Configuring Warehouse Builder Data Sources: Oracle on Windows NT or 2000

Overview

Warehouse Builder can pull data from Oracle® databases on Windows NT or 2000. Here are the general setup steps:

1. **Verify your STRATEGY installation.** See p. 3.

2. **Set up an ODBC data source.** Add or configure a Windows NT or 2000 data source. See p. 4.

3. **Enter license information.** Add your new password on the Enterprise Server PC. See p. 5.

4. **Modify the showcase.cfg file.** In your Oracle driver definition, specify the Oracle JDBC driver. See p. 6.

5. **Start the Enterprise Server.** The Enterprise Server links your control server and your database. See p. 8.

6. **Create a data source mapping.** Map an ODBC connection used at definition time to the Enterprise Server connection used at run time. See p. 9.

7. **Connect to your new data source.** Open your Oracle data with Warehouse Builder. See p. 10.

Figure 1 shows the components you will use to configure your Oracle data source.

Figure 1 *Components used in configuration*
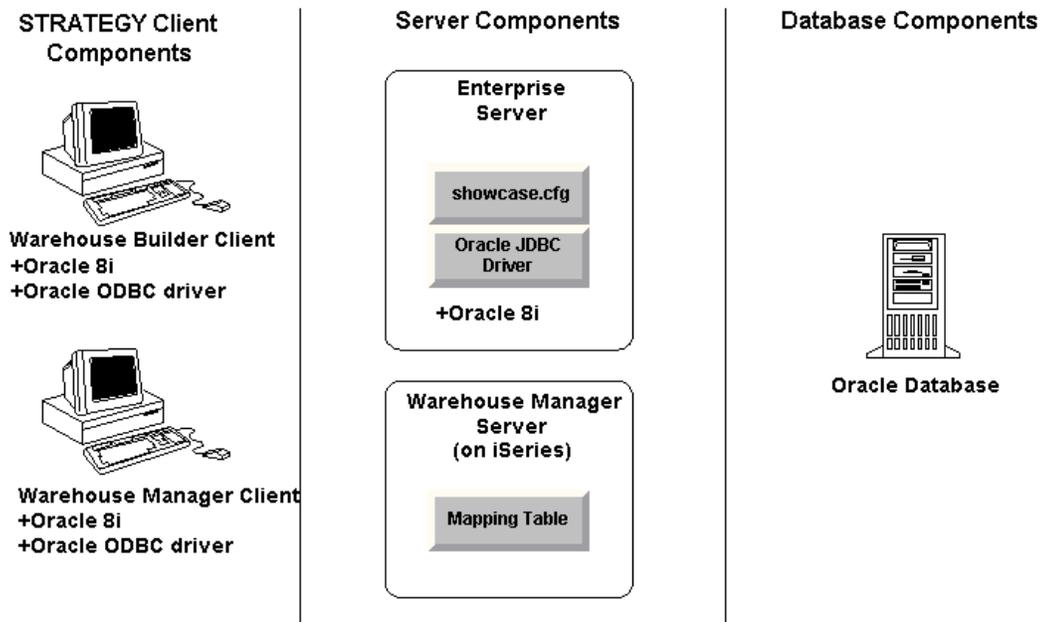
Prerequisites

Before you begin configuration, make sure your environment is ready:

❑ **STRATEGY.** A minimum of version 4.1 with patch 3 or later. Requires these components:

- **Warehouse Manager Server.** Control server on your iSeries (AS/400).

- **Warehouse Builder Client**. Specifies Oracle data source and iSeries target table. Install on Windows 95, 98, NT, or 2000.

- **Warehouse Manager Client**. Configures Data Source Mapping. Install on Windows 95, 98, NT, or 2000.

- **Enterprise Server.** Provides the connection between the Warehouse Builder control server on the iSeries and the database. Install on a PC with Windows 2000 or Windows NT 4.0 or later. Enterprise Server includes the **showcase.cfg file.**

❑ **Oracle 8i Release 3 (8.1.7) or later for Windows NT or 2000.** Configure your service and verify your connection in Oracle Net8 Assistant on the PCs hosting Enterprise Server, Warehouse Builder, and Warehouse Manager Client. For help, see your Oracle documentation.

❑ **Oracle ODBC Driver.** Version 8.01.72 or later on Windows NT or 2000. Provided by Oracle (www.oracle.com). Install on PCs hosting Warehouse Builder and Warehouse Manager Client.

❑ **Oracle JDBC Driver.** Version 1.2.01 (for example, classes12.zip). Provided by Oracle (www.oracle.com). Install on the PC running Enterprise Server.

❑ **Oracle database.** Must run on Oracle NT or 2000.

❑ **License password for the Enterprise Server.** Contact your account executive for a password if you don't already have one.

❑ When you are configuring data sources from non-DB2 systems, the user profile CCSID for the Warehouse Builder running distributions *cannot* be 65535 (*HEX). On Japanese systems, the CCSID *cannot* be 290, or 5026.

Oracle Data Type Mappings

Table 1 shows how the iSeries maps Oracle data types. Those not shown are not supported.

Table 1 *Oracle data type mappings*

Oracle Native Data Type	iSeries Target Data Type
CHAR(size)	CHAR(size)
VARCHAR2(size)	VARCHAR(size)
DATE	TIMESTAMP
NUMBER(precision, scale)	SMALLINT INTEGER DECIMAL(precision, scale)
NUMBER	DOUBLE PRECISION
NCHAR(size)	CHAR(size)
NVARCHAR2(size)	VARCHAR(size)
RAW(size)	VARCHAR(size) FOR BIT DATA

Configuring Your Environment

The next sections lead you through the steps to configure your STRATEGY environment to pull data from your Oracle database with Warehouse Builder.

Step 1: Verify Your STRATEGY Installation

▶ Verify that you have installed a minimum of version 4.1 with patch 3 or later, including Warehouse Manager Server, Warehouse Builder client, Warehouse Manager Client, and Enterprise Server.

To verify the correct version, open any STRATEGY component, and on the *Help* menu, click *About*. If the version number is *4.10.030* or greater, continue to "Step 2: Set Up ODBC Data Sources" on p. 4.

If you must update your STRATEGY setup, continue with Step 1.

▶ When you install STRATEGY PC components, choose Warehouse Builder, Warehouse Manager, and Enterprise Server, as shown in Figure 2. You may install these components on separate PCs if your situation warrants it.

The showcase.cfg file is installed with Enterprise Server.

Figure 2 *Selecting STRATEGY installation components*
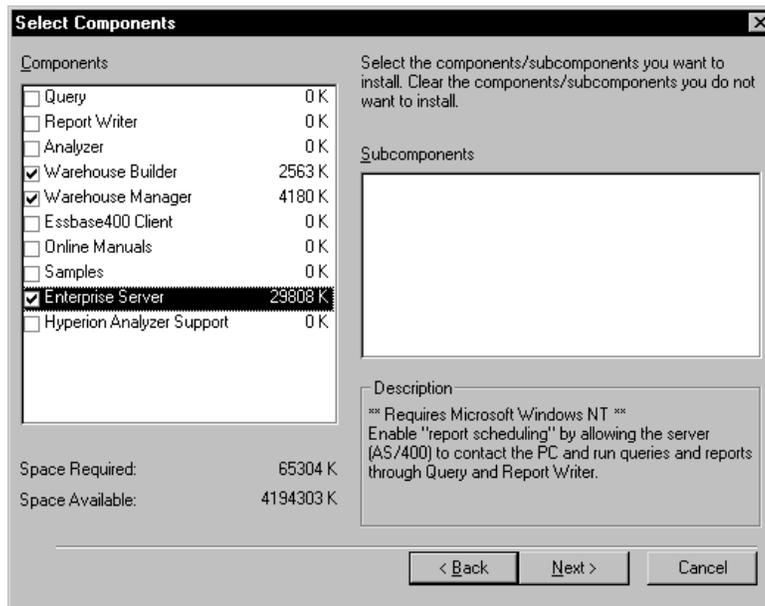
▶ Download and install STRATEGY 4.1's patch 3 or later from the ShowCase division Support Web site at http://support.spss.com.

Step 2: Set Up ODBC Data Sources

Set up ODBC data sources on each PC hosting Warehouse Builder and Warehouse Manager Client.

▶ On the Windows *Start* menu, choose:

Programs

  ShowCase STRATEGY

    Microsoft ODBC Administrator

▶ To add an Oracle NT or 2000 data source, click *Add*.

▶ Choose the Oracle driver (file name, SQORA32.DLL), and click *Finish*.

This opens the *Oracle 8 ODBC Driver Configuration* dialog box, as shown in Figure 3.

Figure 3 *Oracle ODBC Driver configuration*

▶ Type a name for your Oracle data source.

▶ Write the name of your data source here. You will use this name in "Step 4: Modify showcase.cfg File" on p. 6 and "Step 6: Create a Data Source Mapping" on p. 9.

    Oracle data source:_____

▶ In the *TNS Service Name* drop-down box, select or type your Oracle NT or 2000 service name.

    Note: If you select a name from the list rather than typing it, there may be an extra space after your TNS Service Name. To prevent errors, delete the space.

▶ Click the *Test Connection* button.

▶ In the *Oracle8 ODBC Driver Connect* box, make sure the Service Name is correct for your database.

▶ Enter your user name and password, and click *OK* to test your Oracle ODBC driver connection.

    If your connection is successful, continue to the next step. If you receive an error message, consult your Oracle documentation to resolve the error.

▶ In the *Oracle 8 ODBC Driver Configuration* dialog box, click *OK*. You have set up your ODBC data source.

Step 3: Enter License Information

    Enter license information on the Enterprise Server PC.

▶ Open a DOS command prompt.

▶ At the *C:* prompt, change the directory to the bin directory where you installed STRATEGY.
Example: *<cd Program Files\ShowCase STRATEGY\bin>*

▶ To update your license information, run the chgscaut.bat file with three parameters,
HOSTNAME, the name of the NT PC
PASSWORD, the password sent by ShowCase, a division of SPSS
EXPDATE, the password expiration date

Type the following:

CHGSCAUT HOSTNAME=YOURPCNAME PASSWORD=YOURPASSWORD
EXPDATE=YOUREXPDATE

Example: *CHGSCAUT HOSTNAME=JMM PASSWORD=SCC123456DE EXPDATE=12312002*

Note: These entries are case sensitive and must be in capital letters.

▶ When you have successfully updated your file, exit the DOS window.

Step 4: Modify showcase.cfg File

The showcase.cfg file was installed with the Enterprise Server PC component. If you cannot find the file on your system, make sure you installed the Enterprise Server.

▶ Use a text editor to open your showcase.cfg file. It is located in the folder where you installed STRATEGY.

Example: *C:\Program Files\ShowCase STRATEGY\proddata\config\showcase.cfg*

Note: You can copy the configuration file to the *userdata* directory. For example:
C:\Program Files\ShowCase STRATEGY\userdata\config\showcase.cfg

When the Enterprise Server starts, it reads the configuration files from the *proddata* and *userdata* directory. Configuration file properties in the *userdata* directory will override those in the *proddata* directory.

STRATEGY installations will never overwrite the *userdata* directory. Therefore, you won't lose *userdata* directory settings when you install new software.

▶ In the *Global Properties* section, find the classpath that begins with
`showcasecorp.server.classpath=`

▶ Modify the path to point to your Oracle JDBC driver (classes12.zip). For example:
`showcasecorp.server.classpath=C:/oracle/jdbc/lib/classes12.zip`

▶ Locate the `[OracleDatasource1]` section of your .cfg file.If your .cfg file does not have a Oracle section, copy the following Oracle information and paste it into the *Driver Definition Properties* section in the showcase.cfg file.

```
[OracleDataSource1]


# Specify the class name for the Oracle driver. This must be found
# in the classpath as defined above in the global section.
showcasecorp.driverClassName=oracle.jdbc.driver.OracleDriver

# Specify the URL to use when using the Oracle thin driver to connect
# to Oracle.

# The general format is:

# jdbc:oracle:thin:@<oracle-IP-address>:<oracle-port>:<service-id>

# For example, configure a URL to connect to an Oracle database with
# service ID (SID) of ORACLENT which is located on server SERVER3
# and is listening on the default port of 1521.

showcasecorp.driverURL=jdbc:oracle:thin:@SERVER3:1521:ORACLENT


# Trace properties used only by this driver definition.

# Note: Turning these properties on can dramatically reduce
# performance.


# showcasecorp.traceService=ALL

# showcasecorp.traceLevel=ALL

# showcasecorp.traceUser=ALL

# showcasecorp.traceLog=scserver.log
```

▶ Following the @ sign in the .cfg file, replace SERVER3:1521:ORACLENT with the following information, separated by colons:

- The name or IP address of the PC running your Oracle database

- Your Oracle port number (typically *1521*)

- Your Oracle service ID(SID)

Note: You can find some of this information in your Oracle Net8 Assistant. See Figure 4.

Figure 4 *Net8 Assistant*
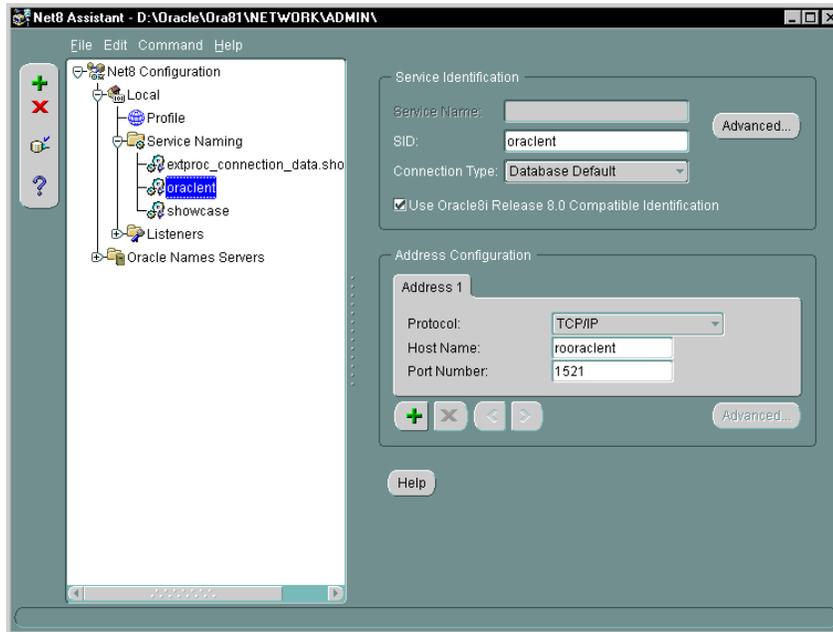
▶ Save and close the showcase.cfg file. You are finished modifying it.

Step 5: Start the Enterprise Server

▶ On the Windows *Start* menu, choose:

Programs

  ShowCase STRATEGY

   Enterprise Server

When the Enterprise Server starts, you will see a window similar to Figure 5.

Figure 5 *Enterprise Server*

▶ You can minimize this window, but do not close it.

Step 6: Create a Data Source Mapping

Here you will save your data source information in your Warehouse Manager control table and specify the Enterprise Server information to use at run time.

▶ Open Warehouse Manager Client and connect to your iSeries data source.

▶ On the *Manage* menu, choose *Data Source Mapping.* This opens the *Data Source Mapping* dialog box.

▶ Click *Add.* This opens the *Add an ODBC to JDBC Data Source Mapping* dialog box.

▶ In the *Data Source Name* drop-down box, choose the Oracle data source you named on p. 5.

▶ Click *Retrieve.*

▶ At the prompt, connect to your Oracle ODBC driver.

In the *ODBC Connection* section, your SQL server name (the TNS Service Name you chose on p. 5) appears, as shown in Figure 6.

Figure 6 *Mapping your ODBC data source*

▶ In the *DNS Name or IP Address* section, type the name or IP address of the PC running Enterprise Server.

▶ Type your Enterprise Server port number. Typically, the port number is *43419.*

Note: This port number is the default port on the Enterprise Server PC. It is not the same port as your iSeries server port.

▶ Click *Retrieve.* If you receive and error message, make sure your Enterprise Server is running.

▶ In the *Driver Definition Name* section, select your data source driver definition. The name matches the bracketed heading for the section in the showcase.cfg file. The sample (on p. 7) is [OracleDataSource1]. See Figure 7.

Figure 7 *Mapping your driver definition*
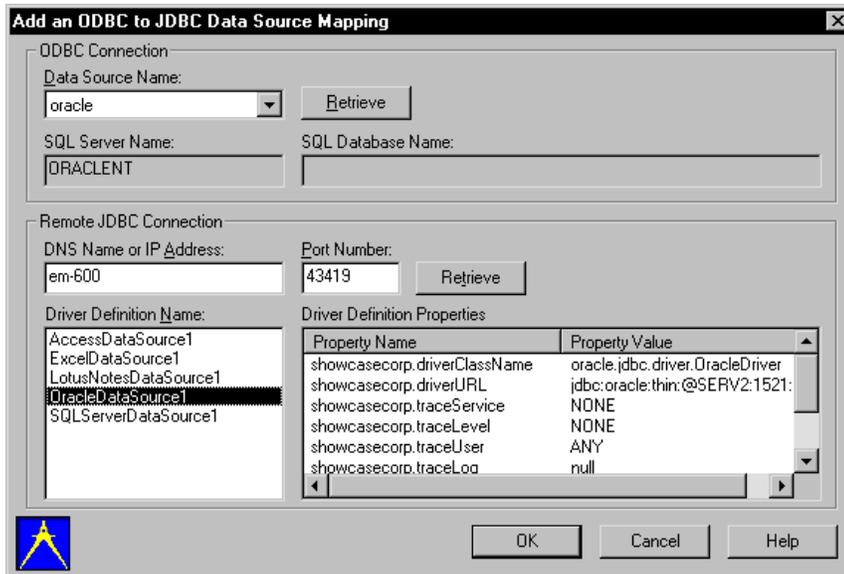
▶ In the *Driver Definition Properties* section, verify that you've chosen the correct driver definition.

Note: The combination of the DNS Name/IP Address, Port Number, and Driver Definition Name must be unique. That is, no two mappings can have the same combination of these values.

▶ Click *OK* to update the iSeries control table with your mapping.

Step 7: Connect to Your New Data Source

▶ Open Warehouse Builder and log on to your control server.

▶ In the *Warehouse Builder Assistant* dialog box, click *OK* to create a new definition. (If the *Warehouse Builder Assistant* dialog box is not already displayed, select *File | New | New.*)

▶ In the *Source and Target Servers* dialog box, choose your new source server data source (Oracle), as shown in Figure 8.

Figure 8 *Choosing your new data source*
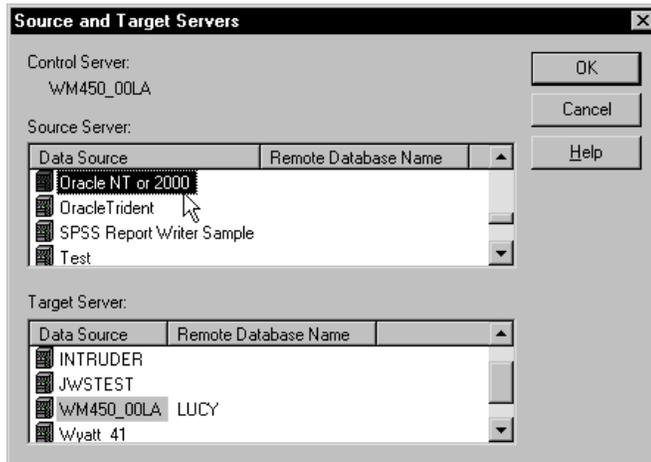
▶ Select the target server, and click *OK*.

▶ At the prompt, connect to your Oracle ODBC driver. Make sure the Service Name is correct for your database.

▶ Continue to create your definition.

▶ When you run your definition, make sure the Enterprise Server is running. To start it, see "Step 5: Start the Enterprise Server" on p. 8.

Hints and Troubleshooting

General Hints

- Each time you modify the showcase.cfg file, end the Enterprise Server (Ctrl+C), and then restart it to allow the updates to take effect.
- If you cannot find the showcase.cfg file on your system, make sure you installed the Enterprise Server. The .cfg file is installed with the Enterprise Server.

Warehouse Builder Definition Hints

- When creating a definition, if you receive an error that your mapped database cannot be found, check the Data Source Mapping you specified in "Step 6: Create a Data Source Mapping" on p. 9. The SQL Server name must match your TNS Service Name in the Microsoft ODBC Administrator.
- If you receive an error that reads "*There is no entry for (your data source) in the data source mapping table,*" check your *Oracle 8 ODBC Driver Configuration* dialog box. There may be an extra space after your Service name. For details, see the note on p. 5.

Warehouse Builder Run-Time Hints

- If you receive errors running your SELECT statement in Warehouse Builder, test the SELECT statement in Query or another query application.

- If you cannot run your definition after you create it, make sure your Enterprise Server is licensed and running.

- If you receive a connection error during run time or in Data Source Mapping, make sure your Enterprise Server and Warehouse Manager Server library are at the same STRATEGY release and patch levels.

- If you are using Enterprise Reporting and have the *QUTCOFFSET* set on your system, your start and end time statistics for scheduled queries will be off by that amount unless you also set a time zone. To set the correct time:

  1. Change the *QUTCOFFSET* system value to *-0.00*.
  OR
  Create an IFS file called */Qibm/UserData/Java400/SystemDefault.properties*.
  In this file, enter one line specifying the user time zone. **Example:** *user.timezone=CST*

  2. Restart the Warehouse Manager Server. Then restart any Java applications by stopping and restarting the HTTP server using the commands *ENDTCPSVR *HTTP* and *STRTCPSVR *HTTP*. You may also need to adjust the *QUTCOFFSET* system value for Daylight Savings time.

  For more information, see your IBM documentation.