

Changes done to Windows system after installing IBM MQ

<https://www.ibm.com/support/pages/node/6600015>

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IBM MQ Support

<https://www.ibm.com/products/mq/support>
Find all the support you need for IBM MQ

+++ Objective

The objective of this tutorial is to highlight the changes to a Windows system after installing IBM MQ.

Refer to the following tutorial for the installation steps:

<https://www.ibm.com/support/pages/node/6600017>
Installing IBM MQ 9.3 in Windows

<https://www.ibm.com/support/pages/node/7157973>
Installing and uninstalling IBM MQ 9.4 in Windows

After the installation, you must restart Windows.

Then let's explore the changes:

+ Windows 10: The Start menu includes a section:

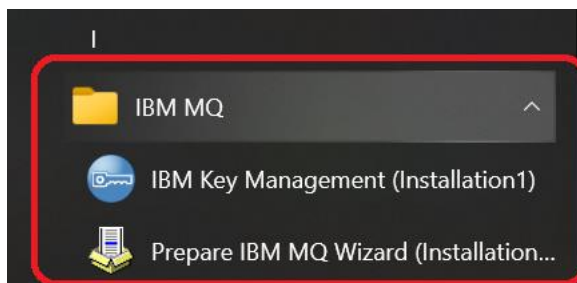
IBM MQ

With 2 entries:

IBM Key Management (Installation1)

Prepare IBM MQ Wizard (Installation1)

Starting with MQ 9.3, notice that in contrast to previous releases, there is no entry for the MQ Explorer in the Start menu under the folder for "IBM MQ"



+ MQ Service

Let's take a look at the MQ Service.

Windows 10:

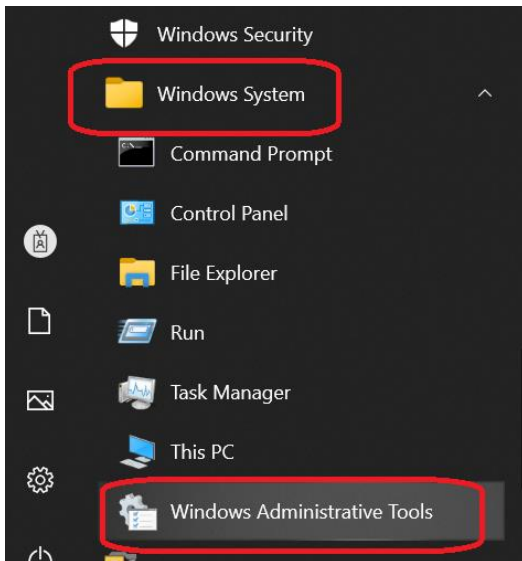
Start button.

Expand:

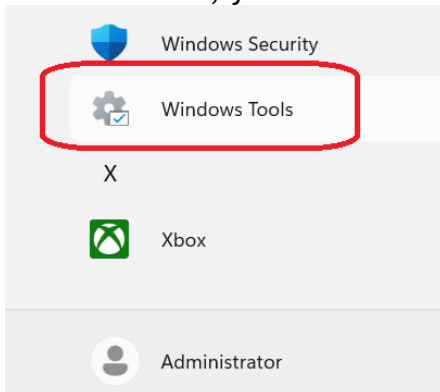
Windows System

And launch:

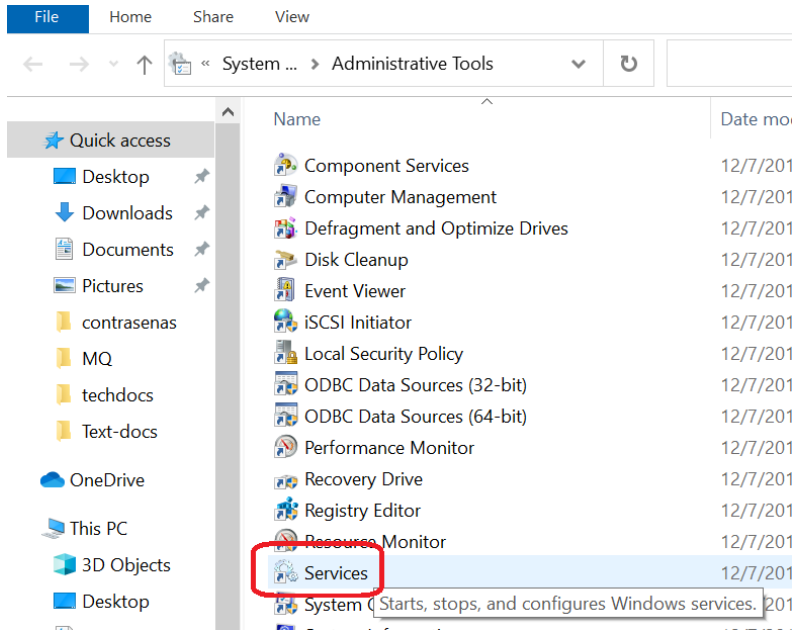
Windows Administrative Tools



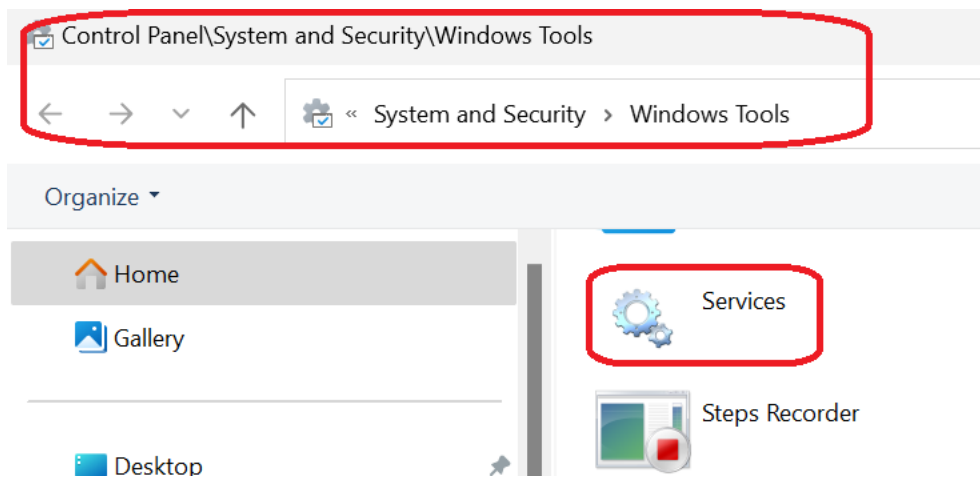
In Windows 11, you need to use Start / Windows Tools



In Windows 10, A new window appears.



In Windows 11:

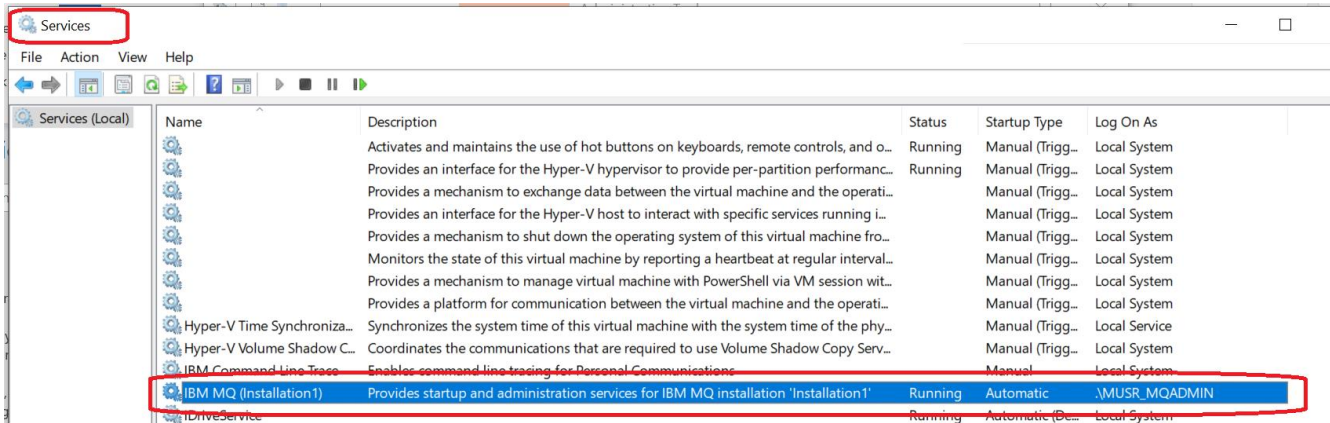


Launch "Services".

You will see the "Services" window.

Scroll down to find:

IBM MQ (Installation1)



Notice the values:

Name:

IBM MQ (Installation1)

Description:

Provides startup and administration services for IBM MQ installation 'Installation1'

Status:

Running

Startup Type:

Automatic

Log On As:

.\MUSR_MQADMIN

+ MQ processes

Under the “Task Manager” select the tab “Services”

Name	PID	Description	Status	Group
HCLAUTService	5664	HCL Auto Update Service	Running	
LNSUSvc		HCL Notes Smart Upgrade Service	Stopped	
hidserv	2324	Human Interface Device Service	Running	LocalSystemNe
HvHost	1524	HV Host Service	Running	LocalSystemNe
vmickvpxexchange		Hyper-V Data Exchange Service	Stopped	LocalSystemNe
vmicguestinterface		Hyper-V Guest Service Interface	Stopped	LocalSystemNe
vmicshutdown		Hyper-V Guest Shutdown Service	Stopped	LocalSystemNe
vmicheartbeat		Hyper-V Heartbeat Service	Stopped	ICService
vmicvmsession		Hyper-V PowerShell Direct Service	Stopped	LocalSystemNe
vmicrdv		Hyper-V Remote Desktop Virtualizati...	Stopped	ICService
vmictimesync		Hyper-V Time Synchronization Service	Stopped	LocalServiceNe
vmicvss		Hyper-V Volume Shadow Copy Requi...	Stopped	LocalSystemNe
cstrcser		IBM Command Line Trace	Stopped	
MQ_Installation1	6496	IBM MQ (Installation1)	Running	
IDriveService	15836	IDriveService	Running	

Notice:

Name:

MQ_Installation1

PID

6496

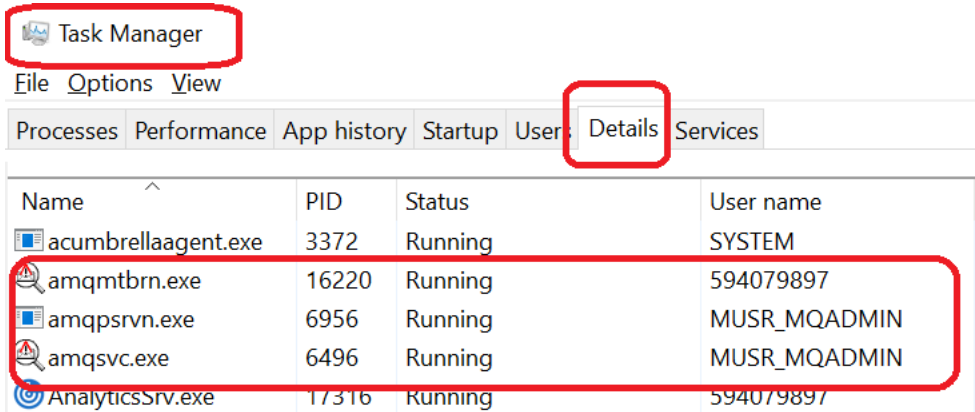
Description:

IBM MQ (Installation1)

Status:

Running

Let's see what MQ programs are running after the installation (no MQ queue managers have been created yet):



Notice 3 programs that begin with these letters, which is a convention used by many of the MQ programs:

amq

Here are the details:

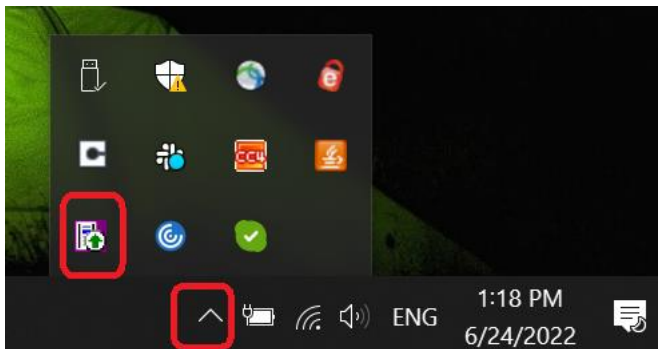
amqmtbrn.exe => IBM MQ Alert Monitor Task Bar application (see next section)

amqpsrvn.exe => IBM MQ Service

amqsvc.exe => IBM MQ Service

+ MQ icon in Task Bar

In the lower right corner you can look at the icon for the IBM MQ Alert Monitor Task Bar application (amqmtbrn.exe):

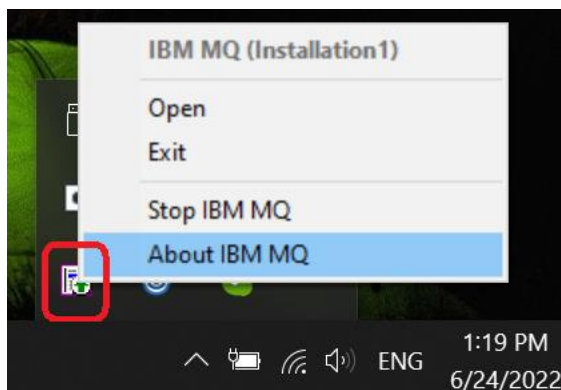


For more information on this icon, see:

<https://www.ibm.com/support/pages/node/6599231>

IBM MQ Alert Monitor task bar application in Windows (amqmtbrn.exe)

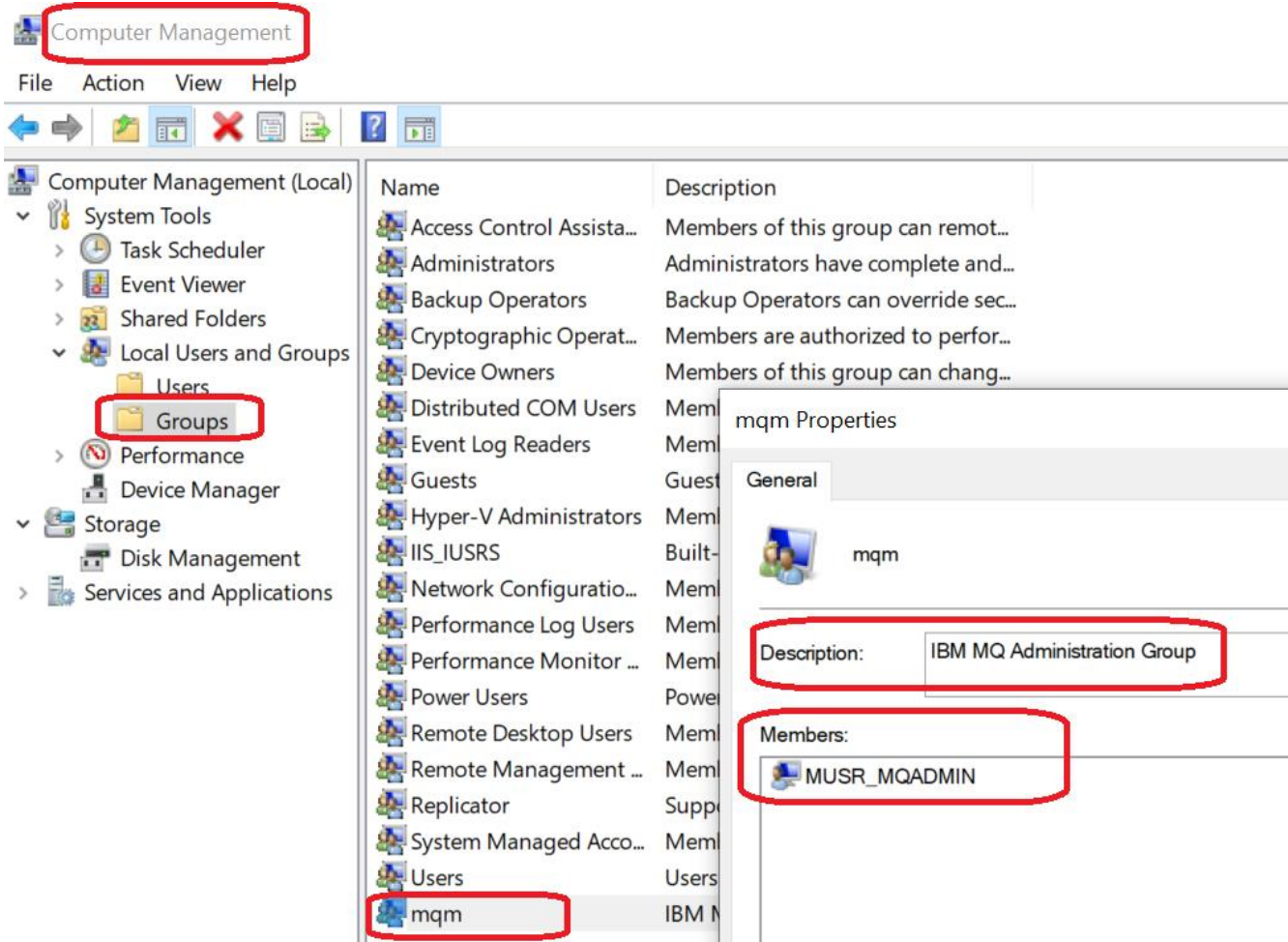
The context menu for this icon is shown below:



+ What group and userid were created during the installation?

Group: mqm
User: MUSR_MQADMIN

In contrast with Unix (Linux, AIX - in which the same name “mqm” could be used for both the user name “mqm” and group name “mqm”), in Windows it is not possible to use the same name for both.



The screenshot shows the Windows Computer Management console. The title bar reads "Computer Management". The menu bar includes "File", "Action", "View", and "Help". The left-hand tree view shows "Computer Management (Local)" expanded to "Local Users and Groups", with "Users" selected. The main pane displays a table of users:

Name	Full Name	Description
Administrator		Built-in account for administering ...
DefaultAccount		A user account managed by the sy...
defaultuser100000	New User	
Guest		Built-in account for guest access t...
MUSR_MQADMIN	MUSR_MQADMIN	IBM MQ Administrator
WDAGUtilityAccount		A user account managed and used...

+ How to find out all the MQ entries in the Windows Registry:

- Using "wmic" to get more installation details:

C:\> wmic product where "(Name like '%MQ%') AND (not Name like '%bitSupport')" get **Name, Version, InstallLocation**

```
InstallLocation      Name      Version
C:\Program Files\IBM\MQ\  IBM MQ (Installation1)  9.4.0.0
```

- Using "reg.exe"

C:\> reg.exe query "HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\IBM\WebSphere MQ\Installation" /s

```
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\IBM\WebSphere MQ\Installation\Installation1
ProductCode      REG_SZ      {7A4C1DB4-086E-11EF-B0F2-841EDA455A43}
PackageCode      REG_SZ      {3BA336D2-0A3F-4039-84B9-B8A5A378F1FB}
UpgradeCode      REG_SZ      {8D1C5EA1-A4C5-4967-97FA-77FE6D4B5EA7}
VRMF             REG_SZ      9.4.0.0
FilePath         REG_SZ      C:\Program Files\IBM\MQ
MQServerRelease  REG_DWORD   0x4
MQServerVersion  REG_DWORD   0x9
Language         REG_SZ      English
LanguageCode     REG_SZ      a
Identifier       REG_SZ      1
Description      REG_SZ
Name             REG_SZ      Installation1
AllowUpgrade     REG_SZ      0
Package         REG_SZ      Server
ProductType     REG_SZ      Server
```

```
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\IBM\WebSphere
MQ\Installation\Installation1\Components
Server          REG_SZ      Installed
AMS            REG_SZ      Installed
Local Clients\Windows NT Client  REG_SZ      Installed
JavaMsg        REG_SZ      Installed
MFT_Agent     REG_SZ      Installed
MFT_Logger    REG_SZ      Installed
MFT_Service   REG_SZ      Installed
MFT_Tools     REG_SZ      Installed
Development Toolkit  REG_SZ      Installed
XR_Service    REG_SZ      Installed
AMQP          REG_SZ      Installed
Web           REG_SZ      Installed
JRE          REG_SZ      Installed
```

```
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\IBM\WebSphere
MQ\Installation\Installation1\Maintenance Applied
Shipped       REG_SZ      0.0
```

+ MQ Environment Variables set by the installation

- When you open a Command window, you will get the following by default:

```
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
```

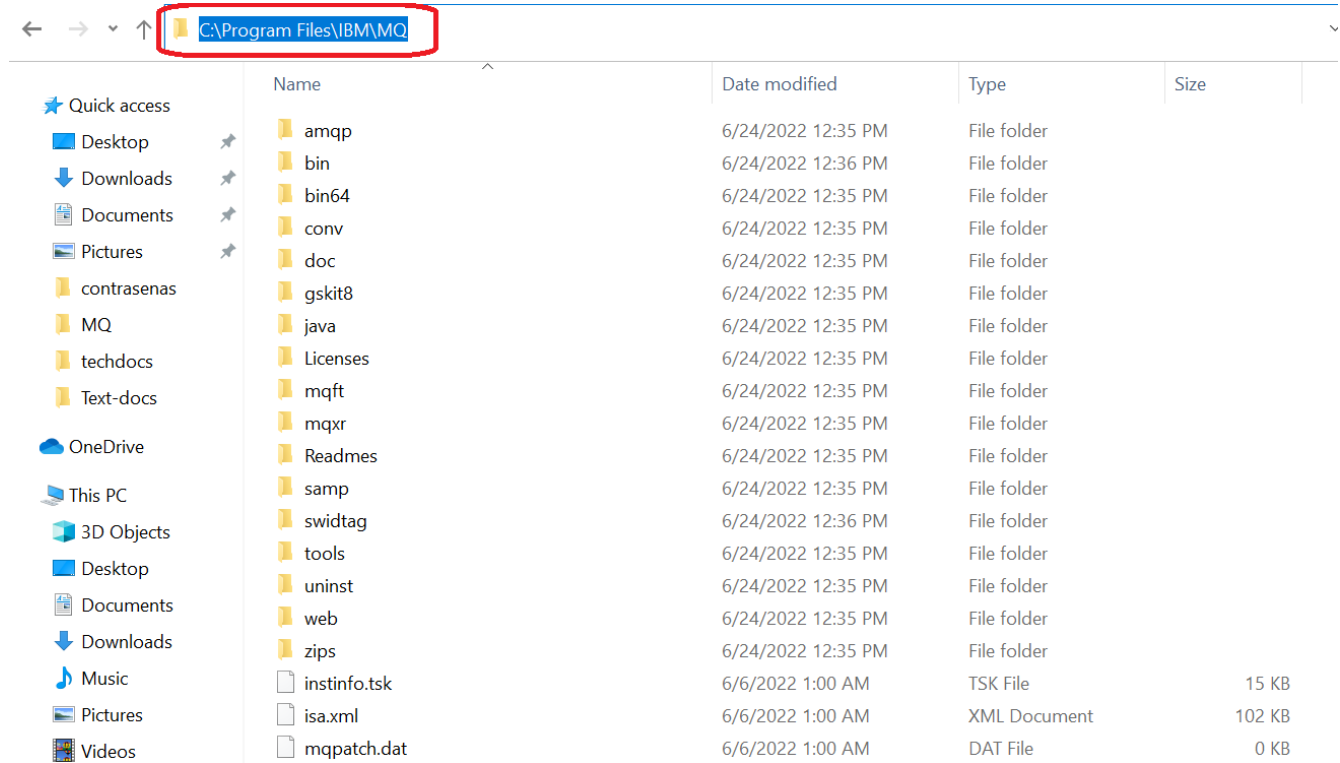
- You need to use "setmqenv" to setup the rest of the MQ environment variables

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

```
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
```

+ “Program Files”

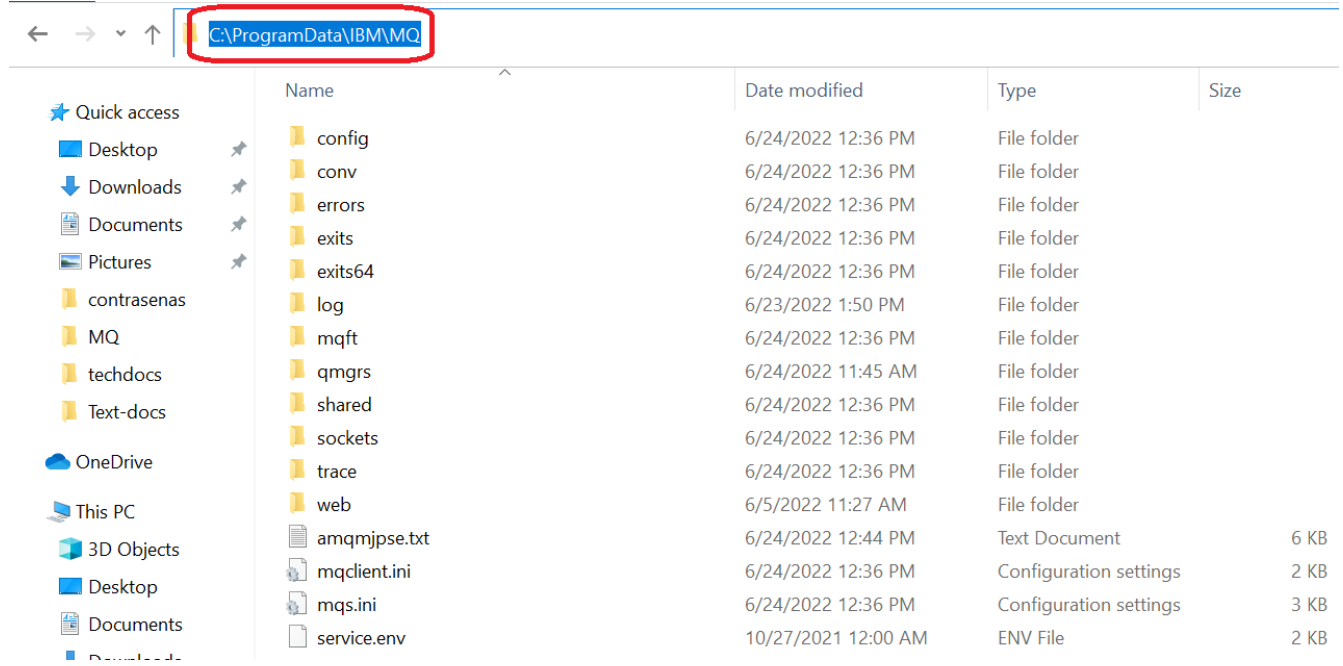
C:\Program Files\IBM\MQ



	Name	Date modified	Type	Size
★ Quick access Desktop Downloads Documents Pictures contrasenas MQ techdocs Text-docs OneDrive This PC 3D Objects Desktop Documents Downloads Music Pictures Videos	amqp	6/24/2022 12:35 PM	File folder	
	bin	6/24/2022 12:36 PM	File folder	
	bin64	6/24/2022 12:35 PM	File folder	
	conv	6/24/2022 12:35 PM	File folder	
	doc	6/24/2022 12:35 PM	File folder	
	gskit8	6/24/2022 12:35 PM	File folder	
	java	6/24/2022 12:35 PM	File folder	
	Licenses	6/24/2022 12:35 PM	File folder	
	mqft	6/24/2022 12:35 PM	File folder	
	mqxr	6/24/2022 12:35 PM	File folder	
	Readmes	6/24/2022 12:35 PM	File folder	
	samp	6/24/2022 12:35 PM	File folder	
	swidtag	6/24/2022 12:36 PM	File folder	
	tools	6/24/2022 12:35 PM	File folder	
	uninst	6/24/2022 12:35 PM	File folder	
	web	6/24/2022 12:35 PM	File folder	
	zips	6/24/2022 12:35 PM	File folder	
	instinfo.tsk	6/6/2022 1:00 AM	TSK File	15 KB
	isa.xml	6/6/2022 1:00 AM	XML Document	102 KB
	mqpatch.dat	6/6/2022 1:00 AM	DAT File	0 KB

+ ProgramData

C:\ProgramData\IBM\MQ



	Name	Date modified	Type	Size
★ Quick access Desktop Downloads Documents Pictures contrasenas MQ techdocs Text-docs OneDrive This PC 3D Objects Desktop Documents Downloads	config	6/24/2022 12:36 PM	File folder	
	conv	6/24/2022 12:36 PM	File folder	
	errors	6/24/2022 12:36 PM	File folder	
	exits	6/24/2022 12:36 PM	File folder	
	exits64	6/24/2022 12:36 PM	File folder	
	log	6/23/2022 1:50 PM	File folder	
	mqft	6/24/2022 12:36 PM	File folder	
	qmgrs	6/24/2022 11:45 AM	File folder	
	shared	6/24/2022 12:36 PM	File folder	
	sockets	6/24/2022 12:36 PM	File folder	
	trace	6/24/2022 12:36 PM	File folder	
	web	6/5/2022 11:27 AM	File folder	
	amqmqjse.txt	6/24/2022 12:44 PM	Text Document	6 KB
	mqclient.ini	6/24/2022 12:36 PM	Configuration settings	2 KB
mqs.ini	6/24/2022 12:36 PM	Configuration settings	3 KB	
service.env	10/27/2021 12:00 AM	ENV File	2 KB	

+ The 'Programs and Features' in the Windows Control Center will show an entry:

Name:

IBM MQ (Installation1)

The screenshot shows the Windows Control Panel window for 'Programs and Features'. The window title is 'Programs and Features'. The breadcrumb navigation shows '< Progr... > Programs and Features'. The main heading is 'Uninstall or change a program'. Below this, there is a table with the following data:

Name	Publisher	Installed On	Size	Version
IBM MQ (Installation1)	IBM	6/24/2022	2.06 GB	9.3.0.0

+++ If MQ Explorer is installed

Starting with MQ 9.3, the MQ Explorer needs to be installed separately.

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

Installing Standalone MQ Explorer 9.3 in Windows and Linux

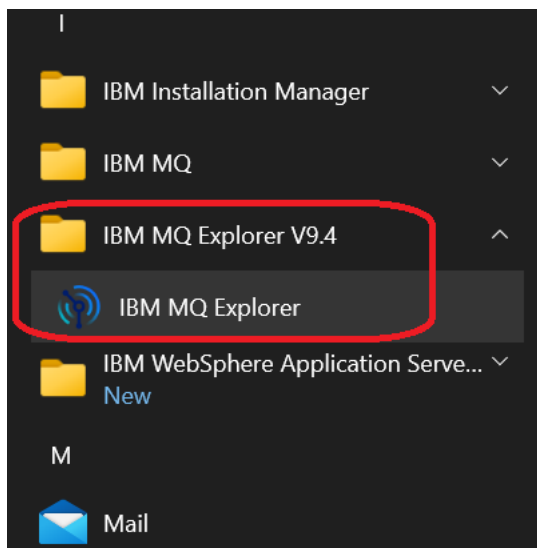
After installing the MQ Explorer you need to reboot.

After the reboot you can notice the following:

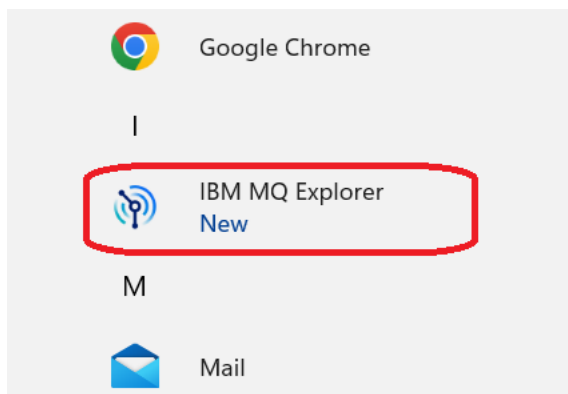
- Windows 10: Entry in the Start menu:

Folder: IBM MQ Explorer V9.4

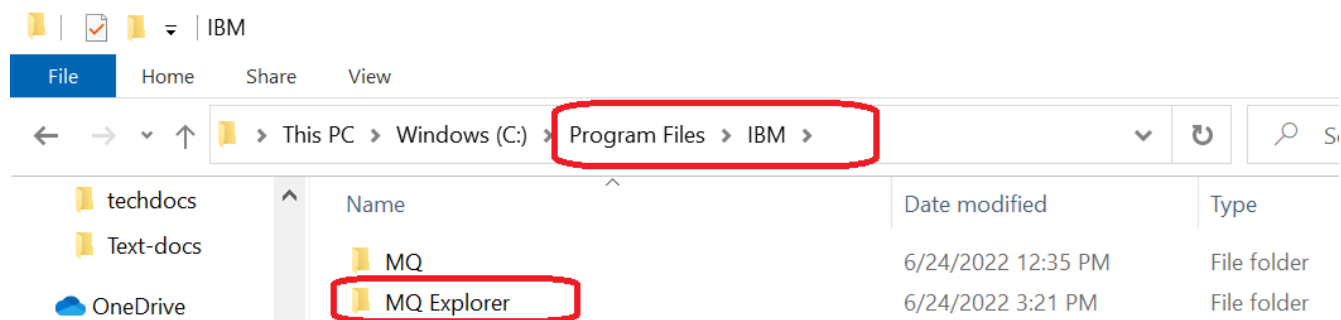
Item: IBM MQ Explorer



- In Windows 11, there is no folder for MQ Explorer in the Start menu, just the item:
IBM MQ Explorer

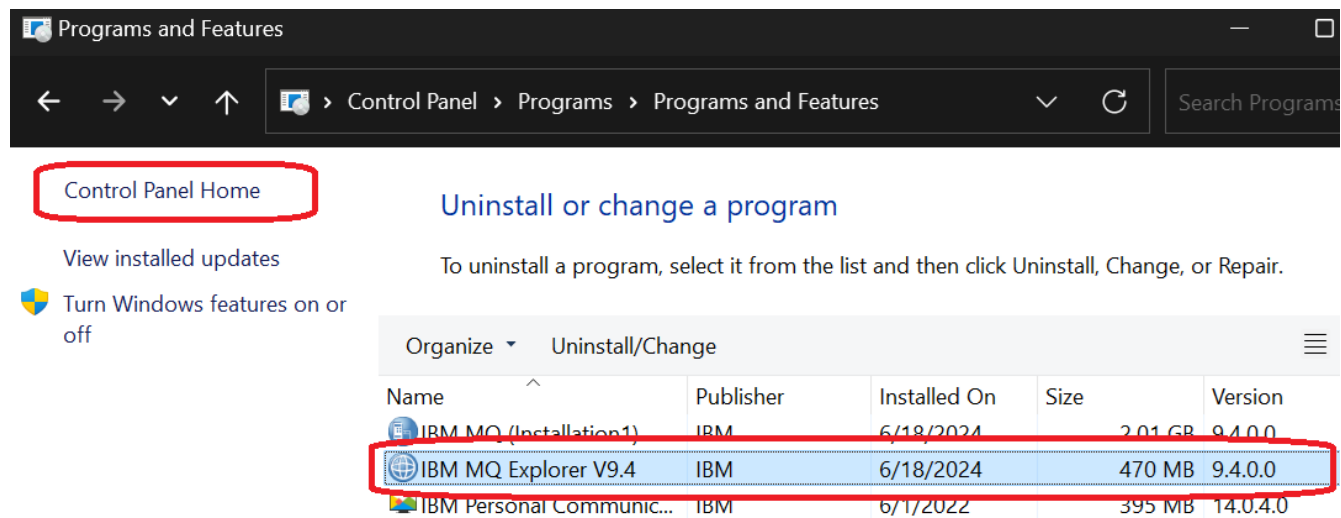


The folder for the MQ Explorer files is:
C:\Program Files\IBM\MQ Explorer



++ The 'Programs and Features' in the Windows Control Center will show an entry:

Name: IBM MQ Explorer V9.4 Version: 9.4.0.0



++ Registry entries

The installation of the Standalone MQ Explorer provides its own set of entries in the Windows Registry.

- Using command line "reg.exe"

Open a command prompt as an Administrator:

```
C:\> reg.exe query "HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\IBM\WebSphere  
MQ Explorer\CurrentVersion" /s
```

```
HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\IBM\WebSphere MQ  
Explorer\CurrentVersion  
    VRMF    REG_SZ    9.4.0.0  
    InstallDir    REG_SZ    C:\Program Files\IBM\MQ Explorer
```

+++ end