



WebSphere MQ Migration From 5.3 to 7.0

WebSphere software



Some facts...

- No significant changes to the installation process for WebSphere MQ V7.0 when compared with previous versions.
- Hardware and software prerequisites have changed and supported operating system versions have moved forward.
- On distributed platforms it is not possible to install and run WebSphere MQ V7.0 to coexist with an earlier version of WebSphere MQ on the same server.
- Installing WebSphere MQ V7.0 always upgrades any earlier version of WebSphere MQ that has been previously installed on the server.
- WebSphere MQ V7.0 interoperates within a network of existing queue managers running on all supported platforms with previous versions of WebSphere MQ, using clients, distributed queuing, and MQ Clusters.
- For applications that do not use Publish/Subscribe, there are no migration processes or changes required for migration or installation of WebSphere MQ V7.0. Existing applications continue to function in their current state



General migration considerations

- Full system backup is performed to ensure that the system can be reverted to its original working environment in the event that unresolved problems are encountered during the migration.
- Detailed migration information is provided in the manual *WebSphere MQ V7.0 Migration Information*.
- Develop a backup plan to capture all current data of WebSphere MQ. Queue manager attributes, object definitions, and messages are saved while the queue manager is running and without any active applications or channels.
- The WebSphere MQ file systems are saved while the queue manager is not running to ensure that the backup has a consistent state.
- Document and review details about the existing system topology, including the names of the queue managers and their queues, channels, and how they relate to applications and other queue managers.
- If `inetd` (UNIX network daemon) or a manually started `runmqtsr` is being used as the MQ TCP/IP port listener, the migration is a good opportunity to change to using a `LISTENER` object in the queue manager.



General migration considerations

- Conduct thorough functionality testing after migrating a development or test environment before migrating a production environment.
- If it is not possible to shut down a queue manager to be migrated due to availability requirements, a different migration approach may need to be considered.
- The migration can be performed using the following general steps:
 - a. Copy all resources from the server connected to another server.
 - b. Perform a migration on the duplicate server.
 - c. Switch over the workload to the queue manager on the duplicate server at a convenient quiet time when there are no application messages queued. This may involve altering channels or domain name system (DNS) entries.



Queue manager migration

- Before migrating to WebSphere MQ V7.0, ensure that all prerequisites are satisfied and that the current environment is backed up.
- Ensure that applications are thoroughly tested against the product before deploying into production. We recommend that the migration be completed in two phases:
 - Perform the migration without introducing any application changes or to start using any of the new features of WebSphere MQ V7.0.
 - Once there is satisfaction that the product is functioning as expected within the existing business environment and applications, introduce the new and enhanced features provided in this release, and test the applications thoroughly.



Migration steps

- Stop all channels. Ensure that all channels are also stopped on remote queue managers that connect to this queue manager.
- Stop the listeners.
- Stop all applications that can connect to the queue manager.
- Stop system management products such as monitors and automation tools that can connect to the queue manager.
- Save or unload all messages currently queued to a file.
- Save all queue manager attributes and object definitions.
- Save all the security profile settings. These are held in OAM on distributed platforms and RACF or ACF2 on z/OS.
- Shut down the WebSphere MQ queue managers and associated services, such as dead letter queue handlers and trigger monitors.



Migration steps

- Back up the current environment, ensuring that there are two copies on separately located media. If time and resources are available, it can be worth while to ensure the integrity of the product backup by testing restoration on a separate server.
- Uninstall the existing version of WebSphere MQ. For z/OS, ensure that the pagesets and logs remain, but remove or rename the product libraries.
- Perform the installation steps as described in the WebSphere MQ V7.0 product documentation for the specific platform type.
- Start the WebSphere MQ queue managers and wait for them to complete the automatic migration of the MQ file system structure to the format used by the new version.
- If the LISTENER object is not being used to start the MQ TCP/IP port listener, start the listener process **runmqtsr** or enable the port in inetd.
- Start channels that were stopped before the upgrade.



Fallback considerations

- Stop all channels. Ensure that all channels are also stopped on remote queue managers that connect to this queue manager.
- Stop the listeners.
- Stop all applications that can connect to the queue manager.
- Stop system management products.
- Save or unload all messages currently queued to a file.
- Save all queue manager attributes and object definitions.
- Shut down the WebSphere MQ queue managers and associated services, such as dead letter queue handlers and trigger monitors.
- Uninstall the WebSphere MQ V7.0 product.

Note: Saved messages may not be usable in previous versions of WebSphere MQ due to differences in header formats and properties.



Fallback considerations

- Using the backup taken prior to the upgrade, restore the previous version of the WebSphere MQ product.
- Start the queue manager, ensuring that all channels and listeners are stopped.
- Remove any existing messages from the queues.
- Load messages from the file generated as part of earlier step
- Perform verification tests.
- Start the listener and channels and so on.
- Continue to monitor the system health to ensure that the prior version of WebSphere MQ is functioning correctly.

Note: Saved messages may not be usable in previous versions of WebSphere MQ due to differences in header formats and properties.

