UGS Teamcenter Engineering 2007 Server installation guide

Including step-by-step configuration information on AIX servers

Gary Hornyak
Terry Wang

ISV Business Strategy and Enablement
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Abstract

This guide provides detailed step-by-step installation and configuration instructions for a Teamcenter Engineering server for the IBM System p (IBM Power Systems) family of systems. Also included in this guide are explicit instructions on how to create an Oracle database for Teamcenter Engineering and the deployment of the Web application in IBM WebSphere Application Server. This guide is intended as a mechanism to educate Advanced Technical Support (ATS) and Field Technical Support Specialist (FTSS) personnel, in support of sales engagements.

Introduction

This guide supplements existing Teamcenter Engineering installation documentation. It does not replace it. The focus here is on the installation and configuration of a Teamcenter Engineering server.

Resource planning

Teamcenter Engineering supports two types of clients and two architecture models (two- and four-tier). The basic architecture of Teamcenter Engineering 2005 SR1 has substantially changed from previous versions, significantly impacting multitier deployment options. The two types of clients are:

- A thin, browser-based client provides access to the most common features and functions needed by users to reference or consume Teamcenter information. It requires only a commercial browser.
- A rich, Java™ technology-based client provides access to all Teamcenter Engineering features and functions, requiring a Java Runtime Environment (JRE) and a local (or mapped) install on the user's desktop machine. The rich client can either be deployed in a two- or four-tier architecture.

Teamcenter Engineering two-tier architecture

In the two-tier deployment, the Java based rich client, the enterprise-tier server and the supporting software run on the users' workstations. Database, volumes and other resource-tier components run on separate systems. (See Figure 1.)

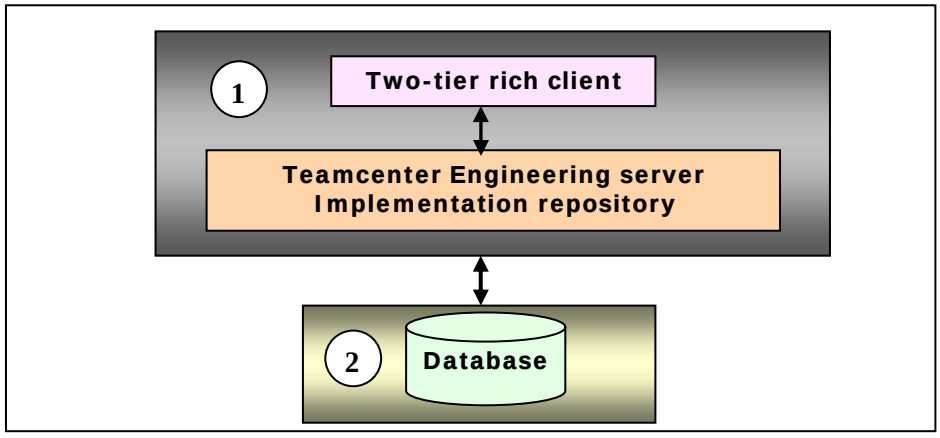

Figure 1. Rich-client two-tier architecture

Where: **1** is the Teamcenter Engineering two-tier rich client
2 is the database server (Oracle or SQL server on the Microsoft® Windows® platform)

Teamcenter Engineering four-tier architecture

In the four-tier deployment, only the Java based rich client runs on the users' workstations. The enterprise tier, database, volumes and other resource-tier components run on separate systems. (See Figure 2.)

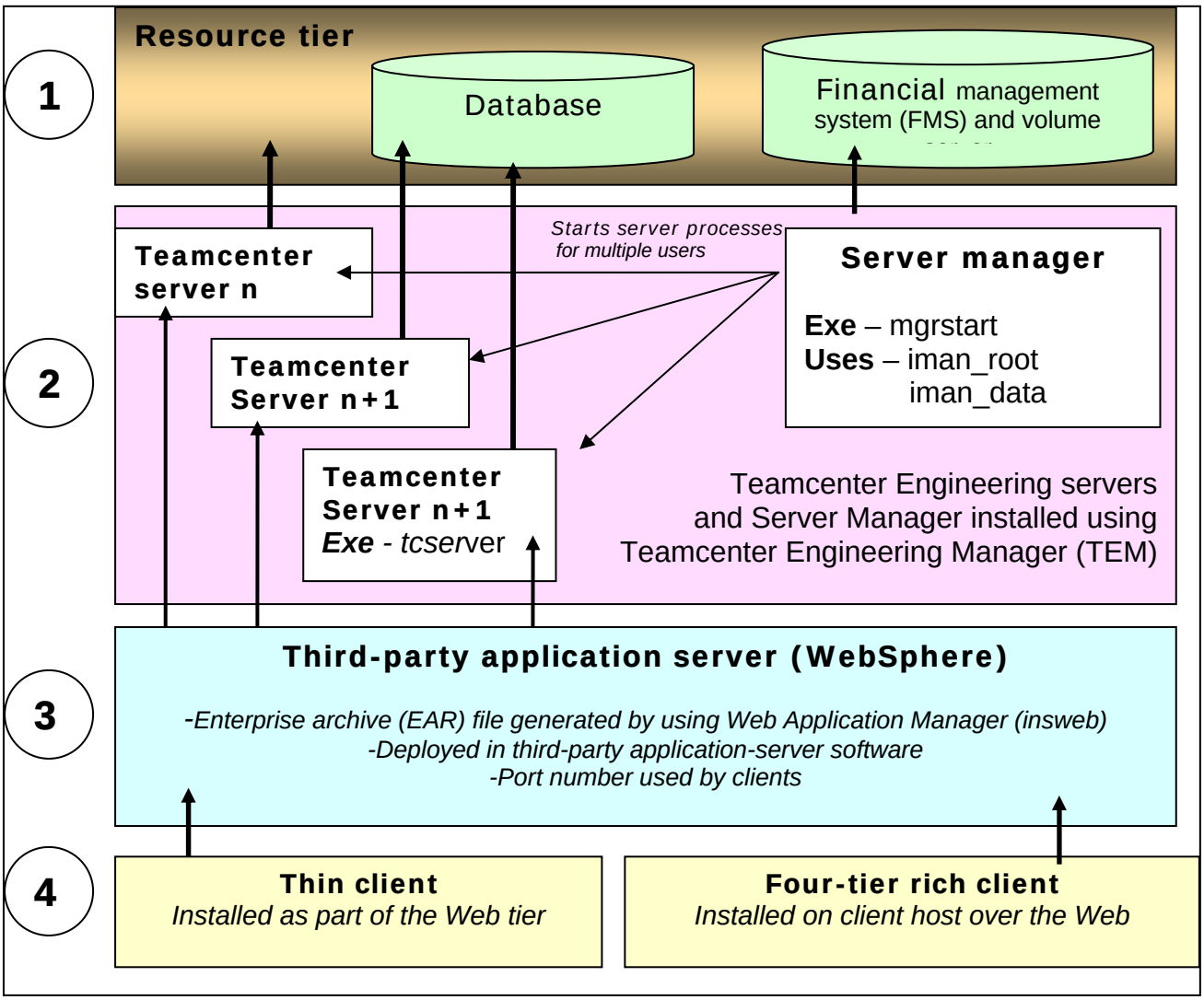

Figure 2. Rich-client four-tier architecture

Where: **1** is the resource tier (database, file management system and volume servers)
2 is the Teamcenter Engineering server tier
3 is the Java 2 Platform, Enterprise Edition (J2EE) Web application-server tier
4 is the Teamcenter Engineering client tier

Client-server database environment

If the Oracle database server is on a separate system than the Teamcenter Engineering server processes (configured with an Oracle client), you must configure the Teamcenter Engineering server with the Oracle

Net Configuration assistant (netca) management tool to create the configuration files that are necessary for remote-database access.

Teamcenter Engineering installation environment

Teamcenter Engineering 2005 SR1 was successfully installed on an IBM® POWER6™ processor-based IBM System p™ server. This involved setting up a four-tier architecture that was implemented using three logical partitions (LPARs).

- IBM System p570 Model 9117-MMA server running IBM AIX® Version 5.3 TL7 with SP1
- XL C Enterprise Edition for AIX C++ runtime (xlC.aix50.rte) at 9.0.0.3
- Oracle Database 10.2.0.1 and IBM WebSphere Application Server 6.0.2.25
- Teamcenter Engineering Server Manager was configured for multicast
- FlexLM V10.8 license server (from Acresso Software)

Assumptions

This guide assumes Oracle 10g Release2 (server and client code) and WebSphere Application Server 6.0.2.25 have already been installed and configured. If not, refer to the following documents; *Oracle Database 10g Release 2 (10.2.0.1.0) Installation Guide for PDM Applications* and *WebSphere Application Server V6.0.2 FP25 Install Guide for PDM Applications*.

Creating Oracle Database for Teamcenter

It is necessary to create a database instance by using UGS Corporation-provided templates with the Oracle Database Configuration Assistant (DBCA).

- The templates populate the database with the required Oracle user accounts and table spaces.
- The templates create a single database user (infodba) per Oracle system identifier (SID).
- After the DBCA steps are completed, an eng2007 database is created and used for the installation of Teamcenter Engineering, which includes an infodba user with an Oracle password of infodba.

Copying UGS templates

Perform the following steps to copy the UGS-supplied Oracle 10g template files:

Access the Teamcenter Engineering CD-ROM or CD-ROM images.

Copy all files in the /dbscripts/oracle directory on the Teamcenter Engineering CD-ROM to the templates directory of the Oracle installation. For example:

cp /cdrom/~/db_scripts/oracle/* to $ORACLE_HOME/assistants/dbca/templates

Creating Teamcenter Engineering database instance with DBCA

Perform the following processes to create a Teamcenter Engineering database instance.

1. Start the DBCA utility by typing the following command: **#/home/oracle/ora10/bin/dbca**.

DBCA displays the Welcome page (screen image is not shown here). Click **Next** .

On the Operations page, select **Create a Database**, then click **Next**. (See Figure 3.)

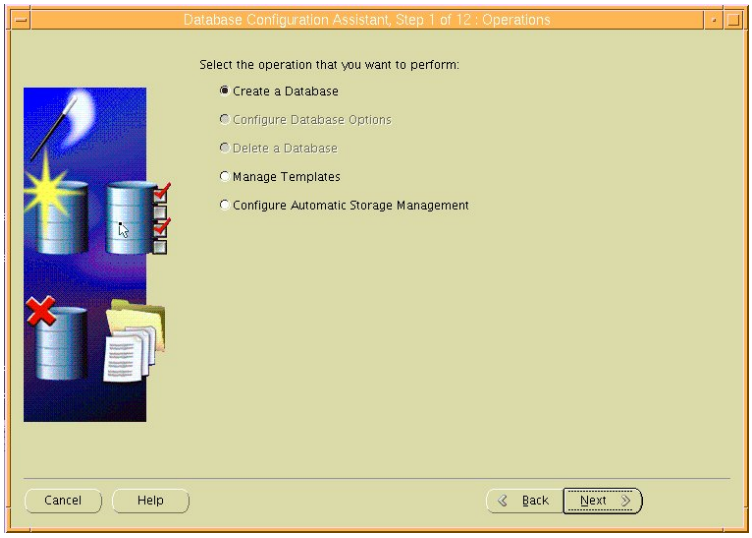

Figure 3. Operations page

2. On the Database Templates page (screen image is not shown here), select **Teamcenter Engineering Oracle 10g**. Then, click **Next**.
3. On the Database Identification page, enter the Global Database Name (**eng2007**). Then click **Next**. (See Figure 4.)

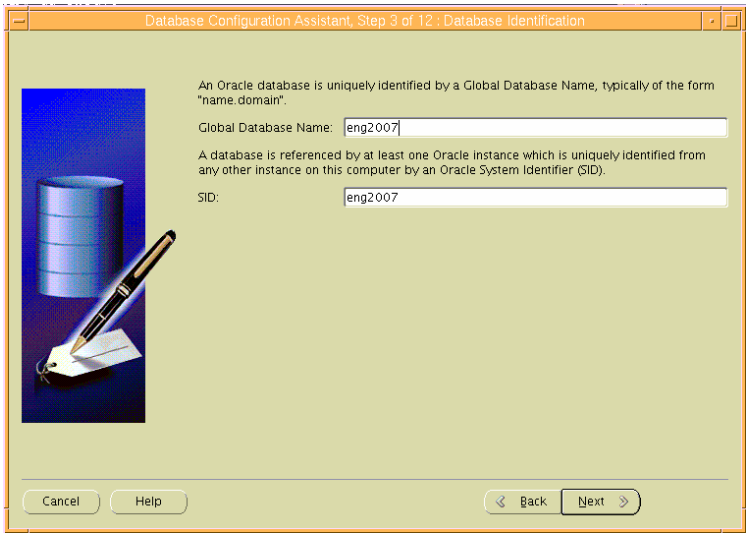

Figure 4. Database Identification page

4. On the Management Options page (screen image is not shown here), click **Next**.
5. On the Database Credentials page, select **Use the Same Password for All Account**s. Then click **Next**. (See Figure 5.)

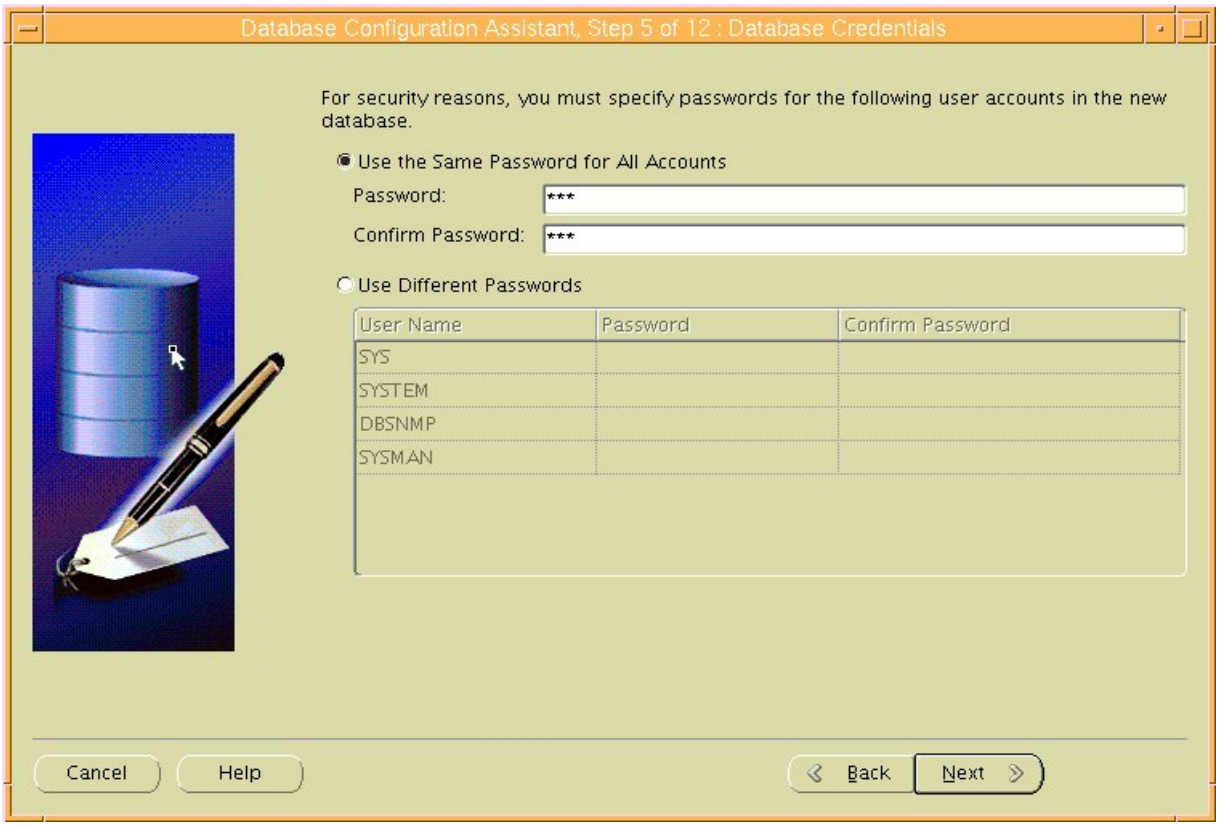

Figure 5. Database Credentials page

6. On the Storage Options page (screen image is not shown here), click **Next**.
7. On the Database File Location page (screen image is not shown here), select **Use Database File Locations** from Templates. Then click **Next**.
8. On the Recovery Configuration page (screen image is not shown here), accept the defaults. Then click **Next**.
9. On the Database Content page (screen image is not shown here), click **Next**.

10. On the Initialization Parameters page, select **Typical** with a percentage of **40**. Then click **Next**. (See Figure 6.)

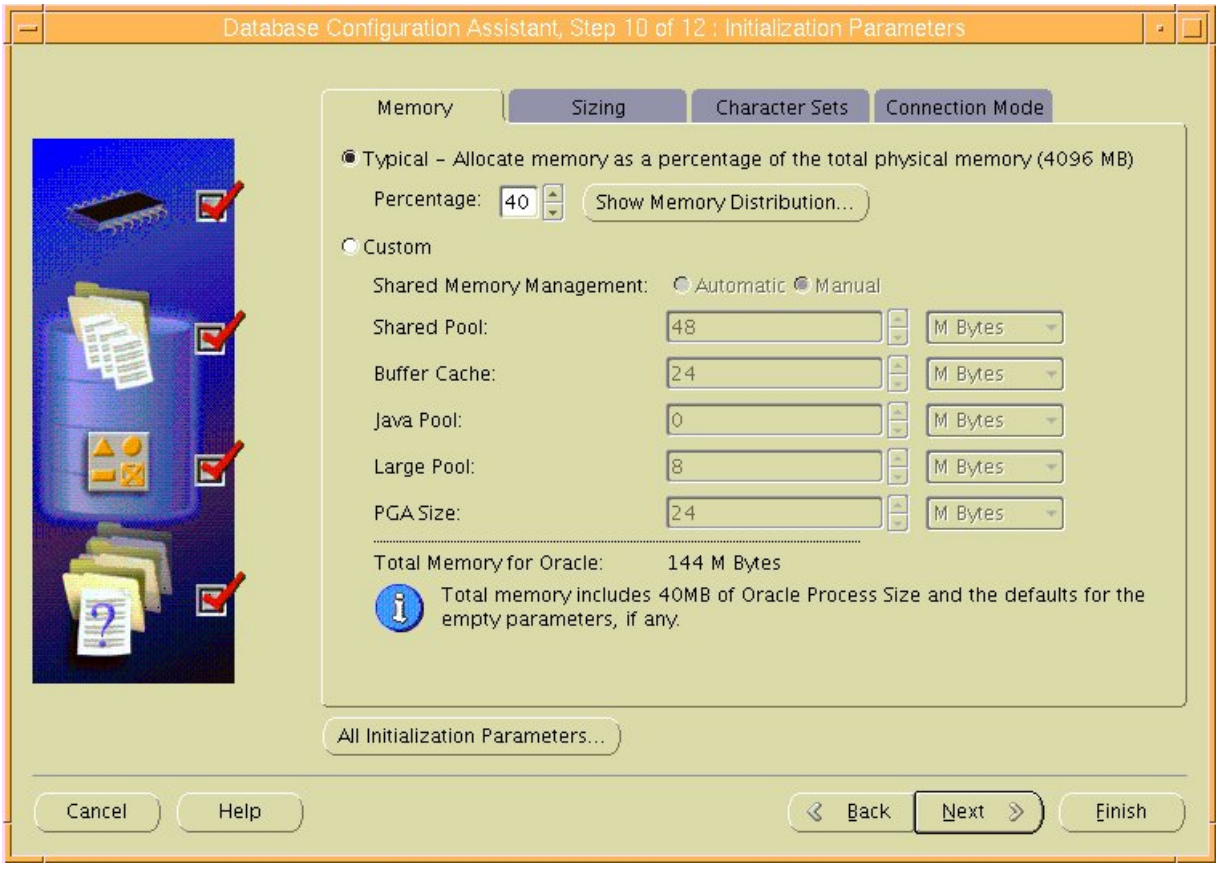

Figure 6. Initialization Parameters page

11. On the Database Storage page (screen image is not shown here), click **Next**.
12. On the Create Options page (screen image is not shown here), select **Create Database**. Then click **Next**.
13. On the General Purpose page (not shown here), click **Next**.
14. On the Database Credentials page (screen image is not shown here), select Use the Same Password for All Accounts, then click **Next**.
15. On the Database Creation Complete page (screen image is not shown here), click **Exit**.

Installing Teamcenter Engineering

This section of explains how to install Teamcenter Engineering.

Installation images

Before beginning the installation, mount the CD-ROMs or hard-disk devices on the network node that runs Teamcenter Environment Manager. You can either locally mount, or use NFS to remotely mount, the CD-ROM or hard-disk devices.

In the following instructions, the entire contents of the Teamcenter Engineering CD-ROMs are copied to the hard disk. The installation directories are then NFS-mounted from a remote NFS server. You must run Teamcenter Environment Manager on the local server node.

The installation image directory (/MNT2/tc2007) is then NFS-mounted from a remote NFS server.

Preinstallation setup

Before installing the Teamcenter Engineering code, do the following:

16. Create a user named *infodba* that belongs to the UNIX group named *infodba*.

Create the /home/infodba directory with 3 GB of storage and specify that the directory is owned by the infodba user with group ownership of infodba.

Increase the size of the /tmp directory so that it has 500 MB free.

Starting Teamcenter Engineering Manager

To install Teamcenter Engineering, you must perform the following steps:

1. As root, run the AIX autoconf6 command to enable IP V6.
2. Start the database and listener.
3. Start WebSphere Application Server.
4. Log in as infodba to install and maintain the Teamcenter Engineering installation.
5. To start Teamcenter Environment Manager, access the directory (/MNT2/tc2007/aix) of the Teamcenter Engineering NFS-mounted file system. Run the tem.sh script.
6. From the Choose Install Language dialog page, select a language for the installation program and click **OK** (see Figure 7). (This language is used only for the installation program.)

Figure 7. Choose Install Language dialog page

7. **From the Getting Started** page, select **Create a new installation of the product**. Then, click **Next**. (See Figure 8.)

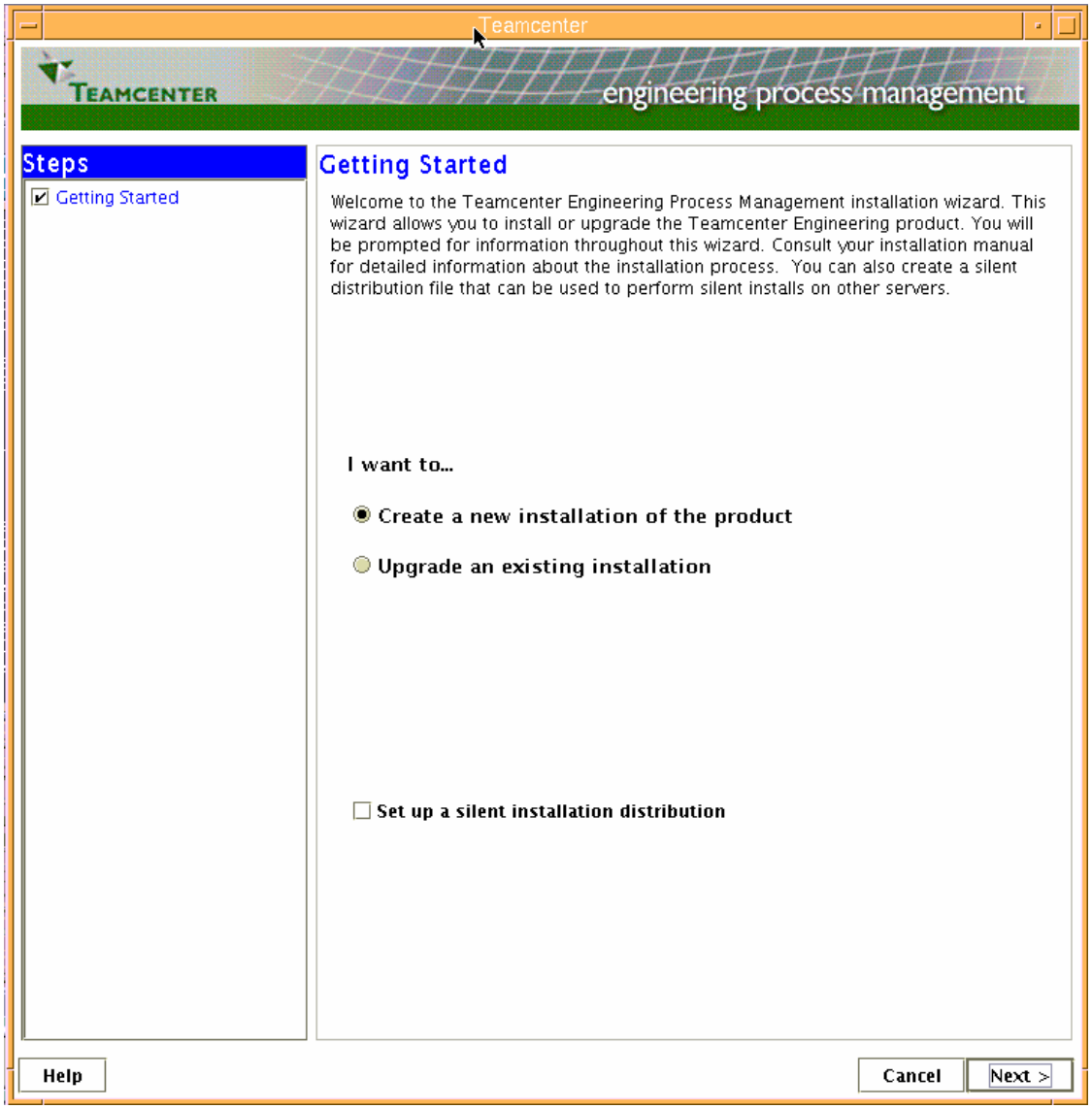

Figure 8. Getting Started page

8. From the Copyright Notice page (screen image is not shown here), click **Next**.
9. From the New Configuration page (screen image is not shown here), enter a unique ID for the description and ID. Then, click **Next**.

   Note: Record the description and ID that you enter for this configuration. When uninstalling this configuration or performing other maintenance tasks, you must select this configuration from a list. In addition, installation log files use the ID you enter in their names.

10. From the Solutions page (screen image is not shown here), select **Corporate Server** and **Rich Client**. Then, click **Next**.
11. On the Select Features page (see Figure 9), deselect **NX UG Integration**, then select **J2EE Based Server Manager**.

    Note: These features are commonly installed with the corporate server, but are optional. This example deploys WebSphere Application Server, so the J2EE Server Manager feature is selected.
12. If this corporate server is also a Teamcenter Engineering license server, scroll down the Select Features page and select **Flex License Server**. (**Note:** If you do not select this option, you must provide information about the license server later in this installation.)
13. At the bottom of the Select Features page, in the Installation Directory field, enter the absolute path to the directory where you want to install Teamcenter Engineering. In this example, the directory that is entered is **/home/infodba/2007**. Click **Next**.

    Note: You must install Teamcenter Engineering in a new directory. If you want to upgrade an existing installation, return to the Getting Started page and select an upgrade installation.

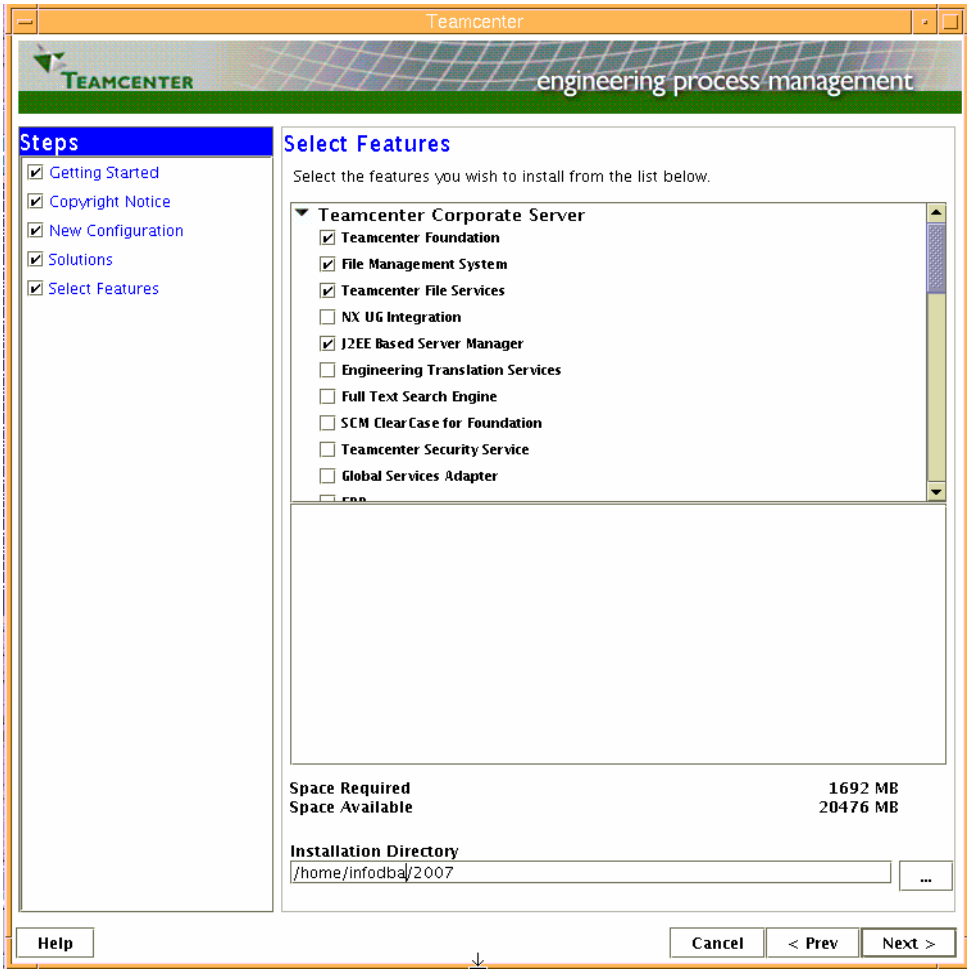

Figure 9. Select Features page

14. On the Configure TC_DATA page, select **Create a new directory**. (See Figure 10.)

    Note: This step creates the Teamcenter Engineering shared-data subdirectories and files.

15. Also on the Configure TC_DATA page, in the Data Directory Location field, enter the absolute path to a new directory where you want to create shared-data subdirectories and files. Then, click **Next**.

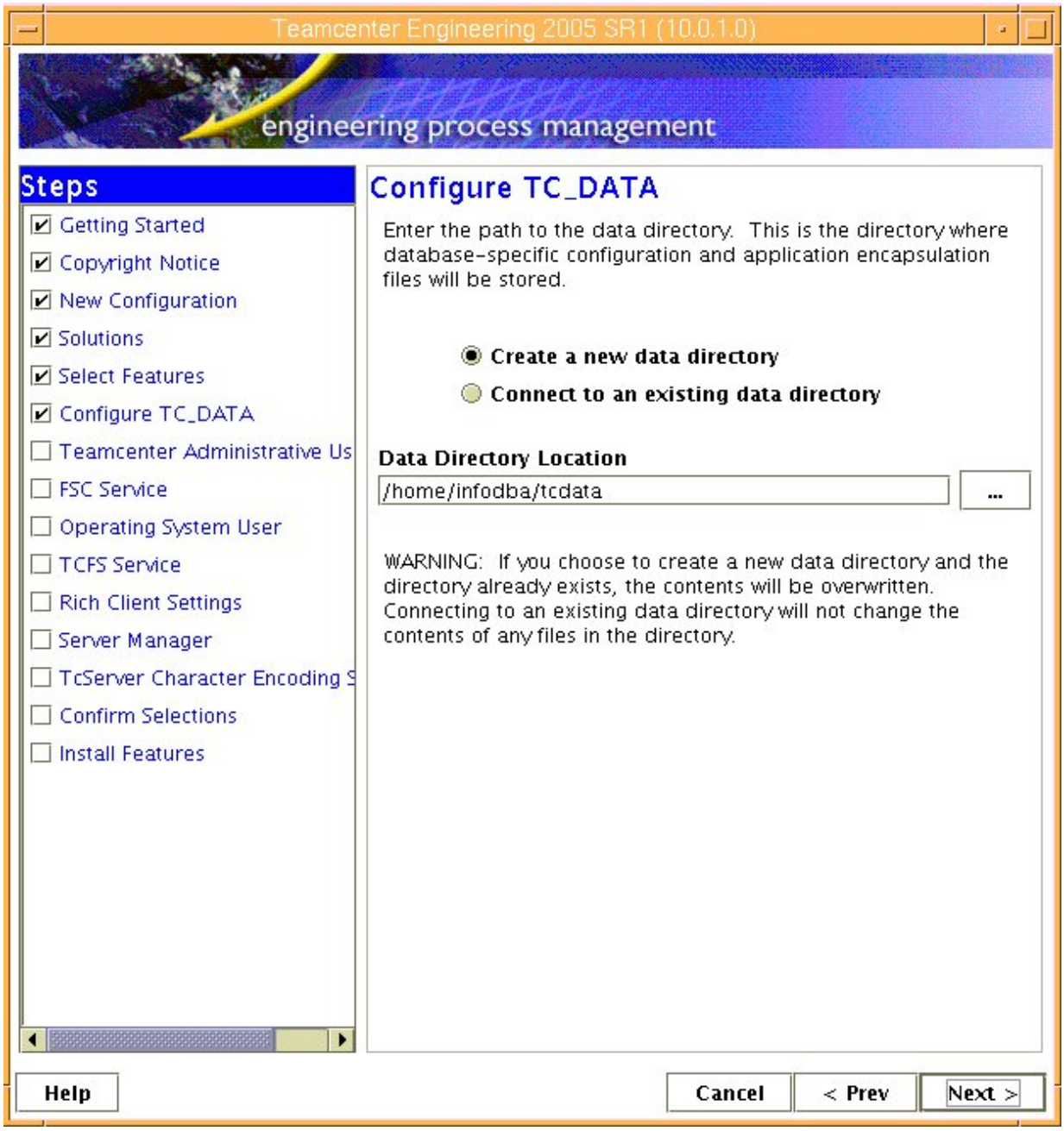

Figure 10. Configure TC_DATA page

16. On the Database Configuration page (see Figure 11), enter the database server details, which includes the database user and password information. Do not select any options or fill in any fields in the Database Creation section. Click **Next**.

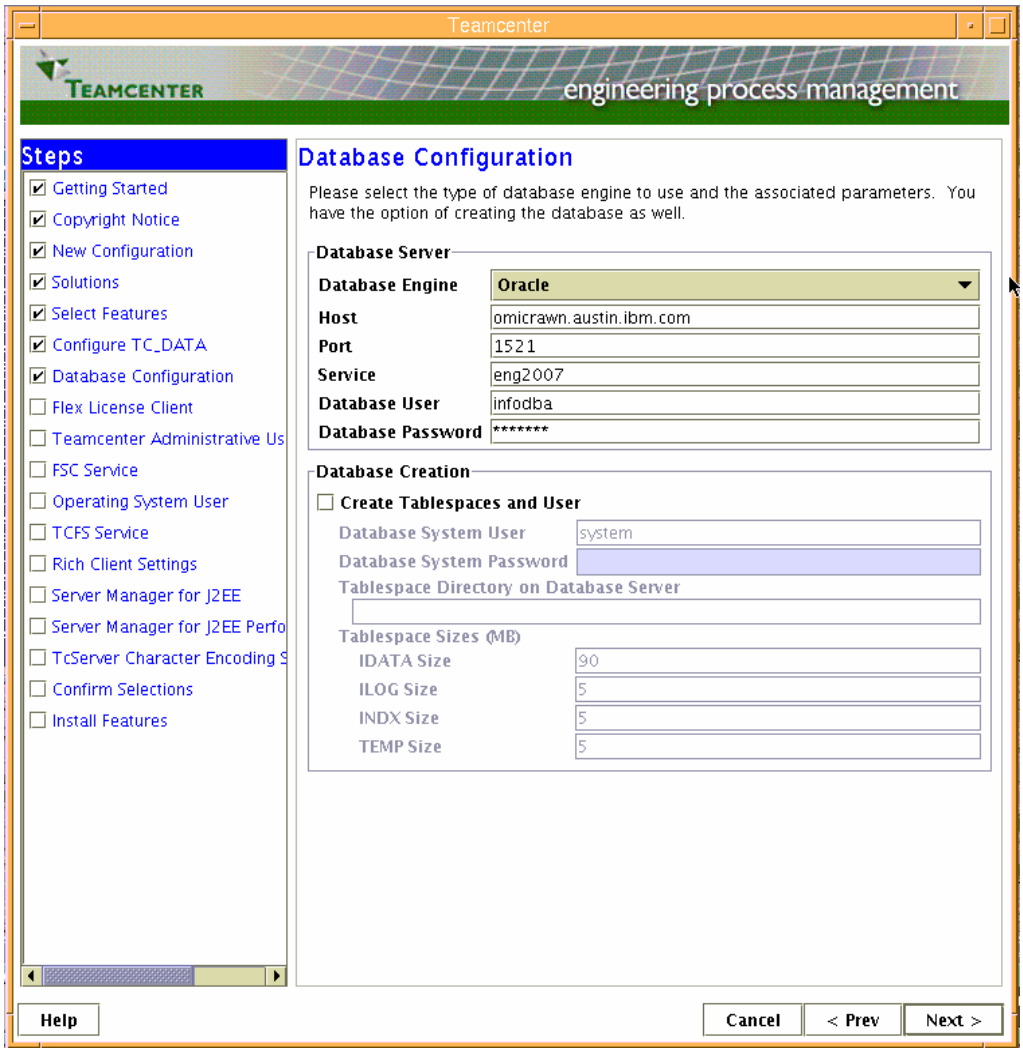

Figure 11. Database Configuration page

17. On the Volume Specification page (screen image is not shown here), in the Volume Name field, enter the name to use for the Teamcenter Engineering volume that is being created.

18. Also on the Volume Specification page, in the Volume Location field, enter the absolute path to the directory for the volume, ensuring that the parent directory exists. Click **Next**.

    Note: UGS recommends not defining the volume location under the Teamcenter Engineering root directory. Doing this leads to complications when upgrading to a new version.

19. On the Transient Volume page (screen image is not shown here), click **Next**.

Now, you have completed the various steps required to install a corporate server: choosing the required components, creating an installation root directory, creating a data directory and creating a volume.

Configuring file-management services

Teamcenter Environment Manager displays additional pages that request information for configuring the file-management services, Flex-license services and optional components. (**Note:** For information on filling in these fields, click **Help**.)

1. When the default Site Web Server page is presented, click **Next**.
2. On the Flex License Client page (see Figure 12), enter the Flex Host name, then click **Next**.

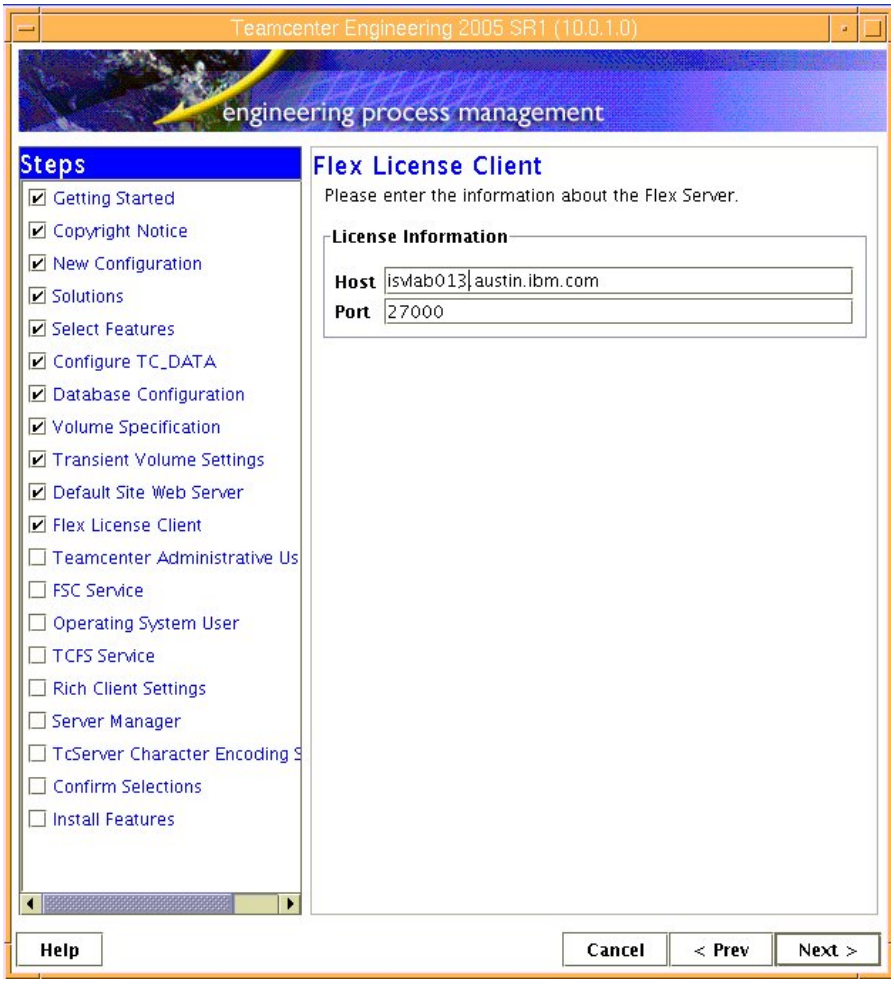

Figure 12. Flex License Client page

3. On the Teamcenter Administrative User page (screen image is not shown here), enter the password, then click **Next**.
4. On the file-system cache (FSC) Service page (screen image is not shown here), click **Next**.
5. On the FSC Service: Connections page (screen image is not shown here), click **Next**.
6. On the FSC Service: FCC Defaults page (screen image is not shown here), click **Next**.
7. On the FSC Service: Additional Sites page (screen image is not shown here), click **Next**.

8. On the FSC Deployment Model page (screen image is not shown here), click **Next**.
9. On the Operating System User page (screen image is not shown here), enter the password, then click **Next**.
10. On the Transparent Cryptographic File System (TCFS) Service page (see Figure 13), enter the port number (for example: 11528), then click **Next**.

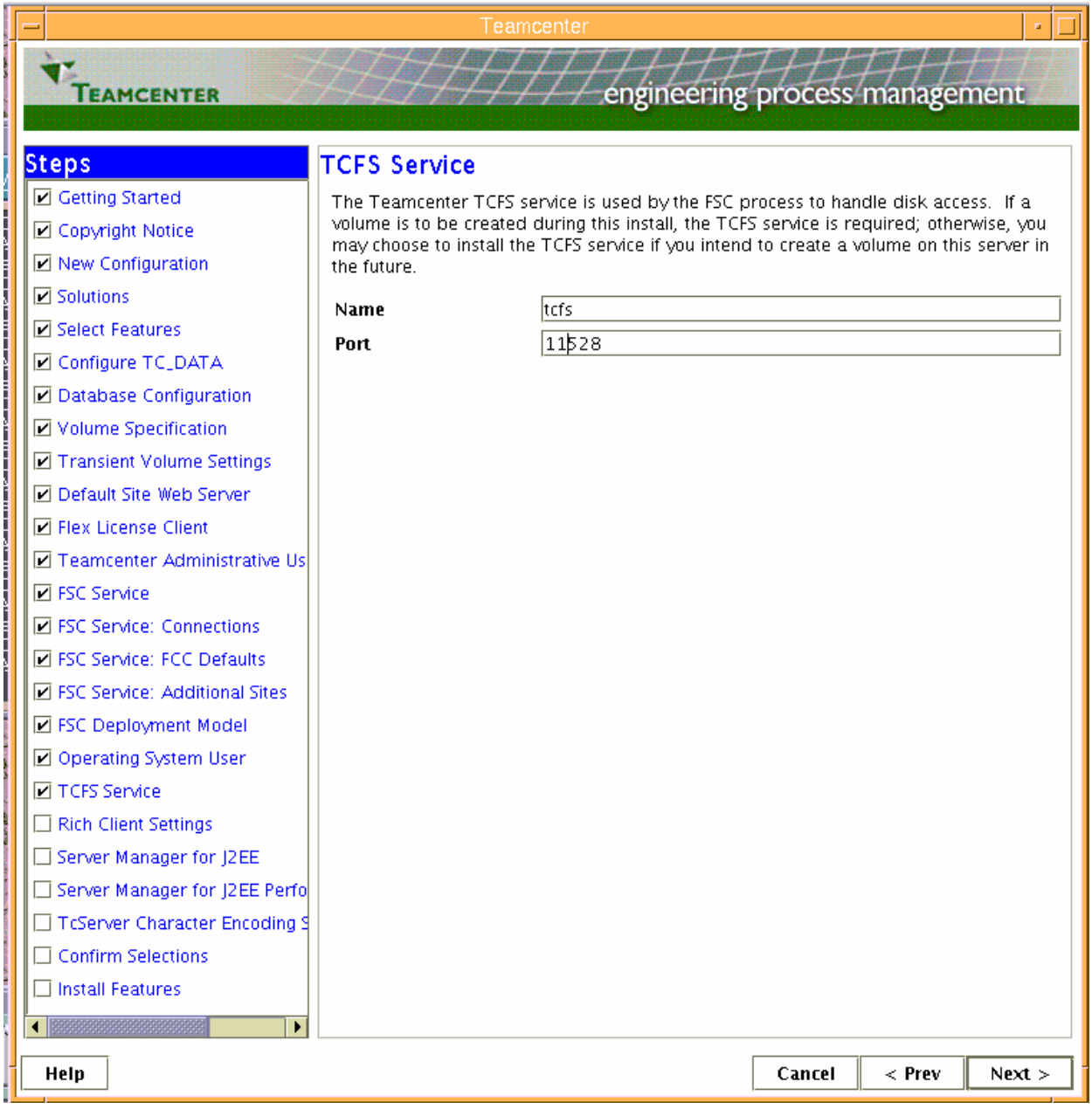

Figure 13. TCFS Service page

11. On the Rich Client Settings page (screen image is not shown here), click **Next**.
12. On the Online Help page (screen image is not shown here), select Do not configure Online Help. Then click **Next**.
13. On the Rich Client Server Settings page (screen image is not shown here), click **Next**.
14. On the FCC Settings page (screen image is not shown here), click **Next**.
15. On the Rich Client FSC Parent Settings page (screen image is not shown here), click **Next**.
16. On the Server Manager page (see Figure 14), select **Multicast Mode**, then click **Next**.

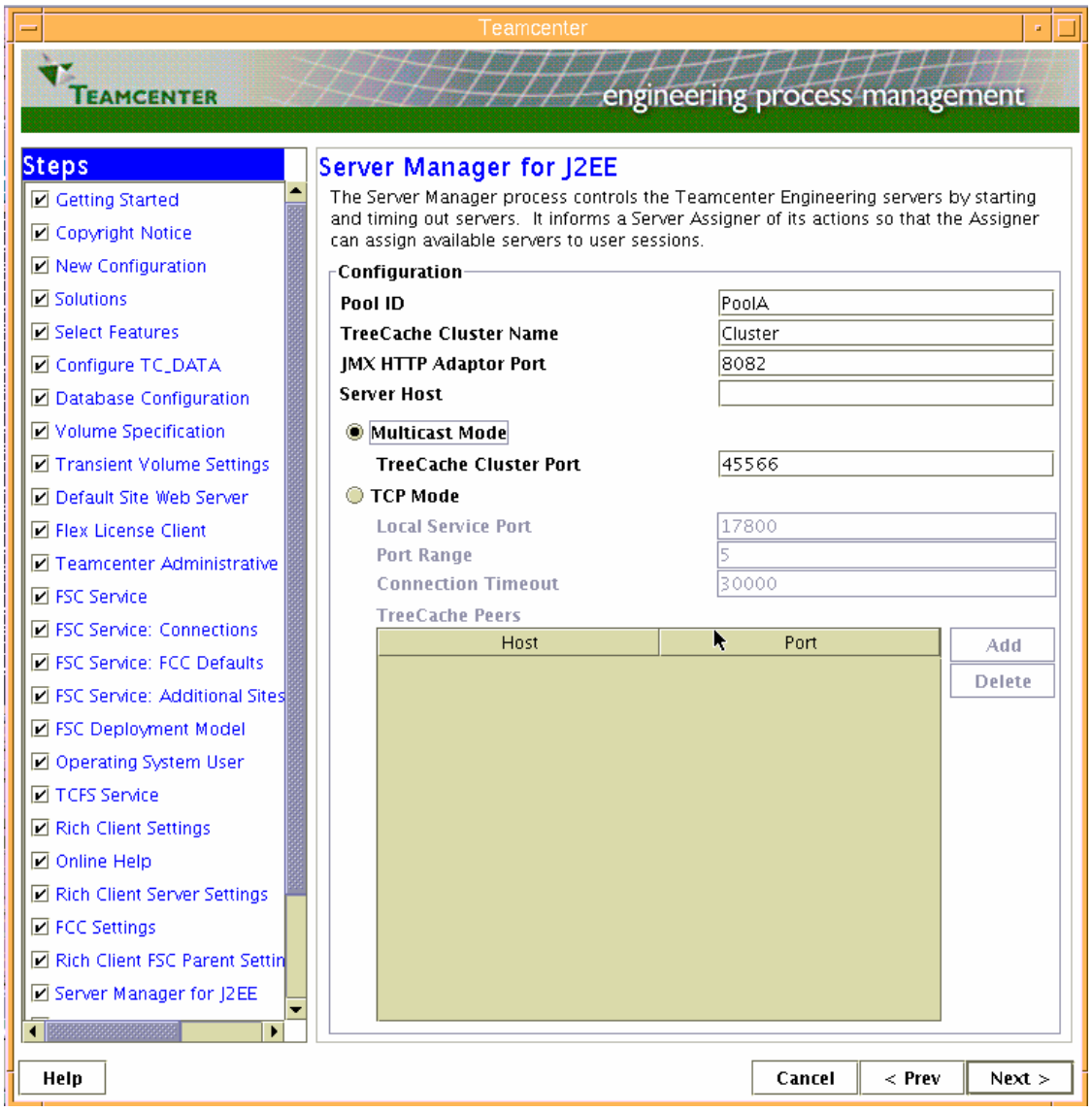

Figure 14. Server Manager page

17. On the Character Encoding Settings page (screen image is not shown here), click **Next**.

18. When Teamcenter Environment Manager displays the Confirm Selections page (see Figure 15), you can redisplay previous pages and change values. For steps and pages you do not change, Teamcenter Environment Manager maintains the values and the options you selected previously.

19. When you are satisfied with the selections you have made, click **Next**. Teamcenter Environment Manager begins installing Teamcenter Engineering.

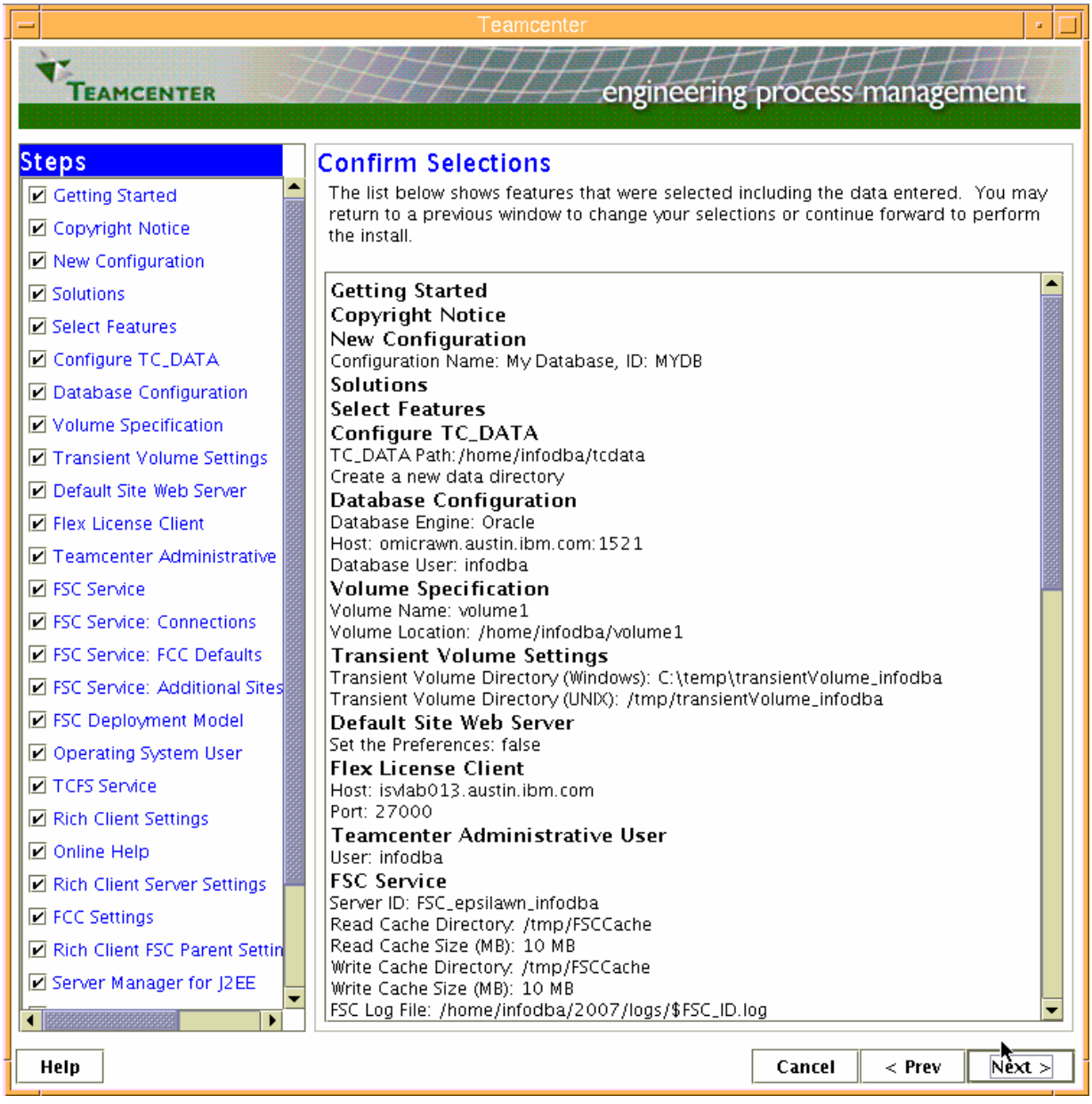

Figure 15. Confirm Selections page

Note: If an installation problem occurs, Teamcenter Environment Manager displays a message that includes the path to the installation log file that describes the problem.

20. During the installation of Teamcenter Engineering 2007, you are prompted to locate the branding.jar file (see Figure 16). Browse to the correct location, then click **Open**.

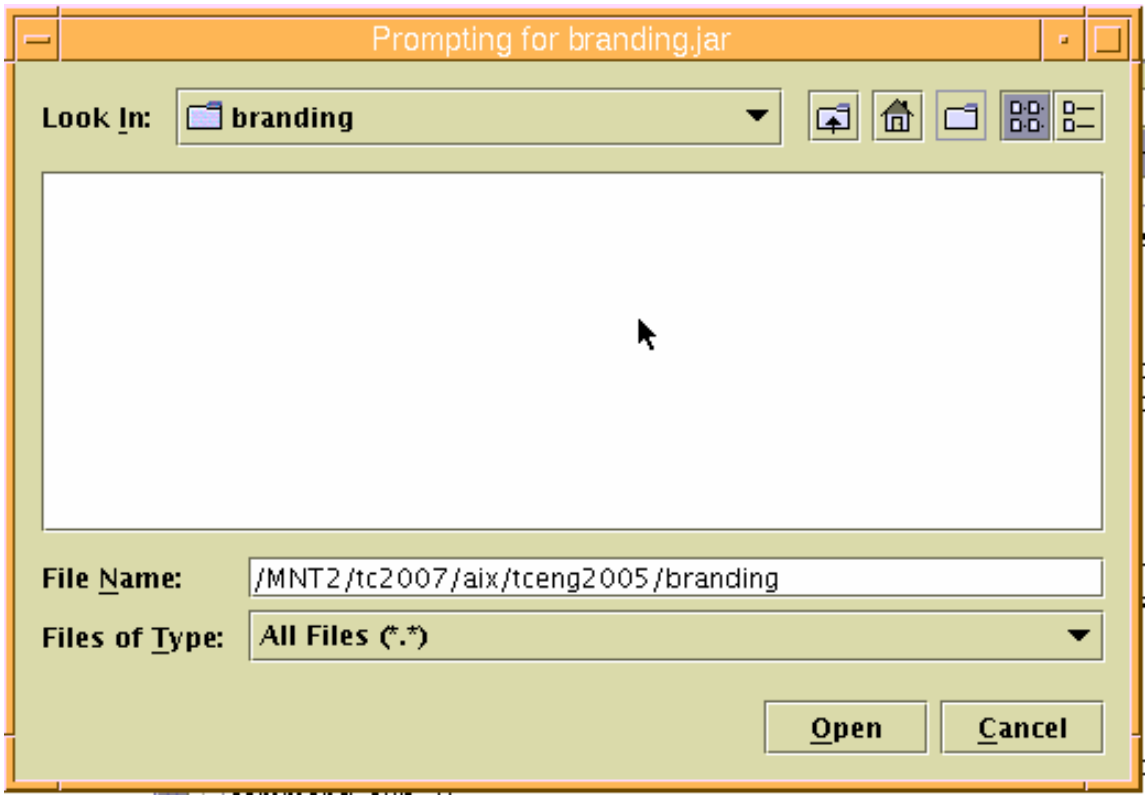

Figure 16. Prompting for branding.jar dialog page

21. On the Install Features: Successful page (see Figure 17), click **Close**.

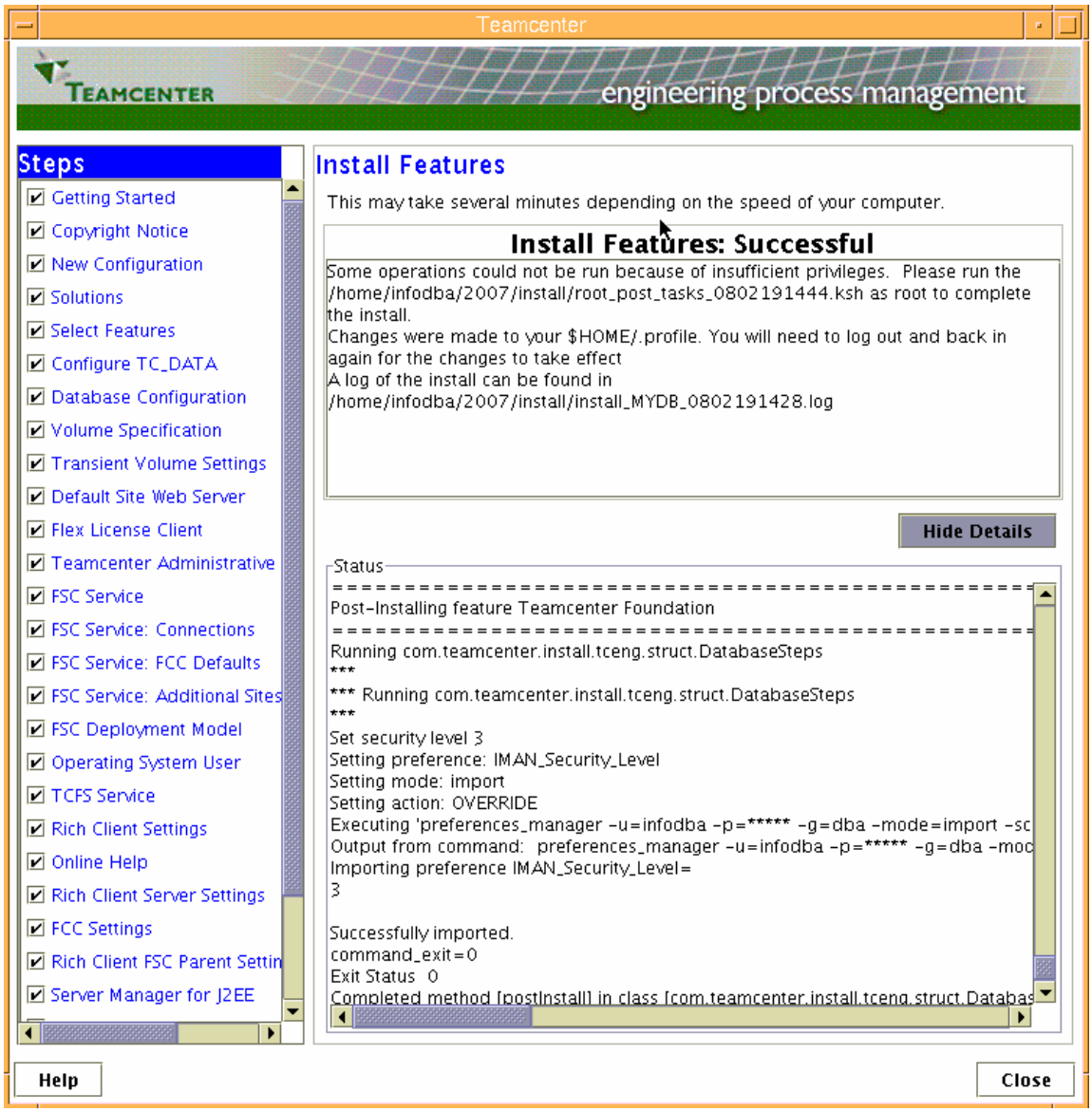

Figure 17. Install Features: Successful page

22. As root, run the Post_task shell script by typing the following command (substituting the name provided on the installation completion page):
./home/infodba/2007/install/root_post_tasks_0802191444ksh

23. To confirm a successful installation of Teamcenter Engineering 2005 SR1, start the rich client by typing the following command: **/home/infodba/2007/portal/start_portal**

24. Exit the rich client.

25. Also, to confirm a successful installation, start the pool manager by typing the following command: **/home/infodba//pool_manager/mgrstartMYDB**

Generating the Web-tier application

This section of the guide explains how to generate the Web-tier application.

Installing Web Application Manager

To install Web Application Manager, follow these instructions:

1. As infodba user on your system, under the Teamcenter Engineering install location (for example: /home/infodba/2007), create a directory that is named *Web_tier*.
2. Locate the INSTALL_TCWEB.TZ file in the install directory (/MNT2tc2007/aix/Web_tier)**.**
3. Change the directory (using the cd command) to the Web_tier directory (for example: /home/infodba/2007/Web_tier).
4. Use the uncompress command on the Web_tier/INSTALL_TCWEB.TZ file to put it into the newly created Web_tier directory. See the following example (where image_path is similar to /MNT2/tc2007/aix):

   ```
   cat ~image_path/Web_tier/INSTALL_TCWEB.TZ | uncompress –c | tar -xvf –
   ```

Before starting Web Application Manager

Perform the following tasks prior to starting Web Application Manager:

1. Install the Teamcenter Engineering server and server manager by using Teamcenter Environment Manager.
2. Install Web Application Manager (explained in the previous step *Installing Web Application Manager*).
3. Install a supported third-party J2EE application server (for example, *WebSphere Application Server).*
4. Obtain the information that is required to install the Web-tier application (refer to Figure 11 through Figure 15).

Starting Web Application Manager

Perform the following tasks to start Web Application Manager:

1. As user infodba, start Web Application Manager.
2. Change the directory (by using the cd command) to the local Web_tier directory.
3. Ensure that *java* is in the path.
4. Run the **java –version** command. (**Note:** This command must return 142 or above.)
5. Run the **insweb** command.

6. On the Welcome page, click **Copy ICDs**. (See Figure 18.)

Figure 18. Welcome to the Teamcenter Web Application Manager dialog page

7. Browse to and select the portal_otw/icd subdirectory in the Teamcenter Engineering NFS-mounted file system (screen image is not shown here), ensuring that ICD Sources is displayed in the Files of Type field. Click **Open**.

8. Web Application Manager displays the path that you have chosen in the Source field of the Copy ICD Files dialog page (see Figure 19). Click **OK**.

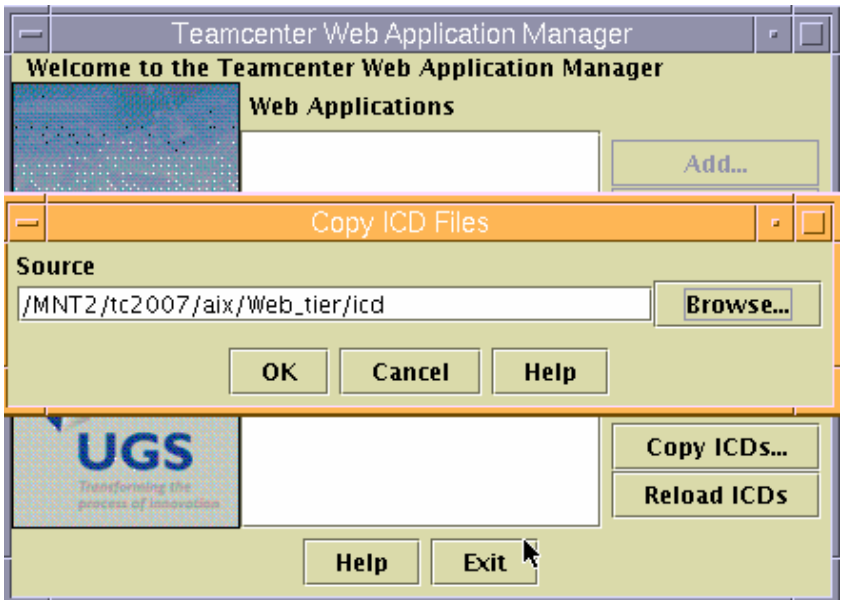

Figure 19. Copy ICD Files dialog page

9. Web Application Manager copies the ICD files and displays a Progress dialog page (see Figure 20). When copying is complete, click **OK**.

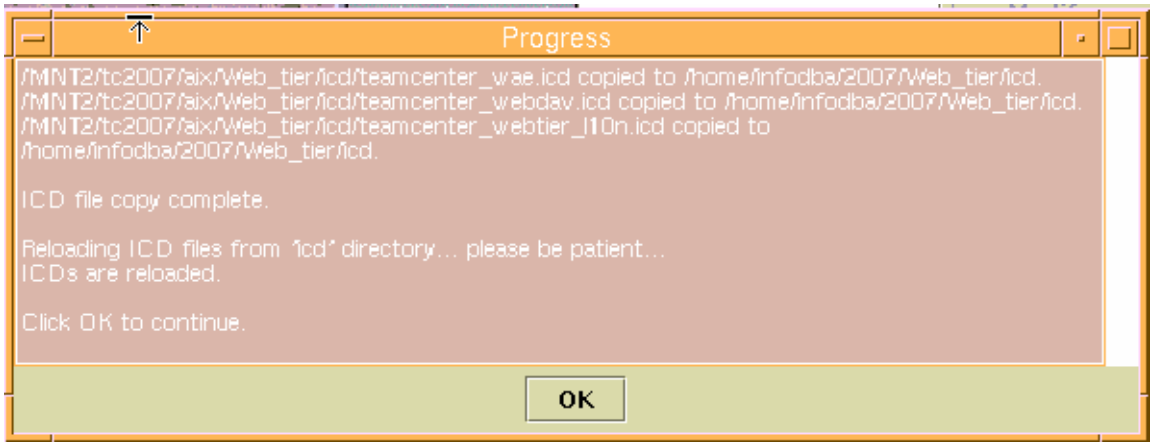

Figure 20. Progress dialog page

10. Web Application Manager displays the Teamcenter Web Application Manager dialog page (see Figure 21). Click **Add**.

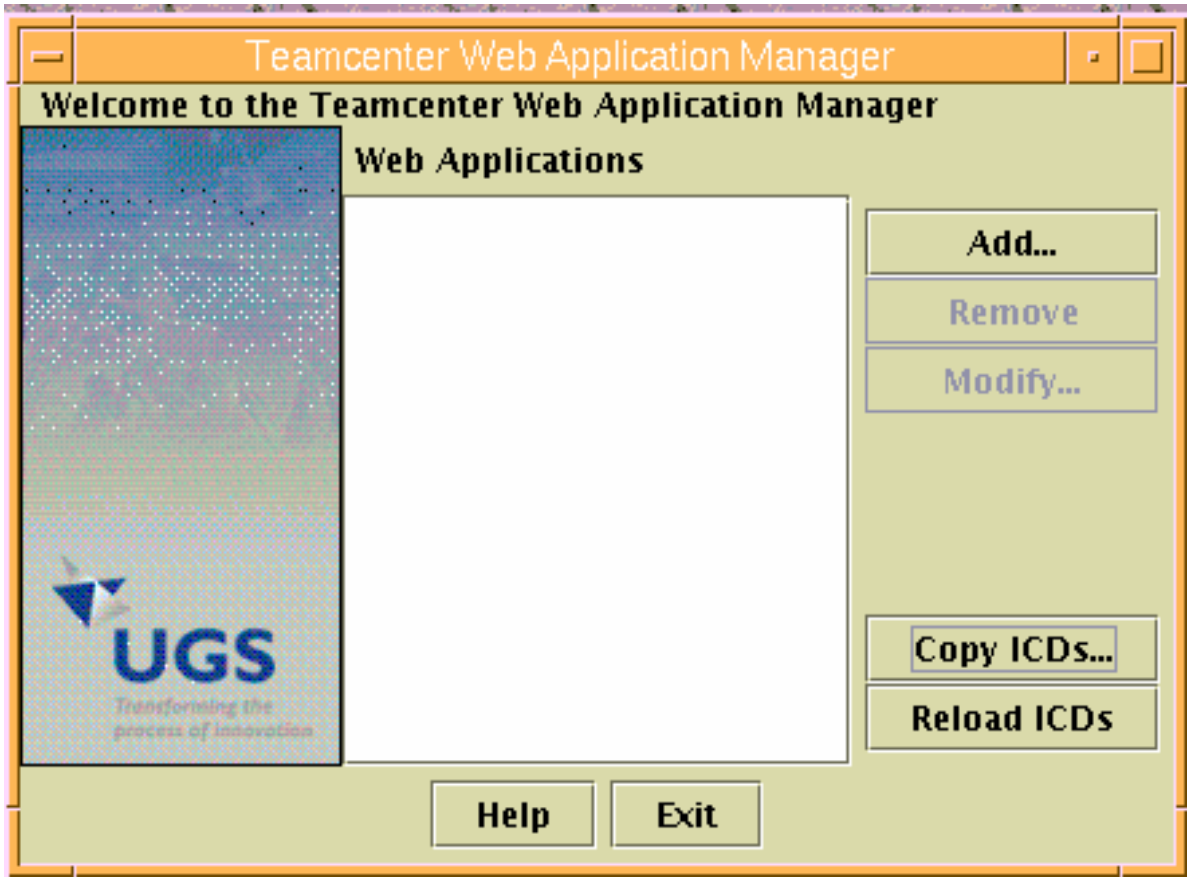

Figure 21. Teamcenter Web Application Manager dialog page

11. On the Add Web Application dialog page (see Figure 22), in the Name field, enter the name of this application, for example, TCEng2007.
12. In the Staging Location field, enter the path to the location where the application files will reside.
13. Typically, you would install the Web-tier application in a directory under the Web_tier directory. Web Application Manager creates the directory you specify if it does not exist.
14. Optionally, in the Description field, enter a brief description of this application.
15. Select **Add** (this button is located to the right of the field titled Disk Locations for Install Images).

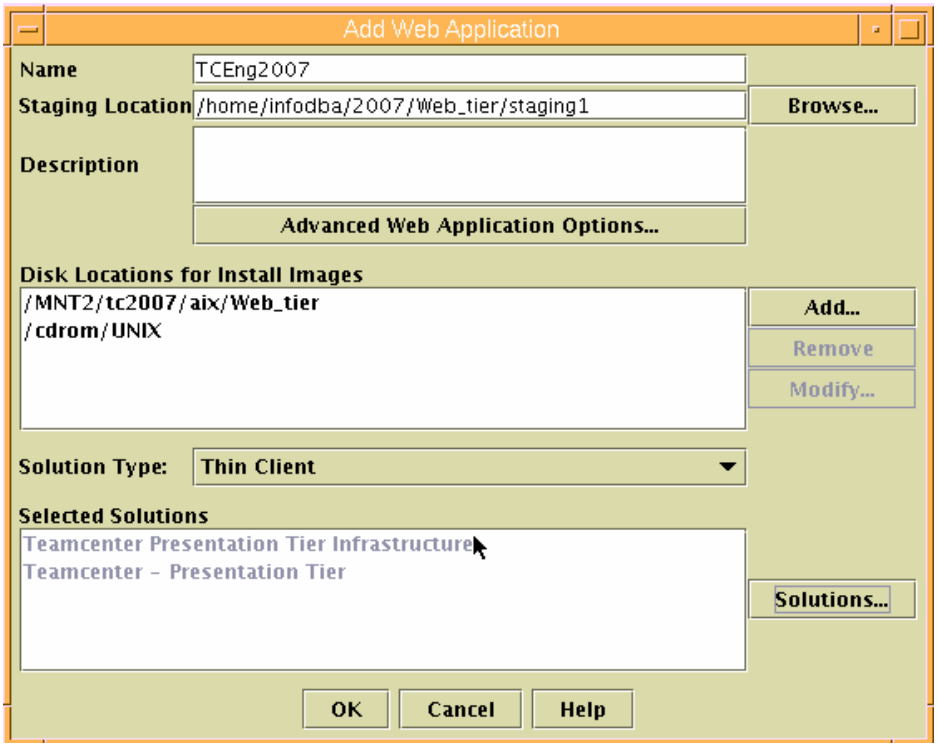

Figure 22. Add Web Application dialog page

16. Web Application Manager displays the Add Disk Location dialog page (screen image is not shown here).

    In the **Disk Location To Add** field, enter the path to the Web_tier directory. (**/MNT2/tc2007/aix/Web_tier**) on the Teamcenter Engineering NFS-mounted file system, then click **OK**. (**Note:** This location holds source images that are required to generate the Web-tier application.)
17. Web Application Manager redisplays the Add Web Application dialog page with the path that you just entered (it is displayed in the Disk Locations for Install Images field).
18. In the pull-down list that is adjacent to the Solution Type field, select **Thin Client**. Then, the Web Application Manager displays `Thin Client` in the Solution Type field.
19. Click **Solutions** (this button is located to the right of the Selected Solutions field, see Figure 22).

20. Web Application Manager displays the Select Solutions dialog page (see Figure 23). Select the following required solutions, then click **OK**:
    - Teamcenter Enterprise Tier
    - Teamcenter Presentation Tier Infrastructure
    - Teamcenter – Presentation Tier

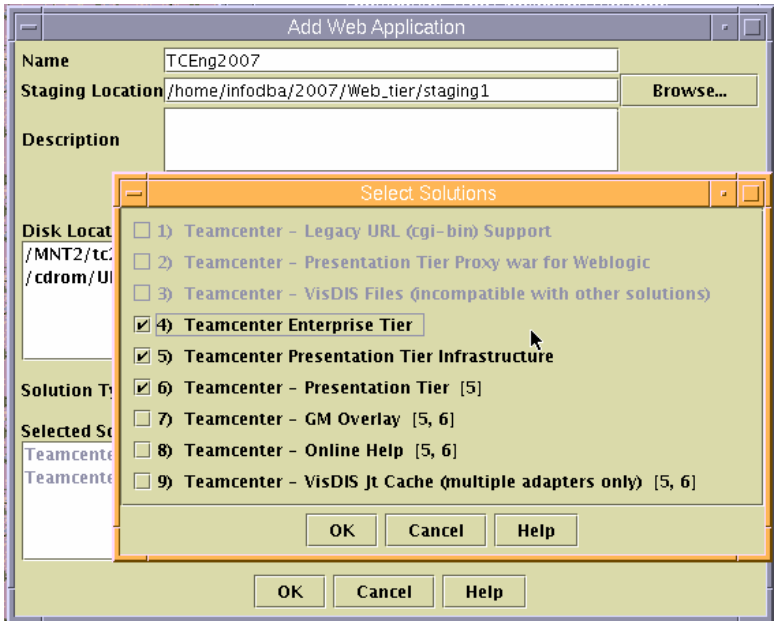

Figure 23. Select Solutions dialog page

21. On the Add Web Application dialog page (see Figure 24), ensure that the solutions that you select are displayed in the Selected Solutions field, then click **OK**.

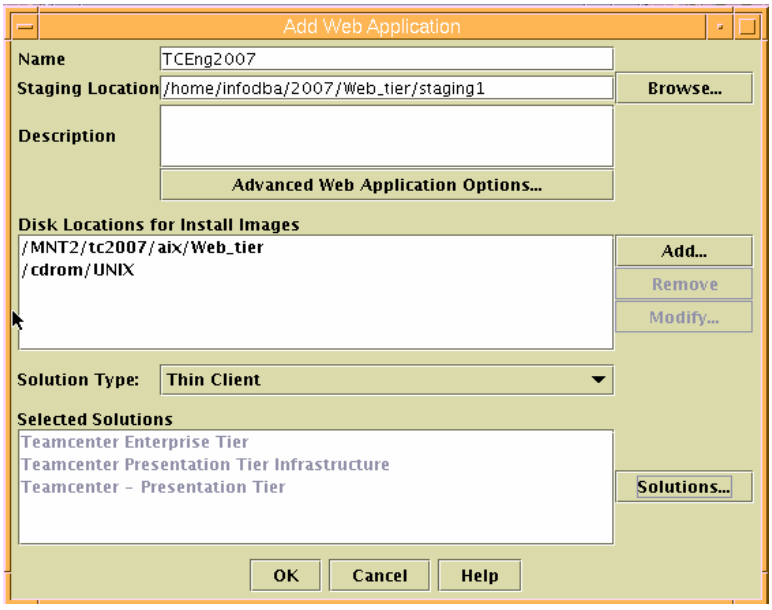

Figure 24. Add Web Application dialog page

22. On the Modify Required Context Parameters dialog page (see Figure 25), you can accept the default values for most parameters. However, you must supply or modify the values for the following parameters, and then click **OK**:
    - TreeCache Cluster Name **=> Cluster**
    - TreeCache Mode **=> Mcast**
    - TreeCache Cluster Port (when using the multicast-communication protocol) **=> 45566**

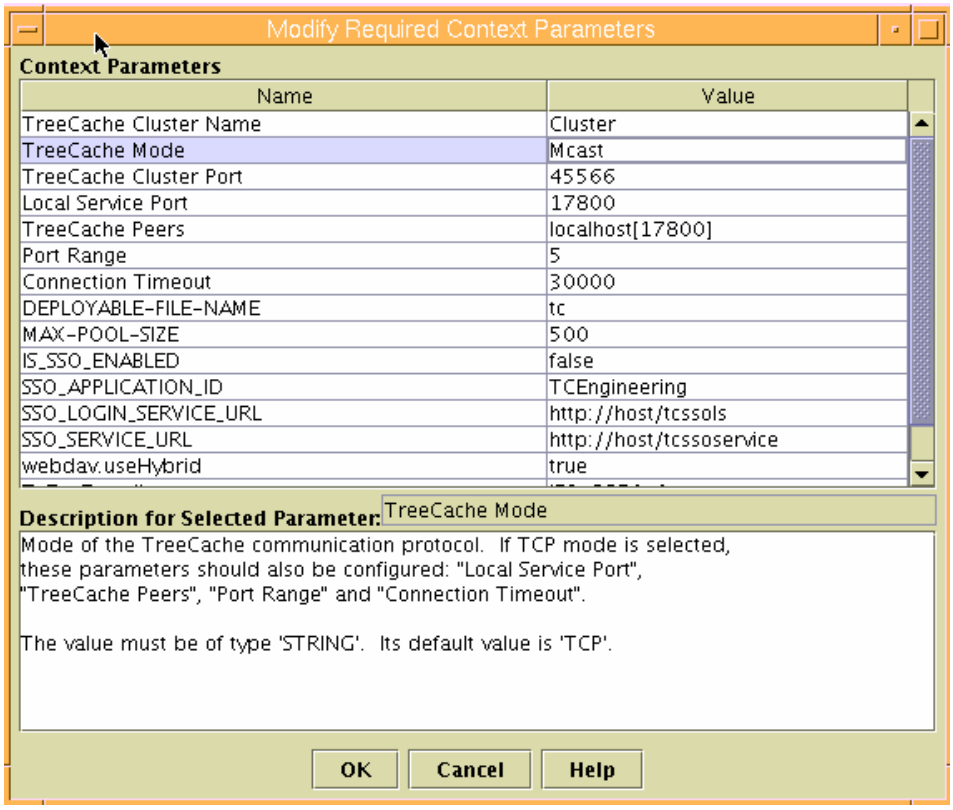

Figure 25. Modify Required context Parameters dialog page

23. At this point, Web Application Manager begins installing files and displays the Progress dialog page. Click **OK** (to close the Progress dialog page). (See Figure 26.)

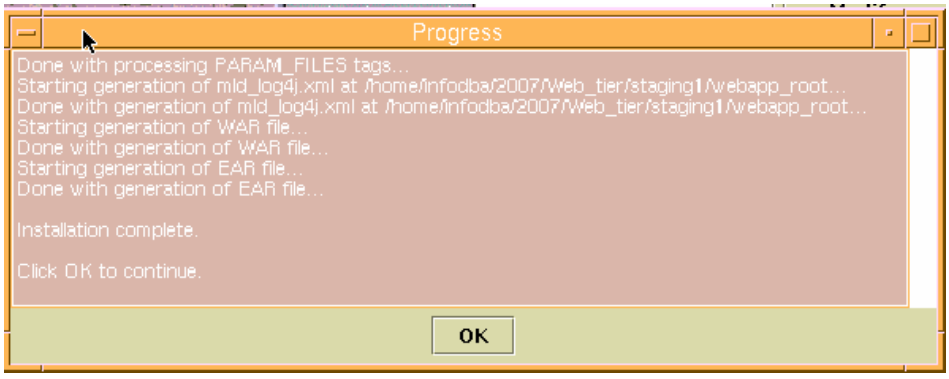

Figure 26. Progress dialog page

24. Web Application Manager displays the Welcome dialog page again (see Figure 27). Click **Modify**.

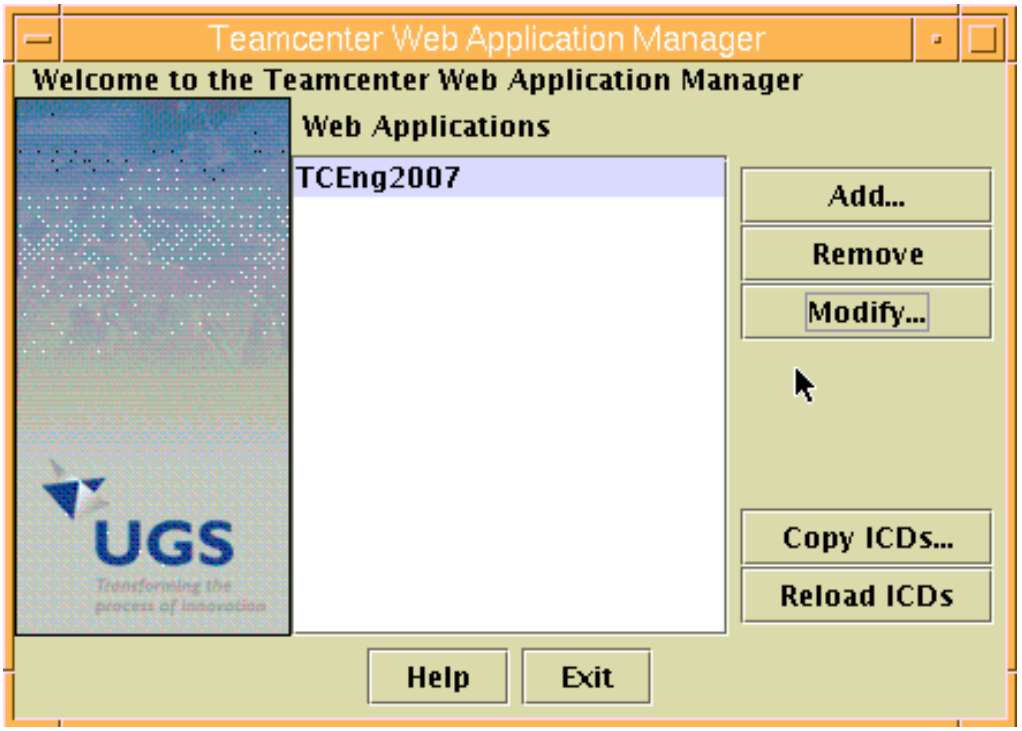

Figure 27. Modify Web Application dialog page

25. On the Modify Web Application dialog page (see Figure 28), click **Generate Deployable File**.

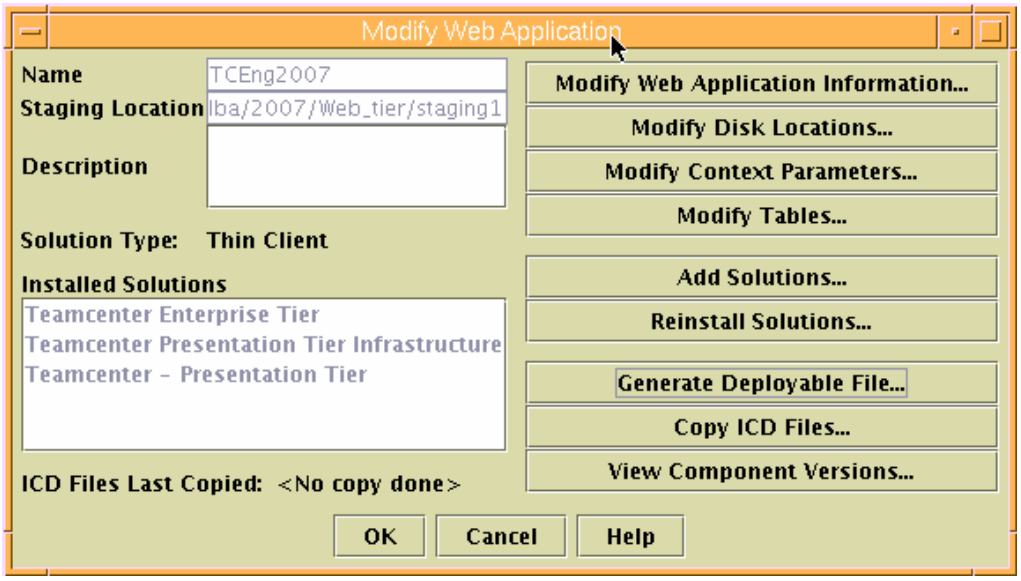

Figure 28. Modify Web Application dialog page

26. In the Generate Deployable File dialog page (see Figure 29), enter a name for the Web-tier enterprise archive (EAR) file in the Deployable File Name field, then click **OK**.

    Note: Web Application Manager adds the file extension. For example, if you enter TCEng2007 as the file name, Web Application Manager creates a file named *TCEng2007.ear*.

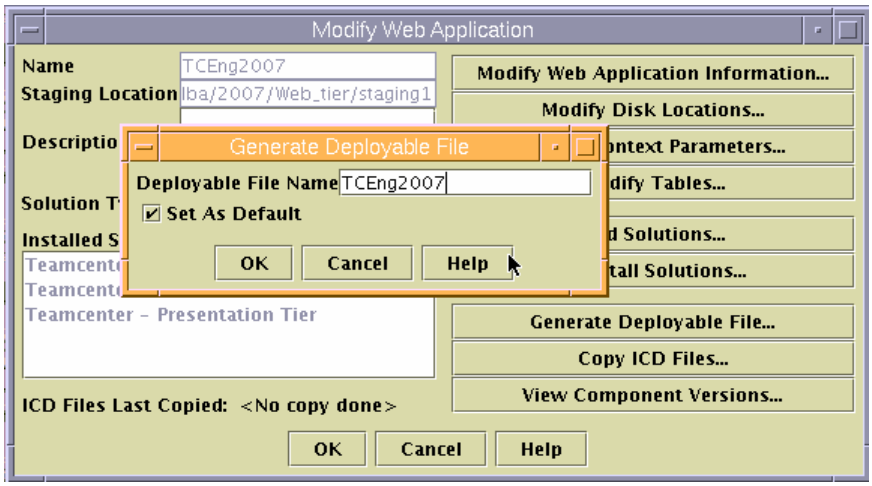

Figure 29. Generate Deployable File dialog page

27. Web Application Manager begins building the EAR file (and the WAR file that is contained within the EAR file) and also shows a Progress dialog page (see Figure 30).
28. When Web Application Manager indicates that file generation is complete, click **OK** to close the Progress dialog page.
29. Then, click **OK**. to close the Modify Web Application dialog page and click **Exit** to close Web Application Manager.

    Note: Web Application Manager creates the **TCEng2007.ear** file in the deployment directory under the staging locations. (that is, /home/infodba/2007/Web-teir/staging1/deployment).

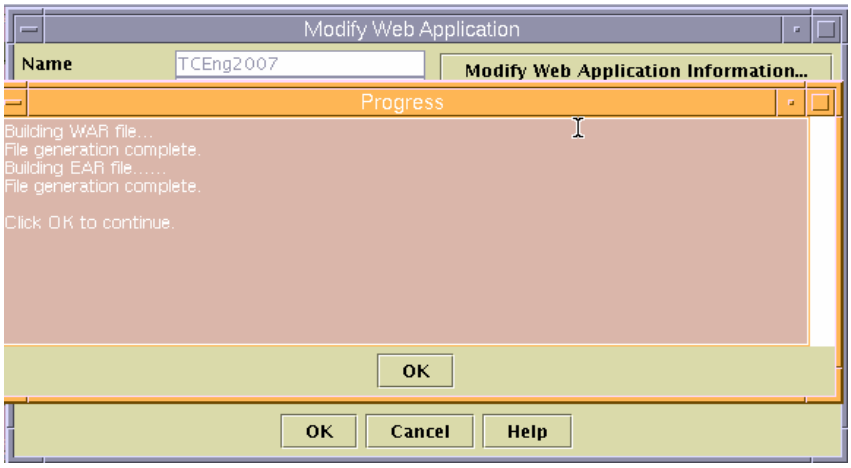

Figure 30. Progress dialog page

Deploying WebSphere Application Server

This section explains how to deploy a Web application and how to start the required server-manager processes. There is also information regarding installing and running WebSphere Application Server.

The following example deploys one instance of WebSphere Application Server 6.0.2.25, which hosts the Teamcenter Engineering Web tier application (EAR file). For a list of currently supported Web-application servers for each operating system, see the Teamcenter Engineering Release Bulletin and the UGS Global Technical Access Center (http://support.ugs.com/docs/i-deas/hw_req).

Starting WebSphere Application Server and HTTP Server processes

Start WebSphere Application Server and the WebSphere administration console by following these steps:

1. Start the WebSphere Application Server administration console by running the following command (as root): **autoconf6**.
2. Start WebSphere Application Server by running the following command (as root):
   /usr/IBM/WebSphere/AppServer/bin/startServer.sh server1
   /usr/IBMHTTPserver/bin/apachectl start
3. Open WebSphere Application Server Integrated Solution Console in a browser by entering the following address: **http://was_server_name:9060/ibm/console**.

Installing and configuring TCEng2007 EAR file into WebSphere

Installing and configuring the TCEng2007 EAR file into WebSphere Application Server 6.0.2.25 involves three steps. It is necessary to install the Teamcenter Engineering 2007 application. You must perform additional configuration processes. Additionally, you must start the Teamcenter Engineering 2007 application. These three steps are explained next.

Installing a new application

To install a new application, perform the following steps:

1. After logging into the WebSphere administration console, on the Preparing for the application installation page, select **Install New Application** (from the options provided on the left side of the page shown in Figure 31).
2. Provide the path to the location of the Teamcenter Engineering Web-tier EAR file (TCEng2007.ear) that has been copied from the system (where TCEng2007 is installed) onto the system (where WebSphere Application Server is installed.
3. If the Web-tier EAR file is named TCEng2007, specify the context root as TCEng2007. After the context root and location for the TCeng2007.ear file have been provided, click **Next**.

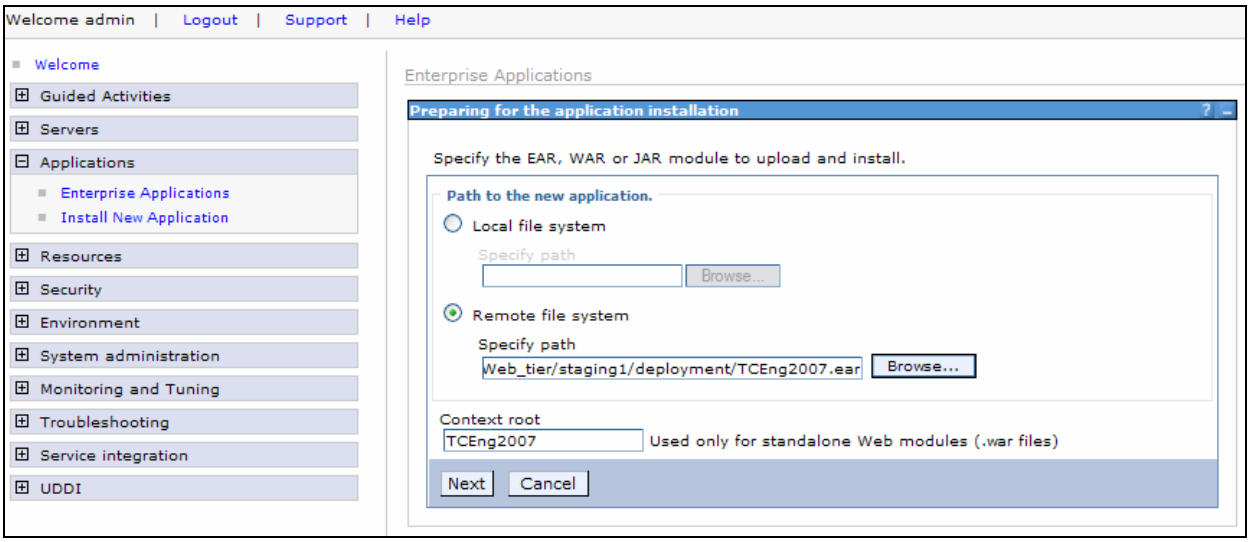

Figure 31. Preparing for the application installation page

4. On the continuation of the Preparing for the application installation page (see Figure 32), select **Generate Default Bindings** and **Use default virtual host name for Web Modules**, then click **Next**.

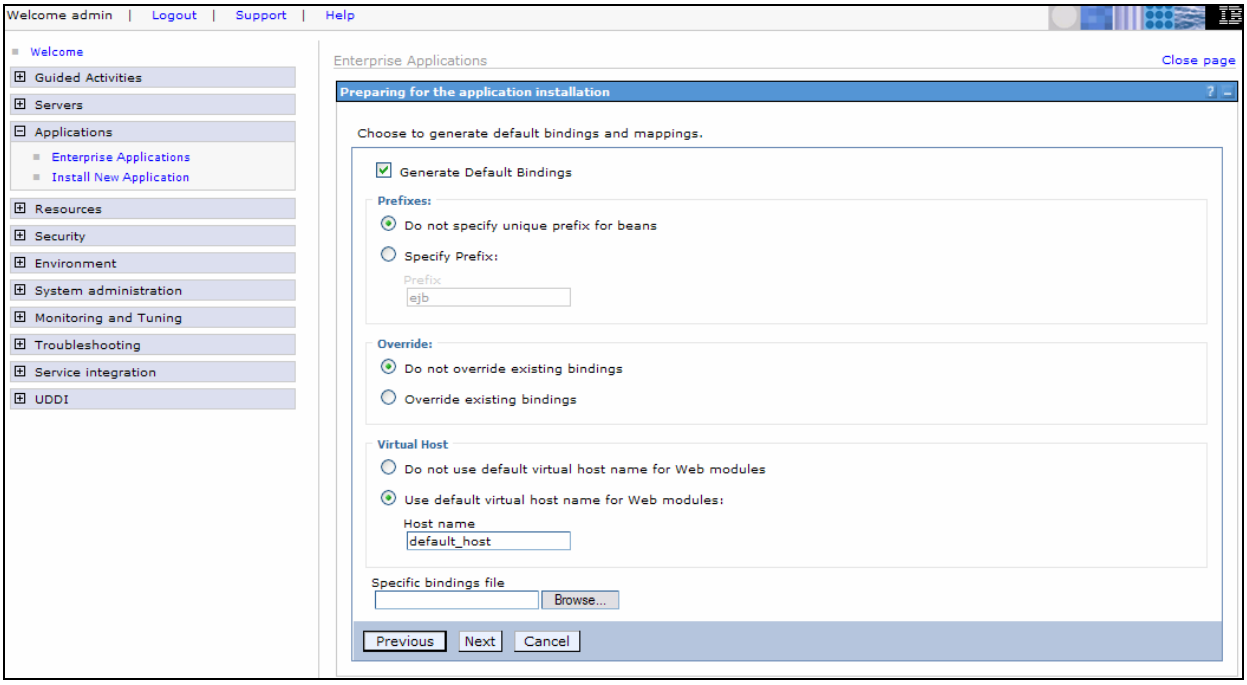

Figure 32. Continuation of the Preparing for the application installation page

5. The Application Security Warning is informational and requires no action (no screen image is shown here); click **Continue**.

6. You are presented with Step 1, (the Select installation options page, see Figure 33). Verify that the application name being shown is the expected value, click **Next**.

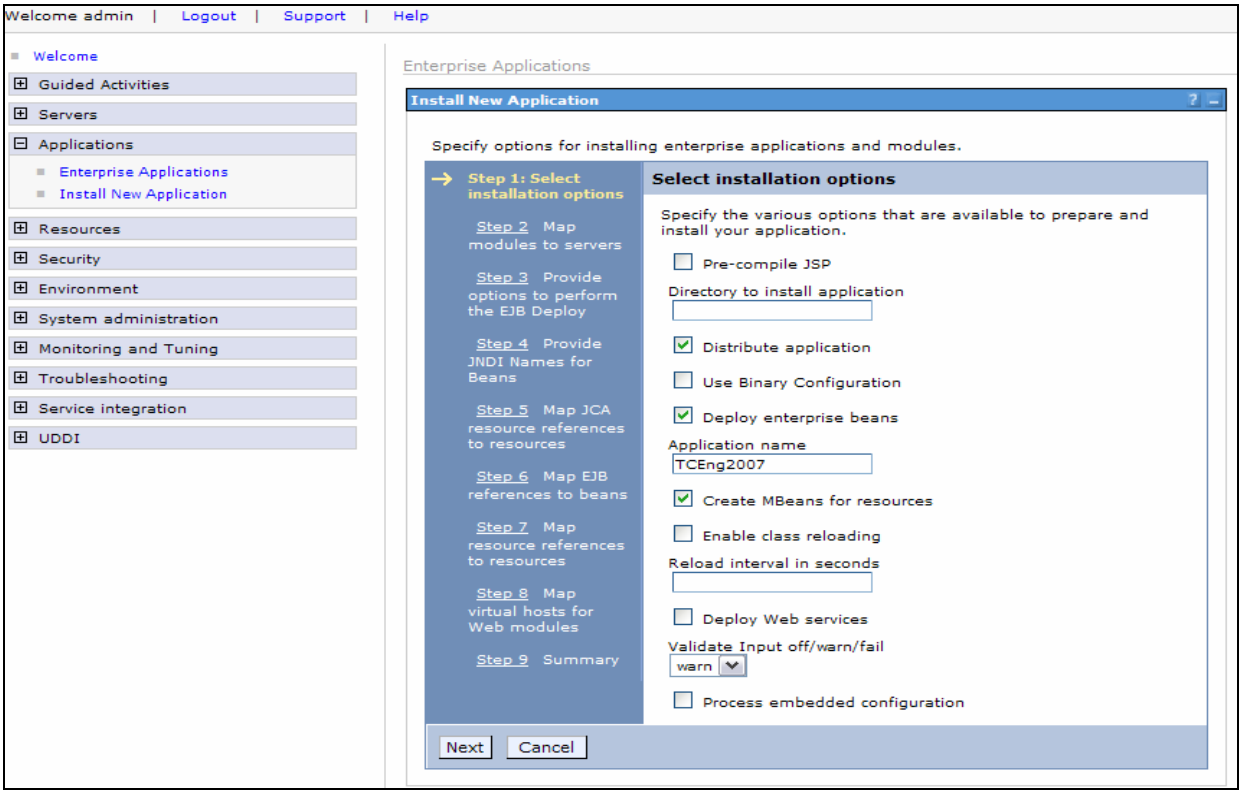

Figure 33. Select installation options page

7. Next, you are presented with Step 2 (the Map modules to servers page, see Figure 34). Select both lines in **Clusters and Servers**, then ensure that the box next to TCEng2007 is selected. Click **Apply** and **Next**.

   Note: The TCEng2007 module should have both server1 and webserver1 selected; in contrast, the other two modules are only serviced by server1.

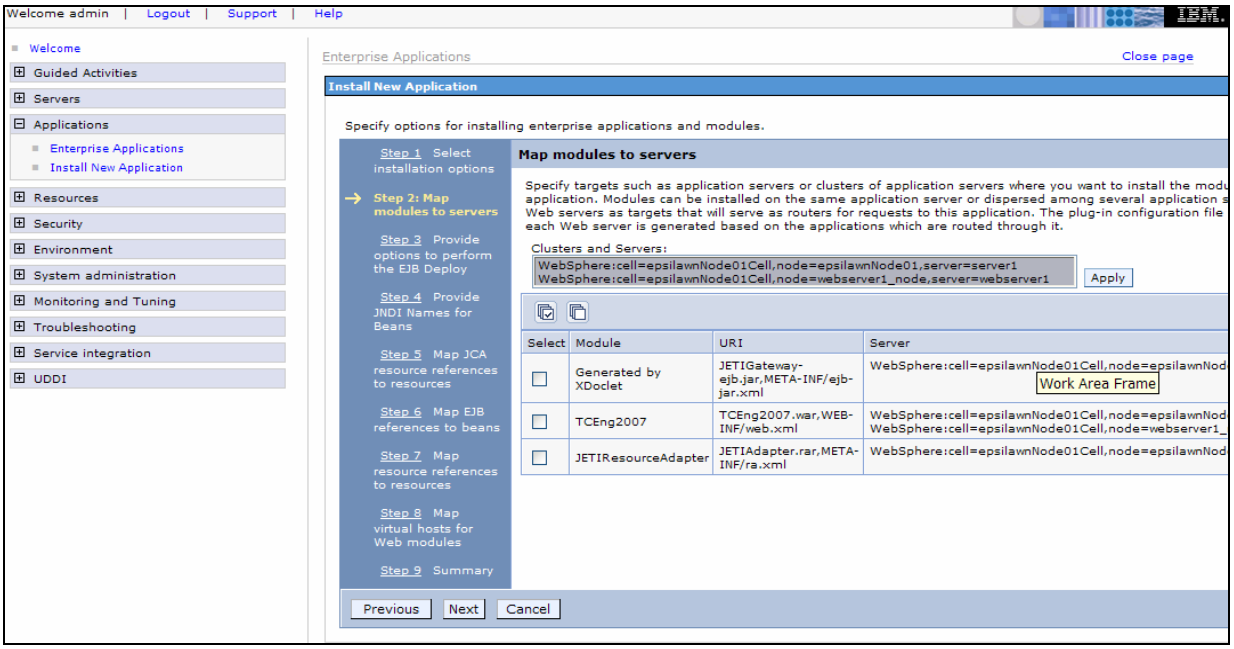

Figure 34. Map modules to servers page

8. Continue to click **Next** for Steps 3 through 7 (these screen images are not shown here), which means that you are accepting all the default values shown on these pages.
9. After selecting **Next** for Step 7, an Application Resource Warnings dialog page is displayed (no screen image is shown here), click **Continue**.
10. In Step 8, click **Next**, then click **Finish** in Step 9. You will then be shown an Installing dialog page (see Figure 35 and Figure 36).

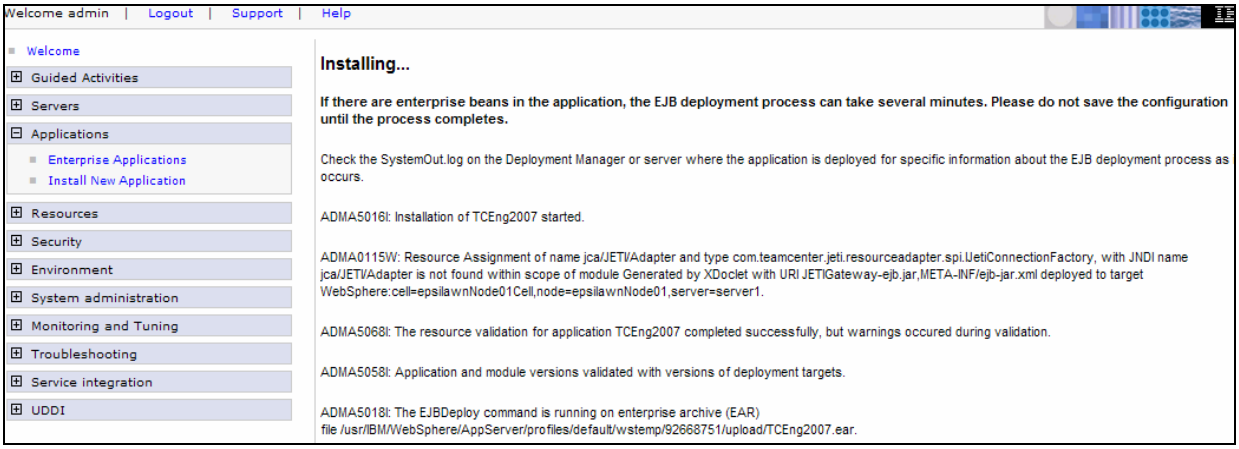

Figure 35. Installing page

11. After the Installation has been completed, at the bottom of the Installing dialog page (see Figure 35), select **Manage Applications** to proceed to additional changes that are required.

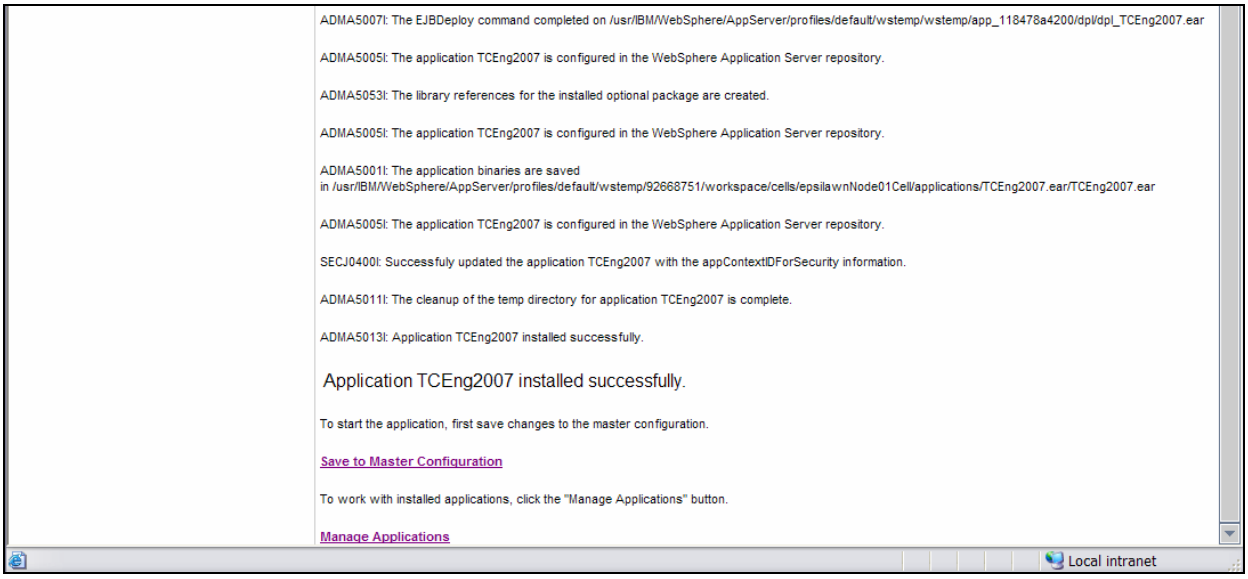

Figure 36. Continuation of the Installing page

12. After installing the Teamcenter Engineering Web-tier application EAR file, it is necessary to manually configure the Jeti resource adapter. To start this configuration, on the Enterprise Applications page (see Figure 37), select **TCEng2007** to manage the Teamcenter Web Application that you have just installed.

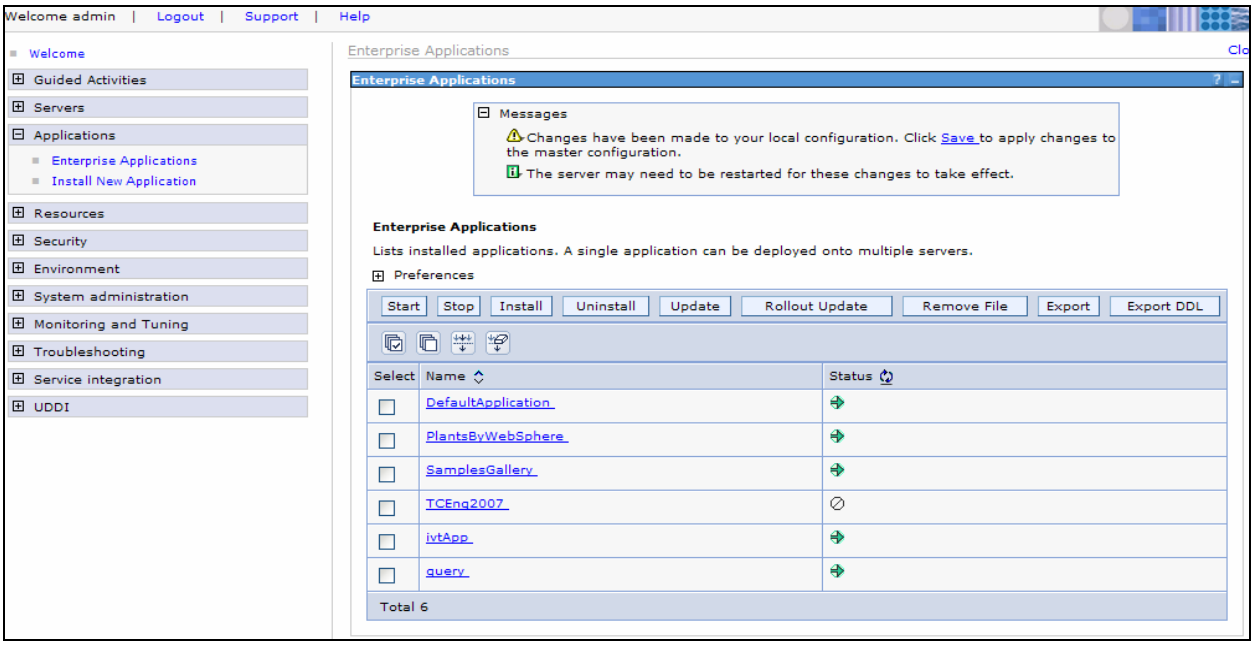

Figure 37. Enterprise Applications page

13. On the Enterprise Applications Configuration tab (see Figure 38), select **Connector Modules** (which is located in the lower-right portion of the page).

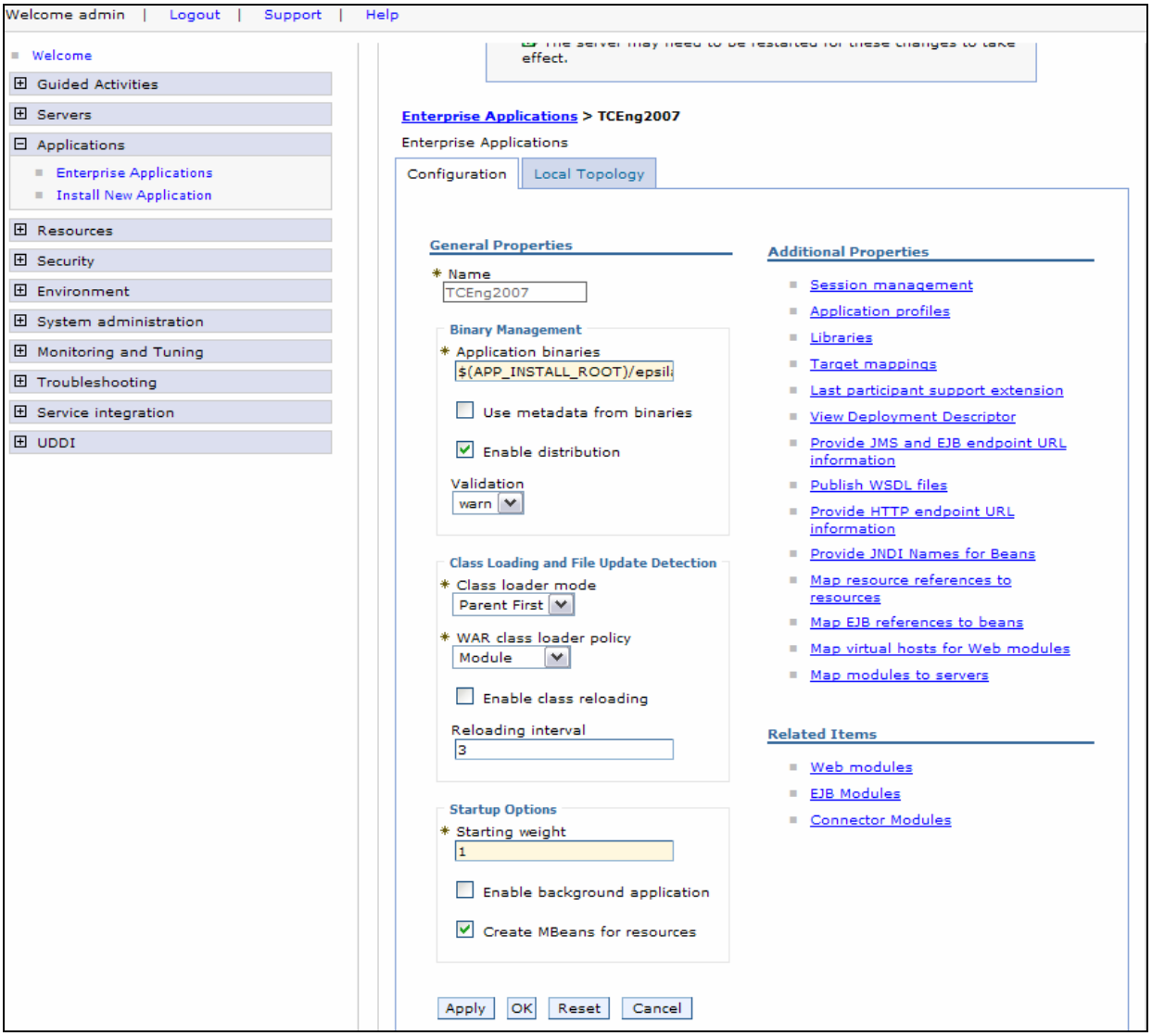

Figure 38. Enterprise Applications Configuration tab

14. On the Connector Modules page (see Figure 39), select the connector module that is named *JETIResourceAdapter.rar*.

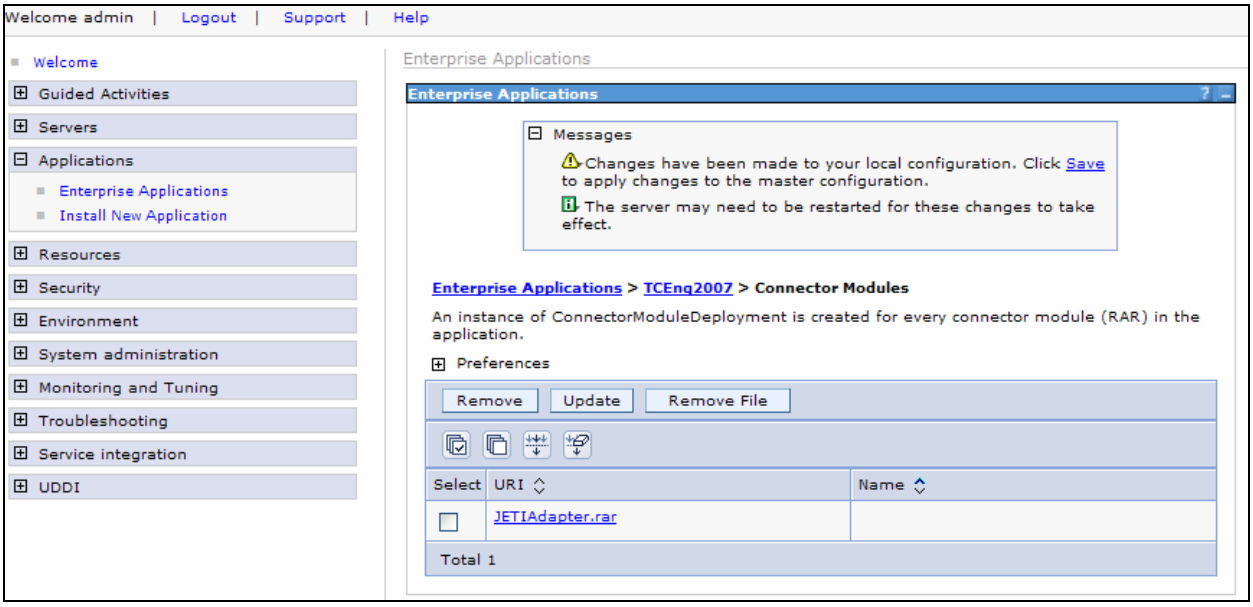

Figure 39. Connector Modules page

15. On the JETIAdapter.rar page (see Figure 40), under Additional Properties, select **Resource Adapter**.

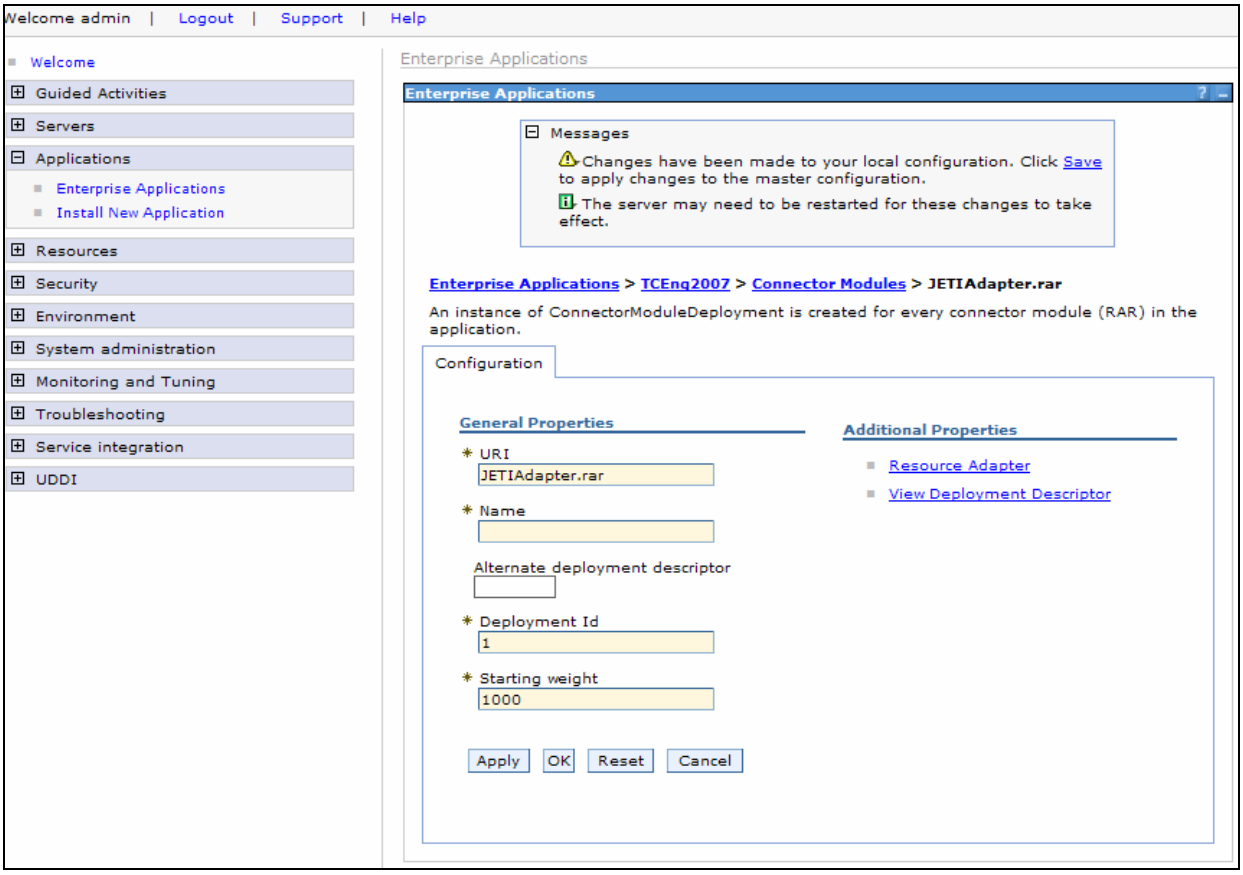

Figure 40. JETIAdapter.rar page

16. On the TCEng2007.JETIResourceAdapter page (see Figure 41), select **J2C connection factories** (which is located on the right side of the page, under Additional Properties). Then, on the next page (screen image not shown here), select **New**.

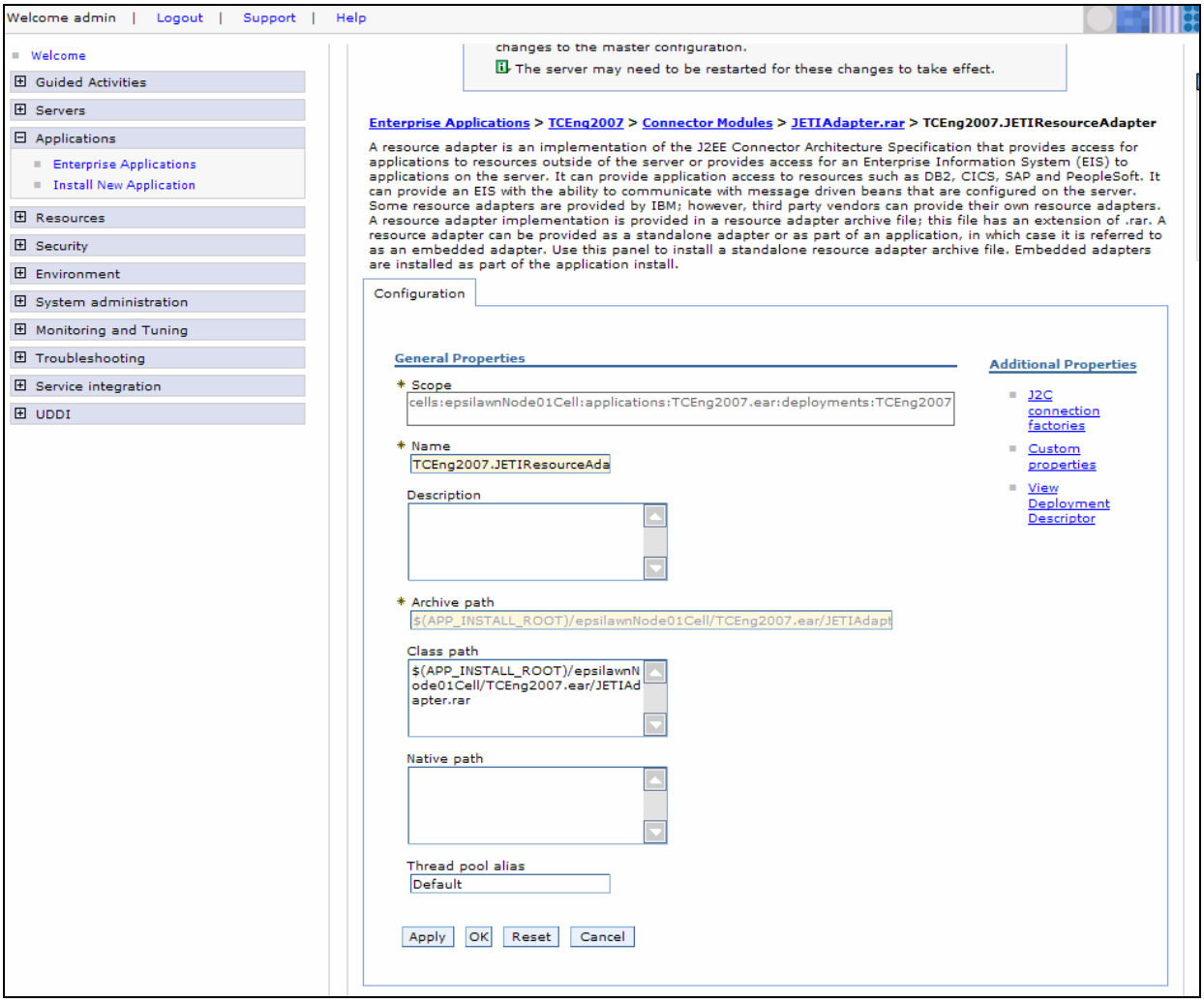

Figure 41. TCEng2007.JETIResourceAdapter page

17. On the New page (see Figure 42), name the connection factory *JETIResourceAdapter.* The Java Native directory Interface (JNDI) name is *jca/JETI/Adapter*. Click **Apply**.

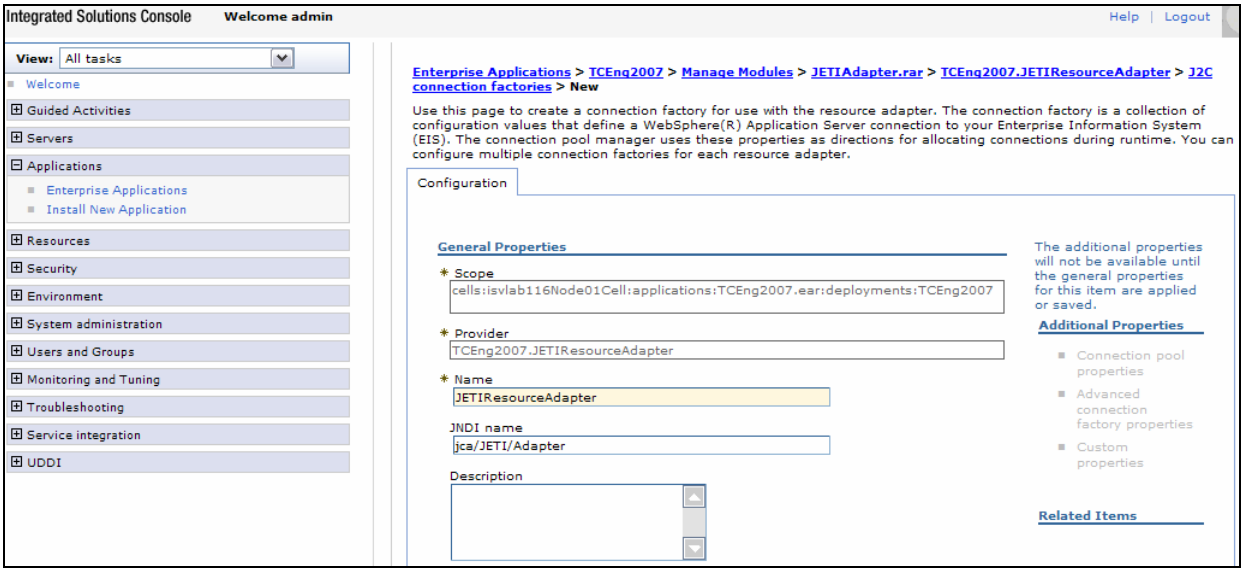

Figure 42. New page

18. On the next page, (screen image is not shown here), click **Connection pool properties**.

19. On the Connection pools page (see Figure 43), enter the following values:
    - **1000** for Maximum connections
    - **0** for Minimum connections
20. Save the application-server configuration changes that were made to the TCEng2007 connection-pool properties by clicking **Apply**. Then, click **OK**.
21. On the next page, click **Save** to confirm that you want to apply the changes to the master configuration. (No screen image is shown here for the Save step, as this is self-explanatory.)

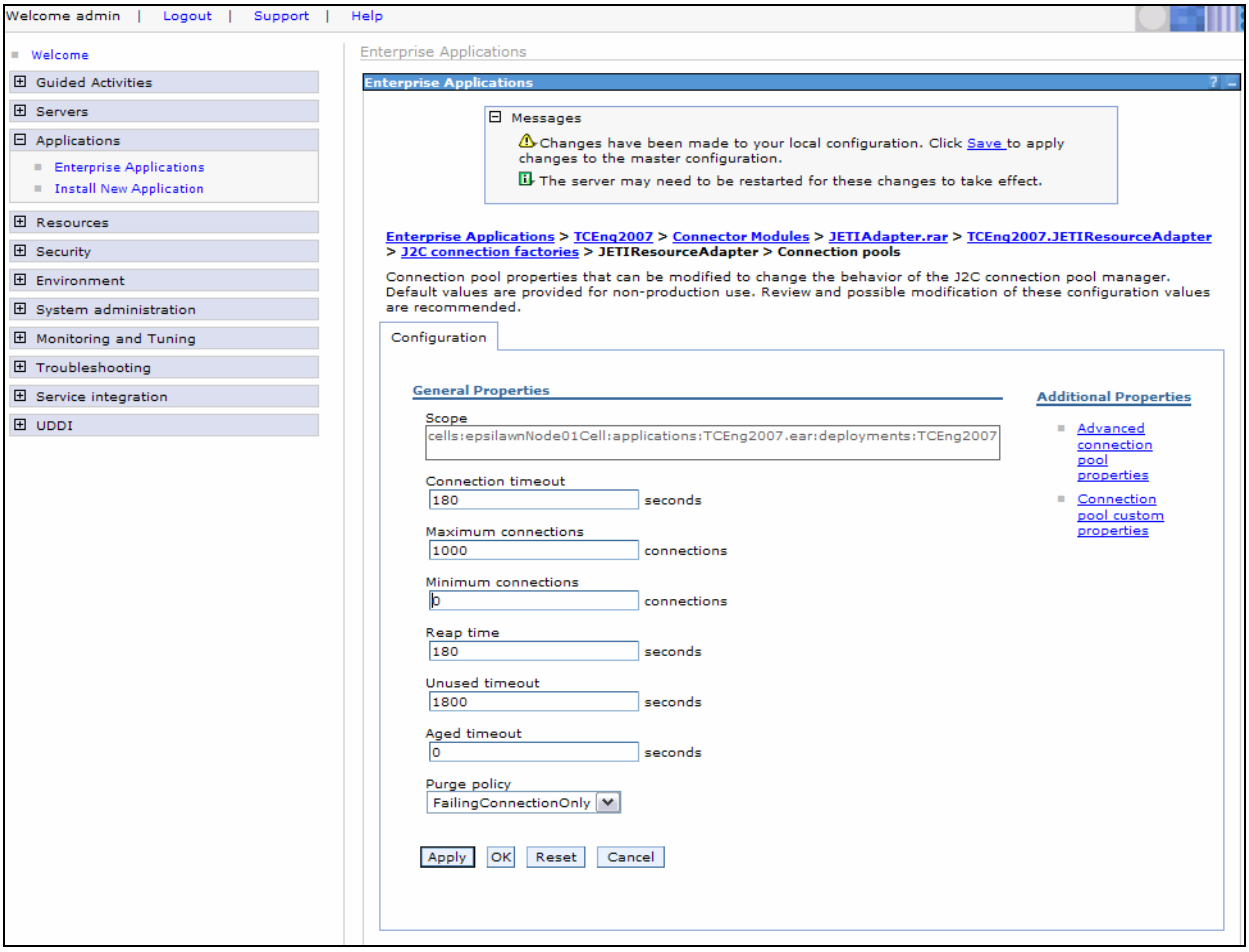

Figure 43. Connection pools page

22. On the Enterprise Applications page (see Figure 44), if the TCEng2007 application is not running (which you can determine by checking its status), select the check box next to the application. Then, click **Start** (located near the top of the page).

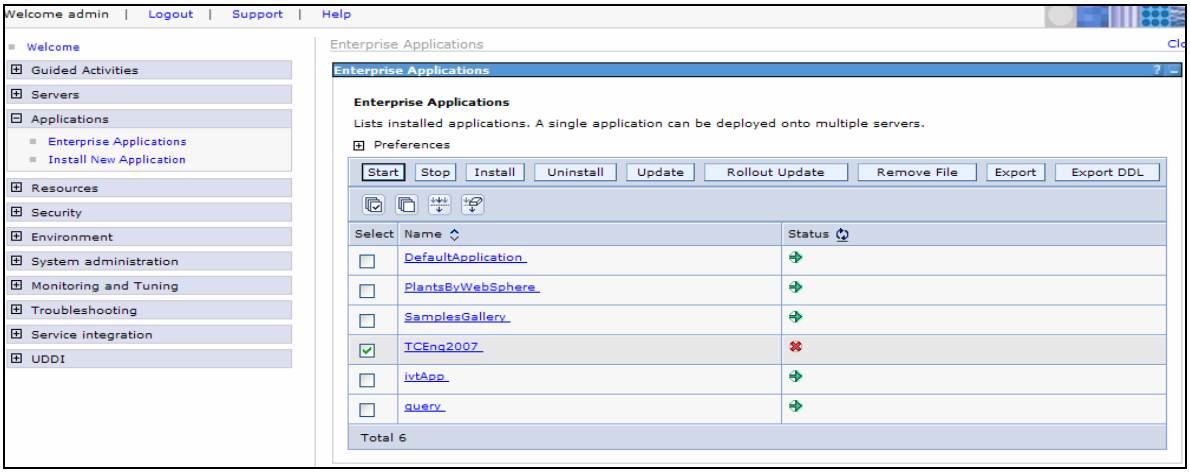

Figure 44. Enterprise Applications page

23. On the Web servers page (see Figure 45), regenerate and propagate the Web-server plug-in to support Jeti applications. First, select **Generate Plug-in**, then select **Propagate Plug-in**. (**Note:** This is required to access the TCEng2007 Jeti application through the HTTP Server.)

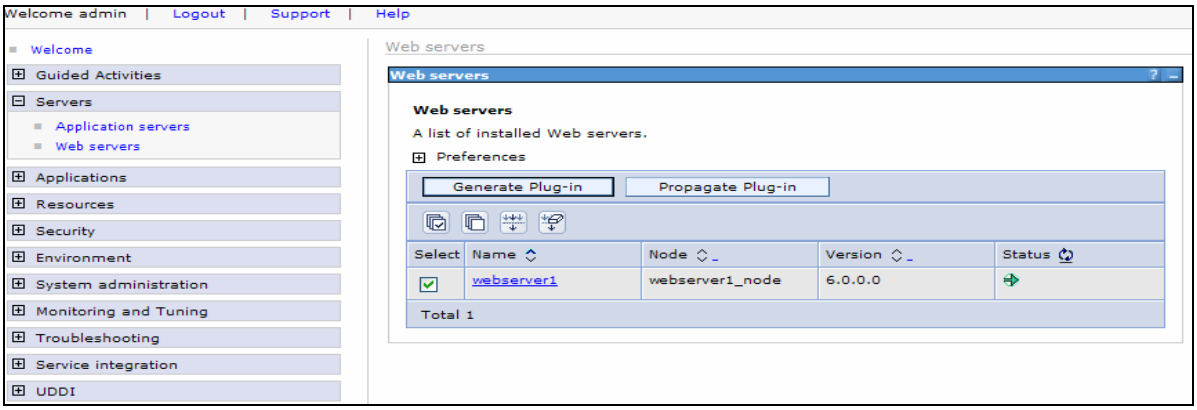

Figure 45. Web servers page

Accessing the thin client

To access the thin client, perform the following steps:

1. Verify the connection by accessing the following URL:

   http://isvlab116.austin.ibm.com:9080/TCEng2007/webclient

2. Verify that the application is accessible through the default Web server by using the IBM HTTP Server as the front end — with port of 80 using the following URL (**Note:** Substitute the name of your WebSphere server system for isvlab116.austin.ibm.com.):
   http://isvlab116.austin.ibm.com/TCEng2007/webclient

Installing and configuring distribution server

Note: There is UGS documentation for installing and configuring the distribution server and server instance that is used for the Web installation of the client application. (See the document entitled *Installation on UNIX and Linux Servers*, Part IV: Web Application Installation, Section 12: Rich Client Distribution Server/Instance Installation. **Note:** This document is delivered with the Teamcenter Engineering installation CDs.)

After installing and configuring the distribution server and server instance according to the documentation just mentioned, you can install the four-tier rich client on a client workstation by simply invoking the otwweb/otw.html page from a Web browser.

The distribution server installation provides utility programs to listen for requests to install software. The installation of the distribution-server instance defines the files to install on the rich client, as well as the files to add to the HTTP Server to allow a client workstation to request the initial installation.

Preparing to install the distribution server for a four-tier rich client

Follow these steps to prepare for the installation of the distribution server for a four-tier client:

1. As user infodba, type in the following command:

   cd /home/infodba/2007.
   mkdir Webclient_tier
   cd Webclient_tier

2. Use the untar command on the Web_tier/INSTALL_TCWEB.TZ file to the Web_tier directory you just created, by typing the following (where image_path is similar to /MNT2/tc2007/aix, see Figure 46):

   cat ~image_path/Web_tier/INSTALL_TCWEB.TZ | uncompress –c | tar -xvf –

3. Start the insweb program and then copy the files from portal_otw/icd.

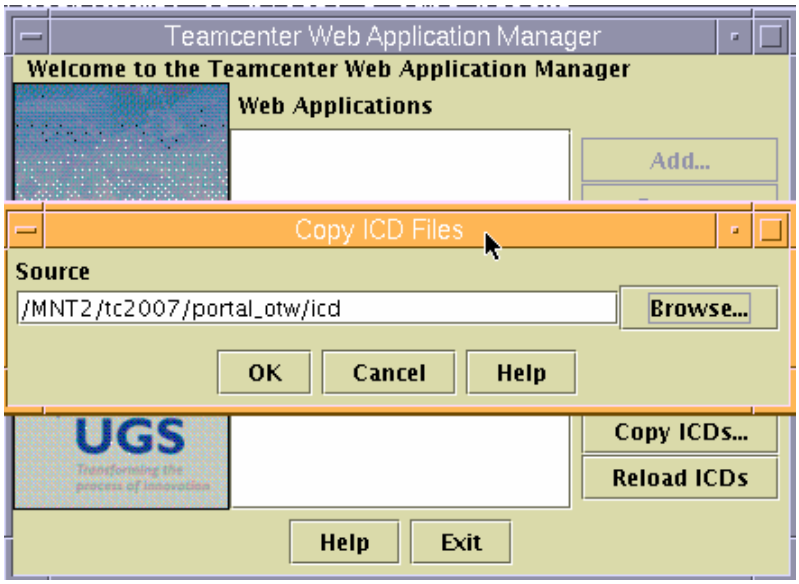

Figure 46. Copy ICD Files dialog page

4. Run the **./insweb** command. Then, select **Copy ICDs**, browse to where the portal_otw/icd directory is, then click **OK**.
5. After the copy is complete (see the Progress dialog page shown in Figure 47), click **OK**.

Figure 47. Progress dialog page

Creating the distribution server

Follow these steps to create the distribution server:

1. From the Welcome dialog page, click **Add**.

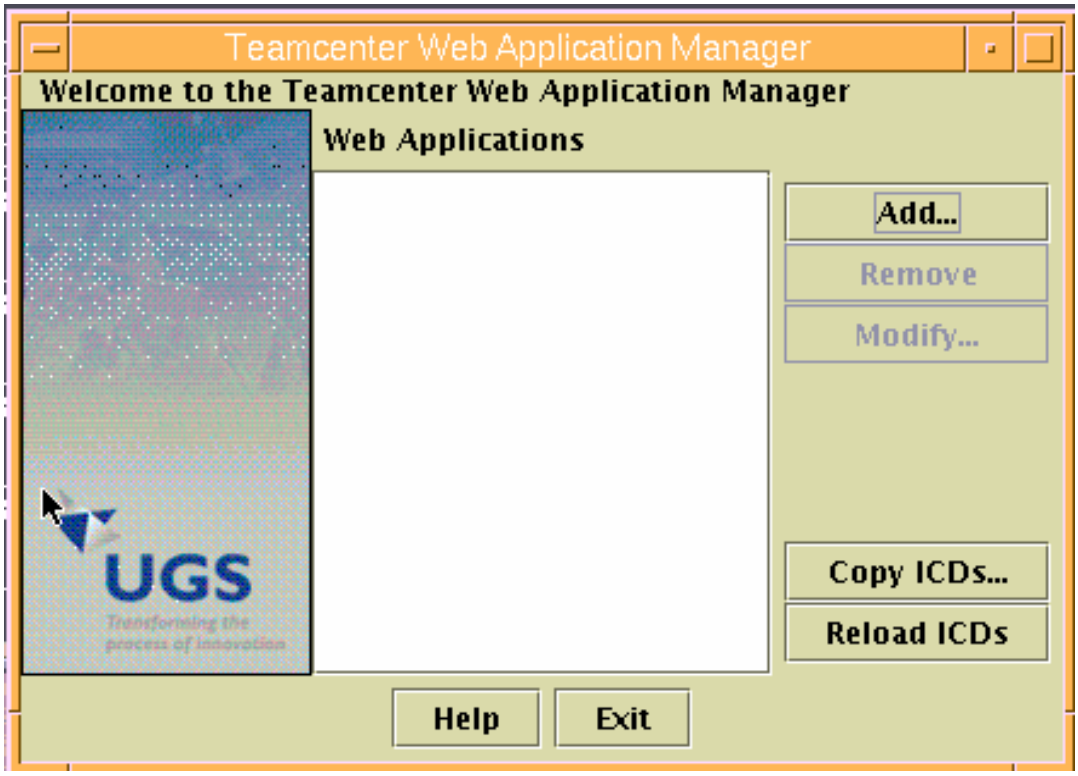

Figure 48. Welcome dialog page,

2. It is necessary to add the disk location where the files that are needed to install the distribution server can be found. In the Add Disk Location dialog page (see Figure 49), browse to the correct location, then click **OK**.
3. For the Web application name, enter a unique value (such as **TCEng2007DistServer**).
4. On the Add Web Application page (see Figure 49), click **OK**.

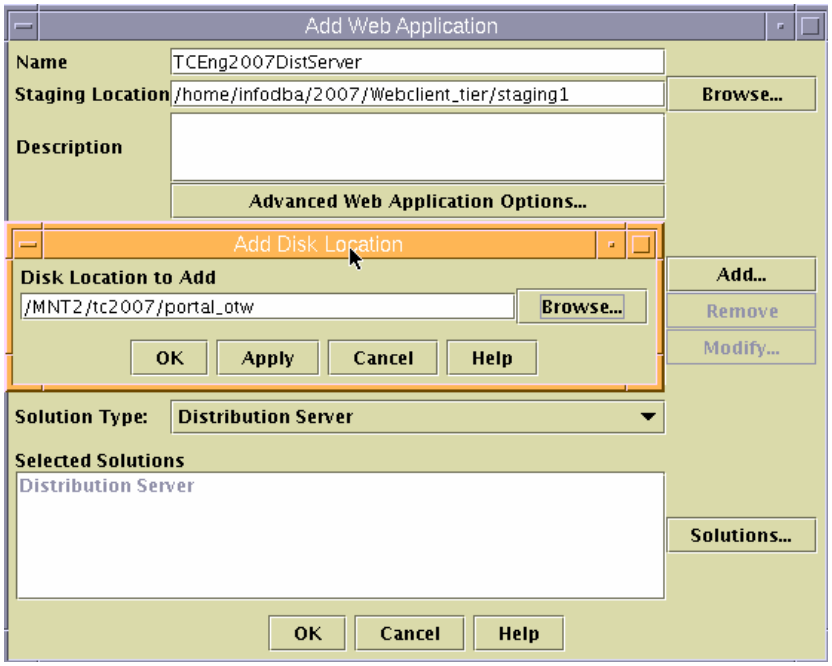

Figure 49. Add Disk Location dialog page

5. The values in the Modify Required Context Parameters dialog page (see Figure 50) are left as default. Click **OK**.

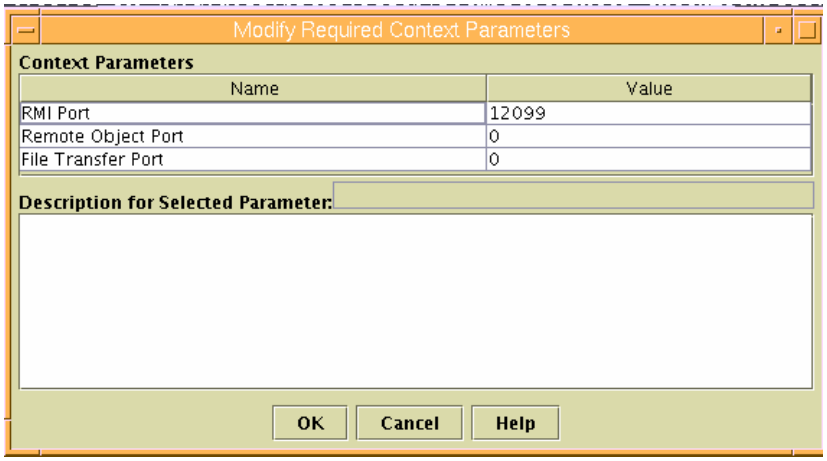

Figure 50. Modify Required Context Parameters dialog page

6. In the Progress page (no screen image is shown here), after the creation of the distribution server is finished, click **OK**.

Creating the distribution server instance

Follow these steps to create the distribution server instance:

1. From the Welcome dialog page (see Figure 51), click **Add**.

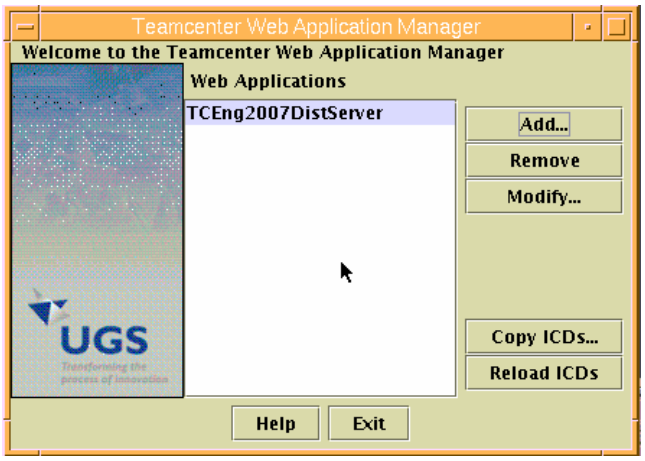

Figure 51. Welcome dialog page

2. On the Add Web Application dialog page (see Figure 52), change the application name to something unique (such as **TCEng2007DistServerInstance**).
3. Change Solution Type to *Distribution Server Instance by selecting it from the pulldown menu.*
4. In the Selected Solutions box, verify that the list includes at least the two solutions that are shown in Figure 52, then click **OK**.

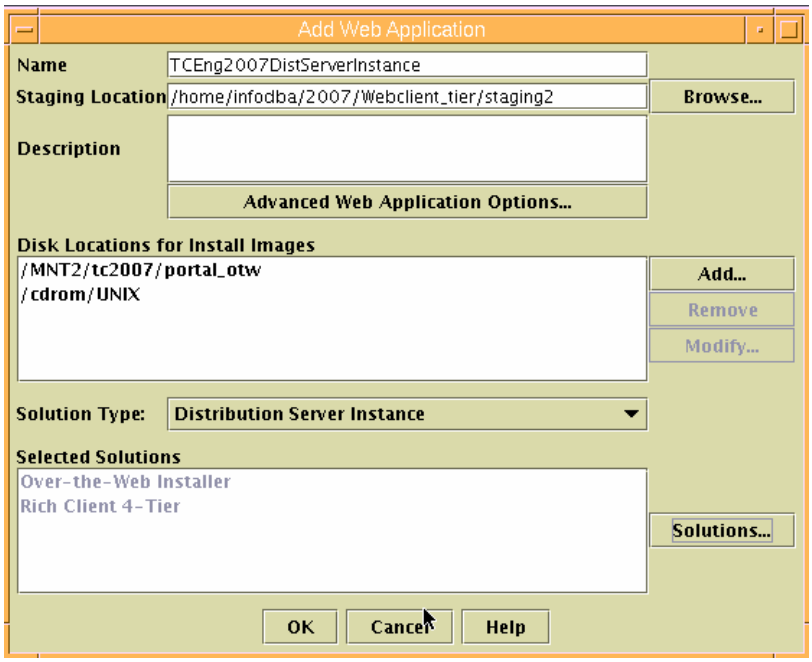

Figure 52. Add Web Application dialog page

5. In the Modify Required Context Parameters dialog page (see Figure 53), change the context parameters if necessary, then click **OK**.

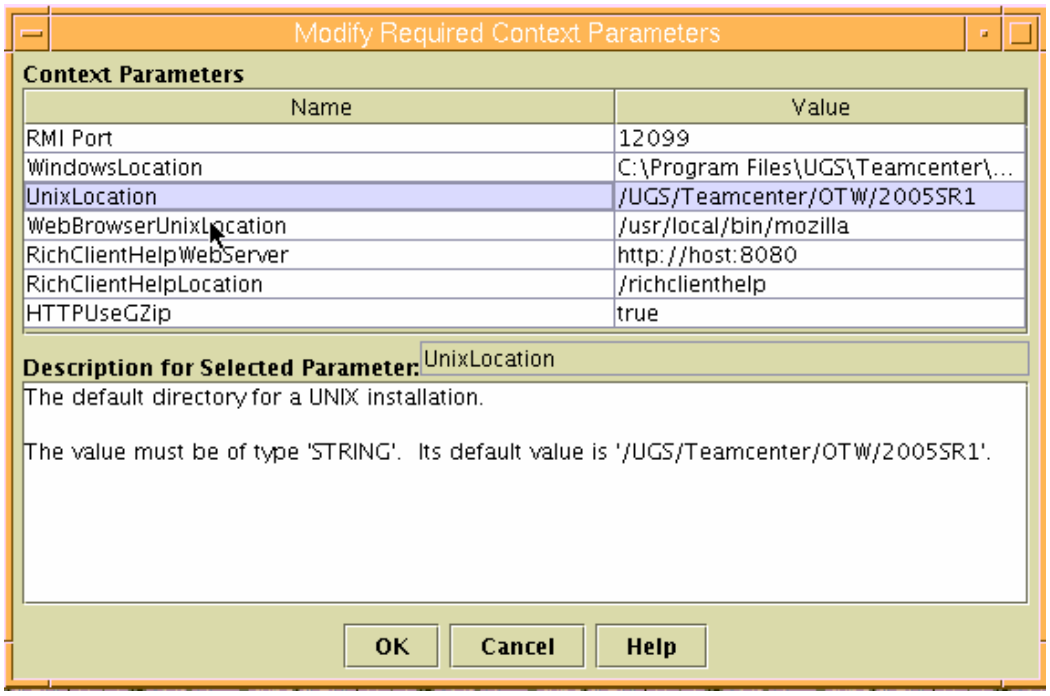

Figure 53. Modify Required Context Parameters dialog page

6. In the Modify Required Context Parameters dialog page (see Figure 54), enter the host where the FSC is running, then click **OK**.

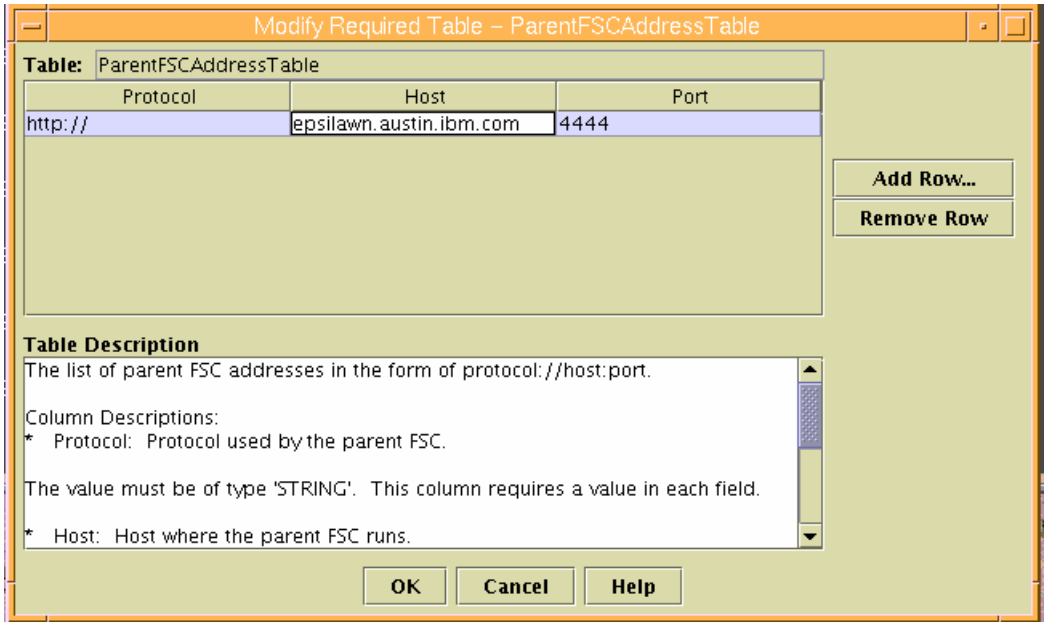

Figure 54. Modify Required Context Parameters dialog page

7. On the Modify Required Table — HTTPServer Table dialog page, in the Uniform Resource Identifier (URI) field, enter the following URL, then click **OK**. (Substitute the name of the WebSphere server system that is hosting the Web application):
   http://isvlab116.austin.ibm.com/TCEng2007/services/PLMGatewayService

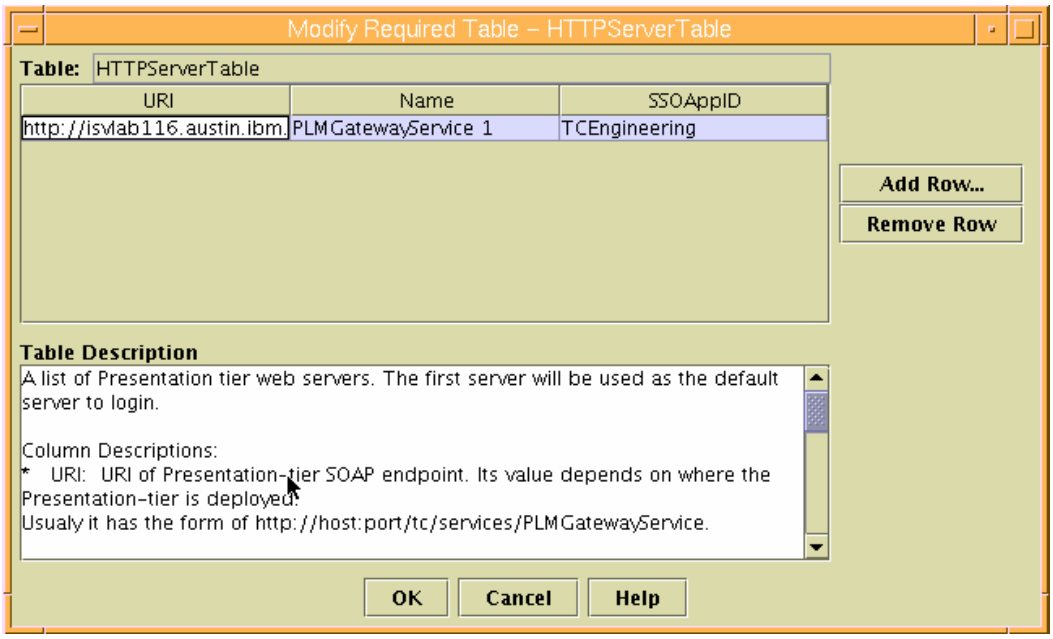

Figure 55. Modify Required Table — HTTPServer Table dialog page

8. On the Progress Page (no screen image is shown here), click **OK**.
9. On the Web Application Manager page (no screen image is shown here), click **Exit**.

Placing files in HTTP Server

To place the files in the HTTP Server, do the following steps:

1. On the Teamcenter Engineering Server, as user infodba, enter the following command:

   cd /home/infodba/2007/Webclient_tier/staging2/webapp_root
   tar –cvf /tmp/OTWWEB.tar otwweb

2. As root, copy the OTWWEB.tar file to the HTTP Server machine by using the following commands:

   cd /usr/IBM/HTTPServer/htdocs/en_US
   tar –xvf /tmp/OTWWEB.tar

Starting and verifying the processes

To start and verify the processes, do the following steps:

1. On the Teamcenter Engineering Server system, run the following commands as user infodba, ensuring that the java command is in the $PATH.

   cd /home/infodba/2007/Webclient_tier/staging1/webapp_root
   ./start_rmi
   ./start_server

2. From a Windows system, connect to the following URL with a browser, substituting the name of the system where the HTTP Server is running:
   http://isvlab116.austin.ibm.com/otwweb/otw.html

   This runs an application that downloads the files for the four-tier rich client to the desktop (see Figure 56). (This can take several minutes, depending on network traffic and latency.)

Figure 56. Application that downloads the four-tier client

This also causes the files to be installed and an icon to be added to the desktop so that it is easy to start Teamcenter Engineering 2007. (See Figure 57.)

3. Double-click the Teamcenter Engineering icon on your Windows desktop to start the rich client.

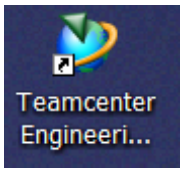

Figure 57. Teamcenter Engineering icon on the desktop

4. Select **My Navigator**, which prompts you to provide the user and password (infodba with infodba for this example installation) as shown in the screen image of the rich-client GUI. (shown in Figure 58).

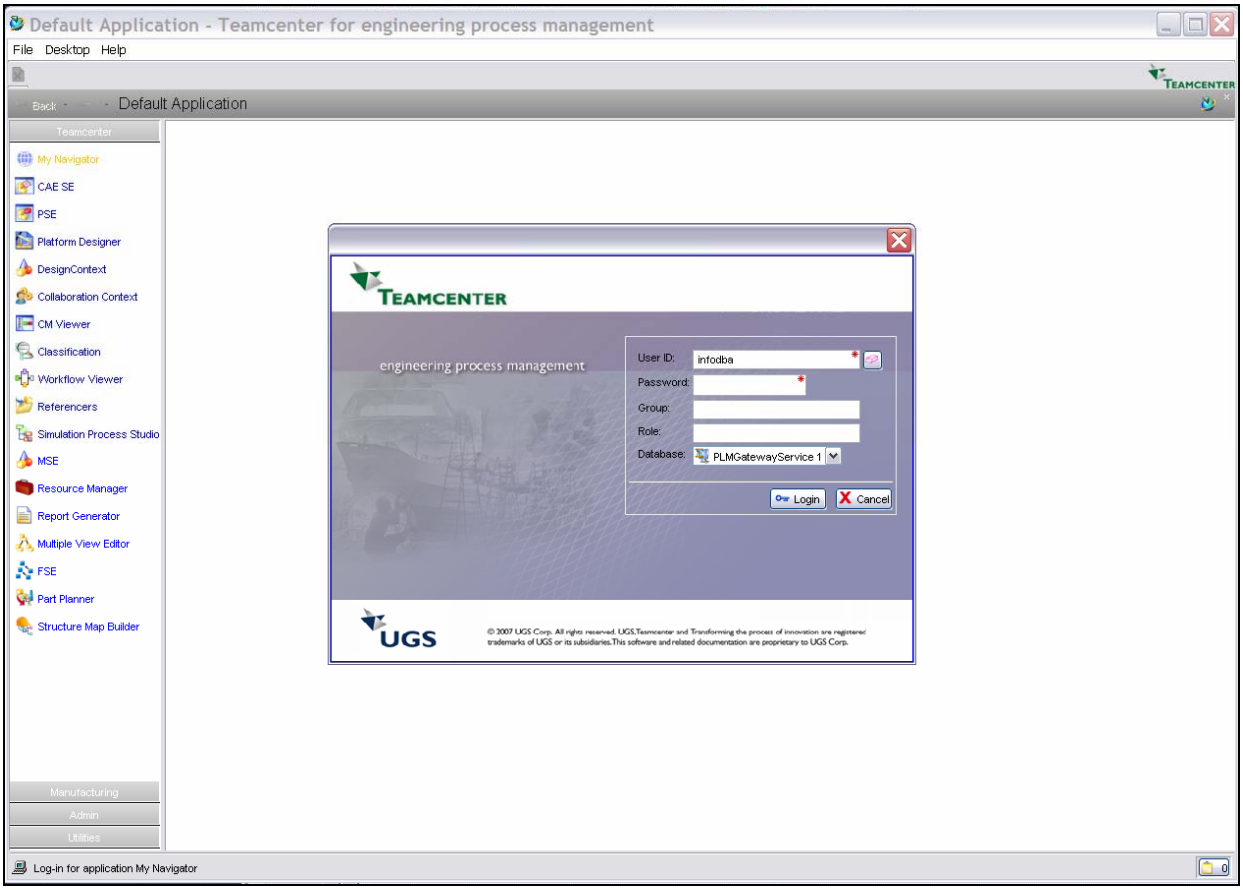

Figure 58. Teamcenter rich client

Congratulations, you have just successfully verified the over-the-Web installer and the running of the four-tier rich client.

Installing MP4 updates

This section explains how to make MP4 updates to your Teamcenter Engineering application.

Summary and files needed to perform the upgrade

The TcEng2005_SR1_2007_MP4_patching_process.pdf file contains the UGS steps that are necessary to install the patch set. This document describes specific steps that you need to perform on AIX to accomplish the upgrade. It also provides additional clarification as appropriate.

The required files for the upgrades that are performed in this guide are available for download from the GTAC UGS Web site (http://support.ugs.com).

- TcEng2005_SR1_2007_MP4_install.zip (used to upgrade the installer)
- TcEng2005_SR1_2007_MP4_aix.zip (contains Teamcenter Engineering Server, rich client, and Web-tier patches)
- TcEng2005_SR1_2007_MP4_otw.zip (contains the over-the-Web [OTW] rich-client patches and Teamcenter Engineering Distribution Server patches)

Updating Teamcenter Engineering Server (two-tier)

To update the two-tier Teamcenter Engineering Server, perform the following steps:

1. Stop all infodba processes that are related to Teamcenter Engineering 2007. Then, as root, run a slibclean process to provide a smoother upgrade.

Note: The following steps are all run as infodba.

2. Set the Teamcenter Engineering 2007 environment variables by entering the following commands:

   export IMAN_ROOT=~infodba/2007
   export IMAN_DATA=~infodba/tcdata
   .$IMAN_DATA/iman_profilevars`

3. Run the following commands to update the installer:

   cd $IMAN_ROOT/install
   unzip –o “path_to_install_zip_file”/ TcEng2005_SR1_2007_MP4_install.zip
   chmod 755 tem.sh

4. Invoke the installer by entering the following command:

   tem.sh

5. On the Maintenance page (see Figure 59), select **Updates Manager,** then click **Next**.

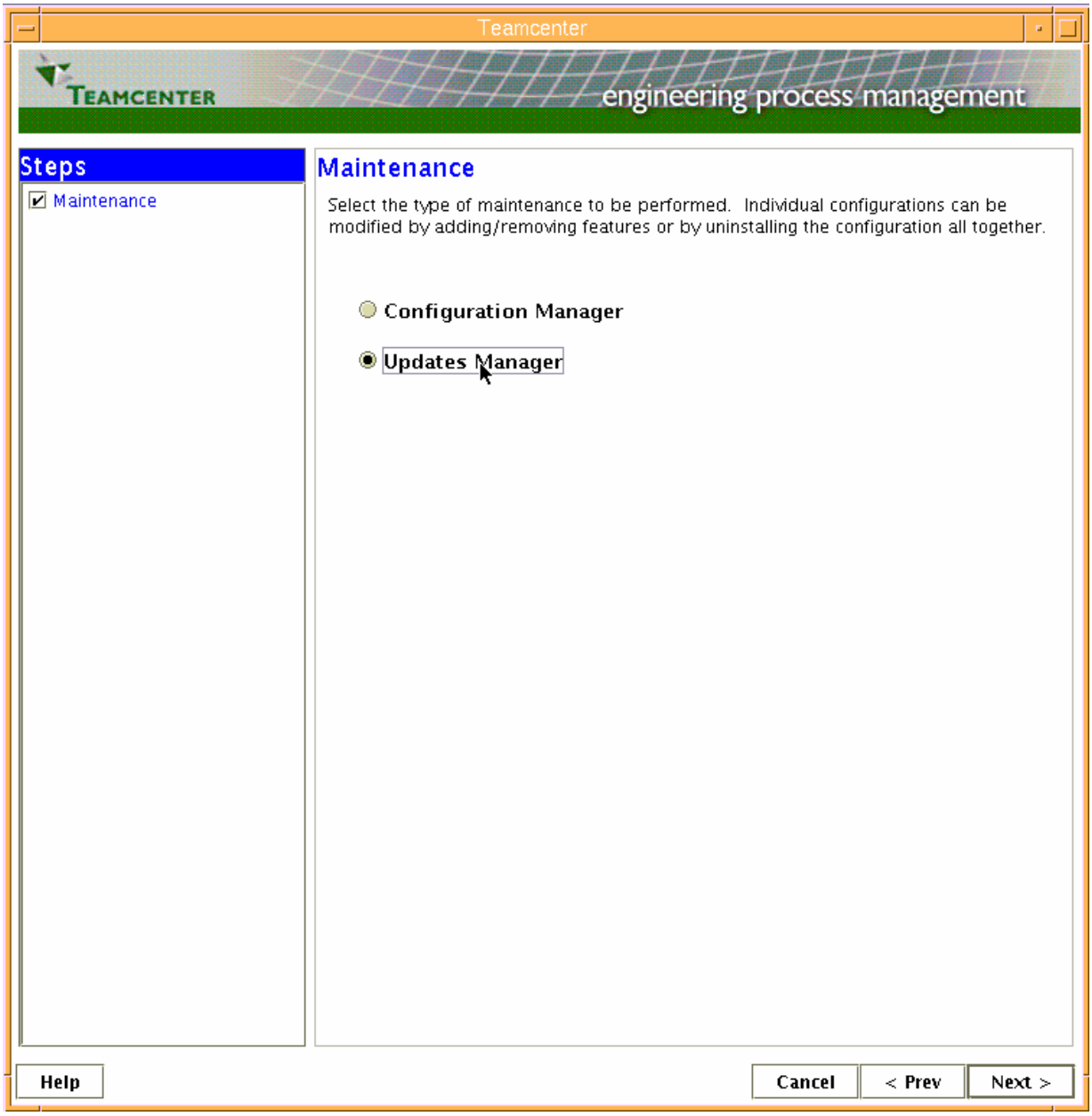

Figure 59. Maintenance page

6. On the Apply Updates page (see Figure 60), browse to the path of TcEng2005_SR1_2007_MP4_aix.zip, then click **Next**.

   Note: A warning-status message page might be displayed (no screen image is shown here), click **Close**.

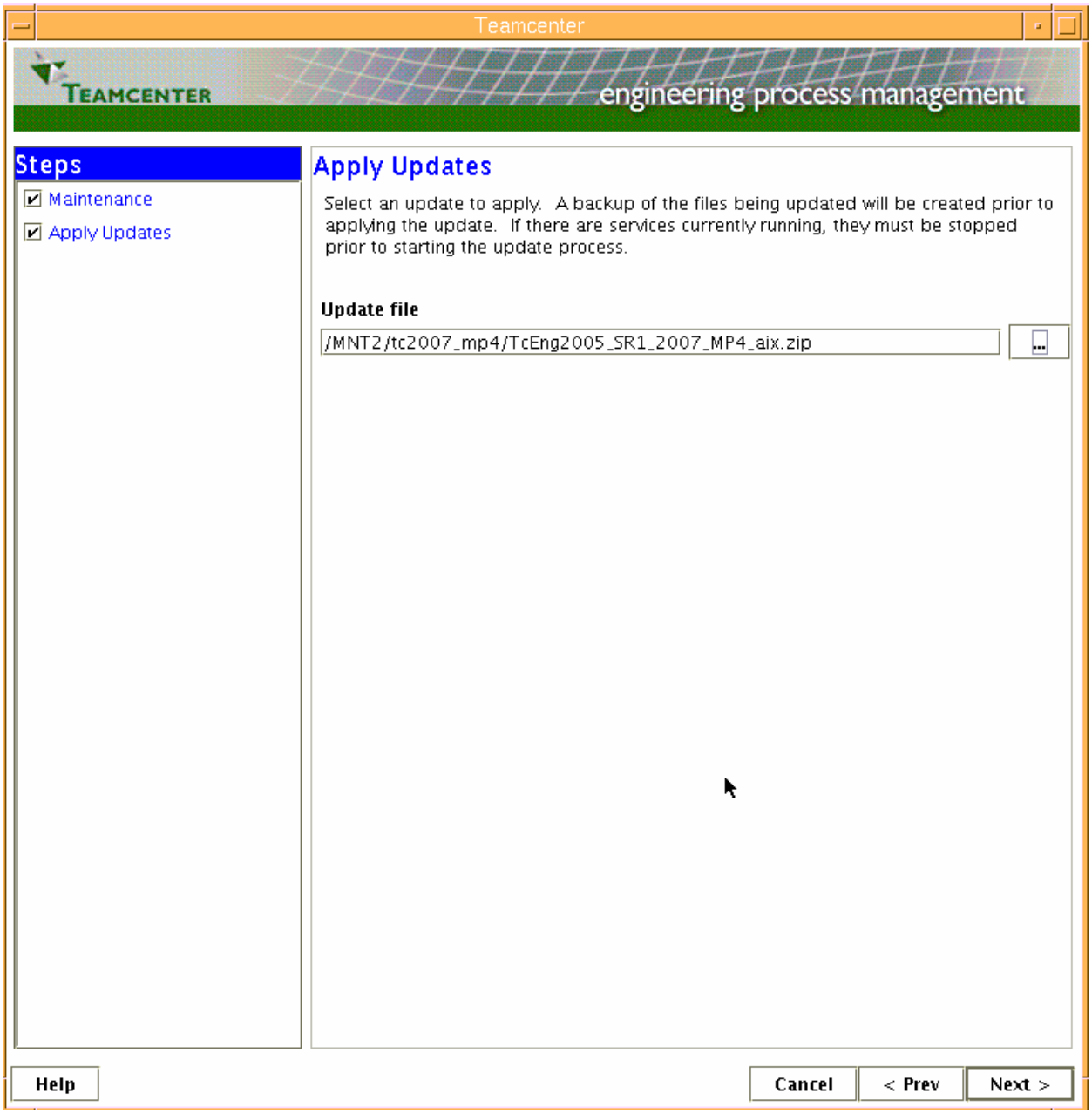

Figure 60. Apply Updates page

7. On the Confirm Selections page (see Figure 61), view the summary of the selected features, then click **Next**.

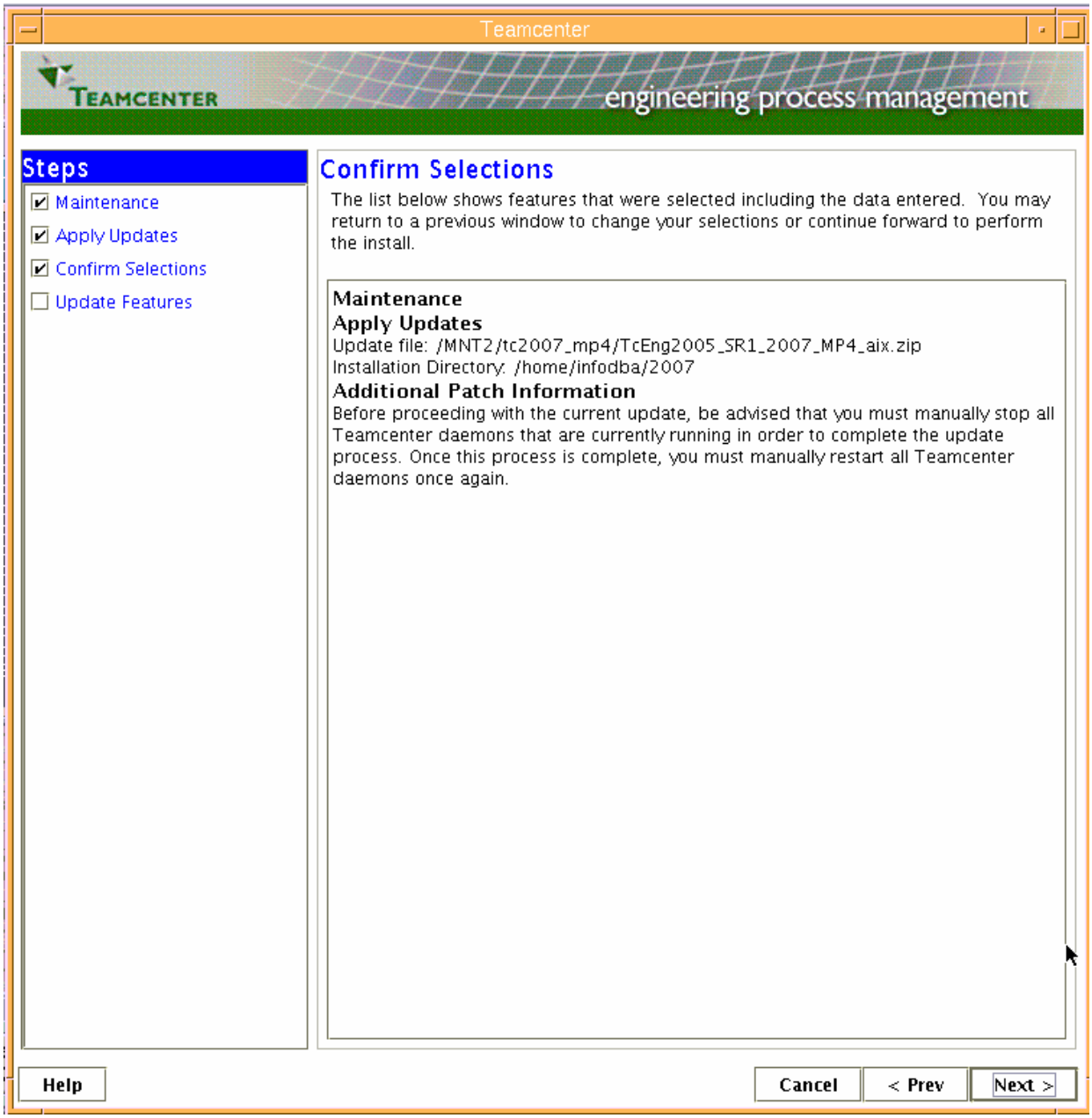

Figure 61. Confirm selections

8. An Update Features page provides the status of the progress for several minutes while this update is applied. Eventually, the Status Message dialog window (see Figure 62) is displayed. Click **Close** then click **Close** in the Update Features page, also.

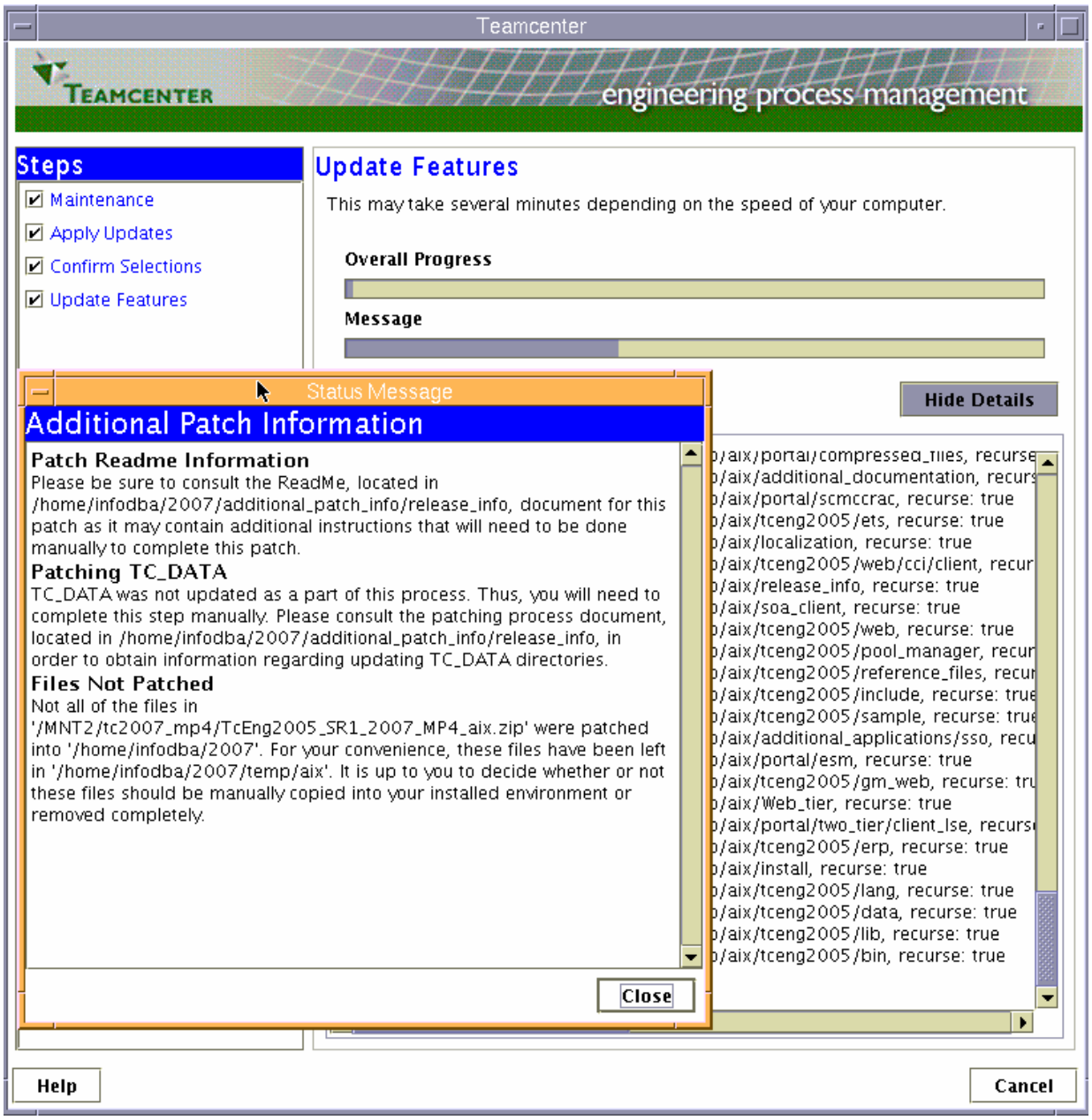

Figure 62. Update Features page

Manually merging tcdata files and setting database version

To manually merge the Teamcenter data files and to set the database version, perform the following steps:

1. Create a backup of the current **TC_DATA** directory.

   cd ~infodba ; tar –cvf TCDATA.tar tcdata

2. Copy the content of the **TC_ROOT\data** directory to the **TC_DATA** directory and copy iman_profilevars from the backup to the TC_DATA directory.

   cd ~infodba/2007/data
   tar –cvf- ./ | (cd ~infodba/tcdata && tar –xvf-)

3. Update the version information in the database.

4. The following command works, as long as the environment variables are set, otherwise an error is written to the sqlnet.log file.

   install –set_version “INFORMATION MANAGER V10.0.2.4”

Verifying that the rich client can start (two-tier)

To confirm that the Teamcenter Engineering rich client can start on the two-tier implementation, perform the following steps:

17. Enter the following commands:

    export LDR_CNTRL=NAMEDSHLIB=tceng
    cd ~infodba/TC2007/portal
    ./start_portal

Hint: Errors that relate to not finding volumes can occur during log in to the rich client, because these processes were terminated prior to applying patches. This is not critical and is fixed later when restarting all the processes (after the application of MP4 is complete).

Patching files related to Web installer in Web client_tier directory

To patch the files that are related to the Web installer in the Web client-tier directory, perform the following steps. (**Note:** A critical file [TcEng2005_SR1_2007_MP4_otw.zip] is needed. The TcEngPatchingProcess.pdf document refers to two files [dist_server and otw_installer] that are contained in this ZIP file.)

1. Enter the following commands:

   mkdir /tmp/otw_scratch
   cd /tmp/otw_scratch
   unzip /MNT/tc2007_mp4/TcEng2005_SR1_2007_MP4_otw.zip
   PATH=$PATH:/usr/java14/bin
   (**Note:** This adds java14 to the PATH variable, if it is not already present.)

   cd ~infodba/2007/Webclient_tier
   (**Note:** This is the location where the OTW distribution server was installed.)

   insweb

2. On the Copy ICD files dialog page (see Figure 63), browse to /tmp/otw_scrtach/otw/icd to copy the ICD files.
3. Select TCEng2007DistServerInstance as the application, then select **Modify** (no screen image is provided here).

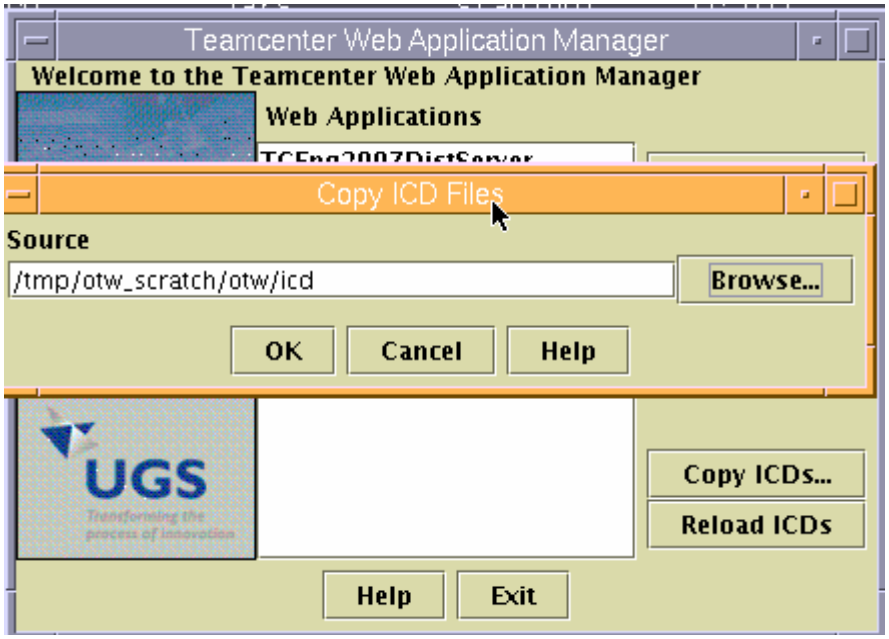

Figure 63. Copy ICD files dialog page

4. On the Modify Disk Locations dialog page (see Figure 64), change Disk Locations for Install Images to remove any locations that are already there (by selecting them and then clicking **Remove)**. Next, add **/tmp/otw_scratch/otw** as the location by typing it in and then clicking **Add**. Then, click **OK**.
5. In the Modify Web Application dialog page (see Figure 64), select **Add Solutions**.

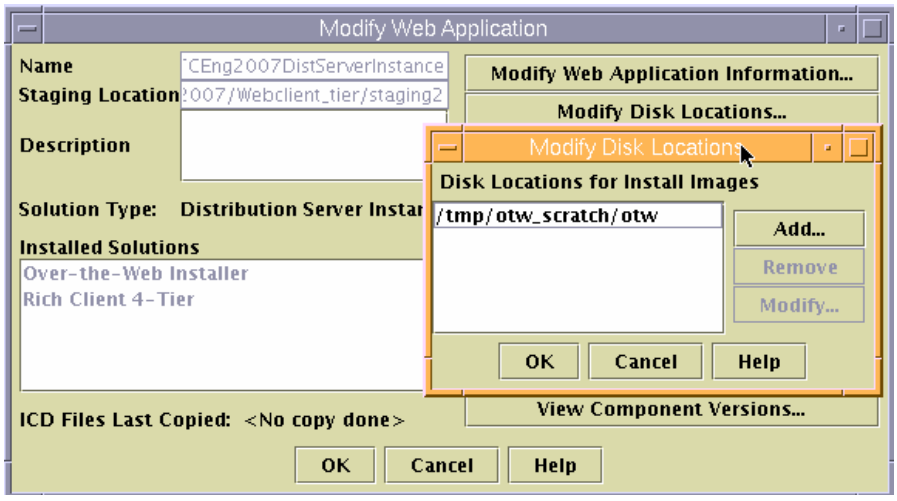

Figure 64. Modify Disk Locations dialog page

6. In the Add Solutions dialog page (see Figure 65), select **Rich Client Patch** and click **OK**.

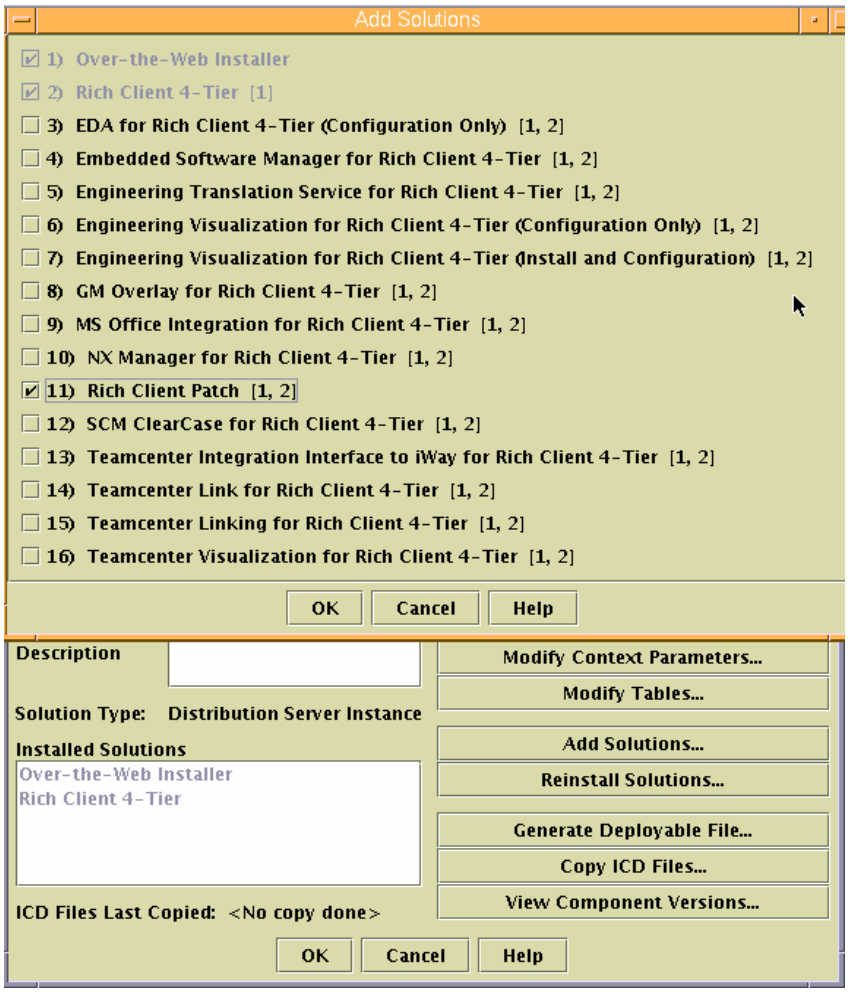

Figure 65. Add Solutions dialog page

7. In the Progress page (screen image is not shown here), click **OK**.
8. In the Modify Web Application dialog page, click **OK**.
9. In the Teamcenter Web Application Manager page, click **Exit**.

Updating and deploying files used by otw.html

To update the files that are used by otw.html and to deploy them on the HTTP Server, use the following steps:

1. As root, type the following command:

   chmod 777 /tmp/otw_scratch/otw

2. As user infodba, type the following command:
   cd /tmp/otw_scratch/otw
   unzip –o TcEng2005_SR1_MP4_build_7995_otw_installer_image.zip
   tar –cvf /tmp/OTWEB_PATCH.tar otwweb

3. Using the File Transfer Protocol (FTP),_copy the /tmp/OTWEB_PATCH.tar file to the HTTP Server system

4. On the HTTP Server system, as root, change the directory into doc root /usr/IBMHttpServer/htdocs/en_US. Then, use the TAR command to extract the /tmp/OTWEB_PATCH.tar file.

5. Ensure that the HTTP Server is running. If it is not running, enter the following command:

   use /usr/IBM/HTTPServer/bin/apachectl start

Updating distribution server with the latest jar file

To update Teamcenter Distribution Server with the latest jar file, perform the following steps:

1. Enter the following command to change the directory:

   cd /tmp/otw_scratch/otw

2. Extract the Teamcenter engineering file by entering the following command:
   unzip TcEng2005_SR1_2007_MP4_build_7995_dist_server_image.zip

3. Copy the dist_server.jar file into the following directory:
   /home/infodba/2007/Webclient_tier/staging1/webapp_root

Updating TCEng2007.ear in WebSphere Application Server

It is important to update the TCEng2007.ear file that is deployed in WebSphere Application Server. This EAR file contains the application that is used for the four-tier architecture; it is stored in the Web_tier directory structure.

1. As user infodba, enter the following:

   cd ~infodba/2007/Web_tier
   insweb

2. In Web Application Manager dialog box (see Figure 66), select **Copy ICDs**.

3. In the Copy ICD Files dialog page (see Figure 66), browse to the home/infodba/2007/additional_patch_info/Web_tier/icd directory and click **OK**.

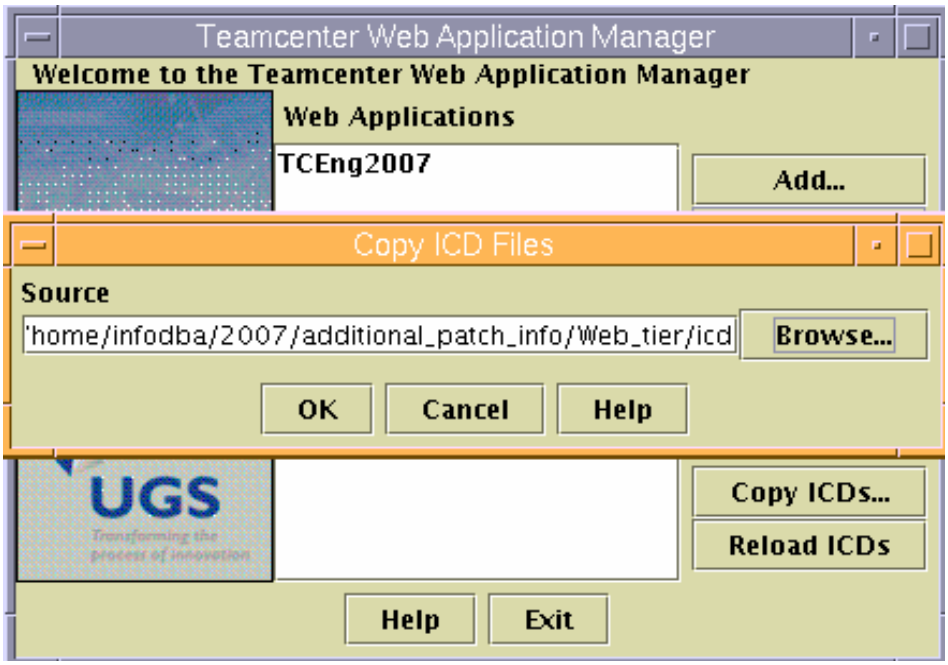

Figure 66. Copy ICD Files dialog page

4. In the Progress Page (no screen image is shown here), click **OK**.

5. In the Web Application Manager dialog box, select **TCEng2007** and **Modify** (no screen image is shown here).

6. In the Modify Disk Locations dialog box (see Figure 67), click **Add**.
7. In the Add Disk Locations dialog page (see Figure 67), browse to /home/infodba/2005SR1/additional_patch_info/Web_tier and click **OK**.
8. In the Modify Disk Locations dialog box (see Figure 67), click **OK**.
9. In the Modify Web Application dialog box (see Figure 67),,select **Reinstall Solutions** for all three currently installed solutions.

Note: DEPLOYABLE_FILE_NAME should again be **TCEng2007,** and **Mcast** mode should be selected for Pool Manager.

10. In the Modify Web Application dialog box (see Figure 67), select Generate Deployable File.
11. After the deployable file is created, exit the Modify Web Application and Web Application Manager dialog boxes by clicking **OK** (twice).

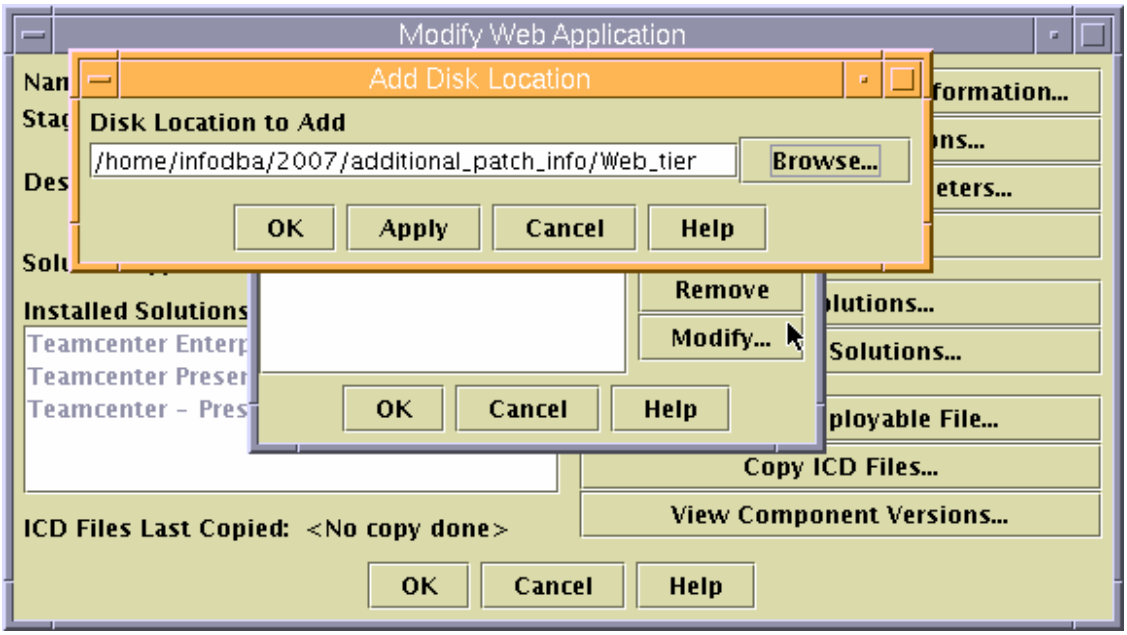

Figure 67. Add Disk Location dialog page

Redeploying in WebSphere Application Manager

To redeploy the application in WebSphere Application Manager, you must copy the TCEng2007.ear file onto the WebSphere Application Server system and then reinstall the Web application. Use the following instructions:

1. On the Enterprise Applications page (see Figure 68), stop TCEng2007, then uninstall TCEng2007.

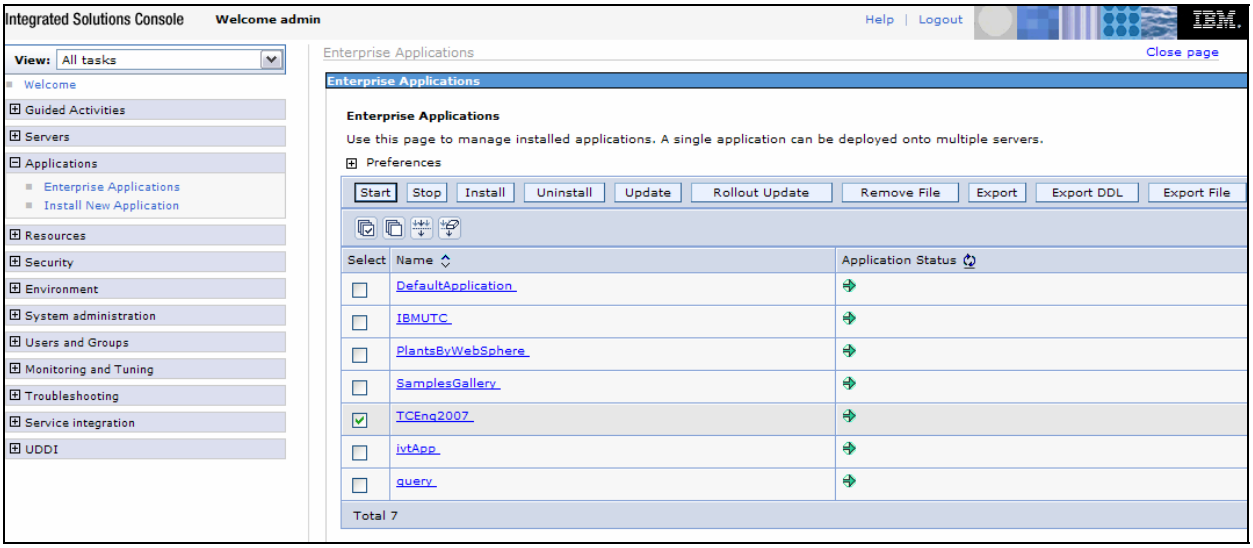

Figure 68. Enterprise Applications page

2. Follow the steps that are documented in the section of this guide that is entitled *Installing and configuring TCEng2007 EAR file into WebSphere* to reinstall the TCEng2007.ear file.

Reminder: Ensure that autoconf6 has run on WebSphere Application Server before starting WebSphere Application Server.

Starting the processes for the four-tier architecture

To start the processes for the four-tier architecture, perform the following steps:

1. On the Teamcenter Engineering server, restart the remote-method invocation (RMI) and distribution-server processes.

   Hints: As a reminder, autoconf6 is required for multicast IPV6 when it is used by pool_manager and the Web application. Make sure to set LDR_CNTRL to use a named shared library in the shell page that is used to launch the pool-manager process.

2. Start the processes that are used to support the four-tier architecture by entering the following:
   cd /home/infodba/2007/Webclient_tier/staging1/webapp_root
   ./start_rmi &
   ./start_server &

3. Restart the other processes.

4. Ensure that the TCFS and FMS processes are running by entering the following commands:
   cd ~infodba/2007/bin
   ./rc.ugs.tcfs &
   cd ~infodba/2007/fms
   ./rc.ugs.FSC_epsilawn_infodba &

5. Restart the pool_manager process by entering the following three commands:
   cd ~infodba/2005SR1/pool_manager
   Export LDR_CNTRL=NAMEDSHILB=tceng
   ./mgrstartMYDB &

Verifying the installation

To verify the successful installation, perform the following steps:

1. To test the thin client, enter the following URL (**Note:** Substitute the name of your WebSphere server for isvlab116.austin.ibm.com):

   http://isvlab116.austin.ibm.com/tc/webclient

2. To test the rich client on the Web, enter the following URL:
   http://isvlab116.austin.ibm.com/otw.html

   Comment: On a client that has previously been installed with the rich client from the OTW distribution server, launching the Teamcenter Engineering application by selecting the desktop icon should cause it to be auto updated.

Summary

This guide has provided detailed installation and configuration instructions for Teamcenter Engineering on an IBM System p server, including the steps required to configure the over-the-Web installer and apply the MP4 service. It also provided information on how to create an Oracle database instance for Teamcenter. In all, this guide provides easy-to-follow instructions for ATS and FTSS personnel, who want to install and configure Teamcenter Engineering on IBM System p servers.

For more information about the Teamcenter Engineering products or other information that is not covered in this guide, see the list of resources provided in the Resources section of this guide.

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
- IBM Power Systems on IBM PartnerWorld®
  ibm.com/partnerworld/systems/p
- IBM AIX on IBM PartnerWorld
  ibm.com/partnerworld/aix
- IBM Publications Center
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  ibm.com/software/webservers/appserv/was/support
- UGS Global Technical Access Center Web site
  http://support.ugs.com
- Oracle Web site
  www.oracle.com/index.html
- Teamcenter Engineering Release Bulletin and the UGS Global Technical Access Center
  http://support.ugs.com/docs/i-deas/hw_req

About the authors

Gary Hornyak is a senior software engineer technical consultant for product-lifecycle management (PLM) solutions, specializing in PDM application architecture within the IBM Systems and Technology Group in the IBM ISV Global Enablement organization. Gary has more than 19 years of experience with various PLM software solutions.

Terry Wang is a senior technical consultant with IBM Systems and Technology Group. Terry joined IBM in 1988 to work on AIX development. He is currently with the IBM ISV Solution Enablement team. His most recent interest is in the area of applying advanced AIX technology to PLM applications. Terry earned an M.S. degree of Computer Science from the University of Wisconsin, Madison in 1986.

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