IBM Tivoli Monitoring for Business Integration:
WebSphere MQ

Reference Guide

Version 5.11
Note
Before using this information and the product it supports, read the information Appendix B, “Notices,” on page 373.

Second Edition (October 2003)
This edition applies to version 5, release 1, modification 1 of IBM® Tivoli® Monitoring for Business Integration: WebSphere® MQ® and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

Tables ........................................ v

About this guide ............................. vii
Who should read this guide. .............. vii
What this guide contains .................. vii
Publications ................................. viii
  IBM Tivoli Monitoring for Business Integration library .................. viii
  Prerequisite publications ............... ix
  Related publications ..................... ix
  Accessing publications online .......... x
  Ordering publications ................... xi
Accessibility ................................ xi
Contacting software support ............. xi
Conventions used in this guide .......... xi
  Typeface conventions ................. xi
  Operating system-dependent variables and paths ....... xii
  Tivoli command syntax ................ xii

Chapter 1. Introduction ................. 1
Running Tivoli commands ................. 1
  Running Tivoli commands on UNIX operating systems .......... 2
  Running Tivoli commands on Windows operating systems ....... 2
Where to find additional information about shells ................. 2
Establishing the Tivoli environment within a shell .......... 3
Establishing the Tivoli environment on an endpoint .......... 3
  Tivoli command syntax ................ 4
  Supported platforms ................. 5

Chapter 2. Resource models ............. 13
WebSphere MQ Channel resource model ...... 16
WebSphere MQ Error Log resource model ...... 45
WebSphere MQ Queue resource model ........ 56
WebSphere MQ Queue Manager resource model .... 76
Workflow Process Status Monitor resource model .. 106
Workflow Status Monitor resource model .... 115

Chapter 3. Tasks ......................... 123
Add MQ Authority ....................... 137
Alter Security ............................ 138
Archive Log .................................... 139
Backup Coupling Facility ................. 140
Change Authentication ................... 141
Change Channel ............................. 142
Change Coupling Facility ................. 144
Change Name List ......................... 145
Change Process ............................ 146
Change Queue ............................... 147
Change Queue Manager ................... 150
Change Storage Class ..................... 151
Change Trace ............................... 152
  Check Workflow Configuration ........ 153
  Clear Local Queue ..................... 154
  Clone ........................................ 156
  Configure Event Adapter .............. 158
  Configure Event Server ............... 163
  Configure OS/390 Event Queue ....... 167
  Configure Queue Manager .......... 168
  Control Channel ......................... 169
  Control Channel Listener .......... 170
  Control Queue Manager ............... 171
  Control Trace ............................. 172
  Create Authentication ................. 173
  Create Channel ........................... 174
  Create Coupling Facility ............. 176
  Create File Pack ......................... 177
  Create Inventory Policy Region ....... 180
  Create Management Domain .......... 182
  Create Process ........................... 184
  Create Queue ............................. 185
  Create Queue Manager ................. 187
  Create Queue Manager Icon .......... 191
  Create TBSM Policy Region .......... 195
  Define Max Messages ................. 196
  Define Name List ....................... 197
  Define Storage Class ................. 198
  Delete ..................................... 199
  Delete Authentication ................. 200
  Delete Channel ........................... 202
  Delete Coupling Facility ............. 203
  Delete_Endpoint_Log_Files .......... 204
  Delete Name List ....................... 205
  Delete Process ........................... 206
  Delete Queue ............................. 207
  Delete Queue Manager ................. 208
  Delete Storage Class ................. 209
  Discover Queue Managers .......... 210
  Display ................................. 213
  Display Archive Log Parameters ....... 214
  Display Archive Parameters .......... 215
  Display Attributes ...................... 216
  Display Authentication ................. 217
  Display Authority ....................... 218
  Display Channel Attributes .......... 219
  Display Channel Status ............... 221
  Display Cluster Queue Manager ....... 223
  Display Command Server ............... 224
  Display Coupling Facility .......... 225
  Display Current Status ............... 226
  Display DQM .............................. 227
  Display_Endpoint_Environment ....... 228
  Display Error Log (TBSM) ............. 229
  Display Error Log (Tivoli desktop) .... 230
  Display Ini File .......................... 232
  Display Local Messages ............... 233
  Display Max Messages ................. 234
  Display MQSeries Files ............... 235

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## Tables

1. Setup scripts for endpoint operating systems 4
2. WebSphere MQ resource model supported platforms. 5
3. WebSphere MQ task supported platforms 7
4. IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models 15
5. Number ranges and categories of messages 45
6. IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks 123
7. Recovery tasks and resource models 133
8. Environment variables for starting the event adapter from the command line 353
9. WebSphere_MQ_Error_Log_10 CIM class 360
10. WebSphere_MQ_Error_Log_10 properties 360
11. WebSphere_MQ_Error_Log_10 dependency set 360
12. WebSphere_MQ_QueueMgr_12 CIM class 360
13. WebSphere_MQ_QueueMgr_12 properties 360
14. WebSphere_MQ_QueueMgr_12 dependency set 361
15. WebSphere_MQ_QueueMgr_12 parameters 362
16. WebSphere_MQ_Queue_12 CIM class 363
17. WebSphere_MQ_Queue_12 properties 363
18. WebSphere_MQ_Queue_12 dependency set 364
19. WebSphere_MQ_Queue_12 parameters 364
20. WebSphere_MQ_Queue_12 parameters that the queue manager object provides 365
21. WebSphere_MQ_Channel_12 CIM class 366
22. WebSphere_MQ_Channel_12 properties 366
23. Dependency set for the WebSphere_MQ_Channel_12 provider 367
24. WebSphere_MQ_Channel_12 parameters 367
25. WebSphere_MQ_Channel_12 parameters that the queue manager object provides 368
26. Workflow_Configuration_10 CIM class 369
27. Workflow_Configuration_10 properties 369
28. Workflow_Configuration_10 dependency set 370
29. Workflow_Configuration_10 parameters 370
30. Workflow_Process_10 CIM class 370
31. Workflow_Process_10 properties 370
32. Workflow_Process_10 dependency set 371
33. Workflow_Process_10 parameters 371
About this guide

The IBM Tivoli Monitoring for Business Integration: WebSphere MQ Reference Guide provides detailed information about the resource models and tasks that you can use to manage WebSphere® MQ and WebSphere MQ Workflow resources with IBM Tivoli Monitoring for Business Integration: WebSphere MQ. Use this guide in conjunction with the IBM Tivoli Monitoring for Business Integration User’s Guide.

Who should read this guide

This guide is for system administrators who monitor and manage WebSphere MQ, WebSphere MQ Integrator, and WebSphere InterChange Server resources.

Readers should be familiar with the following topics:

- Tivoli management software
- UNIX® operating systems
- Windows® operating systems
- z/OS® operating systems
- Databases
- IBM WebSphere MQ
- IBM WebSphere MQ Integrator
- IBM WebSphere MQ Workflow
- IBM WebSphere InterChange Server
- Tivoli Enterprise Data Warehouse
- Tivoli Enterprise Console®
- Tivoli Business Systems Manager (optional)

What this guide contains

This guide contains the following sections:

- [Chapter 1, “Introduction,” on page 1](#)
  Describes how this guide is organized. This chapter also describes how to run Tivoli commands.

- [Chapter 2, “Resource models,” on page 13](#)
  Describes the resource models that IBM Tivoli Monitoring for Business Integration: WebSphere MQ provides.

- [Chapter 3, “Tasks,” on page 123](#)
  Describes the tasks that IBM Tivoli Monitoring for Business Integration: WebSphere MQ provides.

- [Chapter 4, “Event adapter commands,” on page 353](#)
  Describes starting and stopping the WebSphere MQ event adapter from the command line on distributed, OS/400, and z/OS operating systems.

- [Appendix A, “Creating resource models using CIM classes,” on page 357](#)
  Describes how to use IBM Tivoli Monitoring Resource Model Builder to develop custom resource models and describes the common information model (CIM) classes for the resource models.

- [Appendix B, “Notices,” on page 373](#)
Provides IBM and Tivoli notices and trademark information as it applies to all IBM Tivoli Monitoring for Business Integration components.

Publications

This section lists publications in the IBM Tivoli Monitoring for Business Integration library and related documents. It also describes how to access Tivoli publications online and how to order Tivoli publications.

IBM Tivoli Monitoring for Business Integration library

The following documents are available in the IBM Tivoli Monitoring for Business Integration library:

IBM Tivoli Monitoring for Business Integration

- IBM Tivoli Monitoring for Business Integration: Readme First, SC32-1439-00
  Provides information on where to find all of the IBM Tivoli Monitoring for Business Integration documentation, including the titles and locations of all documentation.
- IBM Tivoli Monitoring for Business Integration Installation and Setup Guide, SC32-1402-00
  Provides information about installing each of the IBM Tivoli Monitoring for Business Integration components.
- IBM Tivoli Monitoring for Business Integration User’s Guide, SC32–1403-00
  Provides information about how to use each IBM Tivoli Monitoring for Business Integration component to manage resources.
- IBM Tivoli Monitoring for Business Integration Problem Determination Guide, SC32–1404–00
  Provides information and messages to assist users with troubleshooting problems with the software.

IBM Tivoli Monitoring for Business Integration: WebSphere MQ

  Provides information about the tasks and resource models that IBM Tivoli Monitoring for Business Integration: WebSphere MQ provides.
  Provides information that helps users deploy and use Tivoli Enterprise Data Warehouse with IBM Tivoli Monitoring for Business Integration: WebSphere MQ.
  Provides information that helps users deploy and use Tivoli Enterprise Data Warehouse with the Workflow function in IBM Tivoli Monitoring for Business Integration: WebSphere MQ.
- Program Directory for IBM Tivoli Monitoring for Business Integration: WebSphere MQ for z/OS, GI11-4234-01
  Provides information about installing IBM Tivoli Monitoring for Business Integration: WebSphere MQ for z/OS.

IBM Tivoli Monitoring for Business Integration: WebSphere MQ Integrator
• **IBM Tivoli Monitoring for Business Integration: WebSphere MQ Integrator Reference Guide**, SC23–4708–00
  Provides information about the resource models, tasks, and commands that IBM Tivoli Monitoring for Business Integration: WebSphere MQ Integrator provides.

• **IBM Tivoli Monitoring for Business Integration: WebSphere MQ Integrator Warehouse Enablement Pack Implementation Guide**, SC09–7784–00
  Provides information that helps users deploy and use Tivoli Enterprise Data Warehouse with IBM Tivoli Monitoring for Business Integration: WebSphere MQ Integrator.

• **Program Directory for IBM Tivoli Monitoring for Business Integration: WebSphere MQ Integrator for z/OS**, GI11-4235-01
  Provides information about installing IBM Tivoli Monitoring for Business Integration: WebSphere MQ Integrator for z/OS.

• **IBM Tivoli Monitoring for Business Integration Release Notes**, GI11-0936-00
  Provides information about system requirements and specific information related to each component of the IBM Tivoli Monitoring for Business Integration product.

• **IBM Tivoli Monitoring for Business Integration: WebSphere MQ Integrator Limitations and Workarounds Supplement**, SC23-4707-01
  Provides information about problems that might occur, as well as customer issues that have been resolved.

**IBM Tivoli Monitoring for Business Integration: WebSphere InterChange Server**

  Provides information about the tasks and resource models that IBM Tivoli Monitoring for Business Integration: WebSphere InterChange Server provides.

  Provides information that helps users deploy and use Tivoli Enterprise Data Warehouse with IBM Tivoli Monitoring for Business Integration: WebSphere InterChange Server.

**Prerequisite publications**

To use the information in this guide effectively, you must have some prerequisite knowledge, which you can get from the following guides:

• **IBM Tivoli Monitoring User’s Guide**, SC23-4567
  Provides an overview of IBM Tivoli Monitoring, especially of resource models. It also describes how to use the user interface.

  Describes using the IBM Tivoli Monitoring Resource Model Builder to create and customize resource models.

**Related publications**

The following documents also provide useful information:

• **Tivoli Software Installation Service User’s Guide**, SG24–6028
• **Tivoli Management Framework User’s Guide**, GC31–8433
• **Tivoli Enterprise Installation Guide**, GC32–0395
• **Tivoli Management Framework Reference Manual**, SC31–8434
• Tivoli Software Distribution User’s Guide, GC32–0651
• Tivoli Software Distribution Reference Manual, GC32–0652
• IBM Tivoli Configuration Manager User’s Guide for Inventory, SC23–4713
• IBM Tivoli Enterprise Console Event Integration Facility User’s Guide, GC32–0691
• IBM Tivoli Enterprise Console Reference Manual, GC32–0666
• IBM Tivoli Enterprise Console Rule Builder’s Guide, GC32–0669
• IBM WebSphere MQ product documentation
• IBM WebSphere MQ Integrator product documentation
• IBM WebSphere MQ Workflow product documentation
• IBM WebSphere InterChange Server product documentation
• IBM Tivoli NetView® for z/OS product documentation
• IBM Tivoli Business Systems Manager product documentation
• MQSeries Link for R/3 User’s Guide, GC33–1934
• TSO/E REXX Reference, SA22–7790
• Tivoli Enterprise Data Warehouse product documentation
• IBM Tivoli Monitoring product documentation
• Road Map for the Typical Installation Option of IBM Tivoli Monitoring Products, , GI11-0959-00
• Road Map for Enabling Tivoli Enterprise Data Warehouse for IBM Tivoli Monitoring Products, SC32-1389-00

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

http://publib.boulder.ibm.com/tividd/glossary/termstmst04.htm

**Accessing publications online**

The documentation CD contains the publications that are in the product library. The format of the publications is PDF, HTML, or both. Refer to the readme file on the CD for instructions on how to access the documentation.

IBM posts publications for this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli software information center Web site. Access the Tivoli software information center by first going to the Tivoli software library at the following Web address:


Scroll down and click the **Product manuals** link. In the Tivoli Technical Product Documents Alphabetical Listing window, click **M** to access all of the IBM Tivoli Monitoring product manuals.

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

The IBM Tivoli Software Support Web site provides the latest information about known product limitations and workarounds for your product. You can view this information at the following Web site:
Ordering publications

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

You can also order by telephone by calling one of these numbers:
• In the United States: 800-879-2755
• In Canada: 800-426-4968

In other countries, see the following Web site for a list of telephone numbers:
http://www.ibm.com/software/tivoli/order-lit/

Accessibility

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

For additional information, see the Accessibility Appendix in the user’s guide for this product.

Contacting software support

Before contacting IBM Tivoli software support with a problem, refer to the IBM Tivoli software support site by clicking the Tivoli support link at the following Web address:

http://www.ibm.com/software/support

If you want to contact software support, see the IBM Software Support Guide at the following Web site:

http://techsupport.services.ibm.com/guides/handbook.html

The guide provides information about how to contact IBM Software Support, depending on the severity of your problem, and the following information:
• Registration and eligibility
• Telephone numbers, depending on the country in which you are located
• Information you must have before contacting IBM Software Support

Conventions used in this guide

This guide uses several conventions for special terms and actions, and operating system-dependent commands and paths.

Typeface conventions

This guide uses the following typeface conventions:

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

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

Monospace
• Examples and code examples
• File names, programming keywords, and other elements that are difficult
to distinguish from surrounding text
• Message text and prompts addressed to the user
• Text that the user must type
• Values for arguments or command options

Operating system-dependent variables and paths
The publications in this library use the UNIX convention for specifying
environment variables and for directory notation.

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

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

Tivoli command syntax
The following special characters define Tivoli command syntax:

[] Identifies elements that are optional. Required elements do not have
brackets around them.
...

Indicates that you can specify multiple values for the previous element.
Separate multiple values by a space, unless otherwise directed by
command information.

If the ellipsis for an element follows a closing bracket, use the syntax
within the brackets to specify multiple values. For example, to specify two
administrators for the option [–a admin]..., use –a admin1 –a admin2.

If the ellipsis for an element is within the brackets, use the syntax of the
last element to specify multiple values. For example, to specify two hosts
for the option [–h host...], use –h host1 host2.

| Indicates mutually exclusive information. You can use the element on
either the left or right of the vertical bar.
Delimits a set of mutually exclusive elements when a command requires one of them. Brackets ([ ]) are around elements that are optional.

In addition to the special characters, Tivoli command syntax uses the typeface conventions described in “Typeface conventions” on page xi. The following examples illustrate the typeface conventions used in Tivoli command syntax:

- **wcrtp**r [-a admin]... [-s region] [-m resource]... name
  
The *name* argument is the only required element for the wcrtp**r** command. The brackets around the options indicate they are optional. The ellipsis after the -a admin resource option means that you can specify multiple administrators multiple times. The ellipsis after the -m resource option means that you can specify multiple resources multiple times.

- **wchkdb** [-o outfile] [-u] [-x] [-f infile | -i | object...]
  
The -f, -i, and object elements are mutually exclusive. Braces that surround elements indicate that you are including a required element. If you specify the object argument, you can specify more than one object.
Chapter 1. Introduction

This book is a reference manual designed for use with the procedures described in the IBM Tivoli Monitoring for Business Integration User's Guide. It provides alphabetical listings and detailed descriptions of the following:

- Resource models
- Tasks
- Tivoli Enterprise Console classes

Running Tivoli commands

Tivoli commands enable you to perform system operations from a UNIX or Windows command line interface (CLI) instead of using the Tivoli desktop. The term, Tivoli CLI commands, is another way to refer to these commands.

It is often convenient or more appropriate to invoke a Tivoli management application operation from the command line instead of from the graphical user interface. This is the case in the following examples:

- You do not have access to a graphical user interface, such as when you dial in over a modem.
- You are grouping a number of operations together inside a shell script.
- You want to use accessibility tools that require text-based input of commands.

Most Tivoli commands run within a bash shell on a managed node or on a Tivoli management region server. A shell is a command interpreter that enables the operating system to process commands. You can run commands from a shell command line or include them in shell scripts, on either UNIX or Windows operating systems. A Tivoli management region is a Tivoli server and the set of client that it serves. A Tivoli management region server addresses the physical connectivity of resources whereas a policy region addresses the logical organization of resources.

Before running Tivoli commands, you must set the Tivoli environment variables for the shell. The managed node or Tivoli server installation process supplies the scripts to set the Tivoli environment variables. The following sections of this guide contain descriptions of the procedures to run these scripts: "Setting the Tivoli environment on UNIX operating systems" on page 3 and "Setting the Tivoli environment on Windows operating systems" on page 3.

You must also have the appropriate Tivoli authorization role for running each command. Refer to the reference information for each command to see the required authorization role.

A few Tivoli commands can run on an endpoint. To set the Tivoli environment variables on an endpoint, see "Establishing the Tivoli environment on an endpoint" on page 3.

Note: For queue managers on proxy mode z/OS, command prefixes that begin with or contain a percent sign (%), a dollar sign ($), or left and right parentheses ( ) are not supported. Use a different character in the command prefix, such as a plus sign (+), or a pound sign (#).
Running Tivoli commands on UNIX operating systems

The UNIX operating systems can have multiple shells. Tivoli commands can run in the Bourne, Korn, C, and bash shells. The Bourne shell is the standard UNIX shell. Every UNIX system includes the Bourne shell. The Korn shell supports the features of the Bourne shell and has extensions applicable only to the Korn shell. The C shell name comes from the C programming language syntax. The bash shell supports many features of the UNIX shells. Both UNIX and Windows systems use the bash shell.

Running Tivoli commands on Windows operating systems

When you install a Windows managed node or Windows Tivoli server, the installation process copies the bash shell executable file to the machine. The bash shell supports many UNIX commands and UNIX command syntax. An example is the forward slash (/) for the directory separator. The bash shell supports the features of the Bourne shell plus it has some extensions applicable only to the bash shell.

Note: You can use the Windows MS-DOS shell instead of the bash shell to run most Tivoli commands (after you set the Tivoli environment variables with the %SystemRoot%\system32\drivers\etc\Tivoli\setup_env.cmd command). However, some commands and Tivoli tasks may require a bash shell to run successfully. All examples of Tivoli commands in Tivoli publications use bash shell syntax.

Where to find additional information about shells

The following lists include resources where you can find additional information about the various shells. These resources were available at the time the lists were created. The lists do not show all of the material that is available, and Tivoli does not provide opinions or recommendations about any of these resources.

UNIX shells:

• Learning the Korn Shell (O'Reilly Nutshell handbook) by Bill Rosenblatt and Mike Loukides. ISBN: 1-56592-054-6.

Bash shell:

• A Brief Introduction to the bash Shell by Jane Anna Langley. http://www.cs.ups.edu/acl/unix_talk/bash.html
• Bash FAQ (GNU documentation). http://www.delorie.com/gnu/docs/bash/FAQ
Establishing the Tivoli environment within a shell

When you install a managed node or Tivoli server, the installation process supplies shell setup scripts. You use these scripts to set the environment variables needed for running Tivoli commands.

Setting the Tivoli environment on UNIX operating systems
The following steps describe how to set the Tivoli environment within a UNIX shell:
1. Log in to a UNIX managed node or Tivoli server.
2. Run the appropriate setup script for the shell.
   For the Bourne, Korn, or bash shell, run the following command:
   ./etc/Tivoli/setup_env.sh
   For the C shell, run the following command:
   source /etc/Tivoli/setup_env.csh

Setting the Tivoli environment on Windows operating systems
The following steps describe how to set the Tivoli environment and start a bash shell on Windows.
1. Log in to a Windows managed node or Tivoli server.
2. Open a command window.
3. Run the following command in the command window to set Tivoli environment variables:
   %SystemRoot%\system32\drivers\etc\Tivoli\setup_env.cmd
4. Run one of the following commands in the command window to start the bash shell:
   sh
   —OR—
   bash

Establishing the Tivoli environment on an endpoint

When you install an endpoint, the installation process supplies setup scripts. Use these scripts to set the environment variables needed for running Tivoli commands on an endpoint.

The following steps describe how to set the Tivoli environment on an endpoint:
1. Log in to an endpoint.
2. Open a command window.

Note: For OS/400 systems, type QSH on the command line to open Qshell.
3. Run the appropriate setup script in the command window. The following table contains setup scripts for the different endpoint operating systems.
### Table 1. Setup scripts for endpoint operating systems

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Setup Script Location</th>
<th>Setup Script Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIX, HP-UX, Linux, Solaris</td>
<td>/etc/Tivoli/lcf[endpoint_instance]</td>
<td>lcf_env.sh (for Bourne, Korn, and bash shells)</td>
</tr>
<tr>
<td></td>
<td>where: endpoint_instance</td>
<td>—OR— lcf_env.csh (for C shell)</td>
</tr>
<tr>
<td></td>
<td>Specifies the number of the endpoint where you are setting the Tivoli environment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>For example, /etc/Tivoli/lcf/1</td>
<td></td>
</tr>
<tr>
<td>OS/400</td>
<td>/QIBM/UserData/TIVOLI/LCF</td>
<td>lcf_env.sh</td>
</tr>
<tr>
<td>WindowsNT, 2000, XP</td>
<td>%SystemRoot%\Tivoli\lcf[endpoint_instance]</td>
<td>lcf_env.cmd (for MS-DOS) or lcf_env.sh (for bash shell)</td>
</tr>
<tr>
<td></td>
<td>where: endpoint_instance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specifies the number of the endpoint where you are setting the Tivoli environment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>For example, \C:\Tivoli\lcf\1</td>
<td></td>
</tr>
</tbody>
</table>

### Tivoli command syntax

The following special characters define Tivoli command syntax:

- **[]** Identifies elements that are optional. Required elements do not have brackets around them.

- **...** Indicates that you can specify multiple values for the previous element. Separate multiple values by a space, unless otherwise directed by command information.

  If the ellipsis for an element follows a closing bracket, use the syntax within the brackets to specify multiple values. For example, to specify two administrators for the option `[–admin...`, use `-a admin1 –a admin2`.

  If the ellipsis for an element is within the brackets, use the syntax of the last element to specify multiple values. For example, to specify two hosts for the option `[–host...`, use `-h host1 host2`.

- **|** Indicates mutually exclusive information. You can use the element on either the left or right of the vertical bar.

- **{}** Delimits a set of mutually exclusive elements when a command requires one of them. Brackets ([ ] ) are around elements that are optional.

In addition to the special characters, Tivoli command syntax uses the typeface conventions described in the Preface of this document.

The following examples illustrate the typeface conventions used in Tivoli command syntax:
- `wcrtpr [-a admin]... [-s region] [-m resource]... name`
  The `name` argument is the only required element for the `wcrtpr` command. The brackets around the options indicate they are optional. The ellipsis after the `-a admin resource` option means that you can specify multiple administrators multiple times. The ellipsis after the `-m resource` option means that you can specify multiple resources multiple times.

- `wchkdb [-o outfile] [-u] [-x] [-f infile | -i object... ]`
  The `-f`, `-i`, and `object` elements are mutually exclusive. Braces that surround elements indicate that you are including a required element. If you specify the `object` argument, you can specify more than one object.

### Supported platforms

IBM Tivoli Monitoring for Business Integration: WebSphere MQ provides monitoring and manages resources on distributed, proxy mode z/OS, and remote systems. A *distributed* system is the service that monitors resources, compares data from monitored resources against configured thresholds, and runs automated responses in a Tivoli environment. For *proxy mode z/OS* systems, the IBM Tivoli Business Systems Manager task server provides communication between the distributed and the proxy mode z/OS systems. *Remote* systems allow you to run many functions for queue managers, channels, and queues on machines that are not Tivoli endpoints.

The following table summarizes WebSphere MQ resource model supported platforms for distributed, proxy mode z/OS, and remote platforms:

<table>
<thead>
<tr>
<th>Name</th>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WebSphere MQ Channel resource model</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel Error indication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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The following table summarizes WebSphere MQ task supported platforms for distributed, proxy mode z/OS, and remote platforms:

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Table 3. WebSphere MQ task supported platforms (continued)

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<td>Display Queue Manager Error Log</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Display Error Log (TBSM)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Display Status of Queue Mgrs</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Display Tivoli Traces</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Display WMQI Objects</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Recovery tasks</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Channel</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Change Queue</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Clear Local Queue</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Move Local Queue Messages</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Ping Queue Manager</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Set Queue Mgr Icon State</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Start Alternate Channel</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Start Channel</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Start Channel Initiator</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Start Channel Listener</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Start Command Server</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Start DLQ Handler</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Start Queue Manager</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Start TEC Adapter</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Start Trigger Monitor</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Tivoli Business Systems Manager tasks</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clear Local Queue</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Discover Queue Managers</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Display Attributes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Display Cluster Queue Manager</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Display Current Status</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Display Error Log (TBSM)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Display Local Messages</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Display Status of All Queue Managers</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Table 3. WebSphere MQ task supported platforms (continued)

<table>
<thead>
<tr>
<th>Task</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refresh Cluster</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Reset</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reset Cluster</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Resolve Indoubt backout</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Resolve Indoubt commit</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Resume Queue Manager</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Start</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start TEC Adapter</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Stop</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stop Controlled</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Stop Immediate</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Stop TEC Adapter</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Suspend Queue Manager</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Tivoli Enterprise Console tasks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display Channel Attributes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Display Queue Manager</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Ping Queue Manager</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Reset Channel</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Start Alternate Channel</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Start Channel</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Start Channel Initiator</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Start Channel Listener</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Start Command Server</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Start DLQ Handler</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Start Queue Manager</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Start Trigger Monitor</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Stop Channel</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Stop DLQ Handler</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Stop Queue Manager</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Utility tasks</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Create Inventory Policy Region</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Create Management Domain</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Create TBSM Policy Region</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Delete_Endpoint_Log_files</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Display_Endpoint_Environment</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Initialize Endpoints</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>MQ User ID Mapping</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Set Queue Mgr Icon State</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Set Task Timeout Value</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Uninstall_Endpoints_ManagedNodes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Workflow tasks</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Add MQ Authority</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check Workflow Configuration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restart Workflow Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start Execution Service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start Workflow Service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stop Workflow Service</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chapter 2. Resource models

This chapter contains detailed information about the IBM Tivoli Monitoring for Business Integration: WebSphere MQ and WebSphere Workflow resource models. Resource models capture and return information, such as queue manager availability, about a resource or software application in the Tivoli management environment. You can change many of the settings for a resource model to customize it for your monitoring needs.

In this reference guide, a section for each resource model describes the configuration of the resource model by covering the following information, including the settings that you can change:

Description
Purpose of the resource model and a table that contains an overview of the resource model. The overview table contains the following information about the resource model:
  • Internal name
    Name of the resource model as you use it in the command line.
  • Category
    Type of resource model.
  • Indications
    List of indications for the resource model. A resource model generates an indication if certain conditions implied by the resource model settings are not satisfied in a given cycle. The resource model uses an algorithm to determine the combination of settings that generates an indication.
  • Tasks and built-in actions
    List of tasks and built-in actions for the resource model, if any. For any event, recovery actions, such as Tivoli Management Framework tasks or built-in actions, can be run automatically. The actions can take positive steps to remedy the situation, and can ensure that information about the event is distributed to the appropriate authorities or entities.
  • Default cycle time
    Specifies the default cycle time for the resource model. Cycle time is the duration of the interval within which a resource model gathers data. Each of the resource models supplied with the software has a default cycle time, which you can modify according to your needs.

Target managed resource
Name of the managed resource (queue manager) to which this resource model is relevant.

Indications and events
Information about all of the indications for the resource model in table format and a section of more specific information about each indication.

The table contains the following information for each indication:
  • Event
    An event verifies the persistence of a given indication by eliminating unrepresentative peaks and troughs for the indication.
  • Default severity
Indicates how serious an event is if it is triggered, for example fatal, critical, warning, harmless, or minor.

- Clearing events
  Specifies whether the resource model has clearing events enabled: Yes or No. A clearing event is a resource model function that, if enabled, allows IBM Tivoli Monitoring to close an error event when the circumstances that caused the event are no longer present. Clearing events can be processed by the Tivoli Enterprise Console® server and by Tivoli Business Systems Manager.

- Page
  Page number where the indication is described in this guide.

Each section about a specific indication contains the following information:
- When the resource model sends the indication and why
- List of the attributes for the indication and notation regarding which attributes are keys
- Table that describes the following default settings for the indication:
  - Send events to Tivoli Enterprise Console
    Specifies whether the resource model sends events to Tivoli Enterprise Console: YES or NO. If YES and Tivoli Enterprise Console is installed, IBM Tivoli Monitoring sends events to Tivoli Enterprise Console. If Tivoli Business Systems Manager is installed, Tivoli Enterprise Console sends the events to Tivoli Business Systems Manager.
  - Send events to Tivoli Business Systems Manager
    Specifies whether IBM Tivoli Monitoring forwards events to Tivoli Business Systems Manager through Tivoli Enterprise Console. The default is NO. Do not change the configuration of the events to send events to Tivoli Business Systems Manager.
  - Occurrences
    The number of occurrences refers to the number of cycles during which an indication occurs for a given resource model.
  - Holes
    The number of holes refers to the number of cycles during which an indication does not occur for a given resource model. In other words, the number of cycles during which none of the conditions specified for the generation of any indication are met.
  - Associated tasks and built-in actions
    List of tasks and built-in actions associated with the indication.

**Thresholds**
List of the thresholds, if any, for the resource model in a table format with a short description and default value for each threshold associated with the resource model. A threshold is a named property of the resource with a default value that you can modify. Typically, the value of a threshold represents a significant reference level of a performance-related entity, which, if exceeded or not reached, a system administrator might want to know about.

**Parameters**
List of parameters, if any, for the resource model with a short description and default value for each threshold associated with the resource model. A parameter can take the form of a list of strings, a list of numeric values, a
list of predetermined Boolean values from which you can make any combination of selections, or a choice list of mutually exclusive alternatives.

Tasks and built-in actions
List of tasks and built-in actions including a description of each one.

Logging
A table shows the name of the managed resource, context, and properties that the resource model logs with key properties noted. The resource model does not log data by default. You can enable logging to collect data for any endpoint and write it in a local database. You can store raw or aggregated data and view it through the Web Health Console.

Return codes
Information that the resource model returns such as status or availability.

CLI example
Example of the syntax for a resource model that illustrates the variable options of the `wdmeditprf` command that are specific to the resource model such as the name of the resource model, thresholds, parameters, parameter values, and events.

See the chapter about working with IBM Tivoli Monitoring resource models in the *IBM Tivoli Monitoring for Business Integration User’s Guide* for more information on resource models and resource model procedures.

Table 4 lists the resource models included with IBM Tivoli Monitoring for Business Integration: WebSphere MQ.

**Table 4. IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models**

<table>
<thead>
<tr>
<th>Resource model</th>
<th>Internal Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>“WebSphere MQ Channel resource model”</td>
<td>WebSphere_MQ_Channel</td>
<td>Monitors WebSphere MQ channels for problems that affect the health of the channels.</td>
</tr>
<tr>
<td>“WebSphere MQ Error Log resource model”</td>
<td>WebSphere_MQ_Error Log</td>
<td>Monitors a queue manager error log for new messages and provides notification when messages are written to the WebSphere MQ error log.</td>
</tr>
<tr>
<td>“WebSphere MQ Queue resource model”</td>
<td>WebSphere_MQ_Queue</td>
<td>Monitors WebSphere MQ queues for problems that affect the health of the queues.</td>
</tr>
<tr>
<td>“WebSphere MQ Queue Manager resource model”</td>
<td>WebSphere_MQ_QueueManager</td>
<td>Monitors WebSphere MQ queue managers and all system resources that affect the operation of the queue managers.</td>
</tr>
<tr>
<td>“Workflow Process Status Monitor resource model”</td>
<td>MQWF_ProcessStatus</td>
<td>Provides the status of Workflow process instances.</td>
</tr>
<tr>
<td>“Workflow Status Monitor resource model”</td>
<td>MQWF_Status</td>
<td>Provides the status of key WebSphere MQ and Workflow services.</td>
</tr>
</tbody>
</table>
WebSphere MQ Channel resource model

Description

Monitors WebSphere MQ channels for problems that affect the health of the channels. By default, this resource model is disabled.

In addition to monitoring the operational status of a channel, the WebSphere MQ Channel resource model monitors the following WebSphere MQ objects and processes that are crucial to the operation of the channel:

- The message channel agent to ensure that the message channel agent is operational and functioning properly.
- Messages on the transmission queue to ensure that the message channel agent is efficiently processing messages.

The WebSphere MQ Channel resource model monitors these conditions over the course of multiple cycles to determine if the problem is transient or persistent. When a problem is detected, this resource model performs the following actions:

- Sends an indication to the IBM Tivoli Monitoring Web Health Console (Web Health Console)
- If Tivoli Enterprise Console is installed and the option to send events to Tivoli Enterprise Console has been selected, sends an event to the Tivoli Enterprise Console if the problem is persistent

By default, the WebSphere MQ Channel resource model is not set up to monitor channels. To specify the channels you want to monitor, you must customize the parameters for this resource model. If you have a large number of channels, you can reduce the number of channels that the resource model monitors by applying filter criteria based on channel name, channel type, channel connection name, or any combination of these filter criteria. Applying filter criteria helps you tune the performance of this resource model while ensuring that you are monitoring channels that are key to your business applications.

Note: Server connection, receiver, and cluster receiver channels can have multiple channel instances for each channel definition. These channel instances are treated as one logical channel. Numeric metrics, such as bytes sent and received, batches processed, buffers sent and received, messages processed and short retry status, are reported as the minimum value for all instances. Channel status is reported as RETRYING if the status for any one channel instance is retrying. If the status for all channel instances is RUNNING, the status is reported as RUNNING. Otherwise, one of the non-running states is selected and reported as the status of the channel.

The following table shows the key characteristics of this resource model:

<table>
<thead>
<tr>
<th>Resource model overview</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal name</td>
<td>WebSphere_MQ_Channel</td>
</tr>
<tr>
<td>Category</td>
<td>WebSphere MQ</td>
</tr>
</tbody>
</table>
Resource model overview

Indications

**Channel Error** occurs when the message channel agent is not reading messages from the channel’s transmission queue. This indication applies to the following types of channels: sender and server.

**Channel Not Activated** occurs when a channel is not running. This indication applies to channels that do not have transmission queues. This indication applies to the following types of channels: receiver, requester, cluster receiver, server connection, and cluster sender.

**Channel Not Transmitting** occurs when the channel is not running and messages are waiting to be sent on the transmission queue. This indication applies to the following types of channels: sender and server.

**Channel Performance Problem** applies to sender and server type channels and occurs when one or more messages on a channel’s transmission queue are aging beyond the user-specified threshold. This indication applies to the following types of channels: sender and server.

**Channel Startup Error** occurs when a channel exhausts its short retry attempts and begins long retry attempts. This indication applies to the following types of channels: sender, server, cluster sender, and cluster receiver.

**Channel Throughput Problem** occurs when the amount of data transmitted over a channel is lower than the user-specified threshold. This indication applies to the following types of channels: sender, server, receiver, requester, cluster sender, cluster receiver, and server connection.

**Channel Transmission Queue Error** occurs when the metrics of the channel’s transmission queue cannot be accessed or when the channel’s transmission queue no longer exists. This indication applies to the following types of channels: sender and server.

| Thresholds | Yes |
| Parameters | Yes |
| Tasks and built-in actions | No |
| Default cycle time | 180 seconds |

![](https://example.com/tabs.png)

This resource model does not provide any default tasks or built-in actions. However, you can associate recovery tasks with the resource model indications. See “Tasks and built-in actions” on page 36 for details.

The following table summarizes the channel types that apply to each indication.

<table>
<thead>
<tr>
<th>Indications</th>
<th>Channel type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sender</td>
</tr>
<tr>
<td>Channel Error</td>
<td>Yes</td>
</tr>
<tr>
<td>Channel Not Activated</td>
<td>No</td>
</tr>
<tr>
<td>Channel Not Transmitting</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Indications and events

The following table summarizes the indications for this resource model, the events associated with the indications, the default severity of the events, whether the resource model has clearing events, and where to find a detailed description of the indication. The resource model generates an event based on the settings for the indications. For information about customizing indications, refer to the *IBM Tivoli Monitoring for Business Integration User’s Guide*.

<table>
<thead>
<tr>
<th>Indication</th>
<th>Generated event</th>
<th>Default severity</th>
<th>Clearing events</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Error</td>
<td>WebSphere_MQ_ChannelError</td>
<td>Warning</td>
<td>Yes</td>
<td>19</td>
</tr>
<tr>
<td>Channel Not Activated</td>
<td>WebSphere_MQ_ChannelNotActivated</td>
<td>Critical</td>
<td>Yes</td>
<td>20</td>
</tr>
<tr>
<td>Indication</td>
<td>Generated event</td>
<td>Default severity</td>
<td>Clearing events</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-----------------------------------------------</td>
<td>------------------</td>
<td>-----------------</td>
<td>------</td>
</tr>
<tr>
<td>Channel Not Transmitting</td>
<td>WebSphere_MQ_ChannelNotTransmitting</td>
<td>Critical</td>
<td>Yes</td>
<td>23</td>
</tr>
<tr>
<td>Channel Performance Problem</td>
<td>WebSphere_MQ_ChannelPerformanceProblem</td>
<td>Critical</td>
<td>Yes</td>
<td>26</td>
</tr>
<tr>
<td>Channel Startup Error</td>
<td>WebSphere_MQ_ChannelStartupError</td>
<td>Warning</td>
<td>Yes</td>
<td>27</td>
</tr>
<tr>
<td>Channel Throughput Problem</td>
<td>WebSphere_MQ_ChannelThroughputProblem</td>
<td>Critical</td>
<td>Yes</td>
<td>29</td>
</tr>
<tr>
<td>Channel Transmission Queue Error</td>
<td>WebSphere_MQ_TransmissionQueueError</td>
<td>Critical</td>
<td>Yes</td>
<td>31</td>
</tr>
</tbody>
</table>

**Channel Error indication**

Occurs when the message channel agent is not reading messages from the channel’s transmission queue. This condition exists when the following criteria are met:

- The status of the channel is RUNNING.
- The number of input handles on the channel’s transmission queue is zero, meaning that the message channel agent has not opened the queue for reading messages.

This indicates that messages are accumulating on the transmission queue and are not being sent to their destination.

This indication applies to the following types of channels:

- Sender
- Server

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

*A WebSphere MQ channel error has been detected.*

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Queue_manager_name**

Name of the queue manager owning the channel being monitored. (Key attribute)

**Channel_name**

Name of the channel being monitored. (Key attribute)

**application_class**

Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**

Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.
**application_oid**

Tivoli object ID of the queue manager object.

**application_version**

WebSphere MQ command level for the queue manager, for example, 530.

**Channel_type**

Type of channel being monitored:
- Sender
- Server

**Input_handles**

Number of input handles that are open for the channel’s transmission queue.

**Queue_manager_hostname**

Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

**Transmission_queue_name**

Name of the transmission queue for the channel.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See "Tasks and built-in actions" on page 36 for details.

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Channel Not Activated indication**

Occurs when the status of the channel is not RUNNING.

This indication applies to channels that do not have transmission queues. Compare this indication with the Channel Not Transmitting indication, which monitors channels for which transmission queues should be defined.

This indication applies to the following types of channels:
• Receiver
• Requester
• Cluster Receiver
• Server Connection
• Cluster Sender

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

A WebSphere MQ channel is not running.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager owning the channel being monitored. (Key attribute)

**Channel_name**
Name of the channel being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Channel_status_binding**
Percentage value indicating that the current status of the channel is BINDING. If the channel status is binding, the attribute has a value of 100. If the channel status is not binding, the attribute has a value of 0.

**Channel_status_inactive**
Percentage value indicating that the current status of the channel is INACTIVE. If the channel status is inactive, the attribute has a value of 100. If the channel status is not inactive, the attribute has a value of 0.

**Channel_status_initializing**
Percentage value indicating that the current status of the channel is INITIALIZING. If the channel status is initializing, the attribute has a value of 100. If the channel status is not initializing, the attribute has a value of 0.

**Channel_status_paused**
Percentage value indicating that the current status of the channel is PAUSED. If the channel status is paused, the attribute has a value of 100. If the channel status is not paused, the attribute has a value of 0.
Channel_status_requesting
Percentage value indicating that the current status of the channel is REQUESTING. If the channel status is requesting, the attribute has a value of 100. If the channel status is not requesting, the attribute has a value of 0.

Channel_status_retrying
Percentage value indicating that the current status of the channel is RETRYING. If the channel status is retrying, the attribute has a value of 100. If the channel status is not retrying, the attribute has a value of 0.

Channel_status_running
Percentage value indicating that the current status of the channel is RUNNING. If the channel status is running, the attribute has a value of 100. If the channel status is not running, the attribute has a value of 0.

Channel_status_starting
Percentage value indicating that the current status of the channel is STARTING. If the channel status is starting, the attribute has a value of 100. If the channel status is not starting, the attribute has a value of 0.

Channel_status_stopped
Percentage value indicating that the current status of the channel is STOPPED. If the channel status is stopped, the attribute has a value of 100. If the channel status is not stopped, the attribute has a value of 0.

Channel_status_stopping
Percentage value indicating that the current status of the channel is STOPPING. If the channel status is stopping, the attribute has a value of 100. If the channel status is not stopping, the attribute has a value of 0.

Channel_status_unknown
Percentage value indicating that the current status of the channel is UNKNOWN. If the channel status is unknown, the attribute has a value of 100. If the channel status is not unknown, the attribute has a value of 0.

Channel_type
Type of channel being monitored:
• Receiver
• Requester
• Cluster Receiver
• Server Connection
• Cluster Sender

Queue_manager_hostname
Host name of the queue manager as follows:
• For distributed platforms, the host name of the endpoint where the queue manager resides.
• For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
• For a remotely administered queue manager, the host name where the target queue manager resides.

This indication does not have thresholds.
The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See "Tasks and built-in actions" on page 36 for details.

Note: If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

Channel Not Transmitting indication

Occurs when the channel is not running and messages are waiting to be sent on the transmission queue. This condition exists when the following criteria are met:

- The status of the channel is not RUNNING.
- The number of input handles on the channel’s transmission queue is zero, indicating that the message channel agent has not opened the queue for reading messages.
- Messages are in the transmission queue for the channel.

This indication applies to channels that should have transmission queues defined. Compare this indication to the Channel Not Activated indication, which monitors channels that do not have transmission queues. This indication applies to the following types of channels:

- Sender
- Server

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

A WebSphere MQ channel is not transmitting messages.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

Queue_manager_name

Name of the queue manager owning the channel being monitored. (Key attribute)

Channel_name

Name of the channel being monitored. (Key attribute)

application_class

Tivoli class of the queue manager object to which the resource model was
distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

application_label
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

application_oid
Tivoli object ID of the queue manager object.

application_version
WebSphere MQ command level for the queue manager, for example, 530.

Channel_status_binding
Percentage value indicating that the current status of the channel is BINDING. If the channel status is binding, the attribute has a value of 100. If the channel status is not binding, the attribute has a value of 0.

Channel_status_inactive
Percentage value indicating that the current status of the channel is INACTIVE. If the channel status is inactive, the attribute has a value of 100. If the channel status is not inactive, the attribute has a value of 0.

Channel_status_initializing
Percentage value indicating that the current status of the channel is INITIALIZING. If the channel status is initializing, the attribute has a value of 100. If the channel status is not initializing, the attribute has a value of 0.

Channel_status_paused
Percentage value indicating that the current status of the channel is PAUSED. If the channel status is paused, the attribute has a value of 100. If the channel status is not paused, the attribute has a value of 0.

Channel_status_requesting
Percentage value indicating that the current status of the channel is REQUESTING. If the channel status is requesting, the attribute has a value of 100. If the channel status is not requesting, the attribute has a value of 0.

Channel_status_retrying
Percentage value indicating that the current status of the channel is RETRYING. If the channel status is retrying, the attribute has a value of 100. If the channel status is not retrying, the attribute has a value of 0.

Channel_status_running
Percentage value indicating that the current status of the channel is RUNNING. If the channel status is running, the attribute has a value of 100. If the channel status is not running, the attribute has a value of 0.

Channel_status_starting
Percentage value indicating that the current status of the channel is STARTING. If the channel status is starting, the attribute has a value of 100. If the channel status is not starting attribute has a value of 0.

Channel_status_stopped
Percentage value indicating that the current status of the channel is STOPPED. If the channel status is stopped the attribute has a value of 100. If the channel status is not stopped, the attribute has a value of 0.

Channel_status_stopping
Percentage value indicating that the current status of the channel is
STOPPING. If the channel status is stopping, the attribute has a value of 100. If the channel status is not stopping, the attribute has a value of 0.

**Channel_status_unknown**
Percentage value indicating that the current status of the channel is UNKNOWN. If the channel status is unknown, the attribute has a value of 100. If the channel status is not unknown, the attribute has a value of 0.

**Channel_type**
Type of channel being monitored:
- Sender
- Server

**Input_handles**
Number of input handles that are open for the channel’s transmission queue.

**Transmission_queue_name**
Name of the transmission queue for the channel.

**Queue_manager_hostname**
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

**Queue_messages_outstanding**
Number of messages (queue depth) that are on the channel’s transmission queue.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See "Tasks and built-in actions" on page 36 for details.

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.
Channel Performance Problem indication

Occurs when one or more messages on a channel’s transmission queue are aging beyond the High Transmission Queue Message Age threshold. This indication occurs only for distributed platforms. This condition exists when the following criteria are met:

- The status of the channel is RUNNIMG
- The number of input handles on the channel’s transmission queue is greater than 0, indicating that the message channel agent has opened the queue for reading messages
- The age of the oldest message on the transmission queue is greater than or equal to the High Transmission Queue Message Age threshold

This indicates that the message channel agent is not processing all messages on the transmission queue in a timely manner.

This indication applies to the following types of channels:
- Sender
- Server

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

A WebSphere MQ channel performance problem has been detected.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager owning the channel being monitored. (Key attribute)

**Channel_name**
Name of the channel being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level (for example, 530) for the queue manager.

**Channel_type**
Type of channel being monitored:
- Sender
- Server
**Input handles**

Number of input handles that are open for the channel’s transmission queue.

**Oldest_message**

Age (in minutes) of the oldest message outstanding in the channel’s transmission queue.

**Queue_manager_hostname**

Host name of the queue manager as follows:

- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

**Transmission_queue_name**

Name of the transmission queue for the channel.

This indication has the following threshold:

- High Transmission Queue Message Age

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>No</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>5</td>
</tr>
<tr>
<td>Holes</td>
<td>2</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 36 for details.

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Channel Startup Error indication**

Occurs when a channel exhausts its short retry attempts and begins long retry attempts. This condition exists when the following criteria are met:

- The status of the channel is RETRYING.
- The number of short retry attempts that remain for the channel is zero.

When this condition exists, the channel continues to try to allocate a session to its partner as specified by the long retry count and the long retry interval. If the channel exhausts its long retry attempts, the channel is stopped, and you must manually restart the channel.

This indication applies to the following types of channels:
• Sender
• Server
• Cluster Sender
• Cluster Receiver

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:
A WebSphere MQ channel failed to start.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager owning the channel being monitored. (Key attribute)

**Channel_name**
Name of the channel being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Channel_short_retry**
Number of retry attempts remaining to start the channel.

**Channel_type**
Type of channel being monitored:
• Sender
• Server

**Queue_manager_hostname**
Host name of the queue manager as follows:
• For distributed platforms, the host name of the endpoint where the queue manager resides.
• For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
• For a remotely administered queue manager, the host name where the target queue manager resides.

This indication does not have thresholds.
The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 36 for details.

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Channel Throughput Problem indication**

Occurs when the amount of data transmitted over a channel is lower than the user-specified threshold. This condition exists when any one of the following criteria are met:

- The number of bytes transmitted (both sent and received) during the past cycle is lower than the Low Channel Bytes Transmitted threshold.
- The number of buffers transmitted (both sent and received) during the past cycle is lower than the Low Channel Buffers Transmitted Threshold.
- The number of messages transmitted (sent or received) during the past cycle is lower than the Low Channel Messages Transmitted threshold.
- The number of batches transmitted (sent or received) during the past cycle is lower than the Low Channel Batches Transmitted threshold.

This indication can be generated only when a nonzero value has been specified for one or more of the associated thresholds. Specifying a zero for all of the thresholds disables this indication.

This indication applies to the following channel types:

- Sender
- Server
- Receiver
- Requester
- Cluster Sender
- Cluster Receiver
- Server Connection

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

*A WebSphere MQ channel throughput error has been detected.*
If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager owning the channel being monitored. (Key attribute)

**Channel_name**
Name of the channel being monitored. (Key attribute)

**Low_channel_bytes_transmitted_threshold**
Value to indicates when the number of bytes transmitted over a channel is too low.

**Low_channel_buffers_transmitted_threshold**
Value to indicates when the number of buffers transmitted over a channel is too low.

**Low_channel_batches_transmitted_threshold**
Value to indicates when the number of batches transmitted over a channel is too low.

**Low_channel_messages_transmitted_threshold**
Value to indicates when the number of messages transmitted over a channel is too low.

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Channel_batches_transmitted**
The number of batches transmitted over the channel.

**Channel_buffers_transmitted**
Number of buffers transmitted over the channel.

**Channel_bytes_transmitted**
Number of bytes transmitted over the channel.

**Channel_messages_transmitted**
Number of messages transmitted over the channel.

**Channel_type**
Type of channel being monitored:
• Sender
• Server
• Receiver
• Requester
Cluster Sender
Cluster Receiver
Server Connection

Queue_manager_hostname
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

This indication has the following thresholds:
- Low Channel Batches Transmitted
- Low Channel Buffers Transmitted
- Low Channel Bytes Transmitted
- Low Channel Messages Transmitted

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems</td>
<td>No</td>
</tr>
<tr>
<td>Manager</td>
<td></td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See "Tasks and built-in actions" on page 36 for details.

Note: If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

Channel Transmission Queue Error indication
Occurs when one of the following conditions exists:
- The metrics of the channel’s transmission queue cannot be accessed.
- The channel’s transmission queue no longer exists.

This indication applies to the following types of channels:
- Sender
- Server

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:
A WebSphere MQ channel transmission queue error has been detected.
If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager owning the channel being monitored. (Key attribute)

**Channel_name**
Name of the channel being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Channel_type**
Type of channel being monitored:
- Sender
- Server

**Queue_manager_hostname**
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

**Transmission_queue_name**
Name of the transmission queue for the channel.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>No</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>
### Thresholds

The following list shows the name, internal name (in parentheses), a short description, and the default value for each threshold associated with the WebSphere MQ Channel resource model.

<table>
<thead>
<tr>
<th>Threshold</th>
<th>Description</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Transmission Queue Message Age</td>
<td>Indicates when the oldest message in the transmission queue is too old</td>
<td>10 minutes</td>
</tr>
<tr>
<td>(WebSphere_MQ_High_Transmission_QOldestMsg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Channel Batches Transmitted</td>
<td>Indicates when the number of batches transmitted over a channel is too low</td>
<td>0¹</td>
</tr>
<tr>
<td>(WebSphere_MQ_Low_Channel_Batches_Transmitted)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Channel Bytes Transmitted</td>
<td>Indicates when the number of bytes transmitted over a channel is too low</td>
<td>0¹</td>
</tr>
<tr>
<td>(WebSphere_MQ_Low_Channel_Bytes_Transmitted)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Channel Buffers Transmitted</td>
<td>Indicates when the number of buffers transmitted over a channel is too low</td>
<td>0¹</td>
</tr>
<tr>
<td>(WebSphere_MQ_Low_Channel_Buffers_Transmitted)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Channel Messages Transmitted</td>
<td>Indicates when the number of messages transmitted over a channel is too low</td>
<td>0¹</td>
</tr>
<tr>
<td>(WebSphere_MQ_Low_Channel_Messages_Transmitted)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹Setting the threshold value to zero (0), in effect, disables the indication that measures the threshold.

### Parameters

The following list shows the name (internal name), a short description, and the default value for each parameter that you can set for the WebSphere MQ Channel resource model.

**Channel Name List (ChannelNameList)**

Specifies the name list of the channels you want to monitor. Channel names can end with an asterisk (*), which matches all channels beginning with the specified characters followed by zero or more characters. A channel name of * matches all channels. Each channel name specified must conform to WebSphere MQ object naming and wildcard conventions.

**Note:** For Perl 4.0 systems, you can use the expressions syntax wildcard conventions by inclosing the channel name in parenthesis. For example, `(TEST/./d+\,CHANNEL)`.

Channels specified in the Channel Name List are monitored in addition to those channels specified in the Connection Name parameter.

**Channel List Filter (ChannelListFilter)**

Specifies the filter you want to apply to the channel name list based on the channel type you want to monitor. A channel specified in the Channel Name List parameter is monitored only if you check its channel type in the Channel List Filter parameter. In other words, only channels that are specified in the...
Channel Name List and are the channel types specified in the Channel List Filter parameter are monitored. Select one or more of the following:

- **Server Connection (ServerConnection)**
  Check this option if you want to monitor the server connection channels that are specified in the Channel Name List parameter. By default, server connection channels are monitored.

- **Cluster Receiver (ClusterReceiverChannels)**
  Check this option if you want to monitor the cluster receiver channels that are specified in the Channel Name List parameter. By default, cluster receiver channels are monitored.

- **Cluster Sender (ClusterSenderChannels)**
  Check this option if you want to monitor the cluster sender channels that are specified in the Channel Name List parameter. By default, cluster sender channels are monitored.

- **Server (Server)**
  Check this option if you want to monitor the server channels that are specified in the Channel Name List parameter. By default, server channels are monitored.

- **System (SystemChannels)**
  Check this option if you want to monitor the system channels (SYSTEM.* channels) that are specified in the Channel Name List parameter. To monitor system channels, you must check this option even if the actual system channel is specified in the Channel Name List. By default, system channels are monitored.

- **Requester (Requester)**
  Check this option if you want to monitor the requester channels that are specified in the Channel Name List parameter. By default, requester channels are not monitored.

- **Receiver (Receiver)**
  Check this option if you want to monitor the receiver channels that are specified in the Channel Name List parameter. By default, receiver channels are monitored.

- **Sender (Sender)**
  Check this option if you want to monitor the sender channels that are specified in the Channel Name List parameter. By default, sender channels are monitored.

**Connection Name (ConnectionName)**

Specifies the connection name for the channels you want to monitor. All channels with a matching connection name are monitored. Enter only one connection name. If you enter more than one connection name, the results are unpredictable.

Channels with the specified connection name are monitored in addition to the channels specified in the Channel Name List parameter. The Channel List Filter parameter has no effect on the channels specified by the Connection Name parameter.

*Example:* Assume that a queue manager named QM1 has the following channels defined:
<table>
<thead>
<tr>
<th>Channel name</th>
<th>Channel type</th>
<th>Connection name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYSTEM.TEST.SENDER</td>
<td>System and sender</td>
<td>TestHost</td>
</tr>
<tr>
<td>SYSTEM.TEST.RECEIVER</td>
<td>System and receiver</td>
<td>TestHost</td>
</tr>
<tr>
<td>TEST.SENDER</td>
<td>Sender</td>
<td></td>
</tr>
<tr>
<td>TEST.RECEIVER</td>
<td>Receiver</td>
<td></td>
</tr>
</tbody>
</table>

The following tables provide several examples of how various parameter settings affect the channels that are monitored for queue manager QM1.

### Channel Example 1

<table>
<thead>
<tr>
<th>Channel Name List</th>
<th>Channel List Filter</th>
<th>Connection Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes the following channel names:</td>
<td>The following channel types are checked:</td>
<td>Is blank</td>
<td>The following channels are monitored because all channel names beginning with TEST are included in the Channel Name List, and receiver and sender channels are included in the Channel List Filter parameter:</td>
</tr>
<tr>
<td>TEST*</td>
<td>• Receiver</td>
<td></td>
<td>• TEST.SENDER</td>
</tr>
<tr>
<td>SYSTEM*</td>
<td>• Sender</td>
<td></td>
<td>• TEST.RECEIVER</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following channels are not monitored because system channels are not included in the Channel List Filter parameter:
- SYSTEM.TEST.SENDER
- SYSTEM.TEST.RECEIVER

### Channel Example 2

<table>
<thead>
<tr>
<th>Channel Name List</th>
<th>Channel List Filter</th>
<th>Connection Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes the following channel names:</td>
<td>The following channel types are checked:</td>
<td>Is blank</td>
<td>The TEST.RECEIVER channel is monitored because it is included in the Channel Name List and receiver channels are included in the Channel List Filter.</td>
</tr>
<tr>
<td>SYSTEM.TEST.SENDER</td>
<td>• Receiver</td>
<td></td>
<td>The following channels are not monitored:</td>
</tr>
<tr>
<td>TEST.RECEIVER</td>
<td>• System</td>
<td></td>
<td>• SYSTEM.TEST.SENDER because sender channels are not included in the Channel List Filter</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• SYSTEM.TEST.RECEIVER because it is not included in the Channel Name List</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• TEST.SENDER because it is not included in the Channel Name list</td>
</tr>
</tbody>
</table>
Channel Example 3

<table>
<thead>
<tr>
<th>Channel Name List</th>
<th>Channel List Filter</th>
<th>Connection Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes the following channel name: SYSTEM*</td>
<td>The following channel types are checked: • Receiver • System</td>
<td>TestHost</td>
<td>The following channels are monitored: • SYSTEM.TEST.RECEIVER because all channels beginning with SYSTEM are included in the Channel Name List, and system channels are included in the Channel List Filter parameter. • TEST.SENDER because all channels with a connection name of TestHost are monitored even though sender channels are not included in the Channel Name List Filter parameter. The Channel List Filter parameter does not apply to channels with a matching connection name. • TEST.RECEIVER because all channels with a connection name of TestHost are monitored. The following channel is not monitored: SYSTEM.TEST.SENDER because sender channels are not included in the Channel List Filter parameter.</td>
</tr>
</tbody>
</table>

Tasks and built-in actions

This resource model does not provide any default tasks or built-in actions. However, you can associate recovery tasks with the resource model indications. See Chapter 3, “Tasks,” on page 123 for more information about each recovery task.

These recovery tasks are in the WebSphere MQ ITM Tasks task library. All of the recovery tasks run automatically in the context of a queue manager object when you associate a task with a resource model indication.

Not every recovery task applies to all indications for a given resource model. The following list specifies which recovery tasks apply to indications for the WebSphere MQ Channel resource model:

**Change Channel**
- All indications for the WebSphere MQ Channel resource model.

**Change Queue**
- Channel Error indication
- Channel Not Transmitting indication
- Channel Performance Problem indication
- Channel Transmission Queue Error indication

**Clear Local Queue**
- Channel Error indication
- Channel Not Transmitting indication
- Channel Performance Problem indication
- Channel Transmission Queue Error indication

**Move Local Queue Messages**
- Channel Error indication
- Channel Not Transmitting indication
- Channel Performance Problem indication
- Channel Transmission Queue Error indication

**Ping Queue Manager**
All indications for the WebSphere MQ Channel resource model.

**Set Queue Mgr Icon State**
All indications for the WebSphere MQ Channel resource model.

**Start Alternate Channel**
All indications for the WebSphere MQ Channel resource model.

**Start Channel**
All indications for the WebSphere MQ Channel resource model.

**Start Channel Initiator**
All indications for the WebSphere MQ Channel resource model.

**Start Channel Listener**
All indications for the WebSphere MQ Channel resource model.

**Start Command Server**
All indications for the WebSphere MQ Channel resource model.

**Start DLQ Handler**
All indications for the WebSphere MQ Channel resource model.

**Start Queue Manager**
All indications for the WebSphere MQ Channel resource model.

**Start TEC Adapter**
All indications for the WebSphere MQ Channel resource model.

**Start Trigger Monitor**
All indications for the WebSphere MQ Channel resource model.

**Logging**
You can log data for properties of the managed resources listed in the following table. The table shows the context of each managed resource and the properties that the resource model logs for the IBM Tivoli Monitoring Web Health Console.

**Note:** If any one numeric metric within a context cannot be retrieved, the context is not logged.

<table>
<thead>
<tr>
<th>Managed resource</th>
<th>Context</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>For distributed platforms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebSphere_MQ_Channel</td>
<td>Information</td>
<td>- WebSphere_MQ_Queue_Manager.Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Channel_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Channel_protocol</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Channel_type</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- WebSphere_MQ_Queue_Manager.Queue_Manager_command_level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- WebSphere_MQ_Queue_Manager.Queue_manager_platform</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Transmission_queue_name</td>
</tr>
<tr>
<td>WebSphere_MQ_Channel</td>
<td>Batch</td>
<td>- WebSphere_MQ_Queue_Manager.Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td>Statistics</td>
<td>- Channel_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Channel_batches_completed</td>
</tr>
<tr>
<td>Managed resource</td>
<td>Context</td>
<td>Properties</td>
</tr>
<tr>
<td>------------------</td>
<td>---------</td>
<td>------------</td>
</tr>
</tbody>
</table>
| WebSphere_MQ_Channel | Buffer Statistics | • WebSphere_MQ_Queue_Manager.Queue_manager_name*  
| | | • Channel_name*  
| | | • Channel_buffers_sent  
| | | • Channel_buffers_received  
| WebSphere_MQ_Channel | Byte Statistics | • WebSphere_MQ_Queue_Manager.Queue_manager_name*  
| | | • Channel_name*  
| | | • Channel_bytes_sent  
| | | • Channel_bytes_received  
| WebSphere_MQ_Channel | Message Statistics | • WebSphere_MQ_Queue_Manager.Queue_manager_name*  
| | | • Channel_name*  
| | | • Channel_messages  
| WebSphere_MQ_Channel | Status | • WebSphere_MQ_Queue_Manager.Queue_manager_name*  
| | | • Channel_name*  
| | | • Channel_status_binding  
| | | • Channel_status_inactive  
| | | • Channel_status_initializing  
| | | • Channel_status_paused  
| | | • Channel_status_retrying  
| | | • Channel_status_requesting  
| | | • Channel_status_running  
| | | • Channel_status_starting  
| | | • Channel_status_stopped  
| | | • Channel_status_stopping  
| | | • Channel_status_unknown  

**For proxy mode z/OS platforms**

<table>
<thead>
<tr>
<th>Managed resource</th>
<th>Information</th>
<th>Properties</th>
</tr>
</thead>
</table>
| WebSphere_MQ_OS390_Channel | | • WebSphere_MQ_OS390_Queue_Manager.Queue_manager_name*  
| | | • Channel_name*  
| | | • Channel_protocol  
| | | • Channel_type  
| | | • WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
| | | • WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
| | | • WebSphere_MQ_OS390_Queue_Manager.Queue_manager_command_level  
| | | • WebSphere_MQ_OS390_Queue_Manager.Queue_manager_platform  
| | | • Transmission_queue_name  
| WebSphere_MQ_OS390_Channel | Batch Statistics | • Channel_batches_completed  
| | | • Channel_name*  
| | | • WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
| | | • WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
| | | • WebSphere_MQ_OS390_Queue_Manager.Queue_manager_name*  

IBM Tivoli Monitoring for Business Integration: WebSphere MQ: Reference Guide
<table>
<thead>
<tr>
<th>Managed resource</th>
<th>Context</th>
<th>Properties</th>
</tr>
</thead>
</table>
| WebSphere_MQ_OS390_Channel       | Buffer         | • Channel_buffers_received  
• Channel_buffers_sent  
• Channel_name*  
• WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
• WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
• WebSphere_MQ_OS390_Queue_Manager.Queue_manager_name*  |
|                                  | Statistics     |                                                                             |
| WebSphere_MQ_OS390_Channel       | Byte           | • Channel_buffers_received  
• Channel_buffers_sent  
• Channel_name*  
• WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
• WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
• WebSphere_MQ_OS390_Queue_Manager.Queue_manager_name*  |
|                                  | Statistics     |                                                                             |
| WebSphere_MQ_OS390_Channel       | Message        | • Channel_messages  
• Channel_name*  
• WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
• WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
• WebSphere_MQ_OS390_Queue_Manager.Queue_manager_name*  |
|                                  | Statistics     |                                                                             |
| WebSphere_MQ_OS390_Channel       | Status         | • Channel_name*  
• Channel_status_binding  
• Channel_status_inactive  
• Channel_status_initializing  
• Channel_status_paused  
• Channel_status_retrying  
• Channel_status_requesting  
• Channel_status_running  
• Channel_status_starting  
• Channel_status_stopped  
• Channel_status_stopping  
• Channel_status_unknown  
• WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
• WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
• WebSphere_MQ_OS390_Queue_Manager.Queue_manager_name*  |
|                                  |                |                                                                             |

For remotely administered resources
<table>
<thead>
<tr>
<th>Managed resource</th>
<th>Context</th>
<th>Properties</th>
</tr>
</thead>
</table>
| WebSphere_MQ_RA_Channel | Information | • Channel_name*  
• Channel_protocol  
• Channel_type  
• Transmission_queue_name  
• WebSphere_MQ_RA_Channel.Manager.CTQ_HOST  
• WebSphere_MQ_RA_Channel.Manager.LAST_IP_ADDRESS  
• WebSphere_MQ_RA_Channel.Queue_manager_command_level  
• WebSphere_MQ_RA_Channel.Queue_manager_name*  
• WebSphere_MQ_RA_Channel.Queue_manager_platform |
| WebSphere_MQ_RA_Channel | Batch       | Statistics  
• Channel_batches_completed  
• Channel_name*  
• WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
• WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
• WebSphere_MQ_RA_Channel.Queue_manager_name* |
| WebSphere_MQ_RA_Channel | Buffer      | Statistics  
• Channel_buffers_received  
• Channel_buffers_sent  
• Channel_name*  
• WebSphere_MQ_RA_Channel.Queue_manager_command_level  
• WebSphere_MQ_RA_Channel.Queue_manager_name* |
| WebSphere_MQ_RA_Channel | Byte        | Statistics  
• Channel_bytes_received  
• Channel_bytes_sent  
• Channel_name*  
• WebSphere_MQ_RA_Channel.Queue_manager_command_level  
• WebSphere_MQ_RA_Channel.Queue_manager_name* |
| WebSphere_MQ_RA_Channel | Message     | Statistics  
• Channel_messages  
• Channel_name*  
• WebSphere_MQ_RA_Channel.Queue_manager_command_level  
• WebSphere_MQ_RA_Channel.Queue_manager_name* |
<table>
<thead>
<tr>
<th>Managed resource</th>
<th>Context</th>
<th>Properties</th>
</tr>
</thead>
</table>
| WebSphere_MQ_RA_Channel | Status | • Channel_name*
| | | • Channel_status_binding
| | | • Channel_status_inactive
| | | • Channel_status_initializing
| | | • Channel_status_paused
| | | • Channel_status_retrying
| | | • Channel_status_requesting
| | | • Channel_status_running
| | | • Channel_status_starting
| | | • Channel_status_stopped
| | | • Channel_status_stopping
| | | • Channel_status_unknown
| | | • WebSphere_MQ_RA_Queue_Manager.CTQ_HOST
| | | • WebSphere_MQ_RA_Queue_Manager.LAST_IP_ADDRESS
| | | • WebSphere_MQ_RA_Queue_Manager.Queue_manager_name*

An asterisk (*) denotes a key property.

The following list describes the properties that the resource model logs:

**Queue_manager_name**
Name of the queue manager owning the channel being monitored. (Key attribute)

**Channel_name**
Name of the channel being monitored. (Key attribute)

**Channel_batches_completed**
Number of batches completed since the channel was started.

**Channel_buffers_received**
Number of buffers received over the channel.

**Channel_buffers_sent**
Number of buffers sent over the channel.

**Channel_bytes_received**
Number of bytes received over the channel.

**Channel_bytes_sent**
Number of bytes sent over the channel.

**Channel_messages**
Number of messages sent or received (or for server-connection channels, the number of MQI calls handled) since the channel was started.

**Channel_protocol**
Transport type (DECNET, LU62, NETBIOS, SPX, TCP, or UDP) used for the channel.

**Channel_status_binding**
Percentage value indicating that the current status of the channel is BINDING. If the channel status is binding, the attribute has a value of 100. If the channel status is not binding, the attribute has a value of 0.

**Channel_status_inactive**
Percentage value indicating that the current status of the channel is...
INACTIVE. If the channel status is inactive, the attribute has a value of 100. If the channel status is not inactive, the attribute has a value of 0.

**Channel_status_initializing**
Percentage value indicating that the current status of the channel is INITIALIZING. If the channel status is initializing, the attribute has a value of 100. If the channel status is not initializing, the attribute has a value of 0.

**Channel_status_paused**
Percentage value indicating that the current status of the channel is PAUSED. If the channel status is paused, the attribute has a value of 100. If the channel status is not paused, the attribute has a value of 0.

**Channel_status_requesting**
Percentage value indicating that the current status of the channel is REQUESTING. If the channel status is requesting, the attribute has a value of 100. If the channel status is not requesting, the attribute has a value of 0.

**Channel_status_retrying**
Percentage value indicating that the current status of the channel is RETRYING. If the channel status is retrying, the attribute has a value of 100. If the channel status is not retrying the attribute has a value of 0.

**Channel_status_running**
Percentage value indicating that the current status of the channel is RUNNING. If the channel status is running, the attribute has a value of 100. If the channel status is not running, the attribute has a value of 0.

**Channel_status_starting**
Percentage value indicating that the current status of the channel is STARTING. If the channel status is starting, the attribute has a value of 100. If the channel status is not starting, the attribute has a value of 0.

**Channel_status_stopped**
Percentage value indicating that the current status of the channel is STOPPED. If the channel status is stopped, the attribute has a value of 100. If the channel status is not stopped, the attribute has a value of 0.

**Channel_status_stopping**
Percentage value indicating that the current status of the channel is STOPPING. If the channel status is stopping, the attribute has a value of 100. If the channel status is not stopping, the attribute has a value of 0.

**Channel_status_unknown**
Percentage value indicating that the current status of the channel is UNKNOWN. If the channel status is unknown, the attribute has a value of 100. If the channel status is not unknown, the attribute has a value of 0.

**Channel_type**
Type of channel being monitored.

**CTQ_HOST**
For proxy mode z/OS, the fully qualified host name or the SNA domain name for the proxy mode z/OS system where the queue manager resides. For remotely administered queue managers, the fully qualified host name of the remote machine where the queue manager resides. If the fully qualified host name cannot be determined, the short host name is used. If neither the fully qualified host name nor the short host name can be determined, the CTQ_HOST parameter is set to UNKNOWN.
LAST_IP_ADDRESS
For proxy mode z/OS, the IP address of the proxy mode z/OS system where the queue manager resides. If SNA is being used, this parameter is left blank. For remotely administered queue managers, the IP address of the remote machine where the queue manager resides. If the IP address cannot be determined, this parameter is set to UNKNOWN.

Transmission_queue_name
Name of the transmission queue for the channel.

Queue_manager_command_level
WebSphere MQ command level for the queue manager, for example, 530.

Queue_manager_platform
Architecture of the platform (UNIX, WINDOWSNT, or MVS) on which the queue manager is running.

Return codes
The following table shows the return code, the displayed code, a description, and the action that the resource model takes for each return code. The displayed code number is displayed in the IBM Tivoli Monitoring Web Health Console status field.

<table>
<thead>
<tr>
<th>Return code</th>
<th>Displayed code</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>610</td>
<td>Retrying (10)</td>
<td>No channels have been found that meet the criteria specified in the parameters.</td>
<td>Retries three times in each cycle indefinitely to run the resource model.</td>
</tr>
<tr>
<td>710</td>
<td>Retrying (110)</td>
<td>The status of a queue manager to which the resource model has been distributed is down.</td>
<td>Retries three times in each cycle indefinitely to run the resource model.</td>
</tr>
<tr>
<td>940</td>
<td>Unable to start (140)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>950</td>
<td>Unable to start (150)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>955</td>
<td>Unable to start (155)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>960</td>
<td>Unable to start (160)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>965</td>
<td>Unable to start (165)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
</tbody>
</table>

CLI example
The following example adds the WebSphere MQ Channel resource model to a profile. This example shows the options and default values for every parameter, indication, and threshold for the resource model. You can use this example to modify the default values to meet your needs, and you can omit any options for which you want to use the default values.

```
wdmeditprf -P $PROFILE -add WebSphere_MQ_Channel -c 180 \
   -Log -LogDisable -p 12:00 -Agg no -ap 00:15 -NoMin -NoMax -Avg \ 
   -t WebSphere_MQ_High_Transmission_QO1destMsg 10.000000 \ 
   -t WebSphere_MQ_Low_Channel_Batches_Transmitted 0.000000 \ 
   -t WebSphere_MQ_Low_Channel_BUFFers_Transmitted 0.000000 \ 
   -t WebSphere_MQ_Low_Channel_Batches_Transmitted 0.000000 \ 
   -t WebSphere_MQ_Low_Channel_Batches_Transmitted 0.000000 \ 
   -AddPar ChannelNameList "*"
```
-AddPar ChannelListFilter "Sender" \  
-AddPar ChannelListFilter "Receiver" \  
-AddPar ChannelListFilter "SystemChannels" \  
-AddPar ChannelListFilter "Server" \  
-AddPar ChannelListFilter "ClusterSenderChannels" \  
-AddPar ChannelListFilter "ClusterReceiverChannels" \  
-AddPar ChannelListFilter "ServerConnection" \  
-e WebSphere_MQ_ChannelPerformanceProblem \  
- o 5 -h 2 -severity CRITICAL -NoSendTBSM -NoSendTec \  
-e WebSphere_MQ_ChannelError \  
- o 3 -h 0 -severity WARNING -NoSendTBSM -SendTec \  
-e WebSphere_MQ_ChannelStartupError \  
- o 3 -h 1 -severity WARNING -NoSendTBSM -SendTec \  
-e WebSphere_MQ_ChannelNotTransmitting \  
- o 3 -h 1 -severity CRITICAL -NoSendTBSM -SendTec \  
-e WebSphere_MQ_ChannelNotActivated \  
- o 3 -h 1 -severity CRITICAL -NoSendTBSM -SendTec \  
-e WebSphere_MQ_ChannelTransmissionQueueError \  
- o 1 -h 0 -severity CRITICAL -NoSendTBSM -NoSendTec \  
-e WebSphere_MQ_ChannelThroughputProblem \  
- o 1 -h 0 -severity CRITICAL -NoSendTBSM -SendTec
WebSphere MQ Error Log resource model

Description

The WebSphere MQ Error Log resource model monitors a queue manager error log for new messages and provides notification when messages are written to the WebSphere MQ error log.

The primary purpose of this resource model is to send events to the Tivoli Enterprise Console for messages that are written to the WebSphere MQ error log. This resource model also sends indications to the Web Health Console. By using this resource model, you do not have to continually monitor this log to see if messages have been written to it.

Each new message generates an indication and, by default, a Tivoli Enterprise Console event. This resource model monitors the following error file:

- Windows
  `wmq_install_dir\qmgrs\qmgr_name\errors\AMQERR01.LOG`
- Unix
  `/var/mqm/qmgrs/qmgr_name/ errors/AMQERR01.LOG`
- OS/400
  `/qibm/userdata/mqm/qmgrs/qmgr_name/ errors/AMQERR01.LOG`

WebSphere MQ messages are organized into categories. Table 5 shows the number range for each category of messages.

Table 5. Number ranges and categories of messages

<table>
<thead>
<tr>
<th>Number range</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMQ4000 – AMQ4999</td>
<td>WebSphere MQ for Windows user interface messages</td>
</tr>
<tr>
<td>AMQ5000 – AMQ5999</td>
<td>Installable services messages</td>
</tr>
<tr>
<td>AMQ6000 – AMQ6999</td>
<td>Common services messages</td>
</tr>
<tr>
<td>AMQ7000 – AMQ7999</td>
<td>WebSphere MQ product messages</td>
</tr>
<tr>
<td>AMQ8000 – AMQ8999</td>
<td>WebSphere MQ administration messages</td>
</tr>
<tr>
<td>AMQ9000 – AMQ9999</td>
<td>Remote messages</td>
</tr>
</tbody>
</table>

Each message category has a separate indication associated with it. There is no indication for the WebSphere MQ for Windows user interface messages category because these messages are not written to the error log. Not all messages within a range can be written to the error log. WebSphere MQ writes some messages to the user interface, some to the error log, and some to both places.

Each WebSphere MQ message contains the following data:

**Date**

Date the message was written to the log. The indication includes the date.

**Time**

Time the message was written to the log. The indication includes the time.

**Message Number**

Unique identifier for the message in the following format: AMQXXXX. The indication includes the message number.
Message Text

One or more lines of text that might contain substitution variables filled in by WebSphere MQ when the entry is logged. The indication includes the message text.

The message does not specify whether the message is informational, warning, or error. For this reason, the default severity level for every event that this resource model generates is at the warning level. You can change the severity of each indication for a resource model. For information on customizing resource model profiles, refer to the IBM Tivoli Monitoring for Business Integration: WebSphere MQ User’s Guide.

IBM Tivoli Monitoring for WebSphere MQ, Version 5.1.1 supports the WebSphere MQ Error Log resource model on distributed local queue managers only. The software does not support this resource model on remote queue managers or on z/OS queue managers.

When the resource model detects that one or more messages have been added to the WebSphere MQ error log, it performs the following actions:

• If Tivoli Enterprise Console is installed and the option to send events to Tivoli Enterprise Console has been selected, the resource model sends an event to the Tivoli Enterprise Console.

• Sends an indication to the Web Health Console. An indication is visible in the Web Health Console only in the cycle that the message is written to the error log.

The following table shows the key characteristics of this resource model:

<table>
<thead>
<tr>
<th>Resource model overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal name</td>
</tr>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Indications</td>
</tr>
<tr>
<td>Installable Services Message Logged</td>
</tr>
<tr>
<td>Common Services Message Logged</td>
</tr>
<tr>
<td>Product Message Logged</td>
</tr>
<tr>
<td>Administration Message Logged</td>
</tr>
<tr>
<td>Remote Message Logged</td>
</tr>
<tr>
<td>Thresholds</td>
</tr>
<tr>
<td>Parameters</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
</tr>
<tr>
<td>Default cycle time</td>
</tr>
</tbody>
</table>

Supported platforms

The following table summarizes the supported platforms for the WebSphere MQ Error Log resource model by indication.
<table>
<thead>
<tr>
<th>Name</th>
<th>Distributed</th>
<th>Proxy mode</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installable Services Message Logged</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Common Services Message Logged</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Product Message Logged</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Administration Message Logged</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Remote Message Logged</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Target managed resource**

Queue manager

**Indications and events**

The following table summarizes the indications for the WebSphere MQ Error Log resource model, the events associated with the indications, the default severity of the events, whether the resource model has clearing events, and where to find a detailed description of the indication. The resource model generates an event based on the settings for the indications. For information about customizing indications, refer to the *IBM Tivoli Monitoring for Business Integration User’s Guide*.

<table>
<thead>
<tr>
<th>Indication</th>
<th>Generated event</th>
<th>Default severity</th>
<th>Clearing events</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installable Services Message Logged</td>
<td>WebSphere_MQ_InstallableServicesMsgLogged</td>
<td>Warning</td>
<td>No</td>
<td>47</td>
</tr>
<tr>
<td>Common Services Message Logged</td>
<td>WebSphere_MQ_CommonServicesMsgLogged</td>
<td>Warning</td>
<td>No</td>
<td>48</td>
</tr>
<tr>
<td>Product Message Logged</td>
<td>WebSphere_MQ_ProductMsgLogged</td>
<td>Warning</td>
<td>No</td>
<td>50</td>
</tr>
<tr>
<td>Administration Messages Logged</td>
<td>WebSphere_MQ_AdministrationMsgLogged</td>
<td>Warning</td>
<td>No</td>
<td>51</td>
</tr>
<tr>
<td>Remote Message Logged</td>
<td>WebSphere_MQ_RemoteMsgLogged</td>
<td>Warning</td>
<td>No</td>
<td>52</td>
</tr>
</tbody>
</table>

**Installable Services Message Logged indication**

Occurs when an Installable Services message is written to the WebSphere MQ error log. The number range for Installable Services messages is AMQ5000 to AMQ5999.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

*WebSphere MQ installable services message was logged.*

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. However, the indication is visible in the Web Health Console only in the cycle that the message is written to the error log. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:
Queue_manager_name
Name of the queue manager being monitored. (Key attribute)

application_class
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

application_label
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

application_oid
Tivoli object ID of the queue manager object.

application_version
WebSphere MQ command level for the queue manager, for example, 530.

Queue_manager_hostname
Host name of the queue manager. For distributed platforms, the host name of the endpoint where the queue manager resides. This resource model is not supported on proxy mode z/OS or remote queue managers.

msg_date
Date the message was written to the WebSphere MQ error log. (Key attribute)

msg_time
Time the message was written to the WebSphere MQ error log. (Key attribute)

msg_number
Unique WebSphere MQ number assigned to the message in the form AMQXXXX. (Key attribute)

msg_text
Textual content of the WebSphere MQ message.

The following table describes the default settings for the Installable Services Message Logged indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>No</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None</td>
</tr>
</tbody>
</table>

Common Services Message Logged indication
Occurs when a Common Services message is written to the WebSphere MQ error log. The number range for Common Services messages is AMQ6000 to AMQ6999.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:
A WebSphere MQ common services message was logged.
If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. However, the indication is visible in the Web Health Console only in the cycle that the message is written to the error log. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

**Queue_manager_name**  
Name of the queue manager being monitored. (Key attribute)

**application_class**  
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**  
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**  
Tivoli object ID of the queue manager object.

**application_version**  
WebSphere MQ command level for the queue manager, for example, 530.

**Queue_manager_hostname**  
Host name of the queue manager. For distributed platforms, the host name of the endpoint where the queue manager resides. This resource model is not supported on proxy mode z/OS or remote queue managers.

**msg_date**  
Date the message was written to the WebSphere MQ error log. (Key attribute)

**msg_time**  
Time the message was written to the WebSphere MQ error log. (Key attribute)

**msg_number**  
Unique WebSphere MQ number assigned to the message in the form AMQXXXX. (Key attribute)

**msg_text**  
Textual content of the WebSphere MQ message.

The following table describes the default settings for the Common Services Message Logged indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>No</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None</td>
</tr>
</tbody>
</table>

Chapter 2. Resource models
**Product Message Logged indication**

Occurs when a product message is written to the WebSphere MQ error log. The number range for product messages is AMQ7000 to AMQ7999.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

A WebSphere MQ product message was logged.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. However, the indication is visible in the Web Health Console only in the cycle that the message is written to the error log. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Queue_manager_hostname**
Host name of the queue manager. For distributed platforms, the host name of the endpoint where the queue manager resides. This resource model is not supported on proxy mode z/OS or remote queue managers.

**msg_date**
Date the message was written to the WebSphere MQ error log. (Key attribute)

**msg_time**
Time the message was written to the WebSphere MQ error log. (Key attribute)

**msg_number**
Unique WebSphere MQ number assigned to the message in the form AMQXXXX. (Key attribute)

**msg_text**
Textual content of the WebSphere MQ message.

The following table describes the default settings for the Product Message Logged indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
</tbody>
</table>
### Administration Message Logged indication

Occurs when an administration message is written to the WebSphere MQ error log. The number range for administration messages is AMQ8000 to AMQ8999.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

*A WebSphere MQ administration message was logged.*

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. However, the indication is visible in the Web Health Console only in the cycle that the message is written to the error log. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Queue_manager_hostname**
Host name of the queue manager. For distributed platforms, the host name of the endpoint where the queue manager resides. This resource model is not supported on proxy mode z/OS or remote queue managers.

**msg_date**
The date the message was written to the WebSphere MQ error log. (Key attribute)

**msg_time**
The time the message was written to the WebSphere MQ error log. (Key attribute)

**msg_number**
The unique WebSphere MQ number assigned to the message in the form AMQXXXX. (Key attribute)

**msg_text**
The textual content of the WebSphere MQ message.

---

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearing events</td>
<td>No</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None</td>
</tr>
</tbody>
</table>

Chapter 2. Resource models  51
The following table describes the default settings for the Administration Message Logged indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>No</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None</td>
</tr>
</tbody>
</table>

**Remote Message Logged indication**

Occurs when a remote message is written to the WebSphere MQ error log. The number range for remote messages is AMQ9000 to AMQ9999.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

A WebSphere MQ remote message was logged.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. However, the indication is visible in the Web Health Console only in the cycle that the message is written to the error log. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Queue_manager_name**

Name of the queue manager being monitored. (Key attribute)

**application_class**

Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**

Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**

Tivoli object ID of the queue manager object.

**application_version**

WebSphere MQ command level for the queue manager, for example, 530.

**Queue_manager_hostname**

Host name of the queue manager. For distributed platforms, the host name of the endpoint where the queue manager resides. This resource model is not supported on proxy mode z/OS or remote queue managers.

**msg_date**

Date the message was written to the WebSphere MQ error log. (Key attribute)

**msg_time**

Time the message was written to the WebSphere MQ error log. (Key attribute)
**msg_number**
Unique WebSphere MQ number assigned to the message in the form AMQXXXX. (Key attribute)

**msg_text**
Textual content of the WebSphere MQ message.

The following table describes the default settings for the Remote Message Logged indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>No</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None</td>
</tr>
</tbody>
</table>

**Thresholds**

This resource model does not have thresholds.

**Parameters**

The following list shows the name (internal name), a short description, and the default value for each parameter that you can set for the WebSphere MQ Error Log resource model.

**Message Number List**
Specifies a list of WebSphere MQ message numbers for messages you want to filter. You can specify individual message numbers in the format AMQXXXX as well as in ranges of message numbers in the format AMQXXXX-AMQYYYY.

**Filter Option**
Specifies whether the resource model generates indications for the messages specified in the Message Number List.
- **In**
  Indicates that the messages specified in the Message Number List are to result in indications being generated. Any message written to the WebSphere MQ error log that is not in the Message Number List is ignored.
- **Out**
  Indicates that the messages specified in the Message Number List are to be ignored. Only messages written to the WebSphere MQ error log that are not in the Message Number List result in indications being generated.

**Tasks and built-in actions**
This resource model does not have tasks and built-in actions.
Logging

You can log data for properties of the managed resources listed in the following table. The table shows the context of each managed resource and the properties that the resource model logs for the IBM Tivoli Monitoring Web Health Console.

<table>
<thead>
<tr>
<th>Managed resource</th>
<th>Context</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebSphere_MQ_Error_Log</td>
<td>Message Count</td>
<td>• Queue_Manager_Name*</td>
</tr>
<tr>
<td></td>
<td>Statistics</td>
<td>• Msgs_logged</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Msgs_processed</td>
</tr>
</tbody>
</table>

An asterisk (*) denotes a key property.

The resource model logs the following properties:

**Queue_manager_name**

Name of the queue manager being monitored (Key attribute)

**Msgs_logged**

Number of messages written to the error log by WebSphere MQ in this cycle, regardless of whether or not they resulted in an indication

**Msgs_processed**

Number of messages written to the error log by WebSphere MQ in this cycle that resulted in an indication

Return codes

The following table shows the return code, the displayed code, a description, and the action that the resource model takes for each return code. The displayed code number is displayed in the IBM Tivoli Monitoring Web Health Console status field.

<table>
<thead>
<tr>
<th>Return code</th>
<th>Displayed code</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>920</td>
<td>Unable to start (120)</td>
<td>The resource model has been distributed to a proxy mode z/OS queue manager.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>930</td>
<td>Unable to start (130)</td>
<td>The resource model has been distributed to a remotely administered queue manager.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>940</td>
<td>Unable to start (140)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>950</td>
<td>Unable to start (150)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>955</td>
<td>Unable to start (155)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>965</td>
<td>Unable to start (165)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>970</td>
<td>Unable to start (170)</td>
<td>The resource model was unable to locate the error log file for the queue manager.</td>
<td>The resource model does not start. Verify that the queue manager was created correctly and that its error log file exists.</td>
</tr>
<tr>
<td>Return code</td>
<td>Displayed code</td>
<td>Description</td>
<td>Action</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------</td>
<td>-------------</td>
<td>--------</td>
</tr>
<tr>
<td>975</td>
<td>Unable to start (175)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
</tbody>
</table>

**Note:** The table contains a list of the return codes known as of the writing of this document rather than a complete list.

**CLI example**

The following example adds the WebSphere MQ Error Log resource model to a profile. This example shows the options and default values for every parameter and indication for the resource model. You can use this example to modify the default values to meet your needs, and you can omit options for which you want to use the default values.

```
wdmeditprf -P $PROFILE -add WebSphere_MQ_ErrorLog -c 900 \                    
-AddPar MsgNumberList "*"\                    
-AddPar FilterOption "In"\                    
-e WebSphere_MQ_CommonServicesMsgLogged \                    
-o 1 -h 0 -severity WARNING -NoSendTBSM -SendTec \                    
-e WebSphere_MQ_RemoteMsgLogged \                    
-o 1 -h 0 -severity WARNING -NoSendTBSM -SendTec \                    
-e WebSphere_MQ_AdministrationMsgLogged \                    
-o 1 -h 0 -severity WARNING -NoSendTBSM -SendTec \                    
-e WebSphere_MQ_ProductMsgLogged \                    
-o 1 -h 0 -severity WARNING -NoSendTBSM -SendTec \                    
-e WebSphere_MQ_InstallableServicesMsgLogged \                    
-o 1 -h 0 -severity WARNING -NoSendTBSM -SendTec
```
WebSphere MQ Queue resource model

Description

Monitors WebSphere MQ queues for problems that affect the health of the queues.

In addition to monitoring the status of the queue, the WebSphere MQ Queue resource model monitors the following conditions that affect the status of messages on the queue:
- Whether the queue is enabled for message PUTs, message GETs, or both
- Whether the number of messages on the queue are within an acceptable threshold
- Whether messages on the queue are aging beyond an acceptable threshold

The WebSphere MQ Queue resource model monitors these conditions through multiple cycles to determine whether a problem is transient or persistent. When a problem has been detected, this resource model performs the following actions:
- Sends an indication to the Web Health Console
- If Tivoli Enterprise Console is installed and the option to send events to Tivoli Enterprise Console has been selected, sends an event to the Tivoli Enterprise Console if the problem is persistent

The WebSphere MQ Queue resource model has the ability to monitor all queues on the queue managers to which this resource model is distributed. If you have a large number of queues, you can reduce the number of queues to monitor by applying filter criteria based on queue name or queue type, or both. Applying filter criteria helps you tune the performance of this resource model while ensuring that you are monitoring queues that are key to your business applications.

The following table shows the key characteristics of this resource model:

<table>
<thead>
<tr>
<th>Resource model overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal name</td>
</tr>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Indications</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Thresholds</td>
</tr>
<tr>
<td>Parameters</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
</tr>
<tr>
<td>Default cycle time</td>
</tr>
</tbody>
</table>
Resource model overview

This resource model does not provide any default tasks or built-in actions. However, you can associate recovery tasks with the resource model indications. See “Tasks and built-in actions” on page 70 for details.

Supported platforms

The following table summarizes the supported platforms for the WebSphere MQ Queue resource model by indication.

<table>
<thead>
<tr>
<th>Name</th>
<th>Distributed</th>
<th>Proxy mode</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queue Is Disabled indication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Queue Is Filling indication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Queue Is Full indication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Queue Messages Aging indication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Queue Read Error indication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Queue Triggering Disabled indication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Target managed resource

Queue manager

Indications and events

The following table summarizes the indications for this resource model, the events associated with the indications, the default severity of the events, whether the resource model has clearing events, and where to find a detailed description of the indication. The resource model generates an event based on the settings for the indications. For information about customizing indications, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.

<table>
<thead>
<tr>
<th>Indication</th>
<th>Generated event</th>
<th>Default severity</th>
<th>Clearing events</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queue Is Disabled</td>
<td>WebSphere_MQ_QueueDisabled</td>
<td>Warning</td>
<td>Yes</td>
<td>57</td>
</tr>
<tr>
<td>Queue Is Filling</td>
<td>WebSphere_MQ_QueueFilling</td>
<td>Warning</td>
<td>Yes</td>
<td>59</td>
</tr>
<tr>
<td>Queue Is Full</td>
<td>WebSphere_MQ_QueueFull</td>
<td>Critical</td>
<td>Yes</td>
<td>60</td>
</tr>
<tr>
<td>Queue Messages Aging</td>
<td>WebSphere_MQ_QueueMessagesAging</td>
<td>Critical</td>
<td>Yes</td>
<td>62</td>
</tr>
<tr>
<td>Queue Read Error</td>
<td>WebSphere_MQ_QueueReadError</td>
<td>Critical</td>
<td>Yes</td>
<td>64</td>
</tr>
<tr>
<td>Queue Triggering Disabled</td>
<td>WebSphere_MQ_QueueTriggeringDisabled</td>
<td>Warning</td>
<td>Yes</td>
<td>65</td>
</tr>
</tbody>
</table>

Queue Is Disabled indication

Occurs when applications cannot put messages on or get messages from a queue. This condition exists when one of the following criteria are met:

- The queue’s GET status is DISABLED.
- The queue’s PUT status is DISABLED.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

A WebSphere MQ queue has been disabled.
If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User's Guide*.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager owning the queue being monitored. (Key attribute)

**Queue_name**
Name of the queue being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Queue_GET_Status**
GET status for the queue: ENABLED or DISABLED.

**Queue_PUT_Status**
PUT status for the queue: ENABLED or DISABLED.

**Queue_type**
Type of queue being monitored: QLOCAL

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>2</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>
†Recovery tasks are available for this indication. See "Tasks and built-in actions" on page 70 for details.

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Queue Is Filling indication**

Occurs when messages are being put onto the queue at a quicker rate than the messages are being read, causing the queue to fill beyond the High Queue Usage Percentage threshold. This condition exists when the following criteria are met:

- The percentage of the queue used (determined by the ratio of the current depth to the maximum depth) is greater than or equal to the High Queue Usage Percentage threshold
- The number of messages on the queue increased since the last cycle

The queue will eventually fill, causing any attempt to put a message on the queue to fail.

**Note:** The resource model does not send an indication for the SYSTEM.REPOSITORY.QUEUE or the SYSTEM.AUTH.DATA.QUEUE. Because WebSphere MQ stores information on the SYSTEM.REPOSITORY.QUEUE and the SYSTEM.AUTH.DATA.QUEUE, it is expected that messages exist on these queues without being read.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

> A WebSphere MQ queue is filling.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Queue_manager_name**

Name of the queue manager owning the queue being monitored. (Key attribute)

**Queue_name**

Name of the queue being monitored. (Key attribute)

**application_class**

Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**

Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**

Tivoli object ID of the queue manager object.
**application_version**  
WebSphere MQ command level (for example, 530) for the queue manager.

**Input_handles**  
Number of input handles that are open for the queue being monitored.

**Queue_manager_hostname**  
Host name of the queue manager as follows:  
- For distributed platforms, the host name of the endpoint where the queue manager resides.  
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.  
- For a remotely administered queue manager, the host name where the target queue manager resides.

**Queue_messages_outstanding**  
Number of messages (queue depth) that are on the queue being monitored.

**Queue_type**  
Type of queue being monitored, QLOCAL.

**Queue_used_percentage**  
Ratio of the current queue depth to the maximum queue depth.

This indication has the following threshold:  
- High queue usage percent

For more information about this threshold, see "Thresholds" on page 67.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>4</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See "Tasks and built-in actions" on page 70 for details.

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Queue Is Full indication**  
Occurs when the queue is full of messages. This condition exists when the number of messages on the queue is equal to the maximum depth of the queue

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:  
A WebSphere MQ queue is full.
If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager owning the queue being monitored. (Key attribute)

**Queue_name**
Name of the queue being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level (for example, 530) for the queue manager.

**Input_handles**
Number of input handles that are open for the queue being monitored.

**Queue_manager_hostname**
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

**Queue_messages_outstanding**
Number of messages (queue depth) that are on the queue being monitored.

**Queue_type**
Type of queue being monitored, QLOCAL.

**Queue_used_percentage**
Ratio of the current queue depth to the maximum queue depth.

This indication does not have threshold.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>2</td>
</tr>
</tbody>
</table>
### Setting and Default Value

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None</td>
</tr>
</tbody>
</table>

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

### Queue Messages Aging indication

Occurs when the oldest message on the queue is greater than or equal to the High Queue Message Age threshold. This indication occurs only for distributed platforms. Although some messages might be processed, not all messages on the queue are being read.

**Notes:**

1. Performance can be impacted when determining the oldest and largest message on queues that have a large number of messages. To improve performance, the oldest message age and the largest message size metrics are not available for queues with messages numbering greater than seven times the cycle time for the resource model. Therefore, the resource model does not send an indication. If you are not getting the indications you would like, increase the cycle time of the resource model to enable the resource model to encounter a greater number of messages.
2. The resource model does not send an indication for the SYSTEM.REPOSITORY.QUEUE or the SYSTEM.AUTH.DATA.QUEUE. Because WebSphere MQ stores information on the SYSTEM.REPOSITORY.QUEUE and the SYSTEM.AUTH.DATA.QUEUE, it is expected that messages exist on these queues without being read.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

**WebSphere MQ messages are aging on the queue.**

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

- **High_queue_message_age_threshold**
  Value configured for the corresponding resource model threshold.

- **Queue_manager_name**
  Name of the queue manager owning the queue being monitored. (Key attribute)

- **Queue_name**
  Name of the queue being monitored. (Key attribute)

- **application_class**
  Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.
application_label
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

application_oid
Tivoli object ID of the queue manager object.

application_version
WebSphere MQ command level for the queue manager, for example, 530.

Input_handles
Number of input handles that are open for the queue being monitored.

Oldest_message
Age (in minutes) of the oldest message outstanding in the queue being monitored.

Queue_manager_hostname
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

Queue_messages_outstanding
Number of messages (queue depth) that are on the queue being monitored.

Queue_type
Type of queue being monitored, QLOCAL.

This indication has the following threshold:
- High queue message age

For more information about this threshold, see “Thresholds” on page 67.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>No</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 70 for details.

Note: If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.
Queue Read Error indication
Occurs when the number of messages on the queue is greater than or equal to the High Queue Usage Percentage threshold and an application is not attempting to read the messages. This condition exists when the following criteria are met:

- The percentage of the queue used (determined by the ratio of the current depth to the maximum depth) is greater than the High Queue Usage Percentage threshold.
- The number of input handles is zero, indicating that no applications are reading messages from the queue.

The queue will eventually fill, causing attempts to put messages on the queue to fail.

**Note:** The resource model does not send an indication for the SYSTEM.REPOSITORY.QUEUE or the SYSTEM.AUTH.DATA.QUEUE. Because WebSphere MQ stores information on the SYSTEM.REPOSITORY.QUEUE and the SYSTEM.AUTH.DATA.QUEUE, it is expected that messages exist on these queues without being read.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

A WebSphere MQ queue read error has been detected.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**High_queue_usage_percent_threshold**
Value configured for the corresponding resource model threshold.

**Queue_manager_name**
Name of the queue manager owning the queue being monitored. (Key attribute)

**Queue_name**
Name of the queue being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Input_handles**
Number of input handles that are open for the queue being monitored.

**Queue_manager_hostname**
Host name of the queue manager as follows:
• For distributed platforms, the host name of the endpoint where the queue manager resides.
• For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
• For a remotely administered queue manager, the host name where the target queue manager resides.

**Queue_messages_outstanding**
Number of messages (queue depth) that are on the queue being monitored.

**Queue_type**
Type of queue being monitored, QLOCAL.

**Queue_used_percentage**
Ratio of the current queue depth to the maximum queue depth.

This indication has the following threshold:
• High queue usage percent
For more information about this threshold, see “Thresholds” on page 67.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>No</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>2</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 70 for details.

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Queue Triggering Disabled indication**
Occurs when event triggering is disabled for the queue. If triggering is disabled, WebSphere MQ processes are not started as a result of messages being put on the queue. This condition can cause the queue to fill.

The Queue Triggering Disabled indication is disabled by default. To enable this indication, modify the Enable Indication parameter for the resource model and check the Queue Triggering Disabled option.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:
WebSphere MQ queue triggering is disabled.
If you do not have Tivoli Enterprise Console, you can check the health of this
resource model in the Web Health Console. For information about the Web Health
Console, refer to the IBM Tivoli Monitoring User's Guide.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager owning the queue being monitored. (Key
attribute)

**Queue_name**
Name of the queue being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was
distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere
MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was
distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Queue_manager_hostname**
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the
  queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine
  where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the
  target queue manager resides.

**Queue_trigger_disabled**
Current status of queue triggering is DISABLED. If triggering is disabled
the Queue_trigger_disabled attribute is set to 100 and the
Queue_trigger_enabled attribute is set to 0.

**Queue_trigger_enabled**
Current status of queue triggering is ENABLED. If triggering is enabled
the Queue_trigger_enabled attribute is set to 100 and the
Queue_trigger_disabled attribute is set to 0.

**Queue_type**
Type of queue being monitored, QLOCAL.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Setting</td>
<td>Default value</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Occurrences</td>
<td>2</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 70 for details.

**Note:** If you configured the event server with the Configure Event Server task, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager.

### Thresholds

The following list shows the name, internal name (in parentheses), a short description, and the default value for each threshold associated with the WebSphere MQ Queue resource model.

<table>
<thead>
<tr>
<th>Threshold</th>
<th>Description</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>High queue usage percent (WebSphere_MQ_High_QueuePercentUsed)</td>
<td>Indicates when the percentage of queue usage is too high</td>
<td>80%</td>
</tr>
<tr>
<td>High queue message age (WebSphere_MQ_High_QOldestMessage)</td>
<td>Indicates when the oldest message in the queue is too old</td>
<td>10 minutes</td>
</tr>
</tbody>
</table>

### Parameters

The following list shows the name (internal name), a short description, and the default value for each parameter that you can set for the WebSphere MQ Queue resource model.

**Monitor Specific Queues (MonitorSpecificQueues)**

Specifies the classes of queues that you want to monitor. The queues specified by the Monitor Specific Queues parameter are monitored in addition to those queues specified in the Queue Name List parameter. The Queue List Filter has no effect on the queues specified by this parameter. Select one or more of the following:

- **Application Cluster Queues (ApplicationClusterQueues)**
  Check this option if you want to monitor all non-system cluster queues. By default, application cluster queues are monitored.

- **Transmission Queues (TransmissionQueues)**
  Check this option if you want to monitor all transmission queues. By default, transmission queues are not monitored.

- **Dead Letter Queue (DeadLetterQueue)**
  Check this option if you want to monitor the dead-letter queue. By default, the dead-letter queue is monitored.

- **System Cluster Queues (SystemClusterQueues)**
  Check this option if you want to monitor system cluster queues:
  - SYSTEM.CLUSTER.REPOSITORY.QUEUE
  - SYSTEM.CLUSTER.TRANSMIT.QUEUE
  - SYSTEM.CLUSTER.COMMAND.QUEUE

By default, system cluster queues are monitored.
• Command Server Queue (CommandServerQueue)
  Check this option if you want to monitor the command server queue:
  – For distributed platforms: SYSTEM.ADMIN.COMMAND.QUEUE
  – For proxy mode z/OS, SYSTEM.COMMAND.INPUT

By default, the command server queue is monitored.

• Security Manager Queue (SecurityManagerQueue)
  Check this option if you want to monitor the security manager queue,
  SYSTEM.AUTH.DATA.QUEUE. By default, the security manager queue is
  monitored.

• Channel Initiator Queue (ChannelInitiatorQueue)
  Check this option if you want to monitor the system channel initiator queue,
  SYSTEM.CHANNEL.INITQ. By default, the system channel initiator queue is
  monitored.

Queue Name List (QueueNameList)
  Specifies the name list of the queues you want to monitor. Queue names can
  end with an asterisk (*), which matches all queues beginning with the specified
  characters followed by zero or more characters. A queue name of * matches all
  queues. Each queue name in the Queue Name List must conform to
  WebSphere MQ object naming and wildcard conventions.

  Note: For Perl 4.0 systems, you can use the regular expressions syntax
  wildcard conventions by inclosing the queue name in parenthesis. For example,
  (TEST\./d+\..QUEUE).

  The queues specified in the Queue Name List are monitored in addition to
  those queues specified by the Monitor Specific Queues parameter.

Queue List Filter (QueueListFilter)
  Specifies whether or not system queues are monitored. Check the System
  option if you want to monitor the system queues (SYSTEM.* queues) that are
  specified in the Queue Name List. If the System option is not checked, system
  queues are not monitored even if they are included in the Queue Name List.

Enable Indication (EnableIndication)
  Enables the following indication:
  
  Queue Triggering Disabled

  By default, the Queue Triggering Disabled indication is disabled. To enable this
  indication, check the Queue Triggering Disabled option.

Example: Assume that a queue manager named QM1 has the following queues
defined:
• SYSTEM.CHANNEL.INITQ
• SYSTEM.AUTH.DATA.QUEUE
• TEST.XMIT.QUEUE
• TEST.DEAD.LETTER.QUEUE
• TEST.LOCAL.QUEUE

  The following tables provide examples of how various parameter settings affect the
  queues that are monitored for queue manager QM1:
## Queue example 1

<table>
<thead>
<tr>
<th>Queue Name List</th>
<th>Queue List Filter</th>
<th>Monitor Specific Queues</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes the following queue names:</td>
<td>System option is not checked</td>
<td>No options are checked</td>
<td>The following queues are monitored because all queue names that begin with TEST are monitored:</td>
</tr>
<tr>
<td>TEST*</td>
<td></td>
<td></td>
<td>• TEST.XMIT.QUEUE</td>
</tr>
<tr>
<td>SYSTEM*</td>
<td></td>
<td></td>
<td>• TEST.DEAD.LETTER.QUEUE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• TEST.LOCAL.QUEUE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The following queues are not monitored because the Queue List Filter parameter does not include system queues and the Monitor Specific Queue parameter does not include the channel initiator queue or the security manager queue:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• SYSTEM.CHANNEL.INITQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• SYSTEM.AUTH.DATA.QUEUE</td>
</tr>
</tbody>
</table>

**Note:** If the System option is checked in the Queue List Filter parameter, all queues defined for the queue manager in this example are monitored.

## Queue example 2

<table>
<thead>
<tr>
<th>Queue Name List</th>
<th>Queue List Filter</th>
<th>Monitor Specific Queues</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank</td>
<td>System option is not checked</td>
<td>The following options are checked:</td>
<td>The following queues are monitored:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Transmission Queues</td>
<td>• SYSTEM.AUTH.DATA.QUEUE because the Monitor Specific Queues attribute includes security manager queues. Because the Queue List Filter parameter does not affect queues specified by the Monitor Specific Queues parameter, the SYSTEM.AUTH.DATA.QUEUE is monitored even though the System option is not checked for the Queue List Filter parameter.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Security Manager Queue</td>
<td>• TEST.XMIT.QUEUE because the Monitor Specific Queues parameter includes transmission queues.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The following queues are not monitored:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• SYSTEM.CHANNEL.INITQ because the Queue Name List parameter does not specify this queue and the Monitor Specific Queues parameter does not include the channel initiator queue.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• TEST.DEAD.LETTER.QUEUE because the Queue Name List parameter does not include this queue and the Monitor Specific Queues parameter does not include the dead letter queue.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• TEST.LOCAL.QUEUE because the Queue Name List parameter does not specify this queue.</td>
</tr>
</tbody>
</table>
Tasks and built-in actions

This resource model does not provide any default tasks or built-in actions. However, you can associate recovery tasks with the resource model indications. See Chapter 3, “Tasks,” on page 123 for more information about each recovery task.

These recovery tasks are in the WebSphere MQ ITM Tasks task library. All of the recovery tasks run automatically in the context of a queue manager object when you associate a task with a resource model indication.

Not every recovery task applies to all indications for a given resource model. The following list specifies which recovery tasks apply to indications for the WebSphere MQ Queue resource model:

- **Change Queue**
  All indications for the WebSphere MQ Queue resource model.

- **Clear Local Queue**
  All indications for the WebSphere MQ Queue resource model.

- **Move Local Queue Messages**
  All indications for the WebSphere MQ Queue resource model.

- **Ping Queue Manager**
  All indications for the WebSphere MQ Queue resource model.

- **Set Queue Mgr Icon State**
  All indications for the WebSphere MQ Queue resource model.

- **Start Channel Initiator**
  All indications for the WebSphere MQ Queue resource model.

- **Start Channel Listener**
  All indications for the WebSphere MQ Queue resource model.

- **Start Command Server**
  All indications for the WebSphere MQ Queue resource model.

- **Start DLQ Handler**
  All indications for the WebSphere MQ Queue resource model.

- **Start Execution Service**
  - Queue Is Filling indication
  - Queue Messages Aging indication
  - Queue Read Error indication

- **Start Queue Manager**
  All indications for the WebSphere MQ Queue resource model.

- **Start TEC Adapter**
  All indications for the WebSphere MQ Queue resource model.

- **Start Trigger Monitor**
  - Queue Is Filling indication
  - Queue Messages Aging indication
  - Queue Read Error indication

Logging

You can log data for properties of the managed resources listed in the following table. The table shows the context of each managed resource and the properties that the resource model logs for the IBM Tivoli Monitoring Web Health Console.
Note: If any one numeric metric within a context cannot be retrieved, the context is not logged.

<table>
<thead>
<tr>
<th>Managed resource</th>
<th>Context</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>For distributed platforms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebSphere_MQ_Queue</td>
<td>Information</td>
<td>• WebSphere_MQ_Queue_Manager.Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• WebSphere_MQ_Queue_Manager.Queue_manager_command_level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• WebSphere_MQ_Queue_Manager.Queue_manager_platform</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_type</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_usage</td>
</tr>
<tr>
<td>WebSphere_MQ_Queue</td>
<td>Handle</td>
<td>• WebSphere_MQ_Queue_Manager.Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td>Statistics</td>
<td>• Queue_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Input_handles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Output_handles</td>
</tr>
<tr>
<td>WebSphere_MQ_Queue</td>
<td>Message Age</td>
<td>• WebSphere_MQ_Queue_Manager.Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td>Statistics</td>
<td>• Queue_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Oldest_message</td>
</tr>
<tr>
<td>WebSphere_MQ_Queue</td>
<td>Message Count</td>
<td>• WebSphere_MQ_Queue_Manager.Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td>Statistics</td>
<td>• Queue_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_messages_outstanding</td>
</tr>
<tr>
<td>WebSphere_MQ_Queue</td>
<td>Message Size</td>
<td>• WebSphere_MQ_Queue_Manager.Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td>Statistics</td>
<td>• Queue_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Largest_message</td>
</tr>
<tr>
<td>WebSphere_MQ_Queue</td>
<td>Utilization</td>
<td>• WebSphere_MQ_Queue_Manager.Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td>Statistics</td>
<td>• Queue_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_used_percentage¹</td>
</tr>
<tr>
<td>For proxy mode z/OS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebSphere_MQ_OS390_Queue</td>
<td>Information</td>
<td>• Queue_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_type</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_usage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• WebSphere_MQ_OS390_Queue_Manager.Queue_manager_command_level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• WebSphere_MQ_OS390_Queue_Manager.Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• WebSphere_MQ_OS390_Queue_Manager.Queue_manager_platform</td>
</tr>
<tr>
<td>Managed resource</td>
<td>Context</td>
<td>Properties</td>
</tr>
<tr>
<td>------------------</td>
<td>---------</td>
<td>------------</td>
</tr>
</tbody>
</table>
| WebSphere_MQ_OS390_Queue | Handle Statistics | • Input_handles  
• Output_handles  
• Queue_name⁹  
• WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
• WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
• WebSphere_MQ_OS390_Queue_Manager.Queue_manager_name* |
| WebSphere_MQ_OS390_Queue | Message Count Statistics | • Peak_queue_depth  
• Queue_messages_outstanding  
• Queue_name⁹  
• WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
• WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
• WebSphere_MQ_OS390_Queue_Manager.Queue_manager_name* |
| WebSphere_MQ_OS390_Queue | Utilization Statistics | • Queue_name⁹  
• Queue_used_percentage¹  
• WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
• WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
• WebSphere_MQ_OS390_Queue_Manager.Queue_manager_name* |

For remotely administered resources

| WebSphere_MQ_RA_Queue | Information | • Queue_name⁹  
• Queue_type  
• Queue_usage  
• WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
• WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
• WebSphere_MQ_RA_Queue_Manager.Queue_manager_command_level  
• WebSphere_MQ_RA_Queue_Manager.Queue_manager_name*  
• WebSphere_MQ_RA_Queue_Manager.Queue_manager_platform |
| WebSphere_MQ_RA_Queue | Handle Statistics | • Input_handles  
• Output_handles  
• Queue_name⁹  
• WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
• WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
• WebSphere_MQ_RA_Queue_Manager.Queue_manager_name* |
| WebSphere_MQ_RA_Queue | Message Count Statistics | • Queue_messages_outstanding  
• Queue_name⁹  
• WebSphere_MQ_OS390_Queue_Manager.CTQ_HOST  
• WebSphere_MQ_OS390_Queue_Manager.LAST_IP_ADDRESS  
• WebSphere_MQ_RA_Queue_Manager.Queue_manager_name* |
The following list described the properties that the resource model logs:

**Queue_manager_name**  
Name of the queue manager owning the queue being monitored. (Key attribute)

**Queue_name**  
Name of the queue being monitored. (Key attribute)

**CTQ_HOST**  
For proxy mode z/OS, the fully qualified host name or the SNA domain name for the proxy mode z/OS system where the queue manager resides. For remotely administered queue managers, the fully qualified host name of the remote machine where the queue manager resides. If the fully qualified host name cannot be determined, the short host name is used. If neither the fully qualified host name nor the short host name can be determined, the CTQ_HOST parameter is set to UNKNOWN.

**Input_handles**  
Number of input handles that are open for the queue being monitored.

**LAST_IP_ADDRESS**  
For proxy mode z/OS, the IP address of the proxy mode z/OS system where the queue manager resides. If SNA is being used, this parameter is left blank. For remotely administered queue managers, the IP address of the remote machine where the queue manager resides. If the IP address cannot be determined, this parameter is set to UNKNOWN.

**Largest_message**  
Size (in KB) of the largest message outstanding on the queue being monitored.

**Oldest_message**  
Age (in minutes) of the oldest message outstanding in the queue being monitored.

**Output_handles**  
Number of output handles that are open for the queue being monitored.

**Peak_queue_depth**  
Peak number of messages on the queue being monitored.

**Queue_manager_command_level**  
WebSphere MQ command level for the queue manager, for example, 530.

**Queue_manager_platform**  
Architecture of the platform (UNIX, WINDOWSNT, or MVS) on which the queue manager is running.
Queue_messages_outstanding

Number of messages (queue depth) that are on the queue being monitored.

Queue_type

Type of queue being monitored.

Queue_usage

Whether or not the queue is a transmission queue (NORMAL or XMIT)

Queue_used_percentage

Ratio of the current queue depth to the maximum queue depth.

Return codes

The following table shows the return code, the displayed code, a description, and the action that the resource model takes for each return code. The displayed code number is displayed in the IBM Tivoli Monitoring Web Health Console status field.

<table>
<thead>
<tr>
<th>Return code</th>
<th>Displayed code</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>610</td>
<td>Retrying (10)</td>
<td>No queues have been found that meet the criteria specified in the parameters.</td>
<td>Retries three times in each cycle indefinitely to run the resource model.</td>
</tr>
<tr>
<td>710</td>
<td>Unable to start (110)</td>
<td>The status of a queue manager to which the resource model has been distributed is down.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>940</td>
<td>Unable to start (140)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>950</td>
<td>Unable to start (150)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>955</td>
<td>Unable to start (155)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>960</td>
<td>Unable to start (160)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>965</td>
<td>Unable to start (165)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
</tbody>
</table>

CLI example

The following example adds the WebSphere MQ Queue resource model to a profile. This example shows the options and default values for every parameter, indication, and threshold for the resource model. You can use this example to modify the default values to meet your needs, and you can omit any options for which you want to use the default values.

wmmeditprf -P $PROFILE -add WebSphere_MQ_Queue -c 180 \
-Log -LogDisable -p 12:00 -Agg no -ap 00:15 -NoMin -NoMax -Avg \
-t WebSphere_MQ_High_QueuePercentUsed 80.000000 \
-t WebSphere_MQ_High_OldestMessage 10.000000 \
-AddPar MonitorSpecificQueues "ChannelInitiatorQueue" \
-AddPar MonitorSpecificQueues "SecurityManagerQueue" \
-AddPar MonitorSpecificQueues "CommandServerQueue" \
-AddPar MonitorSpecificQueues "SystemClusterQueues" \
-AddPar MonitorSpecificQueues "DeadLetterQueue" \
-AddPar MonitorSpecificQueues "ApplicationClusterQueues" \
-AddPar MonitorSpecificQueues "QueueManagerQueue" \
-AddPar MonitorSpecificQueues "QueueInitiatorQueue"
-AddPar MonitorSpecificQueues "TransmissionQueues" \\
-AddPar QueueListFilter "SystemQueues" \\
-e WebSphere_MQ_QueueTriggeringDisabled \\
- o 2 - h 0 - severity WARNING - NoSendTBSM - SendTec \\
-e WebSphere_MQ_QueueMessagesAging \\
- o 3 - h 0 - severity CRITICAL - NoSendTBSM - NoSendTec \\
-e WebSphere_MQ_QueueReadError \\
- o 2 - h 0 - severity CRITICAL - NoSendTBSM - NoSendTec \\
-e WebSphere_MQ_QueueFilling \\
- o 4 - h 1 - severity WARNING - NoSendTBSM - SendTec \\
-e WebSphere_MQ_QueueDisabled \\
- o 2 - h 0 - severity WARNING - NoSendTBSM - SendTec
WebSphere MQ Queue Manager resource model

Description

Monitors the status of the queue manager and all system resources that affect the operation of the queue manager.

To monitor the total health of your queue managers, this resource model monitors system and user-defined objects that are crucial to queue manager operation. In addition to monitoring the status of the queue manager, the WebSphere MQ Queue Manager resource model monitors the following conditions:

- Status of the command server to ensure that the command server is operational
- Status of the SYSTEM.* cluster queues to ensure that cluster queue managers are receiving updates about the cluster and communication between cluster queue managers is functioning properly
- Number of active channels associated with the queue manager to ensure that the channels are functioning within acceptable thresholds
- Status of messages on the dead-letter queue to ensure that messages arriving on the dead-letter queue are processed
- Status of the event adapter associated with the queue manager to ensure that the event adapter is operational and functioning properly

The WebSphere MQ Queue Manager resource model monitors these conditions over the course of multiple cycles to determine if the problem is transient or persistent. When a problem has been detected, the WebSphere MQ Queue Manager resource model performs the following actions:

- Sends an indication to the Web Health Console
- If Tivoli Enterprise Console is installed and the option to send events to Tivoli Enterprise Console has been selected, sends an event to the Tivoli Enterprise Console if the problem is persistent
- If the queue manager’s status (either up or down) has changed in the cycle, updates the status of the queue manager icon on the Tivoli desktop. The icon on the Tivoli desktop is updated to reflect this status.

The following table shows the key characteristics of this resource model:

<table>
<thead>
<tr>
<th>Resource model overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal name</td>
</tr>
<tr>
<td>Category</td>
</tr>
</tbody>
</table>
### Resource model overview

<table>
<thead>
<tr>
<th>Indication</th>
<th>Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Number of Active Channels</strong></td>
<td>occurs when the number of active channels exceeds the user-specified threshold.</td>
</tr>
<tr>
<td><strong>Low Number of Active Channels</strong></td>
<td>occurs when the number of active channels falls below the user-specified threshold.</td>
</tr>
<tr>
<td><strong>Page Set Pages Filling</strong></td>
<td>is for proxy mode z/OS and occurs when the percentage of page sets used is greater than the user-specified threshold.</td>
</tr>
<tr>
<td><strong>Queue Manager Authority Manager Problem</strong></td>
<td>occurs when messages on the system authorization queue are not being read.</td>
</tr>
<tr>
<td><strong>Queue Manager Channel Initiator Problem</strong></td>
<td>occurs when messages on the system channel initiation queue are not being read.</td>
</tr>
<tr>
<td><strong>Queue Manager Channel Listener Not Running</strong></td>
<td>is for proxy mode z/OS and occurs when the status of the queue manager’s channel listener is down.</td>
</tr>
<tr>
<td><strong>Queue Manager Cluster Communication Problem</strong></td>
<td>occurs when messages on the cluster command queue are not being read.</td>
</tr>
<tr>
<td><strong>Queue Manager Cluster Repository Problem</strong></td>
<td>occurs when messages on the cluster repository queue are not being read.</td>
</tr>
<tr>
<td><strong>Queue Manager Cluster Transmission Problem</strong></td>
<td>occurs when messages on the system cluster transmission queue are not being read.</td>
</tr>
<tr>
<td><strong>Queue Manager DLQ Handler Is Not Running</strong></td>
<td>occurs when the dead-letter queue (DLQ) handler is not processing messages on the DLQ.</td>
</tr>
<tr>
<td><strong>Queue Manager Event Adapter Communication Problem</strong></td>
<td>is for distributed platforms and occurs when the WebSphere MQ event adapter is caching events instead of sending the events to the event server.</td>
</tr>
<tr>
<td><strong>Queue Manager Event Adapter Not Running</strong></td>
<td>is for distributed platforms and occurs when the WebSphere MQ event adapter is not reading messages from the event queue.</td>
</tr>
<tr>
<td><strong>Queue Manager Is Inoperable</strong></td>
<td>occurs when the command server is not reading messages from the system command queue.</td>
</tr>
<tr>
<td><strong>Queue Manager Unavailable</strong></td>
<td>occurs when the status of the queue manager is down or when the status cannot be determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thresholds</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameters</td>
<td>No</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>No</td>
</tr>
<tr>
<td>Default cycle time</td>
<td>180 seconds</td>
</tr>
</tbody>
</table>

This resource model does not provide any default tasks or built-in actions. However, you can associate recovery tasks with the resource model indications. See “Tasks and built-in actions” on page 98 for details.

### Supported platforms

The following table summarizes the supported platforms for the WebSphere MQ Queue Manager resource model by indication.

<table>
<thead>
<tr>
<th>Name</th>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Number of Active Channels</strong> indication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Low Number of Active Channels</strong> indication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Target managed resource

Queue manager

### Indications and events

The following table summarizes the indications for this resource model, the events associated with the indications, the default severity of the events, whether the resource model has clearing events, and where to find a detailed description of the indication. The resource model generates an event based on the settings for the indications. For information about customizing indications, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.

<table>
<thead>
<tr>
<th>Indication</th>
<th>Generated event</th>
<th>Default severity</th>
<th>Clearing events</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Number of Active Channels</td>
<td>WebSphere_MQ_High_ChannelsActive</td>
<td>Warning</td>
<td>Yes</td>
<td>79</td>
</tr>
<tr>
<td>Low Number of Active Channels</td>
<td>WebSphere_MQ_Low_ChannelsActive</td>
<td>Warning</td>
<td>Yes</td>
<td>81</td>
</tr>
<tr>
<td>Page Set Pages Filling</td>
<td>WebSphere_MQ_PageSetFilling</td>
<td>Warning</td>
<td>Yes</td>
<td>82</td>
</tr>
<tr>
<td>Queue Manager Authority Manager Problem</td>
<td>WebSphere_MQ_QMgrAuthorityManagerProblem</td>
<td>Critical</td>
<td>Yes</td>
<td>83</td>
</tr>
<tr>
<td>Indication</td>
<td>Generated event</td>
<td>Default severity</td>
<td>Clearing events</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>------------------------------------------------------</td>
<td>------------------</td>
<td>-----------------</td>
<td>------</td>
</tr>
<tr>
<td>Queue Manager Channel Initiator Problem</td>
<td>WebSphere_MQ_QMgrChannelInitiatorProblem</td>
<td>Critical</td>
<td>Yes</td>
<td>84</td>
</tr>
<tr>
<td>Queue Manager Channel Listener Not Running</td>
<td>WebSphere_MQ_QMgrChannelListenerNotRunning</td>
<td>Critical</td>
<td>Yes</td>
<td>86</td>
</tr>
<tr>
<td>Queue Manager Cluster Communication Problem</td>
<td>WebSphere_MQ_QMgrClusterCommunicationProblem</td>
<td>Warning</td>
<td>Yes</td>
<td>89</td>
</tr>
<tr>
<td>Queue Manager Cluster Repository Problem</td>
<td>WebSphere_MQ_QMgrClusterRepositoryProblem</td>
<td>Critical</td>
<td>Yes</td>
<td>89</td>
</tr>
<tr>
<td>Queue Manager Cluster Transmission Problem</td>
<td>WebSphere_MQ_QMgrClusterTransmissionProblem</td>
<td>Warning</td>
<td>Yes</td>
<td>90</td>
</tr>
<tr>
<td>Queue Manager DLQ Handler Is Not Running</td>
<td>WebSphere_MQ_QMgrDLQHandlerNotRunning</td>
<td>Minor</td>
<td>Yes</td>
<td>91</td>
</tr>
<tr>
<td>Queue Manager Event Adapter Communication Problem¹</td>
<td>WebSphere_MQ_QMgrEventAdapterCommunicationProblem</td>
<td>Warning</td>
<td>Yes</td>
<td>93</td>
</tr>
<tr>
<td>Queue Manager Event Adapter Not Running¹</td>
<td>WebSphere_MQ_QMgrEventAdapterNotRunning</td>
<td>Critical</td>
<td>Yes</td>
<td>94</td>
</tr>
<tr>
<td>Queue Manager Is Inoperable</td>
<td>WebSphere_MQ_QMgrQueueManagerInoperable</td>
<td>Warning</td>
<td>Yes</td>
<td>95</td>
</tr>
<tr>
<td>Queue Manager Unavailable</td>
<td>WebSphere_MQ_QMgrQueueManagerUnavailable</td>
<td>Critical</td>
<td>Yes</td>
<td>97</td>
</tr>
</tbody>
</table>

¹For distributed platforms only.

**High Number of Active Channels indication**

Occurs when the number of active channels is greater than or equal to the High Channels Active threshold.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

The number of active channels is high.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User's Guide.

This indication has the following attributes:

**High_channels_active_threshold**

Value configured for the corresponding resource model threshold.
Queue_manager_name
Name of the queue manager being monitored. (Key attribute)

application_class
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

application_label
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

application_oid
Tivoli object ID of the queue manager object.

application_version
WebSphere MQ command level for the queue manager, for example, 530.

Number_of_channels_active
Number of channels that are active for the queue manager.

Queue_manager_hostname
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

This indication has the following threshold:
- High Channels Active

For information about this threshold, see "Thresholds" on page 98.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>4</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See "Tasks and built-in actions" on page 98 for details.

Note: If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.
Low Number of Active Channels indication

Occurs when the number of active channels is less than the Low Channels Active threshold. This condition indicates that there is a general problem with the connectivity of the queue manager. This problem might be associated with other channel-related problems, such as, a channel listener or a channel initiator problem.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

The number of active channels is low.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

**Low_channels_active_threshold**
Value configured for the corresponding resource model threshold.

**Queue_manager_name**
Name of the queue manager being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Number_of_channels_active**
Number of channels that are active for the queue manager.

**Queue_manager_hostname**
Host name of the queue manager as follows:

- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

This indication has the following threshold:

- Low Channels Active

For information about this threshold, see “Thresholds” on page 98.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Setting</td>
<td>Default value</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>4</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 98 for details.

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Page Set Pages Filling indication**

Occurs when the greatest percentage of used page sets among all page sets on the queue manager is greater than or equal to the High Page Set Used threshold. This indication occurs only for proxy mode z/OS.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

A WebSphere MQ queue manager's page-set usage has exceeded the threshold.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User's Guide*.

This indication has the following attributes:

**High_page_set_used_threshold**

Value configured for the corresponding resource model threshold.

**Queue_manager_name**

Name of the queue manager being monitored. (Key attribute)

**application_class**

Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**

Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**

Tivoli object ID of the queue manager object.

**application_version**

WebSphere MQ command level (for example, 530) for the queue manager.

**Page_set_used**

Greatest percentage of used pages among all page sets on the queue manager.

**Queue_manager_hostname**

Host name of the queue manager as follows:
For distributed platforms, the host name of the endpoint where the queue manager resides.

For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.

For a remotely administered queue manager, the host name where the target queue manager resides.

This indication has the following threshold:

- High Page Set Used

The following table describes the default settings for this indication:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 98 for details.

Note: If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

Queue Manager Authority Manager Problem indication

Occurs when messages on the system authorization queue are not being read. This condition exists when the number of input handles on the SYSTEM.AUTH.DATA.QUEUE is zero. This indicates that the Object Authority Manager (OAM) has not opened the system authorization queue for reading and is, therefore, unable to validate access requests from the queue manager.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

A WebSphere MQ authority manager problem has been detected.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

- **Input_handles**
  Number of handles that are open for the SYSTEM.AUTH.DATA.QUEUE.

- **Queue_manager_name**
  Name of the queue manager being monitored. (Key attribute)

- **application_class**
  Tivoli class of the queue manager object to which the resource model was
distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Queue_manager_hostname**
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

**Queue_name**
Name of the queue being monitored: SYSTEM.AUTH.DATA.QUEUE

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See "Tasks and built-in actions" on page 98 for details.

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Queue Manager Channel Initiator Problem indication**
Occurs when messages on the system channel initiation queue are not being read. This condition exists when the following criteria are met:
- For queue managers on distributed platforms, the number of input handles on the SYSTEM.CHANNEL.INITQ is zero.
- For queue managers on proxy mode z/OS systems, the status of the channel initiator is down. If the status of the channel initiator cannot be determined, the number of input handles on the SYSTEM.CHANNEL.INITQ is checked to see if it is zero.
When this condition exists, channels that are started by triggering on the channel’s transmission queue cannot be started. Messages remain on the transmission queue and are not sent to their destinations.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

A WebSphere MQ queue manager channel initiator problem has been detected.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Channel_initiator_status_down**
Percentage value indicating that the status of the queue manager’s channel initiator is DOWN. If the channel initiator status is down, the attribute has a value of 100. If the channel initiator status is not down, the attribute has a value of 0.

**Channel_initiator_status_unknown**
Percentage value indicating that the status of the queue manager’s channel initiator is unknown. If the channel initiator status is unknown, the attribute has a value of 100. If the channel initiator status is not unknown, the attribute has a value of 0.

**Channel_initiator_status_up**
Percentage value indicating that the status of the queue manager’s channel initiator is UP. If the channel initiator status is up, the attribute has a value of 100. If the channel initiator status is not up, the attribute has a value of 0.

**Input_handles**
Number of input handles that are open for the SYSTEM.CHANNEL.INITQ queue.

**Queue_manager_hostname**
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
• For a remotely administered queue manager, the host name where the
target queue manager resides.

**Queue_name**
Name of the queue being monitored, SYSTEM.CHANNEL.INITQ

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 98 for details.

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Queue Manager Channel Listener Not Running indication**
Occurs when the status of the channel listener is down. When the channel listener is down, the queue manager is not able to accept incoming requests to start responder message channel agents. This indication occurs only for proxy mode z/OS.

**Note:** The status of the channel listener is reported as down when all available channel listeners are not running.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:
A WebSphere MQ queue manager's channel listener is down.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.
application_label
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

application_oid
Tivoli object ID of the queue manager object.

application_version
WebSphere MQ command level (for example, 530) for the queue manager.

Channel_listener_status_down
Current status of the queue manager’s channel listener is DOWN. If the channel initiator status is up, the attribute has a value of 100. If the channel initiator status is not up, the attribute has a value of 0.

Channel_listener_status_unknown
Current status of the queue manager’s channel listener is unknown.

Channel_listener_status_up
Current status of the queue manager’s channel listener is UP.

Queue_manager_hostname
Host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 98 for details.

Note: If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

Queue Manager Cluster Communication Problem indication
Occurs when messages on the cluster command queue are not being read. This condition exists when the number of input handles on the SYSTEM.CLUSTER.COMMAND.QUEUE is zero. This indicates that cluster repository information is not being correctly exchanged between the queue manager and other queue managers in the cluster, causing cluster resources to be unavailable.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:
A WebSphere MQ queue manager cluster communication problem has been detected.
If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Queue_manager_name**  
Name of the queue manager being monitored. (Key attribute)

**application_class**  
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**  
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**  
Tivoli object ID of the queue manager object.

**application_version**  
WebSphere MQ command level for the queue manager, for example, 530.

**Input_handles**  
Number of input handles that are open for the SYSTEM.CLUSTER.COMMAND.QUEUE queue.

**Queue_manager_hostname**  
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

**Queue_name**  
Name of the queue being monitored, SYSTEM.CLUSTER.COMMAND.QUEUE.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 98 for details.
**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Queue Manager Cluster Repository Problem indication**

Occurs when messages on the cluster repository queue are not being read. This condition exists when the number of input handles on the SYSTEM.CLUSTER.REPOSITORY.QUEUE is zero. This indicates that information about cluster resources is unavailable to the queue manager.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

> A WebSphere MQ queue manager cluster repository problem has been detected.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Queue_manager_name**

Name of the queue manager being monitored. (Key attribute)

**application_class**

Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**

Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**

Tivoli object ID of the queue manager object.

**application_version**

WebSphere MQ command level for the queue manager, for example, 530.

**Input_handles**

Number of input handles that are open for the SYSTEM.CLUSTER.REPOSITORY.QUEUE queue.

**Queue_manager_hostname**

Host name of the queue manager as follows:

- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

**Queue_name**

Name of the queue being monitored,

SYSTEM.CLUSTER.REPOSITORY.QUEUE.

This indication does not have thresholds.
The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems</td>
<td>No</td>
</tr>
<tr>
<td>Manager</td>
<td></td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See ”Tasks and built-in actions” on page 98 for details.

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Queue Manager Cluster Transmission Problem indication**

Occurs when messages on the system cluster transmission queue are not being read. This condition exists when the number of input handles on the SYSTEM.CLUSTER.TRANSMIT.QUEUE is zero. This indicates that cluster repository information is not being exchanged correctly between the queue manager and other queue managers in the cluster, causing cluster resources to be unavailable.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

A WebSphere MQ queue manager cluster transmission problem has been detected.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

**Queue_manager_name**

Name of the queue manager being monitored. (Key attribute)

**application_class**

Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**

Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**

Tivoli object ID of the queue manager object.

**application_version**

WebSphere MQ command level for the queue manager, for example, 530.
Input handles
Number of input handles that are open for the SYSTEM.CLUSTER.TRANSMIT.QUEUE queue.

Queue_manager_hostname
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

Queue_name
Name of the queue being monitored, SYSTEM.CLUSTER.TRANSMIT.QUEUE.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 98 for details.

Note: If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

Queue Manager DLQ Handler Is Not Running indication
Occurs when the dead-letter queue (DLQ) handler is not processing messages on the DLQ. This condition exists when the following criteria are met:
- The number of input handles on the DLQ is zero, indicating that the DLQ handler has not opened the queue for reading messages.
- Messages are on the DLQ.

Under these conditions, the DLQ eventually fills, causing messages that cannot be routed to be lost.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:
A WebSphere MQ queue manager's DLQ handler is not running.
If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Input_handles**
Number of input handles that are open on the dead-letter queue.

**Queue_manager_hostname**
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

**Queue_messages_outstanding**
Number of messages (queue depth) that are on the dead-letter queue.

**Queue_name**
Name of the dead-letter queue.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

*Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 98 for details.
Note: If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Queue Manager Event Adapter Communication Problem indication**

Occurs when the WebSphere MQ event adapter is caching events instead of sending the events to the event server. This indication occurs only for distributed platforms. This condition exists when the following criteria are met:

- The number of input handles on the event queue is greater than zero, indicating that the event adapter is reading events from the event queue.
- The size of the event adapter’s cache file increased since the last cycle.

The cache file is the file that was specified when the event adapter was configured using the Configure Event Adapter task.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

*A WebSphere MQ queue manager event adapter communication problem has been detected.*

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Queue_manager_name**

Name of the queue manager being monitored. (Key attribute)

**application_class**

Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**

Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**

Tivoli object ID of the queue manager object.

**application_version**

WebSphere MQ command level for the queue manager, for example, 530.

**Input_handles**

Number of input handles that are open on the event adapter queue.

**Queue_manager_hostname**

Host name of the endpoint where the queue manager resides.

**TEC_adapter_queue_name**

Name of the event adapter queue.

**TEC_cache_size**

Size of the event adapter cache file in KB.

This indication does not have thresholds.
The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See “Tasks and built-in actions” on page 98 for details.

**Note:** If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Queue Manager Event Adapter Not Running indication**

Occurs when the WebSphere MQ event adapter is not reading messages from the event queue. This indication occurs only for distributed platforms. This condition exists when the following criteria are met:

- The number of input handles on the event queue is zero, indicating that the event adapter has not opened the queue for getting events
- Messages are on the event queue

This condition causes the event queue to eventually fill up and event messages will be lost. The event queue is the queue that was specified when the event adapter was configured using the Configure Event Adapter task.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

A WebSphere MQ queue manager's event adapter is not running.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

**Queue_manager_name**

Name of the queue manager being monitored. (Key attribute)

**application_class**

Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**

Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**

Tivoli object ID of the queue manager object.
application_version
WebSphere MQ command level for the queue manager, for example, 530.

Input_handles
Number of input handles that are open on the event adapter queue.

Queue_manager_hostname
Host name of the endpoint where the queue manager resides.

Queue_messages_outstanding
Number of messages (queue depth) that are on the event queue.

TEC_adapter_queue_name
Name of the event adapter queue.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See "Tasks and built-in actions" on page 98 for details.

Note: If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

Queue Manager Is Inoperable indication
Occurs when the command server is not reading messages from the system command queue. This condition exists when the following criteria are met:

- For queue managers on distributed or remote platforms, the number of input handles on the SYSTEM.ADMIN.COMMAND.QUEUE is zero.
- For queue managers on proxy mode z/OS systems, the status of the command server is down. If the status of the command server cannot be determined, the number of input handles on the SYSTEM.COMMAND.INPUT queue is checked to see if it is zero.

When this condition exists, the queue manager cannot process PCF or remote MQSC commands.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format: 
A WebSphere MQ queue manager’s command server is not running.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.
This indication has the following attributes:

**Queue_manager_name**
Name of the queue manager being monitored. (Key attribute)

**application_class**
Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**
Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**
Tivoli object ID of the queue manager object.

**application_version**
WebSphere MQ command level for the queue manager, for example, 530.

**Command_server_status_down**
Percentage value indicating that the current status of the queue manager command server is DOWN. If the command server status is down, the attribute has a value of 100. If the command server status is not down, the attribute has a value of 0.

**Command_server_status_unknown**
Percentage value indicating that the current status of the queue manager command server is UNKNOWN. If the command server status is unknown, the attribute has a value of 100. If the command server status is not unknown, the attribute has a value of 0.

**Command_server_status_up**
Percentage value indicating that the current status of the queue manager command server is UP. If the command server status is up, the attribute has a value of 100. If the command server status is not up, the attribute has a value of 0.

**Queue_manager_hostname**
Host name of the queue manager as follows:
- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>
Recovery tasks are available for this indication. See "Tasks and built-in actions" on page 98 for details.

Note: If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

**Queue Manager Unavailable indication**

Occurs when the status of the queue manager is down or when the status cannot be determined. If the current status of the queue manager is down or unknown, the status of the queue manager icon is updated on the Tivoli desktop.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

* A WebSphere MQ queue manager is unavailable.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User's Guide*.

This indication has the following attributes:

**Queue_manager_name**

Name of the queue manager being monitored. (Key attribute)

**application_class**

Tivoli class of the queue manager object to which the resource model was distributed. For IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models, the class is MqM_QMgr.

**application_label**

Label of the queue manager object to which the resource model was distributed, for example, QM1@WMQ_Server.

**application_oid**

Tivoli object ID of the queue manager object.

**application_version**

WebSphere MQ command level for the queue manager, for example, 530.

**Queue_manager_hostname**

Host name of the queue manager as follows:

- For distributed platforms, the host name of the endpoint where the queue manager resides.
- For proxy mode z/OS, the host name of the endpoint on the machine where the Tivoli Business Systems Manager task server is running.
- For a remotely administered queue manager, the host name where the target queue manager resides.

**Queue_manager_status_down**

Percentage value indicating that the current status of the queue manager is DOWN. If the queue manager status is down, the attribute has a value of 100. If the queue manager status is not down, the attribute has a value of 0.
Queue_manager_status_unknown
Percentage value indicating that the current status of the queue manager is UNKNOWN. If the queue manager status is unknown, the attribute has a value of 100. If the queue manager status is not unknown, the attribute has a value of 0.

Queue_manager_status_up
Percentage value indicating that the current status of the queue manager is UP. If the queue manager status is up, the attribute has a value of 100. If the queue manager status is not up, the attribute has a value of 0.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>3</td>
</tr>
<tr>
<td>Holes</td>
<td>1</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†Recovery tasks are available for this indication. See "Tasks and built-in actions" on page 98 for details.

Note: If you have Tivoli Business Systems Manager configured for your systems, Tivoli Enterprise Console automatically forwards events to Tivoli Business Systems Manager. Do not change the configuration of the indication to send events to Tivoli Business Systems Manager.

Thresholds
The following list shows the name, internal name (in parentheses), a short description, and the default value for each threshold associated with the WebSphere MQ Queue Manager resource model.

<table>
<thead>
<tr>
<th>Threshold</th>
<th>Description</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Channels Active</td>
<td>Indicates when the number of active channels is too high</td>
<td>100</td>
</tr>
<tr>
<td>(WebSphere_MQ_High_ChannelsActive)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Page Set Used Percentage</td>
<td>Indicates when the percentage of page sets used is too high</td>
<td>60%</td>
</tr>
<tr>
<td>(WebSphere_MQ_High_PageSetUsedPercent)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Channels Active</td>
<td>Indicates when the number of active channels is too low</td>
<td>20</td>
</tr>
<tr>
<td>(WebSphere_MQ_Low_ChannelsActive)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Parameters
This resource model does not have parameters.

Tasks and built-in actions
This resource model does not provide any default tasks or built-in actions. However, you can associate recovery tasks with the resource model indications. See Chapter 3, "Tasks," on page 123 for more information about each recovery task.
These recovery tasks are in the WebSphere MQ ITM Tasks task library. All of the recovery tasks run automatically in the context of a queue manager object when you associate a task with a resource model indication.

Not every recovery task applies to all indications for a given resource model. The following list specifies which recovery tasks apply to indications for the WebSphere MQ Queue Manager resource model:

**Change Queue**
- Queue Manager Authority Manager Problem indication
- Queue Manager Cluster Communication Problem indication
- Queue Manager Cluster Repository Problem indication
- Queue Manager Cluster Transmission Problem indication
- Queue Manager DLQ Handler Is Not Running indication

**Clear Local Queue**
- Queue Manager Authority Manager Problem indication
- Queue Manager Cluster Communication Problem indication
- Queue Manager Cluster Repository Problem indication
- Queue Manager Cluster Transmission Problem indication
- Queue Manager DLQ Handler Is Not Running indication

**Move Local Queue Messages**
- Queue Manager Authority Manager Problem indication
- Queue Manager Cluster Communication Problem indication
- Queue Manager Cluster Repository Problem indication
- Queue Manager Cluster Transmission Problem indication
- Queue Manager DLQ Handler Is Not Running indication

**Ping Queue Manager**
All indications for the WebSphere MQ Queue Manager resource model.

**Set Queue Mgr Icon State**
All indications for the WebSphere MQ Queue Manager resource model.

**Start Channel Initiator**
All indications for the WebSphere MQ Queue Manager resource model.

**Start Channel Listener**
All indications for the WebSphere MQ Queue Manager resource model.

**Start Command Server**
All indications for the WebSphere MQ Queue Manager resource model.

**Start DLQ Handler**
All indications for the WebSphere MQ Queue Manager resource model.

**Start Queue Manager**
- High Number of Active Channels indication
- Queue Manager Channel Initiator Problem indication
- Queue Manager Cluster Communication Problem indication
- Queue Manager Cluster Repository Problem indication
- Queue Manager Cluster Transmission Problem indication

**Start TEC Adapter**
All indications for the WebSphere MQ Queue Manager resource model.
Start Trigger Monitor
All indications for the WebSphere MQ Queue Manager resource model.

Logging
You can log data for properties of the managed resources listed in the following table. The table shows the context of each managed resource and the properties that the resource model logs for the IBM Tivoli Monitoring Web Health Console.

Note: If any one numeric metric within a context cannot be retrieved, the context is not logged.

<table>
<thead>
<tr>
<th>Managed resource</th>
<th>Context</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>For distributed platforms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebSphere_MQ_Queue_Manager</td>
<td>Information</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_command_level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_platform</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• TEC_cache_size</td>
</tr>
<tr>
<td>WebSphere_MQ_Queue_Manager</td>
<td>Channel Statistics</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number_of_channels_active</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number_of_channels_not_active</td>
</tr>
<tr>
<td>WebSphere_MQ_Queue_Manager</td>
<td>Command Server Status</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Command_server_status_up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Command_server_status_down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Command_server_status_unknown</td>
</tr>
<tr>
<td>WebSphere_MQ_Queue_Manager</td>
<td>Message Statistics</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Dead_letter_queue_messages</td>
</tr>
<tr>
<td>WebSphere_MQ_Queue_Manager</td>
<td>Queue Manager Status</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_status_down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_status_unknown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_status_up</td>
</tr>
<tr>
<td>WebSphere_MQ_Queue_Manager</td>
<td>Utilization Statistics</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Percentage_of_channels_active¹</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Percentage_of_channels_not_active²</td>
</tr>
<tr>
<td>For proxy mode z/OS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebSphere_MQ_OS390_Queue_Manager</td>
<td>Information</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_command_level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_platform</td>
</tr>
<tr>
<td>WebSphere_MQ_OS390_Queue_Manager</td>
<td>Channel Initiator Status</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Channel_initiator_status_down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Channel_initiator_status_unknown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Channel_initiator_status_up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td>Managed resource</td>
<td>Context</td>
<td>Properties</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>WebSphere_MQ_OS390_Queue_Manager</td>
<td>Channel Listener Status</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Channel_listener_status_down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Channel_listener_status_unknown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Channel_listener_status_up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td>WebSphere_MQ_OS390_Queue_Manager</td>
<td>Channel Statistics</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number_of_channels_active</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number_of_channels_not_active</td>
</tr>
<tr>
<td>WebSphere_MQ_OS390_Queue_Manager</td>
<td>Command Server Status</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Command_server_status_up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Command_server_status_down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Command_server_status_unknown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td>WebSphere_MQ_OS390_Queue_Manager</td>
<td>Message Statistics</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Dead_letter_queue_messages</td>
</tr>
<tr>
<td>WebSphere_MQ_OS390_Queue_Manager</td>
<td>Queue Manager Status</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_status_up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_status_down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_status_unknown</td>
</tr>
<tr>
<td>WebSphere_MQ_OS390_Queue_Manager</td>
<td>Utilization Statistics</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Page_set_used</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Page_set_unused</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Percentage_of_channels_active¹</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Percentage_of_channels_not_active²</td>
</tr>
<tr>
<td>For remotely administered resources</td>
<td></td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td>WebSphere_MQ_RA_Queue_Manager</td>
<td>Information</td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_command_level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_platform</td>
</tr>
<tr>
<td>Managed resource</td>
<td>Context</td>
<td>Properties</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>WebSphere_MQ_RA_Queue_Manager</td>
<td>Channel Statistics</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number_of_channels_active</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number_of_channels_not_active</td>
</tr>
<tr>
<td>WebSphere_MQ_RA_Queue_Manager</td>
<td>Command Server Status</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Command_server_status_up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Command_server_status_down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Command_server_status_unknown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td>WebSphere_MQ_RA_Queue_Manager</td>
<td>Message Statistics</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Dead_letter_queue_messages</td>
</tr>
<tr>
<td>WebSphere_MQ_RA_Queue_Manager</td>
<td>Queue Manager Status</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_status_up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_status_down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queue_manager_status_unknown</td>
</tr>
<tr>
<td>WebSphere_MQ_RA_Queue_Manager</td>
<td>Utilization Statistics</td>
<td>• Queue_manager_name*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CTQ_HOST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LAST_IP_ADDRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Percentage_of_channels_active(^1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Percentage_of_channels_not_active(^2)</td>
</tr>
</tbody>
</table>

An asterisk (*) denotes a key property.

\(^1\)Percentage_of_channels_active = (Number_of_channels_active * 100) / (Number_of_channels_active + Number_of_channels_not_active).

\(^2\)Percentage_of_channels_not_active = (Number_of_channels_not_active * 100) / (Number_of_channels_active + Number_of_channels_not_active).

The following list describes the properties that the resource model logs:

**Queue_manager_name**

Name of the queue manager being monitored. (Key attribute)

**Channel_initiator_status_down**

Percentage value indicating that the status of the queue manager’s channel initiator is DOWN. If the channel initiator status is down, the attribute has a value of 100. If the channel initiator status is not down, the attribute has a value of 0.

**Channel_initiator_status_unknown**

Percentage value indicating that the status of the queue manager’s channel
initiator is unknown. If the channel initiator status is unknown, the attribute has a value of 100. If the channel initiator status is not unknown, the attribute has a value of 0.

**Channel_initiator_status_up**
Percentage value indicating that the status of the queue manager’s channel initiator is UP. If the channel initiator status is up, the attribute has a value of 100. If the channel initiator status is not up, the attribute has a value of 0.

**Channel_listener_status_down**
Percentage value indicating that the status of the queue manager’s channel listener is DOWN. If the channel listener status is down, the attribute has a value of 100. If the channel listener status is not down, the attribute has a value of 0.

**Channel_listener_status_unknown**
Percentage value indicating that the status of the queue manager’s channel listener is unknown. If the channel listener status is unknown, the attribute has a value of 100. If the channel listener status is not unknown, the attribute has a value of 0.

**Channel_listener_status_up**
Percentage value indicating that the status of the queue manager’s channel listener is UP. If the channel listener status is up, the attribute has a value of 100. If the channel listener status is not up, the attribute has a value of 0.

**Command_server_status_down**
Percentage value indicating that the status of the queue manager command server is DOWN. If the command server status is down, the attribute has a value of 100. If the command server status is not down, the attribute has a value of 0.

**Command_server_status_unknown**
Percentage value indicating that the status of the queue manager command server is UNKNOWN. If the command server status is unknown, the attribute has a value of 100. If the command server status is not unknown, the attribute has a value of 0.

**Command_server_status_up**
Percentage value indicating that the status of the queue manager command server is UP. If the command server status is up, the attribute has a value of 100. If the command server status is not up, the attribute has a value of 0.

**CTQ_HOST**
For proxy mode z/OS, the fully qualified host name or the SNA domain name for the proxy mode z/OS system where the queue manager resides. For remotely administered queue managers, the fully qualified host name of the remote machine where the queue manager resides. If the fully qualified host name cannot be determined, the short host name is used. If neither the fully qualified host name nor the short host name can be determined, the CTQ_HOST parameter is set to UNKNOWN.

**Dead_letter_queue_messages**
Number of messages (queue depth) that are on the dead-letter queue.

**LAST_IP_ADDRESS**
For proxy mode z/OS, the IP address of the proxy mode z/OS system where the queue manager resides. If SNA is being used, this parameter is
left blank. For remotely administered queue managers, the IP address of the remote machine where the queue manager resides. If the IP address cannot be determined, this parameter is set to UNKNOWN.

**Number_of_channels_active**
Number of active channels for the queue manager.

**Number_of_channels_not_active**
Number of channels that are not active for the queue manager.

**Page_set_used**
Greatest percentage of used pages among all page sets on the queue manager.

**Page_set_unused**
Percentage of page sets unused by the queue manager.

**Percentage_of_channels_active**
Equal to (Number_of_channels_active * 100) / (Number_of_channels_active + Number_of_channels_not_active).

**Percentage_of_channels_not_active**
Equal to (Number_of_channels_not_active * 100) / (Number_of_channels_active + Number_of_channels_not_active).

**Queue_manager_command_level**
WebSphere MQ command level for the queue manager, for example, 530.

**Queue_manager_platform**
Architecture of the platform (UNIX, WINDOWSNT, or MVS) on which the queue manager is running.

**Queue_manager_status_down**
Percentage value indicating that the current status of the queue manager is DOWN. If the queue manager status is down, the attribute has a value of 100. If the queue manager status is not down, the attribute has a value of 0.

**Queue_manager_status_unknown**
Percentage value indicating that the current status of the queue manager is UNKNOWN. If the queue manager status is unknown, the attribute has a value of 100. If the queue manager status is not unknown, the attribute has a value of 0.

**Queue_manager_status_up**
Percentage value indicating that the current status of the queue manager is UP. If the queue manager status is up, the attribute has a value of 100. If the queue manager status is not up, the attribute has a value of 0.

**TEC_cache_size**
Size of the event adapter cache file in KB.

**Return codes**
The following table shows the return code, the displayed code, a description, and the action that the resource model takes for each return code. The displayed code number is displayed in the IBM Tivoli Monitoring Web Health Console status field.
<table>
<thead>
<tr>
<th>Return code</th>
<th>Displayed code</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>940</td>
<td>Unable to start (140)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>950</td>
<td>Unable to start (150)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>955</td>
<td>Unable to start (155)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>960</td>
<td>Unable to start (160)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
<tr>
<td>965</td>
<td>Unable to start (165)</td>
<td>The resource model has been distributed to an object that is not a queue manager object.</td>
<td>The resource model does not start.</td>
</tr>
</tbody>
</table>

**CLI example**

The following example adds the WebSphere MQ Queue Manager resource model to a profile. This example shows the options and default values for every parameter, indication, and threshold for the resource model. You can use this example to modify the default values to meet your needs, and you can omit any options for which you want to use the default values.

```
wdmeditprf -P $PROFILE -add WebSphere_MQ.QueueManager -c 180 \ 
-Log -LogDisable -p 12.00 -Agg no -ap 00:15 -NoMin -NoMax -Avg \ 
-t WebSphere_MQ.HighPageSetUsedPercent 60.000000 \ 
-t WebSphere_MQ.LowChannelsActive 20.000000 \ 
-t WebSphere_MQ.HighChannelsActive 100.000000 \ 
-e WebSphere_MQ.ClusterRepositoryProblem \ 
- o 3 -h 1 -severity CRITICAL -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.ClustInitiatorProblem \ 
- o 3 -h 1 -severity CRITICAL -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.PageSetFilling \ 
- o 3 -h 1 -severity WARNING -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.MgrAuthorityManagerProblem \ 
- o 3 -h 1 -severity CRITICAL -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.MgrEventAdapterCommunicationProblem \ 
- o 3 -h 1 -severity WARNING -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.QueueManagerUnavailable \ 
- o 3 -h 1 -severity CRITICAL -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.MgrClusterTransmissionProblem \ 
- o 3 -h 1 -severity WARNING -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.LowChannelsActive \ 
- o 4 -h 1 -severity WARNING -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.MgrChannelListenerNotRunning \ 
- o 3 -h 0 -severity CRITICAL -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.HighChannelsActive \ 
- o 4 -h 1 -severity WARNING -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.MgrDLQHandlerNotRunning \ 
- o 3 -h 0 -severity MINOR -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.MgrClusterCommunicationProblem \ 
- o 1 -h 0 -severity WARNING -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.QueueManagerInoperable \ 
- o 3 -h 1 -severity WARNING -NoSendTBSM -SendTec \ 
-e WebSphere_MQ.MgrEventAdapterNotRunning \ 
- o 3 -h 0 -severity CRITICAL -NoSendTBSM -SendTec
```

Chapter 2. Resource models 105
Workflow Process Status Monitor resource model

Description

Provides the status of Workflow process instances.

The following table shows the key characteristics of this resource model:

<table>
<thead>
<tr>
<th>Resource model overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal name</td>
</tr>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Indications</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Thresholds</td>
</tr>
<tr>
<td>Parameters</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
</tr>
<tr>
<td>Default cycle time</td>
</tr>
</tbody>
</table>

Supported platforms

The following table summarizes the supported platforms for the Workflow Process Status Monitor resource model by indication:

<table>
<thead>
<tr>
<th>Name</th>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workflow Process Deleted indication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Workflow Process Suspended indication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Workflow Process Suspending indication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Workflow Process Terminated indication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Workflow Process Terminating indication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Workflow Process Undefined indication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Workflow Process Unknown indication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
### Target managed resource

Queue manager

### Indications and events

The following table summarizes the indications for this resource model, the events associated with the indications, the default severity of the events, whether the resource model has clearing events, and where to find a detailed description of the indication. The resource model generates an event based on the settings for the indications. For information about customizing indications, refer to the *IBM Tivoli Monitoring for Business Integration User’s Guide*.

<table>
<thead>
<tr>
<th>Indication</th>
<th>Generated event</th>
<th>Default severity</th>
<th>Clearing events</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workflow Process Deleted</td>
<td>MQWF_Process_deleted</td>
<td>Critical</td>
<td>Yes</td>
<td>107</td>
</tr>
<tr>
<td>Workflow Process Suspended</td>
<td>MQWF_Process_suspended</td>
<td>Warning</td>
<td>Yes</td>
<td>108</td>
</tr>
<tr>
<td>Workflow Process Suspending</td>
<td>MQWF_Process_suspending</td>
<td>Warning</td>
<td>Yes</td>
<td>108</td>
</tr>
<tr>
<td>Workflow Process Terminated</td>
<td>MQWF_Process_terminated</td>
<td>Critical</td>
<td>Yes</td>
<td>109</td>
</tr>
<tr>
<td>Workflow Process Terminating</td>
<td>MQWF_Process_terminating</td>
<td>Critical</td>
<td>Yes</td>
<td>110</td>
</tr>
<tr>
<td>Workflow Process Undefined</td>
<td>MQWF_Process_undefined</td>
<td>Critical</td>
<td>Yes</td>
<td>110</td>
</tr>
<tr>
<td>Workflow Process Unknown</td>
<td>MQWF_Process_unknown</td>
<td>Critical</td>
<td>Yes</td>
<td>111</td>
</tr>
</tbody>
</table>

**Workflow Process Deleted indication**

Occurs when the Workflow process has been deleted.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

*Process state is deleted.*

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

- **Name**  Specifies the name of the workflow process. (Key attribute)
- **Workflow Server Name**  Specifies the configuration name of the workflow server being monitored.
- **Qmgrname**  Specifies the name of the queue manager that owns the workflow process.
This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None</td>
</tr>
</tbody>
</table>

**Workflow Process Suspended indication**

Occurs when the Workflow process has been suspended.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

```
Process state is suspended.
```

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

- **Name**  Specifies the name of the workflow process. (Key attribute)
- **Workflow_Server_Name**
  Specifies the configuration name of the workflow server being monitored.
- **Qmgrname**
  Specifies the name of the queue manager that owns the workflow process.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None</td>
</tr>
</tbody>
</table>

**Workflow Process Suspending indication**

Occurs when the Workflow process is currently suspending.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:
Process state is suspending.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

Name  Specifies the name of the workflow process. (Key attribute)

Workflow_Server_Name  Specifies the configuration name of the workflow server being monitored.

Qmgrname  Specifies the name of the queue manager that owns the workflow process.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>2</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None</td>
</tr>
</tbody>
</table>

Workflow Process Terminated indication

Occurs when the Workflow process has been terminated.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

Process state is terminated.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

Name  Specifies the name of the workflow process. (Key attribute)

Workflow_Server_Name  Specifies the configuration name of the workflow server being monitored.

Qmgrname  Specifies the name of the queue manager that owns the workflow process.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Workflow Process Terminating indication

Occurs when the Workflow process is terminating.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

```
Process state is terminating.
```

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Name**  
Specifies the name of the workflow process. (Key attribute)

**Workflow_Server_Name**  
Specifies the configuration name of the workflow server being monitored.

**Qmgrname**  
Specifies the name of the queue manager that owns the workflow process.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None</td>
</tr>
</tbody>
</table>

### Workflow Process Undefined indication

Occurs when the Workflow process in an undefined state.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

```
Process state is undefined.
```

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.
This indication has the following attributes:

**Name**  Specifies the name of the workflow process. (Key attribute)

**Workflow_Server_Name**  
Specifies the configuration name of the workflow server being monitored.

**Qmgrname**  
Specifies the name of the queue manager that owns the workflow process.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None</td>
</tr>
</tbody>
</table>

**Workflow Process Unknown indication**

Occurs when the Workflow process is in an unknown state. This can indicate that an error occurred while retrieving process status.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

*Process state is unknown.*

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide.*

This indication has the following attributes:

**Name**  Specifies the name of the workflow process. (Key attribute)

**Workflow_Server_Name**  
Specifies the configuration name of the workflow server being monitored.

**Qmgrname**  
Specifies the name of the queue manager that owns the workflow process.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Setting</td>
<td>Default value</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None</td>
</tr>
</tbody>
</table>

**Thresholds**

This resource model does not have thresholds.

**Parameters**

This resource model does not have parameters.

**Tasks and built-in actions**

This resource model does not have tasks and built-in actions.

**Logging**

You can log data for properties of the managed resources listed in the following table. The table shows the context of each managed resource and the properties that the resource model logs for the IBM Tivoli Monitoring Web Health Console.

**Note:** If any one numeric metric within a context cannot be retrieved, the context is not logged.

<table>
<thead>
<tr>
<th>Managed resource</th>
<th>Context</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workflow_Process</td>
<td>MQWF</td>
<td>• MQ_Workflow_Status_Deleted&lt;br&gt;• MQ_Workflow_Status_Finished&lt;br&gt;• MQ_Workflow_Status_Ready&lt;br&gt;• MQ_Workflow_Status_RUNNING&lt;br&gt;• MQ_Workflow_Status_Suspended&lt;br&gt;• MQ_Workflow_Status_Suspending&lt;br&gt;• MQ_Workflow_Status_Terminated&lt;br&gt;• MQ_Workflow_Status_Terminating&lt;br&gt;• MQ_Workflow_Status_Undefined&lt;br&gt;• MQ_Workflow_Status_Unknown&lt;br&gt;• Name*&lt;br&gt;• Workflow_QMgr.QMgrCmdLevel&lt;br&gt;• Workflow_QMgr.QMgrName*&lt;br&gt;• Workflow_QMgr.QMgrPlatform&lt;br&gt;• Workflow_Server.Name*</td>
</tr>
</tbody>
</table>

An asterisk (*) denotes a key property.

The following list describes the properties that the resource model logs:

**MQ_Workflow_Status_Deleted**

A numeric value of 100 if the queue manager process is deleted and 0 if the queue manager process is not deleted.

**MQ_Workflow_Status_Finished**

A numeric value of 100 if the queue manager process is complete and 0 if the queue manager process is not complete.
MQ_Workflow_Status_Ready  
A numeric value of 100 if the queue manager is ready and 0 if the queue manager is not ready.

MQ_Workflow_Status_Running  
A numeric value of 100 if the queue manager is running and 0 if the queue manager is not running.

MQ_Workflow_Status_Suspended  
A numeric value of 100 if the queue manager process is suspended and 0 if the queue manager process is running.

MQ_Workflow_Status_Suspending  
A numeric value of 100 if the queue manager process is suspending and 0 if the queue manager process is running.

MQ_Workflow_Status_Terminated  
A numeric value of 100 if the queue manager process is terminated and 0 if the queue manager process is running.

MQ_Workflow_Status_Terminating  
A numeric value of 100 if the queue manager process is terminating and 0 if the queue manager process is running.

MQ_Workflow_Status_Undefined  
A numeric value of 100 if the queue manager is undefined and 0 if the queue manager is defined.

MQ_Workflow_Status_Unknown  
A numeric value of 100 if the queue manager is unknown and 0 if the queue manager is known.

Name  Specifies the name of the process. (Key attribute)

Workflow_QMgr.QMgrCmdLevel  
Specifies the command level of the queue manager.

Workflow_QMgr.QMgrName  
Specifies the name of the queue manager. (Key attribute)

Workflow_QMgr.QMgrPlatform  
Specifies the platform of the queue manager.

Workflow_Server.Name  
Specifies the configuration name. (Key attribute)

Return codes
The following table shows the return code, the displayed code, a description, and the action that the resource model takes for each return code. The displayed code number is displayed in the IBM Tivoli Monitoring Web Health Console status field.

<table>
<thead>
<tr>
<th>Return code</th>
<th>Displayed code</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>610</td>
<td>Retrying (10)</td>
<td>The process or Workflow have not been found for this queue manager.</td>
<td>Retries three times in each cycle indefinitely to run the resource model. Restart the processes and create the Workflow configuration for this queue manager.</td>
</tr>
<tr>
<td>Return code</td>
<td>Displayed code</td>
<td>Description</td>
<td>Action</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>620</td>
<td>Retrying (20)</td>
<td>The data for the queue manager has not been found.</td>
<td>Retries three times in each cycle indefinitely to run the resource model. Ensure that the queue manager has not been deleted.</td>
</tr>
<tr>
<td>710</td>
<td>Retrying (110)</td>
<td>The status of a queue manager to which the resource model has been distributed is down.</td>
<td>Retries three times in each cycle indefinitely to run the resource model. Restart the queue manager.</td>
</tr>
<tr>
<td>920</td>
<td>Unable to start (120)</td>
<td>The password is not set.</td>
<td>The resource model does not start. Set the password.</td>
</tr>
<tr>
<td>940</td>
<td>Unable to start (140)</td>
<td>The AMS_INSTANCE_CLASS parameter is not defined.</td>
<td>The resource model does not start. Distribute against the MqM_QMgr object.</td>
</tr>
<tr>
<td>950</td>
<td>Unable to start (150)</td>
<td>The MQM_QM_QMGRNAME parameter is not defined.</td>
<td>The resource model does not start. Distribute against the MqM_QMgr object.</td>
</tr>
<tr>
<td>960</td>
<td>Unable to start (160)</td>
<td>OS/390 and remote queue managers are not supported.</td>
<td>The resource model does not start. Redistribute to queue managers other than OS/390 and remote.</td>
</tr>
<tr>
<td>990</td>
<td>Unable to start (190)</td>
<td>The class type is not distributed against an MqM_Qmgr object.</td>
<td>The resource model does not start. Redistribute against an MqM_Qmgr object.</td>
</tr>
</tbody>
</table>

**CLI example**

The following example adds the Workflow Process Status Monitor resource model to a profile manager.

```shell
wdmeditprf -P "my_profile" -add MQWF_ProcessStatus
```
Workflow Status Monitor resource model

Description

Provides the status of key WebSphere MQ and Workflow services. The following list consists of service types for this resource model:

- Administration
- Cleanup
- Scheduling
- Trigger Monitor
- Listener

You can use the Restart Workflow Service task from the MQWF ITM Tasks task library to restart a service if you receive a down indication.

The following table shows the key characteristics of this resource model:

<table>
<thead>
<tr>
<th>Resource model overview</th>
<th>Internal name</th>
<th>MQWF_Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>MQ_Workflow</td>
<td></td>
</tr>
</tbody>
</table>

- **WF Admin Service Down** occurs when the Workflow Admin Service is not running.
- **WF Cleanup Service Down** occurs when the Workflow Cleanup Service is not running.
- **WF Listener Down** occurs when the listener associated with the queue manager is down.
- **WF Scheduling Service Down** occurs when the Workflow Scheduling Service is not running.
- **WF Trigger Monitor Down** occurs when the trigger monitor for the queue manager associated with the Workflow configuration is not running.

<table>
<thead>
<tr>
<th>Throttles</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameters</td>
<td>Yes</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>No</td>
</tr>
<tr>
<td>Default cycle time</td>
<td>300 seconds</td>
</tr>
</tbody>
</table>

This resource model does not provide any default tasks or built-in actions. However, you can associate recovery tasks with the resource model indications. See "Tasks and built-in actions" on page 120 for details.

Supported platforms

The following table summarizes the supported platforms for the Workflow Status Monitor resource model by indication:

<table>
<thead>
<tr>
<th>Name</th>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>WF Admin Service Down indication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>WF Cleanup Service Down indication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>WF Listener Down indication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
### Target managed resource

Queue manager

### Indications and events

The following table summarizes the indications for this resource model, the events associated with the indications, the default severity of the events, whether the resource model has clearing events, and where to find a detailed description of the indication. The resource model generates an event based on the settings for the indications. For information about customizing indications, refer to the *IBM Tivoli Monitoring for Business Integration User’s Guide*.

<table>
<thead>
<tr>
<th>Indication</th>
<th>Generated event</th>
<th>Default severity</th>
<th>Clearing events</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>WF Admin Service Down</td>
<td>MQWF_Admin_Down</td>
<td>Critical</td>
<td>Yes</td>
<td>116</td>
</tr>
<tr>
<td>WF Cleanup Service Down</td>
<td>MQWF_Cleanup_Down</td>
<td>Warning</td>
<td>Yes</td>
<td>117</td>
</tr>
<tr>
<td>WF Listener Down</td>
<td>MQWF_Listener_Down</td>
<td>Critical</td>
<td>Yes</td>
<td>117</td>
</tr>
<tr>
<td>WF Scheduling Service Down</td>
<td>MQWF_Scheduler_Down</td>
<td>Critical</td>
<td>Yes</td>
<td>118</td>
</tr>
<tr>
<td>WF Trigger Monitor Down</td>
<td>MQWF_Trigger_Down</td>
<td>Critical</td>
<td>Yes</td>
<td>119</td>
</tr>
</tbody>
</table>

**WF Admin Service Down indication**

Occurs when the Workflow Admin Service is not running.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

*Workflow Admin Service is down.*

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User’s Guide*.

This indication has the following attributes:

**Name**  
Specifies the configuration name of the service. (Key attribute)

**Qmgrname**

Specifies the name of the queue manager that owns the workflow process.

This indication does not have thresholds.
The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†A recovery task is available for this indication. See "Tasks and built-in actions" on page 120 for details.

**WF Cleanup Service Down indication**

Occurs when the Workflow Cleanup Service is not running.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

```
Cleanup Service is down.
```

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the *IBM Tivoli Monitoring User's Guide*.

This indication has the following attributes:

- **Name** Specifies the configuration name of the service. (Key attribute)
- **Qmgrname** Specifies the name of the queue manager that owns the workflow process.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†A recovery task is available for this indication. See "Tasks and built-in actions” on page 120 for details.

**WF Listener Down indication**

Occurs when the listener associated with the queue manager is down.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:
Workflow Listener is Down.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

Name  Specifies the configuration name of the service. (Key attribute)

Qmgrname  Specifies the name of the queue manager that owns the workflow process.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†A recovery task is available for this indication. See “Tasks and built-in actions” on page 120 for details.

WF Scheduling Service Down indication

Occurs when the Workflow Scheduling Service is not running.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:

Workflow Scheduling Service is down.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User’s Guide.

This indication has the following attributes:

Name  Specifies the configuration name of the service. (Key attribute)

Qmgrname  Specifies the name of the queue manager that owns the workflow process.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
</tbody>
</table>
WF Trigger Monitor Down indication
Occurs when the trigger monitor for the queue manager associated with the Workflow configuration is not running.

When the indication occurs often enough to trigger an event, the event delivers a message to the Tivoli Enterprise Console in the following format:
MQSeries Trigger Monitor is down.

If you do not have Tivoli Enterprise Console, you can check the health of this resource model in the Web Health Console. For information about the Web Health Console, refer to the IBM Tivoli Monitoring User's Guide.

This indication has the following attributes:
Name Specifies the configuration name of the service. (Key attribute)
Qmgrname Specifies the name of the queue manager that owns the workflow process.

This indication does not have thresholds.

The following table describes the default settings for this indication.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†A recovery task is available for this indication. See “Tasks and built-in actions” on page 120 for details.

Thresholds
This resource model does not have thresholds.

Parameters
The following table lists the parameters that can be set for the Workflow Status Monitor resource model. The table shows the name, a short description, and the default value for each parameter:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send event to Tivoli Enterprise Console</td>
<td>Yes</td>
</tr>
<tr>
<td>Send event to Tivoli Business Systems Manager</td>
<td>No</td>
</tr>
<tr>
<td>Clearing events</td>
<td>Yes</td>
</tr>
<tr>
<td>Occurrences</td>
<td>1</td>
</tr>
<tr>
<td>Holes</td>
<td>0</td>
</tr>
<tr>
<td>Tasks and built-in actions</td>
<td>None†</td>
</tr>
</tbody>
</table>

†A recovery task is available for this indication. See “Tasks and built-in actions” on page 120 for details.
**Tasks and built-in actions**

This resource model does not provide any default tasks or built-in actions. However, you can associate a recovery task with the resource model indications. See Chapter 3, “Tasks,” on page 123 for more information about recovery tasks.

Not every recovery task applies to all indications for a given resource model. However, all indications apply to the **Restart Workflow Services** recovery task for the Workflow Status Monitor resource model.

This recovery task is in the MQWF ITM Tasks task library. All recovery tasks run automatically in the context of a queue manager object when you associate a task with a resource model indication.

**Logging**

You can log data for properties of the managed resources listed in the following table. The table shows the context of each managed resource and the properties that the resource model logs for the IBM Tivoli Monitoring Web Health Console.

**Note:** If any one numeric metric within a context cannot be retrieved, the context is not logged.

<table>
<thead>
<tr>
<th>Managed resource</th>
<th>Context</th>
<th>Properties</th>
</tr>
</thead>
</table>
| Workflow_Server  | MQWF    | • MQ_Workflow_Status_Down  
|                  |         | • MQ_Workflow_Status_Up  
|                  |         | • Name*  
|                  |         | • State  
|                  |         | • Type  
|                  |         | • Workflow_QMgr.QMgrCmdLevel  
|                  |         | • Workflow_QMgr.QMgrName*  
|                  |         | • Workflow_QMgr.QMgrPlatform  |

An asterisk (*) denotes a key property.

The following list describes the properties that the resource model logs:

**MQ_Workflow_Status_Down**

A numeric value of 100 if the queue manager is down and 0 if the queue manager is running.

**MQ_Workflow_Status_Up**

A numeric value of 100 if the queue manager is running and 0 if the queue manager is down.
**Name**  Specifies the configuration name of the service. (Key attribute)

**State**  Specifies if the queue manager is up or down.

**Type**  Specifies the type of services monitored.

**Workflow.QMgr.QMgrCmdLevel**  
Specifies the command level of the queue manager.

**Workflow.QMgr.QMgrName**  
Specifies the name of the queue manager. (Key attribute)

**Workflow.QMgr.QMgrPlatform**  
Specifies the platform of the queue manager.

### Return codes

The following table shows the return code, the displayed code, a description, and the action that the resource model takes for each return code. The displayed code number is displayed in the IBM Tivoli Monitoring Web Health Console status field.

<table>
<thead>
<tr>
<th>Return code</th>
<th>Displayed code</th>
<th>Description</th>
<th>Action</th>
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<tbody>
<tr>
<td>610</td>
<td>Retrying (10)</td>
<td>The Workflow has not been found for this queue manager.</td>
<td>Retries three times in each cycle indefinitely to run the resource model. Create the Workflow configuration for this queue manager.</td>
</tr>
<tr>
<td>620</td>
<td>Retrying (20)</td>
<td>The data for the queue manager has not been found.</td>
<td>Retries three times in each cycle indefinitely to run the resource model. Ensure that the queue manager has not been deleted.</td>
</tr>
<tr>
<td>710</td>
<td>Retrying (110)</td>
<td>The status of a queue manager to which the resource model has been distributed is down.</td>
<td>Retries three times in each cycle indefinitely to run the resource model. Restart the queue manager.</td>
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<tr>
<td>920</td>
<td>Unable to start (120)</td>
<td>The password is not set.</td>
<td>The resource model does not start. Set the password.</td>
</tr>
<tr>
<td>940</td>
<td>Unable to start (140)</td>
<td>The AMS_INSTANCE_CLASS parameter is not defined.</td>
<td>The resource model does not start. Distribute against the MqM_QMgr object.</td>
</tr>
<tr>
<td>950</td>
<td>Unable to start (150)</td>
<td>The MQM_QM_QMGRNAME parameter is not defined.</td>
<td>The resource model does not start. Distribute against the MqM_QMgr object.</td>
</tr>
<tr>
<td>960</td>
<td>Unable to start (160)</td>
<td>OS/390 and remote queue managers are not supported.</td>
<td>The resource model does not start. Redistribute to queue managers other than OS/390 and remote.</td>
</tr>
<tr>
<td>990</td>
<td>Unable to start (190)</td>
<td>The class type is not distributed against an MqM_Qmgr object.</td>
<td>The resource model does not start. Redistribute against an MqM_Qmgr object.</td>
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</tbody>
</table>
CLI example

The following example adds the Workflow Status Monitor resource model to a profile manager.

wdmeditprf -P "my_profile" -add MQWF_Status
Chapter 3. Tasks

IBM Tivoli Monitoring for Business Integration: WebSphere MQ provides utility tasks and operational tasks. Utility tasks enable you to set up and perform common functions, such as deleting log files. You can only run utility tasks from the task library. Operational tasks enable you to manage WebSphere MQ resources. You can run operational tasks in one or more of the following ways:

- From an icon context menu
- From the Queue Manager Control Center
- From a task library
- From the desktop navigator

You might find that running a task from a context menu or from the Queue Manager Control Center is easier than running the task from the task library. For more information about running tasks, refer to Chapter 8, Working with tasks and jobs, in the IBM Tivoli Monitoring for Business Integration User’s Guide.

Table 6 contains a list of the tasks that IBM Tivoli Monitoring for Business Integration: WebSphere MQ provides and the page where you can find detailed information about each task. The tasks in the table are listed by type.

**Table 6. IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks**

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<tr>
<th>Type of Task</th>
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<td>Change Authentication</td>
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<td>Create Authentication</td>
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<td>Start Channel Initiator</td>
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<td>Reset Cluster Queue Manager</td>
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<td>Resume Cluster Queue Manager</td>
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<td>Suspend Cluster Queue Manager</td>
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<td>Display MQSeries Files</td>
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<td>Dump Log</td>
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<td>Record Media Image</td>
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<td>Recreate Object</td>
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<td>Start Debug Option</td>
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<td>Display Status of Queue Mgrs</td>
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<td>Display WMQI Objects</td>
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<td><strong>Recovery</strong></td>
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<td>Ping Queue Manager</td>
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Table 6. IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks (continued)

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The following list contains descriptions of the types of tasks:

**Authentication tasks**

Authentication tasks enable you to manage authentication information objects. These objects most commonly contain the definitions required to perform Certificate Revocation List (CRL) checking using LDAP servers. You can access Authentication tasks from a queue manager icon context menu or from the Queue Manager Control Center. You cannot run Authentication tasks from the Authentication Tasks task library.

**Channel tasks**

Channel tasks enable you to create and administer channels. You can access channel tasks from a queue manager icon context menu, the Queue Manager Control Center, or the Channel Tasks task library. The Channel Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

**Note:** The Channel Tasks task library also contains the Start Alternate Channel task, which is an internal task. This task supports internal processing of IBM Tivoli Monitoring for Business Integration: WebSphere MQ functions and is not intended to be run by Tivoli administrators.

**Cluster tasks**

Cluster tasks enable you to create and administer clusters of WebSphere MQ resources. You can run cluster tasks from the queue manager icon context menu, the Queue Manager Control Center, or the Cluster Tasks...
task library. The Cluster Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

**Command server tasks**

Command server tasks enable you to start, stop, or display the status of the command server. You can access command server tasks from the queue manager icon context menu, the Queue Manager Control Center, or the Cmd Server Tasks task library. The Cmd Server Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

**Note:** On proxy mode z/OS, IBM Tivoli Monitoring for Business Integration: WebSphere MQ uses the command server to input many of its commands. If the proxy mode z/OS command server is stopped, many IBM Tivoli Monitoring for Business Integration: WebSphere MQ functions will not work.

**Control tasks**

Control tasks enable you to perform the following actions:

- Display and set user or group authorities for WebSphere MQ objects
- Display the files that are associated with a WebSphere MQ object
- Dump a formatted version of the WebSphere MQ system log
- Back up and recreate an image of a WebSphere MQ object to and from a log
- Start and stop the debug option
- Start a trigger monitor

You can access control tasks only from the Control Tasks task library. The Control Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

**Coupling facility tasks**

Coupling Facility tasks enable you to manage Coupling Facility (CF) application structures for queue managers that belong to a queue sharing group. You can access Coupling Facility tasks from a queue manager icon context menu or from the Queue Manager Control Center. You cannot run Coupling Facility tasks from the Coupling Facilities task library.

**Dead-letter queue handler tasks**

Dead-letter queue handler tasks enable you to manage messages on the dead-letter queue (DLQ). DLQ handler tasks include tasks that enable you to create or modify a DLQ handler rules table and to start and stop the DLQ handler. For distributed platforms, when you start the DLQ handler, the DLQ rules table you select is automatically distributed to the endpoint where the queue manager resides. For more information about DLQ rules tables, refer to the *WebSphere MQ System Administration Guide*.

**Event adapter tasks**

Event adapter tasks enable you to configure, start, and stop a WebSphere MQ event adapter. You can run event adapter tasks from the queue manager icon context menu, the Queue Manager Control Center, or the TEC Adapter Tasks task library. The TEC Adapter Tasks task library is
located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

Install tasks

Install tasks enable you to create a software package for WebSphere MQ software that you can distribute to Tivoli endpoints on distributed platforms. This enables you to install WebSphere MQ software for the first time or upgrade WebSphere MQ software on distributed platforms. You must have Tivoli Software Distribution installed to use the install tasks.

You can run install tasks from the Install Tasks task library. The Install Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

Inventory tasks

Inventory tasks enable you to do the following:

- Save a WebSphere MQ configuration to the Tivoli Inventory database
- Restore a WebSphere MQ configuration from the Tivoli Inventory database to existing queue managers
- Clone a WebSphere MQ configuration that is saved in the Tivoli Inventory database to a new queue manager
- Display a WebSphere MQ configuration that is saved in the Tivoli Inventory database
- Schedule the save and restore operations

You can access Inventory tasks from a queue manager icon context menu or from the Queue Manager Control Center. In addition, the MQSeries Inventory Tasks task library contains jobs that enable you to schedule saving and restoring a queue manager configuration. The MQSeries Inventory Tasks task library is located in the MQSeries Inventory policy region within the Monitoring for WebSphere MQ policy region. Inventory tasks are enabled on a queue manager icon context menu or the Queue Manager Control Center, and the MQSeries Inventory Tasks task library is created when you configure integration with Tivoli Inventory. For more information about integrating with Tivoli Inventory, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide and the IBM Tivoli Monitoring for Business Integration Installation and Setup Guide.

Note: The MQSeries Inventory Tasks task library also contains the following internal tasks: Internal Task 1 and Internal Task 2. These tasks support internal processing of IBM Tivoli Monitoring for Business Integration: WebSphere MQ functions and are not intended to be run by Tivoli administrators.

For OS/400 systems, IBM Tivoli Monitoring for Business Integration: WebSphere MQ, Version 5.1.1 does not support Inventory tasks.

MQSeries link for R/3 tasks

MQSeries Link for R/3 tasks enable you to manage links to the R/3 program. You can access MQSeries link for R/3 tasks from the queue manager icon context menu, the Queue Manager Control Center, or the MQSeries Link for R/3 Tasks task library. The MQSeries Link for R/3
Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

Using MQSeries Link for R/3 tasks on OS/400 relies on the following file locations:

**Error Log**
The error log file SMQERR01.LOG must be placed in the directory named errors under the home directory of the user that starts the servers.

**Start Outbound Server**
The path to smqDestConf file parameter is ignored on OS/400. When an outbound server (SMQSO) starts, the smqDestConf file must be in the home directory of the user that starts the servers.

**Start Inbound Server**
If load balancing is to be used on the inbound server, when an inbound server (SMQSI) starts, the saprfc.ini file must be in the home directory of the user that starts the servers.

**Stop Server**
It is possible to detect only an entire set of servers (SMQSI or SMQSO), not a subset of one server. When the related task runs, all SMQSI servers or all SMQSO servers are stopped.

**Name list tasks**
Name list tasks enable you to define, alter, delete, and display a WebSphere MQ name list. You can access name list tasks from the queue manager icon context menu, the Queue Manager Control Center, or the Name List Tasks task library. The Name List Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

**Process tasks**
Enable you to create and administer a process. You can access process tasks from the queue manager icon context menu, the Queue Manager Control Center, or the Process Tasks task library. The Process Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

**Proxy mode z/OS control tasks**
Control tasks for Proxy mode z/OS enable you to do the following:

- Make a copy of the current active log.
- Display archive log information.
- Define and display maximum messages.
- Display information about the queue-sharing group to which the queue manager is connected.
- Display distributed queueing information for a queue manager.
- Display page set usage.
- Display information about active and indoubt threads and resolve indoubt threads.
- Move messages from one local queue to another.
- Report performance data for a queue.
- Recover a bootstrap data set.
- Modify log system parameter values.
- Stop a channel initiator.

You can access control tasks from the queue manager icon context menu, the Queue Manager Control Center, or the MVS Control Tasks task library. The MVS Control Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

**Proxy mode z/OS security tasks**

Security tasks enable you to display, refresh, and reverify security on proxy mode z/OS. You can access security tasks from the queue manager icon context menu, the Queue Manager Control Center, or the MVS Security Tasks task library. The MVS Security Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

**Proxy mode z/OS storage class tasks**

Storage class tasks enable you to define, alter, delete, and display storage classes on proxy mode z/OS. You can access storage class tasks from the queue manager icon context menu, the Queue Manager Control Center, or the MVS Storage Class Tasks task library. The MVS Storage Class Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

**Proxy mode z/OS trace tasks**

Trace tasks enable you to start, stop, change, and display tracing on proxy mode z/OS. You can access trace tasks from the queue manager icon context menu, the Queue Manager Control Center, or the MVS Trace Tasks task library. The MVS Trace Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

**Queue tasks**

Queue tasks enable you to create and administer queues (local, remote, alias, and model). You can access queue tasks from the queue manager icon context menu, the Queue Manager Control Center, or the Queue Tasks task library. The Queue Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

**Queue manager tasks**

Enable you to create and administer queue managers. You can access queue manager tasks from the queue manager icon context menu, the Queue Manager Control Center, or the Queue Mgr Tasks task library. The Queue Mgr Tasks task library is located in the MQSeries Tasks policy region within each management domain in the Monitoring for WebSphere MQ policy region.

**Note:** The Queue Mgr Tasks task library also contains the following internal tasks: Discover_Queue_Managers_Internal, Start_DLQ_Handler_Internal, and Stop_DLQ_Handler_Internal. These tasks support internal processing of IBM Tivoli Monitoring for Business Integration: WebSphere MQ functions and are not intended to be run by Tivoli administrators.
Recovery tasks

An indication in a resource model can use recovery tasks to correct or report on conditions that the resource model is monitoring. The “Specifying tasks for an indication” section of the IBM Tivoli Monitoring for Business Integration User’s Guide explains how to set up recovery tasks for the indications in a resource model.

IBM Tivoli Monitoring for Business Integration: WebSphere MQ provides recovery tasks that you can use with the following resource models:

- Channel
- Queue
- Queue Manager
- Optional: Workflow Status Monitor

Recovery tasks execute in response to an indication. You must specify tasks to execute when an indication occurs within a resource model. You must decide which task it makes sense to run when the resource model generates an indication. See the IBM Tivoli Monitoring for Business Integration User’s Guide for information on customizing a resource model.

Table 7 shows which recovery tasks are the most applicable to each resource model.

Note: Not all indications for a given resource model apply to every recovery task. See the Tasks and built-in actions section of the resource model to determine if a recovery task applies to a specific indication.

Table 7. Recovery tasks and resource models

<table>
<thead>
<tr>
<th>Recovery tasks</th>
<th>Channel resource model</th>
<th>Queue resource model</th>
<th>Queue Manager resource model</th>
<th>Workflow Status Monitor resource model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change Channel</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Queue</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Clear Local Queue</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Move Local Queue Messages</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Ping Queue Manager</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Restart Workflow Services</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Set Queue Mgr Icon State</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Start Alternate Channel</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start Channel</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start Channel Initiator</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Start Channel Listener</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Start Command Server</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Start DLQ Handler</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Start Execution Service</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Start Queue Manager</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Start TEC Adapter</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>
Table 7. Recovery tasks and resource models (continued)

<table>
<thead>
<tr>
<th>Recovery tasks</th>
<th>Channel resource model</th>
<th>Queue resource model</th>
<th>Queue Manager resource model</th>
<th>Workflow Status Monitor resource model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Trigger Monitor</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

A recovery IBM Tivoli Monitoring task runs when the settings (occurrences and holes) for an indication are met, which is when the health in the Web Health Console reaches zero.

There is no user interaction when the task begins execution. Ideally when a task is successful, the problem detected by the indication is resolved. Errors encountered by the task are not displayed as messages, but they are logged in the task execution trace log file.

In addition, when a task is invoked, the TMW_TaskResult event is sent to the Tivoli Enterprise Console. This event is also displayed in the Tivoli Enterprise Console reception log.

Recovery IBM Tivoli Monitoring tasks operate differently for indications that support clearing events or do not support clearing events. For indications that support clearing events, the task is called only once even when the indication continues to persist. For indications that do not support clearing events, the task is called for each cycle time that the indication persists.

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. These tasks are not specific to any management domain (much like the tasks in the MQSeries TEC Tasks task library).

The only IBM Tivoli Monitoring for Business Integration: WebSphere MQ roles that apply to these tasks are the cross domain roles (similar to the TEC tasks): MQS_user, MQS_admin, and MQS_senior. IBM Tivoli Monitoring does not enforce having roles assigned to a task, but requires users to have the role of admin in order to configure the task to run.

**Tivoli Business Systems Manager tasks**

Enable WebSphere MQ support for Tivoli Business Systems Manager tasks from the Tivoli Business Systems Manager console, with the exception of discovery tasks.

You can run these tasks through the following task libraries:
- MQS TBSM Queue Manager Tasks task library
- MQS TBSM Queue Tasks task library
- MQS TBSM Channel Tasks task library

For information about running tasks in the Tivoli Business Systems Manager console, refer to the *IBM Tivoli Monitoring for Business Integration User's Guide*.

**Tivoli Enterprise Console tasks**
You can run the tasks provided in the MQSeries TEC Tasks task library on the resources identified by specific events on your event console. You can run a task from the MQSeries TEC Tasks task library only on events that belong to the MQSeries event group. You cannot run a task from the MQSeries TEC Tasks task library on events from the resource models.

For information about running a task on an event, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.

Utility tasks

Utility tasks enable you to set up IBM Tivoli Monitoring for Business Integration: WebSphere MQ and to perform common functions, such as deleting log files. You can run most utility tasks from the MQS Utility Tasks task library, and you can also run some utility tasks from the Monitoring for WebSphere MQ icon context menu. Jobs in the MQS Utility Tasks task library are set up to run on the Tivoli server or the event server, as appropriate. The MQS Utility Tasks task library is located in the Monitoring for WebSphere MQ policy region.

Note: The MQS Utility Tasks task library also contains the following internal tasks: MQS List Logs, MQS Run Command, and Internal_Uninstall_Task. These tasks support internal processing of IBM Tivoli Monitoring for Business Integration: WebSphere MQ functions and are not intended to be run by Tivoli administrators.

Workflow tasks

Workflow tasks enable you to monitor the state of WebSphere MQ Workflow services and processes. Workflow server components, also referred to as Workflow services, coordinate and manage WebSphere MQ Workflow systems and clients. Workflow services also track and administer processes.

You can run Workflow tasks only from the Tivoli desktop. You can find the Workflow tasks in the following task libraries:

- MQWF Tasks task library
- MQWF Utility Tasks task library
- MQWF ITM Tasks task library

Workflow tasks in the MQWF ITM Tasks task library are recovery tasks that execute in response to an indication. See the Recovery tasks description for more details.

Note: You must install the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component before you can use Workflow tasks. For more information about installing the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the IBM Tivoli Monitoring for Business Integration Installation and Setup Guide. For information about using the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.

The section for each task describes how to configure and run each task by covering the following information:

Description
A brief description of the task.
Authorization roles
The IBM Tivoli Monitoring for Business Integration: WebSphere MQ and Tivoli authorization roles required to run the task.

User and group ID
The virtual user and group ID under which the task is run.

Supported platforms
The platforms on which the task is supported.

Supported applications
The applications, including the Tivoli desktop, Tivoli Enterprise Manager, Tivoli Business Systems Manager, and corresponding resource model names, from which you can access the task.

Target managed resource
The Tivoli resource to which the task is distributed.

Parameters
A description of the parameters that can be set for the task in the task window.

Usage notes
Additional notes relevant to using the task.
Add MQ Authority

Description
Grants the $tmemqs_user user the proper authorizations to allow monitoring for queue managers created by Workflow. This task runs the `setmqaut` command and grants the $tmemqs_user user the same authorizations as the configuration administrator.

Authorization roles
mqwf_admin

User and group ID
$root_user

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
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</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
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</table>

Supported applications

<table>
<thead>
<tr>
<th>Tivoli desktop</th>
<th>Tivoli Enterprise Console</th>
<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQWF Utility Tasks task library</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
You must run this task only from the Tivoli desktop.

You must install the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component before you can use Workflow tasks. For more information about installing the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the IBM Tivoli Monitoring for Business Integration Installation and Setup Guide. For information about using the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.
Alter Security

**Description**
Defines system-wide security options. This task runs the WebSphere MQ ALTER SECURITY command.

**Authorization roles**
- MQS_senior or MQS_domain_name_senior
- admin

**User and group ID**
$tmemqs_user$ and $tmemqs_group$

**Supported platforms**

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Queue manager icon context menu</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Queue Manager Control Center</td>
<td>No</td>
<td></td>
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<tr>
<td>MVS Security Tasks task library</td>
<td>No</td>
<td></td>
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</tr>
</tbody>
</table>

**Target managed resource**
Queue managers

**Parameters**
See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

**Usage notes**
None
Archive Log

Description
Makes a copy of the current active log following the latest sync point. This task runs the WebSphere MQ ARCHIVE LOG command. Use this task as part of your backup procedure.

User and group ID
$tmemqs_user and $tmemqs_group

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
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<td></td>
<td>No</td>
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</tbody>
</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Backup Coupling Facility

Description

Initiates a backup up of a Coupling Facility (CF) application structure. To ensure that you can recover a CF application structure in a reasonable time, you should back up the CF application structure frequently. This task runs the WebSphere MQ BACKUP CFSTRUCT command.

Authorization roles

- MQS_user or MQS_domain_name_user
- admin

User and group ID

$tmemqs_user and $tmemqs_group

Supported platforms

<table>
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<tr>
<th></th>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
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<tr>
<td>• Queue Manager Control Center</td>
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<tr>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Target managed resource

Queue managers

Parameters

See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes

Command Scope specifies how the command is executed when the queue manager is a member of a queue-sharing group. Backup delay in seconds defines the length of time immediately prior to the current time where the backup starts. The backup excludes the activity in the last specified number of seconds. For example, if 30 is specified, the backup does not include the last 30 seconds worth of activity for this application structure.
Change Authentication

Description
Changes an authentication information object. This task runs the WebSphere MQ ALTER AUTHINFO command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
<thead>
<tr>
<th></th>
<th>Distributed</th>
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<tr>
<td></td>
<td></td>
<td>No</td>
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</tbody>
</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Change Channel

Description
This task runs the WebSphere MQ ALTER CHANNEL command.

Changes the attributes of the following types of channels:
- Client-connection
- Server-connection
- Receiver
- Requester
- Sender
- Server
- Cluster Sender
- Cluster Receiver

For a recovery task:

When using this task as a recovery task, specify the task for Channel resource model indications. The following indication attribute specifies the target channel:

Channel_name
Specifies the names of a channel for which the indication was generated.

The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
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<th>Corresponding resource model</th>
</tr>
</thead>
</table>
Queue manager icon context menu
Queue Manager Control Center
Channel Tasks task library. The Channel Tasks task library provides the following tasks:
- Change C/S Connection
- Change Receiver/Requester Channel
- Change Sender/Server Channel

Target managed resource
Queue managers

Parameters
The following parameters description is for a recovery task only. All parameters are optional. You can change any of the following parameters (which are a subset of those available in the underlying Change &lt;channel type&gt; Channel tasks):
- Batch Interval Increase
- Batch Size Increase

Use a negative or positive percentage, a positive or negative delta, or a constant value to represent numerical values. A change is only based on the current attribute value decreased or increased by the specified percentage or delta. For a constant value, the attribute is reset to that value.

No changes take place if you do not provide parameters.

See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
When you run IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks on a proxy mode z/OS system, the length of the command passed to the hostcmd command is limited to 255 characters. Exceeding the limit results in a communication failure. Therefore, run the task multiple times, selecting a subset of attributes, approximately 6 attributes at a time, each time to avoid exceeding the 255-character limit.

For a recovery task:

When using this task as a recovery task, some numerical arguments permit a percentage increase or decrease, specified by:

[+,-] &lt;number&gt;%

The actual value used is based on the current value of the attribute, adjusted accordingly. This allows use of the same task instance across multiple occurrences of an indication and across multiple resources. For example, resizing a queue based on a percentage of the current maximum queue depth enables the same task instance to apply to different queues of varying sizes.

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Change Coupling Facility

Description
Changes the CF application structure backup and recovery parameters. This task runs the WebSphere MQ ALTER CFSTRUCT command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Supported applications

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<td>• Queue Manager Control Center</td>
<td>No</td>
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</tbody>
</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Change Name List

Description
Changes an existing WebSphere MQ list of names. This task runs the WebSphere MQ ALTER NAMELIST command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
Use the Define Name List task with the REPLACE option to customize name lists.
Change Process

Description
Changes the attributes of an existing WebSphere MQ process. This task runs the WebSphere MQ ALTER PROCESS command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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</thead>
</table>
| • Queue manager icon context menu  
• Queue Manager Control Center  
• Process Tasks task library | No  
| No  | No  |

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Change Queue

Description
Changes the attributes of a queue. This task runs one of the following WebSphere MQ commands:

- For a local queue, ALTER QLOCAL
- For an alias queue, ALTER QALIAS
- For a model queue, ALTER QMODEL
- For a remote queue, ALTER QREMOTE

Some Change Queue task operations do not take effect immediately. Instead, the change is effective when the queue restarts. Use the Force option if an application can open the queue. WebSphere MQSeries supports this option.

For a recovery task:

When using this task as a recovery task, specify the task for the Channel, Queue, or Queue Manager resource model indications so the task runs when the indication occurs. The following indication attributes specify the target queue depending on the indication:

- **Queue_name**
  Specifies the name of the queue for which the indication was generated.

- **Transmission_queue_name**
  Specifies the name of the transmission queue for the channel for which the indication was generated. The Change Queue task runs against local queues. When this task generate from a WebSphere MQ Channel resource model indication, the target queue is the transmission queue for the channel.

  The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles

- MQS_senior or MQS_domain_name_senior
- admin

User and group ID

- $tmemqs_user and $tmemqs_group

Supported platforms

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</table>

Chapter 3. Tasks 147
**Target managed resource**

Queue managers

**Parameters**

The following parameters description is for a recovery task only. All parameters are optional. You can change any of the following parameters, which are a subset of those available in the underlying Change <queue type> Queue tasks:

- Queue Depth
- Trigger Message Priority
- Trigger Message Depth

*See WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

**For a recovery task:**

Use a negative or positive percentage, a positive or negative delta, or a constant value to represent numerical values. A change is only based on the current attribute value decreased or increased by the specified percentage or delta. For a constant value, the attribute is reset to that value.

No changes take place if you do not provide parameters.

**Usage notes**

When you run IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks on a proxy mode z/OS system, the length of the command passed to the `hostcmd` command is limited to 255 characters. Exceeding the operating-system limit results in a communication failure. Therefore, run the task multiple times, selecting a subset of attributes, approximately 6 attributes at a time, each time to avoid exceeding the 255-character limit.

**For a recovery task:**

When using this task as a recovery task, some numerical arguments permit a percentage increase or decrease, specified by:

`[+,-]<number>%`

The actual value used is based on the current value of the attribute, adjusted accordingly. This allows use of the same task instance across multiple occurrences of an indication and across multiple resources. For example, resizing a queue based on a percentage of the current maximum queue depth enables the same task instance to apply to different queues of varying sizes.
The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Change Queue Manager

Description
Changes one or more attributes of a queue manager. This task runs the WebSphere MQ ALTER QMGR command.

Authorization roles
• MQS_senior or MQS_domain_name_senior
• admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>· Queue Manager Control Center</td>
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<tr>
<td>· Queue Mgr Tasks task library</td>
<td>No</td>
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</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
When you run IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks on a proxy mode z/OS system, the length of the command passed to the hostcmd command is limited to 255 characters. Exceeding the operating-system limit results in a communication failure. Therefore, run the task multiple times, selecting a subset of attributes, approximately 6 attributes at a time, each time to avoid exceeding the 255-character limit.
Change Storage Class

Description
Changes the characteristics of a storage class. This task runs the WebSphere MQ ALTER STGCLASS command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>- MVS Storage Class Tasks task library</td>
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</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
You must specify the name of the storage class.
Change Trace

Description
Changes the trace events for an active trace. This task runs the WebSphere MQ ALTER TRACE command, which stops the specified trace and restarts it with the changed attributes.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
You must specify the trace type and the trace number (TNO).
Check Workflow Configuration

Description
Runs the `fmczchk` command on the Workflow configuration.

Authorization roles
mqwf_admin

User and group ID
$root_user

Supported platforms

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<td>MQWF Utility Tasks task library</td>
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<td>No</td>
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</table>

Target managed resource
Queue manager

Parameters
None

Usage notes
You must run this task only from the Tivoli desktop.

You must install the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component before you can use Workflow tasks. For more information about installing the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the *IBM Tivoli Monitoring for Business Integration Installation and Setup Guide*. For information about using the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the *IBM Tivoli Monitoring for Business Integration User’s Guide*. 
Clear Local Queue

Description
Clears the messages from a local queue. This task runs the WebSphere MQ CLEAR QLOCAL command.

For a recovery task:
When using this task as a recovery task, specify the task for the Channel, Queue, or Queue Manager resource model indications, so the task runs when the indication occurs. One of the following indication attributes specifies the target queue depending on the indication:

Queue_name
Specifies the name of the queue for which the indication was generated.

Transmission_queue_name
Specifies the name of the transmission queue for the channel for which the indication was generated.

The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>WebSphere MQ Queue Manager resource model</td>
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</table>

- Queue manager icon context menu
- Queue Manager Control Center
- Queue Tasks task library
- No
- Yes
- Yes

Target managed resource
Queue managers
Parameters

See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes

The task fails for the following reasons:

- The queue has uncommitted messages.
- An application currently has the queue open.
- The queue is a transmission queue and any queue that is, or resolves to, a remote queue that references this transmission queue, is open.

For a recovery task:

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Clone

Description
Clones a selected saved queue manager configuration to another Tivoli endpoint or to the same endpoint. This task enables you to create an identical queue manager with a new name on selected endpoints.

Authorization roles
- MQS_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<tbody>
<tr>
<td>Queue Manager Control Center</td>
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Target managed resource
Queue managers

Parameters
This task has the following parameters:

New Queue Manager Name
Enter the name of the queue manager you are creating. You can use the !H variable in the name of the queue manager to include the host name of the machine where you are creating the queue manager in the queue manager name. For example, if you enter new!Hqmgr, the queue managers you create are named newhostnameqmgr. Using the !H variable is useful if you want to clone a queue manager configuration to multiple endpoints and to ensure that the queue managers have unique names.

Source Queue Manager Name
The name of the queue manager you are replicating is automatically filled in.

Available Clone Gateways
Select one or more gateways to list the available endpoints on which you can create the queue managers.

Available Clone Endpoints
Select one or more endpoints on which you want to create the queue managers and use the left arrow button to transfer the endpoint names to
the **Current Clone Endpoints** list. Use the right arrow button to transfer selected endpoint names from the **Current Clone Endpoints** list to the **Available Clone Endpoints** list.

**Usage notes**

None
Configure Event Adapter

Description
Configures an event adapter for WebSphere MQ. This task reconfigures the WebSphere MQ event queues and sets up the configuration file for the event adapter. Configure an event adapter on each queue manager from which you want to receive WebSphere MQ events.

The Configure Event Adapter task creates the tecad_mqseries.qmgrname.cfg configuration file, where qmgrname is the name of the queue manager. The tecad_mqseries.qmgrname.cfg is located in the following directory:

$LCF_BINDIR/../../generic_unix/TME/MQS/teccfg

You can specify whether the events are sent through the gateway or whether the events are sent directly from the endpoints to the event server. You can also specify the event server, the event server port number, the connection mode, trace and error logging levels, and the buffer file that the event adapter is to use.

The Configure Event Adapter task performs these actions:

- Clears and then deletes each of the following system event queues if they exist:
  - SYSTEM.ADMIN.QMGR.EVENT
  - SYSTEM.ADMIN.PERFM.EVENT
  - SYSTEM.ADMIN.CHANNEL.EVENT
- For each of the deleted queues, defines a queue alias with the same name. Each alias queue is configured with the same target queue name, which is the event queue name you specified.
- Defines a new local queue using the queue name you specified. The alias queues and the new local queue provide a single queue from which the event adapter retrieves WebSphere MQ events. This has the effect of changing the queue manager so that all events that are sent to the system event queues are redirected to the new local queue.

Note: The event adapter for WebSphere MQ requires exclusive access to the alias queues and the new local queue. For the event adapter to work properly, it must be the only application removing messages from these queues.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<tr>
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<td>• Queue Manager Control Center</td>
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</table>

Target managed resource
Queue managers

Parameters
Here is an example of the MQS Configure TEC Adapter window:

This task has the following parameters:

Send events through the gateway
To send events from endpoints through the gateway to the event server, select Yes. To send events directly from the endpoints to the event server, select No. Sending events from endpoints through the gateway reduces the number of connections to the event server.

TEC Server Hostname
This field is available if you selected No in the Send events through the gateway field. Enter the host name of the event server. The event server
host name can be a simple host name (such as techost), a fully qualified host name (such as techost.tivoli.com), or an IP address.

**TEC Server Location**
This field is available if you selected Yes in the Send events through the gateway field. The default is @EventServer, which specifies that the gateway send events to the event server in the local region. If you have interconnected regions and you want the gateway to send events to the event server in the remote region, add the name of the remote region as follows:

@EventServer#region_name

Where region_name is the name of the remote region.

**Is the TEC Server on a Windows Host?**
If the event server is running on a Windows machine, select Yes. If the event server is not running on a Windows machine, select No.

**TEC Server Port Number**
For UNIX platforms, leave this field blank. The portmapper daemon retrieves the port number.

For Windows, the default port number is 5529. If you want to change the port number, you must set it to the value of the tec_recv_agent_port entry in the .tec_config file in the $BINDIR/TME/TEC directory on the event server.

**Event Queue Name**
Enter the name of the event queue from which the event adapter is to read WebSphere MQ events. The default queue name is EVENTQ.

**Connection Mode**
Optionally, enter the connection mode to be used to connect to the event server. The default is connection_less, which causes a new connection to be established and discarded for each event or group of events that is sent. If you specify connection_oriented, a connection is established and maintained for all events sent.

**Trace Logging Level**
Optionally, select the level of tracing to be logged. For regular operation, select Low. For troubleshooting purposes, select Normal or Verbose.

See the [Usage notes](#) for this task for additional information on the event adapter logging.

**Error Logging Level**
Optionally, select the level of error information to be logged. To log all levels, select Minor. To log only major and fatal errors, select Major. To log only fatal errors, select Fatal.

See the [Usage notes](#) for this task for additional information on the event adapter logging.

**Buffer Event Path**
Optionally, specify the path name of a buffer file on the endpoint. If you have more than one event adapter running on the same host, you must specify a buffer file to avoid resource contention problems.

The default buffer on the endpoint file is $LCF_BINDIR/../../../generic_unix/TME/MQS/teccfg/qmgr_name/cache for
UNIX or $LCF_BINDIR/..\..\TME\MQS\teccfg\qmgr_name\cache.dat for Windows platforms, where qmgr_name is the name of the queue manager to which the cache file belongs.

Enter the full path name of the cache file. To include the name of the queue manager in the cache file name, you can use the !QM variable one or more times anywhere in the path name. Assume that the name of the queue manager is MyQMgr. If you enter /tmp/!QM/cache!QM in the Buffer Event Path field, the name of the event adapter’s cache file is /tmp/MyQMgr/cacheMyQMgr. Using the !QM variable ensures that cache file names are unique when you configure an event adapter for more than one queue manager that is running on the same host.

**Attention:** The user ID and group that is associated with the $tmemqs_user and $tmemqs_group virtual ID and group must have write permission to the directory where the cache file is written.

**Send Fully Qualified Hostname?**

Select Yes and the Event Adapter attempts to determine the fully qualified hostname and to include it on the FQHostName attribute of all the events that it creates.

Select No and the Event Adapter does not include the FQHostName attribute on any events that it creates.

Alternatively select User Defined to specify the domain name that you want appended to the hostname. The result is used on the FQHostName attribute. This can be useful if, for whatever reason, the Configure Event Adapter is unable to determine the fully qualified hostname.

**Fully Qualified Hostname**

Optionally, specify the domain name that you want appended to the hostname. This option is valid only when you select the User Defined option for the Send Fully Qualified Hostname? parameter.

**Usage notes**

The queue manager must be running to configure the event adapter.

The current trace and error information related to running the event adapter are written in the trace_tecad_mqseries__<qmgrname>__1.log file, where qmgrname is the name of the queue manager. The old trace and error information related to running the event adapter are written in the trace_tecad_mqseries__<qmgrname>__2.log file.

**Note:** There are two underscores around the <qmgrname> parameter. The tecad_mqseries.qmgrname.1.log file is located in the $LCF_DATDIR/LCFNEW/CTQ/logs directory. When the trace file reaches 500KB, the trace file is renamed with a suffix of .old and a new trace file is started. The contents of any previous .old log files are discarded.

For information about using the WebSphere MQ event adapter, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.

Events can also be cached on the gateway. The default buffer file on the gateway is one of the following:

- **For UNIX:** etc/Tivoli/cache
- **For Windows:** %WINDIR%\system32\drivers\etc\Tivoli\tec\cache.dat
See the *Tivoli Event Integration Facility Reference* for more information on caching the gateway.
Configure Event Server

Description

Sets up your event server to process WebSphere MQ events.

IBM Tivoli Monitoring for Business Integration: WebSphere MQ includes a set of Tivoli Enterprise Console event classes and rules specific to WebSphere MQ.

The Configure Event Server task performs these actions:

• Imports the following IBM Tivoli Monitoring for Business Integration: WebSphere MQ event classes, if not already present:
  – MQSeries event classes, which are found in the tecad_mqseries.baroc file.
  – MQSeries statistics event classes, which are found in the tecad_mqseries_acct.baroc and the tecad_mqseries_stats.baroc files.

The tecad_mqseries.baroc, the tecad_mqseries_acct.baroc, and the tecad_mqseries_stats.baroc files are located in the following directory:
$BINDIR/../generic_unix/TME/MQS/baroc

If any of these event classes are already present, the software removes them and replaces them with the new versions.

• Imports the resource model event classes, which are found in the WebSphere_MQ_Channel.baroc, WebSphere_MQ_Error_Log.baroc, WebSphere_MQ_Queue.baroc, and WebSphere_MQ_QueueManager.baroc files.

These .baroc files are located in the following directory:
$BINDIR/../generic_unix/TME/MQS/Monitors/baroc

• Imports the base IBM Tivoli Monitoring event class, which is found in the Tmw2k.baroc file.

• Imports the MQSeries rule set, which provides automated responses to many WebSphere MQ events. The rules are found in the following files:
  $BINDIR/../generic_unix/TME/MQS/rls/tecad_mqseries.rls
  $BINDIR/../generic_unix/TME/MQS/rls/mqs_fwd_evt.rls

• Compiles the rule base to incorporate the new event classes and the new rules.

• Loads the new rule base.

• Creates the following event sources:
  – MQSeries events
  – MQSeries statistics events

• Stops and restarts the event server to incorporate the specified rule base.

Authorization roles

senior

User and group ID

$root_user and $root_group

Supported applications

<table>
<thead>
<tr>
<th>Tivoli desktop</th>
<th>Tivoli Enterprise Console</th>
<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
</tr>
</thead>
</table>

Chapter 3. Tasks 163
- Monitoring for WebSphere MQ icon context menu
- IBM Tivoli Monitoring Component Services Tasks task library

**Note**: The IBM Tivoli Monitoring Component Services Tasks task library is located in the IBM Tivoli Monitoring Component Services policy region, which is on the desktop (Desktop → TMR Connections → Top Level Policy Regions).

**Target managed resource**
Managed node that is the event server

**Parameters**
Here is an example of the MQS Configure Event Server window:

![Configure Event Server window](image)

This task has the following parameters:
Event server node to configure
Select the managed node for the event server you want to configure. This field is displayed when you run the Configure Event Server task from the Monitoring for WebSphere MQ icon context menu.

Product to configure
Name of the product you want to configure: IBM Tivoli Monitoring for Business Integration: WebSphere MQ

Rule Base Configuration

Update Current Rule Base
Integrates the changes for IBM Tivoli Monitoring for Business Integration: WebSphere MQ into an existing rule base that you must select from the list in the Rule Base box on the right.

Create New Rule Base from Existing
Creates a new rule base that contains the IBM Tivoli Monitoring for Business Integration: WebSphere MQ information after the contents of an existing rule base are copied into the new one. This existing rule base must be selected from the list in the Rule Base box on the right.

Create New Rule Base
Creates a new rule base that contains only the IBM Tivoli Monitoring for Business Integration: WebSphere MQ information.

New Rule Base Name
Name of the new rule base, if one is being created through one of the following options:

- Create New Rule Base from Existing
- Create New Rule Base

New Rule Base Path
Pathname on the event server managed node where the files relating to this rule base are stored, if a new rule base is being created through one of the following options:

- Create New Rule Base from Existing
- Create New Rule Base

Event Forwarding

Host Name
Name of the host for another event server to which you want to forward events.

Port
Number of the port for another event server to which you want to forward events.

Forward to TBSM
This option is not available because WebSphere MQ installs the rules to forward events to Tivoli Business Systems Manager and cannot be disabled.

Rule Base Activation

Do Not Activate
Creates a rule base without making it active, so it is not used.

Load Rule Base Only
Loads the rule base into the event server.
Load Rule Base and Restart Server

 Loads the rule base into the event server so the event server will be restarted. This is the default for the Rule Base Activation parameter.

Usage notes

You can configure more than one event server.
Configure OS/390 Event Queue

Description
Configures the event queues that belong to a queue manager on proxy mode z/OS. The task reconfigures the following event queues for a target queue manager as aliases of one event queue, enabling the event adapter to correctly process events:
- SYSTEM.ADMIN.QMGR.EVENT
- SYSTEM.ADMIN.PERFM.EVENT
- SYSTEM.ADMIN.CHANNEL.EVENT
- SYSTEM.ADMIN.CONFIG.EVENT

This task uses the TAMQMQSC configuration file. This task runs a proxy mode z/OS command to start the JCL PROC member CSQUTIL, which you must properly configure on the target z/OS system. For more information about configuring the proxy mode z/OS event queues, refer to the IBM Tivoli Monitoring for Business Integration Installation and Setup Guide.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Yes</td>
<td>No</td>
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<tbody>
<tr>
<td></td>
<td>No</td>
<td>No</td>
<td>No</td>
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</tbody>
</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
None
Configure Queue Manager

**Description**
Configures a WebSphere MQ queue manager using a user-defined configuration file.

**Authorization roles**
- MQS_senior or MQS_domain_name_senior
- admin

**User and group ID**
$tmemqs_user$ and $tmemqs_group$

**Supported platforms**

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
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<td>- Queue manager icon context menu</td>
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<tr>
<td>- Queue Manager Control Center</td>
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<tr>
<td>- Queue Mgr Tasks task library</td>
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<tr>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Target managed resource**
Queue managers

**Parameters**
This task has the following parameter:

- **Configure using file**
  Enter the fully qualified path name to the WebSphere MQ configuration file. The specified file must exist on the target node, and the virtual user ID and group must have read permission to the specified configuration file.

**Usage notes**
For information about WebSphere MQ configuration files, refer to the WebSphere MQ product documentation.
Control Channel

Description
Pings, resets, resolves, starts, or stops a channel. This task runs the WebSphere MQ PING CHANNEL, RESET CHANNEL, RESOLVE CHANNEL, START CHANNEL, or STOP CHANNEL command.

Controls the following types of channels:
• Client-connection
• Server-connection
• Receiver
• Requester
• Sender
• Server
• Cluster Sender
• Cluster Receiver

Authorization roles
• MQS_admin or MQS_domain_name_admin
• admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
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<tr>
<td>• Queue manager icon context menu</td>
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</tr>
<tr>
<td>• Queue Manager Control Center</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Channel Tasks task library</td>
<td>No</td>
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</tbody>
</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Control Channel Listener

Description
Starts or stops a channel listener. On distributed platforms, this task uses the `runmqslr` command to start a channel listener and the `endmqslr` command to stop a channel listener. On proxy mode z/OS, this task runs the START LISTENER or the STOP LISTENER command. For information about stopping a channel listener, refer to the WebSphere MQ product documentation.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
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</thead>
<tbody>
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Supported applications

<table>
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<tr>
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<td>No</td>
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<tr>
<td>• Queue manager icon context menu</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td>• Queue Manager Control Center</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>• Channel Tasks task library</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
On proxy mode z/OS, the channel initiator must be started to start the listener. If the transport type is LU 6.2, you must specify the LU Name. If the transport type is TCP, the default port is 1414.
Control Queue Manager

Description

Starts, stops, or pings a queue manager. To start and stop a queue manager, this task runs the `strmqm` and `endmqm` commands for distributed platforms and the START QMGR and STOP QMGR commands for proxy mode z/OS. To ping a queue manager, this task runs the PING QMGR command for distributed platforms and remotely administered queue managers and the DISPLAY QMGR CMDLEVEL command for proxy mode z/OS.

Authorization roles

- MQS_admin or MQS_domain_name_admin
- admin

User and group ID

$tmemqs_user and $tmemqs_group

Supported platforms

<table>
<thead>
<tr>
<th></th>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
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<td>Yes</td>
<td>Yes</td>
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Supported applications

<table>
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<tr>
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<tr>
<td>Queue manager icon context menu</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Queue Manager Control Center</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Queue Mgr Tasks task library</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Target managed resource

Queue managers

Parameters

See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

Usage notes

None
Control Trace

**Description**
Starts and stops WebSphere MQ traces. This task runs the WebSphere MQ START TRACE and STOP TRACE commands.

**Authorization roles**
- MQS_admin or MQS_domain_name_admin
- admin

**User and group ID**
$tmemqs_user and $tmemqs_group

**Supported platforms**

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
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<tbody>
<tr>
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<td>Yes</td>
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**Supported applications**

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</table>

**Target managed resource**
Queue managers

**Parameters**
See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

**Usage notes**
If you are starting a trace, choose the Start parameter. When starting a trace, the default trace type is GLOBAL. The optional parameters are Comment, Destination Block, and Constraint Block. When stopping a trace, you must specify the trace type or enter an asterisk (*) for all trace types. The optional fields are Destination Block, Comment, and Constraint Block.
Create Authentication

**Description**
Creates an authentication information object. This task runs the WebSphere MQ DEFINE AUTHINFO command.

**Authorization roles**
- MQS_senior or MQS_domain_name_senior
- admin

**User and group ID**
$tmemqs_user and $tmemqs_group

**Supported platforms**

<table>
<thead>
<tr>
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**Supported applications**

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<td></td>
<td>No</td>
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</table>

- Queue manager icon context menu
- Queue Manager Control Center

**Target managed resource**
Queue managers

**Parameters**
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

**Usage notes**
Your site’s default values are displayed in the window. If you delete any of the default values, the authentication information object is created without any values for those attributes. If you want to use another authentication information object’s attributes to define this authentication information object, enter that authentication information object’s name in the Base Definition field. If you want to replace an existing authentication information object definition, run the Create Authentication task on the authentication information object you want to replace and select Yes from the Replace Existing Definition drop-down list.
Create Channel

**Description**

Creates the following types of channels:
- Client-connection
- Server-connection
- Receiver
- Requester
- Sender
- Server
- Cluster Sender
- Cluster Receiver

This task runs the WebSphere MQ DEFINE CHANNEL command.

**Authorization roles**

- MQS_senior or MQS_domain_name_senior
- admin

**User and group ID**

$tmemqs_user and $tmemqs_group

**Supported platforms**

<table>
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</tr>
</thead>
</table>
| · Queue manager icon context menu  
· Queue Manager Control Center  
· Channel Tasks task library. The Channel Tasks task library provides the following tasks:  
  – Create C/S Connection Channel  
  – Create Receiver/Requester Channel  
  – Create Sender/Server Channel | No | No | No |

**Target managed resource**

Queue managers

**Parameters**

See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.
Usage notes

If you want to use another channel’s attributes to define this channel, enter that channel’s name in the Base Definition field. Otherwise, your site’s default values will be used for any attributes that you do not enter. To replace an existing channel definition with this channel definition, select Yes from the Replace Existing Definition drop-down list.

When you run IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks on a proxy mode z/OS system, the length of the command passed to the hostcmd command is limited to 255 characters. Exceeding the limit results in a communication failure. Therefore, create the channel with a subset of attributes. Then run the Change Channel task to modify the channel, selecting a subset of attributes, approximately 6 attributes at a time, each time to avoid exceeding the 255-character limit.

IBM Tivoli Monitoring for Business Integration: WebSphere MQ, Version 5.1.1 does not support Client Connection Channels in WebSphere MQ, Version 5.2, for OS/400. A valid error message is displayed when you create a Client Connection Channel using the Change Channel task. A display failure occurs when you create a Client Connection Channel from the Queue Manager Control Center.
Create Coupling Facility

Description
Defines the CF application structure backup and recovery parameters. This task runs the WebSphere MQ DEFINE CFSTRUCT command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
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<tbody>
<tr>
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<tr>
<td></td>
<td>Queue manager icon context menu</td>
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<td></td>
<td>Queue Manager Control Center</td>
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</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
If you want to use another CF application structure’s attributes to define this CF application structure, enter that CF application structure’s name in the Base Definition field. If you want to replace an existing CF application structure, run the Create Coupling Facility task on the CF application structure you want to replace and select Yes from the Replace Existing Definition drop-down list.
Create File Pack

Description
Creates a software package for distribution, enabling you to install or upgrade WebSphere MQ software on Tivoli endpoints on distributed platforms.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$root_user

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
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<tr>
<td>Install Tasks task library. The Install Tasks task library provides the following tasks and jobs:</td>
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<tr>
<td>• Create AIX File Pack</td>
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<td>• Create HP-UX File Pack</td>
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<td>• Create Solaris File Pack</td>
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<tr>
<td>• Create Windows File Pack</td>
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</table>

Target managed resource
Tivoli server
Parameters

The windows for each Create File Pack task are similar. Here is an example of the Create Windows File Pack window:

This task has the following parameters:

**Enter a new or existing file pack identifier**

Enter an identifier for the software package. This identifier is used in the name of the software package profile within the management domain in the Monitoring for WebSphere MQ policy region. If you want to update an existing software package, delete the software package first and then enter the software package identifier.

**Distribution Parameters**

**Source Host**
Select the host from which the WebSphere MQ product and the three optional configuration files will be loaded.

**Destination Directory Path**
Enter the directory path to be used for temporary storage of files during the distribution process. This is not where WebSphere MQ will be installed.

**WebSphere MQ Product**

**WebSphere MQ Version**
Select the version of WebSphere MQ that you want to deploy using this software package. The version of WebSphere MQ you select determines the list of components, which you can select to install.
WebSphere MQ Image Directory
Enter the full path name of the WebSphere MQ image directory to be copied from the source host and included in the software package.

Language (for Windows only)
Select the language to be used in the WebSphere MQ product.

Components
Select the WebSphere MQ components to be included in the software package.

Customization Information

MQSC Command File
Enter the name of an MQSC command file to be downloaded with the WebSphere MQ product. See WebSphere MQ Script (MQSC) Command Reference for information about MQSC command files.

Pre-Install File
Enter the name of a user script to be run after the files are transferred but before WebSphere MQ is installed. This script could, for example, expand file systems if needed.

Post-Install File
Enter the name of a user script to be run after WebSphere MQ has been installed. This script could be used to define a queue manager, install the MQSC command file, or perform any other post-installation tasks.

WebSphere MQ Installation Directories

File Directory (for Windows only)
If you want to change the directory where WebSphere MQ is installed, enter the appropriate directory name.

Work Directory (for Windows only)
If you want to change the directory that is used for work storage for queues, enter the appropriate directory name.

Usage notes

Tivoli Software Distribution must be installed to use this task.

After creating the software package, subscribe Tivoli endpoints to the profile manager and distribute the WebSphere MQ software package to the endpoints.
Create Inventory Policy Region

Description

Creates the MQSeries Inventory policy region within the Monitoring for WebSphere MQ policy region. You must have Tivoli Inventory installed to use this task.

Authorization roles

- MQS_senior
- super

User and group ID

$root_user and $root_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
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<tbody>
<tr>
<td>Monitoring for WebSphere MQ icon context menu</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>MQS Utility Tasks task library</td>
<td>No</td>
<td>No</td>
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</tr>
</tbody>
</table>

Target managed resource

Tivoli server

Parameters

Here is an example of the MQS Create Inventory Profile window:

![MQS Create Inventory Profile window]

This task has the following parameter:

**Inventory Scan RIM Object Name**

Specifies the name of your Tivoli Inventory Scan RIM object. Do one of the following:

- Accept the default name, **invdh_1**, as the name of your Tivoli Inventory Scan RIM object.
- OR-
• If you renamed or created other Tivoli Inventory RIM objects for the inventory data handler, change the default value to the name of the inventory data handler RIM object that you want to use.

**Inventory Query RIM Object Name**
Specifies the name of your Tivoli Inventory Query RIM object. Do one of the following:
• Accept the default name, `invdh_query`, as the name of your Tivoli Inventory Query RIM object.
• OR–
• If you renamed or created other Tivoli Inventory RIM objects for the inventory data handler, change the default value to the name of the inventory data handler RIM object that you want to use.

**Usage notes**
• Run the Create Inventory Policy Region task again if you change the name of your Inventory database.
• The MQS Utility Tasks task library also contains the Create Inventory Policy Region job, which is set up to run on the Tivoli server. The job performs the same function as the task, but it is already preconfigured with the Tivoli management region server parameter filled in.
• You must have Tivoli Inventory installed to run this task.
Create Management Domain

Description
Creates an MQS management domain to contain the WebSphere MQ resources you want to manage.

IBM Tivoli Monitoring for Business Integration: WebSphere MQ creates a management domain within the Monitoring for WebSphere MQ policy region. IBM Tivoli Monitoring for Business Integration: WebSphere MQ prepends the name of your management domain with MQS_. For example, if you name your domain Dom5, its icon label is MQS_Dom5. This name is used in the names of the profile managers, the MQSeries Tasks policy region, the task libraries, and other resources that are automatically created within the management domain.

Authorization roles
- MQS_senior
- super

User and group ID
$root_user and $root_group

Supported platforms

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</table>

Target managed resource
Tivoli server

Parameters
Here is an example of the Create Management Domain window:

![Create Management Domain window]

This task has the following parameter:
Management Domain Name
Enter the name you want to use for your management domain. Ensure that your domain names are unique and include only the following characters:
- Letters a to z and A to Z
- Numeric digits
- The underscore character (_)

Usage notes
If you have a large number of WebSphere MQ resources in your enterprise and multiple administrators who monitor and manage these resources, you can create multiple management domains. For example, you might want to create your management domains based on geographical or organization boundaries. Because each WebSphere MQ management domain is a policy region that requires different authorization roles, you can assign authorization roles to one or more administrators based on responsibilities.

Note: Domain names in separate, but interconnected, Tivoli management regions must not have the name.

Additionally, this operation is available during installation.
**Create Process**

**Description**
Defines a WebSphere MQ process that starts when an event occurs on a queue manager resource. This task runs the WebSphere MQ DEFINE PROCESS command.

**Authorization roles**
- MQS_senior or MQS_domain_name_senior
- admin

**User and group ID**
$tmemqs_user and $tmemqs_group

**Supported platforms**

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<td>Queue Manager Control Center</td>
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<tr>
<td>Process Tasks task library</td>
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**Target managed resource**
Queue managers

**Parameters**
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

**Usage notes**
If you want to use another process’s attributes to define this process, enter that process’s name in the Base Definition field. Your site’s default values are used for any attributes that you do not enter. If you want to replace an existing process with this process definition, select Yes from the Replace Existing Definition drop-down list.
Create Queue

Description
Creates a queue and sets its attributes. This task runs one of the following WebSphere MQ commands:
- For an alias queue, DEFINE QALIAS
- For a local queue, DEFINE QLOCAL
- For a model queue, DEFINE QMODEL
- For a remote queue, DEFINE QREMOTE

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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| • Queue Tasks task library. The Queue Tasks task library provides the following tasks:  
  - Create Alias Queue  
  - Create Local Queue  
  - Create Model Queue  
  - Create Remote Queue |                          |                                |                             |

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
If you want to use another queue’s attributes to define this queue, enter the name of that queue in the Base Definition field. Your site’s default values are used for
any attributes that you do not enter. If you want to replace an existing queue with this queue definition, select Yes from the Replace Existing Definition drop-down list.

When you run IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks on a proxy mode z/OS system, the length of the command passed to the hostcmd command is limited to 255 characters. Exceeding the operating-system limit results in a communication failure. Therefore, run the task multiple times, selecting a subset of attributes, approximately 6 attributes at a time, each time to avoid exceeding the 255-character limit.
Create Queue Manager

Description
Creates a WebSphere MQ queue manager. This task also creates an icon on the desktop and an object in the Tivoli database. By default, the object is created on the endpoint’s current gateway. You can, however, create the object on any managed node on which IBM Tivoli Monitoring for Business Integration: WebSphere MQ is installed. This task runs the WebSphere MQ crtmqm command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>Management domain icon context menu</td>
<td>No</td>
<td>No</td>
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</table>

Target managed resource
Queue managers
Parameters

Here is an example of the Create Queue Manager window:

This task includes the following parameters:

**Queue Manager Name**

Enter the name for the queue manager. This name must be unique throughout your network. To ensure that the name is unique, you can use the !H variable in the name that you specify. The !H variable includes the host name of the machine where the queue manager resides. For example, if you create a queue manager named my!Hqmgr on a host named NMP1, the name of the queue manager is myNMP1qmgr.

**Endpoints**

Select one or more endpoints on which you want to create a queue manager.
Create Object on Managed Node (optional)
Select the managed node on which you want to create the Tivoli queue manager object. The default is to create the object on the endpoint’s current gateway.

Monitor on Create
Use this option to control whether or not the MQS\_domain\_name Resource Models profile is automatically distributed to each created queue manager. The MQS\_domain\_name Resource Models profile contains the following resource models with the default configuration:
- WebSphere MQ Queue Manager
- WebSphere MQ Queue
- WebSphere MQ Channel
- WebSphere MQ Error Log

The default is to automatically distribute the MQS\_domain\_name Resource Models profile. This profile is distributed to the queue managers regardless of the state of the queue managers. By default, the WebSphere MQ Queue Manager resource model is enabled. The WebSphere MQ Queue and the WebSphere MQ Channel resource models are disabled.

Default
Check this box if you want this queue manager to be the default queue manager on this Tivoli endpoint

Start
Check this box if you want to start the queue manager after it is created.

Configure using file
Check this box and specify the WebSphere MQ configuration file to configure the queue manager. The specified file must exist on the target node, and the virtual user ID and group must have read permission to the specified configuration file. If you prefer, you can configure the queue manager later with the Configure Queue Manager task.

Note: If you do not specify a fully qualified configuration file name, the default uses the file located in the following WebSphere MQ samp directories:
- AIX /usr/lpp/mqm/samp
- HP-UX /opt/mqm/samp
- Linux-ix86 /opt/mqm/samp
- Linux-s390 /opt/mqm/samp
- OS/400
  You must supply a fully qualified path
- Solairs /opt/mqm/samp
- Windows WMQ install path/mqsc

Do not Configure
Check this box if you do not want to configure the queue manager now.
You can accept the default values for all other fields, or you can specify new values for the queue manager. For information about the parameters for this task, refer to the WebSphere MQ System Administration Guide.

**Usage notes**

None
Create Queue Manager Icon

Description
Creates a queue manager object in the Tivoli database and an icon on the desktop for an existing queue manager. By default, the object is created on the endpoint’s current gateway. You can, however, create the object on any managed node on which IBM Tivoli Monitoring for Business Integration: WebSphere MQ is installed. The Create Queue Manager Icon task is an alternative to running the Discover Queue Managers task.

Authorization roles
• MQS_senior or MQS_domain_name_senior
• admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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</table>

Target managed resource
Queue managers
Parameters

Here is an example of the Create Queue Manager Icon window:

This task has the following parameters:

Monitor on Create

Use this option to control whether or not the MQS_domain_name Resource Models profile is automatically distributed to the queue manager. The MQS_domain_name Resource Models profile contains the following resource models with the default configuration:

- WebSphere MQ Queue Manager
- WebSphere MQ Queue
- WebSphere MQ Channel
- WebSphere MQ Error Log

The default is to automatically distribute the MQS_domain_name Resource Models profile, if it has not been previously distributed. This profile is distributed to the queue manager regardless of the state of the queue manager. By default, the WebSphere MQ Queue Manager resource model is enabled. The WebSphere MQ Queue and the WebSphere MQ Channel resource models are disabled.
Endpoints
Select the endpoints running the queue managers for which you want to create Tivoli queue manager objects. For a remotely administered queue manager, select the endpoint that is acting as a proxy for the remotely administered queue manager.

Create Object on Managed Node (optional)
Select the managed node on which you want to create the Tivoli queue manager object. The default is to create the object on the endpoint’s current gateway.

Command Execution Mode for Queue Manager
Select one of the following:
Local  To create an icon for a queue manager that resides on a distributed system.
OS/390 To create an icon for a queue manager that resides on a proxy mode z/OS system.
Remote To create an icon for a queue manager that resides on a remote system.

Queue Manager Name
Enter the name of the queue manager.

Command Level
Specify the WebSphere MQ command level for the queue manager object you are creating. Select the 5.3 command level for any 5.3.x queue manager.

Remote Wait Time
If you are creating an icon for a queue manager that resides on a remote system, enter a wait time for processing. The default wait time is 30 seconds.

Hostname
If you selected OS/390 in the Command Execution Mode for Queue Manager field, enter either the TCP/IP host name, the IP address, or the SNA NetView domain name of the target proxy mode z/OS system. If you selected Remote in the Command Execution Mode for Queue Manager field, enter the host name of the remote machine where the queue manager resides.

Command Prefix
Enter the proxy mode z/OS command prefix of the WebSphere MQ queue manager subsystem as set up by your proxy mode z/OS system programmer.

TCP/IP
If you selected OS/390 in the Command Execution field, select TCP/IP if you enter the TCP/IP host name or the IP address of the proxy mode z/OS system in the Hostname field.

SNA
If you selected OS/390 in the Command Execution field, select SNA if you enter the SNA NetView domain name in the Hostname field.
Usage notes

This task retains the value you specify for command execution (local, proxy mode z/OS, or remote) for later use.
Create TBSM Policy Region

Description

Creates the MQS TBSM Instrumentation policy region within the Monitoring for WebSphere MQ policy region. This task also creates the WebSphere MQ instrumentation task libraries within the MQS TBSM Instrumentation policy region.

Authorization roles

- MQS_senior
- super

User and group ID

$root_user and $root_group

Supported platforms

<table>
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<tr>
<td>MQS Utility Tasks task library</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Target managed resource

Tivoli server

Parameters

None

Usage notes

The MQS Utility Tasks task library also contains the Create TBSM Policy Region job, which is set up to run on the Tivoli server. Use the Create TBSM Policy Region job when you run this task from the task library.
Define Max Messages

Description
Defines the maximum number of messages that a WebSphere MQ command can get or put within a single unit of recovery. This task runs the WebSphere MQ DEFINE MAXSMSGS command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Define Name List

Description
Creates a WebSphere MQ list of names, most commonly a list of cluster or queue names. This task runs the WebSphere MQ DEFINE NAMELIST command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
If you want to use the attributes of another name list to define this name list, enter the name of that name list in the Base Definition field. Your site’s default values are used for any attributes that you do not enter. If you want to replace an existing name list object with this name list object definition, select Yes from the Replace Existing Definition drop-down list.

Use the Define Name List task with the REPLACE option to customize name lists.
Define Storage Class

Description
Defines a storage class to page set mapping. This task runs the WebSphere MQ DEFINE STGCLASS command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<tr>
<td>• MVS Storage Class Tasks task library</td>
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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Delete

Description
Deletes queue manager configuration data from the Tivoli Inventory database.

Authorization roles
- MQS_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>No</td>
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</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
Use this task when you delete a queue manager, and have previously saved the configuration data for the deleted queue manager in the Tivoli Inventory database.

If you uninstall IBM Tivoli Monitoring for Business Integration: WebSphere MQ, saved configuration data still remains in the Tivoli Inventory database.
Delete Authentication

Description
Deletes an authentication information object. This task runs the WebSphere MQ DELETE AUTHINFO command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
To delete an authentication information object, use one of the following methods:
- If the proxy mode z/OS queue manager is not in a queue-sharing group, delete the authentication information object from the Authentication Information Center.
- If the proxy mode z/OS queue manager is in a queue sharing group, and the queue sharing group property is QMGR, delete the authentication information object from either the Authentication Information Center or the Queue Manager Control Center.
To delete an authentication information object from the Queue Manager Control Center, ensure that you use the following guidelines:
- Select one queue manager at a time.
- Select the queue sharing group property from the drop-down list for the Queue Sharing Group field in the task window.
Enter the name of the selected queue manager in the Command Scope text field in the task window.
Delete Channel

Description
Delete a channel definition. This task runs the WebSphere MQ DELETE CHANNEL command.

Deletes the following types of channels:
- Client-connection
- Server-connection
- Receiver
- Requester
- Sender
- Server
- Cluster Sender
- Cluster Receiver

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Supported applications

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<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
</tr>
</thead>
</table>
| • Queue manager icon context menu  
• Queue Manager Control Center  
• Channel Tasks task library | No | No | No |

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Delete Coupling Facility

Description
Deletes a CF application structure definition. This task runs the WebSphere MQ DELETE CFSTRUCT command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Delete.Endpoint.Log.Files

Description
Deletes all IBM Tivoli Monitoring for Business Integration: WebSphere MQ log files on the endpoint.

Authorization roles
- MQS_senior
- admin

User and group ID
$root_user and $root_group

Supported platforms

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<tr>
<td>MQS Utility Tasks task library</td>
<td>No</td>
<td>No</td>
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</table>

Target managed resource
Tivoli endpoints

Parameters
None

Usage notes
You must run this task after you change the mapping of the virtual user ID under which tasks are run. For information about changing the virtual user ID, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.

For details on displaying and setting the MQ User ID mapping for supported platforms, refer to the task named “MQ User ID Mapping” on page 268.
Delete Name List

Description
Deletes a WebSphere MQ list of names. The name list must already be defined to the local queue manager. This task runs the WebSphere MQ DELETE NAMELIST command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Delete Process

Description
Deletes a WebSphere MQ process definition. This task runs the WebSphere MQ DELETE PROCESS command.

Authorization roles
• MQS_senior or MQS_domain_name_senior
• admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>• Queue manager icon context menu</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>• Queue Manager Control Center</td>
<td></td>
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<tr>
<td>• Process Tasks task library</td>
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</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Delete Queue

Description
Deletes the definition of a queue. This task runs one of the following WebSphere MQ commands:
- For a local queue, DELETE QLOCAL
- For an alias queue, DELETE QALIAS
- For a model queue, DELETE QMODEL
- For a remote queue, DELETE QREMOTE

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<tr>
<td>Queue Tasks task library</td>
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</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Delete Queue Manager

**Description**

Deletes a queue manager. This task runs the WebSphere MQ `dltmqm` command.

**Authorization roles**

- MQS_senior or MQS_domain_name_senior
- admin

**User and group ID**

$tmemqs_user and $tmemqs_group

**Supported platforms**

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</table>

- Queue manager icon context menu
- Queue Manager Control Center
- Queue Mgr Tasks task library

**Target managed resource**

Queue managers

**Parameters**

For information about the parameters for this task, refer to the *WebSphere MQ System Administration Guide*.

**Usage notes**

The queue manager is automatically unsubscribed from all profile managers to which it is subscribed. Saved configuration data in the Tivoli Inventory database is not deleted. To delete the configuration data from the Tivoli Inventory database, use the Inventory Delete task. See “Delete” on page 199.

**Note:** If you have saved configuration data in the Tivoli Inventory database, you must run the Delete task before you run the Delete Queue Manager task.
Delete Storage Class

**Description**
Deletes a storage class. All queues that use the storage class must be empty and closed. This task runs the WebSphere MQ DELETE STGCLASS command.

**Authorization roles**
- MQS_senior or MQS_domain_name_senior
- admin

**User and group ID**
$tmemqs_user and $tmemqs_group

**Supported platforms**

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</table>

- Queue manager icon context menu
- Queue Manager Control Center
- MVS Storage Class Tasks task library

**Target managed resource**
Queue managers

**Parameters**
See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

**Usage notes**
None
Discover Queue Managers

Description

Discovers WebSphere MQ queue managers on Tivoli endpoints on distributed systems or on proxy mode z/OS.

For each discovered queue manager, this task creates an object in the Tivoli database and an icon representing the queue manager on the desktop. If the IBM Tivoli Monitoring for Business Integration: WebSphere MQ support for Tivoli Business Systems Manager is installed, icons are also created on the Tivoli Business Systems Manager console. By default, IBM Tivoli Monitoring for Business Integration: WebSphere MQ creates the object on the endpoint’s current gateway. You can, optionally, create the object on any managed node on which IBM Tivoli Monitoring for Business Integration: WebSphere MQ is installed.

For more information about discovering your queue managers, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.

Authorization roles

- MQS_senior or MQS_domain_name_senior
- admin

User and group ID

$tmemqs_user and $tmemqs_group

Supported platforms

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<tr>
<td>MQS TBSM QMgr Tasks task library</td>
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<tr>
<td>Queue Mgr Tasks task library</td>
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</tr>
<tr>
<td>Queue Mgr Tasks task library</td>
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</table>

Note: When you run this task for Tivoli Business Systems Manager support, it is available only from the MQS TBSM QMgr Tasks task library on the desktop.

Target managed resource

Queue managers
Parameters

Here is an example of the Discover Queue Managers window:

![Discover Queue Managers Window]

**Note:** This task has no parameters when you run it from the MQS TBSM QMgr Tasks task library.

This task has the following parameters:

**Command Execution**
Select one of the following:

- **Local**  
  To discover queue managers on distributed systems.

- **OS/390**  
  To discover queue managers on proxy mode z/OS systems on which IBM Tivoli Monitoring for Business Integration: WebSphere MQ for z/OS is installed.

**OS/390 Options**
If you selected OS/390 in the **Command Execution** field, select **TCP/IP** if you enter the TCP/IP host name or the IP address of the proxy mode z/OS system in the **OS/390 Hostname** field. Select **SNA** if you enter the SNA NetView domain name in the **OS/390 Hostname** field.

**OS/390 Hostname**
If you selected OS/390 in the **Command Execution** field, enter either the TCP/IP host name, the IP address, or the SNA NetView domain name of the proxy mode z/OS system.
Monitor on Discovery

Use this option to control whether or not the MQS_domain_name Resource Models profile is automatically distributed to each discovered queue manager. The MQS_domain_name Resource Models profile contains the following resource models with the default configuration:

- WebSphere MQ Queue Manager
- WebSphere MQ Queue
- WebSphere MQ Channel
- WebSphere MQ Error Log

The default is to automatically distribute the MQS_domain_name Resource Models profile, if it has not been previously distributed. This profile is distributed to the queue managers regardless of the state of the queue managers. By default, the WebSphere MQ Queue Manager resource model is enabled. The WebSphere MQ Queue and the WebSphere MQ Channel resource models are disabled.

Endpoints

Select one or more endpoints on which you want to discover the queue managers.

Create Object on Managed Node (optional)

Select the managed node on which you want to create the Tivoli queue manager object. The default is to create the object on the endpoint’s current gateway.

Usage notes

You might need to allow additional time for this task to complete. To do this, use the Set Timeout Value task. See “Set Task Timeout Value” on page 304.

The default timeout value is 300 seconds.

If you want to schedule discovery, create a job from the Discover_Queue_Mgrs task in the Queue Mgr Tasks task library. Then drag the job onto the Schedule icon on the desktop.

For OS/400 endpoints, if you start the IBM Tivoli Monitoring engine before starting the MQ Endpoint Discovery, you must enter the following commands from the QShell environment:

```
> chown QTIVOLI /qibm/userdata/tivoli/lcf/LCFNEW/ITM
> chown QTIVOLI /qibm/userdata/tivoli/lcf/LCFNEW/ITM/PACS
```

Note: Use the QSH OS/400 command to access the QShell environment.
Display

Description
Displays the saved configuration data for a selected queue manager.

Authorization roles
If you do not have root or Administrator authority, Tivoli Inventory requires the following authorization roles to perform queries:
- user
- senior
- super
- Query_execute
- Query_edit

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
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<tr>
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<td>No</td>
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<tr>
<td>Queue Manager Control Center</td>
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</tbody>
</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
None
Display Archive Log Parameters

Description
Displays archive log information as changed by the Set Archive Log Parameters task. This task runs the WebSphere MQ DISPLAY LOG command.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>• MVS Control Tasks task library</td>
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</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Display Archive Parameters

Description
Displays a report that shows the initial values for the archiving parameters. The report also shows the current values as changed by the Set Archive Parameters task. This task runs the WebSphere MQ DISPLAY ARCHIVE command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Display Attributes

Description
Displays the attributes of a queue, channel, or the queue manager.

Authorization roles
- MQS_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Display Authentication

Description
Displays the attributes of an authentication information object. This task runs the WebSphere MQ DISPLAY AUTHINFO command.

Authorization roles
• MQS_user or MQS_domain_name_user
• admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Display Authority

Description
Displays the authorities that users or groups have with respect to a queue, process, queue manager, name list, or authentication information object. This task runs the dspmqaut command. On OS/400, the Display Authority task shows all users’ authorities on the specified object and does not take the Groups and Principals into consideration.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>Control Tasks task library</td>
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Target managed resource
Queue managers

Parameters
For information about the parameters for this task, refer to the WebSphere MQ System Administration Guide.

Usage notes
None
Display Channel Attributes

Description
Displays the attributes of one or more channels. This task runs the WebSphere MQ DISPLAY CHANNEL command.

Displays the following types of channel attributes:
- Client-connection
- Server-connection
- Receiver
- Requester
- Sender
- Server
- Cluster Sender
- Cluster Receiver

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

Target managed resource
Queue managers

Parameters
See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.
Usage notes

If you run the Display Channel Attributes task from the Queue Manager Control Center or from the Channel Tasks task library, enter the name of the channel in the Channel Name field to display the attributes of one channel. To display the attributes of all channels of one type, enter an asterisk (*) in the Channel Name field, then use the Channel Type drop-down list to select the channel type. You can use the asterisk with a partial name in the Channel Name field, which follows the WebSphere MQ convention for pattern-matching. For example, if you enter CHAN1*, the attributes for channels named CHAN1, CHAN123, CHAN1JOE, and any other names beginning with CHAN1 are displayed.

When you run IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks on a proxy mode z/OS system, the length of the command passed to the hostcmd command is limited to 255 characters. Exceeding the operating-system limit results in a communication failure. Therefore, run the task multiple times, selecting a subset of attributes, approximately 6 attributes at a time, each time to avoid exceeding the 255-character limit.
Display Channel Status

Description
Displays the current or saved status of one or more channels. This task runs the WebSphere MQ DISPLAY CHSTATUS command.

Displays the channel status for the following types of channels:
- Client-connection
- Server-connection
- Receiver
- Requester
- Sender
- Server
- Cluster Sender
- Cluster Receiver

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Supported applications

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<tr>
<td>Queue manager icon context menu</td>
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<td>Queue Manager Control Center</td>
<td>No</td>
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<td>Channel Tasks task library</td>
<td>No</td>
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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
If you run the Display Channel Status task from the Queue Manager Control Center or from the Channel Tasks task library, enter the name of the channel in the
Channel Name field to display the attributes of one channel. To display the attributes of all channels of one type, enter an asterisk (*) in the Channel Name field, then use the Channel Type drop-down list to select the channel type. You can use the asterisk with a partial name in the Channel Name field, which follows the WebSphere MQ convention for pattern matching. For example, if you enter CHAN1*, the attributes for channels named CHAN1, CHAN123, CHAN1JOE, and any other names beginning with CHAN1 are displayed. You can use the Connection Name and Transmission Queue Name fields to limit the status information to the values that apply to a particular connection or transmission queue. If you leave these fields blank, information for all connections and transmission queues will be returned for the specified channels.

To select whether you want to receive the current status values or the saved status values, select Current or Saved, respectively, from the Status Information Type drop-down list. Status information is divided into common attributes and current-only attributes. Common attribute values are stored in both the Current and Saved status data. Current-only attribute values are stored only in the Current status data. To specify which attributes you want displayed, select the attribute names in the lists. Be sure to select attributes from the list that match the type of information you selected. For example, if you selected Saved for the Status Information Type, choose attributes only from the Common Status Attributes list.
Display Cluster Queue Manager

**Description**
Displays information about queue managers in a cluster. This task runs the WebSphere MQ DISPLAY CLUSQMGR command.

**Authorization roles**
- MQS_user or MQS_domain_name_user
- admin

**User and group ID**
$tmemqs_user and $tmemqs_group

**Supported platforms**

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<td></td>
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</table>

- Queue manager icon context menu
- Queue Manager Control Center
- Cluster Tasks task library

**Target managed resource**
Queue managers

**Parameters**
See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

**Usage notes**
When you run IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks on a proxy mode z/OS system, the length of the command passed to the `hostcmd` command is limited to 255 characters. Exceeding the limit results in a communication failure. Therefore, run the task multiple times, selecting a subset of attributes, approximately 6 attributes at a time, each time to avoid exceeding the 255-character limit.
Display Command Server

Description
Displays the status of the command server. This task runs the \texttt{dspmncsv} command on distributed platforms and the WebSphere MQ DISPLAY CMDSERV command on proxy mode z/OS.

Authorization roles
- MQS\_admin or MQS\_domain\_name\_admin
- admin

User and group ID
\$tmemqs\_user and \$tmemqs\_group

Note: For OS/400 systems, the Display Command Server status displays \texttt{STOPPED} when you map \$tmemqs\_user to a *USER profile with user authority. Grant the \texttt{*JOBCTL} user authority to prevent the command server from always displaying stopped.

Supported platforms

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<th>Corresponding resource model</th>
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</thead>
</table>
| • Queue manager icon context menu  
  • Queue Manager Control Center  
  • Cmd Server Tasks task library (Control Command Server task) | No | No | No |

Target managed resource
Queue managers

Parameters
See \textit{WebSphere MQ Script (MQSC) Command Reference} for information about the parameters for this task.

Usage notes
None
Display Coupling Facility

Description
Displays the attributes of one or more CF application structures. This task runs the WebSphere MQ DISPLAY CFSTRUCT command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Display Current Status

Description
Displays the current status of one or more channels. Additional information, such as, the number of messages that are sent and received is also displayed.

Authorization roles
- MQS_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Display DQM

Description
Displays channel initiator information for a queue manager. This task runs the WebSphere MQ DISPLAY DQM command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Display_Endpoint_Environment

Description
Displays all the environment variables from an endpoint. All of the endpoint environment variables begin with LCF_.

Authorization roles
- MQS_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Tivoli endpoints and queue managers

Parameters
None

Usage notes
Running this task is useful if you need to report a problem to IBM Customer Support.
Display Error Log (TBSM)

Description
Displays the last 100 lines of the WebSphere MQ queue manager error log.

Authorization roles
- MQS_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
None
Display Error Log (Tivoli desktop)

**Description**
Displays the contents of the MQSeries link for R/3 error log file, SMQERR01.log, if it exists.

**Authorization roles**
- MQS_user or MQS_domain_name_user
- admin

**User and group ID**
$tmemqs_user and $tmemqs_group

**Supported platforms**

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<td>Number of Error Lines</td>
<td>Path to log file</td>
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<td>Number of Error Lines</td>
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<td>Number of Error Lines</td>
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</table>

**Target managed resource**
Queue managers

**Parameters**

Here is an example of the MQS SAP Display Error Log window:

![](MQS_SAP_Display_Error_Log.png)

This task has the following parameters:

**Path to log file**
Enter the directory path to the SMQERR01.LOG file. The task looks for the SMQERR01.LOG file in the directory that you supply.

*Note:* On OS/400, the path is ignored.
Number of Error Lines
Enter the number of lines from the end of the log file (the most recent lines) you want to view. If you want to view the entire error log file, leave this field blank.

Usage notes
None
Display Ini File

Description
Displays the contents of the MQSeries Link for R/3 initialization file, if it exits.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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</table>

Target managed resource
Queue managers

Parameters
Here is an example of the MQS SAP Display Ini File window:

This task has the following parameter:

Full pathname for ini file
Enter the full path name for the initialization file for the MQSeries Link for R/3.

Usage notes
None
Display Local Messages

**Description**
Displays local messages on a queue.

**Authorization roles**
- MQS_user
- admin

**User and group ID**
$tmemqs_user$ and $tmemqs_group$

**Supported platforms**

<table>
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**Target managed resource**
Queue managers

**Parameters**
None

**Usage notes**
None
Display Max Messages

Description
Displays the maximum number of messages that a WebSphere MQ command can get or put within a single unit of recovery. This task runs the WebSphere MQ DISPLAY MAXSMSGS command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>• Queue Manager Control Center</td>
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<td>• MVS Control Tasks task library</td>
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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Display MQSeries Files

Description
Displays the real file system name for all WebSphere MQ objects that match the specified criteria. This task runs the WebSphere MQ dspmqfls command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
For information about the parameters for this task, refer to the WebSphere MQ System Administration Guide.

Usage notes
You can use this task to identify the files that are associated with a particular WebSphere MQ object, which is useful for backing up specific objects.
Display Name List

Description
Displays a WebSphere MQ name list. This task runs the WebSphere MQ DISPLAY NAMELIST command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
If you run the Display Name List task from the Queue Manager Control Center or from the Queue Tasks task library, enter the name of the list in the List Name field. You can use an asterisk (*) with a partial name in the List Name field as a pattern-matching character, which follows the WebSphere MQ convention for pattern matching. For example, if you enter LIST1*, the attributes for name lists LIST1, LIST123, LIST1JOE, and any other name lists beginning with LIST1 are displayed.

When you run IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks on a proxy mode z/OS system, the length of the command passed to the hostcmd command is limited to 255 characters. Exceeding the limit results in a communication failure. Therefore, run the task multiple times, selecting a subset of attributes, approximately 6 attributes at a time, each time to avoid exceeding the 255-character limit.
Display Page-set Usage

**Description**  
Displays information about the current state of a page set or information about the log data sets. This task runs the WebSphere MQ DISPLAY USAGE command.

**Authorization roles**  
- MQS_user or MQS_domain_name_user  
- admin

**User and group ID**  
$tmemqs_user and $tmemqs_group

**Supported platforms**

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| • Queue manager icon context menu  
• Queue Manager Control Center  
• MVS Control Tasks task library | No | No | No |

<table>
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<tr>
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</table>

**Parameters**  
See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

**Usage notes**  
Optionally, enter the PSID, the page-set identifier, to which a storage class maps. You can enter a number from 0 through 99. An asterisk (*) in this field specifies all page-set identifiers.
Display Process

Description
Displays the attributes of one or more processes. This task runs the WebSphere MQ DISPLAY PROCESS command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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</table>
| • Queue manager icon context menu  
• Queue Manager Control Center  
• Process Tasks task library | No | No | No |

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
When running the Display Process task from the Queue Manager Control Center or from the Process Tasks task library, enter the name of the process in the Process Name field to display the attributes of one process. You can use an asterisk (*) with a partial name in the Process Name field as a pattern-matching character, which follows the WebSphere MQ convention for pattern matching. For example, if you enter PROC1*, the attributes for processes named PROC1, PROC123, PROC1JOE, and any other names beginning with PROC1 are displayed.
Display Queue Attributes

Description
Displays the attributes of one or more queues. This task runs the WebSphere MQ DISPLAY QUEUE command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
If you run the Display Queue Attributes task from the Queue Manager Control Center or from the Queue Tasks task library, enter the name of the queue in the Queue Name field to display the attributes of one queue. To display the attributes of all queues of one type, enter an asterisk (*) in the Queue Name field, then select the queue type from the Queue Type drop-down list. You can use the asterisk (*) as a pattern-matching character with a partial name in the Queue Name field, which follows the WebSphere MQ convention for pattern matching. For example, if you enter QUEUE1*, the attributes for queues named QUEUE1, QUEUE123, QUEUE1JOE, and any other names beginning with QUEUE1 are displayed.

When you run IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks on a proxy mode z/OS system, the length of the command passed to the hostcmd command is limited to 255 characters. Exceeding the operating-system limit results in a communication failure. Therefore, run the task multiple times,
selecting a subset of attributes, approximately 6 attributes at a time, each time to avoid exceeding the 255-character limit.
Display Queue Manager

Description
Displays information about a queue manager. This information can help you diagnose possible problems.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Display Queue Manager Attributes

Description
Displays the attributes of a queue manager. This task runs the WebSphere MQ DISPLAY QMGR command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
If you run the Display Queue Manager Attributes task from the Queue Manager Control Center or from the Queue Mgr Tasks task library, enter the name of the queue in the Queue Name field to display the attributes of one queue. To display the attributes of all queues of one type, enter an asterisk (*) in the Queue Name field, to display the status for all queues. You can use the asterisk with a partial name in the Queue Name field, which follows the WebSphere MQ convention for pattern-matching. For example, if you enter QUEUE1*, the statuses for queues named QUEUE1, QUEUE123, QUEUE1JOE, and any other names beginning with QUEUE1 are displayed.

When you run IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks on a proxy mode z/OS system, the length of the command passed to the hostcmd command is limited to 255 characters. Exceeding the operating-system limit results in a communication failure. Therefore, run the task multiple times,
selecting a subset of attributes, approximately 6 attributes at a time, each time to avoid exceeding the 255-character limit.
Display Queue Manager Error Log

Description
Displays the contents of the WebSphere MQ error logs for the selected queue manager.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user$ and $tmemqs_group$

Supported platforms

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<td>• Queue Mgr Tasks task library</td>
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Target managed resource
Queue managers

Parameters
This task has the following parameter:

Number of Error Lines
Specify the number of lines from the error log that you want to view. The task displays the specified number of lines from the end of the log file (the most recent lines). If you want to view the entire error log file, leave this field blank.

Usage notes
None
Display Queue Messages

Description
Displays messages on a queue. For example, use the task to display messages on a dead-letter queue. The queue name you enter is case sensitive.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
This task has the following parameters:

Queue Name
Enter the name of the queue for which you want to display the messages.

Message Display Format
Select the format in which you want to display the queue messages (Brief or Detailed) from the drop-down list.

Usage notes
None
Display Queue Sharing Group

Description
Displays information about the queue-sharing group to which the queue manager is connected. This task runs the WebSphere MQ DISPLAY GROUP command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Display Queue Status

Description
Displays the status of one or more queues. This task runs the WebSphere MQ DISPLAY QSTATUS command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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| * Queue manager icon context menu
| * Queue Manager Control Center
| * Queue Tasks task library | No                         | No                        | No                       |

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
If you run the Display Queue Status task from the Queue Manager Control Center or from the Queue Tasks task library, enter the name of the queue in the Queue Name field to display the attributes of one queue. To display the attributes of all queues of one type, enter an asterisk (*) in the Queue Name field, to display the status for all queues. You can use the asterisk with a partial name in the Queue Name field, which follows the WebSphere MQ convention for pattern-matching. For example, if you enter QUEUE1*, the statuses for queues named QUEUE1, QUEUE123, QUEUE1JOE, and any other names beginning with QUEUE1 are displayed.

When you run IBM Tivoli Monitoring for Business Integration: WebSphere MQ tasks on a proxy mode z/OS system, the length of the command passed to the hostcmd command is limited to 255 characters. Therefore, run the task multiple times, selecting a subset of attributes, approximately 6 attributes at a time, each
time to avoid exceeding the 255-character limit.
Display Security

Description
Displays the current settings for the security attributes. This task runs the WebSphere MQ DISPLAY SECURITY command.

Authorization roles
• MQS_user or MQS_domain_name_user
• admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
**Display Status Coupling Facility**

**Description**
Displays the status of one or more CF application structures. This task runs the WebSphere MQ DISPLAY CFSTATUS command.

**Authorization roles**
- MQS_user or MQS_domain_name_user
- admin

**User and group ID**
$tmemqs_user and $tmemqs_group

**Supported platforms**

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</table>

- Queue manager icon context menu
- Queue Manager Control Center

**Target managed resource**
Queue managers

**Parameters**
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

**Usage notes**
None
Display Status of All Queue Managers

**Description**
Displays the status (active or inactive) of all queue managers running on the specified endpoint or proxy mode z/OS system.

**Authorization roles**
- MQS_user
- admin

**User and group ID**
$tmemqs_user$ and $tmemqs_group$

**Supported platforms**

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</table>

**Target managed resource**
Tivoli endpoints

**Parameters**
None

**Usage notes**
None
Display Status of Queue Mgrs

Description
Displays the status (active or inactive) of all queue managers running on the specified endpoint or proxy mode z/OS system.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>Queue Mgr Tasks task library</td>
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Target managed resource
Tivoli endpoints

Parameters
This task has the following parameters:

Command Execution
Select Local to display the status of queue managers on distributed systems or select OS/390 to display the status of queue managers on proxy mode z/OS.

OS/390 Options
If you selected OS/390 in the Command Execution field, select TCP/IP if you enter the TCP/IP host name or the IP address of the proxy mode z/OS system in the Hostname field. If you selected OS/390 in the Command Execution field, select SNA if you enter the SNA NetView domain name in the Hostname field.

OS/390 Hostname
If you selected OS/390 in the Command Execution field, enter either the TCP/IP host name, the IP address, or the SNA NetView domain name of the target proxy mode z/OS system.

Usage notes
None
**Display Storage Class**

**Description**
Displays information about storage classes. This task runs the WebSphere MQ DISPLAY STGCLASS command.

**Authorization roles**
- MQS_user or MQS_domain_name_user
- admin

**User and group ID**
$tmemqs_user and $tmemqs_group

**Supported platforms**

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**Target managed resource**
Queue managers

**Parameters**
See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

**Usage notes**
You can use the asterisk with a partial name in the Name field, which follows the WebSphere MQ convention for pattern matching. For example, if you enter STG1*, the attributes for storage classes named STG1, STG123, STG1JOE, and any other names beginning with STG1 are displayed. To display the attributes for all storage classes, enter an asterisk (*) in the Name field.
Display System Parameters

Description
Displays a report that shows the initial values of the system parameters and the current values as changed by the Set System Parameters task. This task runs the WebSphere MQ DISPLAY SYSTEM command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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| • Queue manager icon context menu
• Queue Manager Control Center | No                       | No                             | No                          |

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
**Display Thread**

**Description**
Displays information about active and indoubt threads. This task runs the WebSphere MQ DISPLAY THREAD command.

**Authorization roles**
- MQS_user or MQS_domain_name_user
- admin

**User and group ID**
$tmemqs_user$ and $tmemqs_group$

**Supported platforms**

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**Target managed resource**
Queue managers

**Parameters**
See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

**Usage notes**
You must specify a connection name or enter an asterisk (*) for all connections. If you specify a connection name, threads are selected from the address space associated with these connections.
Display Tivoli Traces

Description
Displays the List Tivoli Trace Logs window, which contains a list of all trace files related to the selected queue manager and any global trace files related to the endpoint on which the queue manager is running. From the List Tivoli Trace Logs window, you can perform the following actions on a trace file from the Trace Files menu:

Display Trace
Displays the contents of the selected trace file. To save the contents of the trace file to a local file, copy and paste the contents of the trace file into a local file.

Delete Trace
Deletes the selected trace file.

Refresh List
Updates the list of trace files.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
None

Usage notes
For information about using Tivoli trace files, refer to the IBM Tivoli Monitoring for Business Integration Problem Determination Guide.
Display Trace

Description
Displays a list of active traces. This task runs the WebSphere MQ DISPLAY TRACE command.

Authorization roles
• MQS_user or MQS_domain_name_user
• admin

User and group ID
$tmemqs_user and $tmemqs_group

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| • Queue manager icon context menu
• Queue Manager Control Center
• MVS Trace Tasks task library | No | No | No |

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
All parameters are optional. The default trace type is all trace types specified by an asterisk (*).

No changes take place if you do not provide parameters.
Display WMQI Objects

Description
Displays WebSphere MQ Integrator objects (broker, name server, and configuration manager) associated with the selected queue managers. You can run IBM Tivoli Monitoring for Business Integration: WebSphere MQ Integrator 5.1.0 tasks from each icon context menu.

Note: Because WebSphere MQ Integrator objects are copies of the original objects, the status of the objects is not updated.

Authorization roles
• MQS_user or MQS_domain_name_user
• admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>No</td>
<td>No</td>
</tr>
<tr>
<td>• Queue Manager Control Center</td>
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</tbody>
</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
IBM Tivoli Monitoring for Business Integration: WebSphere MQ Integrator 5.1.0 must be installed.
Dump Log

Description
Displays a formatted version of the WebSphere MQ system log. This task runs the WebSphere MQ `dmpmqlog` command.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
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Supported applications

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<th>Tivoli Enterprise Console</th>
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<th>Corresponding resource model</th>
</tr>
</thead>
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<tr>
<td>Control Tasks task library</td>
<td>No</td>
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Target managed resource
Queue managers

Parameters
For information about the parameters for this task, refer to the *WebSphere MQ System Administration Guide*.

Usage notes
You must run the Dump Log task on a queue manager that is not running.

Use the WebSphere MQ `dmpmqlog` command to display a formatted version of the WebSphere MQ system log on Windows systems.
Edit DLQ Rules Tables

Description

Creates, modifies, or deletes a DLQ handler rules table.

A DLQ handler rules table defines how to process messages that arrive on the DLQ. The Edit DLQ Rules Table task enables you to define the control data for the rules table and the rules for the DLQ handler to follow. Each rule consists of the pattern that a message is matched against, and an action to be taken when a message on the DLQ matches the specified pattern. The task windows provide defaults and, where possible, choice lists to make it easier for you to create the rules table. The Edit DLQ Rules Table task also ensures that the DLQ rules table is syntactically correct.

Authorization roles

MQS_senior or MQS_domain_name_senior

User and group ID

$root_user and $root_group

Supported platforms

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<tr>
<td>Management domain icon context menu</td>
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Target managed resource

Tivoli server
Parameters

Here is an example of the Edit DLQ Rules Table window:

This task has the following parameter:

**DLQ Rules Tables**

Lists the rules tables that exist on the Tivoli server. Do one of the following:

- To create a new rules table, click **Create**.
  - OR-
  - To modify a rules table, double-click a rules table name or select the appropriate rules table name from the list and click **Edit**.
  - OR-
  - To delete a rules table, select the appropriate rules table name from the list and click **Delete**.

When you create or modify a rules table, the Create/Edit DLQ Rule sets window is displayed, from which you can define the rules table.
Complete the window fields as follows:

**DLQ Rules Table Name**
If you are creating a new rules table, enter the name of the rules table in the DLQ Rules Table Name field. If you are editing an existing rules table, the name is automatically filled in.

**Description**
Optionally, enter a description for the rules table. You can enter 80 characters or less.

**Control Data**

**Retry Interval**
Enter the interval, in seconds, at which the DLQ handler should attempt to reprocess messages on the DLQ that could not be processed at the first attempt, and for which repeated attempts are specified.

**Wait for Messages**
Select Yes or No to specify whether or not the DLQ handler should wait for further messages to arrive on the DLQ when it detects that there are no further messages that it can process.

**Rules**
Do one of the following:
- To create the first rule in the rules table, click either Insert Before or Insert After. To add a rule to the rules table, select the rule in the list before which or after which you want to add the rule, and then click either Insert Before or Insert After.
-OR-
- To change an existing rule, double-click the rule or select the appropriate rule in the list and click Edit.
-OR-
- To delete a rule, select the appropriate rule in the list and click Delete.
-OR-
- To reorder a rule in the rules table, select the rule you want to move and use the up and down arrows to move the rule up or down in the rules table.

When you select Insert Before, Insert After, or Edit, the Rule Details window is displayed, in which you define the pattern and action that a DLQ message should
be matched against.

Complete the window as follows:

1. Define the pattern (message characteristics) that a message should be matched against. Type or select the appropriate values in the window fields. For more information about pattern-matching keywords, refer to the WebSphere MQ System Administration Guide.

2. Click Actions to display the Rules Details window for defining the action.

3. Define the action that should be taken when a message on the DLQ matches the specified pattern. Type or select the appropriate values in the window fields. For more information about action keywords, refer to the WebSphere MQ System Administration Guide.
4. Click **Save**. If the action and pattern is syntactically correct, the rule is saved and the window is closed. If the action is not syntactically correct, a message window is displayed. Correct the syntax, click **Save**, and then click **Close**.

5. From the Create/Edit DLQ Rules Table window, click **Save** to save and verify the rules table and then click **Close** to close the window.

The rules table is saved in the following directory on the Tivoli server:

```
$BINDIR/../generic_unix/TME/MQS/dlq_rulesets
```

**Usage notes**

If a DLQ rules table that you have created manually does not display correctly in the **Edit DLQ Rules Table** window, edit the DLQ rules table manually.
Initialize_Endpoints

Description
Updates the dependency set code and sets up the directory structure and permissions on the selected endpoints.

Authorization roles
- MQS_senior
- admin

User and group ID
$root_user and $root_group

Supported platforms

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</thead>
<tbody>
<tr>
<td>MQS Utility Tasks task library</td>
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<td>No</td>
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</table>

Target managed resource
Managed nodes

Parameters
This task has the following parameter:

Endpoints
Click Choices to display the Endpoints window from which you can select one or more endpoints on which you want to update the dependency set code.

Usage notes
Use this task as directed by IBM Customer Support.
Move Local Queue Messages

**Description**

Moves all messages from one local queue to another. This task runs the WebSphere MQ MOVE QLOCAL command.

**For a recovery task:**

When using this task as a recovery task, specify the task for Channel, Queue, or Queue Manager resource model indications, so the task runs when the indication occurs. The following indication attributes specify the queue that the messages are moved from, depending on the indication:

- **Queue_name**
  - Specifies the name of the target queue for which the indication was generated.

- **Transmission_queue_name**
  - Specifies the name of the target transmission queue for the channel for which the indication was generated.

The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

**Authorization roles**

- MQS_admin or MQS_domain_name_admin
- admin

**User and group ID**

$tmemqs_user and $tmemqs_group

**Supported platforms**

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</thead>
</table>
| • Queue manager icon context menu
  • Queue Manager Control Center
  • MVS Control Tasks task library | No | No | • WebSphere MQ Channel resource model
  • WebSphere MQ Queue resource model
  • WebSphere MQ Queue Manager resource model |
Target managed resource
  Queue managers

Parameters
  See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
  This task will fail if the queue has uncommitted messages, if an application currently has the queue open, or if the queue is a transmission queue.

For a recovery task:

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
MQ User ID Mapping

Description
Displays and sets the MQ User ID mapping for supported platforms.

Authorization roles
- MQS_senior

User and group ID
None

Supported platforms

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<tr>
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<tr>
<td>MQS Utility Tasks task library</td>
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</tbody>
</table>

Target managed resource
Tivoli management region

Parameters
Here is an example of the MQ User ID Mapping window:

![MQ User ID Mapping window]

This task has the following parameters:

AIX Specifies the current user ID for AIX platforms. The default is mqm.
HP-UX
Specifications the current user ID for HP-UX platforms. The default is mqm.

Solaris
Specifications the current user ID for Solaris platforms. The default is mqm.

Linux-ix86
Specifications the current user ID for Linux-ix86 platforms. The default is mqm.

Linux-s390
Specifications the current user ID for Linux-s390 platforms. The default is mqm.

Windows
Specifications the current user ID for Windows platforms. The default is MUSR_MQADMIN.

OS/400
Specifications the current user ID for OS/400 platforms. The default is QMQM.

Usage notes
The MQ User ID Mapping dialog displays the current User IDs used for supported platforms. The MQ User ID maintains the logins across multiple platforms for task execution, resource model data gathering, and MQ Workflow queue management. For information about ID mapping, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.
Ping

Description
Contacts a channel or queue manager to determine if it is responsive to commands.

Authorization roles
- MQS_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<tr>
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Target managed resource
Queue managers

Parameters
None

Usage notes
To ping the queue manager from the Tivoli desktop, see the task named “Control Queue Manager” on page 171.
Ping Queue Manager

Description
Contacts the queue manager and updates the state of the Queue Manager icon on the Tivoli desktop.

For a recovery task:
When using this task as a recovery task, specify the task for Channel, Queue, or Queue Manager resource model indications, so the task runs when the indication occurs.

The queue manager for which the recovery task updates the icon is the one to which the resource model was originally distributed.

Authorization roles
admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>No</td>
<td>Yes</td>
<td>No</td>
<td>&quot;WebSphere MQ Channel resource model&quot;</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>&quot;WebSphere MQ Queue resource model&quot;</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>&quot;WebSphere MQ Queue Manager resource model&quot;</td>
</tr>
</tbody>
</table>

Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

Target managed resource
Queue managers

Parameters
None
Usage notes

For a recovery task:

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Record Media Image

Description

Writes an image of an object or group of objects to the log for use in media recovery. This task runs the WebSphere MQ rcdmqimq command.

Authorization roles

• MQS_admin or MQS_domain_name_admin
• admin

User and group ID

$tmemqs_user and $tmemqs_group

Supported platforms

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<tr>
<td>Control Tasks task library</td>
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</table>

Target managed resource

Queue managers

Parameters

For information about the parameters for this task, refer to the WebSphere MQ System Administration Guide.

Usage notes

You must run the Record Media Image task on an active queue manager. Use this task only for queue managers with linear logging. Further activity on the queue manager is logged so that, although the image becomes out of date, the log records reflect all changes to the object.

Use the associated Recreate Object task to recreate the object from the image in the log.
Recover BSDS

Description
Re-establishes a dual bootstrap data set (BSDS) after it has been disabled by a data set error. This task runs the WebSphere MQ RECOVER BSDS command.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<th>Distributed</th>
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<td>Queue manager icon context menu</td>
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<td>Queue Manager Control Center</td>
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<tr>
<td>MVS Control Tasks task library</td>
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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Recover Coupling Facility

Description
Initiates a recovery of CF application structures. This task runs the WebSphere MQ RECOVER CFSTRUCT command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<tr>
<td>Queue manager icon context menu</td>
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<td>Queue Manager Control Center</td>
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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Recreate Object

Description
Recreates an object or group of objects from their images contained in the log. This task runs the WebSphere MQ rcmqobj command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<tbody>
<tr>
<td>Control Tasks task library</td>
<td>No</td>
<td>No</td>
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</table>

Target managed resource
Queue managers

Parameters
For information about the parameters for this task, refer to the WebSphere MQ System Administration Guide.

Usage notes
You must run the Recreate Object task on an active queue manager. Use this task only on queue managers with linear logging. All activity after the image was recorded on the queue manager is logged. This task replays the log to recreate the events that occurred after the object image was captured.

Use the associated Record Media Image task to record the object images to the log.
Refresh Cluster

**Description**
Discards all locally held cluster information (including any auto-defined channels that are in doubt), and forces it to be rebuilt. This task enables you to perform a cold-start on the cluster.

**Authorization roles**
- MQ5_senior
- admin

**User and group ID**
$tmemqs_user$ and $tmemqs_group

**Supported platforms**

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**Target managed resource**
Queue managers

**Parameters**
See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

**Usage notes**
None
Refresh Cluster Queue Manager

Description
Discards all locally held cluster information (including any auto-defined channels that are in doubt), and forces it to be rebuilt. This task enables you to perform a cold-start on the cluster. This task runs the WebSphere MQ REFRESH CLUSTER command.

Authorization roles
• MQS_senior or MQS_domain_name_senior
• admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>• Cluster Tasks task library (Control Cluster task)</td>
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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Refresh Queue Manager

Description
Performs special operations on queue managers. You can either enable configuration events for objects that meet selection criteria specified with the **object, name, and change interval** fields or you can refresh early code with LPA code. This task runs the WebSphere MQ REFRESH QMGR command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>• Queue Manager Control Center</td>
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Target managed resource
Queue managers

Parameters
See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

Usage notes
None
Refresh Security

Description
Causes a security refresh of in-storage external security manager profiles. This task runs the WebSphere MQ REFRESH SECURITY command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
You must specify the resource type for which the security refresh is to be performed. The resource type can be all resource classes, administration type resources, name list resources, process resources, or queue resources.
Reset

Description
Resets the message sequence number for a WebSphere MQ channel.

Authorization roles
- MQS_admin
- admin

User and group ID
$root_user and $root_group

Supported platforms

<table>
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Target managed resource
Queue managers

Parameters
None

Usage notes
None
Reset Channel

Description
Resets a channel. This task runs the WebSphere MQ RESET CHANNEL command.

Authorization roles
MQS_Senior

User and group ID
$root_user and $root_group

Supported platforms

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Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

Target managed resource
Queue managers

Parameters
None

Usage notes
You can also use the Control Channel task to reset a channel. See the “Control Channel” on page 169 task for details.
Reset Cluster

Description
Forcibly removes a queue manager from the cluster and resets the cluster.

Authorization roles
- MQS_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Reset Cluster Queue Manager

Description
Forcibly removes a queue manager from the cluster and resets the cluster. This task runs the WebSphere MQ RESET CLUSTER command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>• Queue Manager Control Center</td>
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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Reset Queue Statistics

Description
Reports performance data for a queue and then resets that data. This task runs the WebSphere MQ RESET QSTATS command.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Resolve Indoubt backout

**Description**
Resolves channels that were left indoubt because they were not resolved automatically. The threads are backed out.

**Authorization roles**
- MQS_admin
- admin

**User and group ID**
$tmemqs_user$ and $tmemqs_group$

**Supported platforms**

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**Target managed resource**
Queue managers

**Parameters**
None

**Usage notes**
None
Resolve Indoubt commit

**Description**

Resolves channels that were left indoubt because they were not resolved automatically. The threads are committed.

**Authorization roles**

- MQS_admin
- admin

**User and group ID**

$tmemqs_user$ and $tmemqs_group$

**Supported platforms**

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**Target managed resource**

Queue managers

**Parameters**

None

**Usage notes**

None
Resolve Indoubt Thread

Description
Resolves in-doubt threads because WebSphere MQ or a transaction manager could not resolve in-doubt threads automatically. This task runs the WebSphere MQ RESOLVE INDOUBT command.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Restart Workflow Services

Description
Restarts a Workflow service that has stopped.

Specify this recovery task for Workflow Status Monitor resource model indications, so the task runs when the indication occurs. The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles
mqwf_admin

User and group ID
$root_user

Supported platforms

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<td>Workflow Status Monitor resource model</td>
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</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
You must install the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component before you can use Workflow tasks. For more information about installing the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the IBM Tivoli Monitoring for Business Integration Installation and Setup Guide. For information about using the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.

The MQWF ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
## Restore

### Description
Extracts the current queue manager configuration data from the Tivoli Inventory database and replaces the currently installed queue manager object definitions. The Restore task recreates all the objects defined in the Tivoli Inventory database. If objects have been created in the queue manager that are not stored in the Tivoli database, the objects are deleted from the queue manager. The queue manager must be stopped to use this task.

### Authorization roles
- MQS_senior
- admin

### User and group ID
$tmemqs_user and $tmemqs_group

### Supported platforms

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<td>MQSeries Inventory Tasks task library</td>
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### Target managed resource
Queue managers

### Parameters
None

### Usage notes
None
Resume Cluster Queue Manager

Description
Informs other queue managers in a cluster that the local queue manager is available again for processing and can be sent messages. This task runs the WebSphere MQ RESUME QMGR CLUSTER command.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
Use the Suspend Cluster Queue Manager task to reverse this action.
Resume Queue Manager

Description
Informs other queue managers in a cluster that the local queue manager is available again for processing and can be sent messages.

Authorization roles
- MQS_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
This task reverses the actions of the Suspend Queue Manager task.
Reverify Security

Description

Sets a reverification flag for all specified users. This task runs the WebSphere MQ RVERIFY SECURITY command.

Authorization roles

- MQS_admin or MQS_domain_name_admin
- admin

User and group ID

$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource

Queue managers

Parameters

See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes

You must specify one or more user IDs. The user is reverified the next time that security is checked for that user.
Save

Description
Saves the current queue manager configuration data to the Tivoli Inventory database, replacing any previous database information. The data includes queue manager objects (queues, channels, processes, and name lists) and attributes. The queue manager must be running to perform this task.

Authorization roles
- MQS_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
None
Schedule_Inventory_Restore

Description
Restores a queue manager’s configuration from the Inventory database. To schedule the restore operation, drag the Schedule_Inventory_Restore job icon onto the Scheduler icon on the desktop.

Authorization roles
- MQS_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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Target managed resource
Queue managers

Parameters
This task has the following parameter:

Queue Manager Object Name
Select or enter the object name of the queue manager you want to restore.

Usage notes
None
Schedule_Inventory_Save

Description
Saves a queue manager’s configuration to the Inventory database. To schedule the save operation, drag the Schedule_Inventory_Save job icon onto the Scheduler icon on the desktop.

Authorization roles
- MQS_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>MQSeries Inventory Tasks task library</td>
<td>No</td>
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Target managed resource
Queue managers

Parameters
This task has the following parameter:

Queue Manager Object Name
Select or enter the object name of the queue manager you want to save.

Usage notes
For Linux Versions 4.0 and 4.2, the 3.7.1–CLL-0002 patch is required for Linux Inventory support for the Schedule_Inventory_Save task.
Search Queue Attributes

Description
Searches for queues that match specific search criteria for an attribute. For example, you can display all the queues that have at least one message on them. This task runs the WebSphere MQ DISPLAY QUEUE command.

Authorization roles
- MQS_user or MQS_domain_name_user
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>Queue Tasks task library</td>
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Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
If you run the Search Queue Attributes task from the Queue Manager Control Center or from the Queue Tasks task library, enter the name of the queue in the Queue Name field to display the attributes of one queue. To display the attributes of all queues of one type, enter an asterisk (*) in the Queue Name field, then use the Queue Type drop-down list to select the queue type. You can use the asterisk (*) as a pattern-matching character with a partial name in the Queue Name field, which follows the WebSphere MQ convention for pattern matching. For example, if you enter QUEUE1*, the attributes for queues named QUEUE1, QUEUE123, QUEUE1JOE, and any other names beginning with QUEUE1 are displayed.
Set Archive Log Parameters

Description
Changes the archive log parameters values initially set by CSQ6LOGP. This task runs the WebSphere MQ SET LOG command.

Authorization roles
• MQS_senior or MQS_domain_name_senior
• admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>No</td>
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</tbody>
</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Set Archive Parameters

Description
Dynamically changes certain archive parameter values initially set by CSQ6ARVP. This task runs the WebSphere MQ SET ARCHIVE command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
<thead>
<tr>
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<th>Proxy mode z/OS</th>
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Supported applications

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<th>Corresponding resource model</th>
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<td></td>
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</table>

Target managed resource
Queue managers

Parameters
See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

Usage notes
None
Set Authority

Description
Sets the authorities that users or groups have with respect to a queue, process, queue manager, name list, or authentication information object. This task runs the WebSphere MQ `setmqaut` command.

Authorization roles
- MQS_senior or MQS_domain_name_senior
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<tbody>
<tr>
<td>Control Tasks task library</td>
<td>No</td>
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</tr>
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</table>

Target managed resource
Queue managers

Parameters
For information about the parameters for this task, refer to the WebSphere MQ System Administration Guide.

Usage notes
None
Set Queue Mgr Icon State

Description
Sets or changes the state of a queue manager icon if the icon does not properly represent the status of the queue manager. For example, if the event adapter stops, the state of the icon can differ from the state of the queue manager because status events are not received and the icon state is not updated. You can also use this task in rules that you create. This task changes only the icon. This task does not affect the operation of the queue manager.

For a recovery task:

When using this task as a recovery task, specify the task for Channel, Queue, or Queue Manager resource model indications, so the task runs when the indication occurs. The following indication attributes specify the target queue manager:

Queue_manager_name
Specifies the name of the queue manager for which the indication was generated.

The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles
- MQS_admin
- admin
- senior

User and group ID
$root_user and $root_group
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
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Supported applications

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<th>Tivoli Enterprise Console</th>
<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
</tr>
</thead>
</table>
| MQS Utility Tasks task library | No | No | - WebSphere MQ Channel resource model  
- WebSphere MQ Queue resource model  
- WebSphere MQ Queue Manager resource model |
Target managed resource
Queue managers

Parameters
This task has the following parameter:

State  Select the state of running, not running, warning, critical, or unknown for the queue manager icon from the drop-down list.

See the Populating the management domains section of the IBM Tivoli Monitoring for Business Integration User’s Guide for detailed descriptions for the IBM Tivoli Monitoring for Business Integration: WebSphere MQ icon states.

Usage notes
For a recovery task:

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Set System Parameters

Description
Dynamically changes certain system parameter values that were initially set by CSQ6SYSP. This task runs the WebSphere MQ SET SYSTEM command.

Authorization roles
• MQS_senior or MQS_domain_name_senior
• admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<tr>
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<th>Proxy mode z/OS</th>
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</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
### Set Task Timeout Value

**Description**
Changes the timeout value on the endpoint or the gateway, or both, for a context menu task to prevent the task from timing out. All context menu tasks within a management domain, except for Clone and Create Management Domain, use the timeout value you specify. The default timeout value on the endpoint for context menu tasks is 300 seconds. The default timeout value on the gateway is 300 seconds. A context menu task times out when it reaches the lesser of the endpoint timeout value or the gateway timeout value. For example, if you change the endpoint timeout value to 600 seconds, and you keep the default gateway timeout value (300 seconds), the task times out at 300 seconds.

**Note:** On OS/400, you must increase the timeout value to prevent tasks from timing out.

**Authorization roles**
- MQS_senior or MQS_domain_name_senior
- admin

**User and group ID**
[root_user]

**Supported platforms**

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<tr>
<td>Management domain icon context menu</td>
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</table>

**Target managed resource**
Tivoli server
Parameters

Here is an example of the Set Task Timeout Value window:

![Set Task Timeout Value window](image)

This task has the following parameters:

**Seconds**
Enter the task timeout value in seconds to change the endpoint timeout value.

**Gateway Host**
Select one or more gateways to change the gateway timeout value equal to the value set for the endpoint in the **Seconds** field. This field shows the current timeout value for each gateway.

Usage notes

This task does not change the timeout value for the following context menu tasks:
- Clone
- Create Management Domain

If a timeout occurs due to either a task timeout or a gateway timeout, the task continues to run on the target endpoint. To determine the task completion status, examine the task’s trace log file on the target endpoint.
Start

Description
Starts a channel or queue manager.

Authorization roles
• MQ5_admin
• admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<tr>
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<td>No</td>
<td>Yes</td>
<td>WebSphere MQ Channel resource model</td>
</tr>
</tbody>
</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Start Alternate Channel

Description

Starts a channel that has a transmission queue that is the same as the target channel.

This task runs the WebSphere MQ START CHANNEL command.

For a recovery task:

When using this task as a recovery task, specify the task for Channel resource model indications, so the task runs when the indication occurs.

The following indication attribute specifies the target channel:

Channel_name

Specifies the names of one or more channels for which the indication was generated.

The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles

admin

User and group ID

$tmemqs_user and $tmemqs_group

Supported platforms

<table>
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<tr>
<td>No</td>
<td>Yes</td>
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<td>WebSphere MQ Channel resource model</td>
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</table>

Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

Target managed resource

Queue managers

Parameters

None
Usage notes

For a recovery task:

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Start Channel

Description

Starts a channel.

This task runs the WebSphere MQ START CHANNEL command.

For a recovery task:

When using this task as a recovery task, specify the task for Channel resource model indications, so the task runs when the indication occurs.

The following indication attribute specifies the target channel:

*Channel_name*

Specifies the names of one or more channels for which the indication was generated.

The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles

admin

User and group ID

$tmemqs_user and $tmemqs_group

Supported platforms

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<td>Yes</td>
<td>No</td>
<td>WebSphere MQ Channel resource model</td>
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</tbody>
</table>

Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

Target managed resource

Queue managers

Parameters

See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.
Usage notes

You can also use the **Control Channel** task to start a channel. See the "Control Channel" on page 169 task for details.

For a recovery task:

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
**Start Channel Initiator**

**Description**
Starts a channel initiator for a queue manager. This task runs the WebSphere MQ START CHINIT command.

For a recovery task:
When using this task as a recovery task, specify the task for Channel, Queue, or Queue Manager resource model indications, so the task runs when the indication occurs. The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

**Authorization roles**
- MQS_admin or MQS_domain_name_admin
- admin

**User and group ID**
$tmemqs_user and $tmemqs_group

**Supported platforms**

<table>
<thead>
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<th>Distributed</th>
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**Supported applications**

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<th>Corresponding resource model</th>
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<td>WebSphere MQ Channel resource model</td>
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<td></td>
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<td>WebSphere MQ Queue Manager resource model</td>
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</table>

• Queue manager icon context menu
• Queue Manager Control Center
• Channel Tasks task library

**Note:** You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

**Target managed resource**
Queue managers

**Parameters**
If the Initiation Queue Name is not specified, this task starts the channel initiator with the initiation queue set to SYSTEM.CHANNEL.INITQ. Specifying an Initiation Queue Name limits the range of queue managers to which the task...
applies. You might need to use multiple profiles so that each profile specifies this task with a different Initiation Queue Name.

See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

**Usage notes**

To start a channel initiator for a queue manager on proxy mode z/OS, you must have configured the JCL PROC for the channel initiator. For more information, refer to the WebSphere MQ product documentation.

**For a recovery task:**

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Start Channel Listener

Description
Starts the channel listener. On distributed platforms, this task uses the `runmqlsr` command to start a channel listener and the `endmqlsr` command to stop a channel listener. On proxy mode z/OS, this task runs the START LISTENER or the STOP LISTENER command. For information about stopping a channel listener, refer to the WebSphere MQ product documentation.

For a recovery task:

When using this task as a recovery task, specify the task for Queue Manager resource model indications, so the task runs when the indication occurs.

The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles
admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>WebSphere MQ Queue Manager resource model</td>
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Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

Target managed resource
Queue managers
Parameters

See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

Usage notes

To start a channel listener from the Tivoli desktop, see the “Control Channel Listener” on page 170 task.

For a recovery task:

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Start Command Server

Description
Start the command server. This task runs the `strmqcsv` command on distributed platforms and the START CMDSERV command on proxy mode z/OS.

For a recovery task:
When using this task as a recovery task, specify the task for Channel, Queue, or Queue Manager resource model indications, so the task runs when the indication occurs. The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
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<th>Corresponding resource model</th>
</tr>
</thead>
</table>
| • Queue manager icon context menu
  • Queue Manager Control Center
  • Cmd Server Tasks task library (Control Command Server task) | Yes | No | • WebSphere MQ Channel resource model
  • WebSphere MQ Queue resource model
  • WebSphere MQ Queue Manager resource model |

Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

Target managed resource
Queue managers

Parameters
None
Usage notes

For a recovery task:

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Start Debug Option

Description
Enables tracing of the user and group context switch performed by the IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models prior to invoking the data providers. By default, this information is not traced because of the performance overhead.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
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<tr>
<th>Distributed</th>
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<tbody>
<tr>
<td>Control Tasks task library</td>
<td>No</td>
<td>No</td>
<td>No</td>
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</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
None
Start DLQ Handler

Description
Starts the DLQ handler, which processes messages on the dead-letter queue (DLQ). This task runs the WebSphere MQ `runmqdlq` command on distributed platforms. On proxy mode z/OS, this task runs the WebSphere MQ CSQUDLQH utility.

Since this task runs against the queue manager object, there is no opportunity to distribute the rules table automatically. You must distribute the rules table manually as follows: Run the Start DLQ Handler task from the Tivoli Desktop to send the rules table to the target endpoint. You can also use another external method such as ftp.

For a recovery task:

When using this task as a recovery task, specify the task for Queue or Queue Manager resource model indications, so the task runs when the indication occurs. The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles

- MQS_admin or MQS_domain_name_admin
- admin

User and group ID

`$tmemqs_user` and `$tmemqs_group`

Supported platforms

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<td>Queue Manager Control Center</td>
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<td>WebSphere MQ Queue resource model</td>
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<tr>
<td>Queue Mgr Tasks task library</td>
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<td>WebSphere MQ Queue Manager resource model</td>
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</table>

Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.
Target managed resource
Queue managers

Parameters

Here is an example of the Start DLQ Handler window:

![Start DLQ Handler window]

This task has the following parameters. Specify the rules table with which to start the DLQ handler in one of the following fields:

Select a DLQ Rules Table
Select the name of the DLQ rules table (double-click a name or select the name and then click Set and Execute). This list includes the names of the rules tables that exist on the Tivoli server (those rules tables that were created using the Edit DLQ Rules Tables task).

Enter a DLQ Rules Table Name
Type the name (without a path name) of the rules table. The rules table must exist in the $LCF_BINDIR/../generic_unix/TME/MQS/dlq_rulesets directory on the target queue manager endpoint.

If you created the rules table with the Edit DLQ Rules Table task, the rules table is automatically pushed from the Tivoli server to the $LCF_BINDIR/../generic_unix/TME/MQS/dlq_rulesets directory on the target queue manager endpoint.

If you did not create the rules table with the Edit DLQ Rules Table task, you must manually place the rules table in the $LCF_BINDIR/../generic_unix/TME/MQS/dlq_rulesets directory on the target queue manager endpoint.

For proxy mode z/OS, the rules table must reside in the data set that is specified by the SYSIN DD statement in the IHSMDLQH JCL. If you created the rules table with the Edit DLQ Rules Table task, use ftp to transfer the rules table from the $BINDIR/../generic_unix/TME/MQS/dlq_rulesets directory on the Tivoli server to your proxy mode z/OS system. For information about configuring the DLQ handler for proxy mode z/OS, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.
Usage notes

For a recovery task:

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Start Event Adapter

Description
Starts a WebSphere MQ event adapter for a queue manager on an endpoint or on proxy mode z/OS. To start a WebSphere MQ event adapter on proxy mode z/OS, you must already have set up the TECAD JCL PROC correctly. For more information about setting up the event adapter for proxy mode z/OS, refer to the IBM Tivoli Monitoring for Business Integration Installation and Setup Guide.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<tr>
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<td>No</td>
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Target managed resource
Queue managers

Parameters
None

Usage notes
The queue manager does not have to be running to start the event adapter.

If there are multiple queue managers on an endpoint, you must start an event adapter for each endpoint.

For information about starting the event adapter from the command line, refer to the Chapter 4, “Event adapter commands” chapter.

For information about the WebSphere MQ event adapter, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.
Start Execution Service

Description
Starts another copy of the Workflow execution service.

Specify this recovery task for WebSphere MQ Queue resource model indications, so the task runs when the indication occurs. This recovery task applies only to the Queue Is Filling, Queue Messages Aging, and Queue Read Error indications for the execution service input queue (RTSINPUTQ) in the WebSphere MQ Queue resource model.

Authorization roles
admin

User and group ID
$root_user

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
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Supported applications

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<th>Tivoli Enterprise Console</th>
<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
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<tr>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Workflow Status Monitor</td>
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Target managed resource
Queue manager

Parameters
None

Usage notes
You must install the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component before you can use Workflow tasks. For more information about installing the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the IBM Tivoli Monitoring for Business Integration Installation and Setup Guide. For information about using the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.

The MQWF ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Start Inbound Server

Description
Starts the MQSeries Link for R/3 inbound server. If the server is not started as a Windows service, the server program is run from the directory defined by the location of the initialization file. The inbound server receives data into an R/3 system. The inbound server is started using the smqsi command to control the smqsi server daemon. The server gets control whenever a WebSphere MQ message is put on the inbound server queue. The inbound server gets the message from the queue and passes the information in the message as Intermediate Documents (IDOCs) to the receiving application.

Authorization roles
• MQS_admin or MQS_domain_name_admin
• admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
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<tr>
<td>• Queue manager icon context menu</td>
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<td>No</td>
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<tr>
<td>• Queue Manager Control Center</td>
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<td>No</td>
<td>No</td>
</tr>
<tr>
<td>• MQSeries Link for R/3 Tasks task library</td>
<td>No</td>
<td>No</td>
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</table>

Target managed resource
Queue managers

Parameters
Here is an example of the Start Inbound Server window:

This task has the following parameters:
**Initialization file path and name**

Enter the full path name of the initialization file. This file contains parameters that customize how the inbound server runs. For UNIX, you must provide the name of the initialization file. For Windows NT, providing the name of the initialization file is optional. If the name of the initialization file is not provided, the task checks to see if the server is installed as a Windows service. If the server is not installed as a Windows service, the task returns an error.

**Inbound Queue Name**

Enter the queue name for the queue that stores messages being transferred to the R/3 system. This queue must have already been created before running this task. This field is optional.

**Usage notes**

None
Start Outbound Server

Description
Starts the MQSeries Link for R/3 outbound server. If the server is not started as a Windows service, the server program is run from the directory defined by the location of the initialization file. The outbound server sends data out of an R/3 system. The outbound server is started using the `smqso` command to control the smqso server daemon. After the server starts, the server automatically gets control when an R/3 application sends information through WebSphere MQ. The R/3 application passes a single transaction to the MQSeries Link for R/3 as a set of one or more intermediate documents (IDOCs). The outbound server builds the IDOCs into WebSphere MQ messages and passes them to WebSphere MQ.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

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<td>No</td>
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</table>

Target managed resource
Queue managers
Parameters

Here is an example of the Start Outbound Server window:

This task has the following parameters:

**Ini File Name and Pathfile (required)**
Enter the full path name of the initialization file. This file contains parameters that customize how the outbound server runs. For UNIX, you must specify the name of the initialization file. For Windows, providing the name of the initialization file is optional. If the name of the initialization file is not provided, the task checks to see if the server is installed as a Windows service. If the server is not installed as a Windows service, the task returns an error.

**Path to smqDestConf file (optional)**
Enter the full path to the smqDestConf file. For the MQSeries Link for R/3 v1.2, the **smqso** command must be executed from this directory. If the path is not specified, the smqDestConf file is assumed to exist in the same directory as the initialization file. The **smqso** command fails if the smqDestConf file is not located in the current directory from which the **smqso** command is run.

**Gateway Service (optional)**
Specify the name of the gateway service the R/3 connection uses. The name of the gateway service must match the name specified in the R/3 RFC destination panel.

**Gateway Host (optional)**
Specify the name of the gateway host the R/3 connection uses. The name of the gateway host must match the name specified in the R/3 RFC destination panel.

**Program ID (optional)**
Enter the unique identifier that specifies which host is to receive the outgoing R/3 information. The program ID must match the Program ID specified in the R/3 RFC destination panel.

**Usage notes**
None
Start Queue Manager

Description

Starts the queue manager. To start a queue manager, this task runs the `strmqm` command for distributed platforms and the START QMGR command for proxy mode z/OS.

For a recovery task:

When using this task as a recovery task, specify the task for Channel, Queue, or Queue Manager resource model indications, so the task runs when the indication occurs.

The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles

admin

User and group ID

$tmemqs_user and $tmemqs_group

Supported platforms

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<td>• WebSphere MQ Queue Manager resource model</td>
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</table>

Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

Target managed resource

Queue managers

Parameters

See `WebSphere MQ Script (MQSC) Command Reference` for information about the parameters for this task.
Usage notes

To start a queue manager from the Tivoli desktop, see the “Control Queue Manager” on page 171 task.
Start TEC Adapter

Description
Starts a WebSphere MQ event adapter for the queue manager on an endpoint or on proxy mode z/OS. To start a WebSphere MQ event adapter on proxy mode z/OS, you must already have set up the TECAD JCL PROC correctly. For more information about setting up the event adapter for proxy mode z/OS, refer to the IBM Tivoli Monitoring for Business Integration Installation and Setup Guide.

For a recovery task:
When using this task as a recovery task, specify the task for Channel, Queue, or Queue Manager resource model indications, so the task runs when the indication occurs.

The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles
admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
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<td>• WebSphere MQ Queue resource model</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• WebSphere MQ Queue Manager resource model</td>
</tr>
</tbody>
</table>

Target managed resource
Queue manager to which the indication is raised

Parameters
None
Usage notes

The queue manager does not have to be running to start the event adapter.

If there are multiple queue managers on an endpoint, you must start an event adapter for each endpoint.

You can also use the **Start Event Adapter** task to start the event adapter from the Tivoli desktop. See the “Start Event Adapter” on page 321 task for details.

For information about starting the event adapter from the command line, refer to the Chapter 4, “Event adapter commands” chapter.

For information about the WebSphere MQ event adapter, refer to the *IBM Tivoli Monitoring for Business Integration User’s Guide*.

**For a recovery task:**

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Start Trigger Monitor

Description

Starts a trigger monitor. This task runs the WebSphere MQ runmqtrm command.

For a recovery task:

When using this task as a recovery task, specify the task for Channel, Queue, or Queue Manager resource model indications, so the task runs when the indication occurs. The target queue manager is the one to which the resource model was originally distributed and from which the persistent indication was raised.

Authorization roles

• MQS_admin or MQS_domain_name_admin
• admin

User and group ID

$tmemqs_user and $tmemqs_group

Supported platforms

<table>
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<th>Distributed</th>
<th>Proxy mode z/OS</th>
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Supported applications

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<th>Corresponding resource model</th>
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<tbody>
<tr>
<td>Control Tasks task library</td>
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<td>- WebSphere MQ Channel resource model</td>
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<td>- WebSphere MQ Queue resource model</td>
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<td></td>
<td></td>
<td></td>
<td>- WebSphere MQ Queue Manager resource model</td>
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<td></td>
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<td>- Workflow Status Monitor resource model</td>
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</table>

Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

Target managed resource

Queue managers

Parameters

For information about the parameters for this task, refer to the WebSphere MQ System Administration Guide.
Usage notes

For a recovery task:

The MQS ITM Tasks task library in the Monitoring for WebSphere MQ policy region contains the tasks that are provided as IBM Tivoli Monitoring recovery tasks. However, you should only run these tasks through the corresponding resource models.
Start Workflow Service

Description
Starts a Workflow service.

Authorization roles
mqwf_admin

User and group ID
$root_user

Supported platforms

<table>
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Supported applications

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<tbody>
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<td>MQWF Tasks task library</td>
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<td>No</td>
</tr>
</tbody>
</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
You must run this task only from the Tivoli desktop.

You must install the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component before you can use Workflow tasks. For more information about installing the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the IBM Tivoli Monitoring for Business Integration Installation and Setup Guide. For information about using the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.
Stop

Description

Stops a channel.

Stops the following types of channels:

- Client-connection
- Server-connection
- Receiver
- Requester
- Sender
- Server
- Cluster Sender
- Cluster Receiver

Authorization roles

- MQS_admin
- admin

User and group ID

$root_user and $root_group

Supported platforms

<table>
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<td>No</td>
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<td>No</td>
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</table>

Target managed resource

Queue managers

Parameters

None

Usage notes

You can also use the Control Channel task to stop a channel. See the “Control Channel” on page 169 task for details.

On HP-UX workstations, the WebSphere MQ event adapter cannot properly process certain event types, typically those events associated with stopping a channel. When these event types are encountered, the WebSphere MQ event
adapter stops. To restart the WebSphere MQ event adapter, clear the system event queue. Then restart the WebSphere MQ event adapter.
Stop Channel

Description

Stops a channel. This task runs the WebSphere MQ STOP CHANNEL command.

Stops the following types of channels:
- Client-connection
- Server-connection
- Receiver
- Requester
- Sender
- Server
- Cluster Sender
- Cluster Receiver

Authorization roles

MQS_admin

User and group ID

$root_user and $root_group

Supported platforms

<table>
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<th>Distributed</th>
<th>Proxy mode z/OS</th>
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<td>MQSeries TEC Tasks task library</td>
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</table>

Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

Target managed resource

Queue managers

Parameters

None

Usage notes

You can also use the Control Channel task to stop a channel. See the “Control Channel” on page 169 task for details.

On HP-UX workstations, the WebSphere MQ event adapter cannot properly process certain event types, typically those events associated with stopping a
channel. When these event types are encountered, the WebSphere MQ event adapter stops. To restart the WebSphere MQ event adapter, clear the system event queue. Then restart the WebSphere MQ event adapter.
Stop Channel Initiator

Description
Stops a channel initiator. This task runs the WebSphere MQ STOP CHINIT command.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
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<th>Distributed</th>
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<tr>
<td>Queue manager icon context menu</td>
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<td>Queue Manager Control Center</td>
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<tr>
<td>MVS Control Tasks</td>
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</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
None
Stop Command Server

Description

Stops the command server. This task runs the WebSphere MQ `endmqcsv` command on distributed platforms and the `STOP CMDSERV` command on proxy mode z/OS.

Authorization roles

- MQS_admin or MQS_domain_name_admin
- admin

User and group ID

`tmemqs_user` and `tmemqs_group`

Supported platforms

<table>
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<td>No</td>
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Target managed resource

Queue managers

Parameters

None

Usage notes

None
Stop Controlled

Description
Stops a queue manager with the QUIESCE option, allowing programs that are currently running to finish processing.

Authorization roles
- MQS_admin
- admin

User and group ID
$root_user and $root_group

Supported platforms

<table>
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</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
You can also use the Control Queue Manager task to stop a queue manager. See the "Control Queue Manager" on page 171 task for details.
Stop Debug Option

Description
Disables tracing of the user and group context switch performed by the IBM Tivoli Monitoring for Business Integration: WebSphere MQ resource models. This task stops the debug option for all resource models that are running on the task endpoint.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
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<tr>
<td>Control Tasks task library</td>
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<td>No</td>
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</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
None
Stop DLQ Handler

Description
Stops the DLQ handler for the selected queue managers. To stop the DLQ handler, this task disables GETs on the dead-letter queue and then re-enables the GETs.

Authorization roles
- MQS_admin or MQS_domain_name_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
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<tr>
<td>• Queue Mgr Tasks task library</td>
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Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

Target managed resource
Queue managers

Parameters
None

Usage notes
If you run the Stop DLQ Handler task on a non-Windows-based Tivoli management region server, you must add the mqm user ID with the mqm group as the primary group ID to the Tivoli management region server.
Stop Event Adapter

Description

Stops a WebSphere MQ event adapter on an endpoint or on proxy mode z/OS. Use this task to stop an event adapter on proxy mode z/OS only if you used the Start Event Adapter task to start the event adapter. If you started the event adapter by submitting the TECAD JCL on proxy mode z/OS, stop the event adapter from the proxy mode z/OS console.

Authorization roles

- MQS_admin or MQS_domain_name_admin
- admin

User and group ID

$tmemqs_user and $tmemqs_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Supported applications

<table>
<thead>
<tr>
<th>Tivoli desktop</th>
<th>Tivoli Enterprise Console</th>
<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Target managed resource

Queue managers

Parameters

None

Usage notes

For information about stopping the event adapter from the command line, refer to the Chapter 4, “Event adapter commands” chapter.
Stop Immediate

Description
Stops a queue manager immediately. This action might cause indoubt situations.

Authorization roles
- MQS_admin
- admin

User and group ID
$root_user and $root_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Supported applications

<table>
<thead>
<tr>
<th>Tivoli desktop</th>
<th>Tivoli Enterprise Console</th>
<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
You can also use the Control Queue Manager task to stop a queue manager. See the "Control Queue Manager" on page 171 task for details.
Stop Queue Manager

Description
Stops a queue manager. To start and stop a queue manager, this task runs the `strmqm` and `endmqm` commands for distributed platforms and the `START QMGR` and `STOP QMGR` commands for proxy mode z/OS.

Authorization roles
MQS_admin

User and group ID
$root_user and $root_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Supported applications

<table>
<thead>
<tr>
<th>Tivoli desktop</th>
<th>Tivoli Enterprise Console</th>
<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQSeries TEC Tasks task library</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Note: You can only run IBM Tivoli Enterprise Console tasks against events generated from Tivoli Enterprise Console adapters.

Target managed resource
Queue managers

Parameters
None

Usage notes
You can also use the Control Queue Manager task to stop a queue manager. See the “Control Queue Manager” on page 171 task for details.
Stop Server

Description

Stops a server process for an inbound or outbound R/3 server as follows:

- **For UNIX**: Stops all server processes associated with the initialization file.
- **For Windows**: If the server started as a Windows service, the server process is stopped. If the server was not started as Windows service, all server processes are stopped.
- **For OS/400**: all servers of the type you select are stopped whether or not you specify an initialization file.

Authorization roles

- MQS_admin or MQS_domain_name_admin
- admin

User and group ID

$tmemqs_user and $tmemqs_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Supported applications

<table>
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<tr>
<th>Tivoli desktop</th>
<th>Tivoli Enterprise Console</th>
<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queue manager icon context menu</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Queue Manager Control Center</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MQSeries Link for R/3 Tasks task library</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Target managed resource

Queue managers

Parameters

Here is an example of the Stop Server window:

![Stop Server Window](image)

This task has the following parameters:
**Server Type**
Select the type of server you are stopping: Inbound Server or Outbound Server.

**Initialization file path and name**
Enter the full path name of the initialization file. If you do not specify the initialization file, all inbound or all outbound servers are stopped.

**Usage notes**
None
Stop TEC Adapter

Description
Stops a WebSphere MQ event adapter on an endpoint or on proxy mode z/OS. Use this task to stop an event adapter on proxy mode z/OS only if you used the Start Event Adapter task to start the event adapter. If you started the event adapter by submitting the TECAD JCL on proxy mode z/OS, stop the event adapter from the proxy mode z/OS console.

Authorization roles
- MQS_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Supported applications

<table>
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</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Target managed resource
Queue managers

Parameters
None

Usage notes
For information about stopping the event adapter from the Tivoli desktop, refer to the Stop Event Adapter task.

For information about stopping the event adapter from the command line, refer to the Chapter 4, “Event adapter commands” chapter.
Stop Workflow Service

Description

Stops a Workflow service.

Authorization roles

mqwf_admin

User and group ID

$root_user

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
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Supported applications

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<th>Tivoli Enterprise Console</th>
<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQWF Tasks task library</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Target managed resource

Queue manager

Parameters

None

Usage notes

You must run this task only from the Tivoli desktop.

You must install the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component before you can use Workflow tasks. For more information about installing the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the IBM Tivoli Monitoring for Business Integration Installation and Setup Guide. For information about using the IBM Tivoli Monitoring for Business Integration: WebSphere MQ Workflow component, refer to the IBM Tivoli Monitoring for Business Integration User’s Guide.
Suspend Cluster Queue Manager

**Description**

Informs other queue managers in a cluster that the local queue manager is not available for processing and cannot be sent messages. This task runs the WebSphere MQ SUSPEND QMGR CLUSTER command.

**Authorization roles**

- MQS_admin or MQS_domain_name_admin
- admin

**User and group ID**

$tmemqs_user and $tmemqs_group

**Supported platforms**

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
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</tr>
</thead>
<tbody>
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<td>Yes</td>
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</tbody>
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**Supported applications**

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<th>Tivoli Enterprise Console</th>
<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
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<tbody>
<tr>
<td>Queue manager icon context menu</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Queue Manager Control Center</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Cluster Tasks task library (Cntrl Cluster Queue Manager task)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Target managed resource**

Queue managers

**Parameters**

See *WebSphere MQ Script (MQSC) Command Reference* for information about the parameters for this task.

**Usage notes**

Use the Resume Cluster Queue Manager task to reverse this action.
Suspend Queue Manager

Description
Informs other queue managers in a cluster that the local queue manager is not available for processing and cannot be sent messages. This task runs the WebSphere MQ SUSPEND QMGR CLUSTER command.

Authorization roles
- MQS_admin
- admin

User and group ID
$tmemqs_user and $tmemqs_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Supported applications

<table>
<thead>
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<th>Tivoli Enterprise Console</th>
<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Target managed resource
Queue managers

Parameters
See WebSphere MQ Script (MQSC) Command Reference for information about the parameters for this task.

Usage notes
Use the Resume Queue Manager task to reverse this action.
Uninstall_Endpoints_ManagedNodes

Description
Uninstalls IBM Tivoli Monitoring for Business Integration: WebSphere MQ Version 5.1.1 from gateways, managed nodes, and endpoints.

Authorization roles
MQS_senior

User and group ID
$root_user and $root_group

Supported platforms

<table>
<thead>
<tr>
<th>Distributed</th>
<th>Proxy mode z/OS</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Supported applications

<table>
<thead>
<tr>
<th>Tivoli desktop</th>
<th>Tivoli Enterprise Console</th>
<th>Tivoli Business Systems Manager</th>
<th>Corresponding resource model</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQS Utility Tasks task library</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Target managed resource
Managed nodes and endpoints from which you want to uninstall the product

Parameters
This task has the following parameters:

ManagedNodes/Endpoints
Click Select to display the ManagedNodes/Endpoints window from which you can select the managed nodes and endpoints from which you want to uninstall IBM Tivoli Monitoring for Business Integration: WebSphere MQ.

Usage notes
To completely uninstall IBM Tivoli Monitoring for Business Integration: WebSphere MQ, use the mqsuninst command. For more information about uninstalling the product, refer to the IBM Tivoli Monitoring for Business Integration Installation and Setup Guide.
Chapter 4. Event adapter commands

This section describes starting and stopping the WebSphere MQ event adapter from the command line on distributed, OS/400, and z/OS platforms.

Starting the event adapter on distributed platforms

To start the event adapter on distributed platforms from the command line, use the following steps:

1. Set the environment variable for the appropriate platform as listed in the following table:

<table>
<thead>
<tr>
<th>For...</th>
<th>Set this environment variable...</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIX</td>
<td>LIBPATH=$LCF_BINDIR/../../lib/$INTERP:/usr/lib:$LIBPATH</td>
</tr>
<tr>
<td>HP-UX</td>
<td>SHLIB_PATH=$LCF_BINDIR/../../lib/$INTERP:/usr/lib:$SHLIB_PATH</td>
</tr>
<tr>
<td>Linux-ix86</td>
<td>LD_LIBRARY_PATH=$LCF_BINDIR/../../lib/$INTERP:/usr/lib:$LD_LIBRARY_PATH</td>
</tr>
<tr>
<td>Linux-s390</td>
<td>LD_LIBRARY_PATH=$LCF_BINDIR/../../lib/$INTERP:/usr/lib:$LD_LIBRARY_PATH</td>
</tr>
<tr>
<td>Solaris</td>
<td>LD_LIBRARY_PATH=$LCF_BINDIR/../../lib/$INTERP:/usr/lib:$LD_LIBRARY_PATH</td>
</tr>
<tr>
<td>Windows</td>
<td>PATH=%LCF_BINDIR%/../lib/%INTERP%:%PATH%</td>
</tr>
</tbody>
</table>

2. Run one of the following commands from the $LCF_BINDIR/.../TME/MQS/bin directory:

   - To start an event adapter that is configured to send events directly from the endpoint to the event server, run the `tecad мqseries_nontme` command (for HP-UX 11, run the `tecad_mqseries_ux11_nontme` command).
   - To start an event adapter that is configured to send events through the gateway to the event server, run the `tecad_mqseries_tmegw` command (for HP-UX 11, run the `tecad_mqseries_ux11_tmegw` command).

The syntax for these commands is as follows:

```bash
.tecad_mqseries_nontme -q qmgrname [-c cfgdir] [-h hostname]
.tecad_mqseries_tmegw -q qmgrname [-c cfgdir] [-h hostname]
.tecad_mqseries_ux11_nontme -q qmgrname [-c cfgdir] [-h hostname]
.tecad_mqseries_ux11_tmegw -q qmgrname [-c cfgdir] [-h hostname]
```

Where:

- `-q qmgrname` Specifies the WebSphere MQ queue manager to which the event adapter connects.
- `-c cfgdir` Specifies the full directory path where the event adapter configuration file, `tecad_mqseries.queue_manager_name.cfg`, is located. By default, the event
adapter looks for the event adapter configuration file in the $LCF_BINDIR/../../generic_unix/TME/MQS/teccfg directory.

-h hostname
Specifies the name of the host that is to be used in the hostname attribute in the events. Use this option if the label for the queue manager icon does not match the actual host name.

---

### Stopping the event adapter on distributed platforms

For Windows systems, to stop the event adapter on distributed platforms from the command line, use the following command:

```
mqsaterm qmgrname
```

where:

- **qmgrname**
  Specifies the WebSphere MQ queue manager associated with the event adapter you want to stop.

For UNIX systems, to stop the event adapter on distributed platforms from the command line, use the following command:

```
kill -USR1 pid
```

where:

- **pid**
  Specifies the operating system process ID number of the event adapter process you want to stop. You can obtain the event adapter process ID through a command similar to the following:

  ```
  ps -ef | grep tecad_mqseries | grep qmgrname
  ```

  where:

  - **qmgrname**
    Specifies the WebSphere MQ queue manager associated with the event adapter you want to stop.

---

### Starting the event adapter on OS/400

Before you start the event adapter for WebSphere MQ on OS/400, you must first ensure that an event adapter is not already running. If you try to start the event adapter for a Queue Manager that currently has one running, you receive the following message:

```
Job jobnumber/QMQM/MQADEFS ended abnormally.
```

To determine if the event adapter is currently running for a Queue Manager, use the following steps:

1. Run the following command to check for a running event adapter:

   ```
   WRKJOB JOB(QMQM/MQADEFS)
   ```

   You will receive output similar to the following if you currently have an ACTIVE event adapter running on your system:

   ```
   MQADEFS QMQM 441948 BATCH ACTIVE 09/02/03
   ```

2. Enter 1 next to the line that is ACTIVE.
3. Enter 10 on the next screen to display the job log. The -q parameter in the job log provides you with the Queue Manager name. The following is an example of a job log:

   CALL PGM(QLCFCACHE/MQA) PARM('qAQM' '-c/qibm/userdata/tivoli/lcf/bin/
genetic_unix/TME/MQ5/teccfg')

Enter the following command to start the event adapter for WebSphere MQ on OS/400:

   SBMJOB CMD(CALL PGM(QLCFCACHE/MQA) PARM('-qQMGRNAME' '-cTECCFGDIR'))
   USER(UserID) JOB(MQADEFS) JOB(QTMELCF) CCSID(37)

where:

   QMGRNAME
       Specifies the identifier for the WebSphere MQ queue manager to which the
   event adapter connects. When specifying the name of the queue manager
   inside quotes following the -Q option, the queue manager name must be
   specified in upper case characters.

   TECCFGDIR
       The pre-configured Tivoli Enterprise Console configuration file found in
       the /qibm/userdata/tivoli/lcf/bin/generic_unix/TME/MQ5/teccfg
       directory.

   UserID
       Always use the QMQM user ID.

Note: The STRTMEMQA command is no longer supported on OS/400.

**Stopping the event adapter on OS/400**

To stop the event adapter for WebSphere MQ on OS/400 from the command line, use the following steps:

1. Enter the following command to determine what the job number is for the
   MQADEFS adapter job that you want to stop:

   DSPJOB JOB(username/MQADEFS)

   where:

   username
       Specifies the user name for which the job was submitted.

2. Record the job number for the ACTIVE job that you want to stop.

3. Enter the following command to stop the adapter job:

   ENDDJOB jobnumber/QMQM/MQADEFS

   where:

   jobnumber
       Specifies the adapter job number that you want to stop.

Note: It is normal to see the following message after you have entered the
command to stop the event adapter:

   Job jobnumber/QMQM/MQADEFS ended abnormally.

It is also normal to receive the following message in your job log. Ending
code 50 means that the job ended while it was active.

   The job ended with ending code 50.
If the profile running the MQADEFS program does not have *USE authority to the QSECOFR profile on the endpoint, you will receive the following error in the your job log:

Message: *USE authority to user profile QSECOFR required.

To prevent the message from occurring in the log, use the following steps to grant the *USE authority to the QMQM user ID for the QSECOFR profile:

1. Enter the following command:
   ```
   EDTOBJAUT OBJ(QSYS/QSECOFR) OBJTYPE(*USRPRF)
   ```
2. Press F6 on your keyboard to add the QMQM user with *USE authority.

---

### Starting the event adapter on proxy mode z/OS

To start the event adapter from the proxy mode z/OS operator’s console from the command line, use the following command:

```plaintext
start tecad.qmgr_name,cfg=**config_file_name**,prm="-Q qmgr_name"
```

where:

- **qmgr_name**
  Specifies the identifier for the WebSphere MQ queue manager to which the event adapter connects. When specifying the name of the queue manager inside quotes following the –Q option, the queue manager name must be specified in upper case characters.

- **config_file_name**
  Specifies the name of the event adapter configuration file. The name of the partitioned data set that contains this file is specified in the JCL. When you start the event adapter from the command line, the configuration file name does not have to match the name of the queue manager.

See MVS System Commands Manual for details on MVS console commands.

---

### Stopping the event adapter on proxy mode z/OS

To stop the event adapter from the proxy mode z/OS operator’s console from the command line, enter the following command:

```plaintext
stop tecad.qmgr_name
```

where:

- **qmgr_name**
  Specifies the identifier for the WebSphere MQ queue manager to which the event adapter connects.

See MVS System Commands Manual for details on MVS console commands.
Appendix A. Creating resource models using CIM classes

You can use the information in this appendix to create resource models with IBM Tivoli Monitoring Resource Model Builder. IBM Tivoli Monitoring Resource Model Builder is a programming tool for creating, modifying, debugging, and packaging resource models for use with IBM Tivoli Monitoring products. Samples of the Best Practice resource models have also been provided for you to use with IBM Tivoli Monitoring Resource Model Builder.

The Tivoli Maintenance and Support Contract covers assistance with problems relating to the operation of IBM Tivoli Monitoring Resource Model Builder but does not cover assistance for new or modified resource models other than the ones that are included in IBM Tivoli Monitoring Resource Model Builder.

For more information about creating resource models, refer to the IBM Tivoli Monitoring Resource Model Builder User’s Guide.

Creating resource models using IBM Tivoli Monitoring Resource Model Builder

Objective
To create customized resource models using the IBM Tivoli Monitoring for Business Integration: WebSphere MQ CIM classes and a resource model wizard to guide you through the process.

Background information
The resource model wizard guides you through the process of creating resource models using the IBM Tivoli Monitoring for Business Integration: WebSphere MQ CIM classes. For more information about creating resource models, refer to the IBM Tivoli Monitoring Resource Model Builder User’s Guide.

Required authorization role
admin

Before you begin
Before you begin, you must perform the following steps:

1. Install and configure Windows Management Instrumentation.

2. Install and configure IBM Tivoli Monitoring Resource Model Builder.

3. Load each CIM class you want to use for your monitoring software.
   Additional Information: Load the classes by running the mofcomp command from the Workbench/w32–ix86 directory on the installation CD for your monitoring software. For more information about the mofcomp command, refer to the Windows Management Instrumentation documentation.

After you finish
Refer to the IBM Tivoli Monitoring Resource Model Builder documentation for instructions on how to build and deploy your new resource model. You must distribute resource models created using the IBM Tivoli Monitoring for Business Integration: WebSphere MQ CIM classes to queue manager objects.
Procedure

1. Open IBM Tivoli Monitoring Resource Model Builder.
2. Click File from the toolbar to display the File drop-down menu.
3. Click New from the File drop-down menu to display the New pop-up menu.
4. Click Basic Resource Model Wizard to launch the wizard and display the scripting language and operating system window.
5. Select one of the following scripting languages:
   - **VBA Script Resource Models (Windows only):** Limits the operating system type to w32-ix86 (Windows) only.
   - **JavaScript Resource Model (all platforms):** Enables the resource model to run on all operating systems.
6. *(For JavaScript only)* Select any of the following operating systems on which the resource model will run:
   - **w32-ix86**
     The Windows operating system on an Intel operating system.
   - **solaris2**
     The Sun Solaris 2 operating system.
   - **aix4–r1**
     The IBM AIX operating system.
   - **hpux10**
     The HP Unix operating system.
   - **linux–ix86**
     The Linux operating system on an Intel operating system.
   - **linux–s390**
     The Linux operating system on an IBM OS/390 operating system.
   - **os400**
     The IBM OS/400 operating system.
   - **os2–ix86**
     The OS/2 operating system.
7. Click Next to open the Datasource Selection Page window.
8. Click CIM/WMI Datasource to open the CIM Data Source Wizard.
9. Type **ROOT\CIMV2** in the Namespace text box.
   *Additional Information:* **ROOT\CIMV2** is the destination that stores the IBM Tivoli Monitoring for Business Integration: WebSphere MQ CIM classes.
10. Click the lightning icon to connect to the namespace.
    *Additional Information:* If you are connected to the namespace, you are not prompted to enter your user name and password, if the current ones are valid. If you are prompted with the Logon window, do the following:
    a. Enter your user name and password.
    b. Click Logon to connect to the namespace.
11. Select a CIM class to highlight the CIM class.
    *Additional Information:* The left field displays all available CIM classes for use in your custom resource models. For information about the CIM classes, see "Data providers" on page 359.
12. Click Next to display the Select Properties window.
13. Select one or more CIM class properties to monitor from the Available Properties table.
14. Move the properties to the **Selected Properties** table by clicking the right arrow icon.

15. Click **Next**.


17. After the wizard is complete, add the CIM classes as platform-specific dependencies to the resource model by following these steps:
   
a. In the IBM Tivoli Monitoring Resource Model Builder window, open the **Management** view containing the decision tree for your new resource model.
   
b. In the decision tree on the left side of the window, click "+" to expand the tree list for the newly created resource model.
   
c. Click **Dependencies** to display the **Dependencies Editor** page.
   
d. Click **Add** to display the Dependencies window.
   
e. Browse to the IBM Tivoli Monitoring for Business Integration: WebSphere MQ installation CD.
   
f. Click one of the following operating system options on which the resource models runs:
      
      • **all** — all operating systems.
      
      —OR—
      
      • **w32–ix86** — A Windows operating system on an Intel operating system.
   
g. Click **OK** to add the classes to the **Dependencies** page.
   
h. Repeat steps 17d to 17g until all platform-specific dependencies have been updated with the IBM Tivoli Monitoring for Business Integration: WebSphere MQ CIM classes.

---

**Data providers**

To create resource models, you need to use providers and their CIM classes, properties, exceptions, and dependencies. A provider is the component of a resource model that delivers the metrics of the monitored object. Use the following providers to create resource models for IBM Tivoli Monitoring for Business Integration: WebSphere MQ:

- **WebSphere_MQ_Error_Log_10**
- **WebSphere_MQ_QueueMgr_12**
- **WebSphere_MQ_Queue_12**
- **WebSphere_MQ_Channel_12**
- **Workflow_Configuration_10**
- **Workflow_Process_10**

**WebSphere_MQ_Error_Log_10 provider**

The following tables describe the CIM Class, properties, dependency set, and parameters for the **WebSphere_MQ_Error_Log_10** provider.

**Note:** The **WebSphere_MQ_Error_Log_10** provider does not have exceptions.
Table 9. WebSphere_MQ_Error_Log_10 CIM class

<table>
<thead>
<tr>
<th>CIM class</th>
<th>MOF file name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOT\CIMV2:WebSphere_MQ_Error_Log_10</td>
<td>WebSphere_MQ.mof</td>
<td>Provides WebSphere MQ statistics for queue manager error log entries.</td>
</tr>
</tbody>
</table>

Table 10. WebSphere_MQ_Error_Log_10 properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>msg_date</td>
<td>STRING</td>
<td>The date the message was written to the error log.</td>
</tr>
<tr>
<td>msg_time</td>
<td>STRING</td>
<td>The time of day the message was written to the error log.</td>
</tr>
<tr>
<td>msg_number</td>
<td>STRING</td>
<td>The WebSphere MQ assigned number of the message written to the error log.</td>
</tr>
<tr>
<td>msg_text</td>
<td>STRING</td>
<td>The text of the message written to the error log.</td>
</tr>
</tbody>
</table>

Table 11. WebSphere_MQ_Error_Log_10 dependency set

<table>
<thead>
<tr>
<th>Static Mqs_QMgrProviderDep static dependency set is pushed down to the endpoints where the WebSphere MQ queue managers reside when you run one of the following tasks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Discover Queue Managers</td>
</tr>
<tr>
<td>• Create Queue Manager</td>
</tr>
<tr>
<td>• Create Queue Manager Icon</td>
</tr>
</tbody>
</table>

You can also associate this dependency set to a different method.

**Note:** The providers have the following requirements:
- For UNIX systems, locate a Perl interpreter in the /etc/Tivoli/bin file.
- For Windows systems, locate a Perl interpreter in the PATH.

**WebSphere_MQ_QueueMgr_12 provider**

The following tables describe the CIM Class, properties, dependency set, and parameters for the WebSphere_MQ_QueueMgr_12 provider.

**Note:** The WebSphere_MQ_QueueMgr_12 provider does not have exceptions.

Table 12. WebSphere_MQ_QueueMgr_12 CIM class

<table>
<thead>
<tr>
<th>CIM class</th>
<th>MOF file name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOT\CIMV2:WebSphere_MQ_QueueMgr_12</td>
<td>WebSphere_MQ.mof</td>
<td>Provides WebSphere MQ statistics for a queue manager. Most data is consistent with the format returned from the <strong>runmqsc</strong> command except as noted.</td>
</tr>
</tbody>
</table>

Table 13. WebSphere_MQ_QueueMgr_12 properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMgrName</td>
<td>STRING</td>
<td>The name of the WebSphere MQ queue manager.</td>
</tr>
<tr>
<td>QMgrStatus</td>
<td>STRING</td>
<td>The status (up, down, or unknown) of the WebSphere MQ queue manager.</td>
</tr>
<tr>
<td>QMgrDescription</td>
<td>STRING</td>
<td>The description of the WebSphere MQ queue manager. If the description cannot be determined, the default is b (blank).</td>
</tr>
<tr>
<td>QMgrCmdLevel</td>
<td>STRING</td>
<td>The WebSphere MQ command level (such as, 530) for the queue manager.</td>
</tr>
</tbody>
</table>
Table 13. WebSphere_MQ_QueueMgr_12 properties (continued)

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMgrPlatform</td>
<td>STRING</td>
<td>The architecture (UNIX, WINDOW$NT, MVS, or REMOTE) of the platform on which the queue manager resides.</td>
</tr>
<tr>
<td>DLQName</td>
<td>STRING</td>
<td>The name of the dead-letter queue that is defined for the queue manager. If the name of the dead-letter queue cannot be determined, the default is ( \text{b} ) (blank).</td>
</tr>
<tr>
<td>CmdServerStatus</td>
<td>STRING</td>
<td>The status (up, down, or unknown) of the command server for the queue manager. <strong>Note:</strong> Enabled, starting, running, and waiting statuses are reported as up. Disabled, stopping, and stopped statuses are reported as down.</td>
</tr>
<tr>
<td>CmdServerQueueName</td>
<td>STRING</td>
<td>The name of command server queue defined for the queue manager. If the name of the command server queue cannot be determined, the default is ( \text{b} ) (blank).</td>
</tr>
<tr>
<td>ChannelsActive</td>
<td>NUMERIC</td>
<td>The number of channels in running state on the queue manager. If the number of active channels cannot be determined, the default is (-1).</td>
</tr>
<tr>
<td>ChannelsTotal</td>
<td>NUMERIC</td>
<td>The total number of channels defined for the queue manager. If the total number of channels cannot be determined, the default is (-1).</td>
</tr>
<tr>
<td>TECAdapterQueueName</td>
<td>STRING</td>
<td>The name of the WebSphere MQ event adapter configured for the queue manager. If the name of the event adapter cannot be determined, the default is ( \text{b} ) (blank).</td>
</tr>
<tr>
<td>TECCacheSize(^1)</td>
<td>STRING</td>
<td>The size of the cache file for the WebSphere MQ event adapter that is configured for the queue manager. If the size of the cache file cannot be determined, the default is ( \text{0} ). If cache file has not been created, the default is (-1).</td>
</tr>
<tr>
<td>PageSetUsedPercent(^2)</td>
<td>NUMERIC</td>
<td>The greatest percentage of used pages among all page sets on the queue manager. If the greatest percentage of used pages cannot be determined, the default is (-1).</td>
</tr>
<tr>
<td>PageSetUnusedPages(^2)</td>
<td>NUMERIC</td>
<td>The least amount of unused pages among all page sets on the queue manager. If the least amount of unused pages cannot be determined, the default is (-1).</td>
</tr>
<tr>
<td>ChannelInitStatus(^2)</td>
<td>STRING</td>
<td>The status (up, down, or unknown) of the channel initiator for the queue manager. The status is reported as \text{down} when all available channel initiators for the queue manager are not running.</td>
</tr>
<tr>
<td>ChannelListenerStatus</td>
<td>STRING</td>
<td>The status (up, down, or unknown) of the channel listener for the queue manager.</td>
</tr>
</tbody>
</table>

\(^1\) Applies only to distributed platforms.

\(^2\) Applies only to proxy mode \(z/OS\).

Table 14. WebSphere_MQ_QueueMgr_12 dependency set

<table>
<thead>
<tr>
<th>Static</th>
<th>Mqs$QMgrProviderDep static dependency set is pushed down to the endpoints where the WebSphere MQ queue managers reside when you run one of the following tasks:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Discover Queue Managers</td>
</tr>
<tr>
<td></td>
<td>• Create Queue Manager</td>
</tr>
<tr>
<td></td>
<td>• Create Queue Manager Icon</td>
</tr>
</tbody>
</table>

You can also associate this dependency set to a different method.

**Note:** The providers have the following requirements:
• For UNIX systems, locate a Perl interpreter in the /etc/Tivoli/bin file.
• For Windows systems, locate a Perl interpreter in the PATH.

The following table describes the parameters that the WebSphere MQ queue manager object automatically provides when the resource model is distributed to a WebSphere MQ queue manager. If the target of the resource model is not a WebSphere MQ queue manager, you must create and associate these parameters to the WebSphere_MQ_QueueMgr_12 CIM class.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQM_QM_QMGRNAME</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>The name of queue manager being monitored in the form queue_manager_name@endpoint.</td>
</tr>
<tr>
<td>MQM_QM_EPNAME</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>For locally administered queue managers, the hostname of the machine where the queue manager is located. For remotely administered queue managers, the hostname of the machine where the source queue manager is located.</td>
</tr>
<tr>
<td>MQM_QM_MVSFLAGS[¹]</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Set to -d for queue managers connected through an SNA domain and -h for queue managers connected through TCP/IP.</td>
</tr>
<tr>
<td>MQM_QM_MVSHOST[¹]</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>The fully qualified host name or the SNA domain name for the proxy mode z/OS system where the queue manager resides.</td>
</tr>
<tr>
<td>MQM_QM_WAITTIME[²]</td>
<td>Yes</td>
<td>NUMERIC</td>
<td>None</td>
<td>The wait time in seconds for a remotely administered queue manager. Must be set to REMOTE for a remotely administered queue manager. Otherwise, this parameter is ignored.</td>
</tr>
<tr>
<td>MQM_QM_CMDOPT[²]</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>The WebSphere MQ command level for the queue manager. This value is used for the command level when the queue manager has never been started.</td>
</tr>
<tr>
<td>MQM_QM_CMDPREFIX[¹]</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>The name of the profile that contains the resource model that was distributed. The profile name is used for naming the trace file.</td>
</tr>
<tr>
<td>PROFILE</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>The name of the profile that contains the resource model that was distributed.</td>
</tr>
</tbody>
</table>

[¹] Applies only to proxy mode z/OS.

[²] Applies only to remotely administered queue managers.

**WebSphere_MQ_Queue_12 provider**

The following tables describe the CIM Class, properties, dependency set, and parameters for the WebSphere_MQ_Queue_12 provider.

**Note:** The WebSphere_MQ_Queue_12 provider does not have exceptions.
Table 16. WebSphere_MQ_Queue_12 CIM class

<table>
<thead>
<tr>
<th>CIM class</th>
<th>MOF file name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOT\CIMV2: WebSphere_MQ_Queue_12</td>
<td>WebSphere_MQ.mof</td>
<td>Provides WebSphere MQ statistics for queues managed by a queue manager. Most data is consistent with the format returned from the runmqsc command except as noted.</td>
</tr>
</tbody>
</table>

Table 17. WebSphere_MQ_Queue_12 properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QueueName</td>
<td>STRING</td>
<td>The name of the WebSphere MQ queue being monitored. This CIM class can enumerate multiple queues to monitor based on the search criteria provided in the parameters.</td>
</tr>
<tr>
<td>QMessages</td>
<td>NUMERIC</td>
<td>The number of messages on the queue. If the number of messages cannot be determined, the default is −1.</td>
</tr>
<tr>
<td>QGETStatus</td>
<td>STRING</td>
<td>The ability for GETs (ENABLED or DISABLED) to be performed on the queue. If the status of GETs cannot be determined, the default is b (blank).</td>
</tr>
<tr>
<td>QPUTStatus</td>
<td>STRING</td>
<td>The ability for PUTs (ENABLED or DISABLED) to be performed on the queue. If the status of PUTs cannot be determined, the default is b (blank).</td>
</tr>
<tr>
<td>QDescription</td>
<td>STRING</td>
<td>The description of the queue. If the description cannot be determined, the default is b (blank).</td>
</tr>
<tr>
<td>QType</td>
<td>STRING</td>
<td>The type of queue being monitored, QLOCAL. If the queue type cannot be determined, the default is b (blank). Only local queues are monitored.</td>
</tr>
<tr>
<td>QOldestMsg(^1)</td>
<td>NUMERIC</td>
<td>The age (in minutes) of the oldest message on the queue based on the time and date stamp of the message. If the message age cannot be determined, the default is −1. A value of −3 indicates that no messages are on the queue. A value of −7 indicates that the cycle time is probably too short to check all the messages on the queue based on the setting for RM_CYCLE_TIME (see Table 19 on page 364). When the number of messages is greater than seven times the cycle time value, −7 is returned.</td>
</tr>
<tr>
<td>QLargestMsg(^2)</td>
<td>STRING</td>
<td>The size (in KB) of the largest message on the queue. If the message size cannot be determined, the default is −1. A value of −3 indicates that no messages are on the queue. A value of −7 indicates that the cycle time is probably too short to check all messages on the queue based on the setting for RM_CYCLE_TIME (see Table 19 on page 364). When the number of messages is greater than seven times the cycle time value, −7 is returned.</td>
</tr>
<tr>
<td>QInputHandles</td>
<td>NUMERIC</td>
<td>The number of input handles that are open for the queue. If the number of input handles cannot be determined, the default is −1.</td>
</tr>
<tr>
<td>QOutputHandles</td>
<td>NUMERIC</td>
<td>The number of output handles open for the queue. If the number of output handles cannot be determined, the default is −1.</td>
</tr>
<tr>
<td>QMaxDepth</td>
<td>NUMERIC</td>
<td>The maximum number of messages on the queue. If the maximum depth of the queue cannot be determined, the default is −1.</td>
</tr>
<tr>
<td>QHighDepth</td>
<td>NUMERIC</td>
<td>The peak number of messages on the queue since the statistics were last reset. If the peak queue depth cannot be determined, the default is −1.</td>
</tr>
<tr>
<td>QTrigger</td>
<td>STRING</td>
<td>Whether queue triggering is active. Possible values are UNKNOWN, DISABLED, or ENABLED.</td>
</tr>
<tr>
<td>QUsage</td>
<td>STRING</td>
<td>Whether the queue is a transmission queue or a normal queue. Possible values are NORMAL or XMITQ. If the queue usage cannot be determined, the default is b (blank).</td>
</tr>
</tbody>
</table>

\(^1\) Applies only to distributed platforms.
Table 18. WebSphere_MQ_Queue_12 dependency set

| Static | Mqs_QMgrProviderDep static dependency set is pushed down to the endpoints where the WebSphere MQ queue managers reside when you run one of the following tasks: |
|        | • Discover Queue Managers |
|        | • Create Queue Manager |
|        | • Create Queue Manager Icon |

You can also associate this dependency set to a different method.

Note: The providers have the following requirements:
• For UNIX systems, locate a Perl interpreter in the /etc/Tivoli/bin file.
• For Windows systems, locate a Perl interpreter in the PATH.

Table 19. WebSphere_MQ_Queue_12 parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM_CYCLE_TIME</td>
<td>No</td>
<td>NUMERIC</td>
<td>0</td>
<td>The cycle time set for the resource model. Use the SVC.Get.CycleTime API in the resource model to retrieve the cycle time of the resource model. This value correlates to the cycle time (in seconds) that is defined for the resource model as distributed.</td>
</tr>
<tr>
<td>MonitorSpecificQueues</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>If provided, a comma-delimited string of the classes of queues you want to monitor. These queues are monitored in addition to those specified in the QueueNameList. The string can include one or more of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• ChannelInitiatorQueue</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• SecurityManagerQueue</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• CommandServerQueue</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• SystemClusterQueues</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• TransmissionQueues</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• ApplicationClusterQueues</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• DeadLetterQueue</td>
</tr>
<tr>
<td>QueueNameList</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>If provided, a comma-delimited string of the queue names you want to monitor. Queue names can end with an asterisk (*), which matches all queues beginning with the specified characters followed by zero or more characters. A queue name of * matches all queues. Each queue name must conform to WebSphere MQ object naming and wildcard conventions.</td>
</tr>
<tr>
<td>QueueListFilter</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>If provided, the value must be SystemQueues. This parameter specifies whether or not the system queues (SYSTEM* queues) that are specified in the QueueNameList parameter are monitored.</td>
</tr>
</tbody>
</table>

Note: See the Parameters section of the WebSphere MQ Queue resource model for additional details on parameters.
The following table describes the parameters that the WebSphere MQ queue manager object automatically provides when the resource model is distributed to a WebSphere MQ queue manager. If the target of the resource model is not a WebSphere MQ queue manager, you must create and associate to the WebSphere_MQ_Queue_12 CIM class.

Table 20. WebSphere_MQ_Queue_12 parameters that the queue manager object provides

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQM_QM_QMGRNAME</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>The name of the queue manager being monitored in the form queue_manager_name@endpoint.</td>
</tr>
<tr>
<td>MQM_QM_EPNAME</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>For locally administered queue managers, the hostname of the machine where the queue manager is located. For remotely administered queue managers, the hostname of the machine where the source queue manager is located.</td>
</tr>
<tr>
<td>MQM_QM_MVSFLAGS1</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Set to -d for queue managers connected through an SNA domain. Set to -h for queue managers connected through TCP/IP.</td>
</tr>
<tr>
<td>MQM_QM_MVSHOST1</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>The fully qualified host name or the SNA domain name for the proxy mode z/OS system where the queue manager resides.</td>
</tr>
<tr>
<td>MQM_QM_WAITTIME2</td>
<td>Yes</td>
<td>NUMERIC</td>
<td>None</td>
<td>The wait time in seconds for a remotely administered queue manager.</td>
</tr>
<tr>
<td>MQM_QM_CMDOPT2</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Must be set to REMOTE for a remotely administered queue manager. Otherwise, this parameter is ignored.</td>
</tr>
<tr>
<td>MQM_QM_CMDPREFIX1</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>The command prefix (cpf) name of the queue manager.</td>
</tr>
<tr>
<td>MQM_QM_CMLEVEL</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>The WebSphere MQ command level for the queue manager. This value is used for the command level when the queue manager has never been started.</td>
</tr>
<tr>
<td>PROFILE</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>The name of the profile that contains the resource model that was distributed. The profile name is used for naming the trace file.</td>
</tr>
</tbody>
</table>

1 Applies only to proxy mode z/OS.
2 Applies only to remotely administered queue managers.

WebSphere_MQ_Channel_12 provider

The following tables describe the CIM Class, properties, dependency set, and parameters for the WebSphere_MQ_Channel_12 provider.

Note: The WebSphere_MQ_Channel_12 provider does not have exceptions.
Table 21. WebSphere_MQ_Channel_12 CIM class

<table>
<thead>
<tr>
<th>CIM class</th>
<th>MOF file name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOT\CIMV2\WebSphere_MQ_Channel_12</td>
<td>WebSphere_MQ.mof</td>
<td>Provides WebSphere MQ statistics for the channels managed by a queue manager. Most data is consistent with the format returned from the <code>runmqsc</code> command except as noted.</td>
</tr>
</tbody>
</table>

Table 22. WebSphere_MQ_Channel_12 properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChannelName</td>
<td>STRING</td>
<td>The name of the WebSphere MQ channel being monitored. This CIM class can enumerate multiple channels to monitor based on the search criteria provided in the parameters.</td>
</tr>
<tr>
<td>ChDescription</td>
<td>STRING</td>
<td>The description of channel being monitored. If the channel description cannot be determined, the default is <code>b</code> (blank).</td>
</tr>
<tr>
<td>ChType</td>
<td>STRING</td>
<td>The type of channel being monitored. Possible values are:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sender</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Server</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Receiver</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Requester</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ClusterSenderChannels</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ClusterReceiverChannels</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• SystemChannels</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ServerConnection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If the channel type cannot be determined, the default is <code>b</code> (blank).</td>
</tr>
<tr>
<td>ChStatus</td>
<td>STRING</td>
<td>The running status of channel being monitored. Possible values are:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• STARTING</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• BINDING</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• INITIALIZING</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RUNNING</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• STOPPING</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RETRYING</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• PAUSED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• STOPPED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• REQUESTING</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If the status of the channel cannot be determined, the default is INACTIVE.</td>
</tr>
<tr>
<td>ChXmitQueueName</td>
<td>STRING</td>
<td>The name of transmission queue for the channel. If the name of the transmission queue cannot be determined, the default is <code>b</code> (blank).</td>
</tr>
<tr>
<td>ChProtocol</td>
<td>STRING</td>
<td>The transport type used for the channel. Possible values are:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• DECNET</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LU62</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• NETBIOS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• SPX</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• TCP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• UDP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If the transport type cannot be determined, the default is <code>b</code> (blank).</td>
</tr>
</tbody>
</table>
Table 22. WebSphere_MQ_Channel_12 properties (continued)

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChShortRetry</td>
<td>NUMERIC</td>
<td>The maximum number of times a retry to start the channel will be attempted. If the number of short retries cannot be determined, the default is b (blank).</td>
</tr>
<tr>
<td>ChShortRetryStatus</td>
<td>NUMERIC</td>
<td>The number of short retry wait start attempts left. If this number cannot be determined, the default is −1.</td>
</tr>
<tr>
<td>ChBytesSent</td>
<td>STRING</td>
<td>The number of bytes sent over the channel being monitored since the channel was started. If the number of bytes sent cannot be determined, the default is −1.</td>
</tr>
<tr>
<td>ChBytesReceived</td>
<td>STRING</td>
<td>The number of bytes received by the channel being monitored since the channel was started. If the number of bytes received cannot be determined, the default is −1.</td>
</tr>
<tr>
<td>ChBuffersSent</td>
<td>STRING</td>
<td>The number of buffers sent over the channel being monitored since the channel was started. If the number of buffers sent cannot be determined, the default is −1.</td>
</tr>
<tr>
<td>ChBuffersReceived</td>
<td>STRING</td>
<td>The number of buffers received by the channel being monitored since the channel was started. If the number of buffers received cannot be determined, the default is −1.</td>
</tr>
<tr>
<td>ChBatches</td>
<td>STRING</td>
<td>The number of batches completed by the channel being monitored since the channel was started. If the number of batches completed cannot be determined, the default is −1.</td>
</tr>
<tr>
<td>ChMessages</td>
<td>STRING</td>
<td>The number of messages sent or received (for server-connection channels, the number of MQI calls handled) by the channel being monitored since the channel was started. If the number of messages cannot be determined, the default is −1.</td>
</tr>
</tbody>
</table>

The metrics for the parameters in this table are cumulative. The metrics are reset to zero (0) when the queue manager stops and restarts or when the Reset Queue Statistics task is run.

Table 23. Dependency set for the WebSphere_MQ_Channel_12 provider

<table>
<thead>
<tr>
<th>Static</th>
<th>Mqs_QMgrProviderDep static dependency set is pushed down to the endpoints where the WebSphere MQ queue managers reside when you run one of the following tasks:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Discover Queue Managers</td>
</tr>
<tr>
<td></td>
<td>• Create Queue Manager</td>
</tr>
<tr>
<td></td>
<td>• Create Queue Manager Icon</td>
</tr>
<tr>
<td></td>
<td>You can also associate this dependency set to a different method.</td>
</tr>
</tbody>
</table>

Note: The providers have the following requirements:
• For UNIX systems, locate a Perl interpreter in the /etc/Tivoli/bin file.
• For Windows systems, locate a Perl interpreter in the PATH.

Table 24. WebSphere_MQ_Channel_12 parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChannelNameList</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>If provided, a comma-delimited list of the channel names you want to monitor. You can use an asterisk (*) as a pattern matching character at the end of a partial channel name, which follows WebSphere MQ pattern-matching conventions.</td>
</tr>
</tbody>
</table>
Table 24. WebSphere_MQ_Channel_12 parameters (continued)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChannelListFilter</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>If provided, a comma-delimited list of the channel types you want to monitor. A channel specified in the ChannelNameList parameter is monitored only its channel type is provided in the ChannelListFilter parameter. Values can include one or more of the following: • Sender • Server • Receiver • Requester • ClusterSenderChannels • ClusterReceiverChannels • SystemChannels • ServerConnection</td>
</tr>
<tr>
<td>ConnectionName</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>The connection name for the channels you want to monitor. All channels with a matching connection name are monitored. Specify only one connection name. Channels with the specified connection name are monitored in addition to the channels specified in the ChannelNameList parameter. The ChannelListFilter parameter has no effect on the channels specified by the ConnectionName parameter.</td>
</tr>
</tbody>
</table>

Note: See the Parameters section of the WebSphere MQ Channel resource model for additional details on parameters.

The following table describes the parameters that the WebSphere MQ queue manager automatically provides when the resource model is distributed a WebSphere MQ queue manager. If the target of the resource model is not a WebSphere MQ queue manager, you must create and associate these parameters to the WebSphere_MQ_Channel_12 CIM class.

Table 25. WebSphere_MQ_Channel_12 parameters that the queue manager object provides

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQM_QM_QMGRNAME</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>The name of the WebSphere MQ queue manager being monitored in the form queue_manager_name@endpoint.</td>
</tr>
<tr>
<td>MQM_QM_EPNAME</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>For locally administered queue managers, the hostname of the machine where the queue manager is located. For remotely administered queue managers, the hostname of the machine where the source queue manager is located.</td>
</tr>
</tbody>
</table>
Table 25. WebSphere_MQ_Channel_12 parameters that the queue manager object provides  (continued)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQM_QM_MVSFLAGS³</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Set to -d for queue managers connected through an SNA domain. Set to -h for queue managers connected through TCP/IP.</td>
</tr>
<tr>
<td>MQM_QM_MVSHOST³</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>The fully qualified host name or the SNA domain name for the proxy mode z/OS system where the queue manager resides.</td>
</tr>
<tr>
<td>MQM_QM_WAITTIME²</td>
<td>Yes</td>
<td>NUMERIC</td>
<td>None</td>
<td>The wait time in seconds for a remotely administered queue manager.</td>
</tr>
<tr>
<td>MQM_QM_CMDOPT²</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Must be set to REMOTE for a remotely administered queue manager.</td>
</tr>
<tr>
<td>MQM_QM_CMDPREFIX³</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>The command prefix (cpf) name of the queue manager.</td>
</tr>
<tr>
<td>MQM_QM_CMDBLOCKER</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>The WebSphere MQ command level for the queue manager. This value is used for command level when the queue manager has never been started.</td>
</tr>
<tr>
<td>PROFILE</td>
<td>No</td>
<td>STRING</td>
<td>None</td>
<td>The name of the profile that contains the resource model that was distributed. The profile name is used for naming the trace file.</td>
</tr>
</tbody>
</table>

³ Applies only to proxy mode z/OS.
² Applies only to remotely administered queue managers.

Workflow_Configuration_10 provider

The following tables describe the CIM Class, properties, dependency set, and parameters for the Workflow_Configuration_10 provider.

Note: The Workflow_Configuration_10 provider does not have exceptions.

Table 26. Workflow_Configuration_10 CIM class

<table>
<thead>
<tr>
<th>CIM class</th>
<th>MOF file name</th>
<th>Description</th>
</tr>
</thead>
</table>
| ROOT\CIMV2:Workflow_Configuration | MQ_Workflow-wmi.mof  
MQ_Workflow-unix.mof | Provides the operational status of Workflow services and related MQSeries services. This class always enumerates a single configuration instance per invocation. |

Table 27. Workflow_Configuration_10 properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>STRING</td>
<td>Specifies the configuration name.</td>
</tr>
</tbody>
</table>
### Table 27. Workflow_Configuration_10 properties (continued)

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>STRING</td>
<td>The string that represents the services that are down. The services return to normal once all requested services are running, or returns a space delimited list of services that are down. For example: asvr_down, ssvr_down, csvr_down, tmon_down, list_down</td>
</tr>
</tbody>
</table>

### Table 28. Workflow_Configuration_10 dependency set

| Static   | MQWF_dep static dependency set is associated with the Queue Manager object, MqM_QMgr, method during Discovery. |

The following table describes the parameters that the WebSphere MQ queue manager object automatically provides when the resource model is distributed to a WebSphere MQ queue manager. If the target of the resource model is not a WebSphere MQ queue manager, you must create and associate these parameters to the Workflow_Configuration_10 CIM class.

### Table 29. Workflow_Configuration_10 parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS_INSTANCE_CLASS</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Specifies the instance class for the target. You must use the queue manager object, MqM_QMgr.</td>
</tr>
<tr>
<td>MQM_QM_CMDOPT</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Specifies the command option. You must use the locally administered queue managers.</td>
</tr>
<tr>
<td>MQM_QM_QMGRNAME</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Specifies the name of the queue manager.</td>
</tr>
<tr>
<td>MQWF_PASSWD</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Specifies the encrypted password used to access Workflow services.</td>
</tr>
</tbody>
</table>

### Workflow_Process_10 provider

The following tables describe the CIM Class, properties, dependency set, and parameters for the Workflow_Process_10 provider.

**Note:** The Workflow_Process_10 provider does not have exceptions.

### Table 30. Workflow_Process_10 CIM class

<table>
<thead>
<tr>
<th>CIM class</th>
<th>MOF file name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOT\CIMV2:Workflow_Process</td>
<td>• MQ_Workflow-wmi.mof  • MQ_Workflow-unix.mof</td>
<td>Provides the operational status of Workflow services. This class always enumerates a single configuration instance per invocation.</td>
</tr>
</tbody>
</table>

### Table 31. Workflow_Process_10 properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CfgName</td>
<td>STRING</td>
<td>Specifies the associated configuration name.</td>
</tr>
<tr>
<td>Name</td>
<td>STRING</td>
<td>Specifies the process name.</td>
</tr>
</tbody>
</table>
Table 31. Workflow_Process_10 properties (continued)

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RunState</td>
<td>STRING</td>
<td>The string that represents one of the following states of the process:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ready</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• running</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• terminating</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• terminated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• suspending</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• suspended</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• undefined</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• unknown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• finished</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• deleted</td>
</tr>
</tbody>
</table>

Table 32. Workflow_Process_10 dependency set

| Static     | MQWF_dep static dependency set is associated with the Queue Manager object, MqM_QMgr, method during Discovery. |

The following table describes the parameters that the WebSphere MQ queue manager object automatically provides when the resource model is distributed to a WebSphere MQ queue manager. If the target of the resource model is not a WebSphere MQ queue manager, you must create and associate these parameters to the Workflow_Process_10 CIM class.

Table 33. Workflow_Process_10 parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS_INSTANCE_CLASS</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Specifies the instance class for the target. You must use the queue manager object, MqM_QMgr.</td>
</tr>
<tr>
<td>MQM_QM_CMDOPT</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Specifies the command option. You must use the locally administered queue managers.</td>
</tr>
<tr>
<td>MQM_QM_QMGRNAME</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Specifies the name of the queue manager.</td>
</tr>
<tr>
<td>MQWF_PASSWD</td>
<td>Yes</td>
<td>STRING</td>
<td>None</td>
<td>Specifies the encrypted password used to access Workflow services.</td>
</tr>
</tbody>
</table>
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Index

A
accessibility xi
Add MQ Authority task 137
Administration Message Logged indication 51
alter security task 138
archive log task 139
attributes
  channel error indication 19
  channel not running indication 21
  channel not transmitting indication 23
  channel performance problem indication 26
  channel startup error indication 28
  channel throughput problem indication 30
  channel transmission queue error indication 32
Common Services Message Logged indication 49, 51
high number of active channels indication 79
Installable Services Message Logged indication 47
low number of active channels indication 81, 83, 86
page set pages filling indication 82
process deleted indication 107
process suspended indication 108
process suspending indication 109
process terminated indication 109
process terminating indication 110, 111
Product Message Logged indication 50
queue is disabled indication 58
queue is filling indication 59
queue is full indication 61
queue manager channel initiator problem indication 85
queue manager cluster communication problem indication 88
queue manager cluster repository problem indication 89
queue manager cluster transmission problem indication 90
queue manager DLQ handler is not running indication 92
queue manager event adapter communication problem indication 93
queue manager event adapter not running indication 94
queue manager is inoperable indication 96
queue manager unavailable indication 97
queue messages aging indication 62
queue read error indication 64
queue triggering is disabled indication 66
Remote Message Logged indication 52
WF Admin Service Down indication 116
WF Cleanup Service Down indication 117
WF Listener Down indication 118
WF Scheduling Service Down indication 118
WF Trigger Monitor Down indication 119
authentication tasks
description 128

B
backup coupling facility task 140
bash shell 2
books
  see publications viii, x
Bourne shell 2

C
C shell 2
change alias queue task 147
change authentication task 141
change client/server connection task 142
change coupling facility task 144, 176
change local queue task 147
change model queue task 147
change name list task 145
change process task 146
change queue manager task 150
change receiver/requester channel task 142
change remote queue task 147
change sender/sender channel task 142
change storage class task 151
change trace task 152
channel error indication 19
channel list filter parameter 33
channel name list parameter 33
channel not activated 20
channel not transmitting indication 23
channel performance problem indication 26
channel resource model
channel error indication attributes 19
  channel not running indication attributes 21
  channel not transmitting indication attributes 23
channel performance problem indication attributes 26
channel startup error indication attributes 28
channel throughput problem indication attributes 30
channel transmission queue error indication attributes 32
description 16, 17
indications
  channel error 19
  channel not activated 20
  channel not transmitting 23
  channel performance problem 26
  channel startup error 27
  channel throughput problem 29
  channel transmission queue error 31
logged data 37, 38, 39, 40, 41, 120
parameters 33
return codes 43
tasks and built-in actions 36
thresholds 33
channel startup error indication 27, 29, 31
channel tasks
  change client/server connection task 142
  change receiver/requester channel task 142
  change sender/sender channel task 142
  control channel listener task 170
  control channel task 169
create c/s connection channel task 174
delete channel task 202
description 128

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channel tasks (continued)
display attributes 216
display channel attributes 219
display channel status 221
display current status 226
start channel initiator 311
stop channel task 336
Check Workflow Configuration task 153
clear local queue task 154
close task 156
cloning queue manager configuration 156
cluster tasks
description 128
display cluster queue manager task 223
refresh cluster queue manager task 278
reset cluster queue manager task 284
reset cluster task 283
resume cluster queue manager task 291
suspend cluster queue manager task 350
command server tasks
description 129
display command server task 224
start command server task 315
stop command server task 339
commands
msqaterrm 354
running 1
running on UNIX 2
running on Windows NT 2
special characters xii, 4
starting event adapter
distributed platforms 353
OS/400 354
proxy mode z/OS 356
stopping event adapter
distributed platforms 354
OS/400 355
proxy mode z/OS 356
syntax xii, 4
tecd_mqseries_ntnonme 353
tecd_mqseries_tmegw 353
tecd_mqseries_uu11_nonme 353
tecd_mqseries_uu11_tmegw 353
Common Services Message Logged indication 48
configuration data, queue manager
cloning 156
deleting 199
displaying 213
restoring from Tivoli Inventory 290
saving to Tivoli Inventory 294
configure event adapter task 158
configure event server task 163
configure OS/390 event queue task 167
configure queue manager task 168
connection name parameter 34
control channel listener task 170
control channel task 169
control queue manager task 171
custom tasks
description 129
display authority task 218
display MQSeries files 235
dump log 259
record media task 273
recreate object task 276
set authority task 300
customer tasks
display archive log parameters task 214
display archive parameters task 215
display attributes task 216
display authorization task 217
display authority task 218
display channel attributes task 219
display channel status task 221
display cluster queue manager task 223
display command server task 224
display coupling facility task 225
display current task 226
display DQM task 227
display endpoint environment task 228
Display Error Log (TBSM) task 229
display error log task 230
display ini file task 232
display local messages task 233
display max messages task 234
display MQSeries files task 235
display name list task 236
data providers 359
dead-letter queue handler tasksedit DLQ rules tables 260
start DLQ handler 318
stop DLQ handler 342
define max messages task 196
define name list task 197
define storage class task 198
delete authentication task 200
delete channel task 202
delete coupling facility task 203
delete endpoint log files task 204
delete name list task 205
delete process task 206
delete queue manager task 208
delete queue task 207
delete storage class task 209
delete task 199
directory names, notation xii
discover queue managers task 210
display archive log parameters task 214
display archive parameters task 215
display attributes task 216
display authorization task 217
display authority task 218
display channel attributes task 219
display channel status task 221
display cluster queue manager task 223
display command server task 224
display coupling facility task 225
display current task 226
display DQM task 227
display endpoint environment task 228
Display Error Log (TBSM) task 229
display error log task 230
display ini file task 232
display local messages task 233
display max messages task 234
display MQSeries files task 235
display name list task 236
display page set usage task 237
display process task 238
display queue attributes task 239
display queue manager attributes task 242
display queue manager error log task 244
display queue manager task 241
display queue messages task 245
display queue sharing group task 246
display queue status task 247
display security task 249
display status coupling facility task 250
display status of all queue managers task 251
display status of queue mgs task 252
display storage class task 253
display system parameters task 254
display task 213
display thread task 235
display Tivoli traces task 256
display trace task 257
display WMQI objects task 258
DLQ handler tasks
edit DLQ rules tables task 260
start DLQ handler 318
stop DLQ handler 342
dump log task 259

E
edit DLQ rules tables task 260
endpoint
setting up the Tivoli environment on 3
endpoint, environment, displaying 228
environment variables, notation xii
error codes
channel resource model 43
queue manager resource model 104
queue resource model 74
WebSphere MQ Error Log resource model 54
Workflow Process Status Monitor resource model 113
workflow resource model 121
error log resource model parameters 53
Error Log Resource Model
description 45
event adapter
starting from the command line
distributed platforms 353
OS/400 354
proxy mode z/OS 356
stopping from the command line
distributed platforms 354
OS/400 355
proxy mode z/OS 356
event adapter tasks
configure OS/390 event queue task 167
start event adapter 321
stop event adapter 343
event adapter tasks library
configure event adapter task 158

H
High Channels Active 98
high number of active channels indication 79
high queue message age threshold 67
high queue usage percent threshold 67
high transmission queue message age 33
Inventory tasks (continued)
schedule_inventory_save 296

K
Korn shell 2

L
logging
channel resource model 37, 38, 39, 40, 41, 120
queue manager resource model 100
queue resource model 71, 72, 73
WebSphere MQ Error Log resource model 54
Workflow Process Status Monitor resource model 112
Low Channels Active 98
low number of active channels indication 81

M
manuals
see publications viii, x
monitor specific queues parameter 67
move local queue messages task 266
msgterm command 354
MQSeries link for R/3 tasks
description 130
display error log task 230
display ini file task 232
start inbound server task 323
start outbound server task 325
stop inbound server task 346
stop outbound server task 346

N
name list tasks
change name list task 145
define name list task 197
delete name list task 205
description 131
display name list task 236
notation
environment variables xii
path names xii
typeface xii

O
online publications
accessing x
ordering publications xi

P
page set pages filling indication 82
parameters
channel resource model 33
error log resource model 53
queue resource model 67
workflow status monitor resource model 119
path names, notation xii
Ping Queue Manager task 271
Ping task 270
process deleted indication 107
process suspended 108
process suspending indication 108
process tasks
change process task 146
create process task 184
delete process task 206
description 131
display process task 238
process terminated indication 109
process terminating indication 110
process undefined indication 110
process unknown indication 111
Product Message Logged indication 50
proxy mode z/OS control tasks
display max messages task 234
display page set usage 237
display queue sharing group 246
display thread 255
move local queue messages 266
recover BSDS task 274
reset queue statistics task 285
resolve indoubt thread task 288
set archive log parameters task 298
Proxy mode z/OS control tasks
archive log task 139
define max messages task 196
description 131
display archive parameters task 215
proxy mode z/OS control tasks library
stop channel initiator task 338
Proxy mode z/OS control tasks library
display archive log parameters task
display DQM task 227
proxy mode z/OS security tasks
display security task 249
refresh security task 280
reverify security task 293
Proxy mode z/OS security tasks
alter security task 138
description 132
proxy mode z/OS set archive parameters task 299
proxy mode z/OS set system parameters task 303
proxy mode z/OS storage class tasks
display storage class task 253
Proxy mode z/OS storage class tasks
change storage class task 151
define storage class task 198
delete storage class task 209
description 132
proxy mode z/OS trace tasks
display trace task 257
Proxy mode z/OS trace tasks
change trace task 152
color trace task 172
description 132
publications viii
accessing online x
ordering xi

Q
queue is disabled indication 57
queue is filling indication 59
queue is full indication 60
queue list filter parameter 68
queue manager configuration
cloning from Tivoli Inventory 156
deleting from Tivoli Inventory 199
displaying from Tivoli Inventory 213
restoring from Tivoli Inventory 290
saving to Tivoli Inventory 294
queue manager authority manager problem indication 83
queue manager channel initiator problem indication 84
queue manager channel listener not running indication 86
queue manager cluster communication problem indication 87
queue manager cluster repository problem indication 89
queue manager cluster transmission problem indication 90
queue manager DLQ handler is not running indication 91
queue manager event adapter communication problem indication 93
queue manager event adapter not running indication 94
queue manager is inoperable indication 95
queue manager resource model
Common Services Message Logged indication attributes 49, 51
description 76
high number of active channels indication attributes 79
indications
Administration Message Logged 51
Common Services Message Logged 48
high number of active channels indication 79
Installable Services Message Logged indication 47
low number of active channels 81
page set pages filling 82
Product Message Logged 50
queue manager authority manager problem 83
queue manager channel initiator problem 84
queue manager channel listener not running 86
queue manager cluster communication problem 87
queue manager cluster repository problem 89
queue manager cluster transmission problem 90
queue manager DLQ handler is not running 91
queue manager event adapter communication problem 93
queue manager event adapter not running 94
queue manager is inoperable 95
queue manager unavailable 97
Remote Message Logged 52
Installable Services Message Logged indication attributes 47
logged data 100
low number of active channels indication attributes 81, 83, 86
page set pages filling indication attributes 82
Product Message Logged indication attributes 50
queue manager channel initiator problem indication attributes 85
queue manager cluster communication problem indication attributes 88
queue manager cluster repository problem indication attributes 89
queue manager cluster transmission problem indication attributes 90
queue manager DLQ handler is not running indication attributes 92
queue manager event adapter communication problem indication attributes 93
queue manager resource model (continued)
queue manager event adapter not running indication attributes 94
queue manager is inoperable indication attributes 95
queue manager unavailable indication attributes 97
Remote Message Logged indication attributes 52
return codes 104
tasks and built-in actions 98
thresholds 98
queue manager tasks
change queue manager task 150
configure queue manager task 168
control queue manager task 171
create queue manager icon task 191
create queue manager task 187
delete queue manager task 208
description 132
discover queue managers task 210
Display Error Log (TBSM) task 229
display queue manager attributes task 242
display queue manager error log task 244
display queue manager task 241
display status of all queue managers task 251
display status of queue mgrs task 252
display Tivoli traces task 256
display WMQI objects task 258
stop queue manager task 345
queue manager unavailable indication 97
queue messages aging indication 62
queue name list parameter 67
queue read error indication 64
queue resource model
description 56
indications
queue is disabled 57
queue is filling 59
queue is full 60
queue messages aging 62
queue read error 64
queue triggering disabled 65
logged data 71, 72, 73
parameters 67
queue is disabled indication attributes 58
queue is filling indication attributes 59
queue is full indication attributes 61
queue messages aging indication attributes 62
queue read error indication attributes 64
queue triggering is disabled indication attributes 66
return codes 74
tasks and built-in actions 70
thresholds 67
queue tasks
change alias queue task 147
change local queue task 147
change remote queue task 147
clear local queue task 154
create alias queue 185
create local queue 185

Index 379
queue tasks (continued)
create model queue 185
create remote queue 185
delete queue 207
description 132
display local messages 233
display queue attributes 239
display queue messages 245
display queue status 247
search queue attributes 297
queue tasks library
change model queue task 147
queue triggering disabled indication 65

R
record media task 273
recover BSDS task 274
recover coupling facility task 275
recovery tasks
Change Channel task 142
Change Queue task 147
Clear Local Queue task 154
description 133
Move Local Queue Messages task 266
Ping Queue Manager task 271
Restart Workflow Services task 289
Set Queue Mgr Icon State task 301
Start Alternate Channel task 307
Start Channel Initiator task 311
Start Channel Listener task 313
Start Channel task 309
Start Command Server task 315
Start DLQ Handler task 318
Start Execution Service task 322
Start Queue Manager task 327
Start TEC Adapter task 329
Start Trigger Monitor task 331
recreate object task 276
refresh cluster 277
refresh cluster queue manager 278
refresh queue manager task 279
refresh security task 280
Remote Message Logged indication 52
requirements
MQSeries link for R/3, file locations 131
reset channel task 282
reset cluster 283
reset cluster queue manager 284
reset queue statistics task 285
reset task 281
resolve indoubt backout task 286
resolve indoubt commit task 287
resolve indoubt thread task 288
resource model
data providers 359
resource models (continued)
channel (continued)
parameters 33
return codes 43
tasks and built-in actions 36
thresholds 33
error log
description 45
parameters 53
queue
description 56
logged data 71, 72, 73
parameters 67
queue is disabled indication 57
queue is filling indication 59
queue is full indication 60
queue messages aging indication 62
queue read error indication 64
queue triggering disabled indication 65
return codes 74
tasks and built-in actions 70
thresholds 67
queue manager
Administration Message Logged indication 51
Common Services Message Logged indication 48
description 76
high number of active channels indication 79
Installable Services Message Logged indication 47
logged data 54, 100
low number of active channels indication 81
page set pages filling indication 82
Product Message Logged indication 50
queue manager authority manager problem indication 83
queue manager channel initiator problem indication 84
queue manager channel listener not running indication 86
queue manager cluster communication problem indication 87
queue manager cluster repository problem indication 89
queue manager cluster transmission problem indication 90
queue manager DLQ handler is not running indication 91
queue manager event adapter communication problem indication 93
queue manager event adapter not running indication 94
queue manager is inoperable indication 95
queue manager unavailable indication 97
Remote Message Logged indication 52
return codes 54, 104
tasks and built-in actions 98
thresholds 53, 98
workflow
return codes 121
Workflow Process Status Monitor
description 106
logged data 112
process deleted indication 107
process suspended indication 108
process suspending indication 108
process terminated indication 109
process terminating indication 110
process undefined indication 110
process unknown indication 111
task libraries (continued)

ITM tasks (continued)
Start DLQ Handler task 318
Start Execution Service task 322
Start Queue Manager task 327
Start TEC Adapter task 329
Start Trigger Monitor task 331
MQSeries Inventory tasks
description 130
MQSeries link for R/3 tasks
description 130
display error log task 230
display ini file task 232
start inbound server task 323
start outbound server task 325
stop inbound server task 346
stop outbound server task 346
MQSeries TEC Tasks
reset channel task 282
MVS control tasks
archive log task 139
define max messages task 196
description 131
display archive log parameters task 214
display archive parameters task 215
display DQM task 227
display max messages task 243
display page set usage task 227
display queue sharing group task 246
display thread task 255
move local queue messages task 266
recover BSDS task 274
resolve indoubt thread task 288
set archive log parameters task 298
stop channel initiator task 338
MVS security tasks
alter security task 138
description 132
display security task 249
refresh security task 280
reverify security task 293
MVS storage class tasks
change storage class task 151
define storage class task 198
delete storage class task 209
description 132
display storage class task 253
MVS trace tasks
change trace task 152
close trace task 172
description 132
display trace task 257
name list tasks
change name list task 145
define name list task 197
delete name list task 205
description 131
display name list task 236
process tasks
change process task 146
create process task 184
delete process task 206
description 131
display process task 238
queue mgr tasks
change queue manager task 150
configure queue manager task 158

queue mgr tasks (continued)
control queue manager task 171
create queue manager icon task 191
create queue manager task 197
delete queue manager task 208
description 132
display_queue_mgrs 210
display queue mgr attributes task 242
display queue mgr error log task 244
display status of queue mgr task 252
start DLQ handler task 318
stop DLQ handler task 342
queue tasks
change alias queue task 147
change local queue task 147
change model queue task 147
change remote queue task 147
clear local queue task 154
create alias queue task 185
create local queue task 185
create model queue task 185
create remote queue task 185
delete queue task 207
description 132
display queue attributes task 239
display queue messages task 245
display queue status task 247
search queue attributes task 297
stop mgr tasks
control queue manager task 345
TEC adapter tasks
configure TEC adapter task 158
description 129
MVS configure event queue task 167
start TEC adapter task 321
stop TEC adapter task 343
utility tasks
configure event server task 163
create inventory policy region task 180
create management domain task 182
create TBSM policy region task 195
delete endpoint log files task 204
description 135
display endpoint environment task 228
initialize_endpoints task 265
set queue mgr icon state task 301
uninstall endpoints managednodes task 352
workflow tasks
Add MQ Authority task 137
Check Workflow Configuration task 153
Start Workflow Service task 133
Stop Workflow Service task 349
tasks
Add MQ Authority 137
alter security 138
archive log 139
backup coupling facility 140
change alias queue 147
change authentication 141
change client/server connection 142
change coupling facility 144, 176
change local queue 147
change model queue 147
change name list 145
change process 146
change queue manager 150

382 IBM Tivoli Monitoring for Business Integration: WebSphere MQ: Reference Guide
tasks (continued)

change receiver/requester channel 142
change remote queue 147
change storage class 151
change trace 152
Check Workflow Configuration 153
clear local queue 154
close 156
configure event adapter 158
configure event server 163
configure OS/390 event queue 167
configure queue manager 168
control channel 169
control channel listener 170
control queue manager 171
control trace 172
create alias queue 185
create authentication 173
create c/s connection channel 174
create file pack 177
create inventory policy region 180
create local queue 185
create management domain 182
create model queue 185
create process 184
create queue manager 187
create queue mgr icon 191
create remote queue 185
create TBSM policy region 195
define max messages 196
define name list 197
define storage class 198
delete 199
delete authentication 200
delete channel 202
delete coupling facility 203
delete endpoint log files 204
delete name list 205
delete process 206
delete queue 207
delete queue manager 208
delete storage class 209
discover queue managers task 210
display 213
display archive log parameters 214
display archive parameters 215
display attributes 216
display authentication 217
display authority 218
display channel attributes 219
display channel status 221
display cluster queue manager 223
display command server 224
display coupling facility 225
display current status 226
display DQM 227
display endpoint environment 228
display error log 230
Display Error Log (TBSM) task 229
display ini file 232
display local messages 233
display max messages 234
display MQSeries files 235
display name list 236
display page set usage 237
display process 238
display queue attributes 239
display queue manager attributes task 242
display queue manager error log task 244
display queue manager task 241
display queue messages 245
display queue sharing group 246
display queue status 247
display security 249
display status coupling facility 250
display status of all queue managers task 251
display status of queue mgr task 252
display storage class 253
display system parameters 254
display thread 255
display Tivoli traces task 256
display trace 257
display WMQI objects task 258
dump log 259
edit DLQ rules tables 260
initialize_endpoints 265
move local queue messages 266
MVS set archive parameters 299
Ping 270
Ping Queue Manager 271
record media 273
recover BDSs 274
recover coupling facility 275
recreate object 276
refresh cluster 277
refresh cluster queue manager 278
refresh queue manager 279
refresh security 280
reset 281
reset channel 282
reset cluster 283
reset cluster queue manager 284
reset queue statistics 285
resolve indoubt backout 286
resolve indoubt commit 287
resolve indoubt thread 288
restore 290
resume cluster queue manager 291
resume queue manager 292
reverify security 293
save 294
schedule_inventory_restore 295
schedule_inventory_save 296
search queue attributes 297
set archive log parameters 298
set authority 300
set queue mgr icon state 301
set system parameters 303
set task timeout value 268, 304
Start 306
Start Alternate Channel 307
Start Channel 309
start channel initiator 311
Start Channel Listener 313
start command server 315
start debug option 317
start DLQ handler 318
start event adapter 321
Start Execution Service 322
start inbound server 323
start outbound server 325
Start Queue Manager 327
Start TEC Adapter 329
tasks (continued)
start trigger monitor 331
Start Workflow Service 333
stop 334
stop channel 336
stop channel initiator 338
stop command server 339
stop controlled 340
stop debug option 341
stop DLQ handler 342
stop event adapter 343
stop immediate 344
stop inbound server 346
stop outbound server 346
stop queue manager 345
stop TEC adapter 348
Stop Workflow Service 349
suspend cluster queue manager 350
suspend queue manager 351
uninstall endpoints managednodes 352
tasks and built-in actions
channel resource model 36
queue manager resource model 98
queue resource model 70
workflow status monitor resource model 120
TBSM tasks
display attributes task 216
display current status task 226
Display Error Log (TBSM) task 229
display local messages task 233
display status of all queue managers task 251
Ping task 270
refresh cluster 277
reset channel task 281
reset cluster 283
resolve indoubt backlog 286
resolve indoubt commit 287
resume queue manager 292
Start 306
stop 334
stop controlled 340
stop immediate 344
stop TEC adapter 348
suspend queue manager 351
TEC adapter tasks library
description 129
tecad_mqseries_nontme command 353
tecad_mqseries_tmegw command 353
tecad_mqseries_names_notme command 353
tecad_mqseries_names_tmegw command 353
thresholds
channel resource model 33
queue manager resource model 98
queue resource model 70
WebSphere MQ Error Log resource model
Tivoli Business Systems Manager tasks
description 134
Tivoli Enterprise Console tasks
description 135
reset channel task 282
Tivoli environment
establishing in a shell 3
establishing on an endpoint 3
establishing on UNIX 3
establishing on Windows NT 3
tivoli software information center x
typeface conventions xi

U
uninstall endpoints managednodes task 352
UNIX
running commands on 2
setting up the Tivoli environment 3
shell 2
utility tasks
configure event server task 163
create inventory policy region task 180
create management domain task 182
create TBSM policy region task 195
delete endpoint log files task 204
description 135
display endpoint environment task 228
initialize_endpoints task 265
set queue mgr icon state task 301
set task timeout value 268, 304
uninstall endpoints managednodes task 352

V
variables, notation for xii

W
WebSphere MQ Error Log resource model
logged data 54
return codes 54
thresholds 53
WF Admin Service Down indication 116
WF Cleanup Service Down 117
WF Listener Down indication 117
WF Scheduling Service Down indication 118
WF Trigger Monitor Down indication 119
Windows NT
running commands on 2
setting up the Tivoli environment 3
Workflow Process Status Monitor resource model
description 106
indications
process deleted 107
process suspended 108
process suspending 108
process terminated 109
process terminating 110
process undefined 110
process unknown error 111
logged data 112
process deleted indication attributes 107
process suspending indication attributes 109
process terminated indication attributes 109
process terminating indication attributes 110, 111
return codes 113
workflow resource model
process suspended indication attributes 108
return codes 121
workflow status monitor resource model
parameters 119
tasks and built-in actions 120
Workflow Status Monitor resource model
description 115
Workflow Status Monitor resource model (continued)
indications
  WF Admin Service Down  116
  WF Cleanup Service Down  117
  WF Listener Down  117
  WF Scheduling Service Down  118
  WF Trigger Monitor Down  119
WF Admin Service Down indication attributes  116
WF Cleanup Service Down indication attributes  117
WF Listener Down indication attributes  118
WF Scheduling Service Down indication attributes  118
WF Trigger Monitor Down indication attributes  119
workflow tasks
  Add MQ Authority task  137
  Check Workflow Configuration task  153
description  135
  Start Workflow Service task  333
  Stop Workflow Service task  349