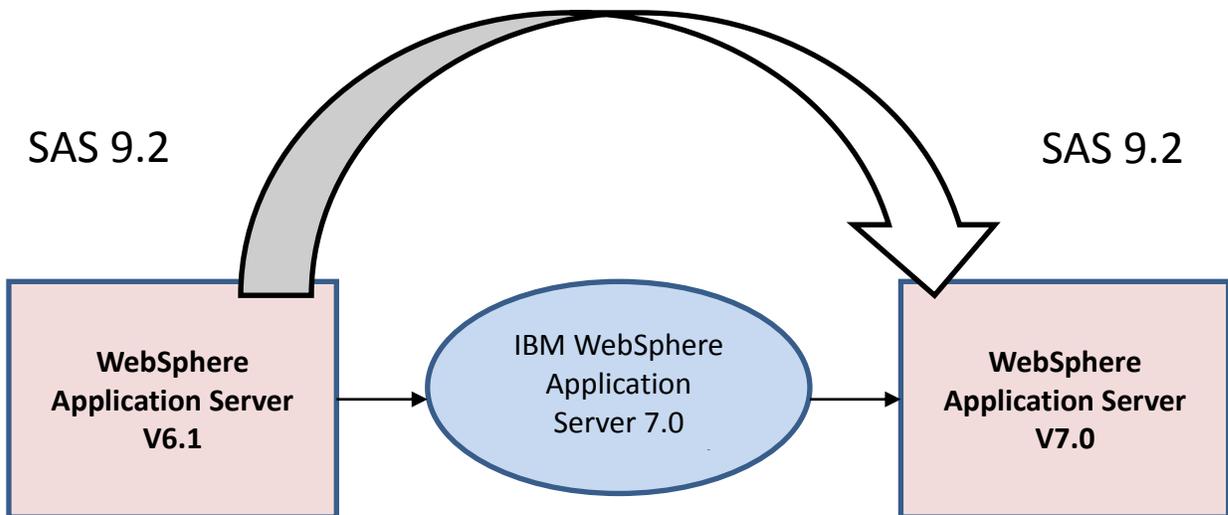


# Upgrading IBM WebSphere Application Server Version 6.1 to Version 7.0 for SAS 9.2 Maintenance 3 (TS2M3)

## Overview

The following figure depicts a high-level overview of the WebSphere Application Server migration from WebSphere Application Server V6.1 to WebSphere Application Server V7.0 for the third maintenance release for SAS 9.2.



The following list identifies the high-level tasks that you must perform to upgrade from WebSphere Application Server V6.1 to WebSphere Application Server V7.0.

1. Install WebSphere Application Server V7.0 and apply required minimum maintenance Fix Pack 9.
2. Run the migration tools included with WebSphere Application Server V7.0. You can use the IBM Migration Wizard or the Migration Command Line Tools.
  - a) Select the previous version (WebSphere Application Server V6.1).
  - b) Select a profile to migrate. Choose the `dmgr` profile first.
  - c) Select the target profile. If one does not exist, create one.
  - d) Repeat the process for all profiles.
  - e) Migrate the applications.

# Migration Process for WebSphere Application Server V6.1 to V7.0

To migrate WebSphere Application Server V6.1 to V7.0, use the following steps:

1. **Confirm the SAS 9.2 Prerequisites for WebSphere Application Server V7.0.** Review the [SAS 9.2 M3 Third party support page for WebSphere Application Server](#).
2. **Back up your environment.** Before starting the migration, back up the entire WebSphere Application Server V6.1 cell environment including all profiles and configurations. For backup, use the WebSphere Application Server V6.1 `backupConfig.bat / .sh` utility. The backup function can also be selected when running the IBM Migration Wizard.
3. **Install WebSphere Application Server V7.0 and required minimum Fix Pack maintenance.** Install WebSphere Application Server V7.0 and Fix Pack 9 (7.0.0.9) or later.
4. **Use the WebSphere Application Server V7.0 Migration Tools to migrate profiles.** Use either the IBM Migration Wizard or the Migration Command Line Tools to migrate all profiles from WebSphere Application Server V6.1 to WebSphere Application Server V7.0.

## WebSphere Application Server V7.0 Migration

Perform the migration using the WebSphere Application Server V7.0 IBM Migration Wizard or the WebSphere Application Server migration command line tools (**WASPreUpgrade** and **WASPostUpgrade**).

### ***Using the WebSphere Application Server V7.0 IBM Migration Wizard***

1. Launch the WebSphere Application Server V7.0 **First Steps** application, found in the `<WAS_HOME>/firststeps` directory, and then click the **IBM Migration Wizard** link.
2. The IBM Migration Wizard automatically detects existing WebSphere Application Server versions. Select the WebSphere Application Server V6.1 installation that you intend to migrate. If the IBM Migration Wizard does not detect a WebSphere Application Server V6.1 installation, you can enter the location of the desired WebSphere Application Server V6.1. Next, select the profile; remember that you need to migrate the `dmgr` profile first. For SAS configurations, this is typically named `SASDmgr01`. On the next panel, select the target WebSphere Application Server V7.0 profile if you have already created one. Otherwise, create a new profile on WebSphere Application Server V7.0 before continuing the migration process.  
**Note:** When creating the profile prior to running the IBM Migration Wizard, ensure the cell name in the target profile is the same as the cell name in the WebSphere Application Server V6.1 profile that is being migrated.
3. During the migration process, a panel will prompt for a *Backup directory* location to be used to back up the WebSphere Application Server V6.1 profile before migration.
4. A panel will prompt you for **Application migration settings**. The choices are **Migrate and install applications** or **Migrate but do not install applications**. If you have customized the SAS Web applications after they were installed on WebSphere Application Server V6.1, choose **Migrate but do not install applications**. This will cause the migration tool to create scripts that can be used at a later time to install your updated Web applications.

5. You will be prompted for additional **Application migration settings** when the **Migrate and install applications** option is selected. Select **Install the applications in the default directory of the target version**.
6. By default, the deployment manager from the WebSphere Application Server V6.1 profile will be disabled during the migration to prevent conflicts. Allow the migration tool to disable it by not selecting the check box.
7. You will also be prompted for port values. Be sure to choose the **Use the port values assigned to the previous (source) installation** to ensure compatibility.
8. If you have customized WebSphere Application Server Admin Console administrative tasks, you will be prompted to use the default location to save your customized **My Tasks** settings. Select **Use the default workspace user root location**.
9. If you have enabled WebSphere Application Server Admin security, there may also be a prompt for WebSphere Application Server Admin Security credentials. You will need to provide the WebSphere Application Server Admin user ID and password.
10. Ensure that the check box for **Migrate to support script compatibility** is selected.
11. Review the summary screen and click **Next** to begin the profile migration process.
12. You should see the following message: **The first step of the migration completed successfully**.
13. Click **Next** to perform migration of the profile and output from the post-upgrade processing.
14. Click **Next** to give you an opportunity to review the `WASPreMigrationSummary.log` and `WASPostMigrationSummary.log` files for this profile.
15. Click **Next** to either end execution of the IBM Migration Wizard or continue to migrate the next profile.
16. When migrating a node profile, you must ensure that the WebSphere Application Server V7.0 `dmgr` server from the newly created `dmgr` profile is running before attempting to migrate subsequent WebSphere Application Server V6.1 node profiles.
17. Repeat the entire process to migrate all node profiles under the WebSphere Application Server V6.1 cell.

## ***Migrate Profiles Using the WebSphere Application Server V7.0 Migration Command Line Tools***

When using the migration command line tools, you need to create target profiles before the migration. The deployment manager profile migration must be created first, followed by individual node profiles.

The **WASPreUpgrade** and **WASPostUpgrade** commands can be used to manually migrate the WebSphere Application Server V6.1 environment to WebSphere Application Server V7.0. The IBM Migration Wizard actually calls these tools as part of the automated migration process. These commands should always be called from the WebSphere Application Server V7.0 profile directory and not from any WebSphere Application Server V6.1 directories because the commands have changed with each release. The commands can also be found in the `bin` folder of the WebSphere Application Server V7.0 profiles directory. If you choose to use the commands from this directory, you will need to specify which WebSphere Application Server V7.0 profile the commands will run against.

## WASPreUpgrade

The **WASPreUpgrade** command creates a backup of all pertinent WebSphere Application Server V6.1 configuration information. The contents of the backup are specific to the version and configuration setup.

Here is the syntax for **WASPreUpgrade**:

```
WASPreUpgrade backupDirectory
    currentWebSphereDirectory
    [-traceString trace_spec]
    [-traceFile file_name]
    [-machineChange true | false]
    [-oldProfile old_profile_name]
    [-workspaceRoot user_workspace_folder]
```

## WASPostUpgrade

The **WASPostUpgrade** command takes the backup created by **WASPreUpgrade** and migrates it to the WebSphere Application Server V7.0 environment.

Here is the syntax for **WASPostUpgrade**:

```
WASPostUpgrade backupDirectory
    [-profileName profile_name]
    [-oldProfile profile_name]
    [-backupConfig true | false]
    [-username username ]
    [-password password ]
    [-traceString trace_spec
    [-traceFile file_name]]
    [-portBlock port_starting_number]
    [-replacePorts true | false]
    [-includeApps true | false | script]
    [-scriptCompatibility true | false]
    [ [-appInstallDirectory user_specified_directory] |
    [-keepAppDirectory true | false] ]
    [-keepDmgrEnabled true | false]
```

The **convertScriptCompatibility** command should not be necessary for the migration process unless you have created your own custom Jython scripts.

## convertScriptCompatibility

The **convertScriptCompatibility** command converts the WebSphere Application Server V7.0 configuration from a mode that supports script compatibility to a mode that does not support script compatibility. Script compatibility mode occurs by either running **WASPostUpgrade** with the `-scriptCompatibility true` option, or by taking the default value.

Here is the syntax for **convertScriptCompatibility**:

```
convertScriptCompatibility [-help]
    [-backupConfig true | false]
    [-profileName profile_name]
    [-nodeName node_name [-serverName server_name]]
    [-traceString trace_spec]
    [-traceFile file_name]]
```

## Recommended Reading

The following URL is valid as of November 2010.

IBM Corporation, 2008. *IBM HTTP Server for WebSphere Application Server, Version 7.0*. IBM Information Center. Available at <http://publib.boulder.ibm.com/infocenter/wasinfo/v7r0/index.jsp>.

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