

Installing MQ 9.1.0.0 LTS, applying Fix Pack 9.1.0.1, Uninstalling MQ in Linux Ubuntu

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<https://www.ibm.com/support/pages/node/720143>

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+++ Objective

The purpose of this technical document is to show all the steps to perform the following tasks for IBM MQ in a Linux x86 64-bit machine using the Debian installer in Ubuntu 18:

- 1) Installing MQ 9.1.0.0 Long Term Support (LTS)
- 2) Applying Fix Pack MQ 9.1.0.1 LTS
- 3) Uninstalling MQ 9.1.0.1
- 4) Uninstalling MQ 9.1.0.0

Note: MQ fix pack mentioned here was the latest one at the time the tutorial was written - the overall recommendation is to apply the most recent fix pack level.

The same principles apply to the installation and uninstallation of the MQ 9.1.x Continuous Delivery (CD). Please keep in mind that the MQ 9.1.x CD releases do NOT have Fix Packs, which means that if you have installed MQ 9.1.1 CD and then you want to replace it with MQ 9.1.2 CD, then you must:

- a) Uninstall MQ 9.1.1 and then
- b) Install MQ 9.1.2.

This document describes a scenario in which there is ONLY one version of MQ installed in the machine, in the default location of: /opt/mqm

This means that the utilities "crtmqpkg" and "crtmqfp" are NOT used. These utilities are ONLY needed when installing/maintaining the 2nd or 3rd or another installation location, when there are multiple MQ installation coexisting in the same machine.

Note: By the way, there is NO way to configure the Debian installer to indicate another location other than /opt/mqm, which also means that Debian does NOT support multiple installations of MQ.

A test queue manager will be created for a quick test for putting a message into a queue via local bindings.

The equivalent tutorial for Linux installations based on rpm filesets, such as Red Hat and SuSE see:

<http://www.ibm.com/support/docview.wss?uid=ibm10719561>

Installing MQ 9.0.0.1 LTS, applying Fix Pack 9.0.0.4, Uninstalling MQ in Linux

The chapters are:

Chapter 1: Summary of commands

Chapter 2: How to get the installation images

Chapter 3: Create userid "mqm" and group "mqm"

Chapter 4: Installation of MQ 9.1.0.0 (Installation1 in /opt/mqm)

Chapter 5: Making this installation the Primary one

Chapter 6: Creating a test queue manager, quick verification test

Chapter 7: Applying Fix Pack MQ 9.1.0.1

Chapter 8: Uninstallation of the Fix Pack 9.1.0.1

Chapter 9: Uninstallation of the base 9.1.0.0

Appendix A: Output from: apt update

Appendix B: Output from: apt install "ibmmq-*"

Appendix C: Output from: apt remove "ibmmq-*"

Appendix D: Output from: apt purge "ibmmq-*"

++ References from the online manual for MQ 9.1

https://www.ibm.com/support/knowledgecenter/SSFKSJ_9.1.0/com.ibm.mq.ins.doc/q129710_.htm

IBM MQ 9.1.x > Installing IBM MQ on Linux Ubuntu using Debian

Installing an IBM MQ server on Linux Ubuntu using Debian packages

https://www.ibm.com/support/knowledgecenter/SSFKSJ_9.1.0/com.ibm.mq.ins.doc/q129730_.htm

IBM MQ 9.1.x > Uninstalling or modifying IBM MQ on Linux

Uninstalling or modifying IBM MQ on Linux Ubuntu using Debian packages

```
+++++ Chapter 1: Summary of commands +++++
```

Login as root to create group "mqm" and user "mqm".

++ Creating userid "mqm" (id 501) and groupid "mqm" (also id 501)

+ The following command will create a group called "mqm", with group-id (gid) of 501:

```
# groupadd -g 501 mqm
```

+ The following command will create a user called "mqm", with user-id (uid) of 501 and belonging to the group "mqm":

```
# useradd -u 501 -g mqm -s /bin/bash -d /home/mqm -m mqm
```

Assign the proper password:

```
# passwd mqm
```

After creating the group and user, then the "id" command shows:

```
# id mqm
uid=501(mqm) gid=501(mqm) groups=501(mqm)
```

+ Installing MQ 9.1.0.0

Login as root.

Go to the directory where you downloaded the installation image file, such as:

```
cd /downloads/mq9100
```

Unpack the file:

```
tar -zxvf IBM_MQ_9.1_UBUNTU_X86-64.tar.gz
```

Go to the "MQServer" directory:

```
cd ./MQServer
```

Accept the license:

```
./mqlicense.sh -accept
```

Go to the directory:

```
cd /etc/apt/sources.list.d
```

Create file:

```
vi IBM_MQ.list
```

Add the following 2 lines:

```
+ begin (ignore this line)
```

```
# Local directory containing IBM MQ packages
```

```
deb [trusted=yes] file:/downloads/mq9100/MQServer ./
```

```
+ end (ignore this line)
```

Run the following command to add this directory and the list of packages the directory contains, to the apt cache:

```
apt update
```

Install the complete product by issuing the following command:

```
apt install "ibmmq-*
```

+ Applying Fix Pack MQ 9.1.0.1

Login as user:

```
root
```

Go to the local directory where the file with the Fix Pack MQ 9.1.0.1 is located (see Chapter 2)

```
cd /downloads/mq9101
```

Unpack the file:

```
tar -zxvf 9.1.0-IBM-MQ-UbuntuLinuxX64-FP0001.tar.gz
```

Go to the directory:

```
cd /etc/apt/sources.list.d
```

Update the file:

```
vi IBM_MQ.list
```

This file should contain a deb entry for the location of the directory that contains the IBM MQ packages for the Fix Pack.

Add the following 1 line at the bottom:

```
+ begin (ignore this line)
```

```
deb [trusted=yes] file:/downloads/mq9101 ./
```

```
+ end (ignore this line)
```

You can now use apt to install the Fix Pack 9.1.0.1 for IBM MQ.

```
# apt install "ibmmq-*-u9101*"
```

+ Listing MQ filesets installed in the box:

```
apt list 'ibmmq-*
```

+ Stopping MQ queue managers (in order to apply fix pack).

The “ps -ef” command is useful to confirm that there are no running processes for MQ.

Login as an MQ administrator (user mqm).

```
$ endmqm -i QMgrName
```

```
$ ps -ef | grep -i mq
```

+ Uninstalling Fix Pack 9.1.0.1:

Login as root.

Using apt.

1) The following Debian command removes the product but leaves the package definition cached.

```
apt remove "ibmmq-*-u9101*"
```

2) The following purges the cached definition of the product.

```
apt purge "ibmmq-*-u9101*"
```

+ Uninstalling Base 9.1.0.0:

Login as root.

Using apt.

1) The following Debian command removes the product but leaves the package definition cached.

```
apt remove "ibmmq-*"
```

2) The following purges the cached definition of the product.

```
apt purge "ibmmq-*"
```

+++++ Chapter 2: How to get the installation images +++++

++ Base MQ 9.1.0.0 (full install) - from IBM Passport Advantage

<https://www-01.ibm.com/support/docview.wss?uid=swg24044776>

Downloading IBM MQ Version 9.1
(From the IBM Passport Advantage web site)

It is recommended that you search for Part Number, which will provide a more focused list.

Release: 9.1.0.0
Part Number: CNRE6ML
Description: IBM MQ V9.1 for Ubuntu on x86 64-bit elmage

Downloaded image name for base MQ 9.1.0.0:
IBM_MQ_9.1_UBUNTU_X86-64.tar.gz

Local Directory:
/downloads/mq9100

++ Delta Fix Pack MQ 9.1.0.1 (apply on top of MQ 9.1.0.0) - from IBM Fix Central

<http://www-01.ibm.com/support/docview.wss?uid=swg27006037>

Recommended Fixes for IBM MQ

Follow the prompts for:
IBM MQ Version 9.1 LTS MQ 9.1.0.1

You will land at:
<https://www-01.ibm.com/support/docview.wss?uid=ibm10738815>

Downloading IBM MQ Version 9.1.0.1

The links for downloading the fix packs for Ubuntu are included in the table, such as:

Downloading the release from Fix Central

Use the following links to download MQ V9.1.0.1 for your platform. You will t
set of downloadable files.

AIX
IBM i
Linux on LE POWER (Little Endian)
Linux on IBM Z 64-bit
Linux on x86 64-bit
Ubuntu on LE POWER (Little Endian)
Ubuntu on IBM Z 64-bit
Ubuntu on x86 64-bit
Solans on SPARC

NOTE: In case that the technote does not have links for the Fix Packs for Ubuntu.

Workaround:

Click on the link for:

Linux on x86-64

You will be taken to IBM Fix Central:

•
<https://www-945.ibm.com/support/fixcentral/swg/selectFixes?product=ibm/WebSphere/WebSphere+MQ&release=All&platform=All&function=fixId&fixids=9.1.0-IBM-MQ-LinuxX64-FP0001>

•
On the right hand side, under:

Change your selection

Change the value for:

Applies to version

To:

9.1.0.0

Click Submit.

Change your selection

Product selector

WebSphere MQ

Applies to version

9.1.0.0

Platform

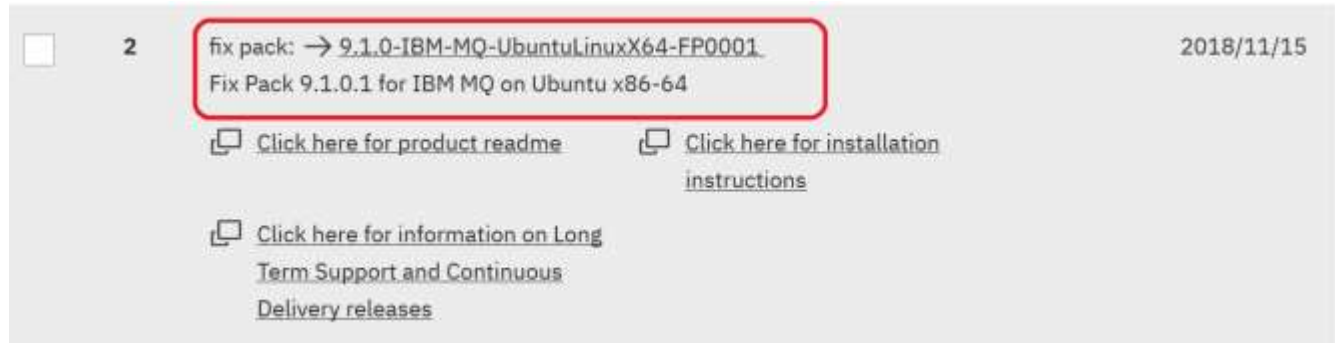
All

Submit

Now you will see all the Fix Packs, including the ones for Ubuntu, such as:

<https://www-945.ibm.com/support/fixcentral/swg/selectFixes?parent=ibm%7EWebSphere&product=ibm/WebSphere/WebSphere+MQ&release=9.1.0.0&platform=All&function=all>

fix pack: 9.1.0-IBM-MQ-UbuntuLinuxX64-FP0001
Fix Pack 9.1.0.1 for IBM MQ on Ubuntu x86-64



Downloaded image name for the Fix Pack MQ 9.1.0.1:
9.1.0-IBM-MQ-UbuntuLinuxX64-FP0001.tar.gz

Local Directory:
/downloads/mq9101

++ Note about using MQ in English - no need to install *msg* Debian filesets

Messages in U.S. English are automatically installed with IBM MQ.
That is, the "message catalog for U.S. English" is always installed.
Therefore, by default, the informational, warning and error messages displayed by the MQ product will be in English.

Message catalogs for all languages are included with the MQ installation image for:
- The base/rebased MQ product downloaded from IBM Passport Advantage
- The fix packs for MQ downloaded from IBM Fix Central

A best practice is to install only those message catalogs that your team is going to use and to delete those message catalogs that your team is not going to use.
Otherwise, the presence of message catalogs that are not used just take space in the disk and clutter the output when querying for installed MQ packages.

+ Hint if you only work in English:

If you are not going to install these additional message catalogs, then you can delete the *msg*.deb files.

In that way, if you issue the simplest command to install of available Debian filesets, these non-English message catalogs will not be installed.

+ References:

https://www.ibm.com/support/knowledgecenter/SSFKSJ_9.1.0/com.ibm.mq.ins.doc/q008953_.htm

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Displaying messages in your national language on Linux

+ begin excerpt

To display messages from a different national language message catalog, you must install the appropriate catalog and set the LANG environment variable.

.
About this task

Messages in U.S. English are automatically installed with IBM MQ.

.
Message catalogs for all languages are installed in MQ_INSTALLATION_PATH/msg/language identifier, where language identifier is one of the identifiers in Table 1.

+ end excerpt

For example, in a test system where NONE of the message catalogs were installed, the following is the contents of the directory mentioned above (notice the subdirectory en_US for the locale English in the US).

```
$ ls -F /opt/mqm/msg
en_US/
```

In addition:

https://www.ibm.com/support/knowledgecenter/SSFKSJ_9.1.0/com.ibm.mq.ins.doc/q008350_.htm#q008350__q008350_mcat

IBM MQ 9.1.x / IBM MQ / Installing and uninstalling / Installing and uninstalling IBM MQ on Linux / Installing IBM MQ on Linux using rpm / IBM MQ rpm components for Linux systems

Note: The following table shows the file names for rpm filesets. For example, for the French message catalog:

French	MQSeriesMsg_fr
The corresponding Debian filesets have the format:	
French	ibmmq-msg-fr_9.1.0.0_amd64.deb

+ begin excerpt

Table 2. IBM MQ message catalogs for Linux systems
Message catalog language RPM package name

Brazilian Portuguese	MQSeriesMsg_pt
Czech	MQSeriesMsg_cs
French	MQSeriesMsg_fr
German	MQSeriesMsg_de
Hungarian	MQSeriesMsg_hu
Italian	MQSeriesMsg_it
Japanese	MQSeriesMsg_ja
Korean	MQSeriesMsg_ko
Polish	MQSeriesMsg_pl
Russian	MQSeriesMsg_ru
Spanish	MQSeriesMsg_es
Simplified Chinese	MQSeriesMsg_Zh_CN
Traditional Chinese	MQSeriesMsg_Zh_TW
U.S. English	not applicable

+ end excerpt

Note: there is no file named " `ibmmq-msg-en_9.1.0.0_amd64.deb` " because the U.S. English messages are always installed.

```
+++++
+++ Chapter 3: Create userid "mqm" and group "mqm"
+++++
```

Prior to installing the MQ executable code, it is necessary to create the userid "mqm" and group "mqm". These ids will own the MQ executable and shared library files, as well as the data and recovery logs for the MQ queue managers.

The MQ code has hardcoded that any member of the group "mqm" is an MQ Administrator.

Login as root.

The following command is useful to know the precise version of Linux.

```
+++ROOT+++ ubuntu1.fyre.ibm.com: /downloads/mq910000
# lsb_release -dr
Description:  Ubuntu 18.04 LTS
Release:      18.04
```

The following command will create a group called "mqm", with group-id (gid) of 501:

```
# groupadd -g 501 mqm
```

The following command will create a user called "mqm", with user-id (uid) of 501 and belonging to the group "mqm":

```
# useradd -u 501 -g mqm -s /bin/bash -d /home/mqm -m mqm
```

Assign the proper password:

```
# passwd mqm
```

After creating the group and user, then the "id" command shows:

```
# id mqm
uid=501(mqm) gid=501(mqm) groups=501(mqm)
```

```
+++++
+++ Chapter 4: Installation of MQ 9.1.0.0 (Installation1 in /opt/mqm)
+++++
```

Login as user:
root

Go to the local directory where the file with the MQ 9.1.0.0 code is located (see Chapter 2)
cd /downloads/mq9100

Unpack the file:
tar -zxvf IBM_MQ_9.1_UBUNTU_X86-64.tar.gz

Go to the newly created "MQServer" directory:
cd /downloads/mq9100/MQServer

Accept the license:
./mqlicense.sh -accept
Agreement accepted: Proceed with install.

Note:
Depending on what is the desired objective for this installation, you may need to select the desired Debian files to install. Also, you may want to delete those files that you do not need, such as the Message Catalog files (*msg*.deb).
This document assumes that you want to install all the filesets.

Here is the list of the .deb files:
ls ibmmq*.deb

```
ibmmq-amqp_9.1.0.0_amd64.deb      ibmmq-msg-fr_9.1.0.0_amd64.deb
ibmmq-ams_9.1.0.0_amd64.deb      ibmmq-msg-hu_9.1.0.0_amd64.deb
ibmmq-bcbridge_9.1.0.0_amd64.deb  ibmmq-msg-it_9.1.0.0_amd64.deb
ibmmq-client_9.1.0.0_amd64.deb    ibmmq-msg-ja_9.1.0.0_amd64.deb
ibmmq-explorer_9.1.0.0_amd64.deb  ibmmq-msg-ko_9.1.0.0_amd64.deb
ibmmq-ftagent_9.1.0.0_amd64.deb   ibmmq-msg-pl_9.1.0.0_amd64.deb
ibmmq-ftbase_9.1.0.0_amd64.deb    ibmmq-msg-pt_9.1.0.0_amd64.deb
ibmmq-ftlogger_9.1.0.0_amd64.deb  ibmmq-msg-ru_9.1.0.0_amd64.deb
ibmmq-ftservice_9.1.0.0_amd64.deb ibmmq-msg-zh-cn_9.1.0.0_amd64.deb
ibmmq-fttools_9.1.0.0_amd64.deb   ibmmq-msg-zh-tw_9.1.0.0_amd64.deb
ibmmq-gskit_9.1.0.0_amd64.deb     ibmmq-runtime_9.1.0.0_amd64.deb
ibmmq-java_9.1.0.0_amd64.deb      ibmmq-samples_9.1.0.0_amd64.deb
ibmmq-jre_9.1.0.0_amd64.deb       ibmmq-sdk_9.1.0.0_amd64.deb
ibmmq-man_9.1.0.0_amd64.deb       ibmmq-server_9.1.0.0_amd64.deb
ibmmq-msg-cs_9.1.0.0_amd64.deb    ibmmq-sfbridge_9.1.0.0_amd64.deb
ibmmq-msg-de_9.1.0.0_amd64.deb    ibmmq-web_9.1.0.0_amd64.deb
ibmmq-msg-es_9.1.0.0_amd64.deb    ibmmq-xrservice_9.1.0.0_amd64.deb
```

Use the **apt** management tool to install the IBM MQ packages that you want along with their dependency packages:

Go to the directory:

```
# cd /etc/apt/sources.list.d
```

Create file:

```
# vi IBM_MQ.list
```

This file should contain a deb entry for the location of the directory that contains the IBM MQ packages.

Add the following 2 lines:

```
+ begin (ignore this line)
```

```
# Local directory containing IBM MQ packages
```

```
deb [trusted=yes] file:/downloads/mq9100/MQServer ./
```

```
+ end (ignore this line)
```

The inclusion of the [trusted=yes] statement (including the brackets) is optional and suppresses warnings and prompts during subsequent operations.

Run the following command to add this directory and the list of packages the directory contains, to the apt cache:

```
# apt update
```

Note: See Appendix A to see the complete output.

You can now use **apt** to install IBM MQ.

Attention: Do not run the apt install ibmmq-* command in the directory which holds the .deb files, unless you are using quotation characters in the shell.

For example, you can install the complete product by issuing the following command:

```
# apt install "ibmmq-*"
```

Note: See Appendix B to see the complete output.

Another example mentioned in the manual:

You can install the server package and all its dependencies by issuing the following command:

```
apt install ibmmq-server
```

++ What are the effects of installing PMR on a pristine machine?

The rest of this chapter explains some of the effects of installing MQ.

1) The Debian database will show the installed filesets for MQ, by issuing the following command:

```
# apt list 'ibmmq-*'  
Listing... Done  
ibmmq-amqp/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-ams/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-bcbridge/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-client/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-explorer/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-ftagent/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-ftbase/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-ftlogger/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-ftservice/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-fttools/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-gskit/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-java/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-jre/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-man/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-cs/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-de/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-es/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-fr/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-hu/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-it/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-ja/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-ko/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-pl/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-pt/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-ru/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-zh-cn/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-msg-zh-tw/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-runtime/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-samples/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-sdk/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-server/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-sfbridge/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-web/unknown,now 9.1.0.0 amd64 [installed]  
ibmmq-xrservice/unknown,now 9.1.0.0 amd64 [installed]
```

2) There is a new directory which has a file with the information of the MQ installations:
/etc/opt/mqm

```
# ls -dl /etc/opt/mqm
drwxr-xr-x 2 root root 4096 Aug  2 15:54 /etc/opt/mqm
```

and a new file:

```
/etc/opt/mqm/mqinst.ini
```

```
# ls -dl /etc/opt/mqm/*
-rw-r--r-- 1 root root 153 Aug  2 15:54 /etc/opt/mqm/mqinst.ini
```

The contents of the file is:

```
# cat /etc/opt/mqm/mqinst.ini
```

Installation:

```
Name=Installation1
Description=
Identifier=1
FilePath=/opt/mqm
```

3) There is a new directory that has the MQ executable code and libraries:
/opt/mqm

```
# ls -dl /opt/mqm
dr-xr-xr-x 22 mqm mqm 4096 Aug  2 15:55 /opt/mqm
```

This is the list of the subdirectories:

```
# ls -dl /opt/mqm/*
dr-xr-xr-x  6 mqm mqm 4096 Aug  2 15:54 /opt/mqm/amqp
dr-xr-xr-x  3 mqm mqm 4096 Aug  2 15:55 /opt/mqm/bin
dr-xr-xr-x 16 mqm mqm 4096 Aug  2 15:54 /opt/mqm/doc
dr-xr-xr-x  7 mqm mqm 4096 Aug  2 15:55 /opt/mqm/gskit8
dr-xr-xr-x  4 mqm mqm 4096 Aug  2 15:55 /opt/mqm/inc
-r--r--r--  1 mqm mqm 15999 Jul  5 16:54 /opt/mqm/instinfo.tsk
dr-xr-xr-x  7 mqm mqm 4096 Aug  2 15:54 /opt/mqm/java
dr-xr-xr-x  4 mqm mqm 4096 Aug  2 15:55 /opt/mqm/lib
dr-xr-xr-x  3 mqm mqm 4096 Aug  2 15:55 /opt/mqm/lib64
dr-xr-xr-x  2 mqm mqm 4096 Aug  2 15:54 /opt/mqm/licenses
dr-xr-xr-x  4 mqm mqm 4096 Aug  2 15:55 /opt/mqm/man
dr-xr-xr-x  5 mqm mqm 4096 Aug  2 15:54 /opt/mqm/mqbc
dr-xr-xr-x  3 mqm mqm 4096 Aug  2 15:55 /opt/mqm/mqexplorer
dr-xr-xr-x  8 bin bin 4096 Aug  2 15:55 /opt/mqm/mqft
-r--r--r--  1 mqm mqm   0 Jul  5 16:54 /opt/mqm/mqpatch.dat
dr-xr-xr-x  5 mqm mqm 4096 Aug  2 15:55 /opt/mqm/mqsf
dr-xr-xr-x  7 mqm mqm 4096 Aug  2 15:55 /opt/mqm/mqxr
dr-xr-xr-x 16 mqm mqm 4096 Aug  2 15:55 /opt/mqm/msg
```

```
dr-xr-xr-x 2 mqm mqm 4096 Aug 2 15:54 /opt/mqm/README
dr-xr-xr-x 12 mqm mqm 4096 Aug 2 15:55 /opt/mqm/samp
dr-xr-xr-x 2 mqm mqm 4096 Aug 2 15:55 /opt/mqm/swidtag
dr-xr-x--- 9 mqm mqm 4096 Aug 2 15:55 /opt/mqm/web
```

4) There is a new directory structure for the MQ data:
/var/mqm

```
# ls -dl /var/mqm
```

```
drwxrwsr-x 14 mqm mqm 4096 Aug 2 15:54 /var/mqm
```

Here is the list of the subdirectories and files:

```
# ls -1Fl /var/mqm
```

```
drwxrwsr-x 2 mqm mqm 4096 Aug 2 15:54 config/
drwxrwsr-x 3 mqm mqm 4096 Aug 2 15:54 conv/
drwxrwsrwx 2 mqm mqm 4096 Aug 2 15:54 errors/
drwxrwsr-x 3 mqm mqm 4096 Aug 2 15:54 exits/
drwxrwsr-x 3 mqm mqm 4096 Aug 2 15:54 exits64/
drwxrwsr-x 2 mqm mqm 4096 Aug 2 15:54 log/
-rw-rw-r-- 1 mqm mqm 637 Aug 2 15:54 mqclient.ini
drwxrwsr-x 5 mqm mqm 4096 Aug 2 15:54 mqft/
-rw-rw-r-- 1 mqm mqm 2475 Aug 2 15:54 mqs.ini
drwxrwsr-x 3 mqm mqm 4096 Aug 2 15:54 qmgrs/
-rw-rw-r-- 1 mqm mqm 1941 Aug 2 15:54 service.env
drwxrwsr-x 4 mqm mqm 4096 Aug 2 15:54 shared/
drwxrwsr-x 3 mqm mqm 4096 Aug 2 15:54 sockets/
drwxrwsrwx 2 mqm mqm 4096 Aug 2 15:54 trace/
drwxrwsr-x 3 mqm mqm 4096 Aug 2 15:54 web/
```

Note:

a) The queue manager data will be located under:

```
/var/mqm/qmgrs
```

b) The recovery logs (transaction logs) for the queue manager will be located under:

```
/var/mqm/log
```

5) There are NO symbolic links in /usr/bin for the MQ executable code:

```
# ls -l /usr/bin/*mq*
```

```
ls: cannot access '/usr/bin/*mq*': No such file or directory
```

6) Because there are no symbolic links under /usr/bin, the MQ commands are not under the default PATH, which means that if you try go run "dspmqver" to show the version of MQ, the command will not be found:


```
# dspmqver  
dspmqver: command not found
```

```
+++++
+++ Chapter 5: Making this installation the Primary one
+++++
```

Because we will have ONLY one installation of MQ in this machine, it is more efficient to make this installation the Primary one.

Note that by default, the MQ installer does NOT make the installation the Primary one.

Starting with MQ 7.1, there is a new feature called "multi-version" installation, in which several different versions of MQ can coexist in the same host.

One important detail is that when MQ 7.1 or 7.5 or 8.0 or 9.0 or 9.1 is installed in the host, there are NO symbolic links created in /usr/bin or /usr/lib.

Why? Because the installation software does not know if you want to have this new installation the Primary one or if you want to use as Primary another installation of MQ in the same host.

There are 2 approaches to take in order to properly MQ commands:

1) If you decide not to make this installation as the Primary installation, then you will have to issue the following command every time that you login. The command can be added to your .profile file. Notice that you have to use: dot + space + setmqenv command
This command can be executed by any user and it will NOT create symbolic links.

```
. /opt/mqm/bin/setmqenv -n Installation1
```

2) If you want to make this installation the Primary installation, then then you can explicitly make this installation to be the "Primary". In that way, there will be symbolic links in /usr/bin that point to /opt/mqm.

As user "root" you will need to run the following command.

```
/opt/mqm/bin/setmqinst -i -p /opt/mqm
```

In this tutorial we will proceed with the 2nd approach (marking the installation as Primary).

Note: user root is the one authorized to run it.

```
# /opt/mqm/bin/setmqinst -i -p /opt/mqm
```

```
143 of 143 tasks have been completed successfully.
```

```
'Installation1' (/opt/mqm) set as the primary installation.
```

Some of the side-effects for making an installation a Primary are:

A) There are 2 lines appended to `/etc/opt/mqm/mqinst.ini` to indicate that this installation is a Primary one.

```
# cat /etc/opt/mqm/mqinst.ini
```

```
Installation:
```

```
  Name=Installation1
```

```
  Description=
```

```
  Identifier=1
```

```
  FilePath=/opt/mqm
```

```
Primary:
```

```
  Name=Installation1
```

B) There are now symbolic links in `/usr/lib`

```
# ls -l /usr/bin/*mq*
```

```
lrwxrwxrwx 1 root root 21 Aug  2 16:16 /usr/bin/addmqinf -> /opt/mqm/bin/addmqinf
```

```
lrwxrwxrwx 1 root root 21 Aug  2 16:16 /usr/bin/amqcrsta -> /opt/mqm/bin/amqcrsta
```

```
...
```

3) Now "dspmqver" can be found in the PATH:

```
# dspmqver
```

```
Name:      IBM MQ
```

```
Version:   9.1.0.0
```

```
Level:     p910-L180705
```

```
BuildType: IKAP - (Production)
```

```
Platform:  IBM MQ for Linux (x86-64 platform)
```

```
Mode:      64-bit
```

```
O/S:       Linux 4.15.0-20-generic
```

```
InstName:  Installation1
```

```
InstDesc:
```

```
Primary:   Yes
```

```
InstPath:  /opt/mqm
```

```
DataPath:  /var/mqm
```

```
MaxCmdLevel: 910
```

```
LicenseType: Production
```

+ RECOMMENDATION:

As user "root" create a shell script that other local users could use to setup the MQ environment variables.

Login as root

Go to the directory /usr/local/bin
cd /usr/local/bin

Create script:
vi set-mq-91

Notice that the installation name is: Installation1

```
===== begin script
# Name: set-mq-91
# Purpose: to setup the environment to run MQ 9.1
. /opt/mqm/bin/setmqenv -n Installation1
# Additional MQ directories for the PATH
export
PATH=$PATH:$MQ_INSTALLATION_PATH/java/bin:$MQ_INSTALLATION_PATH/samp/bin:$MQ_IN
STALLATION_PATH/samp/jms/samples:
# Add local directory for running Java/JMS programs
export CLASSPATH=$CLASSPATH:.
# Display the full fix pack level
dspmqver -f 2
# end
===== end of script
```

Specify the script as executable:
chmod 755 /usr/local/bin/set-mq-91

All local users can now execute this script from their command prompt or within the .profile or .bashrc

They will need to invoke the script with the leading dot!

```
.    /usr/local/bin/set-mq-91
|  |
| +--- blank
+--- dot
```

```
+++++
+++ Chapter 6: Creating a test queue manager, quick verification test
+++++
```

Login as user "mqm" (MQ Administrator)

Notice that there are NO environment variables for MQ.

```
mqm@ubuntumq1.fyre.ibm.com: /home/mqm
$ set | grep -i mq
HISTFILE=/home/mqm/.bash_history
HOME=/home/mqm
HOSTNAME=ubuntumq1.fyre.ibm.com
LOGNAME=mqm
MAIL=/var/mail/mqm
PATH=/usr/local/bin:/usr/bin:/bin:/usr/local/games:/usr/games:/snap/bin:/usr/local/bin:
/home/mqm/bin:./sbin:/java/bin:/smp/bin:/smp/jms/samples:
PWD=/home/mqm
SITE=ubuntumq1.fyre.ibm.com
USER=mqm
```

Even though the directory for Installation1 /opt/mqm is the Primary, still it is necessary to run an MQ script in order to set up needed environment variables. You can add the following into your profile or bashrc. Notice that you MUST include the dot, then the space and then the rest of text. This is called "to source" the script, that is, to make it "inline".

```
mqm@ubuntumq1.fyre.ibm.com: /home/mqm
$ . /opt/mqm/bin/setmqenv -n Installation1
```

Note: If root created the script set-mq-90 in the previous chapter, then you can issue:

```
mqm@ubuntumq1.fyre.ibm.com: /home/mqm
$ . /usr/local/bin/set-mq-91
Version: 9.1.0.0
```

These are the environment variables set by setmqenv:

```
$ set | grep -i mq
CLASSPATH=/opt/mqm/java/lib/com.ibm.mq.jar:/opt/mqm/java/lib/com.ibm.mqjms.jar:
/opt/mqm/java/lib/com.ibm.mq.allclient.jar:/opt/mqm/smp/wmqjava/samples:/opt/m
qm/smp/jms/samples:
HISTFILE=/home/mqm/.bash_history
HOME=/home/mqm
HOSTNAME=ubuntumq1.fyre.ibm.com
LOGNAME=mqm
MAIL=/var/mail/mqm
```

```

MANPATH=/opt/mqm/man::/usr/man
MQ_DATA_PATH=/var/mqm
MQ_ENV_MODE=64
MQ_INSTALLATION_NAME=Installation1
MQ_INSTALLATION_PATH=/opt/mqm
MQ_JAVA_DATA_PATH=/var/mqm
MQ_JAVA_INSTALL_PATH=/opt/mqm/java
MQ_JAVA_LIB_PATH=/opt/mqm/java/lib64
MQ_JRE_PATH=/opt/mqm/java/jre64/jre
MQ_RETVAL=0
PATH=/usr/local/bin:/usr/bin:/bin:/usr/local/games:/usr/games:/snap/bin:/usr/local/bin:
/home/mqm/bin:./sbin:/opt/mqm/java/bin:/opt/mqm/samp/bin:/opt/mqm/samp/jms/s
amples:
SITE=ubuntumq1.fyre.ibm.com

```

The file /var/mqm/mqs.ini has the master index for the queue managers.

```

mqm@ubuntumq1.fyre.ibm.com: /home/mqm
$ cd /var/mqm
$ tail -10 mqs.ini
AllQueueManagers:
#*****#
#* The path to the qmgrs directory, below which queue manager data  *#
#* is stored                                     *#
#*****#
DefaultPrefix=/var/mqm

LogDefaults:
LogDefaultPath=/var/mqm/log

```

Notice the current contents for the directory where the data for the queue managers is located:

```

$ cd /var/mqm/qmgrs
$ ls -al
total 12
drwxrwsr-x 3 mqm mqm 4096 Aug  2 15:54 .
drwxrwsr-x 14 mqm mqm 4096 Aug  2 15:54 ..
drwxrwsr-x 2 mqm mqm 4096 Aug  2 15:54 @SYSTEM

$ cd /var/mqm/log
$ ls -al

```

++ Creating a queue manager for testing and initial customization to overcome typical security situations (not recommended for production)

The following post from the MQ forum in dwAnswers is very helpful:

<https://developer.ibm.com/answers/questions/229920/what-are-the-minimum-steps-to-create-a-new-test-qu.html>

What are the minimum steps to create a new test queue manager, allowing remote access by MQ Administrators and non-administrators?

Caveat: You must define the queue DLQ later. The above parameter does NOT actually create the queue, it just tells the queue manager which is the name of the dlq.

Note: Many MQ Explorer users hide the SYSTEM* queues and thus, if you use as the dlq the SYSTEM.DEAD.LETTER.QUEUE, then it will be hidden and you may not notice if there are messages in the dlq.

Login as the MQ Administrator.

```
$ crtmqm -u DLQ TEST_91
```

```
IBM MQ queue manager created.
```

```
Directory '/var/mqm/qmgrs/TEST_91' created.
```

```
The queue manager is associated with installation 'Installation1'.
```

```
Creating or replacing default objects for queue manager 'TEST_91'.
```

```
Default objects statistics : 84 created. 0 replaced. 0 failed.
```

```
Completing setup.
```

```
Setup completed.
```

```
$ strmqm TEST_91
```

```
IBM MQ queue manager 'TEST_91' starting.
```

```
The queue manager is associated with installation 'Installation1'.
```

```
5 log records accessed on queue manager 'TEST_91' during the log replay phase.
```

```
Log replay for queue manager 'TEST_91' complete.
```

```
Transaction manager state recovered for queue manager 'TEST_91'.
```

```
IBM MQ queue manager 'TEST_91' started using V9.1.0.0.
```

```
$ runmqsc TEST_91
```

```
## Define a listener. The default is port 1419. (The default is 1414, but here another port is used, just to illustrate that it is possible to use another port other than 1414)
```

```
define listener(LISTENER) trptype(tcp) control(qmgr) port(1419)
start listener(LISTENER)
```

```
## Define a channel to be used by a remote MQ Explorer
```

```
define channel(SYSTEM.ADMIN.SVRCONN) chlname(SVRCONN)
```



```
## Define the DLQ
define qlocal(DLQ) like(SYSTEM.DEAD.LETTER.QUEUE)

## Define test queue:
define qlocal (Q1)

end
```

Put a message using "bindings" (via local shared memory, not using TCP network) to the queue Q1:

```
$ amqsput Q1 TEST_91
Sample AMQSPUT0 start
target queue is Q1
this is a test
<press Enter without any further text to exit>
Sample AMQSPUT0 end
```

Now you can issue the sample that reads the message from the queue:

```
$ amqsget Q1 TEST_91
Sample AMQSGET0 start
message <this is a test>
no more messages
Sample AMQSGET0 end
```

Result: The use of bindings samples to put a message and to get that message, worked fine.

+ It is important to know the location of the error logs for the queue manager:

```
$ cd /var/mqm/qmgrs/TEST_91/errors
$ ls
AMQERR01.LOG AMQERR02.LOG AMQERR03.LOG amqp_0.log
```

Sometimes, there will be FDC files generated by MQ processes. They will be located in another directory, which is:

```
$ cd /var/mqm/errors
$ ls
AMQERR01.LOG AMQERR02.LOG AMQERR03.LOG
```

We can see that a new stanza was added to the master index file “mqm.ini” to register the new queue manager:

```
$ cd /var/mqm
$ tail -10 mqm.ini
  DefaultPrefix=/var/mqm
```

```
LogDefaults:
  LogDefaultPath=/var/mqm/log
```

```
QueueManager:
  Name=TEST_91
  Prefix=/var/mqm
  Directory=TEST_91
  InstallationName=Installation1
```

The following command shows the runtime status of the queue manager:

```
$ dspmq
QMNAME(TEST_91)                STATUS(Running)

$ dspmq -o installation
QMNAME(TEST_91)                INSTNAME(Installation1)
INSTPATH(/opt/mqm) INSTVER(9.1.0.0)
```

The following shows the individual processes for the queue manager:

```
$ ps -ef | grep TEST_91
mqm      5272    1 0 16:29 ?        00:00:00 /opt/mqm/bin/amqzma0 -m TEST_91 -u mqm
mqm      5280  5272  0 16:29 ?        00:00:00 /opt/mqm/bin/amqzfuma -m TEST_91
mqm      5283  5272  0 16:29 ?        00:00:00 /opt/mqm/bin/amqzmuc0 -m TEST_91
mqm      5302  5272  0 16:29 ?        00:00:00 /opt/mqm/bin/amqzmur0 -m TEST_91
mqm      5317  5272  0 16:29 ?        00:00:00 /opt/mqm/bin/amqzmuf0 -m TEST_91
```

```

mqm      5321 5272 0 16:29 ?      00:00:00 /opt/mqm/bin/amqrrmfa -m TEST_91 -
t2332800 -s2592000 -p2592000 -g5184000 -c3600
mqm      5333 5272 0 16:29 ?      00:00:00 /opt/mqm/bin/amqzmgr0 -m TEST_91
mqm      5340 5317 0 16:29 ?      00:00:00 /opt/mqm/bin/amqfqpub -mTEST_91
mqm      5349 5333 0 16:29 ?      00:00:00 /opt/mqm/bin/runmqchi -m TEST_91 -q
SYSTEM.CHANNEL.INITQ -r
mqm      5351 5333 0 16:29 ?      00:00:00 /opt/mqm/bin/amqpcsea TEST_91
mqm      5352 5333 0 16:29 ?      00:00:00 /bin/sh /opt/mqm/bin/amqp.sh start -m
TEST_91 -d /var/mqm/qmgrs/TEST_91/. -g /var/mqm/.
mqm      5353 5272 0 16:29 ?      00:00:00 /opt/mqm/bin/amqzlaa0 -mTEST_91 -fip0
mqm      5356 5340 0 16:29 ?      00:00:00 /opt/mqm/bin/amqfcxba -m TEST_91
mqm      5359 5352 0 16:29 ?      00:00:00 /bin/sh
/opt/mqm/amqp/bin/controlAMQP_mqm.sh start -m TEST_91 -d
/var/mqm/qmgrs/TEST_91/. -g /var/mqm/.
mqm      5406 5359 8 16:29 ?      00:00:14
/opt/mqm/amqp/bin/../../../../java/jre64/jre/bin/java -
Dcom.ibm.mq.mqxr.service.type=amqp -
Dcom.ibm.msg.client.config.location=file:///opt/mqm/amqp/bin/./config/amqp_trace.c
onfig -Xoptionsfile=/opt/mqm/amqp/bin/./config/amqp_java.properties -
Dcom.ibm.msg.client.commonservices.wmq.logdir=/var/mqm/qmgrs/TEST_91/./errors -
Dcom.ibm.msg.client.commonservices.wmq.tracedir=/var/mqm/./trace -
Dcom.ibm.msg.client.commonservices.wmq.ffdcdir=/var/mqm/./errors
com.ibm.mq.MQXRService.RunMQXRService -t /opt/mqm/amqp/bin/./config -m TEST_91 -
d /var/mqm/qmgrs/TEST_91/. -g /var/mqm/.
mqm      5441 5333 0 16:30 ?      00:00:00 /opt/mqm/bin/runmqslr -r -m TEST_91 -t TCP
-p 1419
mqm      5456 5103 0 16:32 pts/0   00:00:00 grep --color=auto TEST_91

```

Verifying that the port is being used. Notice the following line from the output of "ps". It means that the port number 1491 is by used by runmqslr, the MQ Listener for this queue manager.

```

mqm      5441 5333 0 16:30 ?      00:00:00 /opt/mqm/bin/runmqslr -r -m TEST_91 -t TCP
-p 1419

```

The networking command "netstat" can be used to query the status of a port. The -p flag indicates which is the process that is using it. In some older Linux, this flag can only be used by user root.

```
$ netstat -anp | grep 1419
```

(Not all processes could be identified, non-owned process info will not be shown, you would have to be root to see it all.)

```
tcp6     0    0 :::1419          :::*              LISTEN        5441/runmqslr
```

Let's take a look at the version information held by the queue manager.

Notice that the string under the attribute VERSION is 09000001 which represents: 09 00 00 01 => 09.00.00.01 => 9.1.0.0

```
$ runmqsc TEST_91
display qmgr version
AMQ8408: Display Queue Manager details.
  QMNAME(TEST_91)          VERSION(09010000)
end
```

Stop the queue manager:

```
$ endmqm -i TEST_91
IBM MQ queue manager 'TEST_91' ending.
IBM MQ queue manager 'TEST_91' ended.
```

+++++
Chapter 7: Applying Fix Pack MQ 9.1.0.1
+++++

Login as user:
root

Go to the local directory where the file with the Fix Pack MQ 9.1.0.1 is located (see Chapter 2)

```
# cd /downloads/mq9101
```

Unpack the file:

```
# tar -zxvf 9.1.0-IBM-MQ-UbuntuLinuxX64-FP0001.tar.gz
```

Here is a list of the extracted files:

```
# ls
9.1.0-IBM-MQ-UbuntuLinuxX64-FP0001.tar.gz
ibmmq-amqp-u9101_9.1.0.1_amd64.deb
ibmmq-ams-u9101_9.1.0.1_amd64.deb
ibmmq-bcbridge-u9101_9.1.0.1_amd64.deb
ibmmq-client-u9101_9.1.0.1_amd64.deb
ibmmq-explorer-u9101_9.1.0.1_amd64.deb
ibmmq-ftagent-u9101_9.1.0.1_amd64.deb
ibmmq-ftbase-u9101_9.1.0.1_amd64.deb
ibmmq-ftlogger-u9101_9.1.0.1_amd64.deb
ibmmq-ftservice-u9101_9.1.0.1_amd64.deb
ibmmq-fttools-u9101_9.1.0.1_amd64.deb
ibmmq-gskit-u9101_9.1.0.1_amd64.deb
ibmmq-java-u9101_9.1.0.1_amd64.deb
ibmmq-jre-u9101_9.1.0.1_amd64.deb
ibmmq-man-u9101_9.1.0.1_amd64.deb
ibmmq-msg-cs-u9101_9.1.0.1_amd64.deb
ibmmq-msg-de-u9101_9.1.0.1_amd64.deb
ibmmq-msg-es-u9101_9.1.0.1_amd64.deb
ibmmq-msg-fr-u9101_9.1.0.1_amd64.deb
ibmmq-msg-hu-u9101_9.1.0.1_amd64.deb
ibmmq-msg-it-u9101_9.1.0.1_amd64.deb
ibmmq-msg-ja-u9101_9.1.0.1_amd64.deb
ibmmq-msg-ko-u9101_9.1.0.1_amd64.deb
ibmmq-msg-pl-u9101_9.1.0.1_amd64.deb
ibmmq-msg-pt-u9101_9.1.0.1_amd64.deb
ibmmq-msg-ru-u9101_9.1.0.1_amd64.deb
ibmmq-msg-zh-cn-u9101_9.1.0.1_amd64.deb
ibmmq-msg-zh-tw-u9101_9.1.0.1_amd64.deb
ibmmq-runtime-u9101_9.1.0.1_amd64.deb
ibmmq-samples-u9101_9.1.0.1_amd64.deb
```

```
ibmmq-sdk-u9101_9.1.0.1_amd64.deb
ibmmq-server-u9101_9.1.0.1_amd64.deb
ibmmq-sfbridge-u9101_9.1.0.1_amd64.deb
ibmmq-web-u9101_9.1.0.1_amd64.deb
ibmmq-xrservice-u9101_9.1.0.1_amd64.deb
Packages.gz
```

Use the apt management tool to install the IBM MQ packages that you want along with their dependency packages:

Go to the directory:

```
# cd /etc/apt/sources.list.d
```

Update the file:

```
# vi IBM_MQ.list
```

This file should contain a deb entry for the location of the directory that contains the IBM MQ packages for the Fix Pack.

Add the following 1 line at the bottom:

```
+ begin (ignore this line)
deb [trusted=yes] file:/downloads/mq9101 ./
+ end (ignore this line)
```

You can now use apt to install the Fix Pack 9.1.0.1 for IBM MQ.

```
# apt install "ibmmq-*-u9101*"
```

The Debian database will show the installed filesets for MQ, by issuing the following command:

```
# apt list 'ibmmq-*
```

Listing... Done

```
ibmmq-amqp/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-amqp-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-ams/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-ams-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-bcbridge/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-bcbridge-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-client/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-client-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-explorer/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-explorer-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-ftagent/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-ftagent-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-ftbase/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-ftbase-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-ftlogger/unknown,now 9.1.0.0 amd64 [installed]
```

ibmmq-ftlogger-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-ftservice/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-ftservice-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-fttools/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-fttools-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-gskit/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-gskit-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-java/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-java-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-jre/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-jre-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-man/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-man-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-cs/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-cs-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-de/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-de-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-es/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-es-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-fr/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-fr-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-hu/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-hu-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-it/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-it-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-ja/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-ja-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-ko/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-ko-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-pl/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-pl-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-pt/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-pt-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-ru/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-ru-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-zh-cn/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-zh-cn-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-msg-zh-tw/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-msg-zh-tw-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-runtime/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-runtime-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-samples/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-samples-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-sdk/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-sdk-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-server/unknown,now 9.1.0.0 amd64 [installed]

```
ibmmq-server-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-sfbridge/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-sfbridge-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-web/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-web-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-xrservice/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-xrservice-u9101/unknown,now 9.1.0.1 amd64 [installed]
```

Verify that the version is as expected:
9.1.0.1

dspmqver

```
Name:      IBM MQ
Version:   9.1.0.1
Level:     p910-001-181108
BuildType: IKAP - (Production)
Platform:  IBM MQ for Linux (x86-64 platform)
Mode:      64-bit
O/S:       Linux 4.15.0-39-generic
InstName:  Installation1
InstDesc:
Primary:   Yes
InstPath:  /opt/mqm
DataPath:  /var/mqm
MaxCmdLevel: 910
LicenseType: Production
```

Logged in as user mqm and started the queue manager.

```
mqm@ubuntumq1.fyre.ibm.com: /home/mqm
(47) strmqm TEST_91
The system resource RLIMIT_NOFILE is set at an unusually low level for IBM MQ.
IBM MQ queue manager 'TEST_91' starting.
The queue manager is associated with installation 'Installation1'.
5 log records accessed on queue manager 'TEST_91' during the log replay phase.
Log replay for queue manager 'TEST_91' complete.
Transaction manager state recovered for queue manager 'TEST_91'.
IBM MQ queue manager 'TEST_91' started using V9.1.0.1.
mqm@ubuntumq1.fyre.ibm.com: /home/mqm
(48) runmqsc TEST_91
5724-H72 (C) Copyright IBM Corp. 1994, 2018.
Starting MQSC for queue manager TEST_91.
```

```
display qmgr version
1 : display qmgr version
```


AMQ8408I: Display Queue Manager details.

QMNAME(TEST_91) VERSION(09010001)

end

2 : end

One MQSC command read.

No commands have a syntax error.

All valid MQSC commands were processed.

Stopped the queue manager

mqm@ubuntumq1.fyre.ibm.com: /home/mqm

(49) endmqm -i TEST_91

IBM MQ queue manager 'TEST_91' ending.

IBM MQ queue manager 'TEST_91' ended.

++++
Chapter 8: Uninstallation of the Fix Pack 9.1.0.1
++++

The MQ product for UNIX (AIX, Linux, etc) follows the best practice of using 2 different directory trees:

1: A directory tree for the executables and shared libraries.

In AIX is /usr/mqm

In Linux and others is /opt/mqm

2: A directory tree for the data for the queue managers and other configuration files.

For all UNIX is /var/mqm

When you backup /var/mqm, you are backing up ONLY the data, and not the executables.

These 2 directories trees are mutually exclusive, which means:

- When you create, maintain and use queue managers, only the data in /var/mqm is touched.

There is NO altering of any of the executable files under /opt/mqm.

- When you install, uninstall, apply fix packs or interim fixes, only the files under /opt/mqm are touched.

There is NO altering of any of the files under /var/mqm.

You will need to uninstall MQ in the REVERSE order of the installation (first uninstall Fix Packs, then the base), otherwise you will get errors.

This means that for this example the sequence is:

- Uninstall the Fix Pack 9.1.0.x

- Uninstall the Base 9.1.0.0

Before trying to uninstall the MQ code, you will need to stop all the MQ queue managers and MQ clients in the host.

There should NOT be any type of MQ activity.

Login as the MQ administrator “mqm” and terminate the queue manager:

```
$ endmqm -i TEST_91
```

```
IBM MQ queue manager 'TEST_91' ending.
```

```
IBM MQ queue manager 'TEST_91' ended.
```

```
$ ps -ef | grep -i mq
```

```
mqm      5492  5103  0 16:35 pts/0    00:00:00 ps -ef
```

Now that there is no MQ activity in the box, proceed to uninstall the product.

Login as root

Issue the following command to find out the filesets for 9.1.0.1.
Notice the presence in each line of the following text:

unknown,now

```
+++ROOT+++ ubuntu1.fyre.ibm.com: /root
# apt list "ibmmq-*-u9101*"
Listing... Done
ibmmq-amqp-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-ams-u9101/unknown,now 9.1.0.1 amd64 [installed]
...
ibmmq-web-u9101/unknown,now 9.1.0.1 amd64 [installed]
ibmmq-xrservice-u9101/unknown,now 9.1.0.1 amd64 [installed]
```

Proceed to uninstall the Fix Pack MQ 9.1.0.1 using “apt”:

1) The following Debian command removes the product but leaves the package definition cached.

```
# apt remove "ibmmq-*-u9101*"
...
0 upgraded, 0 newly installed, 34 to remove and 78 not upgraded.
After this operation, 974 MB disk space will be freed.
Do you want to continue? [Y/n]
Y
...
Removing ibmmq-runtime-u9101 (9.1.0.1) ...
Entering prerm for "ibmmq-runtime-u9101" remove
Entering postrm for "ibmmq-runtime-u9101" remove
```

Now list the installed filesets again. Notice the following at the right of each line:
[residual-config]

```
# apt list "ibmmq-*-u9101*"
ibmmq-amqp-u9101/unknown,now 9.1.0.1 amd64 [residual-config]
ibmmq-ams-u9101/unknown,now 9.1.0.1 amd64 [residual-config]
...
ibmmq-web-u9101/unknown,now 9.1.0.1 amd64 [residual-config]
ibmmq-xrservice-u9101/unknown,now 9.1.0.1 amd64 [residual-config]
```

2) The following purges the cached definition of the product.

```
# apt purge "ibmmq-*-u9101*"
0 upgraded, 0 newly installed, 34 to remove and 78 not upgraded.
```

After this operation, 0 B of additional disk space will be used.

Do you want to continue? [Y/n]

Y

...

Purging configuration files for ibmmq-fttools-u9101 (9.1.0.1) ...

Entering postrm for "ibmmq-fttools-u9101" purge

Now list the filesets again. Notice the following at the right of each line:

unknown

instead of:

unknown,now

```
# apt list "ibmmq-*-u9101*"
```

```
Listing... Done
```

```
ibmmq-amqp-u9101/unknown 9.1.0.1 amd64
```

```
ibmmq-ams-u9101/unknown 9.1.0.1 amd64...
```

```
ibmmq-web-u9101/unknown 9.1.0.1 amd64
```

```
ibmmq-xrservice-u9101/unknown 9.1.0.1 amd64
```

Notice that the output of `dspmqver` indicates that the version is: 9.1.0.0

```
# dspmqver
```

```
Name:    IBM MQ
```

```
Version: 9.1.0.0
```

```
Login as user:
```

```
mqm
```

Start the queue manager and query the `VERSION` attribute.

Notice that the version is: 9.1.0.0

```
$ strmqm TEST_91
```

```
The system resource RLIMIT_NOFILE is set at an unusually low level for IBM MQ.
```

```
IBM MQ queue manager 'TEST_91' starting.
```

```
...
```

```
IBM MQ queue manager 'TEST_91' started using V9.1.0.0.
```

```
$ runmqsc TEST_91
```

```
display qmgr version
```

```
1 : display qmgr version
```

```
AMQ8408I: Display Queue Manager details.
```

```
QMNAME(TEST_91)
```

```
VERSION(09010000)
```

```
end
```

```

+++++
Chapter 9: Uninstallation of base 9.1.0.0
+++++

```

For details on the separation of /opt/mqm and /var/mqm, please see introductory paragraphs in:

Chapter 8: Uninstallation of the Fix Pack 9.1.0.1

You will need to uninstall MQ in the REVERSE order of the installation (first uninstall Fix Packs, then the base), otherwise you will get errors.

This means that for this example the sequence is:

- Uninstall the Fix Pack 9.1.0.x
- Uninstall the Base 9.1.0.0

Before trying to uninstall the MQ code, you will need to stop all the MQ queue managers and MQ clients in the host.

There should NOT be any type of MQ activity.

Login as the MQ administrator “mqm” and terminate the queue manager:

```

$ endmqm -i TEST_91
IBM MQ queue manager 'TEST_91' ending.
IBM MQ queue manager 'TEST_91' ended.

```

```

$ ps -ef | grep -i mq
mqm      5492  5103  0 16:35 pts/0    00:00:00 ps -ef

```

Now that there is no MQ activity in the box, proceed to uninstall the product.

Login as root

Issue the following command to find out the filesets for 9.1.0.0 as installed:

```
unknown,now 9.1.0.0 amd64 [installed]
```

But it also lists the filesets for 9.1.0.1 as NOT installed:

```
unknown 9.1.0.1 amd64
```

```

+++ROOT+++ ubuntu@mq1.fyre.ibm.com: /root
# apt list 'ibmmq-*'
Listing... Done
# apt list 'ibmmq-*'
Listing... Done
ibmmq-amqp/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-amqp-u9101/unknown 9.1.0.1 amd64
ibmmq-ams/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-ams-u9101/unknown 9.1.0.1 amd64

```

...

```
ibmmq-xrservice/unknown,now 9.1.0.0 amd64 [installed]
ibmmq-xrservice-u9101/unknown 9.1.0.1 amd64
```

Proceed to uninstall MQ 9.1.0.0 using “apt”:

1) The following Debian command removes the product but leaves the package definition cached.

Note: See Appendix C: Output from: apt remove "ibmmq-*"

```
# apt remove "ibmmq-*"
0 upgraded, 0 newly installed, 34 to remove and 78 not upgraded.
After this operation, 975 MB disk space will be freed.
Do you want to continue? [Y/n]
Y
...
Entering prerm for "ibmmq-runtime" remove
Entering postrm for "ibmmq-runtime" remove
```

List now the status of the filesets.

Notice the indication in each line for 9.1.0.0: [residual-config]

```
# apt list "ibmmq-*"
Listing... Done
ibmmq-amqp/unknown,now 9.1.0.0 amd64 [residual-config]
ibmmq-amqp-u9101/unknown 9.1.0.1 amd64
ibmmq-ams/unknown,now 9.1.0.0 amd64 [residual-config]
ibmmq-ams-u9101/unknown 9.1.0.1 amd64
...
```

2) The following purges the cached definition of the product.

Note: See Appendix D: Output from: apt purge "ibmmq-*"

```
# apt purge "ibmmq-*"
...
0 upgraded, 0 newly installed, 34 to remove and 78 not upgraded.
After this operation, 0 B of additional disk space will be used.
Do you want to continue? [Y/n]
Y
...
Purging configuration files for ibmmq-java (9.1.0.0) ...
Entering postrm for "ibmmq-java" purge
```

Issue now the following command, and you will see that there are no more “known” filesets for MQ

```
# apt list "ibmmq-*"  
Listing... Done  
ibmmq-amqp/unknown 9.1.0.0 amd64  
ibmmq-amqp-u9101/unknown 9.1.0.1 amd64  
ibmmq-ams/unknown 9.1.0.0 amd64  
ibmmq-ams-u9101/unknown 9.1.0.1 amd64  
...  
ibmmq-xrservice/unknown 9.1.0.0 amd64  
ibmmq-xrservice-u9101/unknown 9.1.0.1 amd64
```

The above means that MQ is no longer installed in the host (location /opt/mqm)

The MQ data under /var/mqm is left intact (it was not touched by the uninstallation).

Let's verify the contents of the mqinst.ini file, which keeps track of the installations of MQ in the host.

Notice that the entry Installation1 was NOT deleted, although the 2 lines indicating that it was a Primary installation were deleted.

This is working as designed.

If you want to delete that entry, then it is necessary to use the MQ command "dltmqinst".

```
# cat /etc/opt/mqm/mqinst.ini  
Installation:  
  Name=Installation1  
  Description=  
  Identifier=1  
  FilePath=/opt/mqm
```

```
+++++
+++ Appendix A: Output from: apt update
+++++
```

```
+++ROOT+++ ubuntu1.fyre.ibm.com: /etc/apt/sources.list.d
# apt update
```

```
Get:1 file:/downloads/mq9100/MQServer ./ InRelease
Ign:1 file:/downloads/mq9100/MQServer ./ InRelease
Get:2 file:/downloads/mq9100/MQServer ./ Release
Ign:2 file:/downloads/mq9100/MQServer ./ Release
Get:3 file:/downloads/mq9100/MQServer ./ Packages
Ign:3 file:/downloads/mq9100/MQServer ./ Packages
Get:4 file:/downloads/mq9100/MQServer ./ Translation-en
Ign:4 file:/downloads/mq9100/MQServer ./ Translation-en
Get:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Ign:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Get:3 file:/downloads/mq9100/MQServer ./ Packages
Ign:3 file:/downloads/mq9100/MQServer ./ Packages
Get:4 file:/downloads/mq9100/MQServer ./ Translation-en
Ign:4 file:/downloads/mq9100/MQServer ./ Translation-en
Get:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Ign:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Get:3 file:/downloads/mq9100/MQServer ./ Packages
Ign:3 file:/downloads/mq9100/MQServer ./ Packages
Get:4 file:/downloads/mq9100/MQServer ./ Translation-en
Ign:4 file:/downloads/mq9100/MQServer ./ Translation-en
Get:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Ign:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Get:3 file:/downloads/mq9100/MQServer ./ Packages [5,605 B]
Get:4 file:/downloads/mq9100/MQServer ./ Translation-en
Ign:4 file:/downloads/mq9100/MQServer ./ Translation-en
Get:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Ign:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Get:4 file:/downloads/mq9100/MQServer ./ Translation-en
Ign:4 file:/downloads/mq9100/MQServer ./ Translation-en
Get:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Ign:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Get:4 file:/downloads/mq9100/MQServer ./ Translation-en
Ign:4 file:/downloads/mq9100/MQServer ./ Translation-en
Get:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Ign:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Get:4 file:/downloads/mq9100/MQServer ./ Translation-en
Ign:4 file:/downloads/mq9100/MQServer ./ Translation-en
Get:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
Ign:5 file:/downloads/mq9100/MQServer ./ Translation-en_US
```



```
Hit:6 http://archive.ubuntu.com/ubuntu bionic InRelease
Get:7 http://security.ubuntu.com/ubuntu bionic-security InRelease [83.2 kB]
Get:8 http://archive.ubuntu.com/ubuntu bionic-updates InRelease [88.7 kB]
Get:9 http://archive.ubuntu.com/ubuntu bionic-backports InRelease [74.6 kB]
Fetched 247 kB in 1s (172 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
131 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

```
+++++
+++ Appendix B: Output from: apt install "ibmmq-*"
+++++
```

```
+++ROOT+++ ubuntu1.fyre.ibm.com: /etc/apt/sources.list.d
```

```
# apt install "ibmmq-*"
```

```
Reading package lists... Done
```

```
Building dependency tree
```

```
Reading state information... Done
```

```
Note, selecting 'ibmmq-msg-cs' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-de' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-es' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-fr' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-hu' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-it' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-ja' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-ko' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-pl' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-pt' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-ru' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-sdk' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-gskit' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-web' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-server' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-client' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-zh-cn' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-zh-tw' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-ftagent' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-fttools' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-ftlogger' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-samples' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-ams' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-sfbridge' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-ftbase' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-amqp' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-explorer' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-jre' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-ftservice' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-runtime' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-bcbridge' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-xrservice' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-man' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-java' for glob 'ibmmq-*'
```

```
The following NEW packages will be installed:
```

```
ibmmq-amqp ibmmq-ams ibmmq-bcbridge ibmmq-client ibmmq-explorer
```

```
ibmmq-ftagent ibmmq-ftbase ibmmq-ftlogger ibmmq-ftservice ibmmq-fttools
```

ibmmq-gskit ibmmq-java ibmmq-jre ibmmq-man ibmmq-msg-cs ibmmq-msg-de
ibmmq-msg-es ibmmq-msg-fr ibmmq-msg-hu ibmmq-msg-it ibmmq-msg-ja
ibmmq-msg-ko ibmmq-msg-pl ibmmq-msg-pt ibmmq-msg-ru ibmmq-msg-zh-cn
ibmmq-msg-zh-tw ibmmq-runtime ibmmq-samples ibmmq-sdk ibmmq-server
ibmmq-sfbridge ibmmq-web ibmmq-xrservice

0 upgraded, 34 newly installed, 0 to remove and 131 not upgraded.

Need to get 0 B/769 MB of archives.

After this operation, 975 MB of additional disk space will be used.

Get:1 file:/downloads/mq9100/MQServer ./ ibmmq-runtime 9.1.0.0 [32.4 MB]
Get:2 file:/downloads/mq9100/MQServer ./ ibmmq-java 9.1.0.0 [68.1 MB]
Get:3 file:/downloads/mq9100/MQServer ./ ibmmq-jre 9.1.0.0 [126 MB]
Get:4 file:/downloads/mq9100/MQServer ./ ibmmq-server 9.1.0.0 [33.5 MB]
Get:5 file:/downloads/mq9100/MQServer ./ ibmmq-amqp 9.1.0.0 [2,608 kB]
Get:6 file:/downloads/mq9100/MQServer ./ ibmmq-ams 9.1.0.0 [6,024 B]
Get:7 file:/downloads/mq9100/MQServer ./ ibmmq-bcbridge 9.1.0.0 [1,189 kB]
Get:8 file:/downloads/mq9100/MQServer ./ ibmmq-client 9.1.0.0 [7,501 kB]
Get:9 file:/downloads/mq9100/MQServer ./ ibmmq-explorer 9.1.0.0 [257 MB]
Get:10 file:/downloads/mq9100/MQServer ./ ibmmq-ftbase 9.1.0.0 [25.1 MB]
Get:11 file:/downloads/mq9100/MQServer ./ ibmmq-ftagent 9.1.0.0 [2,635 kB]
Get:12 file:/downloads/mq9100/MQServer ./ ibmmq-ftlogger 9.1.0.0 [8,114 kB]
Get:13 file:/downloads/mq9100/MQServer ./ ibmmq-ftservice 9.1.0.0 [11.7 kB]
Get:14 file:/downloads/mq9100/MQServer ./ ibmmq-fttools 9.1.0.0 [12.0 kB]
Get:15 file:/downloads/mq9100/MQServer ./ ibmmq-gskit 9.1.0.0 [22.3 MB]
Get:16 file:/downloads/mq9100/MQServer ./ ibmmq-man 9.1.0.0 [452 kB]
Get:17 file:/downloads/mq9100/MQServer ./ ibmmq-msg-cs 9.1.0.0 [227 kB]
Get:18 file:/downloads/mq9100/MQServer ./ ibmmq-msg-de 9.1.0.0 [241 kB]
Get:19 file:/downloads/mq9100/MQServer ./ ibmmq-msg-es 9.1.0.0 [222 kB]
Get:20 file:/downloads/mq9100/MQServer ./ ibmmq-msg-fr 9.1.0.0 [227 kB]
Get:21 file:/downloads/mq9100/MQServer ./ ibmmq-msg-hu 9.1.0.0 [229 kB]
Get:22 file:/downloads/mq9100/MQServer ./ ibmmq-msg-it 9.1.0.0 [224 kB]
Get:23 file:/downloads/mq9100/MQServer ./ ibmmq-msg-ja 9.1.0.0 [213 kB]
Get:24 file:/downloads/mq9100/MQServer ./ ibmmq-msg-ko 9.1.0.0 [199 kB]
Get:25 file:/downloads/mq9100/MQServer ./ ibmmq-msg-pl 9.1.0.0 [231 kB]
Get:26 file:/downloads/mq9100/MQServer ./ ibmmq-msg-pt 9.1.0.0 [222 kB]
Get:27 file:/downloads/mq9100/MQServer ./ ibmmq-msg-ru 9.1.0.0 [221 kB]
Get:28 file:/downloads/mq9100/MQServer ./ ibmmq-msg-zh-cn 9.1.0.0 [189 kB]
Get:29 file:/downloads/mq9100/MQServer ./ ibmmq-msg-zh-tw 9.1.0.0 [191 kB]
Get:30 file:/downloads/mq9100/MQServer ./ ibmmq-samples 9.1.0.0 [1,236 kB]
Get:31 file:/downloads/mq9100/MQServer ./ ibmmq-sdk 9.1.0.0 [393 kB]
Get:32 file:/downloads/mq9100/MQServer ./ ibmmq-sfbridge 9.1.0.0 [1,310 kB]
Get:33 file:/downloads/mq9100/MQServer ./ ibmmq-web 9.1.0.0 [173 MB]
Get:34 file:/downloads/mq9100/MQServer ./ ibmmq-xrservice 9.1.0.0 [2,864 kB]

Extracting templates from packages: 100%

Selecting previously unselected package ibmmq-runtime.

(Reading database ... 67185 files and directories currently installed.)

Preparing to unpack .../ibmmq-runtime_9.1.0.0_amd64.deb ...

```
Entering preinst for ibmmq-runtime install
Unpacking ibmmq-runtime (9.1.0.0) ...
Setting up ibmmq-runtime (9.1.0.0) ...
Entering postinst for ibmmq-runtime configure
Selecting previously unselected package ibmmq-java.
(Reading database ... 69167 files and directories currently installed.)
Preparing to unpack ..././ibmmq-java_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-java install
Unpacking ibmmq-java (9.1.0.0) ...
Selecting previously unselected package ibmmq-jre.
Preparing to unpack ..././ibmmq-jre_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-jre install
Unpacking ibmmq-jre (9.1.0.0) ...
Selecting previously unselected package ibmmq-server.
Preparing to unpack .../ibmmq-server_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-server install
Unpacking ibmmq-server (9.1.0.0) ...
Setting up ibmmq-java (9.1.0.0) ...
Entering postinst for ibmmq-java configure
Setting up ibmmq-jre (9.1.0.0) ...
Entering postinst for ibmmq-jre configure
Setting up ibmmq-server (9.1.0.0) ...
Entering postinst for ibmmq-server configure
Updated PAM configuration in /etc/pam.d/ibmmq
```

WARNING: System settings for this system do not meet recommendations for this product

See the log file at "/tmp/mqconfig.26118.log" for more information

```
Selecting previously unselected package ibmmq-amqp.
(Reading database ... 72495 files and directories currently installed.)
Preparing to unpack .../0-ibmmq-amqp_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-amqp install
Unpacking ibmmq-amqp (9.1.0.0) ...
Selecting previously unselected package ibmmq-ams.
Preparing to unpack .../1-ibmmq-ams_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-ams install
Unpacking ibmmq-ams (9.1.0.0) ...
Selecting previously unselected package ibmmq-bcbridge.
Preparing to unpack .../2-ibmmq-bcbridge_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-bcbridge install
Unpacking ibmmq-bcbridge (9.1.0.0) ...
Selecting previously unselected package ibmmq-client.
Preparing to unpack .../3-ibmmq-client_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-client install
Unpacking ibmmq-client (9.1.0.0) ...
```

Selecting previously unselected package ibmmq-explorer.
Preparing to unpack .../4-ibmmq-explorer_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-explorer install
Unpacking ibmmq-explorer (9.1.0.0) ...
Selecting previously unselected package ibmmq-ftbase.
Preparing to unpack .../5-ibmmq-ftbase_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-ftbase install
Unpacking ibmmq-ftbase (9.1.0.0) ...
Setting up ibmmq-ftbase (9.1.0.0) ...
Entering postinst for ibmmq-ftbase configure
Selecting previously unselected package ibmmq-ftagent.
(Reading database ... 72813 files and directories currently installed.)
Preparing to unpack .../ibmmq-ftagent_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-ftagent install
Unpacking ibmmq-ftagent (9.1.0.0) ...
Selecting previously unselected package ibmmq-ftlogger.
Preparing to unpack .../ibmmq-ftlogger_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-ftlogger install
Unpacking ibmmq-ftlogger (9.1.0.0) ...
Setting up ibmmq-ftagent (9.1.0.0) ...
Entering postinst for ibmmq-ftagent configure
Selecting previously unselected package ibmmq-ftservice.
(Reading database ... 72879 files and directories currently installed.)
Preparing to unpack .../00-ibmmq-ftservice_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-ftservice install
Unpacking ibmmq-ftservice (9.1.0.0) ...
Selecting previously unselected package ibmmq-fttools.
Preparing to unpack .../01-ibmmq-fttools_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-fttools install
Unpacking ibmmq-fttools (9.1.0.0) ...
Selecting previously unselected package ibmmq-gskit.
Preparing to unpack .../02-ibmmq-gskit_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-gskit install
Unpacking ibmmq-gskit (9.1.0.0) ...
Selecting previously unselected package ibmmq-man.
Preparing to unpack .../03-ibmmq-man_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-man install
Unpacking ibmmq-man (9.1.0.0) ...
Selecting previously unselected package ibmmq-msg-cs.
Preparing to unpack .../04-ibmmq-msg-cs_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-cs install
Unpacking ibmmq-msg-cs (9.1.0.0) ...
Selecting previously unselected package ibmmq-msg-de.
Preparing to unpack .../05-ibmmq-msg-de_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-de install
Unpacking ibmmq-msg-de (9.1.0.0) ...

Selecting previously unselected package ibmmq-msg-es.
Preparing to unpack .../06-ibmmq-msg-es_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-es install
Unpacking ibmmq-msg-es (9.1.0.0) ...
Selecting previously unselected package ibmmq-msg-fr.
Preparing to unpack .../07-ibmmq-msg-fr_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-fr install
Unpacking ibmmq-msg-fr (9.1.0.0) ...
Selecting previously unselected package ibmmq-msg-hu.
Preparing to unpack .../08-ibmmq-msg-hu_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-hu install
Unpacking ibmmq-msg-hu (9.1.0.0) ...
Selecting previously unselected package ibmmq-msg-it.
Preparing to unpack .../09-ibmmq-msg-it_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-it install
Unpacking ibmmq-msg-it (9.1.0.0) ...
Selecting previously unselected package ibmmq-msg-ja.
Preparing to unpack .../10-ibmmq-msg-ja_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-ja install
Unpacking ibmmq-msg-ja (9.1.0.0) ...
Selecting previously unselected package ibmmq-msg-ko.
Preparing to unpack .../11-ibmmq-msg-ko_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-ko install
Unpacking ibmmq-msg-ko (9.1.0.0) ...
Selecting previously unselected package ibmmq-msg-pl.
Preparing to unpack .../12-ibmmq-msg-pl_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-pl install
Unpacking ibmmq-msg-pl (9.1.0.0) ...
Selecting previously unselected package ibmmq-msg-pt.
Preparing to unpack .../13-ibmmq-msg-pt_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-pt install
Unpacking ibmmq-msg-pt (9.1.0.0) ...
Selecting previously unselected package ibmmq-msg-ru.
Preparing to unpack .../14-ibmmq-msg-ru_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-ru install
Unpacking ibmmq-msg-ru (9.1.0.0) ...
Selecting previously unselected package ibmmq-msg-zh-cn.
Preparing to unpack .../15-ibmmq-msg-zh-cn_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-zh-cn install
Unpacking ibmmq-msg-zh-cn (9.1.0.0) ...
Selecting previously unselected package ibmmq-msg-zh-tw.
Preparing to unpack .../16-ibmmq-msg-zh-tw_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-msg-zh-tw install
Unpacking ibmmq-msg-zh-tw (9.1.0.0) ...
Selecting previously unselected package ibmmq-samples.
Preparing to unpack .../17-ibmmq-samples_9.1.0.0_amd64.deb ...

Entering preinst for ibmmq-samples install
Unpacking ibmmq-samples (9.1.0.0) ...
Selecting previously unselected package ibmmq-sdk.
Preparing to unpack .../18-ibmmq-sdk_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-sdk install
Unpacking ibmmq-sdk (9.1.0.0) ...
Selecting previously unselected package ibmmq-sfbridge.
Preparing to unpack .../19-ibmmq-sfbridge_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-sfbridge install
Unpacking ibmmq-sfbridge (9.1.0.0) ...
Selecting previously unselected package ibmmq-web.
Preparing to unpack .../20-ibmmq-web_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-web install
Unpacking ibmmq-web (9.1.0.0) ...
Selecting previously unselected package ibmmq-xrservice.
Preparing to unpack .../21-ibmmq-xrservice_9.1.0.0_amd64.deb ...
Entering preinst for ibmmq-xrservice install
Unpacking ibmmq-xrservice (9.1.0.0) ...
Setting up ibmmq-msg-ko (9.1.0.0) ...
Entering postinst for ibmmq-msg-ko configure
Setting up ibmmq-client (9.1.0.0) ...
Entering postinst for ibmmq-client configure
Setting up ibmmq-msg-zh-cn (9.1.0.0) ...
Entering postinst for ibmmq-msg-zh-cn configure
Setting up ibmmq-msg-de (9.1.0.0) ...
Entering postinst for ibmmq-msg-de configure
Setting up ibmmq-explorer (9.1.0.0) ...
Entering postinst for ibmmq-explorer configure
Setting up ibmmq-msg-cs (9.1.0.0) ...
Entering postinst for ibmmq-msg-cs configure
Setting up ibmmq-sfbridge (9.1.0.0) ...
Entering postinst for ibmmq-sfbridge configure
Setting up ibmmq-amqp (9.1.0.0) ...
Entering postinst for ibmmq-amqp configure
Setting up ibmmq-msg-es (9.1.0.0) ...
Entering postinst for ibmmq-msg-es configure
Setting up ibmmq-gskit (9.1.0.0) ...
Entering postinst for ibmmq-gskit configure
Setting up ibmmq-msg-ru (9.1.0.0) ...
Entering postinst for ibmmq-msg-ru configure
Setting up ibmmq-msg-fr (9.1.0.0) ...
Entering postinst for ibmmq-msg-fr configure
Setting up ibmmq-ftservice (9.1.0.0) ...
Entering postinst for ibmmq-ftservice configure
Setting up ibmmq-msg-pt (9.1.0.0) ...
Entering postinst for ibmmq-msg-pt configure

Setting up ibmmq-fttools (9.1.0.0) ...
Entering postinst for ibmmq-fttools configure
Setting up ibmmq-xrservice (9.1.0.0) ...
Entering postinst for ibmmq-xrservice configure
Setting up ibmmq-msg-pl (9.1.0.0) ...
Entering postinst for ibmmq-msg-pl configure
Setting up ibmmq-man (9.1.0.0) ...
Entering postinst for ibmmq-man configure
Setting up ibmmq-sdk (9.1.0.0) ...
Entering postinst for ibmmq-sdk configure
Setting up ibmmq-samples (9.1.0.0) ...
Entering postinst for ibmmq-samples configure
Setting up ibmmq-msg-hu (9.1.0.0) ...
Entering postinst for ibmmq-msg-hu configure
Setting up ibmmq-bcbridge (9.1.0.0) ...
Entering postinst for ibmmq-bcbridge configure
Setting up ibmmq-msg-zh-tw (9.1.0.0) ...
Entering postinst for ibmmq-msg-zh-tw configure
Setting up ibmmq-msg-it (9.1.0.0) ...
Entering postinst for ibmmq-msg-it configure
Setting up ibmmq-msg-ja (9.1.0.0) ...
Entering postinst for ibmmq-msg-ja configure
Setting up ibmmq-web (9.1.0.0) ...
Entering postinst for ibmmq-web configure
Setting up ibmmq-ams (9.1.0.0) ...
Entering postinst for ibmmq-ams configure
Setting up ibmmq-ftlogger (9.1.0.0) ...
Entering postinst for ibmmq-ftlogger configure


```
+++++
+++ Appendix C: Output from: apt remove "ibmmq-*"
+++++
```

```
+++ROOT+++ ubuntuq1.fyre.ibm.com: /usr/local/bin
# apt remove "ibmmq-*"
```

```
Reading package lists... Done
```

```
Building dependency tree
```

```
Reading state information... Done
```

```
Note, selecting 'ibmmq-msg-cs' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-de' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-es' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-fr' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-hu' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-it' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-ja' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-ko' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-pl' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-pt' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-ru' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-sdk' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-gskit' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-web' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-server' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-client' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-zh-cn' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-msg-zh-tw' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-ftagent' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-fttools' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-ftlogger' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-samples' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-ams' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-sfbridge' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-ftbase' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-amqp' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-explorer' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-jre' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-ftservice' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-runtime' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-bcbridge' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-xrservice' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-man' for glob 'ibmmq-*'
```

```
Note, selecting 'ibmmq-java' for glob 'ibmmq-*'
```

```
The following packages will be REMOVED:
```

```
ibmmq-amqp ibmmq-ams ibmmq-bcbridge ibmmq-client ibmmq-explorer ibmmq-ftagent
ibmmq-ftbase ibmmq-ftlogger ibmmq-ftservice
```

ibmmq-fttools ibmmq-gskit ibmmq-java ibmmq-jre ibmmq-man ibmmq-msg-cs ibmmq-
msg-de ibmmq-msg-es ibmmq-msg-fr ibmmq-msg-hu
ibmmq-msg-it ibmmq-msg-ja ibmmq-msg-ko ibmmq-msg-pl ibmmq-msg-pt ibmmq-msg-ru
ibmmq-msg-zh-cn ibmmq-msg-zh-tw ibmmq-runtime

ibmmq-samples ibmmq-sdk ibmmq-server ibmmq-sfbridge ibmmq-web ibmmq-xrservice
0 upgraded, 0 newly installed, 34 to remove and 131 not upgraded.

After this operation, 975 MB disk space will be freed.

Do you want to continue? [Y/n] y

(Reading database ... 73876 files and directories currently installed.)

Removing ibmmq-amqp (9.1.0.0) ...

Entering prerm for "ibmmq-amqp" remove

Entering postrm for "ibmmq-amqp" remove

Removing ibmmq-ams (9.1.0.0) ...

Entering prerm for "ibmmq-ams" remove

Entering postrm for "ibmmq-ams" remove

Removing ibmmq-bcbridge (9.1.0.0) ...

Entering prerm for "ibmmq-bcbridge" remove

Entering postrm for "ibmmq-bcbridge" remove

Removing ibmmq-client (9.1.0.0) ...

Entering prerm for "ibmmq-client" remove

Entering postrm for "ibmmq-client" remove

Removing ibmmq-explorer (9.1.0.0) ...

Entering prerm for "ibmmq-explorer" remove

Entering postrm for "ibmmq-explorer" remove

Removing ibmmq-ftservice (9.1.0.0) ...

Entering prerm for "ibmmq-ftservice" remove

Entering postrm for "ibmmq-ftservice" remove

Removing ibmmq-ftagent (9.1.0.0) ...

Entering prerm for "ibmmq-ftagent" remove

Entering postrm for "ibmmq-ftagent" remove

Removing ibmmq-fttools (9.1.0.0) ...

Entering prerm for "ibmmq-fttools" remove

Entering postrm for "ibmmq-fttools" remove

Removing ibmmq-ftlogger (9.1.0.0) ...

Entering prerm for "ibmmq-ftlogger" remove

Entering postrm for "ibmmq-ftlogger" remove

Removing ibmmq-ftbase (9.1.0.0) ...

Entering prerm for "ibmmq-ftbase" remove

Entering postrm for "ibmmq-ftbase" remove

Removing ibmmq-gskit (9.1.0.0) ...

Entering prerm for "ibmmq-gskit" remove

Entering postrm for "ibmmq-gskit" remove

Removing ibmmq-xrservice (9.1.0.0) ...

Entering prerm for "ibmmq-xrservice" remove

Entering postrm for "ibmmq-xrservice" remove

Removing ibmmq-web (9.1.0.0) ...

Entering prerm for "ibmmq-web" remove
Entering postrm for "ibmmq-web" remove
Removing ibmmq-sfbridge (9.1.0.0) ...
Entering prerm for "ibmmq-sfbridge" remove
Entering postrm for "ibmmq-sfbridge" remove
Removing ibmmq-jre (9.1.0.0) ...
Entering prerm for "ibmmq-jre" remove
Entering postrm for "ibmmq-jre" remove
Removing ibmmq-man (9.1.0.0) ...
Entering prerm for "ibmmq-man" remove
Entering postrm for "ibmmq-man" remove
Removing ibmmq-msg-cs (9.1.0.0) ...
Entering prerm for "ibmmq-msg-cs" remove
Entering postrm for "ibmmq-msg-cs" remove
Removing ibmmq-msg-de (9.1.0.0) ...
Entering prerm for "ibmmq-msg-de" remove
Entering postrm for "ibmmq-msg-de" remove
Removing ibmmq-msg-es (9.1.0.0) ...
Entering prerm for "ibmmq-msg-es" remove
Entering postrm for "ibmmq-msg-es" remove
Removing ibmmq-msg-fr (9.1.0.0) ...
Entering prerm for "ibmmq-msg-fr" remove
Entering postrm for "ibmmq-msg-fr" remove
Removing ibmmq-msg-hu (9.1.0.0) ...
Entering prerm for "ibmmq-msg-hu" remove
Entering postrm for "ibmmq-msg-hu" remove
Removing ibmmq-msg-it (9.1.0.0) ...
Entering prerm for "ibmmq-msg-it" remove
Entering postrm for "ibmmq-msg-it" remove
Removing ibmmq-msg-ja (9.1.0.0) ...
Entering prerm for "ibmmq-msg-ja" remove
Entering postrm for "ibmmq-msg-ja" remove
Removing ibmmq-msg-ko (9.1.0.0) ...
Entering prerm for "ibmmq-msg-ko" remove
Entering postrm for "ibmmq-msg-ko" remove
Removing ibmmq-msg-pl (9.1.0.0) ...
Entering prerm for "ibmmq-msg-pl" remove
Entering postrm for "ibmmq-msg-pl" remove
Removing ibmmq-msg-pt (9.1.0.0) ...
Entering prerm for "ibmmq-msg-pt" remove
Entering postrm for "ibmmq-msg-pt" remove
Removing ibmmq-msg-ru (9.1.0.0) ...
Entering prerm for "ibmmq-msg-ru" remove
Entering postrm for "ibmmq-msg-ru" remove
Removing ibmmq-msg-zh-cn (9.1.0.0) ...
Entering prerm for "ibmmq-msg-zh-cn" remove

Entering postrm for "ibmmq-msg-zh-cn" remove
Removing ibmmq-msg-zh-tw (9.1.0.0) ...
Entering prerm for "ibmmq-msg-zh-tw" remove
Entering postrm for "ibmmq-msg-zh-tw" remove
Removing ibmmq-server (9.1.0.0) ...
Entering prerm for "ibmmq-server" remove
Entering postrm for "ibmmq-server" remove
Removing ibmmq-samples (9.1.0.0) ...
Entering prerm for "ibmmq-samples" remove
Entering postrm for "ibmmq-samples" remove
Removing ibmmq-sdk (9.1.0.0) ...
Entering prerm for "ibmmq-sdk" remove
Entering postrm for "ibmmq-sdk" remove
Removing ibmmq-java (9.1.0.0) ...
Entering prerm for "ibmmq-java" remove
Entering postrm for "ibmmq-java" remove
Removing ibmmq-runtime (9.1.0.0) ...
Entering prerm for "ibmmq-runtime" remove
Entering postrm for "ibmmq-runtime" remove

```
+++++
+++ Appendix D: Output from: apt purge "ibmmq-*"
+++++
```

```
# apt purge "ibmmq-*"
Reading package lists... Done
Building dependency tree
Reading state information... Done
Note, selecting 'ibmmq-msg-cs' for glob 'ibmmq-*'
Note, selecting 'ibmmq-msg-de' for glob 'ibmmq-*'
Note, selecting 'ibmmq-msg-es' for glob 'ibmmq-*'
Note, selecting 'ibmmq-msg-fr' for glob 'ibmmq-*'
Note, selecting 'ibmmq-msg-hu' for glob 'ibmmq-*'
Note, selecting 'ibmmq-msg-it' for glob 'ibmmq-*'
Note, selecting 'ibmmq-msg-ja' for glob 'ibmmq-*'
Note, selecting 'ibmmq-msg-ko' for glob 'ibmmq-*'
Note, selecting 'ibmmq-msg-pl' for glob 'ibmmq-*'
Note, selecting 'ibmmq-msg-pt' for glob 'ibmmq-*'
Note, selecting 'ibmmq-msg-ru' for glob 'ibmmq-*'
Note, selecting 'ibmmq-sdk' for glob 'ibmmq-*'
Note, selecting 'ibmmq-gskit' for glob 'ibmmq-*'
Note, selecting 'ibmmq-web' for glob 'ibmmq-*'
Note, selecting 'ibmmq-server' for glob 'ibmmq-*'
Note, selecting 'ibmmq-client' for glob 'ibmmq-*'
Note, selecting 'ibmmq-msg-zh-cn' for glob 'ibmmq-*'
Note, selecting 'ibmmq-msg-zh-tw' for glob 'ibmmq-*'
Note, selecting 'ibmmq-ftagent' for glob 'ibmmq-*'
Note, selecting 'ibmmq-fttools' for glob 'ibmmq-*'
Note, selecting 'ibmmq-ftlogger' for glob 'ibmmq-*'
Note, selecting 'ibmmq-samples' for glob 'ibmmq-*'
Note, selecting 'ibmmq-ams' for glob 'ibmmq-*'
Note, selecting 'ibmmq-sfbridge' for glob 'ibmmq-*'
Note, selecting 'ibmmq-ftbase' for glob 'ibmmq-*'
Note, selecting 'ibmmq-amqp' for glob 'ibmmq-*'
Note, selecting 'ibmmq-explorer' for glob 'ibmmq-*'
Note, selecting 'ibmmq-jre' for glob 'ibmmq-*'
Note, selecting 'ibmmq-ftservice' for glob 'ibmmq-*'
Note, selecting 'ibmmq-runtime' for glob 'ibmmq-*'
Note, selecting 'ibmmq-bcbridge' for glob 'ibmmq-*'
Note, selecting 'ibmmq-xrservice' for glob 'ibmmq-*'
Note, selecting 'ibmmq-man' for glob 'ibmmq-*'
Note, selecting 'ibmmq-java' for glob 'ibmmq-*'
The following packages will be REMOVED:
  ibmmq-amqp* ibmmq-ams* ibmmq-bcbridge* ibmmq-client* ibmmq-explorer* ibmmq-
ftagent* ibmmq-ftbase* ibmmq-ftlogger*
  ibmmq-ftservice* ibmmq-fttools* ibmmq-gskit* ibmmq-java* ibmmq-jre* ibmmq-man*
```

ibmmq-msg-cs* ibmmq-msg-de* ibmmq-msg-es*
ibmmq-msg-fr* ibmmq-msg-hu* ibmmq-msg-it* ibmmq-msg-ja* ibmmq-msg-ko* ibmmq-
msg-pl* ibmmq-msg-pt* ibmmq-msg-ru*
ibmmq-msg-zh-cn* ibmmq-msg-zh-tw* ibmmq-runtime* ibmmq-samples* ibmmq-sdk*
ibmmq-server* ibmmq-sfbridge* ibmmq-web*
ibmmq-xrservice*

0 upgraded, 0 newly installed, 34 to remove and 131 not upgraded.

After this operation, 0 B of additional disk space will be used.

Do you want to continue? [Y/n] Y

(Reading database ... 67184 files and directories currently installed.)

Purging configuration files for ibmmq-runtime (9.1.0.0) ...

Entering postrm for "ibmmq-runtime" purge

Purging configuration files for ibmmq-msg-ko (9.1.0.0) ...

Entering postrm for "ibmmq-msg-ko" purge

Purging configuration files for ibmmq-client (9.1.0.0) ...

Entering postrm for "ibmmq-client" purge

Purging configuration files for ibmmq-msg-zh-cn (9.1.0.0) ...

Entering postrm for "ibmmq-msg-zh-cn" purge

Purging configuration files for ibmmq-msg-de (9.1.0.0) ...

Entering postrm for "ibmmq-msg-de" purge

Purging configuration files for ibmmq-explorer (9.1.0.0) ...

Entering postrm for "ibmmq-explorer" purge

Purging configuration files for ibmmq-msg-cs (9.1.0.0) ...

Entering postrm for "ibmmq-msg-cs" purge

Purging configuration files for ibmmq-ftagent (9.1.0.0) ...

Entering postrm for "ibmmq-ftagent" purge

Purging configuration files for ibmmq-sfbridge (9.1.0.0) ...

Entering postrm for "ibmmq-sfbridge" purge

Purging configuration files for ibmmq-amqp (9.1.0.0) ...

Entering postrm for "ibmmq-amqp" purge

Purging configuration files for ibmmq-msg-es (9.1.0.0) ...

Entering postrm for "ibmmq-msg-es" purge

Purging configuration files for ibmmq-gskit (9.1.0.0) ...

Entering postrm for "ibmmq-gskit" purge

Purging configuration files for ibmmq-msg-ru (9.1.0.0) ...

Entering postrm for "ibmmq-msg-ru" purge

Purging configuration files for ibmmq-msg-fr (9.1.0.0) ...

Entering postrm for "ibmmq-msg-fr" purge

Purging configuration files for ibmmq-ftservice (9.1.0.0) ...

Entering postrm for "ibmmq-ftservice" purge

Purging configuration files for ibmmq-msg-pt (9.1.0.0) ...

Entering postrm for "ibmmq-msg-pt" purge

Purging configuration files for ibmmq-fttools (9.1.0.0) ...

Entering postrm for "ibmmq-fttools" purge

Purging configuration files for ibmmq-xrservice (9.1.0.0) ...

Entering postrm for "ibmmq-xrservice" purge

Purging configuration files for ibmmq-msg-pl (9.1.0.0) ...
Entering postrm for "ibmmq-msg-pl" purge
Purging configuration files for ibmmq-man (9.1.0.0) ...
Entering postrm for "ibmmq-man" purge
Purging configuration files for ibmmq-jre (9.1.0.0) ...
Entering postrm for "ibmmq-jre" purge
Purging configuration files for ibmmq-sdk (9.1.0.0) ...
Entering postrm for "ibmmq-sdk" purge
Purging configuration files for ibmmq-samples (9.1.0.0) ...
Entering postrm for "ibmmq-samples" purge
Purging configuration files for ibmmq-msg-hu (9.1.0.0) ...
Entering postrm for "ibmmq-msg-hu" purge
Purging configuration files for ibmmq-bcbridge (9.1.0.0) ...
Entering postrm for "ibmmq-bcbridge" purge
Purging configuration files for ibmmq-msg-zh-tw (9.1.0.0) ...
Entering postrm for "ibmmq-msg-zh-tw" purge
Purging configuration files for ibmmq-ftbase (9.1.0.0) ...
Entering postrm for "ibmmq-ftbase" purge
Purging configuration files for ibmmq-msg-it (9.1.0.0) ...
Entering postrm for "ibmmq-msg-it" purge
Purging configuration files for ibmmq-msg-ja (9.1.0.0) ...
Entering postrm for "ibmmq-msg-ja" purge
Purging configuration files for ibmmq-web (9.1.0.0) ...
Entering postrm for "ibmmq-web" purge
Purging configuration files for ibmmq-server (9.1.0.0) ...
Entering postrm for "ibmmq-server" purge
Purging configuration files for ibmmq-ams (9.1.0.0) ...
Entering postrm for "ibmmq-ams" purge
Purging configuration files for ibmmq-ftlogger (9.1.0.0) ...
Entering postrm for "ibmmq-ftlogger" purge
Purging configuration files for ibmmq-java (9.1.0.0) ...
Entering postrm for "ibmmq-java" purge

+++ end