



IBM Software Group

IBM WebSphere Application Server V6.1

Profile management tool



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This presentation will focus on the profile management tool in WebSphere® Application Server V6.1.

Agenda

- Review of profile concepts
- Profile Management Tool



The agenda for this presentation includes a brief review of profiles, and an overview of the Profile Management Tool, which is the graphical tool used to create profiles.

Profiles overview

- WebSphere Application Server V6.1 files are divided into two categories
 - ▶ Core product files
 - Application binaries for WebSphere Application Server; these are shared across all profiles
 - ▶ User files
 - Customizations, including configuration files, installed applications, resource adapters, properties, log files
- Profiles are collections of related user files
 - ▶ A profile defines a WebSphere Application Server runtime environment
 - ▶ Profiles share product binaries
 - ▶ A profile can optionally be created at install time
 - ▶ Additional profiles can be added later



WebSphere Application Server V6.1 files are divided into two categories:

-product files - product files include the application binaries needed to run the Application Server

-user files - user files contain information used by the Application Server. User files contain defined variables, resources and log files. A **profile** is a collection of these files, creating a WebSphere Application Server runtime environment.

When combined, the core product files (or the installed binaries) and the configuration files (or a profile) make up a fully functional WebSphere Application Server installation.

Note that profiles share the core product binaries – only one base installation supports multiple operating environments, which substantially simplifies maintenance.

You have the option of creating a profile during installation time, or create them later. At least one profile is required to have a functional WebSphere installation.

This sharing of product binary files and the separation of configuration files is an efficient use of disk space when creating multiple configurations. In addition, updates to the binary files are more easily applied as they reside in one location per physical machine, even when multiple profiles are configured.

In summary,

Profiles are collections of related user files that define a WebSphere Application Server runtime environment and share product binaries. They can optionally be created at install time or added later

Section

Profile Management Tool



This section will cover in detail the Graphical Profile Management Tool.

Profile Management Tool

- Profile Management Tool
- V6.0 Profile Creation Tool has been replaced in V6.1 with a new Eclipse-based tool called the Profile Management Tool
 - ▶ Gathers user input and invokes the “manageprofiles” command line tool to create the profiles
 - ▶ Mostly used for creating profiles and cannot perform functions like delete, list, and so on
 - ▶ Can be used on almost all platforms except on
 - 64-bit platforms
 - The zLinux platform



In WebSphere Application Server V6.1, profiles can be created using the Profile Management Tool which is a graphical user interface or `manageprofiles.bat/sh` which is discussed in another presentation. The Profile Management Tool is mostly used for creating profiles and cannot perform functions like delete, listProfiles, or getName. Only `manageprofiles` can perform these functions.

Profile Management Tool, replaces the Profile Creation Tool from previous versions. It is based on the Eclipse Rich Client Platform, as opposed to the previous Profile Creation Tool, which was based on InstallShield Multi Platform.

Note that the Profile Management Tool cannot be used on 64-bit platforms or the zLinux platform. With these platforms, `manageprofiles` (discussed in another presentation) can be used instead.

Profile Management Tool – cont'd

- The Profile Management Tool provides
 - ▶ Multiple profile templates, including the ability to create a cell in a single step
 - ▶ Feature selection during profile creation
 - ▶ Option to enable administrative security during profile creation
 - ▶ Port conflict resolution enhancements
 - ▶ Option to create a web server definition
- Start the tool by
 - ▶ Running `<installation_root>\bin\ProfileManagement\pmt.bat(sh)`
 - ▶ Launching from the “First steps” console
 - ▶ On Windows®, selecting **Start > Programs > IBM WebSphere > Application Server Network Deployment V6.1 > Profile Management Tool**
- Silent profile creation is also available using response files
 - ▶ InstallShield-based response files from previous versions will not work
 - ▶ Response files must be in the new key-value format



The Profile Management Tool provides multiple profile templates, including the new cell template which has the ability to create a cell in a single step. It allows you to select a variety of features during profile creation, including the ability to enable administrative security out of the box. It also offers enhanced port conflict resolution functionality and allows you to optionally create a web server definition at profile creation time.

You can start the Profile Management Tool directly from the command line, or from firststeps.

Just like in previous versions of WebSphere, you also have the ability to create profiles silently, using the command line interface, `manageprofiles`. The Profile Management Tool is now Eclipse based and is no longer based on InstallShield Multi-platform as it was in previous versions. As such, response files from previous versions will no longer work. Profile creation can also be done silently from the installation response file. All profile options are available from the installer, unlike in 6.0.

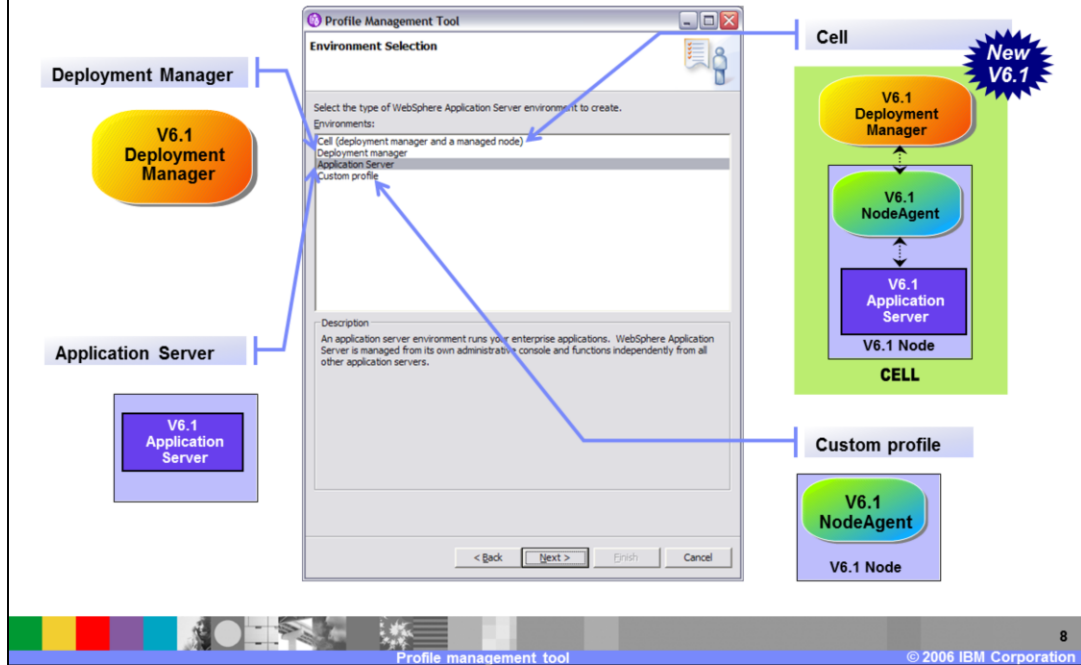
Profile Management Tool: profile types

- Profile templates are provided for creating profiles of different types:
 - ▶ Deployment manager profile
 - ▶ Application server profile
 - ▶ Cell profile
 - ▶ Custom profile



There are four different types of profiles that you can create in WebSphere Application Server Version 6.1 namely deployment manager profiles, application server profiles, cell profiles, and custom profiles. Templates are provided for each of these profile types.

Profile Management Tool: profile templates

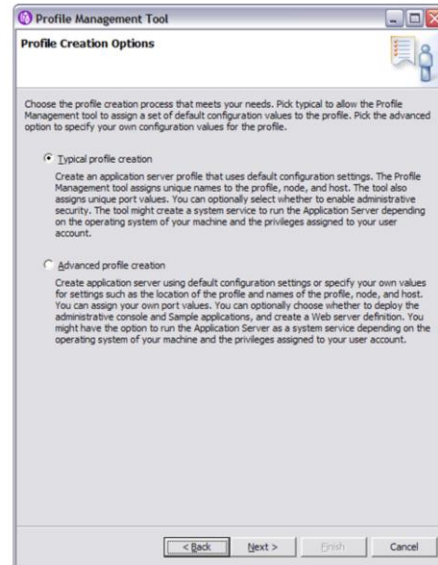


There are four types of profile templates namely:

- Deployment manager, which administers application servers that are federated into its cell.
- Application Server, which runs enterprise applications. WebSphere Application Server is managed from its own administrative console and functions independently from all other application servers.
- Cell, which is **new in Version 6.1**, has the basic function of the cell profile to serve applications to the Internet or to an intranet under the management of a deployment manager; this creates both the deployment manager and the managed node and federates the managed node into the cell of the deployment manager in a single step.
- Custom profile, which creates an empty node that does not contain an administrative console or servers. The typical use for a custom profile is to federate its node to a deployment manager. After federating the node, use the deployment manager to create a server or a cluster of servers within the node.

Profile Management Tool options

- Typical profile creation
 - ▶ Generates unique
 - Profile name
 - Node name
 - Cell name
 - Port numbers
 - ▶ Option to enable security
- Advanced profile creation
 - ▶ Provides the ability to customize all profile options, such as installing sample applications



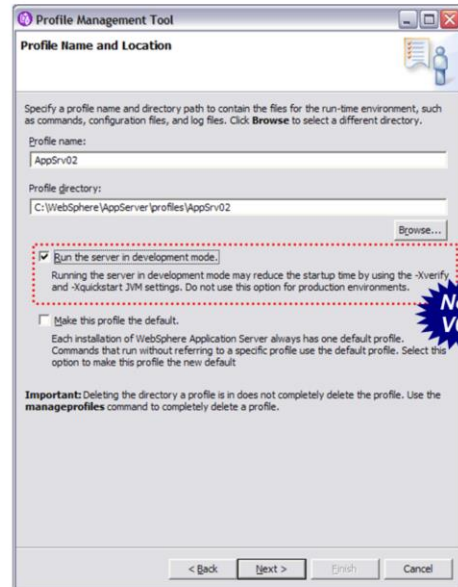
During profile creation with the Profile Management Tool, you have the option of selecting a **Typical profile creation** or **Advanced profile creation**.

Choosing **Typical Profile Creation** will automatically assign unique Profile Name, Cell Name, Node Name and port numbers, generating values for all of the required values for you. The only option that you will have is the ability to choose to enable administrative security.

Choosing **Advanced Profile Creation** allow you to customize all of the profile options, such as configuring specific port numbers or installing the sample applications.

Profile Management Tool: development mode

- The development-optimized profile template is new in V6.1
 - ▶ This option is only available with application server profiles
 - ▶ It creates a server geared for faster startup and lower end hardware
 - ▶ It should not be used in production environments



Profile Management Development mode is a new feature in V6.1. It is available during the creation of the Application Server profile.

This option creates a server that is geared for faster startup and lower end hardware.

** Note that this option is different from the current **Run in development mode** option which is shown in the administrative console on server details page.

Profile Management Tool: default security

- Option to enable security “out of the box”
 - ▶ Administrative security will be enabled
 - ▶ Application security will be disabled
- Uses simple file based registry, based on new “federated repositories” feature
- Additional users and groups can be configured though administrative console or wsadmin commands



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Profile management tool

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The Profile Management Tool provides the option to enable security out of the box. Enabling administrative security out of the box in a production environment will prevent any user from gaining unauthorized access to the administrative tools. This new feature gives you a simple default security setting out of the box, so you do not have to deal with the complexity of setting up basic administrative security.

The Profile Management Tool uses the simple File-Based user registry. The File-Based user registry uses the new “WebSphere Virtual Member” technology integrated in V6.1. If you use Local OS, LDAP or custom registry for security, you can disable “out of the box” security and use the Administrative console or scripts to enable security after completing the installation.

LTPA will serve as the default authentication mechanism “out of the box”. An Internal server ID for inter-process communications will be automatically generated.

An administrative user ID and password will be added to the file-based user registry, which will exist under the installation root of WebSphere, in the profiles directory.

Profile Management Tool: port values

- The Profile Management Tool supplies recommended ports
 - ▶ Checks for port usage by V6 or newer installations
 - ▶ Notifies you if any selected ports are currently in use
 - ▶ Port usage detection only works for installations owned by the same user
- Provides option to set all ports to base default ports (9080, 9060, and so on)



The Profile Management Tool features new port conflict resolution enhancements in version 6.1. The port conflict resolution code provides the ability to query WebSphere to determine the ports used by that WebSphere installation. An additional simple check will be performed to determine if a suggested port is currently in use. Only ports that are not currently in use will be displayed as recommended ports.

The tool also provides an option to change all the ports to default ports (9060, 9080, and so on) (the button is circled in red on this slide). This is a useful feature in development and test environments to retain the original port numbers. Make sure profiles with the same port numbers are not started at the same time.

The port usage detection will only work for installations of WebSphere owned by the same user. This is because the installation registry file that is used for detecting the installation location resides under the /usr/home directory for non-root users.

Profile Management Tool: Web server definition

Profile Management Tool
Web Server Definition

Optionally create a Web server definition if you use a Web server to route requests for dynamic content to the Application Server. Alternatively, you can create a Web server definition from the administrative console or a script that is generated during Web server plug-in installation.

Create a Web server definition

Web server type:
IBM HTTP Server

Web server operating system:
Windows

Web server name:
websrv1

Web server host name or IP address:
vsbeta.rchland.ibm.com

Web server port (default 80):
80

< Back Next > Finish Cancel

Profile Management Tool
Web Server Definition (Part 2)

Specify the remaining information about the Web server to complete the Web server definition.

Web server installation directory path:
C:\Program Files\IBM\WebSphere\HS

Web server plug-in installation directory path:
C:\Program Files\IBM\WebSphere\HS\Plugins

< Back Next > Finish Cancel

- The Profile Management Tool provides the option to create Web server definitions
 - ▶ IBM HTTP Server and plug-in information provided in this panel will be used for creating web server definition



The Profile Management Tool also provides the ability to create a web server definition during the profile creation process.

This is optional, since there are other ways of creating the Web server definition at a later time.

Section

Summary and reference



This section will summarize the profile management topics that have been covered in this presentation.

Summary

- Profiles define a runtime environment for WebSphere Application Server
- WebSphere Application Server V6.1 profile management tools have been enhanced to provide a better interface
- The graphical Profile Management Tool and the command line based manageprofiles utility are complementary tools for administering profiles



To summarize, profiles are a key component of the WebSphere Application Server environment, and the focus in V6.1 has been to enhance the profile management tools to provide a better interface with more options.

The graphical Profile Management Tool and the manageprofiles command line interface are the two tools that you have at your disposal to administer your V6.1 profiles.

Section

Appendix



This section contains the appendix

Profiles: required disk space

- A minimum of 40 MB of available temporary space is required for creating a profile
- The required space listed below must be available in the directory in which the profile is being created

Profile type	Requirement
Application server	▪ 200 MB disk space
Deployment manager	▪ 30 MB disk space
Custom	▪ 10 MB disk space
Cell	▪ 230 MB disk space



A minimum amount of space must be available in the directory where you create a profile. An error can occur when you do not provide enough space to create a profile. Verify that you have, in addition to the minimum space required for a particular profile, an additional 40 MB of space. The 40 MB of space is used for log files and temporary files.

Both the **manageprofiles** command and the Profile Management tool can create a cell profile that has both a federated Application Server profile and a deployment manager profile. However, the Profile Management tool and the **manageprofiles** command create cell profiles differently. The differences are important to understand in terms of the available disk space needed to create the cell profiles. You can create a cell profile in one pass through the Profile Management tool. In this case you need 230 MB of available disk space to create the cell profile. However, to create a cell profile using the **manageprofiles** command that is equivalent to the cell profile that the Profile Management tool creates, you must create two individual profiles, the cell deployment manager profile and the cell node profile. The cell deployment manager profile requires 30 MB of available disk space, while the cell node profile requires 200 MB of available disk space.

Tips for configuring default security

- Use the username and password options for commands after enabling security:
 - ▶ `stopServer hostname -username <name> -password <password>`
 - ▶ `stopManager -username <name> -password <password>`
 - ▶ `wsadmin -username <name> -password <password>`
- If security is enabled for both a deployment manager and a stand-alone profile, you have to use both user IDs to federate the node
 - ▶ Use the following command
`addNode dmgr_host dmgr_port`
 - `-localusername <username for stand-alone server>`
 - `-localpassword <password for stand-alone server>`
 - `-username <username for dmgr>`
 - `-password <password for dmgr>`
 - `<other parameters to addNode> ...`



Note that the `addNode` command shown should be placed on a single line.

If a GUI is available, it will pop up a user/password prompt so that they do not appear as plain text on the command line.

Log files for problem determination

- Profile Management Tool wizard logs are saved under
 - ▶ <install_root>/logs/manageprofiles/pmt.log
- Every time the manageprofiles command is invoked, log files are created under
 - ▶ <install_root>/logs/manageprofiles directory
 - ▶ Naming convention: <profileName>_<action>.log
 - ▶ Example: AppSrv01_create.log
- Any logs generated during profile customization or configuration are saved under
 - ▶ <install_root>/logs/manageprofiles/<profile_name>
- Exit codes are as follows
 - ▶ 0 – success
 - ▶ 1 – failure
 - ▶ 2 - partial success



In V6.0 all the configuration action logs were saved under <profilesPath>/logs directory. In V6.1 profile creation logs are saved under < install_root>/logs. In case of profile creation failure, all the actions will be rolled back and the profile directory will be deleted. Profile logs under <install_root> will now help to analyze the problem.

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