Chapter 29

Installation Factory Tool: Merge and Automate WAS V6 Installation, Configuration and Deployment Processes

The Installation Factory (IF) tool greatly reduces the time and effort during the installation, configuration, deployment and maintenance activities of the administrator by combining and automating various administrative steps into a single step process. For example, if you want to install WAS V6.0.2.5, traditionally you need to first install WAS V6.0 then install refresh pack 2 on top of V6.0 and then install fix pack 5 on top of V6.0.2 (and then interim fixes if any on top if V6.0.2.5). But using the installation factory you can configure and bundle WAS V6.0.2.5 as a single customized installation package (CIP). Just by installing this CIP generated from the IF tool, you will have product binaries that are at fix pack level 5 (V6.0.2.5) without doing any intermediate steps.

Install Factory will also determine the maintenance level of existing installed product binaries (WAS V6.0.1 for example) and upgrade the product to the level defined in the CIP package (from WAS V6.0.1 to WAS V6.0.2.5 for example). Installation Factory is introduced in WAS 6.0 as a separate download.

Using the IF tool you can not only install the product binaries, but also create profiles, restore a configuration from a configuration archive (CAR), deploy enterprise applications (EAR), and run script files all in a single process that runs the tasks one after the other. (If you have already developed some automated scripts, then you can make them part of the CIP.) If you need to install, configure and deploy a particular version of WAS on multiple nodes, you can save administrative time and effort by copying a CIP onto the various nodes to install it with a single command. As an administrator you can choose to install the CIP interactively (GUI based) or as a batch process (silent installation).

The creation of a Customized Installation Package (CIP) using the IF tool is a two phase process.

Phase-1: Creation of an XML based build definition file (BDF). This BDF defines the location of product images, refresh packs, fix packs, interim fixes and optionally script files, EAR files, or CAR files.

Phase-2: Creation of CIP package from the BDF created in phase-1 by merging all the product images defined in the BDF as single logical entity. You will use install program under this CIP package to install the product binaries and customize the environment. This means you do not deal with individual product images, refresh packs, fix packs and interim fixes during the installation any more. CIP package contains all that information.

The Installation Factory tool provides a GUI based program (ifgui) to create the BDF (phase-1) and optionally create the CIP package (phase-2) all in one step. In case you created only the BDF using the ifgui program then you can create the CIP later using the command line program (ifcli) providing the BDF as an input. (This allows you to create the BDF on one node and later generate the CIP on a different node, that may be running a different operating system, where product images and maintenance packs are available). You need to download the product image files including refresh packs, fix packs and interim fixes if any during the creation of the CIP (phase-2).

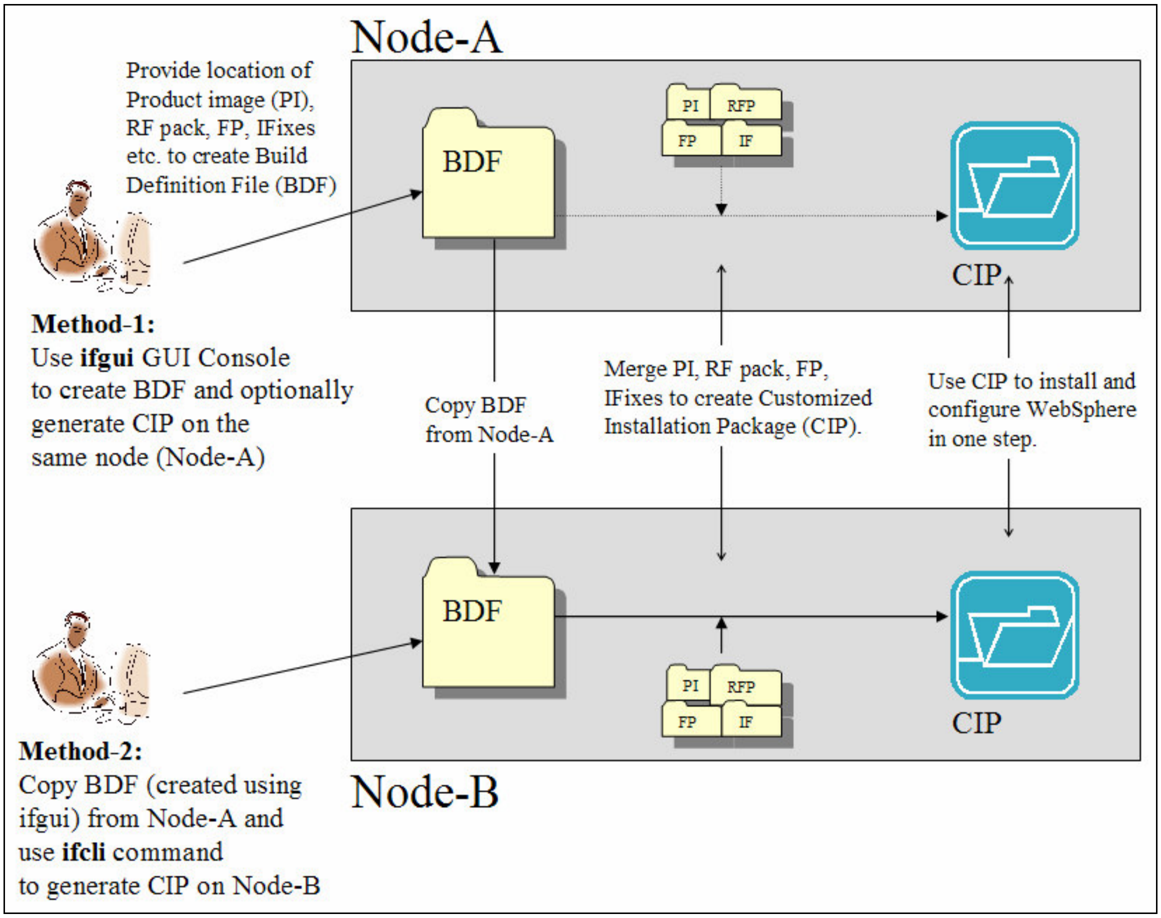

Node-A
Provide location of Product image (PI), RF pack, FP, IFixes etc. to create Build Definition File (BDF)
BDF
PI
RFP
FP
IF
CIP
Method-1:
Use ifgui GUI Console to create BDF and optionally generate CIP on the same node (Node-A)
Copy BDF from Node-A
Merge PI, RF pack, FP, IFixes to create Customized Installation Package (CIP).
Use CIP to install and configure WebSphere in one step.
BDF
PI
RFP
FP
IF
CIP
Method-2:
Copy BDF (created using ifgui) from Node-A and use ifcli command to generate CIP on Node-B
Node-B

Fig 29-1: Diagram depicting the methods to create BDF and generate CIP

In this chapter you will see how to install WAS ND V6.0.2.5 with couple of interim fixes in a single step after building the CIP using the installation factory GUI program (ifgui.bat) on a Windows platform. The procedure to install other WAS editions (express, base) is the same as network deployment.

Install and configure WebSphere Application Server using the CIP generated from the Installation Factory

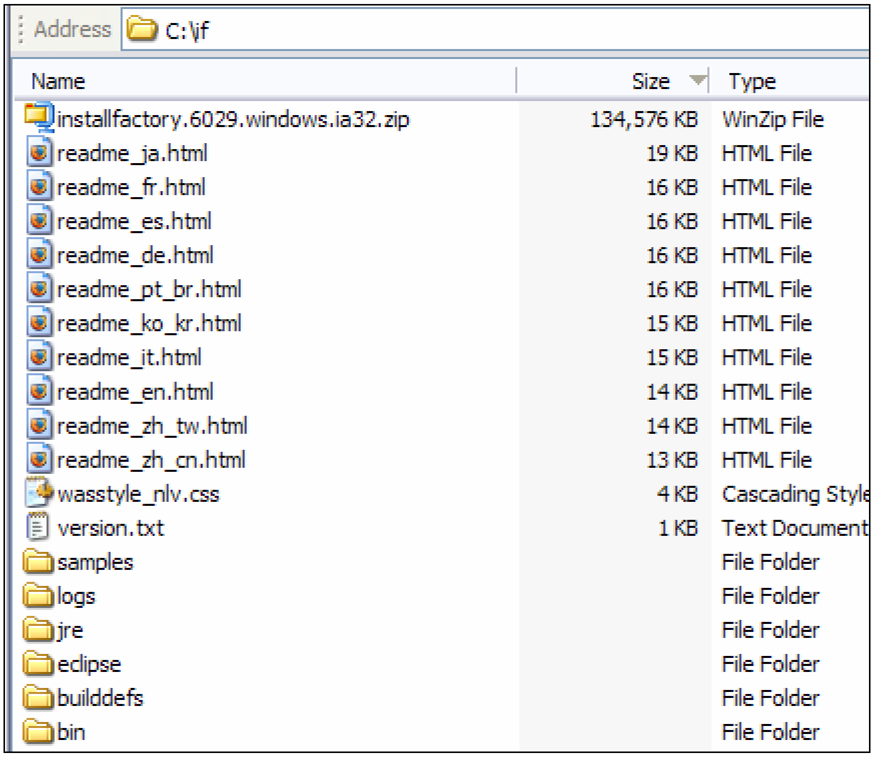
Before generating a CIP and installing the WebSphere V6 ND, you must complete some prerequisite tasks. These prerequisite tasks are the same whether you install WAS in the traditional way or using the Installation Factory.

Prerequisite Tasks

Task 1: Download WebSphere product images. Download the product images you are going to use and expand the file (zip or tar) under a temporary directory. In this example, we unzipped the product image files under c:\wasv6-installs\nd directory. In the same manner download the refresh pack, fixpack, interm fixes and expand them under individual sub directories. As we are planning to install WAS ND V6.0.2.5 with a couple of interim fixes, we downloaded the V6 ND package (you may have this on media or downloaded it from the Passport Advantage site), refresh pack 2, fix pack 5 and interm fixes from the support site (logon to www.WebSphereMentor.com to get links to the support site). **Do not start installation** using the installation program provided in the product image as you normally do during the traditional installation. We start the installation after merging all the required product images and maintenance packs. The installation program we use will be under the customized installation package (CIP).

Download Installation Factory Tool

Task 2: Download Installation Factory. We are planning to generate a CIP for V6.0.x using the IF tool. Prior to WAS 6.1 the IF tool is available only as a separate download. Download the Installation Factory for V6 from http://www-1.ibm.com/support/docview.wss?uid=swg24009108. We downloaded the IF tool and expanded the zip file under c:\if (<IF-ROOT>) in this example, as shown in the screenshot below.



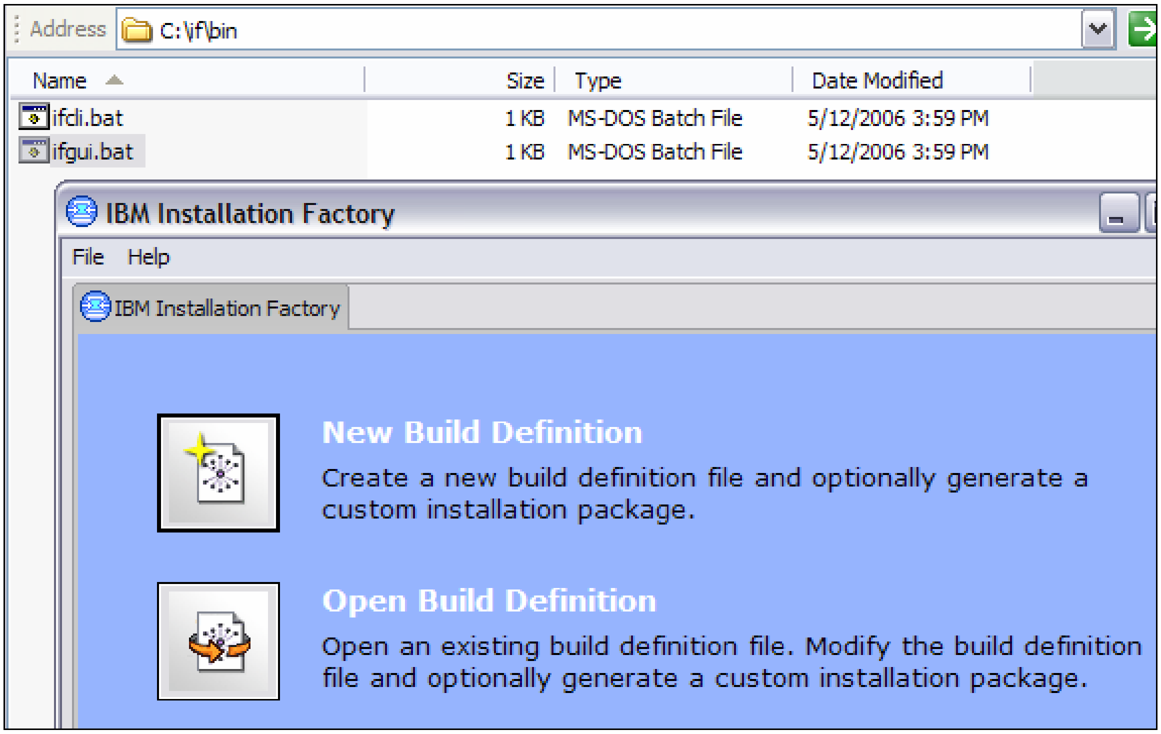
Address C:\if

Name	Size	Type
installfactory.6029.windows.ia32.zip	134,576 KB	WinZip File
readme_ja.html	19 KB	HTML File
readme_fr.html	16 KB	HTML File
readme_es.html	16 KB	HTML File
readme_de.html	16 KB	HTML File
readme_pt_br.html	16 KB	HTML File
readme_ko_kr.html	15 KB	HTML File
readme_it.html	15 KB	HTML File
readme_en.html	14 KB	HTML File
readme_zh_tw.html	14 KB	HTML File
readme_zh_cn.html	13 KB	HTML File
wasstyle_nlv.css	4 KB	Cascading Style
version.txt	1 KB	Text Document
samples		File Folder
logs		File Folder
jre		File Folder
eclipse		File Folder
builddefs		File Folder
bin		File Folder

Fig 29-1: Installation Factory tool directory structure after expanding the zip file

Generate BDF and CIP

Step 1: Navigate to <IF-ROOT>\bin and double click ifgui.bat (ifgui.sh on Linux) to invoke IF GUI console. Click on the **New Build Definition** icon to create a new BDF and generate CIP.



Address C:\if\bin

Name	Size	Type	Date Modified
ifcli.bat	1 KB	MS-DOS Batch File	5/12/2006 3:59 PM
ifgui.bat	1 KB	MS-DOS Batch File	5/12/2006 3:59 PM

IBM Installation Factory

File Help

IBM Installation Factory

New Build Definition

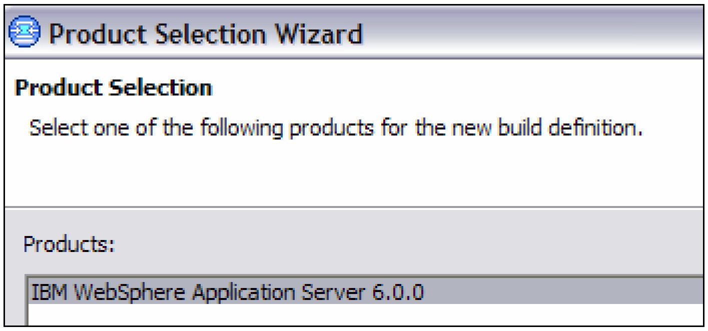
Create a new build definition file and optionally generate a custom installation package.

Open Build Definition

Open an existing build definition file. Modify the build definition file and optionally generate a custom installation package.

Fig 29-2: Installation Factory GUI Console

Step 2: In the resulting screen select the product IBM WebSphere Application Server 6.0.0. This is the only option available in the selection at the time of writing this chapter. Click Next.



Product Selection Wizard

Product Selection

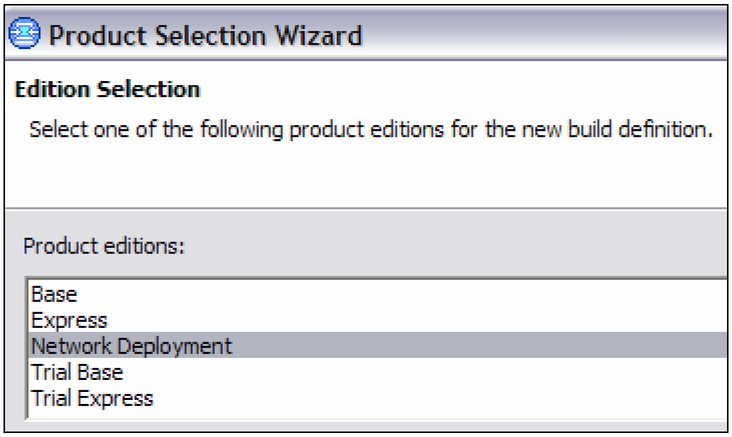
Select one of the following products for the new build definition.

Products:

IBM WebSphere Application Server 6.0.0

Fig 29-3: Selecting the product

Step 3: Select the Network Deployment product edition. If you are using a different product edition, select it from the list. The procedure is similar for all the editions. Click Next.



Product Selection Wizard

Edition Selection

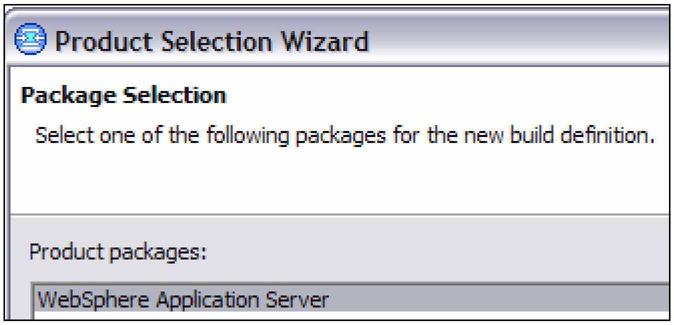
Select one of the following product editions for the new build definition.

Product editions:

Base
Express
Network Deployment
Trial Base
Trial Express

Fig 29-4: Selecting the product edition

Step 4: Select the WebSphere Application Server. This is the only option available in the selection at the time of writing this chapter. Click Finish.



Product Selection Wizard

Package Selection

Select one of the following packages for the new build definition.

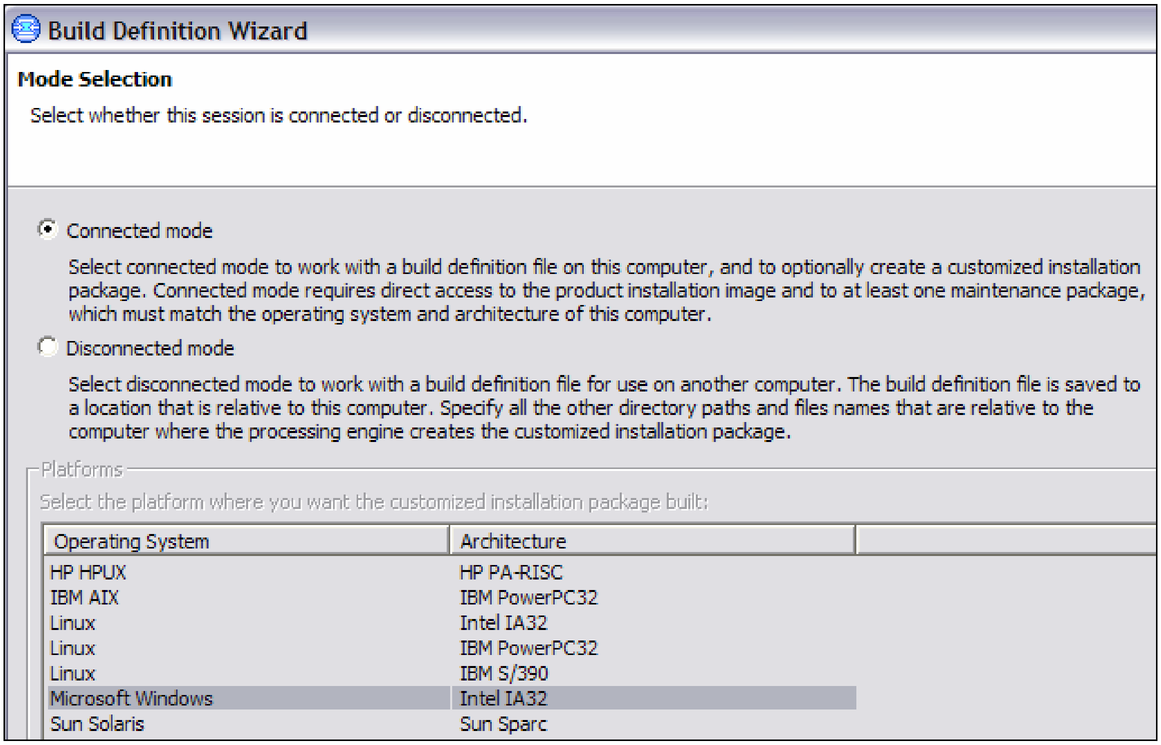
Product packages:

WebSphere Application Server

Fig 29-5: Selecting the package

Step 5: In the resulting screen select "Connected mode" since we are going to create the BDF and generate a CIP on the node we are working on right now, and we downloaded and expanded all the required product images and maintenance packs on the very same node. Click Next.

You would select "Disconnected mode" if you want to generate only the BDF using the ifgui program now, and then create the CIP package later on a different node (or the same node) using the command line program (ifcli), providing the BDF as an input. (This allows you to create a BDF on one node and generate a CIP on a different node where product images and maintenance packs are available. In the disconnected mode you can also select the operating system of the node where you want to generate the CIP which may be different from the node where you are creating the BDF. Refer to the **Generate BDF in Disconnected Mode** section later in this chapter for more information.)



Mode Selection

Select whether this session is connected or disconnected.

● Connected mode

Select connected mode to work with a build definition file on this computer, and to optionally create a customized installation package. Connected mode requires direct access to the product installation image and to at least one maintenance package, which must match the operating system and architecture of this computer.

○ Disconnected mode

Select disconnected mode to work with a build definition file for use on another computer. The build definition file is saved to a location that is relative to this computer. Specify all the other directory paths and files names that are relative to the computer where the processing engine creates the customized installation package.

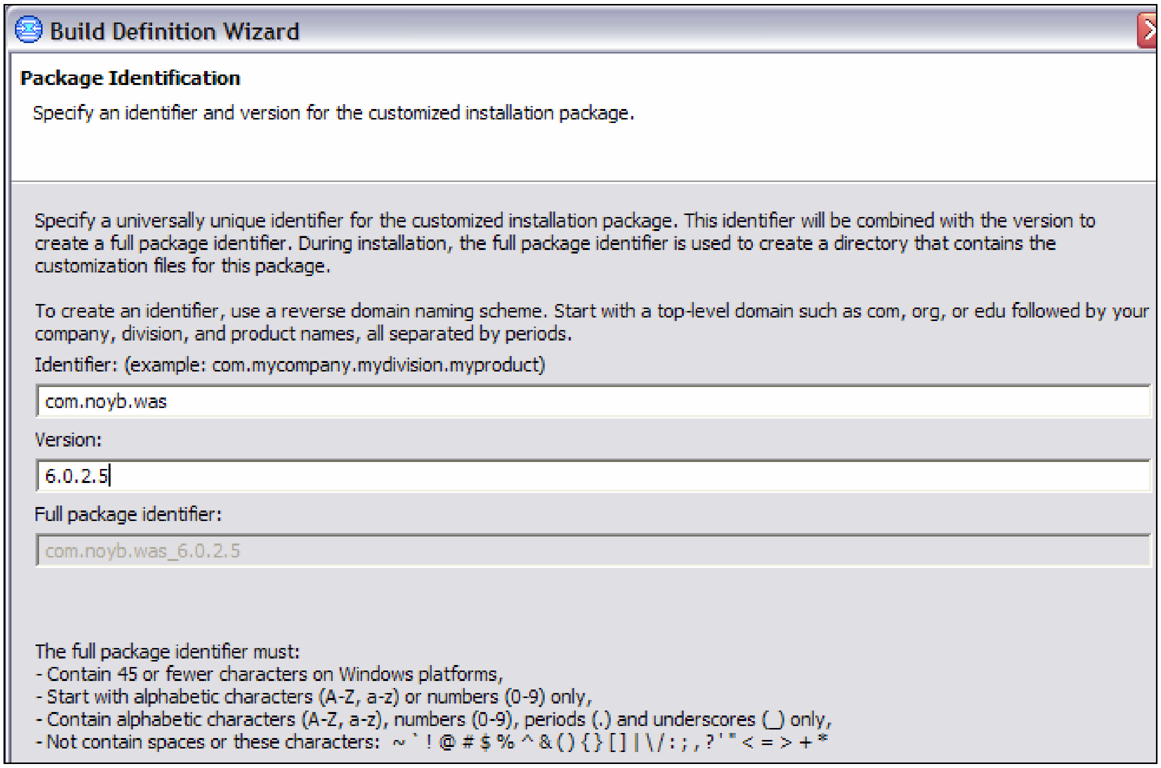
Platforms

Select the platform where you want the customized installation package built:

Operating System	Architecture
HP HPUX	HP PA-RISC
IBM AIX	IBM PowerPC32
Linux	Intel IA32
Linux	IBM PowerPC32
Linux	IBM S/390
Microsoft Windows	Intel IA32
Sun Solaris	Sun Sparc

Fig 29-6: Selecting the connection mode

Step 6: Enter a unique identifier (com.noyb.was in our case) and the version (6.0.2.5 in our case) to uniquely identify the package. In this screenshot below you can see that the full package identifier field combines the unique identifier and the version. During the installation the wizard uses the full package identifier to name the directory under which it places the customized files. Click Next.



Build Definition Wizard

Package Identification

Specify an identifier and version for the customized installation package.

Specify a universally unique identifier for the customized installation package. This identifier will be combined with the version to create a full package identifier. During installation, the full package identifier is used to create a directory that contains the customization files for this package.

To create an identifier, use a reverse domain naming scheme. Start with a top-level domain such as com, org, or edu followed by your company, division, and product names, all separated by periods.

Identifier: (example: com.mycompany.mydivision.myproduct)

com.noyb.was

Version:

6.0.2.5

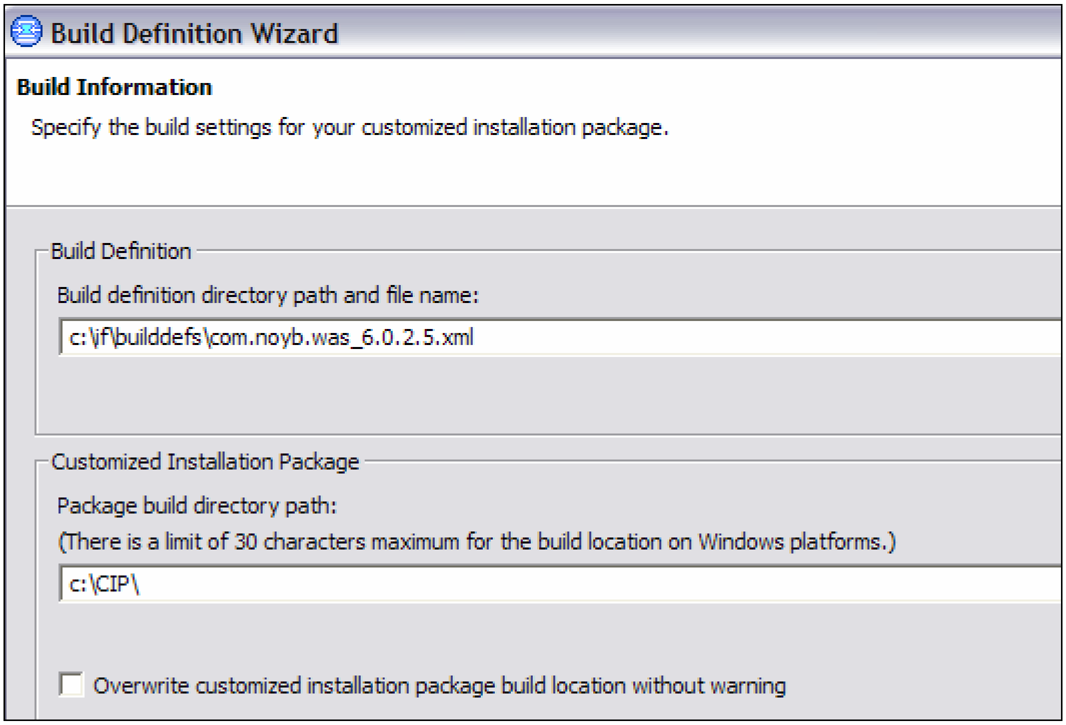
Full package identifier:

com.noyb.was_6.0.2.5

The full package identifier must:
- Contain 45 or fewer characters on Windows platforms,
- Start with alphabetic characters (A-Z, a-z) or numbers (0-9) only,
- Contain alphabetic characters (A-Z, a-z), numbers (0-9), periods (.) and underscores (_) only,
- Not contain spaces or these characters: ~ ` ! @ # $ % ^ & ( ) { } [ ] | \ / : ; , ? ' " < = > + *

Fig 29-7: Specifying the package identifier

Step 7: Enter the location where you want to create the BDF XML file (<BDF-ROOT>) including its name and the location where you want to create the CIP (<CIP-ROOT>) as shown in the screenshot below. Click Next.



Build Definition Wizard

Build Information

Specify the build settings for your customized installation package.

Build Definition

Build definition directory path and file name:

c:\jif\builddefs\com.noyb.was_6.0.2.5.xml

Customized Installation Package

Package build directory path:

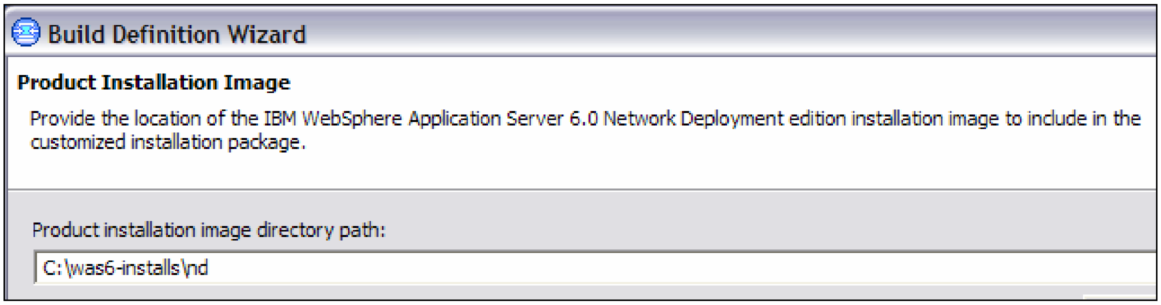
(There is a limit of 30 characters maximum for the build location on Windows platforms.)

c:\CIP\

☐ Overwrite customized installation package build location without warning

Fig 29-8: specifying BDF and CIP locations

Step 8: Enter the directory where you downloaded and expanded the product image for WAS v6.0. In our sample configuration we expanded product images under c:\was6-installs\nd directory. Click Next.


Build Definition Wizard

Product Installation Image

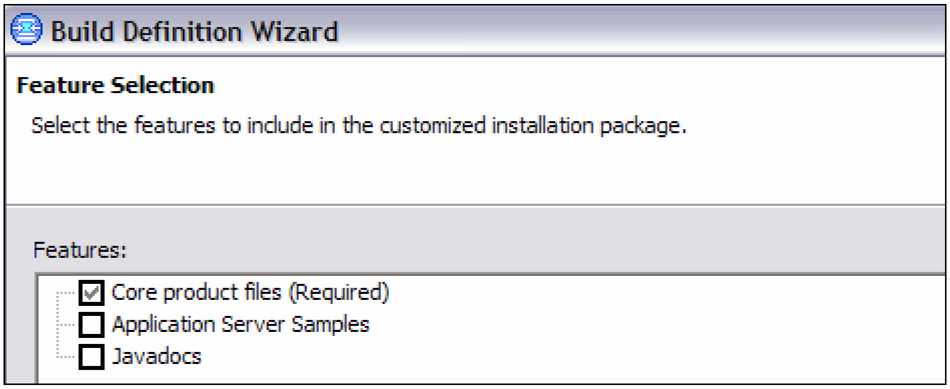
Provide the location of the IBM WebSphere Application Server 6.0 Network Deployment edition installation image to include in the customized installation package.

Product installation image directory path:

C:\was6-installs\nd

Fig 29-9: Specifying product installation image location

Step 9: Select the features you want to be part of the CIP. If you are creating the CIP for education and training environments then select Application Server Samples. Leave it unchecked if it is for the production environment. Click Next.


Build Definition Wizard

Feature Selection

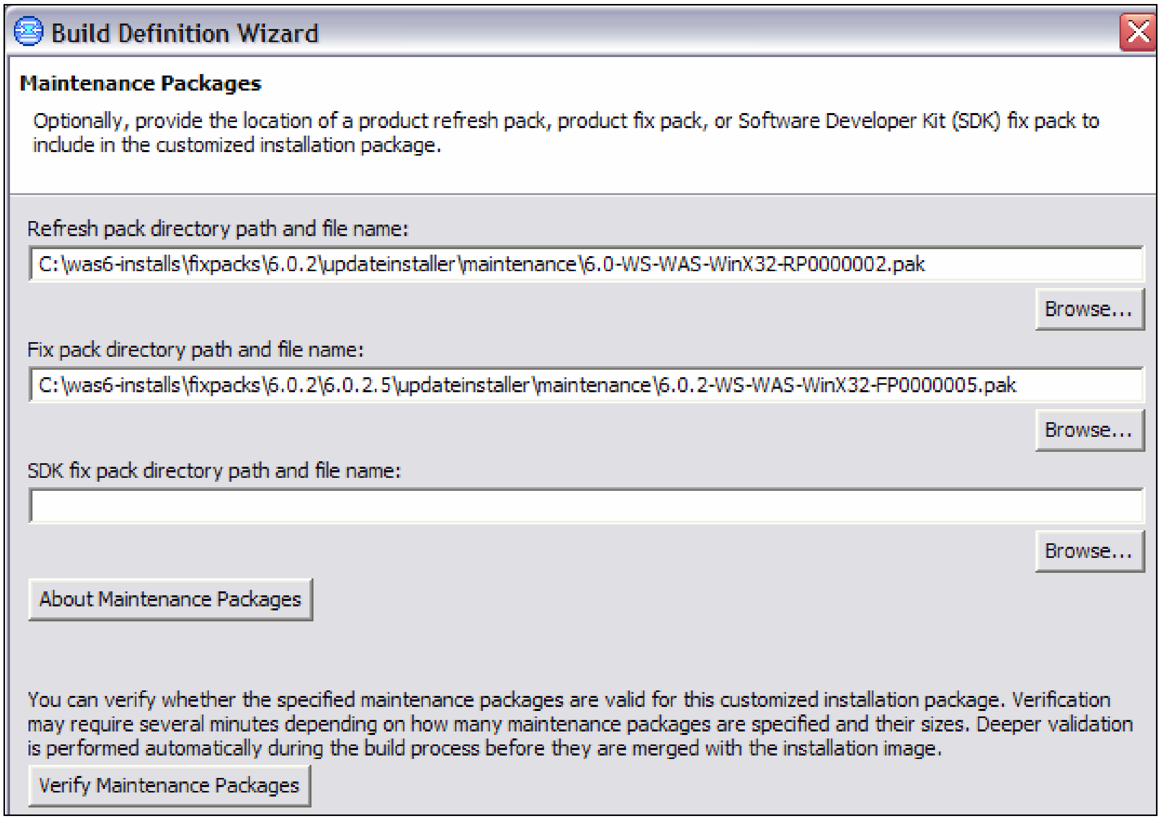
Select the features to include in the customized installation package.

Features:

☑ Core product files (Required)
☐ Application Server Samples
☐ Javadocs

Fig 29-10: Selecting the features to be included in the CIP

Step 10: Enter the directory where you downloaded and expanded the maintenance packs (refresh pack, fix pack and SDK fix pack), if any, for WAS v6.0. In our sample configuration we specified the files and directories where refresh pack (6.0.2) and fix pack 5 (6.0.2.5) are available as shown in the screenshot below. Click Next.



Maintenance Packages

Optionally, provide the location of a product refresh pack, product fix pack, or Software Developer Kit (SDK) fix pack to include in the customized installation package.

Refresh pack directory path and file name:
C:\was6-installs\fixpacks\6.0.2\updateinstaller\maintenance\6.0-WS-WAS-WinX32-RP0000002.pak

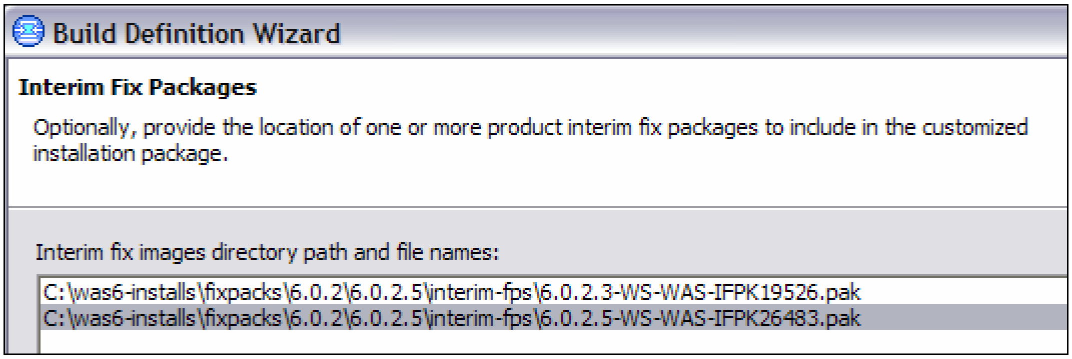
Fix pack directory path and file name:
C:\was6-installs\fixpacks\6.0.2\6.0.2.5\updateinstaller\maintenance\6.0.2-WS-WAS-WinX32-FP0000005.pak

SDK fix pack directory path and file name:

You can verify whether the specified maintenance packages are valid for this customized installation package. Verification may require several minutes depending on how many maintenance packages are specified and their sizes. Deeper validation is performed automatically during the build process before they are merged with the installation image.

Fig 29-11: Specifying refresh, fix and SDK packs

Step 11: Enter the directory where you downloaded interim fixes if any for WAS v6.0. In our sample configuration we specified two interim fixes as shown in the screenshot below. Click Next.



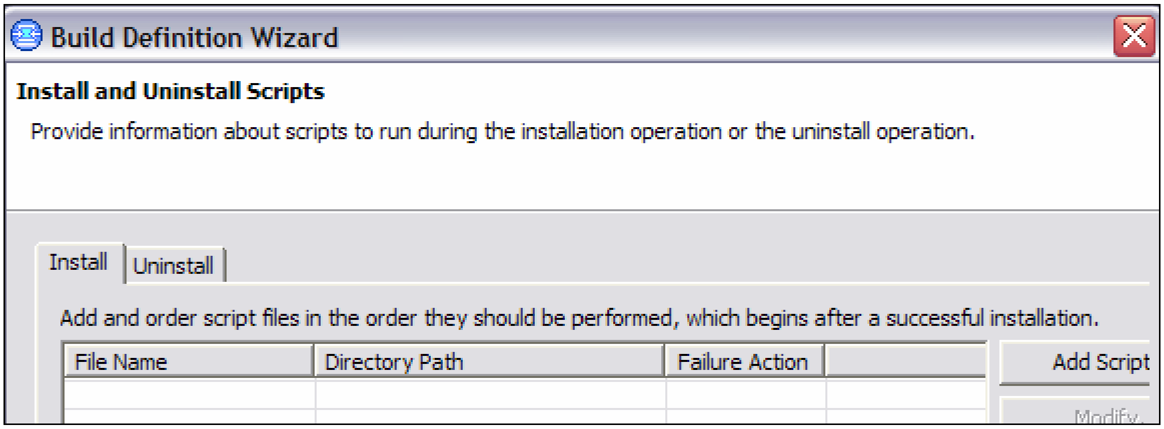
Interim Fix Packages

Optionally, provide the location of one or more product interim fix packages to include in the customized installation package.

Interim fix images directory path and file names:
C:\was6-installs\fixpacks\6.0.2\6.0.2.5\interim-fps\6.0.2.3-WS-WAS-IFPK19526.pak
C:\was6-installs\fixpacks\6.0.2\6.0.2.5\interim-fps\6.0.2.5-WS-WAS-IFPK26483.pak

Fig 29-12: Specifying interim fixes

Step 12: Enter the scripts you want to run after the successful installation or un-installation process. These scripts are run only when the installation is a new installation. If you are installing the CIP on an existing installation to upgrade to a new maintenance level, then these scripts will not be run. The script files it accepts are .ant, .bat, .sh, JACL, Jython and Jar files. After the creation of the CIP these scripts will be placed under <CIP-ROOT>\config\install directory. In our sample scenario we are not running any scripts. Click Next.



Build Definition Wizard

Install and Uninstall Scripts

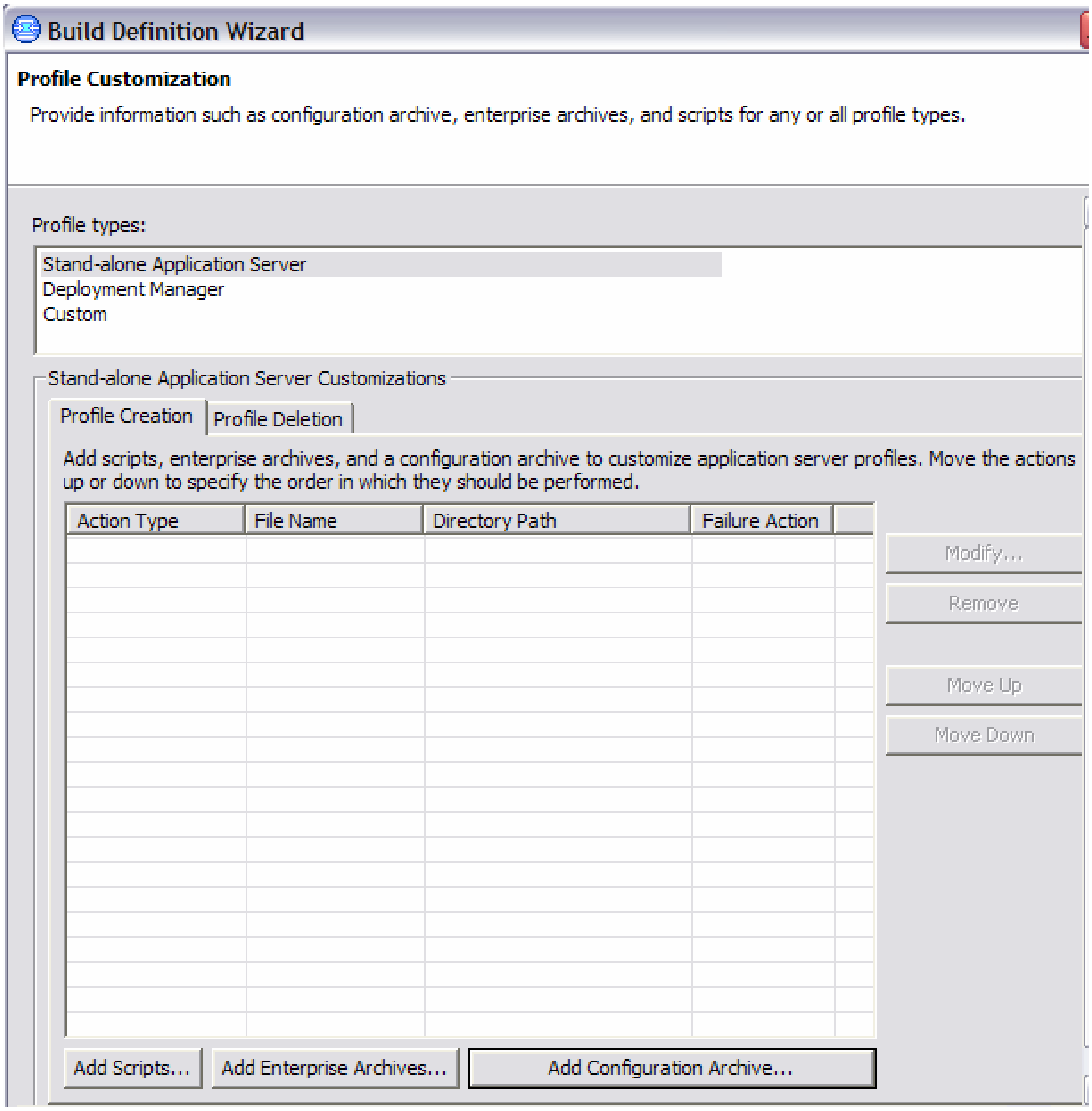
Provide information about scripts to run during the installation operation or the uninstall operation.

Add and order script files in the order they should be performed, which begins after a successful installation.

File Name	Directory Path	Failure Action	

Fig 29-13: Specifying install and uninstall scripts

Step 13: As mentioned earlier you can create or delete profile(s) supported by the edition as part of a CIP installation process. You can also deploy EAR files (choose the Add Enterprise Archives tab to specify EAR files to deploy); restore the configuration from a previously generated CAR file (choose the Configuration Archives tab to specify CAR files); run scripts after successfully creating or deleting the profiles. In our sample scenario we are not creating any profiles, or deploying EARs, or restoring CAR files. Click Next.



Profile Customization

Provide information such as configuration archive, enterprise archives, and scripts for any or all profile types.

Profile types:

- Stand-alone Application Server
- Deployment Manager
- Custom

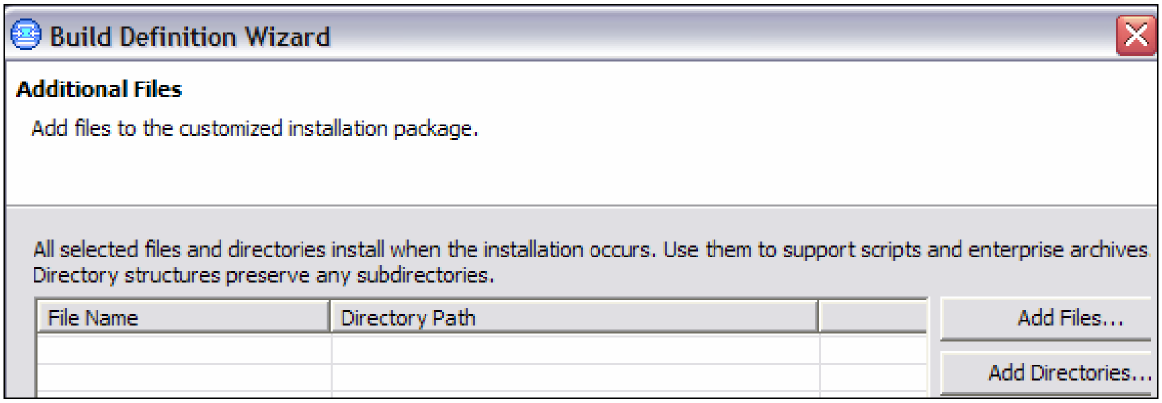
Stand-alone Application Server Customizations

Add scripts, enterprise archives, and a configuration archive to customize application server profiles. Move the actions up or down to specify the order in which they should be performed.

Action Type	File Name	Directory Path	Failure Action

Fig 29-14: Customizing profile creation and/or deletion

Step 14: Specify additional files (Choose the Add Files tab) and/or directories (Choose the Add Directories tab) that are needed to support your configuration. These files and directories will be created during the installation process. In our sample scenario, we are not creating any additional files or directories. Click Next.



Build Definition Wizard

Additional Files

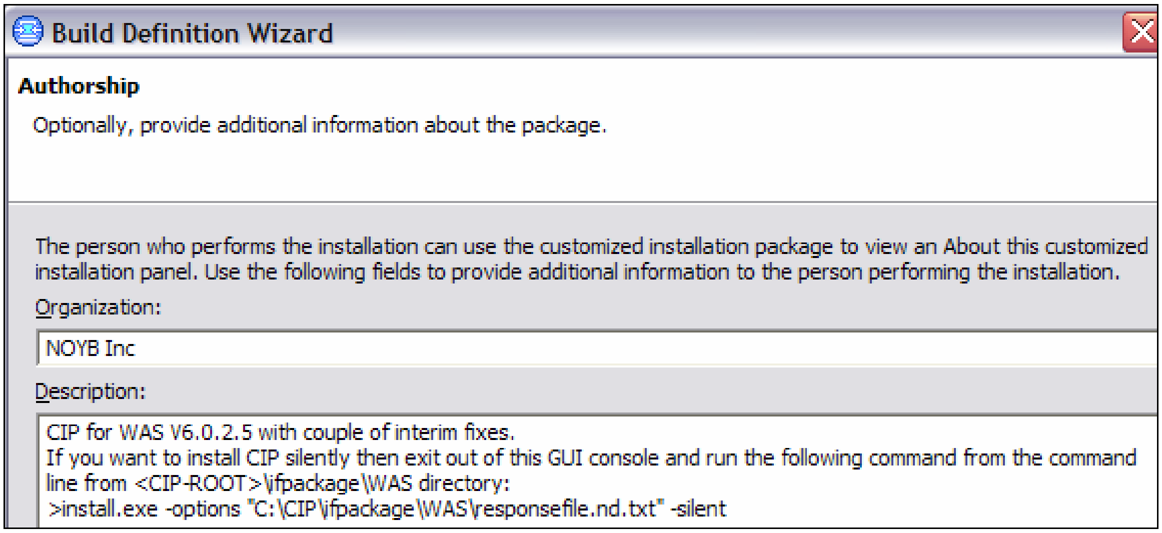
Add files to the customized installation package.

All selected files and directories install when the installation occurs. Use them to support scripts and enterprise archives Directory structures preserve any subdirectories.

File Name	Directory Path	

Fig 29-15: Specifying files and/or directories to be created during CIP installation

Step 15: Specify the organization and a brief description of the CIP that is useful for the person using the CIP during the installation. Click Next.



Build Definition Wizard

Authorship

Optionally, provide additional information about the package.

The person who performs the installation can use the customized installation package to view an About this customized installation panel. Use the following fields to provide additional information to the person performing the installation.

Organization:

NOYB Inc

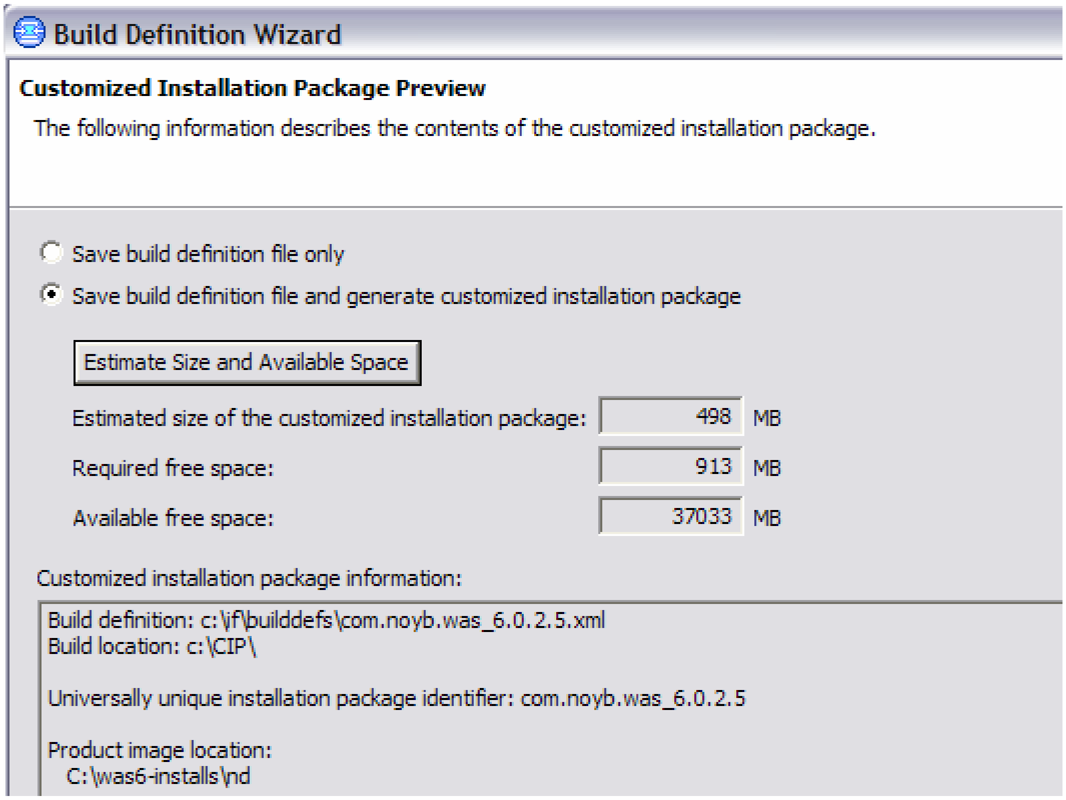
Description:

CIP for WAS V6.0.2.5 with couple of interim fixes.
If you want to install CIP silently then exit out of this GUI console and run the following command from the command line from <CIP-ROOT>\ifpackage\WAS directory:
>install.exe -options "C:\CIP\ifpackage\WAS\responsefile.nd.txt" -silent

Fig 29-16: Specifying helpful information for the administrator using the CIP

Step 16: Select the radio button **save build definition file and generate customized installation package**. Click on the **Estimate size and Available space** tab to have an idea on free disk space availability and the size of CIP. Click Finish.

If you select the radio button for save the build definition file only, then you need to generate the CIP package later by running the ifcli command using the BDF file as an input. Refer to **Generate CIP from the command line** section later in this chapter for more information on using ifcli.



Build Definition Wizard

Customized Installation Package Preview

The following information describes the contents of the customized installation package.

○ Save build definition file only

● Save build definition file and generate customized installation package

Estimated size of the customized installation package: 498 MB

Required free space: 913 MB

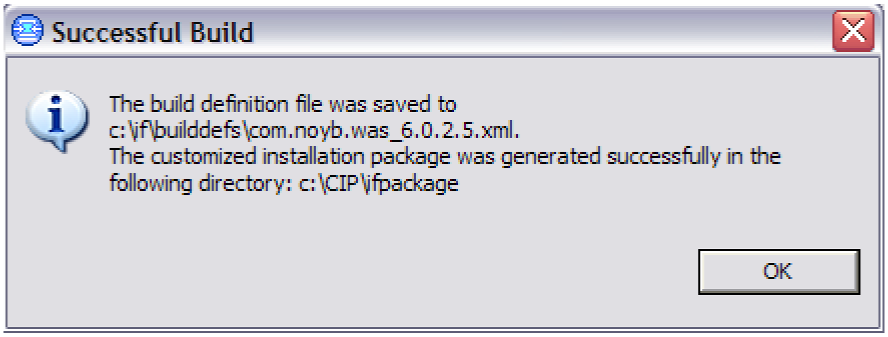
Available free space: 37033 MB

Customized installation package information:

```
Build definition: c:\if\builddefs\com.noyb.was_6.0.2.5.xml
Build location: c:\CIP\

Universally unique installation package identifier: com.noyb.was_6.0.2.5

Product image location:
  C:\was6-installs\nd
```

Fig 29-17: Summary screen before creating and generating the BDF and CIP

Step 17: It takes some time to generate the CIP depending on the number images it has to verify and merge. After successful creation and generation of the BDF and CIP, you should see a Successful Build message as shown below. Click OK.



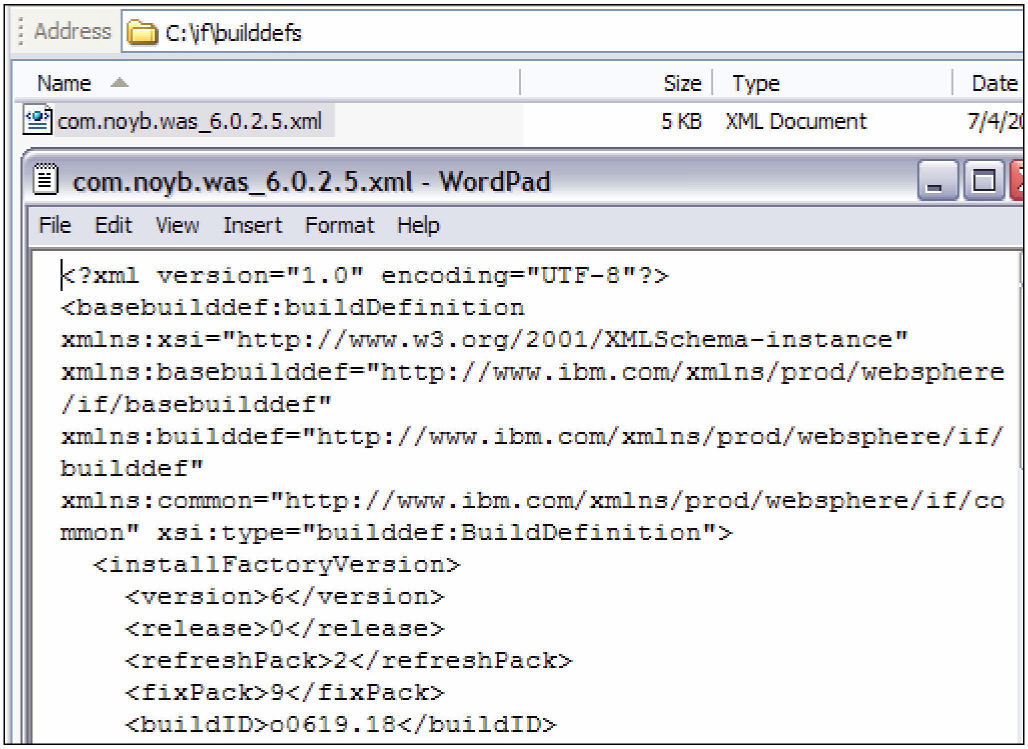
Successful Build

The build definition file was saved to c:\if\builddefs\com.noyb.was_6.0.2.5.xml.
The customized installation package was generated successfully in the following directory: c:\CIP\ifpackage

Fig 29-18: Successful Build message

Verify BDF and CIP Generation

Step 18: Navigate to the <BDF-ROOT> directory where you created the XML based BDF file to see the successful creation of the file. You can review the BDF file by opening using a text pad and see the sequence of events that take place during the creation of the CIP. The BDF file will be used as an input during the creation of the CIP. Close the file without making any modifications.



Address C:\if\builddefs

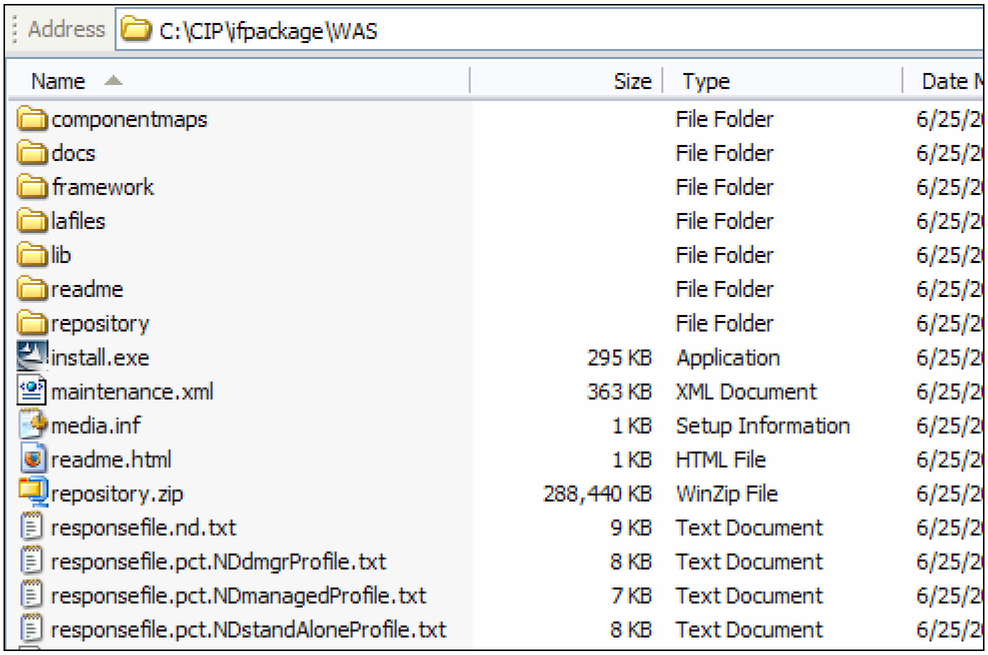
Name	Size	Type	Date
com.noyb.was_6.0.2.5.xml	5 KB	XML Document	7/4/2

com.noyb.was_6.0.2.5.xml - WordPad

```
<?xml version="1.0" encoding="UTF-8"?>
<basebuilddef:buildDefinition
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:basebuilddef="http://www.ibm.com/xmlns/prod/websphere
/if/basebuilddef"
xmlns:builddef="http://www.ibm.com/xmlns/prod/websphere/if/
builddef"
xmlns:common="http://www.ibm.com/xmlns/prod/websphere/if/co
mmon" xsi:type="builddef:BuildDefinition">
  <installFactoryVersion>
    <version>6</version>
    <release>0</release>
    <refreshPack>2</refreshPack>
    <fixPack>9</fixPack>
    <buildID>o0619.18</buildID>
```

Fig 29-19: XML based BDF file

Step 19: Navigate to the <CIP-ROOT> directory where you created the CIP and review the files and directories created in the CIP. You will use the install program (install.exe in this case) available under this directory to start either the GUI or silent installation as you will see later in this chapter.

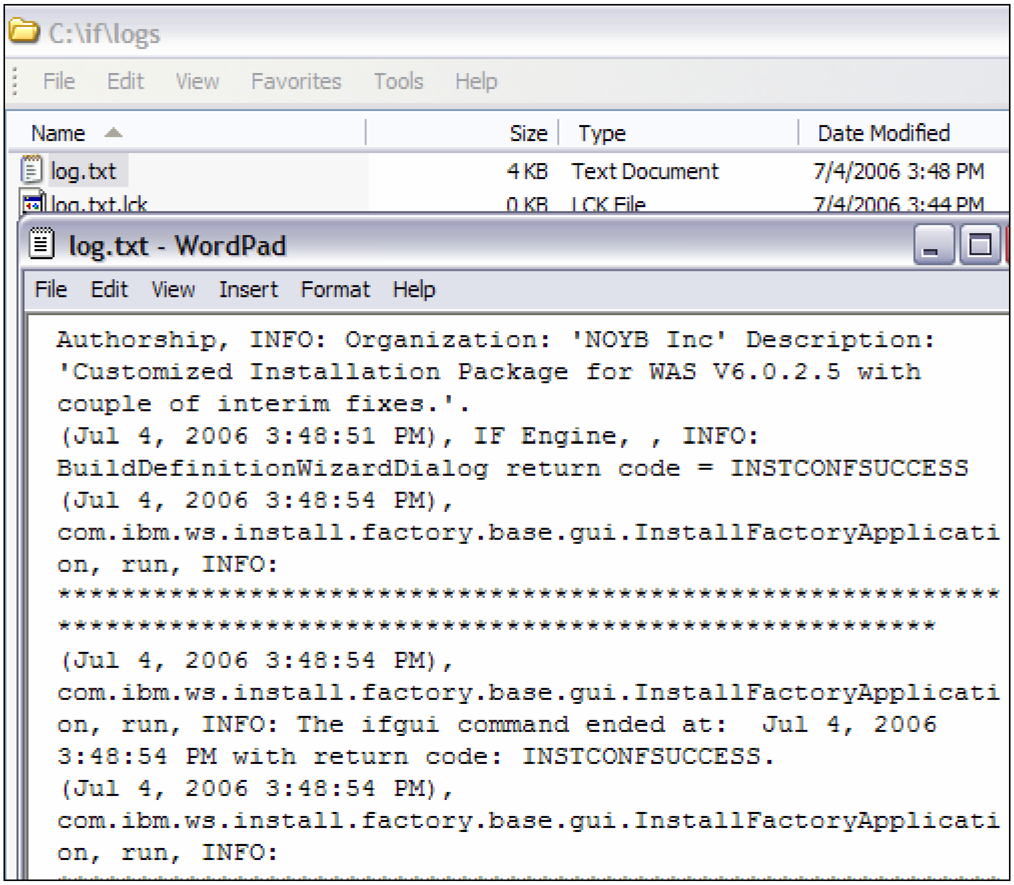


Address C:\CIP\ifpackage\WAS

Name	Size	Type	Date M
componentmaps		File Folder	6/25/2
docs		File Folder	6/25/2
framework		File Folder	6/25/2
lafiles		File Folder	6/25/2
lib		File Folder	6/25/2
readme		File Folder	6/25/2
repository		File Folder	6/25/2
install.exe	295 KB	Application	6/25/2
maintenance.xml	363 KB	XML Document	6/25/2
media.inf	1 KB	Setup Information	6/25/2
readme.html	1 KB	HTML File	6/25/2
repository.zip	288,440 KB	WinZip File	6/25/2
responsefile.nd.txt	9 KB	Text Document	6/25/2
responsefile.pct.NDdmgrProfile.txt	8 KB	Text Document	6/25/2
responsefile.pct.NDmanagedProfile.txt	7 KB	Text Document	6/25/2
responsefile.pct.NDstandAloneProfile.txt	8 KB	Text Document	6/25/2

Fig 29-20:Directory structure of generated CIP package

Step 20: Navigate to the <IF-ROOT>\logs directory and review the log.txt for any errors. Return code with INSTCONFSUCCESS denotes the successful creation of BDF and CIP.


C:\if\logs
File Edit View Favorites Tools Help
log.txt - WordPad
File Edit View Insert Format Help

Name	Size	Type	Date Modified
log.txt	4 KB	Text Document	7/4/2006 3:48 PM
log.txt.lck	0 KB	LCK File	7/4/2006 3:44 PM

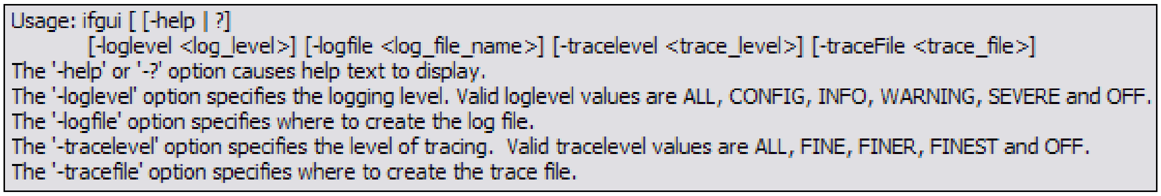
```
Authorship, INFO: Organization: 'NOYB Inc' Description:
'Customized Installation Package for WAS V6.0.2.5 with
couple of interim fixes.'.
(Jul 4, 2006 3:48:51 PM), IF Engine, , INFO:
BuildDefinitionWizardDialog return code = INSTCONFSUCCESS
(Jul 4, 2006 3:48:54 PM),
com.ibm.ws.install.factory.base.gui.InstallFactoryApplicati
on, run, INFO:
***********************************************************
*******************************************************
(Jul 4, 2006 3:48:54 PM),
com.ibm.ws.install.factory.base.gui.InstallFactoryApplicati
on, run, INFO: The ifgui command ended at:  Jul 4, 2006
3:48:54 PM with return code: INSTCONFSUCCESS.
(Jul 4, 2006 3:48:54 PM),
com.ibm.ws.install.factory.base.gui.InstallFactoryApplicati
on, run, INFO:
```

Fig 29-21: Verifying successful creation of BDF and CIP through the log.txt file

Logging and Tracing

If you have a problem creating either the BDF or generating the CIP using the ifgui program, then you can start the ifgui program with additional arguments to specify the level of log and/or trace intensity. The most probable cause of the problems includes mismatched refresh packs, fix packs, interim fixes and insufficient disk space. The default levels of logging and tracing are INFO and OFF respectively.

Issue ifgui.bat –help for help on the syntax as shown in the screenshot below.

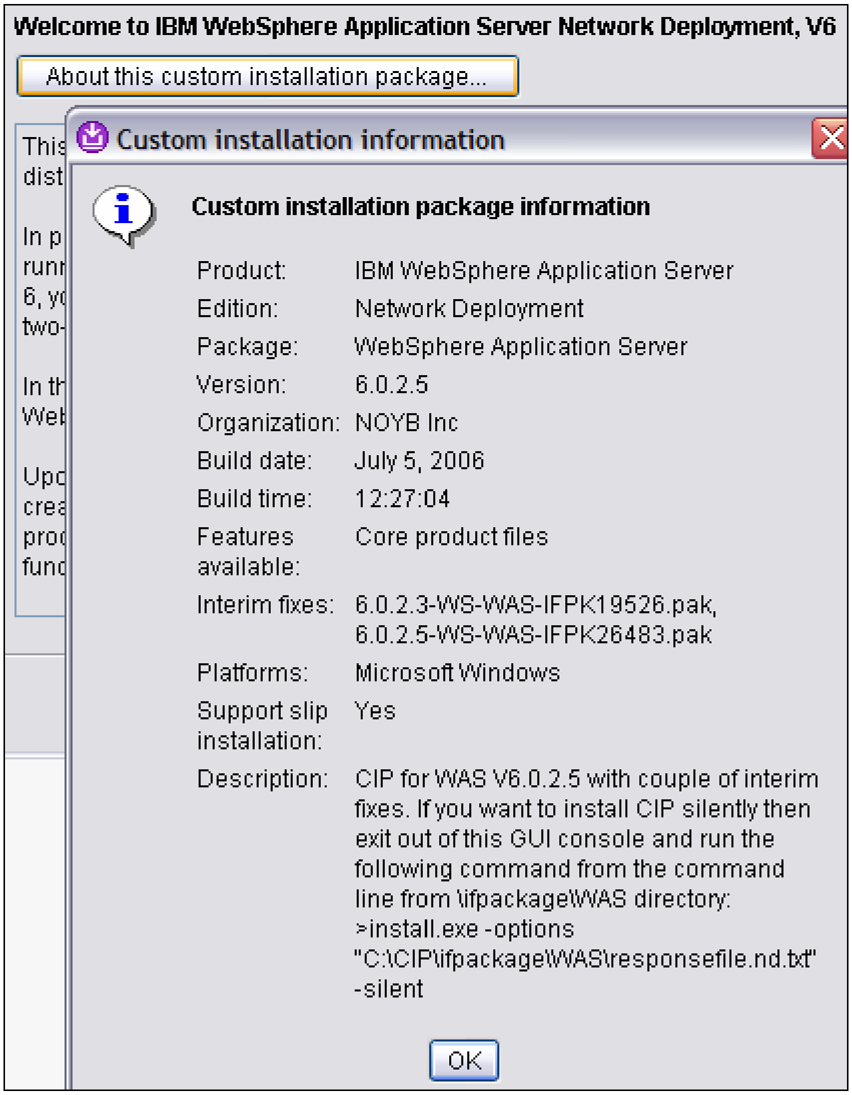


```
Usage: ifgui [ [-help | ?]
        [-loglevel <log_level>] [-logfile <log_file_name>] [-tracelevel <trace_level>] [-traceFile <trace_file>]
The '-help' or '-?' option causes help text to display.
The '-loglevel' option specifies the logging level. Valid loglevel values are ALL, CONFIG, INFO, WARNING, SEVERE and OFF.
The '-logfile' option specifies where to create the log file.
The '-tracelevel' option specifies the level of tracing.  Valid tracelevel values are ALL, FINE, FINER, FINEST and OFF.
The '-tracefile' option specifies where to create the trace file.
```

Fig 29-22: Configuring logging or tracing during ifgui startup

Install the CIP using its GUI console

Step 1: Invoke the CIP installation GUI console by double clicking on the install program (install.exe or install depending on your operating system). The screenshot below shows the Welcome screen that appears after invoking the install program. Click on **About this custom installation package** tab to see the information you provided for the administrator during the installation. Click on OK and Next to go the next screen.



Welcome to IBM WebSphere Application Server Network Deployment, V6

About this custom installation package...
This
dist
In p
runr
6, yo
two-
In th
Wel
Upd
crea
prod
func
Custom installation information
OK

Custom installation package information

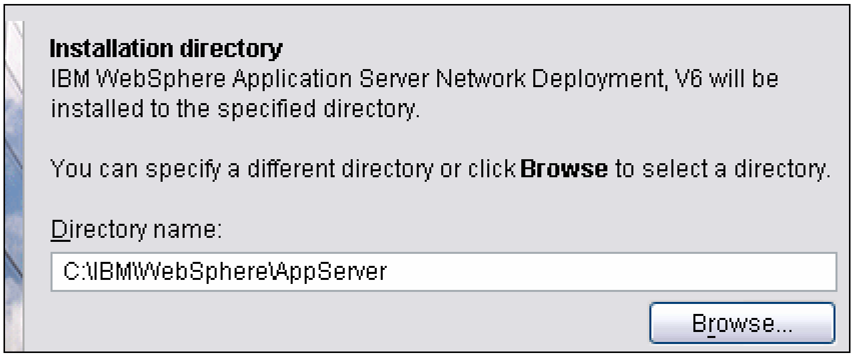
Product:	IBM WebSphere Application Server
Edition:	Network Deployment
Package:	WebSphere Application Server
Version:	6.0.2.5
Organization:	NOYB Inc
Build date:	July 5, 2006
Build time:	12:27:04
Features available:	Core product files
Interim fixes:	6.0.2.3-WS-WAS-IFPK19526.pak, 6.0.2.5-WS-WAS-IFPK26483.pak
Platforms:	Microsoft Windows
Support slip installation:	Yes
Description:	CIP for WAS V6.0.2.5 with couple of interim fixes. If you want to install CIP silently then exit out of this GUI console and run the following command from the command line from \ifpackage\WAS directory: >install.exe -options "C:\CIP\ifpackage\WAS\responsefile.nd.txt" -silent

Fig 29-23: Welcome screen and helpful information for the administrator during the installation through CIP

Step 2: Accept the license agreement and click Next.

Step 3: Click Next after reviewing the successful System prerequisite check.

Step 4: Enter the WebSphere Application Server installation directory (<WASV6-ROOT>). Click Next.



Installation directory
IBM WebSphere Application Server Network Deployment, V6 will be installed to the specified directory.

You can specify a different directory or click **Browse** to select a directory.

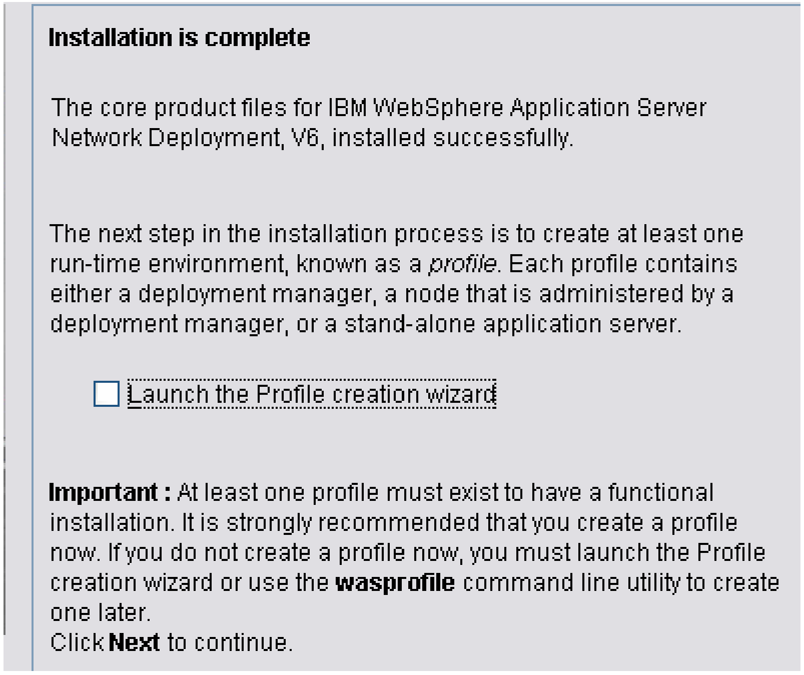
Directory name:

C:\IBM\WebSphere\AppServer

Fig 29-24: Specifying the WAS installation directory

Step 5: Review the summary screen and click Next. The installation program starts installing the product binaries, refresh pack, fix pack and interim fixes all in one step from the CIP.

Step 5: You can start creating profiles after successful completion of product binaries by launching the profile creation wizard (select the check box). If you have specified EAR and/or CAR file information during the creation of the BDF/CIP, then these files are deployed and restored after successful creation of the application server profile. Use chapter 7 for more information on creating profiles. In our sample configuration, we want to install only the product binaries at this stage, so click on Next without selecting the check box and complete the installation process.



Installation is complete

The core product files for IBM WebSphere Application Server Network Deployment, V6, installed successfully.

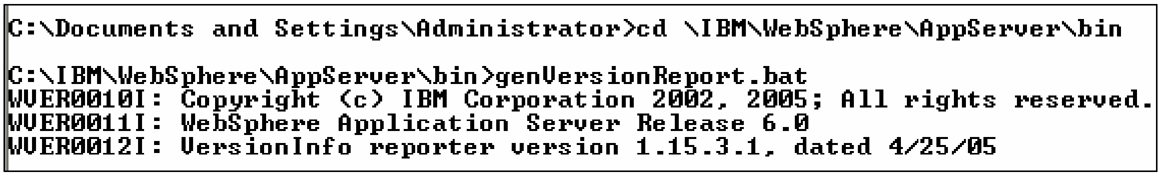
The next step in the installation process is to create at least one run-time environment, known as a *profile*. Each profile contains either a deployment manager, a node that is administered by a deployment manager, or a stand-alone application server.

□ Launch the Profile creation wizard

Important : At least one profile must exist to have a functional installation. It is strongly recommended that you create a profile now. If you do not create a profile now, you must launch the Profile creation wizard or use the **wasprofile** command line utility to create one later.
Click **Next** to continue.

Fig 29-25: Successful installation message and option to launch the profile creation wizard

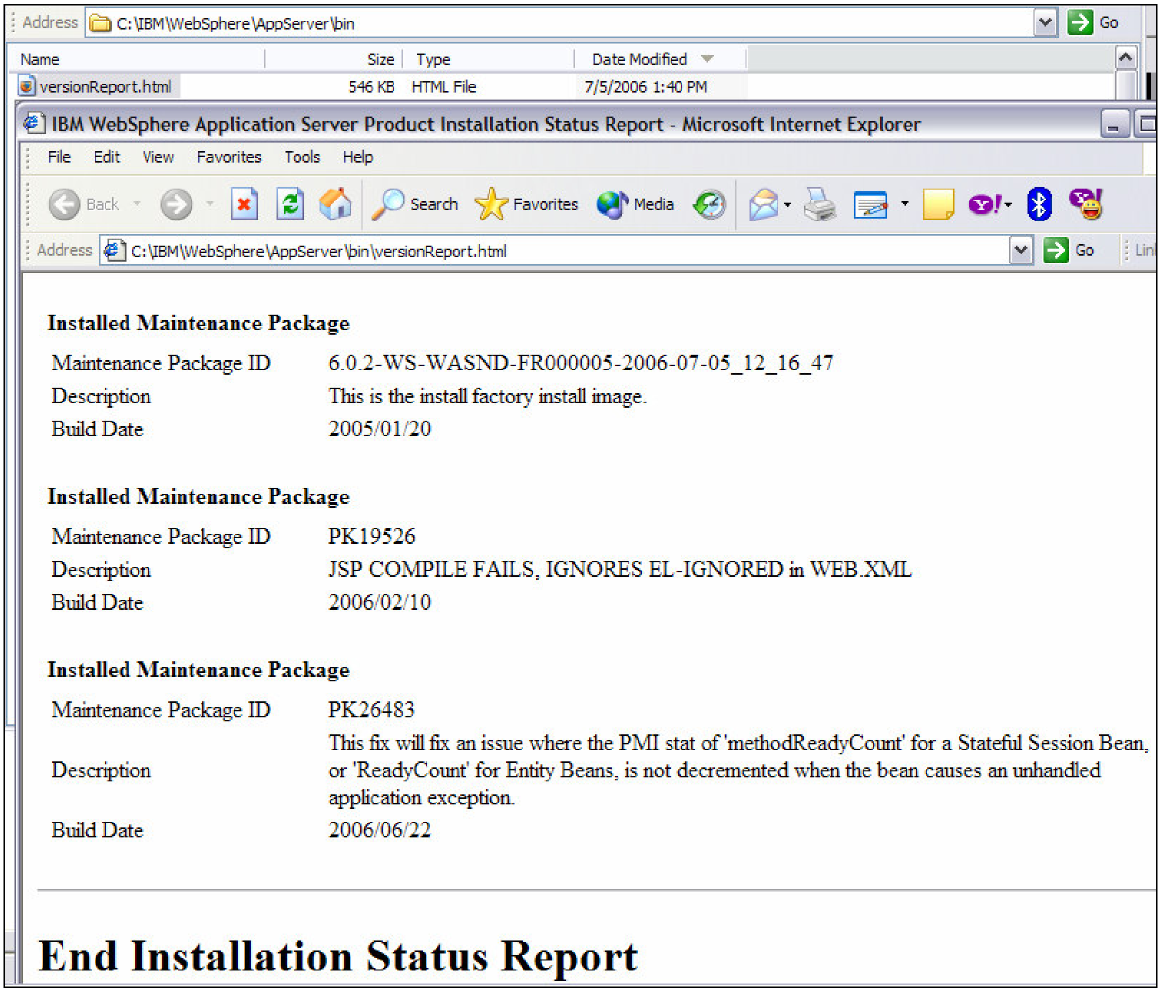
Step 6: Use chapter 7 to verify the product installation and navigate to <WASV6-ROOT>\bin and run genVersionReport.bat (.sh) to verify version, refresh pack, fix pack and interim fixes that have been installed.



```
C:\Documents and Settings\Administrator>cd \IBM\WebSphere\AppServer\bin

C:\IBM\WebSphere\AppServer\bin>genVersionReport.bat
WVER0010I: Copyright (c) IBM Corporation 2002, 2005; All rights reserved.
WVER0011I: WebSphere Application Server Release 6.0
WVER0012I: VersionInfo reporter version 1.15.3.1, dated 4/25/05
```

Fig 29-26: Generating version report for verification

Step 6: Review the versionReport.html file that will be created under <WASV6-ROOT>\bin directory after running the genVersionReport command to verify the version, refresh pack, fix pack and interim fixes information.


Address
C:\IBM\WebSphere\AppServer\bin
Go
Name
Size
Type
Date Modified
versionReport.html
546 KB
HTML File
7/5/2006 1:40 PM
IBM WebSphere Application Server Product Installation Status Report - Microsoft Internet Explorer
File
Edit
View
Favorites
Tools
Help
Back
Search
Favorites
Media
Address
C:\IBM\WebSphere\AppServer\bin\versionReport.html
Go
Lin

Installed Maintenance Package

Maintenance Package ID 6.0.2-WS-WASND-FR000005-2006-07-05_12_16_47
Description This is the install factory install image.
Build Date 2005/01/20

Installed Maintenance Package

Maintenance Package ID PK19526
Description JSP COMPILE FAILS, IGNORES EL-IGNORED in WEB.XML
Build Date 2006/02/10

Installed Maintenance Package

Maintenance Package ID PK26483
Description This fix will fix an issue where the PMI stat of 'methodReadyCount' for a Stateful Session Bean, or 'ReadyCount' for Entity Beans, is not decremented when the bean causes an unhandled application exception.
Build Date 2006/06/22

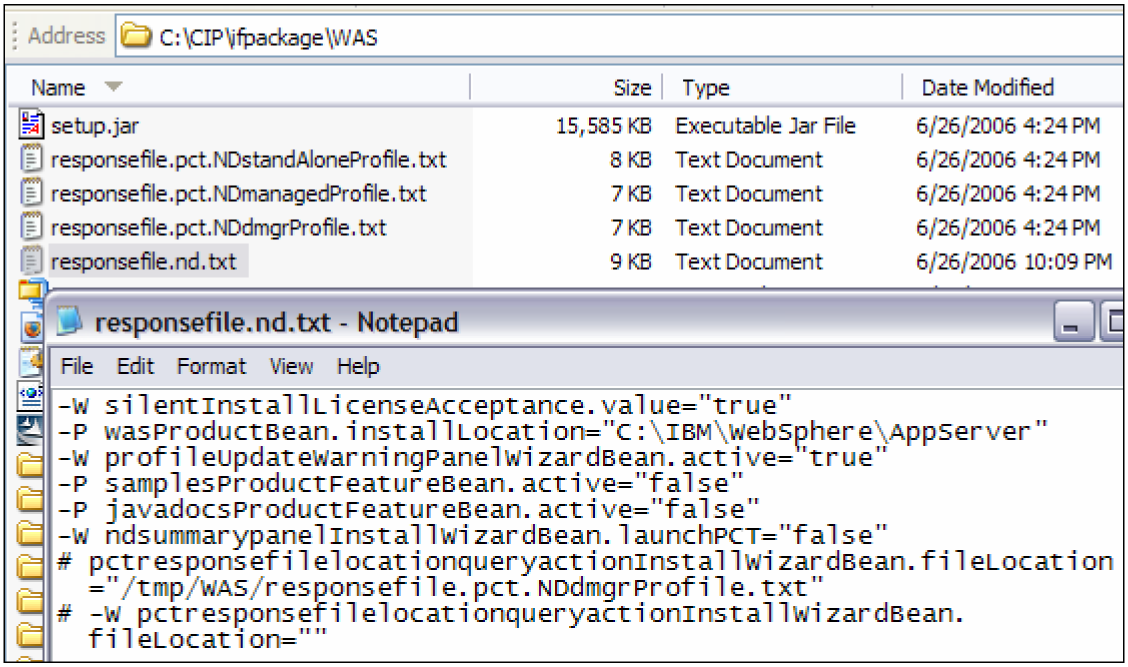
End Installation Status Report

Fig 29-27: Verifying the version, refresh, fix, interim fixes through the generated report

Install CIP Silently

Installing CIP silently is the same as installing WAS from the product images as described in chapter 7. The difference is that you use the installation program (install.exe or install) and response files (responsefile.*xxx*.txt files) from the CIP under <CIP-ROOT>\ifpackage\WAS directory instead of using these files from the product images. We suggest you go through the **Silent Installation** section in **chapter 7** to ensure that you understand the silent installation process before trying to install silently using the CIP.

Step 1: In our sample configuration we modified the options in the responsefile.nd.txt file (installs product binaries) as shown in the screenshot below. If you want to create profiles after installing the product binaries, then you need to modify the appropriate responsefile.pct.nd*xxx*.txt file(s) and modify the launchPCT option in the response.nd.txt file to true. Since we did not want to create any profiles during the installation of product binaries, we modified only the responsefile.nd.txt file. Refer to chapter 7 for more information on silent installation.

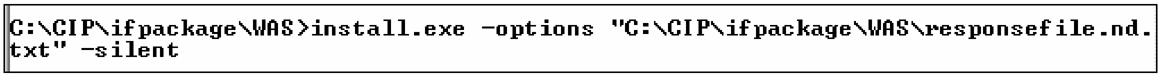


Name	Size	Type	Date Modified
setup.jar	15,585 KB	Executable Jar File	6/26/2006 4:24 PM
responsefile.pct.NDstandAloneProfile.txt	8 KB	Text Document	6/26/2006 4:24 PM
responsefile.pct.NDmanagedProfile.txt	7 KB	Text Document	6/26/2006 4:24 PM
responsefile.pct.NDdmgrProfile.txt	7 KB	Text Document	6/26/2006 4:24 PM
responsefile.nd.txt	9 KB	Text Document	6/26/2006 10:09 PM

```
-W silentInstallLicenseAcceptance.value="true"
-P wasProductBean.installLocation="C:\IBM\WebSphere\AppServer"
-W profileUpdateWarningPanelWizardBean.active="true"
-P samplesProductFeatureBean.active="false"
-P javadocsProductFeatureBean.active="false"
-W ndsummarypanelInstallWizardBean.launchPCT="false"
# pctresponsefilelocationqueryactionInstallWizardBean.fileLocation
  ="/tmp/WAS/responsefile.pct.NDdmgrProfile.txt"
# -W pctresponsefilelocationqueryactionInstallWizardBean.
  fileLocation=""
```

Fig 29-28: Modifying response file for Silent installation

Step 2: Open a command prompt, navigate to <CIP-ROOT\ifpackage\WAS and invoke the installation silently by issuing the command, install.exe –options "reponsefile-location" –silent, as shown in the screenshot below



```
C:\CIP\ifpackage\WAS>install.exe -options "C:\CIP\ifpackage\WAS\responsefile.nd.
txt" -silent
```

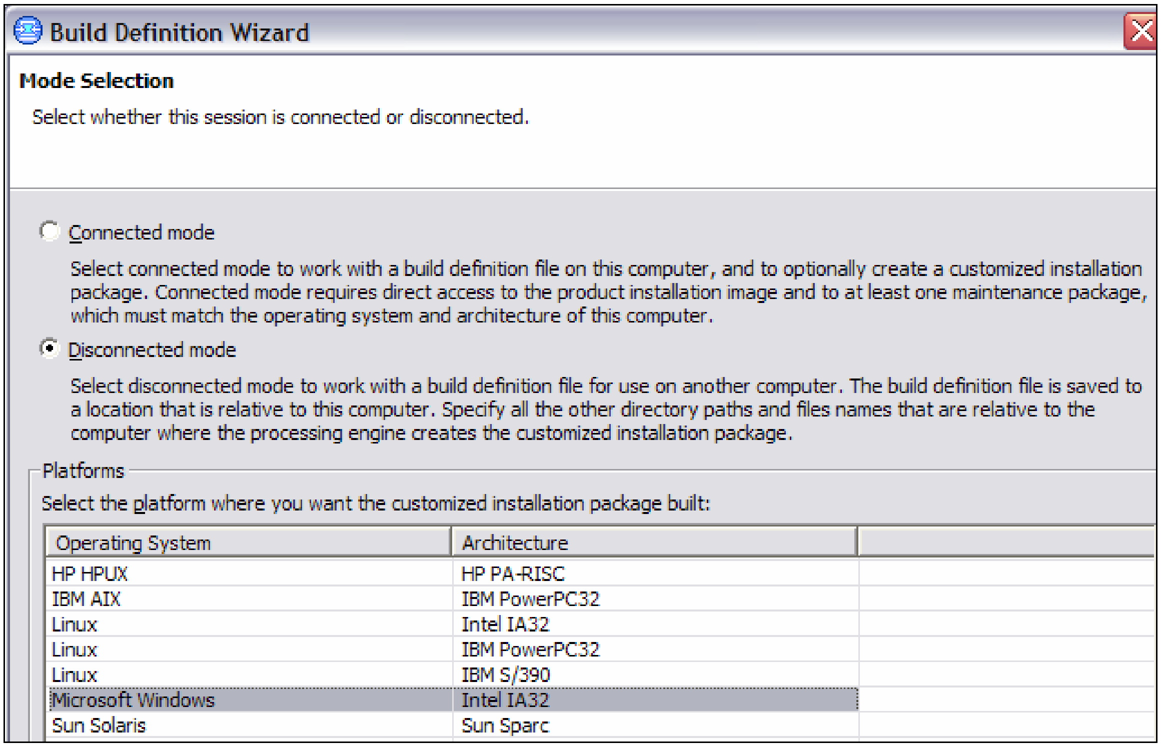
Fig 29-29: Running silent installation command

Create BDF in Disconnected Mode

So far you have seen how to create the BDF and CIP all in one step using the connected mode. But in some cases you want to create only the XML based BDF file on one node and generate the CIP on a different node where the product images are available. You can generate a BDF file that is suitable for any of the supported operating systems. In our sample configuration we performed both steps on the same node. The first step is creating the BDF file. The second step is generating the CIP using the BDF as an input to the ifcli command.

Step 1: Follow the steps 1 thru 4 provided under **Generate BDF and CIP** section earlier in this chapter.

Step 2: Select the disconnected mode instead of connected mode in this case as shown in the screenshot. If you are planning to generate the CIP on a node running on a different operating system then you need to select the appropriate operating system on this screen. Click Next.



Build Definition Wizard

Mode Selection

Select whether this session is connected or disconnected.

○ Connected mode

Select connected mode to work with a build definition file on this computer, and to optionally create a customized installation package. Connected mode requires direct access to the product installation image and to at least one maintenance package, which must match the operating system and architecture of this computer.

● Disconnected mode

Select disconnected mode to work with a build definition file for use on another computer. The build definition file is saved to a location that is relative to this computer. Specify all the other directory paths and files names that are relative to the computer where the processing engine creates the customized installation package.

Platforms

Select the platform where you want the customized installation package built:

Operating System	Architecture	
HP HPUX	HP PA-RISC	
IBM AIX	IBM PowerPC32	
Linux	Intel IA32	
Linux	IBM PowerPC32	
Linux	IBM S/390	
Microsoft Windows	Intel IA32	
Sun Solaris	Sun Sparc	

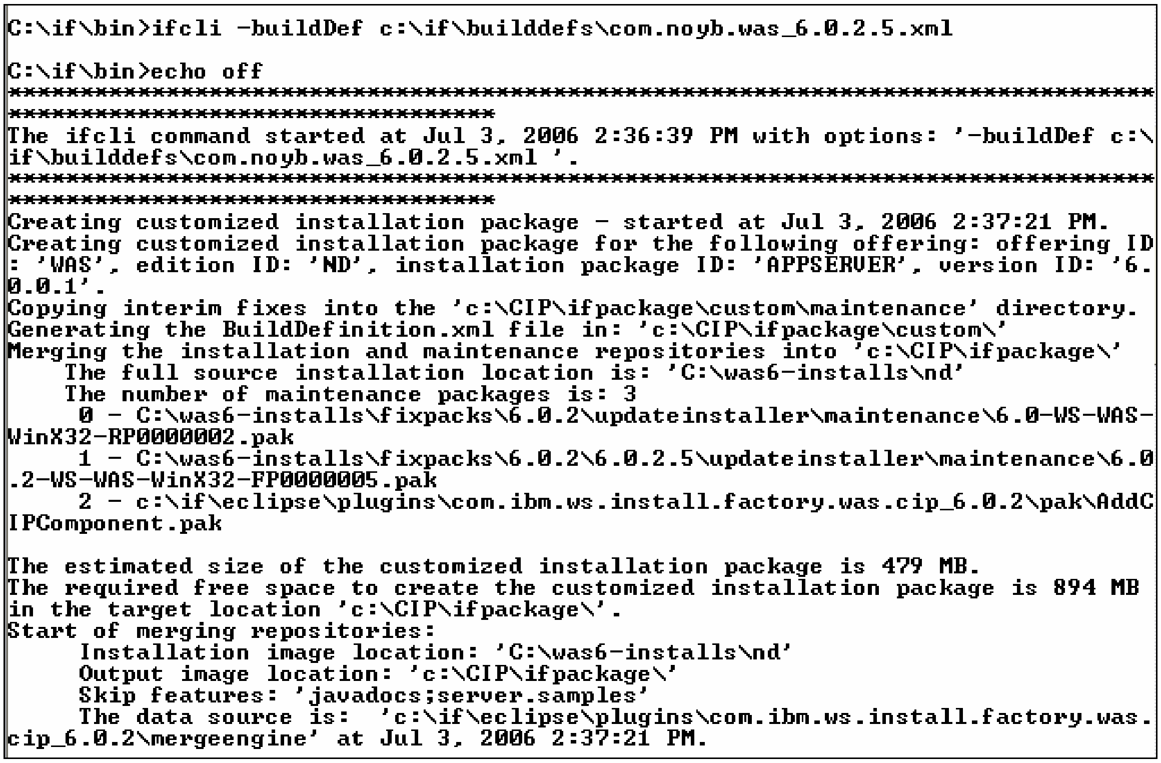
Fig 29-30: Selecting the Disconnected mode and the operating system

Step 3: Follow the steps 7 thru 15 provided under Generate BDF and CIP section earlier in this chapter.

Step 4: Select the radio button **save build definition file only**. Click on **Estimate size and Available space** tab to have an idea on free disk space availability and size of CIP package when you generate it later. Click Finish.

Generate CIP from the Command Line

Step 5: Open a command prompt, navigate to <IF-ROOT>\bin directory and issue the ifcli command issuing the BDF as an input “ifcli –buildDef bdf-xml-file” as shown in the screenshot below. It takes some time to generate the CIP package depending on the number images it has to verify and merge.

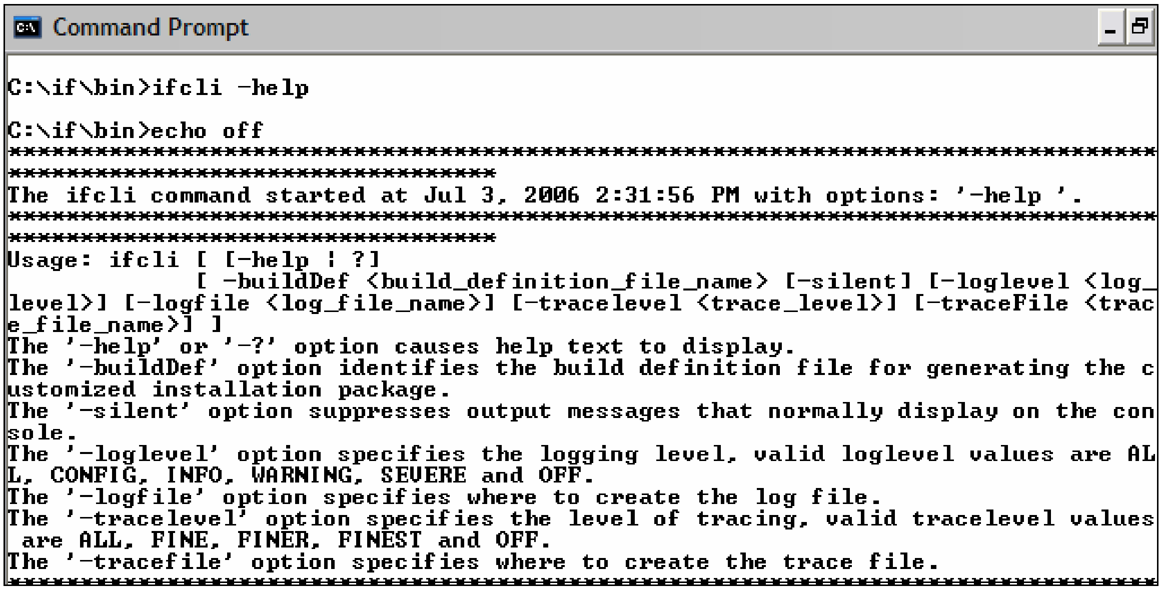


```
C:\if\bin>ifcli -buildDef c:\if\builddefs\com.noyb.was_6.0.2.5.xml

C:\if\bin>echo off
********************************************************************************
***********************************
The ifcli command started at Jul 3, 2006 2:36:39 PM with options: '-buildDef c:\
if\builddefs\com.noyb.was_6.0.2.5.xml '.
********************************************************************************
***********************************
Creating customized installation package - started at Jul 3, 2006 2:37:21 PM.
Creating customized installation package for the following offering: offering ID
: 'WAS', edition ID: 'ND', installation package ID: 'APPSERVER', version ID: '6.
0.0.1'.
Copying interim fixes into the 'c:\CIP\ifpackage\custom\maintenance' directory.
Generating the BuildDefinition.xml file in: 'c:\CIP\ifpackage\custom\'
Merging the installation and maintenance repositories into 'c:\CIP\ifpackage\'
    The full source installation location is: 'C:\was6-installs\nd'
    The number of maintenance packages is: 3
     0 - C:\was6-installs\fixpacks\6.0.2\updateinstaller\maintenance\6.0-WS-WAS-
WinX32-RP0000002.pak
     1 - C:\was6-installs\fixpacks\6.0.2\6.0.2.5\updateinstaller\maintenance\6.0
.2-WS-WAS-WinX32-FP0000005.pak
     2 - c:\if\eclipse\plugins\com.ibm.ws.install.factory.was.cip_6.0.2\pak\AddC
IPComponent.pak

The estimated size of the customized installation package is 479 MB.
The required free space to create the customized installation package is 894 MB
in the target location 'c:\CIP\ifpackage\'.
Start of merging repositories:
     Installation image location: 'C:\was6-installs\nd'
     Output image location: 'c:\CIP\ifpackage\'
     Skip features: 'javadocs;server.samples'
     The data source is:  'c:\if\eclipse\plugins\com.ibm.ws.install.factory.was.
cip_6.0.2\mergeengine' at Jul 3, 2006 2:37:21 PM.
```

Fig 29-31: Running ifcli command to generate CIP

Logging and Tracing

If you have a problem generating CIP using the ifcli program then you can start the ifcli program with additional arguments to specify the level of logging and/or tracing. Issue ifcli.bat –help for help on the syntax as shown in the screenshot below.



```
C:\if\bin>ifcli -help

C:\if\bin>echo off
********************************************************************************
***********************************
The ifcli command started at Jul 3, 2006 2:31:56 PM with options: '-help '.
********************************************************************************
***********************************
Usage: ifcli [ [-help | ?]
             [ -buildDef <build_definition_file_name> [-silent] [-loglevel <log_
level>] [-logfile <log_file_name>] [-tracelevel <trace_level>] [-traceFile <trac
e_file_name>] ]
The '-help' or '-?' option causes help text to display.
The '-buildDef' option identifies the build definition file for generating the c
ustomized installation package.
The '-silent' option suppresses output messages that normally display on the con
sole.
The '-loglevel' option specifies the logging level, valid loglevel values are AL
L, CONFIG, INFO, WARNING, SEVERE and OFF.
The '-logfile' option specifies where to create the log file.
The '-tracelevel' option specifies the level of tracing, valid tracelevel values
 are ALL, FINE, FINER, FINEST and OFF.
The '-tracefile' option specifies where to create the trace file.
********************************************************************************
```

Fig 29-32: Configuring logging and/or tracing while starting ifcli command