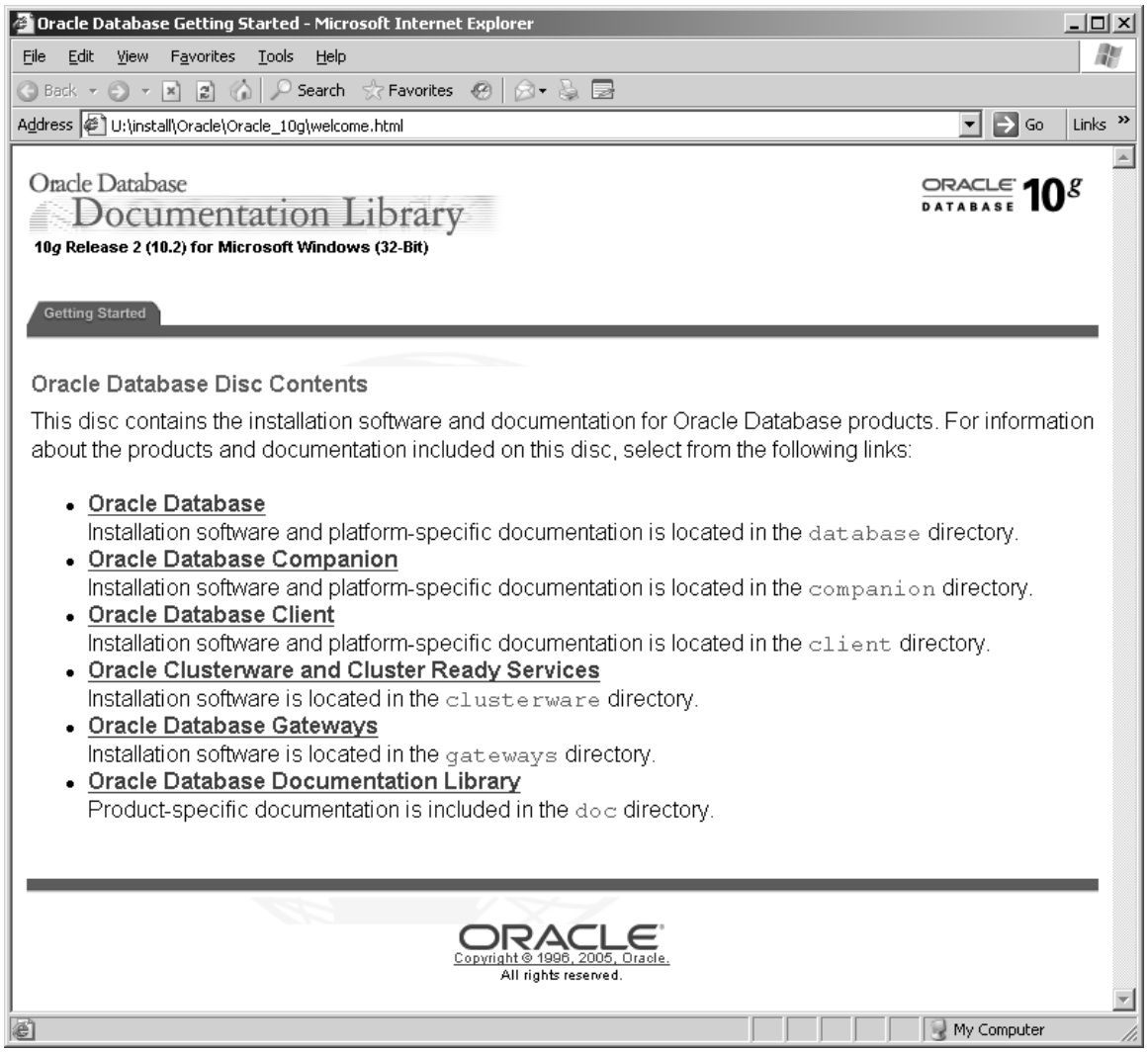
Install and Configure Oracle 10.2.0.1 Server Software

1. Log in as the local administrator

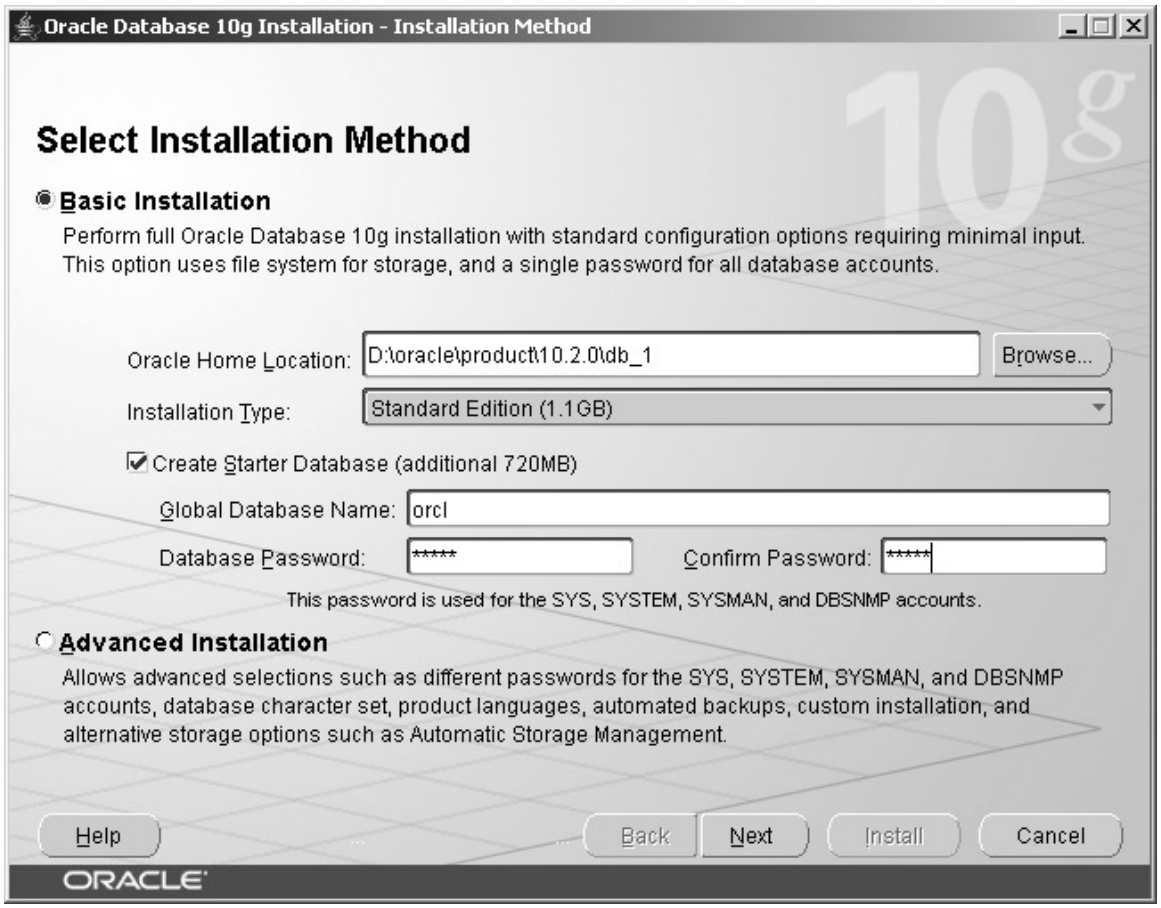
2. Be sure to turn OFF the Firewall in the OS; if this is not an option please refer to the Installation Guide on the exceptions that must be put into place prior to installing ORACLE on XP SP2.

3. Remove the check from "Simple File Sharing" in the Folder Options of Windows Explorer.

4. Install ORACLE database server as described in the following steps. Welcome screen shown below.



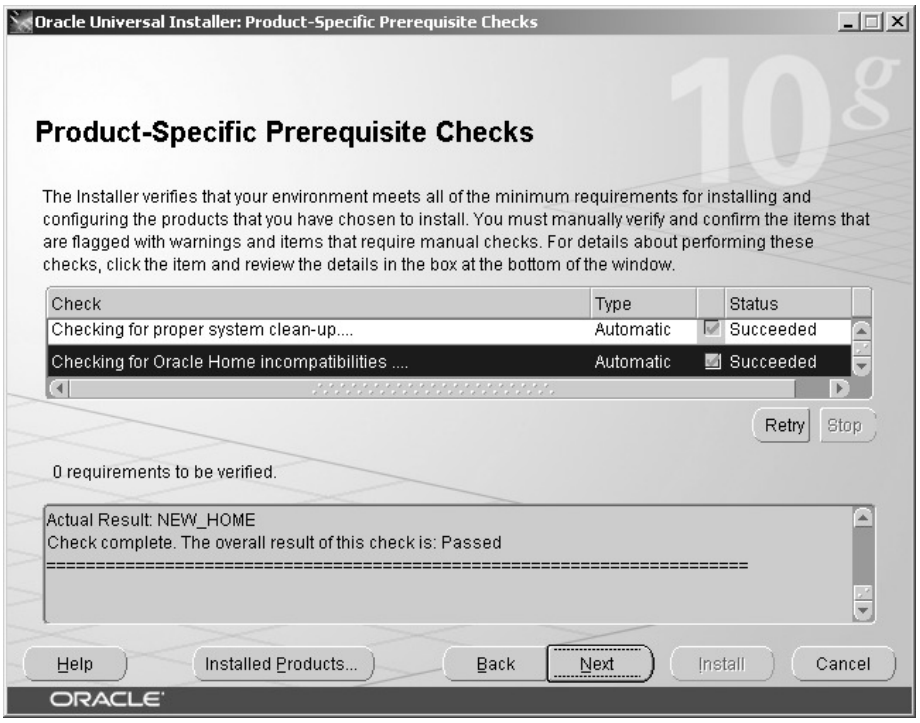
5. Select ‘Oracle Database’ from this welcome menu



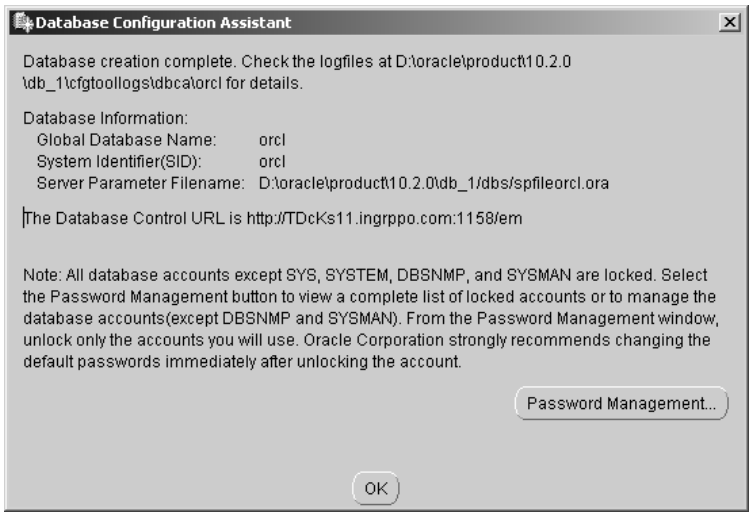
a. Specify an Oracle home location by browsing to your disk.

b. Uncheck the 'Create Starter Database' option

> Note: We are not creating a Starter Database here since you never use it and create a customized one later



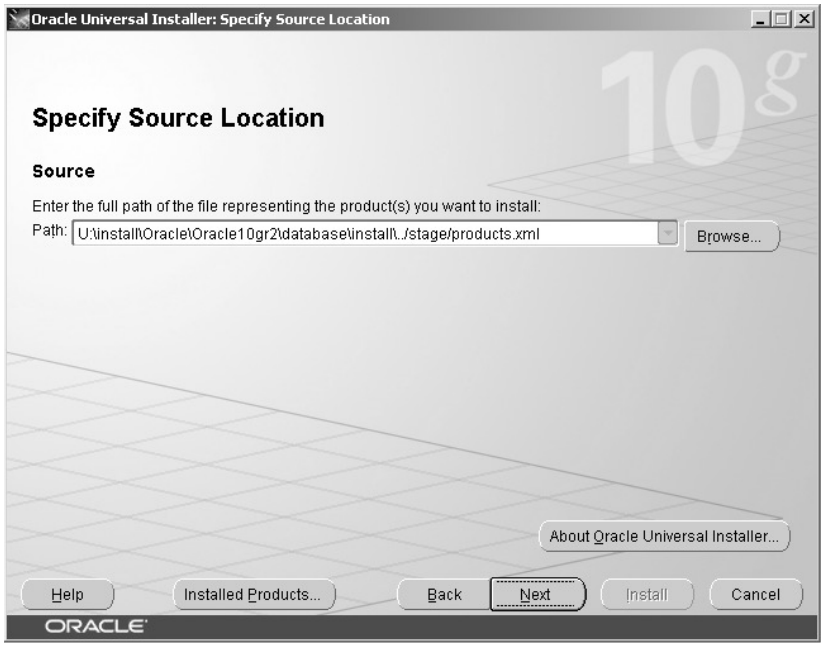
Note: the home name here which in this case is NEW_HOME. This will be needed later at step 9 when we customize the install to load MTS service for windows.

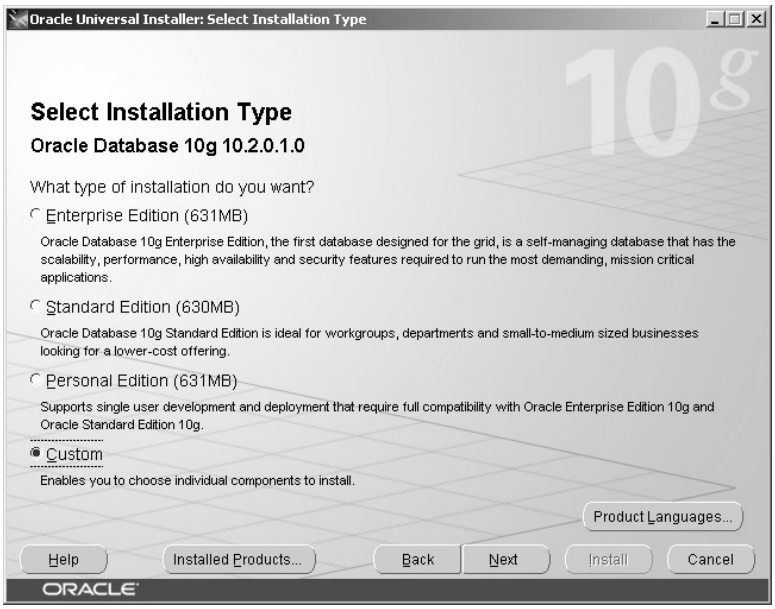


c. Select ‘Yes’ to exit

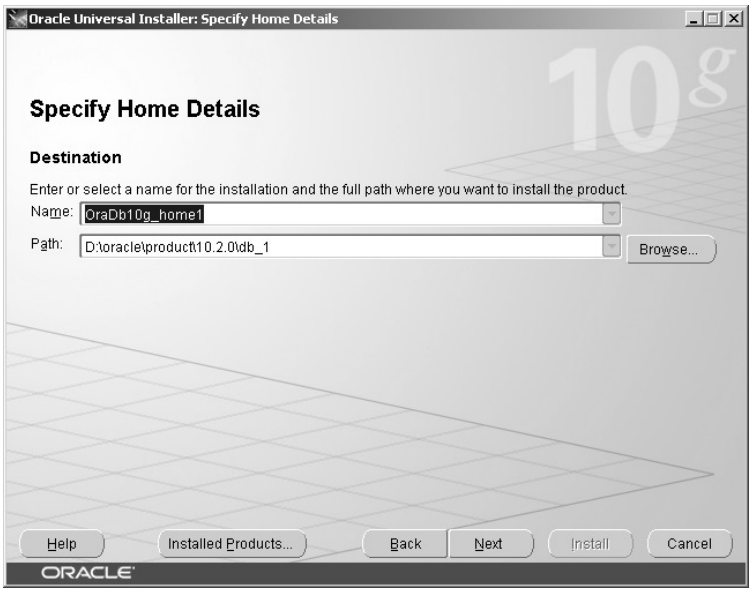
6. Run ORACLE Universal Installer from the Startup Menu

7. Select ‘Next’, and verify the source location on the next dialog; selecting next if this is correct.





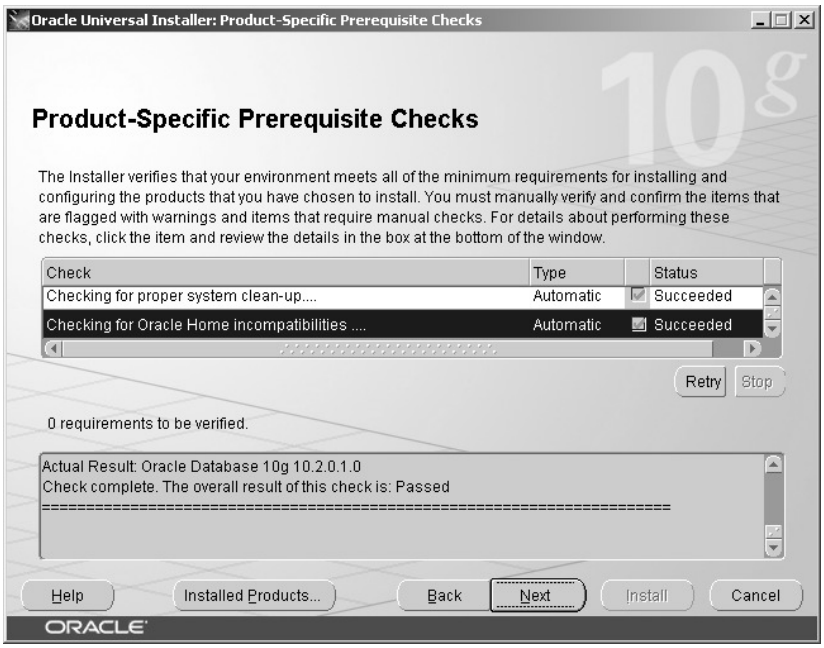
8. Select ‘Custom’



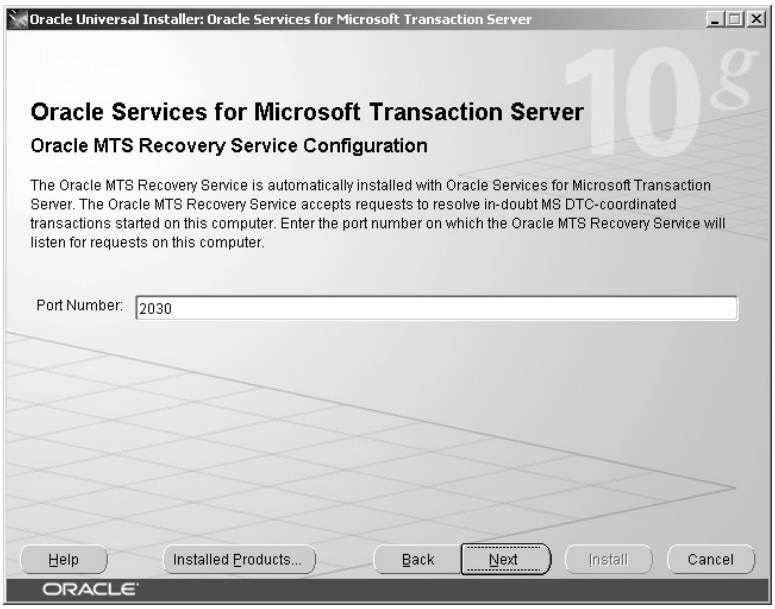
9. Specify the home name that was previously created. This is shown on the sample dialog on page 3 as ‘Actual result. Use your actual result, not the one listed in this document.

Put the oracle home that you noted earlier; i.e. NEW_HOME in this case.

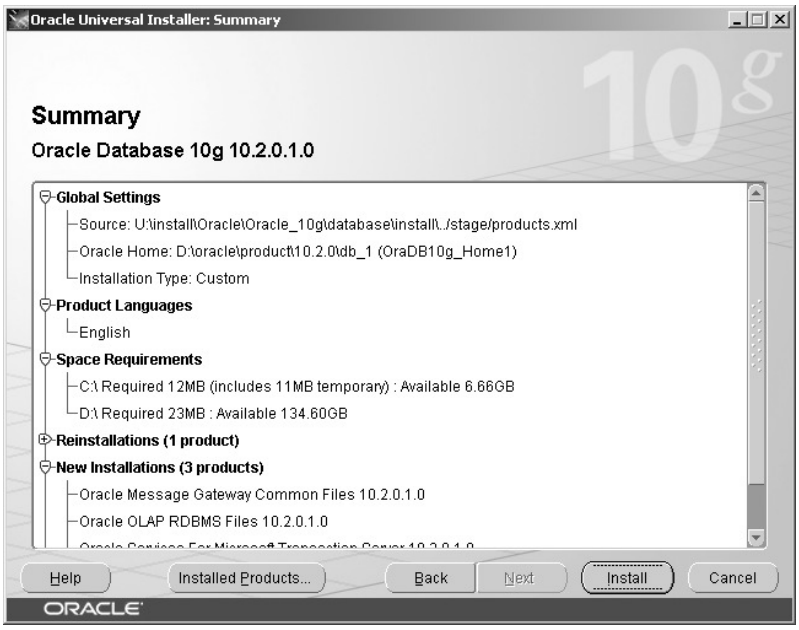
10. Select MTS as shown above then select 'Next'



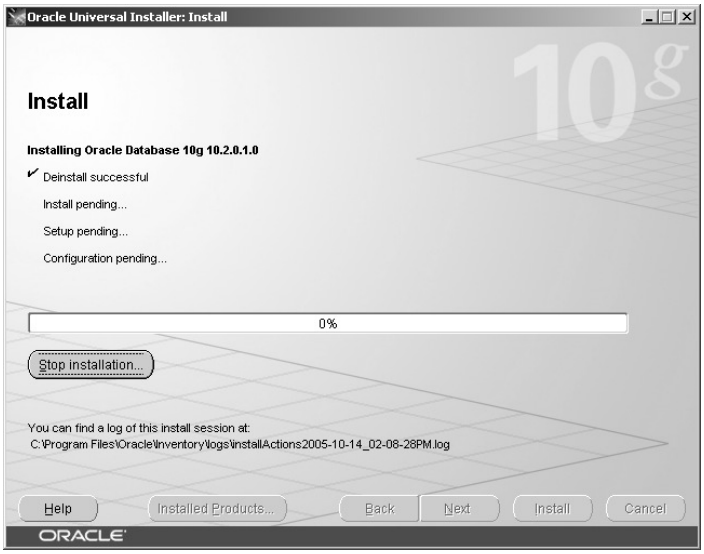
a. Make sure this passed and then select 'Next'



b. Port listening number is selected; then select ‘Next’



c. Select ‘Install’ to install

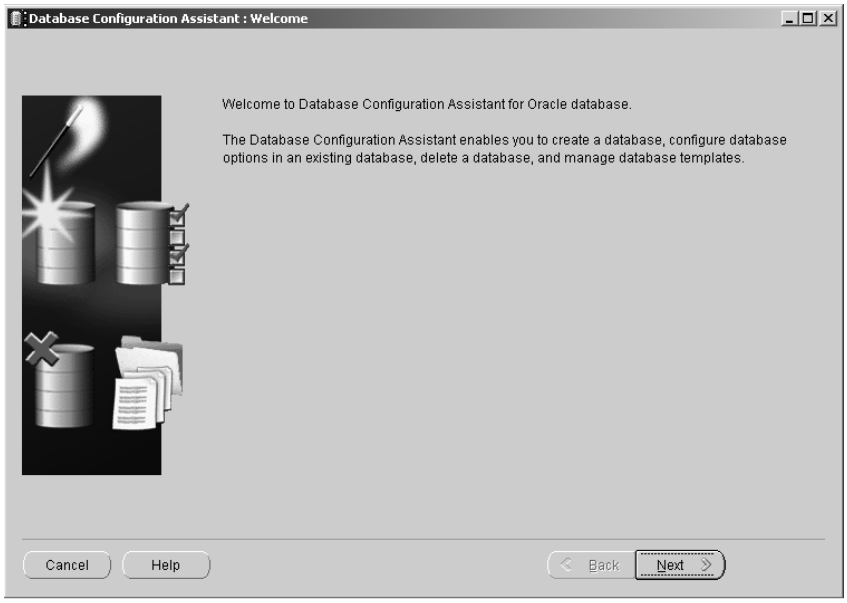


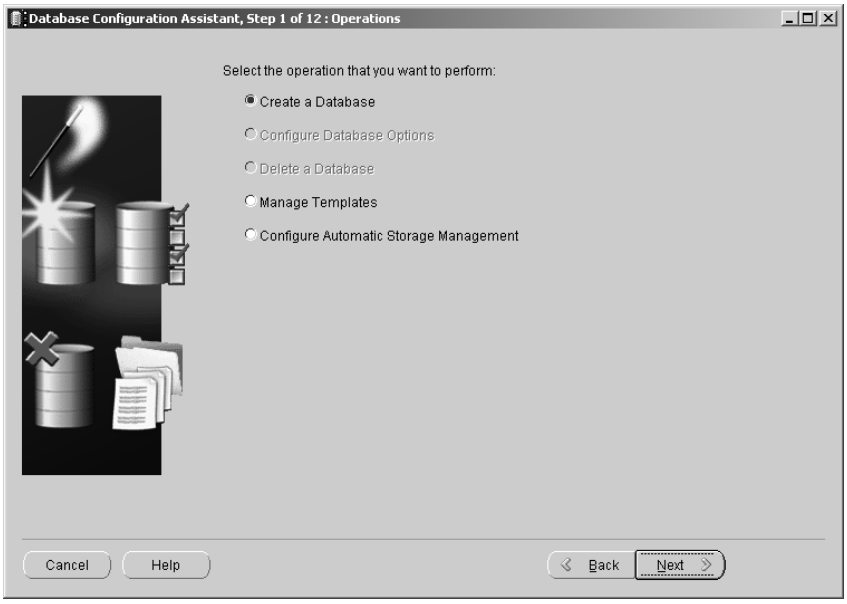
11. Select 'Exit'

Select 'Yes'

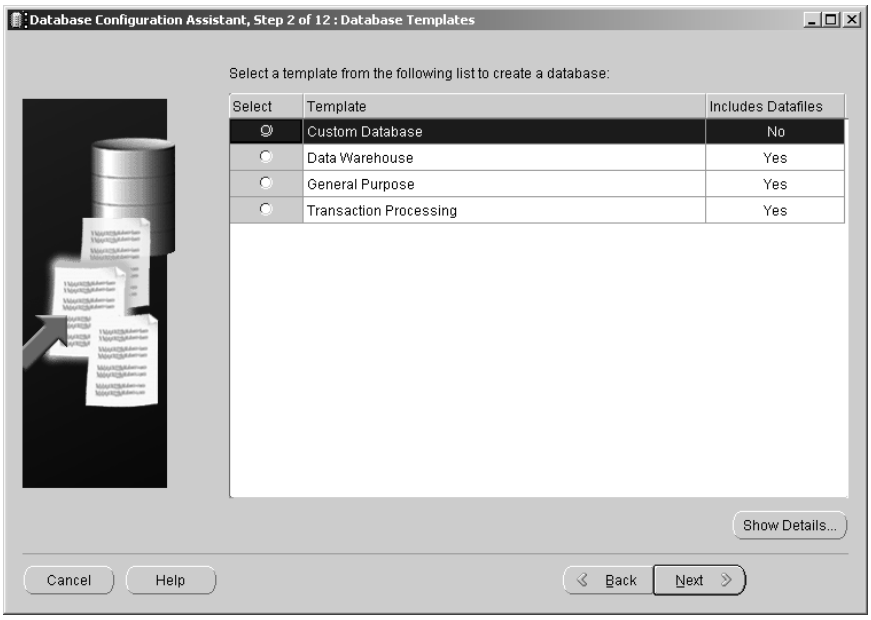
Note: This skips the Delete Database steps in the short-cut list (step 12) as we don't create the starter database

12. Start the Database Creation assistant from the Start Menu

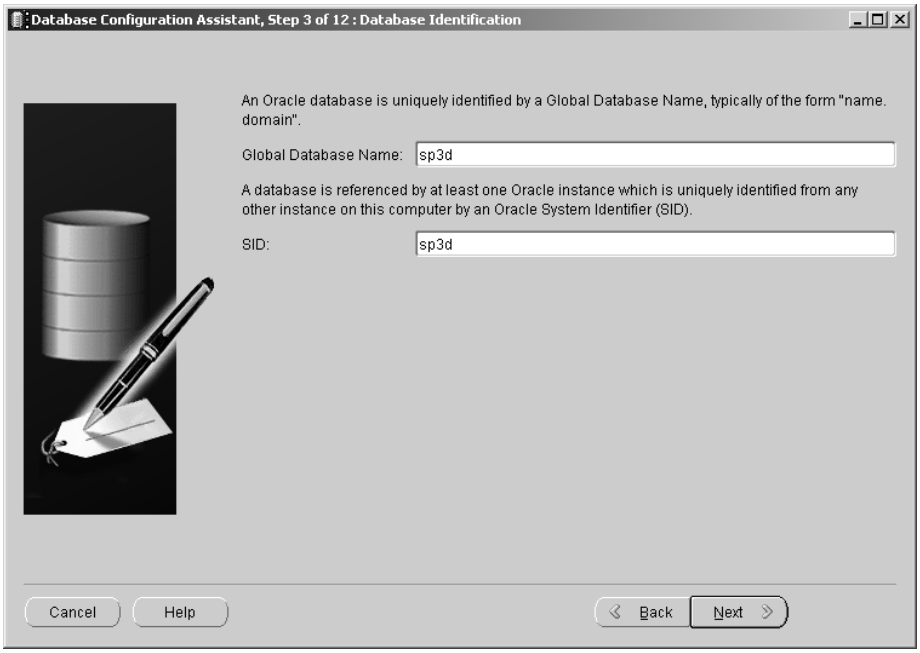




a. Select ‘Create a Database’.

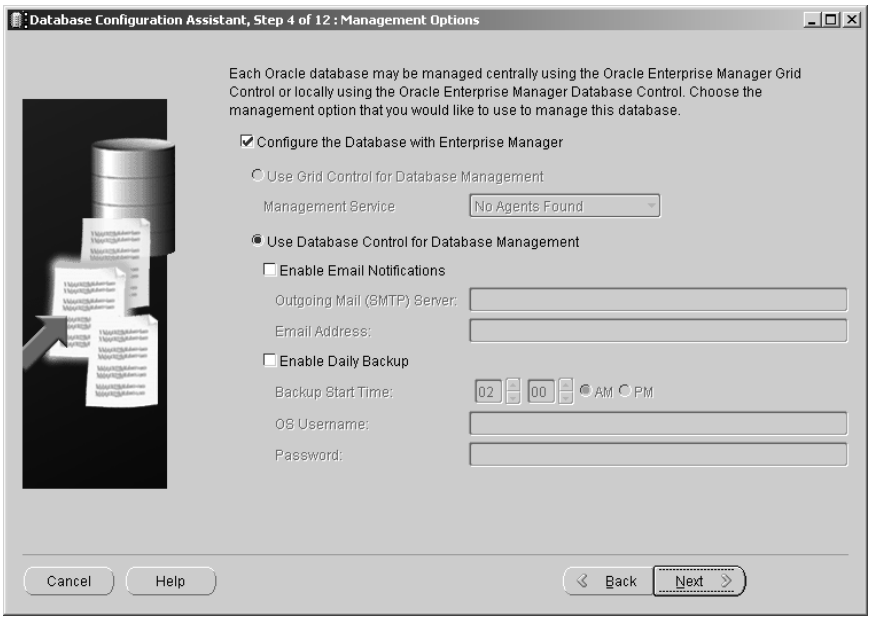


b. Select ‘Next’

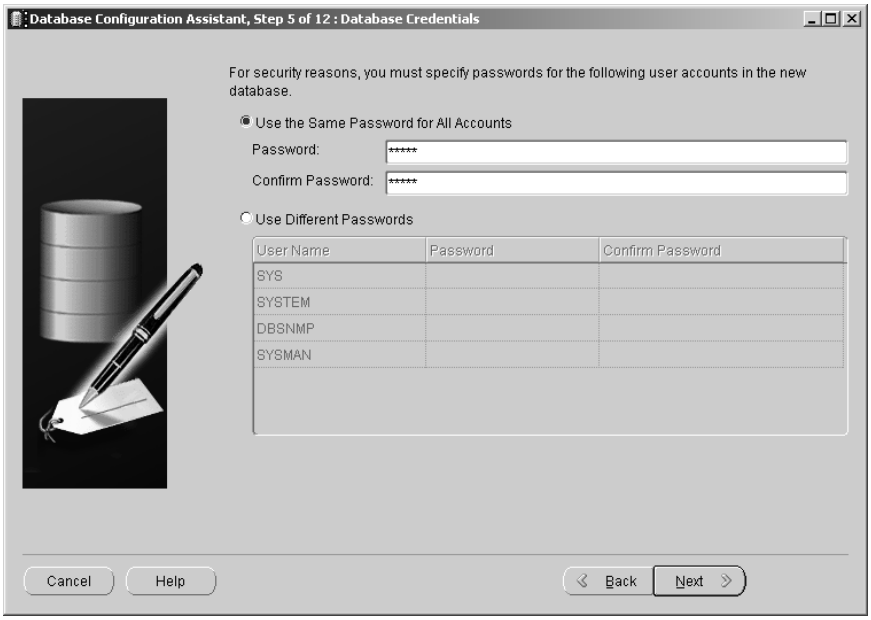


c. Give Global Database names and SIDs as required for your project

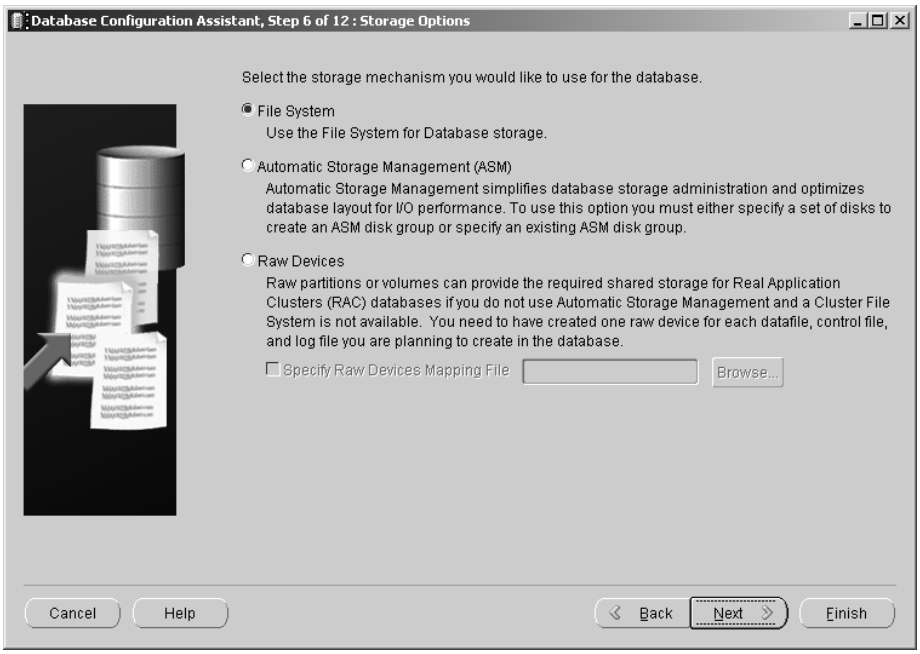
d. Use options shown below



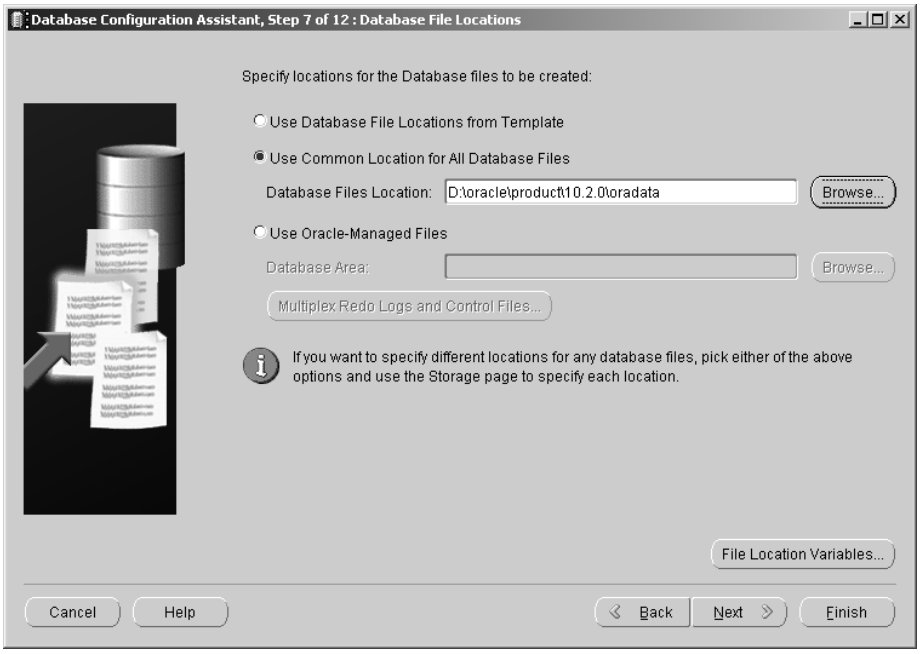
e. Select ‘Next’



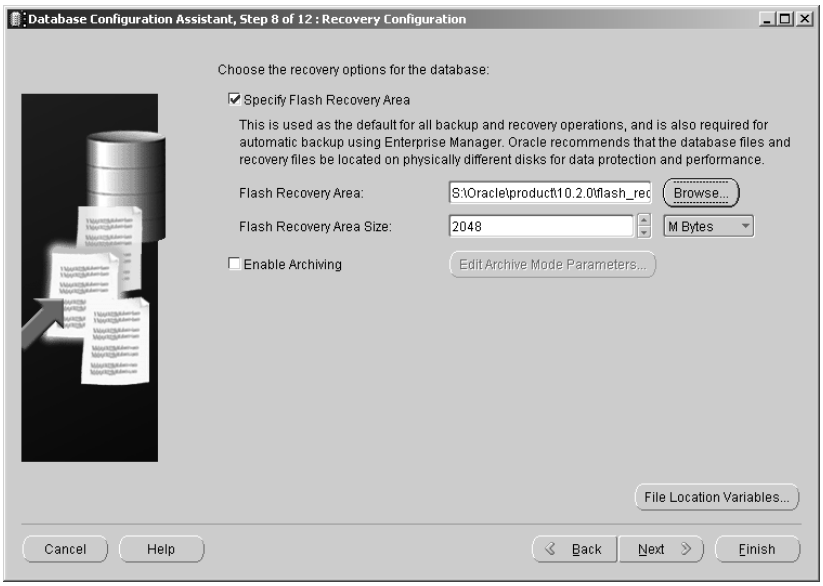
f. Enter, and confirm your password for all users, the select ‘Next’. If you want different passwords, enter those in the lower portion of the dialog. Be sure to note them somewhere as these may be required later. Changing passwords can be done later.



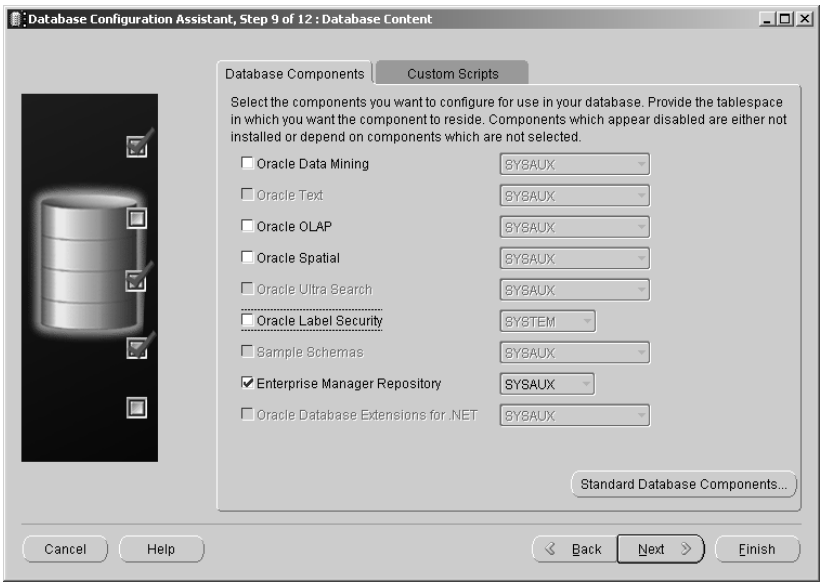
g. Leave option on ‘File System’ and then select ‘Next’



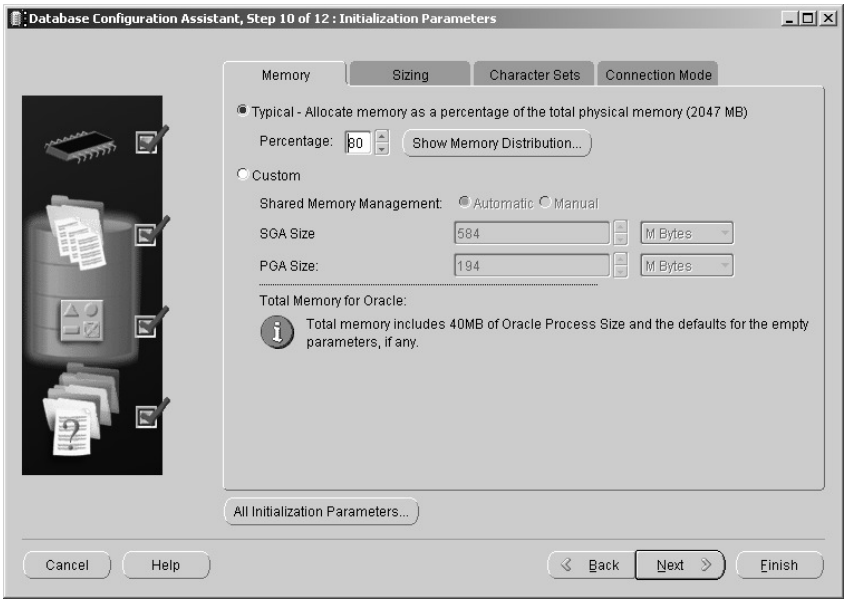
h. Select this option and then select ‘Next’
XXXX-ASK, HOW TO PUT DB AND LOG FILES SEPARATE



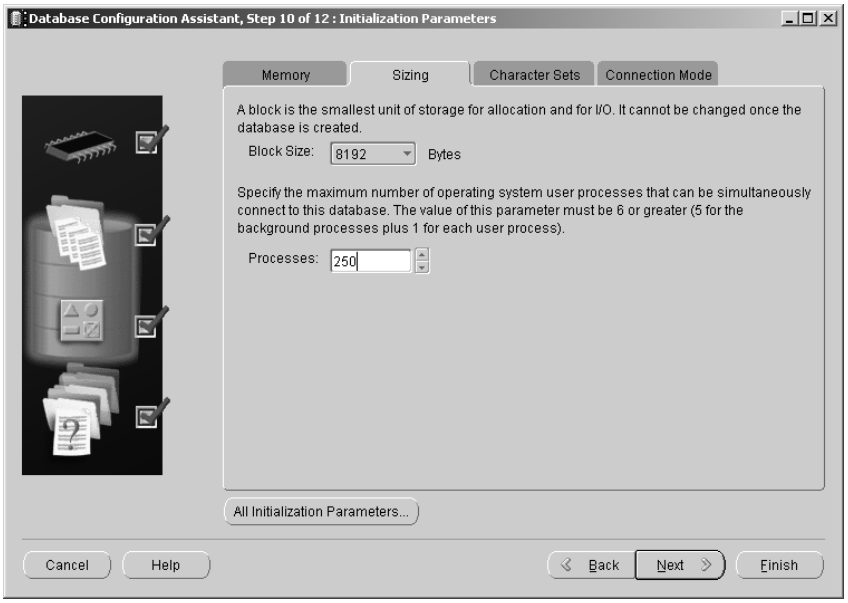
i. Select this option and then select ‘Next’



j. Select this option (shown) and then select ‘Next’

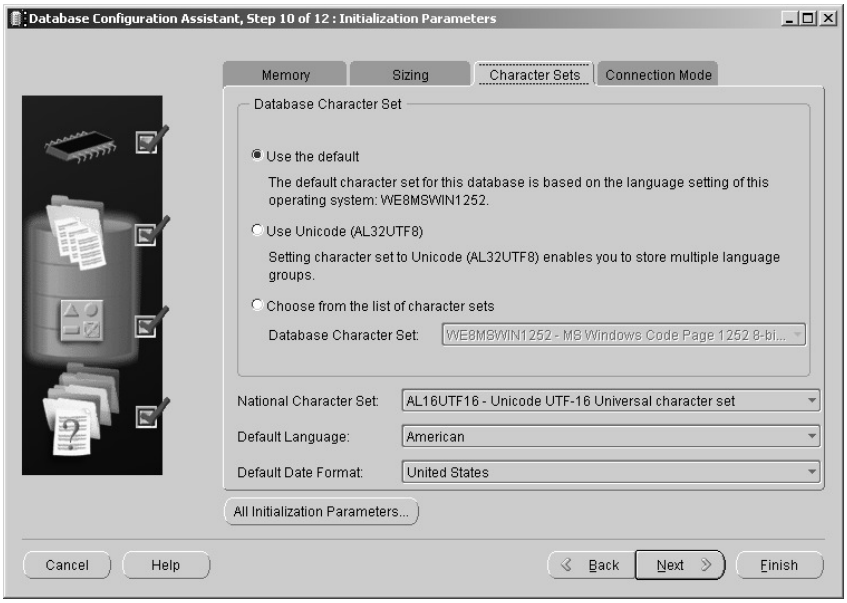


k. Set the Percentage to 40% (step 10 in the Install Guide)
l. Close the Advanced dialog

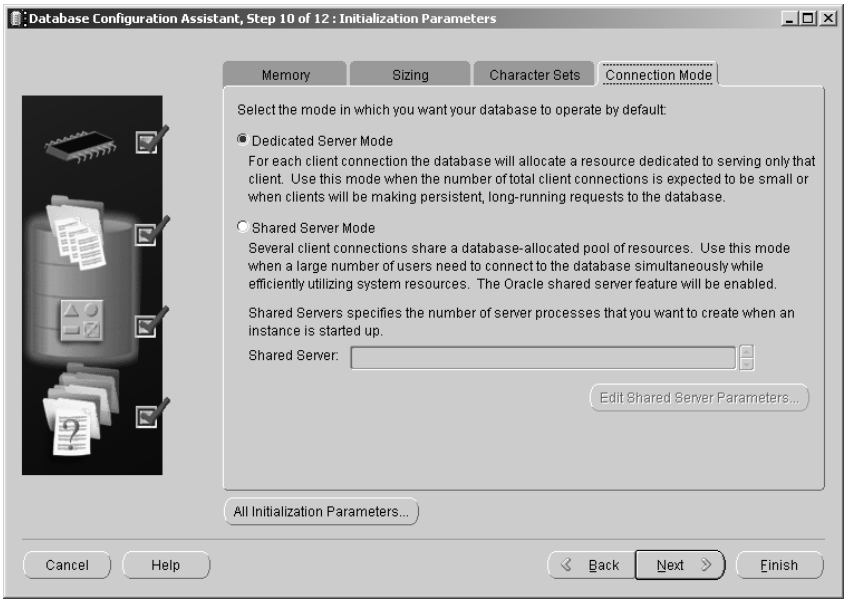


m. Select the ‘Sizing’ tab

- Set processes to 150



n. Select 'Character Sets' tab; Select the option shown above. For Sp3D V6.1 only the default character set is allowed. V7 will accept the AL32UTF8 character set.

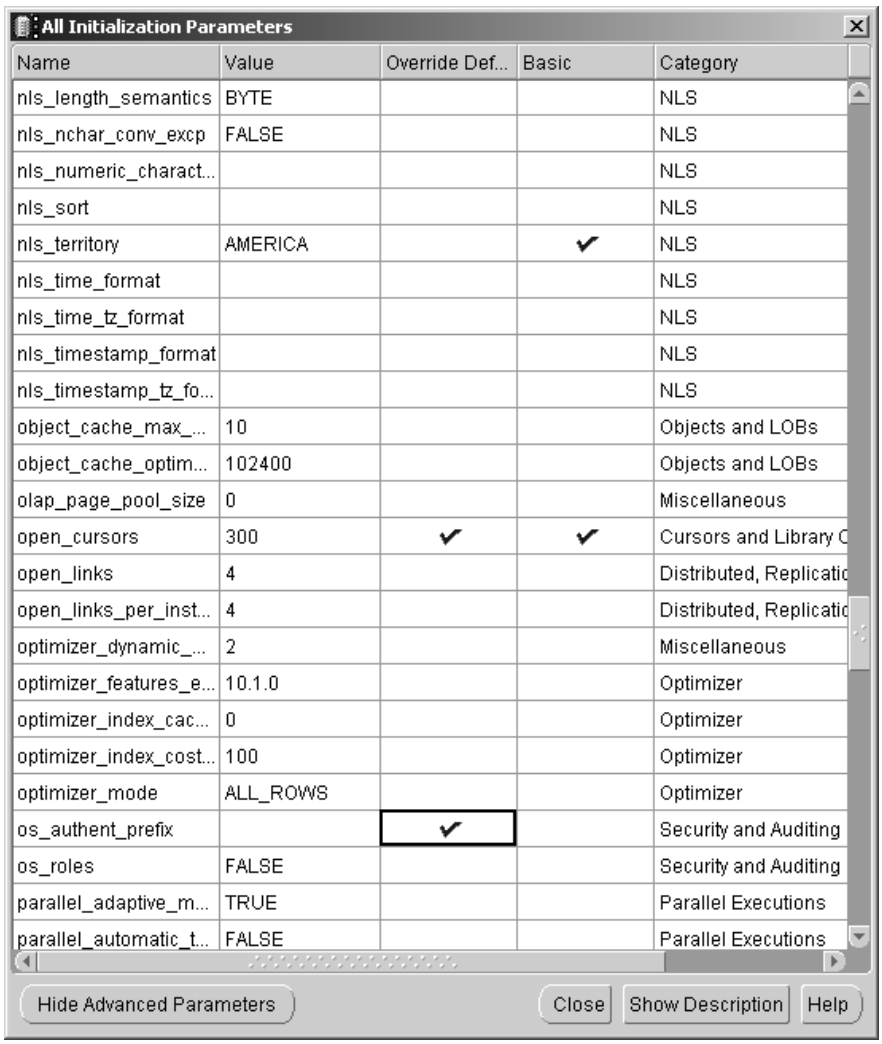


o. On the Connection Mode tab, select Dedicated Server Mode

p. Select 'All Initialization Parameters'

q. Select 'Advanced Initialization Parameters' and set the following:

- **os_authent_prefix** to empty quotes (delete the OPS$ type)
- Check the Override Definition option
- Set open_cursors to 1000

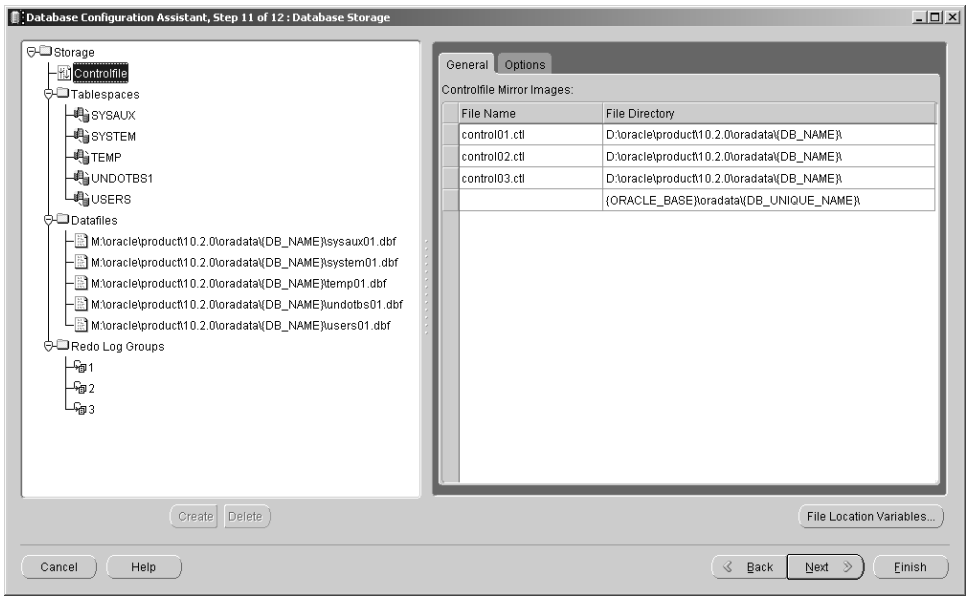


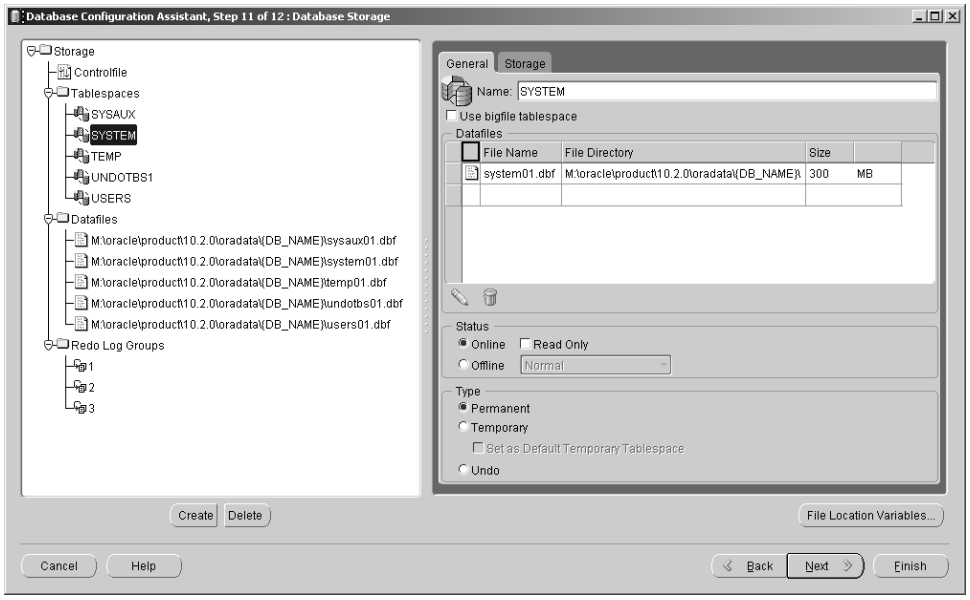
- Set DB_FILES 2000
- Set SGA_TARGET 200M
- Set SGA_MAX_SIZE 250M

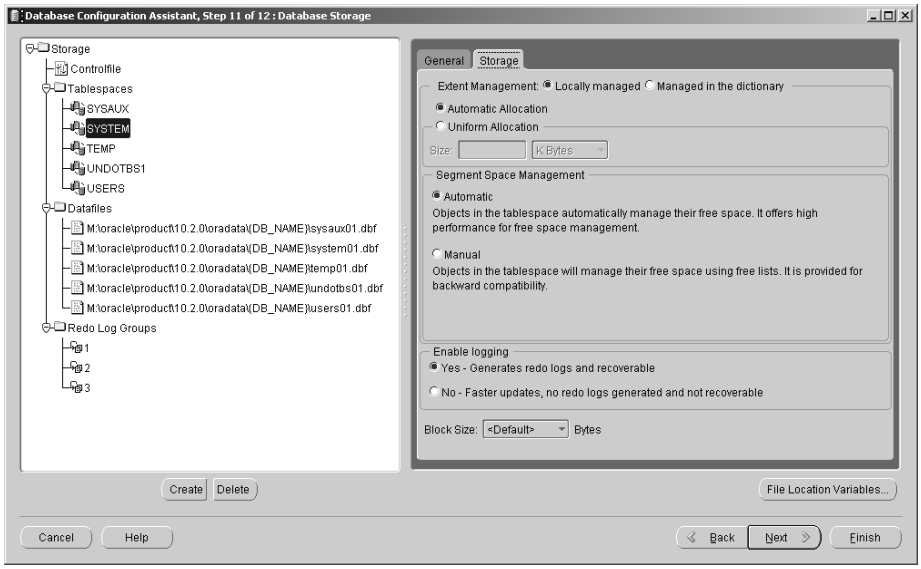
r. Close this dialog after the changes have been made

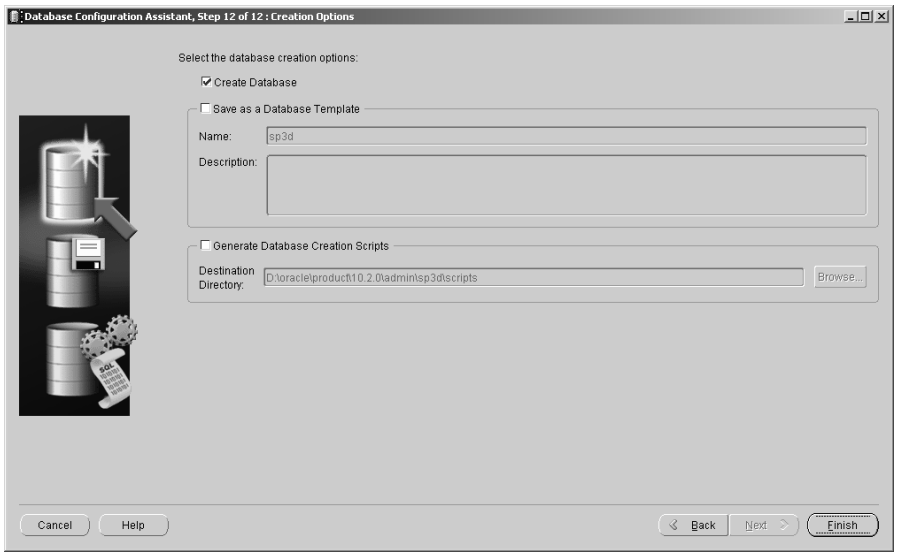
s. Select ‘Next’ on the DCA dialog

t. Make sure the entries in the following dialogs are as shown below


Database Configuration Assistant, Step 11 of 12 : Database Storage
Storage
Controlfile
Tablespaces
SYSAUX
SYSTEM
TEMP
UNDOTBS1
USERS
Datafiles
M:\oracle\product\10.2.0\oradata\{DB_NAME}\sysaux01.dbf
M:\oracle\product\10.2.0\oradata\{DB_NAME}\system01.dbf
M:\oracle\product\10.2.0\oradata\{DB_NAME}\temp01.dbf
M:\oracle\product\10.2.0\oradata\{DB_NAME}\undotbs01.dbf
M:\oracle\product\10.2.0\oradata\{DB_NAME}\users01.dbf
Redo Log Groups
1
2
3
General
Options
Controlfile Mirror Images:
File Name
File Directory
control01.ctl
D:\oracle\product\10.2.0\oradata\{DB_NAME}\
control02.ctl
D:\oracle\product\10.2.0\oradata\{DB_NAME}\
control03.ctl
D:\oracle\product\10.2.0\oradata\{DB_NAME}\
{ORACLE_BASE}\oradata\{DB_UNIQUE_NAME}\
Create
Delete
File Location Variables...
Cancel
Help
Back
Next
Finish


Database Configuration Assistant, Step 11 of 12 : Database Storage
Storage
Controlfile
Tablespaces
SYSAUX
SYSTEM
TEMP
UNDOTBS1
USERS
Datafiles
M:\oracle\product\10.2.0\oradata\{DB_NAME}\sysaux01.dbf
M:\oracle\product\10.2.0\oradata\{DB_NAME}\system01.dbf
M:\oracle\product\10.2.0\oradata\{DB_NAME}\temp01.dbf
M:\oracle\product\10.2.0\oradata\{DB_NAME}\undotbs01.dbf
M:\oracle\product\10.2.0\oradata\{DB_NAME}\users01.dbf
Redo Log Groups
1
2
3
General
Storage
Name: SYSTEM
Use bigfile tablespace
Datafiles
File Name
File Directory
Size
system01.dbf
M:\oracle\product\10.2.0\oradata\{DB_NAME}\
300
MB
Status
Online
Read Only
Offline
Normal
Type
Permanent
Temporary
Set as Default Temporary Tablespace
Undo
Create
Delete
File Location Variables...
Cancel
Help
Back
Next
Finish

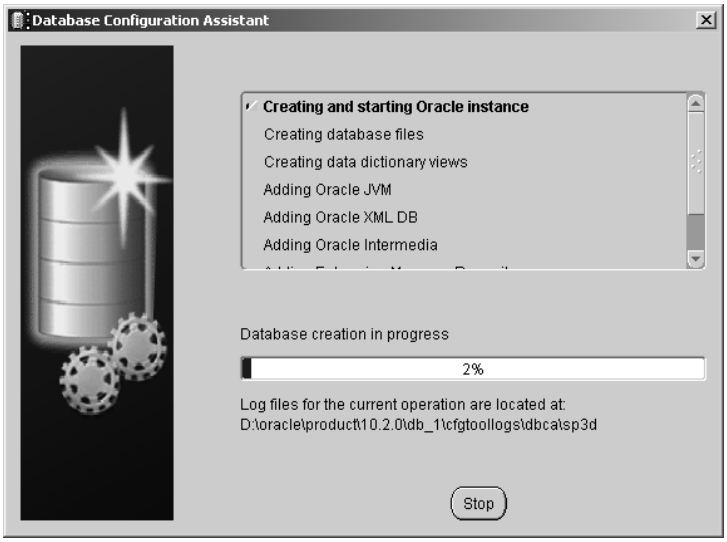


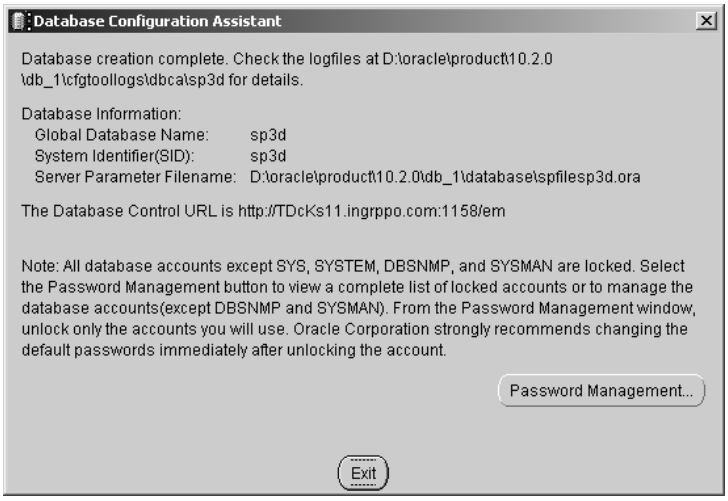


This file has the updated database

Sp3ddb.htm

u. Create the database





v. Exit the Wizard

13. Create a local administrator user for SP3D.

14. Add the local administrator to the ORA_DBA Windows group.

15.XXXX CHECK: WHATS THIS 4> Install the Oracle 10.2 full client into a separate Oracle Home per instructions in the SP3D Install Guide. In my case the database Home is OraDb10g_home1 and the client Home is OraClient10g_home1. The database is installed in C:\oracle\product\10.2.0\db_1 and the client is installed in C:\oracle\product\10.2.0\client_1.

16. Make sure the local Administrators, System, and Users windows groups have full access to the Reference Data directory.

17. Make sure the same accounts in step 16 also have full permissions (and security) to the database templates directory. XXXX WHERE ARE THE TEMPLATES

Install and Configure Oracle 10.2.0.1 Client Software

Installation of Oracle Client software is required for a workstation computer so that the software can connect to the Oracle database. After the Oracle Client software is installed, you will configure the software so that your computer can communicate with the Oracle database.

Important

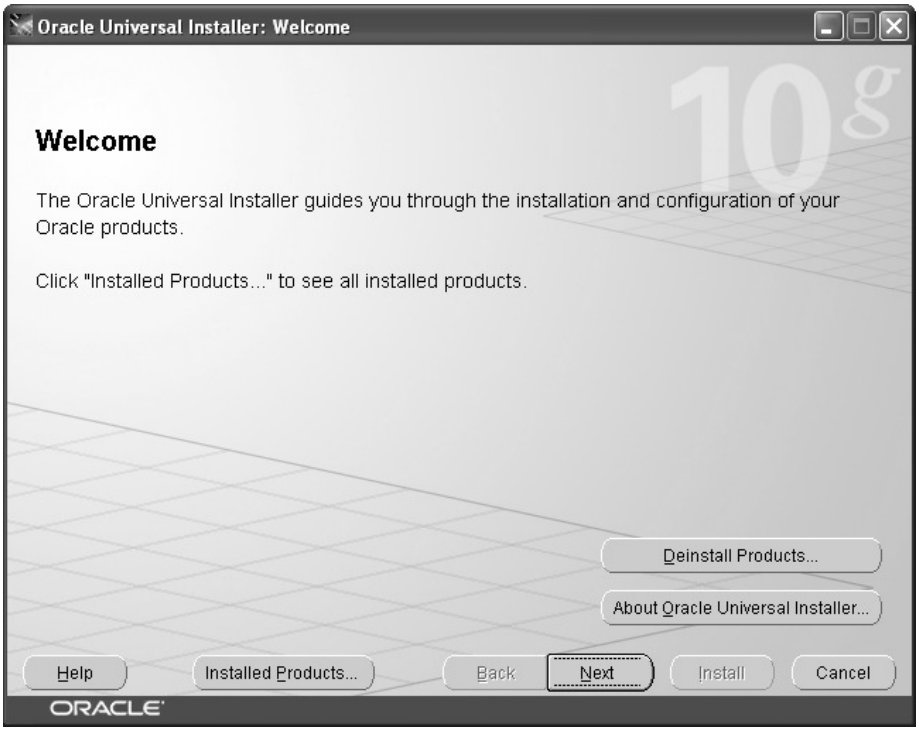
- Use the same version of Oracle Client that you used for Oracle Server. Mismatched versions can result in lost functionality and unintended results.

1. Insert the **Oracle Database Client** CD.

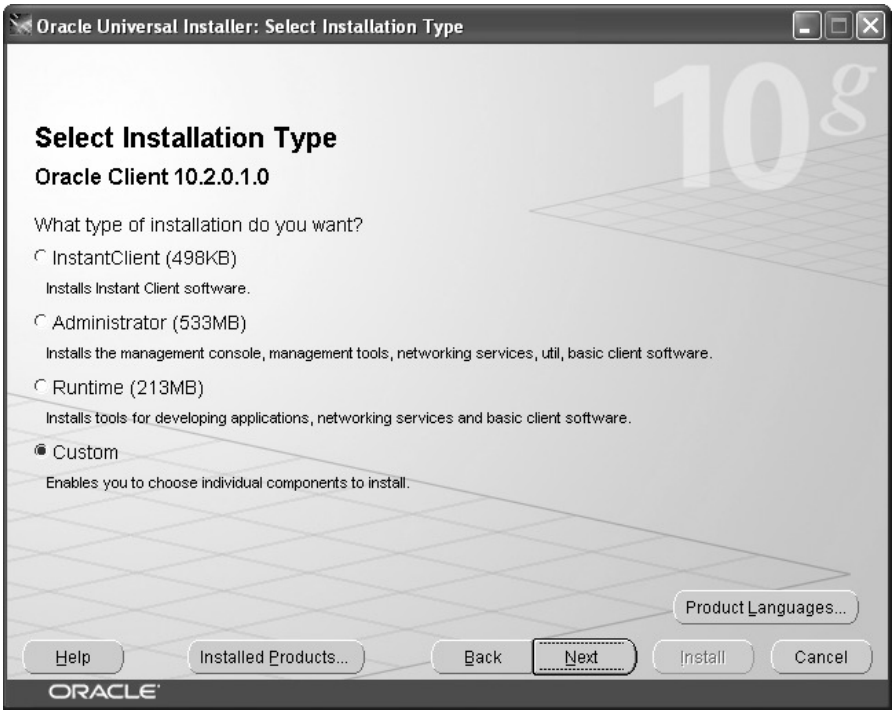
   Tip

   - If the CD does not start automatically, double-click **Autorun.exe** in the root directory of the compact disc.
   - If installing from share use **setup.exe** from root folder of installation.

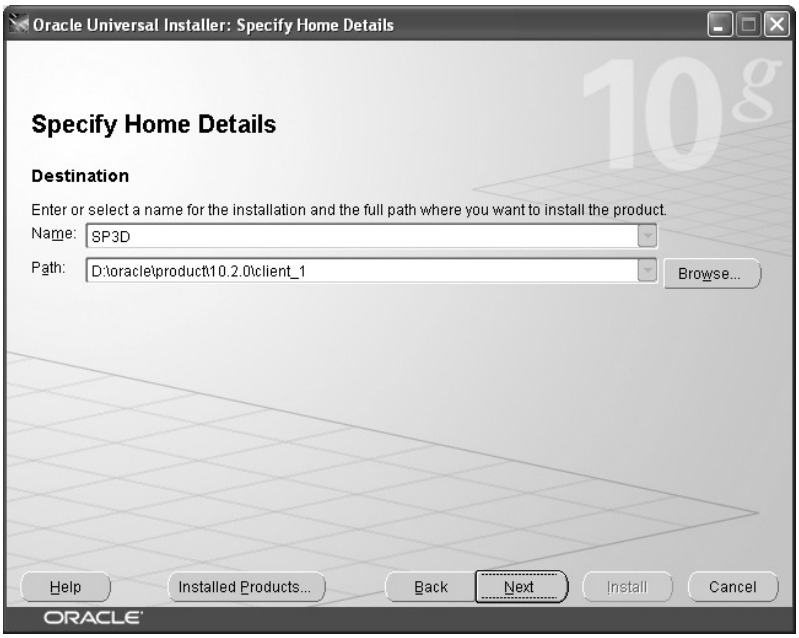
2. On the **Welcome** page, click **Next**.



3. On the **Select Installation Type** page, select **Custom** and click **Next**.



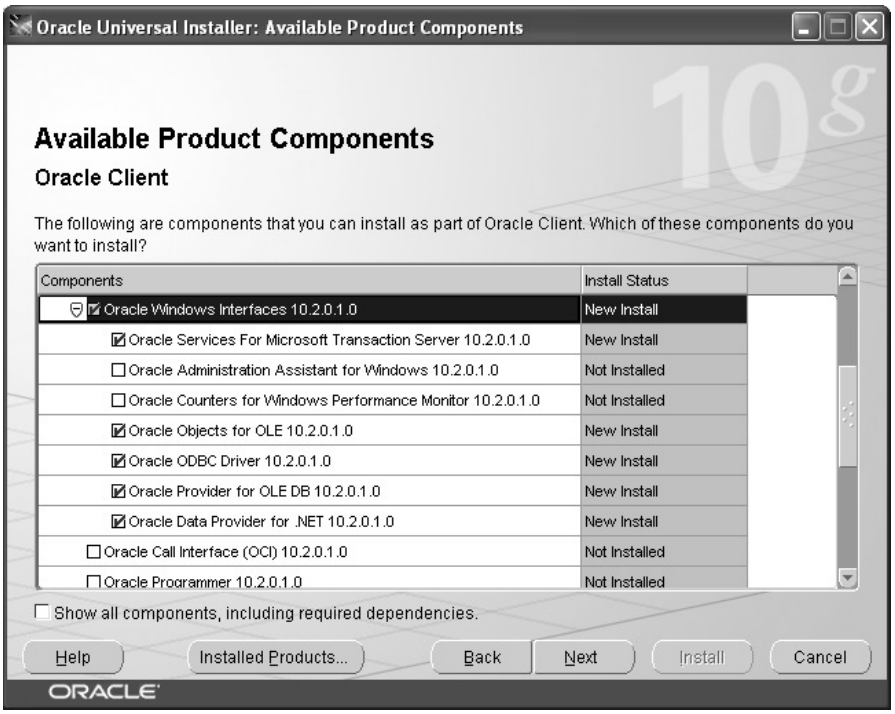
4. On the **Specify Home Details** page, accept the default values or enter the Oracle home name and directory path to which to install Oracle components in the **Destination** section, and then click **Next**.



5. On the **Available Product Components** page, select the following components:

   - **Oracle Net 10.2.0.1.0**
   - **Oracle Database Utilities 10.2.0.1.0**
   - **SQL *Plus 10.2.0.1.0**

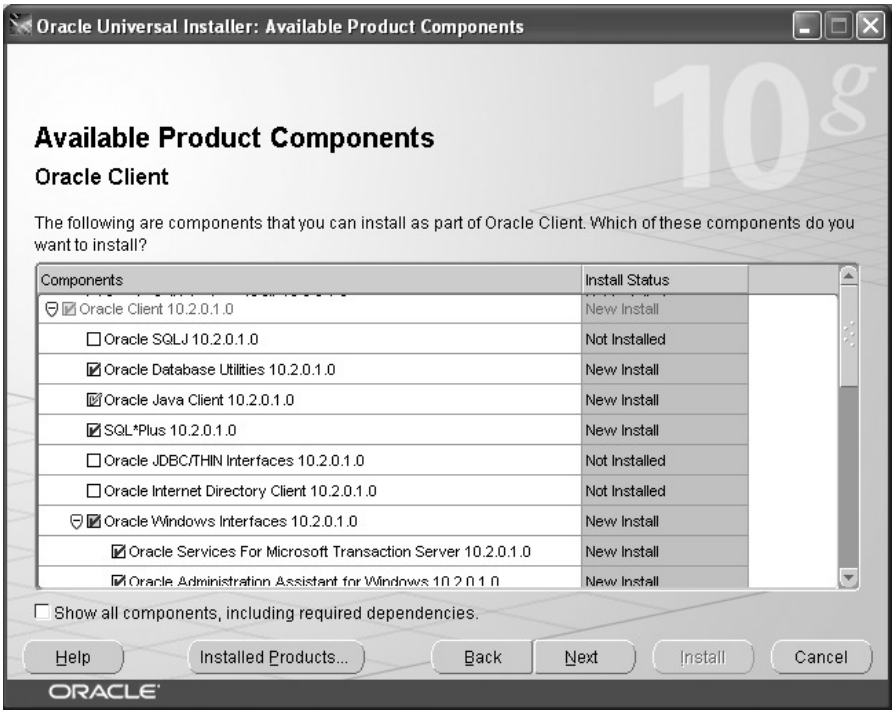
- **Oracle Windows Interfaces 10.2.0.1.0** (including all of its default subcomponents)

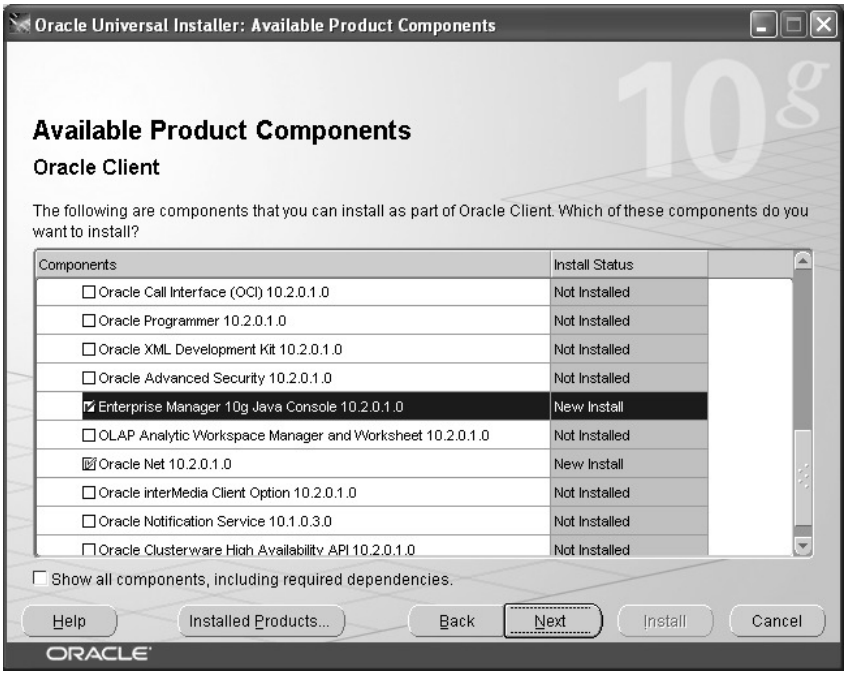


- **Enterprise Manager 10g Java Console 10.2.0.1.0**

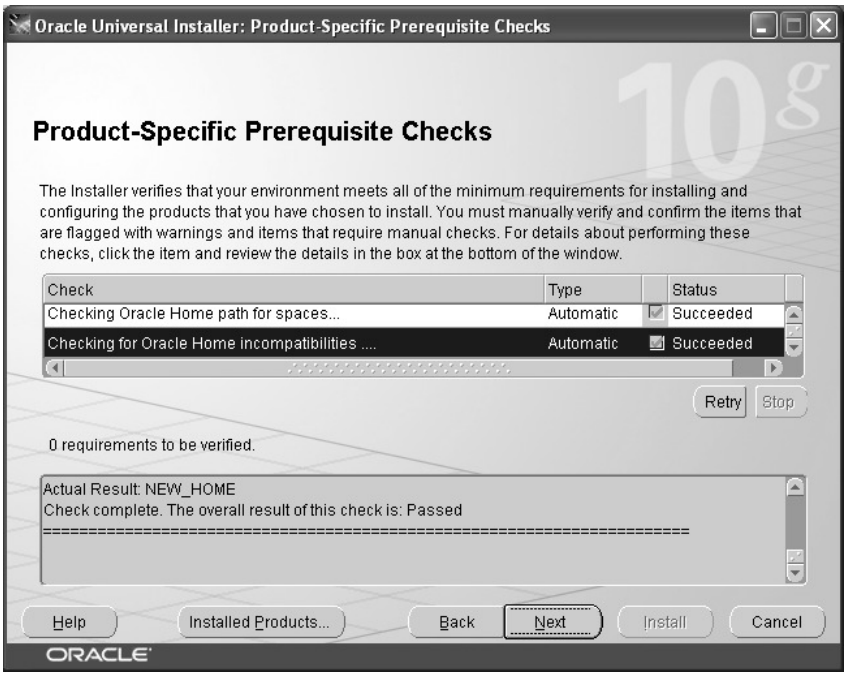
  Tip

  - Click **OK** on the message box that displays when you select **Enterprise Manager 10g Java Console**.

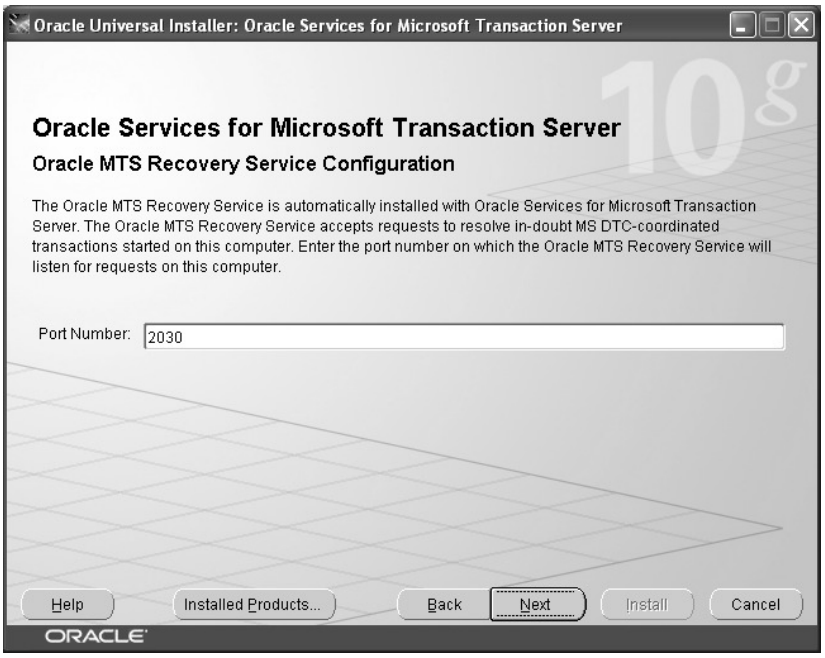




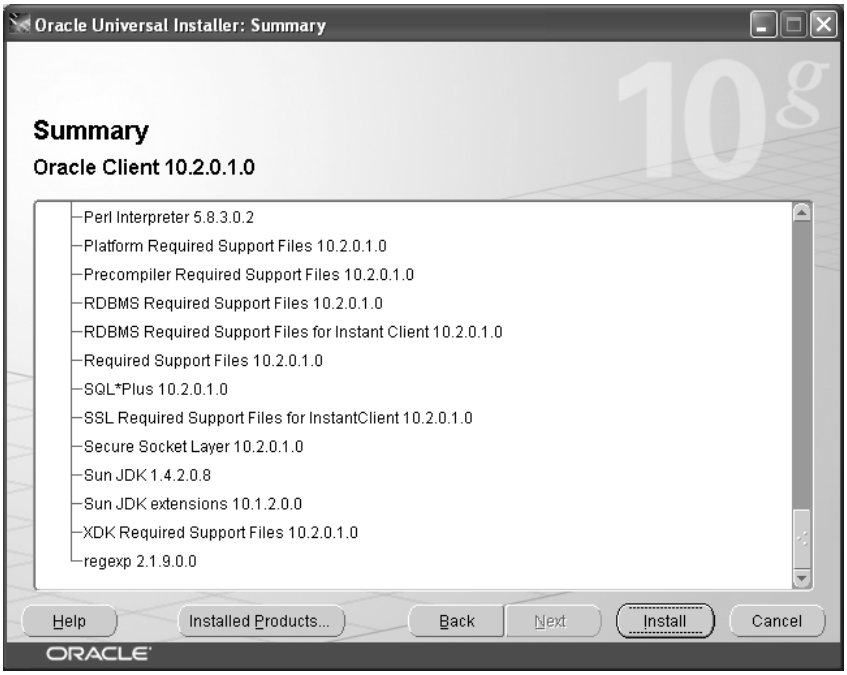
6. After selecting the required Oracle client components, click **Next** and one more time **Next** on Product-Specific Prerequisite Checks form.



7. On the **Oracle Services for Microsoft Transaction Server** page, click **Next** to accept the default port number of **2030**.



8. On the **Summary** page, review the installation information and click **Install**. A progress bar tracks the progress of the installation.

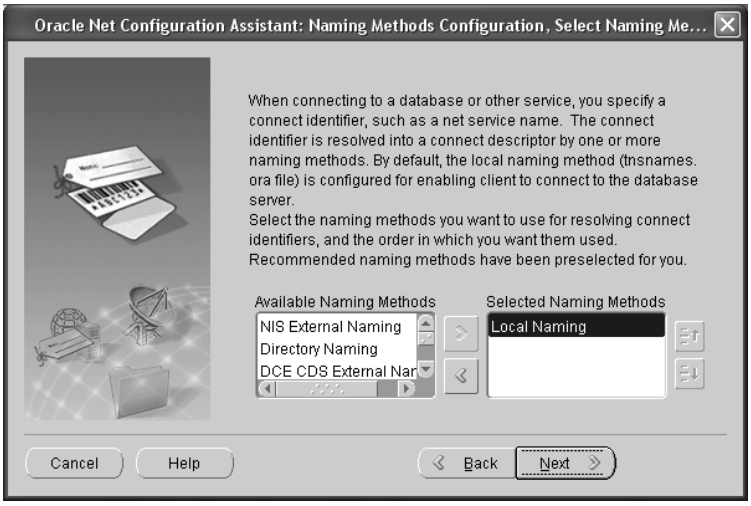


After Oracle client is successfully installed, the **Configuration Assistants** page displays and the **Oracle Net Configuration Assistant** automatically starts.

Oracle Net Configuration Assistant

9. On the **Welcome** page, click **Next**.

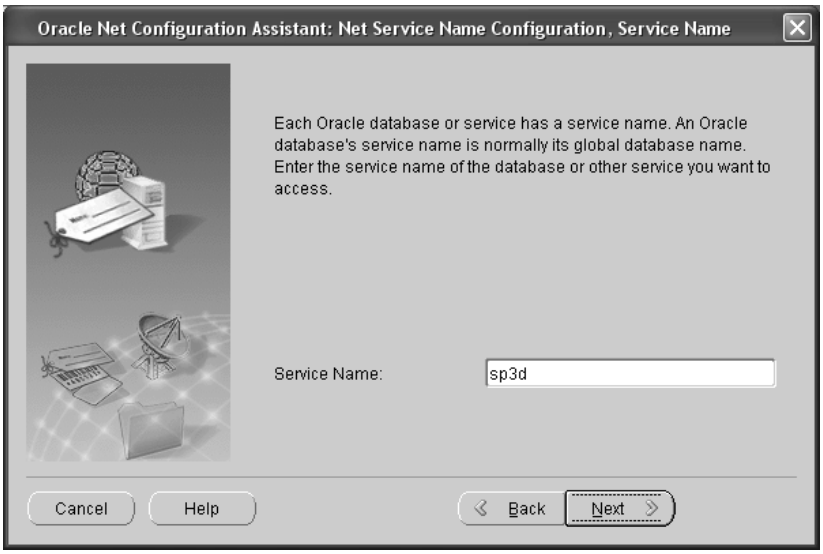
10. On the **Naming Methods Configuration** page, verify that **Local Naming** appears in the **Selected Naming Methods** list and click **Next**.



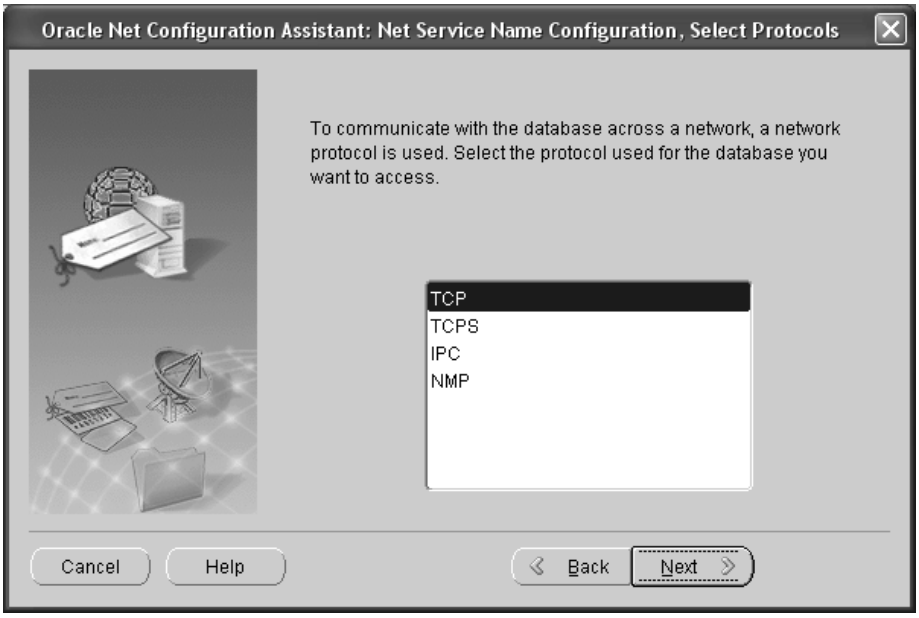
11. XXXX On the **Service Name** page, enter the **Oracle Service Name** (sp3d for TDcKs11) and click **Next**.

Important

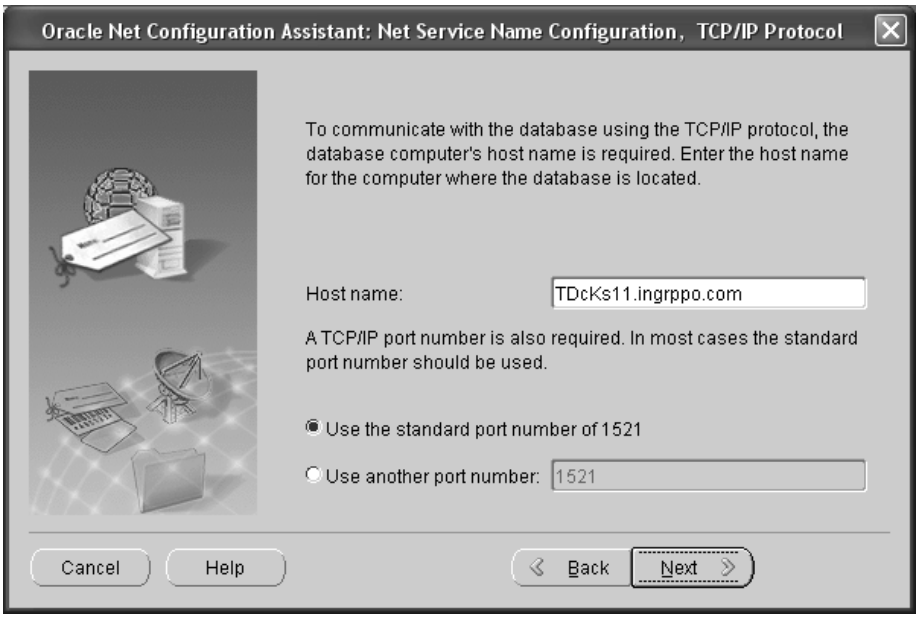
- The **Oracle Service Name** must be the same on the server and client.



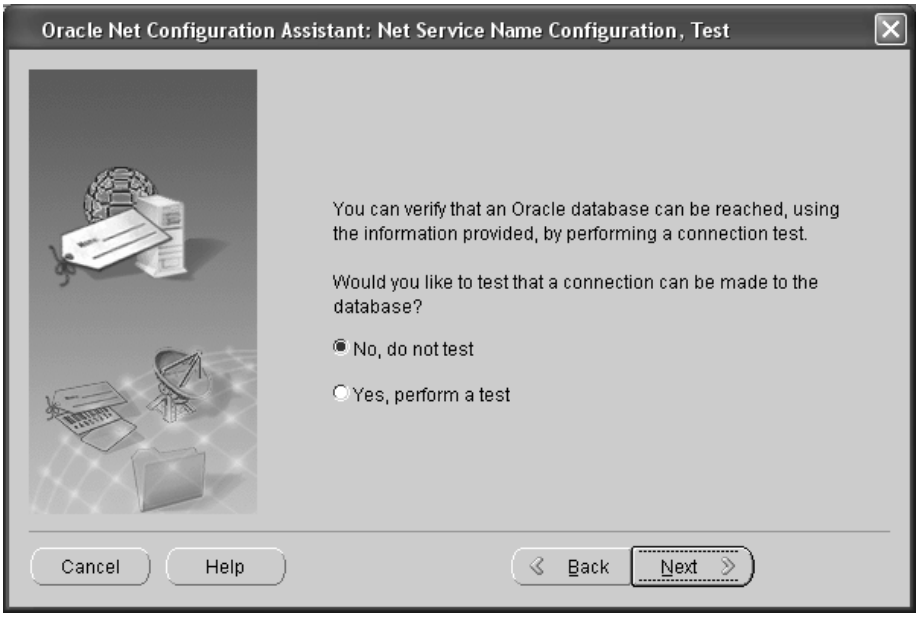
12. On the **Select Protocols** page, click **Next** to accept the default protocol, **TCP**.



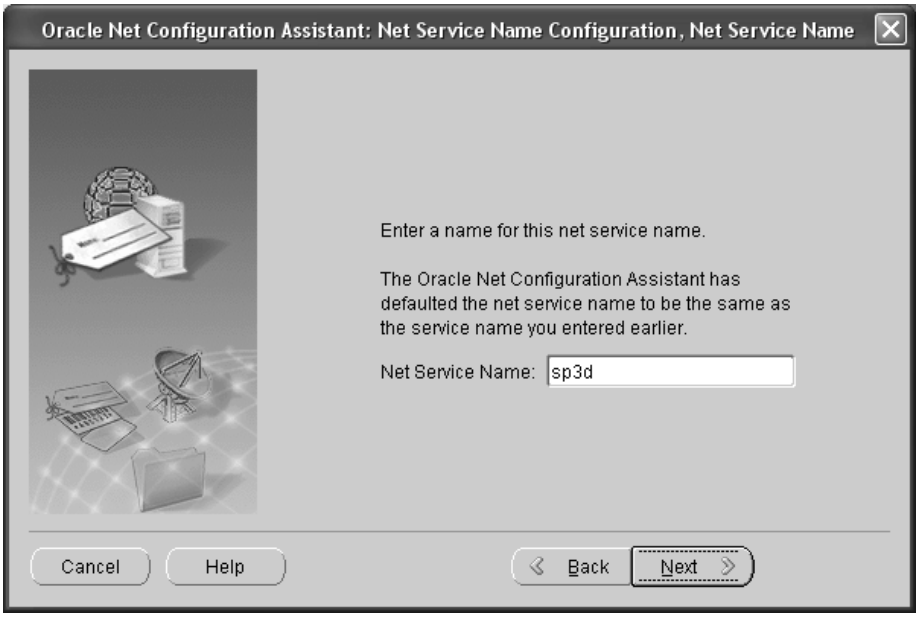
13. On the **TCP/IP Protocol** page, enter the name of the server (XXXX TDcKs11.ingrppo.com) on which the Oracle database is installed in the **Host name** box and click **Next**.



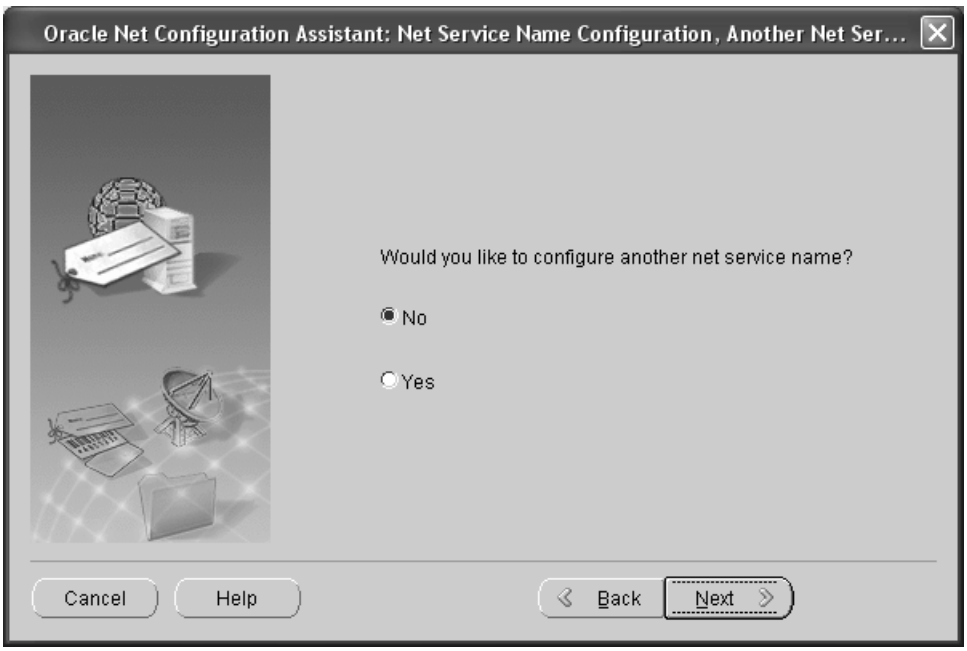
14. On the **Test** page, select **No, do not test** and click **Next**.



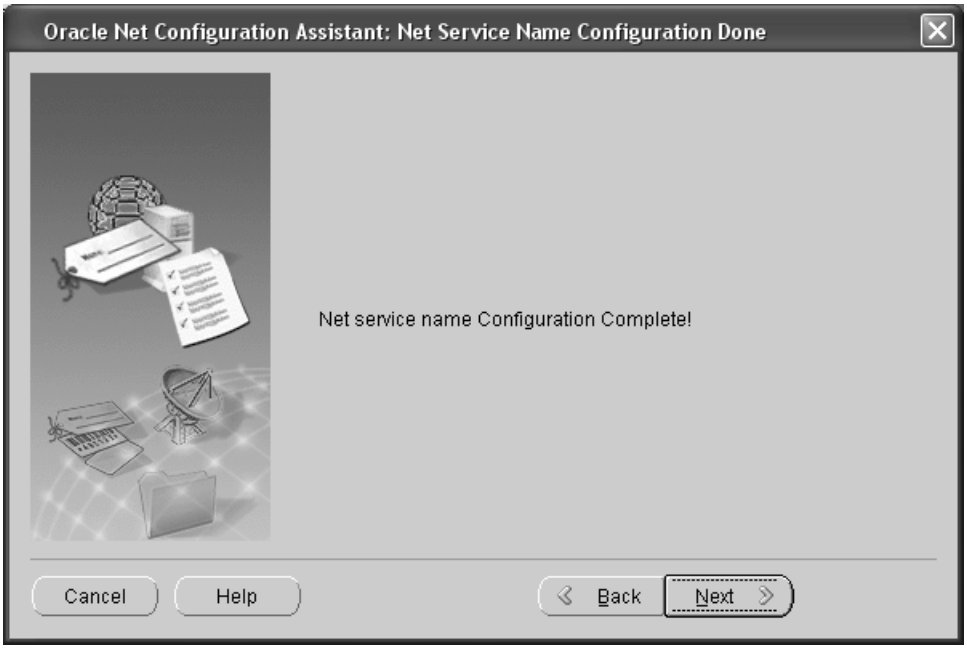
15. On the **Net Service Name** page, click **Next** to accept the default.

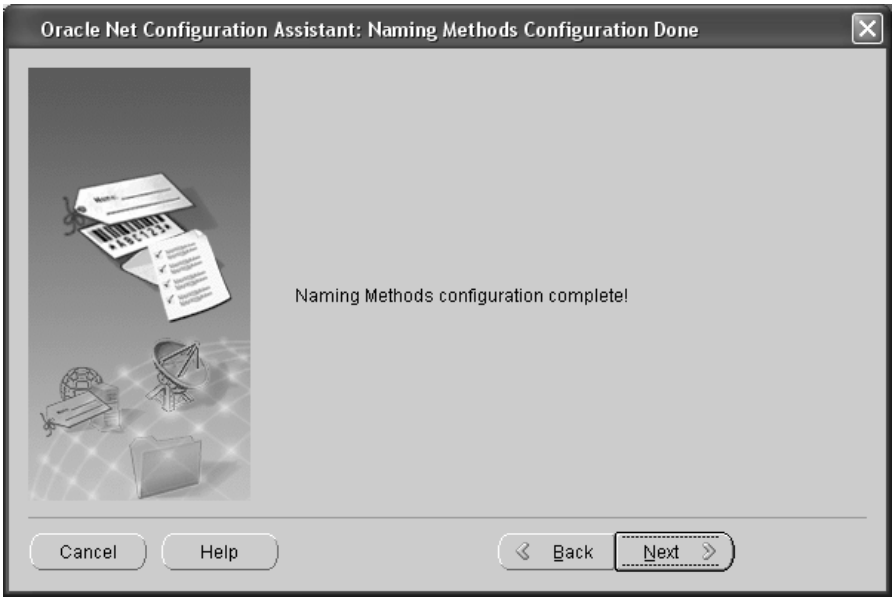


16. On the **Another Net Server** page, select **No** and click **Next**.

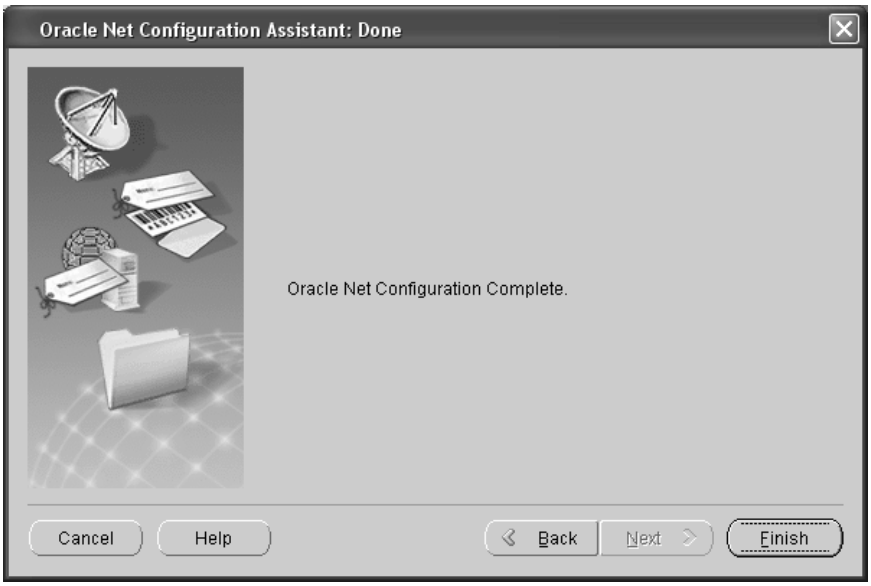


17. Click **Next** on the **Net service name Configuration Complete** and the **Naming Methods configuration complete** pages.

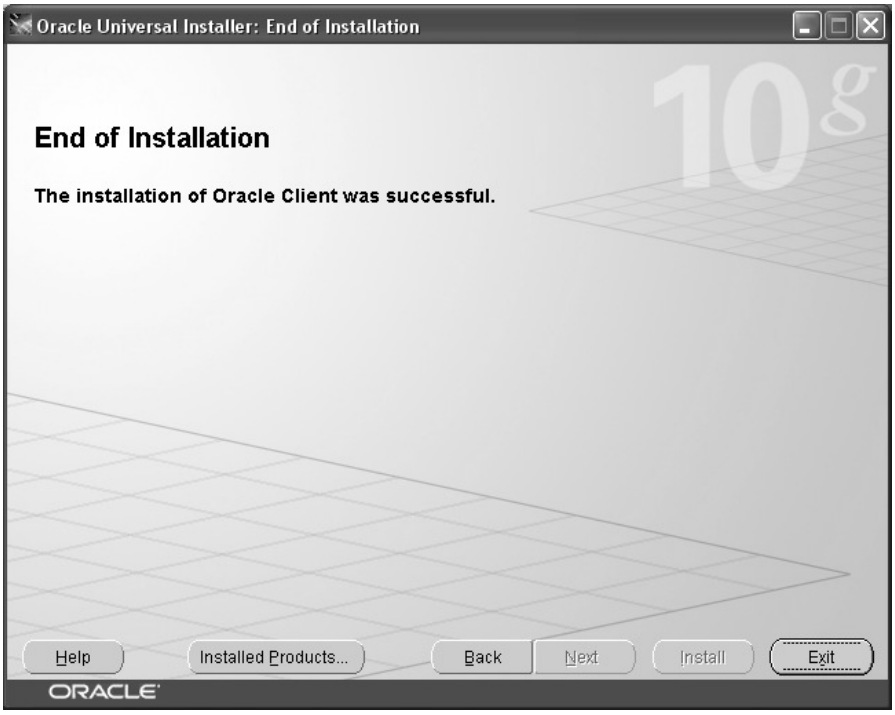




18. Click **Finish** on the **Oracle Net Configuration Complete** page.



19. On the **End of Installation** page, click **Exit**. Click **Yes** on the **Exit** confirmation box.



Configure the Oracle Database Server for Your Login

Each Oracle database has a list of valid database users. To access a database, a user must connect to the database instance using a valid user name defined in the database. Use the steps outlined in the following procedure to create a database user based on the properties of an existing user and to test that the connection is working.

Configure Your Login

1. Open Internet Explorer.
2. Point the web browser to the following URL:
   http://*hostname.domain:portnumber***/em**

   Tips

   - If you installed the Oracle database on a computer named **comp2** running in the XYZ.com domain, and the Oracle Universal Installer indicated that your Enterprise Manager Console HTTP port number is **5500**, you enter the following URL:
     http://comp2.XYZ.com:5500/em.
   - The port number is also listed in the $Oracle_Home/install/portlist.ini file.
3. On the **Login** screen, enter the system login information:
   - In the **User Name** box, enter **system**.
   - In the **Password** box, enter the password for the System account.
   - In the **Connect As** list, select **Normal**.

4. Click **Login**.
5. On the **Welcome** page, click **Administration**.
6. On the **Administration** tab, click **Users** under the **Security** section.
7. On the **Users** page, enter the domain name under which Oracle users will be running in the **Name** box and click **Go**.
8. Select one of the working users that appear in the **Results** table.
9. In the **Action** list, select **Create Like** and click **Go**.

   Tip

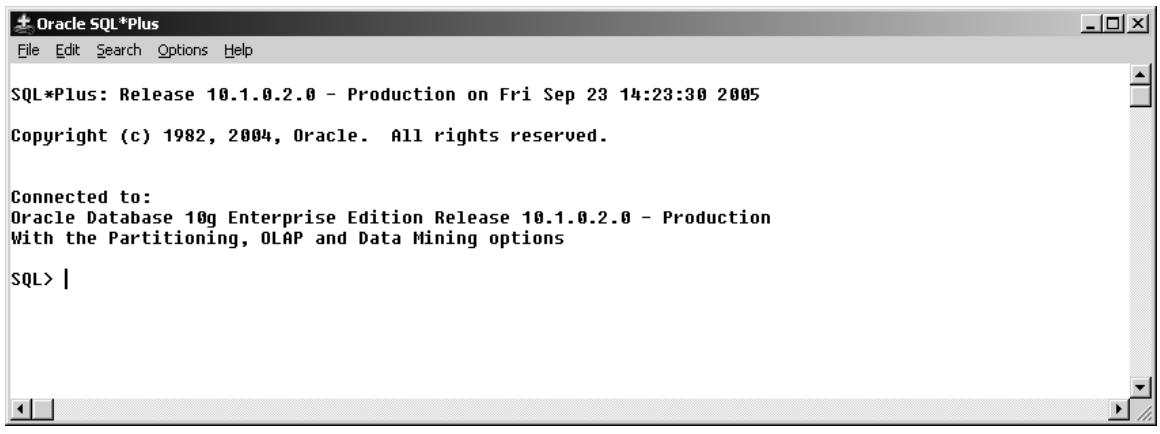
   - You can create a new user based on the existing user you selected in the **Results** table by choosing that user and then selecting **Create Like** from the drop down list.
10. On the **Create Users** page, enter the domain name for the user in the **Name** field.
11. In the **Default Tablespace** and **Temporary Tablespace** boxes, enter the name of the appropriate tablespaces.
12. Verify that the status is set to **Unlocked**.
13. Click **OK**.

Test the Connection to the Database

1. Do one of the following:
   - On Windows XP, click **Start > All Programs > Oracle > Application Development > SQL Plus**.
   - On Windows 2000, click **Start > Programs > Oracle > Application Development > SQL Plus**.
2. In the **Log On** dialog box, type **/** in the **User Name** box and the name of the Oracle database in the **Host String** box, and then click **OK**.

   Important

   - Do not enter any information in the **Password** box.
3. Verify that the following message displays:



If you are unable to login to the server, contact your SmartPlant 3D administrator.

Verify Startup of Oracle Client Services

1. Do one of the following:
   - On Windows 2000, click **Start > Settings > Control Panel** and double-click **Administrative Tools**.
   - On Windows XP, click **Start > Control Panel** and double-click **Administrative Tools**.
2. Double-click **Services**.

   Tip
   - You can also right-click **My Computer** and select **Manage**. In the **Computer Management** window, expand the **Services and Applications** node, and click **Services**.
3. Verify that the **Status** field is set to **Started** and the **Startup Type** field is set to **Automatic**, for each of the following services:
   - Distributed Transaction Coordinator
   - OracleMTSRecoveryService
4. To change the **Status** or **Startup Type** fields, right-click the service name, and select **Properties** from the shortcut menu.
5. On the **General** tab, select **Automatic** from the **Startup type** list.
6. In the **Service status** section, click **Start**.
7. Click **OK**.

Initialize the Oracle Database

After the Oracle software is installed and configured (that is, you can connect from a client to the Oracle database), you must next configure the database to run with SmartPlant 3D software.

The SmartPlant 3D Reference Data Installation delivers the following three samples script files to the <*Product Folder*>\Tools\ScriptsToInitOracleDB folder. These files must be run in the following order:

- SP3DRoles.sql
- SP3DUser.sql
- SP3DProjectAdministrator.sql

Note: Use ALL CAPS for User names in these scripts

You use these script files to create the necessary schemas, users and roles used to run the software on Oracle. The delivered script files, however, are only samples and must be edited to fit your server configurations.

Caution

• An administrative user must run the scripts on the server. Before proceeding, place a copy of each of the five sample script files on the server computer.

• The scripts must be run in the specific order listed as previous scripts create items that are used in subsequent scripts. Do not deviate from the following sequence of steps.

Create the Roles Needed for SmartPlant 3D Users

1. Log on to the Oracle database server computer using the local administrative account.

2. Open **SQL Plus**. The **Log On** dialog box appears.

3. In the **User Name** field, type **SYS**.

4. In the **Password** field, type the password for the SYS account.

5. In the **Host String** field, type **<***Oracle database name***> as SYSDBA**.

6. Click **OK**. The **Oracle SQL *Plus** window displays.

7. At the SQL prompt, type **@<***File Location***>:\SP3DRoles.sql** and press **Enter**.

For example, if you placed a copy of the script file in the root folder on the C drive, you type **@C:\SP3DRoles.sql**.

8. After the script finishes, click **File > Exit**.

Create the Users Needed for SmartPlant 3D

1. Log on to the Oracle database server computer using the local administrative account.

2. Navigate to the **SP3DUsers.sql** script file and open it in **Notepad**.

3. Edit the external user identified in the file as needed. Use the following syntax: *domain name\username*, and then click **File > Save**

4. Open **SQL Plus**. The **Log On** dialog box appears.

5. In the **User Name** field, type **SYS**.

6. In the **Password** field, type the password for the SYS account.

7. In the **Host String** field, type **<***Oracle database name***> as SYSDBA**.

8. Click **OK**. The **Oracle SQL *Plus** window displays.

9. At the SQL prompt, type **@<***File Location***>:\SP3DUsers.sql** and press **Enter**. For example, if you placed a copy of the script file in the root folder on the C drive, you type **@C:\SP3DUsers.sql**.

10. After the script finishes, click **File > Exit**.

Create the Administrative User

1. Log on to the Oracle database server computer using the local administrative account.

2. Navigate to the **SP3DProjectAdministrator.sql** script file and open it in **Notepad**.

3. Edit the external user identified in the file as needed. Use the following syntax: *domain name\username*, and then click **File > Save**

4. Open **SQL Plus**. The **Log On** dialog box appears.

5. In the **User Name** field, type **SYS**.

6. In the **Password** field, type the password for the SYS account.

7. In the **Host String** field, type <*Oracle database name*> **as SYSDBA**.

8. Click **OK**. The **Oracle SQL *Plus** window displays.

9. At the SQL prompt, type **@<***File Location***>:\SP3DProjectAdministrators.sql** and press **Enter**.

For example, if you placed a copy of the script file in the root folder on the C drive, you type **@C:\SP3DProjectAdministrators.sql**.

10. After the script finishes, click **File > Exit**.

Related Topics

- *Installing and Configuring Oracle Client Software*, page 66
- *Installing and Configuring Oracle Server Software*, page 33

Configure Oracle Networking Components

Oracle Net combines configuration abilities with component control to provide an integrated environment for configuring and managing client connections to services via a net service name. The SmartPlant 3D software uses the Oracle net service to establish and maintain network sessions from client applications to the Oracle

database server. After a network connection is established, this utility acts as a data courier for the client application and the database server.

If you follow the procedures provided to and , the Oracle Networking Components should be configured correctly.

Oracle Net Configuration Assistant

The Oracle Net Configuration Assistant allows you to configure the listening protocol address and service information for an Oracle database. See the *Oracle Net Services Administrator's Guide* in your Oracle documentation for more information about using this utility and creating net service name connections.

Important

- If you are using Global Workshare, you should configure a net service for each server involved in the workshare environment.

Related Topics

- *Configure the Oracle Client*, page 67
- *Install Oracle Client Software*, page 66
- *Installing and Configuring Oracle Server Software*, page 33

Verify Automatic Startup of Oracle Database Services

1. Open the **Control Panel** and double-click **Administrative Tools**.

2. Double-click **Services**.

3. Verify that the **Status** field is set to **Started** and the **Startup Type** field is set to **Automatic**, for each of the following services:
Distributed Transaction Coordinator
OracleMTSRecoveryService
OracleService<*SID*>
OracleDBConsole<*SID*>
Oracle<*oracle_home*>TNSListener

Notes
- The OracleService is your Oracle database instance. It is appended with the named Oracle System identifier (SID) you specified when you created the Oracle database. For example, if your SID is **Plant1**, the service appears as **OracleServicePlant1**.
- The TNSListener service is required to allow clients to connect to the Oracle database.

4. To change the **Status** or **Startup Type** fields, right-click the service name, and select **Properties** from the shortcut menu.

5. On the **General** tab, select **Automatic** from the **Startup type** list.

6. In the **Service status** section, click **Start**.

7. Click **OK**.

Related Topics
- *Installing and Configuring Oracle Server Software*, page 33

Create the Oracle Streams Tablespace

You must perform the following procedure at the Host and all the Satellite locations that will participate in Global Workshare.

1. Open **SQL *Plus** and connect as an administrative user who can create users, grant privileges, create tablespaces, and alter users.

2. At the SQL prompt, type the following statement to create a Streams tablespace:

```
CREATE TABLESPACE streams_tbs
LOGGING
DATAFILE 'c:\oracledatafiles\streams_tbs1.ora' SIZE 25M
REUSE
AUTOEXTEND ON NEXT 8K MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL;
```

3. Repeat the procedure at each database that will participate in the Workshare environment.

Note

- Do not specify any tablespace name other than **streams_tbs** when you create the Streams tablespace. **Streams_tbs** is the tablespace name used by the software when it generates the replication scripts.

Related Topics

- *Installing and Configuring Oracle Server Software*, page 33

Create the Oracle Streams Administrator

You must perform the following procedure at the Host and all the Satellite locations.

1. Open **SQL *Plus** and connect as an administrative user who can create users, grant privileges, create tablespaces, and alter users.

2. Create the Streams administrator. At the SQL prompt, type the following statement and press **Enter**:

```
CREATE USER STRMADMIN
IDENTIFIED BY STRMADMIN
DEFAULT TABLESPACE streams_tbs
QUOTA UNLIMITED ON streams_tbs;
```

3. Grant the CONNECT, RESOURCE, and DBA roles to the Streams administrator. At the SQL prompt, type the following statement and press **Enter**:

```
GRANT CONNECT, RESOURCE, DBA TO STRMADMIN;
```

4. Use the GRANT_ADMIN_PRIVILEGE procedure in the DBMS_STREAMS_AUTH package to grant the required privileges to the Streams administrator. At the SQL prompt type the following statement and press Enter:

```
BEGIN
DBMS_STREAMS_AUTH.GRANT_ADMIN_PRIVILEGE (
grantee => ' STRMADMIN',
grant_privileges => true);
END;/
```

5. In order to assist with administration, grant the following roles to the Streams administrator. At the SQL prompt, type the following statements and press **Enter**:

```
GRANT SELECT_CATALOG_ROLE
to STRMADMIN;
GRANT SELECT ANY DICTIONARY
to STRMADMIN;
```

6. Repeat steps 1 through 5 to set up a Streams administrator on each of the databases that will participate in the Workshare.

Note

- Do not specify any user name other than **STRMADMIN** when you create the Streams administrator. **STRMADMIN** is the user name used by the software when it generates the replication scripts.

Related Topics

- *Installing and Configuring Oracle Server Software*, page 33

Monitoring the Databases

You can use the following guidelines for setting up and monitoring your databases. Since there are many viable hardware and software configurations that you can use to set up the databases, refer to the documentation for your components for more information on performance and scalability issues.

To achieve adequate performance and measurements while monitoring the system, use the settings outlined in *Set Up the Database Server*, page 46.

Related Topics

- *Appendix: Recommendation for Database Monitoring (SQL Server)*, page 175
- *Disk I/O*, page 48
- *Disk Usage*, page 49
- *Set Up the Database Server*, page 46

Set Up the Database Server

The needs of a database server are different than those of a file server. Perform the following procedure to configure the settings for the database server:

1. Open the **Control Panel** and double-click the **Network and Dial-up Connection Properties** folder.

2. Double-click the **Local Area Connection** icon, and click **Properties** on the **Local Area Connection Status** dialog box.

Tip

- You can also right-click **Local Area Connection** icon, and select **Properties** on the shortcut menu.

3. In the **Local Area Connection Properties** dialog box, select **File and Printer Sharing for Microsoft Networks**, and click **Properties**.

4. In the **File and Printer Sharing for Microsoft Network Properties** dialog box, select **Maximize data throughout for network application**, and click **OK**.

5. Click **OK** to close the **Local Area Connection Properties** dialog box.