Agile Product Lifecycle Management

Installing Agile PLM on Oracle Application Server

Version 9.3.1

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Preface

Oracle's Agile PLM documentation set includes Adobe® Acrobat PDF files. The Oracle Technology Network (OTN) web site http://www.oracle.com/technetwork/documentation/agile-085940.html contains the latest versions of the Agile PLM PDF files. You can view or download these manuals from the web site, or you can ask your Agile administrator if there is an Agile PLM Documentation folder available on your network from which you can access the Agile PLM documentation (PDF) files.

Note	To read the PDF files, you must use the free Adobe Acrobat Reader version 9.0 or later. This program can be downloaded from the Adobe web site http://www.adobe.com.

The Oracle Technology Network (OTN) web site http://www.oracle.com/technetwork/documentation/agile-085940.html can be accessed through **Help** > **Manuals** in both Agile web Client and Agile Java Client. If you need additional assistance or information, please contact My Oracle Support (https://support.oracle.com) for assistance.

Note	Before calling Oracle Support about a problem with an Agile PLM manual, please have the full part number, which is located on the title page.

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Readme

Any last-minute information about Agile PLM can be found in the Readme file on the Oracle Technology Network (OTN) web site http://www.oracle.com/technetwork/documentation/agile-085940.html.

Agile Training Aids

Go to the Oracle University web page http://www.oracle.com/education/chooser/selectcountry_new.html for more information on Agile Training offerings.

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Screen readers may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, some screen readers may not always read a line of text that consists solely of a bracket or brace.

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Chapter 1

Preparing for the Agile PLM Installation

This chapter includes the following:

- Understanding the Basics 9
- Obtaining Software 9
- Installing Prerequisites 10
- Understanding the Recommended Configuration 10

Understanding the Basics

The Agile PLM Installer is built with Install AnyWhere and enables you to install the following components of Agile PLM:

- Application Server
- File Manager
- Web Proxies
- Changecast (Upgrade only - runs on Windows)
- API
- Recipe and Material Workspace

Note Recipe and Material Workspace cannot be installed in a clustered environment. If you choose this component during installation, then you cannot perform a clustered installation. If you wish to install the Agile PLM application server in a cluster and also install the Recipe and Material Workspace component, then you must install the Workspace on a separate machine from the Agile PLM application server.

Note Also, when installing Recipe and Material Workspace with an external 64-Bit JDK, it is recommended to install with a medium or large java heap size.

Obtaining Software

Oracle products are distributed as "Product Packs". A Product Pack is an electronic version of the software. Refer to the Media Pack description or the list of products that you purchased on your Oracle ordering document. Then, view the Quick Install Guide License List to help you decide which Product Pack you need. Prior to downloading, verify that the product you are looking for is in the License and Options section of the Product Pack Readme. Oracle recommends that you print the Readme for reference.

Please download each Product Pack from the Oracle Software Delivery Cloud web site (http://edelivery.oracle.com) as specified below:

1. Oracle Agile Product Lifecycle Management Release 9.3.1

2. Oracle Fusion Middleware (Oracle Application Server 10g Release 3 Media Pack contains Oracle SOA Suite 10g)

There will be an itemized part list within each of the packs and you will need to download all items in order to have the complete download for the desired Oracle Agile release.

All Oracle Software Delivery Cloud files have been archived using Info-ZIP's highly portable Zip utility. After downloading one or more of the archives, you will need the UnZip utility or the Winzip utility to extract the files. You must unzip the archive on the platform for which it was intended. Verify that the file size of your downloaded file matches the file size displayed on Oracle Software Delivery Cloud. Unzip each Zip file to its own temporary directory.

Installing Prerequisites

Before installing the Agile PLM application, the Agile PLM database must be installed and running. For information on installing the Agile PLM database, see the *Agile PLM Database Installation Guide*.

The application server where Agile PLM is to be installed must also be installed and running before Agile PLM is installed. For information on installing Oracle Application Server, see Installing OAS on page 19.

Understanding the Recommended Configuration

Agile PLM may be deployed in different configurations. The amount of time required to complete an installation depends on the complexity of your implementation.

For installations using a certified localized language, all server components must be installed on computers running the same localized OS. Clients can be running on the same localized OS or an English OS.

The general recommended configuration for Agile PLM components is one computer for each of the following server components:

- Agile PLM Database
- Agile PLM Application Server

It is acceptable to install multiple server components on the same computer. However, the minimum hardware requirements must be increased based on the number of server components installed on a single computer.

Network service and TCP/IP protocol must be enabled before you install Agile PLM.

To set up an Agile PLM system, you should install the main components in the following order:

1. Agile PLM Database
2. Agile PLM Application Server
3. Agile PLM File Manager
4. Agile PLM Web Proxies

Note If the Application Server, File Manager and Web proxies will be installed on one machine, they can be installed at the same time.

Chapter 2

Upgrading to Agile PLM 9.3.1

This chapter includes the following:

- Overview 13
- Upgrading the Agile Database 13
- Upgrading the File Vault 13
- Upgrading the Agile Application 14

Overview

Agile PLM 9.3.1 is a full install that can be distributed over a wide-area network with multiple servers, or it can be limited to a single server with several client computers.

Important Before upgrading to Agile PLM 9.3.1, read through this entire chapter and the Readme for the latest information. For information about optional upgrade services, contact Oracle Support.

Note All folder names and paths show the default settings provided during installation. Your system structure may be different if folder names or paths were changes during the installation.

Upgrading the Agile Database

The Agile database must be upgraded before installing and deploying the Agile application server. Refer to the *Agile PLM Database Installation Guide* for details about upgrading to the Agile PLM 9.3.1 database.

Upgrading the File Vault

If you are upgrading to Agile PLM 9.3.1 from a version prior to 9.2, the file vault structure must be reorganized. In previous versions of Agile, files were stored in the <iFS Root> or files directory. In later versions, files are stored in separate directories based on a file ID. All existing files must be reorganized to conform to the newer design specifications. If you have an existing iFS or Distributed File Manager configuration, you must reorganize the files on each file server.

To reorganize existing files:

1. Backup all existing Agile file vaults to a safe location before upgrading any component to Agile PLM 9.3.1.
2. After you have copied all files into a backup directory, install the new File Manager.
3. Copy any files that you backed up into the File Manager Storage Location you specified during the File Manager installation.

4. Go to the AGILE_HOME\agileDomain\tools\ directory.
5. Run the iFSReorgV2 utility. For information on how to run the iFSReorgV2 utility, see iFS Reorg on page 65.
6. After the program completes, the reorganization summary information displays.
7. Go to Configuring the File Manager on page 39 to configure the new file manager with the upgraded file vault information and to validate the installation was successful.

Upgrading the Agile Application

Because it is a full install, you should undeploy and uninstall your previous version of Oracle Application Server, File Manager, and Agile PLM before installing Agile PLM 9.3.1.

Agile PLM 9.3.1 requires a specific version of Oracle Application Server. Make sure the supported version of Oracle Application Server is installed and running before installing Agile PLM 9.3.1.

Important Do not install into the same sub-directory used by the previous installation of Agile PLM. Choose a new location.

Chapter 3

Installing Agile PLM

This chapter includes the following:

- Copying the Agile PLM Files 15
- Starting the Agile PLM Installer 15
- Installer Online Help 16
- Installer Buttons 17
- Agile PLM Installation Modes 17
- Agile PLM Installation Folders 17
- Configuring the User Productivity Kit 18

Copying the Agile PLM Files

Before installing Agile PLM, the contents of the media packs should be copied to a local directory with the same file structure used by the Installer. The Platforms and Pharma directories must be copied into the same directory as the setup file.

Note Be sure to check the size of the media packs after copying the files to verify that all files have been copied.

Starting the Agile PLM Installer

Important Install and test this release on a designated test server before installing it on your production environment. Your test environment should mirror your production environment as closely as possible to provide accurate testing results. It is important to validate the installation of this release and confirm your integrations are working correctly as part of your minimum due diligence. Any problems or questions noted during your system testing should be resolved before installing this release on your production environment.

The Agile PLM installer is a Java program. The installation of all components follows the same initial process up through the panel where you select the components to install.

The Agile PLM installer is displayed in English only, even on non-English operating systems.

Before running the installer, make sure

- **On UNIX:** You are not logged in as the root user. You should be logged in as the same user used to install the application server software.
- You have enough available disk space. Refer to the *Agile PLM Capacity Planning Guide* for specific values.

  Windows: at least 1.1GB of available disk space

  UNIX: at least 1.2GB of available disk space on the drive where your default Temp directory is

located.

- You have disabled virus protection.

  If virus protection is enabled, components used in the installer can be falsely identified as being infected and lock up the installation. You can enable virus protection after the installation is complete.

To start the Agile PLM installer on Windows:

Log in to the computer using a login with local Administrator permissions.

1. In the Disk1_Windows directory, double-click the **setup_win.exe** file.

   Note If there is insufficient Temp disk space available to complete the installation, you will be prompted for another location. Click **Choose**, select another drive, Click **OK**, and the installer will start.

   After a few moments, the Welcome screen appears.

2. For information about any screen in the installer, click **Help**.

To start the Agile PLM installer on UNIX:

1. Log into the system.

   Note If you are installing the Agile Application Server, make sure you log in as the same user that installed Oracle Application Server.

2. Open a terminal window and set the DISPLAY environment variable to your X Windows server.

   Note The Agile PLM Installer is a graphical application and requires an X server to perform the installation.

3. Go to the directory where you copied the Agile PLM files. Locate the **setup**_<*OS*>**.bin** file, and run the program by typing the following:

   AIX: **./setup_aix.bin**

   HP-UX: **./setup_hpux.bin**
   Linux: **./setup_lin.bin**
   Solaris (SPARC): **./setup_sol.bin**
   Solaris(X86): **./setup_solx86.bin**

   After a few moments, the Welcome screen appears.

For information about any screen in the installer, click **Help**.

Installer Online Help

Each installation panel has online help. At any time during installation, you can click **Help** for more information about the panel's options.

Note If you leave the online help window open, it will be updated when you proceed through the installer panels. Otherwise, click **Close** at the bottom of the help window.

Installer Buttons

Agile PLM installation panels have the following buttons:

- **Cancel** -- Exits from the installation program.
- **Help** -- Displays online help.
- **Previous** -- Returns to the previous step.
- **Next** -- Proceeds to the next step.
- **Install** -- Starts installing. The Install button appears only on the Pre-Installation Summary panel, after you have specified installation options.
- **Done** -- Exits from the installation program. On Windows, after installing certain components you can choose whether to restart the computer when you click **Done**. The **Done** button appears only on the Install Complete panel, after you have finished installing.

Agile PLM Installation Modes

When installing Agile PLM, you can install in Basic or Advanced mode. Basic mode should only be selected if you are installing a standalone system and choose to accept the default settings for virtual paths and authentication accounts or if you are installing Agile Recipe and Material Workspace. Advanced mode allows you to install a clustered system and change or accept the following system defaults on a standalone system:

- Agile Application Server Virtual Path (default: Agile)
- File Manager User Authentication (default:ifsuser)
- File Manager Virtual Path (default:Filemgr)
- Update the application URLs (Web Server, Java Client, File Manager) in the database (default:yes)

Note Agile Recipe and Material Workspace cannot be installed in a clustered environment. If you choose the Recipe and Material Workspace component during installation, then you cannot perform a clustered installation. If you wish to install the Agile PLM application server in a cluster and also install the Recipe and Material Workspace component, then you must install the Workspace on a separate machine using the Agile PLM Installer.

Agile PLM Installation Folders

After you install Agile PLM, the following folders appears in the AGILE_HOME directory.

This list includes the folders for all Agile PLM components, although it is not necessary that you install them all on one computer.

Folder	Description
agileDomain	Agile Application Server
AgileProxies	Web proxy configuration files

apache-tomcat-6.0.18	Apache Tomcat 6.0.18
changecast	ChangeCAST client
install	Installation and configuration scripts
integration	Agile Integration Framework (AIF) products, such as Agile Integration Services (AIS) and Agile SDK
jdk	Java Development Kit 1.5.0_06
Uninstaller	Agile PLM Uninstaller

Configuring the User Productivity Kit

If you purchased the Agile User Productivity Kit (UPK), the online help system for Agile PLM, follow the instructions in the UPK documentation for configuration after Agile PLM 9.3.1 is installed.

Chapter 4

Configuring a Standalone Application Server

This chapter includes the following:

- Installing OAS 19
- Configuring JMS Resources 20
- Deploying Agile PLM 21
- Verifying the Agile Login 21
- Configuring Oracle HTTP Server 22
- Setting the Temp Directory 23

Installing OAS

Agile PLM 9.3.1 runs on Oracle Application Server 10.1.3.4.0; which must be installed and running before Agile PLM 9.3.1 is installed.

Oracle Application Server 10.1.3.4.0 is a patchset and must be installed over the base 10.1.3.1 SOA Suite. A Patchset/Minipack is an electronic version of the software. To download the Product Patchset/Minipack, go to the My Oracle Support https://support.oracle.com site and search for the product. Refer to the Patchset/Minipack description and view the Readme. After you review the Readme, download the Product Patchset/Minipack.

There will be one zip file which contains all Product binaries, documentation, and database files. Follow the installation instructions from the Install Guide to install the product.

Please see the complete Oracle Application Server installation documentation before installing the server.

Note If you are installing Oracle Application Server on Enterprise Linux, see Installing Oracle Application Server on Enterprise Linux on page 57 for additional instructions.

Choosing Oracle Application Server Components to Install

Important This section applies to the installation of the base Oracle Application Server 10g Release 3 (10.1.3.1.0) SOA Suite, not the 10.1.3.4 patchset.

When you install Oracle Application Server as a standalone server, choose the **Advanced** install option and the following components:

- J2EE Server and Web Server

Important Remember the OC4J Administrator Password. It is required during the Agile PLM application JMS resource configuration and deployment.

Important The required name of the OC4J Instance Name used to deploy Agile PLM is **home**.

For more information, see the complete Oracle Application Server installation documentation.

Setting up Agile Recipe and Material Workspace

If you are installing Agile Recipe and Material Workspace, you must create a home_Pharma instance on the Oracle Application Server before the Agile Recipe and Material Workspace application is installed.

To create the home_Pharma instance:

1. Stop the Oracle Application Server instance:

   oracle_home\opmn\bin\opmnctl stopall

2. Change to the oracle_home\bin directory.
3. Run the following command:

   createinstance -instancename home_Pharma

What to Do Next

Install Agile PLM and its components by starting the Agile PLM installer and following the instructions in online help. See “Installing Agile PLM.”

Note If you selected an external JDK during the installation of the WebLogic Server, you must select the same JDK during the installation of Agile PLM.

Note If you are using the AutoVue Server, you must upgrade your client libraries before deploying the application server. See the *AutoVue for Agile PLM Installation and User Guide* for instructions.

Configuring JMS Resources

After you install the Agile Application Server, you must configure JMS resources before deploying the application.

Note For UNIX operating systems, substitute forward slashes for back slashes in the following steps.

To configure JMS resources:

1. **Windows**: Open a Command Prompt window.

   UNIX: Open a terminal window and log on as the user who installed Oracle Application Server.

2. Restart the Oracle Application Server instance:

   oracle_home\opmn\bin\opmnctl stopall

oracle_home\opmn\bin\opmnctl startall

3. Check the status of the Oracle Application Server (OC4JGroup) and HTTP Server components:

   oracle_home\opmn\bin\opmnctl status

   All of the OC4JGroup and HTTP Server components should be alive.

4. Run the configuration script to configure the Agile application-related JMS settings:

   Windows: \AGILE_HOME\agileDomain\bin\configureJMS.cmd <OC4Jadmin Password>

   UNIX: /AGILE_HOME/agileDomain/bin/configureJMS.sh <OC4Jadmin Password>

   After configuration, messages similar to the following should appear:

```
Creating Topic: Rollup Queue
Command was successful
Creating Topic: sync_topic
Command was successful
JMS Configuration completed.
```

Deploying Agile PLM

After you have configured JMS resources, you can deploy Agile PLM on the application server.

To deploy the Agile PLM application:

1. Run the following command:

   Windows: \AGILE_HOME\agileDomain\bin\DeployAgilePLM.cmd <OC4Jadmin Password>

   UNIX: /AGILE_HOME/agileDomain/bin/DeployAgilePLM.sh <OC4Jadmin Password>

2. Check the default_group~home~default_group~1.log file in the following directory to verify that the Agile application is deployed:

   oracle_home\opmn\logs

Verifying the Agile Login

Once the Agile application is deployed, you should verify that the system works before installing other Agile PLM components. The simplest test is to log into the Web Client.

To test the Agile PLM login:

1. Open a Web browser.
2. Test the login using the following URL:

   http://<hostname>.<domain>:<port>/<appserver_virtual_path>/PLMServlet

   For example, the URL might look like this:

   http://plmserver.yourcompany.com:7777/Agile/PLMServlet

   Note The URL is case-sensitive.

Important If you are configuring a separate reverse-proxy web server for the application, then you should NOT provide users with the application server URL. The hostname and port number for the reverse-proxy may be different from the application server and thus the reverse-proxy web server alias and port should be used by Agile Web client end users. The Application Server URL is a direct path to the application server, and it should be used only for testing and troubleshooting purposes.

A login window appears.

3. If you have not migrated Agile PLM users from LDAP, type **admin** for the user and the password you supplied as the password for the admin user in the password management screen during installation.

Configuring Oracle HTTP Server

Oracle HTTP Server is a version of the Apache Web Server that is included with your installation of Oracle Application Server. There are several problems that can occur with Agile PLM if Oracle HTTP Server is configured incorrectly. For example, you may have trouble creating an Agile session from an Agile SDK program. Or you may have trouble importing data from the Microsoft Excel-based client. To fix these problems, you must reconfigure the Oracle HTTP Server.

The main configuration file for Oracle HTTP Server is **httpd.conf**. It is located in the following directory:

Windows: oracle_home\Apache\Apache\conf

UNIX: oracle_home/Apache/Apache/conf

Open the httpd.conf file to edit it. You can use any text editor.

Make sure the Port and Listen values in httpd.conf are set correctly. The value for Port should reflect the listen port of the reverse-proxy web server (if present) or of Oracle HTTP Server (if no reverse-proxy web server is configured). The value for Listen should reflect the listen port of the Oracle HTTP Server. The value for ServerName should reflect the alias or hostname of the reverse-proxy web server (if present) or of Oracle HTTP Server (if no reverse-proxy web server is configured). If no reverse-proxy web server is used, then here is what the Port section of the httpd.conf file should look like:

```
# Port: The port to which the standalone server listens.  Certain
# firewall products must be configured before Apache can listen to
# a specific port.
# Other running httpd servers will also interfere with this port.
# Disable all firewall, security, and other services if you  #
encounter problems.
# To help diagnose problems use the Windows NT command NETSTAT -a
#
Port 7777
Listen 7777
```

Note If port 7777 is already being used, Oracle HTTP Server listens on the next available port number between a range of 7777 and 7877.

Make sure the server status reports section of the httpd.conf file uses the fully qualified domain name for your Oracle HTTP Server. Here is how that section should look:

```
# Allow server status reports, with the URL of
http://servername/server-status
# Change the ".your_domain.com" to match your domain to enable.
#
<Location /server-status>
    SetHandler server-status
    Order deny,allow
    Deny from all
    Allow from localhost servername.your_domain.com servername
</Location>
```

You must also update the oracle_home\Apache\Apache\conf**ohstarget.xml** file to reflect the new HTTP Listen port.

Important If you modify the httpd.conf file, you must restart Oracle HTTP Server.

Setting the Temp Directory

When you installed Oracle Application Server, you logged into your operating system as a particular user. You should always log in as that user to manage your installation. Several variables are set in the configuration when you install Oracle Application Server. One of them is the **TMP** environment variable, which sets the temporary directory that the server uses. On Windows, by default the **TMP** environment variable for Oracle Application Server is set to the temp directory of the user that installed the software.

Several Agile PLM services use the temporary directory to store temporary files. If you inadvertently delete the temporary directory that Oracle Application Server is using, Agile PLM services that were using the temporary directory may no longer operate successfully.

If you notice that Agile PLM export and import operations are no longer working, check the application server log and see if there is an error like this:

```
Exception msg:java.rmi.RemoteException: An error was encountered while
exporting data: com.agile.util.exception.CMAppException: C:\Documents
and Settings\<user>\Local
Settings\Temp\2\AgilePC9Extract\223673754\223673754.xml (The system cannot find
the path specified)
```

The message confirms that Oracle Application Server can no longer find the temporary directory. To resolve the problem, you can recreate or restore the temp directory, or set the **TMP** environment variable for Oracle Application Server to another location.

To reset the temporary directory for Oracle Application Server:

1. Log in as the user used to install Oracle Application Server.
2. Open the **opmn.xml** file located in the \oracle_home\opmn\conf directory.
3. Look for the following section:

```
<ias-instance id="instance_name.server_name.domain">
```

```
<environment>
  <variable id="TMP" value=temp_directory />
</environment>
```

4. Change the *temp_directory* value to a valid directory. It must be a directory that the user who manages OAS can access and write to.
5. Save the file.
6. Restart Oracle Application Server.

Chapter 5

Configuring an Application Server Cluster

This chapter includes the following:

- About Agile Application Server Clusters 25
- Installing Agile PLM on the Primary Server 26
- Installing Agile PLM on the Secondary Servers 26
- Configuring the Primary and Secondary Servers 27
- Configuring a Load Balancer 28
- Configuring the jndiurl.properties and pcclient.jnlp files 29
- Starting the Agile Cluster 29
- Testing the Agile Cluster 29

Note Agile Recipe and Material Workspace cannot be installed in a cluster.

About Agile Application Server Clusters

Agile takes advantage of clustering capability provided by the supported application servers. A cluster is a group of servers that work together to provide a more scalable, more reliable application platform than a single server. A cluster appears to its clients as a single server, but is actually a group of servers acting as one. A cluster provides two key advantages over a single server:

- **Scalability**: The capacity of a cluster is not limited to a single server or a single machine. New servers can be added to the cluster dynamically to increase capacity. If more hardware is needed, a new server on a new machine can be added. If a single server cannot fully utilize an existing machine, additional servers can be added to that machine.
- **Redundancy**: A cluster uses the redundancy of multiple servers to insulate clients from failures. The same service can be provided on multiple servers in the cluster. If one server fails, the surviving members can continue to serve the application. The ability to fail over from a failed server to a functioning server can increase the availability of the application to clients.

Traffic to multiple application servers needs to be managed or balanced by some device in-between the server cluster and the clients. There are two main components that provide this capability; reverse-proxy web servers or load balancers.

Choosing Oracle Application Server Components to Install

You must have at least two servers to install an application server cluster. One server acts as the primary server and the others act as secondary servers. The directory structure should be the same on all servers.

Oracle Application Server must be installed on the primary and secondary servers before you install any Agile components. For information on how to install Oracle Application Server, see Installing OAS on page 19.

Make sure that the OC4J administrator password for Oracle Application Server is the same on all

servers in the cluster.

For more information, see the complete Oracle Application Server installation documentation.

Installing Agile PLM on the Primary Server

Install the Agile Application Server by starting the Agile PLM installer and following the instructions in online help.

During the installation, make sure the following steps are performed:

1. Select **Advanced Mode** in the Installation Mode panel.
2. Select **Cluster installation** on the Installation Type panel.
3. Enter the multicast address and port number that are used as a part of the dynamic discovery mechanism for managing Oracle nodes in a cluster environment.

   Note All of the nodes in the cluster topology must be configured to use the same multicast address and port number.

4. Select **Primary Server** on the Clustered Application Server Type panel.
5. If installing File Managers that are load-balanced, make sure the File Manager storage location is a shared location for the primary and secondary servers.

Installing Agile PLM on the Secondary Servers

Install the Agile Application Server by starting the Agile PLM installer and following the instructions in online help.

During the installation, make sure the following steps are performed:

1. Select **Advanced Mode** on the Installation Mode panel.
2. Select **Cluster installation** on the Installation Type panel.
3. Enter the multicast address and port number that are used as a part of the dynamic discovery mechanism for managing Oracle nodes in a cluster environment.

   Note All of the nodes in the cluster topology must be configured to use the same multicast address and port number.

4. Select **Secondary Server** on the Clustered Application Server Type panel.
5. If installing File Managers that are load-balanced, make sure the File Manager storage location is a shared location for the primary and secondary servers.

   Note If you are using AutoVue, you must update your client libraries before starting and deploying the application server on all the nodes in the cluster. See the *AutoVue for Agile PLM Installation and User Guide* for instructions.

Configuring the Primary and Secondary Servers

Important Skip this section if your servers are already configured in the Oracle Application Server Cluster topology.

The following steps must be performed on each server in the cluster before the application is deployed:

1. Start the application server instance:

   oracle_home\opmn\bin**opmnctl startall**

2. Check the status of the Oracle Application Server instance:

   oracle_home\opmn\bin**opmnctl status**

   The HTTP_Server and OC4J components of Oracle Application Server should be alive.

3. In a Command Prompt window, go to the AGILE_HOME\agileDomain\bin directory and run the **joinCluster** command.

   This command joins the instance into the cluster.

Configuring JMS Resources in a Cluster

After the Agile PLM application server has been installed on the primary and secondary servers and configured as a cluster, you can configure the JMS resources.

To configure JMS resources:

1. **Windows:** Open a Command Prompt window on the primary server.

   UNIX: Open a terminal window on the primary server and log on as the user who installed Oracle Application Server.

2. Run the configure script to configure JMS resources for the Agile application:

   Windows: \AGILE_HOME\agileDomain\bin **configureJMS.cmd <OC4Jadmin Password>**

   UNIX: /AGILE_HOME/agileDomain/bin/**configureJMS.sh <OC4Jadmin Password>**

   After configuration, the messages similar to the following should appear:

```
Creating Topic: Rollup Queue
Command was successful
Creating Topic: sync_topic
Command was successful
JMS Configuration completed.
```

Deploying the Agile Application in a Cluster

After configuring JMS resources, you can deploy the Agile application on the primary server. The application is automatically synchronized to the secondary servers in the cluster.

Before deploying the application, make sure the following actions are taken:

- Stop Oracle Application Server. Make sure that the network adapter is configured on your LAN and that the other cluster members are accessible via 'ping'.

- On Windows, disable the loopback adapter and remove its IP address from the hosts file.
- Verify that the database schema has been upgraded to Agile PLM 9.3.1.
- Verify that the HTTP_Server and OC4J components are alive on the primary and secondary servers.

To deploy the Agile application:

1. Run the following command on the primary server:

   Windows: \AGILE_HOME\agileDomain\bin**DeployAgilePLM.cmd <OC4Jadmin Password>**

   UNIX: /AGILE_HOME/agileDomain/bin/**DeployAgilePLM.sh <OC4Jadmin Password>**

   The application should be deployed on the primary and secondary servers.

2. Check the default_group~home~default_group~1.log file in the following directory to verify that the Agile application is deployed:

   \oracle_home\opmn\logs

3. Restart the Oracle Application Server instance on all servers:

   \oracle_home\opmn\bin\opmnctl stopall

   \oracle_home\opmn\bin\opmnctl startall

   Note Restart the primary server before restarting the secondary servers.

Configuring a Load Balancer

A load balancer is deployed to balance the user load across a cluster and to avoid directing traffic to a downed cluster member. When external users need access to Agile, this device is deployed in the DMZ. The load balancer does not need to be installed in the DMZ if Agile PLM is only accessed internally from within the firewall. Load balancers can be used with the Java Client and the Web Client.

To configure a load balancer:

1. Configure three virtual IP address; one for the application server web client (port 7777, by default), one for the application server Java client (port 23791, internal users only), and one for the File Manager (port 8080, by default).
2. Set the load balancer policy to round-robin.

To access the system after you have configured the load balancer, use an alias for the virtual IP address of the load balancer in the Agile web and Java client URLs. The following URL is an example:

http://loadbalancer.mydomain.com/web/PLMServlet

or

ormi://loadbalancer.mydomain.com/Agile

Configuring the jndiurl.properties and pcclient.jnlp files

To configure the jndiurl.properties and pcclient.jnlp files on secondary servers:

1. Stop the Web proxy server.
2. Stop Oracle Application Server on each server in the cluster.
3. On each secondary server, open the following file in a text editor:

   /oracle_home/j2ee/home/application/APP-INF/classes/jndiurl.properties
4. Edit the URL to point to the secondary server:

   server2=ormi://<*secondary_server_hostname*>.<*domain*>:<*port*>/Agile

   where
   - <secondary_server_hostname> is the hostname for the secondary server.
   - <domain> is the fully qualified domain name.
   - <port> is the ormi port number (default port: 23791).
5. Save the jndiurl.properties file.
6. On each secondary server, open the following file in a text editor:

   /oracle_home/j2ee/home/applications/Agile/JavaClient/pcclient.jnlp
7. Find the following tags and edit the values listed below:

   serverURL:

   <argument>serverURL=ormi://<*secondary_server_hostname*>.<*domain*>/Agile</argument>

   where
   - <secondary_server_hostname> is the hostname for the secondary server.
   - <domain> is the fully qualified domain name.
8. Save the file.
9. Start the Oracle Application Server on each server in the cluster.
10. Start the Web proxy server.

Starting the Agile Cluster

Once the Agile application is deployed to every Oracle Application Server in the cluster, the cluster should be active. You can use the **opmnctl** command-line interface to stop and start individual servers in the cluster.

Testing the Agile Cluster

Use the following URLs to test each server in the cluster and the load balancer:

Web Client

http://hostname.domain.com:<port>/<virtualpath>/PLMServlet

For example, if your hosts are named host1, host2, and host3, the Web Client URLs could look like this:

http://host1.mydomain.com:7777/Agile/PLMServlet

http://host2.mydomain.com:7777/Agile/PLMServlet

http://host3.mydomain.com:7777/Agile/PLMServlet

Java Client

http://hostname.domain.com:<port>/JavaClient/start.html

For example, if your hosts are named host1, host2, and host3, the Java Client URLs could look like this:

http://host1.mydomain.com:7777/JavaClient/start.html

http://host2.mydomain.com:7777/JavaClient/start.html

http://host3.mydomain.com:7777/JavaClient/start.html

Load Balancer

If you use a load balancer for your application server cluster, test the entire system by going to the load balancer URLs for Web Client and Java Client:

http://loadbalancer.domain.com/Agile/PLMServlet

http://loadbalancer.domain.com/JavaClient/start.html

Chapter 6

Configuring a Web Proxy Server for Agile PLM

This chapter includes the following:

- Overview 31
- Configuring an IIS Website 31
- Configuring IIS as a Proxy Server for Agile PLM 32
- Configuring IIS as a Proxy Server for Agile File Manager 34
- Logging In to the Agile Web Client 36
- Troubleshooting the Agile Web Client 36

Overview

To connect to the Agile Web Client on a Web proxy server, Agile Web proxy files must be installed on the Web server. Agile Web Client uses Microsoft Internet Information Services (IIS) or Apache Web Server. The Agile Web Client connects to an Agile Application Server in the same manner as all other application server clients. Secure access is maintained using Secure Sockets Layer (SSL) encryption with the HTTPS protocol and is recommended for the Internet.

Configuring an IIS Website

Before you install the Agile Web proxy files on Windows, Microsoft IIS must be installed on the same computer. In addition, IIS must be configured as follows:

1. Choose **Start > Administrative Tools > Internet Information Services (IIS) Manager**, and create a new web site called **Agile PLM Web Site**. For more information on how to create a web site, see the Internet Information Server documentation online at the Microsoft TechNet: http://technet.microsoft.com/

   Note Due to security vulnerabilities, we recommend that you do not use the Default Web Site installed with Internet Information Server. You can either delete or disable the Default Web Site.

2. Right-click the **Agile PLM Web Site**, and choose **Properties** from the shortcut menu.
3. Select the **Directory Security** tab and click **Edit** for Anonymous Access and Authentication Control.
4. Make sure **Enable Anonymous Access** is checked.
5. Uncheck **Integrated Windows authentication**.
6. Click **OK**.

For security reasons, Agile recommends installing Agile Web proxy files on a server separate from other Agile PLM servers.

Firewall Configuration

An external user typically runs the Agile Web Client in a browser from outside the corporate network. The client typically communicates over the Internet to the Agile servers behind a corporate firewall.

If you want to use HTTPS, firewalls must be configured to allow for connectivity from the Agile Web clients to the DMZ reverse-proxy web server or load balancer and from the DMZ reverse-proxy web server or load balancer to the Agile PLM Application Servers and File Managers.

The corporate firewall on the Agile application side must be configured to allow:

- incoming HTTPS connections from the Internet to the Web server
- outgoing TCP/IP connections from the Web server to the application server
- outgoing connections from the File Manager host to the DMZ reverse-proxy web server or load balancer.

Important On Windows, encryption is supported only between IIS and the client's browser, not between IIS and the application server. Do NOT put a certificate on the application server.

Configuring IIS as a Proxy Server for Agile PLM

When you install the Agile PLM Web Proxies component, the setup program creates the AGILE_HOME\AgileProxies folder. For example, if you accepted the default installation location at \Agile\Agile93, the Agile Proxies folder appears in that folder. The AgileProxies folder contains the following files that enable communication between the IIS Web server and the Agile Application Server:

- oracle_proxy.dll -- an ISAPI filter, which allows IIS to process HTTP requests
- 9ias.conf -- initialization file to direct the proxy filters where to route the HTTP/HTTPS traffic specific to Agile PLM from IIS

Note Make sure you can successfully ping the Application Server using the fully qualified host name and that the HTTP port that the Application Server is listening on is not blocked by a firewall.

To configure IIS as a Web proxy server for Agile PLM:

1. On the Web server machine, choose **Start > Administrative Tools > Internet Information Servers (IIS) Manager.**

   The Internet Information Services Manager window appears.

2. Expand the folder for **Internet Information Services > servername**.
3. Right-click the **Agile PLM Web Site**, and choose **Properties** from the shortcut menu.

   The Agile PLM Web Site Properties dialog box appears.

Note Due to security vulnerabilities, we recommend that you do not use the Default Web Site installed with Internet Information Server and instead create a new web site named Agile PLM Web Site.

4. Click the **Home Directory** tab.
5. Set the permissions to **Scripts and Executables**.
6. Select the **ISAPI Filters** tab.
7. Click **Add**.

   The Add/Edit Filter Properties dialog box appears.
8. Type **oproxy** in the Filter Name field.
9. Click **Browse** and locate the **oracle_proxy.dll** file from the \AGILE_HOME\AgileProxies folder. After you select the oracle_proxy.dll file, click **Open** to close the dialog box.
10. In the Add/Edit Filter Properties dialog box, click **OK**.

    The Agile PLM Web Site Properties dialog box appears.
11. Click **OK** to close the Agile PLM Web Site Properties dialog box.
12. Right-click the Agile PLM Web Site, and choose **New > Virtual Directory** from the shortcut menu.

    The Virtual Directory Creation Wizard appears.
13. Click **Next**.
14. Type **oproxy** in the Alias field. Click **Next**.
15. On the Web Site Content Directory page, click Browse, locate the \AGILE_HOME\AgileProxies folder, and then click **OK**. Click **Next**.
16. Check the **Execute** checkbox. Click **Next**.
17. Click **Finish**.
18. Select the **Web Service Extensions** folder.
19. Select **All Unknown ISAPI Extensions, All Unknown CGI Extensions, and Webdav**.
20. Click **Allow**.
21. Close IIS Manager.
22. Restart IIS.

Note To restart IIS, stop all of the IIS services through the Control Panel and then restart them, or restart the computer. This ensures that the .dll is reloaded. Do not use IIS Manager to restart IIS.

Testing the Configuration

After you set up the oproxy ISAPI filter, you should test whether the filter loads successfully.

To make sure the oproxy filter added to the ISAPI Filters tab is loaded properly on the Web server:

1. Type the Application Server PLMServlet URL into a browser (using the reverse-proxy web

server alias or hostname and listen port) and make sure the Agile PLM login page loads successfully.

2. In IIS Manager, select the Agile PLM Web Site node, right-click, and choose Properties from the shortcut menu.

   The Agile PLM Web Site Properties dialog box appears.

3. Select the ISAPI Filters tab.

   The status for the oproxy filter shows an arrow pointing up, indicating that it is loaded on the IIS Web server and ready to proxy all external HTTP/HTTPS requests to the Agile Web client server.

   Note If the arrow is not pointing up, the filter is not loaded properly. In that case, restart the computer.

The IIS Web server is now ready to accept all external Agile Web clients using HTTP requests on standard port 80. The IIS Web server provides a proxy to the application server running Agile Web clients on the port you specified during the Agile Application Server installation.

Configuring IIS as a Proxy Server for Agile File Manager

The AGILE_HOME\AgileProxies folder contains the following files that enable communication between the IIS Web server and the File Manager (Tomcat):

- isapi_redirect.dll -- The IIS server plugin.
- workers.properties -- A file that describes the hosts and ports used by Tomcat processes.
- uriworkermap.properties -- A file that maps URL-Path patterns to Tomcat processes.

  Note If you set up a Web proxy server for Agile File Manager that is different from the server or port you specified when you installed Agile PLM, you must make sure that File Manager points to the proxy server on the correct port. For more information see Reconfiguring File Manager After Setting Up a Web Proxy.

To configure IIS as a proxy server for File Manager:

1. On the web server, choose **Start > Administrative Tools > Internet Information Services (IIS) Manager**.

   The Internet Information Services Manager window appears.

2. Expand the folder for **Internet Information Services > servername**.
3. Right-click the Agile PLM Web Site, and choose **Properties** from the shortcut menu.

   The Agile PLM Web Site Properties dialog box appears.

4. Select the **ISAPI Filters** tab.
5. Click **Add**.

   The Add/Edit Filter Properties dialog box appears.

6. Type `Jakarta IIS Connector` in the **Filter Name** field.
7. Click **Browse** and locate the **isapi_redirect.dll** file from the AGILE_HOME\AgileProxies folder. After you select the file, click **Open** to close the dialog box.

8. In the Add/Edit Filter Properties dialog box, click **OK**.

   The Agile PLM Web Site Properties dialog box appears.

9. Click **OK** to close the Agile PLM Web Site Properties dialog box.
10. Right-click the Agile PLM Web Site, and choose **New > Virtual Directory** from the shortcut menu.

    The Virtual Directory Creation Wizard appears.

11. Click **Next**.
12. On the Virtual Directory Alias page, type `Jakarta` as the alias name. Click **Next**.
13. On the Web Site Content Directory page, type the path where the isapi_redirect.dll file is located. Click **Next**.
14. On the Access Permissions page, make sure the **Execute** checkbox is checked. Click **Next**.
15. Click **Finish**.
16. Close IIS Manager.
17. Open the workers.properties file in the AGILE_HOME\AgileProxies folder.
18. Make sure the File Manager host name is correct in the following entry:

    worker.ajp13w.host=<*File Manager fully-qualified host name*>

    Note Make sure you can successfully ping the File Manager using the fully-qualified host name and that the AJP port is not blocked by a firewall.

19. Save and close the file.
20. Restart IIS.

    Note To restart IIS, stop all of the IIS services through the Control Panel and then restart them, or restart the computer. This ensures that the .dll is reloaded. Do not use IIS Manager to restart IIS.

Testing the Configuration

After you set up the Jakarta IIS Connector ISAPI filter, you should test whether the filter loads successfully.

To make sure the isapi_redirect filter is loaded properly:

1. Type the File Manager Configuration URL into a browser (using the reverse-proxy web server alias or host name and listen port) and make sure the Configuration page loads successfully.
2. In the IIS Manager, right-click the Agile PLM Web Site, and choose **Properties** from the shortcut menu.

   The Agile PLM Web Site Properties dialog box appears.

3. Select the **ISAPI Filters** tab.

   The status for the Jakarta IIS Connector filter shows an arrow pointing up, indicating that it is loaded on the IIS Web server and ready to proxy all requests to the File Manager.

Logging In to the Agile Web Client

Open your browser and go to the following URL to test the Agile Web client setup:

http://webserver_hostname:port/virtual_path/PLMServlet

Note The URL is case-sensitive. The default virtual path is web.

The login window for the Agile Web client appears in the browser.

Troubleshooting the Agile Web Client

This section provides the basics for troubleshooting the Agile Web client and Web server issues.

Confirming Accessibility

Confirm that the following connections are valid:

- Ping the Agile Application Server computer to make sure it is accessible from the Agile Web components computer and that the specified port is available.
- Make sure the IIS Web server is up and running on the specified ports, and that the specified DNS hostname is valid and registered for external accessibility by the Agile Web client browsers.

URL Error Messages

If you specify this URL in the browser and receive the message "Page not found", check the following:

- Make sure that the IIS Web server is accessible.
- Open the iisproxy.ini file and make sure the client virtual path name is the same as the login URL for the Agile Web client.
- Make sure the Agile Viewer has started on the host computer.

If the following error message appears:

"Servlet tunneling to AgileViewerHost:5099 (IP=x.x.x.x) Connection state: ERROR"

- Check to see if the Agile Viewer hostname specified during the installation is correct and the port number is available. The information on the Agile Viewer hostname and port number is specified in the web.xml file.
- Make sure the Agile Viewer-specific ports are open from DMZ firewall to the internal firewall.

Log Files (Disk Space)

There are two log files for the Agile Web client:

- OASproxy log

- Web client log

If all log files are on, disk space can fill quickly. You may need to clean up the log files or turn logging off.

For the OASproxy.log file:

1. Locate the key, **HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\IIS Proxy Adapter**, in the Windows Registry Editor.
2. Add the **log-level** entry value in the right pane as debug.

For the Agile Web client log file:

1. Open the \AGILE_HOME\agileDomain\config\log.xml file.
2. Change the <priority value="debug"/> line to <priority value="error"/>.
3. Delete all files with a LOG extension appearing in the \AGILE_HOME\agileDomain\config folder.

Connection Refused or Server is Busy Error Message

TCP connections can be buffered in a wait queue, which has a default value of 50. To increase this value, open \AGILE_HOME\agileDomain\config\config.xml and increase the wait queue attribute value by 25 percent until the messages no longer appear.

Changing Logging Priority

You can change the behavior of the information added to the log file for the Agile Web client.

1. Using a text editor, open the log.xml file (by default, it is located in the \AGILE_HOME\agileDomain\config folder).
2. Scroll to the bottom of the file and add the following lines before the **</configuration>** line:

```
<category name="com.agile">
  <priority value="error" />
  <appender-ref ref="A1" />
</category>
```

3. Save and close the file.
4. Open a browser and type the following in the **Address** field:

   http://hostname:port/virtual_path/PLMServlet?changeLog=true

Chapter 7

Configuring the File Manager

This chapter includes the following:

- About the File Manager 39
- Deployment Configurations 39
- Configuring the File Manager Settings 40
- Reconfiguring File Manager and WebDAV after Setting up a Web Proxy Server 41
- Starting the File Manager 43
- Stopping the File Manager 43
- Validating the File Manager Installation 44

About the File Manager

The File Manager manages files in a repository or vault in the file system. A File Manager provides a place to store and retrieve files locally or remotely. The File Manager can be installed on the same machine as the Agile Application Server or on a separate machine. The File Manager can also be distributed across geographic regions.

Multiple File Managers can be deployed in a distributed configuration with or without a reverse-proxy web server. A distributed File Manager configuration allows you to install additional file managers at remote locations so that remote sites can store and retrieve files locally, while still making the files available to the Agile PLM system.

The usage model for a distributed File Manager configuration is as follows:

- The File Manager located nearest to the application server should be designated the primary File Manager.
- Users upload and download files from their preferred File Manager.
- File replication between File Managers is on-demand. When a remote user requests a file that does not exist on their preferred File Manager, the system copies the file to the remote user's preferred File Manager.
- Checking out and checking in files is the same as adding and getting files.
- Deleting a file only removes references to the file. Use the vault utility to clean up additional files on non-primary File Managers.

Deployment Configurations

You can deploy the File Manager in either a standalone or cluster configuration of Agile PLM. In a standalone configuration, the web server forwards calls to the Application Server as well as the File Manager. If you plan to install the Application Server and File Manager on the same machine (co-deployed), choose both components during the Agile PLM installation.

You can also choose to deploy the File Manager and Application Server on separate machines, but this configuration requires more hardware. If you choose to install this type of setup, the Application

Server and File Manager should be installed separately before configuring and validating.

Configuring the File Manager Settings

After installing the File Manager and setting up a load balancer or reverse-proxy server for it, you must configure the File Manager settings in the Java Client.

Note	Before configuring the File Manager, make sure you set up a load balancer or reverse-proxy server.

To configure File Manager settings:

1. Start the Agile Application Server with the following command:

   oracle_home\opmn\bin\opmnctl startall

2. Start the Agile Java Client, as described in Installing the Agile Java Client "Installing the Agile Java Client" on page 49.
3. Log in as an Agile Administrator user.
4. Click the **Admin** tab.
5. Choose **Server Settings > Locations**. The Server Location window appears.
6. Click the **File Manager** tab to bring it forward.
7. Double-click the entry to display the File Manager dialog box.
8. Click the **Advanced** button and check the Viewer Content URL.
9. Enter the value of the File Manager URL.

   The **File Manager URL** is the URL the Agile Web Client connects to. The format is:

   http://<proxy_or_loadbalancer>:<port>/<fileserver_virtual_path>/AttachmentServlet

10. Click the Standard Vault Type to display the drop-down list.

    You can choose to have a **Standard** or **Custom** vault. A standard vault is the default vault type that contains the new files and redlines, while a custom vault allows you to attach a disk of data to Agile PLM as-is, without reorganizing the files. A custom vault is always set up as read-only.

    You can attach an arbitrary file structure to the File Manager without the files being uploaded. Refer to the *Agile PLM Import and Export Guide* for more information on how to configure FileLoad for custom vaults.

11. Enter a description of the vault in the **Description** field.
12. Verify that the primary location where the files are stored in the **Base Storage Directory** field is the same location you entered during installation. The default location is \files. The location can be a shared network storage directory, such as a Storage Area Network (SAN).

Important	Do not specify a mapped drive that may not be mapped automatically after a reboot. Instead, specify a local drive or UNC name, including directory path, like this:
Important	\\fileserver\filevault

13. Enter a location where the purged (deleted) files are automatically moved to in the **Purge Directory** field. The default location is \<*AgileFileVault location*>\purge. The location can be a

shared network storage directory, such as a SAN.

Important Do not specify a mapped location. Instead, specify a local drive or UNC name including directory path, like this:

Important \\fileserver\filevault\purge

14. Set the vault as Read-Write or Read-Only from the Category drop-down list. Each File Manager can have only one Read-Write vault.

    If you have multiple vaults, then the additional vaults should be defined as Read-Only.

15. Click the plus-sign to add additional vaults.
16. Click **OK** when done.
17. Start the File Manager, as described in Starting the File Manager "Starting the File Manager" on page 43.

There are additional configuration settings used to fully configure File Manager through the Java Client. These settings are:

- Filename Prefix (Preferences)
- Checksum computation (Preferences)
- DFM Optimized Replications (Preferences)

For more information on these additional settings, see the *Agile PLM Administrator Guide*.

Reconfiguring File Manager and WebDAV after Setting up a Web Proxy Server

If you set up a Web proxy server for Agile File Manager that is different from the server or port you specified when you installed Agile PLM, you must make sure that File Manager and WebDAV point to the proxy server on the correct port. Otherwise, File Manager may not start successfully and Agile PLM clients will not be able to access file attachments.

For instructions on setting up a Web proxy server for File Manager, see "Configuring a Web Proxy Server for Agile PLM "Configuring a Web Proxy Server for Agile PLM" on page 31."

To configure File Manager and WebDAV after setting up a Web proxy server:

1. Configure File Manager locations in Java Client.
2. Stop the File Manager.
3. Backup the existing File Manager configuration:
   a. Change to the AGILE_HOME\apache-tomcat-6.0.18\webapps
   b. If the web directory exists, then perform the following

      ```
      cd ..
      mkdir webapps.old
      ```

      Windows:
      ```
      move webapps\webdav webapps.old
      move webapps\Filemgr webapps.old
      ```

      UNIX:
      ```
      mv webapps/webdav webapps.old
      ```

```
mv webapps/Filemgr webapps.old
```

4. Create a backup of the AGILE_HOME\agileDomain\applications\webfs.war and AGILE_HOME\agileDomain\applications\webdav.war files.
5. Create an empty temporary directory. Make sure there are no spaces in the path to the temporary directory.
6. Copy the webfs.war and webdav.war files to the temporary directory.
7. From a command line, change to the temporary directory and run the following commands:

   ```
   set PATH=\AGILE_HOME\jdk\bin;%PATH%
   ```

   ```
   jar -xvf webfs.war
   ```
8. After the files are extracted, change to the WEB-INF\classes\com\agile\webfs\configuration directory.
9. Using a text editor, open the server.conf file for File Manager.
10. Find the file.server.url entry, and update it to reflect the proxy server hostname or alias and port number. After you modify the file.server.url.entry, it should look similar to this:

    file.server.url=http://webserver.company.com:80/Filemgr/services/FileServer

    Note The file.server.url entry must match the File Manager Internal Locator entry (defined in Java client: **Server Settings > Locations**) or the File Manager will not initialize successfully.
11. Save the server.conf file.
12. Delete the webfs.war file from the temporary directory.
13. From a command line, run the following command to create the webfs.war file:

    ```
    jar -cvf webfs.war *
    ```
14. Copy the newly created webfs.war file to the \AGILE_HOME\agileDomain\applications directory.
15. Perform steps 4-14 on the \AGILE_HOME\apache-tomcat-6.0.18\lib\agile-sso.jar file. Make sure you create a backup of the agile-sso.jar file.
16. From the same command window, run the following command:

    ```
    jar -xvf webdav.war
    ```
17. After the files are extracted, change to the WEB-INF\classes directory.
18. Using a text editor, open the settings.conf file.
19. Locate the file.server.url entry and update it to reflect the proxy server hostname or alias and port number. After you modify the file.server.url entry, it should look similar to the following:

    file.server.url=http://webserver.company.com:80/Filemgr/services/FileServer

    Note The file.server.url entry must match the File Manager Internal Locator entry (defined in Java client: **Server Settings > Locations**) or the File Manager will not initialize successfully.
20. Save the settings.conf file.
21. Delete the webdav.war file from the temporary directory.

22. From a command line, run the following command to create the webdav.war file:

    ```
    jar -cvf webdav.war *
    ```

23. Copy the newly created webdav.war file to the \AGILE_HOME\agileDomain\applications directory.
24. Copy the newly created agile-sso.jar file to the \AGILE_HOME\apache-tomcat-6.0.18\lib directory.
25. Restart the File Manager (Tomcat).

Starting the File Manager

After you have configured the File Manager, you can start the server.

To start the File Manager on Windows:

1. Choose Start > Administrator Tools > Services.
2. Start the Apache Tomcat AgileFM service.

   You can check for errors in the stdout and stderr logs in the AGILE_HOME\apache-tomcat-6.0.18\logs directory.

To start the File Manager on UNIX:

1. Open a terminal window.
2. Change to the AGILE_HOME/apache-tomcat-6.0.18/bin directory.
3. Start the File Manager:

   ```
   > ./startup.sh
   ```

Stopping the File Manager

To stop the File Manager on Windows:

1. Choose **Start > Administrator Tools > Services.**
2. Stop the Apache Tomcat AgileFM service.

You can check for errors in the stdout and stderr logs in the AGILE_HOME\apache-tomcat-6.0.18\logs directory.

To stop the File Manager on UNIX:

1. Open a terminal window.
2. Change to the AGILE_HOME/apache-tomcat-6.0.18/bin directory.
3. Stop the File Manager:

   ```
   ./shutdown.sh -force
   ```

Validating the File Manager Installation

To verify that the File Manager installed successfully, check the following URL:

`http://<fileserver home>:<port>/<fileserver virtual path>/Configuration`

For example, you might type the following URL:

http://filevault.mycompany.com:8080/Filemgr/Configuration

If you are using a Web proxy server for File Manager, the URL might look like this:

http://webproxy.mycompany.com:80/Filemgr/Configuration

After a moment, the File Manager Configuration page should display. This page tests the File Manager and Application Sever connections. If Success is listed in the Status column for all connections, your installation was successful.

Chapter 8

Configuring Agile Recipe and Material Workspace

This chapter includes the following:

- About Recipe and Material Workspace 45
- Setting up Recipe and Material Workspace 45
- Deploying Recipe and Material Workspace 45
- Undeploying Recipe and Material Workspace 47
- Troubleshooting Recipe and Material Workspace 47

About Recipe and Material Workspace

Recipe and Material Workspace helps to scale up the material production in an orderly and reproducible manner. It comprises elements that are people, material, equipment, processes, standards, and environment. Elements in Recipe and Material Workspace are also referenced as business objects.

Recipe and Material Workspace consists of six components:

- People
- Material
- Equipment
- Process
- Standards
- Environment

Setting up Recipe and Material Workspace

For information on configuring Recipe and Material Workspace, see the *Agile Recipe and Material Workspace Administrator Guide*.

Note	If you did not install Agile PLM and the Recipe and Material Workspace at the same time, you should update the AGILE_PASSWORD variable in the integration.properties file, located in AGILE_HOME\AgilePharma\config\agile. Use the encryptpwd utility, located in AGILE_HOME\AgilePharma\bin, to encrypt the password.

Deploying Recipe and Material Workspace

Before installing Recipe and Material Workspace, make sure the home_Pharma instance has been created. See Setting up Recipe and Material Workspace on page 45 for instructions. Also, make

sure the necessary prerequisites have been set up in the Agile database. See the *Agile PLM Database Installation Guide* for information.

To deploy Recipe and Material Workspace:

1. Restart the Oracle Application Server instance:

   oracle_home\opmn\bin\opmnctl stopall

   oracle_home\opmn\bin\opmnctl startall

   oracle_home\opmn\bin opmnctl status

   All of the OC4JGroup and HTTP Server components should be alive.

2. Run the configuration script to configure the Recipe and Material Workspace application-related JMS settings:

   Windows: AGILE_HOME\agilePharma\bin\ConfigureJMS.cmd <OC4Jadmin Password of home_Pharma>

   UNIX: AGILE_HOME/agilePharma/bin/configureJMS.sh <OC4Jadmin Password of home_Pharma>

3. After JMS configuration, deploy Agile Recipe and Material Workspace on the application server:

   Windows: AGILE_HOME\AgilePharma\bin\DeployAgilePharma.cmd <OC4Jadmin Password of home_Pharma>

   UNIX: AGILE_HOME/AgilePharma/bin/DeployAgilePharma.sh <OC4Jadmin Password of home_Pharma>

4. If Agile PLM and Recipe and Material Workspace were installed separately, perform the following additional steps on the Agile PLM application server:
   a. Launch a command prompt.
   b. Change to the agile_home\Install\bin directory and run **ExtractConfigFiles** to extract configuration files from the application.ear file.
   c. Open the agile.properties file, located in the oracle_home\j2ee\home\applications\Agile\APP-INF\classes directory.
   d. Scroll to the Agile Pharma Integration section and modify the following properties:

      ```
      # Change this value to true if Pharma is installed.
      agilepharma.install = true
      # Specify the Host Name of the Pharma Server.
      agilepharma.hostname = <pharma_hostname>
      # Specify the Port Number of the Pharma Server.
      agilepharma.portnumber = <pharma_port>
      ```

   e. Save the file.
   f. From the command prompt, run **RepackConfigFiles** to repack agile.properties into the application.ear file.
   g. Change to the agile_home\agileDomain\bin directory.
   h. Run the **UnDeployAgilePLM** and **DeployAgilePLM** scripts.

Undeploying Recipe and Material Workspace

To undeploy Recipe and Material Workspace on Windows:

1. Make sure Oracle Application Server is running.

   To check OAS status, open a command prompt window, change to the oracle_home\opmn\bin directory, and run **opmnctl status**. If OAS is not running, run **opmnctl startall**.

2. From a command prompt window, change to the AGILE_HOME\AgilePharma\bin directory.
3. Run **UnDeployAgilePharma** <*OC4JAdmin Password of home_Pharma*> to undeploy the Agile Recipe and Material Workspace application.
4. Run **cleanupJMS** <*OC4JAdmin Password of home_Pharma*> to remove all Recipe and Material Workspace-related JMS settings.

To undeploy Recipe and Material Workspace on UNIX:

1. Make sure Oracle Application Server is running.

   To check OAS status, open a terminal window, change to the oracle_home/opmn/bin directory, and run **opmnctl status**. If OAS is not running, run **opmnctl startall**.

2. From a terminal window, change to the AGILE_HOME/AgilePharma/bin directory.
3. Run **UnDeployAgilePharma.sh** <*OC4JAdmin Password of home_Pharma*> to undeploy the Agile Recipe and Material Workspace application.
4. Run **cleanupJMS.sh** <*OC4JAdmin Password of home_Pharma*> to remove all Recipe and Material Workspace-related JMS settings.

Troubleshooting Recipe and Material Workspace

If Agile PLM and Recipe and Material Workspace were installed using IP addresses, there may be an issue when toggling between the two applications. Be sure to check the following items to ensure proper operation:

- The host name or IP address in the Agile URL in the AGILE_HOME\AgilePharma\config\CFMConfig.xml file is the same as specified in the OAS_HOME\Apache\Apache\conf\httpd.conf file of the Agile PLM-deployed OAS.
- The host name or IP address in the RMW URL in the agile.properties file is the same as specified in the OAS_HOME\Apache\Apache\conf\httpd.conf file of the RMW-deployed OAS.

Chapter 9

Installing and Configuring Agile Java Client

This chapter includes the following:

- Agile Java Client Requirements 49
- Installing the Agile Java Client 49
- Reconfiguring Java Client JNLP Files 50
- Modifying the JNLP Files 50
- Configuring the JNLP MIME Type on UNIX 51

Agile Java Client Requirements

All users need to install JRE 6.0 http://java.sun.com/javase/downloads/index.jsp to use Agile Java Client.

The server-side deployment files for Agile Java Client are installed with the Agile Application Server.

Note	The Agile PLM administrator must send users the URL to connect to the Agile Java Client.

Installing the Agile Java Client

To use the Agile Java Client, you must have JRE 6.0 installed on your client computer. Agile Java Client uses Java Web Start technology to download the software and keep it updated.

To install the Agile Java Client:

1. Open your browser and type the following:

   http://<hostname>.<domain>:<port>/JavaClient/start.html

   For example, the URL might look something like this:

   http://plmserver.mycompany.com/JavaClient/start.html

2. Click **Launch**.

   Java Web Start proceeds to download Java Client files and install them on your computer. This may take a few minutes.

3. If a Security Warning dialog box appears, click **Start**.

4. If the Agile PLM 9.3.1 Desktop Integration dialog box appears, click **Yes** to integrate the Agile Java Client with your desktop.

   You are prompted to log in to the Agile server.

5. Enter your Agile PLM username and password, and then click **OK**.

   The main Agile Java Client window opens.

Reconfiguring Java Client JNLP Files

When you install the Agile Application Server, the following two JNLP files are configured for the Agile Java Client. These files are embedded with the application.ear file and deployed with the application:

- pcclient.jnlp
- ext.jnlp

A JNLP file is an XML document that describes a Java application to be launched by Java Web Start. Ordinarily, the JNLP files are configured correctly during installation of Agile PLM. However, if you have an application server cluster and are unable to start Java Client and download its classes, you may need to reconfigure the JNLP files to point to the right servers.

Modifying the JNLP Files

In the AGILE_HOME\install\bin directory, Agile provides two utilities for unpacking the JNLP files from the application.ear file and repacking them again after you have modified them, ExtractJNLPFiles and RepackJNLPFiles.

To extract and modify the Java Client JNLP files:

1. Stop the Web proxy server or load balancer.
2. Stop the Agile Application Server.
3. On each application server computer, open a command prompt window.
4. Run the **ExtractJNLPFiles** script to extract the JNLP files from the application.ear file.

   AGILE_HOME\install\bin\ExtractJNLPFiles
5. Open the pcclient.jnlp file in a text editor. The file is located in the AGILE_HOME\agileDomain\applications directory.
6. Find the following tags and edit the values listed below:

   jnlp:

   <jnlp spec="1.0+" codebase="http://<proxy/loadbalancer>.<domain>:<port>/JavaClient">

   serverURL:

   <argument>serverURL=*<protocol>://<appserver/loadbalancer>.<domain>:<port>/<appserver_virtual_path>*</argument>

   webserverName:

   <argument>webserverName=*<proxy/loadbalancer>.<domain>:<port>*</argument>

   where

   - *<protocol>* is the protocol used by the application server. Enter **ormi** for Oracle Application Server
   - *<proxy/loadbalancer>* is the Web proxy server hostname or the alias for the load balancer
   - *<domain>* is the fully qualified domain name
   - *<port>* is the Web proxy server port or virtual port for the load balancer

- <*appserver_virtual_path*> is the Agile Application Server virtual path you entered during installation.

7. Save the file.
8. Open the **ext.jnlp** file in a text editor. The file is located in an OAS subdirectory beneath the AGILE_HOME\agileDomain\applications directory.
9. Find the following tag and edit the values listed below:

   jnlp:

   <jnlp spec="1.0+" codebase="http://<proxy/loadbalancer>.<domain>:<port>/JavaClient">

   where

   - <*proxy/loadbalancer*> is the Web proxy server hostname or the alias for the load balancer
   - <*domain*> is the fully qualified domain name
   - <*port*> is the Web proxy server port or virtual port for the load balancer.

10. Save the file.
11. Run the **RepackJNLPFiles** script to replace the JNLP files into the application.ear file.

    \AGILE_HOME\install\bin\RepackJNLPFiles

12. Start the Agile Application Server.
13. Start the Web proxy server or load balancer.

Configuring the JNLP MIME Type on UNIX

To successfully download and install application using Java Web Start, you must configure the JNLP MIME type for your server.

Add the following line to the **mime.types** file in the /oracle_home/Apache/Apache/conf directory of each application server:

application/x-java-jnlp-file JNLP

Chapter 10

Uninstalling Agile PLM

This chapter includes the following:

- Uninstalling Agile PLM on Windows 53
- Uninstalling Agile PLM on UNIX 53

Uninstalling Agile PLM on Windows

To remove Agile PLM and RMW on Windows:

1. Stop the following services:
   - IIS Admin Service
   - World Wide Web Publishing Service
   - Apache Tomcat AgileFM

   Note If Recipe and Material Workspace (RMW) is also installed with the Agile PLM application server, you must undeploy RMW first. To undeploy the RMW application, see Undeploying Recipe and Material Workspace on page 47.

2. Undeploy the Agile PLM application from Oracle Application Server:
   a. If Oracle Application Server is running, open a command prompt window, change to the oracle_home\opmn\bin directory, and run **opmnctl stopall**.
   b. Change to the AGILE_HOME\agileDomain\bin directory.

      Note If you are undeploying the Agile application from a cluster, run the following commands on the primary server. The application is automatically undeployed from the secondary servers.

   c. Run **UnDeployAgilePLM** <*OC4JAdmin Password*> to undeploy the Agile application.
   d. Run **cleanupJMS** <*OC4JAdmin Password*> to remove all Agile-related JMS settings.
   e. Change to the oracle_home\opmn\bin directory, and run **opmnctl stopall** to stop the Oracle Application Server instance.
3. Choose **Start > All Programs > Agile > Agile PLM > Uninstall Agile PLM**.
4. Click **Uninstall** on the Uninstall Agile window.
5. Click **Done** when finished.
6. Restart the computer.

Uninstalling Agile PLM on UNIX

To remove Agile PLM on UNIX:

1. Make sure the PATH environment variable contains the path to the JDK folder in the AGILE_HOME directory.

Note If Recipe and Material Workspace (RMW) is also installed with the Agile PLM application server, you must undeploy RMW first. To undeploy the RMW application, see Undeploying Recipe and Material Workspace (Jump Template) on page 47.

2. Undeploy the Agile application from Oracle Application Server:
   a. Make sure Oracle Application Server is still running.

      To check OAS status, open a terminal window, change to the oracle_home/opmn/bin directory, and run **opmnctl status**. If OAS is not running, run **opmnctl startall**.
   b. From a terminal window, change to the AGILE_HOME/agileDomain/bin directory.

      Note If you are undeploying the Agile application from a cluster, run the following commands on the primary server. The application is automatically undeployed from the secondary servers.
   c. Run **UnDeployAgilePLM.sh** <*OC4JAdmin Password*> to undeploy the Agile application.
   d. Run **cleanupJMS.sh** <*OC4JAdmin Password*> to remove all Agile-related JMS settings.
   e. Change to the oracle_home/opmn/bin directory, and run **opmnctl stopall** to stop the Oracle Application Server instance.
3. Run AGILE_HOME/uninstall/**UninstallAgile_PLM** to start the Uninstaller.
4. Click **Uninstall** on the Uninstall Agile window.
5. Click **Done** when finished.

Appendix A

Troubleshooting

This Appendix includes the following:

- Installation and Configuration Scripts 55
- Application Scripts 55
- Installing Oracle Application Server on Windows 2008 56
- Installing Oracle Application Server on Enterprise Linux 57

Installation and Configuration Scripts

Several scripts are provided that can be used during installation and configuration of the Agile Application Server. The scripts are installed in the AGILE_HOME\install\bin directory:

Script	Description
Configure-CMS	Configures and repacks the CMS files in the Agile application.ear file.
ExtractArchive	Extracts all of the files in the Agile application.ear file.
ExtractConfigFiles	Extracts configuration files from the Agile application.ear file.
ExtractJavaClientFiles	Extracts all of the Java Client files from the Agile application.ear file.
ExtractJNLPFiles	Extracts JNLP files for Java Client from the Agile application.ear file.
ExtractWsdlFiles	
RenameWebCMS	
RepackArchive	Repacks all of the files into the Agile application.ear file.
RepackConfigFiles	Repacks configuration files into the Agile application.ear file.
RepackJavaClientFiles	Repacks all Java Client files into JavaClient.war, and then updates the JavaClient.war file contained in the Agile application.ear file.
RepackJNLPFiles	Repacks JNLP files for Java Client into the Agile application.ear file.
RepackWsdlFiles	

Application Scripts

Several scripts are provided for deploying and starting the Agile application. The scripts are installed in the AGILE_HOME\agileDomain\bin directory:

Script	Description
activateAdmin	Activates the OC4JAdmin user.
checkLDAPConfig	Tries to connect to the Directory Server and verify whether LDAP

	configuration is correct.
cleanupJMS	Removes the Agile application-related JMS settings.
configLDAP	
configureJMS	Configures the Agile application-related JMS settings.
DeployAgilePLM	Deploys the Agile application on Oracle Application Server.
encryptpwd	Encrypts a password for use in Agile property files.
joinCluster	Joins a secondary server to the Oracle Application Server cluster.
loadLDAPConfig	Loads LDAP configuration information into the Agile PLM database.
migrateUserstoDB	Migrates users from the Directory Server to the Agile PLM database. After you run this script, make sure to restart your application server.
multisite-data-migrate	
PEUpgrade	
PSUpgrade	
removeFromCluster	Removes a secondary server from the Oracle Application Server cluster.
setEnv	Sets common environment variables used to run other Agile scripts.
setEnvUpgrade	
UndeployAgilePLM	Undeploys the Agile application on Oracle Application Server.

Installing Oracle Application Server on Windows 2008

Additional steps are needed to install Oracle Application Server on Windows 2008.

To install Oracle Application Server on Windows 2008:

1. Open the file, oraparam.ini, from the <OAS1013110Installer>\Install directory.
2. Add the Windows version to the oraparam.ini file, as follows, to allow the installation to proceed:

   ```
   [Certified Versions]
   #You can customize error message shown for failure, provide value for CERTIFIED_VERSION_FAILURE_MESSAGE
   Windows=5.0,5.1,5.2,6.0Installing Oracle Application Server on Enterprise Linux
   ```

3. Complete the installation of Oracle Application Server 10.1.3.1.

If there are problems starting and stopping OPMN processes:

1. Check the opmn log file in the *OAS_HOME*\opmn\logs\default_group~home~default_group~1 directory.
2. Add the **Djava.net.preferIPv4Stack=true** parameter to the OC4J start and stop parameters to the opmn.xml file in the *OAS_HOME*\opmn\conf directory, as follows:

```
<process-type id="home" module-id="OC4J" status="enabled">
        <module-data>
         <category id="start-parameters">
          <data id="java-options" value="-Xrs -server -XX:MaxPermSize=128M -ms512M -mx1024M -
XX:AppendRatio=3 -Djava.security.policy=$ORACLE_HOME/j2ee/home/config/java2.policy -
Djava.awt.headless=true -Dhttp.webdir.enable=false -Djava.net.preferIPv4Stack=true"/>
         </category>
         <category id="stop-parameters">
          <data id="java-options" value="-
Djava.security.policy=$ORACLE_HOME/j2ee/home/config/java2.policy -Djava.awt.headless=true -
Dhttp.webdir.enable=false -Djava.net.preferIPv4Stack=true"/>
         </category>
        </module-data>
```

Installing Oracle Application Server on Enterprise Linux

Additional steps are needed to install Oracle Application Server on Oracle Enterprise Linux 4 or 5.1 and Red Hat Enterprise Linux 4 and 5.

To install Oracle Application Server on Enterprise Linux:

1. Open the file, oraparam.ini, from the <OAS1013110Installer>\Install directory.
2. Add `enterprise-5` to the Certified Versions section of the oraparam.ini file to allow the installation to proceed.
3. Complete the installation.

If problems occur while starting the HTTP server after installation, download and apply patch 6078836 from My Oracle Support https://support.oracle.com.

Appendix B

Configuring IIS 7 as a Web Proxy Server for Agile PLM Using ARR

This Appendix includes the following:

- Description 59
- Configuring IIS 7 59

Description

Internet Information Server (IIS) 7 comes with a proxy module called Application Request Routing (ARR). This component needs to be installed separately. This appendix describes how to configure IIS 7 with ARR 2.0 as a Web Proxy Server for Agile PLM 9.3.1.

Configuring IIS 7

To configure IIS 7 as a Web Proxy Server:

1. Download and install Application Request Routing from http://www.iis.net/download/ApplicationRequestRouting
   http://www.iis.net/download/ApplicationRequestRouting
2. Restart the World Wide Web Publishing service.
3. Launch the Internet Information Services Manager.
4. Select the server node in the Connections pane.
5. In the IIS section, double-click the **Application Request Routing Cache**.
6. Select **Server Proxy Settings** from the Action menu.
7. Check the **Enable proxy** checkbox.
8. On the Connections pane, select the **Default Web Site** node in the Sites folder.
9. In the IIS section, double-click **URL Rewrite**.
10. From the Actions pane, select **View Server Variables**.
11. Add the variable, `HTTP_ACCEPT_ENCODING`.
12. From Windows Explorer, open the *%SystemDrive%*\inetpub\wwwroot\web.config file.
13. Replace the contents of the web.config file with the following:

```
<?xml version="1.0" encoding="UTF-8"?>
<configuration>
   <system.webServer>
       <httpRedirect enabled="false" destination=""
exactDestination="false" childOnly="true"
```

```
httpResponseStatus="Permanent" />
       <rewrite>
           <rules>
               <clear />
               <rule name="Agile rewrite" enabled="true"
stopProcessing="true">
                   <match url="Agile(.*)" ignoreCase="false" />
                   <conditions logicalGrouping="MatchAll"
trackAllCaptures="false" />
                   <serverVariables>
                       <set name="HTTP_ACCEPT_ENCODING"
value="&amp;quot;&amp;quot;" />
                   </serverVariables>
                   <action type="Rewrite"
url="http://<AppServerHost:port>/Agile{R:1}" logRewrittenUrl="false"
/>
               </rule>
               <rule name="CoreService rewrite" enabled="true"
stopProcessing="true">
                   <match url="CoreService(.*)" ignoreCase="false" />
                   <conditions logicalGrouping="MatchAll"
trackAllCaptures="false" />
                   <serverVariables>
                       <set name="HTTP_ACCEPT_ENCODING"
value="&amp;quot;&amp;quot;" />
                   </serverVariables>
                   <action type="Rewrite"
url="http://<AppServerHost:port>/CoreService{R:1}"
logRewrittenUrl="false" />
               </rule>
               <rule name="Filemgr rewrite" enabled="true"
stopProcessing="true">
                   <match url="Filemgr(.*)" ignoreCase="false" />
                   <conditions logicalGrouping="MatchAll"
trackAllCaptures="false" />
                   <serverVariables>
                       <set name="HTTP_ACCEPT_ENCODING"
value="&amp;quot;&amp;quot;" />
                   </serverVariables>
                   <action type="Rewrite"
url="http://<FilemgrHost:port>/Filemgr{R:1}" logRewrittenUrl="false"
/>
               </rule>
           </rules>
           <outboundRules>
               <clear />
```

```
                <rule name="ReverseProxyOutboundFromAgile"
preCondition="ResponseIsHtml1">
                    <match filterByTags="A, Form, Img, Script"
pattern="^http(s)?://<AppServerHost:port>/(.*)" />
                    <conditions logicalGrouping="MatchAll"
trackAllCaptures="true" />
                    <action type="Rewrite"
value="http{R:1}://<IISWebProxyHost:port>/{R:2}" />
                </rule>
                <rule name="ReverseProxyOutboundFromFilemgr"
preCondition="ResponseIsHtml1">
                    <match filterByTags="A"
pattern="^http(s)?://<FilemgrHost:port>/(.*)" />
                    <action type="Rewrite"
value="http{R:1}://<IISWebProxyHost:port>/{R:2}" />
                </rule>
                <preConditions>
                    <preCondition name="ResponseIsHtml1">
                        <add input="{RESPONSE_CONTENT_TYPE}"
pattern="^text/html" />
                    </preCondition>
                </preConditions>
            </outboundRules>
        </rewrite>
        <httpErrors errorMode="Detailed" />
    </system.webServer>
</configuration>
```

14. Replace the tokens *<AppServerHost:port>*, *<FilemgrHost:port>*, and *<IISWebProxyHost:port>* with values specific to your system.
15. Restart the World Wide Web Publishing service.
16. In the Agile PLM Java Client, go to **Admin>Server Settings> Locations**.
17. In the General Information tab,replace the Web Server URL with http://<IISWebProxyHost:port>/Agile/PLMServlet.
18. Click the File Manager tab.
19. Edit the Filemgr instance that is to be routed over the proxy:
    a. Click **Advanced**.
    b. Replace the following URLs:

       File Manager URL - http://<IISWebProxyHost:port>/Filemgr/AttachmentServlet

       Viewer Server URL - http://<IISWebProxyHost:port>/Filemgr/services/FileServer

       Viewer Content URL - http://<IISWebProxyHost:port>/Filemgr/jVue

       The File Manager Internal Locator and Viewer Proxy URL should point to the Tomcat server/port.

IIS 7 is installed with Request Filtering default settings. By default, the value is set to 30000000 which restricts the size of attachment files that can be loaded to Agile to approximately 29MB. This value was increased to the absolute maximum limit of 4294967295 (approximately 4GB) in the web.config sample file.

Another Request Filtering parameter, Maximum query string, can limit the ability to process Agile PLM Web Client requests by restricting the length of query strings.

These parameters can be adjusted, if necessary, as follows:

20. Select **Default Web Site** in the Connections pane.
21. Open Request Filtering in the IIS section.
22. Click **Edit Feature Settings** in the Actions pane to display the Edit Request Filtering Settings dialog box.
23. Adjust the values in the **Maximum allowed content length (Bytes)** and **Maximum query string (Bytes)** fields.

Appendix C

File Vault Utilities

This Appendix includes the following:

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- Dead File Utility 64
- Fix Vault 65
- IFS Reorg 65
- MetaFiles Remover 66
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- Thumbnail Generator Utility 67
- Vault Simulator 67

Several utilities are available to use with the File Vault. These utilities are installed in the AGILE_HOME\agileDomain\tools directory.

Note Make sure the Purge task is disabled before executing any File Vault utility.

922 PPM Post Upgrade Utility

Agile Product Portfolio Management (PPM) gives you powerful capabilities to define, analyze, and manage all aspects of a project or program. In Agile PLM 9.2.2, some of the business rules were changed. If you are upgrading from a version of PPM prior to version 9.2.2, data migration is necessary in order for the existing data to comply with the new business rules.

The PPM Post Upgrade utility was developed to address these changes. The utility is installed after you have upgraded your system to Agile PLM 9.3.1.

To run the PPM Post Upgrade utility:

1. Unzip the utility files to a temporary directory.
2. Change to the directory where you have unzipped the files and locate the upgrade.properties file.
3. Edit the following entries in the upgrade.properties file to match your environment:

Server Settings	
server.url	URL of the Agile PLM 9.3.1 application The format is <protocol>://<machine_name>/<application_name>. On OAS, the protocol is ormi. On WebLogic, the protocol is t3.
server.login.id	Login ID of the Agile user who has PPM-related privileges to

	run the utility. This is typically the Admin user.
server.login.password	Password of the Agile user.
pe.weekend.days	Weekends configured in the server. This value should be the same as the setting in the agile.properties file.
Database Settings	
db.url	The JDBC driver URL of the database The format is jdbc.oracle:thin@<db_machine_name>:<port>:<instance_name>.
db.username	Agile database username
db.password	Agile database password
Application Server Settings	
agile.dir	The parent directory where the library files for the Agile application are located.
oc4j.dir	Location of the Oracle Application Server, if installed.
wls.dir	Location of the WebLogic Application Server, if installed.

4. Save the upgrade.properties file.
5. Verify that Agile PLM 9.3.1 is running.
6. On a command line, make sure that the JAVA_HOME environment variable points to the location of the JDK. If it does not, set the value to the correct location.
7. In the directory where you unzipped the utility files, run **install.cmd** to start the utility.

Important If you configured the PPM Post Upgrade Utility in Agile PLM 9.2.2 and are upgrading to Agile PLM 9.3.1 from version 9.2.2, run **install upgrade-actualtime.cmd**, NOT install.cmd to start the utility.

8. Restart the Agile application server.

Dead File Utility

The Dead File utility locates dead files in a file vault.

Usage: java -jar DeadFileUtility.jar -attachmentPrefix <*value*> **-vaultRoot** <*value*>*[* **-moveProblemFiles** <*Y/N*>*]* [**-archiveFileDest** <*value*>*][* **-db_url** <*value*>*]* [**-db_user** <*value*>*]* [**-db_password** <*value*>*]* **-file** <*value*> **VERBOSE** <*true/false*>

where:

- **attachmentPrefix** is the file prefix.
- **vaultRoot** is the absolute path of the vault root.

- **moveProblemFiles** allows you to decide if you want to move the dead files to another location.
- **archiveFileDest** is the fully qualified path to an existing location where the dead files should be moved.
- **db_url** is the URL of the database.
- **db_user** is the name of the database user.
- **db_password** is the password of the database user.
- **file** is the absolute path of the agile.properties file.

Fix Vault

The Fix Vault utility corrects the file sizes in the database.

The file size is determined based on the actual files in the vault and then corrects the size in the database. If the file size equals zero during an upgrade, the file size is returned to its original value after running this utility.

Usage: java -jar FixFileSizeUtility.jar -dburl <*value*> **-dbuserid** <*value*> **-dbpassword** <*value*> **-ifsuser** <*value*> **-ifspassword** <*value*> [-log]

where:

- **dburl** is the URL of the database
- **dbuserid** is the name of the database user
- **dbpassword** is the password of the database user
- **ifsuser** is the name of the file system user (default: ifsuser)
- **ifspassword** is the password of the file system user (default: agile).

IFS Reorg

IFS Reorg is used to restructure the file vault during an upgrade from a version prior to Agile PLM 9.2.1.

Usage: java -jar iFSReorgV2.jar -basedir <*value*> **-oldFilePrefix** <*value*> **[-newFilePrefix** <*value*>**] [-logging <true/false>] [-simulate <true/false>]**

where

- **basedir** is the file vault location to be reorganized
- **oldFilePrefix** is the old file name prefix for the existing files in the vault
- **newFilePrefix** is the new file name prefix. All of the existing files will be renamed with this prefix. This is an optional argument. If it is not specified, the old file name prefix is used.
- **logging** enables logging of warnings or errors if set to **true**. The log is saved to a file named ifsReorg.log.
- **simulate** simulates the reorganization process without actually moving or renaming the files.

MetaFiles Remover

Metafiles Remover is used to periodically remove metafiles from the file vault based on the last used date or size. This utility should be used when upgrading the Agile Viewer.

Note A user-created .cmf file should not be listed or removed from the file vault.

Usage: java -jar MetaFilesRemover.jar [-delete] [-age <*value*>**] [-size** <*value*>**] -basedir** <*value*> **-prefix** <*value*> **-serverURL** <*value*> **-username** <*value*> **-password** <*value*>

where

- **delete** deletes the metafiles.
- **age** specifies the last access time (day in numbers).
- **size** specifies file size (KB).
- **basedir** is the file vault location where the metafiles are removed.
- **prefix** is the file name prefix.
- **serverURL** is the location of the DMS service, for example, http://server.company.com:80/Agile/services/DmsService.
- **username** is the DMS service username (ifsuser).
- **password** is the DMS service password (ifspassword).

Missing Files Locator

Missing Files Locater is used to locate missing files, including redlined files, in a file vault, but not limited to a specific distributed file management server.

Usage: java -jar MissingFilesLocator.jar -dburl <*value*> **-dbuserid** <*value*> **-dbpassword** <*value*> **-ifsuser** <*value*> **-ifspassword** <*value*> **[-force]**

where

- **dburl** is the URL of the database.
- **dbuserid** is the name of the database user.
- **dbpassword** is the password of the database user.
- **ifsuser** is the name of the file vault user
- **ifspassword** is the password of the ifs user.
- **force** forces the utility to continue even if the file server is offline.

Second Signature

Agile provides optional data migration scripts that can be used by customers who choose to implement the Signoff User Dual Identification feature for approval signoffs. The Signoff User Dual

Identification feature was introduced to address FDA regulations laid out in 21 CFR Part 11 Section 11.200. The system now facilitates the usage of two forms of identification from the user when signing off on a document such as a change order.

For more information on these scripts, see the *Agile PLM Database Upgrade Guide*.

Thumbnail Generator Utility

Generates thumbnails in bulk for ITEM, MFRPART, and FILEFOLDERS (including Design) objects.

Usage: java -jar ThumbnailGeneratorUtility.jar -dburl <*value*> **-dbuserid** <*value*> **-dbpassword** <*value*> **-DMSURL** <*value*> **-DMSUSER** <*value*> **-DMSPASSWORD** <*value*> [**-ALL**] [**-ITEMs** <*values*>] [**-MFRPARTs** <*values*>][**-FILEFOLDERs** <*values*>] [**-log**] [**-createDate** <*value*>]

where

- dburl is the URL of the database.
- dbuserid is the name of the database user.
- dbpassword is the password of the database user.
- DMSURL is the location of the DMS service.
- DMSUSER is the DMS service username.
- DMSPASSWORD is the DMS service password.
- ALL generates thumbnails for all of the supported files.
- ITEMs generates thumbnails for a specified list of items. For multiple items, the values should be comma separated.
- MFRPARTs generates thumbnails for a list of MFR parts. For multiple parts, the values should be comma separated as MFRNAME:MFRPART.
- FILEFOLDERS generates thumbnails for a list of file folders. For multiple folders, the values should be comma separated.
- createDate is the date the file was created in the MM/DD/YYYY format.

Vault Simulator

Used to create a virtual vault from the Agile PLM database.

Usage: java -jar VaultSimulation.jar -VaultLoc <*value*> **-URL** <*value*> **-userid** <value> **-password** <*value*> **[-prefix** <*value*>**]**

where

- **VaultLoc** is the file vault location.
- **URL** is the database location.
- **userid** is the database userid.
- **password** is the database password.

- **prefix** is the file name prefix. The default is Agile.

Appendix D

Performance Tuning

This Appendix includes the following:

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- Tuning Oracle HTTP Server 70
- Tuning Memory for Java Applets 71
- Configuring HTTP Connections 72

Tuning JVM Parameters

Oracle Application Server Containers for J2EE (OC4J) is a Java process that requires a Java virtual machine (JVM) to run. You can fine-tune your system's JVM settings to improve memory management and garbage collection.

JVM settings for OC4J are contained in the oracle_home\opmn\conf\ompn.xml file. To find JVM settings, look for the following lines in that file:

```
<ias-component id="OC4J">
  <process-type id="home" module-id="OC4J" status="enabled">
    <module-data>
      <category id="start-parameters">
          <data id="java-options" value="<enter JVM settings here>"/>
```

Important If you modify the opmn.xml file, you must restart Oracle Application Server.

The following table provides recommended JVM settings for the Agile Application Server:

Parameter	Description	Windows	UNIX	Comments
Xms	Minimum Heap Size	1280m	2048m	The Minimum and Maximum Heap Sizes should be set to the same value. On Windows, the maximum value that can be safely set is 1536m. On UNIX, there is often a higher limit, but the typical recommendation is to have the heap sized at 2048m.
Xmx	Maximum Heap Size	1280m	2048m	
XX:MaxPermSize	Maximum space for permanent objects	256m	256m	
XX:NewSize	Initial memory size for new	256m	256m	

	objects			
XX:MaxNewSize	Maximum memory size for new objects	256m	256m	

Note The Agile PLM installer asks the user what value to use for maximum and minimum heap size:

Note **-Xms2048m -Xmx2048m -XX:MaxPermSize=256m -XX:NewSize=256m -XX:MaxNewSize=256m**

For more information about how to tune JVM settings for OC4J, see the Oracle Application Server Performance Guide. Also see "Performance Documentation for the Java Hotspot VM" available at the Sun Developer Network: http://java.sun.com/docs/hotspot/index.html
http://java.sun.com/docs/hotspot/index.html

Tuning Oracle HTTP Server

This section describes how to tune Oracle HTTP Server to improve the performance of Agile PLM. The main configuration file for Oracle HTTP Server is httpd.conf. It is located in the oracle_home\Apache\Apache\conf directory.

You can use any text editor to open and edit the httpd.conf file.

In the httpd.conf file, search for the **ThreadsPerChild** and **MaxClients** parameters. The Oracle HTTP Server MaxClients directive limits the number of clients that can simultaneously connect to your web server, thus the number of httpd processes. On Windows, the analogous parameter is ThreadsPerChild.

The recommended settings are shown below:

```
# Number of concurrent threads (i.e., requests) the server will allow.
# Set this value according to the responsiveness of the server (more
# requests active at once means they're all handled more slowly) and
# the amount of system resources you'll allow the server to consume.
#
ThreadsPerChild 25 (for every 2 CPUs on the Application Server -
Windows only)
#
# Limit on total number of servers running, i.3., limit on the number
# of clients who can simultaneously connect --- if this limit is ever
# reached, clients will be LOCKED OUT, so it should NOT BE SET TOO LOW.
# It is intended mainly as a brake to keep a runaway server from taking
# the system with it as it spirals down...
#
MaxClients 250 (for every 2 CPUs on the Application Server - UNIX only)
```

Important If you modify the httpd.conf file, you must restart Oracle Application Server.

Tuning Memory for Java Applets

The Agile Web Client uses Java applets for advanced functionality. Examples include the Gantt Chart and Agile Viewer. These applets use the Java Plug-in to run inside your browser.

The amount of memory an applet requires depends on the content it attempts to load. If you experience memory problems while running the Gantt Chart, the Agile Viewer, or other Java applets, you should increase the amount of memory available to Java applets. To configure Java applet runtime parameters, use the Java Control Panel.

To adjust Java applet runtime parameters on Windows:

1. From the Windows Control Panel, run **Java** to open the Java Control Panel.
2. Click the **Java** tab.
3. In the **Java Applet Runtime Settings** box, click **View**. The Java Runtime Settings dialog box appears.
4. In the **Java Runtime Parameters** box, add the following:

   -Xmx<memory-limit>

   For example, to set maximum available memory to 256MB, enter -Xmx256M.
5. Click **OK** to close the Java Runtime Settings dialog box.
6. Click **OK** to close the Java Control Panel.
7. Restart the browser.

To adjust Java applet runtime parameters on UNIX:

1. Determine which version of the Java Plug-in the browser is using.
2. Run the script <java-dir>/jre/bin/ControlPanel to open the Java Control Panel.
3. Click the **Java** tab.
4. In the **Java Applet Runtime Settings** box, click **View**. The Java Runtime Settings dialog box appears.
5. In the **Java Runtime Parameters** box, add the following:

   -Xmx<memory-limit>

   For example, to set maximum available memory to 256MB, enter -Xmx256M.
6. Click **OK** to close the Java Runtime Settings dialog box.
7. Click **OK** to close the Java Control Panel.
8. Restart the browser.

To adjust Java applet runtime parameters on Mac OS X:

1. Determine which version of the Java Plug-in the browser is using.
2. In Finder, run the **Applications > Utilities > Java > Java <java-version> > Plugin Settings** command.
3. In the **Java Runtime Parameters** box, add the following:

   -Xmx<memory-limit>

For example, to set maximum available memory to 256MB, enter -Xmx256M.

4. Click **Apply**.
5. Close the control panel, and restart the browser.

For more information about the Java Control Panel and how to configure Java runtime settings on your client computer, go to http://java.sun.com http://java.sun.com and search for "Java Control Panel".

Configuring HTTP Connections

If there is a high number of user connections to the application server, HTTP 500 errors may be displayed on client browsers when trying to access the Agile PLM 9.3.1 system. To avoid these errors, add the following parameter to the OraHome\j2ee\home\conf\server.xml file within the <application-server> tag:

```
<max-http-connections max-connections-queue-timeout="300" socket-
backlog="50" value="1000"/>
```

Restart the application server after adding this parameter.

Appendix E

Upgrading from Agile Advantage 2006

This Appendix includes the following:

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- Post-Upgrade Considerations 74

You can upgrade an Agile Advantage 2006 file vault to Agile PLM 9.3.1 with the Upgrade File Vault Utility.

Upgrade File Vault Utility for Agile Advantage

When upgrading from Agile Advantage 2006, the file vault structure must be reorganized. An Upgrade File Vault utility is provided for this purpose and can be found in the AGILE_HOME\AgileDomain\tools\ directory.

To upgrade the Agile Advantage file vault:

1. Unzip the UpgradeFVUtils.zip file to a temporary directory.
2. Backup the existing Agile Advantage file vault to a safe location.
3. Modify the following options and parameters in the config.properties file, located in the <UpgradeFVUtils_Home>\config directory:

`SourceStoreDir`	Agile Advantage 2006 file vault store directory The value of SourceStoreDir is located in the Agile Advantage 2006 registry key [HKEY_LOCAL_MACHINE\SOFTWARE\Agile Advantabe\AgileiFS\StorDirs].
`DestStoreDir`	Agile PLM 9.3.1 file vault base directory
`FilePrefix`	File prefixes of the Agile Advantage and Agile PLM files. The format is FilePrefix=AAschema1,931fileprefix1; AAschema2,931fileprefix2 You can use this option to upgrade multiple file vaults. All existing files will be renamed using the 9.3.1 file name prefix. If the 9.3.1 file name prefix is omitted, the default value is the same as the Agile Advantage file prefix.

4. Run the UpgradeFVUtils command.

   Windows: `UpgradeFVUtils.cmd` **UNIX:** `UpgradeFVUtils.sh`

   Parameters:

`-help`	Displays the readme file.
`-upgrade [-configfile]`	Upgrades the file vault with the named configuration file.

	If no configuration file is specified, the config.properties file located in the config directory is used. To specify a different configuration file, use the -configfile option. The option and path of the file must be enclosed in quotation marks; for example, "-configfile=c:\myconfig.properties"
`-rename` <*old file name prefix*> <*new file name prefix*>	Only used to rename the file name prefix in the Agile PLM 9.3.1 file vault located in the DestStoreDir defined directory.

5. View the fvu.log file, located in the UpgradeFVUtils directory, for detailed information and error messages. The log file is overwritten each time the utility is run.

Post-Upgrade Considerations

When upgrading from Agile Advantage 2006 to Agile PLM 9.3.1, existing objects must change to reflect the new structure. The following sections discuss how some existing Agile Advantage objects will appear in Agile PLM 9.3.1.

Supplier Objects

Supplier objects on Agile Advantage are migrated to Agile PLM 9.3.1 with the following changes:

1. Suppliers are migrated as non-Web suppliers.

   Geography details are not migrated because of how the data is stored in the Agile PLM 9.3.1 database. In Agile Advantage, this attribute points to a single geographic location. In Agile PLM 9.3.1, geographic details are obtained from a cascading list containing Continent, Country, State, and Region information.

2. Contact users on the Users tab of Agile Advantage are not migrated as contact users of Agile PLM 9.3.1.

   Users are migrated as normal users without any association to a specific supplier. The migrated users are disabled and have no assigned roles and privileges. You must enable the users and associate them to a supplier. In Agile Advantage, the same user can be added to multiple suppliers. In Agile PLM 9.3.1, a user can be added to only one supplier.

3. The Manufacturer Parts tab in a Supplier object is not supported in Agile PLM 9.3.1.

   In Agile PLM 9.3.1, there is a Manufacturers tab in Supplier. This tab displays the manufacturer line cards for each manufacturer part in Agile Advantage. The price information that was available in the Manufacturer Parts of a Supplier is migrated to Quote History objects with the material and non-material costs migrated as Page Two fields of the Quote History object. The prices are visible in the Prices tab of the Manufacturer Part object. The Manufacturer Parts from the Supplier object are migrated to the Suppliers tab in the Manufacturer Part object.

Manufacturer Part Objects

The Manufacturer Part object is migrated with the following changes:

1. The status of a supplier on the Supplier tab in Agile Advantage is not migrated to the Supplier tab of the Manufacturer Part in Agile PLM 9.3.1.

The pricing details on the Supplier tab are moved to Prices in Agile PLM 9.3.1 as Quote History objects.

2. The standard cost and the target cost on the Cover Page of a Manufacturer Part object in Agile Advantage are moved to Page Two of a Supplier object in Agile PLM 9.3.1.

   Other price-related information, like Min Qty and Max Qty, are moved to the Cover Page tab of a Quote History object.

Item Objects

Price information is revisable in Agile Advantage, but not in Agile PLM 9.3.1. This information is moved to Page Two of the Item object.

Agile PLM 9.3.1 does not support the summation functionality like Agile Advantage. Instead, you can run the Assembly Cost Report as part of Product Collaboration's report. If there is a missing price, Agile Advantage displayed the price with an asterisk (*), while the Assembly Cost Report in Agile PLM 9.3.1 displays the price as 0.

Unlike Agile Advantage, there is no feature available out-of-box to set the target cost based on the Supplier. You can manually set the costs in the Page Two fields of Items and Manufacturer Parts or this can be automated through a Process Extension.

Compliance

In Agile Advantage, the compliance information on Manufacturer Part, Item, and Document objects is stored in 14 separate lists with the list label detailing the type of compliance this particular object meets. In Agile PLM 9.3.1, compliance information is a combination of Specification object and compliance status. During migration, the 14 lists on each object specified are moved as a Specification object with the specification name as the label of the enabled compliance list.

The migrated specification of Item and Document objects have a prefix of Item_ and Doc_ to differentiate between the specifications migrated from each object. The flex field information is moved to the Compliance tab, along with the status of each specification.

Unlike Agile Advantage, Agile PLM 9.3.1 does not support the Audit Report functionality for calculating compliance. Instead, customers can use the BOM Compliance Report which displays similar compliance information. Likewise, Agile PLM 9.3.1 does not support calculating compliance of an ECO or generating an audit report of an ECO in the out-of-box product. You could view the compliance of the parts in the ECO manually or this could be automated through a Process Extension.