

Installing IBM MQ 9.3 to coexist with MQ 9.1 in Windows and applying Fix Packs

<https://www.ibm.com/support/pages/node/6982723>

Date last updated: 16-Jun-2023

Angel Rivera

IBM MQ Support

<https://www.ibm.com/products/mq/support>

Find all the support you need for IBM MQ

+++ Objective

This techdoc shows all the steps to install MQ 9.3.0.2 LTS in Windows, while co-existing ("side-by-side") with MQ 9.1.0.7 LTS.

The steps are applicable to both release types (LTS and CD), other version.releases, and other fix pack levels.

Furthermore, the steps include the installation of the Fix Packs 9.3.0.4 and 9.1.0.13. MQ Fix Packs mentioned here were the latest at the time the tutorial was written. The overall recommendation is to apply the most recent Fix Packs.

An important aspect of this feature of multiple installations of MQ (multi-install) in the same host, is that this type of installation does not require that the MQ 9.1 queue managers and applications need to be stopped when doing activities with MQ 9.3.

That is, the installation of MQ 9.3 does not affect the running MQ 9.1 applications.

This is helpful when you try to do a staging upgrade of the MQ 9.1 queue managers to MQ 9.3.

Starting with MQ 9.3, the MQ Explorer is NO longer included with the package file that is downloaded from IBM Passport Advantage.

For details on how to download and install the MQ Explorer see:

<https://www.ibm.com/support/pages/node/6598657>

Installing Standalone MQ Explorer 9.3 in Windows and Linux

The chapters are:

Chapter 1: Review of existing configuration of MQ 9.1

Chapter 2: Installing MQ 9.3 LTS side-by-side to MQ 9.1 LTS

Chapter 3: Need to run setmqenv to use MQ 9.3 or MQ 9.1 commands

Chapter 4: Creating a new queue manager under MQ 9.3

Chapter 5: Migrating an MQ 9.1 queue manager to MQ 9.3

Chapter 6: Installing Fix Pack 9.1.0.13

Chapter 7: Installing Fix Pack 9.3.0.4

Chapter 8: Uninstallation

+++ CAVEAT regarding MQ activities in the Microsoft Task Scheduler +++

Please keep in mind that an active task for MQ in the Windows Task Scheduler, depending on the timing/duration of the activity, may interfere with MQ maintenance activities such as applying a fix pack or doing an upgrade. Why? Because such maintenance activities expect that there is NO activity at all for MQ, otherwise if shared libraries are still in use, they cannot be replaced by the maintenance activity.

Thus, before applying a fix pack for MQ or before doing an upgrade for MQ, you must disable the MQ tasks in the Task Scheduler.

+++++ Chapter 1: Review of existing configuration of MQ 9.1
+++++

+++ Configuration used for this tutorial

Windows 10

Hostname: chikis1.fyre.ibm.com

Queue Managers:

QM91 => Created with MQ 9.1. To remain at 9.1

QMMIG => Created with MQ 9.1. To be migrated to 9.3

QM93 => Created with MQ 9.3.

The MQ 9.1 code was installed as the only installation of MQ in the directory:

C:\Program Files\IBM\MQ\

by following the instructions from these tutorials:

<https://www.ibm.com/support/pages/node/598547>

Installing MQ 9.0 in Windows, using only the defaults

<https://www.ibm.com/support/pages/node/598549>

Installing MQ 9.0 in Windows, specifying additional components (Telemetry, AMS, MFT)

The MQ 9.1 installation is NOT designated as Primary.

The MQ 9.1.0.7 manufacturing refresh code was downloaded from IBM Passport Advantage and it has the cumulation of MQ 9.1.0.0 + 9.1.0.1 + ... + 9.1.0.7

Visit IBM Passport Advantage:

https://www.ibm.com/software/passportadvantage/pao_customer.html

... and search for Part Number:

CC8B3ML Description: IBM MQ 9.1.0.7 for Windows 64-bit elmage

The installation file was downloaded into a temporary directory:

C:\downloads\mq9107> dir

03/30/2023 10:44 AM 905,522,054 IBM_MQ_9.1.0.7_WINDOWS.zip

Unzip the zip file.

Move to the subdirectory: MQServer

As an Administrator, double click to execute the following command:
Setup.exe

Follow the instructions from the tutorial:
<https://www.ibm.com/support/pages/node/598547>
Installing MQ 9.0 in Windows, using only the defaults

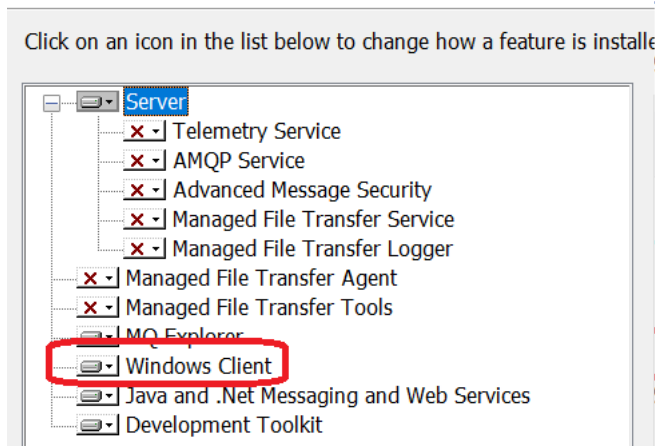
The MQ 9.1 code will be installed as Installation1 in:
C:\Program Files\IBM\MQ\

The data and recovery logs for the queue managers will be located in the default:
C:\ProgramData\IBM\MQ\

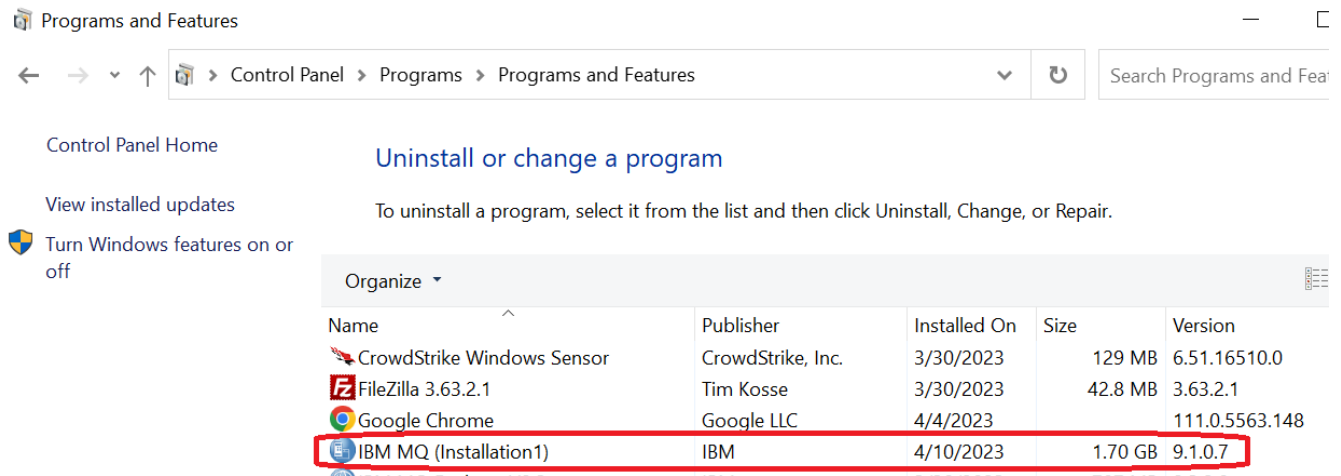
For this tutorial, the “Windows Client” is a component that needs to be explicitly selected from the Features menu by using the (*) Custom option. Note that the Typical option does not install the MQ Windows Client.

Features

Select the features you want installed



After the installation is finished, this is what the entry for MQ 9.1 looks like:



It is recommended that you create a batch file that will invoke the MQ utility “setmqenv” for the desired Installation.

This batch file needs to be located in a directory in your PATH, such as:
C:\WinTools

Example, using Batch file:

file: set-mq-91.bat

or file: set-mq-inst1.bat

Note that “SET PATH” must be in a single long line.

+begin (do not include this line)

```
REM Setup the environment to run MQ 9.1
CALL "C:\Program Files\IBM\MQ\bin\setmqenv" -n Installation1
REM Adding Samples to the path
SET
PATH=%PATH%;%MQ_FILE_PATH%\tools\c\Samples\Bin;%MQ_FILE_PATH%\tools\c\Samples\Bin64
dspmqver -f 2
```

+end (do not include this line)

Before you invoke setmqenv via set-mq-91 notice the default environment variables that are set by the MQ installer:

```
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
```

Then issue:

```
C:\> set-mq-91
Version: 9.1.0.7
```

Notice more environment variables (in bold):

```
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:\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
```

Now display the version-fixpack level:

```
C:\> dspmqver
Name: IBM MQ
Version: 9.1.0.7
Level: p910-007-201126
BuildType: IKAP - (Production)
Platform: IBM MQ for Windows (x64 platform)
Mode: 64-bit
O/S: Windows 10 Enterprise x64 Edition, Build 19045
InstName: Installation1
InstDesc:
Primary: Yes
InstPath: C:\Program Files\IBM\MQ
DataPath: C:\ProgramData\IBM\MQ
MaxCmdLevel: 910
LicenseType: Production
```

Display the MQ installations:

```
C:\> dspmqinst
InstName: Installation1
InstDesc:
Identifier: 1
InstPath: C:\Program Files\IBM\MQ
Version: 9.1.0.7
Primary: Yes
State: Available
```

MSIProdCode: {5D3ECA81-BF8D-4E80-B36C-CBB1D69BC110}

MSIMedia: 9.1 Server

MSIInstanceld: 1

Display the queue manager together with the installation, version and status:

C:\> **dspmqr -o installation -s**

QMNAME(QMMIG) STATUS(Running)
INSTNAME(Installation1) INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.7)

QMNAME(QM91) STATUS(Running)
INSTNAME(Installation1) INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.7)

+++++ Chapter 2: Installing MQ 9.3 LTS side-by-side to MQ 9.1 LTS +++++

The MQ 9.3 installation will NOT be designated as Primary.

++ All queue manager data is stored in a common directory structure

Even though the executable code for each version of MQ is stored in a different directory structure, the data for all the queue managers, regardless of the version, is stored in:

`MQ_DATA_PATH=C:\ProgramData\IBM\MQ`

++ Downloading the MQ 9.3 code

For MQ 9.3: From IBM Passport Advantage you can download the manufacturing refresh: MQ 9.3.0.2 LTS that includes 9.3.0.0 + 9.3.0.1 + 9.3.0.2

For MQ 9.3.0.2: Visit IBM Passport Advantage:

https://www.ibm.com/software/passportadvantage/pao_customer.html

... search for Part Number for the single package that includes the queue manager, client and the rest of the components (except the MQ Explorer).

M07K5ML IBM MQ 9.3.0.2 Long Term Support release for Windows 64-bit elmage

The file was downloaded into the directory:

`C:\downloads\mq9302`

The downloaded file has the following name:

IBM_MQ_9.3.0.2_Win.zip

++ Current setup of MQ 9.1

MQ 9.1 is already installed in the default location (MQ_INSTALLATION_PATH):

`MQ_INSTALLATION_PATH=C:\Program Files\IBM\MQ`

For completeness, here is the default location for the "data" for the queue managers is:

`MQ_DATA_PATH=C:\ProgramData\IBM\MQ`

++ Installing MQ 9.3

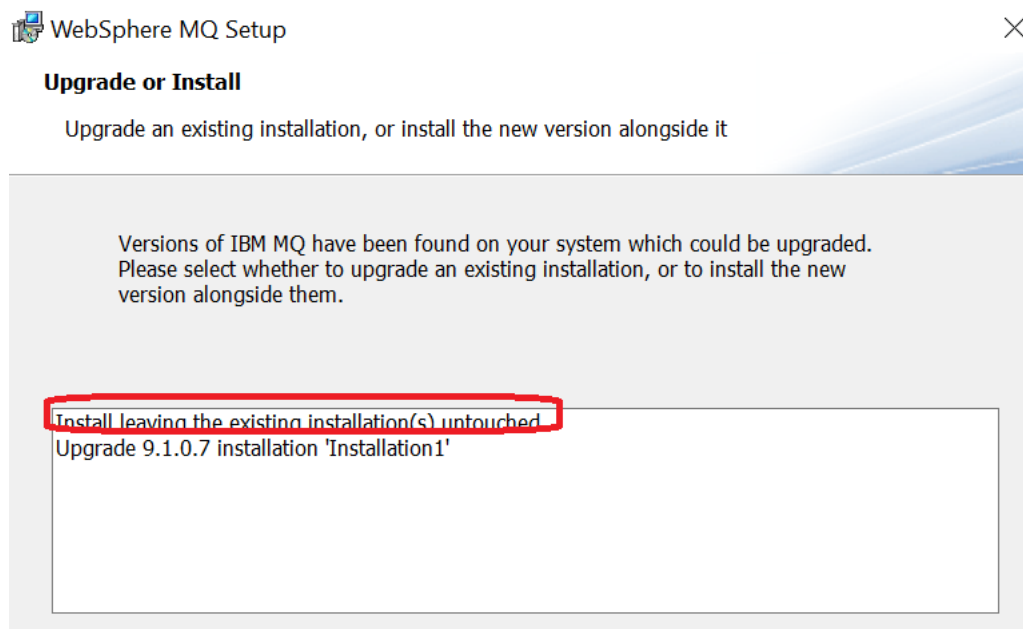
Login as an Administrator.

Go to the directory where the downloaded file is located:
C:\downloads\mq9302

ATTENTION!

You **MUST** specify that you want to **INSTALL** (not Upgrade).
Thus, you must select:

Install leaving the existing installation(s) untouched



Use the steps described in the following tutorial:

<https://www.ibm.com/support/pages/node/6600017>

Installing IBM MQ 9.3, installing and uninstalling Fix Pack 9.3.0.1 in Windows

MQ 9.3 will be installed in another location (Installation2):

C:\Program Files\IBM\MQ_1

After completing the installation of MQ 9.3, you need to reboot.

After the reboot, confirm that MQ 9.3.0.2 is installed.

Programs and Features

Control Panel > Programs > Programs and Features

Control Panel Home

View installed updates

Turn Windows features on or off

Uninstall or change a program

To uninstall a program, select it from the list and then click Uninstall, Change, or Repair.

Name	Publisher	Installed On	Size	Version
CrowdStrike Windows Sensor	CrowdStrike, Inc.	3/30/2023	129 MB	6.51.16510.0
FileZilla 3.63.2.1	Tim Kosse	3/30/2023	42.8 MB	3.63.2.1
Google Chrome	Google LLC	4/4/2023		111.0.5563.148
IBM MQ (Installation1)	IBM	4/11/2023	1.64 GB	9.1.0.7
IBM MQ (Installation2)	IBM	4/11/2023	1.83 GB	9.3.0.2

```
+++++
+++ Chapter 3: Need to run setmqenv to use MQ 9.3 or MQ 9.1 commands
+++++
```

Open a terminal window.

Let's take a look at the Primary installation.

```
C:\> dspmqver
Name:      IBM MQ
Version:   9.1.0.7
Level:     p910-007-201126
BuildType: IKAP - (Production)
Platform:  IBM MQ for Windows (x64 platform)
Mode:      64-bit
O/S:       Windows 10 Enterprise x64 Edition, Build 19045
InstName:  Installation1
InstDesc:
Primary:   Yes
InstPath:  C:\Program Files\IBM\MQ
DataPath:  C:\ProgramData\IBM\MQ
MaxCmdLevel: 910
LicenseType: Production
```

Note there are a number (1) of other installations, use the '-i' parameter to display them.

Now let's display the installations:

```
C:\> dspmqinst
InstName:  Installation1
InstDesc:
Identifier: 1
InstPath:  C:\Program Files\IBM\MQ
Version:   9.1.0.7
Primary:   Yes
State:     Available
MSIProdCode: {5D3ECA81-BF8D-4E80-B36C-CBB1D69BC110}
MSIMedia:   9.1 Server
MSIInstancelid: 1
```

```
InstName:  Installation2
InstDesc:
Identifier: 2
InstPath:  C:\Program Files\IBM\MQ_1
Version:   9.3.0.2
Primary:   No
```

State: Available
MSIProdCode: {C2F0946B-C6D4-4C78-AF68-4B169152A49D}
MSIMedia: 9.3 Server
MSIInstancelId: 1

Notice that the name "Installation1" refers to MQ 9.1 installed in:
C:\Program Files\IBM\MQ

Notice that the name "Installation2" refers to MQ 9.3 installed in:
C:\Program Files\IBM\MQ_1

Let's check the location for the dspmqver, which is in Installation1:
C:\> **where dspmqver**
C:\Program Files\IBM\MQ\bin64\dspmqver.exe
C:\Program Files\IBM\MQ\bin\dspmqver.exe

++ Question: How can we display the version of the newly installed MQ?

Answer: You need to run the "setmqenv" command and specify the proper installation. In this case it is Installation2.

C:\> **setmqenv -n Installation2**

Notice that the location for dspmqver is Installation2

C:\> **where dspmqver**
C:\Program Files\IBM\MQ_1\bin64\dspmqver.exe
C:\Program Files\IBM\MQ_1\bin\dspmqver.exe

C:\> **dspmqver**
Name: IBM MQ
Version: 9.3.0.2
Level: p930-002-221214
BuildType: IKAP - (Production)
Platform: IBM MQ for Windows (x64 platform)
Mode: 64-bit
O/S: Windows 10 Enterprise x64 Edition, Build 19045
InstName: Installation2
InstDesc:
Primary: No
InstPath: C:\Program Files\IBM\MQ_1
DataPath: C:\ProgramData\IBM\MQ
MaxCmdLevel: 930
LicenseType: Production

After running setmqenv, the MQ related variables point to the MQ 9.3 installation:

```
C:\> set MQ
MQ_DATA_PATH=C:\ProgramData\IBM\MQ
MQ_ENV_MODE=64
MQ_FILE_PATH=C:\Program Files\IBM\MQ_1
MQ_INSTALLATION_NAME=Installation2
MQ_INSTALLATION_PATH=C:\Program Files\IBM\MQ_1
MQ_JAVA_DATA_PATH=C:\ProgramData\IBM\MQ
MQ_JAVA_INSTALL_PATH=C:\Program Files\IBM\MQ_1\java
MQ_JAVA_LIB_PATH=C:\Program Files\IBM\MQ_1\java\lib64
MQ_JRE_PATH=C:\Program Files\IBM\MQ_1\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-93.bat** or **set-mq-inst2.bat** can be created with the contents:

```
===== begin batch file (do NOT include this line!)
REM Setup the environment to run MQ 9.3
CALL "C:\Program Files\IBM\MQ\bin\setmqenv" -n Installation2
REM Adding Samples to the path
SET
PATH=%PATH%;%MQ_FILE_PATH%\Tools\c\Samples\Bin;%MQ_FILE_PATH%\Tools\c\Samples\Bin64
;%MQ_FILE_PATH%\Tools\jms\samples;%MQ_JAVA_INSTALL_PATH%\bin\
dspmqver -f 2
===== end batch file (do NOT include this line!)
```

Notice a couple of 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) If you add an MQ directory into your PATH, such as the location for the C-samples: PATH=...;C:\Program Files\IBM\MQ\tools\c\Samples\Bin;...

Then this directory will be REMOVED by setmqenv the next time is run.

If you want to be able to run the C-samples from MQ 9.3, then the last line in the above batch file is needed, in order to place back into the PATH the directory for the samples. Notice also that MQ_FILE_PATH is used in order to use the proper directory structure for MQ 9.3:

```
SET PATH=%PATH%;%MQ_FILE_PATH%\tools\c\Samples\Bin
```

```
+++++
+++ Chapter 4: Creating a new queue manager under MQ 9.3
+++++
```

Open a Windows command terminal.

Notice that the version of MQ in the Command Prompt will be MQ 9.1:

```
C:\> dspmqver -f2
Version: 9.1.0.7
```

You will need to run setmqenv or the batch file set-mq-93:

```
C:\> set-mq-93
Version: 9.3.0.2
```

Before we create a queue manager under MQ 9.3, let's show the current queue managers created under MQ 9.1

Display the status of the queue managers:

```
C:\> dspmq -o installation -s
QMNAME(QMMIG) STATUS(Running)
INSTNAME(Installation1) INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.7)

QMNAME(QM91) STATUS(Running)
INSTNAME(Installation1) INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.7)
```

+ Let's create a new queue manager under MQ 9.3:

Note:

If you get the following error message:

AMQ7077E: You are not authorized to perform the requested operation.

Then you need to "Run as administrator" the Windows terminal.

The crtmqm is used here to illustrate the new informational text that is displayed to indicate that Installation2 is used.

```
C:\> crtmqm -p 1493 -u SYSTEM.DEAD.LETTER.QUEUE QM93
IBM MQ queue manager 'QM93' created.
Directory 'C:\ProgramData\IBM\MQ\qmgrs\QM93' created.
The queue manager is associated with installation 'Installation2'.
Creating or replacing default objects for queue manager 'QM93'.
Default objects statistics : 87 created. 0 replaced. 0 failed.
Completing setup.
Setup completed.
```

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

```
C:\> strmqm QM93
```

```
IBM MQ queue manager 'QM93' starting.
```

```
The queue manager is associated with installation 'Installation2'.
```

```
6 log records accessed on queue manager 'QM93' during the log replay phase.
```

```
Log replay for queue manager 'QM93' complete.
```

```
Transaction manager state recovered for queue manager 'QM93'.
```

```
Plain text communication is enabled.
```

```
IBM MQ queue manager 'QM93' started using V9.3.0.2.
```

Let's display again the installed queue managers and showing the installation, code path and version. Notice the values for the new queue manager, which reflect the association with the MQ 9.1 installation.

```
C:\> dspmq -o installation -s
```

```
QMNAME(QMMIG)                                STATUS(Running)
INSTNAME(Installation1) INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.7)
```

```
QMNAME(QM91)                                STATUS(Running)
INSTNAME(Installation1) INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.7)
```

```
QMNAME(QM93)                                STATUS(Running)
INSTNAME(Installation2) INSTPATH(C:\Program Files\IBM\MQ_1) INSTVER(9.3.0.2)
```

++ Cannot use MQ 9.3 administrative commands to run an MQ 9.1 queue manager

You cannot use MQ 9.3 administrative commands to run an MQ 9.1 queue manager

Corollary: And vice versa, you cannot use MQ 9.1 administrative commands to run an MQ 9.3 queue manager.

Just for the sake of illustrating that each queue manager needs to be run with the proper level of the code, the following shows the error message when trying to use the MQ 9.3 `endmqm` command on a queue manager that was started with MQ 9.1:

Right now, the environment has been set to use MQ 9.1.0 commands.

```
C:\> set-mq-93  
Version: 9.3.0.2
```

```
C:\> endmqm -i QM91  
AMQ5691E: Queue manager 'QM91' is associated with a different installation  
(Installation1).  
Similarly, if we enable now the MQ 9.1 commands ...
```

```
C:\> set-mq-91  
Version: 9.1.0.7
```

```
C:\> endmqm -i QM93  
AMQ5691E: Queue manager 'QM93' is associated with a different installation  
(Installation2).
```


+++++ Chapter 5: Migrating an MQ 9.1 queue manager to MQ 9.3 +++++

After installing MQ 9.3, you now want to migrate/upgrade an MQ 9.1 queue manager to be used with MQ 9.3.

It is necessary to perform 2 steps:

1: Use “setmqm” to associate the queue manager with the desired installation (MQ version).

2: Use “strmqm” under the desired version, which will update the data of the queue manager for the new version.

For this tutorial, the queue manager “QMMIG” which was created with MQ 9.1 is going to be used as illustration of the upgrade procedure.

+ Take a backup of the queue manager:

Prior to the upgrade, you need to take a full backup of your MQ 9.1 queue managers. Why? Because the upgrade to MQ 9.3 is NOT reversible.

If you need to back out and revert back to MQ 9.1, you will need to delete the upgraded MQ 9.3 queue managers and restore the MQ 9.1 queue managers from backup.

Take a backup of MQ_DATA_PATH any other file system that is used for the storage of the MQ recovery logs and the MQ data for the queue managers.

If the queue manager is created in a non-default directory (such as Multi-Instance), ensure that all queue manager data and logs are included in the backup based on the configuration in mqs.ini and qm.ini files.

Note:

When an MQ 9.1 queue manager is upgraded to MQ 9.3, it goes through some migration steps that are NOT reversible.

If for some reason you want to back out later on your upgraded MQ queue manager (now at 9.3) back to the old level of 9.1, you will NOT be able to use the current data in MQ_DATA_PATH.

The workaround is that you will need to delete the current queue manager and restore it from the backup taken when the MQ queue manager was at 9.1.

For more information on doing a backup of your queue managers, please see:

<https://www.ibm.com/docs/en/ibm-mq/9.3?topic=restart-backing-up-restoring-mq-queue-manager-data>

IBM MQ 9.3.x

Backing up and restoring IBM MQ queue manager data

The following tutorials provide in depth steps for taking a backup.

If you are only interested in doing a backup, then you can skip the rest of the instructions regarding moving the queue manager to another host.

<https://www.ibm.com/support/pages/node/6114094>

Taking a backup for moving files of an MQ queue manager from one Windows host to another Windows host

The quick description of the procedure is to take a backup of the files from host-1 and restore them in host-2.

It provides also details on how to restore the backup data.

The procedure is for all the data, messages and recovery logs.

+ Setup the environment at the old level to confirm current version.release

Because the queue manager to be migrated is at MQ 9.1, you need to run the script that sets the running environment to MQ 9.1

set-mq-91

dspmqr -f2

Version: 9.1.0.12

Ensure that the queue manager is running:

where dspmq

C:\Program Files\IBM\MQ\bin64\dspmq.exe

C:\Program Files\IBM\MQ\bin\dspmq.exe

dspmq -m QMMIG -o installation -s

QMNAME(QMMIG) STATUS(Running) INSTNAME(Installation1)

INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.7)

Notice that the value for the attribute CMDLEVEL for the queue manager is 910:

runmqsc QMMIG

display qmgr cmdlevel version

AMQ8408I: Display Queue Manager details.

QMNAME(QMMIG)

CMDLEVEL(910)

VERSION(09010007)

end

Stop the queue manager

```
C:\> endmqm -i QMMIG
```

Change the environment to run the MQ 9.3 commands

```
C:\> set-mq-93
```

```
C:\> dspmqver -f2  
Version: 9.3.0.2
```

```
C:\> where dspmq  
C:\Program Files\IBM\MQ_1\bin64\dspmq.exe  
C:\Program Files\IBM\MQ_1\bin\dspmq.exe
```

```
C:\> dspmq -o installation -s  
QMNAME(QMMIG) STATUS(Ended immediately)  
INSTNAME(Installation1) INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.7)  
QMNAME(QM91) STATUS(Running)  
INSTNAME(Installation1) INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.7)  
QMNAME(QM93) STATUS(Running)  
INSTNAME(Installation2) INSTPATH(C:\Program Files\IBM\MQ_1) INSTVER(9.3.0.2)
```

Use strmqm to start the queue manager.

```
C:\> strmqm QMMIG  
AMQ5691E: Queue manager 'QMMIG' is associated with a different installation ('Installation1').
```

Hum, what happened! Why did the strmqm program from MQ 9.3 did not handle the request as expected?

Because the queue manager QMMIG is still associated with MQ 9.1.

It is necessary to reassign QMMIG from MQ 9.1 to MQ 9.3 via the command setmqm.

+ The following MQ command:

```
dspmqinf QMMIG
```

... shows the stanza for the desired queue manager that exists in the file that has the index of the queue managers...

```
C:\ProgramData\IBM\MQ\mq5.ini
```

In this case, the output is:

```
QueueManager:  
Name=QMMIG  
Directory=QMMIG  
Prefix=C:\ProgramData\IBM\MQ  
InstallationName=Installation1
```

Notice that this queue manager is associated with Installation1

To find out the MQ version for Installation1, use:

```
C:\> dspmqinst -n Installation1
InstName:    Installation1
InstDesc:
Identifier:  1
InstPath:    C:\Program Files\IBM\MQ
Version:     9.1.0.7
Primary:     Yes
State:       Available
LicenseType: Unknown
Entitlement: Unknown
Fixes:
MSIProdCode: {5D3ECA81-BF8D-4E80-B36C-CBB1D69BC110}
MSIMedia:    9.1 Server
MSIInstanced: 1
```

OK, the previous 2 commands indicate that the queue manager QMMIG is associated with Installation1, which is the installation for MQ 9.1.0.7

To see all the MQ installations, you can use the following command:

```
C:\> dspmqinst
InstName:    Installation1
InstDesc:
Identifier:  1
InstPath:    C:\Program Files\IBM\MQ
Version:     9.1.0.7
Primary:     Yes
State:       Available
LicenseType: Unknown
Entitlement: Unknown
Fixes:
MSIProdCode: {5D3ECA81-BF8D-4E80-B36C-CBB1D69BC110}
MSIMedia:    9.1 Server
MSIInstanced: 1
```

```
InstName:    Installation2
InstDesc:
Identifier:  2
InstPath:    C:\Program Files\IBM\MQ_1
Version:     9.3.0.2
Primary:     No
State:       Available
```

LicenseType: Production
Entitlement: IBM MQ Server
Fixes:
MSIProdCode: {C2F0946B-C6D4-4C78-AF68-4B169152A49D}
MSIMedia: 9.3 Server
MSIInstancelid: 1

Notice that Installation2 is for MQ 9.3.

Therefore, we need to:

- disassociate the queue manager QMMIG from Installation1 (MQ 9.1) and
- associate it with Installation2 (MQ 9.3).

+ Question:

What action needs to be done to associate the desired queue manager to the installation for MQ 9.3?

Answer:

Need to specify the MQ command: setmqm

The following command associates the desired queue manager with Installation2 (MQ 9.1):

```
C:\> setmqm -m QMMIG -n Installation2  
The setmqm command completed successfully.
```

Now the queue manager is associated with Installation2.

```
C:\> dspmqinf QMMIG  
QueueManager:  
  Name=QMMIG  
  Directory=QMMIG  
  Prefix=C:\ProgramData\IBM\MQ  
  InstallationName=Installation2
```

Proceed to start the queue manager.

Because this is the first time that the MQ strmqm 9.3 command is being issued on a queue manager that a prior use with an older release (9.1), then it will do a migration:

```
C:\> strmqm QMMIG  
IBM MQ queue manager 'QMMIG' starting.  
The queue manager is associated with installation 'Installation2'.  
5 log records accessed on queue manager 'QMMIG' during the log replay phase.  
Log replay for queue manager 'QMMIG' complete.  
Transaction manager state recovered for queue manager 'QMMIG'.  
Migrating objects for queue manager 'QMMIG'.  
Default objects statistics : 0 created. 1 replaced. 0 failed.
```

Plain text communication is enabled.
IBM MQ queue manager 'QMMIG' started using V9.3.0.2.

Now display the attributes for the queue manager using runmqsc. Notice the CMDLEVEL and the new VERSION fields:

```
C:\> runmqsc QMMIG
display qmgr cmdlevel version
AMQ8408I: Display Queue Manager details.
  QMNAME(QMMIG)                CMDLEVEL(930)
  VERSION(09030002)
end
```

++ For more information on what new attributes, queues and system objects were introduced after MQ 9.1, see the following technotes:

<https://www.ibm.com/support/pages/node/487355>

New objects and new attributes for objects in IBM MQ 7.1, 7.5, 8.0, 9.0, 9.1, 9.2 and 9.3 LTS

<https://www.ibm.com/support/pages/node/198031>

New IBM MQ 7.1, 7.5, 8.0, 9.0, 9.1, 9.2 and 9.3 LTS attributes in DISPLAY QMGR for new or migrated queue managers

<https://www.ibm.com/support/pages/node/213019>

New SYSTEM queues added in IBM MQ 7.1, 7.5, 8.0, 9.0, 9.1, 9.2 and 9.3 LTS

++ For more information on what is new and what has changed after MQ 9.1, see:

<https://www.ibm.com/docs/en/ibm-mq/9.3?topic=mq-whats-new-changed-in-930>

IBM MQ / 9.3 / What's new and changed in IBM MQ 9.3.0

<https://www.ibm.com/docs/en/ibm-mq/9.2?topic=mq-whats-new-changed-in-920>

IBM MQ / 9.2 / What's new and changed in IBM MQ 9.2.0

```
+++++
+++ Chapter 6: Installing Fix Pack 9.1.0.13
+++++
```

This chapter describes the steps to install the fix pack 9.1.0.13 on top of the installed 9.1 on a system that has multi-version installations of MQ.

The InstallAnywhere tool will ask you eventually which is the Installation Name that you want to upgrade.

Depending on how the upgrade goes, you very likely will need to reboot the Windows server.

For this scenario, there is another installed version (9.3) and the queue managers running under that other version will NOT be stopped in order to demonstrate that you can continue using those other versions while performing maintenance activities for 9.1.x.x.

Log in as an Administrator.

If you created the batch file "set-mq-91" mentioned earlier in this document, then issue it:

```
C:\> set-mq-91
Version: 9.1.0.7
```

In this case, QMMIG and QM93 are running under MQ 9.3, while QM91 is running under MQ 9.1:

```
C:\> dspmq -o installation -s
```

```
C:\>dspmq -o installation -s
QMNAME(QMMIG)                STATUS(Running) INSTNAME(Installation2)
INSTPATH(C:\Program Files\IBM\MQ_1) INSTVER(9.3.0.2)
```

```
QMNAME(QM91)                 STATUS(Running) INSTNAME(Installation1)
INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.7)
```

```
QMNAME(QM93)                 STATUS(Running) INSTNAME(Installation2)
INSTPATH(C:\Program Files\IBM\MQ_1) INSTVER(9.3.0.2)
```

++ Need to stop the MQ 9.1 processes before installing the fix pack

The following section of the MQ 9.1 online documentation describes the steps to stop the MQ processes prior to performing maintenance to the MQ code (such as applying a fix pack).

<https://www.ibm.com/docs/en/ibm-mq/9.1?topic=mq-applying-removing-maintenance-windows>

IBM MQ / 9.1

Applying and removing maintenance on Windows

Here is a summary and excerpt of the main steps.

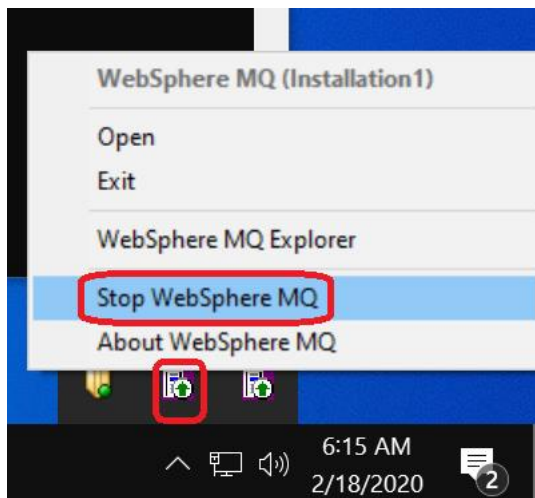
Stop all applications using the MQ installation for 9.1.

In this case we know that the queue manager QM91 is running under MQ 9.1

```
C:\> endmqm -i QM91
```

Stop the IBM MQ service for the installation.

Right-click the WebSphere MQ icon in the taskbar > click Stop WebSphere MQ.



++ Downloading the fix pack

The following technote announces the fix pack 9.1.0.13 and provides links to the IBM Fix Central to download the appropriate filesets:

<https://www.ibm.com/support/pages/node/7105264>

IBM MQ Recommended Fixes and Planned Maintenance release dates

Follow the prompts for MQ 9.1.

You will land at:

<https://www.ibm.com/support/pages/downloading-ibm-mq-91>

Downloading IBM MQ 9.1

The following link has the list of fixes done in MQ 9.1:

<https://www.ibm.com/support/pages/fix-list-ibm-mq-version-91-lts>

Fix list for IBM MQ Version 9.1 LTS

In this scenario, the file set for 9.1.0.13 for Windows was downloaded into the following directory:

C:\downloads\mq91013\

The file name is:

9.1.0-IBM-MQ-Win64-FP0013.zip

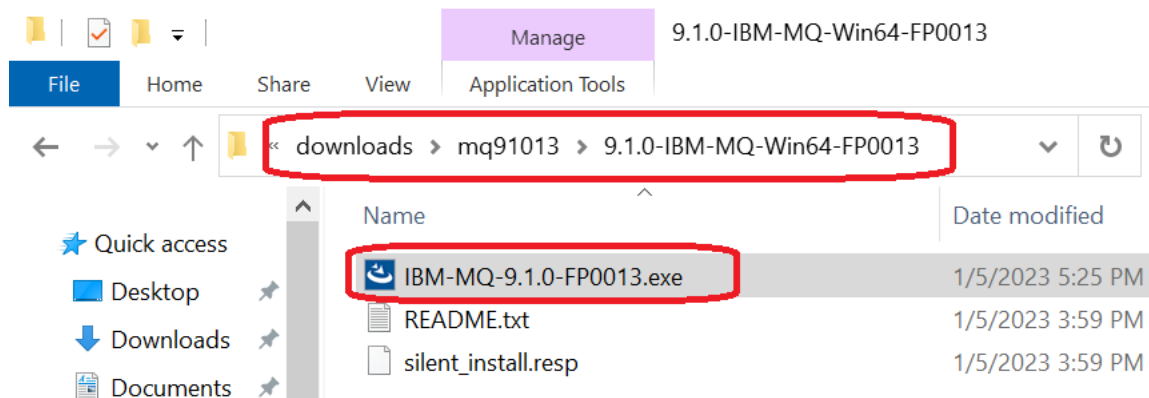
Extract the files from the zip file.

Go to the location that has the extracted files, such as:

C:\downloads\mq91013\9.1.0-IBM-MQ-Win64-FP0013

Execute the following file:

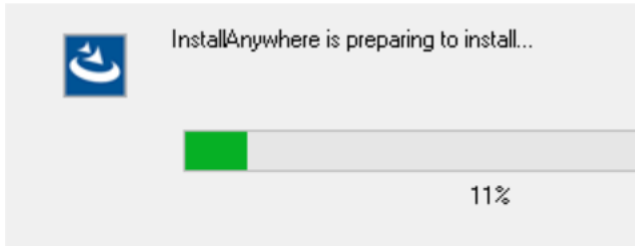
IBM-MQ-9.1.0-FP0013.exe



You will see a dialog:

Title: InstallAnywhere
Contents: InstallAnywhere is preparing to install ...

InstallAnywhere



You need to wait until the preparation is over, which may take several minutes.

Then you will see another window:

IBM MQ (fix pack 9.1.0.13 files)

Click OK on the bottom part of the dialog box.

You will see the information for the section "Introduction".

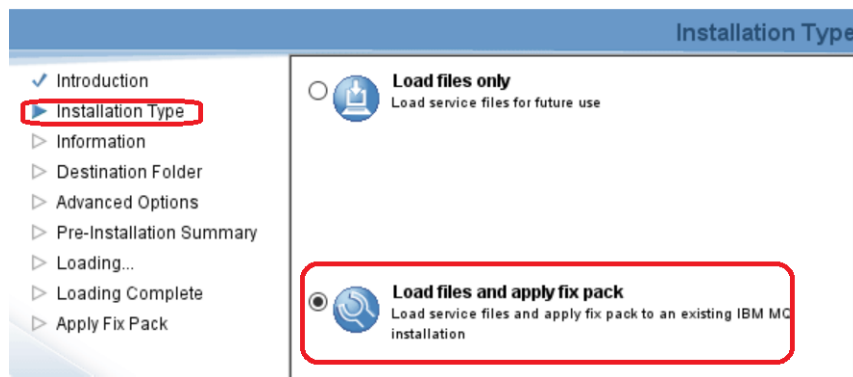
Click Next.

You will see the section "Installation Type".

Most people do not choose the default (which is the top option: Load files only)

Instead, they choose this one that is more practical:

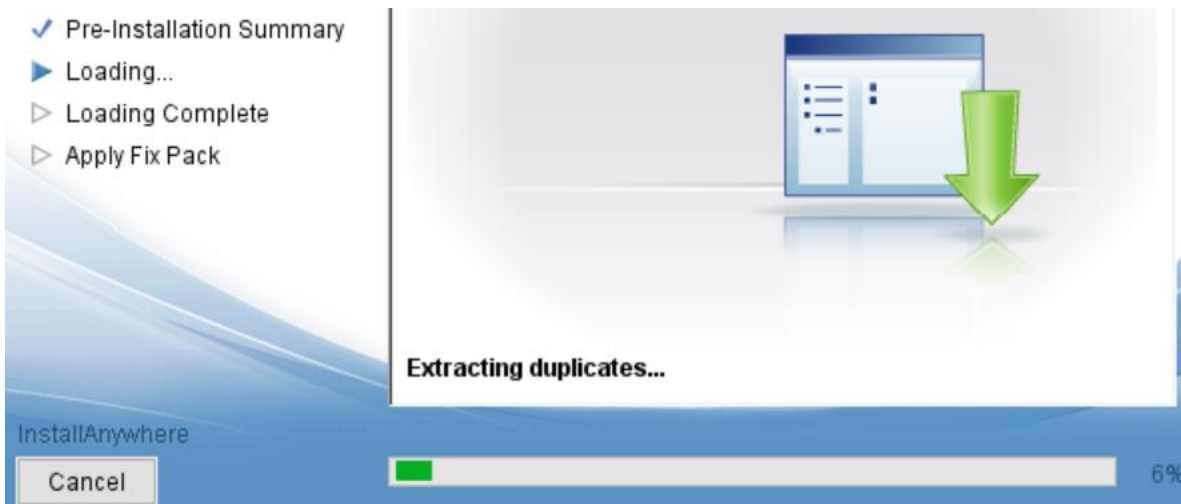
(*) Load files and apply fix pack



Click Next.

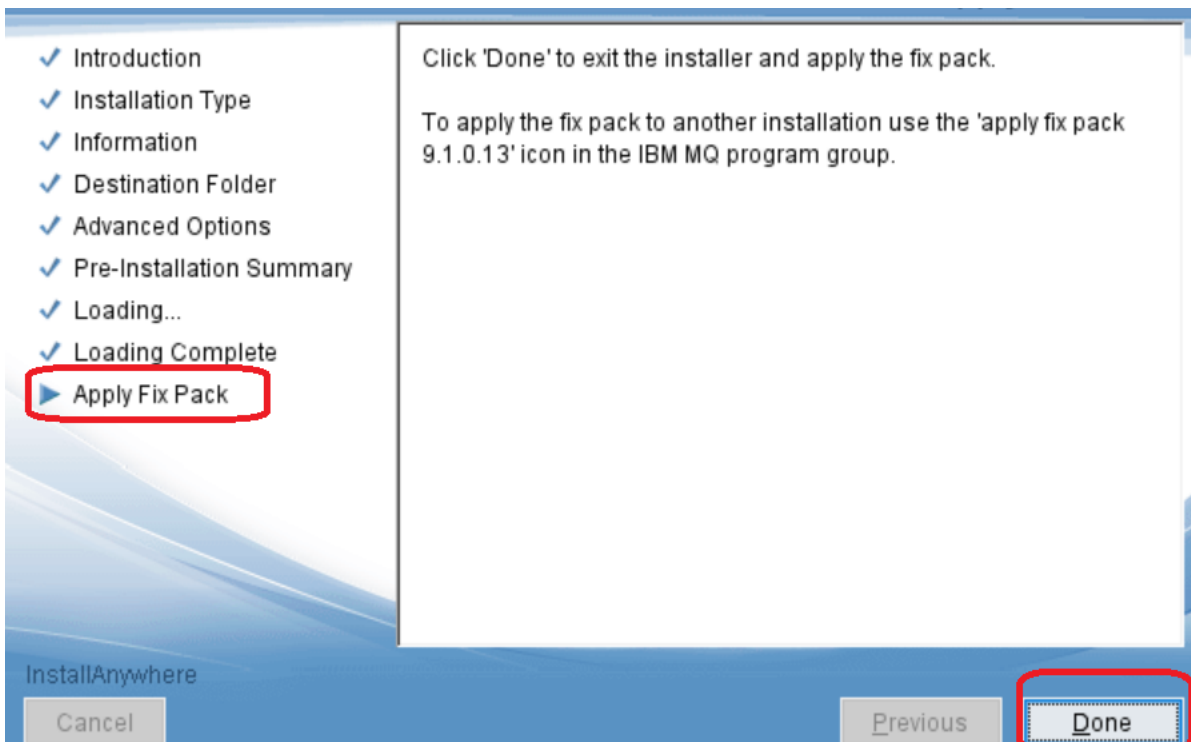
For this tutorial, the rest of the defaults were accepted.

Eventually the files will be copied into the appropriate directories.

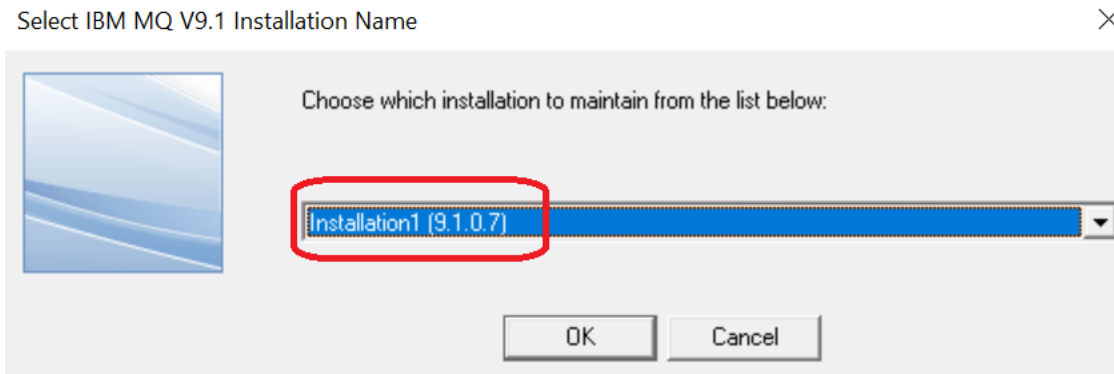


You have to wait for the Loading process to finish.

After the Loading process is completed, then you will see the section “Apply Fix Pack”. Click Done.



You will see another dialog where you can select which is the Installation that you want to upgrade. In this case it is:
Installation1 (9.1.0.7)

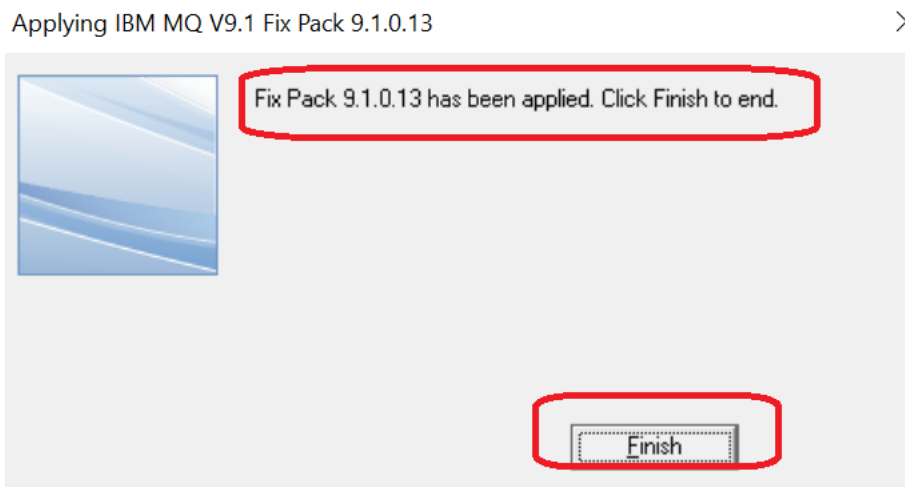


Click OK

Accept the default for the Backup Folder.
Click "Apply".

There will be more dialogs with progress indicators.

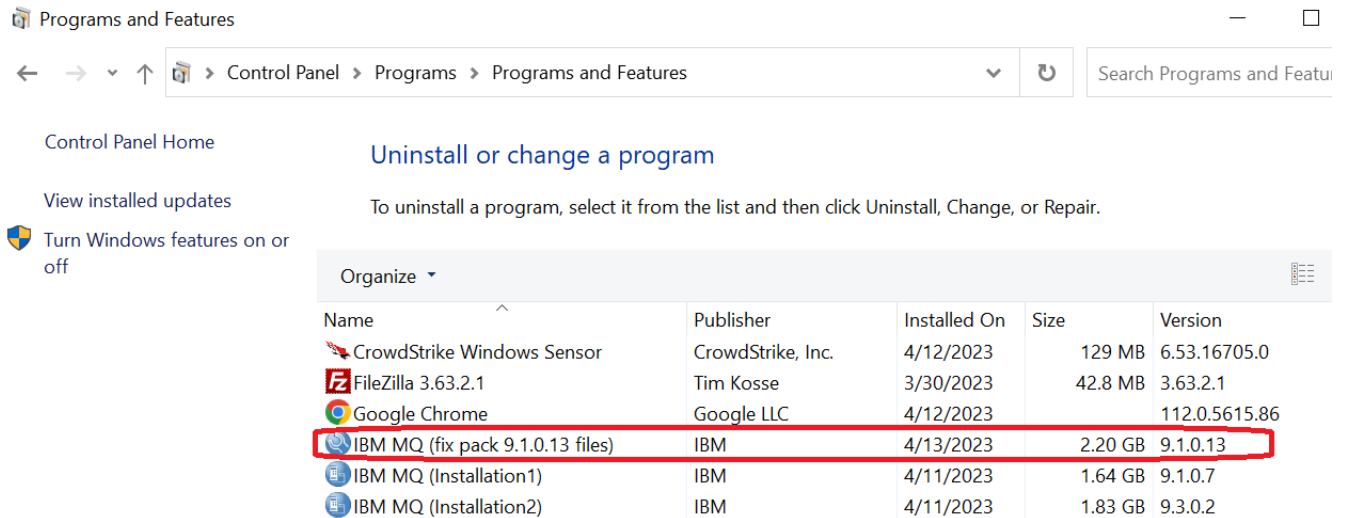
Assuming that the installation went fine, then you will see the following dialog.
Click "Finish".



NOTE:

Because the registry was updated, you will need to reboot the Windows server.

After the reboot, notice that there is a new entry regarding the Fix Pack 9.1.0.13:



Open a Windows command prompt and execute the following commands. Notice the new fix pack level of 9.1.0.13.

```
C:\> set-mq-91
Version: 9.1.0.13
```

```
C:\> dspmq -o installation -s
QMNAME(QMMIG) STATUS(Ended immediately)
INSTNAME(Installation2) INSTPATH(C:\Program Files\IBM\MQ_1) INSTVER(9.3.0.2)
QMNAME(QM91) STATUS(Ended immediately)
INSTNAME(Installation1) INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.13)
QMNAME(QM93) STATUS(Ended immediately)
INSTNAME(Installation2) INSTPATH(C:\Program Files\IBM\MQ_1) INSTVER(9.3.0.2)
```

Start the desired MQ 9.1 queue manager.

```
C:\> strmqm QM91
IBM MQ queue manager 'QM91' starting.
The queue manager is associated with installation 'Installation1'.
5 log records accessed on queue manager 'QM91' during the log replay phase.
Log replay for queue manager 'QM91' complete.
Transaction manager state recovered for queue manager 'QM91'.
IBM MQ queue manager 'QM91' started using V9.1.0.13.
```

```
C:\> runmqsc QM91
display qmgr cmdlevel version
AMQ8408I: Display Queue Manager details.
  QMNAME(QM91)                CMDLEVEL(910)
  VERSION(09010013)
end
```

Notice that the value in the attribute VERSION needs to be interpreted as with dots separating every 2nd digit:
09.01.00.13

+++++
+++ Chapter 7: Installing Fix Pack 9.3.0.4
+++++

This chapter describes the steps to install the fix pack 9.3.0.4 on top of the installed 9.3.0.1 on a system that has multi-version installations of MQ.

The InstallAnywhere tool will ask you eventually which is the Installation Name that you want to upgrade.

Depending on how the upgrade goes, you very likely will need to reboot the Windows server.

For this scenario, there is another installed version (9.1) and the queue managers running under that other version will NOT be stopped in order to demonstrate that you can continue using those other versions while performing maintenance activities for 9.3.

Log in as an Administrator.

If you created the batch file "set-mq-93" mentioned earlier in this document, then issue it:

```
C:\> set-mq-93  
Version: 9.3.0.2
```

In this case, QMMIG and QM93 are running under MQ 9.3, while QM91 is running under MQ 9.1:

```
C:\> dspmq -o installation -s
```

```
C:\Users\Administrator>dspmq -o installation -s  
QMNAME(QMMIG) STATUS(Ended immediately)  
INSTNAME(Installation2) INSTPATH(C:\Program Files\IBM\MQ_1) INSTVER(9.3.0.2)  
QMNAME(QM91) STATUS(Running) INSTNAME(Installation1)  
INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.13)  
QMNAME(QM93) STATUS(Ended immediately)  
INSTNAME(Installation2) INSTPATH(C:\Program Files\IBM\MQ_1) INSTVER(9.3.0.2)
```

++ Need to stop the MQ 9.3 processes before installing the fix pack

The following section of the MQ 9.3 online documentation describes the steps to stop the MQ processes prior to performing maintenance to the MQ code (such as applying a fix pack).

<https://www.ibm.com/docs/en/ibm-mq/9.3?topic=mq-applying-removing-maintenance-windows>

IBM MQ / 9.3

Applying and removing maintenance on Windows

Here is a summary and excerpt of the main steps.

Stop all applications using the MQ installation for 9.3.

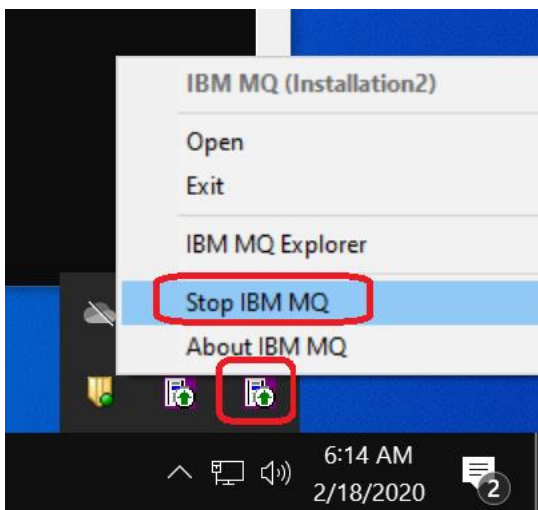
In this case we know that the queue managers QMMIG and QM93 are running under MQ 9.3

```
C:\> endmqm -i QMMIG
```

```
C:\> endmqm -i QM93
```

Stop the IBM MQ service for the installation.

Right-click the MQ icon in the taskbar > click Stop IBM MQ.



++ Downloading the fix pack

The following technote announces the fix pack 9.3.0.4 and provides links to the IBM Fix Central to download the appropriate filesets:

<https://www.ibm.com/support/pages/node/7105264>

IBM MQ Recommended Fixes and Planned Maintenance release dates

<https://www.ibm.com/support/pages/downloading-ibm-mq-93>

Downloading IBM MQ 9.3

<https://www.ibm.com/support/pages/fix-list-ibm-mq-version-93-lts>

Fix list for IBM MQ Version 9.3 LTS

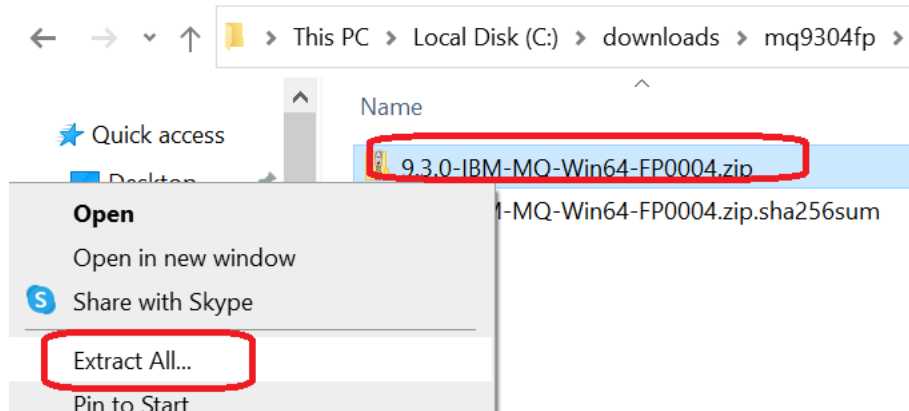
In this scenario, the file set for 9.3.0.4 for Windows was downloaded into the following directory:

C:\downloads\mq9304fp

The file name is:

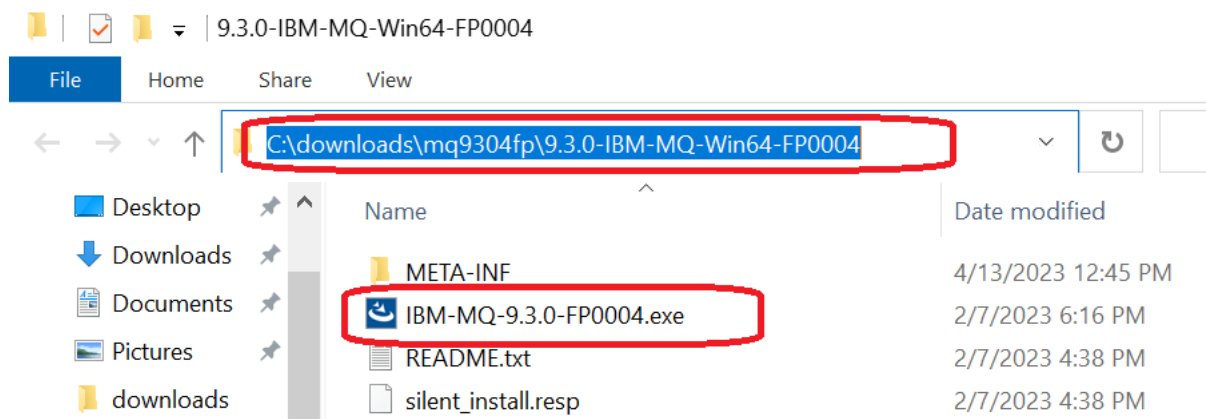
9.3.0-IBM-MQ-Win64-FP0004.zip

Extract the files from the zip file.



Go to the directory where the files were extracted.

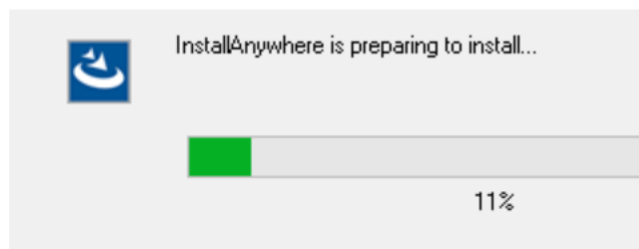
Execute the following file:
IBM-MQ-9.3.0-FP0004.exe



You will see a dialog:

Title: InstallAnywhere
Contents: InstallAnywhere is preparing to install ...

InstallAnywhere



You need to wait until the preparation is over, which may take several minutes.

Then you will see another window:
IBM MQ (fix pack 9.3.0.4 files)

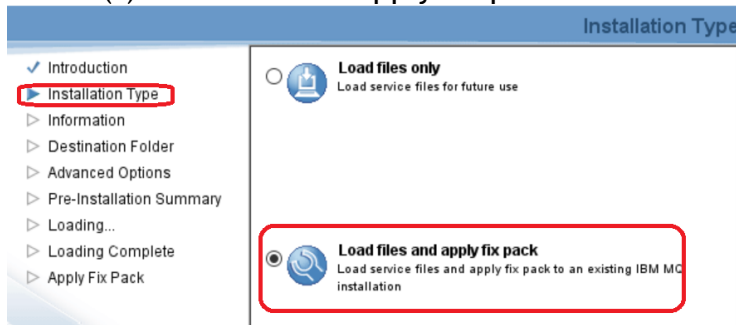
Click OK to continue.

You will see the information for the section “Introduction”. Click Next.

You will see the section “Installation Type”.

Most people do not choose the default (which is the top option: Load files only)
Instead, they choose this one that is more practical:

(*) Load files and apply fix pack



Click Next.

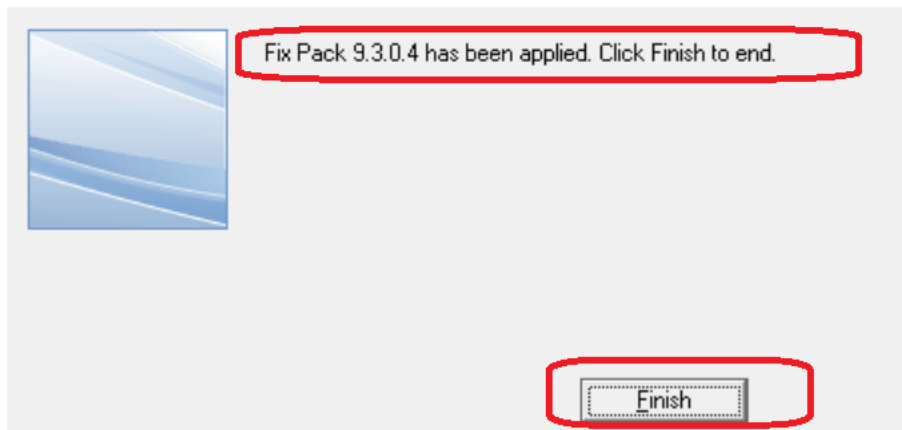
For this tutorial, the rest of the defaults were accepted.

Eventually the files will be copied into the appropriate directories.

The last dialog looks like this.

Click “Finish”.

Applying IBM MQ V9.3 Fix Pack 9.3.0.4



NOTE:

Because the registry was updated, you will need to reboot the Windows server.

After the reboot, notice that there is a new entry regarding the Fix Pack 9.3.0.4:

Control Panel Home

Uninstall or change a program

To uninstall a program, select it from the list and then click Uninstall, Change, or Repair.

Organize ▾

Name	Publisher	Installed On	Size	Version
CrowdStrike Windows Sensor	CrowdStrike, Inc.	4/12/2023	129 MB	6.53.16705.0
FileZilla 3.63.2.1	Tim Kosse	3/30/2023	42.8 MB	3.63.2.1
Google Chrome	Google LLC	4/12/2023		112.0.5615.86
IBM MQ (fix pack 9.1.0.13 files)	IBM	4/13/2023	2.20 GB	9.1.0.13
IBM MQ (fix pack 9.3.0.4 files)	IBM	4/13/2023	1.53 GB	9.3.0.4
IBM MQ (Installation1)	IBM	4/11/2023	1.64 GB	9.1.0.7
IBM MQ (Installation2)	IBM	4/11/2023	1.83 GB	9.3.0.2

After the reboot, open a Windows command prompt and execute the following commands. Notice the new fix pack level of 9.1.0.4.

```
C:\> set-mq-93
Version: 9.3.0.4
```

```
C:\> dspmq -o installation -s
QMNAME(QMMIG) STATUS(Ended immediately)
INSTNAME(Installation2) INSTPATH(C:\Program Files\IBM\MQ_1) INSTVER(9.3.0.4)
QMNAME(QM91) STATUS(Ended unexpectedly)
INSTNAME(Installation1) INSTPATH(C:\Program Files\IBM\MQ) INSTVER(9.1.0.13)
QMNAME(QM93) STATUS(Ended immediately)
INSTNAME(Installation2) INSTPATH(C:\Program Files\IBM\MQ_1) INSTVER(9.3.0.4)
```

Start the desired MQ 9.3 queue manager.

```
C:\> strmqm QM93
IBM MQ queue manager 'QM93' starting.
The queue manager is associated with installation 'Installation2'.
6 log records accessed on queue manager 'QM93' during the log replay phase.
Log replay for queue manager 'QM93' complete.
Transaction manager state recovered for queue manager 'QM93'.
Plain text communication is enabled.
IBM MQ queue manager 'QM93' started using V9.3.0.4.
```

```
C:\> runmqsc QM93
display qmgr cmdlevel version
AMQ8408I: Display Queue Manager details.
  QMNAME(QM93)                CMDLEVEL(930)
  VERSION(09030004)
```

Notice that the value in the attribute VERSION needs to be interpreted as with dots separating every 2nd digit:
09.03.00.04

++++
+++ Chapter 8: Uninstallation
++++

The following tutorial applies to MQ 9.1, 9.2 and 9.3, and includes all the steps that are needed to uninstall MQ in Windows.

<http://www.ibm.com/support/docview.wss?uid=swg27050128>
Uninstalling MQ 9.0 components in Windows (example Telemetry)

The objective of this techdoc is to show all the steps to uninstall one component for MQ 9.0 on Windows. In order to provide concrete steps, the following component will be uninstalled:

MQ Telemetry Service

The techdoc has the following chapters:

Chapter 1: Stopping the queue manager

Chapter 2: Invoking the MQ installer (setup.exe)

+++ end