGUSPRT (I	D) (ACTIVE DEVD) (DA	🗟 Prop	erties		
		🖾 <u>C</u> heo	k Statu	s	
		🆓 Sche	dule		
		🔢 <u>H</u> old	l		
		<u>R</u> elea	ase		
		🛞 <u>D</u> elet	te	Delete	
	_				

Right-click any resource to display a menu of options. For more information on the options, see <u>Working with Resources</u>.

Overview of resource monitoring

Resource configuration table

Working with resources

Configuration Resource Information Table

This table describes the resource-specific configuration information you must enter when defining a resource for monitoring. For many of these fields, you can click the Finder icon () to display a list to choose from. **Note:** The following table describes only the resource-specific configuration asked for on the Monitor Information tab of the Resource Monitor Properties window. For details on how to complete the rest of that tab and the other tabs in the window, see Adding a Resource.

Туре	Description	Resource-Specific Entries
Controller (CTLD)	Monitor for when the IBM controller is not in the expected status you set.	Controller: Enter the name of the controller (a *CTLD object). Or, click the Finder icon (
CPU Usage (SYSCPU)	Monitor for CPU usage less than the threshold you set. CPU usage is the average percentage (%) of processing unit usage since last polled by Robot Console's automated resource monitoring process.	System CPU Resource: Enter a descriptive name, such as SYSCPU90. Note: You enter the actual CPU percentage in the Expected Status Threshold field.
Data Queue (DTAQ)	Monitor for the number of entries in an IBM data queue using a threshold you set.	Data Queue: Enter the name of the data queue (a *DTAQ object). Or, click the Finder icon (
Device (DEVD)	Monitor for when the IBM device description is not in the expected status you set.	Device Description: Enter the name of the device (a *DEVD object). Or, click the Finder icon (
Domino Server (DOMINO)	Monitor for when the Domino server is not in the expected status you set.	Domino Server: Enter the location of the Domino server configuration file. Or, click the Finder icon (
FTP Server (FTP)	Monitor for when the FTP server is not in the expected status you set.	Port Number: Enter the FTP port number. Port Type: Select one of the following port types: *TCP, *UPD, *IPI, *IPS. Job Name: Enter the job name.
HTTP Server (HTTP)	Monitor for when the HTTP server is not in the expected status you set.	 Port Number: Enter the HTTP port number. Port Type: Select one of the following port types: *TCP, *UPD, *IPI, *IPS. Job Name: The job name, HTTP, is automatically entered. If this is incorrect, enter the correct job name.

Туре	Description	Resource-Specific Entries
Job Name (JOB)	Depending on the job, you can monitor for when it's not in the expected status you set. Or, you can monitor certain elements of the job (ACTMINS, CPU, or DEPTH, for example) using a threshold you set.	Job Name: Enter the actual job name, a generic name such as BILLING*, or *ALL to encompass all job names. Note: It is valid to have a JOB-type resource with the same name as another JOB-type resource. The resource name becomes unique because of the combination of the job name, job type, job expected status, and the primary resource name and expected status (if there is a primary resource).
		Job Type: The IBM job type. Select from All, Batch, or Interactive.
Job Queue (JOBQ)	Depending on the job queue description, you can monitor for when it's not in the expected status you set. Or, you can monitor for the number of entries in the queue using a threshold you set.	Job Queue: Enter the name of the job queue (a *JOBQ object) and the library where it's located in the form <i>library/jobq</i> . Or, click the Finder icon () to select from a list. Note: You can use generic object names. You can also use *ALL or *ALLUSR for the library name. Examples of allowable library/object combinations: *ALL/HS*, *ALLUSR/HA*, and QGPL/Q*.
Line (LINE)	Monitor for when the IBM line description is not in the expected status you set.	Line Description: Enter the name of the line description (a *LIND object). Or, click the Finder icon (
Network Interface (NWID)	Monitor for when the network interface is not in the expected status you set.	Network Interface: Enter the name of the network interface (a *NWIN object). Or, click the Finder icon (
Network Server (NWSD)	Monitor for when the network server is not in the expected status you set.	Network Server: Enter the name of the network server (a *NWSD object). Or, click the Finder icon () to select from a list.
Object Existence (OBJECT)	Monitor for when the object's existence is not in the expected status you set (EXISTS or NOTFOUND).	Object Type: Enter the type of object. For example, *FILE or *DTAARA. Or, click the Finder icon () to select from a list.
		Object: Enter a specific object name and the library where it's located in the form <i>library/obj</i> . Or, click the Finder icon () to select from a list.

Туре	Description	Resource-Specific Entries
Output Queue (OUTQ)	Depending on the IBM output queue, you can monitor for when it's not in the expected status you set. Or, you can monitor for the number of entries in the queue using a threshold you set.	Output Queue: Enter the name of the output queue (a *OUTQ object) and the library where it's located in the form <i>library/outq</i> . Or, click the Finder icon () to select from a list. Note: You can use generic object names. You can also use *ALL or *ALLUSR for the library name. Examples of allowable library/object combinations: *ALL/HS*, *ALLUSR/HA*, and QGPL/Q*. Writer: Enter the name of a valid writer, or select Any.
Server (SERVER)	Monitor for when the predefined server type is not in the expected status you set.	 Server: Enter the name of the predefined server. Or, click the Finder icon () to select from a list. Note: After the name is entered, the Port Number, Port Type, and Job Name are filled in automatically. Port Number: Select a different port number, if necessary. Port Type: Select a different port type, if necessary. You can choose from *TCP, *UDP, *IPI, and *IPS Job Name: Enter a different job name, if necessary.
Subsystem (SBS)	Monitor for when the subsystem is not in the expected status you set.	Subsystem: Enter the name of a subsystem (a *SBSD object) and the library where it's located in the form <i>library/sbsd</i> . Or, click the Finder icon () to select from a list.

Туре	Description	Resource-Specific Entries
TCP/IP Port (PORT)	Monitor for when the IBM i TCP/IP port is not in the expected status you set.	Port Location: Select this port's location. You can choose either LOCAL (the port is on the IBM i you are connected to) or REMOTE (the port is located on another system connected to this IBM i, such as another IBM i, or a Windows or UNIX/Linux system).
		Lower Limit and Upper Limit: To specify a single port, select a value between 1 and 65,535 in the Lower Limit field. Then, leave the Upper Limit box unchecked (the default value).
		To specify a range of ports. select values for both the Lower Limit and Upper Limit (you must check the Upper Limit box before you can enter a value).
		Port Type: A port type of *TCP should already be selected. Choose a different port type, if necessary.
		Resource Name: Enter a name for the resource to be monitored.
TCP/IP Server (TCPIP)	Monitor for when the TCP/IP server is not in the expected status you set.	No resource-specific configuration is needed.
User Defined (USRDFN)	Monitor for when the user- defined program is not in the expected status you set.	Program: Enter a qualified program name for the resource you want to monitor. Or, click the Finder icon () to select from a list.
		Notes: The program should return a 1 or a 0 (where 1 is a fail status and 0 is a pass status), and should be named using the format <i>libraryname/programname</i> .

Туре	Description	Resource-Specific Entries
Type	•	-
WebSphere MQ Channel (WMQCHN)	Depending on the IBM MQ channel, you can monitor for when it's not in the expected status you set. Or, you can monitor for the number of entries in the channel using a threshold you set.	 WebSphere MQ Manager: Enter the name of the WebSphere MQ manager. This is required in order to select a channel it uses to communicate (below). Or, click the Finder icon () to select from a list. Note: After you select a manager, its expected status is displayed.
		WebSphere MQ Channel: Enter the name of
		the WebSphere MQ channel you want to
		monitor. It must be defined to the manager selected above. You can click the Finder icon () to select from a list.
WebSphere MQ	Monitor for when the IBM MQ	WebSphere MQ Manager: Enter the name
Manager	manager is not in the	of the WebSphere MQ manager.
(WMQMGR)	expected status you set.	
WebSphere MQ	Depending on the IBM MQ	WebSphere MQ Manager: Enter the name
Queue	queue, you can monitor for	of the WebSphere MQ manager. This is
(WMQQUE)	when it's not in the expected	required in order to select its queue (below).
	status you set. Or, you can	
	monitor for the number of	Note: After you select a manager, its
	entries in the queue using a threshold you set.	expected status is displayed.
		WebSphere MQ Queue: Enter the name of
		the WebSphere MQ queue you want to
		monitor. It must be defined to the manager
		selected above. You can click the Finder
		icon (\square) to select from a list.
Writer (WTR)	Monitor for when the writer is	Writer: Select one:
	not in the expected status you	
	set.	• Any (to monitor all writers).
		Selected Writer (to monitor a
		specific writer). Then, enter the name
		of the writer (a *WTR object) in the
		field. Or, click the Finder icon () to
		select from a list.
		שלובטו ווטווו מ וושו.

Overview of resource monitoring

Defining a resource

Working with resources

Expected Status Details

When you click the **Details** button by Expected Status on the <u>Monitor Information tab of the</u> <u>Resource Monitoring Properties window</u>, the Expected Status Criteria window opens. This window indicates the range of logical values that are valid for the expected status you specified for the resource. You'll see the following information in the table:

- **Conjunction** the Boolean value that expresses the logical relationship between the variable and the operator.
- Variable the variable expression.
- Operator the logical operator.
- Value possible values for the variable.

Working with Resources

There are several things you can do with resources in Robot Console. When you right-click the resource, the options that are available will depend on where you are (List view under Resource Monitors, List view under Types, Resource Monitor Status window, or on the Resource Hierarchy tab of the Resource Monitor window). You may see any of the following:

Properties (or New)	Prop <u>e</u> rties
Check Status	🖾 Check Status
	💱 <u>S</u> chedule
Schedule	🔜 Message History
	Resource History
Message History	Hold
Resource History	▶ <u>R</u> elease
	📄 <u>С</u> ору
Hold or Release	😣 <u>D</u> elete Delete
	Prin <u>t</u>
Сору	🏙 <u>W</u> here Used
Delete	Export to an XML file
	Send <u>T</u> o
Print	
Where Used	
Export to an XML file	

Send To or Delete From (Host mode only)

Copy to Clipboard, Select All, and Save Selected

Check Status

To check the current status of a resource, right-click it in the list and select **Check Status**. You receive a message telling you whether or not the resource is in the expected status. Click **OK** to dismiss the message.

To see what the expected status is for the resource, select it in the List view. Then, do one of the following:

• If you have <u>QuickView</u> enabled, it's displayed there.

Job Queue Information	
Job Queue: QGPL/JOBQ1	
Resource Information	
Expected Status: RELEASED	
Primary Resource:	
Iterations until Unavailable:	1
Continue to Notify After Fail:	Yes
Include on Good Morning Report:	Yes

• Right-click the resource and select <u>Properties</u>. The expected status is on the Monitor Information tab.

Scheduling the Monitor Job

When you define a resource and how it will be monitored, the monitor job automatically runs based on the priority you set for the resource and the runtimes set for each priority on the <u>Resource Monitor tab under System Defaults</u>. However, you can override the default runtimes and have the resource checked on a specific schedule that you set - provided you have Robot Schedule installed on the system. To set a schedule, right-click the resource and select **Schedule**. See <u>Robot Schedule - Job Setup Window</u> for details on completing the job schedule.

Message History for Resource Window

To see the message history for a resource, right-click it in the List view (or in the <u>Resource</u> <u>Monitor Status</u> window) and select **Message History**. The Message History for Resource window displays each message related to the resource, including the message status,

message ID, message text, type of message, message severity, and the date and time the message was sent.

Status	Message ID	Text	Туре	Severity	Date/Time	Message Queue
Response	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/08/2015 09:59:43	RBCRSCQ
Response	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/08/2015 09:54:41	RBCRSCQ
Response	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/08/2015 09:49:41	RBCRSCQ
📕 Message Center	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/06/2015 15:32:43	RBCRSCQ
📮 Message Center	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/06/2015 15:27:42	RBCRSCQ
📕 Message Center	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/06/2015 15:22:42	RBCRSCQ
📮 Message Center	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/06/2015 15:17:40	RBCRSCQ
📕 Message Center	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/06/2015 15:12:40	RBCRSCQ
📮 Message Center	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/06/2015 15:07:38	RBCRSCQ
📮 Message Center	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/06/2015 15:02:37	RBCRSCQ
📮 Message Center	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/06/2015 14:57:37	RBCRSCQ
📮 Message Center	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/06/2015 14:52:36	RBCRSCQ
📮 Message Center	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/06/2015 14:47:36	RBCRSCQ
📕 Message Center	JBQ0001	JOBQ QGPL/JOBQ1 is not RELEASED.	Information	00	01/06/2015 14:42:35	RBCRSCQ
Message Center	JBQ0001	JOBQ QGPL/JOBQ1 is not	Information	00	01/06/2015 14:37:34	RBCRSCQ

For more information on the statuses you might see in this window, see the <u>Message History</u> column descriptions.

For additional options, select one or more rows. Use the Shift or Ctrl keys to select more than one row. Then, right-click the selection to see the options.

- For information on the **Display All Info** option, see <u>Displaying Message History Detail</u>.
- For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

Resource History

To see the history for a resource (what the monitor found each time the resource was checked), right-click it in the List view (or in the <u>Resource Monitor Status</u> window) and select **Resource History**. The Resource History window displays the expected and actual status of the monitored resource, plus any monitoring messages for each date and time the resource was checked.

Date/Time	Expected	Actual	Message	
01/16/2015 15:30:14	ACTIVE	OFF	Monitoring of resource RBAC01 was held by user KEL.	
01/16/2015 15:25:56	ACTIVE	OFF		
01/16/2015 15:20:55	ACTIVE	OFF		
01/16/2015 15:15:56	ACTIVE	OFF		
01/16/2015 15:10:54	ACTIVE	OFF		
01/16/2015 15:05:53	ACTIVE	OFF		

For additional options, select one or more rows. Use the Shift or Ctrl keys to select more than one. Then, right-click the selection to see the options. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard</u> or Saving to a File.

Holding or Releasing Resources

Robot Console only monitors resources that have a Hold Status of Released (you can see the Hold Status in the List view). Monitoring is suspended when a resource is Held. **Note:** You might see a Hold Status of Pending. When a primary resource is detected in an unexpected status, or when you use this process to hold it, its secondary resources are placed in a Pending status and Robot Console does not monitor them.

You can hold or release one or more resources from the List view or from the Resource Monitor Status window.

- 1. Select one or more resources. Use the Shift or Ctrl keys to select more than one.
- 2. Right-click the selection and select either **Hold** or **Release**.
- 3. Click Yes when asked to confirm your decision.

Copying a Resource

When you have resources with similar definitions, it will save time if you create a new resource from a copy of another one. To do so, right-click the resource in the List view and select **Copy**. This opens a Resource Monitor Properties window that duplicates the properties of the resource you selected. Use this to set up a new resource monitor from the copy.

Deleting Resources

To delete one or more resources:

1. From the List view under Resource Monitors, select the resources to delete. Use the Shift and Ctrl keys to select more than one resource.

- 2. Right-click the resources and click **Delete**.
- 3. Click **Yes** to delete the resource or **No** to cancel.

Note: When you delete a resource in Robot Console, only the resource is deleted, the actual IBM i object is not affected.

Viewing Resource Monitor Status

The Resource Monitor Status window allows you to view the statuses of the resources you are currently monitoring. To open this window, click the View Resource Monitor Status icon (

on the Explorer toolbar. If you are working in Host mode, you'll also have to select the system you want to view.

a Filter:	All resources			💌 🌱 🛛 🗹 Faile	d 🗹 Held 🗹 Pending 🗹 Passed 🗹 Unknown
Status 🔺	Name \land	Туре \land	Priority 🔺	Expected Status	Extended Information
×	EP2035	WTR	3	STR	Actual status END
	BOSPRT	DEVD	3	DAMAGED	Monitoring held
	EN3	DEVD	3	ACTIVE	Monitoring held
	QPACTL01	CTLD	3	ACTIVE	Monitoring held
	RSLSTART	OBJECT	3	EXISTS	Monitoring pending - primary failed or held
 Image: A set of the set of the	*ALL	JOBQ	3	RELEASED	
 Image: A start of the start of	BOBOFET	JOB	3	QUEMINS <= 3	
 Image: A set of the set of the	CPU	SYSCPU	3	CPU < 85	
 Image: A set of the set of the	ETH00	LINE	3	ACTIVE	
 Image: A set of the set of the	FTP	FTP	3	INACTIVE	
 Image: A set of the set of the	HS2072	JOB	3	ACTMINS <= 1	
 Image: A set of the set of the	HTTP	HTTP	3	INACTIVE	
 Image: A set of the set of the	JMO	OBJECT	3	EXISTS	
 Image: A set of the set of the	NET*	JOB	3	ACTIVE	
 Image: A set of the set of the	PORT22	PORT	3	OPEN	
 Image: A set of the set of the	PORT24	PORT	3	OPEN	
 Image: A set of the set of the	PORT2528	PORT	3	OPEN	
 Image: A set of the set of the	QBASE	JOBQ	3	RELEASED	
 Image: A start of the start of	QBATCH	JOBQ	1	DEPTH <= 10	
~	QCTL	JOBQ	3	RELEASED	
 Image: A set of the set of the	QCTL	SBS	3	ACTIVE	
 Image: A set of the set of the	QPRINT	OUTQ	3	RELEASED	
8	CHN	WMQCHN	3	REQUESTING	
8	MQQ	WMQQUE	3	INACTIVE	

Select a Data Filter to narrow the list. Or, click the filter icon () to view or create your own data filters using the Data Filter Manager. See <u>Filtering Data and Displays</u> for more information. You also can filter the display by resource status (Failed, Held, Pending, Passed, and Unknown). Select any combination of statuses and only the resources with those statuses are displayed. If you do not select a status type, no resources are displayed. For a description of each of the statuses, see the <u>Column Descriptions table</u> in the following section.

Right-click any row to display a menu of options. For details on the options, see <u>Working</u> with Resources.



Overview of resource monitoring

Defining a resource

Working with resources

Resource Monitor Status Window - Column Descriptions

Menu	Function
Status	The Status column displays the current status of the resource, indicated by an icon. The icons and their statuses are:
	× Failed – Indicates that the resource has been checked and is not in its expected status.
	Held — Indicates that the resource is being held.
	Pending — Indicates a resource that is being held because its primary resource (parent) is either being held or is not in its expected status.
	Passed — Indicates the resource has been checked and is in its expected status.
	Unknown – Indicates the resource's status has not been checked.
Name	The name of the resource.
Туре	The type of resource. For more on resource types, see <u>Configuration Resource</u> Information Table.

Menu	Function
Priority	The priority of the resource. The priority specifies how often the status of the resource is checked. You specify a priority when you <u>define the resource</u> . A monitored resource can have any priority between 1 and 4.
Expected Status	The expected status of the resource. You specify this when you <u>define the</u> resource. A resource with a status that differs from the expected status is considered unavailable. The resource's expected status depends on the type of resource. The following are some of the more common statuses:
	Active
	• Exists
	Inactive
	• CPU
	Not Found
	• Open
	Released
	Started
Extended Information	Additional information about the resource that may explain why it's in its current status.

Log Monitoring

You can use Robot Console to set up log monitoring for FTP requests, system history, and security audits on your IBM i. When you set up this type of monitoring, Robot Console sends messages to a virtual message queue. You can then use Robot Console message centers, message sets, and OPAL code to process the messages.

The following diagram shows how Robot Console log monitoring works:



The three log monitor jobs start when Robot Console starts. There is one monitor job for each type of log monitoring: RBCLOGFTP, RBCLOGHST, and RBCLOGAUD. The RBCMANAGE2 job acts as a traffic manager for the log monitor jobs so that normal message processing isn't delayed by large numbers of log records.

If you are working in <u>Host mode</u>, you can only enable log monitoring on the nodes.

Caution: Robot Console writes a history record for every message it processes, so log monitoring can significantly increase the amount of disk space used for message history. We recommend that you delete message history records regularly to prevent disk space problems. For details, see <u>Deleting Message History</u>.

Security audit log monitoring

FTP request log monitoring

System history log monitoring

Log Monitor Properties

Robot Console includes three log monitors that you can use for monitoring FTP requests, system history, and security audits. Select Log Monitors under Monitored Objects in the Tree view to see them.



To work with a log monitor (enable or disable it, and define certain parameters), right-click the log monitor in the List view and select **Properties**. The Log Monitor Properties window displays for the type of log monitoring you specified. For information on the Log Monitor Properties window for a particular type of monitoring, click one of the links below:

- Security audit log monitoring
- FTP request log monitoring
- System history log monitoring

If you are working in <u>Host mode</u>, you can only enable log monitoring on the nodes.

Caution: Log monitoring can significantly increase the amount of disk space used for message history. We recommend that you delete message history records regularly to prevent disk space problems.

Security Audit Log Monitoring

Robot Console security audit log monitoring lets you monitor your system's security to identify issues, such as:

- Who changed a system value
- What device was used for failed signon attempts
- When an object owner was changed and who changed it
- Who used a service tool in an attempt to avoid security

When you enable security audit log monitoring, Robot Console sets up security audit journaling to collect the auditing data. Robot Console monitors the data and sends it as messages to the security audit log virtual message queue RBCLOGAUD, and the message center RBCLOGAUD.

Monitoring starts when the security audit log monitor starts for the first time. If the monitor is stopped for a short period of time and restarts, Robot Console processes the unread security audit journal entries that match the setup values. If the Robot Console security audit log monitor is turned off for a length of time, journal entries might be removed before Robot Console can process them. If journal receivers were removed while monitoring was inactive, Robot Console sends a message to the RBCDIAG message center, locates the next journal entry, and continues monitoring.

Robot Console can monitor for the following security values:

- Security-related functions
- Authorization failures
- Service commands and APIs
- System management tasks

See the *IBM Security Reference Manual* for details on the information logged for these values.

Setting Up Security Audit Log Monitoring

To set up security audit log monitoring:

1. Click **Log Monitors** in the Tree view, then right-click **RBCLOGAUD** in the List view and select **Properties**. The Log Monitor Properties window displays.

Log Monitor Properties
Name: RBCLOGAUD
Description: Security Audit Log
Allow this log to be monitored
Log monitor check interval: 180 💭 Seconds
Monitor job run priority: 11
Journal Entry Types to Monitor
Security Related Functions
Authorization Failures
Service Commands and APIs
System Management Tasks
Delete Processed Journal Receivers
Number of Days Before Delete: 45
OK Cancel

- Check Allow this log to be monitored if you want to monitor the security audit journal (it's not monitored by default). When the log monitor starts, Robot Console creates a virtual message queue RBCLOGAUD, and a message center RBCLOGAUD (if they don't already exist).
- 3. Enter a value (1-999 seconds) in the **Log monitor check interval** field to specify how often Robot Console will check for new journal entries.
- 4. Enter a value in the **Monitor job run priority** field to specify the run priority for the monitor job. Valid values range from 11 (high priority) to 99 (low priority).
- 5. Select the types of journal entries to monitor:
 - Security Related Functions This corresponds to the QAUDLVL value *SECURITY and *ATNEVT. You cannot change the default value (checked).
 - Authorization Failures This corresponds to the QAUDLVL value *AUTFAIL.
 - Service Commands and APIs This corresponds to the QAUDLVL value *SERVICE.

• System Management Tasks - This corresponds to the QAUDLVL values *SYSMGT, *PTFOPR and *PTFOBJ.

Notes:

- When select to start monitoring a security entry, the QAUDLVL system value is changed to match the values you specify. When you save your changes, you are asked to confirm that you want to change the system value.
- If you decide to stop monitoring a security audit journal entry, when you save your changes, you get a message warning you that the system values will not be changed back to their original values. The system values remain as defined by Robot Console when it began monitoring the journal entry. If the system values should be changed, you must do so manually on the IBM i.
- 6. Check **Delete Processed Journal Receivers** if you want to delete security audit journal entries after they've been processed by Robot Console. Journal receivers can allocate increasing amounts of disk space if they're not deleted regularly.

Note: Journal receivers may be shared with other applications. If those applications require the journal receivers to remain intact, do not check this box.

7. If you delete journal entries, enter a value (1-99) in **Number of Days Before Delete** to specify the number of days Robot Console should keep the journal entries before deleting them.

Note: You must save journal receivers before they can be deleted.

8. Click OK.

Overview of log monitoring

FTP request log monitoring

System history log monitoring

FTP Request Log Monitoring

Robot Console FTP request log monitoring lets you monitor FTP requests, the users who made the requests, and when a request was made. During setup, Robot Console registers an exit point program to trap FTP request data. Robot Console monitors this data and sends it as a message to the FTP virtual message queue RBCLOGFTP. Messages display on the message center RBCLOGFTP.

Robot Console monitors for the following FTP operations:

- Delete file
- Send file

- Receive file
- Rename file
- Execute command

If the FTP log monitor job is stopped (by running the RBCENDLMON command), but not turned off (via the Log Monitor Properties window), the exit program continues to collect FTP transactions. When you start the log monitor job, it processes the collected transaction data. If the monitor job has been stopped for an extended length of time, it can take a long time to process all the data. If monitoring is turned off, Robot Console does not collect FTP data.

Setting Up FTP Request Log Monitoring

To set up FTP monitoring:

1. Click **Log Monitors** in the Tree view, then right-click **RBCLOGFTP** in the List view and select **Properties**. The Log Monitor Properties window displays.

Log Monitor Properties
Name: RBCLOGFTP
Description: FTP Request Log
Allow this log to be monitored
Log monitor check interval: 15 Seconds
Monitor job run priority: 11
OK Cancel

- Check Allow this log to be monitored if you want to monitor FTP requests (it's not monitored by default). When the log monitor starts, Robot Console creates a virtual message queue RBCLOGFTP, and a message center RBCLOGFTP (if they don't already exist).
- 3. Enter a value (1-999 seconds) in the **Log monitor check interval** field to specify how often Robot Console will check for new log entries.
- 4. Enter a value in the **Monitor job run priority** field to specify the run priority for the monitor job. Valid values range from 11 (high priority) to 99 (low priority).
- 5. Click **OK**.

Overview of log monitoring

Security audit log monitoring

System history log monitoring

System History Log Monitoring

Robot Console system history log monitoring lets you monitor and manage messages from the system history log. The system history log monitor job copies messages from the QHST system history files to the system history virtual message queue RBCLOGHST, and displays them on the RBCLOGHST message center.

Note: When Robot Console monitors the system history (QHST) log files, a large number of messages are written to history. We recommend running the command RBCSUMQHST before starting the RBCLOGHST monitor. This command produces a report that summarizes the messages contained in the QHST log files. Reviewing the report allows you to identify messages that you don't need to see so that you can create a message set to suppress them before they're written to history. You can also identify messages for which you want to require a response in order to bring them to someone's attention.

Monitoring starts when the system history log monitor starts for the first time. If the monitor has been stopped for a short period of time and then restarts, Robot Console processes the unread system history messages. If the system history log monitor is turned off for a longer length of time, messages might be removed from the system history before Robot Console can process them.

Caution: System history log monitoring can significantly increase the amount of disk space used for message history. We recommend that you delete message history records regularly to prevent disk space problems. For details, see <u>Deleting Message History</u>.

Setting Up System History Log Monitoring

To set up system history log monitoring:

1. Click **Log Monitors** in the Tree view, then right-click **RBCLOGHST** in the List view and select **Properties**. The Log Monitor Properties window displays.

Log Monitor Pro	operties
Name:	RBCLOGHST
Description:	System History Log
Allow this lo	og to be monitored
Log monit	or check interval: 60 😴 Seconds
Monitor jo	b run priority: 50 🖨
	OK Cancel

- 2. Check **Allow this log to be monitored** if you want to monitor the system history file QHST (it's not monitored by default). When the log monitor starts, Robot Console creates a virtual message queue RBCLOGHST, and a message center RBCLOGHST (if they don't already exist).
- 3. Enter a value (1-999 seconds) in the **Log monitor check interval** field to specify how often Robot Console will check for new log entries.
- 4. Enter a value in the **Monitor job run priority** field to specify the run priority for the monitor job. Valid values range from 11 (high priority) to 99 (low priority).
- 5. Click **OK**.

Overview of log monitoring

Security audit log monitoring

FTP request log monitoring

Application Log Monitoring

Many applications direct informational messages, event messages, and errors to log files in the IFS. Robot Console can then monitor those log files and send a message to a virtual message queue when it finds an important event. (Robot Console creates a virtual message queue for each of the application log monitors you set up.) You then use Robot Console message centers, message sets, and OPAL code to process the messages.

Notes:

- Application log monitoring jobs are added to the RBTSLEEPER subsystem.
- If you are working in <u>Host mode</u>, you can only enable application log monitoring on the nodes.

The following diagram shows how Robot Console application log monitoring works:



Viewing the list of application log monitors

Defining an application log monitor

Working with application log monitors

Viewing the List of Application Log Monitors

To view the list of application log monitors, click **Application Log Monitors** under Monitored Objects in the Tree view.

Address: YOG node 🔽 💉 🗸 👦 ! 🕞 🚆 🛃 🥪 🖾 🔤 🕼 ! 🔤 🖉	System View Tools Help								
Message Centers Ves Released Monitored Objects SCHEDULE Schedule Log Monitor Filters SAMPLES No Disabled Monitored Objects Schedule Log Monitor Filters SAMPLES No Disabled Monitorise Log Monitors Status Status Schedule Log Monitors No Disabled Monitoriation Lists System Setup Reports Search Path: /Help Systems/Robot NETWORK/logs/netnodelog.log Allow this log to be monitored: Yes Log monitor check interval: 60 Seconds Monitor job run priority: 60 Virtual Message Queue: RBTCONLIB/NODE Virtual Message Queue:		S	2 🕞 🖭 🗾	5	- 🗠 🔍 🗟 😸 - 💻				
Monitored Objects Message Queue Monitors Control Contrecont Control Control Control Control Control Contecontrol Control			Name 🔨		Description \land	Application \land	Enabled \land	Status	^
Message Queue Monitors Resource Monitors Application Log Monitors StAULINKED Alerts for Stay Linked SAMPLES No Disabled SAMPLES No Disabled SAMPLES No Disabled Samplication Log Monitors System Setup Reports System Setup Reports Search Path: /Help Systems/Robot NETWORK/logs/netnodelog.log Log monitor check interval: 60 Seconds Monitor job run priority: 60 Virtual Message Queue: RBTCONLIB/NODE		j	NODE	Node Er	rors		Yes	Released	
Resource Monitors Log Monitors Log Monitors Reports StAVLINKED Alerts for Stay Linked SAMPLES No Disabled Samples No Disabled Samples Samples Samples No Disabled Samples Samples Samples No Samples Samples Samples Samples No Samples Samples Samples No Disabled Samples Samples Samples Samples No Disabled Samples Samples Samples Samples No Disabled Samples Samples No Disabled Samples Samples Samples Samples Samples Samples Samples Samples No Disabled Samples Sampl		j	SCHEDULE	Schedul	e Log Monitor Filters	SAMPLES	No	Disabled	
System Setup Search Path: /Help Systems/Robot NETWORK/logs/netnodelog.log Allow this log to be monitored: Yes Log monitor check interval: 60 Seconds Writual Message Queue: RBTCONLIB/NODE 	E Resource Monitors Dog Monitors Dog Monitors Application Log Monitors Message Sets	ja I	STAYLINKED	Alerts fo	r Stay Linked	SAMPLES	No	Disabled	
 Allow this log to be monitored:									
Log monitor check interval: 60 Seconds Monitor job run priority: 60 Virtual Message Queue: RBTCONLIB/NODE	- Reports	1				ogs/nethodelog.log			
Monitor job run priority: 60 Virtual Message Queue: RBTCONLIB/NODE			-						
Virtual Message Queue: RBTCONLIB/NODE			-						
		1	Monitor job run pri	ority:	60				
Status: 🕨 Released			Virtual Message Qu	eue:	RBTCONLIB/NODE				
		: St	tatus:		Released				

Overview of application log monitoring

Defining an application log monitor

Working with application log monitors

Application Log Monitors – Column Descriptions

Column	Function
Name	The name of the application log monitor.
Description	The description of the monitor.
Application	The Robot Console application (grouping) defined to the monitor.

Column	Function
Enabled	Indicates whether the monitor job is enabled (Yes) or disabled (No). This is controlled by the Allow this log to be monitored option on the Instructions tab of the Application Log Monitor Properties window. This information is also displayed in the QuickView.
Status	 Shows the current status of the monitor. The possible statuses are: Released - The monitor job is running. Data is being collected and processed.
	• Inactive - The monitor job is not running. A reason for this (file not found, directory not found, monitor was stopped, and so on) can be seen by Status in the QuickView. Data is being collected, but not processed.
	 Disabled - The monitor job is running, but no data is being collected. See the Enabled row above.

Defining an Application Log Monitor

Use the Application Log Monitor Properties window to define an application log monitor.

- To view or edit the properties of an existing application log monitor, right-click the monitor in the List view and select **Properties**.
- To create a new application log monitor, right-click **Application Log Monitors** under Monitored Objects in the Tree view and select **New**.

While you can create an application log monitor to check all the logs of a certain type, you must create separate monitors to check different types of logs.

Application Log Monitor Properties	
Name:	
Description:	
Instructions Filters Fields	
Search Path:	٩
Encoding: Default CCSID	
Application:	
Allow this log to be monitored	
Log monitor check interval: 180 🚖 Seconds	
Monitor job run priority: 60 🗢	
Virtual Message Queue: RBTCONLIB/*NEW	
	OK Apply Cancel

To define an application log monitor:

- 1. Enter a unique **Name** for the monitor, 10-characters maximum, with no spaces. If you are editing a monitor, you cannot change the name.
- 2. Enter a **Description** for the monitor, 30-characters maximum.
- 3. Click the **Instructions** tab and enter criteria enabling monitoring and identifying what is to be monitored. For details, see the <u>Instructions Tab</u>.
- 4. Click the **Filters** tab and enter criteria to filter the logs to determine what should trigger a message. For details, see the <u>Filters Tab</u>.
- 5. Click the **Fields** tab and enter field definitions that will make it easier to enter filters and OPAL code. For details, see the <u>Fields Tab</u>. **Note:** This is an advanced feature for complex monitoring.
- 6. Click **OK** to save the application log monitor. **Note:** You can do incremental saves without closing the window by clicking **Apply**.

Note: Many users will find that a very simple application log monitor will meet their needs. For that, all you have to do is complete the Instructions tab. Then, on the Filters tab, create a filter using LOGDATA that looks for a word, phrase, date, or other simple string. No need to do anything on the Fields tab. Click **OK**.

Application log monitoring

Instructions tab

Filters tab

Fields tab

Working with application log monitors

Instructions Tab

The Instructions tab of the Application Log Monitor Properties window allows you identify what should be checked, to enable (or disable) monitoring, set how to check the log, and set the priority for the monitor job.

Application Log Monitor Properties	×
Name: SCHEDULE	
Description: Schedule Log Monitor Filters	
Instructions Filters Fields	
Search Path: /Help Systems/Robot SCHEDULE/logs/rbt/sem.log	۵
I have grading notice to be been asymptotic times	
Application: SAMPLES	
I Allow this log to be monitored	
Log monitor check interval: 180 😓 Seconds	
Monitor job run priority:	
Virtual Message Queue: RBTCONLIB/SCHEDULE	
OK Apply Car	ncel

To complete this tab:

1. Type the **Search Path** in the field, or click the Finder icon () to select a directory or log file to monitor.

You can monitor a directory, a generic file (use an asterisk * as a wildcard), or a specific file. The file doesn't need to exist at the time you set up the monitor, though when you save the monitor, you'll get a message to that effect.

2. Select the type of **Encoding** in the file to be monitored.

- 3. Check **Allow this log to be monitored** if you want to monitor the log you identified above. When the log monitor starts, Robot Console creates a <u>virtual message queue</u> with the same name as this monitor. The message center RBCALMQ is used for all application log monitor messages.
- 4. Enter a value (1-999 seconds) in the **Log monitor check interval** field to specify how often Robot Console will check for new log entries.
- 5. Enter a value in the **Monitor job run priority** field to specify the run priority for the monitor job. Valid values range from 11 (high priority) to 99 (low priority).
- 6. Click the **Filters** or **Fields** tab to enter that information.
- 7. If you are finished, click **OK** to save the application log monitor.

Application Log Monitor Properties window

Filters tab

Fields tab

Working with application log monitors

Application log monitoring

Filters Tab

Event logs contain a lot of data, much of it informational. The Filters tab of the Application Log Monitor Properties window allows you to identify the important information in the log file so that only that information triggers a message. You must define at least one filter in order for the monitor to run.

Application Log Monitor Properties			×
Name: SCHEDULE			
Description: Schedule Log Monitor Filters			
,			
Instructions Filters Fields			
Name	Message ID	Comparison Type	Add
SCHEDULE	A004001	Match All Filters	
🗊 Сору			Сору
<u>a</u> <u>E</u> dit			Edit
8 Remove			
Copy to Clipb Select All	Ctrl-A		8 Remove
Save Selected			
		ОК	Apply Cancel

You can copy or save the filter information. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

To complete this tab:

- 1. Do one of the following:
 - Click Add to define a new filter.
 - Select a filter in the list and click **Edit** to change the filter's definition.
 - Select a filter in the list and click **Copy** to create a new filter from the copy.

The Application Log Monitor Filter Detail Properties window opens.

2. Enter a **Name** for the filter. If you are editing this filter, you cannot change the name.

Application Log Monitor Filter Detail Properties			
Name:	Jame: SCHEDULE		
Message Severity: 30 Hessage File (ID): RBCAFSLOGS (A004001)			
Filter must match:			
Field	Operation	Value	Add
LOGDATA	Contains	throttle	
			<u>E</u> dit
			8 <u>R</u> emove
			Move Up
			Move Down
			OK Cancel

- Enter the Message Severity. Valid values range from 00 (least severe) to 99 (most severe). Note: When you save the filter, Robot Console creates a message for it in the RBCAFSLOG message file. The message ID is displayed here. For more on working with message files, see <u>Message File Overview</u>.
- 4. Select what the **Filter must match** ANY or ALL of the criteria you add to the table. If you select ANY, as soon as the monitor matches a filter criteria you have in the table, it stops searching the file. If you select ALL, as soon as the monitor fails to match a filter criteria, it stops searching the file.
- 5. Click **Add** to define the filter criteria, or select a line in the table and click **Edit** to make changes to an existing one.

The Application Log Monitor Filter Field Properties window opens.

6. Enter the Field name you want to add to the filter, or click the Finder icon () to select from a list. Note: The list you can choose from contains the field LOGDATA and any other fields you defined on the <u>Fields tab</u>. The field LOGDATA always exists and contains the entire event message so you can use that if all you are looking for is a simple word or string.

Application	Log Monitor Filter Field Properties
Field:	LOGDATA
Operation:	Contains
Value:	
	OK Cancel

- 7. Select an **Operation**.
- 8. Enter a **Value** string (40 characters maximum) for the filter and click **OK**. Robot Console searches for this string in the log file based on the operation you selected above.
- 9. Use steps 5-8 to define additional criteria for this filter, if needed. When you are finished, click **OK** in the Application Log Monitor Filter Detail Properties window.
- 10. Add additional filters on the Filters tab, if needed. When you save this monitor, a message ID is created for each of the filters.
- 11. Click the **Instructions** or **Fields** tab to enter that information.
- 12. If you are finished, click **OK** to save the application log monitor.

Application Log Monitor Properties window

Application Log Monitor Filter Detail Properties window

Application Log Monitor Filter Field Properties window

Instructions tab

Fields tab

Working with application log monitors

Application log monitoring

Application Log Monitor Filter Detail Properties

The Application Log Monitor Filter Detail Properties window is accessed on the <u>Filters tab</u> and is part of the process of <u>defining an application log monitor</u>. In this window, you define the filter and work with the filter's criteria.

Application Log Monitor Filter Detail Properties					
Name:	Name: SCHEDULE				
Message Severity: 30 - Message File (ID): RBCAFSLOGS (A004001)					
Filter must match:					
Field	Operat	ion	Value		Add
LOGDATA	Contains		throttle		
LOGDATA	Contains	6 A			<u>E</u> dit
	Image: Big Edit Image		8 <u>R</u> emove		
		📄 C	opy to Clipboard Ctrl-C		
Select All Ctrl-A			Move Up		
Save Selected Ctrl-S					
OK Cancel					

You can do the following:

- **Name:** Enter the filter name. If you are editing this filter, you cannot change the name.
- **Message Severity:** Enter a severity value for the message. Valid values range from 00 (least severe) to 99 (most severe). **Note:** When you save the filter, Robot Console creates a message for it in the RBCAFSLOG message file. The message ID is displayed here. For more on working with message files, see Message File Overview.
- **Filter must match:** Select ANY or ALL. If you select ANY, as soon as the monitor matches a filter criteria you have in the table, it stops searching the file. If you select ALL, as soon as the monitor fails to match a filter criteria, it stops searching the file.
- Define the filter criteria using the <u>Application Log Monitor Filter Field Properties</u> <u>window</u>. To open this window:
 - Click Add to add new criteria.
 - Select a row in the table and click **Edit** to edit existing criteria.
 - Select a row in the table and click **Copy** to add criteria based on the existing line.
- Select one or more rows and click **Remove** to delete them from the filter. Use the Shift or Ctrl keys to select more than one row.
- Change the order the filter criteria is applied by selecting a table row and clicking **Move Up** or **Move Down**.
- To copy or save the table data, select one or more rows, right-click and select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

Defining an application log monitor

Filters tab

Application Log Monitor Filter Field Properties

The Application Log Monitor Filter Field Properties window is accessed on the <u>Filters tab</u> and is part of the process of <u>defining an application log monitor</u>. In this window, you select a field to filter and define the filter criteria.

Application	Log Monitor Filter Field Properties
Field:	LOGDATA
Operation:	Contains
Value:	
	OK Cancel

You can do the following:

- Field: Enter the name of the field you want to add to the filter, or click the Finder icon (
) to select from a list. Note: The list you can choose from contains the field LOGDATA and any other fields you defined on the Fields tab. The field LOGDATA always exists and contains the entire event message. To create a simple application log monitor, use LOGDATA and a Value that is a word, phrase, date, or other simple string.
- Operation: Select an operation for this field. You can choose from:
 - Contains
 - Does not contain
 - Equals
 - Not equal
 - Greater than
 - Greater than or equal to
 - Less than
 - Less than or equal to

- Starts with
- Ends with
- **Value:** Enter a string (40 characters maximum) for the filter. Robot Console searches for this string in the log file based on the operation you selected above.

Defining an application log monitor

Filters tab

Fields Tab

Event logs contain a lot of data. As you are defining filters to help search through all of that data, you can also define fields that identify sections of the log and the type of data contained in that section. Fields are then used when defining the filter or entering OPAL code. **Note:** Fields are optional and should only be used for more complex monitoring.

Application Log Monitor Properties	— X—
Name: SCHEDULE	
Description: Schedule Log Monitor Filters	
Sample File: //Help Systems/Robot SCHEDULE/logs/rbtfsem.log	
[2015-01-23-11-59-37.622760][INFO][074382/RBTADMIN/RBTFSEM 00000009][runMonitor()] Monitor job will throttle at 40 concurrent collections.	
Found: all fields.	Row Number: 1
Application Log Monitor Model	Add
DATETIME,MSGTYPE,JOBINFO, THREAD,MSG	
€ du	Edit
8 Remove	8 Remove
Copy to Clipboard Ctrl-C	
Select All Ctrl-A	
in save selected Const	
	Move Up
	Move Down
OK	Apply Cancel

You can copy or save the field information. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

To complete this tab:

1. Type the path to a **Sample File** that's similar to the log you want to monitor. If you don't know the path, click the Finder icon (a) to open the IFS Directory or File Finder window where you can locate and select a sample file.

Note: When setting up fields, it's not necessary for you to work with the actual file that will be monitored. You only need to use a file that contains data in a similar format.

2. Data from the sample file is displayed. Click the up and down arrows to scroll through the rows in the file (the row number is shown below the display area). Click the Refresh icon (a) to move back to row 1.

Instructions	Filters Fields	
Sample File:	/Help Systems/Robot SCHEDULE/logs/rbtfsem.log	۵
	12.00.37.885640][INFO][074382/RBTADMIN/RBTFSEM 0000000A][fileMonitor()] Monitor KLMFILEE collection has started. File Added event, cycle time is 60 filter is /Kelly/*	
		Row Number: 8

3. Based on the sample file, you need to add one or more models of data rows that you want monitored. The model you create breaks the row up into sections (fields) that you name. Those fields can then be added to filters and monitored.

After you find a row in step 2 with important data in it, click **Add** to define a model for that row. The <u>Application Log Monitor Model window</u> opens.

4. In the Application Log Monitor Model window, click **Add** to define a new field.

The <u>Application Log Monitor Field Properties window</u> opens.

Application Log	Monitor Field Properties	—
Field:		
Туре:	String 💌	
OPAL Variable:		
		OK Cancel

- 5. Enter a name for the **Field**. In many cases, you'll want to enter a unique name. However, you can reuse field names where appropriate (click the Finder icon of to select from a list of saved field names for this monitor).
- 6. Select a **Type** to identify the format of the text for this field. There are a variety of types available.
- 7. If necessary, enter an **OPAL Variable**. Or, click the Finder icon () to select from a list. Selecting an OPAL variable allows you to identify a string of up to 128 characters that can then be used as a variable in OPAL code in a message set. **Note:** There are
18 OPAL variable names available, You must select a different one for each unique field name that uses them.

8. Click **OK** to return to the Application Log Monitor Model window.

Application Log Monitor Model					
	Field	Туре	OPAL Variable	bb <u>A</u>	
	DATETIME	String, [String]			
	MSGTYPE	String, [String]		🗟 <u>E</u> dit	
	JOBINFO	String, [String]			
	THREAD	String, [String]		8 <u>R</u> emove	
	MSG	String, all remaining text			
_				Move Up	
				Move Down	
				OK Cancel	

9. Use the steps 4-8 to add more fields. You do not have to create a field for all the text in the row you are working with; however, the fields must be in the order the text is found in the row. Use **Move Up** and **Move Down** to change the order.

When you are finished, click OK.

10. On the Fields tab, check to be sure your model is working. You can do so by selecting the model and looking at the message in the status bar above it. If there's a problem with any of the fields, the monitor will skip that model when it's checking the logs. Click the **Edit** button to make changes to fix the model.

F	Found: WHAT. Field TIMESTAMP was not found. Skipping all other fields.				
	_	Application Log Monitor Model			
		WHAT, TIMESTAMP, THREAD, IGNORE, MSG			

- 11. If there are additional rows in the sample file that contain important information and that are formatted differently from the row you were working with, you should create a separate model for each of those rows. Follow steps 2-9 to create additional models.
- 12. Click the Instructions or Filters tab to enter that information.
- 13. If you are finished, click **OK** to save the application log monitor.

Application Log Monitor Properties window

Application Log Monitor Model window

Application Log Monitor Field Properties window

Instructions tab

Filters tab

Working with application log monitors

Application log monitoring

Application Log Monitor Model

The Application Log Monitor Model window is accessed on the <u>Fields tab</u> and is part of the process of <u>defining an application log monitor</u>. In this window, you create a model for a row of data in the monitored file. The model parses sections of text into fields that you name. Those fields can then be used in the filters for more complex monitors and in the OPAL code in message sets.

Application Log Monitor Model						
Field DATETIME MSGTYPE	Tr String, [String] String, [String]	уре	OPAL Variable	Add		
JOBINFO THREAD	String, [String] String, [String]	🔁 <u>A</u> dd <u>a</u> Edit 😢 <u>R</u> emove		Image: Contract of the second secon		
MSG	String, all remaining	Copy to Clipbo Select All	Ctrl-A	Move Up		
				OK Cancel		

You can do the following:

- Define the fields using the <u>Application Log Monitor Field Properties window</u>. To open this window:
 - Click Add to define a new field.
 - Select a row in the table and click Edit to edit a existing field.
- Select one or more rows and click **Remove** to delete them from the model. Use the Shift or Ctrl keys to select more than one row.
- Change the order of the fields by selecting a table row and clicking **Move Up** or **Move Down**. This can be useful when you are trying to correct errors in the model.
- To copy or save the table data, select one or more rows, right-click and select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

Defining an application log monitor

Fields tab

Application Log Monitor Field Properties

The Application Log Monitor Field Properties window is accessed on the <u>Fields tab</u> and is part of the process of <u>defining an application log monitor</u>. In this window, you define a field to the model you are setting up.

Application Log	Monitor Field Properties	—
Field:		
Туре:	String	
OPAL Variable:		
		OK Cancel

You can do the following:

- Field: Enter the name of the field you are defining, or click the Finder icon () to select from a list. Note: The list you can choose from contains the field LOGDATA and any other fields you've already defined and saved. The field LOGDATA always exists and contains the entire event message.
- **Type:** Select the type of text contained in this field. You have a variety of choices that cover the following:
 - Strings
 - Numbers
 - Dates
 - Time
 - IP addresses
 - Ignored strings
- OPAL Variable: (Optional) If you wish to use the text from this field as a variable in the OPAL code in a message set, click the Finder icon () to select an OPAL variable name. The OPAL variables can contain up to 128 characters. For this monitor, each unique field name must use the same OPAL variable name, and you cannot use that OPAL variable with any other field.

😥 Cre<u>a</u>te Message Set

🛗 Where Used...

Delete

Defining an application log monitor

Fields tab

Defining message sets

Working with Application Log Monitors

There are several things you can do with application log monitors in Robot Console. When you right-click a monitor in the List view, you can choose from the following:

💐 Properties...

Enable
Disable

Start Stop

New...

<u>C</u>opy...
Orbital
O

Export to an XML file...

Message Set

💻 Message Center

Properties (or New)

Create Message Set

Where Used

Message Center

Enable or Disable

Start or Stop

Copy

Delete

Export to an XML file

Copy to Clipboard, Select All, and Save Selected

Create Message Set

Whenever an application log monitor triggers a message, it's sent to a virtual message queue with the same name as the monitor. These messages are displayed in the RBCALMQ message center. As with any other message, you can set up instructions for dealing with the message by creating a message set.

Robot Console provides an easy way for you to start creating a message set for your application log monitor messages. To do so, right-click the application monitor you want to work with, point to **Message Set**, and click **Create Message Set**.

Robot Console Explorer						_		×
<u>System View Tools H</u> elp								
Address: YOG 💌 🗆 💉 🔊	2 👦 🖺 📃	3 [🗉 🔍 🔍 🗟 🛃 💻					
VOG	Name \land		Description \land		Application \land	Enabled \land	Status	^
Message Centers	D NOD	Error	5			Yes	Released	
Monitored Objects Message Queue Monitors Message Queue Message Queue Monitors Message Queue Message Queue Message Queue Message Messag	SCHEDULE	Sche	Rrop <u>e</u> rties		SAMPLES	No	Disabled	
Resource Monitors	STAYLINKED	Alert			SAMDLES	No	Disabled	
- 🗑 Log Monitors			Message Set	<u> </u>	📀 Cre <u>a</u> te Messag			
Application Log Monitors			💻 Message Center	Ļ	Mere Used			
• Message Sets			Enable					
— ➡ Notification Lists — ⅔ System Setup			II Disable					
🔄 🗎 Reports			Start					
			St <u>o</u> p					
			🔁 <u>N</u> ew					
			📄 <u>С</u> ору					
			😣 <u>D</u> elete	Delete				
			Export to an XML file.					

The Message Set Properties window opens with information applicable to the message from the application log monitor already entered. For information on completing the fields in this window, see <u>Defining a Message Set</u>.

Note: Before defining a new message set, you may want to click Where Used to see if there already is a message set defined to the messages for this application log monitor. For more information, see Where Used - Application Log Monitor.

Where Used - Application Log Monitor

Application log monitors have a Where Used page that shows you which Message Group and Message Set are defined to its messages. To open the window, in the List view, rightclick the application monitor you want to work with, point to **Message Set**, and click **Where Used**.

In the Where Used window, right-click a Message Set and select **Properties** to open the Message Set Properties window. You can view or edit the message set definition.

Where Used: Application Log Monitor SCHEDULE							
2	Message Group	Message S	et Name	et Name Description		escription	
		SCHEDULE		Schedule Lo	g Monitor	Filters	
			🗟 Prop	erties			
			Cop	y to Clipboar	d Ctrl-C		
			Selec	t All	Ctrl-A		
			🔚 Save	Selected	Ctrl-S		
						*	
							Close

For more information on the Where Used pages in Robot Console, see <u>Where Used</u>.

Viewing the RBCALM Message Center

Whenever an application log monitor triggers a message, it's sent to a virtual message queue with the same name as the monitor. These messages are displayed in the RBCALMQ message center. Robot Console provides a way to quickly open this message center already filtered for the messages triggered by an application log monitor. To do so, click **Application Log Monitors** in the Tree view. Then, in the List view, right-click the application log monitor you want to work with and click **Message Center**.

For details on working with the Message Center window, see <u>Displaying a Message Center</u>. Also see <u>Working with the Messages on a Message Center</u>.

Enabling or Disabling Application Log Monitoring

When you enable an application log monitor, it allows the data from the log file to start being collected. Disabling the monitor ends the data collection. There are two places to see whether an application log monitor is enabled or disabled:

- In the List view: Yes in the Enabled column means it's enabled, and No means it's disabled.
- In the Quick View, by Allow this log to be monitored: Yes means it's enabled, and No means it's disabled.

Robot Console Explorer System View Tools Help								×
Address: YOG node 🛛 🗐 💉	6	2 🕞 🖺 [J 😽 🖾	🔍 🔯 🗟 🛯 💻				
YOG node		Name \land		Description \land	Application \land	Enabled 🖱	Status	^
— 💻 Message Centers	6	NODE	Node E	rrors		Yes	Released	
•- 🔊 Monitored Objects	6	SCHEDULE	Schedu	le Log Monitor Filters	SAMPLES	No	Disabled	
Message Queue Monitors Secource Monitors	đ	STAYLINKED	Alerts f	or Stay Linked	SAMPLES	No	Disabled	
 D Log Monitors D Application Log Monitors 								
🗣 🚱 Message Sets								
────────────────────────────────────			7					
System Setup Reports	; Se	Search Path: /Help Systems/Robot NETWORK/logs/netnodelog.log						
	A	Allow this log to be monitored: 🗼 Yes						
		Log monitor chec	k interval:	60 Seconds				
		Monitor job run p	riority:	60				
	1	Virtual Message Q	ueue:	RBTCONLIB/NODE				
				Released				
	St	atus:		v neleaseu				
	St	atus:		Keleaseu				

There are also two ways to enable or disable a monitor:

- In the List view, right-click the monitor and select Enable (or Disable).
- In the List view, right-click the monitor and select **Properties**. On the Instructions tab, check (enable) or clear (disable) the box by **Allow this log to be monitored**.

When you enable an application log monitor, it's also started at the same time. Therefore, you are asked how to continue the processing of the log files. You can choose to continue with the previous file (start processing where it left off, even if it was in the middle of a file), start over processing all files (this processes all the collected files that haven't been

processed yet, even the ones collected before the monitor was disabled), or start processing only the new files (only files collected from this point forward will be processed).

Confirm	ation 💌			
2	Enable and start the Application Log Monitor SCHEDULE?			
Select an option to continue processing:				
	Continue with previous file			
	O Start over processing all files			
	○ Start processing new files only			
	Yes No Cancel			

Enabling and disabling an application log monitor shouldn't be confused with starting or stopping the processing of messages. For more on that, see <u>Starting or Stopping Application</u> Log Monitoring.

Starting or Stopping an Application Log Monitor

When you start an application log monitor, it allows the data collected from the log file to be processed and messages sent. Stopping the monitor ends the processing, though the data will continue to be collected. There are two places to see the status of an application log monitor (whether it's started or stopped):

- In the List view: The Status column has three possible values. Released means the monitor is started, Inactive means it's stopped, and Disabled means it's stopped because it was <u>disabled</u>.
- In the Quick View, by Status: You'll see the same statuses as described above (Released, Inactive, and Disabled). Additional information is shown for Inactive statuses that shows the monitor was stopped, or that explains why data is not being collected for the stopped monitor.

Robot CONSOLE Explorer System View Tools Help					
Address: YOGI node 💌 💉 💰	i 2 i 😪 🗄 i 📃	🧏 🖾 I 🔍 🕅 🗟 🗟 I 💻			
YOGI node	Name 🔨	Description \land	Application \land	Enabled \land	Status 🔦
Message Centers	DODE NODE	Node Errors		Yes	Released
	SCHEDULE	Schedule Log Monitor Filters	SAMPLES	No	Disabled
Resource Monitors	🔊 STAYLINKED	Alerts for Stay Linked	SAMPLES	Yes	Inactive
System Setup Reports	Search Path: Allow this log to be me	/Help Systems/StayLinkedAlert/St. onitored: ▶ Yes		***	
	-	interval: 30 Seconds			
	Monitor job run pri Virtual Message Qu	iority: 60			
	Status:	Inactive - Directory /Help Systematics	ems/StayLinkedAlert wa	as not found.]
				Console is:	ACTIVE

To start or stop an application log monitor, right-click it in the List view, and select Start or Stop. You're asked to confirm your selection. You could also run the RBCSTRAMON or RBCENDAMON commands on the IBM i. **Note:** If an application log monitor is disabled, you will not be able to start it without enabling it first.

Starting and stopping the processing of message shouldn't be confused with enabling or disabling the collection of data. For more on that, see <u>Enabling or Disabling Application Log</u> <u>Monitoring</u>.

Copying an Application Log Monitor

When you have application log monitors with similar definitions, it will save time if you create a new monitor from a copy of another one. To do so, right-click the application log monitor in the List view and select **Copy**. This opens an Application Log Monitor Properties window that duplicates the properties of the monitor you selected. Use this to set up a new monitor from the copy.

Deleting Application Log Monitors

To delete one or more application log monitors:

- 1. From the List view, select the monitors to delete. Use the Shift and Ctrl keys to select more than one monitor.
- 2. Right-click the monitors and click **Delete**.
- 3. Click **Yes** to delete the monitor or **No** to cancel.

Note: You cannot delete an application log monitor that is processing messages (started). You must stop it first. For details, see <u>Starting or Stopping an Application Log Monitor</u>.

Message Sets

Message Sets Overview

A Robot Console message set is a group of procedures that's used to automatically process a message or to guide a user to react correctly to a message. When a message is received in a message center, Robot Console selects a message set to process based on the message ID and message queue. Robot Console may use more than one message set, if appropriate.

While using OPAL tables, message tables, and message groups is optional, you can use them in conjunction with message sets to categorize and process messages more efficiently. Here's how:

- Use OPAL tables with OPAL code to simplify the process of comparing message data variables to specific names.
- Use message tables to group individual message IDs and simplify the process of managing similar messages. For example, you can create a message table of message IDs that should be suppressed, or a table of message IDs that should be canceled.
- Use message groups to place messages into logical categories based on the source of the message. You can use message groups to separate certain messages from normal system messages. You might group messages by job, user profile, program, message file, programming group, or point of origin (for example, messages received from customer service or payroll).

Message Set Creation Wizard

Defining message sets

Working with message sets

Message set processing

Defining a message file

Testing message sets

Adding a Message Set

There are three ways for you to add message sets to Robot Console:

- Use the <u>Message Set Properties window</u>. To open it, right-click **All Message Sets** in the Tree view and select **New**. Or, select All Message Sets. Then, right-click anywhere in the List view and select **New**.
- Export message sets to, or import message sets from, another system.
- Use the <u>Message Set Creation Wizard</u> from the Robot Console Explorer toolbar to create a new, basic message set.

Defining a Message Set

A message set is a group of procedures that's used to automatically process a message or to guide a user to react correctly to a message. Use the tabs of the Message Set Properties window to define a message set (add or edit).

- To create a new message set, under Message Sets in the Tree view, right-click All Message Sets and select New. You also can use the <u>Message Set Creation Wizard</u> to quickly create a basic message set.
- To view or edit the properties of an existing message set, click **All Message Sets**, then right-click the message set in the List view and select **Properties**.

Message Set Properties				×		
Message Group:	Status:	Held				
Name:	Message Set Number	: 0				
Description:						
Alternate 1st Level Text Alternate 2nd Level Text Disallowed Replies Set Documentation Text						
Monitor Message Instructions Extended Set		Unconditional Instructions	OPAL	Reply OPAL		

To define a message set:

- 1. Enter a **Message Group** name if the message set will be associated with a message group. Or, click the Finder icon () to select from a list. A message group is not required.
- Enter a Name for the message set. The name can be up to 10 characters in length and should follow IBM naming conventions. Note: You cannot change the name of an existing message set.
- 3. Enter a brief **Description** for the message set.
- 4. Enter the details for the message set on the following tabs:
 - Monitor Message Instructions
 - Extended Set
 - Unconditional Instructions

- OPAL and Reply OPAL
- <u>Alternate Text (1st- and 2nd-level)</u>
- **Disallowed Replies**
- Set Documentation Text
- 5. Click **OK**.

Setting Monitor Message Instructions

You use the Monitor Message Instructions tab of the <u>Message Set Properties window</u> to define which messages are to be processed by a message set. You identify the message queue and application for the message set, use set type instructions to specify when Robot Console should use the message set to process a message, and specify any special instructions that apply to the message set.

Message Set Information								
Message Queue: 🔘	Message Queue: All O Selected Message Queue:							
Application:	Application:							
Message Set Type	Message Set Type Single							
Single	Message File: QSYS/QCPFMSG							
○ Message Table	Monitor for Message ID:							
○ Range	Message ID not found							
Special Instructions								
 None 								
O Do Not Process any	○ Do Not Process any other sets after this one							

Click the following links to see information on completing that section of this tab:

Message Set Information

Message Set Type

Special Instructions

Message Set Information

Complete the following message set information on the Monitor Message Instructions tab of the Message Set Properties window:

Message Queue: One of the ways Robot Console determines if a message set should process a message is the message queue to which the message is sent. You can limit a message set to a single message queue or have it apply to all message queues.

- If this message set is to process the message only when it is sent to a specific message queue, enter the Selected Message Queue name. Or, click the Finder icon () to select from a list.
- If the message should be processed from any message queue, select All.

Application: Enter an **Application** name (optional) to group this message set with other message sets that use the same application. Message sets can be sorted and exported by application name.

Message Set Type

A message set can be used for a single message ID, a message table, a range of message IDs, or all messages. You select the type of message set on the Monitor Message Instructions tab of the Message Set Properties window.

Select a type under Message Set Type: Depending on the type you select, the fields on the Monitor Message Instructions tab change so that you can identify the message or messages and also enter processing information specific to the set type.

Note: Some processing options are restricted for certain message set types.

Following is a list of the message set types you can choose from. Click a link to see more information about that type.

- Single: The message set processes only one message ID.
- <u>Message Table</u>: The message set processes all of the message IDs contained in a message table (see Message Tables for complete information on defining and using message tables).

- <u>Range:</u> The message set processes a range of message IDs.
- <u>All Messages</u>: The message set processes all messages defined in the message file.

Special Instructions

You can apply special processing instructions to a message set, such as the instruction not to process any other message sets after this one is processed. The available special instructions vary depending on the type of message set you are working with. You select these options on the Monitor Message Instructions tab of the Message Set Properties window. See <u>Special Instructions</u> for an explanation of available special instructions for each message set type.

Message Set Type – Single

When the message set type is Single on the <u>Monitor Message Instructions tab</u> of the Message Set Properties window, the message set will process only one message ID. You specify the message ID, and the message file and library that contain the message description.

Message Set Type	Single					
Single	Message File:	QSYS/QCPFMSG				
O Message Table	Monitor for Message ID:					
○ Range	Message ID not found					
Special Instructions						
None						
○ Do Not Process any other sets after this one						

- 1. Select **Single** under Message Set Type.
- 2. Enter the **Message File** that contains the message descriptions. Use a *library/message file* format. Or, click the Finder icon () to select from a list. The message file specified is used to determine if the message set applies to a message and should be run.

Note: Before you can use a new message file to create a message set, you must add a message file to Robot Console. For more information, see <u>Creating a New Message</u> File Definition.

- 3. In the **Monitor for Message ID** field, enter the message ID of the message to be processed by the message set. Or, click the Finder icon () to select from a list.. The beginning of the message text displays following the message ID so you can verify that this is the right message.
- 4. Select an option under **Special Instructions**. For descriptions of the choices, see <u>Special Instructions</u>.

Message Set Type – Message Table

When the message set type is Message Table on the <u>Monitor Message Instructions tab</u> of the Message Set Properties window, the message set checks the message table specified to see if it contains the message ID. See <u>Message Tables Overview</u> for more information on message tables.

Message Set Type	Message Table					
○ Single	Message Table Name:	Q				
Message Table						
○ Range						
Special Instructions		1				
None						
O Do Not Process and Control of the second secon	○ Do Not Process any other sets after this one					
O Do Not do this set	○ Do Not do this set if a previous message set is found					
○ Do this set if no OPAL Condition of a previous set was met						
○ Always do this me	○ Always do this message set					

- 1. Select **Message Table** under Message Set Type.
- 2. Enter the **Message Table** that contains the messages. Or, click the Finder icon () to select from a list. Robot Console checks the specified message table to determine if it contains the message ID that was received.
- 3. Select an option under **Special Instructions**. For descriptions of the choices, see <u>Special Instructions</u>.

Message Set Type – Range

When the message set type is Range on the <u>Monitor Message Instructions tab</u> of the Message Set Properties window, the message set processes any message with an ID that falls between the message IDs specified in the range.

Message Set Type	Range				
○ Single	Message File:	QSYS/QCPFMSG			
O Message Table	From Message ID:				
Range	To Message ID:				
Special Instructions					
None					
○ Do Not Process any other sets after this one					
O Do Not do this set if a previous message set is found					
○ Do this set if no OPAL Condition of a previous set was met					
 Always do this message set 					

- 1. Select Range under Message Set Type.
- Enter the Message File that contains the message descriptions. Use a *library/message file* format. Or, click the Finder icon (
) to select from a list. The message file specified is used to determine if the message set applies to a message and should be run.
- 3. Enter the lowest and highest message IDs in the range the message set is to process. Or, click the Finder icon () to select from a list.

Note: The message range specified here does not work like the MONMSG range in CL. You must enter the exact first and last message IDs for which you want to monitor.

4. Select an option under **Special Instructions**. For descriptions of the choices, see <u>Special Instructions</u>.

Message Set Type – All

When the message set type is All on the <u>Monitor Message Instructions tab</u> of the Message Set Properties window, the message set processes all messages defined in the message file you specify.

Message Set Type	All					
○ Single	Message File:	QSYS/QCPFMSG		Q		
 Message Table Range All 						
Special Instructions			1			
None						
0.111						
O Do Not Process any	y other sets after th	is one				
O Do Not do this set	if a previous messa	ige set is found				
O Do this set if no OPAL Condition of a previous set was met						
O DO UNS SEE IN NO OF	O Do this set if no OPAL Condition of a previous set was met					
 Always do this mes 	○ Always do this message set					

- 1. Select All under Message Set Type.
- Enter the Message File that contains the message descriptions. Use a *library/message file* format. Or, click the Finder icon (
) to select from a list. The message file specified is used to determine if the message set applies to a message and should be run.
- 3. Select an option under **Special Instructions**. For descriptions of the choices, see <u>Special Instructions</u>.

Special Instructions

Even though more than one message set applies to a message, not all the selected message sets may be used. Before using the message set, Robot Console looks for a special (or set type) instruction in the message set.

For example, if the message set for a specific message ID contains the message set instruction, Do Not Process any other sets after this one, the other message sets are not used. Or, if a message set has no message set instructions, but a range message set contains the instruction: Do not do this set if a previous message set is found. The range message set is not used because the specific message set has already been used for the message. You use the <u>Monitor Message Instructions tab</u> to select special instructions that further define how a message set will handle a message. These instructions are optional and you can select only one for each message set.

Following are the special instructions you can select:

- None: Select this option if no special instructions apply to this message set.
- Do Not Process any other sets after this one: Select this option if the message set should be used exclusively and no other message set should be used to process the message. Robot Console does not search for another message set after it uses this message set.

Note: This is the only special instruction that's valid for a message set that processes only a single message ID.

- Do Not do this set if a previous message set is found: Select this option if this message set should not be used if another message set has already been used for the message. Robot Console looks at this option before it uses the message set; if the option is selected, it bypasses this set and resumes its search.
- Do this set if no OPAL Condition of a previous set was met: used only if a previous message set used for this message either contains no OPAL code, or contains OPAL code and the code contains at least one IF or WHILE condition list and all such lists were evaluated as false (no OPAL conditions were met and this message set should be performed).
- Always do this message set: Select this option if this message set should be used even if another message set has already been used.

Controlling Message Processing

You use the Extended tab of the <u>Message Set Properties window</u> to control message processing. You identify the message queue and application for the message set, use set type instructions to specify when Robot Console should use the message set to process a message, and specify any special instructions that apply to the message set.

Message Set Control Values
Robot Schedule Calendar:
Create Program Problem Report
Message Set Limits
☑ Use limits from System Defaults
Message Repeat Limit: 10 Count
Time Limit for Prior Msg Info: 30 Minutes
Refer To Message Set OPAL Code:
Message Center Display Options
Color Code Message Should be Displayed in: 20 Green

You can set the following options:

Option	Description
Robot Schedule Calendar	Enter the name of the Robot Schedule Calendar that should be used by this message set (if Robot Schedule is installed on your system). Or, click the Finder icon () to select from a list. The default calendar is STANDARD. The values of several OPAL variables depend on which Robot Schedule calendar is used.
Create Program Problem Report	If the message set contains OPAL code, check this box to automatically print a Program Problem Report each time the message is received. This ensures that a written record of the problem exists. The report includes the message detail and the job log to help determine the cause of the error, and is sent to the output queue specified on Message Sets tab of the <u>System Defaults</u> window.
Message Repeat Limit/Time Limit for Prior Msg	Select the repeat limit and time limit for the message. If the number of times the message repeats exceeds the repeat limit during the time limit, the message set will not process the message. For more information, see <u>Setting Message Limits</u> .
Info	If you select the default limits, Robot Console uses the values specified on Message Sets tab of the <u>System Defaults</u> window.

Option	Description
•	OPAL code entered for another message set, enter the message set name. The message set you specify must belong to the same message group (or *NONE).
	Note: If you reference the OPAL code of another message set, you cannot enter OPAL code for this message set.
Message	This code defines how this message is displayed on the message center. The description gives the meaning of the code. Click the Finder icon () to select from a list of display options.
	Note: If you display the message center on a PC, the message appears in the color you select (green messages display on the PC in black). Messages can also appear in bold, reversed image, or underscored.

Setting Message Limits

When you are working on the Extended Set tab of the Message Set Properties window, use the repeat limit and time limit to limit the number of times the same message is processed in a given time period. To be considered a repeat, the message must match an earlier message exactly—everything about the message must match: the job sending the message, the message queue and library, the message ID, the message file and library, and the message data.

You should set limits for your error recovery message sets because, in certain cases, the message set itself can cause the message to repeat. For example, suppose a line failure message is received and a message set varies the line off and then on. If the line is down for good, the same line failure message is received, and the message set varies the line off and on again, causing the same message to be received. This loop could continue indefinitely. To prevent loops, limit the number of times the same message is processed in a time period.

Robot Console checks each message when it is received to determine whether it exceeds the repeat and time limits. It looks at the number of minutes specified by the time limit and finds each message that matches the current message. If the number of messages exceeds the repeat limit, the current message is not processed.

For example, assume that the repeat limit is 7 times and the time limit is 20 minutes. When a message is received, Robot Console looks back 20 minutes from the current time. If it finds more than 7 messages identical to the current message, Robot Console does not process the current message.

Using Unconditional Instructions

If a message set is for a specific message ID or a message table, you can use unconditional instructions or OPAL code to process the message, but not both. If a message set is for a

range of message IDs or all message IDs, you can use OPAL code, but not unconditional instructions.

You use the Unconditional Instructions tab of the <u>Message Set Properties window</u> to instruct the message set to do one of the following: suppress an informational message, require a response to an informational message, or enter an automatic reply to an inquiry message.

You can perform these same actions using OPAL code and the following operations: SUPPRESS, RESPOND, DEFAULT, and ENTER. A message table name is the operation value for the OPAL comparison operations INMSGTBL and NOTINMSGTB (see the *Robot Console OPAL Reference Guide* for complete information on using OPAL).

Note: If the message set uses a message table, the instructions apply to all the message IDs in the table.

Informational Message options:	None		
	○ Suppress on Message Centers		
	○ Response Required		
Automatic Message Reply:	None		
	○ Use default for message		
	O Specific Reply:		
Remove the message from the Message Center after it has been replied to			

Select an option to be used to process an informational message.

- Select None (the default value) for no special options.
- Select **Suppress on Message Centers** to suppress the message every time it is received. You can suppress only informational messages. If the message set uses a message table, any message in the table is suppressed when it is received. A suppressed message is not displayed on a message center and no history records are written for messages suppressed by this option. (History records are written for messages suppressed using OPAL code.)

Note: When Robot Console receives a message, the first thing it does is search for "Suppress on Message Centers" instructions. If suppression instructions are found, Robot Console doesn't do anything else with the message, not even write it to message history.

• Select **Response Required** to <u>require a response</u> to a message in the message center. You can change important informational messages to require a response.

Note: If you require a response, you cannot specify an automatic message reply.

Select the reply to be used every time this message set processes a message. You can specify only one reply.

- Select None (the default value) for no specific reply.
- Select Use default for message to use the IBM default reply for the message.
- For a specific reply, click the drop-down list to select from the valid replies to a message. If the message set uses a message table, the reply must be valid for all message IDs in the table. Only the replies common to all messages in the table display in the drop-down list.

Check the **Remove the Message from the Message Center After it has been Replied to** box to remove the message from the message center after it has been replied to. If the box is unchecked (the default), the message is not removed from the message history or the message queue.

Require a Response to Informational Messages

Informational messages do not require a reply, but sometimes the message is too important to ignore and should be acknowledged. For these important informational messages, you can require the operator to respond to the message. You can select the **Response Required** option for informational messages on the <u>Unconditional Instructions tab</u> of the Message Set Properties window, or use the RESPOND operation in the OPAL code.

When you change an informational message into a message that an operator must respond to, Robot Console uses the same powerful notification procedures for the message as for inquiry messages. When an operator acknowledges that the message was read, Robot Console captures who responded to the message, and the date and time of the response.

OPAL and Reply OPAL Tabs

OPerator Assistance Language (OPAL) lets you specify operations to be performed depending on conditions met. Robot Console provides several methods you can use to specify OPAL code for a message set:

- Use the Extended Set tab of the <u>Message Set Properties window</u> to reference another message set whose code is to be used.
- Enter OPAL code on the OPAL tab of the <u>Message Set Properties window</u>. You enter the OPAL code that is performed before the message reply (if any) is received.
- Enter OPAL code on the Reply OPAL tab of the <u>Message Set Properties window</u>. You enter the OPAL code to be performed after the message reply is received.
- Copy OPAL code using the <u>Copy OPAL option</u> on the message sets right-click menu.

See Entering OPAL Code for guidelines on using the OPAL tables in Robot Console.

Entering OPAL Code

The OPerator Assistance Language (OPAL) lets you specify operations to be performed depending on conditions met. You can enter OPAL code on the OPAL and Reply OPAL tabs of the <u>Message Set Properties window</u>.

You enter OPAL statements by filling in one or more fields on a line. The following image shows an example.

Logic Operanc	Variable	Operation	Operation Values	Add
IF	SYSTIME	GT	170000	Remove
OR	SYSTIME	LT	070000	<u> </u>
		PAGE	MSG('signon security problem') TOPG(ONCALL)	
ELSE				
		EXECUTE	SNDMSG MSG(TEXT) TOUSR(QSECOFR)	
END				1 Move Up

The statement fields are as follows:

- Logic Operand: Defines IF and WHILE logic structures.
- Variable: Specifies the OPAL variable to be tested or changed.
- **Operation:** Specifies either an operation to be performed or a comparison to be made. Press the F4 key to see a window with the command details.
- **Operation Values:** Provides the value to be used by the comparison or operation.

General rules for adding OPAL code:

- Select a field and click to display the drop-down list and select from a list of valid values.
- To add a line of OPAL code, select the line above where you want to add your code and click the **Add** button.
- To delete a line of OPAL code, select the line and click the **Remove** button.
- To move a line of OPAL code, select the line of code and use the **Move Up** and **Move Down** buttons. You can select multiple lines by holding down the Shift key while clicking on the far left of the lines.
- If you have Robot Schedule installed, you can click the at (@) icon to display a window from which you can select a Robot Schedule reserved command variable.
- Click **Apply** to have Robot Console check the syntax of each OPAL statement and save your entries.

• You can edit the OPAL code at any time. If you make changes, a window displays giving you the option to create the message set when you click **OK**.

If you are not finished with your changes, or you don't want your changes used yet, click **No**. Your changes to the OPAL code are saved, but the old message set is still used. Otherwise, click **Yes** to create the message set. If the message set is active, your changes go into effect.

• You should test the OPAL code with test messages (see Message Set Testing).

For detailed information about OPAL, refer to the Robot Console OPAL Reference Guide.

Setting Alternate Text

The message set can change the first-level and second-level message text displayed on the message center. To do so, you can enter alternate message text. You might use alternate text to translate the message text to your native language, to improve the message text, or to customize the message text for your system.

You use the Alternate Text tabs of the <u>Message Set Properties window</u> to define the first- and second-level text that Robot Console should use for a message.

The message description describes first-level text and optional second-level text for the message. The first-level text is the message text that displays initially. The second-level text, displays only if the user requests it, and it usually describes the cause of the error and a recommended recovery procedure.

Keep the following items in mind regarding alternate text:

- Specifying alternate message text does not change the OPAL message data variables. For example, if a message variable follows the word FILE in the original text, you can still reference OPAL variable FILE even if you specify alternate message text that doesn't contain the word FILE.
- You cannot specify alternate first- or second-level text for message sets that apply to a range of message IDs, all message IDs, or to message tables.

The following sections describe how to specify alternate first- and second-level text for messages.

Specifying Alternate First-Level Text

Select the **Alternate 1st Level Text** tab to specify first-level text for the message displayed on the message center.

Note: This option is valid only for message sets that process a single message ID.

Original First Level Text: The original message text from the message description. This is displayed for your reference.

Alternate First Level Text: Enter new message text here.

Click **Reload Original Text** to load the original first-level text in the Alternate First Level Text field.

When you click **OK** or **Apply**, Robot Console validates all of your message set changes before saving them.

Specifying Alternate Second-Level Text

Select the **Alternate 2nd Level Text** tab to specify second-level text for the message displayed on the message center.

Note: This option is valid only for message sets that process a single message ID.

Original Second Level Text: The original message text from the message description. This is displayed for your reference.

Alternate Second Level Text: Enter new message text here.

Click **Reload Original Text** to load the original first-level text in the Alternate First Level Text field.

When you click **OK** or **Apply**, Robot Console validates all of your message set changes before saving them.

Restricting Replies to Specific Users

Robot Console can reply to many messages for you, using an automatic reply or a conditional reply from OPAL code. However, there are situations where you want a user to

answer a message. In these situations, Robot Console lists the possible replies to a message and the operator selects from the list. By default, the reply list includes all replies in the message description.

You use the Disallowed Replies tab of the <u>Message Set Properties window</u> to restrict the replies shown to a user or class of users. If the message set uses a message table, you can restrict the replies that are valid for all of the message IDs in the table.

	Reply	Description	Restriction	User Name/Class	Add
	с	Programmers cannot canel	User Class	*PGMR	
	I	Operator Dave S cannot ignore	User	DAVES	8 <u>R</u> emove

To create disallowed replies:

- Select a Reply to edit an existing reply entry. Click **Add** to create a new reply or **Remove** to remove an existing one.
- Enter a brief description of the reply (required) to further explain the purpose of the reply.
- To restrict the reply to a user profile or class of users, right-click to select an option from the drop-down list. If the reply is restricted to a specific user or class of users, enter the name. Or, click the Finder icon (
) to select from a list. If you leave these fields blank, the reply is disallowed for all users.

After you've completed a disallowed reply, when the message displays, the user (or user class) will not see the disallowed reply on their list of possible replies.

Adding Documentation Text to a Message Set

You can add additional documentation for the message set. Use the Set Documentation Text tab of the <u>Message Set Properties window</u> to enter text that further describes the message set, including additional information about the message set, or instructions for the user.

- The text you enter automatically wraps after 66 characters. You can manually add carriage returns to space your text and make it easier to read.
- You can enter text documenting the purpose of this message set and any other pertinent information.

Message Set Creation Wizard

Robot Console provides a simple way to create message sets to process messages. The Robot Console Message Set Creation Wizard walks you through the message set creation process, step-by-step, and activates your new message set when you are finished. To use the Message Set Creation Wizard:

- 2. On the first panel:
 - a. Enter a **Message Group** name, if one applies to this message set. Or, click the Finder icon () to select from a list. Click **Add** to add a new message group for this message set. For details, see <u>Defining a Message Group</u>.
 - b. Enter a Message Set Name.
 - c. Enter a brief **Description** of the message set.
 - d. Change the **Set Documentation Text** if you need to add additional comments or information about using this message set.
- 3. Select an option to specify whether the message set is for a **Single** message, is for all messages in a **Message Table**, or is for **All** messages in a message file.
- 4. Depending on the type of message set you chose in the previous step:
 - Identify the message ID. First, enter the Message File in the format *library/message file*. Or, click the Finder icon (
) to select from a list. If the file hasn't been defined yet, click Add to add a new message file definition to Robot Console. After you've entered the message file, enter the specific message ID in Monitor for Message ID.
 - Identify the message table. Enter the Message Table Name. Or, click the Finder icon (
) to select from a list. If the table hasn't been created yet, click Add to define a new message table.
 - Identify the message file. Enter the Message File in the format *library/message file*. Or, click the Finder icon (
) to select from a list. If the file hasn't been defined yet, click Add to add a new message file definition to Robot Console.
- 5. For some types of message sets you can specify unconditional instructions, including automatic responses. Or, you can specify whether the set uses OPAL code to respond to a message. Select the options you want. For more on OPAL code, see the *Robot Console OPAL Reference Guide*.
- 6. A confirmation window displays for you to review the specifications for your message set. Click **Save** to save the message set and continue; **Back** to return to the previous window; or **Cancel** to cancel the process completely.
- 7. Robot Console confirms that your message set exists and is active. Check **View new Message Set Properties** if you want to open the message set and work with its properties.
- 8. Click **Finish** to end the creation process.
- 9. If you checked **View new Message Properties** in Step 8, the <u>Message Set Properties</u> <u>window</u> opens. Use it to view and change the message set properties.

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Message Set Examples

The examples that follow illustrate how several messages might be processed by Robot Console depending on the message set selected. Each example references information contained in the tables that follow.

Example 1

Message: CPA0701 is received on message queue MSGQ1 from job user JAMEST, job name JOBTEST, and message file QSYS/QCPFMSG.

Processing: The message is assigned to message group IT_PGMRS (the job user JAMEST matches the selection criteria in the message group detail table, other message information is not used). The message displays on the message center specified on the message queue setup (the message group specifies *MSGQ as the message center, so the message is placed on the message center specified by the message queue). The message group-specific message set IT_PGMRS, CPA0701 does an automatic reply of D.

Note: The message set CPA0701 is not selected because the message group IT_ PGMRS has Group Set Processing Only set to Y and only one message set is processed for single ID message sets.

Example 2

Message: CPA0701 is received on message queue MSGQ1, sent by program name PRTINVOICE, from job user PRODUSER, job name PRODJOB, and message file

QSYS/QCPFMSG.

Processing: The message is assigned to message group PRODUCTION (the program name PRTINVOICE matches the selection criteria in the message group detail table, the other message information is not used). The message displays on message center OPERATOR as specified by the message group. One message set will be selected: the message set CPA0701. The message set first checks if PRODJOB appears in an OPAL table. If it doesn't appear in the table, it enters an automatic reply of C; if PRDJOB does appear in the table, it escalates the message.

Example 3

Message: CPA5305 is received on message queue QSYSOPR from job user DAVES, job name TSTWRTWRD, sent by program name WRTORDER, from message file QSYS/QCPFMSG.

Processing: The message is assigned to message group IT_PGMRS (the job user DAVES matches the selection criteria in the message group detail table, the other message information is not used). The message displays on the message center specified on the message queue setup. One message set will be selected: the message set IT_PGMRS, CPA5305. The message set will answer with a reply of I each time the message occurs in 20 minutes, up to 10 message repeats. It then escalates the message according to the normal escalation process.

Note: The message set CPA5305 will not be selected because the message group IT_PGMRS has Group Set Processing Only set to Y, and only one message set is processed for single ID message sets.

Example 4

Message: CPA5305 is received on message queue QSYSOPR, from job name ORDERENT, job user PRODUSER, sent by program name WRTORDER, from message file QSYS/QCPFMSG.

Processing: The message is assigned to message group PRODUCTION (the job name ORDERENT matches the selection criteria in the message group detail table, the other message information is not used). The message displays on message center OPERATOR as specified by the message group. Two message sets will be selected and ordered as follows: the group-specific set PRODUCTION, CPA5305 will

answer the message with a reply of I each time the message occurs in 30 minutes, up to 3 message repeats. It then escalates the message. The message-specific message set *NONE, CPA5305 will not do anything because the first set has already replied to the message or the repeat limit of the first set started message escalation.

Example 5

Message: CPF0907 is received on message queue MSGQ1, from job user QSYS, job name QSYSARB5, from message file QSYS/QCPFMSG.

Processing: The message is not assigned to a message group because there are no matches in the message group detail table for the job information or the message file. Four message sets will be selected and ordered as follows: one message-specific set *NONE, CPF0907; one table set, *NONE, RESPOND (this message set will not do anything since the first message set already made the message response-required); one range set, *NONE, CPF900_999; and one *ALL set, *NONE, SET00101.

Example 6

Message: CPF1241 is received on message queue QSYSOPR, from job user JOHNH, job name ORDERENT, from message file QSYS/QCPFMSG.

Processing: The message is assigned to message group OFFICE (the job user JOHNH and job name ORDERENT match the selection criteria in the <u>message group</u> <u>detail table below</u>). The message would display on message center OPERATOR as specified by the message group. One message set will be selected: *NONE, CPF1241, which suppresses the message. No other message sets will be selected after the message is suppressed and the message will not appear on any message center because it is suppressed.

Example 7

Message: CPF1240 is received on message queue MSGQ2, from job user QPGMR, job name SHIPPING, from message file QSYS/QCPFMSG.

Processing: The message is assigned to message group PRODUCTION (the job name SHIPPING matches the selection criteria in the <u>message group detail table</u> <u>below</u>). The message displays on message center OPERATOR as specified by the message group. Two message sets will be selected and ordered as follows: One message-specific message set *NONE, CPF1240; one *ALL set, *NONE, SET00105.

Notes:

- Robot Console's message set simulator lists the message sets that will run for a message ID (for more information, see Message Set Testing).
- Only the first message set selected for a message can do the following:
 - Change the color of the message text.
 - Use alternate first- or second-level text.
 - Make a message response-required using unconditional instructions.

Group Name	Priority	Message Center	Group Set Processing Only	Description
OFFICE	10	OPERATOR	N	Accounts receivable, accounts payable, customer service, billing
PRODUCTION	20	OPERATOR	N	Manufacturing and shipping
OPERATIONS	30	OPERATOR	N	IT computer operations
IT_PGMRS	40	*MSGQ	Y	IT programmers
Console	50	RBCRSCQ	Y	Robot Console resource group

This table shows the message groups that have been defined:

This table shows the selection criteria defined for each message group (see <u>Defining a</u> <u>Message Group</u> for information on defining message groups).

Group Name	Job User	Job Name	Program Name	Message File	Message File Library
OFFICE		AR*			
		AP*			
		CS*			
	JOHNH	ORD*			
		INV*			
PRODUCTION			PRT*		
			IMG*		
		ORD*			
		SH*			
OPERATIONS	JOEK				
	PATTYM				
	MICHELE0				
	ANDYS				
	KELLYJ				
IT_PGMRS	DAVES				
	JIMR				
	JAMEST				
	TAMMYW				
			TST*		
		IT*			
					DEVLIB
Console				RBCRSCF	RBTCONLIB
				RBCRSCF	RBTCONLIB

Message Group	Message Set Name	Message IDs	Message Queue	Description
No group (Message	CPA0701	CPA0701	MSGQ1	OPAL: Enter C for specific jobs
Group field is blank)	CPA5305	CPA5305	*ALL	Auto-answer I; repeat 10 times in 30 minutes
	CPF0907	CPF0907		Response required
	CPF0908	CPF0908		
	CPF1240	CPF1240		
	CPF1241	CPF1241		Suppress
	CPF900_999	CPF0900- CPF0999	MSGQ1	Range set for CPF0900 to CPF0999
	RESPOND	*TABLE		Message table to make the message response required (CPF0907 is in the table)
	SET00101	*ALL		All QCPFMSG for MSGQ1
	SET00105	-	MSGQ2	All QCPFMSG for MSGQ2
IT_PGMRS	CPA0701	CPA0701	*ALL	Auto-answer D
IT_PGMRS	CPA5305	CPA5305		Auto-answer I; repeat 10 times in 20 minutes
PRODUCTION				Auto-answer I; repeat 3 times in 30 minutes

This table lists message sets and their message handling instructions:

Message Set Processing

When Robot Console receives a message, the first thing it does is search for "Suppress on Message Centers" instructions. This is set on the <u>Unconditional Instructions tab</u> of the Message Set Properties window as you are defining a message set. If suppression instructions are found, Robot Console doesn't do anything else with the message, not even write it to message history.

If Robot Console doesn't find any suppression instructions, it searches for message sets to process the message that apply to the message group, message ID, and message queue. Robot Console orders its selected message sets using the following logic. If a message has a message group assigned to it, Robot Console starts the message set selection process at Step 1; otherwise, it starts the process at Step 9.

Note: Only one message set can be selected in steps 1 or 2, and steps 9 or 10. More than one message set can be selected for the other steps. The sets in each step are ordered by message set name.

Steps 1-8 apply to a message group for:

- 1. A single message ID sent to a specific message queue.
- 2. A single message ID sent to any message queue.

Note: Only one message set is selected for the message group-specific message ID.

- 3. A message table containing multiple message IDs sent to a specific message queue.
- 4. A message table containing multiple message IDs sent to any message queue.
- 5. A range of message IDs sent to a specific message queue.
- 6. A range of message IDs sent to any message queue.
- 7. All message IDs sent to a specific message queue.
- 8. All message IDs sent to any message queue.

Steps 9-16 apply to a message set using:

- 9. A specific message ID sent to a specific message queue.
- 10. A specific message ID sent to any message queue.

Note: Only one message set is selected for the *NONE message group-specific message ID.

- 11. A message table containing multiple message IDs sent to a specific message queue.
- 12. A message table containing multiple message IDs sent to any message queue.
- 13. A range of message IDs sent to a specific message queue.
- 14. A range of message IDs sent to any message queue.
- 15. All message IDs sent to a specific message queue.
- 16. All message IDs sent to any message queue.

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Active Message Sets

The Active Message Sets window displays the message sets that are currently processing messages in Robot Console.

You get to this window by clicking the Active Message Sets icon (
) on the <u>Robot Console</u>
 <u>Explorer toolbar</u>.

This window lists each message set and its associated message group (optional). It also shows the message set description and the amount of time, in minutes, each set has been active.

Working with Message Sets

To work with a message on the message center, right-click to display a drop-down list and select an option from the menu.

You can select from the following message set options:

Properties (or New)

Message History

Copy OPAL

OPAL Trace

Send Test Message

Message Table Properties

Hold Set or Release Set

Hold Group or Release Group

<u>Copy</u>

<u>Delete</u>

Print Print

Where Used

Export



Send To (Host mode only)

Copying OPAL Code to Another Message Set

You can copy the OPAL code from this message set to another message set. To open this window, click **All Message Sets** under Message Sets. Then, in the List view, right-click the message set you want to copy from and select **Copy OPAL**.

On this window, you enter the message group and message set name to which the code should be copied. Or, click the Finder icon (\Box) to select from a list.

Copy OPAL Code	
From Message Group and Set:	CPA0701DD
To Message Group and Set:	
	OK Cancel

OPAL Trace

To help you verify that your OPAL code is working perfectly, you can have Robot Console record an OPAL trace. On the trace window, you can see the OPAL operations that were performed the last time the message set was used.



To start a trace:

- 1. Select All Message Sets in the Tree view under Message Sets.
- 2. In the List view, right-click the message set you want to trace, select **OPAL Trace**, and click **Start**.
- 3. After you've started the trace, right-click the message set again and select **Send Test Message** to send a test message. Or, you can wait until a real message is received.

4. After a message is received, right-click the message set, select **OPAL Trace**, and click **Display** to view the OPAL Trace Statements window to see the results of the trace.

In the OPAL Trace Statements window:

- Any IF and WHILE conditions and operations that were skipped are not shown
- Click the OPAL tab to see the operations that were performed the last time this message set was used.
- Click the Reply tab to see the operations performed in the Reply OPAL code.

To stop a trace:

- 1. Select **All Message Sets** in the Tree view under Message Sets.
- 2. In the List view, right-click the message set that's being traced, select **OPAL Trace**, and click **Stop**.

To delete the trace statements from the OPAL Trace Statements window:

- 1. Select **All Message Sets** in the Tree view under Message Sets.
- 2. In the List view, right-click the message set that's being traced, select **OPAL Trace**, and click **Delete**.
- 3. You're asked to confirm your decision.

Testing a Message Set

You can send a test message in order to test a message set. **Note:** You can only send a test message for certain message IDs. And, you cannot send them for message sets that use message tables, message ranges, or all messages.

Follow these steps:

- 1. Select All Message Sets under Message Sets in the Tree view.
- In the List view, right-click the message set you want to test and select Send Test Message. The Test Message Data Properties window for that message ID is displayed.
- 3. Set up the test message data. For instructions on working with test data in the Test Message Data Properties window, see <u>Testing Message Data</u>.
- 4. When the test data is ready, right-click a row and do any of the following:
 - Select either **Send** or **Send Group** to send the message. You're asked to select a message queue to send the message to.
 - Select **Sample** to view what the test message will look like.
• Select **Message Set Simulator** to open the simulator where you can set up a simulation to test this message set. For details, see <u>The Message Set Simulator</u>.

The Message Set Simulator

The Robot Console Message Set Simulator lets you display a list of the message sets that would process a message. The simulator checks the message ID, message file, and message queue and displays the message sets that would run if the message was received in the order they would process the message. It also checks the user name, job name, and program name to identify if a message group would be assigned to the message.

Use the Message Set Simulator to check the message sets that are processing a message ID. For example, if Robot Console is processing your messages and you are seeing unexpected results, run the simulator to see which message sets are processing a message and the order they're running. Check each of the message sets in the list to help troubleshoot the problem.

Only active message sets display when you run the simulator. If you specified set type instructions that would prevent a set from running (for example, a different set has already run), the second message set will not appear on the display. **Note:** Unconditional Instruction message sets that do a SUPPRESS always happen first. After that, no other message sets will run.

The Message Set Simulator doesn't check OPAL conditions when it runs. Therefore, a message set containing OPAL code may or may not process a message, but the message set will appear on the Message Set Simulator display.

Using the Message Set Simulator

When you run the Message Set Simulator from a message center, the <u>Message Set Simulator</u> <u>window</u> displays using the specifications of the message you selected. This window displays all the message sets that would process the selected message ID in the order they would process. Only active message sets display. If the message queue selected is QJOBMSGQ, only the first message set to run displays.

The following procedure explains what to do when you run the Message Set Simulator from a message set.

- 1. Select **All Message Sets** under Message Sets in the Tree view.
- 2. In the List view, right-click the message set you want to test and select **Send Test Message**. The Test Message Data Properties window is displayed.
- 3. Set up the test message data. For instructions on working with test data in the Test Message Data Properties window, see <u>Testing Message Data</u>.
- 4. When the test data is ready, right-click a row and select Message Set Simulator.

5. In the first of the two Message Set Simulator windows, you set the specifications for the simulation.

Message Set Simulator	
Message File:	QSYS/QCPFMSG
Message ID:	CPA0701
Message Queue:	Q
Message From Job User:	Any User
	O Select User
Message From Job Name:	Any Job
	○ Select Job
Message From Program Name:	Any Program
	O Select Program
	OK Cancel

- a. Enter the **Message Queue** that should receive the message. Use the format *library/message queue*. Or, click the Finder icon () to select from a list.
- b. Enter a specific job user, job name, and program name to simulate message group selection processing. Or, click the Finder icon () to select from a list. If you select **Any User**, **Any Job**, or **Any Program**, little group selection processing occurs.
- c. Click OK.
- 6. The second Message Set Simulator window displays the message sets that would process the message ID. **Note:** Message sets that contain OPAL code are listed, whether or not they'd actually process the message. The Message Set Simulator doesn't check the OPAL conditions for a set.

Message Set Simulator					x
Message Group:					
Message File: QSYS	QCPFMSG				
Message ID: CPAC)701 - &3 received	i by &1 at &4. (C D	IR)		
Message Queue: QUS	RSYS/KAH				
Message Sets would be	processed in the o	order displayed			
Message Group Name	Message Set Name	Message Set Message Queue	Message Set Type	Descr	iption
	CPA0701	*ALL	Single ID	testing	
					Print Close

- 7. Click **Print** to send the Message Simulator Report to an output queue. For more information, see Printing from Robot Console.
- 8. Click **Close** when you are finished.

Holding and Releasing Message Sets

You can hold or release a message set. Messages are not processed by the message set when it's on hold. **Note:** If you see a message set with a status of Pending (PND), it means that its message group is on hold. The message set cannot process messages until the <u>message group is released</u>.

To hold or release a message set:

- 1. Select **All Message Sets** under Message Sets in the Tree view.
- 2. In the List view, right-click the message set you want to work with and select either **Hold Set** or **Release Set**. You're asked to confirm your decision.

Copying a Message Set

Copying a message set allows you to quickly set up a new message set that has many of the same attributes as the one you copied. You enter a name for the new set and can modify the other information.

To copy a message set:

- 1. Select **All Message Sets** under Message Sets in the Tree view.
- 2. In the List view, right-click the message set you want to copy and select **Copy**. The Message Set Properties window displays.
- 3. Enter a **Name** for the new set.

- Make any necessary changes. For details on what can be changed, see <u>Defining a</u> <u>Message Set</u>.
- 5. Click **OK**.

Printing Message Set Selection Details

You can print message set selection details. Follow these steps:

- 1. Select **All Message Sets** under Message Sets in the Tree view.
- 2. In the List view, select one or more message sets. Use the Shift or Ctrl keys to select more than one.
- 3. Right-click the selection and click **Print**.
- 4. Specify a print **Output Queue**. Or, click the Finder icon () to select from a list.
- 5. Click **Print**. You receive confirmation that the Message Set Detail Report was submitted.

See <u>Message Set Detail Report</u> for more information on the report.

Deleting Message Sets

If you no longer want to use a message set, you can delete it. Follow these steps:

- 1. Select **All Message Sets** under Message Sets in the Tree view.
- 2. In the List view, select one or more message sets. Use the Shift or Ctrl keys to select more than one.
- 3. Right-click the selection and click **Delete**. You're asked to confirm your decision.

Note: There's another way to delete message sets. When you <u>delete a message group</u>, all of its message sets are also deleted.

Exporting Message Sets

There are several ways to export Robot Console message sets:

- Use the "Export to XML" feature to export (copy) one or more message sets and their associated objects to an XML file that can then be imported onto other Robot Console systems. For detailed information, see Exporting to an XML File.
- Use the "Export" feature to export one message set or one message group (and all of its message sets). The Export feature uses the Robot Console Merge Objects

(RBCMRG) command and the RBCMRGLIB library. For detailed information, see <u>Using</u> <u>RBCMRGLIB to Export and Import</u>.

Export a message set application using either the Export to XML or Export feature. All
of the message sets that use that application name are exported. For details, see
Exporting_Message_Set_Applications.

Follow these steps:

- 1. Select **All Message Sets** under Message Sets in the Tree view.
- 2. In the List view, select one message set if you are using the Export feature. Select one or more message sets if you are using the Export to XML feature. Use the Shift or Ctrl keys to select more than one.
- 3. Right-click the selection, select Export, then either Export or Export to an XML file.

Filtering Message Sets

When you are working with messages sets, you can sort the list by the information in any of the columns in the List view. For more information, see <u>Sorting Information</u>. Robot Console also provides filters that you can use to filter the display to help find a message set.



You can use the predefined Robot Console filters or create your own. To select a filter rightclick **All Message Sets** and select **Filters**. You have the following options:

Filter	Function
Edit Filters	Displays all of the filters currently defined in the <u>Data Filter Manager window</u> . You can select, copy, import, and export a filter, and you can delete, or edit any filter you have created (you cannot edit or delete the predefined filters supplied with Robot Console).
Quick Filter	Displays the <u>List Filter window</u> that you can use to create a quick, temporary filter (the filter remains for the session only).
Released Status Message Sets	Limits the display to Released message sets (ones that are not Held or Pending).
Held Status Message Sets	Limits the display to message sets with a status of Held or Pending. Note: Message sets are placed in a Pending status when they're released, but their message group is on hold.
Message Sets Using OPAL	Limits the display to message sets containing OPAL code.
Message Sets Using Suppression	Limits the display to message sets using suppression, sorted by message ID.
Show All Message Sets	Shows all message sets, sorted by name (the default value).

Exporting Message Set Applications

You can export all of the message sets that have the same application name. There are two ways to do this:

- Use the "Export to XML" feature to export (copy) one or more applications and all the message set that use that application to an XML file that can then be imported onto other Robot Console systems. For detailed information, see Exporting to an XML File.
- Use the "Export" feature to export one application and the message sets that use that application. The Export feature uses the Robot Console Merge Objects (RBCMRG) command and the RBCMRGLIB library. For detailed information, see <u>Using</u> <u>RBCMRGLIB to Export and Import</u>.

Follow these steps:

- 1. Select **Applications** under Message Sets in the Tree view.
- 2. In the List view, select one application if you are using the Export feature. Select one or more applications if you are using the Export to XML feature. Use the Shift or Ctrl

keys to select more than one.

3. Right-click the selection, select **Export**, then either **Export** or **Export to an XML file**.

Message Groups

Message Groups Overview

Message groups are a way to separate messages and group them by job user, job name, program name, or message file based on the source of the message. For example, you can group messages by application, by programming group, or by company departments. By grouping messages, you can redirect a message, based on its source, without having to create an OPAL program to process it.

- You can use message groups to specify message sets to process a message differently based on the source of the message.
- You define each message group and the selection criteria for the group.
- You can assign message sets to a group when they are created, or later.
 - Message set names must be unique within each message group.
 - Message sets can have the same name if they are in different groups.
 - Only one message group can be assigned to a message set.

When a message arrives on a monitored message queue, Robot Console checks the message groups using the priority order specified. If Robot Console finds a match to a message group's selection criteria, the message group is assigned to the message. A message can be assigned to only one message group.

Defining message groups

Copying a message group

Working with message groups

Holding and releasing message groups

Exporting a message group

Deleting message groups

Defining a Message Group

Use the Message Group Properties window to define a new message group or modify the information for an existing message group.

To define a message group:

 Select Message Groups under Message Sets in the Tree view. Right-click a message group and select New to create a new group. Select Properties to edit the information for an existing group.

Note: Message groups are automatically placed in a Held status when they're created. You must release it before it can start processing messages. For details, see Holding and Releasing Message Groups.

2. Enter a unique **Name** for the message group. If this is an existing group, you cannot change the name.

< Message Group Properti	es				×
Name:	TWGROUP				
Description:	For resources				
Status:	Held				
Group Priority:	8 🛥				
Redirect to Message Center	: O Use the Messa	age Center assigned t	o the Message Queue	:	
	Selected Mess	age Center: TW_N	IC D)	
Process messages only	using Message Sets i	n this Message Group	5		
Job User	Job Name	Program Name	Message File	Message File Library	Add
			RBCRSCF	RBTCONLIB	8 Remove
					Move Up
					Move Down
					OK Cancel

- 3. Enter a brief **Description** for the message group. A description is required.
- 4. Select a **Group Priority**, from 1 (high priority) to 999 (low priority), for the message group. The priority determines the order in which message groups are checked when a new message is received. The priority must be unique for each message group.
- Select an option by Redirect to Message Center. By default, messages are redirected to the message center assigned to the message queue (specified on the <u>Message Queue Monitor Properties window</u>). If you choose to redirect the messages to a Selected Message Center, enter the name of the message center, Or, click the Finder icon () to select from a list.

- 6. Specify if you want messages to be processed only by the message sets included in this group. If you do not check this box, the messages may be processed twice: once by the message sets in the group, and a second time if no message sets are specified for the group (*NONE).
- 7. In the table, enter the values to be used when checking a message. You can leave a field blank, enter a specific name, or enter a generic name. For most of the fields, you can click the Finder icon () to find and select the object.

When you enter multiple values on the same line, they're treated as AND conditions that all must be met when checking a message. If you enter selection criteria on multiple lines, each line is checked in sequence until either a match is found, or all the message group specifications have been checked. Select a line and use **Move Up** and **Move Down** to change the order.

If you are using a generic name, the following rules apply:

- The first character cannot be a wildcard character (*).
- Only one wildcard character is allowed per field.
- The wildcard character must be the last character in the field.
- 8. If necessary, click Add to add a new line, or select a line and click Remove to delete it.

Copying a message group

Working with message groups

Holding and releasing message groups

Exporting a message group

Deleting message groups

Working with Message Groups

To work with a message group, click **Message Groups** under Message Sets in the Tree view. Then, right-click a message group select an option from the menu. You can select from the following options: Properties (or New)Hold or ReleaseCopyDeletePrintExportExport to an XML fileSend To (Host mode only)

🔬 Prop <u>e</u> rties]
Ⅱ H <u>o</u> ld ▶ Relea <u>s</u> e	-
€ <u>N</u> ew ☐ <u>C</u> opy <u>8</u> <u>D</u> elete Delete ☐ Prin <u>t</u>	
Export •	📑 Expo <u>r</u> t
Send To	Export to an XML file

Copying a Message Group

You can copy a message group and all the message sets in the group. This allows you to quickly set up a new group that has many of the same attributes as the one you copied. You enter a name for the new group and can modify the other information.

To copy a message group:

- 1. Select Message Groups under Message Sets in the Tree view.
- 2. In the List view, right-click the message group you want to copy and select **Copy**. The Message Group Properties window displays.
- 3. Enter a **Name** for the new group.
- 4. Make any necessary changes. For details on what can be changed, see <u>Defining a</u> <u>Message Group</u>. **Note:** Copying a message group also copies all the message sets that belong to that group.
- 5. Click **OK**.

Exporting a Message Group

There are two ways to export Robot Console message groups. You can use the "Export to <u>XML</u>" feature to export (copy) one or more message groups and their associated objects to an XML file that can then be imported onto other Robot Console systems. Or, you can use the "Export" feature to export one message group. The Export feature uses the Robot Console Merge Objects (RBCMRG) command and the RBCMRGLIB library.

For detailed information on using the Export feature, see <u>Using RBCMRGLIB to Export and</u> Import.

Holding and Releasing Message Groups

You can hold or release a message group. Holding a message group places all message sets in the group in a Pending (PND) status. The message sets cannot process messages until the message group is released.

If a message set is already on hold when its message group is held, the message set remains on hold. You must release the message set separately after the message group is released.

To hold or release a message group:

- 1. Select **Message Groups** under Message Sets in the Tree view.
- Select one or more message groups in the List view. Use the Shift or Ctrl keys to select more than one. Then, right-click the selection and choose Hold Group or Release Group from the menu.
- 3. You're asked to confirm your decision.. Click **Yes** to hold (or release) the message group or **No** to cancel the process.

Note: You can also hold or release a message group while you are <u>working with message</u> <u>sets</u>.

Deleting a Message Group

If you no longer want to use a message group, you can delete it. **IMPORTANT:** Deleting a message group also deletes all the message sets that belong to that group.

To delete a message group and its message sets:

- 1. Select **Message Groups** under Message Sets in the Tree view.
- 2. In the List view, select one or more message groups. Use the Shift or Ctrl keys to select more than one.
- 3. Right-click the selection and click **Delete** from the menu.
- 4. You're asked to confirm your decision. Click **Yes**.

Message Files

Message Files Overview

The message files in Robot Console replicate the message descriptions found in the IBM i message files, and are only used for processing messages. Robot Console uses its message files to determine if a message set applies to a message and whether the message set should be run.

YOG	Name 🔨	Library Name \land	File Name
Message Centers	SYS/QCPFMSG	OSYS	OCPFMSG
Monitored Objects	QSYS/QRNXMSG	OSYS	ORNXMSG
Message Sets	QSYS/QRPGMSGE	OSYS	ORPGMSGE
Generations	RBTALRLIB/RBAMSG	RBTALRLIB	RBAMSG
Applications • S Message Groups		RBTCONLIB	RBCAFSLOGS
— 崎 Message Files	RBTCONLIB/RBCGBX	RBTCONLIB	RBCGBX
— 🧰 Message Tables	RBTCONLIB/RBCMSG	RBTCONLIB	RBCMSG
└─ 🦙 OPAL Tables ■ Notification Lists	RBTCONLIB/RBCMSG2	RBTCONLIB	RBCMSG2
Notification Lists 🔆 🕅 System Setup	RBTCONLIB/RBCMSGLOG	RBTCONLIB	RBCMSGLOG
Reports	RBTCONLIB/RBCRSCF	RBTCONLIB	RBCRSCF
	ROBOTLIB/ROBOTMSG	ROBOTLIB	ROBOTMSG
	Robot Console Update Date/Tin	ne: 05/29/2020 17:19:57	

When Robot Console is installed, the message files in the RBTCONLIB library are automatically added to the message file list so those messages can be processed. If you want Robot Console to process other IBM i messages, you must create a definition for that message file in Robot Console.

You can display a message file in the Message File Properties window in order to view and test its message descriptions, view any message variables, or view and edit any OPAL keywords in the message descriptions.

Message file properties

Creating a message file definition

Sending a test message

Creating a New Message File

When Robot Console is installed, the message files in the RBTCONLIB library are automatically added to the message file list so those messages can be processed. If you want Robot Console to process other IBM i messages, you must create a definition for that message file in Robot Console.

To create a new message file definition:

- 1. Under Message Sets in the Tree view, right-click Message Files and select New.
- 2. Enter the library and filename for the message file in the format *libraryname/filename*. Or, click the Finder icon () to select from a list.

< Create Mes	sage File Definition	×
Message File:	ROBOTLIB/ROBOTMSG	OK Cancel

3. Click **OK**.

Working with Message Files

To work with a message file, right-click it in the List view and select an option from the menu. You have the following options:

- Properties: Displays the <u>Message File Properties window</u>, allowing you to work with the messages in the message file.
- Update: Displays the <u>Update Message File Definition window</u>, allowing you to update the definitions for the messages in a message file.

🔬 Prop <u>e</u> rties	
🔊 <u>U</u> pdate	
🕒 <u>N</u> ew	
🙆 <u>D</u> elete	Delete
🛗 <u>W</u> here Used.	

- New: Displays the <u>Create Message File Definition window</u>, allowing you to create a new message file definition in Robot Console that replicates an IBM i message file, so that the messages can be processed.
- Delete: Deletes the selected message files. Use the Shift or Ctrl keys to select more than one. You're asked to confirm the deletion. **Note:**This only deletes the message file definition created in Robot Console that allows it to process messages. It does not delete the actual message file on the IBM i.
- Where Used: Displays the <u>Where Used window</u> that shows the message sets and message groups that use the message file.

Message File Properties

The Message File Properties window lists the messages in the message file. It identifies the messages by message ID and the first-level message text. To open this window go to **Message Files** under Message Sets in the Tree view. Then, either double-click the message file in the List view, or right-click it and select **Properties**.

ot CONSOLE Upda	NLIB/RBCRSCF .te Date/Time: 02/05/2015 09:57	1:22	
Message ID \land		Text	Robot CONSOLE Update Date/Time
CPU0003	The System % CPU used for 8	Display Message	02/05/2015 09:57:22
CPU0004	The System % CPU used for 8		02/05/2015 09:57:22
CTL0001	Controller &1 is not &2.	🛒 <u>T</u> est Message Data	02/05/2015 09:57:22
CTL0002	The status for controller &1 is	Message <u>V</u> ariables	02/05/2015 09:57:22
DEV0001	Device &1 is not &2.	Copy to Clipboard Ctrl-C	02/05/2015 09:57:22
DEV0002	Device &1 is back in the expec	Save Selected Ctrl-S	02/05/2015 09:57:22
DOM0001	DOMINO Server &1 is not &2.		02/05/2015 09:57:22
DOM0002	DOMINO Server &1 is back in t	he expected status of &2.	02/05/2015 09:57:22
DTQ0001	The data queue depth for &2/8	1 is above 84.	02/05/2015 09:57:22
DTQ0002	The data queue depth for &2/8	k1 is back to &3.	02/05/2015 09:57:22

There are several things you can do with the messages in this file. To quickly locate a message, click any row and type the first few characters of the message ID you are looking for. Robot Console locates the closest match and moves to that row. Right-click the message you want to work with select an option from the menu.

- Select Display Message to open the <u>Message Description window</u>, which displays the message and its attributes.
- Select <u>Test Message Data</u> to test several repetitions of the message with differing data.
- Select Message Variables to view and specify OPAL keywords to test OPAL code.
- You can copy or save the message information displayed in the table. For information on the **Copy to Clipboard** and **Save selected** options, see <u>Copying</u> Information to the Clipboard or Saving to a File.

Message file overview

Creating a new message file definition

Creating data for a test message

Sending a test message

Message Description Window

To access this window, go to **Message Files** in the Tree view. Then, right-click a message file in the List view and select **Properties**. In the <u>Message File Properties window</u>, right-click a message and select **Display Message**.

The Message Description window describes a message's attributes. There are several tabs in the window:

- Message Text: Shows the first and second level text for the message.
- Field Data: Shows the substitution variable fields defined for the message.
- **Replay Specifications:** Shows information about valid replies defined for the message. You can right-click any row in this tab to save or copy the information. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.
- **Special Reply Values:** Shows the special reply values and replacement reply values defined for the message. A user can type a value, but another value is substituted and passed to the receiving program.
- **Message Attributes:** Shows the values (when defined) for severity, logging, default program, message level, alert options, modification level, default reply, and CCSID.

Testing Message Data

The Test Message Data window lists the data that you've set up to test the processing of this message ID. You can add several rows of test data. This allows you to test several different scenarios. And, if you use a test group, you can test a sequence of message repetitions. Robot Console sends, in their sequence order, all of the test messages that have the same group name. **Note:** If you are entering data for a group of test messages, create the data entries in the order you want the test messages sent.

There are two ways to open this window:

- Right-click a message ID in the <u>Message File Properties window</u> and select **Test Message Data**.
- Right-click a message set in the List view and select **Send Test Message**.

From the Test Message Data Properties window, you can enter test data, display and send test messages, copy and delete entries in the list, send a group, or use the message set simulator to see a list of the message sets that would be processed for this message ID.

м	Test Message Data P lessage File: QSYS/Q lessage ID: CPA530	CPFMSG	l not ad	ded. M	ember 8	دًا is full.	(C 19999)		
	Test Group	1				Test N	Aessage Data		
	MAXSIZE	memA	fileA	libA	fmt1	00			<u>E</u> dit
	MAXSIZE	memB	fileA	libA	fmt1	00	🗟 <u>E</u> dit		
	MAXSIZE	memC	fileA	libA	fmt1	00	🔁 <u>A</u> dd		bb <u>A</u> 🕄
	MAXSIZE	memA	fileB	libB	fmt1	00	Depy <u>C</u> opy		
							🙆 <u>R</u> emove		Copy
							Send		
							Send Group		8 <u>R</u> emove
							Show Sample		
							Message Set Sim <u>u</u> lator		
							📄 Copy to Clipboard	Ctrl-C	
							Select All	Ctrl-A	
							🔚 Save Selected	Ctrl-S	
									Close

To set up the test message data:

- There are three ways to open the <u>Message Data Entry Properties window</u>, which is where you enter the actual test message data.
 - Click **Add** to add a new row.
 - Select an existing row and click Edit to edit an existing row.
 - Select an existing row and click **Copy** to copy the row and use it to create another row.
- Select a row and click Remove to delete it.

After you have the test data set up, there are several things you can do with it:

- Right-click a row and select **Edit**, **Add**, **Copy**, or **Remove** to perform the same functions as described above. **Note:** You can remove several rows at once. Use the Shift or Ctrl keys to select more than one.
- Right-click a row and select **Send** to send a test message with that data. A window opens where you can select the message queue to send the test message to.
- Right-click a row that's part of a test group and select **Send Group** to test a sequence of message repetitions by sending all the test messages that have the same group name as test message you selected. A window opens where you can select the message queue to send the test messages to.
- Right-click a row and select **Show Sample** to see a sample of how the test message would look if sent.
- Right-click a row and select **Message Set Simulator** to display the <u>Message Set</u> <u>Simulator window</u> that you can use to specify the message file, message ID, message queue, and whether the message is from a specific job, user, or program.

Copy or save the data in the table. Select one or more rows. Use the Shift or Ctrl keys
to select more than one. Then right-click and select one of the options. For
information on the Copy to Clipboard, Select All, and Save selected options, see
Copying Information to the Clipboard or Saving to a File.

Message Data Entry Properties Window

Use the Message Data Entry Properties window to enter the test data you want inserted into the message. Each row in the table represents a variable as defined in the <u>message</u> <u>description</u>. Enter data for one or more variables. You don't have to enter data for every variable.

By adding a Test Group name, you can create or use a test group which allows you to test a sequence of message repetitions.

Message Data	a Entry Properties						×
Message File	: QSYS/QCPFMSG						
Message ID:	CPA5305 - Record no	t added. Memb	oer &1 is full. (C I 9999)				
Test Group:	MAXSIZE]					
	Test Data	Number	OPAL Keyword	Туре	Length	Decimals	Position
memA		1	MEMBER	*CHAR	10	0	1
fileA		2	FILE	*CHAR	10	0	11
libA		3	LIBRARY	*CHAR	10	0	21
fmt1		4		*CHAR	10	0	31
01		5		*BIN	2	0	41
						ОК	Cancel

To work with the entries in this window:

- If this data is to be part of a group of test messages that are sent together, enter the **Test Group** name.
- Enter data in the **Test Data** column for any of the message variables you want to test.
- The Type column displays the type of message variable as defined in the message description.
- First level message variables

A message variable can be referred to by number (VAR*n*) and sometimes by an OPAL keyword name (see the OPAL Keyword column). The message text is searched for certain keywords. If one is found, the keyword is assigned as the name of the variable. For example, in this message, message variable 3 can be referenced by the OPAL variables VAR3 and LIBRARY.

• Second level message variables

Second level message variables must be referred to by number (VAR*n*). OPAL variable names do not apply to second level messages.

Working with Message Variables

IMPORTANT: It's recommended that you don't change message variables, unless you are working with message files from your own applications.

OPAL code can refer to first- or second-level message variables by number (VARn). It can also refer to first-level message text variables by name, provided the variable has been assigned one of the OPAL variable names.

To display the OPAL names that have been assigned to message variables, right-click a message on the <u>Message File Properties window</u> and select **Message Variables**. You can assign an OPAL name to a message variable. The OPAL names and their definitions are described in the *Robot Console OPAL Reference Guide*.

Me:		QSYS/QCP CPA5305					×
			added. Memb	er &1 is full. (C1	I 9999)		
	OPAL I	Keyword	Number	Туре	Length	Decimals	Position
	MEMBER		1	*CHAR	10		1
	FILE		2	*CHAR	10		11
	LIBRARY		3	*CHAR	10		21
			4	*CHAR	10		31
	ĺ		5	*BIN	2	0	41

In the above example, the first-level message variable 1 can be referred to as VAR1 or by the keyword MEMBER. If this same variable were in second level message text, you would have to refer to it as VAR1.

Sample Message Window

The Sample Message window displays how the test message will look when it's sent. You access this window from the <u>Message File Properties window</u>.



Sending a Test Message

After you set up the message data that you want to test using the <u>Test Message Data</u> <u>Properties window</u>, you can send the test message.

sage ID: CPA53	05 - Record	d not ad	ded. M	ember 8	د1 is full.	(C I 9999)		
Test Group					Test I	Aessage Data		Edit
MAXSIZE	memA	fileA	libA	fmt1	00	la rua		
MAXSIZE	memB	fileA	libA	fmt1	00	A Edit		
MAXSIZE	memC	fileA	libA	fmt1		🔁 <u>A</u> dd		Add
MAXSIZE	memA	fileB	libB	fmt1		📄 <u>С</u> ору		
						🙆 <u>R</u> emove	[<u>С</u> ору
						Send		
						Send Group		8 <u>R</u> emove
						Show Sample		
						Message Set Sim <u>u</u> lator		
						Copy to Clipboard	Ctrl-C	
						Select All	Ctrl-A	
						Save Selected	Ctrl-S	

Right-click a message and select **Show Sample** to see how the test message would look if it was sent.

Select **Send** to send the message to a message queue, or **Send Group** to send all the messages in that group to a message queue.

Select **Message Set Simulator** to display the <u>Message Set Simulator window</u> that you can use to specify the message file, message ID, message queue, and whether the message is from a specific job, user, or program

Update Message File Definition

At times, the message file definitions that are in Robot Console can become out-of-date. That could occur, for example, if you created a message file definition in Robot Console for a ROBOT Schedule message file. Then, you updated Robot Schedule to a new version where that message file was changed. In that case, the message file definition in Robot Console would need to be updated so it would once again match the message file in Robot Schedule.

You can see the last time the message file definition was updated by clicking the message file in the List view. The date and time it was last updated is shown in the QuickView. If you don't have <u>QuickView turned on</u>, double-click the message file to open the Message File Properties window. The update information is also displayed there.

Name 🔨	Library Name \land	File Name \land
🔄 QSYS/QCPFMSG	QSYS	QCPFMSG
😪 QSYS/QRNXMSG	QSYS	QRNXMSG
😪 QSYS/QRPGMSGE	QSYS	QRPGMSGE
😪 RBTALRLIB/RBAMSG	RBTALRLIB	RBAMSG
😪 RBTCONLIB/RBCAFSLOGS	RBTCONLIB	RBCAFSLOGS
😪 RBTCONLIB/RBCGBX	RBTCONLIB	RBCGBX
😪 RBTCONLIB/RBCMSG	RBTCONLIB	RBCMSG
RBTCONLIB/RBCMSG2	RBTCONLIB	RBCMSG2
RBTCONLIB/RBCMSGLOG	RBTCONLIB	RBCMSGLOG
RBTCONLIB/RBCRSCF	RBTCONLIB	RBCRSCF
🖓 ROBOTLIB/RBTLICMSG	ROBOTLIB	RBTLICMSG
🗞 ROBOTLIB/ROBOTMSG	ROBOTLIB	ROBOTMSG

Robot CONSOLE Update Date/Time: 02/05/2015 09:57:19

The message files in the RBTCONLIB library are automatically updated whenever Robot Console it started. You can, however, update any message file at any time. Simply right-click a message file in the List view and select **Update**. This window displays to confirm that you want to update the message file you selected.



The name of the message file and its library is displayed at the top.

Check **Overwrite User Definitions** if Robot Console should overwrite any variables in the message text that were changed by a user on the <u>Message Data Entry Properties window</u>.

Message Tables

Message Tables Overview

Message tables offer a way to store a list of message IDs that are all processed the same way. For example, one message table might store the message IDs of all of the messages that will always be canceled, while another contains IDs for all of the messages to be suppressed. There are several, predefined message tables that ship with Robot Console.

System View Tools Help					
Address: YOG node 💌 🗉	💉 🚜 i 🍣 i 👦 🗄	l I 🗾 🚍 🖾 I 🔍 🔍 🗟 🛛	↓ □ □ •		
YOG node		Name \land	Description 🔦		
– 💻 Message Centers	autocan	CEL	Msgs to Answer with a 'C'		
Monitored Objects Message Sets	AUTOCON	TIN	Msgs to Answer with a 'G'		
All Message Sets	AUTOIGNO	RE	Msgs to Answer with an 'I'		
• @ Applications	AUTOINQU	IRY	Msgs to make Response Required		
🗢 🆫 Message Groups	; 💷 AUTORETR	Y	Msgs to Answer with an 'R'		
— 🍓 Message Files	AUTOSUPR	ES	Informational Msgs to Suppress		
- 💷 Message Tables	NOESCALA	TE	Do Not Escalate INQ Messages		
- 🗐 OPAL Tables	RBCFAIL		CONSOLE Resource Failures		
- X System Setup	RBCPASS		CONSOLE Resource Non-Failures		
	2				
🕪 📄 Reports	· ·				
⊶ 🧮 Reports					
►	Message ID		Text		
≻ 🗐 Reports	CAE9069	User profile storage limit exceede	Text d.		
≻ 🗐 Reports			Text d.		
≫ 🧾 Reports	CAE9069	User profile storage limit exceede	Text d.		
₽~ ∭ Reports	CAE9069 CPA4018	User profile storage limit exceede Operator action required on devi	Text d. :e 8:1.		
₽~ <u>■</u> Reports	CAE9069 CPA4018 CPA5201	User profile storage limit exceede Operator action required on devi Hardware failure on device &3.	Text d. ce &l. ged.		
9∼ 📓 Reports	CAE9069 CPA4018 CPA5201 CPA94EC	User profile storage limit exceede Operator action required on devic Hardware failure on device &3. Tape on tape device &25 is dama	Text d. ce &d. ged. : loaded.		
9∼ 💽 Reports	CAE9069 CPA4018 CPA5201 CPA94EC CPA94F3	User profile storage limit exceede Operator action required on devic Hardware failure on device &3. Tape on tape device &25 is dama Tape device &25 not ready or not	Text d. ce &d. ged. : loaded.		
₽~ ∭ Reports	CAE9069 CPA4018 CPA5201 CPA94EC CPA94F3 CPC1124	User profile storage limit exceede Operator action required on devi Hardware failure on device &3. Tape on tape device &25 is dama Tape device &25 not ready or not ENDJOBABN issued against job &	Text d. se &l. ged. loaded. 3/&2/&l by user &4.		

Robot Console handles a message table the same way it handles a single message ID. When a message set has a message set type of Message Table, any of the processing instructions you define for the message set apply to all of the message IDs in the table. By creating a message table containing multiple message IDs, you can specify an automatic reply for all of the messages in the table. Similarly, using unconditional instructions to suppress all of the messages in a table makes it easier to manage your system. Or, you can prevent users from seeing a reply that's common to all of the messages in the table.

Message tables can be used with the two OPAL comparison keywords, INMSGTBL and NOTINMSGTB. For more information about the OPAL language and these keywords, see the Robot Console OPAL Reference Guide.

Defining a message table

Working with message tables

Message IDs in a message table

Determining message IDs to include in a message table

Defining a Message Table

The Message Table Properties window displays the message IDs that make up the message table used by the message set. Use the Message Table Properties window to define a message table (add or edit). If you edit an existing message table, you cannot change the table's name if there are message sets that use the message table, or if any OPAL code refers to the table.

You can access the Message Table Properties window in two ways:

- Right-click Message Tables in the Tree view under Message Sets and select New.
- Double-click an existing message table in the List view (or right-click it and select **Properties**).

To define a message table:

1. Enter a **Name** for the message table, 10-characters maximum.

🔇 Message Ta	ble Properties	×
Name:	TWDELETE	
Description:	TW msgs to delete	
Message File:	QSYS/QCPFMSG	
Message ID CPA0701	Description &3 received by &1 at &4. (C D I R)	Add
CPA0702	&3 received by procedure &7. (C D I R)	Message ID <u>F</u> inder
		Remove
		OK Cancel

- 2. Enter a brief **Description** of the message table.
- 3. Enter the name of the **Message File** (in the format *library/messagefile*) that contains the message IDs you want to add to the message table. Or, click the Finder icon () to select from a list.

Notes:

- All of the message IDs in a message table must be from the same message file.
- After a message table is created, you cannot change the message file to which it refers.
- 4. To add a message ID to the table:
 - If you know the message ID, click **Add** and type the message ID in the new row.
 - If you don't know the message ID, click **Message ID Finder** to select it from a list. Use the Shift or Ctrl keys to select more than one.

When you add a message ID, the message text is displayed under Description. Messages display in numerical message ID order.

- 5. To delete a message ID from the table, select it and click **Remove**.
- 6. To copy or save the information from the table, select one or more rows. Use the Shift or Ctrl keys to select more than one. Then, right-click the selection and select an option. For information on the Copy to Clipboard, Select All, and Save selected options, see Copying Information to the Clipboard or Saving to a File.
- 7. Click **OK**.

Overview of message tables

Working with message tables

Message IDs in a message table

Determining message IDs to include in a message table

Working with Message Tables

To work with a message table, right-click it in the List view and select an option from the menu. You have the following options:

- Properties (or New): Displays the <u>Message Table</u> <u>Properties window</u>, allowing you to add or change the table.
- Copy: Displays a <u>Message Table Properties window</u> that duplicates the table you selected. Use this to set up a new table from the copy.



- Delete: Deletes the selected message tables. Use the Shift or Ctrl keys to select more than one. You're asked to confirm the deletion. Note: You cannot delete a table that's used by a message set, or one that was automatically created by Robot Console (prior to version 6).
- Print: Allows you to print the details of the message table, including a list of the messages IDs it contains. For instructions, see <u>Printing from Robot Console</u>.
- Where Used: Displays the <u>Where Used window</u> that shows the message sets and message groups that use the message table. This is useful if you plan to change or delete the table and need to determine the impact ahead of time.
- Export to an XML file: Displays the Export to XML window, allowing you to export the message table to an XML file.
- Send To: For information, see <u>Sending and Deleting Information</u> (Host mode only).

Message IDs in a Message Table

The message IDs you add to a message table should have something in common, such as those that require the same reply, or messages that should be suppressed. You can type the message IDs you want or select them from a list. When you add a message ID to a message table, Robot Console verifies that it's a valid message ID and that it doesn't already exist in the table. If the message table is in a message set, Robot Console checks whether unconditional instructions are specified. If there are unconditional instructions containing an automatic message reply, the reply must be valid for the message ID you are adding to the table. All of the message IDs in a table must be in the same message file.

Determining Message IDs to Include in a Message Table

You can generate a list of potential message IDs to add to a message table by generating a Query Message File Report for the message file. When you set up the report, you specify a message file and a string of characters. Robot Console then searches the message file for messages that contain the string. When you display or print the report, all of the message IDs that met your search criteria are listed in the report.

You can review the message IDs in the report, noting any messages that you don't want the message table to process.

To query a message file for message IDs containing specified text:

- 1. Select Message Set Reports in the Tree view under Reports.
- 2. Double-click **Query Message File Report** in the List view (or right-click and select **Set up Report**).
- 3. Enter the report parameters. For details, see Query Message File Report.
- 4. Click **Print**.

OPAL Tables

Defining an OPAL Table

OPAL tables are used on the OPAL and Reply OPAL tabs of the Message Set Properties window. The name you give an OPAL table is what you enter as the Operation Value on those tabs when you use either of the two OPAL comparison operations: INTABLE or NOTINTABLE. Robot Console uses the elements in the OPAL table to check for a match with the information in a message. Processing continues based on the OPAL code specified for the message set.

Before you can use an OPAL table in a message set, you must first create the table. Use the OPAL Table Properties window to enter the elements that make up the OPAL table. Regarding the table elements:

- Table elements can be any alphanumeric characters, limited to a maximum of 66 characters.
- Table elements are assumed to be left-justified; if the information is not left-justified, you must enter leading blanks.
- Trailing blanks in a table element are ignored.

You can access the OPAL Table Properties window in two ways:

- Right-click **OPAL Tables** in the Tree view under Message Sets and select **New**.
- Double-click an existing OPAL table in the List view (or right-click it and select **Properties**).

To define an OPAL table:

1. Enter a **Name** for the OPAL table, 10-character maximum. **Note:** You cannot change the name of an existing OPAL table.

OPAL Table Properties	×
Name: JOBS Description: Jobs to increment on full	
Table Element RBCMANAGER RBCQSYSOPR	€ <u>A</u> dd € <u>R</u> emove
	Move Up
	OK Cancel

- 2. Enter a brief **Description** of the OPAL table.
- 3. Click **Add** to add an element to the table. Then, type the element name in the new row.
- 4. To delete an element from the table, select it and click **Remove**.
- 5. Select an element and click **Move Up** or **Move Down** to change the order of the elements in the table.
- 6. To copy or save the information from the table, select one or more rows. Use the Shift or Ctrl keys to select more than one. Then, right-click the selection and select an option. For information on the Copy to Clipboard, Select All, and Save selected options, see Copying Information to the Clipboard or Saving to a File.
- 7. Click OK.

Working with OPAL tables

Defining message sets

OPAL and Reply OPAL tabs

Working with OPAL Tables

To work with an OPAL table, right-click it in the List view and select an option from the menu. You have the following options:

- Properties (or New): Displays the <u>OPAL Table Properties</u> window, allowing you to add or change the table.
- Copy: Displays an <u>OPAL Table Properties window</u> that duplicates the table you selected. Use this to set up a new table from the copy.
- Delete: Deletes the selected OPAL tables. Use the Shift or Ctrl keys to select more than one. You're asked to confirm the deletion. **Note:** You cannot delete a table

🛃 Prop <u>e</u> rties	
🔁 <u>N</u> ew	
📄 <u>C</u> opy	
😣 <u>D</u> elete	Delete
🛗 <u>W</u> here Used	
Export to an XML file	
Send <u>T</u> o	

that's used by a message set, or one that was automatically created by Robot Console (prior to version 6).

- Where Used: Displays the <u>Where Used window</u> that shows the message sets and message groups that use the OPAL table. This is useful if you plan to change or delete the table and need to determine the impact ahead of time.
- Export to an XML file: Displays the Export to XML window, allowing you to export the OPAL table to an XML file.
- Send To: For information, see <u>Sending and Deleting Information</u> (Host mode only).

OPAL Tables for Resources

Note: This topic applies to you if both of the following are true:

- You've used a version of Robot Console prior to version 6.
- You've used the **Use Resource Message Set** option (previously known as OPAL Recovery) when creating a resource monitor or on the <u>Resource Monitors tab of the</u> <u>System Defaults window</u>.

Robot Console (prior to version 6) automatically created and maintained OPAL tables listing monitored resources. You can still see these tables in newer versions of the product. You cannot, however, manually change these tables using the OPAL Table Properties window. To have a resource added to a resource table, you must enable the Use Resource Message Set option when <u>defining a resource monitor</u> or on the <u>Resource Monitors tab</u> of the System Defaults window. When you enable this option, the resource is automatically added to the appropriate OPAL table.

Notification Lists

Notification Lists

Notification lists are handy. They're a predefined list of users who should be notified when a message is received. When you select **Notification Lists** from the Robot Console Explorer Tree view, the notification lists that exist display in the List view. You can create new lists, and display or edit existing ones.

Defining a notification list

Working with notification lists

Defining a Notification List

Use the Notification List window to define a notification list (add or edit).

- To view or edit the properties of an existing notification list, right-click the list in the List view and select **Properties**.
- To create a new notification list, right-click **Notification Lists** in the Tree view and select **New**.

Follow these steps:

1. Enter a **Name** and a brief **Description** for the notification list. **Note:** You cannot change the name of an existing list.

Notification List		×
Name: OPERATORS		
Description: Users to Notify		
User to Notify KATHYK BOBK DAVEJ Copy to Clipboard Ctrl-C Select All Save Selected Ctrl-S	Wait Time (in Seconds) 0 300 600	C Add
		Move Up Move Down

- 2. Click Add to add a new user to the list.
- 3. Enter the user profile. Or, click the Finder icon () to select from a list.

User to Notify	Wait Time (in Seconds)
КАТНҮК	0
BOBK	300
DAVEJ	600
۵	0

- 4. Enter the number of seconds to wait before notifying the user. The time to wait is based on when the previous user was notified. The first user in the list is notified immediately (zero seconds) and you cannot change this value. Notification stops when the message has been answered. For informational messages, all users in the list are notified at the same time with no wait time.
- 5. Select a user and click **Move Up** or **Move Down** to change the order of the users in the list. Users are notified in the order they're listed.
- 6. To remove users from the list, select one or more and click **Remove**. Use the Shift or Ctrl keys to select more than one.
- 7. Click OK.

Working with Notification Lists

To work with a notification list, right-click it in the List view and select an option from the menu. You have the following options:

- Properties (or New): Displays the <u>Notification List</u> window, allowing you to add or change the list.
- Copy: Displays a <u>Notification List window</u> that duplicates the list you selected. Use this to set up a new list from the copy.
- Delete: Deletes the selected notification lists. Use the Shift or Ctrl keys to select more than one. You're asked to confirm the deletion. **Note:** You cannot delete a list that's used by a message center or in OPAL code.

Rrop <u>e</u> rties	
🔁 <u>N</u> ew	
📄 <u>С</u> ору	
🙆 <u>D</u> elete	Delete
🛗 Where Used	
In the second secon	le
Send <u>T</u> o	

- Where Used: Displays the <u>Where Used window</u> that shows the message centers and message sets that use the notification list. This is useful if you plan to change or delete the list and need to determine the impact ahead of time.
- Export to an XML file: Displays the Export to XML window, allowing you to export the notification list to an XML file.
- Send To: For information, see Sending and Deleting Information (Host mode only).

System Setup

System Setup Overview

After you install Robot Console, you must provide it with the information it needs to run on your system. To help you get Robot Console up and running, select the System Setup options from the Robot Console Explorer tree.

You can use the Robot Console System Setup options to perform the following tasks:

- Set up your Robot Console default values
- Maintain your Robot Console product license
- Set up Robot Console security and determine which Robot Console functions are available to each user.
- Set up security for message centers, determining which users are authorized to specific message centers.

After you finish the Robot Console system setup, you should determine which message sets you want to use. All of the message sets shipped with Robot Console are initially on hold. To use one of these message sets, you must release it. For more information, see <u>Holding and Releasing Message Sets</u> and <u>Holding and Releasing Message Groups</u>.

System Defaults

Product Licensing

Product Security

Editing User Authorities

Secured Object List

Message Center Security

System Defaults

You can set up certain default values for Robot Console to use for message centers, message queue monitors, message sets, resource monitors, and messages. All of these are

global settings; however, some of the settings can be overridden when you are defining an individual object, such as a message center.

To open the System Defaults window, select **System Setup** in the Tree view, then doubleclick **System Defaults** in the List view. There are five tabs in the System Defaults window. They're described in the following sections.

Message Centers tab

Message Queue Monitors tab

Message Sets tab

Resource Monitors tab

Messages tab

Message Centers Tab

On the Message Centers tab of the System Defaults window, you can enter two default values that are used during message center setup: the message center for message redirection and the Robot Alert device name for sending pager or email messages. You can also specify how long a user can delay automatic escalation of a message.

System Defaults		Х
Message Sets	Resource Monitors	Messages
Message Centers	Message Queue	Monitors
Defaults for new Message	Centers	
Redirect Message Center:		
Robot Alert Device:		
Time Limit for Suspension o	of Escalation: 5	
		OK Cancel

You have the following options:
Option	Description			
Redirect Message Center	If you want automatic redirection to be the default for all message centers, enter the message center name. Or, click the Finder icon () to select from a list.			
	Unless you override this setting in the definition for an individual message center, all unanswered messages will be redirected to this default center.			
	eave the field blank if you don't want to use automatic redirection by lefault.			
Robot Alert Device	If Robot Alert is installed on your system and you want automatic messaging (paging or email) to be the default for message centers, enter a device name. Or, click the Finder icon () to select from a list. For details on selecting a device, see <u>Select a Robot Alert Device</u> <u>Window</u> .			
	Unless you override this setting in the definition for an individual message center, each message waiting for a reply or response will be sent to the default device.			
	Leave the field blank if you don't want to use automatic messaging by default.			
Time Limit for Suspension of Escalation	Specify the amount of time that automatic escalation is delayed (from 1 to 600 minutes [10 hours]) when it's manually suspended. Note: If you need more time to reply to a message, you can manually suspend escalation of a message. For details, see <u>Suspending</u> <u>Message Escalation</u> .			

System Defaults

Message Queue Monitors tab

Message Sets tab

Resource Monitors tab

Messages tab

Message Queue Monitors Tab

On the Message Queues tab of the System Defaults window, you can enter two default values for message queue entries: the message center where the message is sent and the message removal option. You also can set a limit on how far back Robot Console reads old messages from a queue.

System Defaults ×						
Message Sets		Resource Monitors	Messages			
Message Centers	· · · · · · · · · · · · · · · · · · ·		Monitors			
· · · · · · · · · · · · · · · · · · ·						
1			OK Cancel			

You have the following options:

Option	Description			
Message Center	Enter the name of the default message center for new message queue monitors. Or, click the Finder icon () to select from a list.			
	Jnless you override this setting when defining a new message queue monitor, the messages will be sent to this default center.			
	eave the field blank if you don't want to specify a default message center for all new monitors.			
Remove	Check the box if you want messages automatically removed from the			
Message After	message queue after processing (after it's answered or after an informational message has been recorded in the message history).			
Processing	informational message has been recorded in the message history).			
	You can override this setting when defining a new message queue monitor.			
Old Message Read Back Limit	Specify the age limit—from 1 to 1440 minutes (24 hours)—for processing old messages. An old message is a message that was sent to a queue before Robot Console began monitoring the queue. For example, if the limit is 60, when Robot Console begins monitoring a queue, it processes only the messages sent to the queue in the previous hour.			
	Note: This limit does not apply to messages waiting for a reply or response. When Robot Console begins monitoring a queue, it always processes all unanswered messages on the queue.			

System Defaults

Message Centers tab

Message Sets tab

Resource Monitors tab

Messages tab

Message Sets Tab

On the Message Sets tab of the System Defaults window, you can enter two default values for message set entries: the message repeat limit and time limit for repeats. You also can enter a message set owner (the message set owner's authorities are used when a message set is executed), and specify a default print queue for problem reports.

System Defaults ×						
Message Centers		Mess	sage Queue	Monitors		
Message Sets	Re	esource Monito	ors	Message	s	
Message Set Defaults Message Set Repeat Limi						
Time Limit for Message T		30	Minutes			
Message Set Owner: RBT	ADMIN	٩				
Program Problem Report				1		
Print Local	Print Local					
Problem Report Outpu	it Queue:	QGLP/QPRINT				
O Print Remote						
User ID:						
System Name:			٩			
				ОКС	ancel	

You have the following options:

Option	Description					
Message Set Repeat Limit	Enter the default repeat limit. This is used with the time limit (see below).					
	You can override this setting on the <u>Extended Set tab</u> of the Message Set Properties window when defining a message set.					
Time Limit for Message Text Repeat	Enter the default time limit for a message set. If the number of times a message repeats exceeds the repeat limit during the time limit, the message set does not process the message. For example, if the repeat limit is 10, the time limit is 30, and the message repeats 11 times within 30 minutes, the message set will not process the eleventh message repeat. The eleventh message repeat will appear on the message center.					
	You can override this setting on the <u>Extended Set tab</u> of the Message Set Properties window when defining a message set.					
Message Set Owner	Enter the user profile that owns all message sets (cannot be QSECOFR). Or, click the Finder icon () to select from a list.					
	Any user profile can create a message set, but the authorities of the message set owner are used when the message set runs. The message set owner also owns any objects created by the user's OPAL code. For example, a message set can execute a command if the message set owner has the authority, even if the message set creator does not. Note: The user profile specified must exist to compile OPAL code.					
Print Local	Select this if you want to print problem reports locally. Then, enter the Problem Report Output Queue where you want the reports sent. Or, click the Finder icon () to select from a list.					
Print Remote	Select this if you want to print problem reports on a remote system. Then, enter a remote System Name and a valid User ID for that system.					

System Defaults

Message Centers tab

Message Queue Monitors tab

Resource Monitors tab

Messages tab

Resource Monitors Tab

On the Resource Monitors tab of the System Defaults window, you can specify the defaults settings for new resource monitors. You can also set a delay time for monitoring during an IPL, how long to retain history records, and the refresh rate for different priorities.

System Defaults ×						
Message Centers	Messa	ge Queue Monitors				
Message Sets	Resource Monitors	Messages				
Defaults for new Resource M	onitors					
Monitor this Resource						
Default Priority: 3						
Include on Good Morning	Report					
Continue to Notify After F	ail					
Monitor Delay Time During IPI	: 30 ➡ Sec	onds				
Number of Days to Retain Hist	ory: 7					
Refresh Rate (in Minutes)]				
Priority 1: 5 Priority	2: 15 Priority 3:	30 Priority 4: 60				
		OK Cancel				

You have the following options:

Option		Des	cription			
Monitor this Resource	Check this box to enable new resource monitors by default.					
	You can override this setting when defining a new resource.					
Default			s by default (see above), enter the			
Priority	often the re	default priority (1-4) for the resource. The priority determines how often the resource is checked as specified in the Refresh Rate fields (see below).				
	You can ov	erride this setting whe	n defining a new resource.			
Include on Good Morning		box to include a resou port, by default.	rce status summary on the Good			
Report	You can ov	erride this setting whe	n defining a new resource.			
Continue to			e notified (after the first failure) that			
Notify After Fail	your resource is not in the expected status each time the resource is checked. If you clear this box, you'll only receive notification of the first failure.					
	You can ov	ou can override this setting when defining a new resource.				
Monitor Delay Time During IPL	Specify the number of seconds the monitor job should wait before checking resources after a system IPL. Use values from 30-1200 seconds (20 minutes). The default is 30 seconds.					
Number of Days to Retain History	Specify the number of days to retain resource history. Use values from 0-180 days. If you specify 0, no history records are kept. The default is 7 days (1 week).					
Refresh Rate (in Minutes)	Specify how often the monitor job will check resources of each priority level. Use values from 1-180 minutes. Robot Console is shipped with the following default values:					
	Priority	Refresh Rate				
	1	5 Minutes				
	2	15 Minutes				
	3	30 Minutes				
	4	60 Minutes				

Note: Some users may see another option on this tab: Use Resource Message Set (previously known as OPAL Recovery). You'll see this if you've used this option in a version prior to Robot Console version 6. Check **Use Resource Message Set** to use the predefined message set (in the message group Console) that's associated with this resource type. This includes all the instructions in the message set, including any OPAL code that would be executed. If you clear this box, you need to set up your

own message set to handle the messages for this resource. You can override this setting when defining a new resource.

System Defaults

Message Centers tab

Message Queue Monitors tab

Message Sets tab

Messages tab

Messages Tab

On the Messages tab of the System Defaults window, you can specify the how Robot Console saves and sends messages, by default.

System Defaults							
Message Centers		Message Queue Monitors					
Message Sets		Resource Monitors	Messages				
Use Second Level Message Text							
Send Robot Console Product Statuses							
Robot Alert Escalation Op	tions						
Include Job Informatio	☑ Include Job Information						
Include Second Level Text							
			OK Cano	el			

You have the following options:

Option	Description					
Use Second Level Message	Check this box to have Robot Console write the second-level text to its files, such as history records.					
Text	Note: We recommend that you do not remove this check mark. If you choose not to use second-level text, Robot Console will not store it in any of its records.					
Send Robot Console Product	Check this box to send product start and stop messages to Robot Network every time Robot Console is started or stopped.					
Statuses	Clear the check mark to prevent "normal" start and stop messages from being sent. With the check box cleared, messages aren't sent to Robot Network when Robot Console is started or stopped in a controlled manner. For example:					
	 You select Start Robot Console or Stop Robot Console. 					
	 You execute the RSLSHUTDWN command on the IBM i, 					
	 You execute the RBCENDCON command on the IBM i, 					
	Note: Regardless of whether or not this box is checked, all messages are still sent to the RBCDIAG message center. Also, a message is always sent if Robot Console is stopped abnormally.					
Include Job Information	Check this box to include the job information before the first-level text in an email message from Robot Alert.					
Include Second Level Text	Check this box to include the second-level text in the body of an email message from Robot Alert.					

System Defaults

Message Centers tab

Message Queue Monitors tab

Message Sets tab

Resource Monitors tab

Product Licensing

The Product License window allows you to display and edit your Robot Console license code. From this window, you can view basic system information, view or edit the license code, and access the license agreement. The status bar at the bottom of the window shows you when your license will expire or if it is permanent.

Display License Agreement			
Robot Console license code is permanent.			

click **Product Licensing** in the List view.

To open the Product License window, select **System Setup** in the Tree view, then double-

For licenses, you can toggle between two views:

• Select View 1 to display the License Code field in data entry mode.

License Code				
View 1	○ View 2			

• Select **View 2** to display the field in copy-and-paste mode, which allows you to quickly paste your license code into the field.

License Code	
○ View 1	

Click **Display License Agreement** to display your current Robot Console license agreement.

Product Security

Robot Console security lets you restrict the functions allowed to specific users. The Product Security window lists the Robot Console secured objects for which you can set authorization levels. You can define security access for application log monitors, message centers, reports, message history, message sets, system setup functions (including security), export and import, host mode functions, and the Robot Console Explorer.

To open the Product Security window, select **System Setup** in the Tree view, then doubleclick **Product Security** in the List view.

Х

Product Security

Secured Object	Description
APP LOG MON	GUI: Application Log Monitoring
CENTER FUNCTION	Message Center Functions
CONSOLE GUI	GUI: Use Robot Console through the GUI
CONTROL MENU	Control Menu
EXPORT TO PC	GUI: Export/Import objects to/from PC
MESSAGE HISTORY	Message History Options
MESSAGE SETS	Message Set Menu
NET HOST GUI Network Host: Console GUI Connection	
PRODUCT MASTER Network Host: Product Master	
REPORT MENU	Report Menu
SEND TO GUI: Send config info via Robot Network	
SYSTEM SETUP	System Setup Menu
	Close

See the following section for details on defining product security.

Notes:

- Robot Console security information is encrypted in database files and you may want to restrict Change rights to the security program and files (do not restrict Use rights or no one can use Robot Console). To secure the security program and files, go to the IBM i and remove authority to add, change, or delete the following objects: program RBC810; files RBCQO, RBCQR, and RBCQU.
- You cannot restrict access to Robot Console for user profiles that have *ALLOBJ authority, such as QSECOFR.

Message center security

System setup

Defining Product Security

To set the authorization levels:

- 1. Click **System Setup** in the Tree view. Then, double-click **Product Security** in the List view.
- In the Product Security window, double-click the object you want to work with. See <u>Secured Object Options</u> for an explanation of what's secured by each object and a list of the authorizations you can set.
- In the <u>Edit User Authorities window</u>, in the **Object Secured by Authorization List** field, enter the name of an IBM authorization list that you want used to define security for the object.
- 4. Click Add to create a new user authority for this object.
- 5. In the Find User Profile window, select one or more user profiles and click **OK**. Use the Shift or Ctrl keys to select more than one.
- 6. In the Edit User Authorities window, check the box for each authority you want granted to this user profile.
- 7. When you are finished adding and changing authorities, click **OK**.
- 8. Click **Close** in the Product Security window.

You can define separate security restrictions for individual message centers. For details, see <u>Message Center Security Settings</u>.

Editing User Authorities

Use the Edit User Authorities window to secure Robot Console objects by granting authorities to specific user profiles. You can access this window from the <u>Product Security</u> window and from the <u>Message Center Security Settings window</u>.

Note: You cannot restrict access to Robot Console objects for user profiles that have *ALLOBJ authority, such as QSECOFR. If a user profile has *ALLOBJ authority, Robot Console ignores any restrictions you add here.

Edit User Authorities			X
Object: GUI: Export/Import	objects to/from P	с	
Object Secured by Authoriz	zation List:		
User	Exclude	Use	Add
*PUBLIC		V	
DAVEG	V		8 Remove
DOUGO	Image: A start of the start		
КАТНҮК			
			OK Cancel

Complete the following:

1. (Optional) Enter a name for **Object Secured by Authorization List** to secure an object using an IBM authorization list. Or, click the Finder icon (a) to select from a list.

If there are user profiles in the authorization list that are duplicates of the profiles in this window, the authorizations defined in the window are given to the user. For more information about authorization lists, see your IBM documentation.

2. The *PUBLIC line defines the authorizations for every user profile that is not listed in this window. If you want to restrict access to an object, set *PUBLIC to **Exclude**.

Note: If you are going to set *PUBLIC to Exclude for the Console GUI object, be sure that you add the users who are authorized to use the GUI and give them Use authority. If there aren't any users with Use authority, no one will be able to sign onto a system through the GUI.

- 3. Click **Add** to select a user profile to add to the list. Then, specify the authorizations that user profile should have to the object.
- 4. For this object, check the authorizations granted to each user profile. Clear the check mark by authorizations that aren't granted. For a list per object, see <u>Secured Object</u> <u>Authorizations</u>.

Following is a description of the available authorizations:

- Exclude: The user is denied all access to the secured object.
- Display Only: The user can view the secured object.
- Change: The user can alter an existing object.

- Delete: The user can delete an existing object.
- Use: The user can use the function or object.
- 5. To delete a user profile, select the profile and click **Remove**.
- 6. Click OK.

Product Security

Message Center Security

System Setup

Secured Object Authorization Levels

The following table indicates the various secured objects in Robot Console, the functions the objects control, and the security options (authorization levels) you can set for the users who can access the object.

Object	Secures	Auth. Levels
APP LOG MON	Application log monitoring functions in the GUI	Exclude Display Only Change
CENTER FUNCTION	Message Center functions	Exclude Display Only Change Delete
Console GUI	Robot Console Explorer	Exclude Use
CONTROL MENU	Control Menu functions (includes starting and stopping Robot Console)	Exclude Use
EXPORT TO PC	Export/Import XML file functions from/to the PC	Exclude Use
MESSAGE HISTORY	Message History functions and the Message History option for a message center	Exclude Display Only Change
MESSAGE SETS	Message Set functions	Exclude Display Only Change
NET HOST GUI	Host functions on the PC (Host mode only)	Exclude Use
PRODUCT MASTER	Product master functions (Host mode only)	Exclude Use

Object	Secures	Auth. Levels
REPORT MENU	Report functions	Exclude Use
SEND TO	Send to and delete from functions (Host mode only)	Exclude Use
SYSTEM SETUP	System Setup functions	Exclude Display Only Change

Message Center Security

Robot Console security lets you restrict access to individual message centers. The Message Center Security Settings window lists message centers for which security is defined. Initially, the window is blank until you add message centers to it.

To open the Message Center Security Settings window, select **System Setup** in the Tree view, then double-click **Message Center Security** in the List view.

Message Center Security Settings		—
Message Center	Description	<u>A</u> dd
QSYSOPR	Message Center for Operations	Edit
L		Close

See the following section for details on defining message center security.

Note: You cannot restrict access to message centers for user profiles that have *ALLOBJ authority, such as QSECOFR.

Product security

System setup

Defining Message Center Security

To set the authorization levels for specific message centers:

- 1. Click **System Setup** in the Tree view. Then, double-click **Message Center Security** in the List view. The Message Center Security Settings window opens.
- 2. To add a message center to the list, click **Add**. Click the message center in the window that opens and click **Select**.
- 3. To change the authorizations for a message center:
 - a. Click the message center you want to secure and click **Edit** (or, right-click it and select **Properties**).
 - b. In the <u>Edit User Authorities window</u>, in the **Object Secured by Authorization List** field, enter the name of an IBM authorization list that you want used to define security for the object.
 - c. Click Add to create a new user authority for this object.
 - d. In the Find User Profile window, select one or more user profiles and click **OK**. Use the Shift or Ctrl keys to select more than one.
 - e. In the Edit User Authorities window, check the box for each authority you want granted to this user profile.
 - f. When you are finished adding and changing authorities, click OK.
- 4. To remove the special authorizations for a message center, select it in the list and click **Remove**. You're asked to confirm your decision.
- 5. Click **Close** in the Message Center Security Settings window.

You can define security restrictions for other Robot Console secured objects. For details, see <u>Product Security</u>.

Reports

Robot Console Reports

You can display or print Robot Console reports from the Explorer. When you select a report in the List view of the Explorer, a brief description of the report appears in the QuickView (if you have <u>QuickView</u> turned on).

For most reports, you can use selection criteria, such as date range, to limit the information. You can submit the report to print immediately, or if you have Robot Schedule, the IBM i automated job scheduler installed, you can schedule the report to print later.

Selecting and Printing Reports

Message Set Reports

Message History Reports

Message Center History Reports

System Setup Reports

Resource Monitoring Reports

Selecting and Printing Reports

The Reports option in the Tree view lists the categories of reports available to you.

Robot Console Explorer		-		×
System View Tools Help				
Address: HS4 💌 🗆 💉 🖍	i 🗞 i 🙃 🚆 i 🗾 🥦 🖾 i 🔍 🕅 🧟 🕵 i 🚍 -			
👮 HS4	Name			
← ■ Message Centers ♥- ♪ Monitored Objects ← ● Message Queue Monitors ● ☑ Resource Monitors	Message Set Summary Set up <u>Report</u> Obsolet Message Sets			
Resource Monitors Jog Monitors	Message Group Detail			
Application Log Monitors	Message Table Detail			
🛛 🌮 Message Sets	Query Message File Report			
Notification Lists System Setup Reports Message Set Reports				
Message Set Reports Message Center History Reports System Setup Reports Resource Monitoring Reports	Message Set Summary			
	The Message Set Summary Report (RBC400) prints Message Monitor Instru can limit the message sets included in this report by message group and set message identifiers.			
	Con	ole is: 🔎	ACTIVE	

To generate a report:

- 1. Click **Reports** in the Tree view.
- 2. In the Tree view, click the report category you want.
- 3. In the List view, double-click the report you want (or right-click and select **Set up Report**).
- 4. Enter the criteria for the report.
- Click Schedule to schedule the print job for a later time. For details, see <u>Robot</u> <u>Schedule - Job Setup Window</u>. Note: You must have Robot Schedule installed to use this option. Or, click the Finder icon (
) to select from a list.
- 6. Enter an **Output Queue** to print to. Or, click the Finder icon () to select from a list.

Print Options		
Output Queue:	/	Q

7. Click **Print**. The report job is either sent to the output queue immediately or it's sent on the schedule you set above.

For detailed information on the criteria for each of the reports, click the following links.

Message set reports:

Message Set Summary

Message Set Detail

Obsolete Message Sets

Message Group Detail

Message Table Detail

Query Message File Report

Message history reports:

Message History List

Good Morning Report

Most Common Messages

Summarize QHST Messages

Message center history reports:

Message Center Summary List

Average Reply Time by User List

System setup reports:

Message Center List

Message Queues to Monitor List

Log Monitoring Setup

Security Report by Function

Application Log Monitoring Setup

Resource monitoring reports:

Resource History List

Resource Setup Report

If you are working in <u>Host mode</u>, some of the above reports won't be available because they are specific to a single system. **Note:** The Most Common Messages and the Good Morning Report can also be found under <u>Consolidated Reports</u> for the host.

Message Set Reports

Message set reports provide information about the message sets, obsolete message sets, message groups, message tables on your system. You can also query message files to identify potentials for message tables.

You can choose from six message set reports.

Message Set Summary

Message Set Detail

Obsolete Message Sets

Message Group Detail

Message Table Detail

Query Message File

Message Set Summary Report

The Message Set Summary report prints a summary of the message sets defined to various Robot Console objects. You can report on message sets selected by name and by any combination of message group, message file, and message ID. For a detailed report, see <u>Message Set Detail Report</u> below.

Message Set Summary Report
Selection Criteria Message Set Range
From Group and Set: First Selected Group and Set
To Group and Set:
Message File
Message File: All Selected Message File
Message ID Range
From Message ID: First Selected Message ID
To Message ID: Last Selected Message ID
Print Options
Output Queue: QGPL/QPRINT
Schedule Print Cancel

Complete the following options:

Option	Description
Message Set Range	Specify a range of message sets to include based on their names and message groups. Note: The message sets do not need to have a message group attached.
	Click First and Last to include all message sets.
	 Click Selected Group and Set and enter group and message set names in the From Group and Set and To Group and Set fields to include only a specific range of message sets. Click the Finder icon () to select from a list.
	 For one message set, click Selected Group and Setand enter the message set name in both the From Group and Set field and the To Group and Set field.
Message File	Enter a message file and library to limit the report to message sets for messages from that file. Or, select ALL for all message files.
	Click All to include message sets for all message files.
	• Click Selected Message File and enter a message file and library name to limit the report to messages sets for messages from that file. Click the Finder icon () to select from a list.
Message ID Range	Specify a range of message IDs to include the message sets defined to them.
	 Click First and Last to include all message IDs.
	 Click Selected Message ID and enter ID numbers in the From Message ID and To Message ID fields to include only a specific range of message IDs.
	 For one message ID, click Selected Message ID and enter the message ID in both the From Message ID field and the To Message ID field.

To print the report:

- Specify an Output Queue.
- Click **Print** to print the report immediately.
- Click **Schedule** to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot Schedule - Job Setup Window</u>.

Message Set Detail Report

The Message Set Detail report prints the details for the message sets defined to various Robot Console objects. You can report on message sets selected by name and by any combination of message group, message file, and message ID. For a summary report, see <u>Message Set Summary Report</u> above.

Message Set Detail Report
Selection Criteria Message Set Range
From Group and Set:
To Group and Set:
Message File
Message File: All Selected Message File
Message ID Range
From Message ID: First Selected Message ID
To Message ID:
Print Options
Output Queue: QGPL/QPRINT
Schedule Print Cancel

Complete the following options:

Option	Description
Message Set Range	Specify a range of message sets to include based on their names and message groups. Note: The message sets do not need to have a message group attached.
	Click First and Last to include all message sets.
	 Click Selected Group and Set and enter group and message set names in the From Group and Set and To Group and Set fields to include only a specific range of message sets. Click the Finder icon () to select from a list.
	• For one message set, click Selected Group and Set and enter the message set name in both the From Group and Set field and the To Group and Set Field.
Message File	Enter a message file and library to limit the report to message sets for messages from that file. Or, select ALL for all message files.
	Click All to include message sets for all message files.
	 Click Selected Message File and enter a message file and library to limit the report to messages sets for messages from that file. Click the Finder icon () to select from a list.
Message ID Range	Specify a range of message IDs to include the message sets defined to them.
	 Click First and Last to include all message IDs.
	 Click Selected Message ID and enter ID numbers in the From Message ID and To Message ID fields to include only a specific range of message IDs.
	 For one message ID, click Selected Message ID and enter the message ID in both the From Message ID field and the To Message ID field.

To print the report:

- Specify an Output Queue.
- Click **Print** to print the report immediately.
- Click **Schedule** to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot Schedule - Job Setup Window</u>.

Obsolete Message Sets Report

The Obsolete Message Sets report prints a list of message sets that have not been used within a specified number of days.

Obsolete Message Sets Report
Selection Criteria
Number of Days: 30
Print Options Output Queue: QGPL/QPRINT
Schedule Print Cancel

Complete the following option:

Option	Description
Number of Days	Enter any number from 10 to 365; the default value is 30 days.

To print the report:

- Specify an Output Queue.
- Click **Print** to print the report immediately.
- Click **Schedule** to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see Robot Schedule - Job Setup Window.

Message Group Detail Report

The Message Group Detail report prints detailed message group information.

Message Group Detail Report	×			
Selection Criteria Message Group Range				
From Message Group:	roup			
To Message Group: Last Selected Message G 	roup 🔎			
Sort by Priority				
O Sort by Message Group				
Print Options Output Queue: QGPL/QPRINT				
Sci	hedule Print Cancel			

Complete the following options:

Option	Description		
Message Group	Specify a range of message groups to include.		
Range	Click First and Last to include all message groups.		
	 Click Selected Message Group and enter the group names in the From Message Group and To Message Group fields to include only a specific range of message groups. Click the Finder icon () to select from a list. 		
	 For one message group, click Selected Message Groupand enter the message group name in both the From Message Group field and the To Message Group field. 		
Sorting	To sort the information in the report, select either Sort by Priority or Sort by Message Group .		

The information for each message group prints on a separate page of the report.

To print the report:

- Specify an **Output Queue**.
- Click **Print** to print the report immediately.
- Click Schedule to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot Schedule - Job Setup Window</u>.

Message Table Detail Report

The Message Table Detail report prints any of the following combinations: all message tables and their messages, a specific message table and all of its messages, all message tables that contain a specific message, or a specific message table and a specific message ID.

Message Table Deta	il Report		
Selection Criteria			
Message Table:	All	O Selected Message Table	
Message ID:	All	O Selected Message ID	
Print Options			
Output Queue: QGPL/QPRINT			
		Schedule Print Cancel	

Complete the following options:

Option	Description			
Message Table	Specify which message tables to include.			
	 Click All to include all message tables. 			
	 Click Selected Message Table and enter the table name to include only a specific message table. Click the Finder icon () to select from a list. 			
Message ID	Specify which message IDs to include.			
	 Click All to include all message IDs. 			
	 Click Selected Message ID and enter the ID number to include only a specific message ID. 			

To print the report:

- Specify an **Output Queue**.
- Click **Print** to print the report immediately.
- Click **Schedule** to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot Schedule - Job Setup Window</u>.

Query Message File Report

The Query Message File report prints a list of messages from a message file that all contain a string of characters you specify.

Query a Message F	ile			×
Selection Criteria	i			
Message File:			Q	
Search Text:				
Print Options				
Output Queue:	QGPL/QPRINT			
		Schedule	Print Ca	ncel

Complete the following options:

Option	Description
	Enter the message file to include. Or, click the Finder icon () to select from a list.
Search Text	Enter the string of characters to search for.

To print the report:

- Specify an Output Queue.
- Click **Print** to print the report immediately.
- Click **Schedule** to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see Robot Schedule - Job Setup Window.

Message History Reports

Message history reports provide the history for particular messages, a summary of message activity, the number of times a message was sent, and a summary of the message in QHST.

You can choose from four message history reports.

Message History List

Good Morning Report

Most Common Messages

Summarize QHST Messages

Message History List

The Message History List report prints the message history records based on the criteria you enter.

Message History List
Selection Criteria
Message Set Range
From Group and Set: First Selected Group and Set From Group an
To Group and Set: Last Selected Group and Set
☑ Include messages that had no message sets run.
Date Range
From Date:
To Date: I Last Available Selected Date
Message ID: Message File:
Originating Center: All Message Queue:
Answered by User:
Message Variable:
Message Type:
□ Print Options
Output Queue: QGPL/QPRINT
Schedule Print Cancel

Complete any combination of the following options:

Option	Description		
Message Set Range	Specify a range of message sets to include based on their names and message groups. Note: The message sets do not need to have a message group attached.		
	 Click First and Last to include all message sets. 		
	 Click Selected Group and Set and enter group and message set names in the From Group and Set and To Group and Set fields to include only a specific range of message sets. Click the Finder icon () to select from a list. 		
	 For one message set, click Selected Group and Setand enter the message set name in both the From Group and Set field and the To Group and Set field. 		
	Clear the check mark by Include messages that had no message sets run to limit the report to only those messages that were processed with a message set.		
Date Range	Specify a date range for the message history records to include.		
	Click First Available and Last Available to include all records.		
	 Click Selected Date and enter the dates in the From Date and To Date fields to include only a specific range of message history records. Click the Calendar icon (1) to select a date. 		
	 For message history for a single day, click Selected Date and enter the date in both the From Date field and the To Date field. 		
Message ID	Enter a message ID to include the history for only that message ID.		
Message File	Enter a message file name to include the history for only that message description. Click the Finder icon (
Originating Center	Enter the message center to which the messages were initially sent. Click the Finder icon (\Box) to select from a list.		
Message	Enter the message queue that received the messages. Click the Finder		
Queue	icon (\Box) to select from a list.		
Answered by User	Enter the user profile that answered the messages. Click the Finder icon () to select from a list.		
Message Variable	Enter the name of an OPAL variable that the messages contain, such as CONTROLLER. Click the Finder icon (
Message Type	Select a single message type to include.		

To print the report:

- Specify an **Output Queue**.
- Click **Print** to print the report immediately.
- Click **Schedule** to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot Schedule - Job Setup Window</u>.

Good Morning Report

The Good Morning Report (RBC430) summarizes message activity for a specified number of days. This includes the total number of messages, the number of messages answered or suppressed by Robot Console, and the average wait time for a reply.

Good Morning Report	×
Selection Criteria	
Number of Days: 30 -	
Print Options	
Output Queue: QGPL/QPRINT	
Schedule	Print Cancel

Complete the following option:

Option	Description
Number of Days	Enter any number from 1 to 365; the default value is 30 days.

To print the report:

- Specify an Output Queue.
- Click **Print** to print the report immediately.
- Click **Schedule** to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see Robot Schedule - Job Setup Window.

Most Common Messages Report

The Most Common Messages report counts the number of times each message was sent for a date range you specify. You can use this report to gather information about messages that occur regularly and, therefore, are candidates for a message set.

Most Co	mmon I	Messages Report		×
	on Crite	ria		
Date	Range –			
From	n Date:	First Available	Selected Date	31
To D	ate:	Last Available	○ Selected Date	31
Numł	per of Oc	currences:		
Б	clude M	lessage Sets		
_ Print C	Options -			
Outpu	ut Queue	CQGPL/QPRINT		
			Schedule	Print Cancel

Complete the following options:

Option	Description
Date Range	Specify a date range. The report will show the number of times each message in the message history file was sent during that time.
	 Click First Available and Last Available to include all records in message history.
	 Click Selected Date and enter the dates in the From Date and To Date fields to include only a specific date range. Click the Calendar icon () to select a date.
	 For a single day, click Selected Date and enter the date in both the From Date field and the To Date field.
	Note: If you specify a large date range (over 30 days), or don't clear your message history file regularly, this report can take a while to process.
Number of	Enter the minimum number of times a message has to occur in order
Occurrences	to appear on the report. Use this to limit the report to messages that occur frequently.
Exclude Message Sets	Check Exclude Message Sets if you want to exclude any messages that are handled by a message set.

To print the report:

- Specify an **Output Queue**.
- Click **Print** to print the report immediately.
- Click Schedule to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot Schedule - Job Setup Window</u>.

Summarize QHST Messages Report

The Summarize QHST Messages report tracks the occurrences of messages in QHST for a date range and frequency that you specify. You can use this report to gather information about messages that occur regularly and, therefore, are candidates for a message set.

Summarize QHST Messages I	Report		×		
Selection Criteria					
Days to Include:	All	Selected Days	99 🜩		
Number of Occurrences:	All	○ Selected Value	1.		
Print Options					
Output Queue: QGPL/QPRINT					
Schedule Print Cancel					

Complete the following options:

Option	Description
Days to Include	Specify how many days to include.
	 Click All to include all dates in message history.
	 Click Selected Days and enter the number of days (counting back from the current date) that you want to include.
	Note: If you specify a large date range (over 30 days), or don't clear your message history file regularly, this report can take a while to process.
Number of Occurrences	Specify the number of times a message has to occur in order to appear on the report. Use this to limit the report to messages that occur frequently.
	 Click All to include messages regardless of how many times they occurred.
	 Click Selected Value and enter a number to include only messages that have occurred at least that many times.
	Note: Depending on the amount of QHST messages on the system, using the default value of All could produce a very large report.

To print the report:

- Specify an **Output Queue**.
- Click **Print** to print the report immediately.
- Click **Schedule** to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot Schedule - Job Setup Window</u>.

Message Center History Reports

The message center history reports print statistics for the specified message centers.

You can choose from two message center history reports.

Message Center Summary List

Average Reply Time by User List

Message Center Summary List

The Message Center Summary List report lists messages received, messages answered, messages answered by message sets, information messages, and unanswered messages.

Message Center Summary List	×					
Selection Criteria						
From Message Center: First Selected Message Center	ρ					
To Message Center: Last Selected Message Center 						
Date Range						
From Date: First Available Selected Date						
To Date:						
Print Options						
Output Queue: QGPL/QPRINT						
Schedule Print Can	cel					
Complete the following options:

Option	Description
Message Center	Specify a range of message centers to include.
Range	 Click First and Last to include all message centers.
	 Click Selected Message Center and enter message center names in the From Message Center and To Message Center fields to include only a specific range of message centers. Click the Finder icon () to select from a list.
	 For one message center, click Selected Message Centerand enter the name in both the From Message Center field and the To Message Center field.
Date Range	Specify a date range for the message center history records to include.
	Click First Available and Last Available to include all records.
	 Click Selected Date and enter the dates in the From Date and To Date fields to include only a specific range of history records. Click the Calendar icon (a) to select a date.
	 For message center history for a single day, click Selected Date and enter the date in both the From Date field and the To Date field.

To print the report:

- Specify an Output Queue.
- Click **Print** to print the report immediately.
- Click **Schedule** to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot Schedule - Job Setup Window</u>.

Average Reply Time by User List

The Average Reply Time by User List report breaks down the answers from each message center by user, showing the number of replies and the average time to reply.

Average Reply Time by User List	x
Selection Criteria	
From Message Center: First Selected Message Center	
To Message Center: Last Selected Message Center 	
Date Range	
From Date: First Available Selected Date	
To Date: Last Available Selected Date 	
Print Options	
Output Queue: QGPL/QPRINT	
Schedule Print Cancel	

Complete the following options:

Option	Description		
Message Center	Specify a range of message centers to include.		
Range	 Click First and Last to include all message centers. 		
	 Click Selected Message Center and enter message center names in the From Message Center and To Message Center fields to include only a specific range of message centers. Click the Finder icon () to select from a list. 		
	 For one message center, click Selected Message Centerand enter the name in both the From Message Center field and the To Message Center field. 		
Date Range	Specify a date range for the history records to include.		
	Click First Available and Last Available to include all records.		
	 Click Selected Date and enter the dates in the From Date and To Date fields to include only a specific range of history records. Click the Calendar icon (a) to select a date. 		
	 For history for a single day, click Selected Date and enter the date in both the From Date field and the To Date field. 		

To print the report:

- Specify an **Output Queue**.
- Click **Print** to print the report immediately.
- Click **Schedule** to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot Schedule - Job Setup Window</u>.

System Setup Reports

You can print reports listing Robot Console system setup information. There are no selection criteria for System Setup reports, other than a print queue (the image below shows a sample setup window).

Message Center List	X
Selection Criteria	
There are no selection criteria for this repo	rt.
Print Options	
Output Queue: QGPL/QPRINT	
Schedule Print	Cancel

The system setup reports are described below:

Report Name	Report Description
Message Center List	Displays setup information for each message center.
Message Queues to Monitor List	Displays setup information for each message queue.
Log Monitoring Setup	Displays setup information for the monitoring of security audit logs, FTP request logs, and system history logs.

Report Name	Report Description
Security Report by Function	Displays the authorizations for the Robot Console secured objects.
Application Log Monitoring Setup	Displays setup information for each application log monitor.

Resource Monitoring Reports

The Resource Monitoring reports give you information on the setup of the Robot Console resources and the history of resource monitoring.

You can choose from two resource monitoring reports.

Resource History List

Resource Setup

Resource History List

The Resource History List report shows the history, including the message text, for resources monitored by Robot Console. You can limit the report by date range, resource type, resource name, primary resource, Robot Console application, priority, or by exception status.

Resource History List
Selection Criteria
Date Range
From Date: First Available Selected Date
To Date: Last Available Selected Date
Select Resource
Resource Type: All Selected Resource Type
Resource Name: All Selected Resource Name
Primary Resource: All Selected Primary Resource
Application: Application
Priority Range
From Priority: 0 To Priority: 4
Exceptions Only
Print Options
Output Queue: QGPL/QPRINT
Schedule Print Cancel

Complete the following options:

Option	Description		
Date Range	Specify a date range for the resource history.		
	 Click First Available and Last Available to include all history records for the resource. Click Selected Date and enter the dates in the From Date and To Date fields to include only a specific date range. Click the Calendar icon (1) to select a date. 		
Descurre	 For a single day, click Selected Date and enter the date in both the From Date field and the To Date field. 		
Resource Type	Specify whether to report on all the resource types, or a specific type.		
	 Click All to include all resource types. 		
	 Click Selected Resource Type and enter a type to include only resources of that type. Click the Finder icon () to select from a list. 		
Resource Name	Specify whether to report on all the resources, or a specific one.		
	Click All to include all resources.		
	 Click Selected Resource Name and enter the resource name to include only that resource. Click the Finder icon () to select from a list. 		
Primary Resource	Specify whether to report on all the resources, or to limit the report to resources defined to a specific primary resource.		
	 Click All to include resources defined to any primary resource. This includes resources with no primary resource defined. 		
	 Click Selected Primary Resource and enter the primary resource name to include only those resources defined to that primary resource. Click the Finder icon (20) to select from a list. 		
Application	Specify whether to report on all the resources, or to limit the report to resources defined to a specific Robot Console application.		
	 Click All to include resources defined to any application. This includes resources with no application defined. 		
	 Click Selected Application and enter the application name to include only those resources defined to that application. Click the Finder icon () to select from a list. 		

Option	Description
Priority	Specify a priority range. Values from 0-4 are valid. Only resources
Range	monitored with a priority in that range are included in the report.
	Check Exceptions Only to limit the report to only the history records
Only	showing when the resource was not in the expected status.

To print the report:

- Specify an Output Queue.
- Click **Print** to print the report immediately.
- Click Schedule to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot Schedule - Job Setup Window</u>.

Resource Setup Report

The Resource Setup report lists the resource monitoring setup information. You can limit the report by resource type, resource name, primary resource, application, and priority.

Resource Setup Report			-×
Selection Criteria			
Sort Option: RESO	URCE	•	
Select Resource			
Resource Type:	IIA (○ Selected Resource Type	Q
Resource Name:	IIA (O Selected Resource Name	Q
Primary Resource:	All	O Selected Primary Resource	
Application:	All	○ Selected Application	Q
Priority Range			
From Priority: 0	🖨 To I	Priority: 4 🚔	
Print Options			
Output Queue: QC	GPL/QPRI	NT	Q
		Schedule	e Print Cancel

Complete the following options:

Option	Description		
Sort Option	Select how you want to sort the report. You can choose to sort by resource name, resource type, monitoring priority, or defined Robot Console application.		
Resource Type	Specify whether to report on all the resource types, or a specific type.		
	 Click All to include all resource types. 		
	 Click Selected Resource Type and enter a type to include only resources of that type. Click the Finder icon () to select from a list. 		
Resource Name	Specify whether to report on all the resources, or a specific one.		
	Click All to include all resources.		
	 Click Selected Resource Name and enter the resource name to include only that resource. Click the Finder icon () to select from a list. 		

Option	Description
Primary Resource	Specify whether to report on all the resources, or to limit the report to resources defined to a specific primary resource.
	 Click All to include resources defined to any primary resource. This includes resources with no primary resource defined.
	 Click Selected Primary Resource and enter the primary resource name to include only those resources defined to that primary resource. Click the Finder icon () to select from a list.
Application	Specify whether to report on all the resources, or to limit the report to resources defined to a specific Robot Console application.
	 Click All to include resources defined to any application. This includes resources with no application defined.
	 Click Selected Application and enter the application name to include only those resources defined to that application. Click the Finder icon () to select from a list.
Priority Range	Specify a priority range. Values from 0-4 are valid. Only resources monitored with a priority in that range are included in the report.

To print the report:

- Specify an Output Queue.
- Click **Print** to print the report immediately.
- Click **Schedule** to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot Schedule - Job Setup Window</u>.

Host Mode

Robot Console Host Mode Overview

If your systems are connected in a network using Robot Network, the network management software, Robot Console allows you to send components such as message sets, message groups, message centers, message tables, OPAL tables, message queue monitors, resource monitors, and notification lists to the other systems, receive statuses from other systems, and provide cross-system redirection. Using Robot Console in Host mode offers a number of benefits:

- If you run the same message management setup on multiple systems, do the set up for Robot Console in the Product Master on the host system, then send it to the nodes and other hosts in the network. You also can send objects from a node to a host, from a node to another node, or from a host to host. Standardizing your remote IBM i operations simplifies maintenance work on your network.
- You save time because you don't have to create the same Robot Console setup or message information on each host and node, one at a time.
- You can control network message management from one Host system.
- You can create <u>consolidated versions</u> of certain Robot Console reports that include information from multiple systems in the network. Collect and combine information from the systems in the network to reduce the number of reports needed to manage your systems and to perform system-to-system comparisons.

Robot Console Explorer in Host Mode

When you connect to a system in Host mode, the Robot Console Explorer Tree displays the Host system and its Nodes. The Product Master allows you to set up and send message setup information to the Node systems. Consolidated Reports allow you to print selected Robot Console reports across the systems in the network. Accessing the Nodes from Host mode allows you to work on the systems as if you are directly connected to those systems.

Robot Console Explorer				_	×
<u>System View T</u> ools <u>H</u> elp					
Address: YOG host 💌 🛛 💉 🚜	l á	😌 । 👦• 📲 • । 🛃 • 🚍 • 🖾 • । ब्यू• 🛃 •	r 🗟 • 💽 • । 💻 •		
VOG host		Name	Description		
Product Master	6	Product Master	Objects stored on the Host		
 Message Centers Monitored Objects 		Consolidated Reports	Reports over all consolidated data		
Generation (Construction of the second	1	LAN	R06M001141204		
- Notification Lists	1	YOG	R06M001150123		
— 🔆 System Setup					
eports					
Consolidated Reports					
or ¥ VOG					
					1

In Host mode, the Robot Console Explorer toolbar includes drop-down lists to let you choose the system in the network you want to work with. Some functions available from the toolbar apply to all systems in the network, other functions apply only to the host or node systems, and some functions apply to the Product Master on the host system. See Explorer Toolbar for details about the various functions you can access from it.

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Consolidated Reports

Working With Host Systems

Product Master

Sending and Deleting Information

Message Notification in Host Mode

Connecting to a System in Host Mode

To connect to a system in Host mode, you must define a connection profile in Robot Console (see <u>Connection Properties</u>). When you connect to a system in Host mode, Robot Console offers additional functions to allow you to send and receive information from other systems in the network.

To connect to a system, do the following:

1. Select the system to which you want to connect from the **Address** drop-down list. If you didn't specify an alias name when you set up a connection profile, the IP address of the system displays. You can identify a host system by its icon.

Robot Console Explorer						
System	<u>V</u> iew <u>T</u>	ools <u>H</u> e	lp			
Address:	HS7_HM		A #			
	DEP08					
	👮 HS3					
	👮 HSS					
	🗐 HS7_HI	M				
	🧊 LIL hos	t				
	👤 LIL nod	e				
	🗐 YOG ho	ost				
	👤 YOG no	ode	-			

2. Click the **Connect** button on the tool bar to connect to the system.

Note: The host systems that appear in the list are defined in Robot Network (see <u>Identity</u> <u>Maps</u> for more information).

Working with Host Systems

When you work with a host system in Host mode, you can create an identity map for user names and passwords for the systems in the network, edit the host system's library list, change your IBM i password on the host system, start message notification, view the disk status for the host system, view the system status for the host, work with active jobs on the host, view spooled files, and view the packet distribution history for the host.

To work with a host system, right-click it in the Tree view and select an option from the menu.

Identity Map	题 Identity Ma <u>p</u>
Edit Library List	Edit Library List
	援 Change Pass <u>w</u> ord
Change Password	Start Message Notification
	🗠 View <u>D</u> isk Status
Start Message Notification	🛃 View System Status
View Disk Status	🛃 Work with Active Jobs
View Disk Status	🗟 Work with Spooled <u>F</u> iles
View System Status	Q Distribution <u>H</u> istory
Working with Active Jobs	
Working with Spooled Files	

Distribution History

Product Master

The Product Master allows you to create and distribute the same Robot Console setup instructions to the other systems in the network. The Product Master's main function is to allow you to create setup information on one system for distribution to other systems.

You can use the Product Master to:

- Create message objects and setup instructions and send them to Robot Network for installation on the node systems of your choice.
- Change message objects and have Robot Network make the same changes on specified nodes.

Managing your messaging setup from the Product Master allows you to update and maintain message management setup throughout the network. For example, you might want to update a Robot Console message table on all networked systems. Using the Product Master on the host system, update the message table and then send the message table to all of the networked systems. It is very easy to make a change throughout an entire network quickly.

You can test changes on any node, including the host's node, until you are confident they work. Then, you can send the changes to the Product Master for distribution to other systems or directly to another node.

If you want to make a change to a Robot Console object on just one node, select the node from the Tree view. If you've set up a user profile in the <u>identity map</u>, you connect directly to the node system without having to enter login information. You see the objects on the node system and can work with them.

The Product Master does not have corresponding functions for the following items that are specific to a single system:

- Log monitors (Monitored Objects)
- Application log monitors (Monitored Objects)
- Message files (Message Sets)
- Message History or Message Center History reports (Reports)
- Security Setup and Licensing (System Setup)
- Certain reports (<u>Reports</u>)

Product Master reports

Consolidated reports

Sending and deleting Information

Sending system default values from the Product Master

Product Master Reports

The Product Master has some of the same reports that are available to the nodes. You submit the reports for printing in the same way you do on the nodes.

Following is a list of the reports that are available to the Product Master:

Message set reports:

Message Set Summary

Message Set Detail

Message Group Detail

Message Table Detail

System setup reports:

Message Center List

Message Queues to Monitor List

Resource monitoring reports:

Resource Setup Report

Additionally, the Most Common Messages and the Good Morning Report can be found under <u>Consolidated Reports</u> for the host.

Robot Console reports

Consolidated reports

Printing reports

Identity Maps

The Identity Map window displays the node systems of the host to which you are currently connected. When you define a user ID and password for a node system and store that information in the identity map, it allows you to connect to that node from the Robot Console Explorer without having to enter login information.

If host visibility is enabled in Robot Network, the identity map also includes other host systems and their nodes. For more information, see <u>Host Visibility</u>.

You access the Identity Map window by right-clicking the host system in the Tree view and selecting **Identity Map**.

Identity Map			- ×
urrent User: KAT	НҮК		
Identity Mapping	js		
	System	Profile	
HS5		BOBC	<u>E</u> dit
HS8	<u> P</u> roperties	ADMIN	
LAN	🙆 <u>C</u> lear		<u>S</u> <u>C</u> lear
YOG		КАТНҮК	
			Close

You can do the following:

- To add a user profile to a system or edit an existing profile, double-click the system (or click **Edit**, or right-click and select **Properties**). Enter the user profile information in the Maintain Identity window and click **OK**.
- To remove user profile information for a system, select the system and click **Clear**.

Note: You cannot edit or clear the user profile information for the host system you are currently connected to.

Host mode

Connection properties

Maintain Identity Window

Use the Maintain Identity window to enter user profile information for a system in the <u>identity</u> <u>map</u>. The system name displays at the top of the window.

< Maintain Identity	×
System Name:	HS5
User Name:	BOBC
Password:	*****
Confirm Password:	*****
	OK Cancel

- 1. Enter a User Name and Password for the selected system.
- 2. Enter the password again to confirm it.
- 3. Click **OK**. The user profile name displays on the <u>Identity Map window</u>.

Sending and Deleting Information

Robot Console provides two wizards that walk you through the process of sending setup information to, or deleting objects from, other systems in the network.

Send to Wizard:

Use the Send To Wizard to send message centers, monitored objects (message queue monitors and resources), message sets, tables, other message management objects, and setup information to the other systems in the network.

The Send To Wizard uses two different types of sends: packet and copy.

- A send from the host to its node, or a group of its nodes, is a packet. Robot Console sends the packet to Robot Network, which manages the distribution and installation of the packet on the selected systems.
- A send from the host to another host, a node to the host, or a node to another node is a copy. The data is copied directly to the selected system and is immediately available.

Note: The type of send displays in the Confirm Send To window.

Delete From Wizard:

Use the <u>Delete From Wizard</u> to send a packet containing delete instructions from the host system to a node. The Wizard creates a packet and sends it to the selected node. Robot Network manages the installation of the packet on the node, which deletes the selected objects.

- You can use the Wizard to delete objects from the node systems in a network.
- The Wizard is available only from the Product Master:
 - You cannot send packets containing delete instructions from a node to the host, or to another node.
 - You cannot use the Wizard to delete an object from another host system.

Sending objects to a host system

Sending objects to a node system

Sending system defaults from the Product Master

Deleting objects from a node system

Packet distribution history

Sending Objects to a Host System

When you use the Send To Wizard to send objects from one host system to another host, or from a node to its host, it creates a copy (not a packet). The objects you send are copied to the Product Master on the selected host and are immediately available. Use this option to send message management objects to a host system so that the host can distribute the objects to its nodes. **Note:** You cannot send system setup information to a host.

- 1. Select the objects you want to send. For certain objects, such as message sets and resource monitors, you can use the Shift and Ctrl keys to select more than one. Right-click the selection and click **Send To**.
- The objects you selected, and all their associated objects, are displayed in the Wizard. Clear the check marks by any of the associated objects you don't want to send.
- 3. Select **Host** as the Destination Type.

- 4. The Select Destination window displays a list of the host systems visible to your host, as defined in Robot Network (this window does not appear if there is only one host). Only the host system name displays, even if Robot Network <u>host visibility</u> has defined the nodes as visible. Select the host system you want to send the objects to.
- 5. The Confirm Send To window displays with a summary of the Send To request. If you need to made changes, click **Back**. If you are satisfied with the setup, click **Send**. If you haven't defined the selected system in your <u>identity map</u>, you are asked to sign on to the system.
- 6. The Wizard sends the specified objects to the selected host, where they're copied into the Product Master. The Send To Results window indicates which objects were sent and if there were any problems. Click **Close** to return to the Wizard.
- 7. The Wizard displays a completion message. Click **Finish**.

Sending objects to a node system

Sending system defaults from the Product Master

Deleting objects from a node system

Sending Objects to a Node System

You can send objects from a host to its nodes, or from a node to another node under the same host. The process is a little different depending on where you are sending from (a host or a node). Both processes are described below.

Sending from a host:

When you use the Send To Wizard to send objects from a host to its node (or a group of its nodes), it creates a packet (not a copy). Robot Console sends the packet to Robot Network, which manages the distribution and installation of the packet.

- 1. In the Product Master, select the objects you want to send. For certain objects, such as message sets and resource monitors, you can use the Shift and Ctrl keys to select more than one. Right-click the selection and click **Send To**.
- 2. The objects you selected, and all their associated objects, are displayed in the Wizard. Clear the check marks by any of the associated objects you don't want to send.
- 3. Select **Node** or **Node Group** as the Destination Type. **Note:** A node group is a distribution list of nodes on a host. It's set up in Robot Network.

- 4. The Select Destination window displays a list of the nodes (or node groups) for this host. Select the node (or node group) to send the objects to. Use the Shift or Ctrl keys to select more than one.
- 5. The Packet Install Update Objects window shows the destinations you selected.
 - Enter a **Description** of the packet.
 - Specify a schedule for the packet installation. Select **Install Now** to have Robot Network install the packet immediately on the node system. If you select **Install Later**, set a time and date for the packet to be installed.
- 6. The Confirm Send To window displays a summary of the Send To request. If you need to make changes, click **Back**. If you are satisfied with the setup, click **Send**. If you haven't defined the selected system in your <u>identity map</u>, you are asked to sign on to the system.
- 7. The Wizard displays the packet number. Check the box to **View Distribution History** to see whether the packet arrived and was installed properly.
- 8. Click **Finish** to end the Send To Wizard.

Sending from a node:

When you use the Send To Wizard to send objects from one node system to another node that's under the same host, it creates a copy (not a packet). The objects you send are copied to the selected node and are immediately available. This is a simple and efficient way to send objects between one node and another. **Note:** If you need to send the objects to more than one node, you must first send them to the host. For details, see <u>Sending Objects to a Host System</u>.

- 1. Select the objects you want to send. For certain objects, such as message sets and resource monitors, you can use the Shift and Ctrl keys to select more than one. Right-click the selection and click **Send To**.
- The objects you selected, and all their associated objects, are displayed in the Wizard. Clear the check marks by any of the associated objects you don't want to send.
- 3. Select **Node** as the Destination Type.
- 4. The Select Destination window displays a list of the node systems for this host. Select the node to send the objects to.
- 5. The Confirm Send To window displays with a summary of the Send To request. If you need to make changes, click **Back**. If you are satisfied with the setup, click **Send**. If you haven't defined the selected system in your <u>identity map</u>, you are asked to sign on to the system.
- 6. The Wizard sends the specified objects to the selected node, where they're copied onto the system. The Send To Results window indicates which objects were sent and

if there were any problems. Click **Close** to return to the Wizard.

7. The Wizard displays a completion message. Click **Finish**.

Sending objects to a host system

Sending system defaults from the Product Master

Deleting objects from a node system

Packet distribution history

Sending System Default Values From the Product Master

You can use a host's Product Master to update the system defaults that determine how Robot Console operates and then distribute the new setup information to its nodes. **Note:** You cannot send system setup information to other host systems in your network.

To update and send system default values:

- In the Product Master, click System Setup in the Tree View. Then, double-click System Defaults (or right-click it and select Properties. You can modify the setup information. See <u>Setting System Defaults</u> for details on defining system defaults.
- 2. After you've defined your system defaults, right-click System Defaults and select Send To to start the Send To Wizard. Follow the instructions in the Wizard to send the system default information to the selected nodes. For details, see <u>Sending Objects</u> to a Node System. Note: Be aware that if you send this information to the nodes in error, you will need to correct it in each individual node, because you cannot use the Delete From operation to delete system defaults that you've sent to the nodes.

Sending objects to a host system

Sending objects to a node system

Deleting objects from a node system

Packet distribution history

Deleting Objects From a Node System

Use the <u>Delete From Wizard</u> to send a packet containing delete instructions from the host system to a node. Robot Console sends the packet to Robot Network, which manages the distribution and installation of the packet (the installation of the packet deletes the selected objects). **Note:** You cannot delete system defaults that you've sent to a node.

Follow these steps:

- 1. In the Product Master, select the objects you want to delete. For certain objects, such as message sets and resource monitors, you can use the Shift and Ctrl keys to select more than one. Right-click the selection and click **Delete From**.
- 2. Select **Node** or **Node Group** as the Destination Type. **Note:** A node group is a distribution list of nodes on a host. It's set up in Robot Network.) Also, you cannot delete an object from another host system.
- 3. The Select Destination window displays a list of the nodes (or node groups) for this host. Select the node (or node group) to delete the objects from. Use the Shift or Ctrl keys to select more than one.
- 4. The Packet Install Update Objects window shows the destinations you selected.
 - (Optional) Select **Delete from Product Master**. If the box is checked, when the packet containing the delete instruction is sent, the objects are also deleted from the Product Master.
 - Enter a **Description** of the packet.
 - Specify a schedule for the packet installation. Select Install Now to have Robot Network install the packet immediately on the node system. If you select Install Later, set a time and date for the packet to be installed.
- The Confirm Delete From window displays a summary of the Delete From request. If you need to make changes, click **Back**. If you are satisfied with the setup, click **Send**. If you haven't defined the selected system in your <u>identity map</u>, you are asked to sign on to the system.
- 6. The Wizard displays the packet number. Check the box to **View Distribution History** to see whether the packet arrived and was installed properly (if installed properly, the objects are deleted).
- 7. Click Finish to end the Delete From Wizard.

Sending objects to a host system

Sending objects to a node system

Sending system defaults from the Product Master

Packet distribution history

Consolidated Reports

Robot Console provides two reports that you can use to consolidate selected data from one or more node systems in your network: Most Common Messages and the Good Morning Report. Each report presents the data from the systems you specified into a single report. By combining data in this way, you can reduce the number of reports you need to see in order to manage your systems, and you can perform system-to-system comparisons more easily.

When setting up a consolidated report, you can select to include data from all of the nodes, a single node, or a node group.

The consolidated reports are described in the following sections.

Product Master reports

Robot Console reports

Most Common Messages Report

The Most Common Messages report (RBC412) counts the number of times each message was sent during a date range on the nodes you specify . You can use this report to gather information about messages that occur regularly and, therefore, are candidates for a message set that could then be <u>sent to the nodes</u>.

Consolidated Mo	ost Common Messag	es Report
Selection Crite	ria	
Date Range		
From Date:	First Available	O Selected Date
To Date:	Last Available	O Selected Date
Systems:		
) All	
0) Single System	٩
0) Node Group	٩
Number of Oc	currences:	0-
Exclude M	lessage Sets	
Print Options		
Output Queue	e: QGPL/QPRINT	Q
		Schedule Print Cancel

Complete the following options:

Option	Description
Date Range	Specify a date range. The report will show the number of times each message in the message history file was sent during that time.
	 Click First Available and Last Available to include all records in message history.
	 Click Selected Date and enter the dates in the From Date and To Date fields to include only a specific date range. Click the Calendar icon () to select a date.
	 For a single day, click Selected Date and enter the date in both the From Date field and the To Dat field.
	Note: If you specify a large date range (over 30 days), or don't clear your message history file regularly, this report can take a while to process.
Systems	Select which nodes should be included in the report. If you select Single System or Node Group , enter the name of the node or node group. Or, click the Finder icon () to select from a list.

Option	Description
	Enter the minimum number of times a message has to occur in order to
Occurrences	appear on the report. Use this to limit the report to messages that occur
	frequently.
Exclude	Check Exclude Message Sets if you want to exclude any messages that are
Message	handled by a message set.
Sets	

To print the report:

- Specify an Output Queue.
- Click **Print** to print the report immediately.
- Click Schedule to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot</u> <u>Schedule - Job Setup Window</u>.

Good Morning Report

The Good Morning Report (RBC431) summarizes message activity for the indicated specified number of days on the nodes you specify. This includes the total number of messages, the number of messages answered or suppressed by Robot Console, and the average wait time for a reply.

You can schedule the Good Morning Report to print every day to receive an overview of your Robot Console message processing across your network systems.

Consolidated Good Morning Report
Selection Criteria
Systems:
O Single System
O Node Group
Number of Days: 30
Print Options Output Queue: QGPL/QPRINT
Schedule Print Cancel

Complete the following option:

Option	Description
Systems	Select which nodes should be included in the report. If you select Single System or Node Group , enter the name of the node or node group. Or, click the Finder icon () to select from a list.
Number of Days	Enter any number from 1 to 365; the default value is 30 days.

To print the report:

- Specify an Output Queue.
- Click **Print** to print the report immediately.
- Click Schedule to schedule the print job in Robot Schedule.

For more on printing, see <u>Selecting and Printing Reports</u>. For more on scheduling, see <u>Robot</u> <u>Schedule - Job Setup Window</u>.

Message Notification in Host Mode

When <u>message notification</u> is active while you are working in Host mode, messages arrive for the host's node systems. You'll receive notifications if you are the User to Notify (or on the notification list) for any message center on the nodes.

To start message notification in Host mode, right-click the host and select **Start Message Notification**. If message notification is not active on any of the nodes, it will be started.

The Message Notifier window indicates the system from which the message originated. From this window you can reply to the message, display details about it, remove the message, or open the message center on the system where the message originated. See <u>Message Notifier Window</u> for more information.

You can click the Reply button to reply to the message immediately (see <u>Replying to a</u> <u>Message</u>).

Message notification

Message notifier window

Host mode

Packet Distribution History

When you are working in Host mode in Robot Console, you can view the Packet Distribution History window by right-clicking the host and selecting **Distribution History**. Packets are created by the <u>Send To Wizard</u> and the <u>Delete From Wizard</u>. Robot Console sends them to Robot Network for distribution and installation.

This window displays all instances of a packet being sent from the host to another host or to a node for installation. If you click a packet in the upper table, the distribution details for that packet are displayed in the lower table.

ata Filter: All Distribut	tions	- 7]				
Packet Name \land	Product 🔦	Descripti	ion	Host Date/Tim	e 🗸	Status \land	Destination \land
CON000000022	Robot Console	EP Packet		02/03/2015 11:00:	00 CST	Not Processed	LAN
CON000000022	Robot Console	EP Packet		02/03/2015 11:00:	00 CST	Not Processed	YOG
CON000000023	Robot Console	Delete TW m	nessa	02/02/2015 12:20:	40 CST	Completed	LAN
CON000000023	Robot Console	Delete TW r		D		mpleted	YOG
CON000000021	Robot Console	TW messag		<u>P</u> roperties		iled	LAN
CON000000020	Robot Console	KelJob		Copy to Clipboard	Ctrl-C	mpleted	LAN
CON000000019	Robot Console	WTR		Select All	Ctrl-A	iled	LAN
CON000000018	Robot Console	WTR HELD		Save Selected	Ctrl-S	mpleted	YOG
acket: CON00000 oduct: Robot Co o System: YOG	00023 nsole	Delete Install Status:	TW me Date/Ti		* * * * * *	D CST	
acket: CON00000 roduct: Robot Co o System: YOG Host Date/	00023 nsole Time	Delete Install Status: Us	TW me Date/Ti	essage centers ime: 02/02/2015 Completed	12:20:40		
acket: CON00000 oduct: Robot Co o System: YOG <u>Host Date/</u> 2/02/2015 12:20:40	00023 nsole Time	Delete Install I Status: Us VTHYK	TW me Date/Ti	essage centers ime: 02/02/2015 : Completed	12:20:40	CST Distribution De	tails
acket: CON00000 roduct: Robot Co o System: YOG	00023 nsole Time	Delete Install Status: Us	TW me Date/Ti	essage centers ime: 02/02/2015 : Completed Created Origina	12:20:40 I. I. I install	D CST	tails

You can sort the Packet Distribution History display by clicking any column heading that contains an arrow. For more on sorting, see <u>Sorting Information</u>.

Use the toolbar in the Packet Distribution History window to filter the display:

Data Filter:	All Messages	•		3	Q	
--------------	--------------	---	--	---	---	--

- Select a **Data Filter** to filter the packets that are displayed. See the <u>Data filter</u> <u>Manager Window</u> for more information.
- Click the Data Filter Manager icon (Section 1) to display the Data Filter Manager. You can use the Data Filter Manager to create new filters or edit existing ones. See the Data Filter Manager Window for more information.

To see the packet properties, double-click the packet in the Packet Distribution History window. Or, right-click it and select **Properties**. The Packet Properties window opens (for more information, see <u>Packet Properties</u>).

To copy or save the information from the Packet Distribution History window, right-click a row in either table and select from the menu. For information on the **Copy to Clipboard**, **Select All**, and **Save selected** options, see <u>Copying Information to the Clipboard or Saving to a File</u>.

Sending objects from a host to a node

Deleting objects from a node

Packet Distribution History Window – Column Descriptions

For the packets (upper table):

Column	Function	
Packet Name	The name of the packet. This is automatically generated when the packet is created.	
Product	The product for which the packet was created.	
Description	The description of the packet. You entered this when you created the packet.	
Status	 Shows the status of the packet. Possible statuses are: Completed: The packet has been distributed. 	
	In Process: The packet is currently being distributed.	
	 Not Processed: The packet has not been distributed. 	
	Reversed: The packet distribution was reversed (undone).	
	Failed: The packet distribution failed for some reason.	
Destination	The target system of the packet.	

For the packet distribution details (lower table):

Column	Function
Host Date/Time	The date and time on the host when the packet was sent.
User	The user who was logged in when the packet was created and sent.
Distribution Details	A chronological log of the packet's distribution.

Packet Properties

The Packet Properties window displays various properties of the packet. It also displays the type and description of the objects in the packet.

You can access the Packet Properties window from the Packet Distribution History window.

I Packet Properties			×
Name:	CON00000023		
Description:	Delete TW message centers		
Product:	Robot Console	e	
Created by:	КАТНҮК		
Creation Date/Time:	02/02/2015 at 12:13:57 CST		
Install Date/Time:	02/02/2015 at 12:20:52 CST		
Install Status:	Completed		
⊤ Packet Data			
		Description	
Ту	pe	Description	
	pe		
Ty Message Center	pe	BLK	
Ty Message Center	pe	BLK	
Ty Message Center	pe	BLK	
Ty Message Center	pe	BLK	
Ty Message Center	pe	BLK	
Ty Message Center	pe	BLK TW_WORK	lose

Host Visibility

Host visibility describes the ability of a host system to "see" (communicate with) other hosts and their nodes. This allows you to perform cross-system message redirection and host-to-host send to operations.

When a host and its nodes are visible to another host, that host has the authority to perform cross-system redirection functions between itself, the other host, and its nodes. When you use Robot Console with Robot Network, if a host is not visible to another host, you cannot redirect a message on the first host to the second host for response because the second host is unaware of (cannot "see") the first host.

You use Robot Network to define visibility between systems. For more information about setting up host visibility and cross-system redirection, see the *Robot Network User Guide*.

Host mode

Commands

Robot Console – IBM i Commands

Robot Console offers a number of IBM i commands that you can use to start and stop Robot Console; respond to and send messages; hold and release resources; work with queues, notification lists, and monitors; generate reports; and perform other functions. You can enter these commands interactively from an IBM i command line (the Robot Console library, RBTCONLIB, must be in the library list), or schedule them using Robot Schedule. You cannot perform these commands using the <u>Robot Console Explorer</u>.

Command	Description
DSPMC	Displays the specified message center. If no message center is specified, a list of message centers displays so you can select the center you want to see.
RBC	Displays the Robot Console Main Menu.
RBCADDNLE	Allows you to add a user to an existing notification list.
	Allows you to set Robot Console to start when the RBTSLEEPER subsystem is started. Note: This command does not change your IPL startup program. However, if you want to start the RBTSLEEPER subsystem as part of the IPL, you must add STRSBS SBS(RBTSLEEPER) to your startup program.
RBCBLDHAWK	Creates a Hawkeye Pathfinder cross-reference list of the objects used by the OPAL code in your Robot Console message sets.
RBCCHGCTR	Allows you to change the message center setup information for a specified message center.
RBCCHGMSQ	Allows you to change a message queue's setup information (such as the message center assigned to the queue) from outside Robot Console.
RBCCHGSET	Allows you to hold or release the specified message set.
RBCCHKRSC	Checks the status of a resource.
RBCCLNUP	Cleans out unusable Robot Console user notification records.
RBCCLRMFD	Clears message file definitions for a specified message file for Robot Console.
RBCCLRMSG	Clears all messages from a specified message center, though you can keep the messages from a specific number of days.
RBCCRTMFD	Creates message file definitions for the specified message file. You must execute this command for every message file you want to manage in Robot Console.
RBCCRTNL	Creates a new notification list.
<u>RBCDLTHST</u>	Deletes message history records of the age and severity that you specified. Can specify whether or not Response Required Messages should be removed.
RBCDLTNL	Deletes a notification list.

Description			
Allows you to deregister an instance of Robot Console from the Help			
Systems Exit Point HELPSYS_FYI_ADEX. Note: You should run the			
WRKOBJLCK command on the specified PRDLIB to ensure users are not			
currently using the instance of Robot Console you're deregistering.			
Displays the messages for a specified message queue.			
I Ends all application monitor jobs or a specified one.			
Ends Robot Console.			
Turns off Robot Console reply interception.			
Turns off interactive monitoring in Robot Console.			
Ends the log monitor jobs.			
Turns off notification for this user.			
Ends the Robot Console message queue monitor job for a specified			
message queue.			
Submits the Good Morning Report job.			
Holds a resource. If you hold a primary resource, all its secondary resources			
are also placed on hold.			
Exports or imports Robot Console records.			
Runs the message set simulator so you can display a list of the message			
sets that will process a message. You also can use the RBCMSSIM			
command to check if a message group will be assigned when checking for			
message sets.			
Turns off the System Request function.			
Displays the OPAL source code for a message set.			
Regenerates every Robot Console OPAL program.			
Queries a message file and creates a listing of the messages that fit the specified criteria.			
Allows you to register Robot Console after moving our product libraries to a			
new location, such as a system or IASP .			
Releases a resource. If you release a primary resource, all its secondary resources also are released.			
Removes replied messages from a specified message center.			
Removes a name from a notification list.			
Sends a resource history log message.			
Sends a test message to a specified message queue.			
I Starts all enabled application log monitor jobs or a specified one.			
Starts Robot Console.			
Turns on Robot Console reply interception.			
Turns on interactive monitoring in Robot Console.			
Starts the log monitor jobs.			
Starts the RBCNOTIFY job, which handles message escalation. This			
includes notification, paging, and redirection.			
Turn on notification for this user.			
Starts monitoring the specified message queue.			
Restarts the resource monitor jobs.			

Command	Description
RBCSUMQHST	Prints a summary of the messages contained in the system history (QHST) log files.
	Turns on the System Request function. This allows you to view your messages in the appropriate message center by clicking sys req 4 (to view your personal messages) or sys req 6 (to view messages on QSYSOPR).
	Allows you to enter a message to send to the specified message center.

The Change Message Center (RBCCHGCTR) Command

You can change message center entries from an IBM i command line using the Change Robot Console Center command. This command is especially useful in multiple shift environments, because you can easily change the person to notify for reply-required messages.

Follow these steps on the IBM i:

- 1. Enter RBCCHGCTR from a command line.
- 2. Press function key 4 to display the command prompt.
- 3. Type the name of the message center for which you want to change entries and press Enter. Additional entry fields appear.
- 4. Enter your changes.
- 5. Press function key 10 to see additional parameters.

The Change Message Center Queue (RBCCHGMSQ) Command

The Robot Console Change Message Center Queue (RBCCHGMSQ) command lets you change a message queue entry outside of Robot Console. You can use the command to change the message center assigned to the message queue, and to change the Allow Message Queue to be Monitored, Remove Messages After Processing, and Establish Robot Console exclusive lock options.

You can schedule a Robot Schedule job to run this command. You might use the job to change the message center for a message queue each time a work shift changes. For example, the job could switch message handling from the local operator to the Host operator at night, and back in the morning.

- 1. Enter RBCCHGMSQ from a command line.
- 2. Press **function key 4** to display the command prompt.

- 3. Enter the name and library of the message queue you are changing.
- 4. To change the message center assignment, enter the message center name. To leave the message center unchanged, use the default value *SAME.
- 5. To change the Allow Message Queue to be Monitored option, enter *NO or *YES. To leave the option unchanged, use the default value, *SAME.
 - If you specify *NO, Robot Console stops monitoring the queue immediately and does not allow monitoring to be restarted until you change the option back to *YES.
 - If you specify *YES, Robot Console starts monitoring the queue immediately. As long as the option is *YES, the queue is monitored every time Robot Console is started.
- 6. To change the Remove Messages From Queue option, enter *NO or *YES. To leave the option unchanged, use the default value *SAME.
 - If you change the option to *YES, messages are removed from the message queue automatically.
 - If you change the option to *NO, messages remain on the queue until you delete message history records.
- 7. To change the exclusive lock option, enter *NO or *YES. To leave the option unchanged, use the default value *SAME.
 - If you specify *YES, Robot Console has an exclusive lock on the message queue. Messages can be viewed and replied to only from within Robot Console.
 - If you specify *NO, there is no lock and you can view and reply to messages both from inside and outside Robot Console.

The Create Message File Definition (RBCCRTMFD) Command

The Message File Properties window shows the date and time that Robot Console last updated the message definitions in a message file. When you restart Robot Console after it was stopped, Robot Console checks the message files. If a message file has changed since Robot Console was last active, Robot Console runs the RBCCRTMFD command to update the files and sends a message to both the RBCDIAG message center and the message center monitoring the QSYSOPR message queue. If a message file does not appear in the list, you can run the RBCCRTMFD command from a command line to add the message file to Robot Console.

- 1. Enter **RBCCRTMFD** from a command line.
- 2. Press function key 4 to display the command prompt.

- 3. Enter the name of the message file and its library for which you want Robot Console to create or update the message definitions.
 - Enter *SELECT to display the Message File Selection List panel to select the message files you want to add or update. If you specify *SELECT, the update is submitted to batch.
 - Enter *REBUILD to update the message file definitions for all message files currently set up in Robot Console. A separate job is submitted for each message file. The updates can be run interactively or in batch.
- 4. Enter *YES if Robot Console should overwrite any OPAL keyword definitions you have changed on the Message Variable Name Maintenance panel. Use *NO to not overwrite these user definitions.

The Merge Objects (RBCMRG) Command

You use the Merge Objects (RBCMRG) command to copy message groups and message sets to (export) or from (import) the RBCMRGLIB library. When exporting, the command copies the specified message groups or sets from Robot Console to the RBCMRGLIB library. When importing, the command copies all of the message groups or sets from the RBCMRGLIB library into Robot Console.

Follow these steps on the IBM i:

- 1. Enter RBCMRG from a command line.
- 2. Press function key 4 to display the command prompt.
- 3. Enter *EXPORT to copy to the RBCMRGLIB library. Enter *IMPORT (the default value) to copy from the RBCMRGLIB library. After you press Enter, the other parameters display.
- 4. Enter a message set name to export a single message set. Enter a message group name or application name to export several message sets.
- 5. When you are exporting, enter *ADD to add to the contents of the library; enter *REPLACE to clear the library before copying the objects.

The Query Message File Report (RBCQRYMF) Command

You use the Query Message File Report (RBCQRYMF) command to print a report that lists all of the messages from a message file that contain a certain string.

- 1. Enter RBCQRYMF from a command line.
- 2. Press function key 4 to display the command prompt.

- 3. Enter the name and library of the message file you want to search.
- 4. Enter the text to search for.
- 5. Specify how you want to view the list of message IDs that match your search criteria:
 - * Displays the message IDs on your monitor. Use this option if the list of message IDs is very short.
 - *PRINT Creates a spooled file listing the message IDs. You can review the file and select the message IDs you want to include in a message table.

The Delete Message History (RBCDLTHST) Command

The Delete Message History (RBCDLTHST) command lets you delete message history records that match the age and severity range that you specify.

Follow these steps on the IBM i:

- 1. Enter RBCDLTHST from a command line.
- 2. Press function key 4 to display the command prompt.
- 3. Enter the number of days to keep records. Any message records older than the number of days you specify will be purged. You can specify any day range from 1 to 999 (2.7 years).
- 4. Indicate whether to remove messages that received a reply.
- 5. Indicate the maximum severity level of messages to keep. Any message records of lesser severity than you specify will be purged. You can specify a severity level from 1 to 99. If you specify 1, only records of severity level zero (0) are purged.
- 6. Specify the name of the system whose records should be purged, or use the default value of *ALL to purge message history records from all systems.
- 7. Indicate whether to remove messages that are response required.

The Send Message to Message Center (SENDMC) Command

The Send Message to Message Center (SENDMC) command lets you send a message to any message center at any time. Insert the command in your programs to notify an expert of problems, or run the command as a Robot Schedule job to send a message at a specific time.

- 1. Enter SENDMC from a command line.
- 2. Press **function key 4** to display the command prompt.
- 3. Enter the message center where the message should be sent. If the message center name you enter does not exist, an error message displays.
- 4. Enter the text of the message.
- 5. Enter *YES to require a response to the message. Robot Console notifies the user assigned to the message center. The message remains on the message center until a response is entered.

Note: If you want the user to be notified of the message, you must enter *YES. Enter *NO if no response is required. The user will not be notified of the message.

Pathfinder Cross-Reference to OPAL Code (the RBCBLDHAWK Command)

If you have the Pathfinder cross-reference package from Hawkeye Information Systems, you can build and use an OPAL code cross-reference to provide you with information about all of the objects used by the OPAL code in your message sets.

Depending on how much OPAL code you have, the build process can take some time. Therefore, you should build a new cross-reference only if you think the old one is obsolete. If you have Robot Schedule, you can schedule the cross-reference build as a weekly Robot Schedule job. Once a cross-reference is built, you can use it any time. To build an OPAL cross-reference, schedule a job that runs the RBCBLDHAWK command (the command has no parameters).

Using the Pathfinder Cross-Reference to OPAL Code

After the cross-reference is built, you can use the cross-reference by following these steps on the IBM i:

- 1. Enter the command HAWKEYE/HAWKEYE.
- 2. Select **option 54**, the Object X-ref menu.
- 3. Select option 4, Program's objects.
- 4. Enter *ALL or a specific message set. (MGSET and its number) as the program name.
- 5. Enter RBTConsole as the library.
- 6. The cross-reference lists all objects used by the OPAL code. You can select an option for any of the objects or press Enter to see the OPAL code objects for the next message set.