PTC Windchill 9 AIX installation guide

Including step-by-step instructions with WebSphere Application Server and updating to the Windchill M010 maintenance level

.

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Abstract

This guide provides step-by-step installation and configuration instructions for PTC Windchill 9 on IBM System p (IBM Power systems) IBM AIX servers. Without too much day-to-day knowledge of AIX, Windchill, Oracle and IBM WebSphere, PTC and IBM Windchill engineers should be able to follow the steps provided here to install a completely functional Windchill 9.0 system (with WebSphere Application Server and IBM HTTP server as Windchill Web front end).

Introduction

This guide is intended as a mechanism to educate IBM® and PTC Windchill engineers on the installation and configuration of Windchill 9. Although there are many pages in this guide, the underlying installation and configuration steps are simple and easy to follow. This guide supplements (not replaces) PTC Windchill installation documentation that is found at www.ptc.com. This guide also documents the installation of the Windchill M010 maintenance level for Windchill 9.0.

(Note: This guide is a revision to a similar one that was published in 2007.)

Windchill 9 installation environment

Windchill 9.0 ProjectLink and PDMLink products are successfully installed and verified in the following environments:

- IBM POWER6™ System p570 Model 9117-MMA
- IBM POWER5™ System p285 Model 9111-285
- IBM AIX® V5.3 TL6SP3, AIX V6.1
- Oracle 10.2.0.1
- IBM WebSphere® Application Server 6.1
- PTC Windchill 9.0 with M010

Assumptions

This document assumes that the Mozilla Firefox (/usr/bin/mozilla) browser is installed on the target AIX installation server. It also assumes that the installation server is on a network and is able to access a name server. Ports 80 and 8008 should not be in use. All installation procedures are performed on a single machine. The procedures can be adapted for installation on multiple servers (for example, Oracle and Lightweight Directory Access Protocol [LDAP] installed on other servers).

Installation overview

You need to perform six major tasks to install a completely functional Windchill 9 system, including the M010 maintenance updates. It is important to perform the tasks sequentially. This section gives you an overview of the tasks involved. Then, the next couple of sections show the detailed installation steps for each task.

Note: This guide uses an arbitrarily selected directory name, user IDs, passwords and instance ID, as well as other information that serves as an example for these descriptive installation procedures. Select your own names as inputs, if you follow this document to perform a test install.

Task 1: Installing images and preparing for installation

You need to obtain the following PTC Windchill installation images: Windchill 9.0 Windchill Services, PDMLink, ProjectLink, third-party software, Java™ Development Kit (JDK) software (from PTC), Windchill Infoengine, Aphelion, PTC Solution Installer, product-view client, workgroup manager and Oracle Database 10.2.0.1, WebSphere Application Server 6.1, IBM HTTP Server 6.1 and WebSphere Application Server Plug-in 6.1. You also need to create AIX user, group and file systems for the target installation. Additionally, you need to obtain the Windchill M010 maintenance files from PTC.

Task 2: Installing Oracle 10.2

You install Oracle 10.2 Database software first. You will also need to install the Oracle Administration client to provide the GUI tools that let you perform the maintenance tasks.

Task 3: Installing WebSphere 6.1

You need to install WebSphere Application Server 6.1, IBM HTTP Server 6.1 and WebSphere Application Plug-in 6.1. You will create sample WebSphere Application Server applications to use for verifying proper interaction between WebSphere Application Server and IBM HTTP Server with the plug-in.

Task 4: Installing Windchill 9

This is the main part of the Windchill installation. During the installation, you do not load Windchill data objects. During this phase of the installation, you initialize the Oracle and lightweight directory-access protocol (LDAP) data objects.

Task 5: Configuring WebSphere for Windchill

At this point, you perform the central part of the WebSphere and Windchill configurations. You load the Windchill data object after doing all the configuration steps.

Task 6: Updating Windchill to M010

Here, you perform the steps that are necessary to update the Windchill 9.0 level with M010 maintenance.

Task 1: Setting up for installation

All installation takes place on a single AIX machine. Copy all the installation images for Windchill 9, Oracle 10.2 and WebSphere 6.1 onto the targeted installation system (which has the following WebServer DNS registered host name: gammah.austin.ibm.com).

1. Make sure the network-name server (DNS) is up and running. Also, on the targeted installation server, /tmp needs to have at least 500 MB of space available.

2. Create and mount the /usr/IBM file system with 10 GB of available space. (This space is used as the WebSphere and HTTP Server installation target directory.)

3. Create and mount the /home/oracle file system with 20 GB of available space. (This space is used as the Oracle installation target directory.)

4. Create and mount the /home/wind file system with 10 GB of available space. (This space is used as the Windchill installation target directory.)

5. Create and mount the /opt/ptc/Installers with 10 GB of available space.

6. Create and mount /ssave with 6 GB of free space. This file system stores various TAR files to allow for faster roll back in case of problems.

7. Create the AIX group ID *dba* and user ID *oracle*, and create the AIX group ID *wind* and user ID *wind*. Then, add the Oracle user ID to the wind group.

8. Use the following commands to export the environment variables for the O**racle** user *.profile*:
   i. export JAVA_HOME=/usr/java5
   ii. export ORACLE_HOME=/home/oracle/ora10
   iii. export ORACLE_SID=wind
   iv. export ORACLE_BASE=/home/oracle/
   v. export PATH=$JAVA_HOME/bin:$ORACLE_HOME/bin:$PATH

9. Use the following commands to export the environment variables for the **root** and **wind** user:
   i. export JAVA_HOME=/usr/java5
   ii. export WAS_HOME=/usr/IBM/WebSphere/AppServer
   iii. export WT_HOME=/home/wind/WC9/Windchill
   iv. export PATH=$JAVA_HOME/bin:$PATH

10. If other Windchill components are installed on the target machine, remove or relocate the following Aphelion (LDAP) links:
    i. /opt/mailhub
    ii. /opt/syntegra
    iii. /opt/lde

11. As root, create the Windchill and Oracle install directories by using the following AIX mkdir commands:
    i. mkdir /home/wind/WC9
    ii. mkdir /home/oracle/WC9

12. Change ownership of the following file systems:
    i. chown –R wind.wind /home/wind
    ii. chown –R oracle.dba /home/oracle

13. If any Windchill, Oracle and WebSphere instances already run on the target install server, shut them down. If WebSphere 6.1 is already installed, uninstall it.

14. If any of the following Oracle files are present, remove them by using the AIX rm command:
    rm /etc/oraInst.loc /etc/oratab
    rm -rf /tmp/.oracle
    rm –rf /tmp/oracle
    rm –rf /tmp/OraInstall*

Task 2: Installing Oracle 10.2

After performing all the task 1 steps, you are now ready to start the Oracle installation.

1. If the target installation machine is running any other Oracle instances, shut them (and any related Oracle listeners) down.

2. Follow the steps in the *Oracle Database 10g Release 2 (10.2.0.1.0) Installation Guide for PDM Applications* document to install Oracle Database using the 20 GB /home/oracle file system that you created in task 1.

Note: If the installer fails to start because of prerequisite checking, use the runInstaller -ignoreSysPrereqs command on AIX 6.1. During installation of either the server or administrator client software, if you receive a warning about the failure of product-specific requisites, click **Yes** to proceed with the installation.

Task 3: Installing WebSphere 6.1

Here, you install three WebSphere Application Server components by following the steps in the *WebSphere Application Server V6.1 Install Guide for PDM Applications* document, with the following small modifications:

1. When installing the IBM HTTP Server for use with Windchill, grant the *wind* user administrator privilege to the administrator server, as shown in Figure 1.
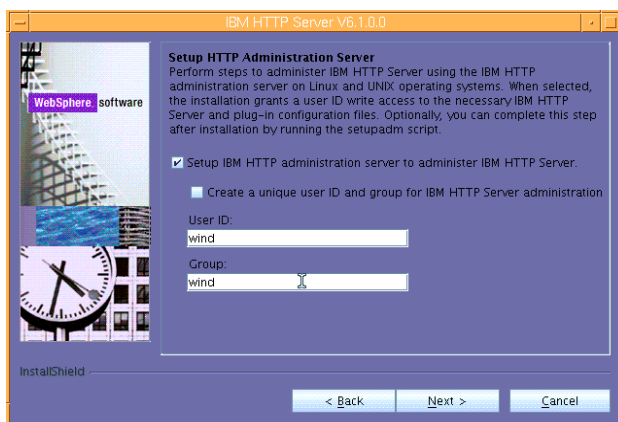

Figure 1. Task 3 i

> **Note:** Alternatively, you can change the ownership and permission of conf/httpd.conf to root.wind with 775 permission to ensure that wind has *write* access to the httpd.conf file.

Copying Windchill configuration ZIP file to WebSphere

Follow these steps to copy the Windchill configuration ZIP file to the WebSphere directory.

1. Locate the Windchill 9 install image labeled *Third Party Application CD.*

2. Under the Apache/ManualInstall directory, copy the ibmHTTPServerManualOverlay.zip file to /usr/IBM/HTTPServer.
   cd /usr/IBM/HTTPServer

3. Extract the ibmHTTPServerManualOverlay.zip file.

   Hint: If the unzip command is not available on your AIX system, it is possible to use the *jar xvf* command on the ibmHTTPServerManualOverlay.zip file.

   Note: The unzip command places about 15 files in the /usr/IBM/HTTPServer/conf directory and places the webAppConfig.xml file under the /usr/IBM/HTTPServer directory.

4. Change the permission and ownership of the files that were copied from the ZIP file so that they are group writable:

   a. For the infoengine installation step to succeed, as user *wind*, some permission changes need to happen to the /usr/IBM/HTTPServer directory and to certain additional files so that the *wind* group has write access to them.

   b. After extracting the ZIP file (or using the JAR command to extract the ZIP file) ,and while in the /usr/IBM/HTTPServer directory, run the following commands:

   chmod g+w conf ./ webAppConfig.xml
   chmod 775 conf/*
   chown root.wind ./ conf webAppConfig.xml conf/additions.conf

   Now, the conf/httpd.conf file has write permission by the wind group as a result of granting administrator capability during the installation.

   Note: If the infoengine installation fails while installing Windchill, look at the log in the /tmp/wind directory. It is most likely that the failure is related to a permission problem in the /usr/IBM/HTTPServer directory structure.

5. To facilitate a faster rollback in case of problems during the Windchill installation, create the following TAR files
   tar –cvf /save/HTTPServer.tar /usr/IBM/HTTPServer
   tar –cvf /save/WAS.tar /usr/IBM/WebSphere/AppServer

6. Ensure that IBM HTTP Server and WebSphere Application Server are running. You can use the following commands to start them if they are not running:
   /usr/IBM/HTTPServer/bin/apachectl start
   /usr/IBM/WebSphere/AppServer/bin/startServer.sh server1

Task 4: Installing Windchill 9.0

PTC Solution Installer (PSI) is used to install Windchill 9.

1. Before running the PSI, you must perform several checks. Otherwise, you cannot install Windchill without passing all of the following tests:

   a. Log in as root, then, at the AIX shell prompt, enter these commands, after which, the xclock appears:
      su oracle
      xclock

   If you use virtual network computing (vnc) to access X Window, the easiest way allow the oracle and wind processes started during the solution installer is to enter the following command (as root). (**Note:** This allows Oracle to access the VNC display):
      chmod 644 /.Xauthority

   Make sure that the .profile information for *oracle* user includes the following line:
      export ORACLE_SID=wind

   As user *oracle*, enter the following command:
      lsnrctl status

   Ensure that the Oracle listener is running. If it is not, run the following command:
      lsnrctl start

   Finally, ensure that the domain name server (DNS) is up and running.

   It is also recommended that you make a TAR copy of the following file systems. By doing this, if the Windchill installation/configuration of WebSphere runs into problems, you can restore the files without reinstallation of WebSphere again.
      /usr/IBM/WebSphere/AppServer
      /usr/IBM/HTTPServer

7. Start the PSI by running **./setup** from the directory where the solution installation files exist. You then see the page that is shown in Figure 2. Click **OK** to begin the installation.
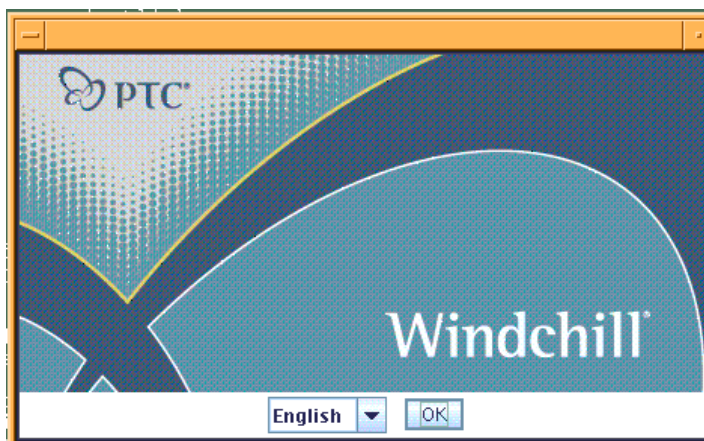
Figure 2. Task 4 i

8. In Figure 3, review the information on the PTC Solution Installer 9.0 Datacode F000 window, then click **Next**.
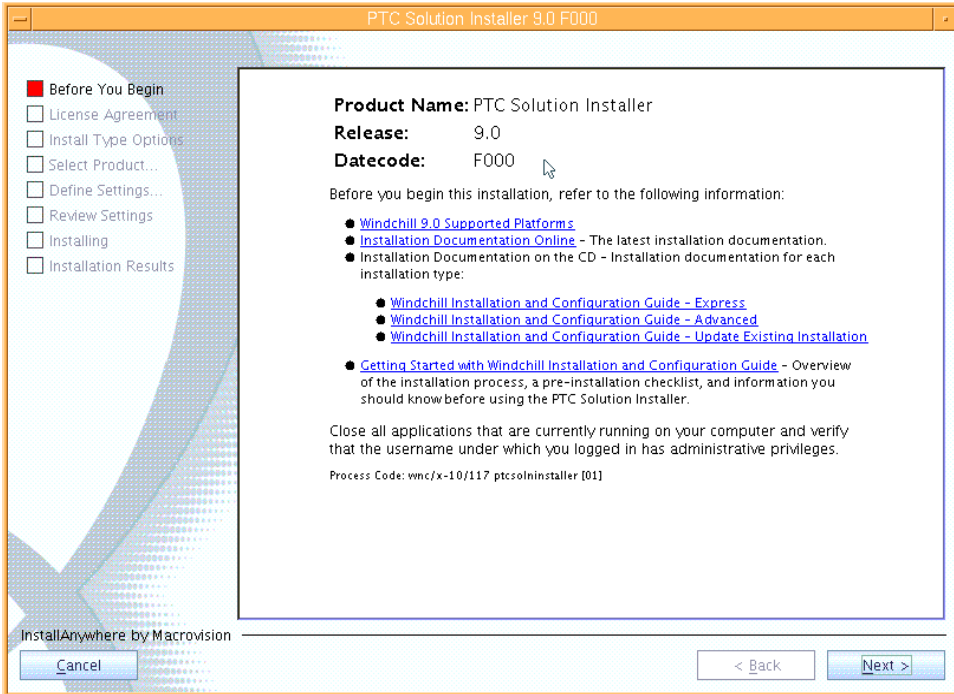
Figure 3. Task 4 ii

9. In Figure 4, review the license terms on the License Agreement window by scrolling down the page, then select **I Accept the Agreement and Conditions** then click **Next**.
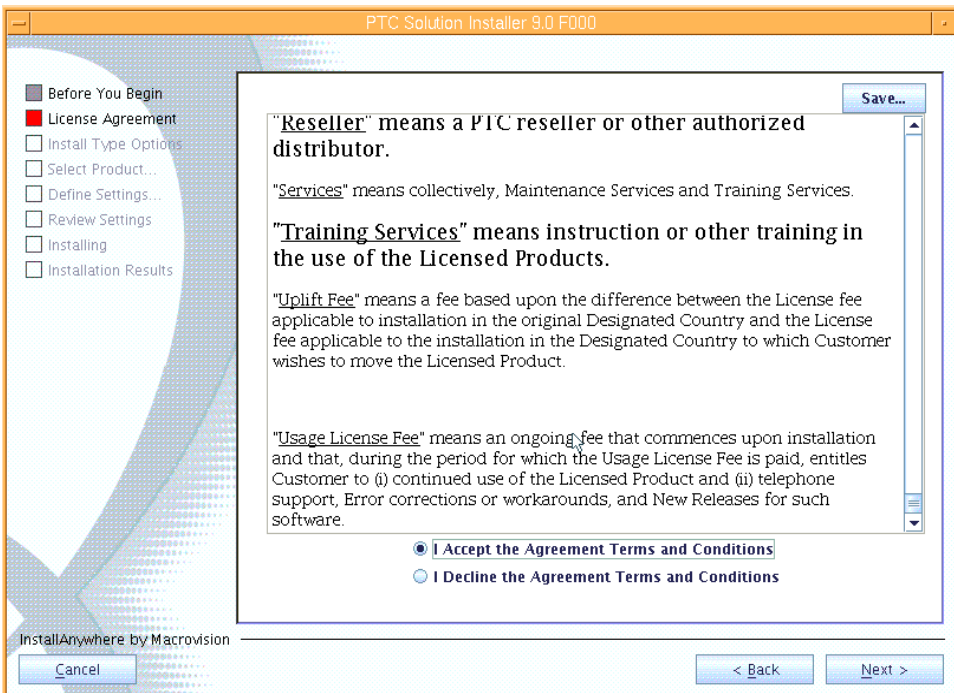
Figure 4. Task 4 iii

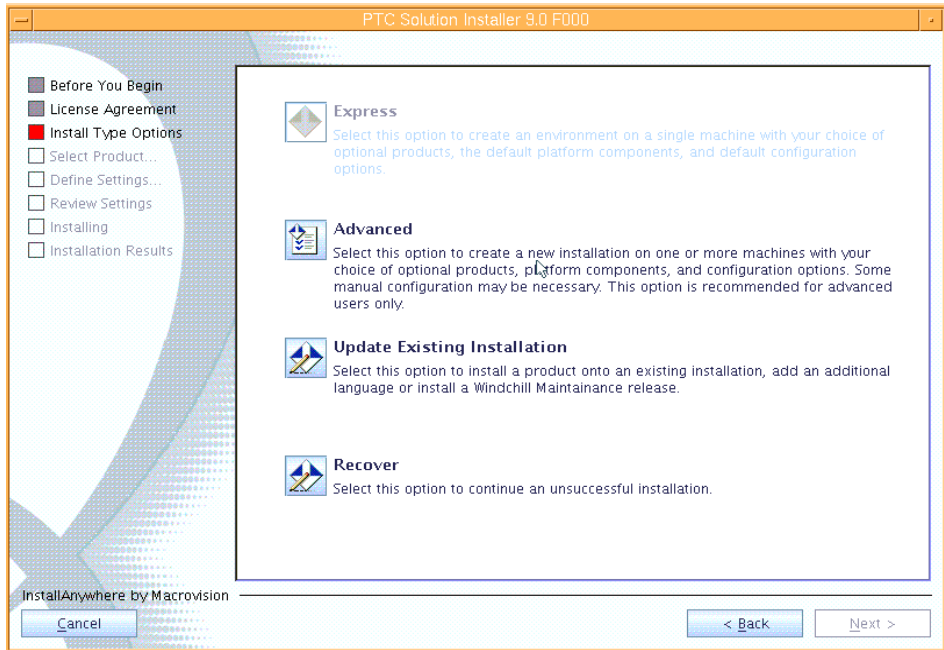10. On the Install Type Options page, select **Advanced** then click **Next**, as shown in Figure 5.

Figure 5. Task 4 iv

11. On the Select Product page, select **Integral Windchill PDMLink and Windchill ProjectLink** then click **Next**, as shown in Figure 6.

Figure 6. Task 4 v

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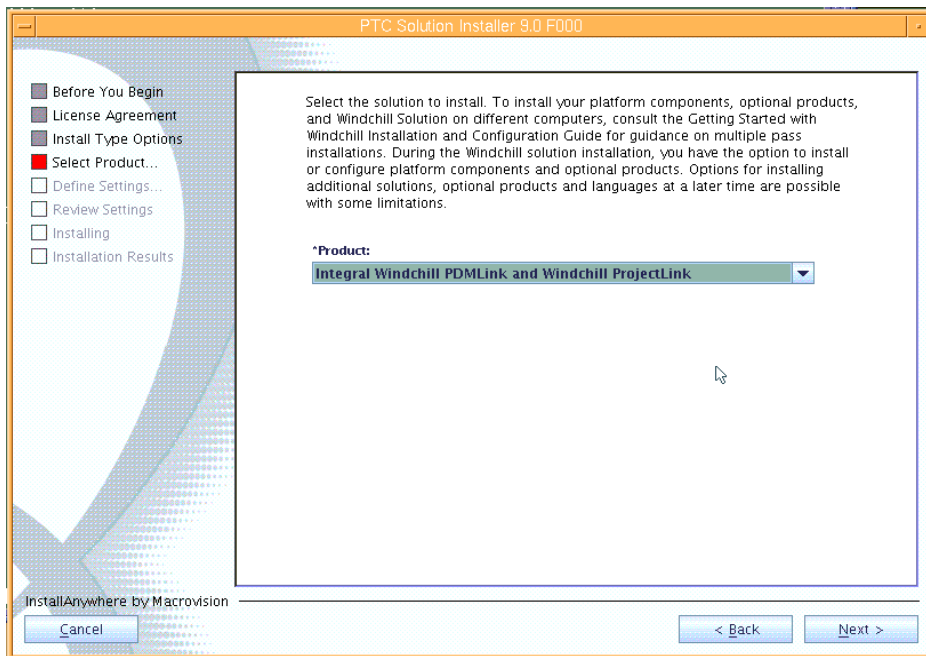
12. When prompted for Optional Products, select **ProductView Lite Client** and **Windchill Workgroup Manager**, then click **Next**, as shown in Figure 7.
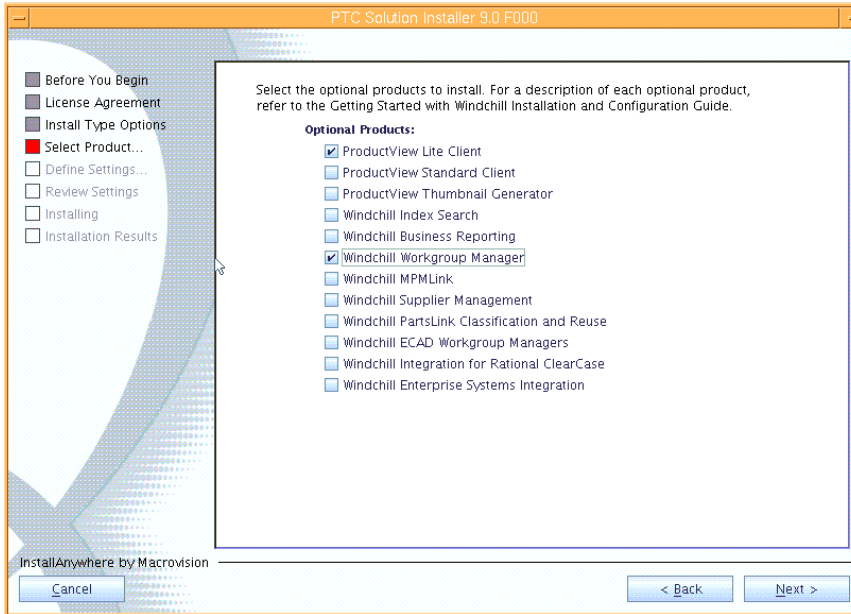
Figure 7. Task 4 vi

13. This example uses WebSphere Application Server and IBM HTTP Server with Windchill. Therefore, on the page that prompts you to select platform components, for Tomcat Servlet Engine, select **Do not install or configure**. For Apache Web Server, select **Configure to an existing local instance**. Then click **Next**, as shown in Figure 8.
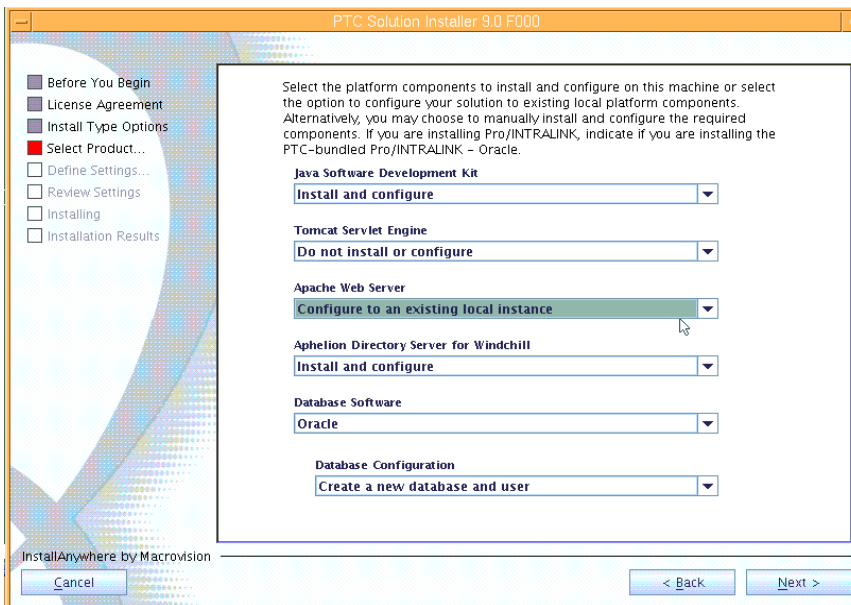
Figure 8. Task 4 vii

14. On the page that prompts you for optional features to install, deselect **Configure Aphelion Web Tools,** then click **Next**, as shown in Figure 9.
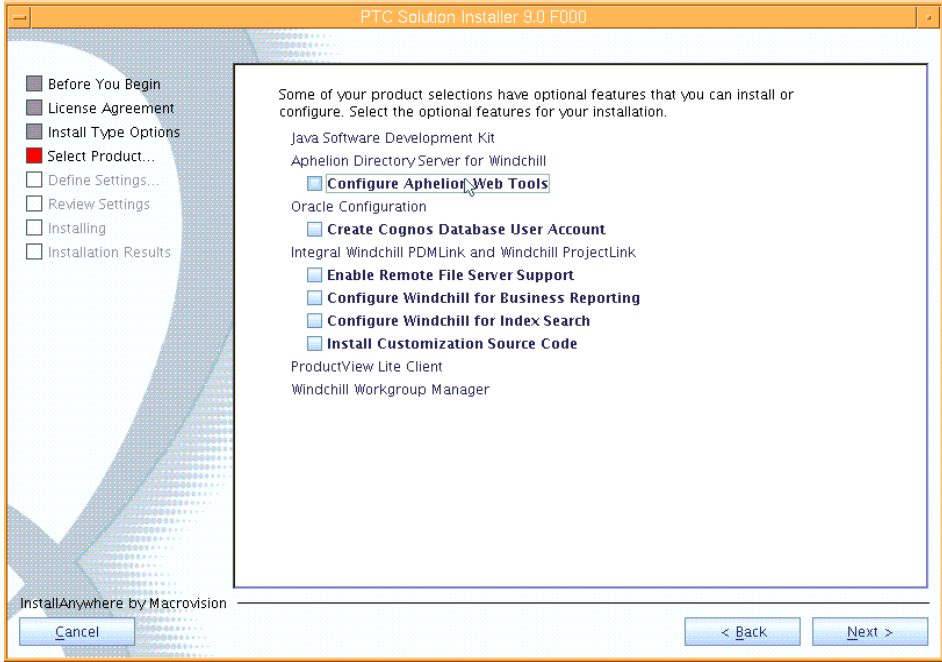
Figure 9. Task 4 viii

15. On the Define Settings page, this example uses *wind* and *oracle* as the two users. Click **Next**, as shown in Figure 10.
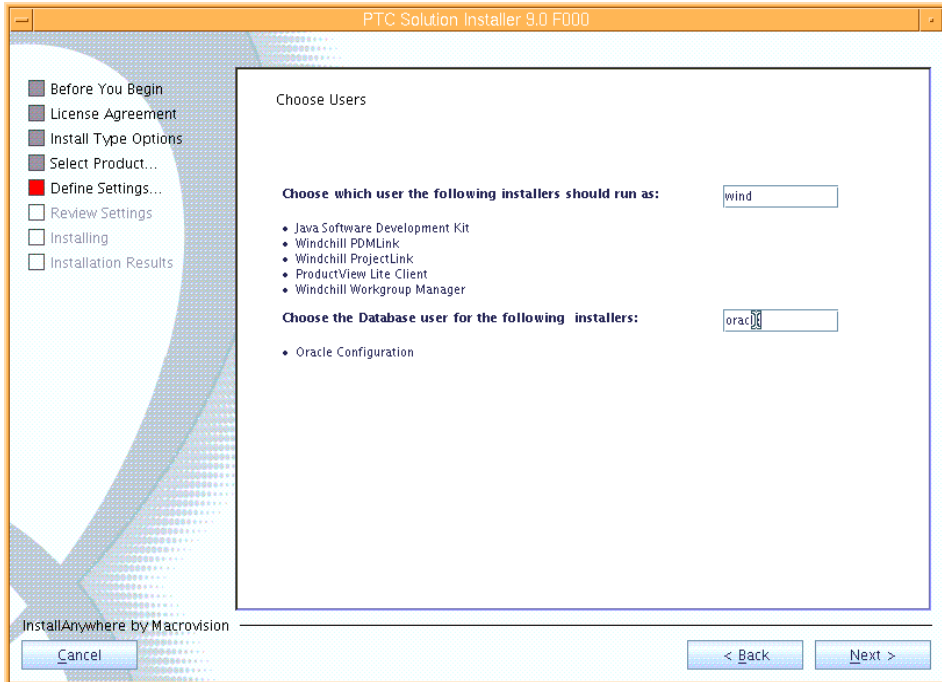
Figure 10. Task 4 ix

16. On the next page, where you are prompted to specify the locations of optional products and platform components that have already been installed, enter **/home/wind/WC9** as the Base Installation Directory; the locations for Windchill, Java SDK and Aphelion are all automatically updated so that they are relative to /home/wind/WC9. Enter the location for Apache Web Server as **/usr/IBM/HTTPServer** and the location for the Oracle Configuration Utility is **/home/oracle/WC9/ocu**. Click **Next**, as shown in Figure 11.
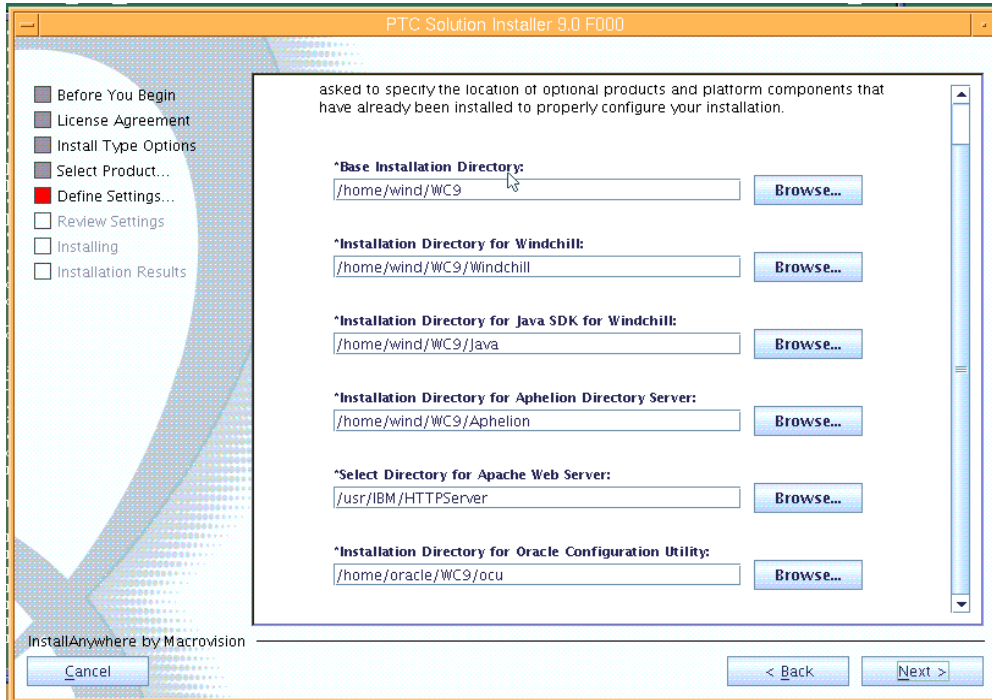
Figure 11. Task 4 x

17. The *wind* user is supposed to have access rights to the necessary files in /usr/IBM/HTTPServer, so click **Yes**, as shown in Figure 12.
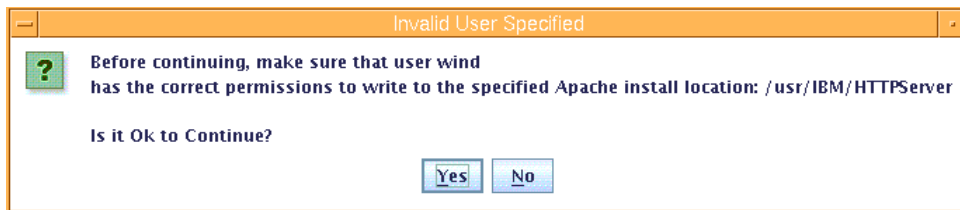
Figure 12. Task 4 xi

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18. The WebServer DNS registered host name is the fully qualified host name of the server and the port is 80. After verifying these entries, click **Next**, as shown in Figure 13.
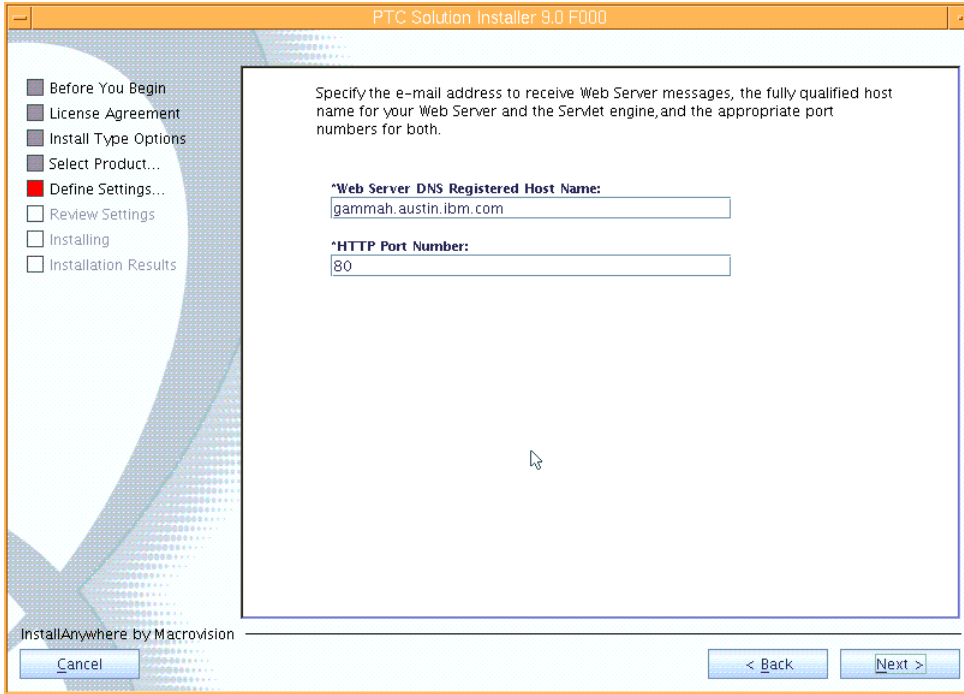
Figure 13. Task 4 xii

19. Select the appropriate language, which, for this installation example is **English**, then click **Next**, as shown in task Figure 14.
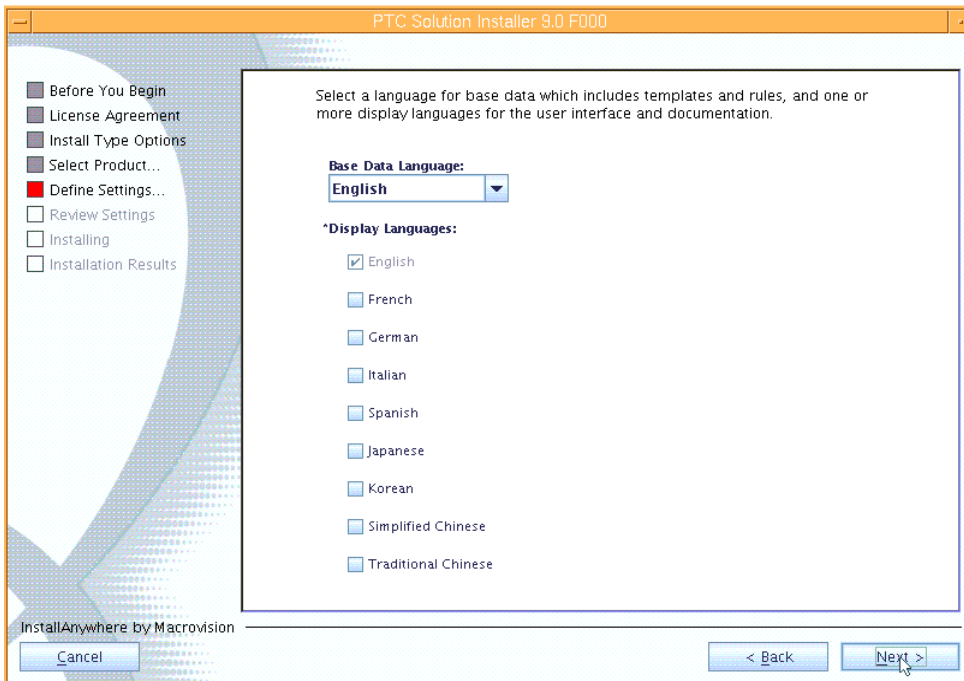
Figure 14. Task 4 xiii

20. Choose the appropriate database size, then click **Next**, as shown in Figure 15.
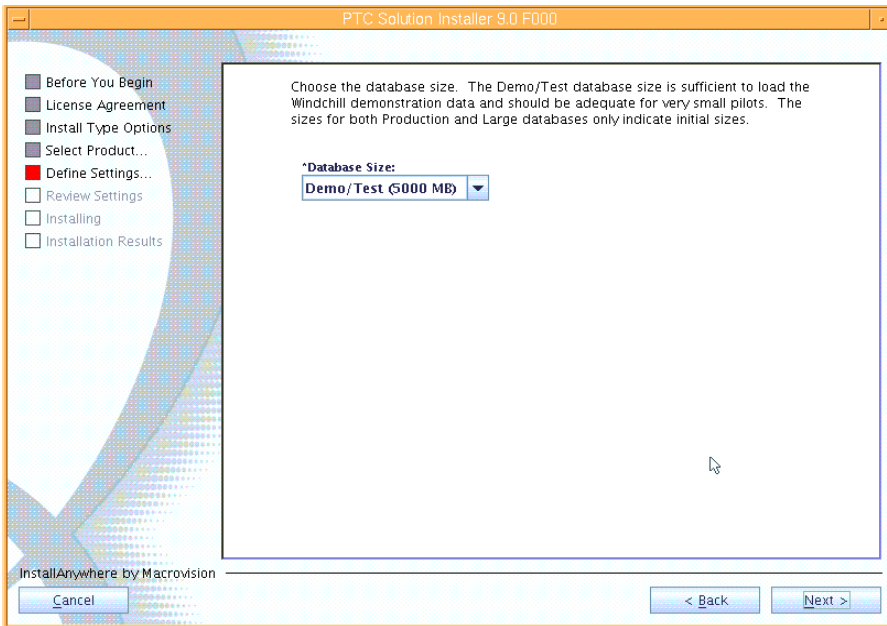
Figure 15. Task 4 xiv

21. You are required to provide the information that is needed to connect to the Oracle database. On the next page, enter the following values, then click **Next**, as shown in Figure 16.

> ORACLE_HOME: **/home/oracle/ora10**
> Registered Host Name: (target host name, take default value)
> ORACLE_SID: **wind** (do not exceed eight characters)
> SYSTEM password: **ibm123**
> Oracle user name for Windchill: **wcadmin**
> Oracle user for Windchill password: **wcadmin**
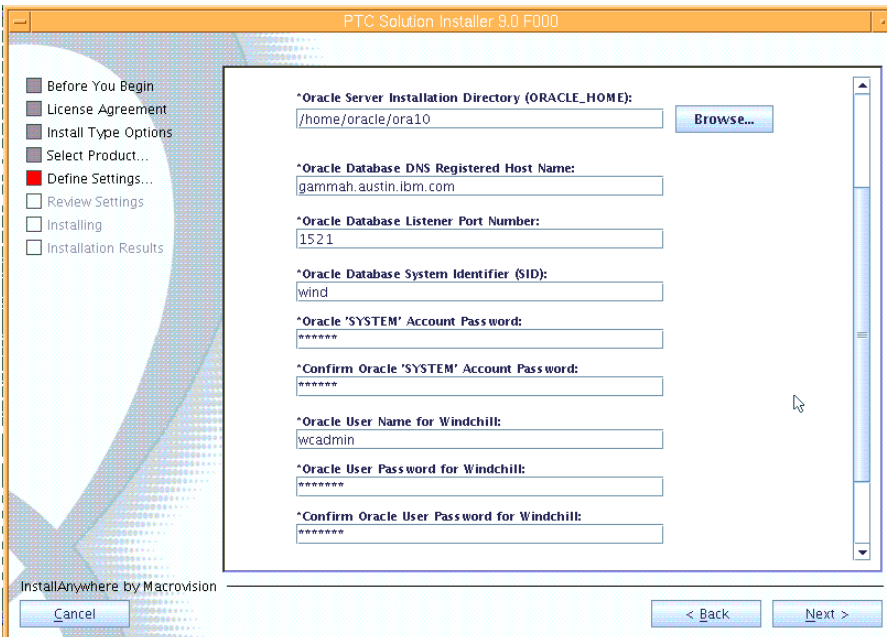
Figure 16. Task 4 xv

22. On the next page, deselect **Load base data**, then click **Next**, as shown in Figure 17.
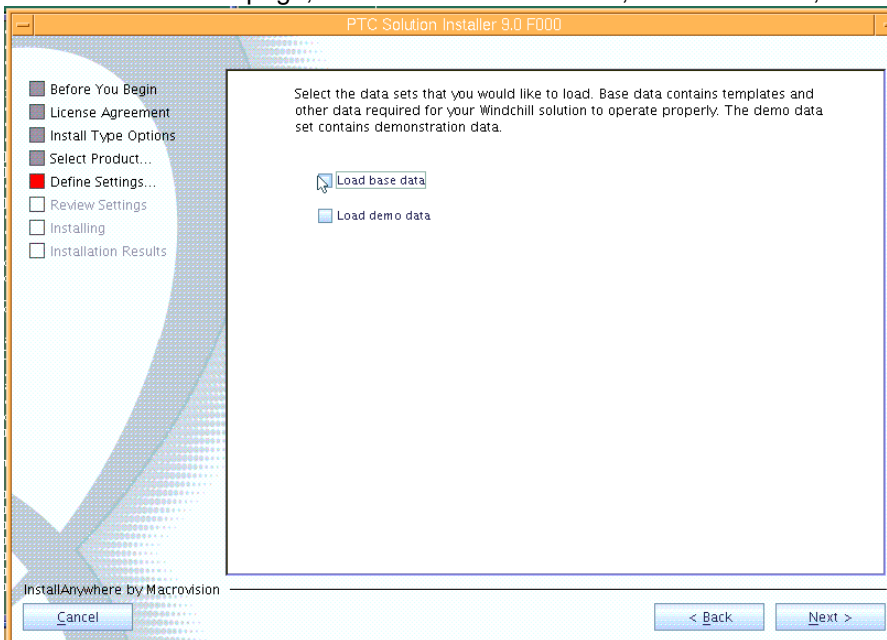
Figure 17. Task 4 xvi

23. Information related to the installation of the Aphelion LDAP server is needed. On the next page, enter **ibm123** as the LDAP Administrator password. Leave the entry for Aphelion Naming Context blank. Then, click **Next**, as shown in Figure 18.
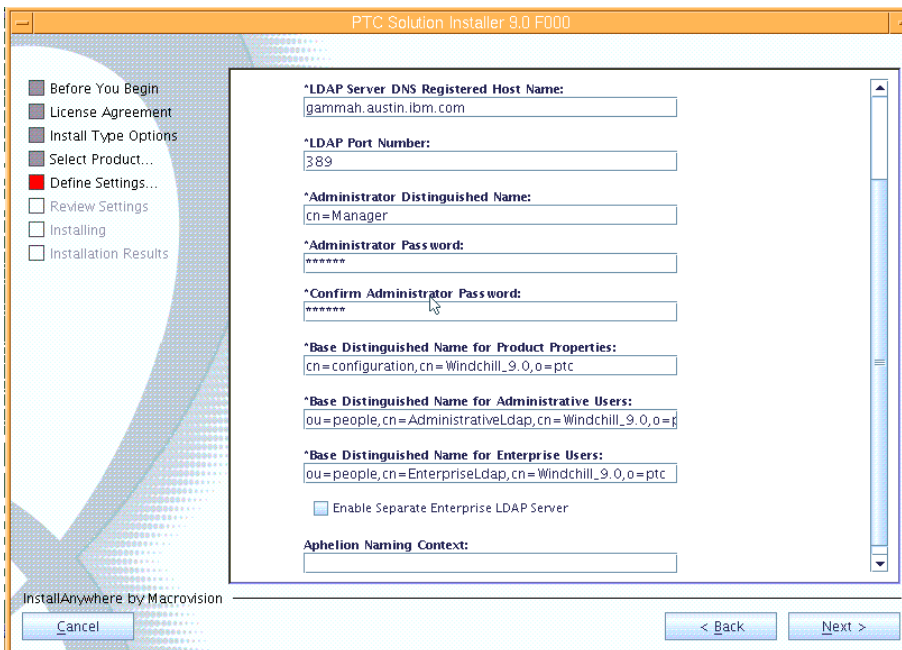
Figure 18. Task 4 xvii

24. Information is needed for the creation of the new Windchill Web application. For this example, a new account is created. Therefore, on this page, enter **wcadmin** as the Windchill site-administrator Password. Enter **ibm** as the Initial Organization Name. Click **Next**, as shown in Figure 19.
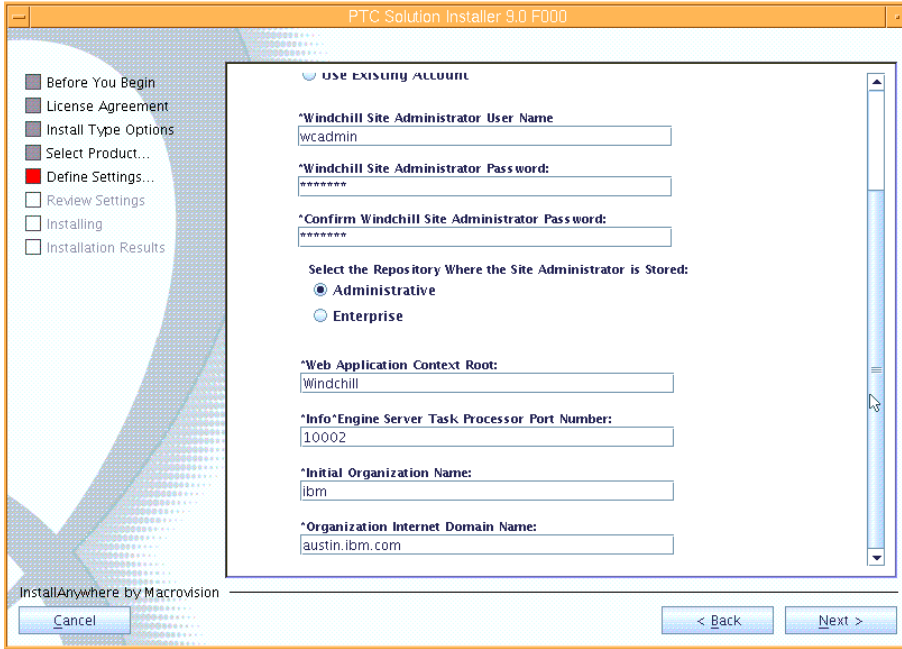
Figure 19. Task 4 xviii

25. When you are asked to specify optional product settings, make sure that all three boxes are checked, then click **Next**, as shown in Figure 20.
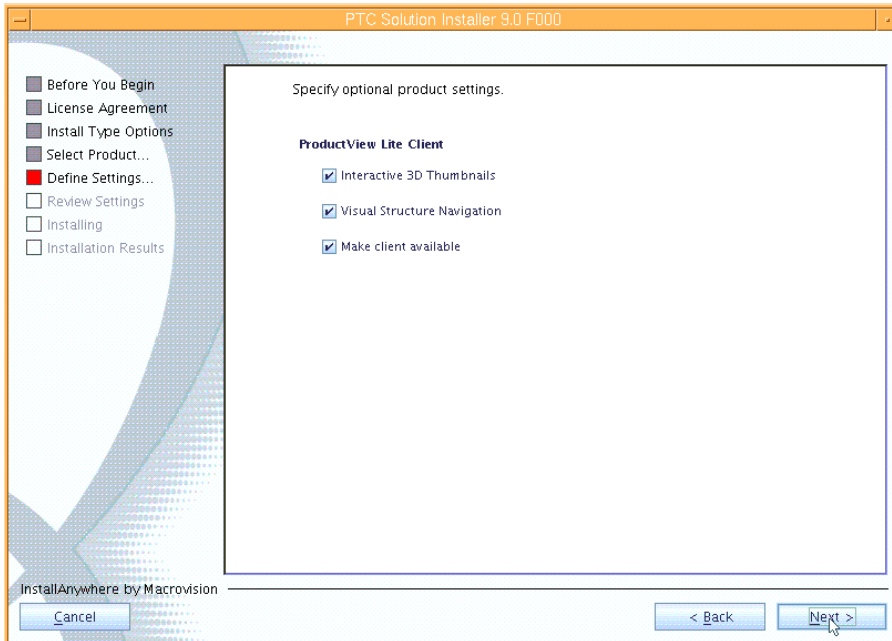
Figure 20. Task 4 xix

26. On the Workgroup Manager CAD applications page, select the appropriate workgroup managers, for example **CATIA V5R16**. Then click **Next**, as shown in Figure 21.
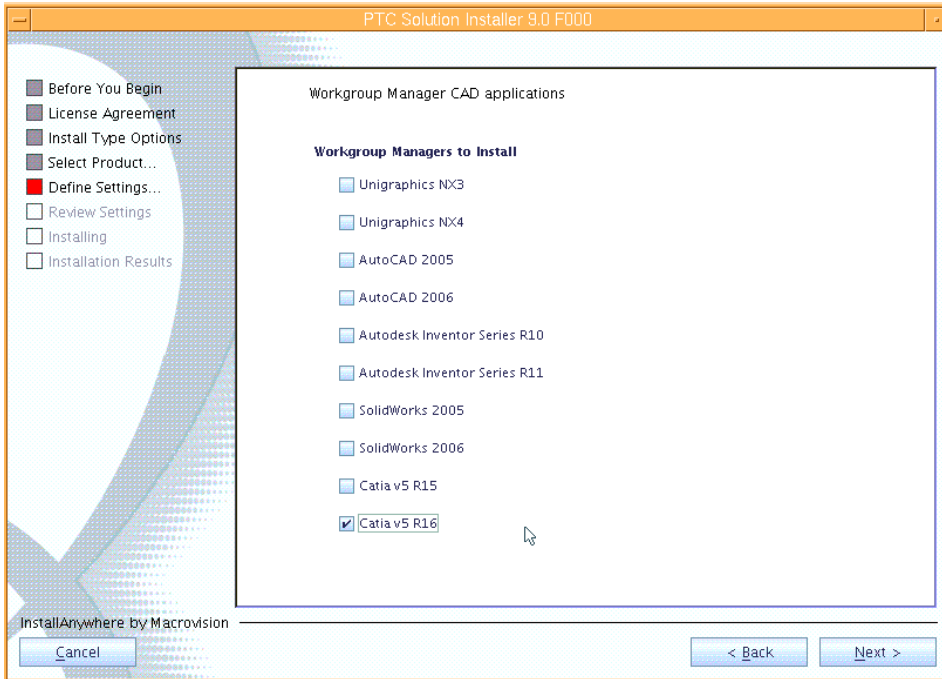
Figure 21. Task 4 xx

27. On the next page, take the default value, which is **Don't create links** then click **Next**, as shown in Figure 22.
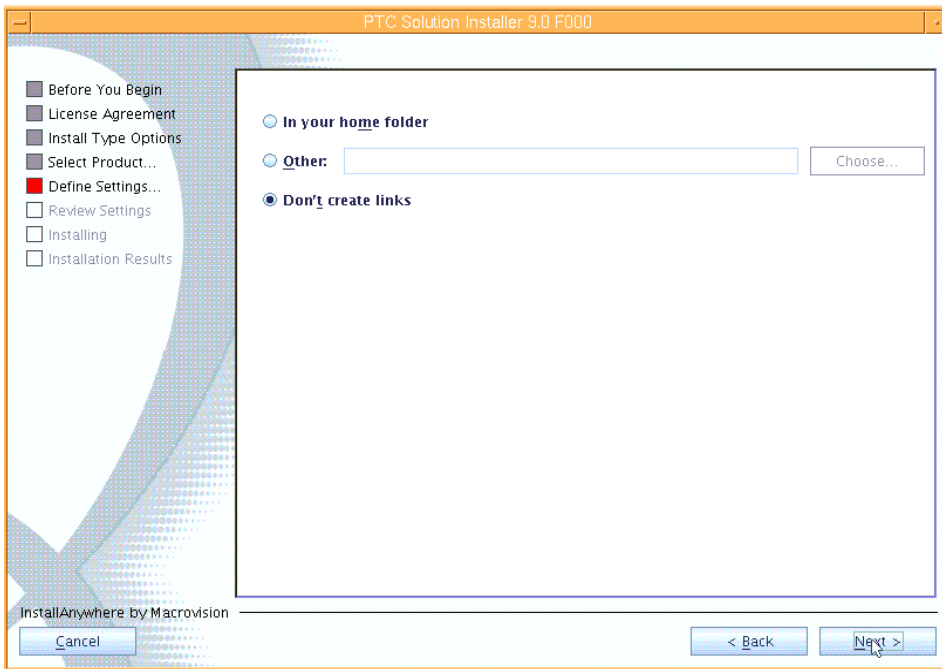
Figure 22. Task 4 xxi

28. Now, you need to decide whether to use a staging directory. Using a staging area provides for a faster installation and eliminates the need to insert CDs. Enter the staging area: **/opt/ptc/Installers,** then click **Next**, as shown in Figure 23.
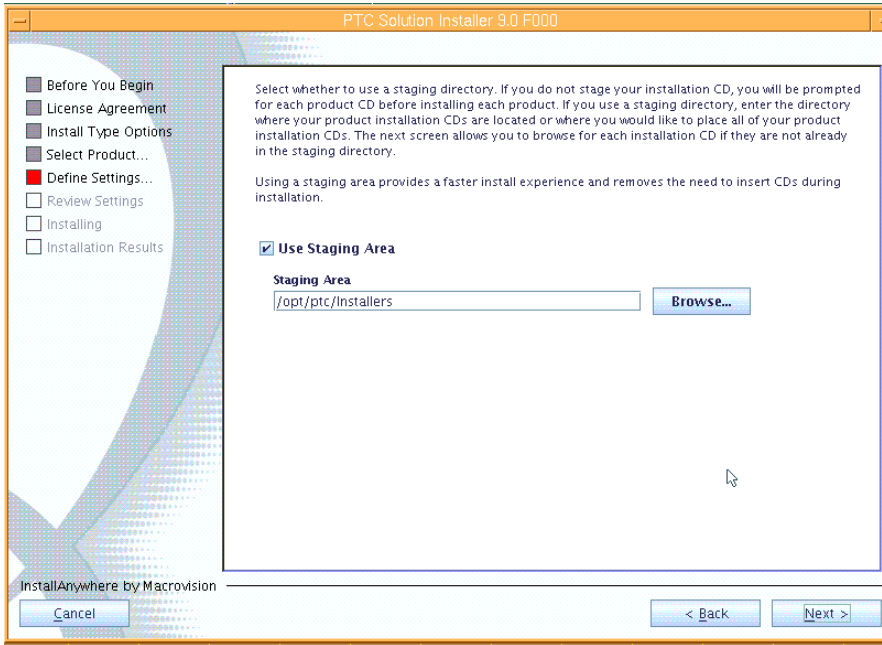
Figure 23. Task 4 xxii

29. On the next page, you will copy the Windchill install images to the staging area, as shown in Figure 24.
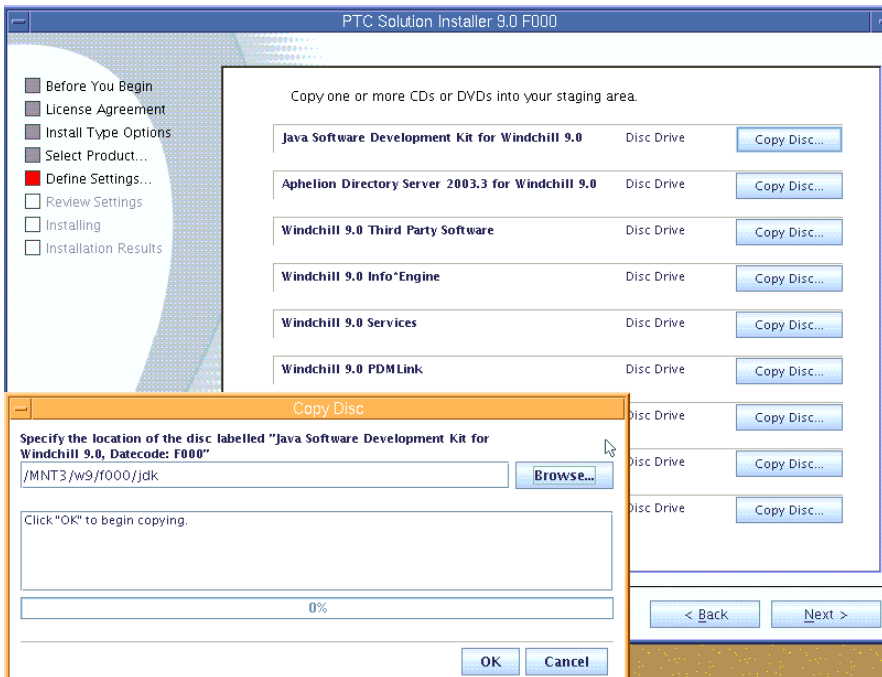

Figure 24. Task 4 xxiii

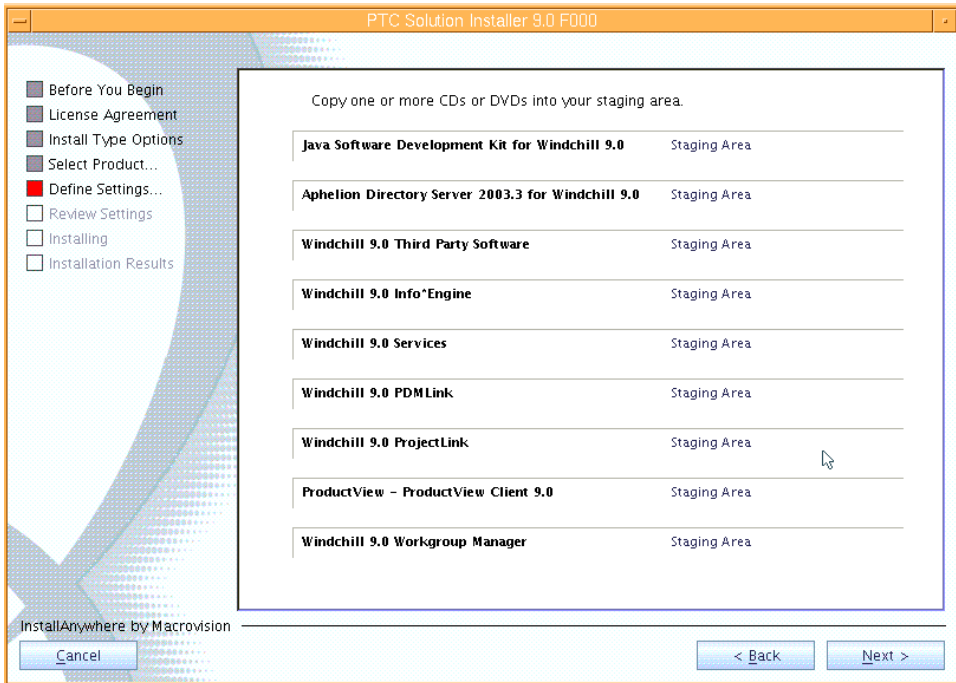30. After all copies to the staging area are complete, click **Next**, as shown in Figure 25.

Figure 25. Task 4 xxiv

31. Review the summary installation values that you have just specified, then click **Install**, as shown in Figure 26.
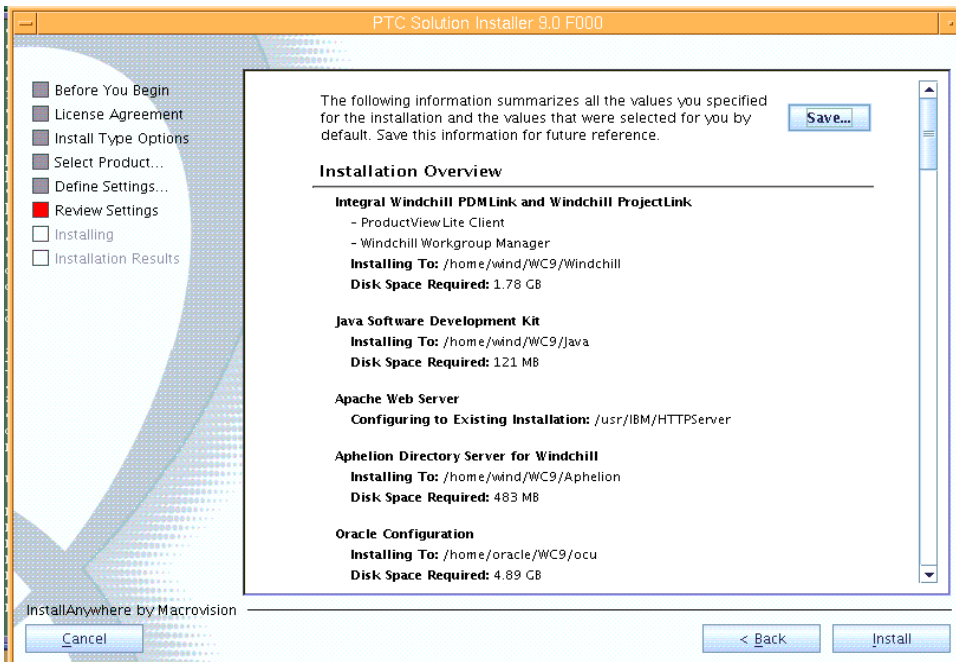

Figure 26. Task 4 xxv

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Now, the installation begins, which can take in excess of 90 minutes. Typically, any errors occur within the first 20 to 30 minutes when connecting to Oracle Database, or configuring the IBM HTTP Server or Aphelion LDAP.

You then see the progress of the installation and configuration steps from the bottom message window. The last message should be the copy operation of the Windchill code.

When you see the size of the contents for the /home/wind/WC9/Windchill directory increase, the installation is most likely proceeding correctly.

Copying the data to the Windchill directory is the part of the installation that takes the most time; therefore, you might consider taking a break and coming back to see the finished results of the installation, as shown in Figure 27.

32. The installation of Windchill 9 is complete after a panel that looks similar to Figure 27 is displayed. Click **Done** to exit the PSI installer, as shown in Figure 27.
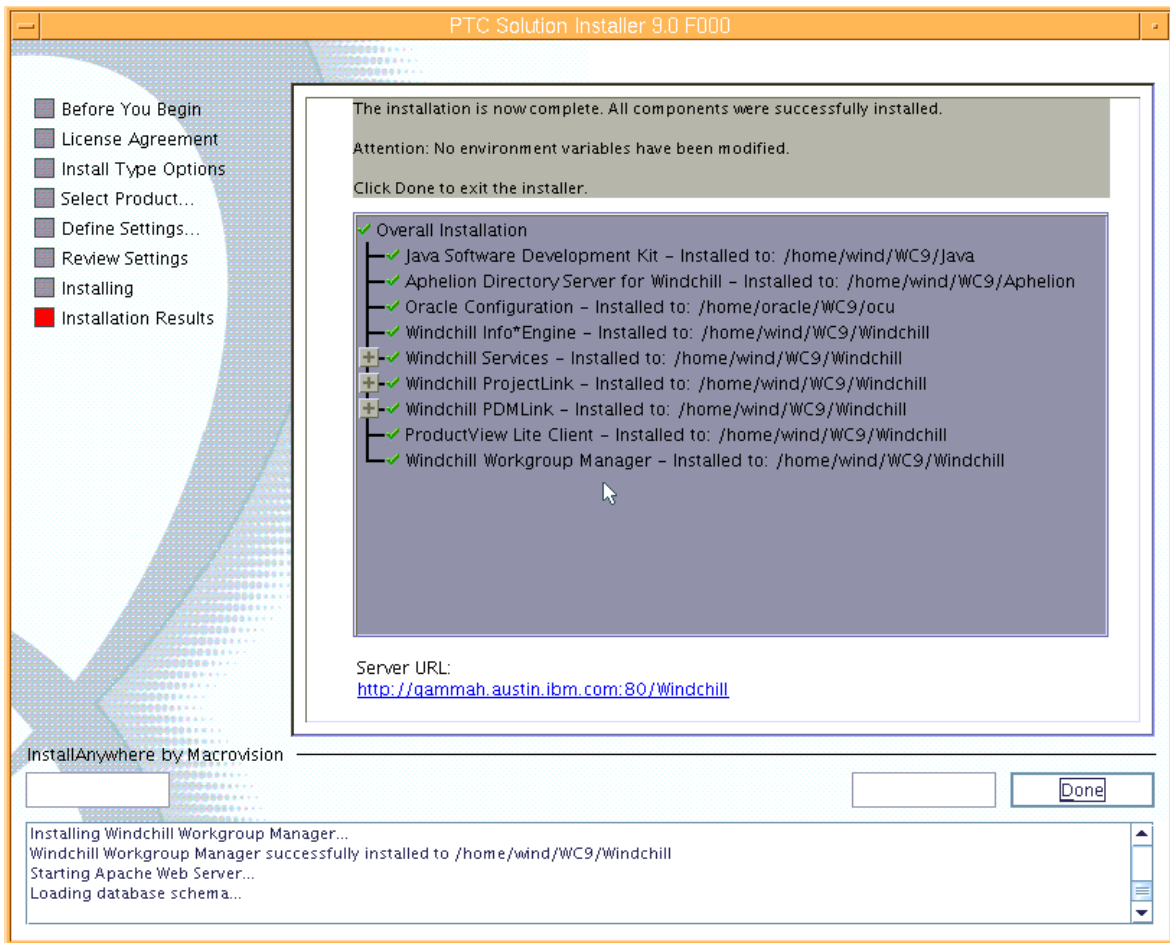

Figure 27. Task 4 xxvi

33. As the *wind* user, you will now verify the ability of the Windchill application to start. By default, additional terminal windows need to launch when starting the Windchill processes; so make sure that the *wind* user has the DISPLAY variable set and that xclock can be started by typing the following commands:
```
cd /home/wind/WC9/Windchill/bin
/windchill start
```

34. MethodServer window shows up (see Figure 28). It is important to see the last message: *MethodServer ready*.


```
MethodServer

Container Team Service: failed to set Administrator (ok if installation)
wt.recent.RecentService: failed to set Administrator (ok if installation)
ERROR : wt.dataops.objectcol.StandardCollectionService - dataops.objectcol.Colle
ctionService: failed to set Administrator (ok if installation)
Administrator user doesn't exist (OK if installation)
ERROR : wt.fv - UnreferencedFvItemsPurging: failed to set Administrator (ok if i
nstallation)
ScheduleHistoryPurging: failed to set Administrator (ok if installation)
Eff Service: failed to set Administrator (ok if installation)
Calendar Service: failed to set Administrator (ok if installation)
Type Management Service: failed to set Administrator (ok if installation)
INFO  : wt.method.server.startup.services - All managers started.
StandardManagerService started
INFO  : wt.method.server.startup - Services started.
INFO  : wt.method.server.startup - MethodServer registered with ServerManager
INFO  : wt.method.server.startup - Creating wt.method.WTAdapter
INFO  : wt.method.server.startup - Creating com.ptc.core.adapter.server.impl.Sim
pleTaskDispatcher
INFO  : wt.method.server.startup - Creating wt.method.ClusterMonitor
WTAdapter ready.
Listening for Info*Engine requests.
INFO  : wt.method.server.startup - Creating wt.method.jmx.Startup
INFO  : wt.method.server.startup - MethodServer ready (in 39.381 secs).
```

Figure 28. Task 4 xxvii

Congratulations, Windchill 9.0 is now ready for configuration so that it can integrate with WebSphere.

Task 5: Configuring WebSphere with Windchill

In this task, WebSphere and Windchill are configured and the data is loaded.

Subtask 1: Configuring WebSphere and Windchill

In this first part of Task 5, you configure WebSphere and Windchill.

1. Log in as the wind user, then use the AIX cd command to change to the following directory:

    `/home/wind/WC9/Windchill/ant/bin`

35. Run the following **ant** command (there is a space character before generateWebSphereEar):

    ```
    ./ant -f /home/wind/WC9/Windchill/opt/websphere/websphereConfig.xml
    generateWebSphereEar
    ```

    This generates the following directory: `/home/wind/WC9/Windchill/Windchill.ear`.

36. Restart WebSphere Application Server.

37. As root, run the following script: `/usr/IBM/WebSphere/AppServer/bin/startServer.sh server1`.

    Note: If WebSphere Application Server is already running, this step might not be required.

38. Change to the following directory: `cd /usr/IBM/WebSphere/AppServer/bin`.

39. Run the following script: **./wsadmin.sh**.

40. At the wsadmin> prompt, type the following command:

    `$AdminApp installInteractive /home/wind/WC9/Windchill/Windchill.ear`

41. A series of questions is asked. Accept all the defaults when you are prompted, except for the a few questions. Instead, enter the following values:

    Directory to install application: **/home/wind/WC9/Windchill**
    Distribute application: **Yes**
    Use Binary configuration: **Yes**
    virtual_host: **default_host**

42. After the wsadmin> prompt shows up again, enter the following commands:

    wsadmin>**$AdminConfig save**
    wsadmin>**quit**

43. From a Web browser, access the administrative console. Then, click **log in**, as shown in Figure 29
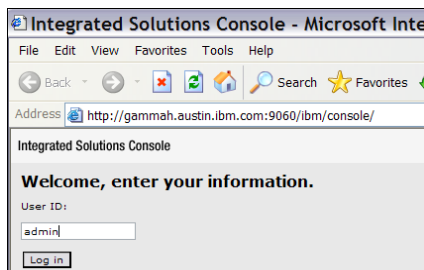

Figure 29. Task 5 subtask 1 i

44. From the menu (on the left side of the page), navigate to **Servers->Application servers**, then click **server1**, as shown in Figure 30.
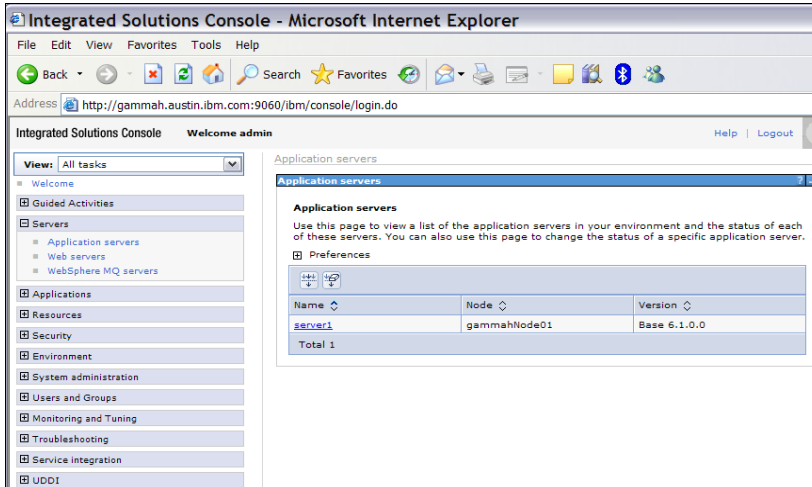

Figure 30. Task 5 subtask 1 ii

45. Changes are necessary to the server1 application server. Under Servers on the left side of the page, select **Application Servers**, then select **server1**; no screen images are provided. Next, from **Server Infrastructure** (on the right**,** middle-lower side**)**, expand **Java and Process Management**, then click **Process Definition** (see Figure 31 as an example of the page that you should now see).
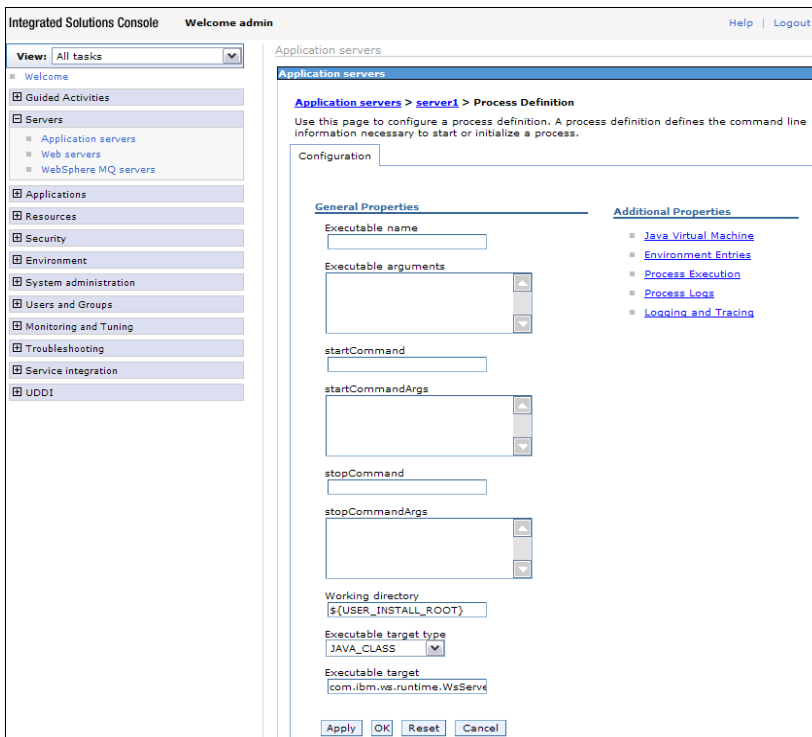
Figure 31. Task 5 subtask 1 iii

46. Under **Additional Properties**, select **Java Virtual Machine** (see Figure 32).
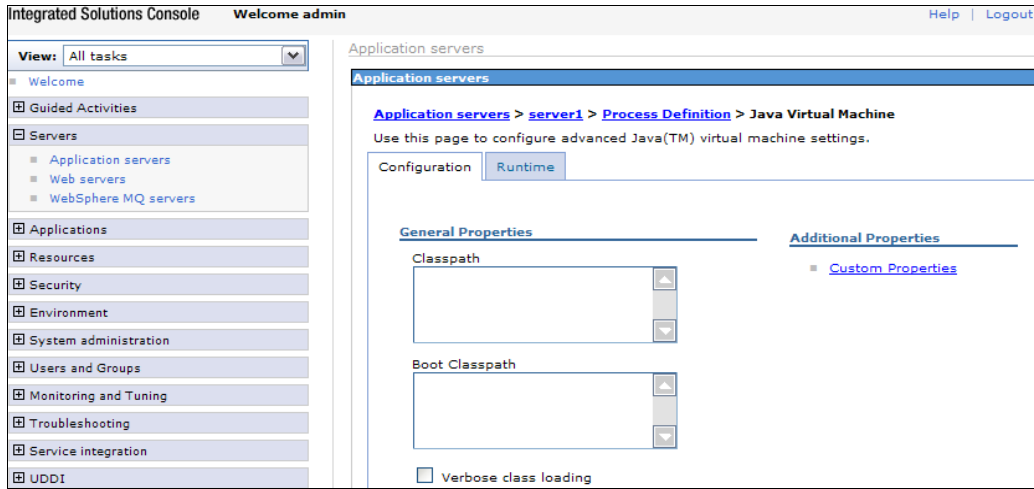
Figure 32. Task 5 subtask 1 iv

47. Under **Additional Properties**, select **Custom Properties.** This brings you to a panel that looks similar to Figure 33, where you create two additional properties.

48. Click **New** to add the following two properties and associated values:
     catalina.base=/home/wind/WC9/Windchill
     wt.context.defaultLocalResourcesOnly=true

   See Figure 33, which shows the results after adding the two properties.
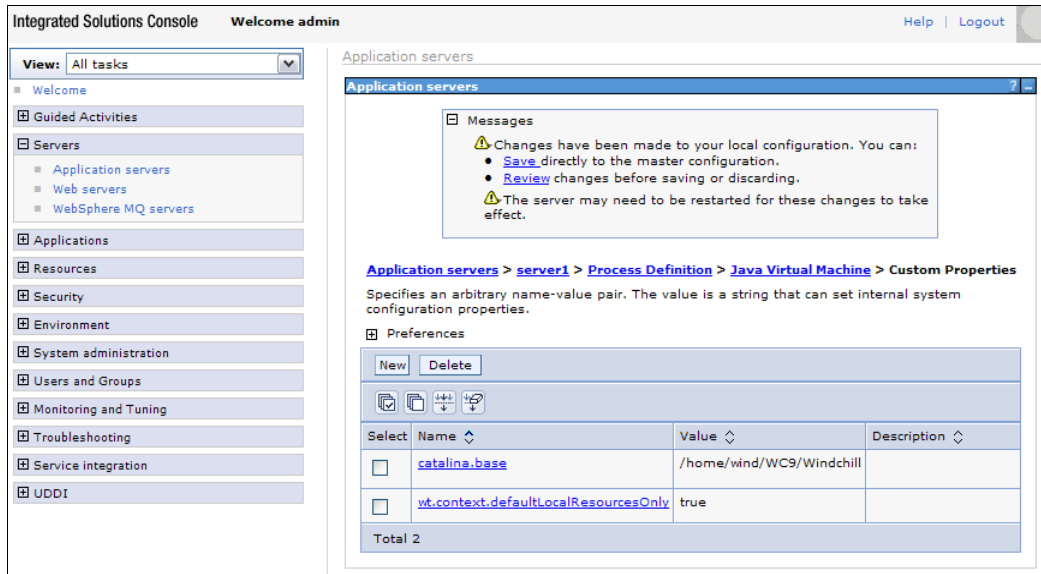
Figure 33. Task 5 subtask 1 v

49. Click **Save** to save the configuration changes. (See Figure 34, which shows the Custom Properties after the save has completed.)
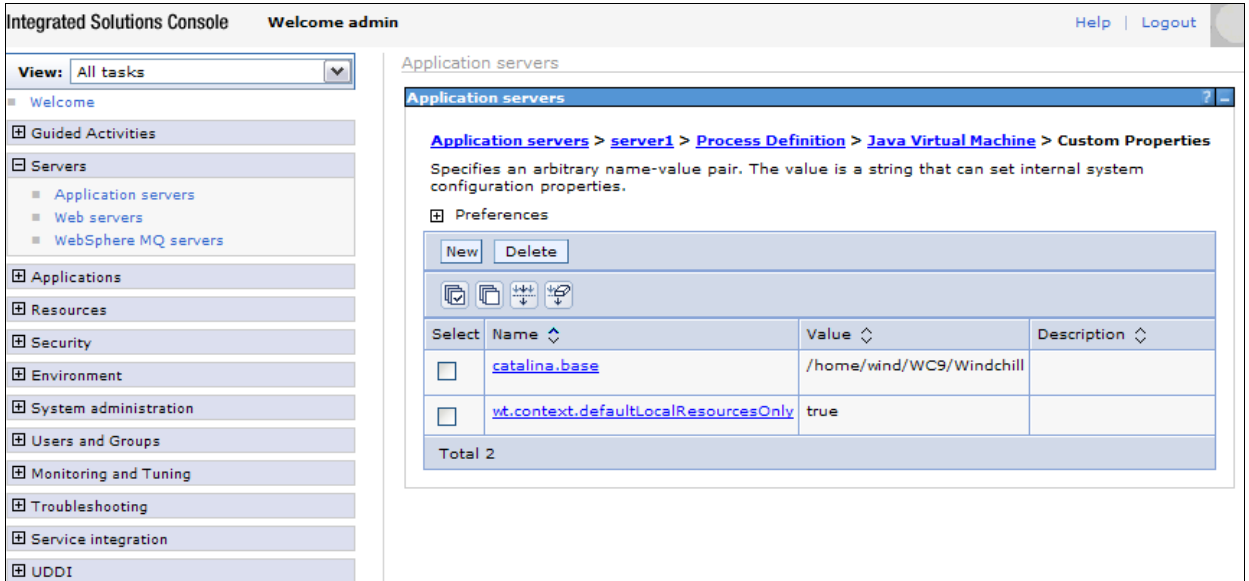
Figure 34. Task 5 subtask 1 vi

50. From the left menu, expand **Applications->Enterprise Applications** (see Figure 35).
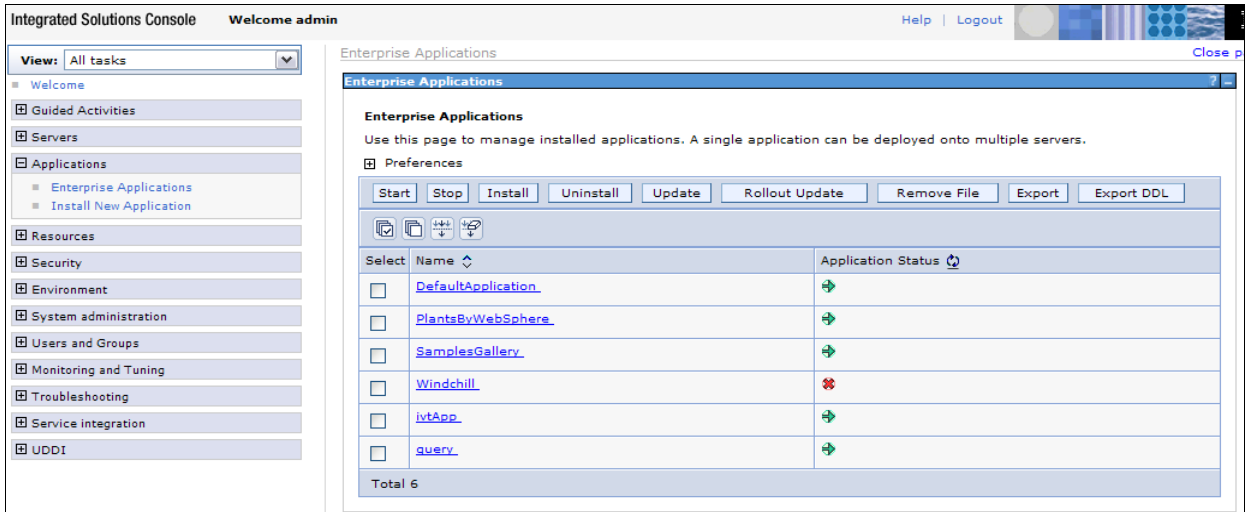
Figure 35. Task 5 subtask 1 vii

51. Select **Windchill** in the list of Enterprise Applications.

52. Click Windchill.

53. Under Module, select **Manage Modules** (no screen image provided). Then check the codebase box, and then, in the Clusters and Servers box, hold down the control key and click both of the new entries (see Figure 36).
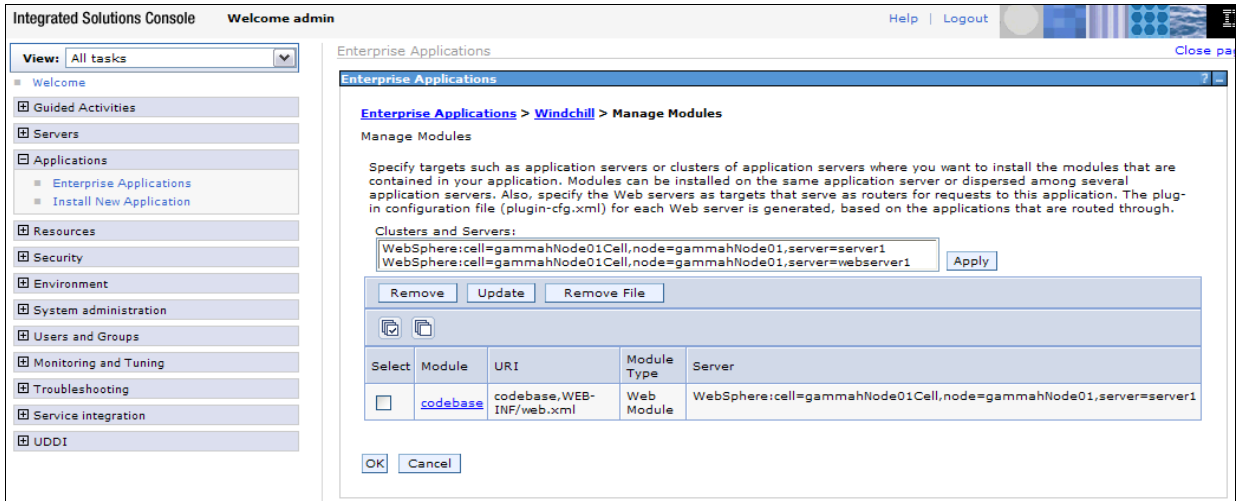
Figure 36. Task 5 subtask 1 viii

54. Click **Apply** (see Figure 37). Then click **OK**, and then click **Save**.

55. Log out of the Administrator console and then close the Mozilla browser window (see Figure 37).
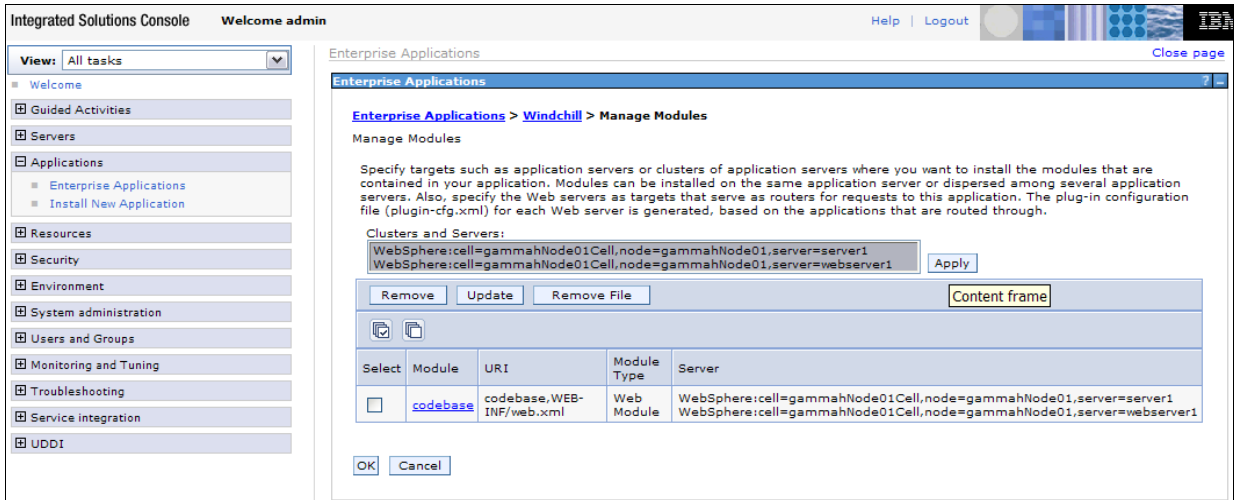
Figure 37. Task 5 subtask 1 ix

56. Stop WebSphere Application Server by typing the following command:
    /usr/IBM/WebSphere/AppServer/bin/stopServer.sh server1

    Note: No more pages are shown for the rest of this section of the guide. However, these instructions should be self-explanatory and easy to follow.

57. Locate the following file. (**Note:** Replace **gammahNode01Cell** with the install target host name.)
    /usr/IBM/WebSphere/AppServer/profiles/AppSrv01/config/cells/gammahNode01Cell
    /applications/Windchill.ear/deployments/Windchill/deployment.xml

58. Make two changes to the deployment.xml file that you just located:

   a. Change **binariesURL=/home/wind/WC9/Windchill/Windchill.ear** to **binariesURL=/home/wind/WC9/Windchill**.

   b. Change **enableDistribution=true** to **enableDistribution=false.**

   c. Save the file and exit the text editor to save the changes made to the deployment.xml file

59. Create a symbolic link by typing cd /home/wind/WC9/Windchill/codebase/WEB-INF.

60. Run the following link command: `ln -s ../ classes`. (**Note:** There is a space character between **../** and **classes**.)

61. Copy all files under the directory /home/wind/WC9/Windchill/Windchill.ear/META-INF to /home/wind/WC9/Windchill/META-INF/.

62. Copy the file ibm-web-bnd.xmi from /home/wind/WC9/Windchill/Windchill.ear/codebase/WEB-INF to /home/wind/WC9/Windchill/codebase/WEB-INF/

63. Start WebSphere by entering the following command. (**Note:** This takes some time.)
```
/usr/IBM/WebSphere/AppServer/bin/startServer.sh server1
```

64. Restart IBM HTTP Server by entering the following two commands:
```
/usr/IBM/HTTPServer/bin/apachectl stop
/usr/IBM/HTTPServer/bin/apachectl start
```

Subtask 2: Loading Windchill data

In this second part of Task 5, you will load the Windchill data.

1. Under the original dtterm window (which is the standard terminal emulator for an X Window system), as *wind*, enter the following command: **cd /home/wind/WC9/Windchill/bin**.

65. Run the following windchill data-loading command:
    ./windchill wt.load.WindchillLoader -All -Unattended –IncludeDemo

66. After a while, a login window opens. Enter **wcadmin** as the login ID and **wcadmin** as the password. Click **Yes** to log in and to start the data-loading process. (See Figure 38.)
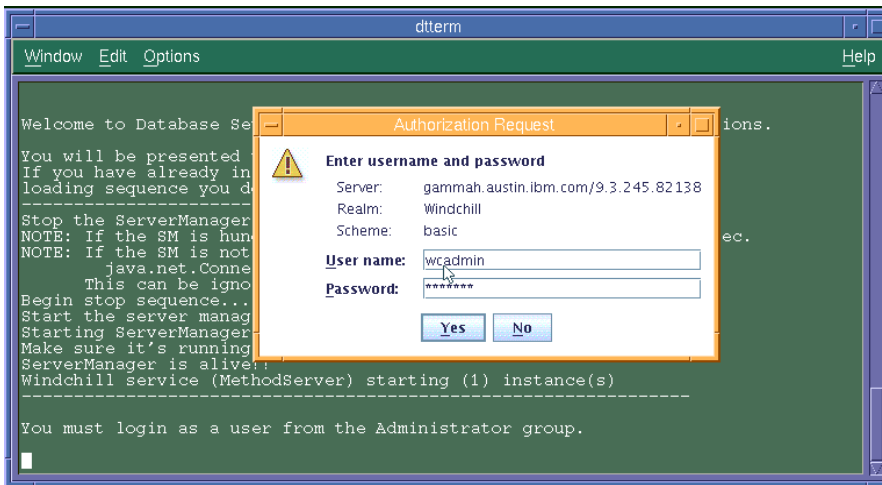
Figure 38. Task 5 subtask 2 i

67. During the loading, there are lots of messages from the dtterm window. At the end, the screen shows something that looks similar to Figure 39.
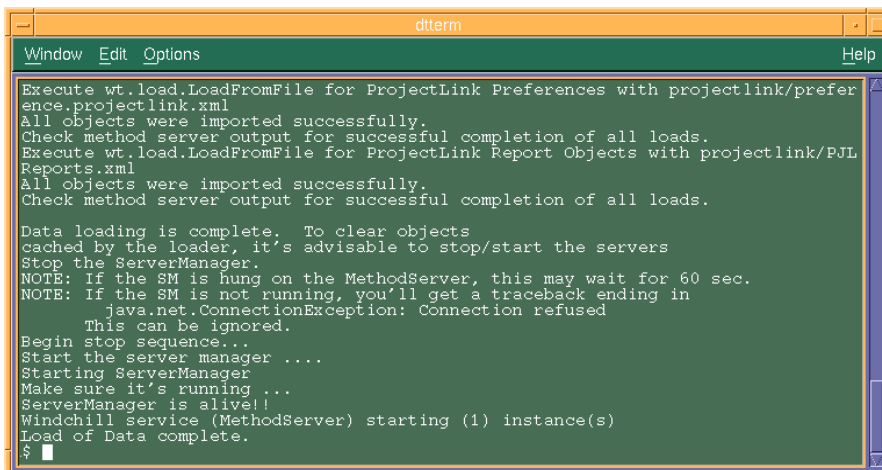
Figure 39. Task 5 subtask 2 ii

68. Now that the Windchill data is loaded, you can log in to Windchill. Point the browser to the Windchill application by entering `http://gammah.austin.ibm.com/Windchill`.

69. A Prompt window appears (see Figure 40). Enter **wcadmin** as the login user name and enter **wcadmin** as the password, then click **OK**.
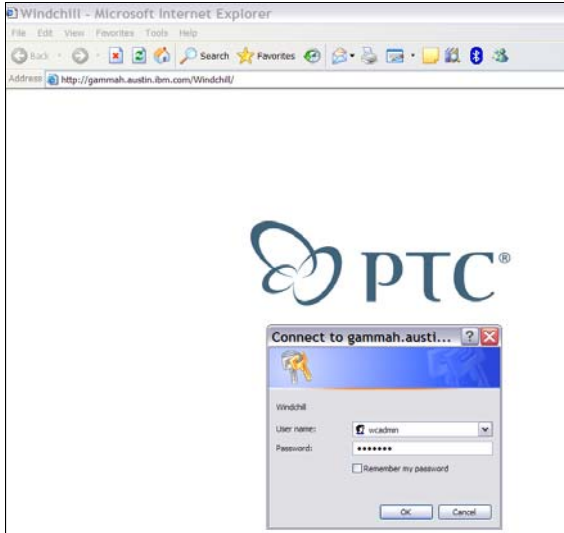
Figure 40. Task 5 subtask 2 iii

70. After the login, the Windchill application shows the following Windchill Web Home page (see Figure 41), and the installation of the general-availability (GA) level of Windchill 9.0 is complete.
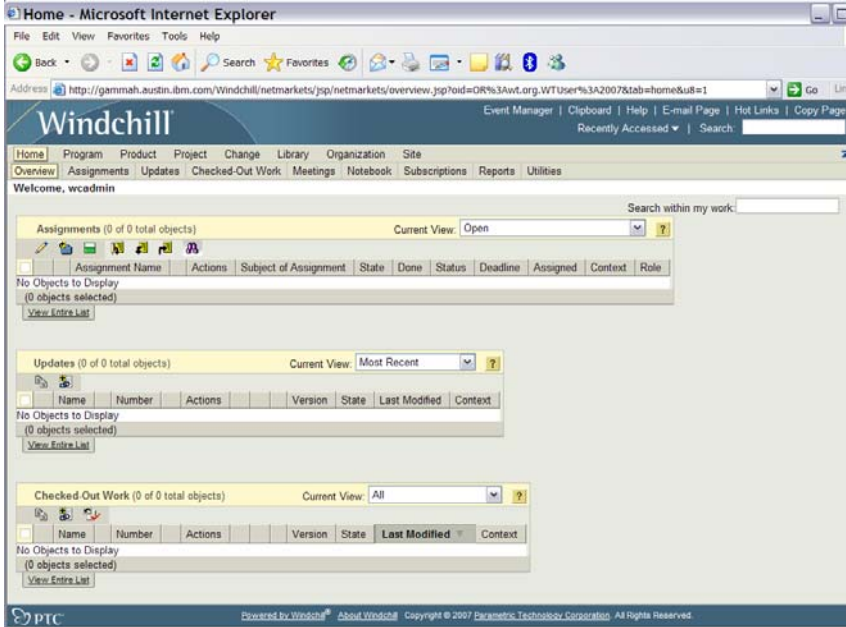
Figure 41. Task 5 subtask 2 iv

Task 6: Upgrading Windchill to M010

The abbreviated steps that are documented in this section help you in updating an existing installation of Windchill 9.0 Datacode F0000 to M010. These same steps are fully described in the following two PTC manuals (found at www.ptc.com):

- *Windchill Installation and Configuration Guide - Update Existing Installation*
- *Windchill Maintenance* (**Note:** First, read *Windchill 9.0 M010 - 16 November 2007.)*

Subtask A: Stopping the server processes

Before upgrading Windchill to M010, you must stop the IBM HTTP Server, WebSphere Application Server and Windchill processes.

1. To stop the server processes, as root, type the following two commands:
   ```
   /usr/IBM/HTTPServer/bin/apachectl stop
   /usr/IBM/WebSphere/AppServer/bin/stopServer.sh server1
   ```

71. As user *wind*, type the following two commands:
   ```
   cd /home/wind/WC9/Windchill/bin
   ./windchill stop
   ```

Subtask B: Backing up Aphelion data

Before upgrading Windchill to M010, you also need to back up the Aphelion (LDAP) data. (**Note:** You must run all of the following steps with root permission.)

1. Change the directory by entering the following command: `cd /opt/lde/var/PTCLdap`.

72. To export the Aphelion data, enter the following command:
   ```
   /opt/lde/sbin/export -f ./PTCLdap_lde.conf
   ```

73. Use the following command to open the Aphelion lde.log.general file to verify that the export was successful: `vi /opt/lde/var/PTCLdap/PTCLdap_logs/lde.log.general`.

   a. Locate the following message within the lde.log.general log file:

      Export: Export of all requested databases completed

   Note: If this message has the time stamp that corresponds to your export, the export was successful; you can ignore other messages in the file.

74. Copy the exported root.ldif file by entering the following command:
   ```
   cp /opt/lde/var/PTCLdap/PTCLdap_database/root.ldif /save/root.ldif
   ```

75. Save your configuration information. For example, you need to save the following types of information: `cn=Manager, passwd=ibm123 and port=389`.

Subtask C: Upgrading Aphelion to the M010 level

Use the following steps to update Aphelion to the M010 level; this involves uninstalling and then reinstalling Windchill. (**Note:** You must run all of the following steps with root permission.)

1. To uninstall aphelion, do the following steps:

   a. Enter the following command: `ps -eaf|grep lde|grep process` and then use the **kill** command to end the two Aphelion processes.

   b. Uninstall Aphelion by entering the following command and then clicking **Uninstall** (see Figure 42):

      `/home/wind/WC9/Aphelion/UninstallerData/Uninstall_aphelion`

Click **Uninstall**.

After the uninstallation is complete, click **Done** to exit the *Uninstall Aphelion* page.
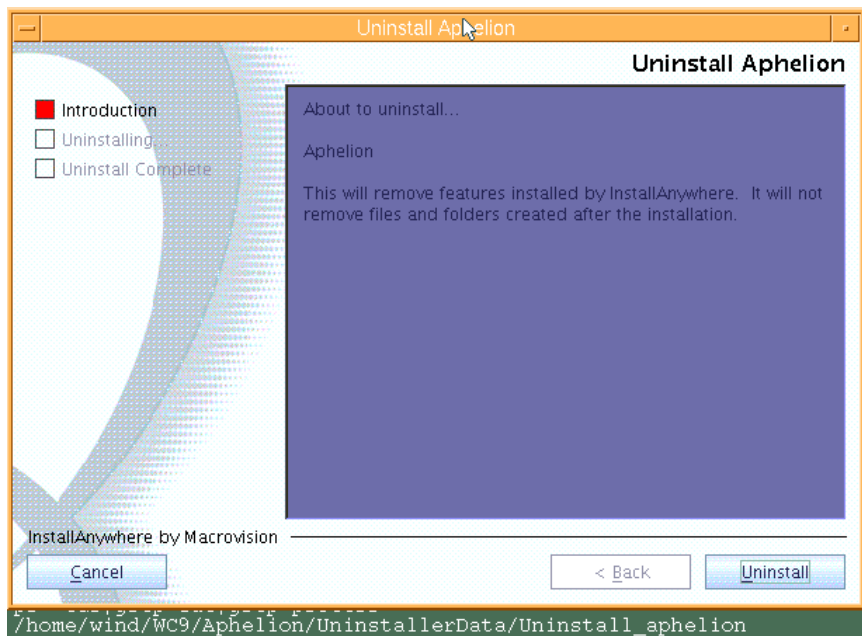
Figure 42. Task 6 subtask C i

76. To install the M010 version of Aphelion, run the PSI wizard that is delivered with M010.

    a. Select **Update Existing Installation > Standalone Products and Components Only** and install only Aphelion. Start the PSI by running ./setup from the directory where the solution installation files exist, then click **OK** (see Figure 43).
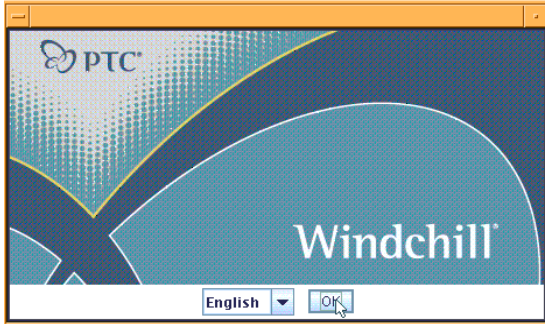
Figure 43. Task 6 subtask C ii

Click **Next** in the window that looks similar to the page shown in Figure 44.
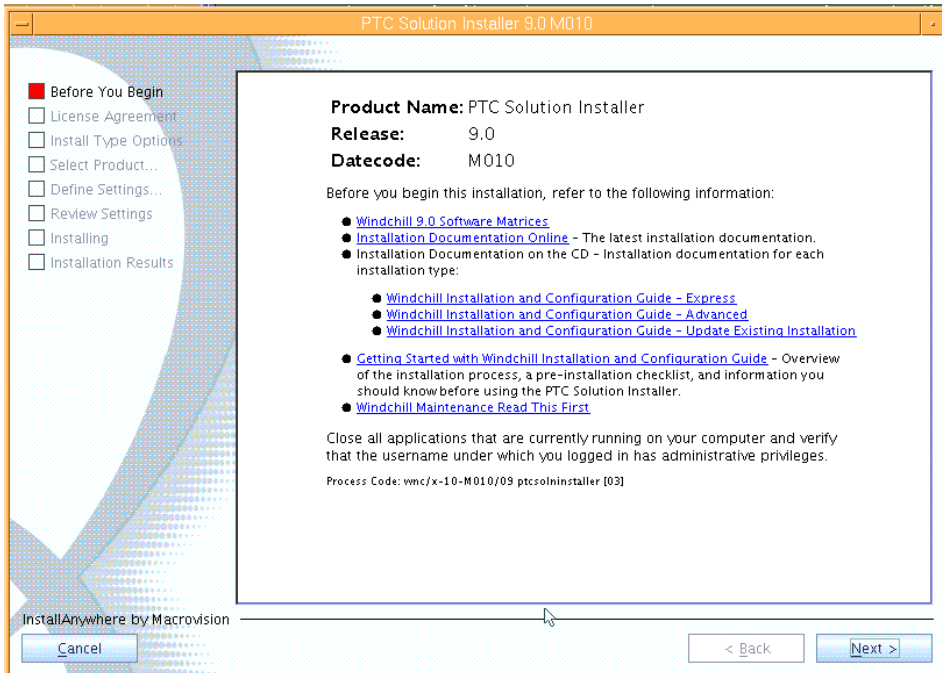
Figure 44. Task 6 subtask C iii

On the License Agreement page, select **I Accept the Agreement Terms and Conditions**, then click **Next** in the window that looks similar to Figure 45
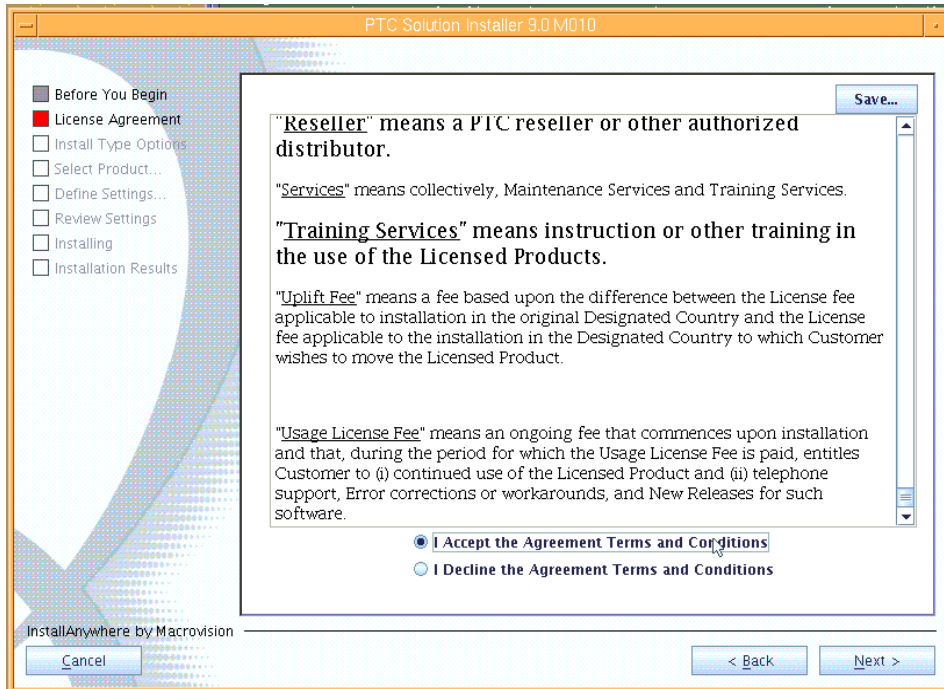
Figure 45. Task 6 subtask C iv

If a window that looks similar to Figure 46 is displayed, click **No**.
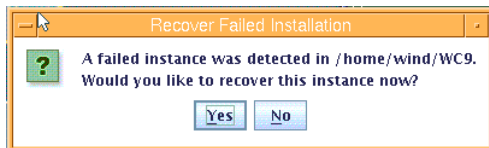
Figure 46. Task 6 subtask C v

In Figure 47, select **Advanced** then click **Next**.
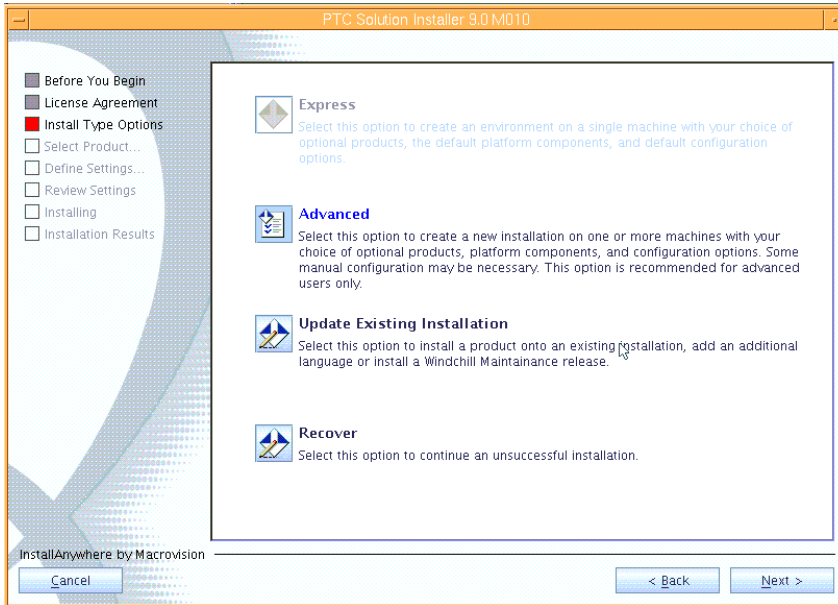
Figure 47. Task 6 subtask C vi

In Figure 48, select **Standalone Product or Component**, then click **Next**.
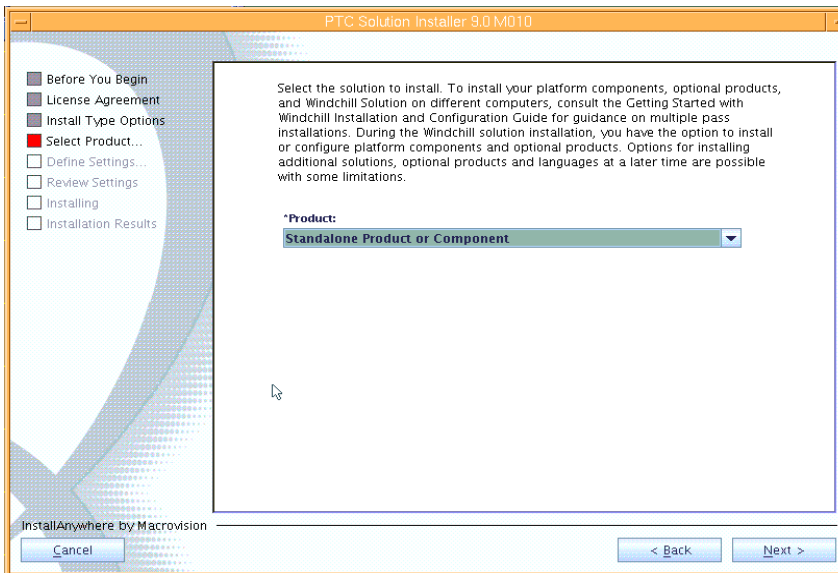
Figure 48. Task 6 subtask C vii

In Figure 49, select **Aphelion Directory Server for Windchill**, deselect **Configure Aphelion Web Tools**, then click **Next**.
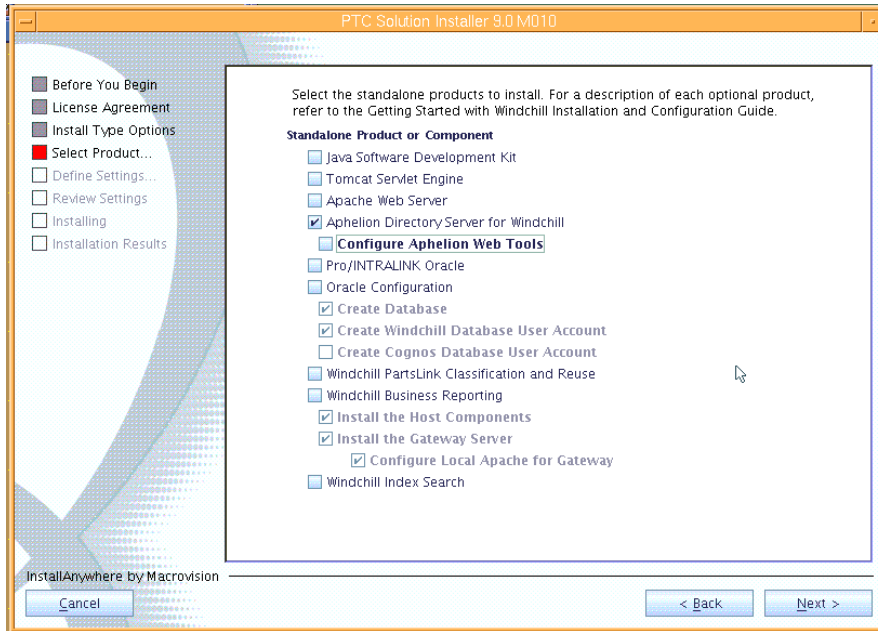
Figure 49. Task 6 subtask C viii

In Figure 50, change Base Installation Directory to `/home/wind/WC9`, which causes Installation Directory For Aphelion to become `/home/wind/WC9/Aphelion`. Set Directory For Java SDK to `/home/wind/WC9/Java`, then click **Next**.
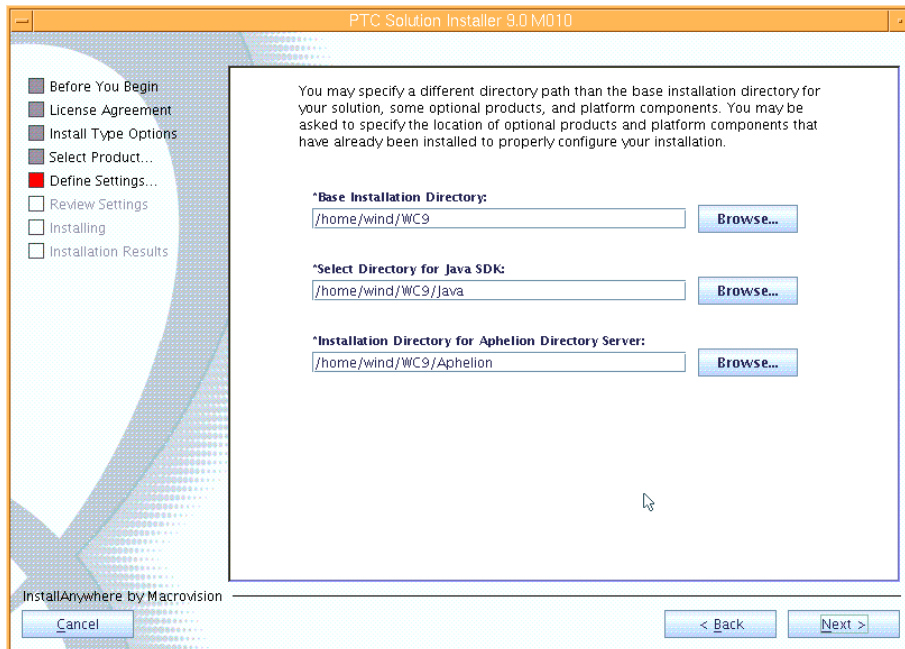
Figure 50, task 6 subtask C ix

In Figure 51, enter **389** for LDAP Port Number, **ibm123** for Administrator Password and **cn=Manager** for Distinguished Name. Leave Aphelion Naming Context blank. Click **Next**.
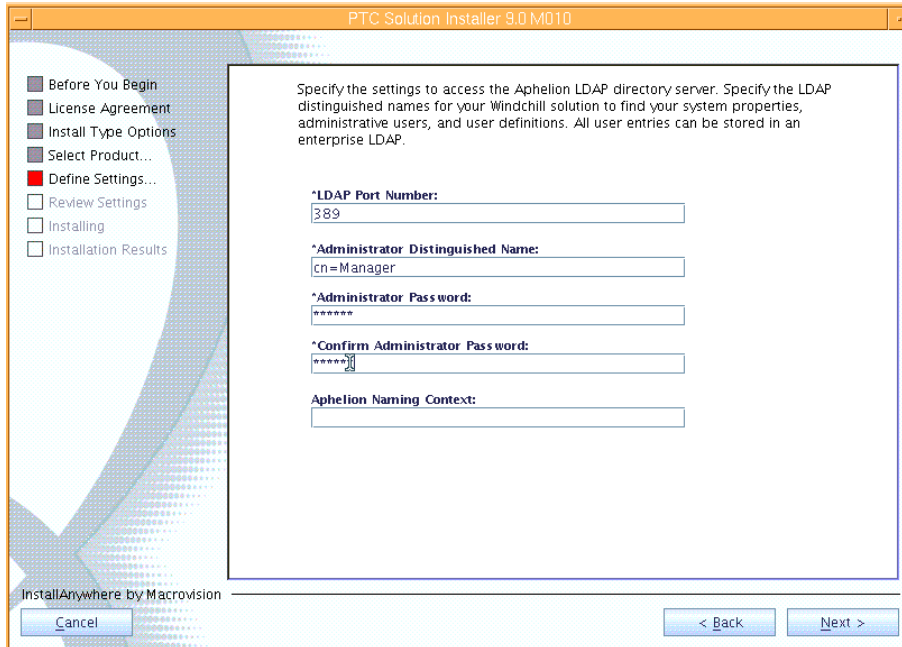
Figure 51. Task 6 subtask C x

Click **Next** in the window that looks similar to Figure 51
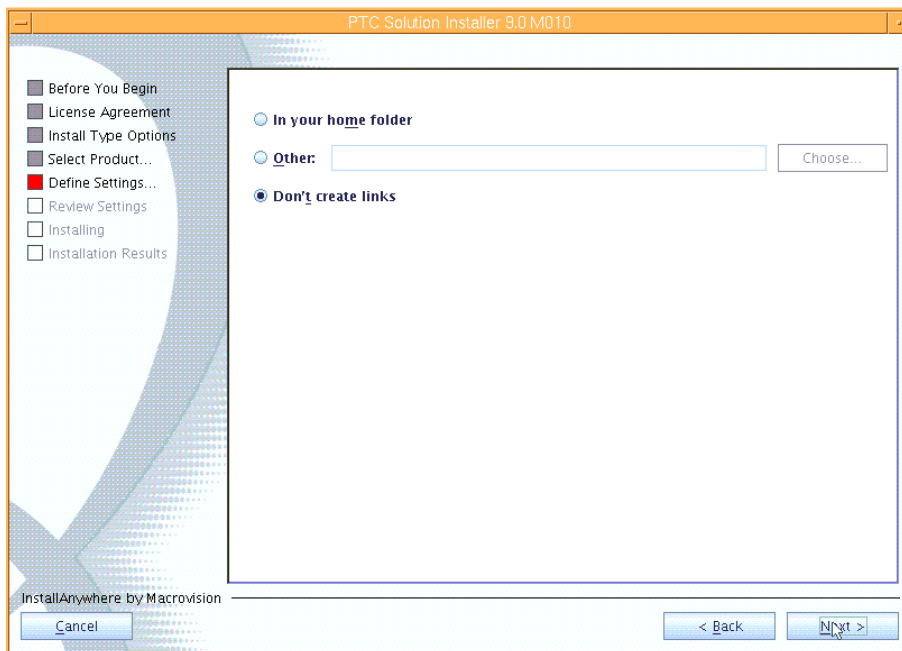
Figure 52. Task 6 subtask C xi

In Figure 53, use the **/opt/ptc/Installers** staging area. Click **Next**.
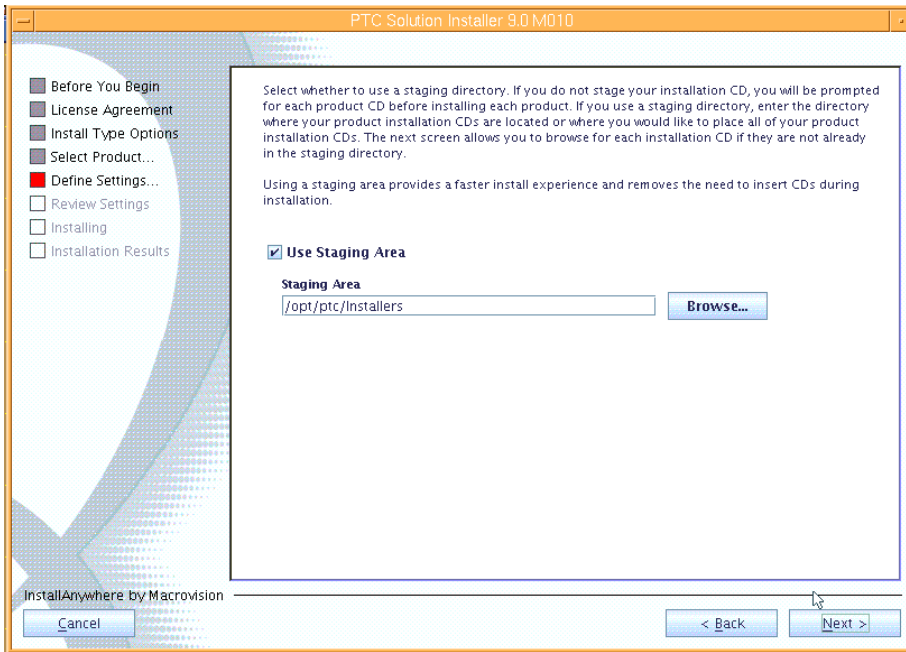
Figure 53. Task 6 subtask C xii

In Figure 54, click **Copy Disc**, then browse to the location where the M010 delivered version of the Aphelion directory server install images are located, then click **OK** to copy the files into the staging area.
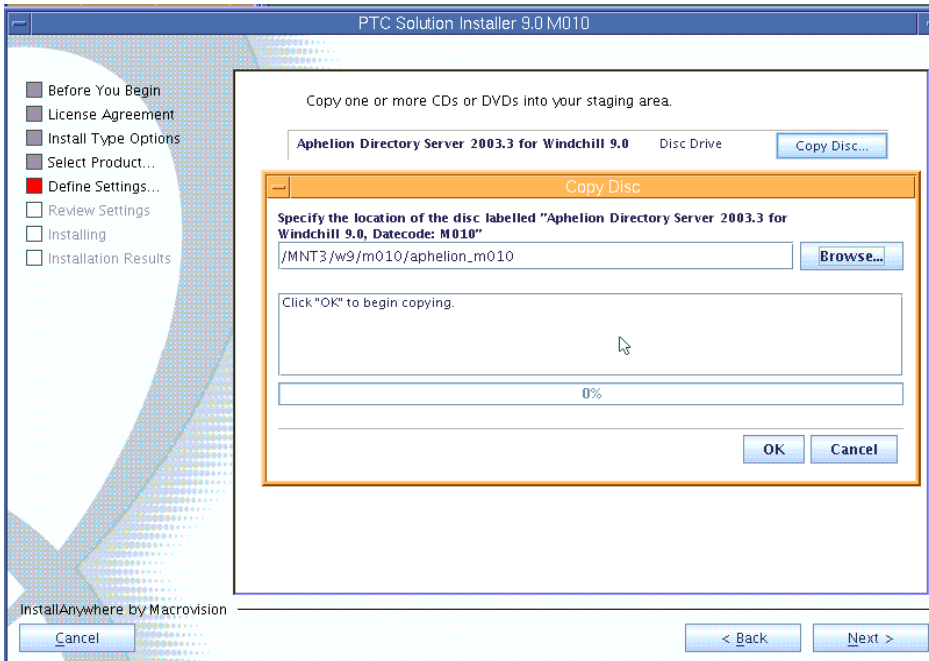
Figure 54. Task 6 subtask C xiii

In Figure 55, after the Aphelion images are copied into the staging area, click **Next**.
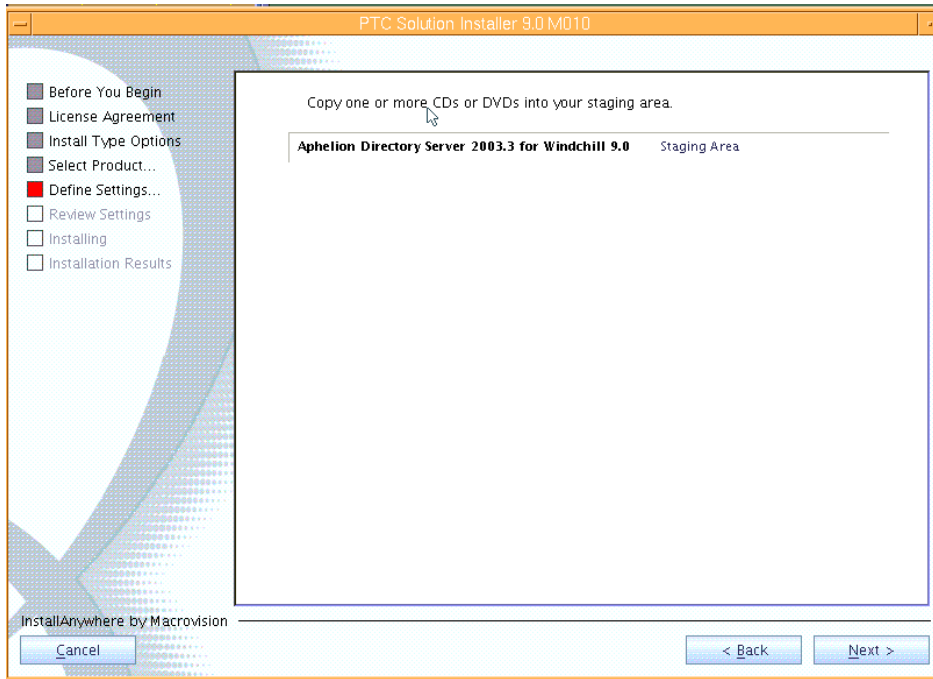
Figure 55. Task 6 subtask C xiv

In Figure 56, click **Install** to begin the installation of Aphelion.
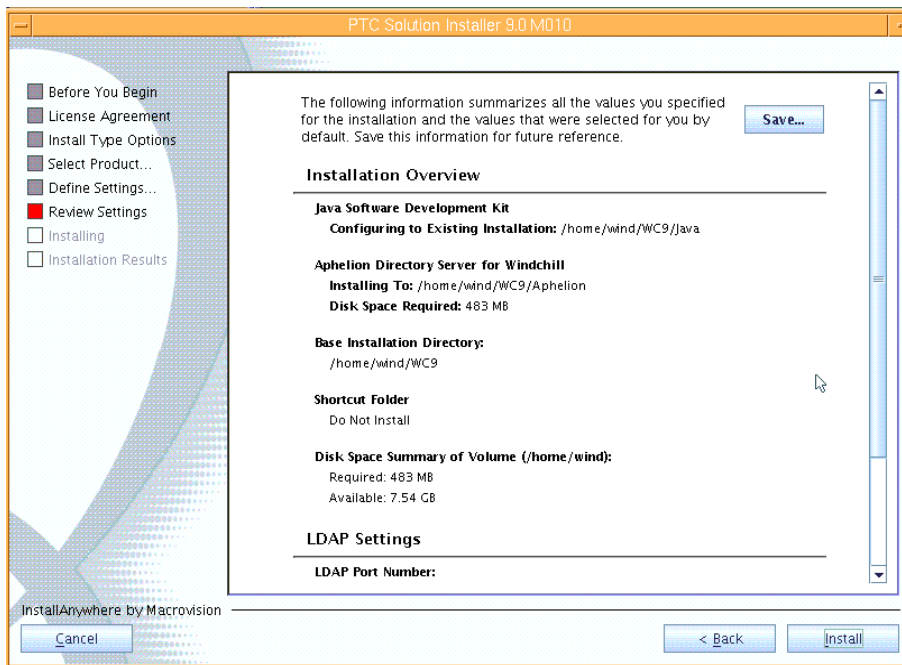
Figure 56. Task 6 subtask C xv

Aphelion LDAP has been installed. Click **Done** in the window that looks similar to Figure 57.
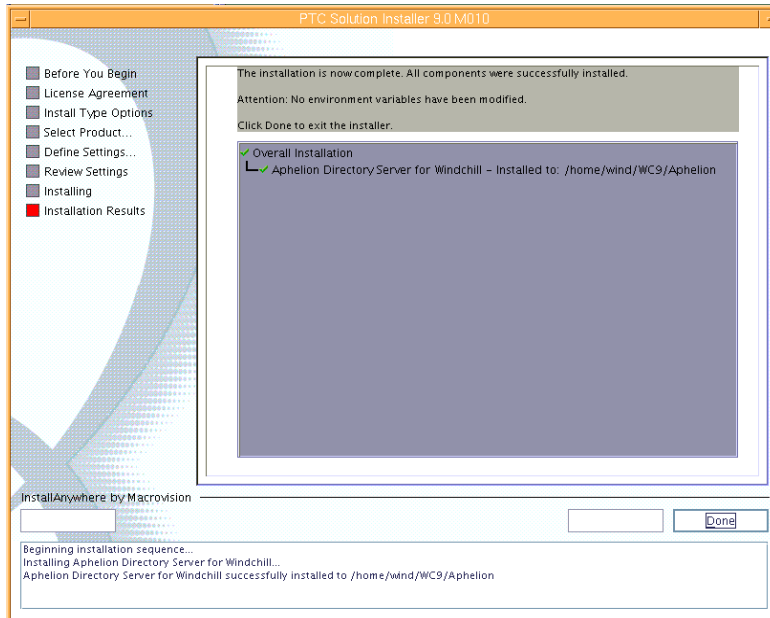
Figure 57. Task 6 subtask C xvi

Subtask D: Importing the LDAP database

In subtask D, you must import the Aphelion data to the new Windchill M010 installation. (**Note:** Run all of the following steps with root permission.)

1. Stop the Aphelion processes by entering the following commands:
   ```
   ps –eaf|grep lde|grep process
   use kill to terminate the two Aphelion processes
   ```

77. Copy the saved version of the exported root.ldif file (that you exported in Task 6 subtask B) to the following location: cp /save/root.ldif /opt/lde/var/PTCLdap/PTCLdap_database/.

78. Change the directory by entering the following command: `cd /opt/lde/var/PTCLdap`.

79. Run the following command to import the LDAP data:
    `/opt/lde/sbin/import -f ./PTCLdap_lde.conf.`

80. Open the Aphelion lde.log.general file and verify that the import is successful by entering the following command: pt/lde/var/PTCLdap/PTCLdap_logs/lde.log.general

81. Verify that the import completed properly by locating the following messages in the file:
    Import: Index file building completed successfully.
    Import complete: LDE localhost:*<port_number>*

    Note: If these messages have the time stamp that corresponds to your import, the import is successful; you can ignore other messages in the file.

82. Restart the Aphelion server by entering the following command:
    `/home/wind/WC9/Aphelion/instTemp/startAix.sh`

Subtask E: Verifying that Aphelion works

Use the following steps to test that the Aphelion Directory installation is now at M010.

1. Start the LDAP browser.

83. At a UNIX® command prompt, enter the following command:
   ```
   /home/wind/WC9/Aphelion/SyntegraLDAPBrowser/ptclbe.sh
   ```

84. The LDAP browser starts and the **Connect** dialog box is displayed (see Figure 58). To connect to the local directory, select **localhost** and click **Connect**.
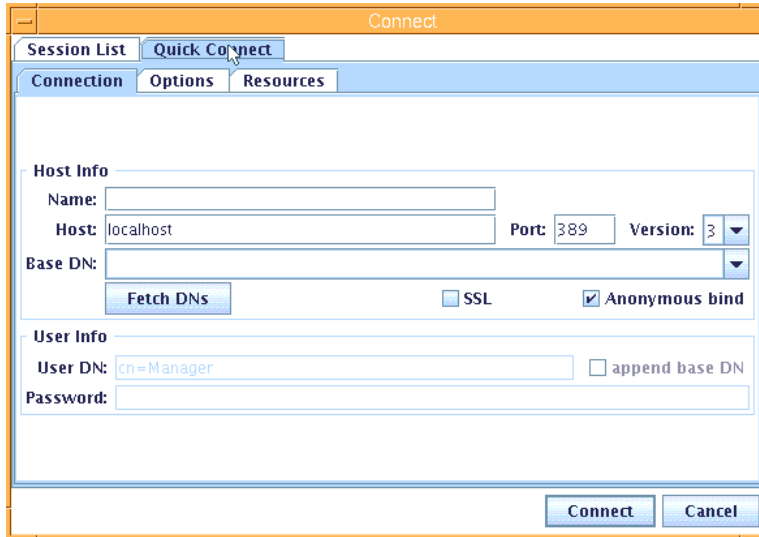

Figure 58. Task 6 subtask E i

85. If your connection is successful and you are able to see objects that look similar to Figure 59, the Aphelion Directory is operating correctly.
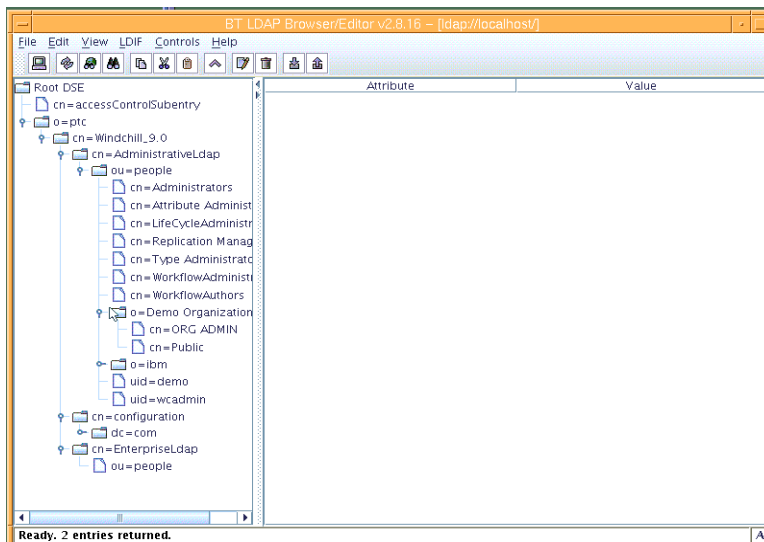
Figure 59. Task 6 subtask E ii

Subtask F: Updating the rest of Windchill to M010

Before updating Windchill to M010, verify that the Aphelion LDAP and Oracle database instances are started. Then, apply the M010 maintenance to the Windchill installation by performing the following steps:

1. Update the Windchill solution by using the following command format:
   cd /path_to_solution_install_m010. For example, you might enter the following:
   ```
   /MNT3/w9/m010/solutioninstaller_m010
   ./setup
   ```

86. Click **OK**, as shown in Figure 60 (to install in English).
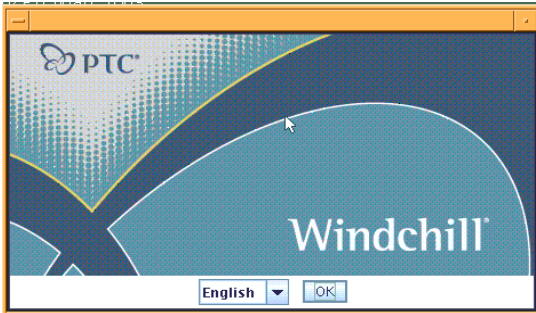
Figure 60. Task 6 subtask F i

87. On the "Before you begin this installation" page, click **Next**, as shown in Figure 61.
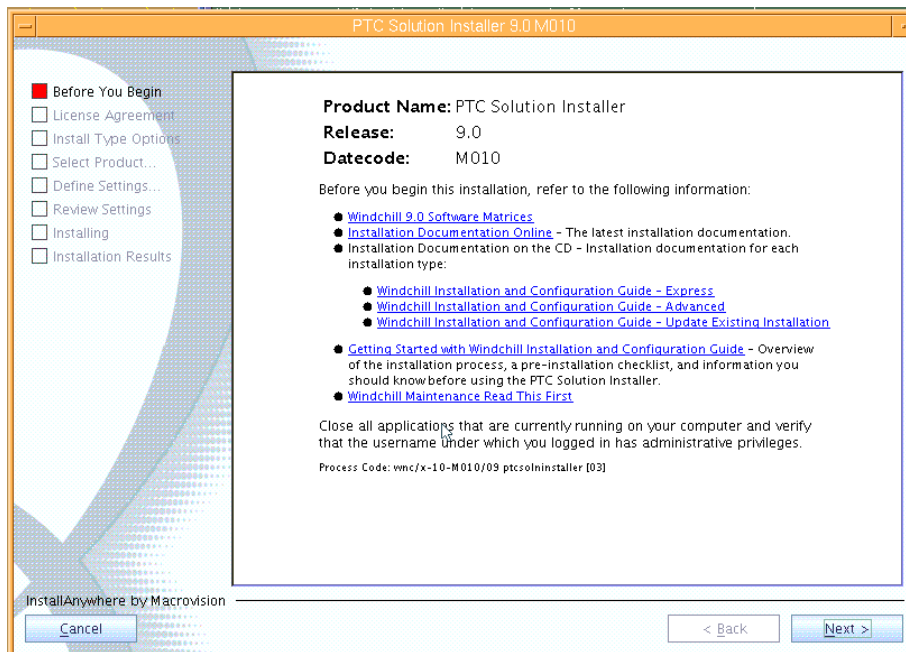
Figure 61. Task 6 subtask F ii

88. On the License Agreement page, select **Standalone Product or Component**, then click **Next**, as shown in Figure 62.
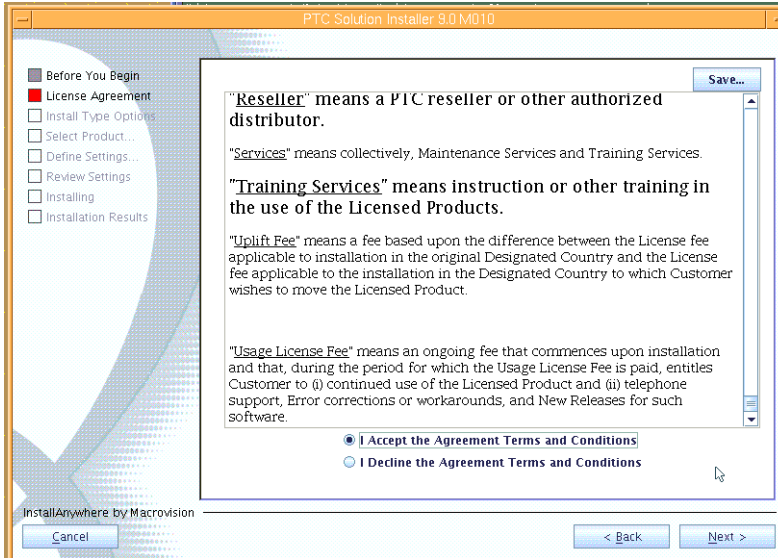
Figure 62. Task 6 subtask F iii

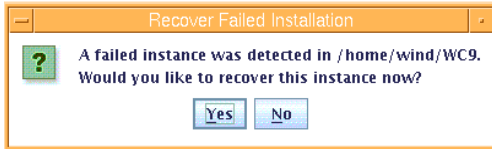89. If the page shown in Figure 63 is displayed, click **No**.

Figure 63. Task 6 subtask F iv

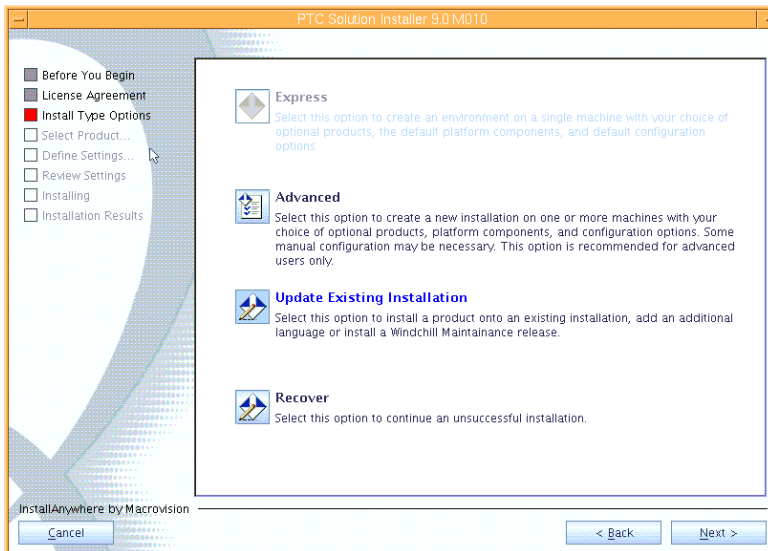90. Select **Update Existing Installation**, then click **Next**, as shown in Figure 64.

Figure 64. Task 6 subtask F v

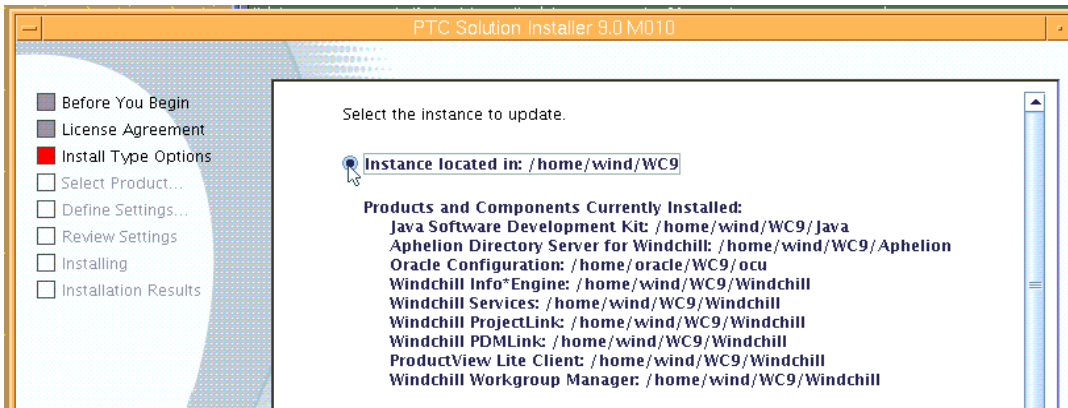91. In Figure 65, select **Instance Located in: /home/wind/WC9**, then click **Next**.

Figure 65. Task 6 subtask F vi

92. In Figure 66, select Apply Maintenance Release and Service Pack and Standalone Products or Components, then click **Next**.
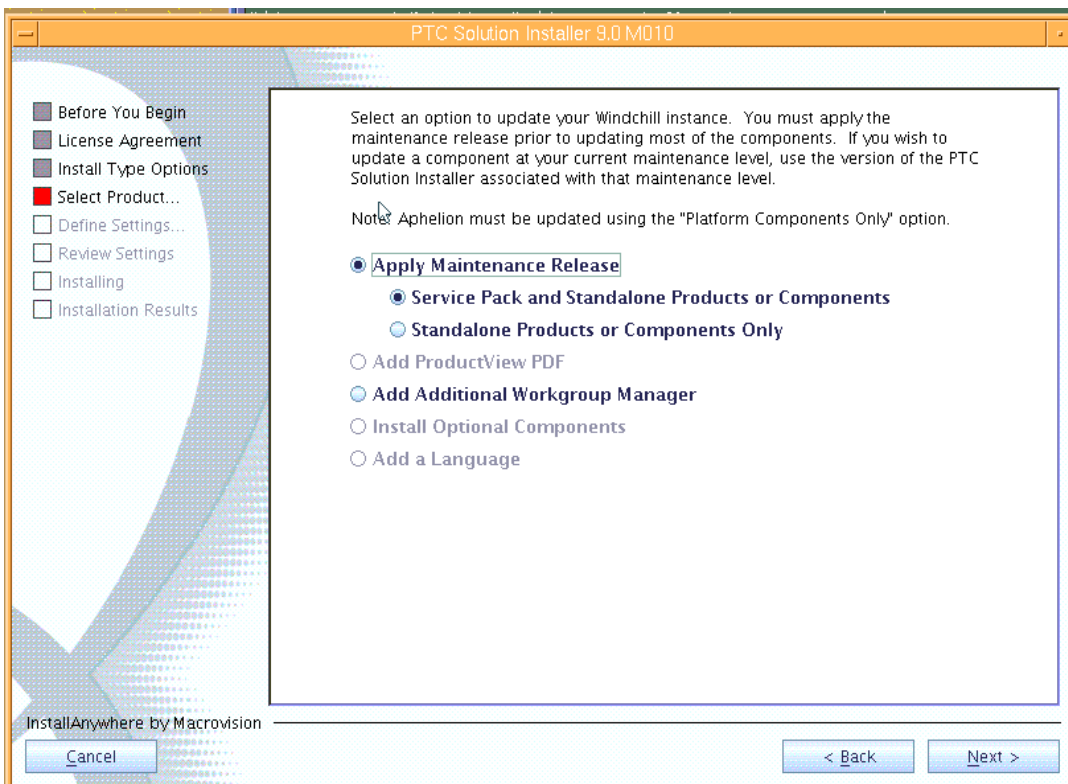

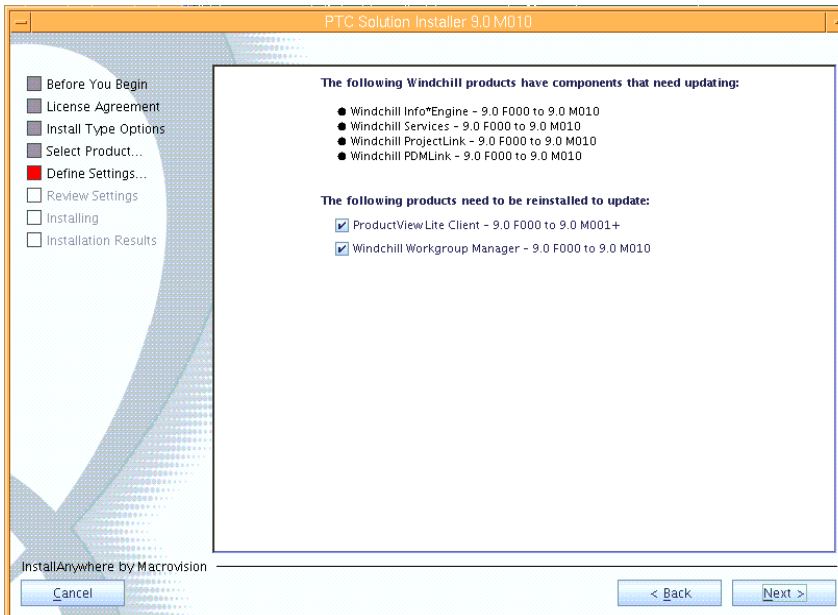*Figure 66. Task 6 subtask F vii*

93. In Figure 67, click **Next**.

Figure 67. Task 6 subtask F viii

94. In Figure 68, browse to the location where the service pack images for Windchill M010 exists, then click **OK**.

Figure 68. Task 6 subtask F ix

95. After a couple of minutes, you might see the **Confirm No Safe Area**; click **Yes** to proceed, as shown in Figure 69

Figure 69. Task 6 subtask F x

96. On the Select service pack installation page, click **Complete**, then click **Next**, as shown in Figure 70.
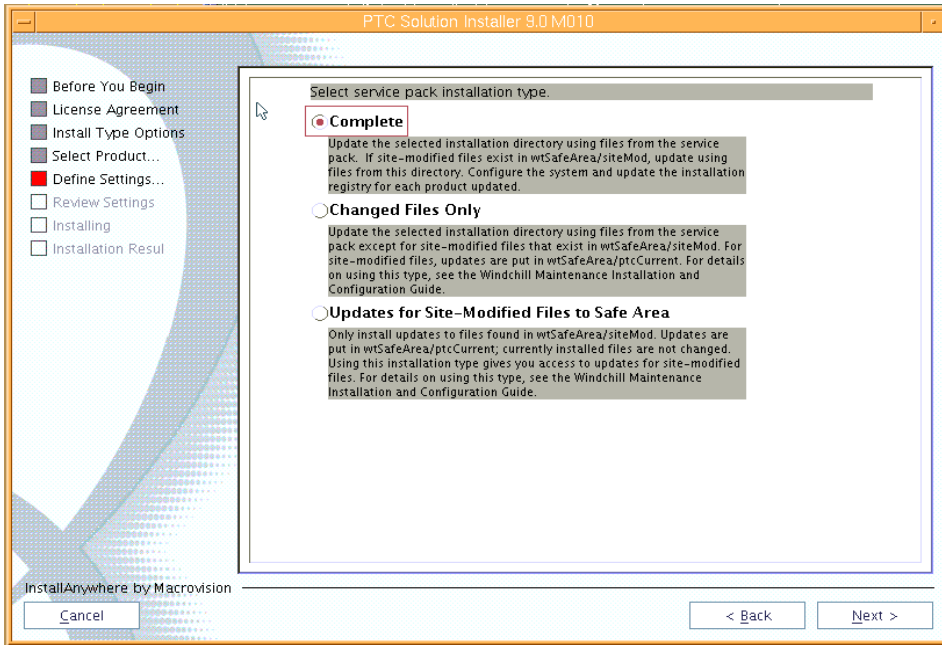

Figure 70. Task 6 subtask F xi

97. In Figure 71, review the files in the WSP_Files_To_Install_Listing.txt, then click **Next**.
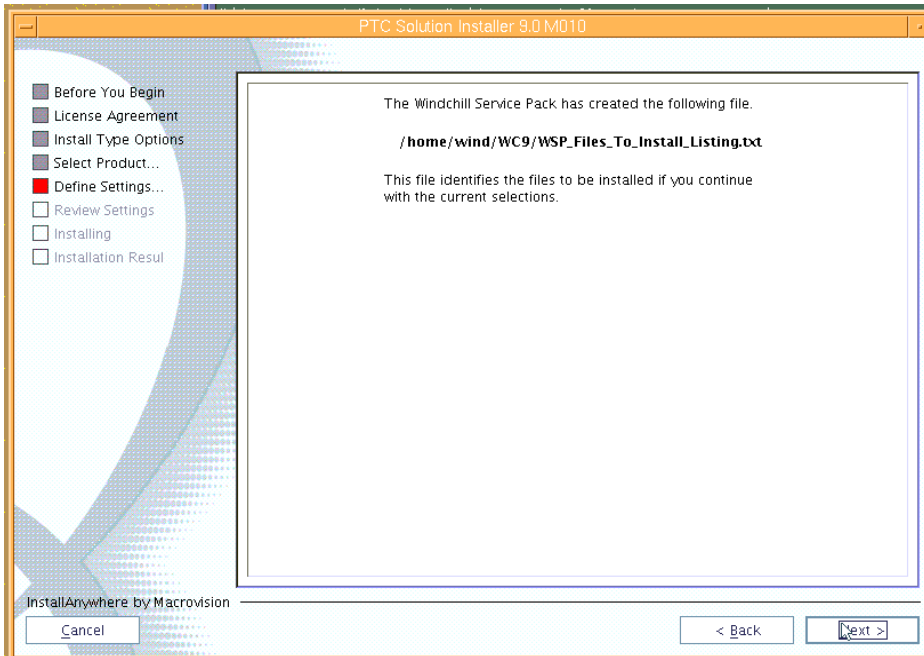

Figure 71. Task 6 subtask F xii

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98. You are prompted, again, to select whether to use a staging directory for the installation CDs. In this example, the staging are is **/opt/ptc/Installers**. Click **Next**, as shown in Figure 72.
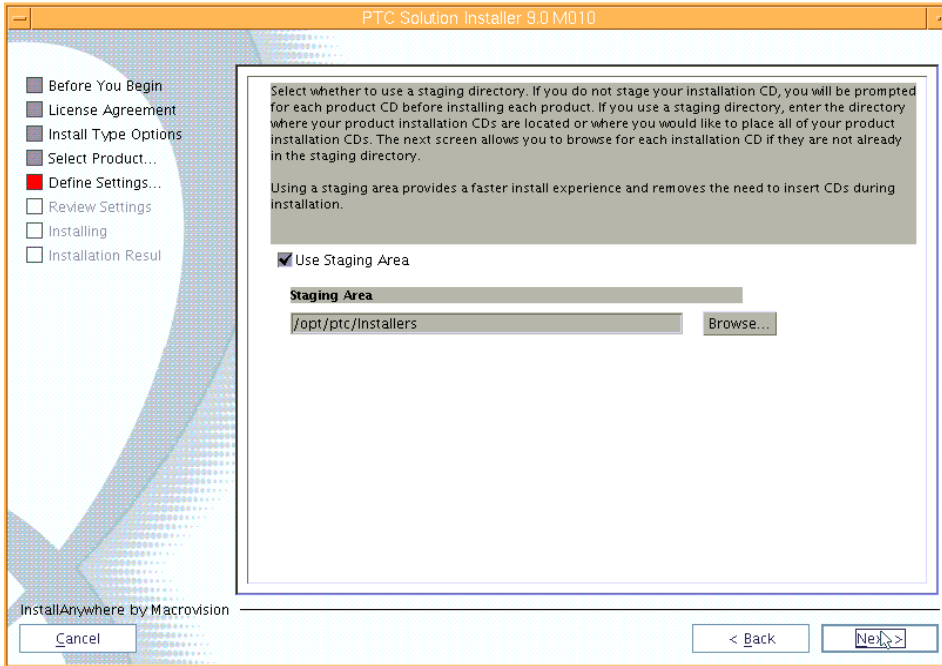

Figure 72. Task 6 subtask F xiii

99. In Figure 73, clicking **Copy Disc** results in a prompt for the location where the update files are accessible for copying into the staging area.
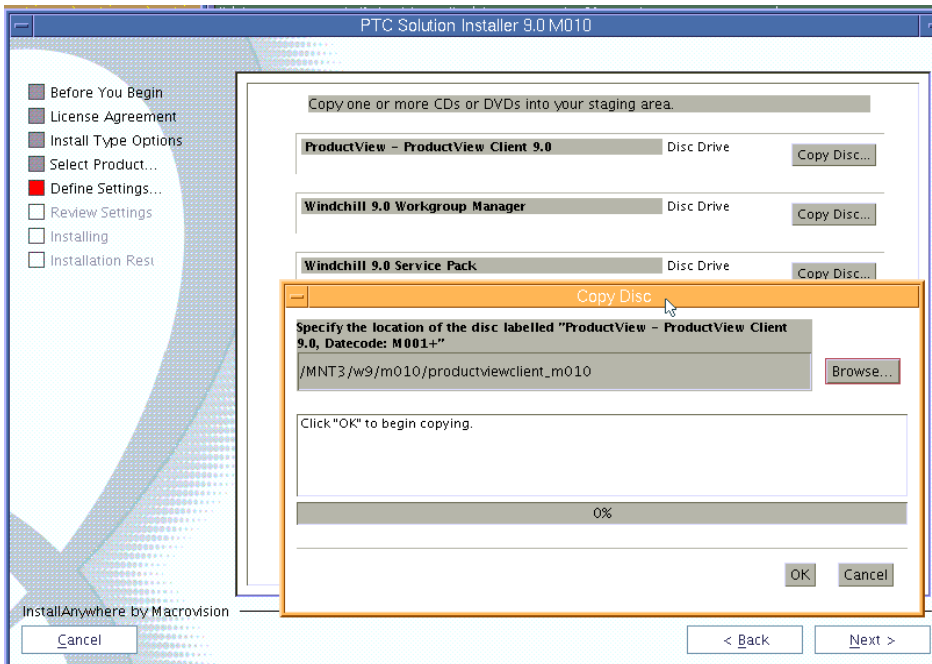

Figure 73. Task 6 subtask F xiv

100.   In Figure 74, after the copies are complete, the PSI wizard shows that all of the files are
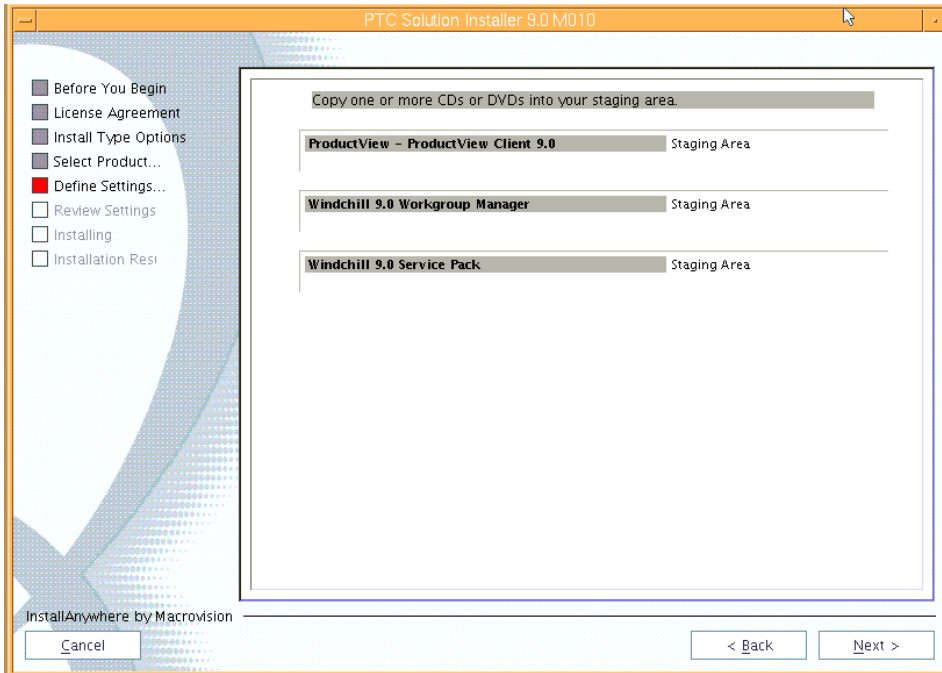   in the staging area. Click **Next**.

Figure 74. Task 6 subtask F xv

101.   In Figure 75, review the information, then click **Install**.
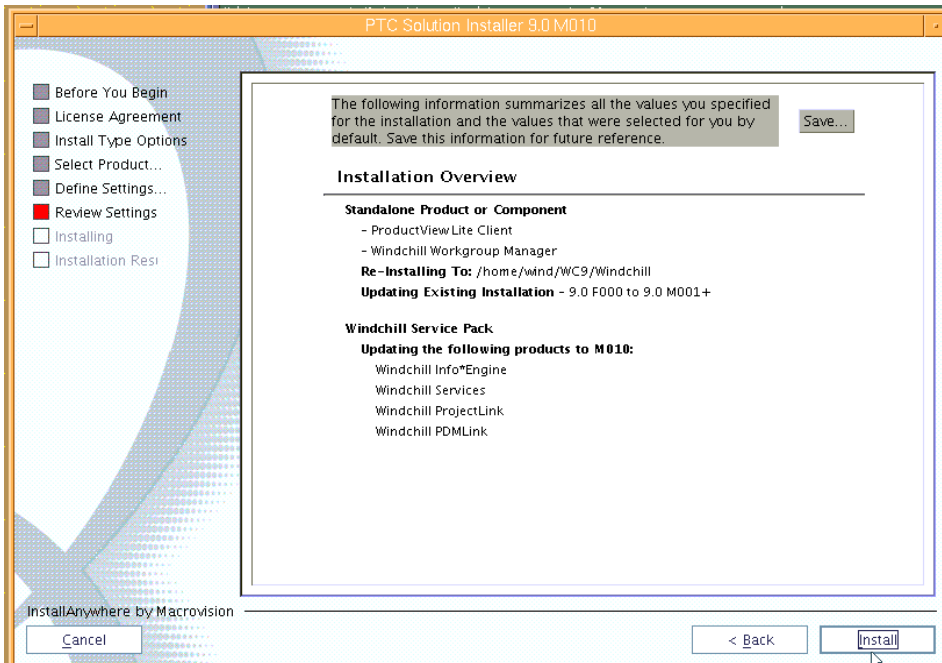

Figure 75. Task 6 subtask F xvi

102.   After reviewing the installation results, click **Done**, as shown in Figure 76.
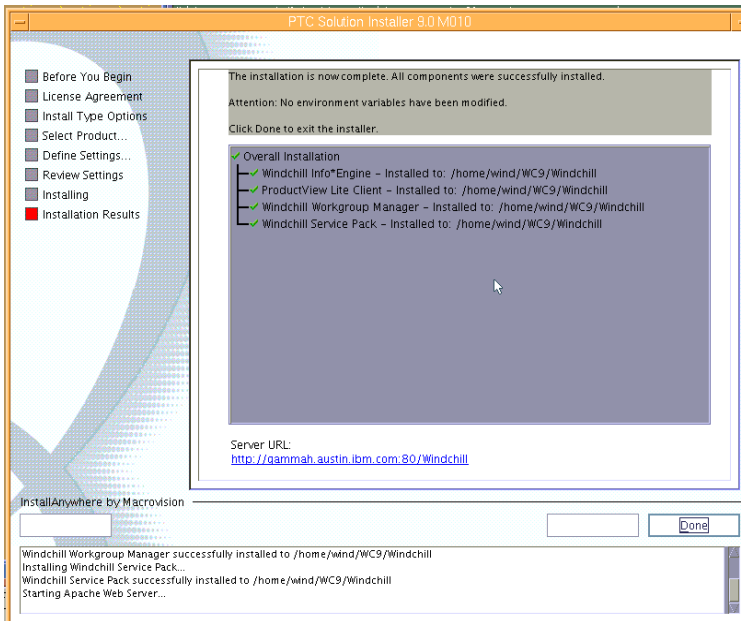

Figure 76. Task 6 subtask F xvii

Subtask G: Installing additional workgroup managers

The Windchill M010 maintenance release delivers additional workgroup managers. Although this step is optional, the following is an example of adding the CATIA V5R17 manager.

1. Restart the PSI and follow the prompts, using similar responses to those in Figure 60 through Figure 65. The steps diverge at the Figure 66 point where you select **Add Additional Workgroup Manager**, rather than Apply Maintenance Release, as shown in Figure 77.
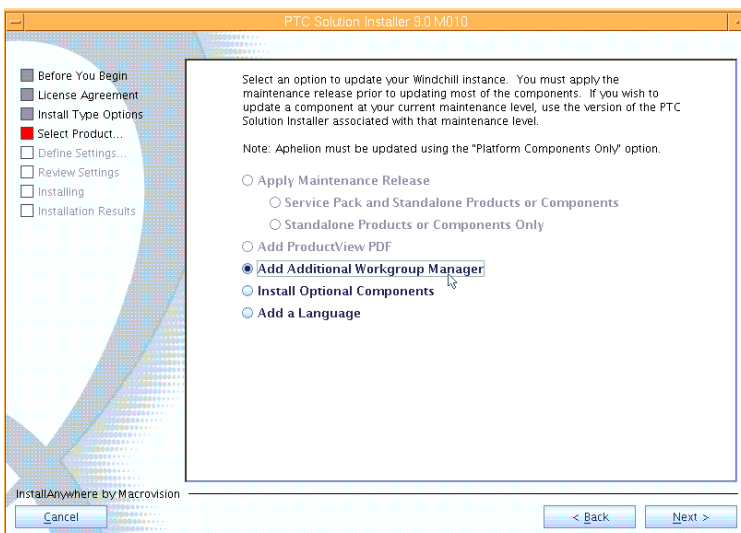

Figure 77. Task 6 subtask G i

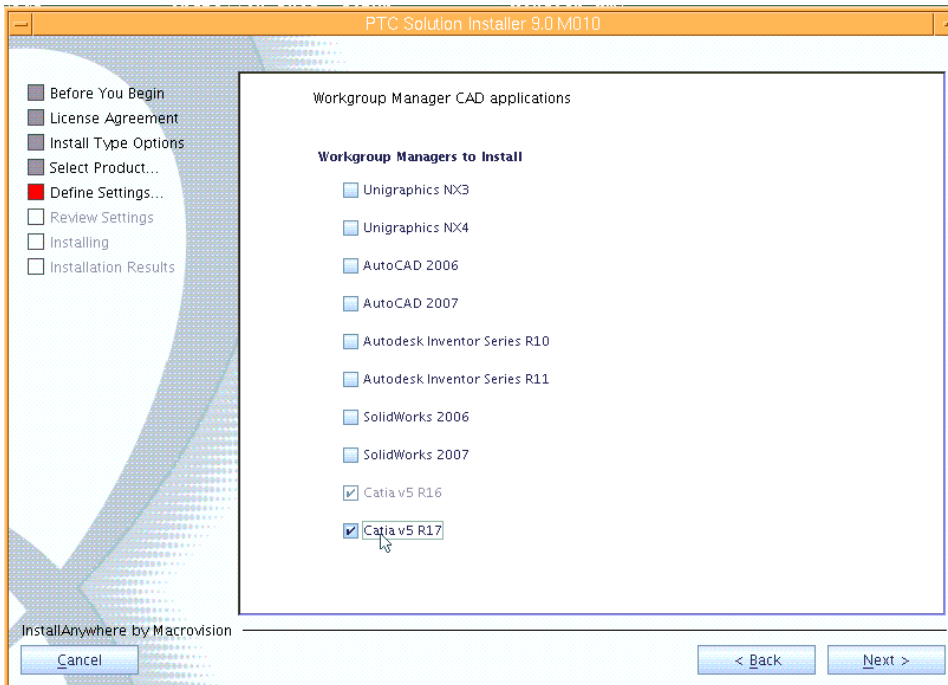103.   Select **CATIA V5R17**, then click **Next**, as shown in Figure 78.

Figure 78. Task 6 subtask G ii

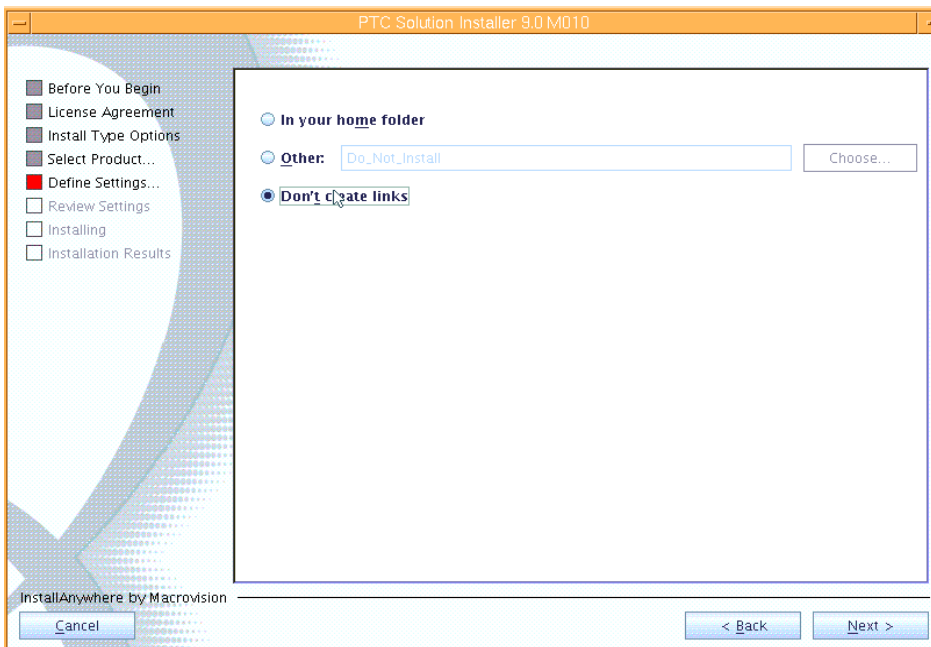104.   Select **Don't create links**, then click **Next**, as shown in Figure 79.

Figure 79. Task 6 subtask G iii

105.   In Figure 80, click **Next** to use the **/opt/ptc/Installers** staging area.
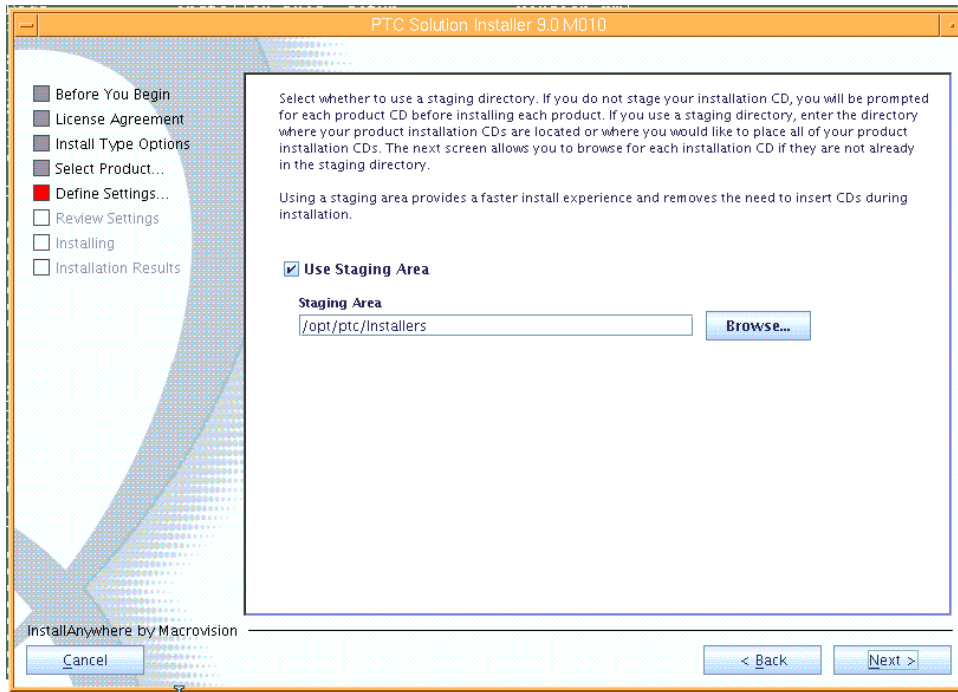

Figure 80. Task 6 subtask G iv

106.   Notice that, in Figure 81, the Workgroup Manager files are already in the staging area, so click **Next**.
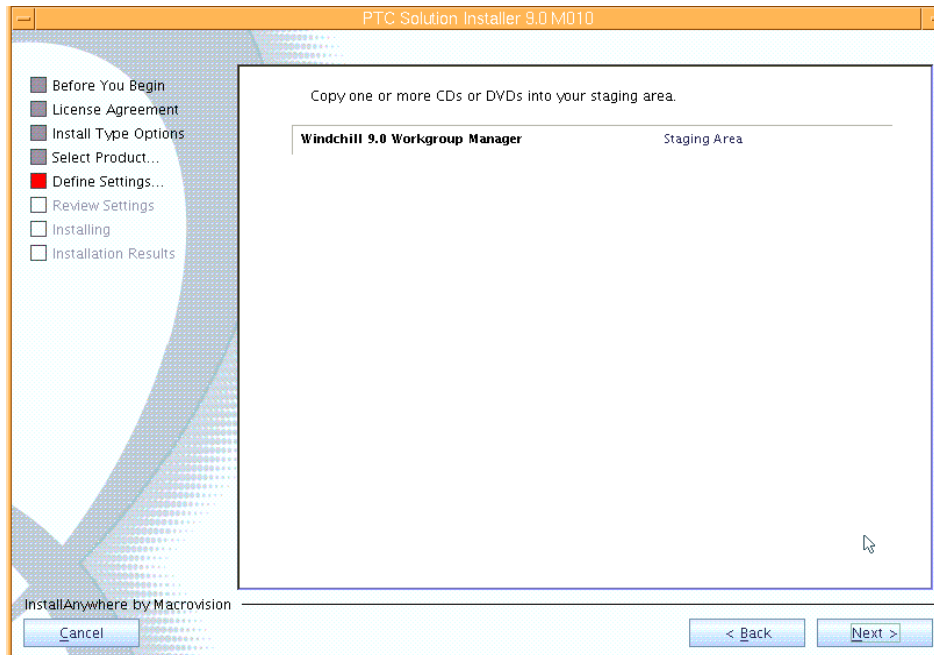

Figure 81. Task 6 subtask G v

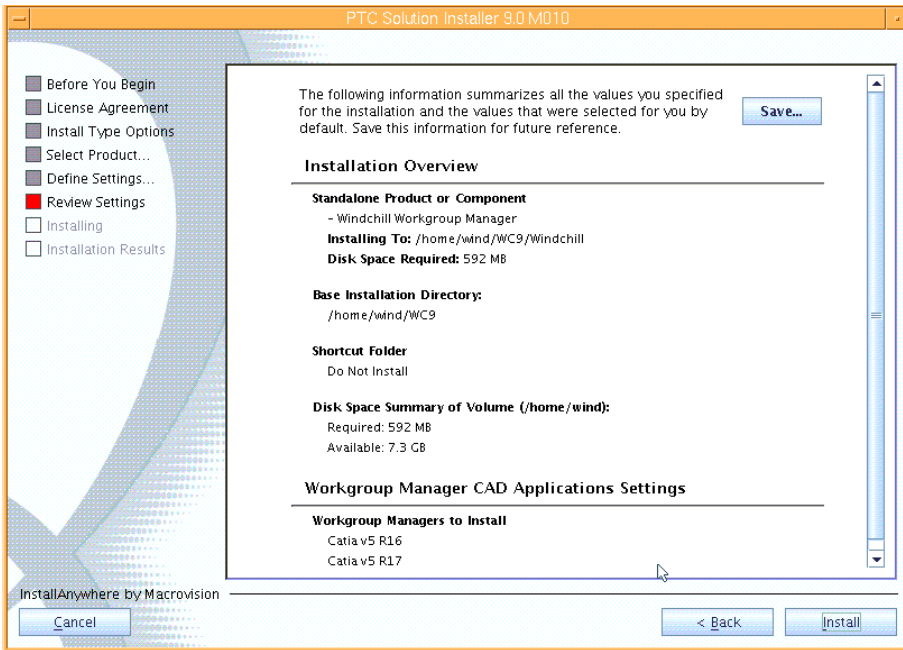107.　　　Review the summary, then click **Install**, as shown in Figure 82.

Figure 82. Task 6 subtask G vi

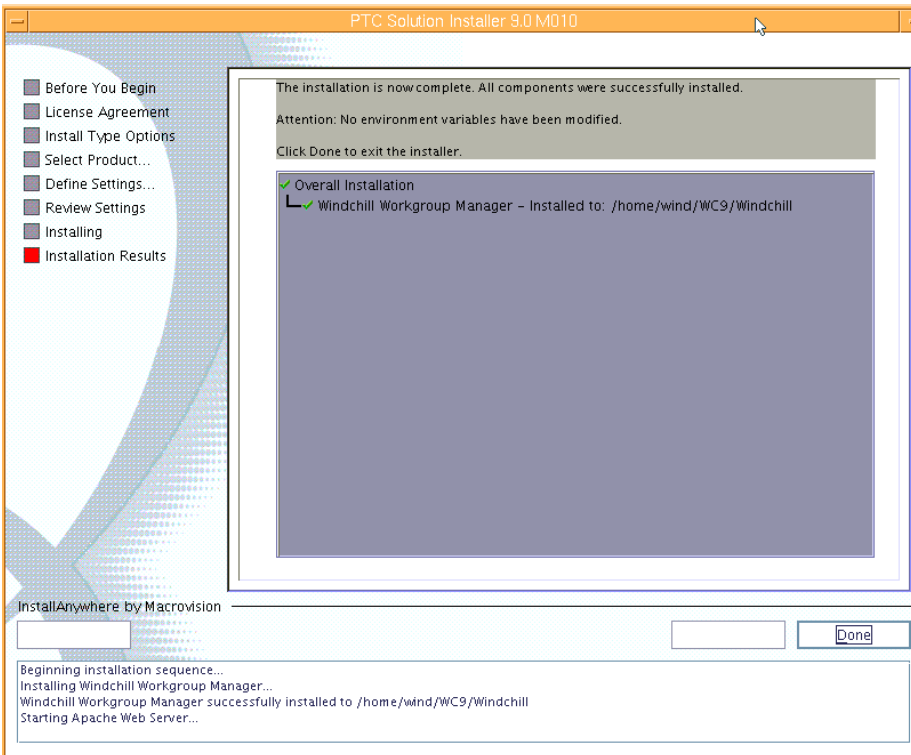108.　　　Review the installation results, then click **Done**, as shown in Figure 83.

Figure 83. Task 6 subtask G vii

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Subtask H: Performing steps after the PSI update completes

There are some post-installation tasks to handle.

1. After installing wnc-wsp.sql, as user *oracle*, enter the following commands, then review the log in the wnc-wsp.log file.

    ```
    cd /home/wind/WC9/Windchill/db/sql
    sqlplus wcadmin/wcadmin@wind
    ```

109.   Restart the server processes by performing the following steps. (**Hint:** Oracle and Aphelion should already be running.)

    a. If the IBM HTTP Server processes are not running, as root, run the following command:

    ```
    /usr/IBM/HTTPServer/bin/apachectl start
    ```

If the WebSphere server processes are not running, as root, run the following command:

```
/usr/IBM/WebSphere/AppServer/bin/startServer.sh server1
```

If the Windchill process are not running, as wind, run the following commands:

```
cd /home/wind/WC9/Windchill/bin
./windchill start
```

In the MethodServer xterm window, you want to see the MethodServer ready message, as shown in Figure 84.

Figure 84. Task 6 subtask H i

110.   Update the XML templates by copying the following xml files onto the system that is running the Web browser that will connect to Windchill. The following template files are located in the /home/wind/WC9/Windchill/loadXMLFiles directory:

Template Name Source File Name
General Product: **generalProductTemplate.xml**
General Library: **generalLibraryTemplate.xml**
Document Library: **documentLibraryTemplate.xml**
Part Library: **partLibraryTemplate.xml**
Product Design: **designProductTemplate.xml**

a.   In Figure 85, log on as site administrator **wcadmin**, navigate to the **Site** tab and click **Templates**.
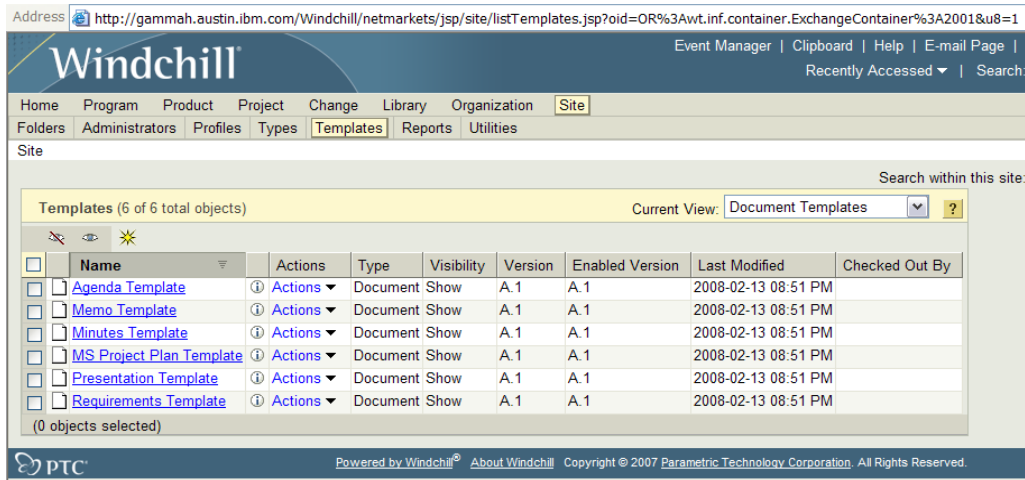
Figure 85. Task 6 subtask H ii

b.   On the site template page, from the **Current View** drop-down list in the table, select the template type to update. For example, to update the General Product template, select **Product Templates**. Then, the table updates show the product templates that have been loaded. See Figure 86.
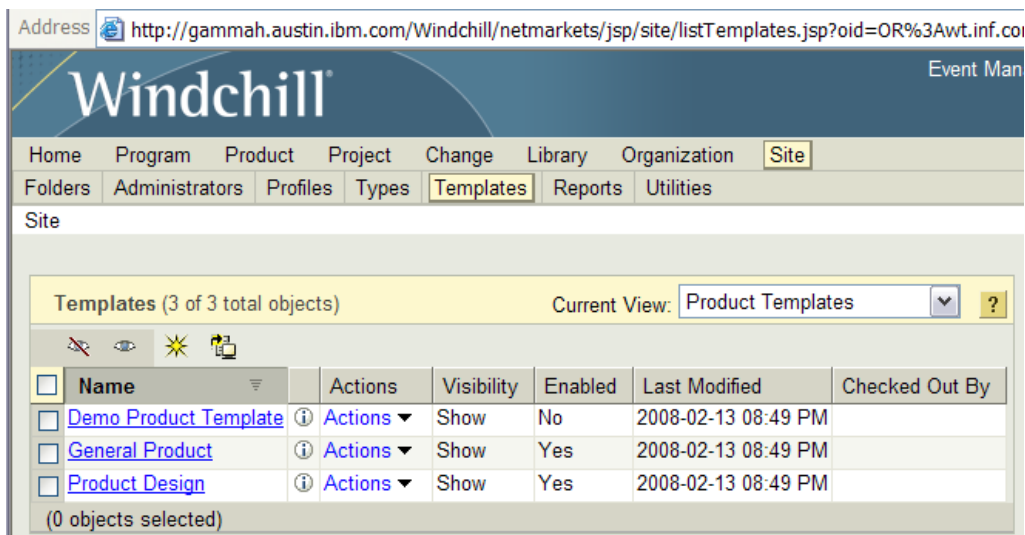
Figure 86. Task 6 subtask H iii

Select the **Actions** item (next to General Product), which causes the display of the additional window where you browse to (and select) the Template File location for **generalProductTemplate.xml**, then click **OK** to update the template. (See Figure 87).

Perform similar steps for all of the templates that require updating.
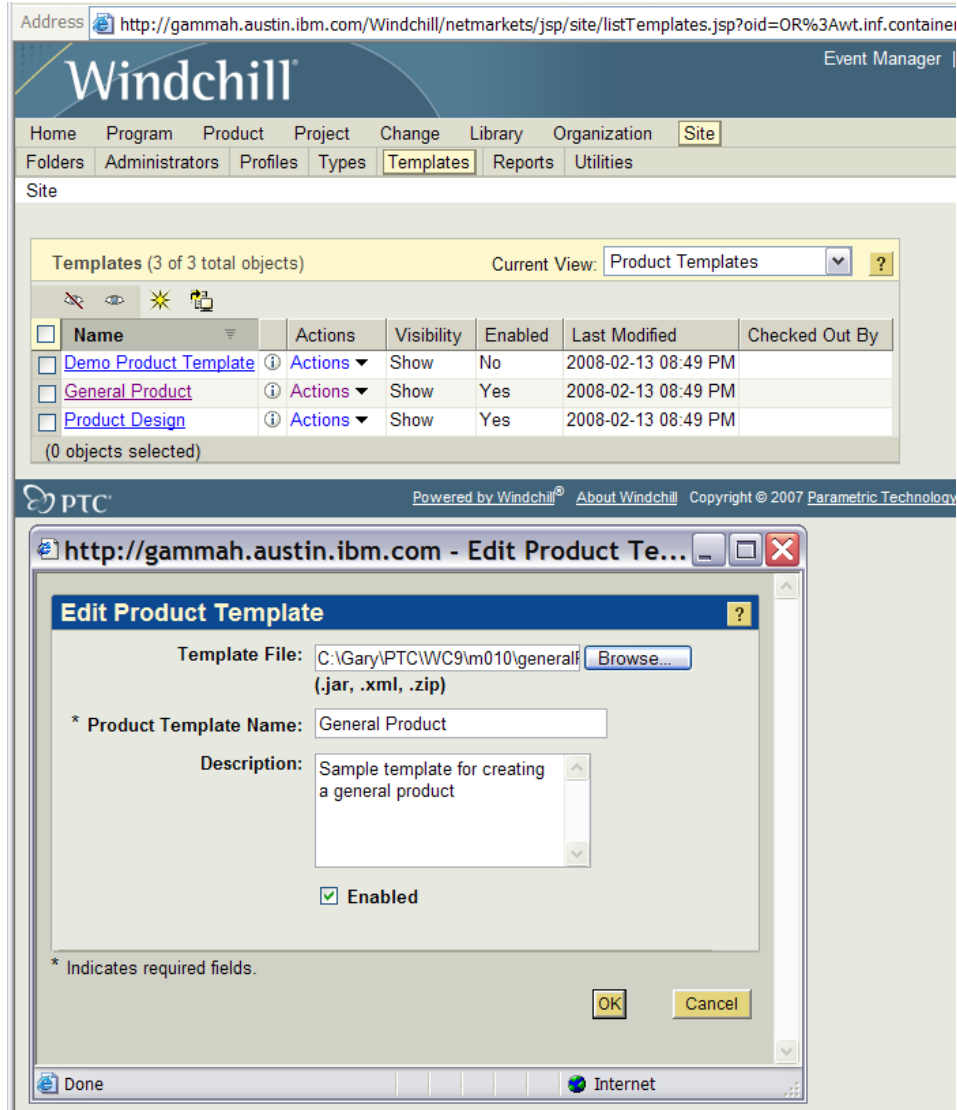
Figure 87. Task 6 subtask H iv

Summary

This white paper has provided detailed installation and configuration instructions for PTC Windchill 9 on the IBM System p platform. All the software installed are at the base level (Oracle 10.2.0.1, Windchill 9.0, WebSphere 6.1), readers are encouraged to apply the update patches (for example Oracle 10.2.0.3, Windchill 9.0 M010, WebSphere 6.1.0.13) on top of these base level. We are planning to write another document to describe the patch update procedures.

For more information about the PTC Windchill installation or other information that is not covered here, See the list of Web sites that are provided in the Resources section of this white paper.

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Resources

These Web sites provide useful references to supplement the information contained in this document:

- IBM System p and AIX Information Center
  http://publib.boulder.ibm.com/infocenter/pseries/index.jsp

- System p on IBM PartnerWorld®
  ibm.com/partnerworld/systems/p

- IBM Publications Center
  www.elink.ibmlink.ibm.com/public/applications/publications/cgibin/pbi.cgi?CTY=US

- IBM Redbooks®
  www.redbooks.ibm.com

- PTC Corporation
  www.ptc.com

    - Windchill Installation and Configuration Guide - Update Existing Installation
    - Windchill Maintenance
    - Windchill 9.0 M010 - 16 November 200

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