Page 1 of **36** 

Upgrading from MQ 7.5 to MQ 9.0.0.0 LTS and Fix Pack 9.0.0.1 in Windows

https://www.ibm.com/support/pages/node/608619

Date last updated: 17-Apr-2020

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

+++ Objective

This techdoc provides all the necessary steps to upgrade IBM MQ 7.5 in Windows to MQ 9.0.0.0 Long Term Support (LTS) and then applying Fix Pack 9.0.0.1 (because it was the latest fix pack at the time the tutorial was written - the overall recommendation is to apply the most recent fix pack).

The steps describe a standard upgrade path. They do not use the 'multi-version' feature introduced with MQ 7.1, in which several versions of MQ can co-exist ("side-by-side"). If you want to use 'multi-version' instead, then refer to the following techdoc: <u>http://www-01.ibm.com/support/docview.wss?uid=swg27036780</u> Installing WebSphere MQ 7.5 to coexist with MQ 7.0.1 and MQ 7.1 in Windows

You can upgrade from MQ 7.5 to MQ 9.0 without first going through MQ 8.0.

You can upgrade from MQ 7.5 to MQ 8.0 by following the same principles and instructions in this tutorial.

The chapters are:

Chapter 1: Uninstalling MQ 7.5

- Chapter 2: Installing MQ 9.0.0.0 LTS
- Chapter 3: Running setmqinst to designate the Primary installation
- Chapter 4: Running setmqenv to use MQ 9.0 commands
- Chapter 5: Upgrading an existing queue manager to MQ 9.0
- Chapter 6: Creating a queue manager under 9.0
- Chapter 7: Remotely accessing the new MQ 9.0 queue manager
- Chapter 8: Installing Fix Pack 9.0.0.1

Page 2 of 36

++ Configuration used in this tutorial

IBM WebSphere MQ 7.5.0.5 already installed in Windows 7.

- No AMS, No MFT/FTE, No Telemetry
- Windows Client installed

One queue manager was created and started under MQ 7.5.

++ Downloading MQ from IBM Passport Advantage

+ Downloading IBM MQ Version 9.0.0.0 from the Passport Advantage web site

http://www-01.ibm.com/support/docview.wss?uid=swg24042096 Downloading IBM MQ Version 9.0.0.0 from the Passport Advantage web site

Part Number Description CN9GGML MQ V9.0 Long Term Support Release for Windows 64-bit Multilingual

+ Downloading IBM MQ Version 8.0.0.5 from the Passport Advantage web site

http://www-01.ibm.com/support/docview.wss?uid=swg24042095 Downloading IBM MQ Version 8.0.0.5 from the Passport Advantage web site

Rebased for Windows only: Base 8.0.0.0 + Fix Pack 8.0.0.1 + FP 8.0.0.2 + FP 8.0.0.3 + FP 8.0.0.4 + FP 8.0.0.5

Part Number Description CNA47ML MQ 8.0.0.5 for Windows Multilingual elmage

### Page 3 of 36

+++++ Chapter 1: Uninstalling MQ 7.5

Note:

The uninstallation process does NOT delete the data for the MQ queue managers!

Even though it is possible in Windows to keep the existing MQ 7.5 and then install MQ 9.0, it is not recommended because the installer will make a backup of MQ 7.5 in the disk, and this takes a long time.

++ Review of configuration BEFORE the uninstallation of MQ 7.5

Let's review the directories used by MQ 7.5:

a) Location of the code: C:\Program Files (x86)\IBM\WebSphere MQ

b) Top-Folder for the data for the queue managers (this is the default folder that is specified during the installation of MQ 7.5 and it is the one that needs to be specified during the installation of MQ 8.0):

C:\ProgramData\IBM\MQ

c) The location of the data for the queue managers is under the subdirectory: C:\ProgramData\IBM\MQ\qmgrs

For example, for the queue manager QM1, it is: C:\ProgramData\IBM\MQ\qmgrs\QM1

- d) Location of the recovery logs for the queue managers: C:\ProgramData\IBM\MQ\log
- For example, for the queue manager QM1, it is: C:\ProgramData\IBM\MQ\log\QM1
- e) Version information

C:\> dspmqver Name: WebSphere MQ Version: 7.5.0.5 Level: p750-005-150424 BuildType: IKAP - (Production) Platform: WebSphere MQ for Windows Mode: 32-bit O/S: Windows 7 Professional x64 Edition, Build 7601: SP1 InstName: Installation1 Page 4 of 36

InstDesc: Primary: Yes InstPath: C:\Program Files (x86)\IBM\WebSphere MQ DataPath: C:\ProgramData\IBM\MQ MaxCmdLevel: 750 LicenseType: Production

C:\ > set mq MQ\_FILE\_PATH=C:\Program Files (x86)\IBM\WebSphere MQ MQ\_JAVA\_DATA\_PATH=C:\ProgramData\IBM\MQ MQ\_JAVA\_INSTALL\_PATH=C:\Program Files (x86)\IBM\WebSphere MQ\java MQ\_JAVA\_LIB\_PATH=C:\Program Files (x86)\IBM\WebSphere MQ\java\lib64;C:\Program Files (x86)\IBM\WebSphere MQ\java\lib MQ\_JRE\_PATH=C:\Program Files (x86)\IBM\WebSphere MQ\java\jre

f) Header of the error log for the queue manager.

8/9/2017 09:12:01 - Process(4204.3) User(pmralrmq) Program(amqzmuc0.exe) Host(POSAUNE) Installation(Installation1) VRMF(7.5.0.5) QMgr(QM1)

AMQ6287: WebSphere MQ V7.5.0.5 (p750-005-150424).

EXPLANATION: WebSphere MQ system information: Host Info :- Windows 7 Professional x64 Edition, Build 7601: SP1 (MQ Windows 32-bit) Page 5 of 36

g) Screen capture of MQ Explorer: Help > About IBM WebSphere MQ Explorer



h) The icon on the right side at the bottom of the screen shows that the MQ service is running:



## Page 6 of 36

i) The "Services" under the "Administrative Tools"

Control Panel\System and Security\Administrative Tools

... shows that the service whose name is "IBM WebSphere MQ (Installation1)" has started:

Eile Edit Vrew	Eile Edit View Tools					
Organize 🔻 🔳 🤇	Dpen					
☆ Favorites	Name	Date modified	Туре			
🧮 Desktop	🎓 Component Services	7/14/2009 12:57 AM	Shortcut			
🚺 Downloads	🛃 Computer Management	7/14/2009 12:54 AM	Shortcut			
📃 Recent Places	📷 Data Sources (ODBC)	7/14/2009 12:53 AM	Shortcut			
	🚮 Event Viewer	7/14/2009 12:54 AM	Shortcut			
🥽 Libraries	🚮 iSCSI Initiator	7/14/2009 12:54 AM	Shortcut			
	📠 Local Security Policy	1/30/2012 4:58 PM	Shortcut			
👰 Computer	🔊 Performance Monitor	7/14/2009 12:53 AM	Shortcut			
🐔 Local Disk (C:)	🕞 Print Management	8/25/2012 5:08 PM	Shortcut			
🚽 homes (\\rtpg	🔊 Services	7/14/2009 12:54 AM	Shortcut			
	🛃 System Configuration	7/14/2009 12:53 AM	Shortcut			



## ++ Stop all MQ activity

From MQ Explorer, ensure that all the queue managers are stopped.



Stop the MQ Service: from the icon, right click on "Stop WebSphere MQ"



## Page 7 of 36

You can check that the "IBM WebSphere MQ" service is NOT running, by ensuring that the column "Status" is blank (that is, is not saying "Started")



++ Uninstall MQ 7.5

To uninstall MQ 7.5 do the following:

Login as a Windows administrator

Launch "Program and Features"

Start > Control Panel > Programs > Programs and Features

G	🖉 🤜 🔻 🖌 Control Panel 🕨	All Control Panel Items 🔸 Programs and Features	
_			
	Control Panel Home	Uninstall or change a program	
	View installed updates	To uninstall a program, select it from the list an	d then click Uninstall, Change, or Repair,
0	Turn Windows features on or		, ,, ,
	off	Organize 👻 Uninstall	
		Name	Publisher
		IBM WebSphere Application Server V8.5_1	
-		🕕 IBM WebSphere MQ (Installation1)	
		🖆 IBM® 32-bit Runtime Environment for Java, v	Uninstall
		■ lava 2 SDK SE v1 & 2 19	Sun Microsystems, Inc.

Follow the prompts to uninstall both components.

The "Programs and Features" should not show anymore the above components for MQ.

#### Page 8 of 36

+++++ Chapter 2: Installing MQ 9.0.0.0 LTS

The specific version and fix pack level of MQ 9.0 that was used for this techdoc was: 9.0.0.0

To download the product, visit IBM Passport Advantage. It is recommended that you search for "Part Number" inside this web site and the following technote has the mapping of the Part Numbers and the MQ installable filesets.

<u>http://www-01.ibm.com/support/docview.wss?uid=swg24042096</u> Downloading IBM MQ Version 9.0.0.0 from the Passport Advantage web site

The Part Number that was used for the installation image that was downloaded for MQ 9.0.0.0 for Windows from Passport Advantage is: Part Number Description CN9GGML MQ V9.0 Long Term Support Release for Windows 64-bit Multilingual

The downloaded file was: IBM\_MQ\_9.0.0.0\_WINDOWS.zip

It was downloaded into: C:\downloads\MQ-9000

To proceed, unzip the zip file. The files will be extracted into a subdirectory called: MQServer

Go to the subdirectory "MQServer" and launch "setup.exe"

Com	nputer → Local Disk (C:) → download	s ▶ MQ-9000 ▶ IBM_MQ_9.0.0.1	)_WINDOWS + MQSei	ver •
Organize 🔻 📑 🤇	Open New folder			_
🜟 Favorites	Name ^	Date modified	Type File folder	Size
🧮 Desktop	👅 Readmes	5/12/2016 1:00 AM	Setup Information	1
Downloads Recent Places	CDLabel.txt	5/12/2016 1:00 AM	Text Document	1
_	IBM MQ.sms MOL sunch eve	5/12/2016 1:00 AM	SMS File	1 150
🥽 Libraries	MQLaunch.mqbin	5/12/2016 1:00 AM	MQBIN File	2,617
🜉 Computer	💮 MQParms.exe	5/12/2016 1:00 AM	Application	159
🐔 Local Disk (C:)	MQParms.ini MOParms.mgbin	5/12/2016 1:00 AM 5/12/2016 1:00 AM	Configuration sett MOBIN File	5
🖵 homes (\\rtpg:	MQParms_silent.ini	5/12/2016 1:00 AM	Configuration sett	б
📬 Network	🚳 ResetMQ.cmd	5/12/2016 1:00 AM	Windows Comma	18
	📰 Kesponse.ini	5/12/2016 1:00 AM 5/12/2016 1:00 AM	Configuration sett Application	3 159
	SetMOipw.mgbin	5/12/2016 1:00 AM	MQBIN File	134
	🚯 Setup.exe	5/12/2016 1:00 AM	Application	159
	Setup.mqbin	5/12/2016 1:00 AM	MQBIN File	571

## Page 9 of 36

## You will see the window:

IBM MQ 9.0			IBM.
<u>W</u> elcome	Welcome to th	e IBM MQ Launchpad	
<u>S</u> oftware Requirements	To install IBM MQ successf launchpad guides you thro	ully you must make sure you have satisfied all the pre ugh this process.	requisites. This
Network <u>C</u> onfiguration	Click on the left-hand butto	ns, described below, to prepare your system :-	
IBM MQ Installation	Software Requirements	Identify the software you need, install it from the IBN Internet, or your local computer.	1 MQ CDROM, the
	Network Configuration	Check the suitability of your user account and authors	orization.
	IBM MQ Installation	Start the installation program.	
	Installation Guide	Installation instructions.	
	Release Notes	Up-to-date information about the product.	
Installation <u>G</u> uide			
R <u>e</u> lease Notes			E <u>x</u> it Launchpad

## Click on "Software Requirements"



You need to ensure that you have an "OK" in the right pane before proceeding.

Click on "Network Configuration"

Regarding the question:

Do you need to configure a domain user ID for WebSphere MQ to run under? In this tutorial checkbox for "No" was selected.



Click on "IBM MQ Installation" and then click on "Launch IBM MQ Installer"

<u>W</u> elcome	IBM MQ Installation
<u>S</u> oftware Requirements	Pre-installation status Software Requirements:
Network <u>C</u> onfiguration	All prerequisite software has been installed and is at the required level.
IBM MQ Installation	Network Configuration Steps: No action required. The IBM MQ administration account will be created automatically by IBM MQ.
	Select installation language.
Installation <u>G</u> uide	Launch IBM MQ Installer
D-1 N-+	Start the IBM MQ installation

Follow the prompts and accept the licensing terms.

## Page 11 of 36

For this tutorial, the Server and the Clients will be installed. No AMS, No MFT, No Telemetry. Thus, you need to select: (\*) Custom



Click Next.

Accept the defaults for: Installation Name: Installation1 Installation folder for program files: C:\Program Files\IBM\MQ\

😸 IBM MQ V9.0 Setup	<b>—</b> ×
Installation Details	
Define the installation details	
Change the following fields to represent the details click Next to proceed	to be used for this installation, and
Installation Name:	
Installation1	📝 Make this the primary installation
Installation Description:	
Installation folder for program files	
C:\Program Files\IBM\MQ\	hange

**Click Next** 

Select "Windows Client", right click and select: Install this feature.



The dialog will be refreshed and you will see all the components that will be installed:



**Click Next** 

You will see a summary for the installation.

+ Begin of Summary

IBM MQ Installation Summary for Computer X

Installation Mode Install

Discovered these queue managers: 'QM1'

Installation Name Installation1

Top-level Folder for Program Files: C:\Program Files\IBM\MQ\

Top-level Folder for Data Files: C:\ProgramData\IBM\MQ\

Folder for Log Files: C:\ProgramData\IBM\MQ\log\

Program Folder: IBM MQ

Features to Install: Server MQ Explorer Windows Client Java and .NET Messaging and Web Services Development Toolkit

+ end of summary

Click "Install".

At this point the appropriate files will be installed in the computer.

After the installation of the code you will need to continue with the "Prepare IBM MQ Wizard"

## Page 14 of 36

For this tutorial the following option was used for the question:

Are any of the domain controllers in your network using Windows 2000 or later? The answer was:

(\*) No

Continue with the prompts to exit the Wizard.

+ Then proceed to launch the MQ Explorer 9.0. Help > About IBM MQ Explorer



+ Notice the service icon:



+ Notice the Administrative Tools > Services

The service "IBM MQ (Installation1)" is shown as "Started". It has a Startup Type of "Automatic" and log on as: .\MUSR\_MQADMIN

Services					
ble Action View	Help				
• • [[] ] ]	3 😹 🚺 💷 🗎 🛤 🛤				
Services (Lacal)	Name	Description	Status	Startup Type	Log On As
	QUERA MO distellation 11	Provides starting and administration services for BM MQ installation Installation21	Started	Automatic	MUSE MOADWIN
	The Bit Hoter Druganties	Parlame disgrantice on behalf of 1814 Notes	General	Automatic	Local Gydem
	G IBM Notes Smart Upgrade Service	A service that helps upgrade the IBM Notes client.	Started	Automatic	Local System

+++++ Chapter 3: Running setmqinst to designate the Primary installation

Open a command prompt and issue: dspmqver

C:\> dspmqver Name: IBM MQ 9.0.0.0 Version: Level: p900-L160512.4 BuildType: IKAP - (Production) Platform: IBM MQ for Windows (x64 platform) Mode: 64-bit O/S: Windows 7 Professional x64 Edition, Build 7601: SP1 InstName: Installation1 InstDesc: Primary: Yes C:\Program Files\IBM\MQ InstPath: DataPath: C:\ProgramData\IBM\MQ MaxCmdLevel: 900 LicenseType: Production

Notice the line that indicates that this is a Primary Installation: **Primary: Yes** 

Issue the MQ command to display the installations in the box: dspmqinst Notice also that Primary is Yes.

C:\>dspmginst InstName: Installation1 InstDesc: Identifier: 1 C:\Program Files\IBM\MQ InstPath: 9.0.0.0 Version: Yes Primary: State: Available MSIProdCode: {80B9C730-0533-4060-A44B-16549476F111} MSIMedia: 9.0 Server MSIInstanceId: 1

+ Miscellaneous

You can use the following command to find out where the "dspmqinst" is located:

C:\>where dspmqinst C:\Program Files\IBM\MQ\bin64\dspmqinst.exe C:\Program Files\IBM\MQ\bin\dspmqinst.exe

+ Setting the Primary installation

In case that during the installation setup you did not accept that this installation was going to be the Primary installation and now you have changed your mind and you want to set it up as the Primary installation, then issue: setmqinst

Generic format: MQ\_INSTALLATION\_PATH/bin/setmqinst -i -n installationName

The specific command for this tutorial would be:

"C:\Program Files\IBM\MQ\bin\setmqinst" -i -n Installation1

### Page 17 of 36

++++ Chapter 4: Running setmqenv to use MQ 9.0 commands

When you open a Windows command prompt, you will see that automatically some MQ environment variables and some MQ folders in the PATH are being shown.

There are 5 entries in the output:

C:\>set mq MQ\_FILE\_PATH=C:\Program Files\IBM\MQ MQ\_JAVA\_DATA\_PATH=C:\ProgramData\IBM\MQ MQ\_JAVA\_INSTALL\_PATH=C:\Program Files\IBM\MQ\java MQ\_JAVA\_LIB\_PATH=C:\Program Files\IBM\MQ\java\lib64;C:\Program Files\IBM\MQ\java\lib MQ\_JRE\_PATH=C:\Program Files\IBM\MQ\java\jre

There are also 5 MQ folders in the PATH

C:\> set path

Path=C:\Program Files\IBM\MQ\java\lib;C:\Program Files\IBM\MQ\java\lib64; C:\Windows\system32;C:\Windows;C:\Windows\System32\Wbem; C:\Windows\System32\WindowsPowerShell\v1.0\; C:\Program Files\Microsoft Windows Performance Toolkit\;C:\Program Files (x86)\Windows Kits\8.0\Windows Performance Toolkit\;C:\Din\;C:\Program Files\IBM\MQ\bin64;C:\Program Files\IBM\MQ\bin;C:\Program Files\IBM\MQ\tools\c\samples\bin

Here is the list of the folders, for easy visualization: C:\Program Files\IBM\MQ\java\lib; C:\Program Files\IBM\MQ\java\lib64; C:\Program Files\IBM\MQ\bin64; C:\Program Files\IBM\MQ\bin; C:\Program Files\IBM\MQ\tools\c\samples\bin

However, there are more MQ related environment variables that are set by the MQ utility "setmqenv". In this case, you could issue:

"C:\Program Files\IBM\MQ\bin\setmqenv" -n Installation1

Page 18 of 36

Now you will see 4 more entries:

C:\> set mq MQ\_DATA\_PATH=C:\ProgramData\IBM\MQ MQ\_ENV\_MODE=64 MQ\_FILE\_PATH=C:\Program Files\IBM\MQ MQ\_INSTALLATION\_NAME=Installation1 MQ\_INSTALLATION\_PATH=C:\Program Files\IBM\MQ MQ\_JAVA\_DATA\_PATH=C:\Program Data\IBM\MQ MQ\_JAVA\_INSTALL\_PATH=C:\Program Files\IBM\MQ\java MQ\_JAVA\_LIB\_PATH=C:\Program Files\IBM\MQ\java\lib64 MQ\_JRE\_PATH=C:\Program Files\IBM\MQ\java\jre

+++ Hint:

You can create a batch file that will run the setmqenv command with the specified syntax. Ensure to have this batch file in a directory in your PATH, such as c:\wintools For example, the batch file set-mq-90.bat can be created with the contents. Notice that the line for SET PATH is a single physical line, but in this techdoc is shown in 2 lines.

Notice the following points:

1) Need to use the "CALL" argument when invoking setmqenv. Without this argument, the execution of setmqenv will terminate the batch and will not allow following statements to execute. That is, with the CALL, you allow other statements in the batch file to be executed.

2) The folder with the C-based executables under Samples\Bin64 was not automatically added to the PATH during the installation. Because it is a good idea to have it in the PATH, then this batch file adds the folders with the samples.

3) The option "-f 2" for dspmqver displays only the line that has the version information of MQ. For example:Version: 9.0.0.0

#### Page 19 of 36

C:\wintools> notepad set-mq-90.bat C:\wintools>set-mq-90 C:\wintools>REM Setup the environment to run MQ 9.0 C:\wintools>CALL "C:\Program Files\IBM\MQ\bin\setmqenv" -n Installation1 Version: 9.0.0.0

```
C:\wintools>set mq
MQ_DATA_PATH=C:\ProgramData\IBM\MQ
MQ_ENV_MODE=64
MQ_FILE_PATH=C:\Program Files\IBM\MQ
MQ_INSTALLATION_NAME=Installation1
MQ_INSTALLATION_PATH=C:\Program Files\IBM\MQ
MQ_JAVA_DATA_PATH=C:\ProgramData\IBM\MQ
MQ_JAVA_INSTALL_PATH=C:\Program Files\IBM\MQ\java
MQ_JAVA_LIB_PATH=C:\Program Files\IBM\MQ\java\lib64
MQ_JRE_PATH=C:\Program Files\IBM\MQ\java\jre
```

++ How to add a folder into the PATH

### Notes:

After you modify the any of the environment variables or add a new one or delete an existing one, you will need to exit any prior command prompt windows because they will NOT recognize the new/modified environment variables.

Open a new command prompt window and verify that the new/modified environment variable is working as expected.

Click on Start and the Computer



## Then "System Properties":

Organize •	System properties	Uninstall or change a program	Map network drive	Open Control Pan
* Favorites	4 Hard	Disk Drives (1)		
E Desktop		Local Disk (C:)		
💺 Downlo	ads 🔰 🖉 🌅			
E Recent	Places	158 GB free of 199 GB		
	<ul> <li>Devic</li> </ul>	es with Removable Storage (	1)	

## Then "Advanced system settings"



Then in the "System Properties" notebook, click on the tab "Advanced" and then on the button "Environment Variables..."

Computer Name	Hardware A	dvanced	System Pa	otection	Remote	
You must be log	ged on as an	Administra	tor to make	most of t	hese chan	ges.
Performance						
Visual effects,	processor sch	eduling, =	emory usag	e, and vir	tual mento	ŵ
				-		
					Settings	
Uper Profiles						
Desktop settin	as selated to u	our locon				
				1	Settings	
Startup and He	ecovery					
System startup	o, system tailun	e, and deb	ugging infor	mation		
				10	Cattions	
				43	o close the	
			E	nyrogene	nt Variable	85
			-			_
			103		n e	

Modify the desired environment variable or add new ones. In this case is to add at the end of the PATH the directory: C:\wintools Select "Path" then "Edit..."

Add the desired folder at the end of the value for Path. Ensure to specify a semicolon: ;C:\wintools

Computer Name	Hardware	Advanced	System Protection	Remote		
Environment	Variables				13	
User variabi	es for pdcad	imin				Γ
Variable	y.	alue				10
TEMP	*	USERPROFT	LE%\AppData\Local	Temp		H
TMP	9	USERPROFI	LE%(AppData)Local	Temp		
					1	rtie
1	-		(		5	
		New	Edt	Delete		
System vari	ables					
Variable	Ú.	al an			1	
NUMBER	0F.P	anaro -				
05	W	/indoves_NT				Į.,
Path		:\Program Fil	es\IBM\WebSphere	MQH		r
PAINEAL		COM; EXE; B	AT;.CMD;.VBS;.VBE;	.J5j	-	
		No <u>w</u>	Edł	Delete		or
						1
			CK	Cance	1	p
[			- S	12	30	-14
			Full computer r	iame:	ip-9-30	-14
Edit Syste	m Variable			(		
				-	DRK	SRC
Variable	nome:	Path	-	_	-	
Variable	value:	Sohere MO	toolstetsampesibin	C:\winitoo	64	
					2	

Click on OK to save and proceed to exit the dialog.

Open a new Windows command prompt and enter "set path" to show the value. Notice that at the end, you see:

;C:\wintools

C:\> set path

Path=C:\Program Files\IBM\MQ\java\lib;C:\Program Files\IBM\MQ\java\lib64;C:\Windows\system32;C:\Windows;C:\Windows\System32\Wbem; C:\Windows\System32\WindowsPowerShell\v1.0\;c:\python27;c:\windows\setup\ibm; C:\Program Files\IBM\MQ\bin64;C:\Program Files\IBM\MQ\bin;C:\Program Files\IBM\MQ\tools\c\samples\bin;C:\wintools

## Page 22 of 36

++ How to automatically run a command / batch file upon opening a new command prompt

Another option is to run the set-mq-80.bat file automatically in a new command prompt:

1. Click Start and then search for the command prompt on the Windows Search.

See	moi	re results			
comn	nand	prompt			×
		📙 an	NQ	📙 tec	
<b>U</b>		E IBM	🔚 Co	🛛 📿 Edi	t

2. Right-click on the Command Prompt icon at the top of the results and select Properties.

Programs (2) Command Prompt Visual Studio Comman Documents (2) Basic%20process%20tr	<ul> <li>Image: A start of the start of</li></ul>	<b>Open</b> Open with EditPad Run with graphics processor Open file location Run as administrator Edit with Notepad++
<ul> <li>i busiciocoprocessione di la content.xml</li> <li>i busiciocoprocessione di la content.xml</li> </ul>		Scan for Viruses Zip and Share (WinZip Express) WinZip Pin to Taskbar Pin to Start Menu
<ul> <li>Content.xmi</li> <li>(anglrivera) UK homeov</li> <li>(anglrivera) UK homeov</li> <li>trace-log-3.xml</li> </ul>		Edit with Notepad++ Share with Zip and Share (WinZip Express) WinZip Convert with Wondershare Video Co Burn with Wondershare Video Conve Scan with Malwarebytes Anti-Malwar Restore previous versions
		Send to Symantec Encryption Desktop Cut Copy
command prompt	ſ	Delete Properties

3. Go to the tab "Shortcut" and then select the field "Target":



4. Add the following to the end: -cmd /K set-mq-90

Thus, the full line will be: %windir%\system32\cmd.exe -cmd /K set-mq-90



Click OK.

5. Now, every time that you open a new command prompt, the setmqenv command will be run automatically.

## Page 24 of 36

+++++ Chapter 5: Upgrading an existing queue manager to MQ 9.0

The uninstallation and installation tasks do NOT affect the data for the queue managers.

You need to keep in mind that the FIRST start of an existing queue manager after installing the new version of MQ, will UPGRADE the data for the queue manager in a manner that is NOT REVERSIBLE!

In this tutorial, the queue manager QM1 was created under MQ 7.5.

Even after the code for MQ 7.5 was uninstalled, the data for this queue manager remains at MQ 7.5.

Even after the code for MQ 9.0 was installed, the data for this queue manager remains at MQ 7.5.

HOWEVER, as mentioned earlier, during the first start, the data will be upgraded.

Let's start the existing queue manager QM1:

C:> strmqm QM1

IBM MQ queue manager 'QM1' starting.

The queue manager is associated with installation 'Installation1'.

5 log records accessed on queue manager 'QM1' during the log replay phase.

Log replay for queue manager 'QM1' complete.

Transaction manager state recovered for queue manager 'QM1'.

## Migrating objects for queue manager 'QM1'.

Default objects statistics : 9 created. 0 replaced. 0 failed.

IBM MQ queue manager 'QM1' started using V9.0.0.0.

Notice that the MQ 9.0 code has determined that this queue manager worked with MQ 7.5 the last time, and thus, the MQ 9.0 code will upgrade/migrate the data from 7.5 to 9.0. The following 2 extra lines are displayed to indicate the migration (copied from above) <u>Migrating objects for queue manager 'QM1'.</u> <u>Default objects statistics : 9 created. 0 replaced. 0 failed.</u>

Let's see the VERSION attribute for the queue manager:

runmqsc QM1 **display qmgr cmdlevel version** 3 : display qmgr cmdlevel version AMQ8408: Display Queue Manager details. QMNAME(QM1) CMDLEVEL(900) VERSION(0900000) +++++ Chapter 6: Creating a queue manager under 9.0

Let's create a new queue manager.

C:\> crtmqm -u SYSTEM.DEAD.LETTER.QUEUE QM90 IBM MQ queue manager created. Directory 'C:\ProgramData\IBM\MQ\qmgrs\QM90' created. The queue manager is associated with installation 'Installation1'. Creating or replacing default objects for queue manager 'QM90'. Default objects statistics : 86 created. 0 replaced. 0 failed. Completing setup. Setup completed.

Start the queue manager. Notice the lines that indicate the installation and the version under which the queue manager is running:

C:\>strmqm QM90 IBM MQ queue manager 'QM90' starting. The queue manager is associated with installation 'Installation1'. 5 log records accessed on queue manager 'QM90' during the log replay phase. Log replay for queue manager 'QM90' complete. Transaction manager state recovered for queue manager 'QM90'. IBM MQ queue manager 'QM90' started using V9.0.0.0.

Let's display the status

C:\>dspmq -m QM90 QMNAME(QM90)

STATUS(Running)

Let's do a more advanced display of status. Notice that the new one QM\_80 has 3 new pieces of information: INSTNAME, INSTPATH and INSTVER

C:\>dspmq -m QM90 -o installation QMNAME(QM90) INSTNAME(Installation1) INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.0.0.0)

### Page 26 of 36

+++++ Chapter 7: Remotely accessing the new MQ 9.0 queue manager

You will need to do further customization to the queue manager in order to allow remote access.

NOTE: This is a test queue manager and thus, 2 relative new security features are being relaxed to behave like an MQ 7.0 queue manager. These are items 2 and 3 in the list below.

1: Add listener and SYSTEM.ADMIN.SVRCONN for MQ Explorer.

2: Customize CONNAUTH to allow MQ administrators to not specify passwords, otherwise you will get the generic rc 2035 (MQRC\_NOT\_AUTHORIZED)

3: Customize the channel authentication records to allow MQ administrators, otherwise you will get the generic rc 2035 (MQRC\_NOT\_AUTHORIZED)

The rest of this chapter provides more details

Step 1: Let's customize the queue manager to allow it to be monitored remotely by the MQ Explorer and to create a local queue Q1 for initial testing:

C:\> runmqsc QM90 define listener(TCP.LISTENER) trptype(tcp) control(qmgr) port(1430) start listener(TCP.LISTENER) define channel(SYSTEM.ADMIN.SVRCONN) chltype(SVRCONN) REPLACE define ql(Q1) end

Now you start the MQ Explorer from a remote host, using a userid that is an MQ Administrator in the host that has the newly created queue manager.

You use the MQ Explorer from another machine to try to remotely access the 9.0 queue manager.

Right click on the folder "Queue Managers" and then select "Add Remote Queue Manager..." and specify the hostname and port 1430.

In the MQ Explorer wizard, under the page "Specify user identification details", you check the box:

(\*) Enable user identification

You specify the userid that is the MQ administrator in the box where the queue manager is located (but do not specify a password).

## Page 27 of 36

Step 2: Customize CONNAUTH to allow MQ administrators to not specify passwords, otherwise you will get the generic rc 2035 (MQRC\_NOT\_AUTHORIZED)

When you try to connect from MQ Explorer, you will get the error:

Access not permitted. You are not authorized to perform this operation. (AMQ4036) Severity: 10 (Warning)

Explanation: The queue manager security mechanism has indicated that the userid associated with this request is not authorized to access the object.

This error is generated due to a return code 2035 from the MQ queue manager: MQRC\_NOT\_AUTHORIZED

Let's look at the AMQERR01.LOG file in the folder: C:\ProgramData\IBM\MQ\Qmgrs\QM90\errors

(timestamp) - Process(1788.13) User(MUSR\_MQADMIN) Program(amqzlaa0.exe) Host(IP-9-30-144-18) Installation(Installation1) VRMF(9.0.0.0) QMgr(QM90)

AMQ5540: Application 'MQ Explorer 9.0.0' did not supply a user ID and password EXPLANATION:

The queue manager is configured to require a user ID and password, but none was supplied.

ACTION:

Ensure that the application provides a valid user ID and password, or change the queue manager configuration to OPTIONAL to allow applications to connect which have not supplied a user ID and password.

----- amqzfuca.c : 4279 ------(timestamp) - Process(1788.13) User(MUSR\_MQADMIN) Program(amqzlaa0.exe)

AMQ5541: The failed authentication check was caused by the queue manager CONNAUTH CHCKCLNT(REQDADM) configuration.

EXPLANATION:

The user ID 'pdcadmin' and its password were checked because the user ID is privileged and the queue manager connection authority (CONNAUTH) configuration refers to an authentication information (AUTHINFO) object named

'SYSTEM.DEFAULT.AUTHINFO.IDPWOS' with CHCKCLNT(REQDADM). This message accompanies a previous error to clarify the reason for the user ID

and password check.

ACTION:

Refer to the previous error for more information.

Ensure that a password is specified by the client application and that the password is correct for the user ID. The authentication configuration of the queue manager connection determines the user ID repository. For example, the

## Page 28 of 36

local operating system user database or an LDAP server.

To avoid the authentication check, you can either use an unprivileged user ID or amend the authentication configuration of the queue manager. You can amend the CHCKCLNT attribute in the CHLAUTH record, but you should generally not allow unauthenticated remote access.

-----

(timestamp) - Process(3788.5) User(MUSR\_MQADMIN) Program(amqrmppa.exe) AMQ9557: Queue Manager User ID initialization failed for 'pdcadmin'. EXPLANATION: The call to initialize the User ID 'pdcadmin' failed with CompCode 2 and Reason 2035. ACTION: Correct the error and try again.

+ WORKAROUND:

See the following technote:

## http://www.ibm.com/support/docview.wss?uid=swg21680930

MQ 8.0: errors AMQ5540 and AMQ5541, application did not supply a user ID and password, 2035 MQRC\_NOT\_AUTHORIZED

## SUMMARY

There are several ways to address the situation and this section explains four scenarios. Scenario A) MQ samples: Provide the user and password to the MQ client application Scenario B) Modify queue manager to avoid requiring password from MQ administrators

Issue the following 2 runmqsc commands to change the value of CHCKCLNT from REQDADM to OPTIONAL for the AUTHINFO shown below and this will allow users to not necessarily provide a userid/password.

ALTER AUTHINFO(SYSTEM.DEFAULT.AUTHINFO.IDPWOS) AUTHTYPE(IDPWOS) CHCKCLNT(OPTIONAL)

REFRESH SECURITY TYPE(CONNAUTH)

Scenario C) MQ Explorer - when connecting to remote queue managers

Scenario D) How to specify the userid/password when using the rfhutilc utility from the SupportPac IH03

Note: At this point, you will still get another security error. You will need to proceed with Step 3.

## Page 29 of 36

Step 3: Customize the channel authentication records to allow MQ administrators, otherwise you will get the generic rc 2035 (MQRC\_NOT\_AUTHORIZED)

When you try to connect from MQ Explorer, you will get the error:

Access not permitted. You are not authorized to perform this operation. (AMQ4036) Severity: 10 (Warning)

Explanation: The queue manager security mechanism has indicated that the userid associated with this request is not authorized to access the object.

This error is generated due to a return code 2035 from the MQ queue manager: MQRC\_NOT\_AUTHORIZED

Let's look at the AMQERR01.LOG file for the queue manager:

(timestamp) - Process(3788.6) User(MUSR\_MQADMIN) Program(amqrmppa.exe) AMQ9776: Channel was blocked by userid EXPLANATION:

The inbound channel 'SYSTEM.ADMIN.SVRCONN' was blocked from address '9.27.46.202' because the active values of the channel were mapped to a userid which should be blocked. The active values of the channel were 'MCAUSER(pdcadmin) CLNTUSER(pdcadmin) ADDRESS(angelillo)'. ACTION:

Contact the systems administrator, who should examine the channel authentication records to ensure that the correct settings have been configured. The ALTER QMGR CHLAUTH switch is used to control whether channel authentication records are used. The command DISPLAY CHLAUTH can be used to query the channel authentication records.

+ WORKAROUND:

http://www.ibm.com/support/docview.wss?uid=swg21577137

WMQ 7.1, 7.5, 8.0 queue manager RC 2035 MQRC\_NOT\_AUTHORIZED or AMQ4036 when using client connection as an MQ Administrator

Summary from the technote:

a) The errors are due to the new feature of MQ 7.1 called "channel authentication records". It is recommended that you use this feature, that is, do not disable it (unless you have a very good reason to disable it).

b) The following 2 runmqsc commands will allow an MQ Administrator to remotely login to the queue manager:

SET CHLAUTH(\*) TYPE(BLOCKUSER) USERLIST('nobody','\*MQADMIN') SET CHLAUTH(SYSTEM.ADMIN.\*) TYPE(BLOCKUSER) USERLIST('nobody')

## Page 30 of 36

c) If the user is not an MQ administrator, then you will need to create new channel authentication records to allow the user to access the queue manager.

For a variety of examples of channel authentication records, see: <u>http://www-01.ibm.com/support/docview.wss?uid=swg27041997</u> CHLAUTH Made Simple: Common Scenarios and Examples and How to Verify them with RUNCHECK

At this point, you should be able to connect from a remote MQ Explorer.

### Page 31 of 36

+++++ Chapter 8: Installing Fix Pack 9.0.0.1

Note:

Before you can apply the fix pack, you need to terminate all the activity for MQ: end all the queue managers, end the MQ service, exit MQ Explorer.

The MQ Fix Packs are available from IBM Fix Central: <u>http://www-01.ibm.com/support/docview.wss?uid=swg27006037</u> Recommended Fixes for WebSphere MQ

Follow the prompts for the desired version: IBM WebSphere MQ Version 9.0.0.x (latest 9.0.0.1) IBM WebSphere MQ Version 8.0 (latest 8.0.0.7) IBM WebSphere MQ Version 7.5 (latest 7.5.0.8)

For this tutorial, we followed the prompts for MQ 9.0.0.1 LTS:

### IBM MQ Version 9.0 LTS

FixPack 9.0.0.1

We landed at:

http://www-01.ibm.com/support/docview.wss?uid=swg24042009 Downloading IBM MQ Version 9.0

Click the tab: V9.0.0.1 LTS

Then we landed at: <u>http://www-01.ibm.com/support/docview.wss?uid=swg24043467</u> Downloading IBM MQ Version 9.0.0.1

Go to the section: Downloading the release from Fix Central

... and at the bottom of the table, click on the link for Windows: Windows 64-bit 11 May 2017

You will be taken to IBM Fix Central

You will see a list of the fix packs, such as:

fix pack: 9.0.0-IBM-MQ-Windows-FP0001 Fix Pack 9.0.0.1 for WebSphere MQ on Windows 64

#### Page 32 of 36

Ensure that 9.0.0.1 is selected and proceed with the prompts. You will need to sign in / login with your IBM ID.

After login, you will see a web page that will show the zip file to download. Right click and download the file into your PC

The following files implement this fix. 9.0.0-IBM-MQ-Windows-FP0001.zip (715.11 MB)

In this tutorial, the zip file was downloaded into: C:\downloads\MQ-9001

Go to the above directory and launch the installer: IBM-MQ-9.0.0-FP0001.exe

You will see the following dialog.

IBM MQ (fix pack 9.0.0.1 files)	
	IBM.
IBM° MQ	
Version 9.0	
Licensed Materials - Property of IBM Corp. <sup>©</sup> Copyright 1993,2016 IBM Corp. IBM and the IBM logo are trademare registered in many jurisdictions worldwide. Java and all Java-based trademarks and logos are trademarks or reg Oracle and/or its affiliates. Built on Eclipse is a trademark of the Eclipse Foundation, Inc. This Program is license license agreement accompanying the Program. This license agreement may be either located in a Program dire identified as License or Non_IBM_License, if applicable, or provided as a printed license agreement. Please read before using the Program. By using the Program, you are agreeing to these terms.	Irks of IBM Corporation, istered trademarks of d under the terms of the itory folder or library this agreement carefully
5724-H72	UILT ON E
English 🗸 🛛	



You will see the "IBM MQ fix pack Loader"



Click Next and follow the prompts.

At the step "Installation Type", select the check box: (\*) Load files and apply fix pack



Follow the prompts and accept the subsequent defaults. You will see:



Click on "Install".

Files will be copied into the computer.

Eventually you will see the dialog at step "Apply Fix Pack"



## Click Done

## Then click Apply

Applying IBM MQ V9.0	) Fix Pack 9.0.0.1	×
	Click 'Apply' to begin applying 9.0.0.1.	
	- Backup Folder:	<u>C</u> hange
	C\Program Files\IBM\MQ\Maint_0.1	
View <u>N</u> otes		Cancel

## Page 35 of 36

After a while, you will see the following, to indicate the end of the maintenance task:



Click Finish.

To confirm that you are using now MQ 9.0.0.1, do the following:

From a command prompt, issue: dspmqver

C:\ >dspmqver Name: IBM MQ 9.0.0.1 Version: Level: p900-001-170411 BuildType: IKAP - (Production) IBM MQ for Windows (x64 platform) Platform: Mode: 64-bit 0/S: Windows 7 Professional x64 Edition, Build 7601: SP1 InstName: Installation1 InstDesc: Primary: Yes C:\Program Files\IBM\MQ InstPath: DataPath: C:\ProgramData\IBM\MQ MaxCmdLevel: 900 LicenseType: Production

## From MQ Explorer see the Help > About IBM MQ Explorer



+++ end +++