

IBM MQ for DB Replication

Installation

Software Information:

- MQ8: WS_MQ_V8.0_IFR1_LINUX_ON_X86_64_I.tar (???)
- MQ8: 8.0.0-WS-MQ-LinuxX64-FP0011.tar (???)
- MQ9: IBM_MQ_9.2.0.5_LINUX_X86-64.tar.gz
- OS: RHEL 6/7/8

System Configuration:

Edit `/etc/sysctl.d/ibmmq.conf`

```
# for MQ
kernel.shmmni = 4096
kernel.shmall = 2097152
kernel.shmmax = 268435456
kernel.sem = 500 256000 250 1024
fs.file-max = 524288
net.ipv4.tcp_keepalive_time = 300
kernel.threads-max = 32768
```

Apply the changes

```
sysctl -p /etc/sysctl.d/ibmmq.conf
```

Edit `/etc/security/limits.conf`

```
# for MQ
mqm    hard   nofile 10240
mqm    soft   nofile 10240
```

MQ 8 Install

```
tar -xf WS_MQ_V8.0_IFR1_LINUX_ON_X86_64_I.tar
cd server
./mqlicense.sh -text_only
rpm -ivh MQSeriesRuntime-*.rpm MQSeriesServer-*.rpm
```

Install MQ8-FP0011

```
mkdir FP0011
tar -xzf 8.0.0-WS-MQ-LinuxX64-FP0011.tar.gz -C FP0011
cd FP0011
rpm -ivh MQSeriesRuntime-*.rpm MQSeriesServer-*.rpm
```

MQ 9 Install

```
tar xzf IBM_MQ_9.2.0.5_LINUX_X86-64.tar.gz
cd MQServer
./mqlicense.sh -text_only
rpm -ivh MQSeriesRuntime-*.rpm MQSeriesServer-*.rpm MQSeriesGSKit-*.rpm
```

⚠ IMPORTANT: READ CAREFULLY

Press Enter to continue viewing the license agreement, or enter "1" to accept the agreement, "2" to decline it, "3" to print it, "4" to read non-IBM terms, or "99" to go back to the previous screen.

1 <=== Press 1

Install MQ9-FP0031

```
mkdir FP0031
tar xzf 9.2.0-IBM-MQ-LinuxX64-FP0031.tar.gz -C FP0031
cd FP0031
rpm -ivh MQSeriesRuntime-*.rpm MQSeriesServer-*.rpm MQSeriesGSKit-*.rpm
```

Install Notes

- ?? MQ ?????/opt/mqm
- ??????????????????????

```
rpm --prefix /opt/customLocation -ivh MQSeriesRuntime-*.rpm MQSeriesServer-*.rpm
```

- ?????????????? mqm
- ?? mqm ? Home: /var/mqm

Verifying a server installation

RHEL

```
su - mqm
vi ~/.bash_profile
```

.bash_profile:

```
# Get the aliases and functions
if [ -f ~/.bashrc ]; then
    . ~/.bashrc
fi

# User specific environment and startup programs

PATH=$PATH:$HOME/bin

export PATH

# Set up environment variables for the user mqm
. /opt/mqm/bin/setmqenv -s
```

Show the MQ version

```
[mqm@dotnetdev ~]$ dspmqver
Name:      WebSphere MQ
Version:   8.0.0.11
Level:     p800-011-181212.1
BuildType: IKAP - (Production)
Platform:  WebSphere MQ for Linux (x86-64 platform)
Mode:      64-bit
O/S:       Linux 4.18.0-553.40.1.el8_10.x86_64
InstName:  Installation1
InstDesc:
Primary:   No
InstPath:  /opt/mqm
DataPath:  /var/mqm
```

MaxCmdLevel: 802
LicenseType: Production

?????? MQ ??

```
# List the packages installed
rpm -qa | grep MQ

# Detail Information for the packages installed
rpm -qa | grep MQ | xargs rpm -q --info
```

Shell Commands

```
# Create a queue manager called QMA
crtmqm QMA

# Start the queue manager
strmqm QMA

# Enter MQSC console
runmqsc QMA

> DEFINE QLOCAL (QUEUE1) # Define a local queue called QUEUE1
> end # Quit MQSC

# List all running queue managers
dspmq
dspmq -o installation

# Stop the queue manager QMA
endmqm QMA

# Delete a queue manager QMA
dltmqm QMA
```

MQSC Commands

```
Display listener status
> dis lsstatus(*)
```

Display channels status

```
> dis chstatus(*)
```

Display a specific channel

```
> dis chl(CHANNEL-NAME)
```

Display all queues

```
> dis q(*)
```

Backup/Restore MQ Configuration

- Queue Manager: BQMREP

Backup MQ Configuration

```
su - mqm
```

```
dmpmqcfg -m BQMREP -a > /tmp/BQMREP.mqsc
```

Backup Messages (RestartQ ???? Capture ??????? LSN ??, ??????? MQ)

```
dmpmqmsg -m BQMREP -i BWINQCAP.RESTARTQ -f /tmp/BWINQCAP.RESTARTQ.msg
```

Restore MQ Configuration to new server

```
crtmqm BQMREP
```

```
strmqm BQMREP
```

```
runmqsc BQMREP < /tmp/BQMREP.mqsc | tee restore.log
```

Restore Messages to new server

```
dmpmqmsg -m BQMREP -o BWINQCAP.RESTARTQ -f /tmp/BWINQCAP.RESTARTQ.msg
```

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