

## ITM and ITCAM - summary of commands for monitoring MQ queue managers

IBM Techdoc: 7048602

<http://www.ibm.com/support/docview.wss?uid=swg27048602>

Date last updated: 08-Sep-2016

Angel Rivera - rivera@us.ibm.com  
IBM MQ Support

### +++ Objective

The objective of this document is to provide a summary of the ITM and ITCAM commands and GUI screen shots to monitor MQ queue managers

### + Reference techdocs

<http://www.ibm.com/support/docview.wss?uid=swg27048598>

Installation of ITM 6.0.3.2 in Windows to monitor MQ queue managers  
IBM Techdoc: 7048598

These are the components that are installed:

Chapter 2 describes how to install these fundamental components:

- TEMS - Tivoli Enterprise Monitoring Server
- TEMA - Tivoli Enterprise Monitoring Agent

Chapter 3 describes how to install the GUI support:

- TEPS - Tivoli Enterprise Portal Server
- TEPD - Tivoli Enterprise Portal Desktop Client

<http://www.ibm.com/support/docview.wss?uid=swg27048600>

Installation of ITCAM Agents 7.3 in Windows to monitor MQ queue managers  
IBM Techdoc: 7048600

These are the components that are installed:

- WebSphere MQ Configuration Agent
- WebSphere MQ Monitoring Agent

<http://www.ibm.com/support/docview.wss?uid=swg27048601>

Installation of ITM Agents 6.0.3.2 and ITCAM MQ Agents 7.3 in Linux  
IBM Techdoc: 7048601

These are the components that are installed:

Chapter 3: Installing the ITM 6.3.0.2 Agents in Linux

Agentless Monitoring for Linux Operating Systems V06.30.02.00

Monitoring Agent for Linux OS V06.30.02.00

Tivoli Enterprise Services User Interface Extensions V06.30.02.00

Chapter 5: Installing ITCAM 7.3 MQ Agents - IBM Tivoli Monitoring components

Tivoli Enterprise Services User Interface Extensions V06.30.02.00

WebSphere MQ Configuration Agent V07.30.01.00

WebSphere MQ Monitoring Agent V07.30.01.00

Webinar:

<http://www.ibm.com/support/docview.wss?uid=swg27048572>

Using ITCAM to monitor MQ queue managers in Linux and Windows

Abstract

This WebSphere Support Technical Exchange is designed to present an introduction on basic installation of IBM Tivoli Monitoring (ITM) and IBM Tivoli Composite Application Manager (ITCAM) Agents for WebSphere Messaging to monitor MQ queue managers in Linux and Windows.

Level of Difficulty: Beginner

++ Additional references

[https://www.ibm.com/developerworks/community/wikis/home?lang=en\\_us#!/wiki/Tivoli%20Composite%20Application%20Manager/page/Best%20Practice%20for%20monitoring%20Multi-Instances%20MQ](https://www.ibm.com/developerworks/community/wikis/home?lang=en_us#!/wiki/Tivoli%20Composite%20Application%20Manager/page/Best%20Practice%20for%20monitoring%20Multi-Instances%20MQ)

Tivoli Composite Application Manager > ITCAM for Applications > Best Practices for ITCAM Applications >  
Best Practice for monitoring Multi-Instances MQ

[https://www.ibm.com/developerworks/community/wikis/home?lang=en\\_us#!/wiki/Tivoli%20Composite%20Application%20Manager/page/Best%20practice%20for%20ITCAM%20for%20Applications%20to%20monitor%20Multi-Installation%20WMQ](https://www.ibm.com/developerworks/community/wikis/home?lang=en_us#!/wiki/Tivoli%20Composite%20Application%20Manager/page/Best%20practice%20for%20ITCAM%20for%20Applications%20to%20monitor%20Multi-Installation%20WMQ)

Tivoli Composite Application Manager > ITCAM for Applications > Best Practices for ITCAM Applications >  
Best practice for ITCAM for Applications to monitor Multi-Installation WMQ

[https://www.ibm.com/developerworks/community/wikis/home?lang=en\\_us#!/wiki/Tivoli%20Composite%20Application%20Manager/page/Best%20practice%20for%20ITCAM%20for%20Applications%20to%20monitor%20channel-level%20impolite%20access](https://www.ibm.com/developerworks/community/wikis/home?lang=en_us#!/wiki/Tivoli%20Composite%20Application%20Manager/page/Best%20practice%20for%20ITCAM%20for%20Applications%20to%20monitor%20channel-level%20impolite%20access)

Tivoli Composite Application Manager > ITCAM for Applications > Best Practices for ITCAM Applications >

Best practice for ITCAM for Applications to monitor channel-level impolite access  
Note: This tutorial is regarding the MQ reason code 2035 MQRC\_NOT\_AUTHORIZED when using Channel Authentication Records

++ Installation directories

+ Directories in Windows:

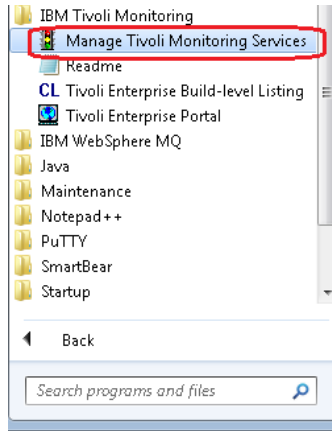
- Top level directory: C:\IBM\ITM
- Configuration files: C:\IBM\ITM\Config

+ Directories in Linux:

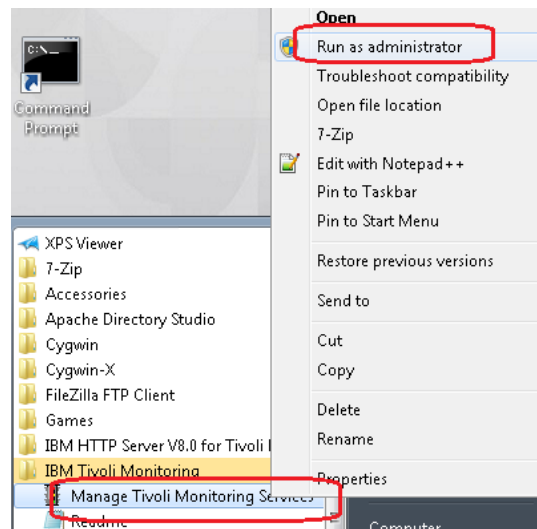
- Top level directory: /opt/IBM/ITM
- Configuration files: /opt/IBM/ITM/config

++ How to start the TEMS GUI:

From the Start Menu expand:  
IBM Tivoli Monitoring



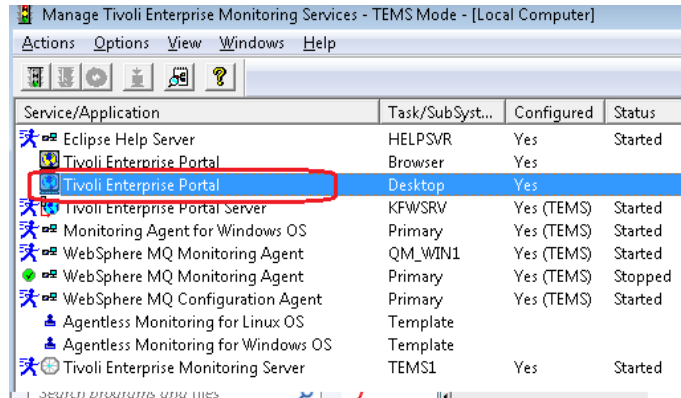
Then right click on:  
Manage Tivoli Monitoring Services  
and select:  
Run as administrator



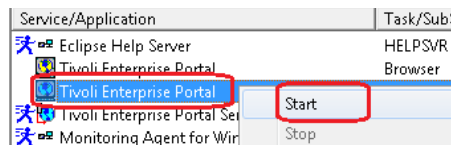
You will see the GUI for the TEMS:

Select:

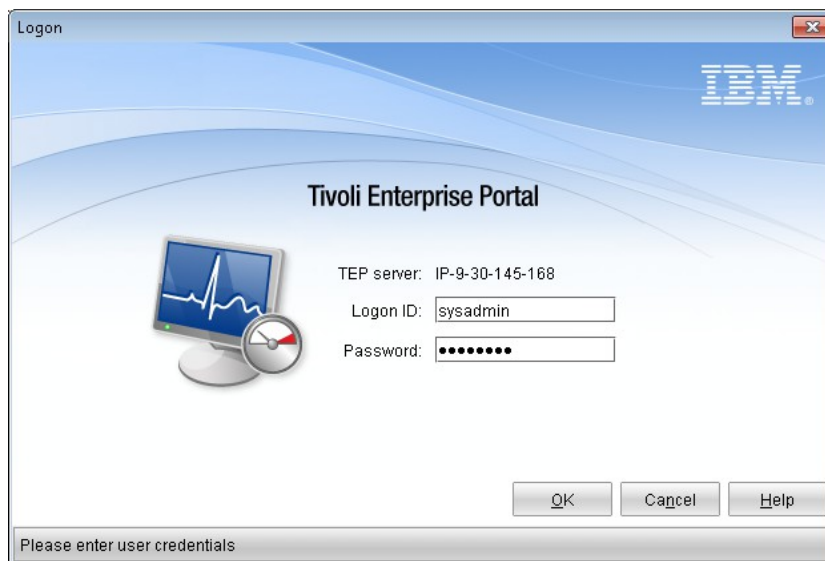
Tivoli Enterprise Portal



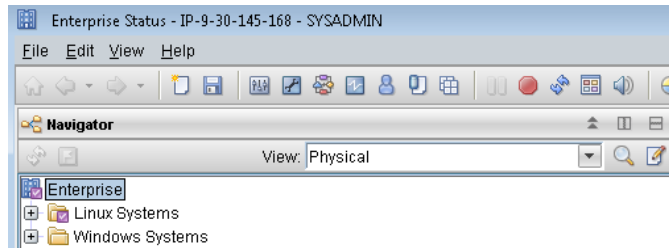
Then right click on "Start"



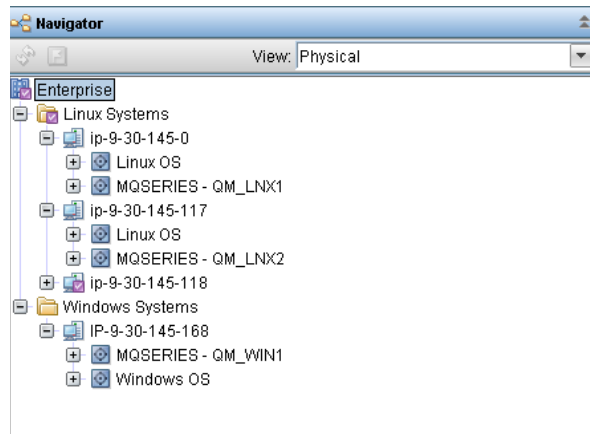
From the TEP GUI, enter the userid "sysadmin" and the corresponding password. This is also known as the credentials.



On the upper left panel, you will see the hierarchy of the monitored systems/components:

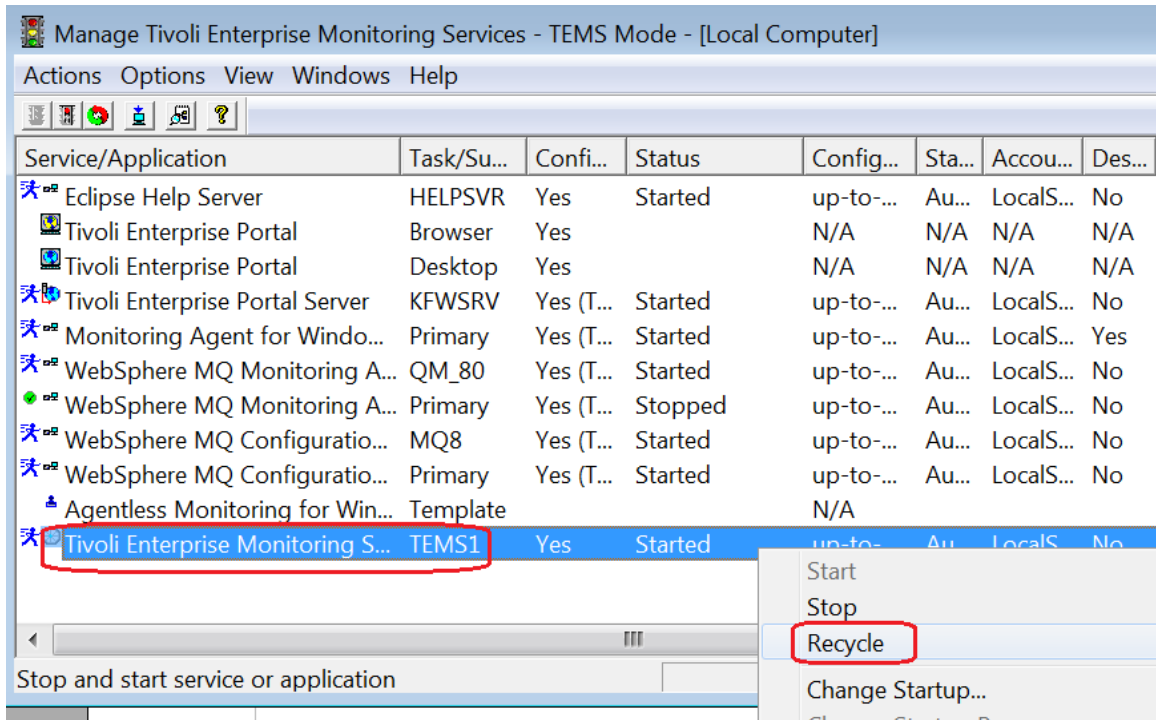


Click on the + icons and expand the elements. The expanded view may look like this:



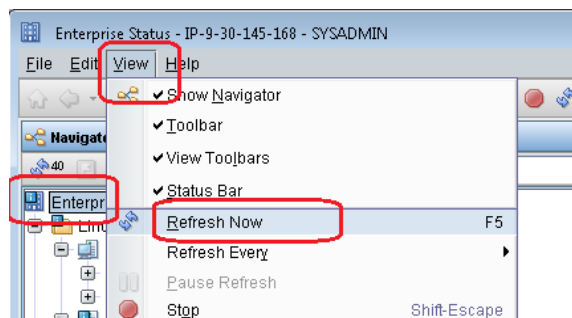
++ How to start/stop/recycle a TEMS via the "Manage Tivoli Enterprise Monitoring Services"

In Windows, to recycle the TEMS:



++ How to refresh the view

To refresh the view, from the Navigator panel, select "Enterprise", then select "View" from the menu bar, and then "Refresh Now"



## ++ Creating a local MQ Monitoring Agent for a queue manager in Windows

See:

Chapter 3: Creating a local MQ Monitoring Agent for a queue manager in Windows

From:

<http://www.ibm.com/support/docview.wss?uid=swg27048600>

Installation of ITCAM Agents 7.3 in Windows to monitor MQ queue managers

In the Windows host that has the TEMS, there is a local MQ queue manager called QM\_WIN1 and it is listening at port 1414.

Let's create a dedicated instance of the MQ Monitoring Agent for this queue manager.

Start the TEP Desktop.

See Chapter 4 of the related techdoc on installing ITM:

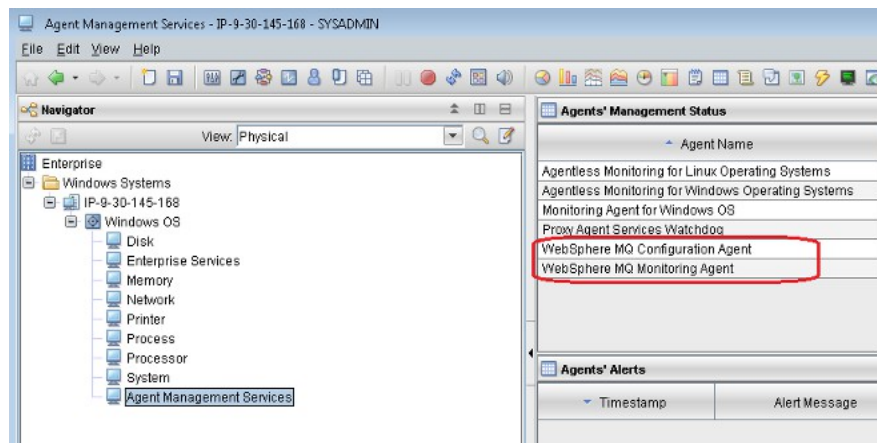
Chapter 4: Starting the Tivoli Enterprise Portal GUI

From the left panel, expand the view and click on "Agent Management Services".

Notice that on the right panel, "Agent Management Status" you will see:

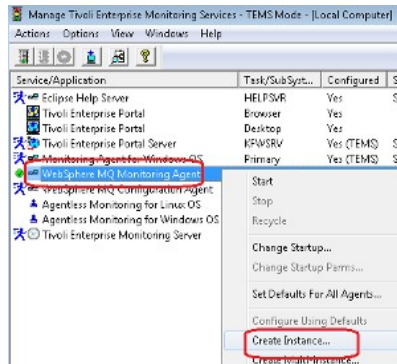
WebSphere MQ Monitoring Agent

WebSphere MQ Configuration Agent

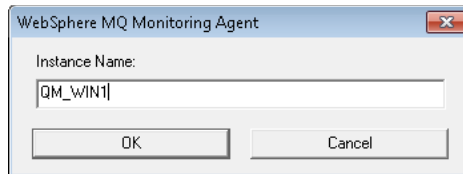




From the Manage Tivoli Enterprise Monitoring Services, select:  
WebSphere MQ Monitoring Agent  
right click and select "Create Instance ..."



Provide the instance name. In this example it is:  
QM\_WIN1



Notice that a new entry is added:

Service/Application	Task/Sub Syst...	Configured	Sta
Eclipse Help Server	HELP/SVR	Yes	Sta
Tivoli Enterprise Portal	Browser	Yes	
Tivoli Enterprise Portal Server	Desktop	Yes (TEMS)	Sta
Monitoring Agent for Windows OS	KFWSRV	Yes (TEMS)	Sta
WebSphere MQ Monitoring Agent	Primary	Yes (TEMS)	Sta
WebSphere MQ Configuration Agent	Start		
Agentless Monitoring for Linux OS	Stop		
Agentless Monitoring for Windows OS	Recycle		
Tivoli Enterprise Monitoring Server	Change Startup...		
	Change Startup Params...		
	Set Defaults For All Agents...		
	Configure Using Defaults		
	Create Instance...		
	Create Multi-Instance...		

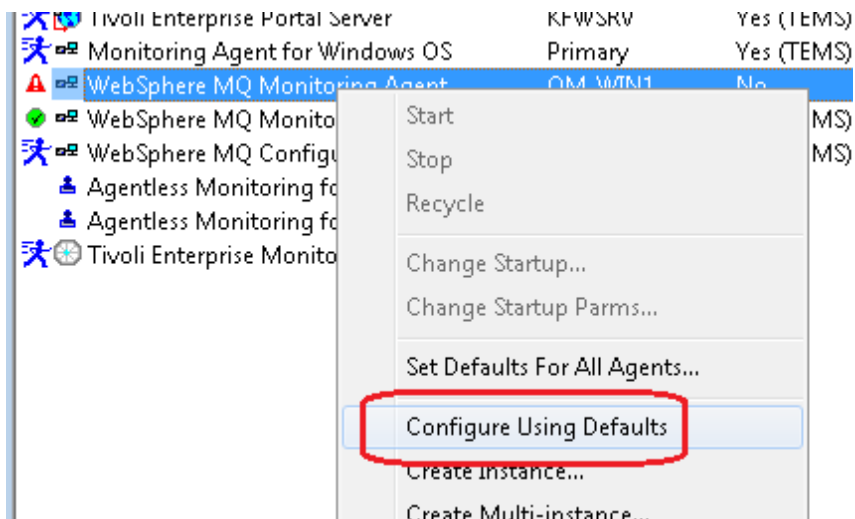
Service/Application	Task/Sub Syst...	Configured	Started	up-to-date	Aut
Tivoli Enterprise Portal	Desktop	Yes		N/A	N/A
Tivoli Enterprise Portal Server	KFWSRV	Yes (TEMS)	Started	up-to-date	Aut
Monitoring Agent for Windows OS	Primary	Yes (TEMS)	Started	up-to-date	Aut
WebSphere MQ Monitoring Agent	QM_WIN1	No		N/A	
WebSphere MQ Monitoring Agent	Primary	Yes (TEMS)	Stopped	up-to-date	Aut
WebSphere MQ Configuration Agent	Primary	Yes (TEMS)	Started	up-to-date	Aut

We need to configure it now.

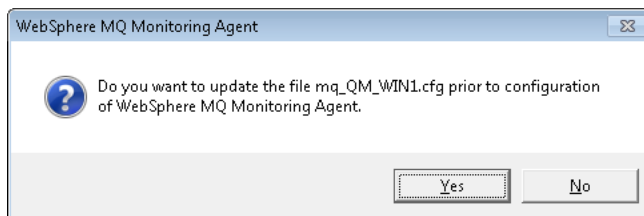
Notice that the new entry for QM\_WIN1 has the following values:

Column: Configured Value: No  
Column: Configuration Value: N/A

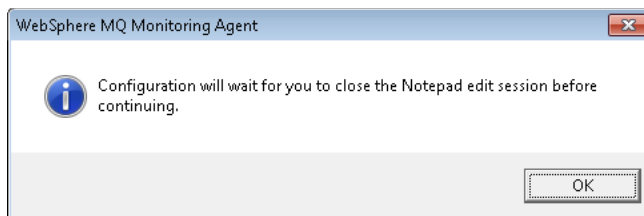
From Tivoli Enterprise Monitoring Services, right-click WebSphere MQ Monitoring Agent and select Configure Using Defaults



You are prompted to edit the agent's .cfg file. (The primary agent's file is named mq.cfg.)



Click Yes



A Notepad session opens for the corresponding cfg file:

C:\IBM\ITM\TMAITM6\_x64\mq\_QM\_WIN1.cfg

Supply the WebSphere MQ queue manager name in the MANAGER NAME() and MGRNAME() parameters of the .cfg file.

In this case it is: QM\_WIN1

**WARNING!!** Do NOT enclose the name within quotes! This will cause runtime errors!

You will need to add a statement for SET AGENT and provide the name of the host.

The SET AGENT is useful to refine the identification of a queue manager.

It is not necessary in all cases, but it is a good idea to set it always.

But it is needed in 2 situations:

- When working with multi-instance queue managers.
- When doing remote monitoring.

The attribute STATISTICSINFO(REMOVE) for "SET MANAGER" is needed in order for the MQ agent to query the statistics messages generated by the MQ queue manager, when the generation of the statistics has been enabled.

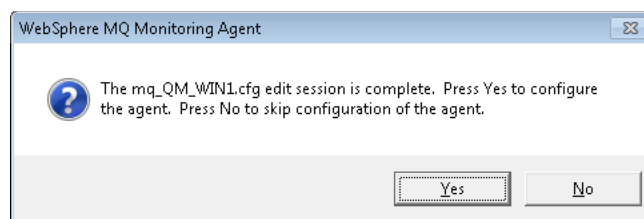
+ begin changes

```
SET MANAGER NAME(QM_WIN1) STATISTICSINFO(REMOVE)
SET QUEUE NAME(*) MGRNAME(QM_WIN1) QDEFTYPE(PREDEFINED)
SET CHANNEL NAME(*) MGRNAME(QM_WIN1)
SET AGENT NAME(9.30.145.168)
```

+ end changes

Save and exit the Notepad session.

Click Yes at the next prompt to continue.



You are returned to the Tivoli Enterprise Monitoring Services window.

This completes the initial configuration, and the agent is ready to be started.

Notice that the new entry for QM\_WIN1 has the following values:

- Column: Configured Value: Yes(TEMS)
- Column: Configuration Value: up-to-date

Service/Application	Task/SubSystem...	Configured	Status	Configurati...
Eclipse Help Server	HELPSVR	Yes	Started	up-to-date
Tivoli Enterprise Portal	Browser	Yes		N/A
Tivoli Enterprise Portal	Desktop	Yes		N/A
Tivoli Enterprise Portal Server	KFWSRV	Yes (TEMS)	Started	up-to-date
Monitoring Agent for Windows OS	Primary	Yes (TEMS)	Started	up-to-date
WebSphere MQ Monitoring Agent	QM_WIN1	Yes (TEMS)	Stopped	up-to-date
WebSphere MQ Monitoring Agent	Primary	Yes (TEMS)	Stopped	up-to-date

Start the instance:

Tivoli Enterprise Portal Server	KFWSRV	Yes (TEMS)	Started
Monitoring Agent for Windows OS	Primary	Yes (TEMS)	Started
WebSphere MQ Monitoring Agent	QM_WIN1	Yes (TEMS)	Stopped
WebSphere MQ Monitoring Agent	Primary		
WebSphere MQ Configuration Agent	Primary		
Agentless Monitoring for Linux OS	Template		
Agentless Monitoring for Windows OS	Template		

If the start is successful (no errors were encountered), then the status will be updated to "Started":

Monitoring Agent for windows OS	Primary	Yes (TEMS)	Started
WebSphere MQ Monitoring Agent	QM_WIN1	Yes (TEMS)	Started
WebSphere MQ Monitoring Agent	Primary	Yes (TEMS)	Stopped

++ Creating a remote MQ Monitoring Agent for a remote queue manager in Linux

See:

Chapter 5: Creating a remote MQ Monitoring Agent for a remote queue manager in Linux

From:

<http://www.ibm.com/support/docview.wss?uid=swg27048600>

Installation of ITCAM Agents 7.3 in Windows to monitor MQ queue managers

The queue manager to be monitored is a "remote" queue manager to the TEMS and there are no ITM Agents nor ITCAM Agents installed in that remote box.

Scenario:

Host RHEL1 is a Linux box but it does NOT have any components for ITM and ITCAM.

Is it possible to remote monitor from the TEMS in Windows, a remote queue manager called QM80RHEL1 (port 1422) located in host RHEL1?

Answer:

Yes, it is necessary to define a Server-Connection channel in the queue manager and then add a corresponding Client-Connection channel in a CCDT and make available the CCDT file to the TEMS in Windows.

It is necessary to define a remote MQ Monitoring Agent for the queue manager.

## ++ Steps

Follow the directions mentioned in this techdoc in:  
Chapter 3: Creating a local MQ Monitoring Agent for a queue manager in Windows

Specify the desired name of the queue manager: QM80RHEL1

A Notepad session opens for the corresponding cfg file:

C:\IBM\ITM\TMAITM6\_x64\mq\_QM80RHEL1.cfg

Supply the WebSphere MQ queue manager name in the MANAGER NAME() and MGRNAME() parameters of the .cfg file.

In this case it is: QM80RHEL1

**WARNING!! Do NOT** enclose the name within quotes! This will cause runtime errors!

There are 2 important differences with respect to the local agent configured in Chapter 3.

- 1) In the statement for SET MANAGER you **MUST** add: REMOTE(YES)
- 2) In the statement for SET AGENT you **MUST** provide the name of the Queue Manager (not the name of the host).

The attribute STATISTICSINFO(REMOVE) for "SET MANAGER" is needed in order for the MQ agent to query the statistics messages generated by the MQ queue manager, when the generation of the statistics has been enabled.

+ begin changes

```
SET MANAGER NAME(QM80RHEL1) STATISTICSINFO(REMOVE) REMOTE(YES)  
SET QUEUE NAME(*) MGRNAME(QM80RHEL1) QDEFTYPE(PREDEFINED)  
SET CHANNEL NAME(*) MGRNAME(QM80RHEL1)  
SET AGENT NAME(QM80RHEL1)
```

+ end changes

Save and exit the Notepad session.

Continue with the steps for the configuration of the agent.

After the agent is configured, do **NOT** start it yet!

Additional steps are necessary.

Notice that the userid "system" is going to be passed by ITM in Windows when contacting the remote MQ queue manager in Linux.

You may get the following MQ errors in the remote Linux box:

```
08/28/2016 03:34:06 PM - Process(26276.20) User(mqm) Program(amqrmppa)  
Host(ip-9-30-145-118) Installation(Installation2)
```

VRMF(8.0.0.4) QMgr(QM80RHEL1)

AMQ9557: Queue Manager User ID initialization failed for 'system'.

EXPLANATION:

The call to initialize the User ID 'system' failed with CompCode 2 and Reason 2035.

To avoid the above security error AMQ9557 (reason code 2035 MQRC\_NOT\_AUTHORIZED, in the remote Linux box you can do several things.

Note: The main focus of this tutorial is on setting MQ for monitoring. The focus is not on all the security aspects related to MQ remote access, thus, I am keeping it simple.

1) If your organization has already established standards for MQ remote access, then follow them.

2) For test/development system, you could create the necessary userid and a mapping of users.

2.a) As user root, you need to create a user id called "system" and add it to the group "mqm".

```
useradd -u 515 -g mqm -s /bin/bash -d /home/system -m system
```

2.b) Create a channel authentication record that maps the client user "system" to the MCA user "mqm".

Create a server-connection channel.

Note:

The naming of the channel in this example is mostly used with MQ clusters.

Use the naming standards for you organization.

In the remote MQ queue manager (QM80RHEL1) in the Linux box.

Use runmqsc to define a Server-Connection channel:

```
DEFINE CHANNEL(TO.QM80RHEL1) CHLTYPE(SVRCONN) TRPTYPE(TCP)
```

Then, in the queue manager local (QM\_WIN1) in the Windows box that has the TEMS, define a Client-Connection channel, which will be added to the CCDT file for that queue manager:

```
DEFINE CHANNEL(TO.QM80RHEL1) CHLTYPE(CLNTCONN) TRPTYPE(TCP)  
CONNNAME('9.30.145.118(1422)') QMNAME(QM80RHEL1)
```

The CCDT file will be updated. It is located at:

```
C:\ProgramData\IBM\MQ\qmgrs\QM_WIN1\@ipcc>dir  
08/28/2016 03:24 PM          4,204 AMQCLCHL.TAB  
03/01/2016 01:32 PM           8 AMQRSYNA.DAT
```

Copy the CCDT file from the MQ queue manager to the ITM location:

```
C:\IBM\ITM\TMAITM6_x64
```

The command is a long one. Even though it may appear in 2 lines in this note, it is only 1 long line:

```
COPY C:\ProgramData\IBM\MQ\mqmgs\QM_WIN1\@ipcc\AMQCLCHL.TAB  
C:\IBM\ITM\TMAITM6_x64
```

Now a copy of the CCDT file resides at:

```
C:\IBM\ITM\TMAITM6_x64\AMQCLCHL.TAB
```

Now you can start the remote MQ Monitoring Agent from the TEMS Services GUI.



++ Summary of ITM runtime commands in Linux

+ Configure ITM Linux OS agent (product code: lz)  
/opt/IBM/ITM/bin/itmcmd config -A lz

+ Start and stop an ITM Linux OS agent (product code: lz)  
/opt/IBM/ITM/bin/itmcmd agent stop lz  
/opt/IBM/ITM/bin/itmcmd agent start lz

+ Configure ITCAM MQ Configuration Agent (product code: mc)  
/opt/IBM/ITM/bin/itmcmd config -A mc

+ Configure ITCAM MQ Monitoring Agent, default (product code: mq)  
/opt/IBM/ITM/bin/itmcmd config -A mq

+ Configure a dedicated MQ Monitoring Agent for a specific queue manager, such as QM\_LNX1 (product code: mq)  
/opt/IBM/ITM/bin/itmcmd config -A -o QM\_LNX1 mq

+ Start and stop ITCAM MQ Configuration Agent (product code: mc)  
/opt/IBM/ITM/bin/itmcmd agent start mc  
/opt/IBM/ITM/bin/itmcmd agent stop mc

+ Start and stop the ITCAM MQ Monitoring Agent, default (product code: mq)  
/opt/IBM/ITM/bin/itmcmd agent start mq  
/opt/IBM/ITM/bin/itmcmd agent stop mq

+ Start and stop the ITCAM MQ Monitoring Agent for a specific queue manager, such as QM\_LNX1 (product code: mq)  
/opt/IBM/ITM/bin/itmcmd agent -o QM\_LNX1 start mq  
/opt/IBM/ITM/bin/itmcmd agent -o QM\_LNX1 stop mq

+ Start and stop all agents

It is recommended to start each agent by itself.

However, just for completeness, this is the command to start all the agents:

/opt/IBM/ITM/bin/itmcmd agent start all

To stop all:

/opt/IBM/ITM/bin/itmcmd agent stop all

+++ Linux: More information on configuring and customizing an MQ Agent

Example for MQ queue manager QM\_LNX1

++ Configuring for 1st time:

```
/opt/IBM/ITM/bin/itmcmd config -A -o QM_LNX1 mq
```

At this point, the cfg file for the MQ Monitoring Agent for the queue manager QM\_LNX1 has NOT been created!

You will need to start and stop the agent in order to create such file.

The generated cfg file needs to have additional important customization, which is done in the next section.

Start the agent:

```
/opt/IBM/ITM/bin/itmcmd agent -o QM_LNX1 start mq
```

Then stop the agent:

```
/opt/IBM/ITM/bin/itmcmd agent -o QM_LNX1 stop mq
```

++ Customization of the configuration files for MQ Agents.

+ Modify the configuration file:

```
/opt/IBM/ITM/config/ip-9-30-145-0_mq_QM_LNX1.cfg
```

Edit the cfg file:

```
vi /opt/IBM/ITM/config/ip-9-30-145-0_mq_QM_LNX1.cfg
```

The following 3 lines for that file have the name of the queue manager:

```
SET MANAGER NAME(QM_LNX1)
```

```
SET QUEUE NAME(*) MGRNAME(QM_LNX1) QDEFTYPE(PREDEFINED)
```

```
SET CHANNEL NAME(*) MGRNAME(QM_LNX1)
```

++ Modify the mc.ini and mq.ini configuration files

Edit the file and add "/opt/mqm/lib:" to the LD\_LIBRARY\_PATH:

```
vi /opt/IBM/ITM/config/mc.ini
```

Before:

```
LD_LIBRARY_PATH=$ICCRTE_DIR/$GSKLIBS:$CANDLEHOME/$BINARCH$/  
$PRODUCTCODE$/lib:$CANDLEHOME/$ARCHITECTURE$/lib
```

After:

```
LD_LIBRARY_PATH=/opt/mqm/lib:$ICCRTE_DIR/$GSKLIBS:$CANDLEHOME/$BINARCH$/  
$PRODUCTCODE$/lib:$CANDLEHOME/$ARCHITECTURE$/lib
```

+ Do the same change in the mq.ini (for the MQ Agent) and add variable:

Edit mq.ini in /opt/IBM/ITM/config to modify LD\_LIBRARY\_PATH and to add an important variable:

```
vi /opt/IBM/ITM/config/mq.ini
```

1) Add "/opt/mqm/lib:" to LD\_LIBRARY\_PATH

Before:

```
LD_LIBRARY_PATH=$ICCRTE_DIR/$GSKLIBS:$CANDLEHOME/$BINARCH$/  
$PRODUCTCODE$/lib:$CANDLEHOME/$ARCHITECTURE$/lib
```

After:

```
LD_LIBRARY_PATH=/opt/mqm/lib:$ICCRTE_DIR/$GSKLIBS:$CANDLEHOME/$BINARCH$/  
$PRODUCTCODE$/lib:$CANDLEHOME/$ARCHITECTURE$/lib
```

2) Add the line to indicate where is MQ code installed.

```
KMQ_LATEST_WMQ_INSTALLPATH=/opt/mqm
```

Save the file.

+ Start the agents:

Start the MQ Configuration Agent:

```
/opt/IBM/ITM/bin/itmcmd agent start mc
```

Start the MQ Monitoring Agent for the queue manager QM\_LNX1

```
/opt/IBM/ITM/bin/itmcmd agent -o QM_LNX1 start mq
```

## ++ Monitoring multi-instances of a queue manager

The current approach to multi-instance monitoring is to have a separate agent for both the standby and active queue managers, both running at the same time.

When the queue manager is active, the data will be available. When the queue manager is in standby, the only available data will be the queue manager status.

For example, you have an MQ multi-instance queue manager called QMMI1 in host3 and host4.

You will need to define ITCAM MQ Monitoring agents in both hosts.

Here is the summary of the steps:

### + host3:

Login as root

Configure MQ Monitoring agent, specify TEMS hostname, in this case: ip-9-30-145-168.svl.ibm.com

```
/opt/IBM/ITM/bin/itmcmd config -A -o QMMI1 mq
```

Create the config mq\*.cfg file, need to start/stop agent.

```
/opt/IBM/ITM/bin/itmcmd agent -o QMMI1 start mq
```

```
/opt/IBM/ITM/bin/itmcmd agent -o QMMI1 stop mq
```

Configure mq\*.cfg to specify QmgrName QMMI1

```
vi /opt/IBM/ITM/config/*mq_QMMI1.cfg
```

Restart the agent.

```
/opt/IBM/ITM/bin/itmcmd agent -o QMMI1 start mq
```

### + host4:

Login as root

Configure MQ Monitoring agent, specify TEMS hostname, in this case: ip-9-30-145-168.svl.ibm.com

```
/opt/IBM/ITM/bin/itmcmd config -A -o QMMI1 mq
```

Create the config mq\*.cfg file, need to start/stop agent.

```
/opt/IBM/ITM/bin/itmcmd agent -o QMMI1 start mq
```

```
/opt/IBM/ITM/bin/itmcmd agent -o QMMI1 stop mq
```

Configure mq\*.cfg to specify QmgrName QMMI1

```
vi /opt/IBM/ITM/config/*mq_QMMI1.cfg
```

Restart the agent.

```
/opt/IBM/ITM/bin/itmcmd agent -o QMMI1 start mq
```

Refresh the TEP.

++ In Linux, how to find out the running ITM agents?

```
# ps -ef | grep -i itm
root    1416    1 0 11:39 pts/1    00:00:00 /opt/IBM/ITM/lx8266/lz/bin/klzagent
root    7839    1 0 11:40 pts/1    00:00:00 /opt/IBM/ITM/lx8263/mc/bin/kmcrc
/opt/IBM/ITM/config/mc.cfg
root    8352    1 0 11:40 pts/1    00:00:00 /opt/IBM/ITM/lx8263/mq/bin/kmqagent
/opt/IBM/ITM/config/ip-9-30-145-117_mq_QM_LNX2.cfg
root    8888    1 0 11:41 pts/1    00:00:00 /opt/IBM/ITM/lx8263/mq/bin/kmqagent
/opt/IBM/ITM/config/ip-9-30-145-117_mq_QMMI1.cfg
root    9217    1 0 11:41 pts/1    00:00:00 /opt/IBM/ITM/lx8266/lz/bin/kcawd
```

Notice the following processes that are of interest for MQ:

There are 2 processes for the OS Agent, in this case, /opt/IBM/ITM/lx8266/lz/ (the "lz" is for Linux)

The kmqagent is the monitor for the queue managers. There are 2 entries in the listing above:

- one for queue manager QM\_LNX2 and another for QMMI1

+ How to monitor the statistics generated by the MQ queue manager

Where does ITCAM for messaging get the get/put fail data from

[https://developer.ibm.com/answers/questions/301258/where-does-itcam-for-messaging-get-the-getput-fail.html?utm\\_campaign=answers&utm\\_medium=email&utm\\_source=answers-new-question&utm\\_content=answers-answer-question](https://developer.ibm.com/answers/questions/301258/where-does-itcam-for-messaging-get-the-getput-fail.html?utm_campaign=answers&utm_medium=email&utm_source=answers-new-question&utm_content=answers-answer-question)

Where does ITCAM for messaging get the get/put fail data from

+ begin excerpt

Question:

Can you find out how the MQ Queue Statistics attributes are gathered (specifically, the put/get failure counts and rates)?

Answer:

MQ Queue Statistics data is collected from the MQ MQI statistics data that is written to SYSTEM.ADMIN.STATISTICS.QUEUE.

Specifically, the information is obtained from the following PCF attributes in the messages written by MQ:

MQIAMO\_PUTS\_FAILED  
MQIAMO\_PUT1S\_FAILED  
MQIAMO\_GETS\_FAILED

The ITCAM for Messaging documentation has information on this in "Collecting data for the MQ Queue Statistics workspace" section.

[http://www.ibm.com/support/knowledgecenter/SS3JRN\\_7.2.1.1/com.ibm.itcama.doc\\_7.2.1.1/kmq\\_userguide/t\\_coll\\_data4\\_q\\_statis.html](http://www.ibm.com/support/knowledgecenter/SS3JRN_7.2.1.1/com.ibm.itcama.doc_7.2.1.1/kmq_userguide/t_coll_data4_q_statis.html)

Tivoli Composite Application Manager for Applications > Tivoli Composite Application Manager for Applications 7.2.1.1 > ITCAM Agents for WebSphere Messaging 7.3 > ITCAM Agent for WebSphere MQ User's Guide > Data collection for workspaces > Collecting data for the MQ Queue Statistics workspace

MQ documentation has the following information about MQI Statistics:

[http://www.ibm.com/support/knowledgecenter/SSFKSJ\\_9.0.0/com.ibm.mq.mon.doc/q037240.htm](http://www.ibm.com/support/knowledgecenter/SSFKSJ_9.0.0/com.ibm.mq.mon.doc/q037240.htm)

WebSphere MQ > WebSphere MQ 9.0.0 > IBM MQ > Monitoring and performance > Monitoring your IBM MQ network > Accounting and statistics messages

[http://www.ibm.com/support/knowledgecenter/SSFKSJ\\_9.0.0/com.ibm.mq.mon.doc/q037360.htm](http://www.ibm.com/support/knowledgecenter/SSFKSJ_9.0.0/com.ibm.mq.mon.doc/q037360.htm)

WebSphere MQ > WebSphere MQ 9.0.0 > IBM MQ > Monitoring and performance > Monitoring your IBM MQ network > Accounting and statistics messages > Statistics messages > Statistics information collection >

## Queue statistics information

2) Some calculations done on data provided by MQ to provide rates per second

For example,

GetCount was 6013.

Interval length was 15 seconds.

Get Rate was 400.86 or 6013/15.

Get Fail Count was 362.

Get Fail Rate was 24.13 or 362/15.

+ end of excerpt

- Edit the monitoring file of the WebSphere MQ Monitoring agent to allow it to read messages from the system statistics queues.

The STATISTICSINFO attribute specifies how the WebSphere MQ Monitoring agent accesses the data that is produced by the queue manager. Here you can set it to REMOVE or BROWSE to suit the requirements of your environment.

For example:

Unix: local Agent to the queue manager

```
vi /opt/IBM/ITM/config/ip-9-30-145-117_mq_QM_LNX2.cfg
  SET MANAGER NAME(QM_LNX2) STATISTICSINFO(REMOVE)
```

Windows: remote Agent to the queue manager

```
notepad C:\IBM\ITM\TMAITM6_x64\mq_QM80RHEL1.cfg
  SET MANAGER NAME(QM80RHEL1) REMOTE(YES) STATISTICSINFO(REMOVE)
```

For information about how to change monitoring options, see Changing monitoring options.  
[http://www.ibm.com/support/knowledgecenter/en/SS3JRN\\_7.2.1.1/com.ibm.itcama.doc\\_7.2.1.1/kmq\\_userguide/t\\_changemonioptn.html#t\\_changemonioptn](http://www.ibm.com/support/knowledgecenter/en/SS3JRN_7.2.1.1/com.ibm.itcama.doc_7.2.1.1/kmq_userguide/t_changemonioptn.html#t_changemonioptn)

- If you changed the monitoring file of the WebSphere MQ Monitoring agent, restart the agent for the changes to take effect.

The following needs to be set in the SET MANAGER command of the \*mq\*.cfg configuration file for the corresponding MQ Monitoring Agent:

STATISTICSINFO(NO|REMOVE|BROWSE)

This parameter is not valid on z/OS systems.

Specifies how WebSphere MQ Monitoring agent accesses the statistics data that is produced by the queue manager (queue manager, queue and channel). Valid values are as follows:

NO: The agent does not monitor statistics data (queue manager, queue and channel).

**REMOVE:** The agent reads and removes messages from the system statistics queues. This setting provides the most accurate event reporting. The value that is configured during the installation and configuration process is REMOVE. When REMOVE is specified, the agent opens the system statistics queues for exclusive access.

**BROWSE:** The agent browses (reads without removing) messages in the system statistics queues. Specify this value if more than one application (WebSphere MQ Monitoring agent or another application) read the statistics queues. If this is the case, you must run a separate application to clean the queues.

+++ end +++