



IBM Software Group

IBM WebSphere Application Server V6.1

Installation Overview



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This presentation will give an overview of the Installation process for WebSphere Application Server for i5/OS® version 6.1.

Agenda

- Install overview and enhancements
- WebSphere Application Server V6.1 packaging
- WebSphere Application Server runtime installation
- Uninstall
- Problem determination
- Summary and References



This presentation will cover an installation overview, the various components included with the WebSphere Application Server Express, WebSphere Application Server (also known as “Base”) and WebSphere Application Server Network Deployment packages, and WebSphere Application Server runtime installation enhancements. It will also cover uninstallation and details on problem determination. Other presentations will explain specific packages such as the Web Server plug-ins in greater detail.

Section

Installation overview



This section is an installation overview, including enhancements and packaging.

Installation overview

- WebSphere Application Server V6.1 is a full install
- Installer uses ISMP (InstallShield Multi-platform)
- All packages support graphical installation remotely from a Windows® workstation and silent installation remotely or locally from the i5/OS Qshell command line
 - ▶ Can be invoked from the Launchpad or from *install* application in the <install_Image>/WAS directory
 - ▶ Silent installation uses a response file as input
 - ▶ Checks for other local V6.1 runtime installations
- Common logging and tracing strategy is used across all installers



The installation process for WebSphere Application Server V6.1 uses InstallShield Multi-platform (ISMP). It is a full installation and not an upgrade-style installation from previous versions. Migration from previous versions will be discussed in the migration presentation. All packages in WebSphere Application Server V6.1 offer remote graphical and remote and local silent installation options, and also use common logging and tracing, for consistency across packages.

Installation enhancements

- **Simplified installation flow**
 - ▶ Faster and easier to install and setup
 - ▶ Default profiles are created directly by the installer
 - ▶ Can create a cell (deployment manager + federated node) at installation time
 - ▶ Default ports for the product are used
 - Use the Change WAS Server command line tool or administration console to change after the installation
- **New support for multiple installs and non-default install locations**
 - ▶ Can specify the installation and default profile locations
 - ▶ Can install multiple times to unique locations
 - Allows you to have different levels of the product installed
 - Must ensure you have adequate system resources
- **Option to enable administrative security during installation**



The version 6.1 installer provides a streamlined installation process that makes it faster and easier to setup a complete environment. Profiles are created directly by the installer. For Network Deployment, you can now choose the type of profile the installer creates. The default for Network Deployment is the new cell profile which includes a deployment manager and an already-federated node. The installation does not resolve port conflicts during install on i5/OS. The default ports for the product are used. You can use the change WebSphere Application server tool after the install to change port values. You can now specify the installation location and default profile location when installing the product. New in 6.1, you can install the product multiple times to unique locations. You also now have the option to enable administrative security during installation, to create a secure environment “out of the box”.

Installation enhancements (cont.)

- Single response file for silent installation and profile creation
- Enhanced logging and tracing
 - ▶ Easier troubleshooting for support teams
- Installation verification utility (installver)
- Installation query utility (querywasinstalls)
 - ▶ Located under /QIBM/WAS/bin
 - ▶ Provides useful information about the WebSphere Application Server products installed on your system
- Choice of CDs or DVDs for installation media



Silent installation uses a response file similar to that of previous releases but now uses a single response file for both installation and profile creation. Option names have been changed to be consistent across all packages and have more user-friendly names. All options that are available during profile creation can be accessed during a silent installation. The installation verification utility, introduced in version 6.0.2, helps to detect inconsistency and corruption in the installed image. Due to the support for multiple installations, a new utility to query the WebSphere Application Server installations on your system has been provided. This utility lists the WebSphere Application Server products installed on the system along with the product's level, installation location, default profile location and product library being used. In V6.1, you can choose CDs or DVDs for the type of media when ordering the product.

Packaging

Platform	CD Image	Includes
i5/OS Express, Base and Network Deployment	Quick Start	<ul style="list-style-type: none"> Install diagrams Quick start guide
	WebSphere Application Server V6.1 for i5/OS	<ul style="list-style-type: none"> WebSphere Application Server install CD
	WebSphere Application Server V6.1 Supplements for i5/OS	<ul style="list-style-type: none"> Web server plug-ins for i5/OS Application client for i5/OS Update installer for i5/OS Installation Factory for Windows
	WebSphere Application Server V6.1 Supplements for Distributed Platforms	One CD for each distributed platform (AIX, HP, Solaris, ...)
	WebSphere Application Server Toolkit for Windows WebSphere Application Server Toolkit for Linux	Eclipse-based tool for building, deploying, and debugging applications
i5/OS Network Deployment only	WebSphere Application Server Network Deployment Edge Components IBM Tivoli Directory Server IBM Tivoli Access Manager	<p>One CD for each distributed platform (AIX, HP, Solaris, ...)</p> <p>The Edge components include load balancing, caching, and centralized security capabilities</p> <p>IBM Tivoli® Directory Server provides a lightweight directory access protocol (LDAP) infrastructure</p> <p>IBM Tivoli Access Manager integrates with e-business applications to deliver a secure, unified e-business experience</p>

This table describes the various software packages included on the V6.1 CD or DVD images. The quick start CD contains installation diagrams depicting the various types of WebSphere Application Server installation configurations which are supported and a quick start guide. The application server CD contains the WebSphere Application server runtime installer. The i5/OS Supplements disk contains Web server plug-ins, Application client, Update installer, and Installation Factory. The Supplements disk for distributed platforms contains the Web server plug-ins, Application client, Update installer, Installation Factory and IBM Support Assistant for the other non-i5/OS supported platforms. The Application Server Toolkit, the Eclipse-based environment for building, deploying, testing, and debugging Java™ 2 Enterprise Edition (J2EE) applications, is provided on a separate disk as well.

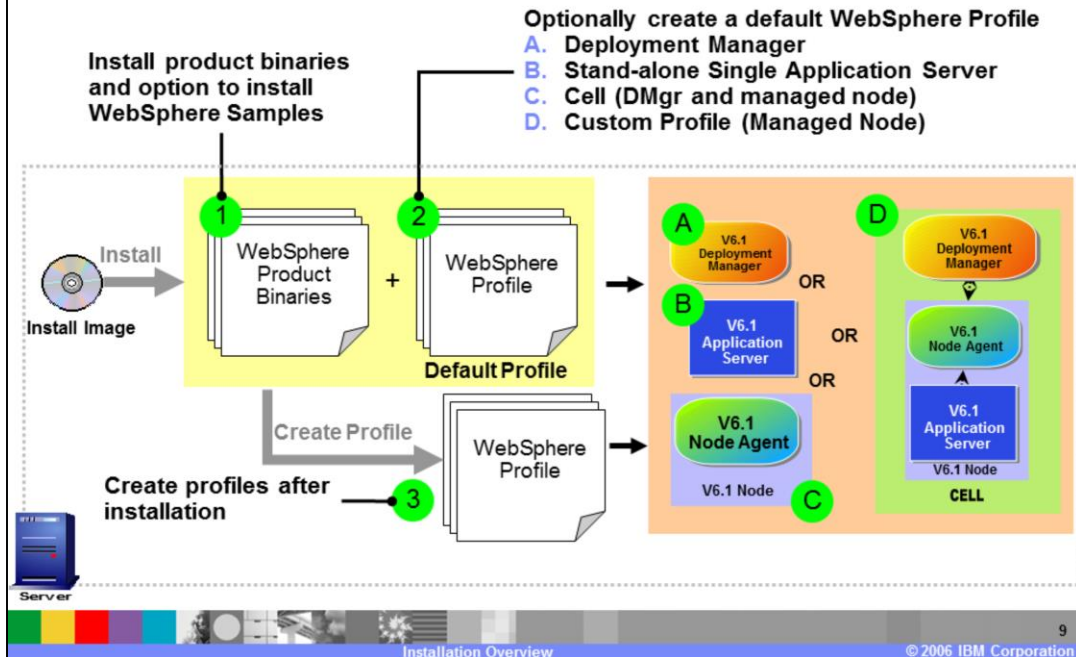
The Network Deployment package includes additional components which install on non-i5/OS platforms but work with the network deployment nodes running on i5/OS. The Edge components, Tivoli Directory Server and Tivoli Access Manager components only are included with Network Deployment.

Section

Installation

This section covers the WebSphere Application Server installation process.

Installation options



The WebSphere Application Server V6.1 installer provides the capability to install the binary image and also optionally create profiles. The picture shown here depicts the Network Deployment install options. Profile creation choices for Network Deployment are: deployment manager, stand-alone application server, custom profile, and cell. The cell template, which is used by default, will create two profiles, a deployment manager and a pre-federated node, to quickly build a simple cell on one machine. The Express and Base product installers create a default stand-alone application server profile. Profile creation is covered in more detail in a separate presentation.

The Network Deployment graphical installation wizard creates profiles using the most commonly selected options. If you need a more customized profile, choose the “no profile” option during WebSphere Application Server installation and use the manageprofiles command line tool after installation to access more advanced options. For the Express and Base products, you can specify `-OPT profileType=none` in the response file for silent installs if you do not want to create a profile during installation.

i5/OS installation

- The i5/OS platform uses the same ISMP-based install wizard used on distributed platforms
 - ▶ Wizard runs on Windows® and performs a remote install on the i5/OS system
- Additional panel in the wizard prompts for System i name and user profile information
- You can also specify a default profile location
 - ▶ By default, this value is set to `/QIBM/UserData/WebSphere/AppServer/V61/<edition>`
- Local and remote silent installation are also available
 - ▶ Invoke the install Qshell script from a Qshell session
- The Profile Management Tool is not supported on i5/OS



Installing WebSphere Application Server on System i is very similar to installing on distributed platforms. The i5/OS installation package uses the same underlying wizard as the distributed platforms with some very minor changes. Since the wizard is running on a Windows system, you will need to supply the system name and your user profile information in order to connect to your System i. You also have the option to change the default profile location. Local and remote silent installation are also available. The Profile Management Tool is not supported on i5/OS. You can create a default profile at install time, and you can use the `manageprofiles` command to create additional profiles.

Launchpad console

Product launchpad

Click this link to launch the Application Server installation wizard

Install other product components

WebSphere Application Server Network Deployment

Welcome to WebSphere Application Server Network Deployment

IBM WebSphere Application Server Network Deployment, Version 6.1 is an integrated platform that contains an Application Server, Web development tools, a Web server, and additional supporting software and documentation. This launchpad may serve as a single point of reference for installing your Application Server environment.

We recommend viewing the [installation diagrams](#) for illustrations of common application server environments. For full documentation visit the on-line [WebSphere Information Center](#).

To begin, select an entry from the list below to initialize a product installation wizard. Alternatively, select a product on the navigation list to left to read descriptions of the products, and browse help documentation and support links before starting an installation wizard.

- WebSphere Application Server Network Deployment**
[Launch the installation wizard for WebSphere Application Server Network Deployment.](#)
- Web Server plug-ins**
[Launch the installation wizard for Web Server plug-ins.](#)
- Application Clients**
[Launch the installation wizard for Application Clients.](#)
- Application Server Toolkit**
[Launch the installation wizard for the Application Server Toolkit.](#)
- IBM Update Installer for WebSphere Software**
[Launch the installation wizard for IBM Update Installer for WebSphere Software.](#)

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In V6.1 a common Launchpad console is used to install all of the included components. If auto-run is enabled, the launchpad console is started when you place the WebSphere Application Server V6.1 for i5/OS disc in the CD-ROM drive of your Windows workstation. If auto-run is not enabled, invoke the Launchpad by running “launchpad.exe” from the installation image.

Command-line installation

- Installer binary location:
 - ▶ CD:
 - <IMAGE_DIR>\WAS\install.exe for remote install
 - /QOPT/WEBSPPHERE/WAS/install for local install
 - ▶ DVD:
 - <IMAGE_DIR>\OS400PPC\WAS\install.exe for remote install
 - /QOPT/WEBSPPHERE/OS400PPC/WAS/install for local install
- Silent installation option uses a single response file for options to install product binary and to create a profile.
 - ▶ install -options "response_file_name"
 - ▶ Sample file: <IMAGE_DIR>/WAS/responsefile.nd.txt
 - ▶ License acceptance must be changed to "true"
 - ▶ Administration user name and password must be set OR administration security must be changed to "false"



The WebSphere Application Server V6.1 installer can be directly invoked by using the "install" command from the "WAS" directory on the CD image. During a silent installation, a response file is used to obtain the input for the installation process. A sample response file is provided to help you get started and to show you the available options. An important thing to remember is that you must indicate your agreement with the license agreement by changing the silentInstallLicenseAcceptance option from "false" to "true" in the sample response file. Also, because the PROF_enableAdminSecurity option is set to true, you must either specify values for the PROF_adminUserName and PROF_adminPassword options OR set PROF_enableAdminSecurity to "false". The administrative user name does **not** have to be an i5/OS user ID or LDAP user.

Command-line installation (cont.)

- V6.1 uses new “-OPT” option format
 - ▶ Less vulnerable to change from release to release
 - ▶ Examples:
 - -OPT installLocation="/QIBM/ProdData/WebSphere/AppServer/V61/Express"
 - -OPT silentInstallLicenseAcceptance="true"



In version 6.1, WebSphere Application Server is moving away from the standard InstallShield options format. This format exposes internal details of the installation program such as bean names and property names, which made the set of options less user-friendly and also fragile, since these names sometimes change from release to release. Instead, there are now options specified by “-OPT” which takes “sub-options”, and the names of the sub-options are more meaningful than the bean and property names, and less subject to change from one release to the next.

Prerequisite checking

- The installer checks the following prerequisites
 - ▶ Operating System level
 - ▶ PTFs
 - ▶ Sufficient disk space
 - ▶ User authority ((ALLOBJ, *SECADM)
- Users can choose to ignore warnings and continue
- Silent install will stop installation if the check fails
 - ▶ Use `-OPT disableOSPrereqChecking="true"` to override



During installation, the installer automatically checks for supported Operating Systems, required disk space and user special authority. The install wizard will allow you to continue with the installation with warnings about prerequisite check failures. The silent installer will stop the installation if the prerequisite check fails, and write an explanation to the log file. You can override this behavior by specifying “disableOSPrereqChecking=true” in the response file.

Section

Uninstallation



This section will cover uninstalling WebSphere Application Server

Uninstallation overview

- Uninstallation uses InstallShield Multi Platform (ISMP)
- Located under “bin” directory
 - ▶ <Install_root>/bin/uninstall
- New option: `removeProfilesOnUninstall`
 - ▶ Removes all profiles during uninstall
 - By default on i5/OS, profiles are **not** removed during uninstall
 - Allows you to reinstall product binaries without affecting existing profiles
 - ▶ Examples:
 - `-OPT removeProfilesOnUninstall="true"`

Default behavior is different between distributed and i5/OS



Uninstallation of WebSphere Application Server V6.1 is similar to previous versions. i5/OS only supports local, silent uninstallation. During the installation process, an uninstaller will be created under the “uninstall” directory. During uninstallation you have the option to remove all existing profiles. Note that the default value differs between distributed platforms and i5/OS. By default the profiles are deleted on distributed platforms, whereas for i5/OS, they are left in place.

The uninstaller does not completely remove the directory structure under which you installed the product. To completely remove the product, or in order to be able to reinstall the product to the same location, you must remove the directories and files located under the product install root.

Section

Problem determination



This section will discuss installation problem determination.

Exit codes

- All V6.1 installers, including application client and plug-in installers use a common logging strategy
 - ▶ Consult **log.txt** for information on success or failure
 - INSTCONFSUCCESS implies successful install and profile creation
 - INSTCONFFAILED implies a failed install.
 - INSTCONFPARTIALSUCCESS usually implies a successful install, but some configuration action failed



All of the installation packages in V6.1 will follow a common logging and tracing strategy, meaning they use a consistent location for log and trace files, and a consistent format for those files.

“Partial success” means that some portion of the installation failed but the installation is still at least partially usable and the failure may be recoverable to make the installation completely usable. You will need to consult the log, to determine the exact failure and what, if any, corrective actions can be taken. Generally you should not attempt to uninstall and install again when the install ends with INSTCONGPARTIALSUCCESS.

Log file locations

- Log files for installation and uninstallation for all packages can be found under the <install_root>/logs/ directory
- If the logs directory can not be accessed during installation , the logs are saved under <user home>/<productID>logs
 - ▶ Application server :<user home>/waslogs
 - ▶ Plugins :<user home>/plglogs
 - ▶ Client :<user home>/cltlogs
- If there is a JDK related problem and if you can not find the logs look under <OS temp directory>/niflogs
 - ▶ /tmp/niflogs



Log files contain information about installing, configuring and updating WebSphere Application Server V6.1 components . The log file will initially be created in the current user's "home" directory and then copied into the <Install root>/logs/install directory. If the install is terminated before the file is copied, then it will remain in the current user's "home" directory. During a remote install, the logs are temporarily located under <user home>/Local Settings/temp where <user home> is \Documents and settings\<>userid>. For a local install, <user home> is the home directory for the user profile which invoked the install, for example /home/<userid>

Installation log files

Group	Log Files (default)	Description
Application Server installation logs	<Install_root>/logs/install/ log.txt	This is the primary ISMP install log. Look for one of the following messages: <ul style="list-style-type: none"> ▪ INSTCONFSUCCESS – All configuration actions executed successfully ▪ INSTCONFPARTIALSUCCESS – Implies some non-fatal configuration actions failed ▪ INSTCONFFAILED – Indicates total failure,
	<install_root>/logs/install/ installconfig.log	XML-based file contain Logs the activities of ANT configuration scripts that run at the end of the installation procedure

<install_root> = WebSphere install directory



This slide can be used as a reference; it lists the different log files that can contain information obtained from the WebSphere Application Server installation process. These logs should be used during problem determination of an unsuccessful installation.

Installation log files (cont.)

Group	Log Files (default)	Description
i5/OS product configuration	Located under <install_root>/logs/install: os400Inst.log _setupNative.log _postinstallexit.log os400CrtPrf.log	Logs for the the i5/OS specific actions which occur when creating and restoring native i5/OS objects for the product.
Profile Creation	Under <default_profile_location>/profileRegistry/logs/manageprofiles/: create.log or <profile_name>_create.log <profile_name>/<component>.log	Problems when creating profiles – used by the installer and also when creating profiles outside the installation process



This slide is also for reference, listing the different log files that can contain information obtained during post install configuration actions and the profile creation process. In V6.1 all the profile creation logs are also saved under the <default_profile_location>/profileRegistry/logs directory, which will help resolve profile creation problems, and remain in the logs location even after profile has been deleted. The i5/OS product configuration logs can be useful when the install does not complete with a return code of INSTCONFSUCCESS.

Section

Summary and reference

And, in summary...

Summary

- WebSphere Application Server V6.1 is a full installation
 - ▶ Both wizard and command line installation options
 - ▶ Supports remote and local (Qshell) installation options
- Installation enhancements include the ability to
 - ▶ Create a default profile without launching the profile management tool
 - ▶ Enable administrative security during installation

WebSphere Application Server 6.1 is a full installation, rather than an upgrade. It gives you the ability to create a profile, and enable security during the installation process. You can choose to install remotely from a Windows workstation or locally from the Qshell command line. This presentation also covered some problem determination steps for troubleshooting issues that may arise during an installation.

Reference

- **WebSphere Application Server V6.1 information center and release notes**
 - ▶ <http://www.ibm.com/software/webservers/appserv/was/library/>
- **WebSphere V6.1 System Requirements**
 - ▶ <http://www.ibm.com/software/webservers/appserv/doc/latest/prereq.html>
- **WebSphere support web site**
 - ▶ <http://www-306.ibm.com/software/webservers/appserv/was/support/>
- **MustGather for install problems**
 - ▶ <http://www.ibm.com/support/search.wss?rs=180&tc=SSEQTP&tc1=SSCVS24&q=MustGatherDocument>

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