



IBM Software Group

IBM WebSphere Application Server V6.1

Manageprofiles command line tool



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This presentation will focus on manageprofiles command line tool for WebSphere® Application Server V6.1. It is a complimentary presentation to the IBM Web Administration for i5/OS presentation.

Agenda

- Review of profile concepts
- manageprofiles command line tool



The agenda for this presentation includes an overview of Profiles and the manageprofiles command line tool used to create them, a description of the types and templates, and some examples.

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: the core product files and user files.

- Product files which include the application binaries are needed to run the Application Server.
- User files which contain information used by the Application Server 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 creating 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

Manageprofiles command line tool



This section addresses the command line tool used to create and manage profiles.

Manageprofiles command line tool

manageprofiles

- ▶ Qshell script
- ▶ The crtwasinst, dltwasinst and lstwasinst tools are no longer included in V6.1
- ▶ V6.0 wasprofile command line tool has been enhanced and renamed to manageprofiles in V6.1
- ▶ Command line interface for profile management functions
- ▶ manageprofiles command line tool creates all application server run-time environments.
- ▶ This command line tool and the IBM Web Administration for i5/OS are the only ways to create run-time environments
 - The Profile Management graphical user interface tool does not support i5/OS



The WebSphere Application Server V6.0 wasprofile command line tool has been enhanced and renamed to manageprofiles in V6.1. The create WebSphere Application Server instance (crtwasinst), delete WebSphere Application Server instance (dltwasinst), and list WebSphere Application Server instance (lstwasinst) command line tools are no longer included in V6.1.

The manageprofiles command creates the run-time environment for a WebSphere Application Server profile.

The manageprofiles command and the IBM Web Administration for i5/OS wizards are the only ways to create run-time environments. The graphical Profile Management Tool does not support i5/OS.

Manageprofiles command line – cont'd

- manageprofiles command is located in the following:
 - ▶ <install_root>\bin\manageprofiles
 - ▶ V6.0 “wasprofile” tool has been deprecated
- Enhancements to the manageprofiles command include the capability to
 - ▶ Generate default values
 - ▶ Use a response file as input
 - ▶ Backup and restore profiles
 - ▶ Configure optional features
- The manageprofiles command also includes support for other profile operations, such as listing profiles and profile deletion



The manageprofiles command is located in the bin directory of the installation root of WebSphere Application Server. This command is a Qshell script and is called manageprofiles. The WebSphere application Server V6.0 “wasprofile” tool has been deprecated.

Enhancements to this command line tool include the ability to query and set the default profile, backup and restore profiles.

The command-line interface can be driven by a response file containing the input arguments for a given command in properties file key/value format.

An important new command line capability is setDefaultName. In V6.0 the default profile could only be set when it was created. It can now be done after profile creation from the command line in V6.1. The default profile is the profile which is used when you do not specify the –profileName parameter when invoking a command line tool from the bin directory for the product.

The manageprofiles command and the IBM Web Administration for i5/OS wizard can both be used to delete a profile.

Manageprofiles command line – Syntax

- The manageprofiles command is used to perform the following:
 - ▶ create a profile (-create)
 - ▶ delete a profile (-delete)
 - ▶ augment a profile (-augment)
 - ▶ unaugment a profile (-unaugment)
 - ▶ delete all profiles (-deleteAll)
 - ▶ list all profiles (-listProfiles)
 - ▶ get a profile name (-getName)
 - ▶ get a profile path (-getPath)
 - ▶ validate a profile registry (-validateRegistry)
 - ▶ validate and update a profile registry (-validateAndUpdateRegistry)
 - ▶ get the default profile name (-getDefaultName)
 - ▶ set the default profile name (-setDefaultName)
 - ▶ backup a profile (-backupProfile)
 - ▶ restore a profile (-restoreProfile)
- For detailed help, use the -help parameter.



The manageprofiles command is used to perform the functions listed here.

For detailed help including the required parameters for each of the tasks accomplished with the manageprofiles command, use the -help parameter in conjunction with the parameter which specifies the action to perform. The output from the help command will specify which parameters are required and which are optional. For example, to get help for creating a profile based on the default profile template, you would specify manageprofiles –create –templatePath default -help

Manageprofiles command line :Logs

- creates a log for each profile it creates
 - ▶ The logs are in the defaultProfileLocation/profileRegistry/logs/manageprofiles directory. The files are named in this pattern: profile_name_create.log.
- creates a log for each profile it deletes
 - ▶ The logs are in the defaultProfileLocation/profileRegistry/logs/manageprofiles directory. The files are named in this pattern: profile_name_delete.log.



The manageprofiles command creates a log for every profile that it creates. The logs are located in the logs directory which is located in the profile registry directory of WebSphere. The profile registry directory is the defaultProfileLocation/profileRegistry directory where defaultProfileLocation is the directory specified during install. For example /QIBM/UserData/WebSphere/AppServer/V61/Express. The log files are named in this pattern: profile_name_create.log.

The command also creates a log for every profile that it deletes. Similarly the logs are located in the logs directory which is located in the profile registry directory of WebSphere. The files are named in this pattern: profile_name_delete.log.

Profile templates

- Available for all server installations
 - Default
 - Stand-alone application server profile
 - Contains a single application server
 - Administration console
 - Default Application
 - Samples (if samples feature was installed)
 - Application server name same as profile name unless `–serverName` specified
- Available for Application Client and Server installations
 - Client
 - Provides directory structure and properties files to store and run your client applications
- Available for Web Server Plug-ins and Server installations
 - http
 - Provides directory structure, properties files and configuration files need to run you Web Server on a system remote from the application server



Depending on the product installed, there are several profile templates to choose from when creating a profile.

The default profile template exists for all server (Express, Base and ND) installations. It creates a stand-alone application server profile which contains a single application server, the administration console, and the default application. The default application has three example applications: snoop, hello and hitcount. If the Samples feature is installed, the Samples Gallery also is installed into the application server. The default profile template is used when you do not specify the `–templatePath` parameter when creating a profile.

The client profile template provides the necessary environment for compiling and running a client application from the command line. This profile template is used when you have only the Application Client product installed. This profile type only exists on i5/OS.

The http profile template provides the necessary environment for running your IBM HTTP Server for i5/OS or Lotus® Domino® Web Server for i5/OS on a system that is remote from the system hosting the application server. This profile template is used when you have only the Web Server Plug-ins product installed. This profile type only exists on i5/OS.

Profile templates continued

- Network Deployment only

- ▶ Cell

- Two templates – cell/dmgr and cell/default
 - Two manageprofiles invocations
 - Results in
 - A deployment manager profile
 - An application server profile which belongs to (is federated into) the cell managed by the deployment manager profile
 - Contains a single application server
 - Default Application
 - Samples (if samples feature was installed)

- ▶ Dmgr

- Deployment manager profile
 - Contains the deployment manager server
 - Administration console
 - File transfer application
 - Manages application server nodes from homogenous and heterogeneous environments

- ▶ Managed

- Node profile
 - An empty node, ready to be added to a cell and customized
 - Can specify parameters to have node added to cell during profile creation



When the Network Deployment product is installed, three additional profile templates are available.

The Cell profile template is new in V6.1. The cell profile template actually consists of two templates, cell/dmgr and cell/default and results in two profiles being created: a deployment manager profile and a managed node profile which contains an application server into which the Default Application is preinstalled. You do not need use the addNode command line tool to add the node to the deployment manager's cell. The managed node profile is already a member of the deployment manager's cell. You use the administration console for the deployment manager to manage your node. To create the profiles using the cell profile template you must invoke manageprofiles two times, first using the cell/dmgr template and second using the cell/default template. The two invocations have parameters which are dependent on each other and are complex. In some cases it might be easier to create the deployment manager and stand-alone application server profiles first and then use addNode to add the stand-alone application server profile to the deployment manager's cell.

The dmgr profile template allows you to create a deployment manager profile which is used to manage one or more application server nodes. The nodes can be distributed throughout your network and can be running on any supported platform. For example, your deployment manager could be running on a Windows® or Linux® workstation and could be used to manage nodes running on i5/OS and AIX®.

The managed profile template provides an empty node. It does not contain an application server. You can use this profile template to create and add a node to a deployment manager cell. You then can use the deployment manager's administration console to create an application server with all the settings you need in the node. This a good template to use when you know you will change the default settings for your application server. The managed profile template supports parameters that allow you to add the node to a deployment manager during profile creation.

Default values

- When creating a profile, default values exist for all of the parameters
 - ▶ **profileName**: Unique profile name – AppSvrnn or Dmgrnn
 - ▶ **templatePath**: *install_root/profileTemplates/default*
 - ▶ **profilePath**: *defaultProfileLocation/profiles/profile_name*
 - ▶ **hostName**: fully qualified host name for the system
 - ▶ **nodeName**: unique node name
 - Default or managed template: *shortHostName_profileName*
 - Dmgr template: *profileNameManager*
 - ▶ **cellName**: unique cell name
 - Default or managed template: *shortHostName_profileName*
 - Dmgr template: *profileNameNetwork*



When creating a profile, you can specify values for the profile. However when no values are supplied, the following arguments are automatically generated:

- **profileName** which is the unique profile name. When creating a deployment manager profile, the default is Dmgrnn where nn is 01, 02, 03 When creating a stand-alone application server profile, the default is AppSvrnn where nn is 01, 02, 03,
- **profilePath** which is the intended location of the profile in the file system. The default profile path is *defaultProfileLocation/profiles/profile_name* where *defaultProfileLocation* is the value specified during installation.
- **hostName** which is the fully qualified host name for the system. This value can be found under option 12 of the Configure TCP (CFGCTP) menu from the i5/OS command line
- **nodeName** which defaults to *shortHostName_profileName* for the default and managed profile templates and to *profileNameManager* for the deployment manager profile template.
- **cellName** which defaults to the node name for the default and managed profile templates and to *profileNameNetwork* for the dmgr profile template.

Default values will be generated for any argument. Required arguments vary based on which type of profile is being created and which arguments are specified.

Other defaults includes **isDefault** which defaults to true if this is the first profile being created or if there is no default profile; false otherwise.

enableAdminSecurity is the other parameter whose value defaults to false

Note that : You do not have to specify the fully qualified template path on i5/OS. You can choose to specify just the template name or path which is relative to the *install_root/profileTemplates* directory. For example, `-templatePath dmgr` or `-templatePath cell/default` can be used.

Port usage

- Different parameters exist for assigning the port values for a profile
 - ▶ -portsFile
 - Specify path to file containing <end point name>=<value> pairs
 - ▶ -startingPort
 - Specify first port in a a block of ports to use.
 - Ports are assigned incrementally by one from the value specified
 - ▶ -defaultPorts
 - Use the default port values for the product
- If none of the port parameters are specified, the tools attempts to assign values that are not in use
 - ▶ Not actively in use
 - ▶ Not used by any other V6.1 profile
 - ▶ Port values changed by incrementing default value by one for each port until an unused port value is found
 - For example, 9091, 9081, 2810, 8881



There are several parameters for specifying ports when creating a profile. Only one (or none) of the parameters must be specified. The `-portsFile` parameter allows you to specify a file containing the name of the port and the value to assign to it. The name of the point is the endpoint name for the port. You can specify all of the ports or only the ports you want to assign to specific values.

The `-startingPort` parameter allows you to specify the first port in a block of ports to use. The ports are assigned sequentially by one from the value specified. This parameter is useful if you have multiple groups using the system each with their own profile or if you want restrict the ports used on the system.

The `-defaultPorts` parameter indicates that the default ports for the product should be used. These are the same ports that the default profile uses when created during installation.

If you do not specify any of the port parameters, the tool attempts to assign ports that are not currently in use or are not already assigned to any other V6.1 profile. The port value to use is determined by incrementing the default value for the port by one until an unused port is found. For example, if the default ports are in use by the default profile, the next profile created would have an administrative port of 9091, and internal HTTP server port of 9081, a SOAP port of 8881, and so on.

Response file for manageprofiles

- Profile operations can be driven by a response file containing input arguments for a given command in properties file key/value format

- ▶ **Example:** `manageprofiles -response <response_file >`

- The following is an example response file for a create operation:

```
create
profileName=testResponseFileCreate
profilePath=<PROFILE_HOME>
templatePath=default
nodeName=myNodeName
cellName=myCellName
omitAction=samplesInstallAndConfig,defaultAppDeployAndConfig
```

- <PROFILE_HOME> refers to the fully qualified path to a profile

- ▶ For example, `/home/myuserid/myprofiles/testResponsefileCreate`



The command-line interface can be driven by a response file containing the input arguments for a given command in properties file key/value format as shown in the example. The response file can contain values such as profile name, profile path, template path, node name, cell name, and hostname.

Backup and restore with manageprofiles

▪ Backup

- ▶ Performs a file system backup of the profile folder and the profile metadata from the profile registry file
- ▶ Use the following command to perform a backup:
 - `manageprofiles -backupProfile -profileName <profile_name> -backupFile <backup_file>`

▪ Restore

- ▶ Reconstructs the profile based on the archived profile folder and metadata
- ▶ A profile cannot be restored if it already exists in the profile registry or profile directory
- ▶ The restore operation does not check the integrity of the profile against the system install
- ▶ Use the following command to perform a restore:
 - `manageprofiles -restoreProfile -backupFile <backup_file>`



The manageprofiles utility provides commands to backup and restore profiles. Profile **backup** is a file system backup of a profile folder and the appropriate profile metadata from the profile registry file. A profile backup is different from a backupConfig; profile backup contains more than a profile configuration tree, it contains various profile-specific script files and relevant information from the profile registry. Backup creates a temporary file called profileRegistry.xml under the profile path to store the profile registry information such as profile path, template path, and any possible augments. This temporary file is saved as a part of the profile backup archive.

The restore operation will register the profile using the profileRegistrySnippet.xml information and uncompress the archive into the profile directory.

Restore will fail if the profile is currently registered, or if the profile still exists on the file system. The restore operation will not overwrite a currently registered profile entry, and it will not overwrite a currently existing profile directory. You will need to remove the profile prior to performing the restore operation.

Omit optional features with manageprofiles

- The following features are optional
 - ▶ Deploying the administrative console
 - ▶ Installing and configuring the default application
 - ▶ Installing and configuring samples
- Available optional features vary by profile type
- All optional features for a given profile type are **installed by default** with the `manageprofiles` command
- Explicitly omit optional features using the “`-omitAction`” parameter
 - ▶ `manageprofiles -create -omitAction`
`deployAdminConsole samplesInstallAndConfig`
`defaultAppDeployAndConfig`



There are currently three optional features defined for use with the `manageprofiles` command, namely:

- Deploying the administrative console
- Installing the default application, and
- installing the samples

Not all optional features are applicable to every profile type. A deployment manager, for example, can have an administrative console deployed to it, but not have any default and sample applications installed. Whereas an application server profile can have an administrative console deployed and both the default and sample applications installed.

If you are creating a profile using one of the supplied templates, all of the applicable optional features for that profile type will be included by default. If you do not want those optional features, you can explicitly omit them using the **`-omitAction`** option as shown in the example.

Other new parameters for manageprofiles

- Enable administrative security
 - ▶ `manageprofiles -create -templatePath dmgr`
`-enableAdminSecurity true -adminUserName <user_name>`
`-adminPassword <password>`
- Change the default profile
 - ▶ `manageprofiles -setDefaultName -profileName`
`<profile_name>`
- List the default profile
 - ▶ `manageprofiles -getDefaultName`



Other new parameters are available with the `manageprofiles` command in this release.

You can enable administrative security from the command line.

Note that, by default, administrative security is NOT enabled from the command line.

You can change the default profile and query the name of the default profile. The default profile is the profile which is used when you do not specify the `-profileName` parameter when invoking a command line tool from the bin directory for the product.

Section

Summary and reference



This section will summarize the manageprofiles command line tool 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 tool has been enhanced to provide additional options
- The IBM Web Administration for i5/OS wizards and the command line based manageprofiles utility are complementary tools for administering profiles
- The graphical Profile Management tool does not support i5/OS



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 does not support i5/OS.

The IBM Web Administration for i5/OS wizards and the manageprofiles command line interface are the two tools that you have at your disposal to administer your V6.1 profiles on i5/OS.

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.

The **manageprofiles** command can create a cell profile that has both a federated Application Server profile and a deployment manager profile. The cell deployment manage profile requires 30 MB of available disk space, and the cell node profile requires 200 MB of available disk space.

More manageprofiles examples

- Create a profile using a block of ports
 - ▶ `manageprofiles -create -profileName myprofile -startingPort 10380`
- List all profiles
 - ▶ `manageprofiles -listProfiles`
- Delete a profile
 - ▶ `manageprofiles -delete -profileName <profile_name>`
- Backup a profile
 - ▶ `manageprofiles -backupProfile -profileName <profile_name> -backupFile <backupFile_name>`
- Restore a profile
 - ▶ `manageprofiles -restoreProfile -backupFile file_name`



These examples illustrate the use of the parameters detailed on slide seven.

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 ID and password prompt so that they do not appear as plain text on the command line.

Log files for problem determination

- Every time the manageprofiles command is invoked, log files are created under
 - ▶ <defaultProfileLocation>/profileRegistry/logs/manageprofiles directory
 - ▶ Naming convention: <profileName>_<action>.log
 - ▶ Example: AppSrv01_create.log
- Any logs generated during profile customization or configuration are saved under
 - ▶ <defaultProfileLocation>/profileRegistry/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 <defaultProfileLocation>/profileRegistry/logs. The default profile location is specified when you install the product.

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