

QAD Decision Support

Installation Guide

FOR WINDOWS SERVERS



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Decision Support Version 3.2
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Contents

ABOUT THIS GUIDE	1
What Is in This Guide	2
Audience	2
Installation Errata	2
QAD Web Site	2
System Requirements	3
Database Server	3
ORACLE	3
MFG/PRO	3
Windows Clients	3
CD-ROM Contents	4
Decision Support Engine CD-ROM	4
Decision Support Client CD-ROM	4
Decision Support Conversions	4
Document Conventions	4
 CHAPTER 1 INSTALLATION OVERVIEW.....	 5
Decision Support Databases	6
Decision Support Architecture	6
Deploying Decision Support	8
Deploying the DS Engine and Database	8
Deploying the PROGRESS AppServer	9
Preliminary Setup	11

CHAPTER 2 DS ENGINE INSTALLATION FOR PROGRESS 13

Install the Decision Support Engine	14
Change the Services File	22
Start the Decision Support Servers	23
Start the Decision Support Engine	26

CHAPTER 3 DS ENGINE INSTALLATION FOR ORACLE 29

Installation Summary	30
Deployment Options	30
Preliminary Setup	32
Load the DS Engine Installation Files	33
Set Up the DS ORACLE Tablespace	35
Modifying the DS SQL File	35
Running the DS SQL File	36
Changing the DS Tablespace Open Cursors Setting	38
Set Up Networking	40
Setting Up ORACLE Networking	40
Setting Up PROGRESS Networking	42
Run the DS Engine Setup	42
Preliminary Information	42
Running the Setup	43
Set Up the Decision Support Servers	54
Set Up PROGRESS Networking Servers	54
Set Up the ORACLE Networking Server	57
Set Up the AppServer	59
Set Up the Services File	60
Add the PROGRESS Networking Servers	60
Add the ORACLE Networking Server	61
Add the AppServer	62
Start the Decision Support Engine	63

CHAPTER 4 DS CLIENT INSTALLATION 65

Installing DS Clients for PROGRESS	66
Performing a Network Installation	66

Preliminary Setup	67
Installation	67
Installing DS Clients for ORACLE	71
Performing a Network Installation	71
Preliminary Setup	72
Installation	73
Performing a Network Installation	80
Configuring GUI Clients for the AppServer	84
Running Decision Support from MFG/PRO	85
Modify the MFG/PRO Server Start-Up Scripts	85
Add DS to MFG/PRO Menus	86
Modify the MFG/PRO Client Start-Up Icons	88
Add the DS Application Code to the MFG/PRO Directory Structure ..	91
 CHAPTER 5 HELP, DOCUMENTATION, AND LIBRARY INSTALLATION	93
Install Decision Support Online Help	94
Install Decision Support Documentation	95
Install the Decision Support Demo Library	96
Install Additional Decision Support Libraries (Optional)	99
 CHAPTER 6 CONVERTING AN EXISTING DS DATABASE	101
Conversion Utilities	102
Convert Tracking Information (Optional)	103

About This Guide

What Is in This Guide 2

System Requirements 3

CD-ROM Contents 4

Decision Support Conversions 4

Document Conventions 4

Routing Maintenance (Main Screen)

Routing Code:	10-15000	OPERATION: 20	DESCRIPTION: INSPEC PER PROC-005
Standard Operation:	10:30	Work Center:	INSPECTION, ALL SITES
Machines per Op:	1	Queue Time:	1.0
Overlap Units:	1	Wait Time:	0.0
Setup Time:	0.0		

Routing Code: 10-15000
Operation: 20
Description: INSPEC PER PROC-005
Machines per Op: 1
Queue Time: 1.0
Wait Time: 0.0
Setup Time: 0.0

What Is in This Guide

Use this guide to install your release of Decision Support (DS) Version 3.2 on Intel-based and Digital Alpha Windows NT systems. DS consists of the DS engine as well as graphical user interface (GUI) and character user interface (CHUI) clients.

Use the instructions in this guide to:

- Install the DS engine
- Install DS clients
- Install the DS online help
- Install DS libraries
- Install DS documentation

Audience

These instructions are for the MFG/PRO system administrator who manages the MFG/PRO database and is familiar with the Windows NT operating system, PROGRESS software, networking, and either ORACLE or PROGRESS databases.

Installation Errata

In addition to these instructions, you may receive a supplementary errata sheet with changes and additional instructions. Check your product package. Also check the QAD website.

QAD Web Site

For QAD customers with a Web account, MFG/PRO documentation is available for review or downloading at:

<http://support.qad.com/documentation/>

To obtain a QAD Web account, go to:

<http://support.qad.com/>

System Requirements

Database Server

- Operating System: Windows NT Server 4.0.
- PROGRESS Software: Version 8.2 server is required. You need to know the path to the installation directory for the DS installation program.

If you are implementing DS GUI clients, configure DS to use the PROGRESS AppServer to optimize performance. For this configuration, the PROGRESS AppServer 8.2B or higher must be installed on the same server as the DS engine.

♦ See “DS with the AppServer” on page 9.

- Disk Space: The database server should have approximately 100 MB of space available for the DS databases.

ORACLE

For ORACLE installations, the PROGRESS ORACLE DataServer must be installed.

MFG/PRO

MFG/PRO 8.4 or higher must be already installed and configured.

Windows Clients

- Operating System: Windows 95B or higher, Windows 98, Windows NT 4.0 or higher.
- Disk Space: Approximately 10 MB of available space.
- PROGRESS Software: Local PROGRESS Query installation.

Note For DS GUI clients to function correctly, PROGRESS Query must be installed locally. Do not attempt to run the PROGRESS software from a remote machine.

CD-ROM Contents

The DS engine and client CD-ROMs contain a `cdrom` directory. The following sections briefly describe the contents of this directory.

Decision Support Engine CD-ROM

- Installation script (`install`)
- Supporting files (`mfgds.ini` and `ds32cx.cpio`)
- Subdirectories (`lib` and `bin`)

Decision Support Client CD-ROM

- Installation script (`install`)
- Supporting files (`dscli.ini` and `cli32cx.cpio`)
- Subdirectories (`lib` and `bin`)

Decision Support Conversions

Programs for converting Decision Support Versions 2.08 and 3.1 to the current release are included in the Decision Support engine installation.

▶ See Chapter 6, “Converting an Existing DS Database,” on page 101.

Document Conventions

This guide uses the conventions listed in the following table.

If you see...	It means...
<code>monospaced text</code>	A command or file name.
<i>italicized monospaced text</i>	A variable name for a value you enter as part of an operating system command; for example, <i>CDROMDir</i> .
indented command line	A long command that you enter as one line although it appears in the text as two lines.

CHAPTER 1

Installation Overview

This chapter presents basic topics that you should understand before beginning a Decision Support (DS) installation or conversion.

Decision Support Databases 6

Decision Support Architecture 6

Deploying Decision Support 8

Preliminary Setup 11



Routing Maintenance (Main Screen)

Routing Code:	10-15000	NONAD (75) CDR IN
Operation:	20	
Standard Operation		
Work Center	1030	INSPECTION, ALL SITE
Machine		
Description	INSPEC PER PROX-005	
Machines per Op	1	Milestone
Overlap Units	1	
Queue Time	1.0	
Wait Time	0.0	
Setup Time	0.0	

Route by Production Route

Decision Support Databases

Before you create the DS database, the installation script first creates a set of empty and initialized databases upon which the DS database is based. You should make a backup of these databases in case you need to restore the system. Table 1.1 lists the databases created during the DS engine installation.

Table 1.1
Decision Support
Databases

Database	Description
dsemptry	Empty Decision Support database, with standard database schema, but no data. Used as base for all other Decision Support databases.
ds	Initialized Decision Support database. Includes Decision Support menus, messages, and other default data.

Warning Do not use these databases directly. Always use copies as the working DS databases.

The DS database contains the following disk files.

- A database file (extension .db)
- A before-image file (extension .bi)
- A database log file (extension .lg)

For example, a database called mfgds includes: mfgds.db, mfgds.bi, and mfgds.lg. Be sure to include all of the database files whenever you move, back up, or restore a database.

Decision Support Architecture

The DS engine and database are deployed on a Windows NT server and the DS clients can be deployed on Windows 95, 98, and NT machines.

The system supports all PROGRESS versions 8.2 and higher. You can implement both character user interface (CHUI) and graphical user interface (GUI) clients in the same DS environment.

DS supports GUI client deployment using the PROGRESS AppServer. The AppServer lets client applications request server processing, reducing the number of records carried over the network. This results in dramatic performance benefits across both local-area networks (LANs) and wide-area networks (WANs). Operations that require intensive processing—such as shuffles and filters—also perform faster when using the PROGRESS AppServer.

The DS architecture includes a *DS Services* layer that lets DS GUI clients operate both with and without the AppServer. The DS Services layer is installed on both the DS client and server to enable both client side (local) and server side (AppServer) processing.

- When the AppServer is present, the DS GUI client uses the DS Services layer on the server to access the AppServer and perform processing on the server.
- When the AppServer is not present, the DS GUI client uses the DS Services layer on the client to access the DS database directly.

Figure 1.1 illustrates how data moves from the DS database to the DS GUI client via the DS Services layer both with and without the AppServer present.

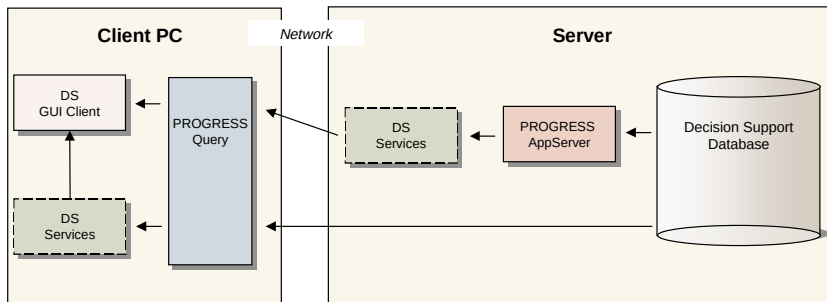


Fig. 1.1
DS Services Layer
Architecture

Note The DS Services layer is only used by GUI clients. The DS CHUI client does not use DS Services.

Deploying Decision Support

When deploying DS in your environment, you should consider the following issues.

- Whether to install the DS engine and database on the MFG/PRO server
- Whether to implement the AppServer

Deploying the DS Engine and Database

Depending on your network infrastructure, the number of PROGRESS licenses, and expected user loads, you may want to deploy the DS engine and database on the same or on a different server than the MFG/PRO databases.

Single Server Installation

Installing the DS engine and database on the same server as the MFG/PRO databases offers the following advantages.

- Quicker updates. Because the MFG/PRO databases from which the DS database gets its data are on the same machine, no records are transmitted over the network making updates substantially faster.
- Reduced PROGRESS license requirements. Because DS is a module of MFG/PRO, you can use the same PROGRESS licenses for both MFG/PRO and DS.

A single server installation is recommended for most environments. However, when multiple DS and MFG/PRO sessions are run simultaneously against a single server, system performance can suffer for both applications. If a heavy DS user load is expected, you may want to consider a multiple server installation.

Multiple Server Installation

Installing the DS engine and database on a separate server from the MFG/PRO databases offers the following advantages.

- Separate resources for each application. DS and MFG/PRO users do not share a single server and will not affect each other.
- Separate reporting and operational systems. Because of administration and security concerns, you may want keep the reporting system (DS) separate from the operational system (MFG/PRO).

A multiple server installation requires a better network infrastructure, since the DS update process must move numerous MFG/PRO database records across the network. Also, extra PROGRESS licenses are required for the DS engine and database server.

Deploying the PROGRESS AppServer

Depending on your PROGRESS version and whether you are implementing DS GUI clients, you may want to implement DS with or without the PROGRESS AppServer.

DS Without the AppServer

If you are not implementing GUI DS clients or you are installing DS in a pre-PROGRESS 8.2 environment, install and configure DS without the PROGRESS AppServer.

DS with the AppServer

QAD recommends configuring DS using the PROGRESS AppServer to optimize performance for DS GUI clients running over both LANs and WANs. Your environment must use PROGRESS Version 8.2 or higher to implement the AppServer.

Installing the AppServer

To achieve optimum performance for DS GUI clients in an AppServer environment, you must install the AppServer on the same machine as the DS engine and database. Having the DS database and AppServer on the same machine reduces the number of records moving across the network.

AppServer Licensing

DS does not require that you have an equal number of AppServer and DataServer licenses. For example, you can combine a five-user AppServer license with a 32-user DataServer license.

DS lets you manage the users and hierarchies that can use AppServer connections to provide enhanced performance. For example, you can configure GUI clients accessing the DS server over a WAN to use AppServer connections. Similarly, access to hierarchies with large amounts of data can be configured to use AppServer connections.

To configure AppServer connections for users and hierarchies, use the DS engine application. For detailed instructions, see the System Administration section of the Decision Support Engine chapter in the *QAD Decision Support User Guide*.

Implementing the AppServer

The following list is a summary of the tasks required to configure DS to use the AppServer. Instructions to complete most of these tasks are included in this guide. However, the last two tasks are performed in the DS engine application and are explained in the *QAD Decision Support User Guide*.

- Set up an AppServer instance on the machine where you will install the DS engine. To set up an AppServer instance, use the instructions in the PROGRESS AppServer documentation.
- Install the DS engine. During the installation, take note of the service name you specify for the PROGRESS AppServer. The default is dsappserv.
- Register the WAN product in the DS engine registration screen.
- Modify the services file on the DS engine server and DS clients to include the AppServer service name.

- Start the DS AppServer service on the DS engine server. You can use the PROGRESS ProControl utility to start the AppServer.
- Install the DS clients and configure the GUI client WAN options in the DS client Options menu.
- In a DS engine session, specify the DS clients for which you want to enable AppServer connections. For complete instructions, see the *QAD Decision Support Users Guide*.
- In a DS engine session, specify the hierarchies for which you want to enable AppServer connections. For complete instructions, see the *QAD Decision Support Users Guide*.

Preliminary Setup

Use these steps to prepare for the DS installation.

- 1 If you are planning to use the PROGRESS AppServer, install it using the PROGRESS documentation.
- 2 Determine the following information.
 - a The DS engine and client installation directories. Be sure you have full read, write, and execute permissions for these directories.
 - b Location of the PROGRESS installation directory.
- 3 Locate the registration codes for the DS engine and, if necessary, PROGRESS AppServer (WAN) products. The DS registration codes are shipped with your product package.
- 4 Make sure the server for a main MFG/PRO database—such as production, training, or demonstration—is started. The DS installation scripts use an MFG/PRO main database to compile the DS engine application code.

Important During the installation, be sure to specify this database when prompted for an MFG/PRO database.

DS Engine Installation for PROGRESS

◆ For ORACLE, see Chapter 3, “DS Engine Installation for ORACLE,” on page 29.

This chapter contains Decision Support (DS) engine installation instructions for PROGRESS database environments.

Install the Decision Support Engine 14

Change the Services File 22

Start the Decision Support Servers 23

Start the Decision Support Engine 26



param91.p 14.13.2 Routing Maintenance (Main Screen)

Routing Code:	10-15000	NONAD(75) CDB INC
Operation:	20	
Standard Operation		
Work Center	1030	INSPECTION, ALL SETS
Machin:		
Description:	INSPEC PER PROG-000	
Machines per Op:	1	Milestone
Overlap Units:	1	
Queue Time:	1.0	
Wait Time:	0.0	
Setup Time:	0.0	
Route by Production	By M/C Prod	

Install the Decision Support Engine

Complete these steps to install the DS engine.

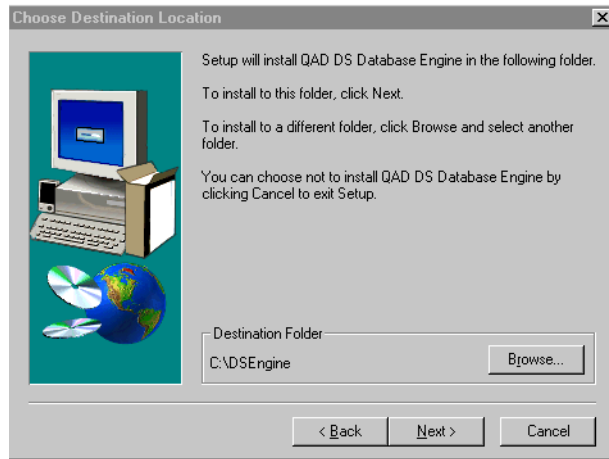
- 1 Insert the Decision Support Engine CD-ROM in the CD-ROM drive.
- 2 From the INTEL\Win Char\Progress directory, run the setup.exe program using the Windows Explorer or the Start menu.

CDROMDrive:\INTEL\Win Char\Progress\setup.exe

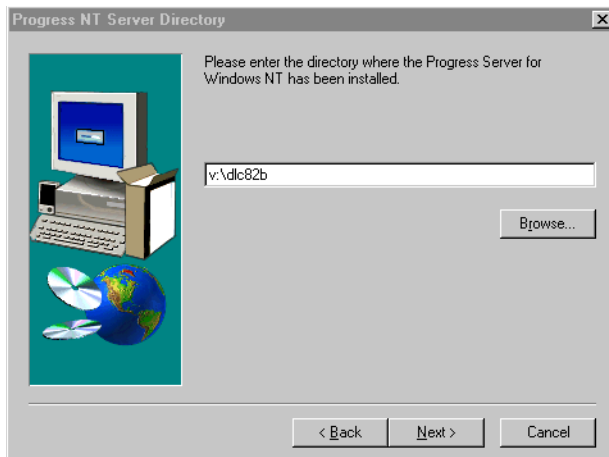
- 3 The following window advises you to quit all other applications before continuing the installation. Do so, then click Next to continue.



- 4 Specify the destination folder for the DS engine files. Generally, this should be a new folder that the setup creates for the installation. You cannot use spaces in the folder name.



- 5 Specify your Windows server's PROGRESS directory in the following window. You can use the Browse button to search for the directory.



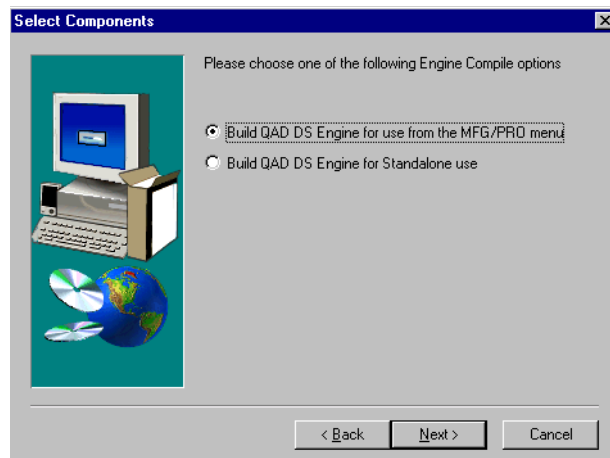
- 6 The following window lets you select whether you want to build the DS engine for use with MFG/PRO or for use as a stand-alone application.

- If you build the DS engine for use with MFG/PRO you can run the DS engine from both the MFG/PRO menu and as a stand-alone application. This option requires that you have MFG/PRO source code available for the installation procedure to use when compiling the DS engine application code.

To compile the DS engine for use with MFG/PRO, click Build QAD DS Engine for use from the MFG/PRO menu. QAD recommends this option to enable the full range of DS functionality and configuration possibilities.

- If you build the DS engine for stand-alone use, you cannot launch the DS engine or its functions from the MFG/PRO menu. This includes the batch update and purge functions, as well as any DS generated reports.

To compile the DS engine for stand-alone use, click Build QAD DS Engine for Standalone use.

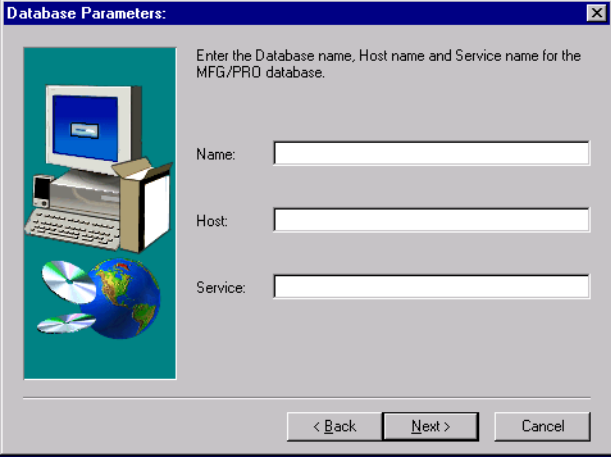


- 7 If you chose the Build QAD DS Engine for use from the MFG/PRO menu option, enter the full path to the directory containing the MFG/PRO source code. You can use the Browse button to select this directory.

Depending on whether you purchased unencrypted MFG/PRO source code, this can either be the `xrc` or `src` subdirectory, below the MFG/PRO language code directory, below the MFG/PRO database server installation directory.



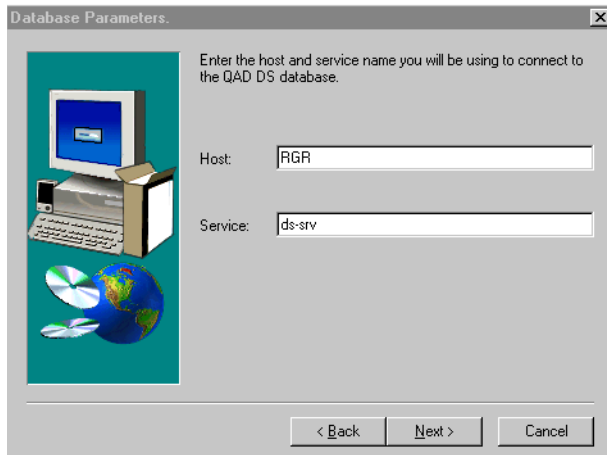
- 8 Complete the Database Parameters window using the following table.



Field	Enter
Name	The physical database name of a main MFG/PRO database. The database server for this database must be started for the DS engine code to compile correctly.
Host	The name of the machine where the MFG/PRO database is located.
Service	The service name of the MFG/PRO database.

- 9 In the Host field, enter the name of the machine where you are installing the DS engine. In the Service field, enter the service name you want to use for the DS database.

Important You must create an entry in the `services` file on both the DS server and client machines that matches the name you specify in the Services field.



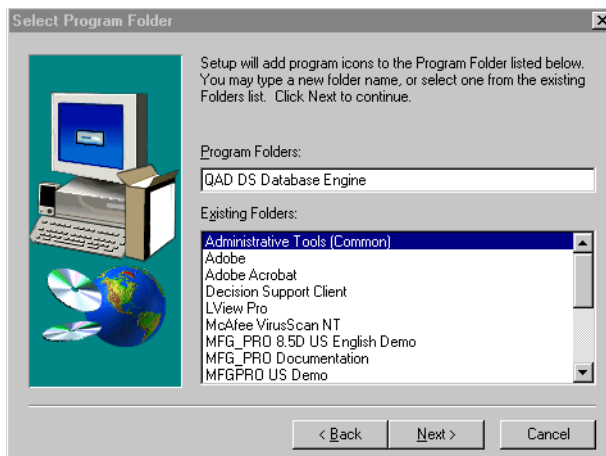
- 10 If you are implementing the PROGRESS AppServer in your DS environment, enter the service name you want to use for the AppServer. If you are not implementing the AppServer, accept the default and click Next to continue.

See “Deploying Decision Support” on page 8.

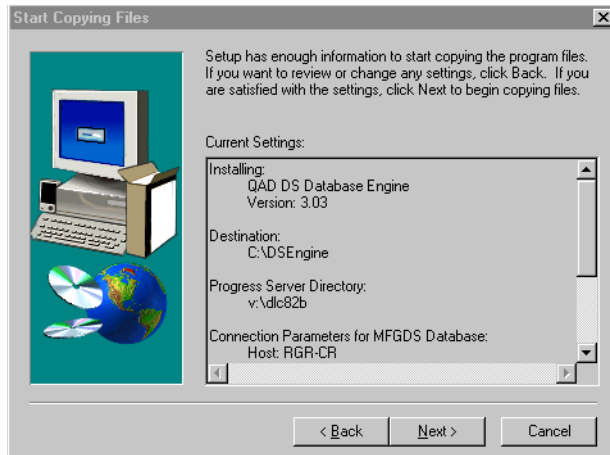
Important If you are implementing the AppServer, you must create an entry in the `services` file on both the DS server and client machines that matches the service name you specify in the Services field.



- 11 Enter the Windows program folder where you want the DS engine icons stored.



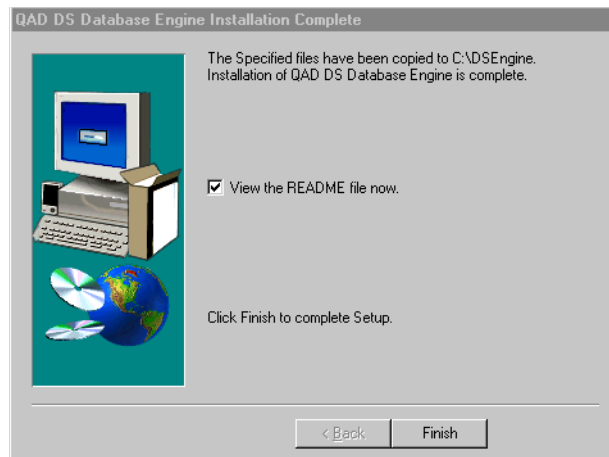
- 12 The next window displays the DS engine environment and prompts you to make last-minute changes. Click Back to make changes to previous screens. Click Next to begin the DS engine installation.



The DS engine installation process loads the DS schema, compiles the DS engine code, and loads the default DS system data.

If errors occur while the DS engine code is compiling, an error dialog displays. Click OK to continue with the installation. When the installation completes, check the `progrerr` file in the `build` subdirectory below the DS engine installation directory to resolve the compile errors.

- 13 When the installation is complete, the DS engine is added to the list of Windows desktop applications. Click the README file box to launch release notes that list changes between DS releases.



- 14 If problems occur during the installation, an error window displays. Review the error log `dssetup.log` located in your working directory. Correct any problems, remove files created during your previous installation, and rerun the installation.

To remove the installation, using the Windows Explorer or the Start menu, select Control Panel\Add/Remove Programs.

Change the Services File

Use the following instructions to modify the `services` file to include entries for your DS servers.

Note The following socket numbers are examples only and may not be available on your system. Be sure to assign available sockets to your DS services.

- 1 Locate your `services` file. Use the instructions appropriate for your operating system.
 - For Windows NT — `c:\winnt\system32\drivers\etc`
 - For Windows 95 or 98 — `c:\windows\system`

If your `services` file is not in one of these directories, use the Find function on your system's Start menu.

- 2 Open the `services` file in a text editor such as Notepad.
- 3 In the `services` file, enter the service name of your DS database. The following example uses the default DS database service name.

```
ds-srv 2500/tcp
```

- 4 If you are using the AppServer in your environment, enter the name of your AppServer service into the `services` file. The default entry for the AppServer is `dsappserv`.

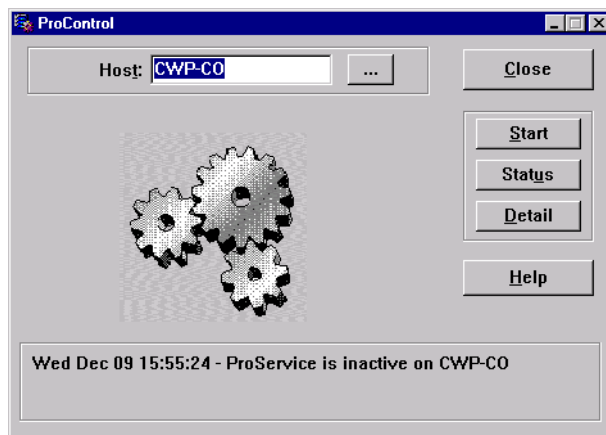
```
dsappserv 2501/tcp
```

Start the Decision Support Servers

Use the following steps to start the DS database server and, if applicable, the DS AppServer.

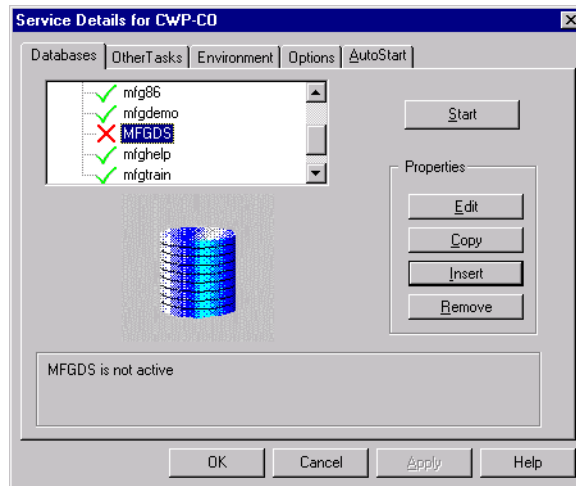
- 1 From your PROGRESS server machine's Start menu, select the PROGRESS programs menu and choose ProControl.

Note If you have more than one version of PROGRESS installed, use the version that you used when installing DS.



- 2 A display at the bottom of the window indicates whether ProControl is active or inactive. Click Start to activate ProControl.

- 3 Click Detail. An entry for your DS database is listed. The database is inactive, represented by a red X.

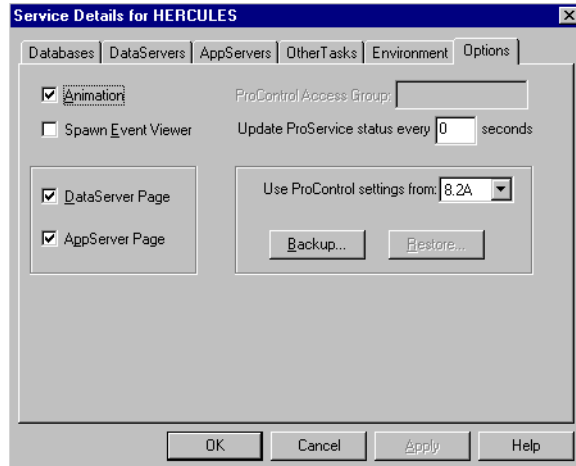


- 4 To activate the DS database, highlight it and click Start.

Note If you receive the error message cannot find (.lk) file, check the services file for the DS entries.

- 5 ProControl indicates that the database is active by displaying a green check.
- 6 If you have not done so already, set ProControl to activate automatically. In turn, this starts the DS database server.
 - a From your machine's Start menu, select Settings|Control Panel.
 - b Double-click Services, highlight the ProService entry, and choose Startup.
 - c In the Startup Type frame of the Service window, choose Automatic and click OK. ProControl activates automatically during your next system startup.
 - d Alternatively, if you want to start only the DS database server, use the Start DS Database Server shortcut on the Windows Start menu. Double-clicking this shortcut starts the DS database server.

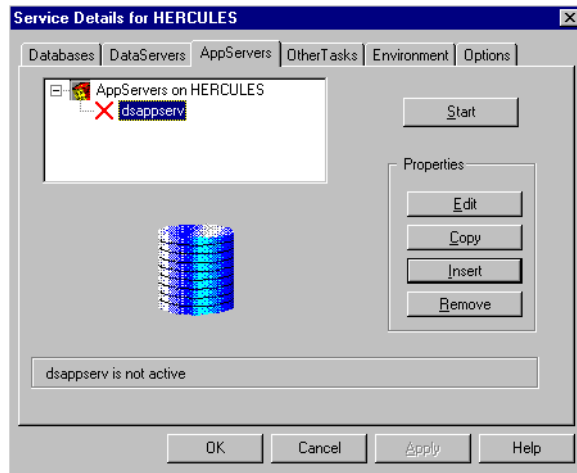
- 7 If you are implementing the AppServer in your DS environment, complete the following instructions to start the DS AppServer.
- a If you do not see an AppServer tab among the other tabs in ProControl Details window, click the Options tab and click the AppServer Page option.



- b When ready, click OK.
- c In the ProControl main window, click Detail. The AppServers tab displays in the Service Details window.

- d Click the AppServers tab and start the DS AppServer service by clicking the start button.

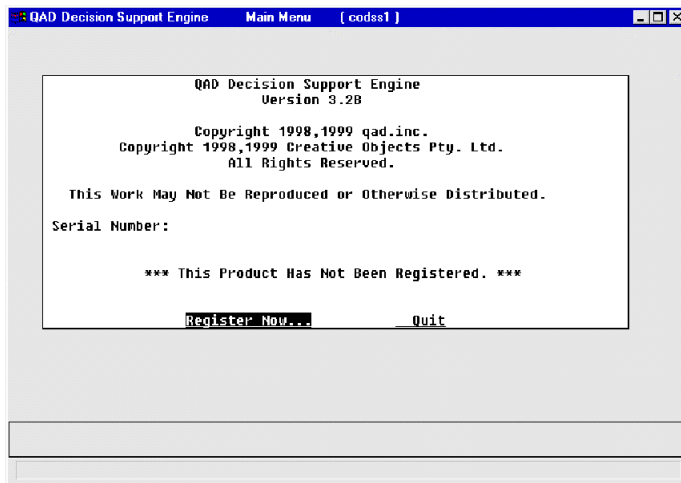
Note To start the AppServer automatically when you start the machine, click the Edit button and select Autostart.



Start the Decision Support Engine

Use the following instructions to start the DS engine for the first time and register the product.

- 1 With your DS database server running, select Start|Programs|QAD DS Database Engine. The following registration window displays.



- 2 Select Register Now and enter the MFG/PRO DSS serial number included with your DS software.

A screenshot of a registration form. It has a white background with a black border. The form contains the following labels and input fields: "Product:" with the text "MFG/PRO DSS" entered; "Description:" with an empty line; "Date Installed:" with an empty line; "Serial Number" with a line containing five underscores. At the bottom of the form are two buttons: "Register Now..." and "Quit".

- 3 If you are implementing the AppServer, select Register Now. Enter WAN in the Product field and the serial number included with your DS software.

- 4 A confirmation box displays including the type of license you have received. Press Enter.

Note If the license information is incorrect, contact your local QAD support center.

- 5 A second confirmation box prompts you to confirm this entry. Press Enter.
- 6 Log into the DS engine using admin for the user ID and password.
- 7 To change the administrator password, select the Configure menu and choose Setup Users. Highlight the record with application MFG/PRO DSS and User ID ADMIN and choose change. Enter your new password.
- 8 To add users for other DS applications, click ADD and enter the appropriate application code.
 - DSS Client — CHUI version of the DS client
 - QAD DSS Windows Client — GUI version of the DS client
 - MFG/PRO DSS — The DS engine

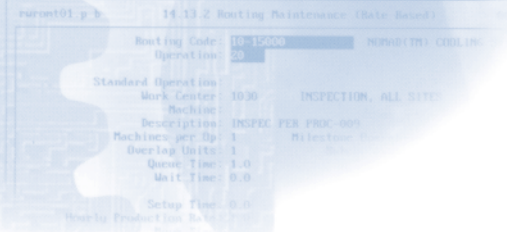
Note If you plan to install any of these clients, add user IDs for them now. Make note of the user IDs for use during client installation.

DS Engine Installation for ORACLE

◆ For
PROGRESS,
see Chapter 2,
“DS Engine
Installation for
PROGRESS,”
on page 13.

This chapter contains Decision Support (DS) engine installation instructions for ORACLE database environments.

<i>Installation Summary</i>	30
<i>Load the DS Engine Installation Files</i>	33
<i>Set Up the DS ORACLE Tablespace</i>	35
<i>Set Up Networking</i>	40
<i>Run the DS Engine Setup</i>	42
<i>Set Up the Decision Support Servers</i>	54
<i>Set Up the Services File</i>	60
<i>Start the Decision Support Engine</i>	63



Installation Summary

The following major tasks are required to set up the DS ORACLE tablespace and install the DS engine:

- Load the DS engine installation files.
- Set up the DS ORACLE tablespace.
- Set up the appropriate networking for the DS tablespace.
- Run the DS engine setup.
- Set up the DS servers.
- Set up the services file.
- Start and register the DS engine.

Deployment Options

You can deploy the DS engine in different configurations to fit your needs. The configuration you choose to implement affects the steps you must perform. This section provides brief descriptions of the DS configuration options. Review this section and determine how you will configure your DS environment before you begin the installation.

Networking

You must determine which type of networking you will use to enable communication between the PROGRESS DS schema holder and the ORACLE DS tablespace. In general, you can use either of the following networking options:

- ORACLE networking with SQL*Net. This option uses an ORACLE listener service and `tnsnames.ora` file to enable communication between the DS schema holder and tablespace. To set up this option, you must modify the `tnsnames.ora` file with an entry for the DS tablespace.
- PROGRESS networking with the DataServer for Oracle. This option uses a PROGRESS DataServer for Oracle executable to enable communication between the DS schema holder and tablespace. To set up this option, you must configure a DataServer executable for DS.

At this point, you should simply select the networking option for your environment. During the installation process, use the appropriate instructions in “Set Up Networking” on page 40 to set up your environment.

AppServer

You can choose to deploy DS with or without the PROGRESS AppServer. During the DS engine setup, you are prompted for the service name of the AppServer instance broker. Your response depends on whether you choose to deploy DS with the AppServer.

▶ See “Deploying the PROGRESS AppServer” on page 9.

- If you do not want to deploy DS with the AppServer, you do not need to perform any additional steps. When prompted for the AppServer service name, you can accept the default or leave the field blank.
- If you want to deploy DS with the AppServer, you must perform the following steps:
 - Before you begin the DS engine installation, create an AppServer instance for DS. This guide does not include instructions for setting up an AppServer instance. For instructions, see the PROGRESS AppServer documentation.
 - When prompted for the AppServer service name during the DS engine setup, enter the same service name for the AppServer broker. By default, DS uses `dsappserv` as the service name for the AppServer instance broker.
 - After completing the DS engine setup, configure the AppServer instance as a registered Windows NT service using the PROGRESS ProControl utility.
 - Specify the service name and port number for the AppServer instance broker in the `services` files on the DS engine and client machines.

▶ See “Run the DS Engine Setup” on page 42.

▶ See “Set Up the AppServer” on page 59.

▶ See “Add the AppServer” on page 62.

DS Application Mode

You can choose to deploy DS for stand-alone use or for use from within an MFG/PRO menu.

- If you deploy the DS engine for use from within MFG/PRO, you can run the DS engine from both the MFG/PRO menu and as a stand-alone application. QAD recommends this option to enable the full range of DS functionality and configuration possibilities.

This option requires that you have MFG/PRO source code available, which the DS engine setup uses to compile the DS engine code.

- If you deploy the DS engine for stand-alone use, you cannot launch the DS engine or its functions from the MFG/PRO menu. This includes the batch update and purge functions, as well as any DS generated reports.

Preliminary Setup

Complete the following tasks before you begin installing the DS engine:

- Make sure that your environment meets the requirements in the “System Requirements” section on page 3.
- If you plan to deploy DS with the AppServer, create a DS AppServer instance.
- Make sure that the PROGRESS 8.2B or higher DataServer for ORACLE 7.x is installed and configured.
- The DS engine installation creates a DS32C tablespace. If there is no directory specified, the installation defaults to the `c:\winnt\system32\` directory. If you plan to use this default, verify that a DS32C file does not already exist in this directory.

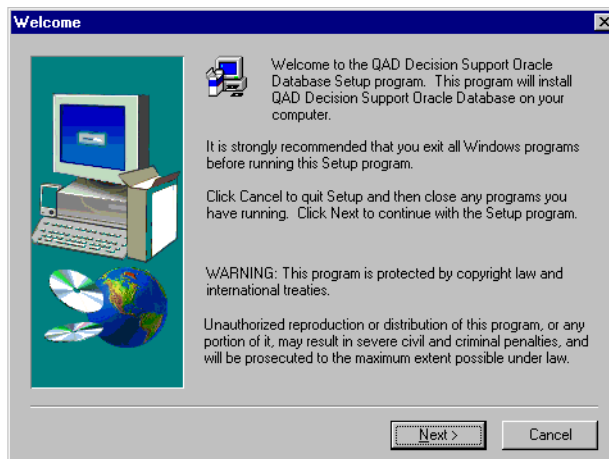
Load the DS Engine Installation Files

Use the following instructions to load the dsorainst installation directory onto your system. This directory contains an `install` subdirectory and the `ds_ora.sql` file.

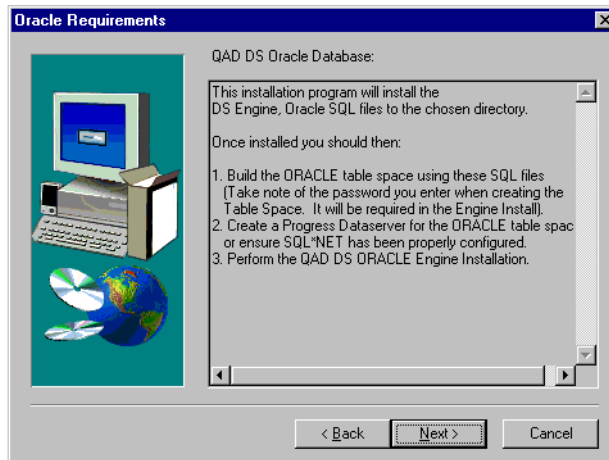
- 1 Insert the Decision Support Engine CD-ROM in the CD-ROM drive.
- 2 From the CD-ROM drive, run `setup.exe` using the Windows Explorer or the Start menu.

CDROMDrive:\setup.exe

- 3 At the Welcome window, click Next to continue.

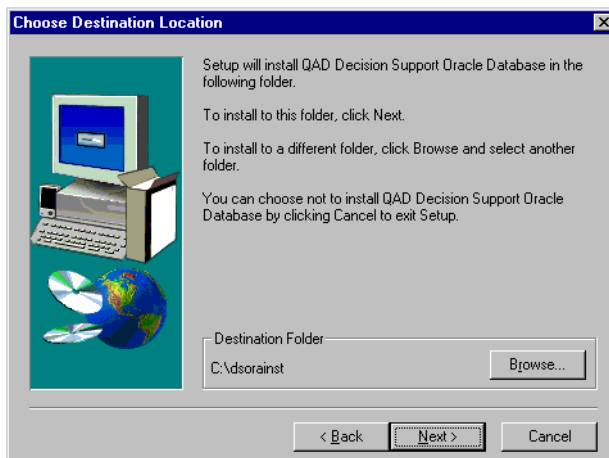


- 4 Review the following window for an overview of the installation procedure and click Next to continue.

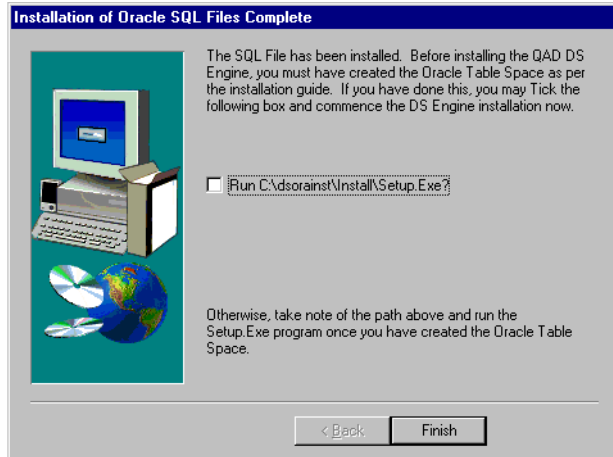


- 5 Specify the directory where you want the DS engine installation files copied.

These instructions use the default directory, `dsorainst`, and use *InstallDir* to refer to the path to this directory.



- 6 In the Installation Complete window, ensure that the Run *InstallDir\dsorainst\Install\Setup.Exe* option is not selected. Then click Finish.



Set Up the DS ORACLE Tablespace

Use the following instructions to create the DS ORACLE tablespace by:

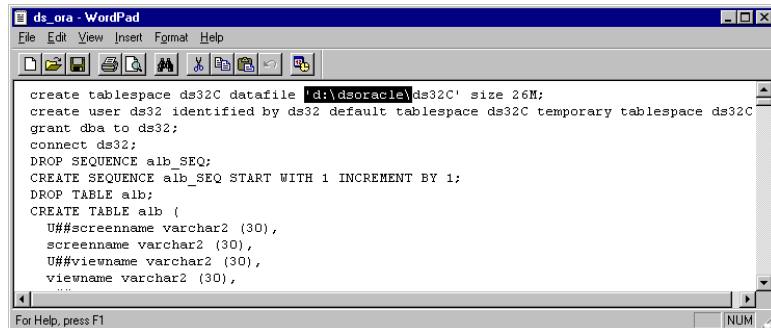
- Modifying the DS structured query language (SQL) file for your environment
- Running the DS SQL file to create the DS tablespace
- Changing the open cursors setting for the DS tablespace

Modifying the DS SQL File

- 1 Create a directory for the new DS ORACLE tablespace; for example, `d:\dsoracle`.
- 2 From the *InstallDir\dsorainst* directory, open the `ds_ora.sql` file in a text editor such as WordPad.

◆ See step 5 on page 34.

- 3 In the first line of the file, add the path and name of the directory you created in step 1 before the ds32C tablespace. Use the following figure as a guide.

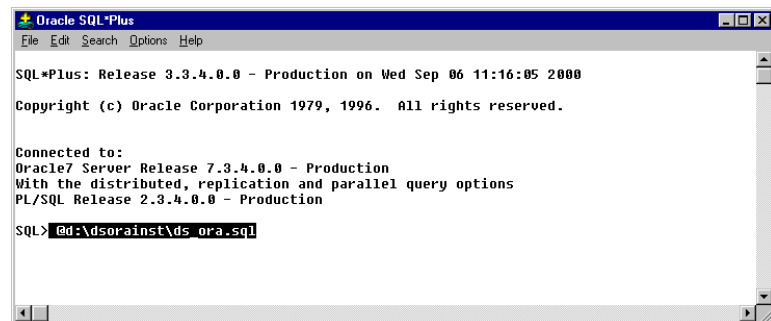


- 4 Save your changes and exit the text editor.

Running the DS SQL File

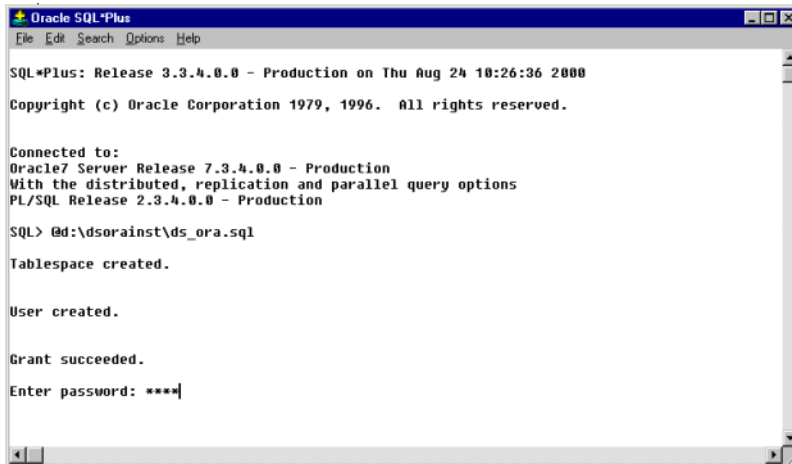
- 1 From the Windows Start button, select Programs and launch SQL Plus from the Oracle for Windows NT program folder.
- 2 Log in using your database administrator (DBA) user name and password.
- 3 At the SQL prompt, enter the path and name of the ds_ora.sql file. Use the following example and figure as guides

@d:\dsorainst\ds_ora.sql



The DS SQL file creates a ds32C tablespace and a ds32 user. The ds32 user is created with DBA privileges.

- 4 When you are prompted to enter a password for the ds32 user, enter ds32.



```

Oracle SQL*Plus
File Edit Search Options Help

SQL*Plus: Release 3.3.4.0.0 - Production on Thu Aug 24 10:26:36 2000
Copyright (c) Oracle Corporation 1979, 1996. All rights reserved.

Connected to:
Oracle7 Server Release 7.3.4.0.0 - Production
With the distributed, replication and parallel query options
PL/SQL Release 2.3.4.0.0 - Production

SQL> @d:\dsorainst\ds_ora.sql

Tablespace created.

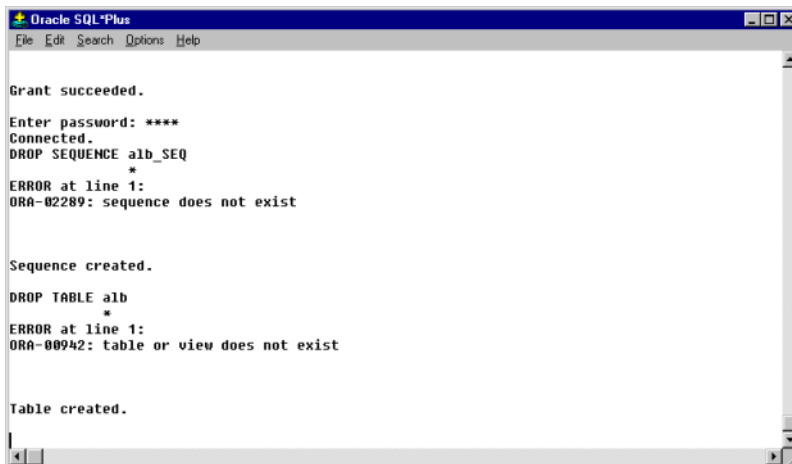
User created.

Grant succeeded.

Enter password: ****

```

- 5 While the SQL script creates the DS ORACLE tablespace, error messages—like the ones in the following figure—display. You can safely ignore these errors.



```

Oracle SQL*Plus
File Edit Search Options Help

Grant succeeded.

Enter password: ****
Connected.
DROP SEQUENCE alb_SEQ
*
ERROR at line 1:
ORA-02289: sequence does not exist

Sequence created.

DROP TABLE alb
*
ERROR at line 1:
ORA-00942: table or view does not exist

Table created.

```

- 6 When the script is finished, enter exit.

Changing the DS Tablespace Open Cursors Setting

Use the following instructions to change the open cursors setting for the DS tablespace by:

- Changing the setting in the ORACLE initialization file
- Changing the setting in the ORACLE Instance Manager

Changing the Initialization File

- 1 Access the ORACLE home directory. This is the directory where the ORACLE software is installed.
- 2 In the ORACLE home directory, access the database subdirectory.
- 3 In the database subdirectory, locate the initialization file for the DS tablespace. This file uses the following naming convention:

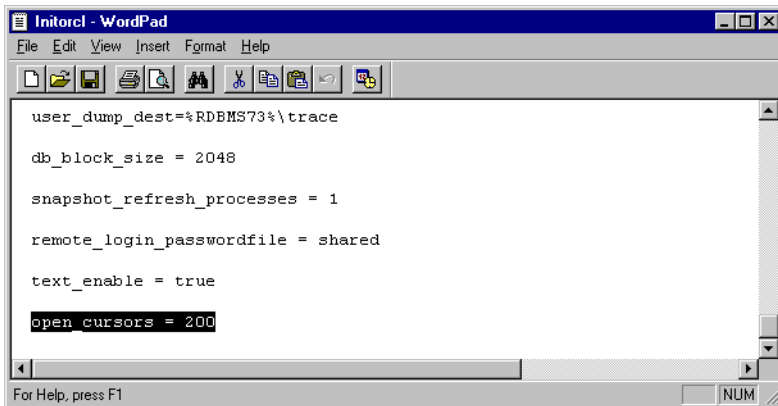
`initORACLESID.ora`

ORACLESID refers to ORACLE SID for the DS tablespace. By default, the `ds_ora.sql` file creates the DS tablespace with `ORCL` as the SID. If you followed these instructions, you should locate the `initORCL.ora` file.

Note If you changed the default ORACLE SID for the DS tablespace in the `ds_ora.sql` file, locate the `initYourOracleSID.ora` file.

- 4 Open the init file in a text editor such as WordPad.
- 5 At the bottom of the file, add the following entry:
`open_cursors =`

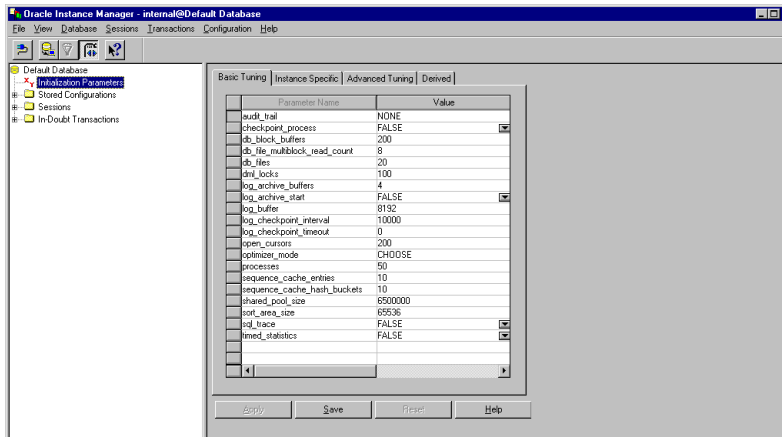
- 6 Set the open cursors value to greater than 100. Use the following example as a guide.



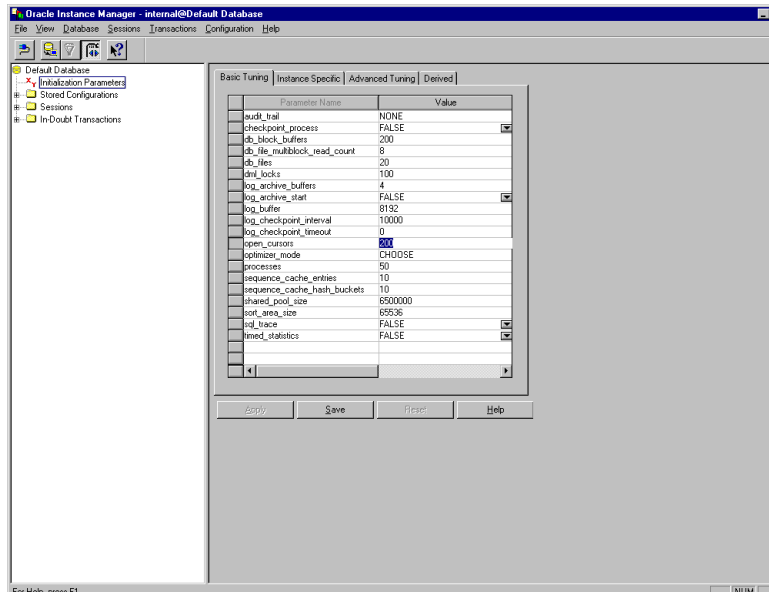
- 7 Save your changes and exit the text editor.

Changing the Instance Manager

- 1 From the Windows Start button, access Programs|Oracle Enterprise Manager|Instance Manager.
- 2 Log in using your internal user name and password.
- 3 In the left pane of the Oracle Instance Manager window, select Initialization Parameters from the Default Database folder.



- 4 In the right pane, click the Basic Tuning tab and select `open_cursors`.
- 5 Set the `open_cursors` value to greater than 100 and click Apply.



Set Up Networking

See “Networking” on page 30.

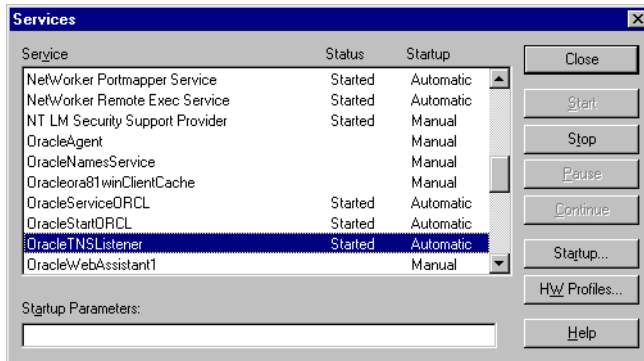
Depending on the type of networking you want to implement, use the appropriate instructions to set up your environment.

Setting Up ORACLE Networking

Complete the following instructions to set up ORACLE networking using SQL*Net. For more information, see the ORACLE SQL*Net documentation.

- 1 Use the following steps to verify that the ORACLE listener is running:
 - a From the Windows Start button, access Settings|Control Panel.
 - b In the Control Panel window, double-click Services.

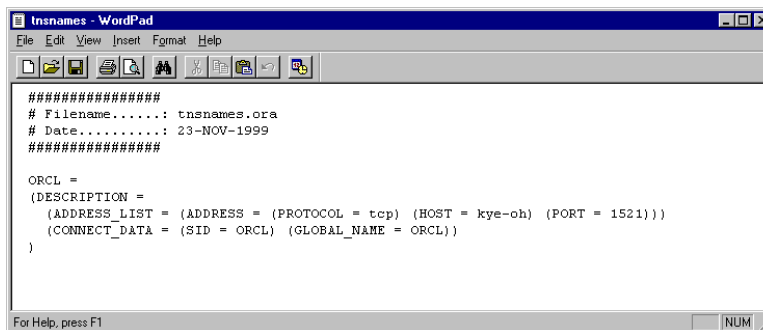
- c In the Services window, verify that the OracleTNSListener service is active.



- d If the status of the listener is not Started, select it and click the Startup button.

- 2 Add an entry for the DS tablespace to the `tnsnames.ora` file on the DS engine and client machines. This entry must include the ORACLE SID for the DS tablespace; by default, this is ORCL. Use the following example as a guide.

See step 3 on page 38.



Setting Up PROGRESS Networking

Complete the following instructions to set up PROGRESS networking using a PROGRESS DataServer for Oracle broker.

- 1 Start the DataServer broker using the following command. This command uses the variables in Table 3.1.

```
PROGRESS\bin\_probrkr -S Service Name -H Host Name -N TCP
```

Table 3.1
DataServer Broker
Variables

Variable	Description
<i>PROGRESS</i>	The directory where the PROGRESS software is installed.
<i>Service Name</i>	The service name that you want to use for the DS DataServer broker.
<i>Host Name</i>	The name of the machine where the DS DataServer broker is running.

- 2 Record the service name and host machine of the PROGRESS DataServer broker. You will need this information to:
 - Complete the prompts in the DS engine setup.
 - Set up the DataServer broker as a Windows NT registered service in ProControl.
 - Set up the services files on the DS engine and client machines.

Run the DS Engine Setup

Complete the following instructions to run the DS engine setup.

Preliminary Information

Before running the setup process, you should gather the following information:

- The directory containing the PROGRESS software.
- Depending on the type of networking you are using, gather the following information:
 - For PROGRESS networking, the service and host names for the DataServer broker you set up. See “Setting Up PROGRESS Networking” on page 42.

- For ORACLE networking, the user name and password for the DS tablespace; by default, these are ds32. You also need the ORACLE SID for the DS tablespace; by default, this is ORCL. See “Set Up the DS ORACLE Tablespace” on page 35.
- If you are building the DS engine for use from the MFG/PRO menu, you must supply the full path to the directory containing the MFG/PRO source code. This can be either encrypted or unencrypted source code. See “DS Application Mode” on page 32.
- The connection parameters for the MFG/PRO schema holder database, including the database, service, and host names. You must also decide how you want to connect to this database: single user or multiple user.

Important A server for the MFG/PRO schema holder database must be running for the DS setup to compile the DS code correctly.

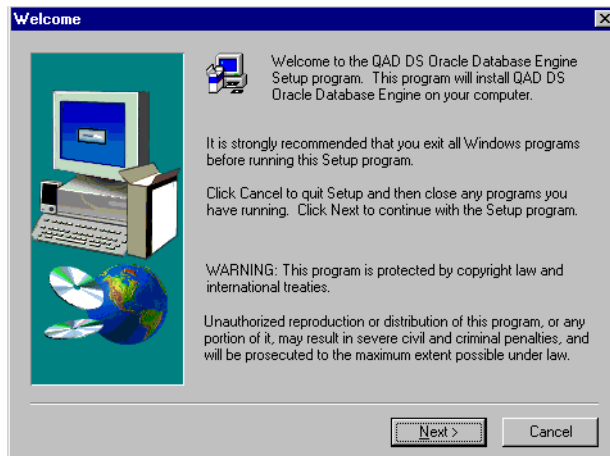
- The connection parameters you want to use for the DS schema holder database, including the database, service, and host names.
- If you are deploying DS with the AppServer, the service name for the AppServer instance broker. See “AppServer” on page 31.

Running the Setup

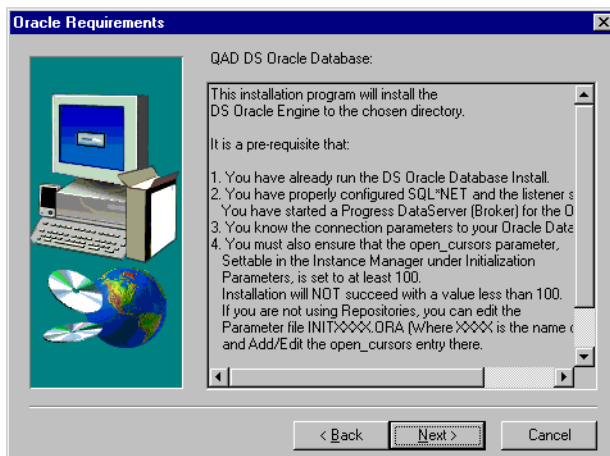
Use the following instructions to run the DS engine setup.

- 1 Access the *InstallDir\dsorainst\install* subdirectory and launch *setup.exe*.

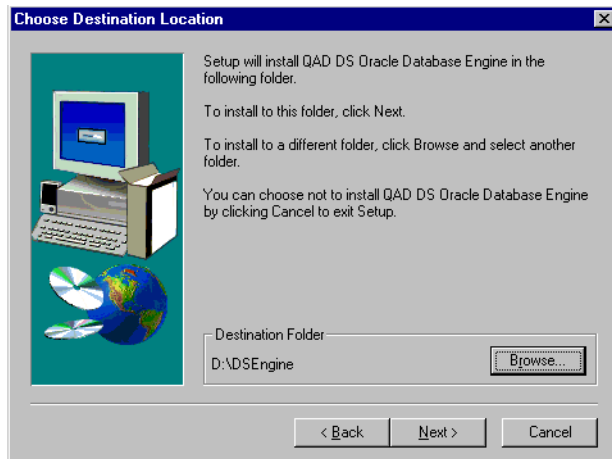
- 2 At the Welcome window, click Next to continue.



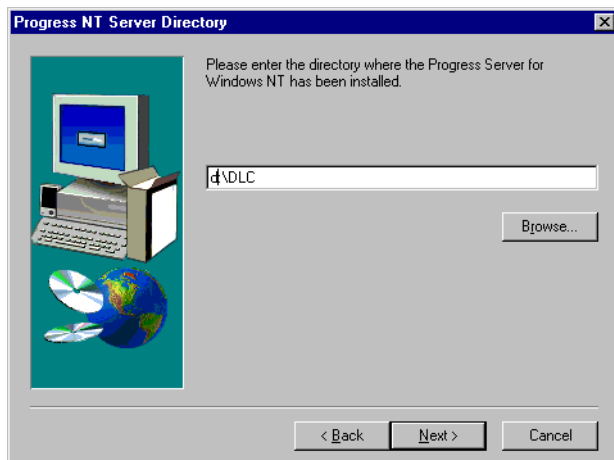
- 3 Review the Oracle Requirements window and verify that you have completed each of the requirements. When ready, click Next to continue.



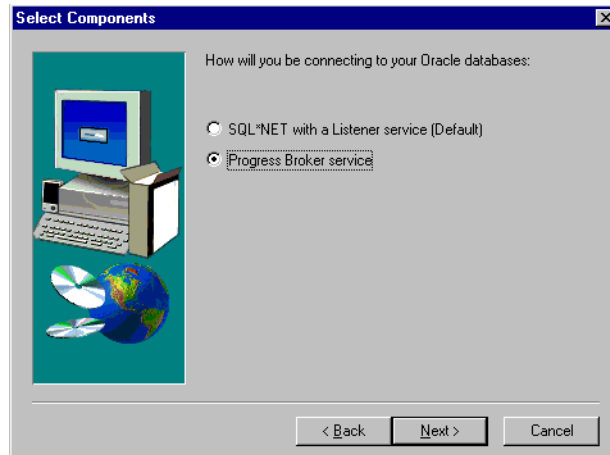
- 4 Specify the directory where you want to install the DS engine files and click Next.



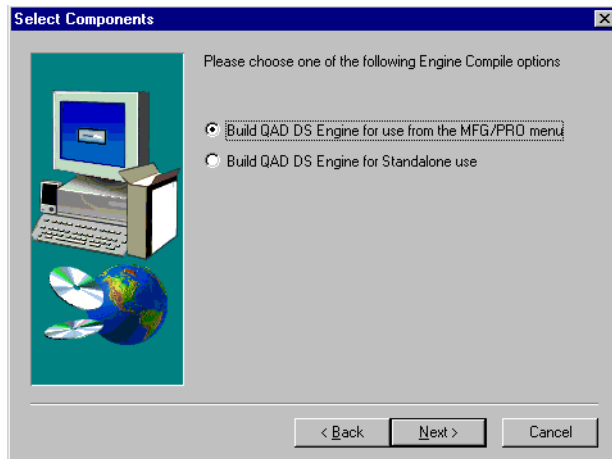
- 5 Specify the path to the directory containing the PROGRESS software and click Next.



- 6 Specify the type of networking you want to use for communication between the DS schema holder and the DS tablespace. When ready, click Next to continue.
- For ORACLE networking, select SQL*Net.
 - For PROGRESS networking, select Progress Broker service.



- 7 Specify whether you want to build the DS engine for use with MFG/PRO or as a stand-alone application. When ready, click Next to continue.
- To compile the DS engine for use with MFG/PRO, select Build QAD DS Engine for use from the MFG/PRO menu.
 - To compile the DS engine for stand-alone use, select Build QAD DS Engine for Standalone use.

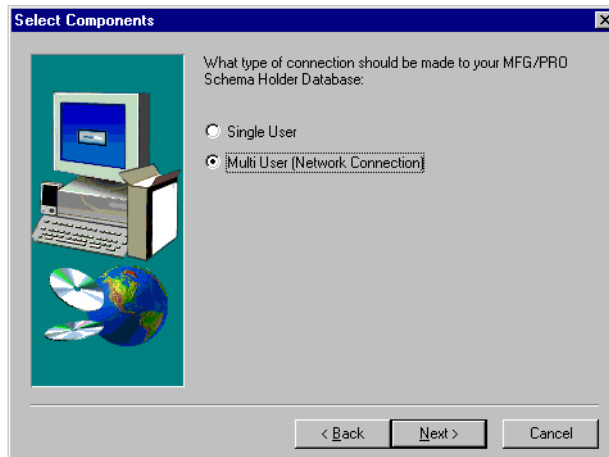


- 8 If you chose Build QAD DS Engine for use from the MFG/PRO menu, specify the full path to the directory containing the MFG/PRO source code. When ready, click Next to continue.

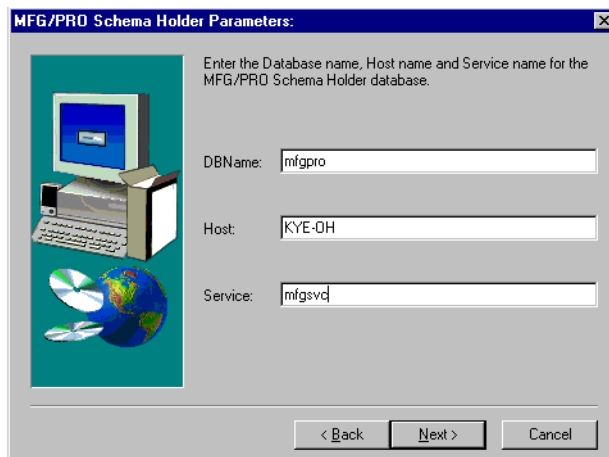
Depending on whether you purchased unencrypted MFG/PRO source code, this can either be the `xrc` or `src` subdirectory, below the MFG/PRO language code directory, which is below the MFG/PRO database server installation directory.



- 9 Specify the type of connection—single or multi-user—that you want to use to connect to the MFG/PRO schema holder database. When ready, click Next to continue.



- 10 Specify the connection parameters for the MFG/PRO schema holder database. Use the following table as a guide. When ready, click Next to continue.



Field	Enter
DBName	The physical database name of the MFG/PRO schema holder
Host	The name of the machine where the MFG/PRO schema holder is located
Service	The service name for the MFG/PRO schema holder

The DS engine setup attempts to connect to the MFG/PRO schema holder using the parameters you supplied. If the setup process is unable to connect to the database, verify that a server is started for the database before attempting the connection again.

- 11 Specify the connection parameters you want to use for the DS schema holder database. Use the following table as a guide. When ready, click Next to continue.

Field	Enter
DBName	The physical database name you want to use for the DS schema holder. The setup process creates a schema holder database with the name you specify in the DS engine installation directory (see step 4 on page 45).
Host	The name of the machine where the DS schema holder will be located.
Service	The service name you want to use for the DS schema holder. Note The service name you specify in this window must match the one in the <code>services</code> file on the DS client machines. See “Add the PROGRESS Networking Servers” on page 60.

- 12** Complete the appropriate instructions for the type of networking you selected in step 6.

For PROGRESS networking, complete the following steps:

- a** Specify the connection parameters for the PROGRESS DataServer you set up in “Setting Up PROGRESS Networking” on page 42. Use the following table as a guide. When ready, click Next to continue.

Field	Enter
Host	The name of the machine where the DataServer broker is running
Service	The service name you specified for the DataServer broker
Protocol	TCP

- b Enter the user and password for the DS tablespace. By default, these are both ds32.

For ORACLE networking, specify the SQL*Net connection parameters for the DS tablespace. Use the following table as a guide. When ready, click Next to continue.

Field	Enter
User	The user for the DS tablespace; by default, ds32
Password	The password for the DS tablespace user; by default, ds32
Instance	The ORACLE SID for the DS tablespace; by default, ORCL

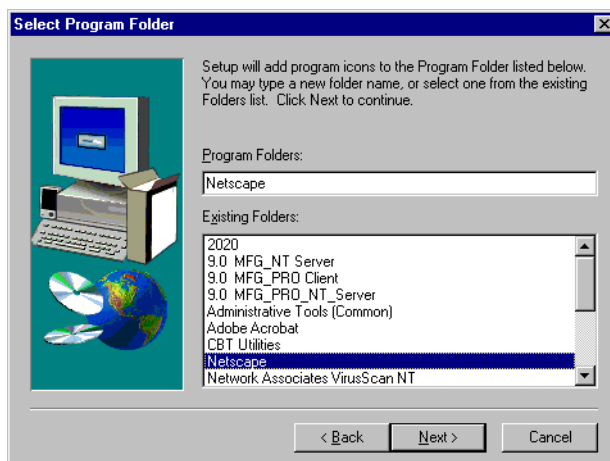
- 13** If you are implementing the PROGRESS AppServer in your DS environment, enter the service name you want to use for the AppServer. If you are not implementing the AppServer, accept the default and click Next to continue.

See “Add the AppServer” on page 62.

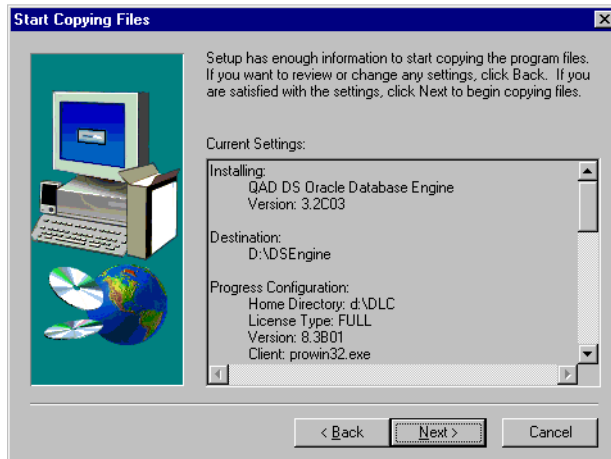
Important If you are implementing the AppServer, you must create an entry in the services file on both the DS server and client machines that matches the service name you specify in the Service field.



- 14** Enter the Windows program folder where you want the DS engine icons stored.



- 15 Review the Start Copying Files window and ensure that the information is correct. If the information is incorrect, click Back to make changes. If the information is correct, click Next to begin the DS engine setup.



The DS engine setup process performs the following tasks:

- Copies the DS engine file to the DS engine directory you specified in step 4 on page 45.
- Creates the DS schema holder database using the schema from the MFG/PRO schema holder. The foreign owner reference for the DS schema holder database is mfgdsora.
- Compiles the DS engine system and DS services module code.

Important If errors occur while the DS code is compiling, an error dialog displays. Click OK to continue with the installation. When the installation completes, check the `progrerr` file in the `build` subdirectory below the DS engine installation directory to resolve the compile errors.

- Loads the DS engine system data.

- 16** When the setup is complete, the DS engine is added to the list of Windows desktop applications. Select the README file box to launch release notes that list changes between DS releases. Click Finish to complete the DS engine setup.

If problems occur during the setup, an error window displays. Review the error log `dssetup.log` located in your working directory. Correct any problems, remove files created during your previous setup, and rerun the setup.

To remove the DS engine files created by the setup process, from the Windows Start button, access Settings|Control Panel and double-click Add/Remove Programs.

Set Up the Decision Support Servers

Use the following instructions to set up and start the DS servers in the PROGRESS ProControl utility. Use the steps appropriate to the type of networking you are using—PROGRESS or ORACLE. In addition, if you are implementing DS with the AppServer, complete the instructions in “Set Up the AppServer” on page 59.

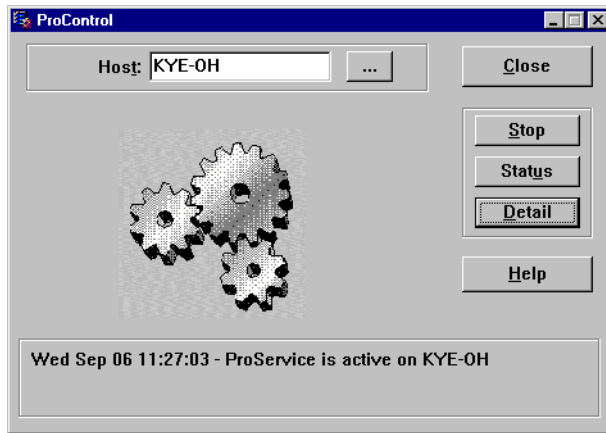
Set Up PROGRESS Networking Servers

The DS engine setup adds the following entries to the ProControl utility.

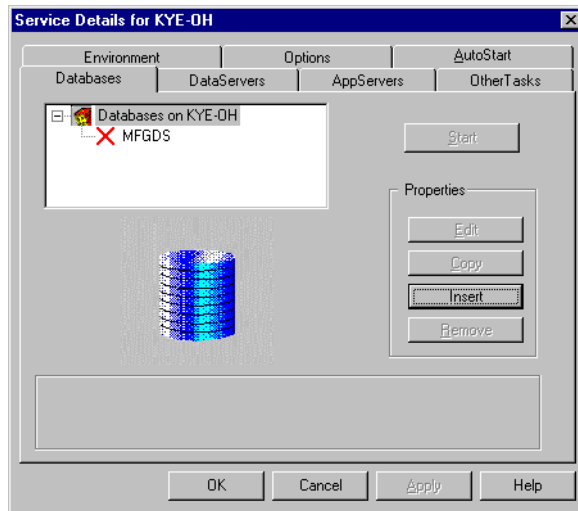
- An entry for the DS schema holder database. This entry is based on the information you specified in the DS engine setup prompts. You do not need to modify this entry.
- An entry for the DataServer broker for the DS tablespace. You must modify this entry to match the DataServer broker for your environment.

Use the following instructions to verify and set up the DS servers in ProControl

- 1 From the Windows Start button, access Programs|Progress Version|ProControl.
- 2 In the ProControl window, click the Detail button.

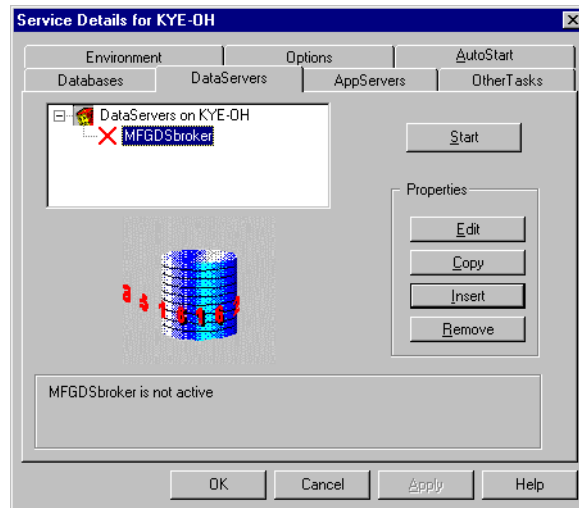


- 3 From the Details window, click the Databases tab.



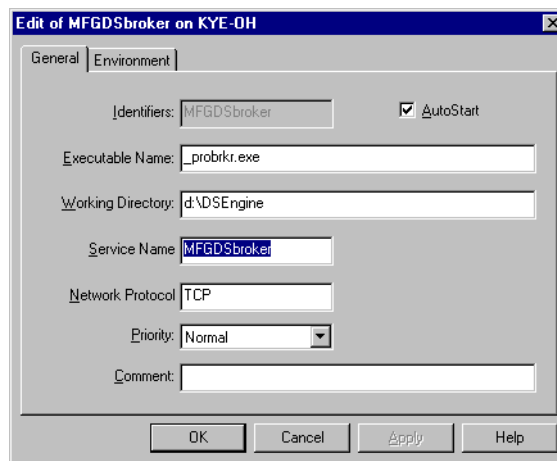
See step 11 on page 49.

- 4 Start the entry for the DS schema holder database by selecting it and clicking Start. This database uses the service information you specified during the DS engine setup.
- 5 Click the DataServers tab and select the MFGDSbroker entry.



See “Setting Up PROGRESS Networking” on page 42.

- 6 Click Edit and change the Service Name field to match the service name you specified when you started the DataServer broker.



- 7 Once you configure the MFGDSbroker entry for your environment, click OK.

- 8 In the DataServers window, select the MFGDSbroker entry and click Start.
- 9 If you have not done so already, set ProControl to activate automatically. This starts the servers for the DS schema holder database and DataServer broker automatically.
 - a From the Windows Start button, access Settings|Control Panel.
 - b Double-click Services, highlight the ProService entry, and click Startup.
 - c In the Startup Type frame of the Service window, select Automatic and click OK. ProControl will activate automatically the next time you start up your system.
 - d Alternatively, if you want to start only the DS schema holder database server, use the Start DS Database Server shortcut in the Windows Start menu. Double-clicking this shortcut starts the server for the DS schema holder database.

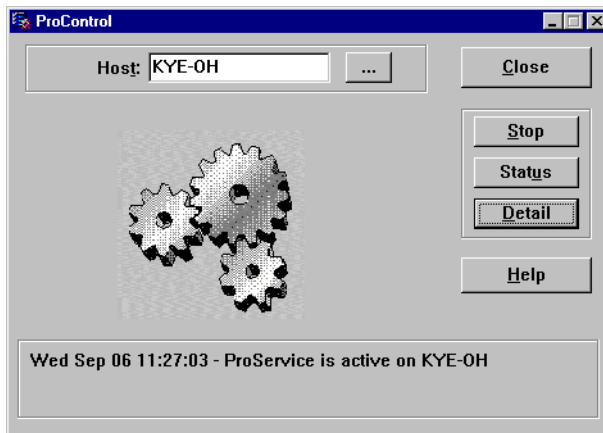
Set Up the ORACLE Networking Server

The DS engine setup adds an entry for the DS schema holder database to the ProControl utility. This entry is based on the information you specified in the DS engine setup prompts.

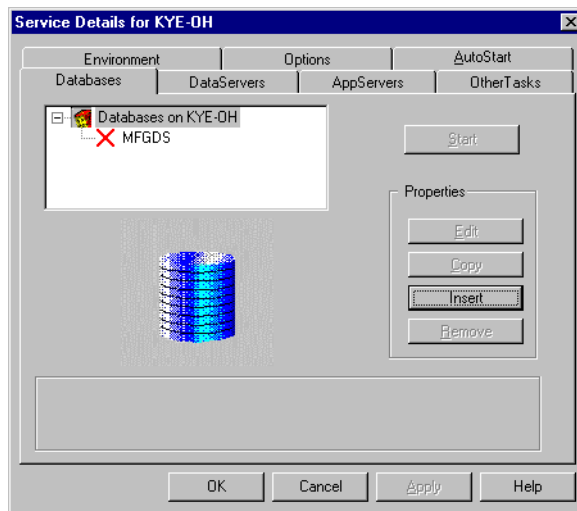
Use the following instructions to start the server for the DS schema holder database in ProControl:

- 1 From the Windows Start button, access Programs|Progress Version|ProControl.

- 2 In the ProControl window, click the Detail button.



- 3 From the Details window, click the Databases tab.



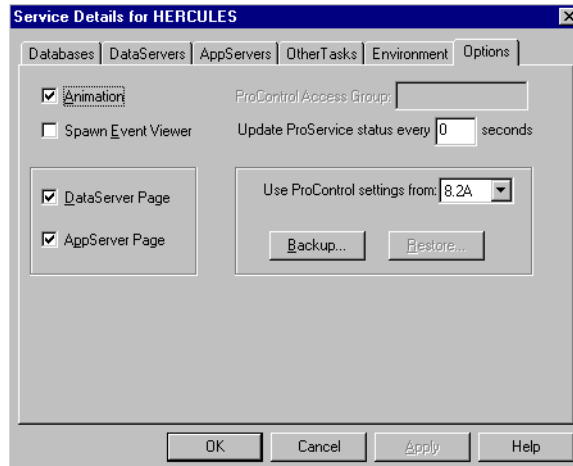
See step 11 on page 49.

- 4 Start the entry for the DS schema holder database by selecting it and clicking Start. This database uses the service information you specified during the DS engine setup.

Set Up the AppServer

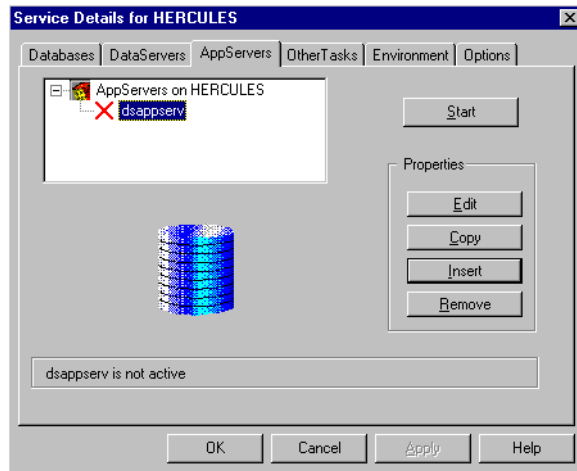
If you are implementing the AppServer in your DS environment, complete the following instructions to start the DS AppServer.

- 1 If you do not see an AppServers tab among the other tabs in ProControl Details window, click the Options tab and click the AppServer Page option.



- 2 When ready, click OK.
- 3 In the ProControl main window, click Detail. The AppServers tab displays in the Service Details window.

- 4 Click the AppServers tab and start the DS AppServer by clicking the Start button.



Note To start the AppServer automatically when you start the machine, click the Edit button and select Autostart.

Set Up the Services File

Use the following instructions to set up the `services` file on the DS engine machine and the DS client machines. Use the steps appropriate to the type of networking you are using—PROGRESS or ORACLE. In addition, if you are implementing DS with the AppServer, complete the instructions in “Set Up the AppServer” on page 59.

Add the PROGRESS Networking Servers

DS requires service entries for the following DS servers:

- The DS schema holder database
- The DataServer broker for the DS tablespace

Use the following instructions to add these entries to the `services` files on both the DS engine and client machines.

Note The following socket numbers are examples only and may not be available on your system. Be sure to assign available sockets to your DS services.

- 1 Locate your `services` file. Use the instructions appropriate for your operating system.

- For Windows NT: `c:\Winnt\system32\drivers\etc`
- For Windows 95 or 98: `c:\Windows\system`

If your `services` file is not in one of these directories, use the Find function on your system's Start menu.

- 2 Open the `services` file in a text editor such as WordPad.

- 3 In the `services` file, enter the service names of your DS servers—one for the DS schema holder database server and one for the DataServer broker.

The following examples use `ds32_osh` as the service name for the DS schema holder database server and `ds32_ora` for the DataServer broker.

```
ds32_osh 2506\tcp
```

```
ds32_ora 2507\tcp
```

Add the ORACLE Networking Server

DS requires a service entry for the DS schema holder database server. Use the following instructions to add this entry to the `services` files on both the DS engine and client machines.

- 1 Locate your `services` file. Use the instructions appropriate for your operating system.

- For Windows NT: `c:\Winnt\system32\drivers\etc`
- For Windows 95 or 98: `c:\Windows\system`

If your `services` file is not in one of these directories, use the Find function on your system's Start menu.

- 2 Open the `services` file in a text editor such as WordPad.

- 3 In the `services` file, enter the service name of your DS schema holder database server.

The following example uses `ds32_osh` as the service name for the DS schema holder database server.

```
ds32_osh 2506\tcp
```

Add the AppServer

If you are deploying DS with the AppServer, you must create a service entry for the DS AppServer. Use the following instructions to add this entry to the `services` files on both the DS engine and client machines.

- 1 Locate your `services` file. Use the instructions appropriate for your operating system.
 - For Windows NT: `c:\winnt\system32\drivers\etc`
 - For Windows 95 or 98: `c:\windows\system`

If your `services` file is not in one of these directories, use the Find function on your system's Start menu.

- 2 Open the `services` file in a text editor such as WordPad.
- 3 In the `services` file, enter the service name of your DS AppServer instance.

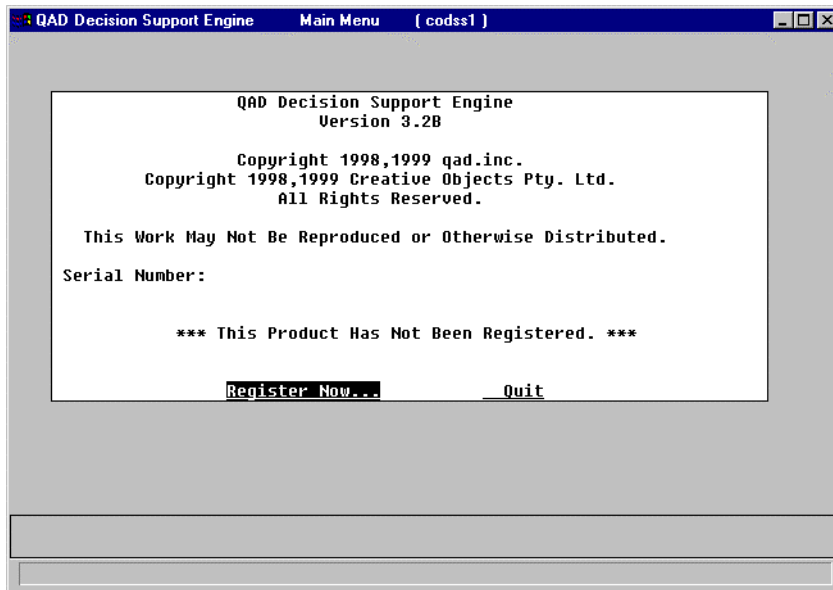
The following example uses the default AppServer instance broker name and port 2501.

```
dsappserv 2501\tcp.
```

Start the Decision Support Engine

Use the following instructions to start the DS engine for the first time and register the product.

- 1 With your DS database server running, select Start|Programs|QAD DS Database Engine. The following registration window displays.



- 2 Select Register Now and enter the MFG/PRO DSS serial number included with your DS software.

- 3 If you are implementing the AppServer, select Register Now. Enter WAN in the Product field and the serial number included with your DS software.

Product: WAN

Description: _____

Date Installed: _____

Serial Number

Register Now... Quit

- 4 A confirmation box displays including the type of license you have received. Press Enter.

Note If the license information is incorrect, contact your local QAD support center.

- 5 A second confirmation box prompts you to confirm this entry. Press Enter.
- 6 Log into the DS engine using admin for the user ID and password.
- 7 To change the administrator password, select the Configure menu and choose Setup Users. Highlight the record with application MFG/PRO DSS and User ID ADMIN. Enter your new password.
- 8 To add users for other DS applications, click ADD and enter the appropriate application code.
 - DSS Client: CHUI version of the DS client.
 - QAD DSS Windows Client: GUI version of the DS client.
 - MFG/PRO DSS: The DS engine.
- 9 If you plan to install any of these clients, add user IDs for them now. Make note of the user IDs for use during client installation.

DS Client Installation

This chapter contains installation instructions for both graphical user interface (GUI) and character user interface (CHUI) Decision Support (DS) clients.

Installing DS Clients for PROGRESS **66**

Installing DS Clients for ORACLE **71**

Performing a Network Installation **80**

Configuring GUI Clients for the AppServer **84**

Running Decision Support from MFG/PRO **85**

Routing Maintenance (Main Screen)

Routing Code:	10-15000	DESCRIPTION:	INSPEC PER PROX-000
Operation:	20		
Standard Operation	10.00	INSPECTION, ALL SET	
Work Center			
Machines			
Description:	INSPEC PER PROX-000		
Machines per Op:	1	Allocation:	
Overlap Units:	1		
Queue Time:	1.0		
Wait Time:	0.0		
Setup Time:	0.0		

Route by Production Build Control

Installing DS Clients for PROGRESS

Complete this section to install DS GUI and CHUI clients for PROGRESS database environments.

Performing a Network Installation

To reduce the amount of time it takes to install multiple DS GUI clients, you can perform a network installation. A network installation consists of two basic steps.

- First, perform an initial DS GUI client installation on a file server or on a client PC that you can access from the other PCs you want to set up. QAD recommends using an existing Windows NT file server in your network.

Use the instructions in this section to perform the initial DS GUI client installation. During the initial installation, the DS GUI client code is compiled.

- Second, from each client PC, access the DS GUI client installation directory you created during the initial installation. Then, run the network installation program to download the DS GUI client code and files.

Use the instructions in “Performing a Network Installation” on page 80 to set up each DS GUI client.

Important Because the DS GUI client code is compiled using the PROGRESS software on the PC where you perform the initial client installation, subsequent DS GUI client PCs must have the same version of PROGRESS. If the versions of PROGRESS do not match, the DS GUI client will not run. Be sure to select a machine with the appropriate PROGRESS version installed as the first DS GUI client.

Preliminary Setup

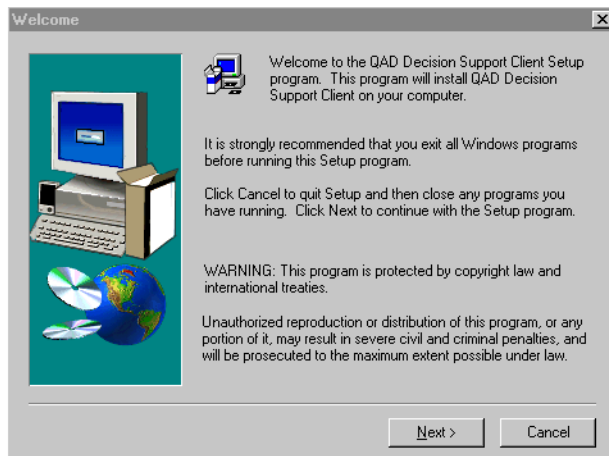
Before beginning client installation, complete the following.

- Verify that the client machine **services** file includes the DS database and, if applicable, AppServer service names and socket numbers.
- Check that PROGRESS Query 8.2B or higher is installed on the client machine.
- Make sure the server for the DS database is started.

♦ See “Change the Services File” on page 22 for instructions.

Installation

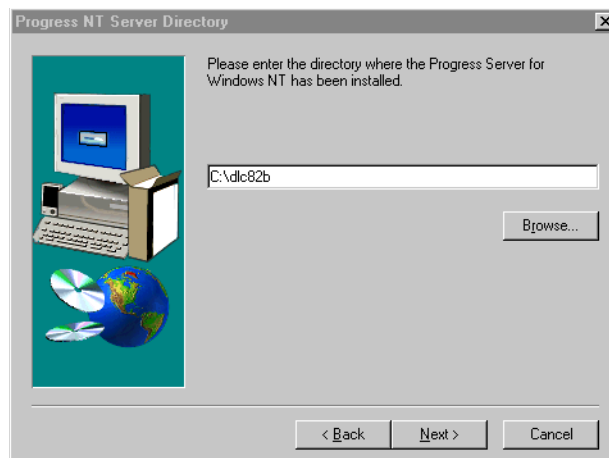
- 1 Insert the Decision Support Client CD-ROM in the CD-ROM drive.
- 2 Run the `setup.exe` program appropriate to the type of client you are installing, GUI or CHUI.
 - GUI clients: `INTEL\Win Gui\PROGRESS\setup.exe`
 - CHUI clients: `INTEL\Win Char\PROGRESS\setup.exe`
- 3 The following window advises you to quit all other applications before continuing the installation. Do so, then click Next to continue.



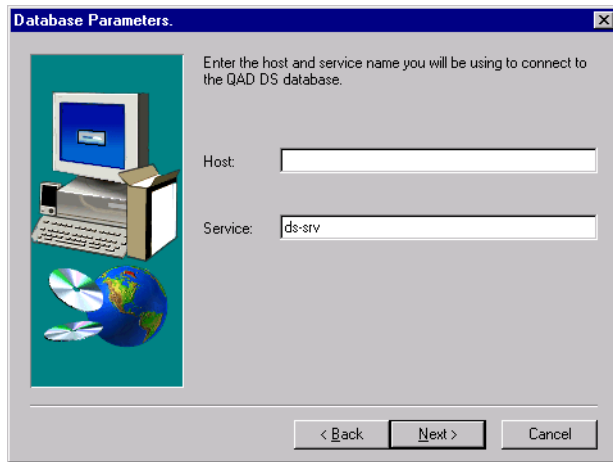
- 4 Specify the destination folder for the DS client files. Generally, this should be a new folder that the setup creates for the installation. You cannot use spaces in the folder name.



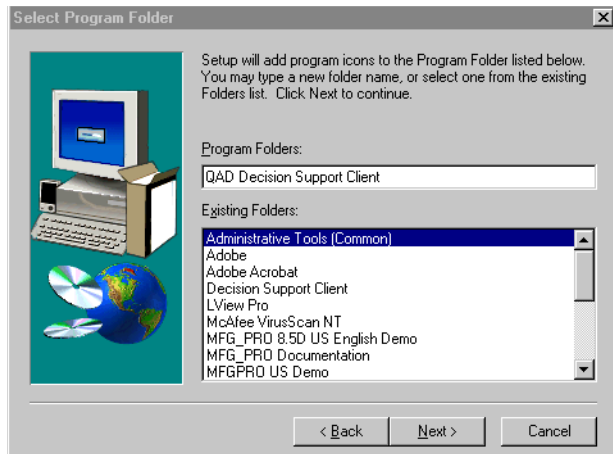
- 5 Specify your Windows server's PROGRESS directory in the following window. You can use the Browse button to search for the directory.



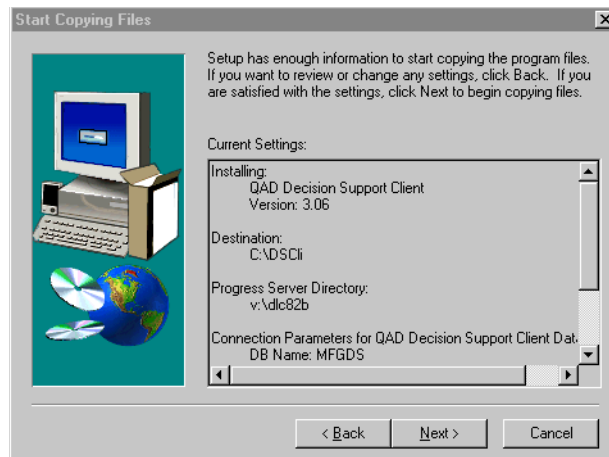
- 6 Enter the physical database and host machine names for the DS database.



- 7 Enter the Windows program folder where you want the DS client icon stored.



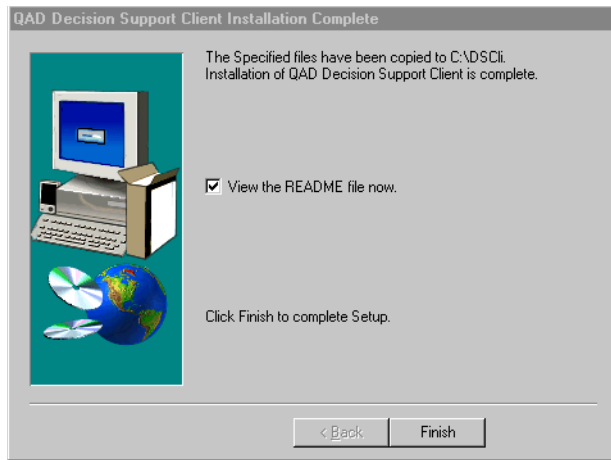
- 8 The next window displays the client setup environment, and prompts you to make last-minute changes. Click Back to make changes to previous screens. Click Next to begin the DS client installation.



The DS client installation process compiles the DS client code and loads the default DS system data.

If errors occur while the DS client code is compiling, an error dialog displays. Click OK to continue with the installation. When the installation complete, check the `dsccli.log` file in the `log` subdirectory below the DS client installation directory to resolve the compile errors.

- 9 When the installation completes, the DS client is added to the list of Windows desktop applications. Click the README file box to launch release notes that list the changes between DS releases.



- 10** If problems occur during the installation, an error window displays. Review the error log `dssetup.log` located in your working directory. Correct any problems, delete the files created during your previous installation, and rerun the installation.

To remove the installation, using the Windows Explorer or the Start menu, select Control Panel|Add/Remove Programs.

- 11** Start the DS client by double-clicking its icon in the Windows Start menu.

Installing DS Clients for ORACLE

Complete this section to install DS GUI and CHUI clients for ORACLE database environments.

Performing a Network Installation

To reduce the amount of time it takes to install multiple DS GUI clients, you can perform a network installation. A network installation consists of two basic steps.

- First, perform an initial DS GUI client installation on a file server or on a client PC that you can access from the other PCs you want to set up. QAD recommends using an existing Windows NT file server in your network.

Use the instructions in this section to perform the initial DS GUI client installation. During the initial installation, the DS GUI client code is compiled.

- Second, from each client PC, access the DS GUI client installation directory you created during the initial installation. Then, run the network installation program to download the DS GUI client code and files.

Use the instructions in “Performing a Network Installation” on page 80 to set up each DS GUI client.

Important Because the DS GUI client code is compiled using the PROGRESS software on the PC where you perform the initial client installation, subsequent DS GUI client PCs must have the same version of PROGRESS. If the versions of PROGRESS do not match, the DS GUI client will not run. Be sure to select a machine with the appropriate PROGRESS version installed as the first DS GUI client.

Preliminary Setup

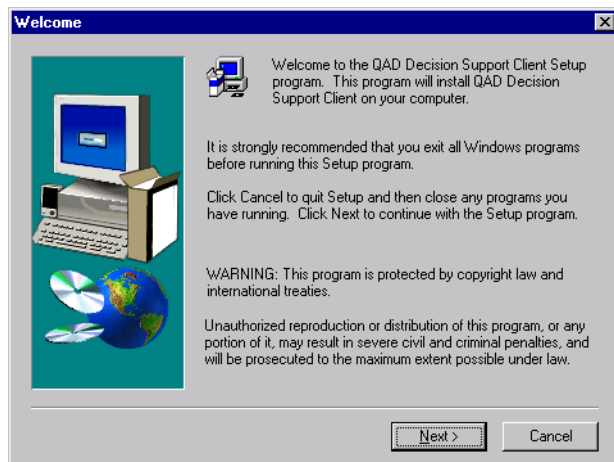
Before beginning client installation, complete the following.

▶ See “Change the Services File” on page 22 for instructions.

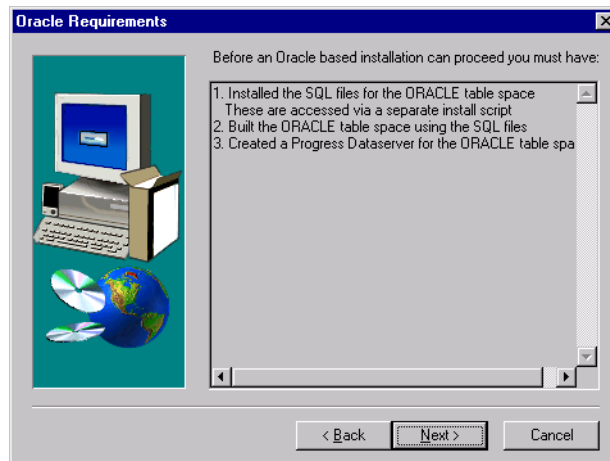
- Verify that the client machine `services` file includes the appropriate service names and socket numbers.
- Check that PROGRESS Query 8.2B or higher is installed on the client machine.
- Make sure the server for the DS schema holder is started.

Installation

- 1 Insert the Decision Support Client CD-ROM in the CD-ROM drive.
- 2 Run the setup .exe program appropriate to the type of client you are installing, GUI or CHUI.
 - GUI clients: INTEL\Win Gui\ORACLE\setup.exe
 - CHUI clients: INTEL\Win Char\ORACLE\setup.exe
- 3 The following window advises you to quit all other applications before continuing the installation. Do so, then click Next to continue.



- 4 At the following window, verify that you have completed the installation requirements for the DS client. Use the following table as a guide.

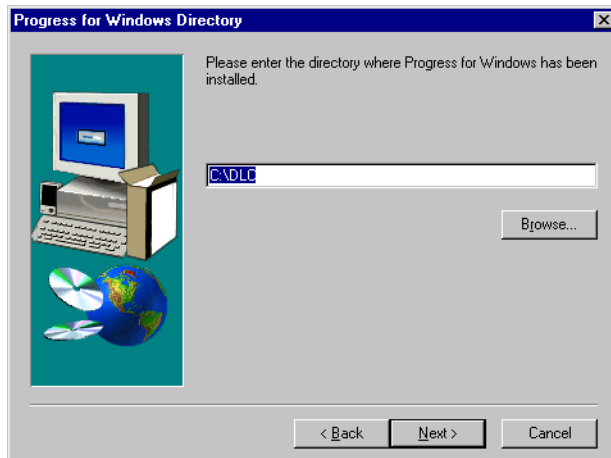


Requirement	Description
Installed the SQL files for the Ds ORACLE table space. These are accessed via a separate install script	You installed the DS engine installation files. See “Load the DS Engine Installation Files” on page 33.
Built the ORACLE table space using the SQL files	You built the DS ORACLE tablespace. See “Set Up the DS ORACLE Tablespace” on page 35.
Created a Progress Dataserver for the ORACLE table space	If you are using PROGRESS networking to enable communication between the DS ORACLE tablespace and the DS PROGRESS schema holder database, you started a PROGRESS DataServer executable. See “Setting Up PROGRESS Networking” on page 42.

- 5 Specify the destination folder for the DS client files. Generally, this should be a new folder that the setup creates for the installation. You cannot use spaces in the folder name.

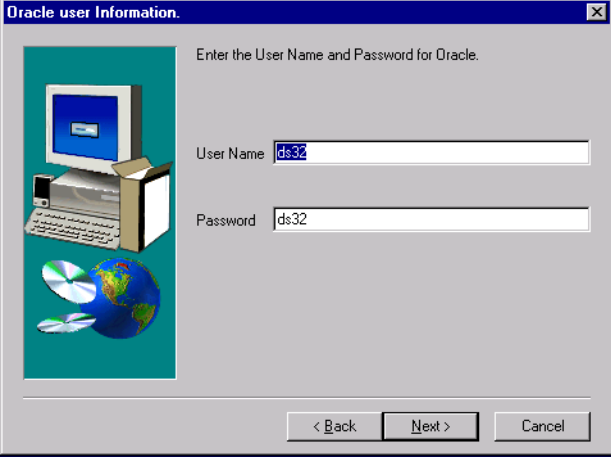


- 6 Specify your Windows server's PROGRESS directory in the following window. You can use the Browse button to search for the directory.



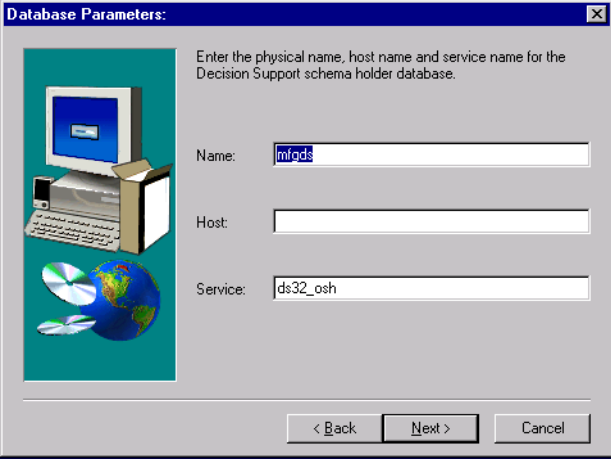
See “Running the DS SQL File” on page 36.

- 7 Enter the user name and password for the DS ORACLE database. These were created by the DS SQL script when you built the DS ORACLE tablespace. By default, the user name and password are ds32.



The dialog box is titled "Oracle user Information." and contains the instruction "Enter the User Name and Password for Oracle." On the left is a graphic of a computer monitor, keyboard, and CD-ROMs. On the right are two text input fields: "User Name" with the value "ds32" and "Password" with the value "ds32". At the bottom are three buttons: "< Back", "Next >", and "Cancel".

- 8 Enter the database parameters for the DS schema holder database. Use the following table as a guide.

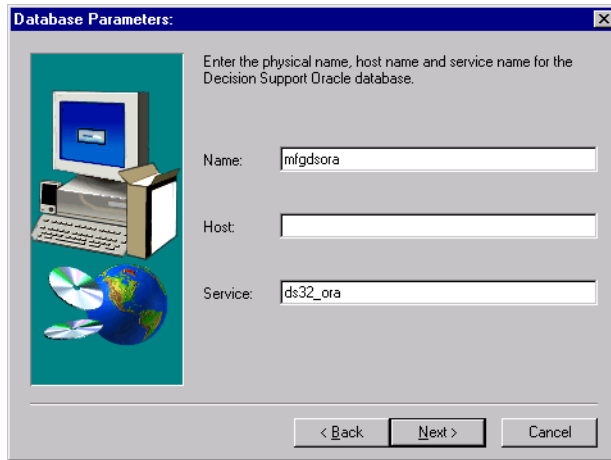


The dialog box is titled "Database Parameters:" and contains the instruction "Enter the physical name, host name and service name for the Decision Support schema holder database." On the left is a graphic of a computer monitor, keyboard, and CD-ROMs. On the right are three text input fields: "Name:" with the value "m1ods", "Host:" which is empty, and "Service:" with the value "ds32_osh". At the bottom are three buttons: "< Back", "Next >", and "Cancel".

Field	Description
Name	Enter the physical name of the DS schema holder.
Host	Enter the name of the machine where the schema holder is located.
Service	Enter the service name of the DS schema holder.

- 9 If you are using PROGRESS networking between the DS tablespace and schema holder, enter the service parameters for the DS DataServer. Use the following table as a guide.

See “Setting Up PROGRESS Networking” on page 42.



Database Parameters:

Enter the physical name, host name and service name for the Decision Support Oracle database.

Name:

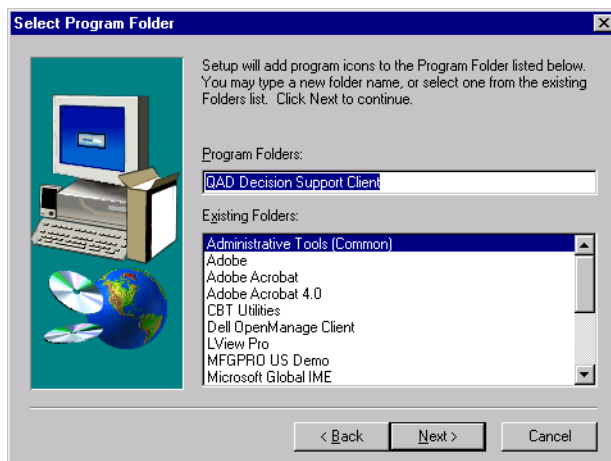
Host:

Service:

< Back Next > Cancel

Field	Description
Name	Enter the name of the DS DataServer.
Host	Enter the name of the machine on which DataServer is running.
Service	Enter the service name of the DS DataServer.

- 10 Enter the Windows program folder where you want the DS client icon stored.



Select Program Folder

Setup will add program icons to the Program Folder listed below. You may type a new folder name, or select one from the existing Folders list. Click Next to continue.

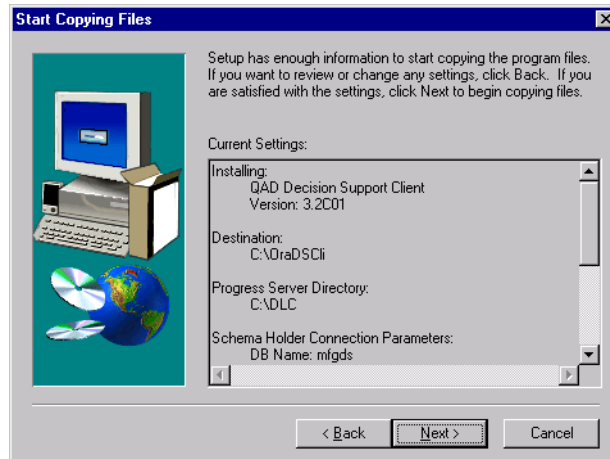
Program Folders:

Existing Folders:

- Administrative Tools (Common)
- Adobe
- Adobe Acrobat
- Adobe Acrobat 4.0
- CBT Utilities
- Dell OpenManage Client
- LView Pro
- MFGPRO US Demo
- Microsoft Global IME

< Back Next > Cancel

- 11 The next window displays the client setup environment, and prompts you to make last-minute changes. Click Back to make changes to previous screens. Click Next to begin the DS client installation.



The DS client installation process compiles the DS client code and loads the default DS system data.

If errors occur while the DS client code is compiling, an error dialog displays. Click OK to continue with the installation. When the installation complete, check the `dsc li . log` file in the `log` subdirectory below the DS client installation directory to resolve the compile errors.

- 12** When the installation completes, the DS client is added to the list of Windows desktop applications. Click the README file box to launch release notes that list the changes between DS releases.



- 13** If problems occur during the installation, an error window displays. Review the error log `dssetup.log` located in your working directory. Correct any problems, delete the files created during your previous installation, and rerun the installation.

To remove the installation, using the Windows Explorer or the Start menu, select Control Panel|Add/Remove Programs.

- 14** Start the DS client by double-clicking its icon in the Windows Start menu.

Performing a Network Installation

During a Decision Support (DS) GUI client installation, the installation process builds and compiles the DS GUI client. This increases the time required to install the DS client. To avoid compiling the DS client code during each client installation, you can perform a network DS GUI client installation. A network installation consists of two basic steps.

- First, perform an initial DS GUI client installation on a file server or on a client PC that you can access from the other PCs you want to set up. QAD recommends using an existing Windows NT file server in your network.

Use the instructions in either “Installing DS Clients for PROGRESS” on page 66 or “Installing DS Clients for ORACLE” on page 71 to perform the initial DS GUI client installation. The instructions in this section assume you have already completed the initial DS GUI client installation.

Note You can perform full GUI client installations on each client machine using the instructions in the appropriate section.

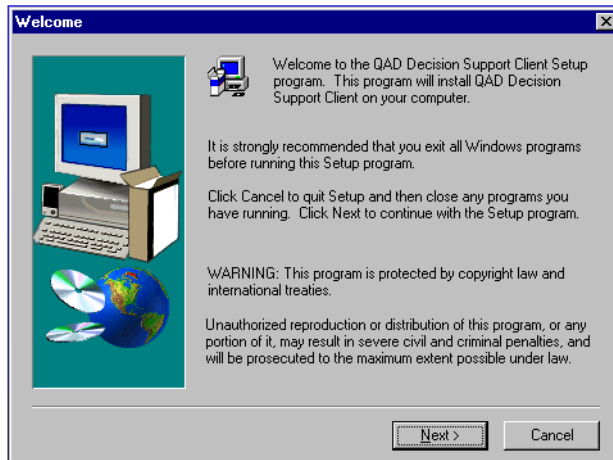
- Second, from each client PC, access the DS GUI client installation directory you created during the initial installation. Then, run the network installation program to download the DS GUI client code and files.

Use the following instructions to run the network installation program and set up each DS GUI client.

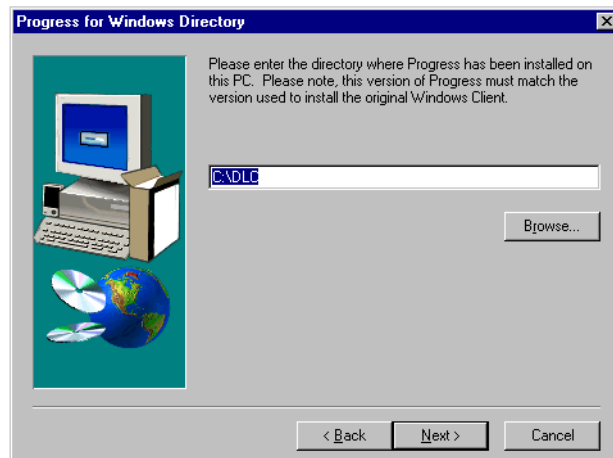
- 1 Perform the DS GUI Client installation on a PC that is accessible to all of the other PCs where you want to install the GUI client.
Make a note of the directory where you install the DS GUI client.
- 2 From a DS GUI client PC, access the directory where you installed the DS GUI client. For example, these instructions assume the client was installed in C:\DSCLI and that the other client PCs map this directory as H:\DSCLI.
- 3 Run the setup.exe located in the INSTALL subdirectory. For example:

H:\DSCLI\INSTALL\SETUP.EXE

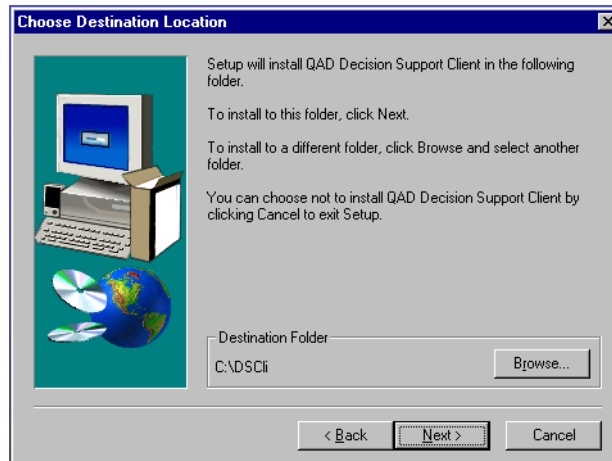
- 4 At the Welcome window, click Next.



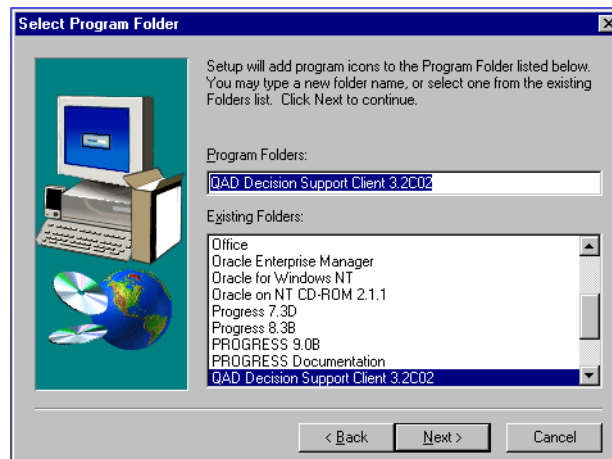
- 5 Enter the path to the local PROGRESS installation directory. You can use the Browse button to select a directory. When ready, click Next.



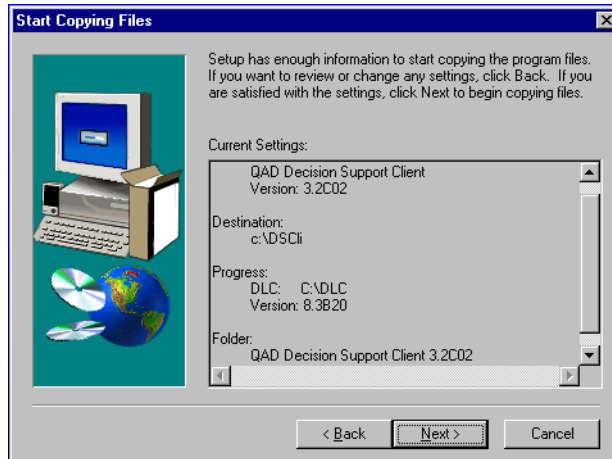
- 6 Specify the directory where you want to install the DS GUI client files and click Next.



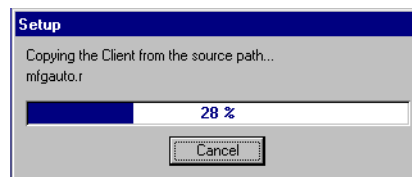
- 7 Specify the folder where you want the DS GUI client shortcuts created and click Next.



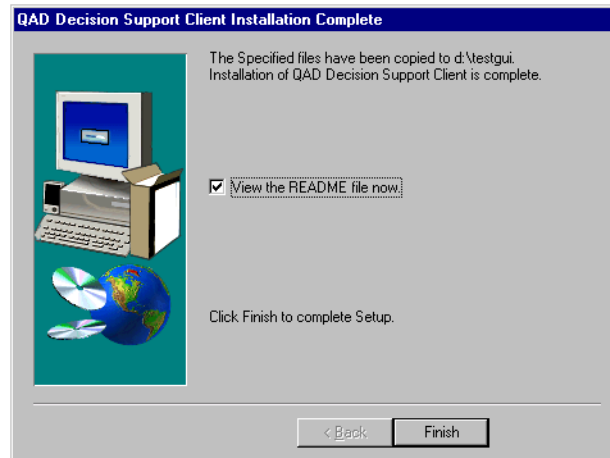
- 8 At the Start Copying Files window, verify that the installation information is correct. If the information is incorrect, click Back to make changes to your previous entries. If the information is correct, click Next.



As the files are copied, the following status window displays.



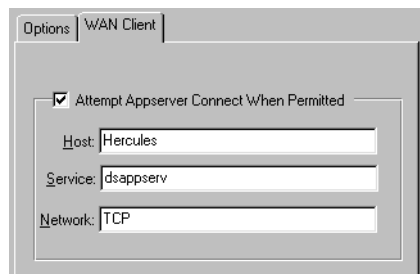
- 9 Click Finish to complete the DS GUI client installation.



- 10 Repeat steps 2 through 9 to set up each DS GUI client.

Configuring GUI Clients for the AppServer

- 1 Start the DS GUI client by double clicking the client icon.
- 2 If you have not added any DS client users, log in using the admin password and user ID.
- 3 Select Setup|Options and click the WAN Client tab.



Note If the WAN Client tab is not active, you must register the WAN product. See step 3 on page 28.

- 4 Check the Attempt Appserver Connect When Permitted option.

- 5 In the Host field, enter the name of the machine where the DS AppServer is located.
- 6 In the Service field, enter the DS AppServer service name. The default name is dsappserv.
- 7 In the Network field, enter TCP.

Running Decision Support from MFG/PRO

Use the instructions in the following sections to run DS from within MFG/PRO.

Modify the MFG/PRO Server Start-Up Scripts

There are several methods of starting PROGRESS database applications such as MFG/PRO. Which one you use determines what you must do to start the DS database when you start your MFG/PRO session. In general, you need the following information.

- Logical database name
- A connection mode
- A database type
- Location of the database
- Any connection parameters

The logical database name for your DS database is `mfgdss`. The database type is PROGRESS, and the database is located in the DS engine installation directory.

The connection mode (single or multiuser) and the connection parameters depend on your installation and needs.

If you are running MFG/PRO Version 8.5 or later, you can use QAD's MFG/UTIL program to add the DS database to your MFG/PRO start-up parameters. Refer to your *MFG/PRO Installation Guide* for details on using MFG/UTIL.

Add DS to MFG/PRO Menus

Adding DS to the MFG/PRO menus enables the DS report programs to run, and provides a home menu location for anchoring DS-generated reports. If you are completing this step after an installation, you must exit your initial DS session first.

- 1 Start MFG/PRO and run Menu System Maintenance (36.4.4 in versions 8.6 and 9.0, and 36.7.4 in versions 7.3 through 8.5).
- 2 Skip the language code field. Enter the menu number with periods between each menu level. Select a location that suits your intended use. If you have a blank line on the Main Menu (for instance, menu 0) or on a submenu (for example, the Sales Analysis menu 9), you can assign the DS menu there. Press Go.
- 3 Enter the program details and press Go when ready. Use the following table as a guide.

Field	Description
Sel	This field is the menu number associated with DS.
Selection Label	This is the label name for this menu selection, such as DS Browser.
Exec File	This is the function to be executed when this menu selection is chosen. This may be the name of a PROGRESS program (for example, <code>codssup.p</code>), or it may be the menu number for a submenu.

- 4 Repeat steps 2 and 3 for each DS user-level program. You can use the following example as a guide.
- 5 Press End to exit Menu System Maintenance.

Example In the following tables and in figures, a DS submenu is added to the MFG/PRO Sales Analysis menu. Then the DS GUI Client (`codss.p`) and the DS Update (`codssup.p`) programs are added to the submenu.

- Add a new DS menu item to the Sales Analysis menu using Menu System Maintenance. Once you add the DS Menu entry, exit Menu System Maintenance.

Field	Value
Language ID	us
Menu	9
Sel	16
Selection Label	DS Menu
Exec File	9.16

Figure 4.1 is the Menu System Maintenance screen with the DS menu assignment.

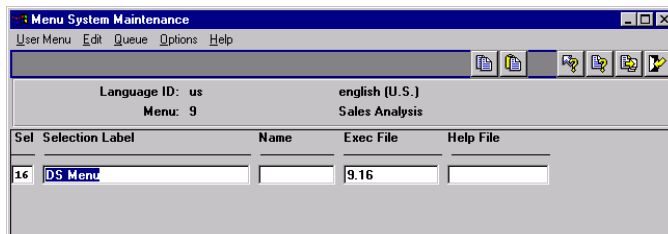


Fig. 4.1
DS Menu

- Add the DS GUI client program to the DS menu.

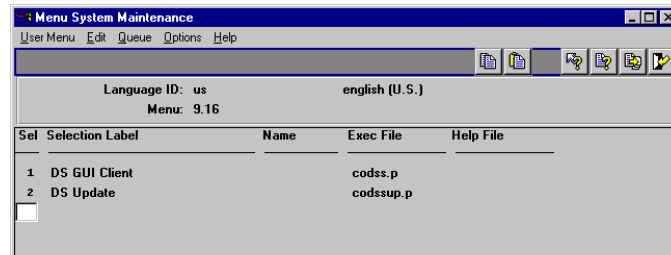
Field	Value
Language ID	us
Menu	9.16
Sel	1
Selection Label	DS GUI Client
Exec File	codss.p

- Add the DS Update program to the DS menu.

Field	Value
Language ID	us
Menu	9.16
Sel	2
Selection Label	DS Update
Exec File	codssup.p

Figure 4.2 is the Menu System Maintenance screen with completed DS menu assignments.

Fig. 4.2
DS Programs



Modify the MFG/PRO Client Start-Up Icons

DS engine and DS client programs require different PROPATH values. Depending on the programs you are launching—DS engine programs, client programs, or both—the PROPATH in the MFG/PRO client start-up icons must be modified.

- 1 Right-click the MFG/PRO client start-up icon and select Properties.
- 2 In the Properties dialog, select the Shortcut tab.
- 3 In the Target field, locate the `-ini` parameter and record the name of and path to the MFG/PRO initialization file.
 - For MFG/PRO Windows GUI clients, the initialization file is `progress.svg` or `progress.vga` depending on the client's display.
 - For MFG/PRO Windows character clients, the initialization file is `progress.chr`.
- 4 Open the initialization file in a text editor and locate the PROPATH variable.
 - For Windows GUI clients, modify the PROPATH variable in the [Startup] section of the initialization file.
 - For Windows character clients, modify the PROPATH variable in the [WinChar Startup] section of the initialization file.

5 Add the directories listed in Table 4.1 to the existing PROPATH.

DSInstallDir refers to the DS installation directory that contains the DS programs you want to launch. For example, if you are modifying the MFG/PRO start-up icon to call DS client programs from the MFG/PRO menu, *DSInstallDir* is the DS client installation directory.

PROPATH Elements Required to Run DS from the MFG/PRO Menu

- Current working directory (.)
- *DSInstallDir*\services\object
- *DSInstallDir*\services\runtime
- *DSInstallDir*\object
- *DSInstallDir*\runtime
- *DSInstallDir*\libs
- *DSInstallDir*\climages (For DS client programs only.)

Table 4.1
DS PROPATH
Elements

The following example is for MFG/PRO session from which DS engine programs are launched.

```
PROPATH=.,Existing MFG_PRO PROPATH,
        DSInstallDir\services\object,
        DSInstallDir\services\runtime,
        DSInstallDir\object,DSInstallDir\runtime,
        DSInstallDir\libs
```

The following example is for MFG/PRO session from which DS client programs are launched.

```
PROPATH=.,Existing MFG_PRO PROPATH,
        DSInstallDir\services\object,
        DSInstallDir\services\runtime,
        DSInstallDir\object,DSInstallDir\runtime,
        DSInstallDir\libs,DSInstallDir\climages,
```

6 Save your changes and close the text editor.

Example In the previous example, the DS GUI client (codss.p) and the DS Update programs were added to the MFG/PRO menu.

Because the DS GUI Client uses the DS client, and the DS Update uses the DS engine, the required PROPATH values are different. Therefore, two different MFG/PRO user start-up icons, must be created or a PROGRESS program must be set up to set the appropriate PROPATH values before initiating the DS functions.

For clients using the DS GUI Client, modify the PROPATH variable in the initialization file used by the MFG/PRO client start-up icon. The PROPATH must contain the DS client directories.

```
PROPATH=.,Existing MFG_PRO PROPATH,
        DSCliientInstallDir\services\object,
        DSCliientInstallDir\services\runtime,
        DSCliientInstallDir\object,
        DSCliientInstallDir\runtime,
        DSCliientInstallDir\libs,
        DSCliientInstallDir\climages,
```

For clients using the DS engine Update program, copy the MFG/PRO client start-up icon and modify the PROPATH variable to contain the DS engine directories.

```
PROPATH=.,Existing MFG_PRO PROPATH,
        DSEngineInstallDir\services\object,
        DSEngineInstallDir\services\runtime,
        DSEngineInstallDir\object,
        DSEngineInstallDir\runtime,
        DSEngineInstallDir\libs
```

Add the DS Application Code to the MFG/PRO Directory Structure

Use the following instructions to copy the DS application code for the DS programs you want to run from the appropriate DS installation directory into the MFG/PRO directory structure.

- 1 Locate the DS application code for the programs you entered as Exec File values in step 3 on page 86.

You must locate both the DS compiled code (extension `.r`) and the DS source code (extension `.p`).

- For DS engine programs, the compiled code is located in the `object` subdirectory below the DS engine installation directory. The source code is located in either the `src` or `runtime` subdirectories below the DS engine installation directory.
- For DS client programs, the compiled code is located in the `object` subdirectory below the DS client installation directory. The source code is located in either the `src` or `runtime` subdirectories below the DS client installation directory.

- 2 Use the following steps to copy the DS application code—both the compiled and source code—from the DS installation directories into the MFG/PRO environment.

Important DS application code sometimes uses the same program name for two different functions. For example, a DS engine program and a DS client program can have the same name, but two different functions. If you are adding a DS engine program and a DS client program with the same name to the MFG/PRO menu, see 3 on page 92 to change one of the program names.

- a Access the MFG/PRO language-code subdirectory for your environment. This subdirectory is located below the MFG/PRO database server directory.
- b If one does not already exist, create a new subdirectory below the language-code directory that corresponds to the first two letters of the DS program name. In the previous examples, each of the DS programs began with `co`, so you would create a `co` subdirectory.

- c Copy the DS application code from the DS environment into the two-letter subdirectory you created.
- 3 If you are adding DS engine and client programs with the same name to the MFG/PRO menu structure, use the following instructions to change the name of the DS client application code.
 - a Change the name of the Exec File value you entered in step 3 on page 86 to make it unique. For example, `xxcodss.p`.
 - b If one does not already exist, create a new subdirectory below the language code directory that corresponds to the first two-letters of the modified DS program name.
 - c Copy the DS application code from the DS environment into the two-letter subdirectory you created and rename it.
- 4 Check the MFG/PRO menus to verify the menu assignments.

CHAPTER 5

Help, Documentation, and Library Installation

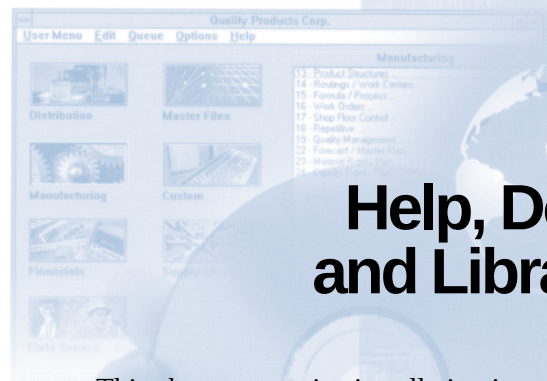
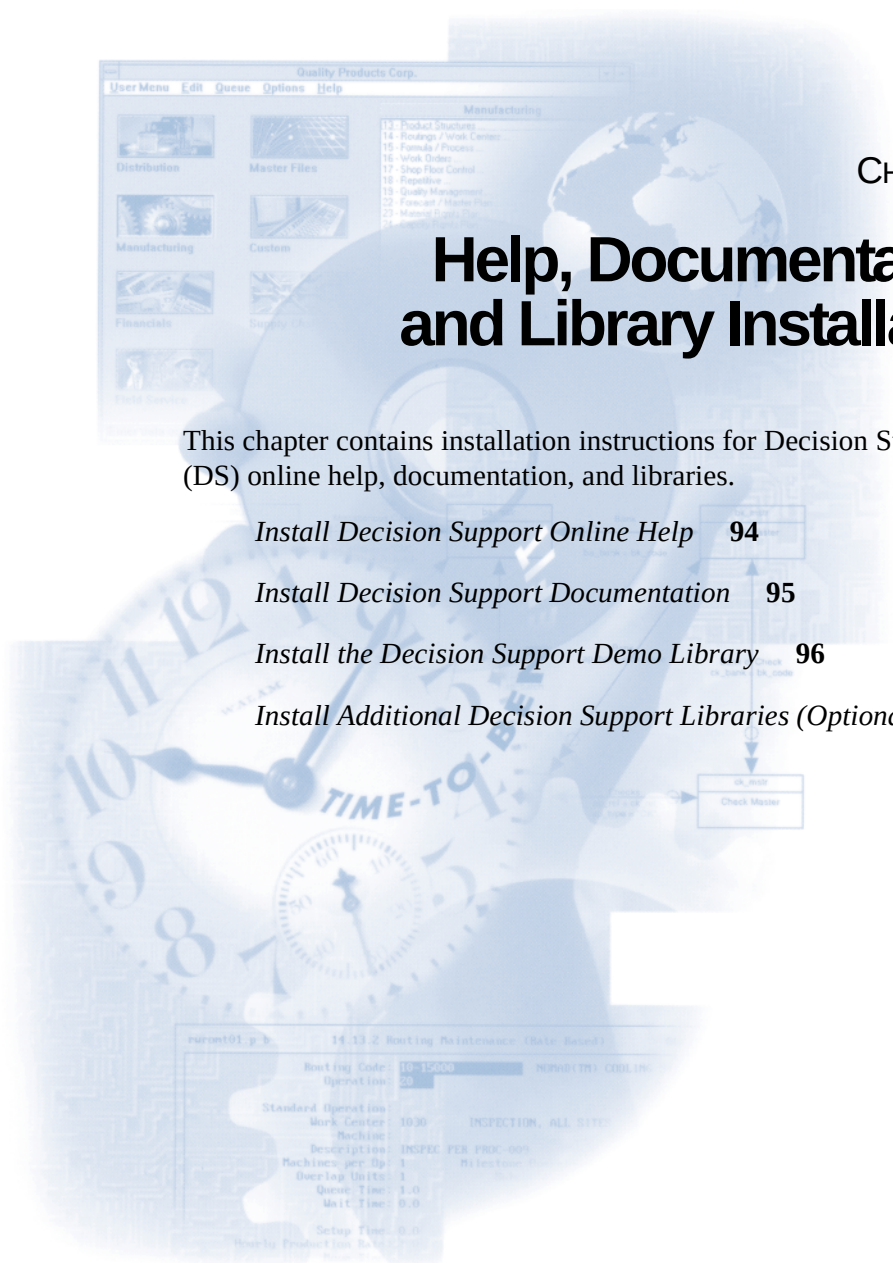
This chapter contains installation instructions for Decision Support (DS) online help, documentation, and libraries.

Install Decision Support Online Help **94**

Install Decision Support Documentation **95**

Install the Decision Support Demo Library **96**

Install Additional Decision Support Libraries (Optional) **99**



Routing Maintenance (Main Screen)	
Routing Code:	10-15000
Operation:	20
Standard Operation	
Work Center	1030
Machine	INSPEC, ALL SITE
Description	INSPEC PER PROQ-005
Machines per Op	1
Overlap Units	1
Queue Time	1.0
Wait Time	0.0
Setup Time	0.0

Install Decision Support Online Help

DS online help is supplied in two help files (extension .fhd) located in the `help` subdirectory below the DS engine installation directory.

- `dshe lp.fhd`: This file contains DS online help in English. You do not need to include a language code when you load this help file.
- `fieldh lp.fhd`: This file contains DS online help for all of the languages in Table 5.1. When loading this help file, you must include a language code to indicate the language for which you want to load help.

Table 5.1
Translated DS Help

Language	Code	Language	Code
Chinese (Simplified)	CH	Korean	KO
Spanish (Castilian)	CS	Spanish (Latin)	LS
Czech	CZ	Norwegian	NO
Dutch	DU	Polish	PL
French	FR	Portuguese	PO
German	GE	Swedish	SW
Hungarian	HU	Turkish	TU
Italian	IT	Chinese (Traditional)	TW
Japanese	JP		

Complete the following instructions to load DS online help.

- 1 Start an MFG/PRO session and make sure no other users are logged on.
- 2 Open Field Help Load (36.7.19 in versions 7.3 through 8.5; 36.4.19 in versions 8.6 and 9.0).

3 Complete the fields according to the following table.

Field	Enter
Language	If you are loading the <code>dshe lp . fhd</code> file, leave this field blank. If you are loading the <code>fieldh lp . fhd</code> file, enter the two-letter language code for the translated help you want to load. For a list of language codes, see Table 5.1.
Field	Leave these fields blank.
Procedure	Leave these fields blank.
Status	Leave these fields blank.
Text Type	Leave these fields blank.
Field Help Load File	To load the <code>dshe lp . fhd</code> file, enter the following directory path. <i>DSEngineInstallDir\help\dshe lp . fhd</i> To load language-specific help from the <code>fieldh lp . fhd</code> file, enter the following directory path. <i>DSEngineInstallDir\help\fieldh lp . fhd</i> Note: <i>DSEngineInstallDir</i> refers to your DS engine installation directory.
Skip loading help with lower status	Enter Yes.

4 Press Go to begin the load. Exit Field Help Load when finished.

Install Decision Support Documentation

Use the following instructions to install DS documentation. Using the viewer included on this CD (Adobe Acrobat® Reader) lets you view documents online as you would a hard-copy document. You can also print single pages, a range of pages, or the entire document.

- 1** Insert the Decision Support Document CD-ROM in the CD-ROM drive.
- 2** To install the Adobe Acrobat® Reader, run the `ar32e30.exe` file from the following directory.

CD-ROMDriveName\install_acrobat

- 3 Once the reader is installed, open the `welcome.pdf` file located in the `ds` directory. This document introduces the DS Documents on CD.

From the welcome page you can:

- Open any DS book.
- Open the Acrobat® Reader help system.
- Access the QAD website. You must have an internet browser installed on your machine for this link to function.

Install the Decision Support Demo Library

Use the following instructions to install the DS Demonstration Library.

- 1 Log into the DS engine, select Setup, select Library, and choose Install Library.
- 2 In the File to Load field, enter `demo.lib`.
- 3 A confirmation window indicates that this library has data sources. Select OK.

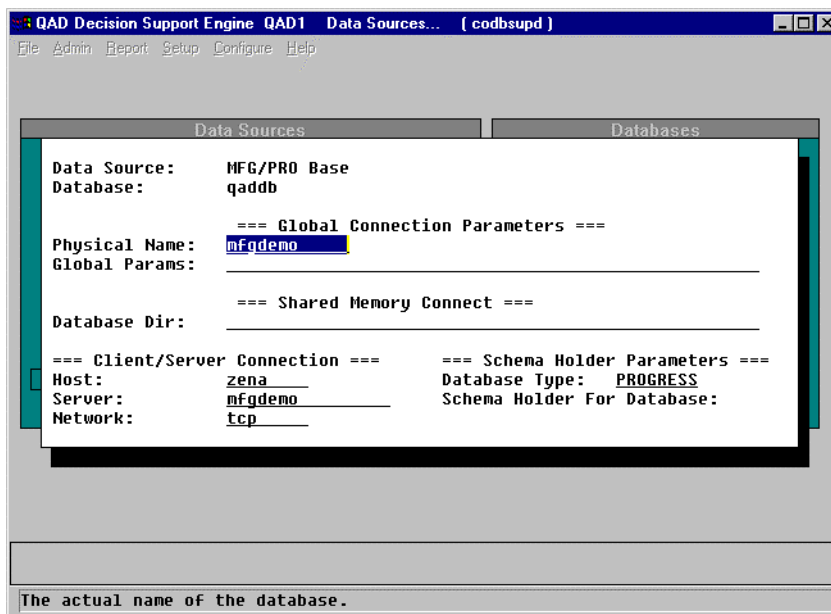
- 4 A confirmation window prompts you to replace the default MFG/PRO data source with one of your own.

If you have previously configured MFG/PRO databases using the Configure Data Sources function, enter Yes and choose the MFG/PRO database associated with the library you will use.

If you select No, another confirmation window displays indicating that the MFG/PRO base data source needs to be modified after the load. Select Yes.

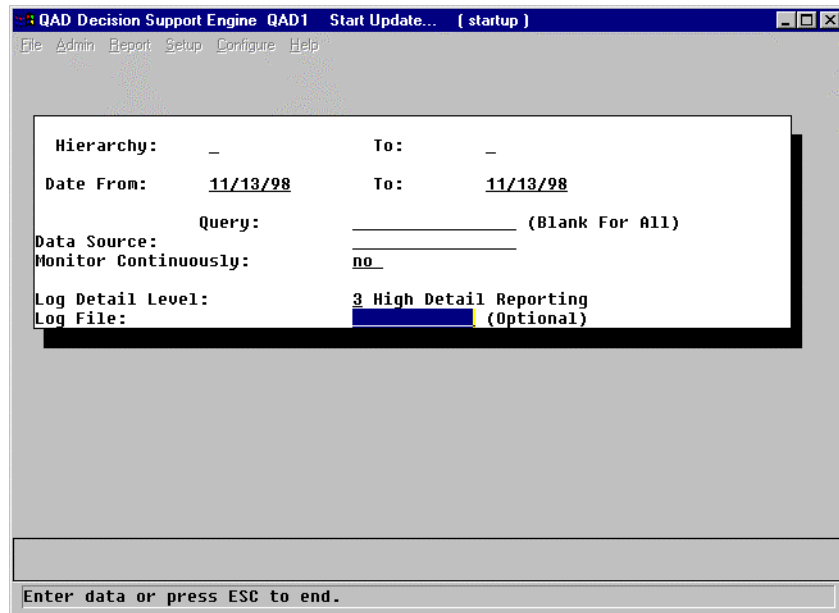
- 5 Select OK to load the library.
- 6 When the load completes, select OK.
- 7 Open the Configure menu, select Data Sources and choose Databases. From the Databases window, choose Change.
- 8 Modify the settings to point to your MFG/PRO database.

For more information on configuring data sources, see the *QAD Decision Support User Guide*.



- 9 Press Go to create a connection to your MFG/PRO database.

- 10 Once the database is connected, select the Admin menu from the Decision Support Engine window and choose Start Update. This extracts information from the database to populate the DS database.
- 11 In the Start Update window, leave the Hierarchy and To fields blank and press Go.



The screenshot shows a Windows application window titled "QAD Decision Support Engine QAD1 Start Update... [startup]". The menu bar includes "File", "Admin", "Report", "Setup", "Configure", and "Help". The main area contains a form with the following fields and values:

Hierarchy:	_	To:	_
Date From:	11/13/98	To:	11/13/98
Query:	_____ (Blank For All)		
Data Source:	_____		
Monitor Continuously:	no		
Log Detail Level:	3 High Detail Reporting		
Log File:	_____ (Optional)		

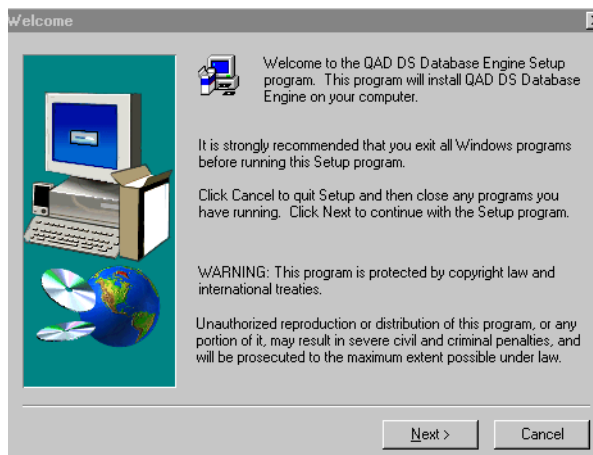
At the bottom of the window, a status bar reads "Enter data or press ESC to end."

- 12 Once the load is complete, view the data using your DS client.

Install Additional Decision Support Libraries (Optional)

Additional DS libraries are available. Each library is provided with an automated installation script.

- 1 On a DS client, insert the Decision Support Library CD-ROM in the CD-ROM drive and run `setup.exe`.
- 2 The following window advises you to quit all other applications before continuing the installation. Do so, then choose Next to continue.



- 3 Specify the destination folder. This must be the same folder where you installed the DS engine.
- 4 When the installation is complete, click the box to view the README file, which contains release notes that list the changes between DS releases.
- 5 Note the name of the library files and follow the library's instructions or see the *QAD Decision Support User Guide* to complete the setup.

CHAPTER 6

Converting an Existing DS Database

This chapter contains step-by-step instructions for converting Decision Support (DS) Version 2.08 or 3.1 databases to Version 3.2. In this section, the term *former* refers to your previous version of DS, and *new* refers to your new version.

Conversion Utilities 102

Convert Tracking Information (Optional) 103

Routing Maintenance (Main Screen)

Routing Code: 10-15000
Operation: 20

Standard Operation: 1030
Work Center: INSPEC
Machine: PER PROX-005

Description: INSPEC PER PROX-005
Machines per Op: 1
Overlap Units: 1
Queue Time: 1.0
Wait Time: 0.0
Setup Time: 0.0

Check Master

Conversion Utilities

If you are upgrading your DS software from Version 2.08 or 3.1 to Version 3.2, use the database conversion utilities, `208to32` and `31to32`, in the DS engine installation directory.

Open the `convert` folder and read the instructions in the `ReadMe` file.

The conversion utilities take the data stored in your former DS database and dump it in the new format required for loading into DS Version 3.2. This data can then be loaded into an empty DS 3.2 database.

The following instructions use a DS Version 2.08 conversion to Version 3.2 as an example. However, the instructions apply to conversions between Version 3.1 and 3.2 as well.

- 1 Start a command line session and change to the directory that applies to your conversion. For example, if you are converting from Version 2.08 to Version 3.2, use the following command.

```
cd \convert\208to32
```

- 2 Open the `Start` script in this directory in a text editor such as Notepad.
- 3 Edit the script to point to the PROGRESS (DLC) directory of your former Decision Support database. Modify the DLC variable in either the `DS2.08DB` or `DS3.1DB` section.
- 4 To begin the conversion, run the `Start` script.
- 5 Enter the directory where you want your former version's data dumped. To dump the data currently in your hierarchies, enter Yes in the corresponding field.
- 6 Press Enter to begin the dump.
- 7 When the dump is complete, your dump directory contains the `.d` files from your former Decision Support database. These files are ready to load into your new Decision Support database.
- 8 To load the `.d` files, make a copy of the Decision Support Version 3.2 empty database. This database is created during the Version 3.2 installation.

- 9 Start a single-user PROGRESS session against this copy.
- 10 From the Decision Support menu, select Data Administration and choose Load Data.
- 11 Select all tables to load.
- 12 Enter your dump directory.
- 13 After the load is complete, your new database contains all your former Decision Support data.
- 14 If you converted from a Version 2.08 database, complete the following section to convert tracking information.

Convert Tracking Information (Optional)

When converting from Decision Support Version 2.08, the conversion utility does not automatically convert tracking information. However, tracking information is converted automatically when updating from Version 3.1. In Version 3.2 this results in the Decision Support engine not recognizing that some, or all, of the data in your Version 2.08 database was previously processed and does not need to be updated again.

The same data will be extracted twice and duplicate records will be created if:

- You answered Yes to the Dump Extract Data prompt during your conversion.
- You use the Start Update routine with dates that overlap those for data already contained in your Decision Support 2.08 database.

The following example outlines the procedure required to convert tracking data after completing a Decision Support Version 2.08 to 3.2 conversion.

Example A Decision Support Version 2.08 database contains data for 10 hierarchies with records from January 1, 1997, to April 1, 1998. To convert the hierarchy data and have Decision Support track all the data loaded this year, complete the following steps.

▶ For more information, see “Conversion Utilities” on page 102.

- 1 During the conversion, answer Yes when prompted to dump hierarchy data.
- 2 Load the dumped data into your Decision Support Version 3.2 database.
- 3 Start the Decision Support engine and connect to your new Decision Support database.
- 4 Start an Update for all hierarchies. In the Date From field enter January 1, 1998. In the Date To field enter the current date. Because the conversion process brings no tracking information over from your former Decision Support database, this step creates a record of hierarchical data between the dates entered. After this step, the hierarchy data becomes temporarily incorrect.
- 5 When the update is complete, start a purge for all hierarchies. Set the Date From field to January 1, 1998, and the Date To field to the current date.
- 6 The new database now contains your former data from January 1, 1997, to December 31, 1997, and new data after that.

Note Do not update dates for these hierarchies before January 1, 1998. This causes duplicate data to be extracted.