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WebSphere Application Server installation problem determination

Installation issues with WebSphere® Application Server can occur at various stages of the process. If you experience any issues during the execution of the launchpad, the installation wizard for WebSphere Application Server, or during a remote or silent installation, you can use this paper to help you diagnose the issue.

The activity that we discuss in this paper walks through the process of debugging the following WebSphere Application Server installation issues:

► Launchpad or installation wizard fails to start
► Installation fails
► Profile creation fails
► IVT fails
► Maintenance update process fails (i5/OS® only)

The activity is applicable to the installation of WebSphere Application Server V6.1 on distributed and i5/OS platforms. The activity does not cover installation of other products or features that shipped with WebSphere Application Server.

Introduction to the installation process

You can perform the installation of WebSphere Application Server in multiple ways. The methods available depend on the platform on which you are installing the product.

Installation on i5/OS

You can install on i5/OS in one of the following ways:

► Install locally on i5/OS (silent installation). This type of installation uses a response file.

► Remote installation from a Windows® machine using the launchpad and installation wizards. With this type of installation, you enter your responses using a GUI interface.

Installation on distributed systems

You can install on distributed systems in one of the following ways:

► Silent installation. This type of installation uses a response file.

► Using the launchpad and installation wizard. With this type of installation, you enter responses using a GUI interface.

Determine problem type

During the installation of WebSphere Application Server, you can run into several potential issues. This activity covers the following issues:

► The launchpad or installation wizard fails to start.
► The installation process fails.
► The profile creation process fails.
► Failures occur during the Installation Verification Test (IVT).
► Installation of maintenance on i5/OS fails.

Identify the initial symptoms

The first step in diagnosing installation issues is to identify what stage of the installation process is having the problem.

Problems using the launchpad tool or installation wizard

Symptoms of an error using the launchpad or installation wizard include:

► Executing the `launchpad.bat` command in windows or the launchpad.sh script in a UNIX® environment does not start the launchpad.

► Selecting **Launch the installation wizard for WebSphere Application Server** from the launchpad fails to start the installation wizard or the wizard exits with or without an error message.

If you have these symptoms, go to "Launchpad or installation wizard fails to start" on page 4.

Problems with the installation process

Symptoms of an error during the installation process include:

► Installation using the wizard fails.

► During a silent installation, a command prompt returns without errors or messages displayed in the console log.

► INSTCONFFAILED displayed in the installation log.

► Warning or error messages are displayed in the installation wizard or installation log.

► Error or warning messages occur during the installation process that begin with INST, ADMU (during profile creation), or WSVR (during IVT).

If you have these symptoms, go to "Launchpad or installation wizard fails to start" on page 4.

Problems in the profile creation process

You can create a profile during the installation process or later using the profile management tool (distributed platforms) or `manageprofiles` command. Indications of an error during profile creation display in the wizard panels and are logged to various logs. Symptoms of a profile creation failure include:

► An error displays in the installation wizard indicating the profile creation failed.

► An error displays when using the profile management tool or when using the `manageprofiles` command to create a profile. The error indicates the problem is in the profile creation process.

► You get a `Deployment Manager connection failure` message when creating a custom profile.

► The message `INSTCONFFAILED: The profile could not be created` displays in the profile creation log.

If you have these symptoms, go to "Profile creation fails" on page 18.

Problems in the Installation Verification Tool

You start the Installation Verification Tool (IVT) from the First Steps panel or using the **ivt** command after a profile is created successfully. Messages are returned to the wizard panel or the command line and also logged. Symptoms of an IVT failure include:

► `IVTL0075I`: The Installation Verification Tool verification failed.
► `ADMUxxxxE` messages

If you have these symptoms, go to "Installation Verification Test fails" on page 35.

Problems during maintenance on i5/OS

You install WebSphere Application Server maintenance on i5/OS in two stages. First, you apply a group PTF and then run an update script to install the fixpack. You run the update script in batch mode, so the only way to tell if the update is successful is to check the logs that are created during the update. The following entries in the log indicate a failure in the update:

► `INSTCONFPARTIALSUCCESS`
► `INSTCONFFAILED`

If you have these symptoms, go to "Maintenance on i5/OS fails" on page 41.

Launchpad or installation wizard fails to start

Often, you install WebSphere Application Server on distributed and i5/OS platforms by executing the **launchpad.bat** or **launchpad.sh** program. On distributed platforms, you execute the launchpad on the system where the installation occurs. When installing on an i5/OS system, you execute the launchpad on a Windows system, and the install occurs remotely to the i5/OS system. When started, the launchpad presents a GUI interface that allows you to select installation activities, including the option to start the installation wizard for WebSphere Application Server.

Steps to diagnose the problem

The following actions can help you to diagnose a problem with the launchpad or installation wizard:

► Verify that the prerequisites for the installation are in place.
► Verify that you have a supported Web browser and Web browser configuration.

> - If the problem is with the launchpad, attempt to bypass the launchpad by executing the installation wizard directly.
> - If the problem is with the installation wizard, attempt to bypass the installation wizard by doing a silent install.

These steps are explained more fully in the sections that follow. If after you have read these sections the information here does not resolve your problem, collect and analyze the log files.

Check system integrity

The launchpad executable is located in the root directory of the WebSphere Application Server installation CD. Executing it should bring up a user interface that provides the option to start various installation activities, including the WebSphere Application Server installation wizard.

Possible causes for problems with the launchpad or installation wizard include Web browser requirements and disk space or permission requirements.

Attempt to start the launchpad

Start the launchpad. If the launchpad starts correctly, you should see a window that looks similar to Figure 1. The options available will depend on the WebSphere Application Server package. If the launchpad fails to start, note any error messages that display.

Figure 1   Launchpad for WebSphere Application Server Network Deployment

Verify the prerequisites for installation

Problems starting the launchpad or installation wizard can usually be traced back to missing prerequisite system or application levels. Verify that you have the proper prerequisites for installation. You can find this information at:

http://www-306.ibm.com/software/webservers/appserv/doc/latest/prereq.html

Attempt to start the installation wizard

The launchpad simply gives you a GUI interface to the installation activities. Verify that you can start the installation wizard:

1. Start the launchpad.

2. If the launchpad starts correctly, select the link to launch the installation wizard for WebSphere Application Server.

3. If the launchpad does not start, start the installation wizard directly by executing install.exe (Windows) or install (UNIX) in the WAS directory on the installation CD.

Attempt a silent installation

If the installation wizard will not start, you can try the following alternatives:

► On distributed systems, you can use the silent installation method. For information on the silent installation method, see *Installing silently*, which is available at:

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm. websphere.nd.doc/info/ae/ae/tins_runSilent.html

► On i5/OS, you can use a remote silent installation. For information on this type of installation, see Installing from a Windows workstation command line at:

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm. websphere.nd.iseries.doc/info/iseriesnd/ae/tins_is_instrmt.html

If the installation wizard does not start or you want to continue with problem determination for the launchpad, continue with this activity.

Verify your Web browser type, level, and configuration

If you are having problems starting the launchpad, it is possible that you do not have a supported Web browser installed or configured properly. Steps to ensure you have the proper Web browser environment are:

► Verify the browser type and level are supported
► Export the browser location (UNIX platforms)
► Enable JavaScript

Verify the browser type and level are supported

Mozilla and Internet Explorer® are supported for configuration and installation activities. You can find a current list of supported browsers, their supported levels, and installation information for each platform in the Information Center article, *Using the launchpad to start the installation* , Network Deployment on distributed systems, which is available at:

```
http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.
websphere.base.doc/info/aes/ae/tins_launch.html
```

This URL is for Network Deployment on distributed platforms. To find comparable topics for other packages and platforms, search the Information Center using `tins_launch` as the search argument.

Export the browser location (UNIX platforms)

On UNIX platforms, ensure that the location of the supported browser is exported. For example, if the Mozilla executable is located in the /usr/bin directory, then export its location as follows:

export BROWSER=/usr/bin/mozilla

Enable JavaScript

Ensure that JavaScript™ is enabled in the browser options or preferences. For example:

► In Mozilla for AIX®, select **Edit** → **Preferences** → **Advanced** → **Scripts & Plugins** - Enable JavaScript for: Navigator, Allow Scripts to: Select all options.

► In Internet Explorer, select **Tools** → **Internet Options** → **Security** → **Internet** → **Custom Level** → **Scripting** → **Active scripting**. Select **Enable.**

► In Mozilla Firefox, select **Tools** → **Options** → **Content**. Select **Enable JavaScript** and click **Advanced**. Select all options.

Collect diagnostics

Collect the installation log as described in "Installation log" on page 43.

Analyze diagnostics

The installation log includes messages with details of the installation process and can contain messages that indicate a problem.

Examine the installation log

Look for entries that include INSTCONFSUCCESS, INSTCONFPARTIALSUCCESS, or INSTCONFFAILED, which might indicate the current status of the installation. Make note of the log entries that indicate partial success or failure and any entries preceding them that might indicate the problem.

Evaluate the results

The installation log includes messages that indicate steps failed or were only partially successful. If you see the INSTCONFPARTIALSUCCESS or INSTCONFFAILED messages, you should also see error or warning messages preceding them (for example, messages that indicate problems with resources, such as not enough disk space, exceptions in the JVM™, segmentation faults, and so forth.

If you received messages that are self-explanatory, attempt to correct the problem and retry the launchpad or installation wizard.

If you received messages that are not self explanatory, go to "The next step" on page 46 to perform online support searches using these messages as the basis of your search.

Suitable JVM could not be found

An error that resembles the following error indicates a problem with disk space:

```
A suitable JVM could not be found. Please run the program again using
the option -is:javahome < JAVA HOME DIR> No space left on device
```

This error indicates that there is not enough free space for the installer to run on. You can get this error even if enough space exists where you plan to install WebSphere Application Server (for example, drive D: or /usr).

Verify that the location of C:\Temp or %TEMP% in Windows or /tmp directory in UNIX has enough free space for the installer to run. You need to check the installation document to determine the exact amount of temporary disk space required, typically a minimum of 100 MB.

Another option is to use **-is:tempdir** with the installation wizard, where *tempdir* is the location of a temporary directory on a partition with enough free space.

Validate the solution

To verify that the problem is resolved, restart the launchpad. If it starts correctly, select **Launch the installation wizard for WebSphere Application Server** from the launchpad. If you still have problems, go to "The next step" on page 46.

Installation fails

Installation errors can have different underlying causes. For example:

► Insufficient file permissions for the user ID doing the installation
► Insufficient disk space for the product or install process
► Missing prerequisites
► Incorrect response file configuration during a silent install
► Errors due to limitations in non-root installations

This activity helps you to identify the root cause of your installation error and how to resolve it.

Non-root installation

You can now install WebSphere Application Server V6.1 on distributed systems using a non-root user ID. You can use this feature with both silent and interactive mode for full product installations and removals. This type of installation has the following limitations that can be interpreted as errors:

► Product cannot be registered using the native operating system mechanisms

► Port conflicts cannot be detected against other users' installations

► Ports must use values greater than 1024

► Uninstallation and update installation can only be performed by original user, group member or root

► Windows services will not be created during installation

Identify symptoms

When using the installation wizard, some errors are caught and displayed before the installation begins. Messages that you would normally see in the installation wizard are logged to the installation log when you are doing a silent installation.

Errors messages during the wizard

The following messages are some of the messages that you might see that indicate missing prerequisites or invalid system conditions:

- ► `Could not establish a connection to the i5/OS server`
- ► `Directory could not be validated as a writable directory`
- ► `There is insufficient free disk space on the system`
- ► `Current user profile needs authorities: *ALLOBJ *SECADM`
- ► `Your operating system failed the prerequisites check`

If you see one of these messages, see "Missing prerequisites or invalid conditions" on page 14 for more information.

If you do not have a symptom displayed, are using a silent installation, or have a symptom that we do not list here, you need to collect diagnostics to continue.

Collect diagnostics

To collect diagnostics, collect the installation log as described in "Installation log" on page 43.

Analyze the diagnostics

In the installation log, look for messages that include the following lines:

- ► `INSTCONFSUCCESS`
- ► `INSTCONFFAILED`
- ► `INSTCONFPARTIALSUCCESS`

If you find any messages with `INSTCONFFAILED` or `INSTCONFPARTIALSUCCESS`, scan the logs to see what was taking place and to see whether you can identify any messages that indicate the problem. In particular look for the following text:

- ► `com.ibm.ws.install.ni.ismp.actions.WasSilentInstallInputValidationAction, err`

- ► `com.ibm.ws.install.ni.ismp.actions.MaintenancePrereqCheckAction, err`

- ► `com.ibm.ws.install.ni.ismp.actions.ISMPWarningDialogAction, wrn`

- ► `CWUPIxxxxE` messages

The stack trace messages indicate the error.

Evaluate the messages

When you evaluate the message, you can look for the following issues:

- ► The installation was successful but the profile creation failed
- ► Silent installation or local installation on i5/OS response file problems
- ► Error or warning messages indicating invalid prerequisite or conditions

The installation was successful but the profile creation failed

If you chose to create a profile during the installation process, it is possible for the installation to complete successfully but for the profile creation to fail as illustrated in Example 1.

Example 1   Installation successful, profile creation fails

```
(Mar 14, 2007 11:46:51 AM), Process,
com.ibm.ws.install.ni.ismp.installtoolkitbridge.ISMPInstallToolkitBridg
eForNIFramework, wrn, Config action failed: 97SInstallInvokeWSProfile -
e:\WebSphere\AppServer\properties\version\nif\config\install\97SInstall
InvokeWSProfile.ijc
(Mar 14, 2007 11:46:52 AM), Process,
com.installshield.wizard.platform.win32.Win32PPKRegistryServiceImpl,
dbg.registry, writing VPD to E:\WINNT\vpd.properties
(Mar 14, 2007 11:46:58 AM), Process,
com.ibm.ws.install.ni.ismp.actions.SettleNIFRegistryAction, msg1,
Current install/uninstall process is successful. Process type is:
install
(Mar 14, 2007 11:46:58 AM), Process,
com.ibm.ws.install.ni.ismp.actions.SetExitCodeAction, msg1, CWUPI0000I:
EXITCODE=2
(Mar 14, 2007 11:46:58 AM), Process,
com.ibm.ws.install.ni.ismp.actions.ISMPLogSuccessMessageAction, msg1,
INSTCONFPARTIALSUCCESS
```

If you have this type of error, it is important to note that the installation was successful and that you do not need to repeat it. You can create the profile independently using the profile management tool or the `manageprofiles` command.

> **Where to go from here:** If your installation was successful but the profile creation failed, go to "Profile creation fails" on page 18.

Silent installation or local installation on i5/OS response file problems

If you see any of the following messages, go to "Response file problems" on page 16:

- ► LICENSE_NOT_ACCEPTED: Accept the license agreement in the response file before installing.
- ► A non-valid installation directory was specified.
- ► adminUserName, adminPassword not specified.
- ► NONROOT_INSTALL_DISALLOWED : Set the non-root install allowed setting to true in the response file before installing.

Error or warning messages indicating invalid prerequisite or conditions

The following messages are some that indicate a missing prerequisite or invalid condition for the installation:

- ► Could not establish a connection to the iSeries server
- ► Directory could not be validated as a writable directory
- ► There is insufficient free disk space on the system
- ► Current user profile needs authorities: *ALLOBJ *SECADM
- ► Your operating system failed the prerequisites check

If you see one of these messages, see "Missing prerequisites or invalid conditions" on page 14.

Review error message user response suggestions

Review the text and user response information for these messages for possible solutions. You can find the message text and user response information at CWUPI messages, which is available at:

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.web sphere.messages.doc/com.ibm.ws.install.ni.framework.resourcebundle.NIFR esourceBundle.html

> **Where to go from here:** If you found messages that we do not list here, go to "The next step" on page 46.

Missing prerequisites or invalid conditions

This section discusses missing prerequisite conditions that can cause a problem during installation.

Could not establish a connection to the i5/OS server

This symptom indicates a problem accessing the iSeries® server from the Windows system when doing a remote install to iSeries. The following issues can cause the remote connection from the installation wizard to the i5/OS system to fail:

► The host servers are not started on the iSeries system.

To correct this issue, run the `STRHOSTSVR *ALL` command.

► The host name is not specified or configured in TCPCFG.

To correct this issue, verify that the iSeries host name is listed in `CFPTCP option 10`.

► Remote connection fails when the IP address is used.

To correct this issue, try using the host name instead.

Directory could not be validated as a writable directory

This error usually indicates a file permissions error. You usually see this error in non-root installations on UNIX systems. To correct this issue, ensure that the user ID that performs the installation has write permission for the installation location and for the location where the profile is created.

Relevant topics in the Information Center that are related to this issue are:

► *Creating profiles for non-root users*

`http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp?topi c=/com.ibm.websphere.nd.doc/info/ae/ae/tpro_manage_nonroot.html`

► Preparing Linux® systems for installation

`http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm. websphere.nd.doc/info/ae/ae/tins_linuxsetup.html`

Correct the permissions and go to "Validate the solution" on page 10.

There is insufficient free disk space on the system

This message indicates there is not enough free disk space on the system for the installation. A variation of this message indicates there is not enough free space for the profile to be created:

```
There is insufficient free disk space on the system for profile
creation.
```

This message gives you the information that you need. It lists the location where the space is needed and how much is needed. To correct this issue, you need to free enough disk space for the profile or specify a different location and attempt to create the profile using the profile management tool or the `manageprofiles` command.

Current user profile needs authorities: *ALLOBJ *SECADM

If you have this issue, you need to ensure that the following attributes are true for the user ID that is used to install the product:

► The user ID has ALLOBJ authority.
► The user ID is enabled.
► The password has not expired.

Correct these conditions and go to "Validate the solution" on page 10.

Your operating system failed the prerequisites check

The installation process performs a prerequisite check before attempting the installation. If your system does not have the proper prerequisite programs or conditions (for example space), the check will fail. The sections that follow list some of the common problems and where to go to find a current list of the required prerequisites.

i5/OS

Some of the more common reasons that the prerequisite check can fail on i5/OS include:

► JDK™ 1.5 is not installed

► The group PTF for Java™ not applied

    – For V5R3: SF99269
    – For V5R4: SF99291

    You can download these products from Fixcentral at:

    http://www-912.ibm.com/eserver/support/fixes/fixcentral/main/iseries/

    You can find a list of fixes on the installation CD:

    cd_root/WAS/lib/V5R3PTFs and cd_root/WAS/lib/V5R4PTFs

You can find a complete list of i5/OS prerequisites in the topic *iSeries prerequisites*, which is available at:

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp?topic=/
com.ibm.websphere.base.iseries.doc/info/iseries/ae/cins_is_prqsvr.html

Distributed

For information about the current prerequisites, see *WebSphere Application Server detailed system requirements*, which is available at:

http://www-306.ibm.com/software/webservers/appserv/doc/latest/prereq.html

For information about preparing your system for installation, see *Preparing the operating system for product installation*, which is available at:

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.web
sphere.nd.doc/info/ae/ae/tins_prepare.html

This URL is for the Network Deployment package. If you are installing a different package, search the Information Center for the page name, *tins_prepare.html*, and select the topic that is appropriate for your package.

Response file problems

Problems that occur during a silent installation are often a result of incorrectly specified options in the response file. This section covers the following:

► License agreement was not accepted or found
► Non-root installation disallowed
► Non-valid installation directory
► (iSeries) adminUserName, adminPassword not specified

You can find information about installing on i5/OS using a response file in *Installing WebSphere Application Server from your iSeries server*, which is available at:

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp?topic=/
com.ibm.websphere.base.iseries.doc/info/iseries/ae/tins_is_instloc.html

You can find information about customizing the response file for distributed systems in responsefile.nd.txt, which is available at:

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.web
sphere.nd.doc/info/ae/ae/rins_responsefile_nd61.html

The following sections describe some of the problems that you might see.

License agreement was not accepted or found

There are several possible causes for this error, which include:

- ► Ensure the line `-OPT silentInstallLicenseAcceptance` in the response file is set to `true`.

- ► File not found error.

  Ensure that the location of the modified response file matches the `-options path/responsefile` parameter in the installation script.

- ► (i5/OS) Cannot find the responsefile on the media.

  The CD media and DVD media have different paths for the responsefile. For CD media, the response file is in /QOPT/WEBSPHERE/WAS/responsefile.base.txt. For DVD media, the response file is in /QOPT/WEBSPHERE/os400_ppc64/WAS/responsefile.base.txt.

Non-root installation disallowed

If you receive this error, set the `-OPT allowNonRootSilentInstall` parameter in the response file to `true` for non-root silent installation.

Non-valid installation directory

If you receive this error, change the `-OPT installLocation` parameter in the response file and set this with a correct directory location.

(iSeries) adminUserName, adminPassword not specified

By default, the `PROF_enableAdminSecurity` option in the responsefile is set to `true`. If you want to enable administrative security for the default profile that is created during the installation, you must specify values for the `PROF_adminUserName` and `PROF_adminPassword` options. If you do *not* want to enable administrative security for the default profile, change the value for the `PROF_enableAdminSecurity` option from `true` to `false`.

You specify these options in the INSTALL command. For example, from QSHELL, the command might look like this:

```
INSTALL -options path/responsefile -PROF_adminUserName myuser
-PROF_adminPassword mypassword
```

The user ID and password do not need to be a system user ID and password or an LDAP user ID and password. The ID-and-password pair that you specify are stored in the user registry and are used for administrative security for the default profile.

Validate the solution

To validate the solution, attempt to install the product. If the installation detects that the product is already installed, you need to uninstall it first. If the installation completed but profile the creation failed, this step is not necessary. The installation is complete, and you can use the profile management tool or the `manageprofiles` command to attempt to recreate the profile. For help on diagnosing profile creation problems, go to "Profile creation fails" on page 18.

> **Uninstalling the product:** For information about how to uninstall the product, consult the following Web site:
>
> ► For i5/OS
>
>   http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm .websphere.base.iseries.doc/info/iseries/ae/tins_is_uninstall.html
>
> ► Distributed platforms
>
>   http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.i bm.websphere.nd.doc/info/ae/ae/tins_uninstall.html
>
> These topics apply to Network Deployment package. If you are installing another package, you can search the Information Center using *tins_uninstall* as the search argument and then select the appropriate topic for your package.

Profile creation fails

Profiles allow you to define multiple runtime environments, each with its own administrative interface, while sharing the same code base. Problems with profile creation can be indicated with messages that display when running the profile management tool. These problems might be due to long directory paths, file permissions, problems with the host name, and so forth. A WebSphere Application Server installation is not functional until at least one profile is created.

The symptoms that you encounter during profile creation can vary depending upon how you create the profile:

► After installation using the profile management tool

► After installation using the `manageprofiles` command

► As part of WebSphere Application Server installation (which uses `manageprofiles`)

This activity covers problems that occur during the profile creation process and federation of custom nodes. If your problem occurs after profile creation, for example, the new application server or deployment manager will not start, see "Installation Verification Test fails" on page 35.

Creating profiles

If you are installing the base WebSphere Application Server or Express package, an application server profile is created automatically. If you are installing the Network Deployment package, you are given the option to create a profile.

Profiles are created using the `manageprofiles` command. During installation, this command is invoked without your knowledge. To create a profile after installation, you can use the GUI interface to this command (profile management tool), or you can invoke the command directly.

Profile types

The types of profiles that are available to you depend upon the WebSphere Application Server package that you have installed:

► **Application server profile**: An application server profile defines one application server called *server1*. The default applications are installed.

► **Deployment manager profile:** The deployment manager profile creates the deployment manager process (`dmgr`). The deployment manager provides centralized administration of multiple application server nodes and custom nodes as a single cell. The deployment manager provides administration for basic clustering and caching support, including failover support and workload balancing.

► **Custom profile:** A custom profile defines an empty node that you must federate to a cell. Federation is done using the `addNode` command. When federated, you can use the administration tools to customize the node by creating servers and clusters. The node does not include a default application server or default applications.

► **Cell profile:** You can use a cell profile to create a deployment manager, a federated node, and an application server on that node on a single system. It creates two profiles, one for the deployment manager and one for the node and application server.

For Base and Express installations, the application server profile is the only profile allowed.

To learn more about profiles

To learn more about profiles and how to create or manage them, the following resources might be useful:

- *WebSphere Application Server V6.1: System Management and Configuration, SG24-7304*

  http://www.redbooks.ibm.com/abstracts/sg247304.html

- *WebSphere Application Server V6.1: Planning and Design, SG24-7305*

  http://www.redbooks.ibm.com/abstracts/sg247305.html

- *Creating and deleting profiles*

  http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.websphere.nd.doc/info/ae/ae/tpro_profiles.html

Identify symptoms

If you are using the installation wizard, the profile management tool, or the `manageprofiles` command, error indications are often displayed directly to you. If you are using a wizard, input is validated and error messages display in the window where an incorrect parameter is entered. Other messages are displayed in the Results panel. In the case of the `manageprofiles` command, error messages display in the command window. It is important that you make a note of any of these messages for use in diagnosing the problem.

Typical examples of the types of error messages that you might see include:

- `Profile creation failed.`

- Custom profile errors when connecting to the deployment manager:
  - `Unable to connect to the deployment manager using the host name and port`
  - `Unable to connect to the deployment manager using the host name and port using the specified user name and password.`
  - `Authentication failed for deployment manager connection.`

  If you see any of these messages, go directly to "Custom profile federation error" on page 29.

- `Activity was detected on these ports.` (And the port listed is numbered less than 1024.)

  If you have this message, go directly to "Invalid ports selected" on page 33.

Collect diagnostics

The next step in the diagnostic process is to collect the logs that are produced during installation and profile creation.

The following logs can help you to determine whether the profile was created, and if it was not, at what stage the process failed:

- ► Profile management tool log

  This log is only required if you are using the profile management tool but have not captured the error messages displayed. For information about collecting this log, see "Profile management tool log" on page 45

- ► Profile creation log

  For instructions on collecting this log, see "Profile creation log" on page 44

- ► Installation log

  For information about collecting this log, see "Installation log" on page 43

- ► addNode.log

  This log is only required if you are creating a custom profiles and have selected the option to federate the node to the cell. For information about collecting this log, see "addNode command log" on page 45.

- ► (i5/OS) SystemOut JVM log

  This log is only required if you are installing to an i5/OS system. For information about collecting this log, see "JVM logs" on page 45.

Analyze diagnostics

The next step is to examine each log for messages that indicate the state of the profile creation and possible errors.

Examine the profile management tool log

This log includes messages that are generated during the profile creation. Look for records with the following text and note the error type:

- ► `<level>WARNING</level>`
- ► `<level>SEVERE</level>`
- ► `<message>Setting ERROR message =`
- ► `CPWKIO314E`
- ► `ADMCxxxxE` messages

Validation errors

The profile management tool validates the input and logs any errors both to the wizard console and to the profile management tool log.

Example 2 shows the error that is generated when a profile name is specified that already exists or when the directory for the profile exists.

Example 2   Validation error in the profile management tool log

```
<record>
  <date>2007-03-08T15:21:57</date>
  <millis>1173385317140</millis>
  <sequence>1151</sequence>
  <logger>com.ibm.ws.profile.validators.DirectoryValidator</logger>
  <level>SEVERE</level>
  <class>com.ibm.ws.profile.validators.DirectoryValidator</class>
  <method>runValidator</method>
  <thread>10</thread>
  <message>The profile path is not valid.</message>
</record>
```

When you see errors that indicate a problem with the parameters that are specified, repeat the profile creation using the profile management tool or the **manageprofiles** command and correct the input.

If you see the following message, go directly to "Invalid ports selected" on page 33:

```
Activity was detected on these ports. (And the port listed is
numbered less than 1024.)
```

Errors during the federation of a custom profile

Errors indicating problems during the federation of a custom profile are logged in both the profile management tool log and in the addNode log. Examples of federation errors include:

- ► Unable to connect to the deployment manager using the host name and port

- ► Unable to connect to the deployment manager using the host name and port using the specified user name and password.

- ► Authentication failed for deployment manager connection.

Example 3 indicates a problem with the connection to the deployment manager.

Example 3   Federation error in the profile management tool log

```
<message>nullCWPKIO314E: The following error is returned from an
exception: ADMC0016E: The
           system cannot create a SOAP connector to connect to host
           192.168.1.101 at port 8881.
```

If you see this type of error, go to "Custom profile federation error" on page 29.

Review error message user response suggestions

Review the text and user response information for these messages for possible solutions. You can find the message text and user response information at ADMC messages, which is available online at:

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.web
sphere.messages.doc/com.ibm.ws.management.resources.connector.html

Examine the profile creation log

Events that occur during profile creation are recorded to the profile creation log. This log file is created when the installation phase has completed the file copy process and starts creating a default profile. This log file is also created whenever the profile management tool or the `manageprofiles` command is executed.

This log file is an XML log file and is best viewed by a viewer that can format XML, for example a Web browser or WordPad in Windows. The entries in this log file consist of <record> entries.

What to look for in this log file

Search the log file for the following entries:

- ► `<level>WARNING</level>`
- ► `<level>SEVERE</level>`
- ► `<message>INSTCONFSUCCESS: Success: Profile profile_name now exists`
- ► `<message> INSTCONFFAILED`
- ► `<message> INSTCONFPARTIALSUCCESS`
- ► `<message>text - FAILURE</message>`

If you find `INSTCONFFAILED` or `INSTCONFPARTIALSUCCESS` messages, look at the messages that precede these messages to see what the process was doing when it failed. Warning messages can occur even in a successful profile creation. These warning messages are only interesting if you do not found any other indication of the error.

A sample log entry that indicates an error would look similar to that shown in
Example 4.

Example 4   Example of an error entry

```
<record>
  <date>2007-03-08T11:00:35</date>
  <millis>1173369635312</millis>
  <sequence>14855</sequence>

<logger>com.ibm.ws.profile.cli.WSProfileCLICreateProfileInvoker</logger
>
  <level>SEVERE</level>

<class>com.ibm.ws.profile.cli.WSProfileCLICreateProfileInvoker</class>
  <method>executeWSProfileAccordingToMode</method>
  <thread>10</thread>
  <message>INSTCONFFAILED: The profile could not be created.  For more
information, consult the
C:\WebSphere\AppServer\logs\manageprofiles\create.log file.</message>
</record>
```

Example of a successful completion

Example 5 is an example of a log entry indicating a successful profile creation:

Example 5   Log record of successful profile creation

```
<record>
  <date>2007-02-26T14:36:47</date>
  <millis>1172518607687</millis>
  <sequence>5651</sequence>
<logger>com.ibm.ws.profile.cli.WSProfileCLICreateProfileInvoker</logger
>
  <level>INFO</level>
<class>com.ibm.ws.profile.cli.WSProfileCLICreateProfileInvoker</class>
  <method>executeWSProfileAccordingToMode</method>
  <thread>10</thread>
  <message>INSTCONFSUCCESS: Success: Profile Custom01 now exists.
Please consult
C:\WebSphere\AppServer\profiles\Custom01\logs/AboutThisProfile.txt for
more information about this profile.</message>
</record>
```

Evaluate the profile creation log results

Using the messages you noted from the logs, evaluate the symptoms.

Profile creation was successful

If you found the message INSTCONFSUCCESS: Profile profile_name now exists in the log file, this message indicates that the profile creation was successful and that you probably do not have a profile creation problem.

If your problem occurs after profile creation, during the installation verification test or when you attempt to start the new server, go to "Installation Verification Test fails" on page 35.

File path length error

If you are installing on a Windows platform, the following issues can indicate a path length problem:

► You do not have a *profile_name*_create.log, but rather, you have create.log.

► You see any of the following messages in the create.log:

   – <message>Task stopped for: mkdir - FAILURE</message>
   – <message>Target stopped for: copyTemplate - FAILURE</message>

If you see this error, go to "File path length error" on page 28.

Template path error

If you are installing in a UNIX environment, the error illustrated in Example 6 can indicate a permissions error or incorrect specification of the template path directory. In Example 6, the template name was specified incorrectly. The template name is *default*, but *defaul* was entered in the command.

Example 6   Template path error - improper template name

```
<record>
  <date>2007-03-13T11:26:33</date>
  <millis>1173795993062</millis>
  <sequence>38</sequence>
  <logger>com.ibm.wsspi.profile.WSProfileException</logger>
  <level>WARNING</level>
  <class>com.ibm.wsspi.profile.WSProfileException</class>
  <method>WSProfileException</method>
  <thread>10</thread>
  <message>Exception message is: Cannot locate the template: No profile
template exists at path
E:\WebSphere\AppServer\profileTemplates\defaul.</message>
</record>
```

In Example 7, the `-templatePath` parameter was entered incorrectly. The user entered `-templatesPath`, when the proper parameter is `-templatePath`.

Example 7   Template path error - improper parameter specified

```
<message>Incoming command line is: { "-create" ,"-help" ,"-templatesPath"
,"/opt/WebSphere/AppServer/crso/profileTemplates/managed" }</message>
<message>Could not resolve templatePath from command line</message>
```

This error also causes the following response in the **manageprofiles** window:

```
Cannot locate the template: No profile template exists at path...
```

If you see this message, go to "Template path error" on page 28.

Examine the installation log

The installation log includes error messages that are generated during installation, for example, those errors that are detected through the prerequisite check. In addition to indicating whether the installation was successful and whether the profile creation was successful, you might see messages that indicate that prerequisites or system conditions have not been met.

Specifically, you should look for `CWUPIxxxxE` messages.

Insufficient free disk space

The following message indicates a problem with free disk space:

```
CWUPI0033E: There is insufficient free disk space on the system for
profile creation.
```

This message gives you the information that you need. It lists the location where the space is needed and how much is needed.

To correct this issue, you need to free enough disk space for the profile or specify a different location and attempt to create the profile using the profile management tool or the **manageprofiles** command.

Review error message user response suggestions

Review the text and user response information for these messages for possible solutions. You can find the message text and user response information at CWUPI messages, which is available at:

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.web
sphere.messages.doc/com.ibm.ws.install.ni.framework.resourcebundle.NIFR
esourceBundle.html

Examine the addNode log

Look for the following message types:

- ► ADMCxxxxE
- ► ADMUxxxxE
- ► ADFSxxxxE

Evaluate the results

Any of the following messages indicate a problem connecting to the **dmgr** process. This connecting to the **dmgr** process is required when the custom profile is federated to the deployment manager.

- ► ADMU0006E: Exception creating Deployment Manager connection: com.ibm.websphere.management.exception.ConnectorException:

- ► ADMC0016E: The system cannot create a SOAP connector to connect to host *host_name* at port *port_number*.

- ► ADFS0112E: File transfer has failed with the following message: Upload retry limit exceeded for file *file_name* Exception: java.net.UnknownHostException: *host_name*.

- ► ADMU0011E: Error creating configuration in the cell repository com.ibm.websphere.management.filetransfer.client.TransferFailedExcep tion: Upload retry limit exceeded for file *file_name* Exception: java.net.UnknownHostException: *host_name*

- ► ADMN0022E: Access is denied for the getTokenForNodeFederationOrRemoval operation on AdminOperations MBean because of insufficient or empty credentials.

If you see one or more of these errors, go to "Custom profile federation error" on page 29.

Review error message user response suggestions

Review the text and user response information for these messages for possible solutions. You can find the message text and user response information at:

- ► ADMC messages

  http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.w ebsphere.messages.doc/com.ibm.ws.management.resources.connector.html

- ► ADMU messages

  http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.w ebsphere.messages.doc/com.ibm.ws.management.resources.nodeutils.html

- ADFS messages

  http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.we
  bsphere.messages.doc/com.ibm.ws.management.resources.fileservice.html

Examine SystemOut for a TCP configuration error

One particular problem that can occur on i5/OS is due to a TCP configuration error. Scan the systemOut log for the following error message:

```
Unrecognized host name
```

This message indicates that TCP is not configured properly. Option 12 in CFGTCP must match (including case and being fully qualified) option 10 in CFGTCP.

Template path error

This error is a result of an incorrect path specified for the `manageprofiles -templatePath` parameter. Because the user does not specify this parameter during the installation process, this error can only occur when you are using the **manageprofiles** command.

Four templates are located in *app_server_root*/profileTemplates directory. These templates are cell, default, dmgr, managed. The profile management tool uses these templates as models to create profiles.

If you receive this error, verify that the `-templatePath` parameter has been specified correctly and that the user has permission to access the directory.

File path length error

When long path names are used on Windows operating systems as the installation path for WebSphere Application Server or for the profile location, the overall length of the commands or files that are created can exceed the operating system length.

An error is generated if you enter either:

- An installation directory path that is longer than 60 characters
- A profile directory path and profile name that together are longer than 80 characters

It is possible that even if you specify names that meet this criteria, you can run into the problem during profile creation as the components of the profile are created.

Resolve the problem

To resolve this problem, you have the following options:

► Reinstall the product using a shorter path for the installation directory.

► Create the profile after installation using a shorter path for the profile location.

   The default path using during installation for profiles is
   app_server_root/profiles. If you run into this problem while creating a profile
   during installation, select None as the choice for creating the profile and create
   it after installation using the profile management tool or the `manageprofiles`
   command. Both options allow you to choose a profile location.

► Choose short names for the cell, node, and server when you create the
   profiles. The default names, for example dmgr01, are usually short enough.

► Edit the *app_server_root*\bin\setupCmdLine.bat file to make it use the
   Windows `subst` command. The `subst` command maps an entire path to a
   virtual drive. After editing the file, run the profile management tool again.

> **Tip:** It is always a good idea to use reasonably short names for the installation
> path, profile path, and cell, node, and server names. WebSphere applications
> tend to have files with long names (for example, com.ibm.test...), and these
> long names can cause issues with file path length even after profile creation.

Custom profile federation error

If you are creating a custom profile and have selected the option to federate the
node during the process (the default) the process must be able to connect to the
deployment manager. This means that the deployment manager must be active
and the parameters for connection must have been entered correctly. The steps
to resolve this problem are:

► Verify the deployment manager is up and running.

► Verify the port is correct.

► Verify the deployment manager user ID and password were specified
   correctly and the user ID has Administrator authority. This verification is only
   necessary if administrative security has been enabled for the cell.

► Verify that the deployment manager host can do a host name lookup on the
   host of the node that is being federated. Use ping to make sure the host name
   can be found. For example, from the deployment manager, issue the
   following command:

```
ping newcustomnode.itso.ibm.com
```

- ► Verify that the host of the custom profile node can do a host name lookup on the deployment manager node.

- ► Verify that the deployment manager system and the new node system have synchronized date and time.

- ► Recreate the profile, or if the profile was successfully created, federate the node using the **addNode** command.

> **Tip:** If you are having trouble finding the cause of the federation error, create the profile and elect to federate later. Then, after the profile is created, open a command line and use the **addNode** command to federate. The errors will be more visible and retrying the process will be faster.

Start the deployment manager

Do the following to ensure that the deployment manager is available for the federation process:

1. Check the status of the deployment manager, **dmgr**.

2. If the **dmgr** status is not STARTED, start it.

Check the status of the deployment manager

Check the status of the deployment manager, **dmgr**, with the following command:

- ► (Windows): **dmgr_profile_home\bin\serverStatus -all**

- ► (UNIX): **dmgr_profile_home/bin/serverStatus.sh -all**

- ► (i5/OS): WRKSBSJOB SBS(QWAS61). Visually check to see if the **dmgr** is running in that subsystem.

Start the deployment manager

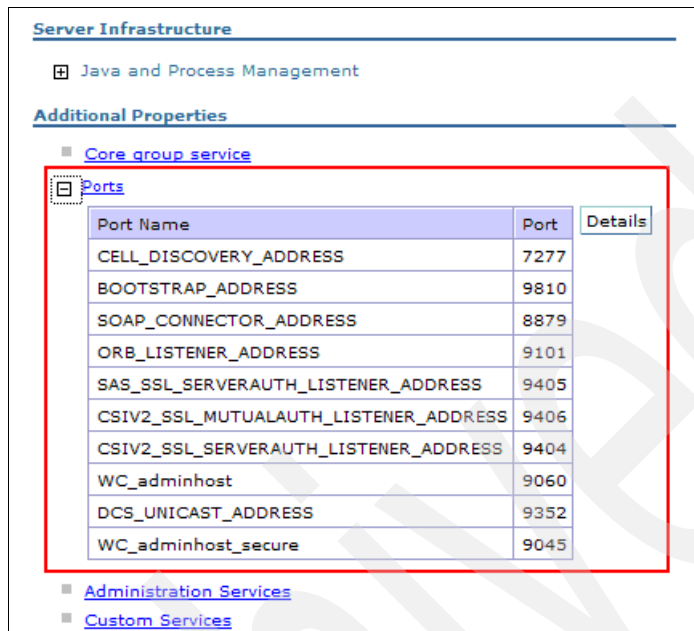If the **dmgr** status is not STARTED, start it with the following command:

- ► (Windows): **dmgr_profile_home\bin\startManager**

- ► (UNIX): **dmgr_profile_home/bin/startManager.sh**

- ► (i5/OS): *dmgr_profile_home*/bin/startServer

Verify SOAP port

You can verify the SOAP port using the administrative console or by viewing the portdef.props file. In the administrative console:

1. Select **System administration** → **Deployment manager**.

2. Expand **Ports** to display a table of the ports used.

3. Find the port listed for SOAP_CONNECTOR_ADDRESS. In Figure 2, this is port 8879.

Figure 2   Display of the deployment manager ports

To view the port in the portdef.props file:

1. Open *dmgr_profile_home*/properties/portdef.props.

2. Browse the file for the `SOAP_CONNECTOR_ADDRESS` and note the value. Example 8 shows a sample portdef.props file.

Example 8   The portdef.props file

```
#Generated by PMT GUI
#Thu Mar 08 15:23:41 EST 2007
CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS=9403
WC_adminhost=9060
DCS_UNICAST_ADDRESS=9352
BOOTSTRAP_ADDRESS=9809
SAS_SSL_SERVERAUTH_LISTENER_ADDRESS=9401
CELL_DISCOVERY_ADDRESS=7277
SOAP_CONNECTOR_ADDRESS=8879
ORB_LISTENER_ADDRESS=9100
CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS=9402
WC_adminhost_secure=9043
```

Verify user ID and password

To federate a profile to a deployment manager with administrative security enabled, you must supply a user ID with the Administrator role. If you received the `ADMN0022E: Access is denied` **...** message, you probably have supplied a user ID with something less than Administrator authority.

If you are not sure whether administrative security is enabled, the easiest way to tell is to attempt to access the administrative console.

► If administrative security is turned on, the login panel displays fields for user ID and password. You have to enter a valid user ID and password to login.

► If administrative security is not turned on, there is only a field for the user ID. You can login by specifying any value for the user ID, or you can login without specifying a user.

You can display users with Administrator authority from the administrative console by navigating to **Users and Groups** → **Administrative User Roles**.

Clean up the node after a federation error

If the profile creation fails due to a federation process, you will need to clean up the profile to start over:

1. Use the `manageprofiles -listProfiles` command to see whether the profile exists (has been registered to WebSphere). For example, on a Windows system:

   `C:\WebSphere\AppServer\bin>manageprofiles -listProfiles`
   `[CustomNode01]`

   A response of empty brackets ([ ]) means that no profiles exist.

2. If the profile exists, delete it using the process that is outlined in "Deleting profiles" on page 33.

   As an alternative, you can use the profile and federate it manually.

3. If the profile does not exist or you remove it, delete the *profile_home* directory. For example, c:\WebSphere\AppServer\profiles\CustomNode01.

Federate the node manually

If the profile is created, you can use the **addNode** command to federate the profile. You run the **addNode** command from the *custom_profile_home/*bin directory:

`addNode` *dmgr_host soap_port* `-user` *Administrator_ID* `-password` *password*

For example:

`C:\WebSphere\AppServer\profiles\Custom03\bin>`**addNode ITSOdmgr 8883**
-user Administrator -password *password*

Invalid ports selected

For non-root installations on UNIX systems, you should select ports that are higher than 1024 during profile creation.

The installation process warns you with a message indicating that the port is in use but allows the profile to be created successfully. The problem comes when you try to start the server and it fails to start

Resolve the problem

Repeat the profile creation using 1024 or higher for port numbers.

Validate the solution

When a profile creation fails, you need to correct the problem and restart the profile creation. If you were creating the profile as part of the installation and the installation succeeded but the profile creation did not, do not reinstall. Use the profile management tool or the `manageprofiles` command to create the profile. If you created a new profile that cannot be used and want to re-create it, use the process that we describe here to delete the old profile first.

Deleting profiles

To delete a profile, do the following:

► If you are removing a custom profile or application server profile that has been federated to a cell:

a. Stop the application servers on the node.

b. Remove the node from the cell using the administrative console or the `removeNode` command. Removing a node does not delete it, but restores it to its pre-federated configuration that was saved as part of the federation process.

c. Delete the profile using `manageprofiles -delete`.

d. Use the `manageprofiles -validateAndUpdateRegistry` command to clean the profile registry.

e. Delete the *profile_home* directory.

► If you are removing an application server profile that has not been federated to a cell:

a. Stop the application server.

b. Delete the profile using `manageprofiles -delete`.

c. Use the `manageprofiles -validateAndUpdateRegistry` command to clean the profile registry.

d. Delete the *profile_home* directory.

▶ If you are removing a deployment manager profile:

a. Remove any nodes federated to the cell using the administrative console or the `removeNode` command. Removing a node does not delete it, but restores it to its pre-federated configuration that was saved as part of the federation process.

b. Stop the deployment manager.

c. Delete the profile using `manageprofiles -delete`.

d. Use the `manageprofiles -validateAndUpdateRegistry` command to clean the profile registry.

e. Delete the *profile_home* directory.

Deleting a profile with manageprofiles

To delete a profile, use the `manageprofiles -delete` command. The format of this command is:

```
manageprofiles -delete -profileName <profile>
```

At the completion of the command, the profile is removed from the profile registry, and the run time components are removed from the *profile_home* directory with the exception of the log files.

If you have errors while deleting the profile, check the following log:

app_server_root/logs/manageprofile/*profile_name*_delete.log

In Example 9, we used the `manageprofiles` command to delete the profile named Node06.

Example 9 Deleting a profile using manageprofiles

```
C:\WebSphere\ND\profiles\Dmgr01\bin>manageprofiles -delete -profileName Node06
INSTCONFSUCCESS: Success: The profile no longer exists.
```

In Example 9, it appears that the command executed successfully. However, as an additional step to ensure that the registry was updated properly, you can list the profiles to ensure that the profile has been removed from the registry and validate the registry, as shown in Example 10.

Example 10   Verifying the delete profile results

```
C:\WebSphere\ND\profiles\Dmgr01\bin>manageprofiles -listProfiles
[Dmgr01, AppSrv01, AppSrv02, SamplesServer, WebServer2Node, DmgrSecure]

C:\WebSphere\ND\profiles\Dmgr01\bin> manageprofiles -validateAndUpdateRegistry
[]
```

Note: If there are problems during the delete, you can delete the profile manually. For information, see *Deleting a profile*, which is available at:

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.websphere.nd.doc/info/ae/ae/tpro_removeprofile.html

Installation Verification Test fails

The Installation Verification Test (IVT) verifies that installation and profile creation were successful. The IVT is the first option on the First Steps console. It can also be run by executing the `ivt` command:

► Windows

   profile_root\bin\ivt.bat

► UNIX

   profile_root/bin/ivt.sh

► i5/OS

   app_server_root/bin/ivt server1 default

   To run this script, your user profile must have *ALLOBJ authority.

The IVT does the following:

► Displays information about the profile

► Starts the server (application or deployment manager depending on the profile)

► Scans the logs for warnings and errors related to the start of the server and displays any of these messages it finds

Identify symptoms

When you run the IVT from the First Steps console, messages indicating the status of the tests and error messages display directly in the console. When running the command, the messages display in the command window. The messages are also logged to the ivtClient and startServer logs.

Symptoms of an IVT failure include:

► IVTL0075I: The Installation Verification Tool verification failed.

► ADMUxxxxE messages

► WSVRxxxxE messages.

Warnings might or might not indicate an error. They are most often useful when they closely precede an error. Example 11 illustrates what displays when starting the deployment manager in a successful IVT test.

Example 11   Warnings shown in a successful IVT

```
[3/8/07 15:27:30:562 EST] 0000000a WSKeyStore    W   CWPKI0041W: One or
more key stores are using the default password.
[3/14/07 6:24:04:796 EDT] 0000000a WSKeyStore    W   CWPKI0041W: One or
more key stores are using the default password.
[3/8/07 15:27:49:140 EST] 0000000a ThreadPoolMgr W   WSVR0626W: The
ThreadPool setting on the ObjectRequestBroker service is deprecated.
[3/14/07 6:24:11:687 EDT] 0000000a ThreadPoolMgr W   WSVR0626W: The
ThreadPool setting on the ObjectRequestBroker service is deprecated.
IVTL0075I: The Installation Verification Tool verification failed.
```

Port conflicts

The most common cause for problems in the IVT are port conflicts. Processes that are defined by profiles use a set of IP port numbers. For the process (application server, node, or deployment manager) start, these ports must not be in use by other processes.

If you see the Conflict detected on port *xxxx* message in a log or in the **ivt** results, go to "Port conflicts" on page 40.

Collect diagnostics

Collect the following information:

► Profile creation log (see "Profile creation log" on page 44)

► IVT log (see "IVT log" on page 44)

► Start server log (see "Start server log" on page 44)

► SystemOut and SystemErr JVM logs (see "JVM logs" on page 45)

Analyze diagnostics

Note that many error messages are included in multiple logs. Scan these logs in the order that we list here and when you find an indicator of the problem, use the messages to go to the root cause explanation, or to form a search of online support resources.

Analyze profile creation log

If you are not sure whether the profile was successfully created, inspect the profile creation log.

Successful profile creation

Example 12 shows messages in the profile creation log that indicate the profile was created successfully. This information can help you rule out a problem with the profile itself being the cause of the IVT failure.

Example 12   Messages indicating a successful profile creation

```
<message>INSTCONFSUCCESS: Success: Profile profile_name now exists.
Please consult
app_server_root\profiles\profile_name/logs/AboutThisProfile.txt for
more information about this profile.</message>
```

Profile creation failed

If the profile was not created successfully, search the log for entries with the following text:

► <level>WARNING</level>
► <level>SEVERE</level>
► <message> INSTCONFFAILED
► <message> INSTCONFPARTIALSUCCESS
► <message>text - FAILURE</message>

If you find `INSTCONFFAILED` or `INSTCONFPARTIALSUCCESS` messages go to "Profile creation fails" on page 18.

Analyze the IVT log

The IVT log includes messages from the IVT execution. Search for:

- ► ADMUxxxxE messages
- ► Information or warning messages closely preceding an error message.

ADMU3027E, ADMU3028I port conflict messages

Example 13 shows how a port conflict would appear in ivtClient.log.

Example 13   Port conflict as seen in ivtClient.log

```
>ADMU3028I: Conflict detected on port 8880.  Likely causes: a) An
instance of the server server1 is already running  b) some other
process is using port 8880
>ADMU3027E: An instance of the server may already be running: server1
>ADMU0111E: Program exiting with error:
>         com.ibm.websphere.management.exception.AdminException:
ADMU3027E: An instance of the server may already be running: server1
>ADMU1211I: To obtain a full trace of the failure, use the -trace
option.
>ADMU0211I: Error details may be seen in the file:
>
C:\WebSphere\AppServer\profiles\AppSrv03\logs\server1\startServer.log
IVTL0075I: The Installation Verification Tool verification failed.
```

Root cause: Port conflicts are discussed in "Port conflicts" on page 40.

ADMUxxxxE messages

Review the text and user response information for these messages for possible solutions. You can find the message text and user response information at ADMU messages, which is available at:

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.web sphere.messages.doc/com.ibm.ws.management.resources.nodeutils.html

Analyze startServer.log

Look for errors that related to the attempt to start the server. Scanning from the top, look for:

- ► ADMUxxxxE, ADMUxxxxW
- ► Any other messages ending with `E` (errors) or `W` (warnings).

  Warning messages by themselves do not often indicate a problem. However, warning message in the presence of error messages should be noted.

Review the text and user response information for these messages for possible solutions. You can find the text and user response information for ADMU messages at ADMU messages, which is available at:

`http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.web`
`sphere.messages.doc/com.ibm.ws.management.resources.nodeutils.html`

Analyze the JVM logs

SystemOut and SystemErr will contain any error messages related to the IVTServlet. The IVT scans SystemOut file looking for errors.

Look for any error or warning messages. Scanning from the top, look for:

- ► ADMUxxxxE, ADMUxxxxW
- ► WSVRxxxxE
- ► Any other messages ending with `E` (errors) or `W` (warnings).

  Warning messages by themselves do not often indicate a problem. However, warning message in the presence of error messages should be noted.

  Review the text and user response information for these messages for possible solutions. You can find the message text and user response information at ADMU messages, which is available at:

  `http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.w`
  `ebsphere.messages.doc/com.ibm.ws.management.resources.nodeutils.html`

- ► WSVR messages

  `http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.`
  `websphere.messages.doc/com.ibm.ws.bootstrap.bootstrap.html`

  Note that these messages span three topics in the Information Center.

Invalid port selection in a non-root installation

The following message can occur when ports numbered less than 1024 have been used in a non-root installation:

```
WSVR0009E: Error occurred during startup
com.ibm.ws.exception.RuntimeError: com.ibm.ws.exception.RuntimeError:
org.omg.CORBA.INTERNAL: CREATE_LISTENER_FAILED_4
```

If this is a non-root installation, check the portdef.props file. If you have specified port numbers lower than 1024, delete the profile and re-create it using appropriate port numbers. You can find the portdef.props file at *profile_home*/properties/portdef.props.

> **Where to go from here:**
>
> ► If you found evidence of a port conflict during server startup, go to "Port conflicts" on page 40.
>
> ► To form a search on any error messages you find, go to "The next step" on page 46.

Port conflicts

The port might already be in use. If you have port conflicts, follow these steps:

1. Look for another running server process that uses the same ports.

   You can find the ports in use by WebSphere processes in *profile_home*/properties/portdef.props.

2. Use the `netstat` command to see if the port is in use:
   – UNIX / Linux: `netstat -an | grep LISTEN`
   – Windows: `netstat -an`. Look for ports in LISTENING state.

Resolve this problem

If the other process will not normally be running (for example, it is a test profile), then bring down that process and retry the IVT.

If there is a chance that the other process will be running at the same time your server will be running, do the following:

1. Delete the profile (see "Deleting profiles" on page 33).
2. Re-create the profile using unique ports.

   The profile management tool can detect ports in use by profiles in that WebSphere installation but not by the profiles in other WebSphere installations or products.

   Use the advanced profile creation option when creating the profile to see the values selected by the profile management tool and to alter any port numbers that have a conflict.

3. Repeat the IVT.

Validate the solution

Retry the IVT. If you get the following message, the IVT has completed correctly:

```
IVTL0070I: The Installation Verification Tool verification succeeded.
```

If necessary, create a new profile after correcting the error, and run the IVT on the new profile.

Maintenance on i5/OS fails

Fixes for WebSphere Application Server V6.1 for i5/OS are delivered through a fixpack that is included in the WebSphere Application Server for i5/OS group PTF:

► The group PTF number for all WebSphere Application Server V6.1 products for i5/OS release V5R3M0 is SF99322.
► The group PTF number for all WebSphere Application Server V6.1 products for i5/OS release V5R4M0 is SF99323.

After you apply the group PTF, the fixpack is placed under the V6.1 Update Installer directory. You must then run the update script to install the fixpack. This activity discusses what happens when the update script fails.

You can find detailed instructions to complete the fixpack installation in /QIBM/ProdData/WebSphere/UpdateInstaller/V61/UPDI/ReadmeV61.txt.

Identify symptoms

Because the update is run in batch, a failure can only be seen by looking in the logs. The most likely symptom of a failure in the update process is that an error you applied a fix to correct is still occurring.

Collect diagnostics

Collect all the files in the following location:

app_server_root/logs/update/6.1.0-WS-WAS-i5osPPC-FP000000x.install

Analyze diagnostics

Scan each log for indications of an error. Search for the text `error`. Error conditions addressed in this paper are:

- ► `The server being updated is running`
- ► `Authority error`
- ► `Invalid host name or unable to find host name error`
- ► Host servers are not started

If you find error messages not listed here or you see no messages that indicate the problem, go to "The next step" on page 46.

The server being updated is running

You cannot install a fixpack for WebSphere Application Server V6.1 while the application servers are active. To resolve this issue:

1. Issue the following command:

   WRKSBSJOB QWAS61

2. End any servers that need to be updated.

3. Retry the update.

Authority error

This error is issued when the user who initiated the job does not have enough authority to run the update script. The user initiating the update script must have *ALLOBJ authority.

Invalid host name or unable to find host name error

Option 12 in CFGTCP must match (including case and qualification) option 10 in CFGTCP. For example, if CFGTCP option 12 has *mysystem* as the host name and *IBM®.COM* as the domain name, then the correct IP address in CFGTCP option 10 must have *mysystem.IBM.COM* configured as a host name.

Host servers are not started

Issue the STRHOSTSVR *ALL command and retry the update.

Validate the solution

To validate the solution, correct the problem and retry the update.

Collecting logs

This section provides more information about where to find the diagnostic data for installation problems.

Installation log

You can find the installation log at the following location:

► i5/OS
  – When the installation is performed locally on i5/OS (silent):

    app_server_root/V61*install_ver*/logs/install/log.txt

    where *install_ver* = Base, ND, Express
  – When the installation is remote to i5/OS from a Windows system:

    user.home\Local Settings\temp\niflogs

    where *user.home* is generally \Documents and Settings*userid* (or administrator)

► Distributed platforms

app_server_root/logs/install/log.txt

If the installer fails at a very early stage, this log file might not be created or it might exist in the system temporary area, %TEMP%\log.txt in Windows or /tmp/log.txt in UNIX.

> **Tip:** If the installation wizard will not start and there is no installation log, try repeating the installation using a silent install with the `-log` parameter to create the log (for example, Windows):
>
> ```
> install -options response_file -silent -log # !log_file_name  @ALL
> ```

Profile creation log

You can find the profile creation log at the following location:

► i5/OS:

```
QIBM/ProdData/WebSphere/AppServerV61/Base/logs/install/createDefault
Profile.log
```

► Distributed platforms

app_server_root/logs/manageprofiles/*profile_name*_create.log

or

app_server_root/logs/manageprofiles/create.log

Start server log

You can find messages that were issued during the server startup at Distributed and i5/OS platforms, which is available at
profile_root/logs/*server_name*/startServer.log.s

IVT log

Messages issued during the Installation Verification Test are issued directly to the console and also logged at Distributed platforms,
profile_root/logs/ivtClient.log.

Profile management tool log

The profile management tool log includes messages that are displayed in the wizard. Collect this log if:

▶ You used the wizard to attempt the installation and closed it without noting the error messages.

▶ You are installing on a distributed platform (this log is not available for i5/OS installation).

The log is located at *app_server_root*/logs/manageprofiles/pmt.log.

addNode command log

The `addNode` command is used to federate the node defined by the custom profile to the cell. Messages issued during this process are recorded in the addNode log. Collect this log if:

▶ You are attempting to create a custom profile and

▶ You have elected to have the node federated during the profile creation process (you did not select **Federate this node later** in the wizard.

You can find the addNode log in the Distributed and i5/OS platforms, *profile_root*/logs/addNode.log.

JVM logs

JVM logs, often referred to as SystemOut and SystemErr logs, are created for every WebSphere Application Server process (application server, cluster member, node agent, and deployment manager). For WebSphere Application Server V6.x (distributed and i5/OS), you can find them in the following locations:

▶ The JVM log files are by default named SystemOut.log and SystemErr.log. The default location for the SystemOut and SystemErr logs is:

– *profile_root*/logs/*server_name*/SystemOut.log
– *profile_root*/logs/*server_name*/SystemErr.log:

▶ The location of application server logs is configurable.

a. Select **Troubleshooting** → **Logs and Trace** in the navigation bar.

b. Click on the server name.

c. Select **JVM logs**

This page shows location of the log file.

The next step

The symptoms and problem areas included in this activity are some that you are more likely to experience. However, other issues can occur during installation.

Search online support

If you are sure the problem is in the installation process, there are tasks that you can do before contacting IBM support.

First, you should review the documentation that you have gathered for errors that were not addressed in this paper and search support sites for information or fixes. Look for current information available from IBM support on known issues and resolutions on the following IBM support page:

http://www-1.ibm.com/support/search.wss?rs=180&tc=SSEQTP&tc1=SSCVS24

Look also at the WebSphere Information Center *Troubleshooting installation* documentation for additional resources for diagnosing and fixing installation issues:

- ► Network Deployment on distributed platforms:

  http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.
  websphere.nd.doc/info/ae/ae/tins_trouble.html

- ► Network Deployment on i5/OS

  http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/topic/com.ibm.
  websphere.nd.iseries.doc/info/iseriesnd/ae/tins_trouble.html

Contact IBM

If these steps do not resolve your problem, then gather additional information as specified in the following MustGather document and raise a problem record (PMR) with IBM. The following URL contains a list of the MustGather documentation for installation problems.

http://www-1.ibm.com/support/docview.wss?rs=180&uid=swg21255887

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