WebSphere Migration Strategy

Choose the best fit App Server and environment

Traditional WebSphere
Steps for a traditional WebSphere Migration

Liberty
Information on migrating to Liberty

Cloud
Information on migrating to the cloud

Traditional WAS or Liberty: how to choose?
WebSphere Migration

Planning your Migration

- Check Pre-reqs for your planned target version to ensure compatibility (click on buttons below)
  - WebSphere specific Pre-Reqs
  - WebSphere Support Statement

- Task 1 – Determine your migration path

- Task 2 – Preparing for your migration

Executing your Migration

- Task 1 – Installing the Chosen Product Version

- Task 2a – Migrating to 7.0
- Task 2b – Migrating to 8.0
- Task 2c – Migrating to 8.5
- Task 2d – Migrating to 9.0

Supplemental Info

- Useful Links

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## Task 1 – Determine Your Migration Path

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</thead>
<tbody>
<tr>
<td><strong>7.0</strong></td>
<td><strong>What’s new v8.0</strong></td>
<td><strong>v8.0 Planning Guide</strong></td>
<td><strong>What’s Changed 8.0</strong></td>
</tr>
<tr>
<td><strong>8.0</strong></td>
<td><strong>What’s new v8.5</strong></td>
<td><strong>v8.5 Planning Guide</strong></td>
<td><strong>What’s Changed 8.5</strong></td>
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<td><strong>8.5</strong></td>
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<td><strong>V9.0 Planning Guide</strong></td>
<td><strong>What’s Changed 9.0</strong></td>
</tr>
</tbody>
</table>

**Special considerations:**

**Migration from 6.0:** If your current version of WebSphere Application Server is 6.0 and you wish to migrate to 8.5, you must first migrate to 7.0 or 8.0, then migrate from 7.0 or 8.0 to 8.5.

**Migration from 6.1:** If your current version of WebSphere Application Server is 6.1 and you wish to migrate to 9.0, you must first migrate to 8.5, then migrate from 8.5 to 9.0.

When choosing your target version take into account the features included in the new version and weigh up the benefits of migrating to the latest version to decrease how often a migration may be required.

When skipping versions (for example migrating from v7 to v8.5) ensure you look at the “What’s New” for each release you skip to ensure you know all the new features you will gain.

**Handling certain out of memory conditions** when migrating, if you are migrating a large amount of applications.

Take a full system backup of your source before beginning the migration.

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Notes:

The Liberty product does not have a specific tool as traditional WebSphere has to migrate your configuration from one version to another. A combination of the tools listed above will assist you with moving your configurations and/or applications from WebSphere and/or 3rd Party products to a Liberty installation.
Cloud Migration Path

- WebSphere on Cloud “Total Cost of Ownership” Calculator
- Calculate savings on the Cloud using IBM WebSphere
- Choose the best fit App Server and environment
- WAS Liberty in the cloud
- Moving WebSphere and 3rd Party Applications
- Moving Application Binaries
- WebSphere Application Server v9 Update: On Premise and In the Cloud - video
- WebSphere Application Server – Migration Discovery Tool

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### Migration Type Considerations

<table>
<thead>
<tr>
<th>Remote Migration</th>
<th>Local Migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source and target environments are on different machines. Not supported for some platforms, e.g. z/OS</td>
<td>Source and target environments are on the same machine.</td>
</tr>
<tr>
<td>Source environment remains up and running</td>
<td>Source environment may be down (if performing local migration without coexistence; local migration without coexistence leaves the source environment disabled unless parameter is used to not disable source)</td>
</tr>
<tr>
<td>Can migrate to any hardware or computer</td>
<td>Must be on the same computer</td>
</tr>
<tr>
<td>Minimal to no resource conflict considerations</td>
<td>Must have resources for 2 WebSphere systems on 1 machine</td>
</tr>
<tr>
<td>Can keep standard directory structure</td>
<td>Directory structure changes/ considerations</td>
</tr>
<tr>
<td>Must carefully plan OS and accounts security</td>
<td>Fewer OS security considerations</td>
</tr>
<tr>
<td>Migration Wizard is not available, command line only.</td>
<td>Migration Wizard available</td>
</tr>
</tbody>
</table>

**More information about planning for a migration**

### Target Version

- **v7.0** Preparing for Migration
- **v8.0** Preparing for Migration
- **v8.5** Preparing for Migration
- **v9.0** Preparing for Migration

### General Migration Considerations

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<thead>
<tr>
<th></th>
<th>V7.0</th>
<th>V8.0</th>
<th>V8.5</th>
<th>V9.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Support Remaining</strong></td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Long</td>
</tr>
<tr>
<td><strong>Source Version</strong></td>
<td>v6.0 v6.1</td>
<td>v6.0 v6.1 v7.0</td>
<td>v6.1 v7.0 v8.0</td>
<td>v7.0 v8.0 v8.5</td>
</tr>
<tr>
<td><strong>Migration Wizard Available</strong></td>
<td>Local Migration</td>
<td>Local Migration</td>
<td>Local Migration</td>
<td>Local Migration</td>
</tr>
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Execution

Task 1 – Installation

Download the appropriate version from IBM Passport Advantage (or obtain media) for runtime and toolkit.

**Image Numbers**
- **for v8.0**
- **for v8.5.5**
- **for v9.0**

**Perform Installation**

**Notes**
- v8.0, v8.5, and v9.0 require the Installation Manager to install. Use the latest version of the Installation Manager rather than the one delivered with the binaries.
- If you are performing a local migration, be sure to change the WebSphere file paths from the defaults during installation.
- Ensure that you follow all relevant instructions for setting up the target environment for your migration, found at the links to the left.
- Verify that on a Unix target machine the ulimit setting for the number of open files is set to 10000 or higher, unlimited if possible. To see the current setting run from the command line `ulimit -a`.

**Image Numbers for v8.0**

**Image Numbers for v8.5.5**

**Image Numbers for v9.0**

**v7.0 Target Environment Installation Guide**

**v8.0 Target Environment Installation Guide**

**v8.5 Target Environment Installation Guide**

**V9.0 Target Environment Installation Guide**

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Task 2a – Migration to 7.0

Notes:
Local means that the source and target are on the same machine. Remote means you are changing your target machine.

Ensure that you follow the directions relevant to your environment and have reviewed all applicable IBM Knowledge Center documentation before beginning migration.

Upgrade your target to the latest version of WebSphere to ensure all known migration issues reported previously are resolved.

Always run with trace enabled to avoid repeat migrations if issues occur.
Task 2b – Migrating to 8.0

Notes:
Local means that the source and target are on the same machine. Remote means you are changing your target machine.

Ensure that you follow the directions relevant to your environment and have reviewed all applicable IBM Knowledge Center documentation before beginning migration.

Upgrade your target to the latest version of WebSphere to ensure all known migration issues reported previously are resolved.

Always run with trace enabled to avoid repeat migrations if issues occur.
Task 2c – Migration to 8.5

Migrating to WebSphere 8.5

- Migrating a standalone appserver
  - Local
    - Steps for a local Migration using the Wizard
  - Remote
    - Steps for a remote Migration using command line
- Migrating a Network Deployment Manager
  - Local
    - Steps for a local Migration using command line
  - Remote
    - Steps for a remote Migration using command line

Rollback Migration

Notes:
Local means that the source and target are on the same machine. Remote means you are changing your target machine.

Ensure that you follow the directions relevant to your environment and have reviewed all applicable IBM Knowledge Center documentation before beginning migration.

Upgrade your target to the latest version of WebSphere to ensure all known migration issues reported previously are resolved.

Always run with trace enabled to avoid repeat migrations if issues occur
# Useful Links

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<tr>
<td>WebSphere v7.0</td>
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<tr>
<td>WebSphere v8.0</td>
</tr>
<tr>
<td>WebSphere v8.5</td>
</tr>
<tr>
<td>WebSphere v9.0</td>
</tr>
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</table>

| Configuration               |
|----------------------------|---------------------|
| Migrating Web Server        |
| Configuration 7.0           |
| Migrating Web Server        |
| Configuration 8.0           |
| Migrating Web Server        |
| Configuration 8.5           |
| Migrating Web Server        |
| Configuration 9.0           |

**Need some High Level Training for your team on Migration?**

Trouble Shooting: Migration MustGather to send to WebSphere Level 2 Support

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<td>WebSphere vs Jboss Cost</td>
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<td>Migration Toolkit</td>
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Task 2d – Migration to 9.0

Notes:

**Clone migration**: Migrate and keep your old profile functional, **ZERO DOWN TIME!!**
You can now migrate your configuration to Version 9.0 and continue to use your previous version profile, which is known as a clone migration. Clone migrations follow the standard migration procedures, except that you specify the `-clone` parameter when you run the WASPostUpgrade command.

For clone migrations, the new profile configuration must use unique port numbers so that the now coexisting new and old configurations do not have port conflicts.

Local means that the source and target are on the same machine. Remote means you are changing your target machine.

Ensure that you follow the directions relevant to your environment and have reviewed all applicable IBM Knowledge Center documentation before beginning migration.

Upgrade your target to the latest version of WebSphere to ensure all known migration issues reported previously are resolved.

Always run with trace enabled to avoid repeat migrations if issues occur.