

# Database Selection Guide

---

Use this guide to help you select the right database to use with your DriveRight Fleet Management Software (FMS), and to help you perform any required database installation procedures before you run DriveRight FMS for the first time.

DriveRight Fleet Management Software (FMS) supports the following databases.

## Single-User Databases:

- MS Access (Microsoft Access) (all required software included)
- MSDE (Microsoft Desktop/Data Engine) (all required software included)

## Multi-User Databases:

- MySQL
- MS SQL Server (Microsoft SQL Server)
- Oracle

When you first run your DriveRight FMS, you will be required to select a database to use with the software. Each of the supported databases for DriveRight FMS have their pluses and minuses. First, we'll look at the selection considerations for each of the databases. Later in this document we present the installation procedure for each of the databases.

## Selection Considerations: Single-User

So, which database should you use? Review the following considerations for each database and then select the best database for your situation.

### MS Access Considerations

Of the supported databases, MS Access is the easiest to install and use.

- There is no additional software to buy if you use MS Access. DriveRight FMS will automatically install all the necessary components when you first run the program.

- MS Access does have limitations to the number of users connected simultaneously to the database, the size of database, and reliability of database.
- MS Access is only recommended for installations that have one user.
- MS Access is only recommended for very small fleets of five vehicles or less. Be aware that if you are logging GPS data (required the DriveRight 600 with optional GPS), the database size increases very rapidly since GPS data is logged much more frequently than data from the DriveRight console. In such cases, if you decide to go with MS Access database, it is advised to backup your data at least once a month.
- Maximum database size for MS Access is 2 gigabytes.

### **MSDE Considerations**

MSDE stands for Microsoft Desktop/Data Engine, which is a scaled down version of SQL Server. It is the basic database with Client/Server architecture from Microsoft.

- There is no additional software to buy if you use MSDE. MSDE setup is included as an option during DriveRight FMS installation.
- MSDE works well with a maximum of five simultaneous connections.
- Since in some instances DriveRight FMS software maintains more than one connection to the database server, MSDE is also recommended for single-user installations.
- Maximum database size for MS Access is 2 gigabytes.
- In contrast to MS Access, MSDE runs as a Window's service. So if your computer has performance issues, we recommend MS Access instead of MSDE.

---

**Note:** *In our database performance tests, MS Access performed better than MSDE.*

---

# Active Database Size Recommendations

The following recommendations are based on tests and calculations made with these assumptions:

- 10 trips per day per vehicle.
- Trip duration 1 hour (10 hours driving time per day per vehicle)
- GPS data logged every 10 seconds.

---

**Note:** *If your fleet size exceeds the scenarios shown below, we recommend that you use a multi-user database.*

---

## Recommendations Table

Scenario	Number of Vehicles	Amount of Active Data in Database	Remarks and Recommendations
No GPS	25	Up to 1 year	Backup data once a month for application performance. Using automation options you can set maximum of 1 year of data in the active database
	50	Up to 9 months	Backup data once a month for application performance. Using automation options you can set maximum of 9 months of data in the active database
	100	Up to 6 months	Backup data once a month for application performance. Using automation options you can set maximum of 6 months of data in the active database
MSDE with GPS	5	Up to 1 month	Backup data every month for application performance. Using automation options you can set maximum of 1 months of data in the active database
MS Access with GPS	10	Up to 1 month	Backup data every month for application performance. Using automation options you can set maximum of 1 months of data in the active database
Multi-User Database with/without GPS	Unlimited	3-6 months	Backup data every month without GPS or once a week with GPS. Using automation options you can set a maximum of 6 months data in the active database.

## Selection Considerations: Multi-User

We recommend using either MySQL, MS SQL Server, or Oracle if more than one user will be accessing the data at a time, if the fleet has more than five vehicles, or if you are logging GPS data for more than one vehicle.

### MySQL, MS SQL Server & Oracle Considerations

MySQL, Oracle and MS SQL Server database servers are very powerful databases, which can support huge databases, multiple simultaneous connections, and with very good performance.

- Of these three powerful databases, MySQL is the most economical server with a cost of approximately \$220 (as of April 2003). It is by far the easiest to setup and maintain and is also the only multi-user database used by DriveRight FMS that does not require the support of a database administrator. We strongly recommend MySQL for customers with large fleets and potentially large databases that do not already have a license for MS SQL Server or for Oracle.
- MS SQL Server is a powerful database server from Microsoft. It is also easy to setup, but MS SQL Server is more expensive than MySQL.
- If you decide to go with MS SQL Server or Oracle, it is assumed that you have IT personnel who have knowledge to maintain these database servers.
- In case of MySQL, in future we plan to integrate most of the maintenance commands through the DriveRight FMS software, to eliminate any administrative overhead.
- Though Oracle is a very common database server among large applications, it is both expensive and difficult to maintain.
- In order to connect to Oracle server with DriveRight FMS running on multiple machines, Oracle Client software must be installed on each machine. Each installation of Oracle Client software must be individually licensed.

### Multi-User Database Server Setup

Follow this sequence when setting up a multi-user database for DriveRight FMS:

1. Server Installation
2. Client Installation
3. Database Configuration

---

## Multi-User Database Client Setup

Follow this sequence when installing DriveRight FMS on a user's computer:

1. Client Installation
2. Database Connection

## MS Access Installation

Of all the databases MS Access is the easiest to setup. DriveRight FMS automatically installs all the required components for this database.

### Server Installation

Not applicable. Automatically installed if selected during DriveRight FMS initial configuration.

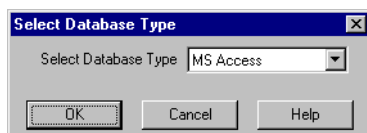
### Database Configuration

Not applicable. Automatically configured if selected during DriveRight FMS initial configuration.

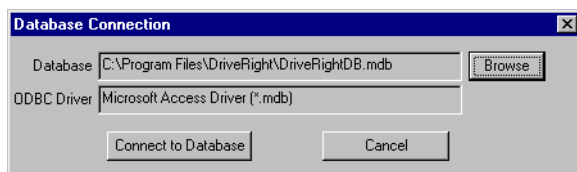
### Database Connection

Please refer to the “DriveRight Fleet Management Software Getting Started Guide” for DriveRight FMS installation and configuration instructions.

1. During the initial DriveRight FMS configuration, select MS Access as database type.

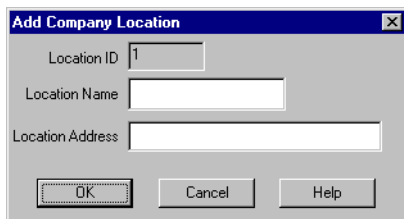


A dialog box is displayed with path in which the database will be created. This defaults to the DriveRight FMS install directory.



2. If you want to change the directory used for the MS Access database, click the Browse button and select the desired directory.

3. To finish the database connection, click the Connect to Database button. DriveRight FMS will create a new database if the database doesn't exist, or will connect to the specified database if the database already exists.
4. If the database is empty when you connect, you are prompted to enter location name and address to be associated with all data at your location. After entering the location name and address, click Add and the DriveRight software will start.



The screenshot shows a standard Windows-style dialog box titled "Add Company Location". It features a blue title bar with a close button (X) on the right. The main area is light gray and contains three text input fields. The first field, labeled "Location ID", contains the number "1". The second field, labeled "Location Name", is empty. The third field, labeled "Location Address", is also empty. At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Help". The "OK" button is highlighted with a dashed border.

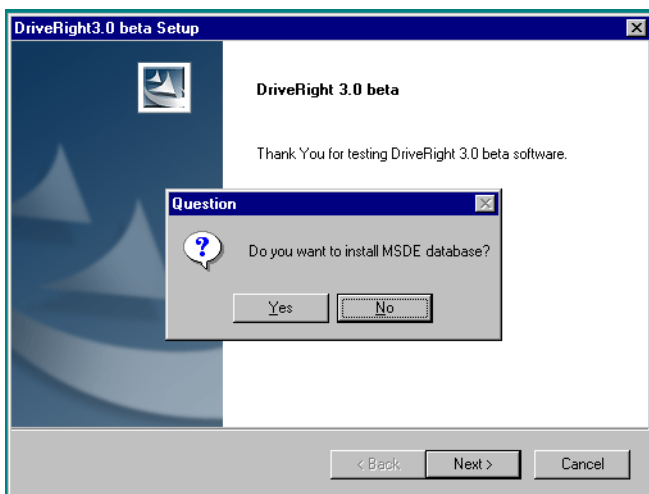
5. We recommend that only one user at a time use MS Access.

# MSDE Installation

MSDE setup is included as an option during DriveRight FMS installation.

## Server Installation

1. During DriveRight FMS installation, you will be asked if you want to install the MSDE database. Click yes. It will take approximately 10 minutes to install MSDE on your computer.



2. You need to make sure MSDE Server is running. To do this go to Startup->Programs->MSDE->Service Manager. Press the green arrow "Start/Continue" button to start MSDE. When MSDE is running, you will see a green indicator in the MSDE icon on the task bar.

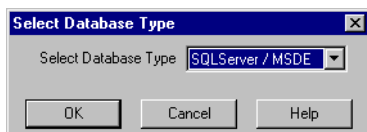


## Database Configuration

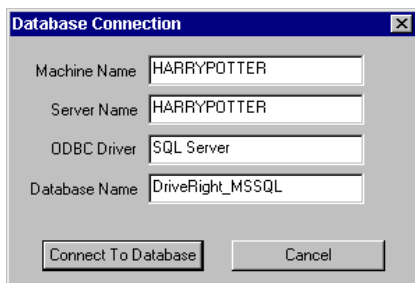
Not applicable. Automatically configured when MSDE is selected during DriveRight FMS initial configuration.

## Database Connection

1. When you run DriveRight FMS the database type selection dialog appears. Select SQL Server / MSDE and Click OK.



2. When you run the software for the first time, you get the Database Connection dialog with the following fields after selecting MSDE as your database:

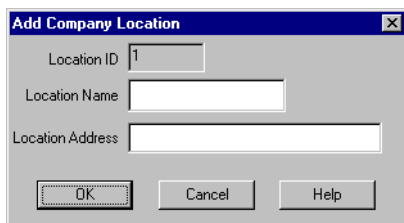


**Machine Name, Server Name:** Both these are defaulted to the local machine name. You do not need to change these.

**ODBC Driver:** This need not be changed in almost all the cases. If you have version 2.5 of SQL Server driver (unlikely), then you need to edit it to look like {SQL Server}.

**Database Name:** Defaults to DriveRight\_MSSQL. We recommend using the default database name to avoid setup complications.

3. If the database is empty when you connect, you are prompted to enter location name and address to be associated with all data at your location. After entering the location name and address, click Add and the DriveRight software will start.



4. It should be noted that the MSDE database server is optimized for a maximum of 5 simultaneous connections. Considering the fact that DriveRight FMS software may keep more than one connection alive, it is advisable to limit the number of users to one at a time.



# MySQL Installation

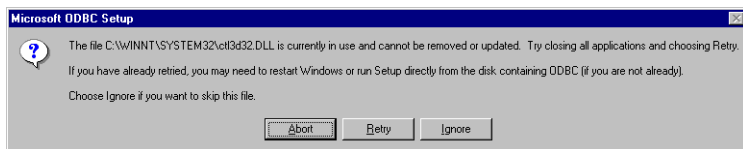
MySQL is a database server developed by a company named 'MySQL AB' as a Open Source Project. It is considered very fast, stable, and is very easy to setup compared to database servers like Oracle. Also, at a price tag of about \$220 (as of April 2003), it is by far the least expensive multi-user database server for use with DriveRight FMS. For medium to large fleets we strongly recommend MySQL server, especially if you do not already have a license for either Oracle or MS SQL server.

## Server Installation

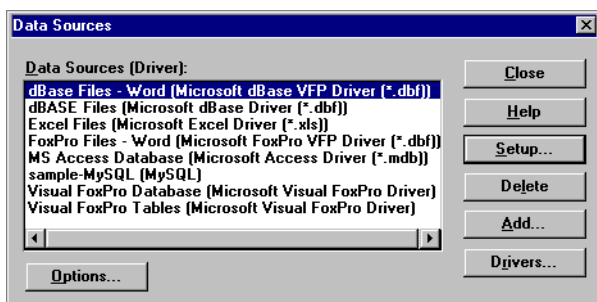
1. If you don't already have a license for MySQL, you need to buy one from their website: [www.mysql.com](http://www.mysql.com). MySQL Classic version is adequate for all DriveRight FMS applications.
2. Install MySQL Server. During installation of MySQL server, the setting of user names and passwords are optional.
3. You need to make sure MySQL is running first. To do this go to Startup->Settings->Control Panel->Administrative Tools -> Services. You will see a service name titled MySQL. If it is not running, select it, right click, and start it.

## Client Installation

1. The client software, MySQL Connector/ODBC 2.50, must be installed on all computers that will be running DriveRight FMS. This client software can be downloaded for free if you have purchased a license for MySQL server, and can be installed on any number of computers.
2. During the installation of the MySQL Connector/ODBC 2.50, when you get the following dialog box just click the ignore button:



3. At the following dialog box just click the Close button. You are finished installing the client software.

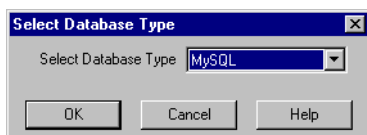


## Database Configuration

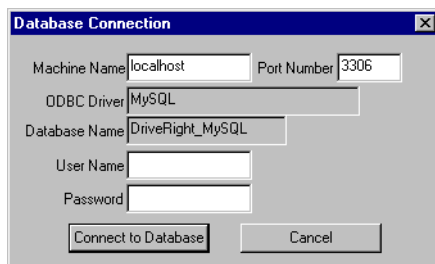
1. With MySQL running, install and run DriveRight FMS on the same machine as the database server. This is only required for the database configuration. After the database is configured you can remove DriveRight FMS from the server. When the database configuration is complete, you will be able to connect to MySQL server from any PC on the local area network.

**Note:** If you are running MySQL on a non-Windows server, you need to manually execute the SQL scripts to configure your database. The scripts are located in the "mySQL\_TablesCreation.sql" file on the install CD.

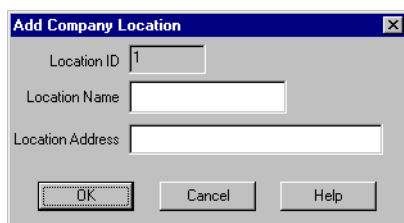
2. When you run DriveRight FMS the database type selection dialog appears. Select MySQL, and Click OK.



3. In the next dialog, you don't need to change any thing; just Click the Connect to Database button.

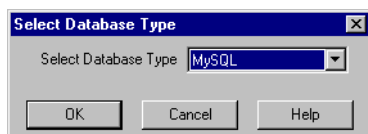


4. If the database is empty when you connect, you are prompted to enter location name and address to be associated with all data at your location. After entering the location name and address, click Add and the DriveRight software will start.

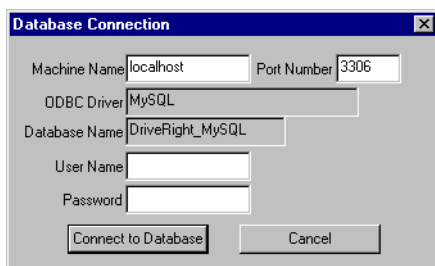


## Database Connection on User's Computer

1. From this point on, anyone who installs DriveRight FMS needs to enter the IP address noted above in the 'Machine Name' edit box of the Database Connection dialog. See Step 9.
2. When you run DriveRight FMS the database type selection dialog appears. Select MySQL, and Click OK.



3. In the next dialog, in the Machine Name edit box enter the machine name of MySQL Server. Contact your system administrator for the MySQL machine name.



4. Click the Connect to Database button to finish the database connection.

## MS SQL Server Installation

MSDE and MS SQL Server are compatible databases developed by Microsoft. MSDE is a single-user database while MS SQL Server is a multi-user, server based database. MS SQL Server will also require the services of a database administrator to install and maintain.

### Server Installation

1. If you don't already have a license for MS SQL Server, you can buy one from Microsoft.
2. Install MS SQL Server.
3. You need to make sure MS SQL Server is running. To do this go to Startup->Programs->Microsoft SQL Server->Service Manager. Press the green arrow "Start/Continue" button to start MS SQL Server. When the server is running, you will see a green indicator in the MS SQL Server icon on the task bar.

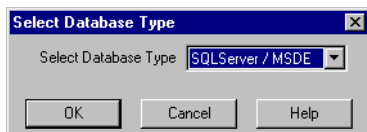


### Client Installation

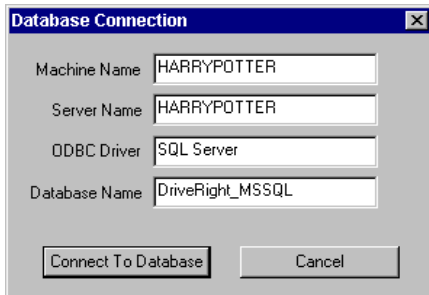
Not applicable.

### Database Configuration

1. With MS SQL Server running, install and run DriveRight FMS on the same machine as the database server. This is only required for the database configuration. After the database is configured you can remove DriveRight FMS from the server. When the database configuration is complete, you will be able to connect to MS SQL Server server from any PC on the local area network.
2. When you run DriveRight FMS the database type selection dialog appears. Select SQL Server / MSDE and Click OK.



- When you run the software for the first time, you get the Database Connection dialog with the following fields after selecting SQL Server / MSDE as your database:

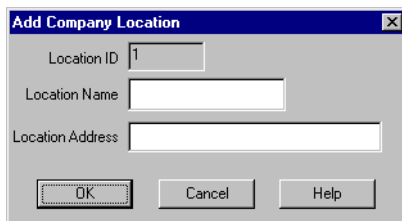


**Machine Name, Server Name:** Both these are defaulted to the local machine name. You need to change these.

**ODBC Driver:** This need not be changed in almost all the cases. If you have version 2.5 of SQL Server driver (unlikely), then you need to edit it to look like {SQL Server}.

**Database Name:** Defaults to DriveRight\_MSSQL. We recommend using the default database name to avoid setup complications on the client machines.

- If the database is empty when you connect, you are prompted to enter location name and address to be associated with all data at your location. After entering the location name and address, click Add and the DriveRight software will start.

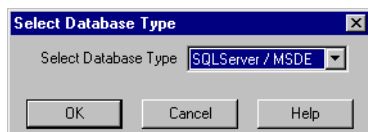


- Once you have configured the software with MSDE/SQL Server, you need to give permissions to users to connect from multiple machines. This depends on how SQL Server is setup. A simple approach would be to grant permissions to all windows users to connect; in this case windows Login/password is used to authenticate. This can be setup by running SQL Server Enterprise Manager, going to Security -> Logins and adding either individual users or domain users.
- From this point on, anyone who installs DriveRight FMS needs to enter the MS SQL Server machine name in the 'Machine Name' edit box of the Database Connection dialog. Contact your database administrator for the MS SQL Server machine name.

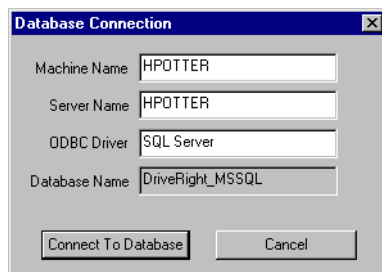
---

## Database Connection on User's Computer

1. When you run DriveRight FMS for the first time the database type selection dialog appears. Select SQL Server / MSDE and Click OK.



2. The Database Connection dialog is displayed:



3. Enter the Machine Name and Server Name.

**Machine Name, Server Name:** Both these are defaulted to your machine name. You need to change these. Contact your system administrator for the MS SQL Server Machine Name and Server Name. In most cases, both these names are the same.

**ODBC Driver:** This need not be changed in almost all the cases. If you have version 2.5 of SQL Server driver (unlikely), then you need to edit it to look like {SQL Server}.

**Database Name:** Defaults to DriveRight\_MSSQL and cannot be changed.

4. Click Connect to Database to finish the database connection or click Cancel to exit.

## Oracle Installation

Since Oracle server installation and administration are very complicated, you will require an Oracle database administrator to use Oracle with DriveRight FMS.

---

## Server Installation

1. If you don't already have a license for Oracle server, you can buy one from Oracle.
2. DriveRight FMS has been tested with Oracle9i server, with Oracle9i client. Since DriveRight FMS executes only the standard SQL statements, we believe the software will work with previous versions of Oracle server and client.
3. Create a database with SID as *DRight* using Database Configuration Assistant.
4. Create a Net Service Name called *DRight*, with the SID you created in Step 3.
5. Create a user name and password for FMS users to connect to Oracle server.

## Client Installation

Oracle client must be installed on all computers running DriveRight FMS. Please check with your Oracle database administrator for client licensing.

The following steps are for installing Oracle Client 9i. If you install a different version of Oracle Client, some steps might vary.

---

**Note:** *Please follow these steps carefully and in the sequence in which they are written. Oracle installation is a time consuming process, and if you go wrong at some place you may have to reinstall the whole Oracle Client again.*

---

### Oracle Client 9i Installation:

1. Locate and run the Oracle Client cd. Click on autorun.exe. You should see Oracle9i Client installation screen.
2. Click on 'Install/Deinstall Products' button. It takes a few seconds to respond, and then you'll see a Welcome screen.
3. Click on 'Installed Products' button. If the dialog box says you have no installed products, go to step 5. If an older version exists, a dialog box pops up with the details.
4. You need to remove these before you proceed with 9i installation. The dialog box shows the installed products as a tree structure. Expand the tree, and you will see check boxes. Expand and check all the shown items, and click 'Remove', and wait until every thing is deinstalled.
5. Now you are ready to install 9i Client. Click 'Next'. In the next dialog box, click Next'. This step takes a few seconds.
6. In 'Installation Types' dialog, select 'Administrator' radio button and click 'Next'.

7. In 'Summary' dialog click 'Install'. This is the most time consuming step.
8. If the installation is successful, you'll see Oracle Net Configuration Assistant. This helps in creation of Net Service Name, which in turn is used during creation of DSN. Select 'No, I will create net service names....' radio button, click Next
9. Select 'Oracle8i or later....' Click Next
10. Enter Service Name as 'DRight' (no quotes) click next
11. Select 'TCP' and click Next.
12. Enter your Oracle server IP address as the Host Name and click Next. Contact your database administrator for the Oracle server IP address. If this step takes more than 10 minutes, please skip the remaining steps and go to the next section "Creating Listener, and Net Service Name manually".
13. Click 'Yes, perform a test' and then click Next.
14. You will most likely see a success message. Click 'Change Login' and change both user name and password to user name and password given by your system administrator. Go back and click Next, it performs a test connection with the new user name and password.
15. Leave Net Service Name as it is and click Next.
16. When you are prompted to configure another Net Service Name, select 'No' and click Next and then click Finish.
17. Click Exit in installation dialog. You are done with installing Oracle 9i client, and configuring Net Service Name. Go to the 'Creating and Configuring Oracle DSN' section.



## Creating Listener and Net Service Name manually

If you are in this section, you had problems creating a service name while creating Oracle Client. If every thing worked fine in the previous section move on to the next section.

1. First close the present Oracle Client Installation dialog. You might get a message which says some things are not installed correctly, but that's fine, we'll fix that in the following steps.
2. Go to Programs->Oracle-OraHome90->Configuration and Migration Tools-> Net Manager.
3. Expand 'Local', then 'Listeners'. If you see 'LISTENER', you have a listener created during 9i Client installation. If so, go to step 5.
4. If you are here, you don't see a Listener. Click on Listeners, and then click the '+' icon on the left side. Leave the name as 'LISTENER'. Then click, 'Add Address' button, and leave the defaults as such.
5. Click 'Add Address' again, and this time, select Protocol as 'IPC' from the protocol drop down box. Enter key as 'EXTPROC0'. (last character is a zero, and the character before C is capital letter O.)
6. Expand 'Service Naming'. If you see a child node, with a name similar to dright.davisnet.com, then move to step 9.
7. Click on 'Service Naming' and then click the '+' icon. Add Net Service Name as 'DRight'. click, Next, and again Next. In the Host Name, enter the Oracle server IP address provided by your database administrator. Click Next to continue.
8. Select 'Oracle8i or later' radio button, and enter 'DRight' in the text box. Click Next.
9. Click Test button. If this step fails, please contact your database administrator. If this step succeeds, click Change Login, and change both user name and password to the user name and password provided by your database administrator.
10. Click OK, and click the Test button again. Then close the dialog box.
11. Click Finish.
12. Expand Service Naming, select the child node which looks similar to: (DRight.your\_company\_name.com). Check for the parameters. Host Name should be the IP address of your Oracle server.
13. Close Net Manager, and click Save when it prompts you. Proceed to the next section.

## Creating and Configuring Oracle DSN

1. Go to Start->Settings->Control Panel
2. Double click 'Administrative Tools', and then Data Sources
3. In Data Sources dialog, select 'System DSN' tab.

4. Click 'Add' button, and in the list of drivers select 'Oracle in OraHome90'. (you'll see it almost at the bottom of the list), and click Finish
5. In Data Source Name, enter 'DriveRightOracle'. In TNS Service Name, select DRIGHT (this is what you created in the previous step). Enter the user name and password provided by your database administrator and click OK.
6. You should get Connection Successful message, if not, check for any spelling mistakes and try again.
7. Click OK, and you'll see it in the list of System Data Sources.

## Database Configuration

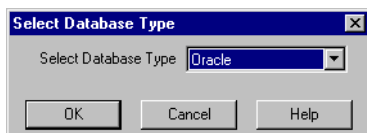
1. With the Oracle server running, install and run DriveRight FMS on the same machine. This is only required for the database configuration. After the database is configured you will be able to connect to Oracle server from any PC on the local area network.

---

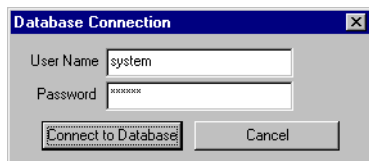
**Note:** *If you are running Oracle on a non-Windows server, you need to manually execute the SQL scripts to configure your database. The scripts are located in the "oracle\_TablesCreation.sql" file on the install CD.*

---

2. Run DriveRight FMS for the first time the database type selection dialog appears. Select Oracle and Click OK.

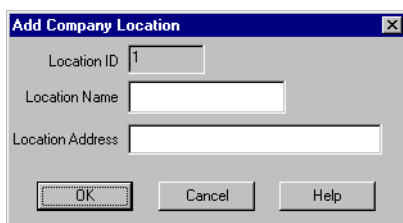


3. The Database Connection dialog is displayed:



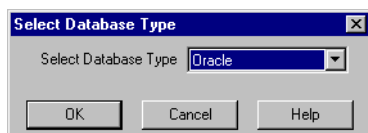
4. Enter the user name and password created in step 4 of the Server Installation procedure.
5. Click Connect to Database to finish the connection or click Cancel to exit.

6. If the database is empty when you connect, you are prompted to enter location name and address to be associated with all data at your location. After entering the location name and address, click Add and the DriveRight software will start.

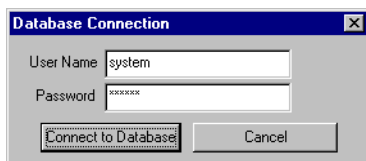


## Database Connection on User's Computer

1. When you run DriveRight FMS for the first time the database type selection dialog appears. Select Oracle and Click OK.



2. The Database Connection dialog is displayed:



3. Enter the user name and password provided by your database administrator.
4. Click Connect to Database to finish the connection or click Cancel to exit.

---

## Contacting Davis Technical Support

If you have questions about DriveRight FMS, or encounter problems installing or using the software, please contact Davis Technical Support. Most questions can be answered while you're on the phone.

*NOTE: Sorry, we are unable to accept collect calls.*

**(510) 732-7814** – Monday through Friday, 7:00 a.m. to 5:30 p.m. Pacific Time.

**(510) 670-0589** – Fax to Technical Support.

**support@davisnet.com** – E-mail to Technical Support.

**info@davisnet.com** – E-mail to Davis Instruments.

**www.davisnet.com** – Product documentation is available on the DriveRight Support section of our website. Watch for FAQs and other updates.

---

Product Numbers: 8186  
Davis Instruments Part Number: 7395.195  
DriveRight® Fleet Management Software Database Selection Guide  
Rev B, December 19, 2003

This product complies with the essential protection requirements of the EC EMC Directive 89/336/EC.

Copyright © 2003 Davis Instruments Corp. All rights reserved.



3465 Diablo Avenue, Hayward, CA 94545-2778 U.S.A.

510-732-9229 • Fax: 510-732-9188

E-mail: [info@davisnet.com](mailto:info@davisnet.com) • [www.davisnet.com](http://www.davisnet.com)