
OpenAccess Client Installation Guide

Part # OA-CLIENT-V560-DOC-INST

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Preface

About this Manual

This manual describes the installation of the OpenAccess client components that include the OpenAccess ODBC Driver, the OpenAccess OLE DB Provider, the OpenAccess JDBC Driver, and the OpenAccess .NET Provider.

Specifically, the topics covered include:

- Installation of OpenAccess ODBC driver, OpenAccess JDBC driver, OpenAccess OLE DB provider, and OpenAccess .NET Data Provider.
- Testing of the installed components.

For ODBC Driver for Windows go to *Chapter 1: Installing the OpenAccess ODBC Driver*.

For OLEDB Provider go to *Chapter 2: Installing the OpenAccess OLE DB Provider*.

For JDBC Driver for Windows go to *Chapter 3: Installing the OpenAccess JDBC Driver*.

For .NET Provider go to *Chapter 4: Installing the OpenAccess .NET Provider*.

For ODBC Driver for UNIX go to *Chapter 5: Installing the OpenAccess ODBC Driver for UNIX*.

For JDBC Driver for UNIX go to *Chapter 6: Installing the OpenAccess JDBC Driver for UNIX*.

Details of using the OpenAccess drivers are provided in the *OpenAccess Client User's Guide*.

Notation Convention

The courier font is used for system-dependent keywords and commands to be typed by the user or for code samples and program output. The pipe character '|' is used as a shortcut notation and separator between menus, sub-menus, and items. As an example: 'File | Open' means the Open option from the File menu.

Technical Support

Technical support is available by telephone and Email. Please provide the OpenAccess product version and the platform you are running on when calling/writing for technical support.

Telephone	UNITED STATES: 888-DDANSWR (888-332-6797) Others: see http://www.datadirect.com/support/contactus/phone/index.ssp
Email	supportlink@datadirect.com

Table Of Contents

INSTALLING THE OPENACCESS ODBC DRIVER.....	1-1
INSTALLING THE OPENACCESS OLE DB PROVIDER.....	2-1
INSTALLING THE OPENACCESS JDBC DRIVER.....	3-1
INSTALLING THE OPENACCESS .NET DATA PROVIDER.....	4-1
INSTALLING THE OPENACCESS ODBC DRIVER FOR UNIX	5-1
INSTALLING THE ODBC DRIVER	5-1
INSTALLING THE OPENACCESS JDBC DRIVER FOR UNIX	6-1
INSTALLING THE JDBC DRIVER	6-1
CD-ROM MOUNTING NOTES	7-1
ALPHA/TRU64 UNIX (FORMERLY DIGITAL UNIX)	7-1
SPARC/SOLARIS 2.X	7-1
PARISC/HPUX	7-1
INTEL (NCR)/AT&T UNIX.....	7-2
INTEL/SCO UNIX	7-2
INTEL/SCO OPENSERVICES UNIX	7-2
INTEL/LINUX UNIX	7-2
 LIST OF TABLES	
TABLE 1-1: OPENACCESS DIRECTORY STRUCTURE	1-2
TABLE 2-1: OPENACCESS DIRECTORY STRUCTURE	2-2
TABLE 3-1: OPENACCESS DIRECTORY STRUCTURE	3-2
TABLE 4-1: OPENACCESS DIRECTORY STRUCTURE	4-2
TABLE 5-1: PLATFORM SYMBOLS	5-2
TABLE 5-2: INSTALLING FROM CD-ROM OR TAR FILE	5-2
TABLE 5-3: OPENACCESS DIRECTORY STRUCTURE	5-3
TABLE 5-4: DEFAULT OPENRDA.INI SEARCH ORDER	5-3
TABLE 5-5: ENVIRONMENT VARIABLE SETUP	5-3
TABLE 5-6: LOGIN ENVIRONMENT VARIABLE SETUP.....	5-4

TABLE 6-1: PLATFORM SYMBOLS	6-2
TABLE 6-2: INSTALLING FROM CD-ROM OR TAR FILE	6-2
TABLE 6-3: OPENACCESS DIRECTORY STRUCTURE	6-3
TABLE 6-4: DEFAULT OPENRDA.INI SEARCH ORDER	6-3
TABLE 6-5: ENVIRONMENT VARIABLE SETUP	6-3

Chapter 1

Installing the OpenAccess ODBC Driver

This chapter details the steps required for installing the OpenAccess ODBC Driver for Microsoft Windows. Always refer to the Release Notes shipped with your software for any updates to this document. For installing the OpenAccess ODBC Driver on UNIX, please refer to the *Installing the OpenAccess ODBC Driver for UNIX* chapter in this guide. Do not refer to this chapter if you are working with the local OpenAccess SDK product.

Installation of the OpenAccess ODBC Driver software on a system involves the following steps:

- Installing the OpenAccess ODBC Driver files on the system and registering the driver with the ODBC driver manager.
- Testing connectivity to an installed OpenAccess database.
- Using the OpenAccess ODBC driver from a desktop application like Microsoft Query.

1. Gather the following information:

- Directory path to which you want to install the software
- The client license file
- The name of the OpenAccess database you want to connect to. Please note that the database name must match the database name as it exists on your OpenAccess server. To connect to the sample database installed on your server, use the name `test_{server name}`
- IP address/host name of your server (assuming you are on a TCP/IP network)
- The TCP/IP port the server is running at (1706 for example)

2. Start the installation process by following the instructions given below

From media:

- a. Insert the OpenAccess SDK CDROM.
- b. Run `{cdrom}\client\odbcdrv.exe` and follow the instructions.

From installation file:

- a. Obtain a self extracting installation file (for example odbcdrv.exe) and execute it.

The installation program copies the required files to your disk and creates a program group with the icons for the installed software components. The directory structure shown in Table 1-1 is created under the target directory.

The installation program uses the specified OpenAccess database name to create a OpenAccess database entry and to register a ODBC database entry with the ODBC driver manager. You can now use this ODBC entry from any ODBC compliant applications or you can create new ones to access another OpenAccess database server.

Table 1-1: OpenAccess Directory Structure

Directory	Description
{root}	The root directory for OpenAccess products.
--bin	
-- {platform}	ODBC Driver DLLs and support programs.
--schema	Files required for configuration of the OpenAccess components.
--config	
-- {platform}	Configuration files

3 Connect to a OpenAccess database server

Next you will run the OpenAccess Interactive SQL (ODBC) program and connect to the OpenAccess database you specified during the installation process.

- a. Make sure your OpenAccess Server is up and running.
- b. Run Interactive SQL from the OpenAccess program group by clicking on the Interactive SQL (ODBC) icon.

- c. Connect to the database you specified during installation:

If no user name is required then,

```
ISQL> connect test_{server name}
```

Else use:

```
ISQL> connect uid*pwd@test_{server name}
```

- d. Execute a query to get a list of tables:

```
ISQL>select * from OA_TABLES;
```

This should generate a list of tables.

- e. Exit by typing `exit`.

Successful completion of this step indicates that OpenAccess ODBC driver is set up properly and able to connect to the specified OpenAccess server. If you encounter problems then please refer to the troubleshooting chapter in the *OpenAccess Client User's Guide* for possible solutions.

4 Use the ODBC data source you set up from MS Query

In this step we will use an ODBC compliant application to access the database using OpenAccess ODBC Driver. The instructions below show the use of MSQuery 8.0 to connect to the database, execute a query to get a list of test tables, and then display the contents of one of the test tables.

- a. Run MS Query from Microsoft Excel's *Data→Import External Data* menu →New Database Query.
- b. This will bring up an ODBC Data Sources list containing the list of all available System and File DSN's on your system. File DSNs are denoted by an asterisk at the end. Select the System DSN data source you setup (in our case test_{server name}).
- c. MSQuery will attempt to connect to the OpenAccess database. If the server requires user name and password then enter it in, otherwise leave the fields blank. Select the EMP entry when a list of tables is displayed and select Add to add the EMP table to the MS Query and select close to close the Add Tables window. This will bring up a query building window with all columns in the table listed and a star (*). Drag the star down to the dialog box to query the EMP table. This should fill the data window with rows from the EMP table on the server.
- d. Exit MS Query with File | Return Data to Microsoft Office Excel, this will return your data in Microsoft Excel spread sheet.

5. Set up an ODBC data source

Follow the instructions below to set up the OpenAccess ODBC driver to connect to additional OpenAccess database servers.

The Microsoft ODBC Administrator is used to add new ODBC data sources. This program is accessible from the Windows Control Panel. Start it by double clicking on the icon. The ODBC Administrator allows creation of two types of data sources: Machine DSN (System or User DSN) and File DSN. Most applications work with System DSN and do not require or support File DSN.

Set up System DSN

- a. Select the System DSN tab
- b. Click the Add button to define a new data source
- c. Select DataDirect OpenAccess as the driver and click the Finish button. This will bring up the OpenAccess ODBC setup dialog box with the following fields (example data is given in parenthesis):
 - ODBC Name – the name ODBC applications will use (test_{server name})
 - Description - description of the data source (My OpenAccess ODBC Source)
 - Database – the OpenAccess database to connect to (test_{server name})
- d. Click Advanced to configure the OpenAccess database to be associated with the new ODBC data source. This will bring up the OpenAccess Database Configuration window.
- e. Click Add and fill in the fields on the OpenAccess Database Setup dialog, only fields required are Database Name, IP Address and port number. Leave the following fields empty: Connect String, Type, Schema Path. Click OK when done. This will configure an OpenAccess database.

- f. Click OK in the OpenAccess Database Configuration dialog.
- g. Select the Database field from the drop-down list and click the OK button.

You now have an ODBC data source (test_{server name}) setup to connect to your database (test_{server name}). Any request to connect to the ODBC data source will result in connection to the associated OpenAccess database.

Exit the ODBC Administrator.

Set up File DSN

- a. Select the File DSN tab
- b. Click the Add button to define a new data source
- c. Select DataDirect OpenAccess as the driver and click the Advanced button. This will bring up the Advanced File DSN Creation Settings dialog box with one field to allow you to enter the keywords and values specific to the OpenAccess ODBC driver. Enter values for the following keywords:

Driver={DataDirect OpenAccess}

Database=test_{server name}

DescribeParam={y/n}

The Driver and Database keyword settings are mandatory. DescribeParam setting is optional and if no value is specified then the default value "n" is used (no support needed for SQLDescribeParam). Click the OK button after you have entered the above keywords and their values. This will bring you back to the Select a driver dialog box.

- d. Click the Next button. This will bring the Create New Data Source dialog box that allows you to enter the file name for the File DSN you are creating. The convention is to have the file name as test_{server name}.
- e. Enter the file name and click the Next button. This brings up the dialog that allows you to verify the settings before creating the data source.
- f. Verify the information and click the Finish button. The Administrator then attempts to connect to the new data source that is setup. Verify that the server for the data source is running and enter the logon information.
- g. After a successful logon, the new data source is added.
- h. Exit the ODBC Administrator.

Congratulations!!! You have installed OpenAccess ODBC Driver and have tested it by creating an ODBC data source and connecting to your OpenAccess database server. Repeat steps 3-5 to create and test ODBC data source entries that connect to other OpenAccess databases.

Chapter 2

Installing the OpenAccess OLE DB Provider

This chapter details the steps required for installing the OpenAccess OLE DB Provider on a Microsoft Windows system to interact with an OpenAccess Server. Always refer to the Release Notes shipped with your software for any updates to this document. Do not refer to this chapter if you are working with the local OpenAccess SDK product.

Installation of the OpenAccess OLE DB Provider involves the following steps:

1. Installing the OpenAccess OLE DB Provider files on your system. The installation configures the Database Resource Directory to access an OpenAccess database and also register the OpenAccess OLE DB Provider with display name `OpenRDA`.
2. Testing connectivity to an installed OpenAccess Server.

1. Gather the following information:

- Directory path to which you want to install the software
- The client license file
- The name of the OpenAccess database you want to connect to. To connect to the sample database installed on your server, use the name `test_{server name}`
- IP address/host name of your server (assuming you are on a TCP/IP network)
- The TCP/IP port the server is running at (1706 for example)

2. Start the installation process by following the instructions given below

From media:

- a. Insert the OpenAccess SDK CDROM.
- b. Run `oledbprv.exe`, or
`{cdrom}\client\oledbprv.exe` and follow the instructions.

From installation file:

- a. Obtain a self extracting installation file (for example `oaoledb.exe`) and execute it.

The installation program copies the required files to your disk and creates a program group with the icons for the installed software components. The directory structure shown in Table 2-1 is created under the target directory.

The installation program uses the specified OpenAccess database name to create a OpenAccess database entry. You will be able to use this entry in the next step.

Table 2-1: OpenAccess Directory Structure

Directory	Description
{root}	The root directory for OpenAccess products.
--bin	
--iwinnt	OLE DB provider DLL and support programs.
--schema	Files required for configuration of the OpenAccess components.
--config	
--iwinnt	Configuration files

3. Connect to the OpenAccess database

- Next we will run Interactive SQL (OLE DB) to test the OLE DB Provider. The installation installs an OLE DB provider called *OpenAccess* with description DataDirect OpenAccess OLE DB Provider.
- Make sure your OpenAccess Server is up and running.
- Run Interactive SQL from the OpenAccess program group by clicking on the Interactive SQL (OLE DB) icon.
- Execute connect command

```
ISQL> connect
```

- Select OpenAccess as the OLE DB provider and enter in test_{server name} in the Data Source field. If your server requires user name and password then fill it in also.

- Execute a query to get a list of tables:

```
ISQL>select * from OA_TABLES;
```

This should generate a list of tables.

- Exit by typing exit.

Successful completion of this step indicates that the OpenAccess OLE DB provider is set up properly and able to connect to a OpenAccess database server. If you encounter problems then please refer to the troubleshooting chapter in the *OpenAccess Client User's Guide* for possible solutions.

Now you can run an OLE DB or ADO compliant application and connect using your database name. Following is an excerpt from a sample VB Script:

```
<!-- ADO recordset object -->
<object id=rs classid="clsid:00000535-0000-0010-8000-00AA006D2EA4"></object>
<script language="VBScript">
! *****
```

```

' Open the recordset / execute the sql query
'
connect = "provider=OpenRDA;data source={example};
        user id=abc;password=xyz;"
query = "select * from emp"
adOpenKeyset = 1

rs.Open query, connect, adOpenKeyset
</script>

```

4. Set up to connect to a OpenAccess database server

Follow the instructions below to set up the OpenAccess OLE DB provider to connect to additional OpenAccess database servers.

Run the Administration Tool from the OpenAccess program group and use it to add entry for the OpenAccess database you would like to connect to.

- a. Make sure you have the Database tab selected.
- b. Select New, to add a new database entry.
- c. Enter the following information

NAME	= {EXAMPLE}
ADDRESS	= {server's IP address or host name}
PORT	= port your server is running on
CONNECT_STRING	= Leave blank
TYPE	= Leave blank
SCHEMA_PATH	= Leave blank
REMARKS	= DB for example

- d. Select OK to save and exit from the Administration Tool.

Congratulations!!! You have installed OpenAccess OLE DB Provider and have tested it by connecting to your OpenAccess database. You can repeat step 4 to create additional data source entries that connect to other OpenAccess databases.

Chapter 3

Installing the OpenAccess JDBC Driver

This chapter details the steps required for installing the OpenAccess JDBC Driver on a Microsoft Windows system. Always refer to the Release Notes shipped with your software for any updates to this document. Do not refer to this chapter if you are working with the local OpenAccess SDK product.

Installation of the OpenAccess JDBC Driver involves the following steps:

1. Installing the OpenAccess JDBC Driver files on the system.
2. Modifying the system PATH variable to include the path to oajdbc.dll and modifying the CLASSPATH variable to include the oadriver.jar file and the current directory.
3. Testing connectivity to an installed OpenAccess Server from Interactive SQL.

1. Gather the following information:

- Directory path to which you want to install the software
- The client license file
- The name of the OpenAccess database you want to connect to. To connect to the sample database installed on your server, use the name `test_{server name}`
- IP address/host name of your server (assuming you are on a TCP/IP network)
- The TCP/IP port the server is running at (1706 for example)

2. Start the installation process by following the instructions given below

From media:

- a. Insert the OpenAccess SDK CDROM.
- b. Run `jdbcdrv.exe`, or `{cdrom}\client\jdbcdrv.exe` and follow the instructions.

From installation file:

- a. Obtain a self extracting installation file (for example `oajdbc.exe`) and execute it.

The installation program copies the required files to your system and creates a program group with the icons for the installed software components. The directory structure shown in Table 3-1 is created under the target directory.

The installation program uses the specified OpenAccess database name to create a OpenAccess database entry. You will be able to use this entry in the next step.

Table 3-1: OpenAccess Directory Structure

Directory	Description
{root}	The root directory for OpenAccess products.
--bin	
--iwinnt	JDBC driver DLL oajdbc.dll and supporting programs.
--schema	Files required for configuration of the OpenAccess components.
--config	
--iwinnt	Configuration files
--jdbc	oadriver.jar file and JDBC Interactive SQL

3. Configure PATH and CLASSPATH

Append {root}\bin\iwinnt to the system PATH environment variable for oajdbc.dll.

Append {root}\jdbc\oadriver.jar and the current directory (.) to the CLASSPATH environment variable to enable access to the OpenAccess JDBC driver classes and to allow running Interactive SQL.

4. Connect to the OpenAccess database

Run Interactive SQL (JDBC) to connect to a OpenAccess database server using the OpenAccess JDBC driver. The OpenAccess JDBC driver class is *jdbcsql.oadriver* and it accepts a URL of the form *jdbc:OpenAccess:database*, where database is the name of the OpenAccess database.

- Make sure your OpenAccess Server is up and running and you have correctly set the PATH and CLASSPATH environment variables.

- Run Interactive SQL from the OpenAccess program group by clicking on the Interactive SQL (JDBC) icon.

- Connect to the database you set up in the previous step:
If no user name is required then,

```
ISQL> connect myDatabase
```

else use:

```
ISQL> connect uid*pwd@myDatabase
```

- Execute a query to get a list of tables:

```
ISQL>select * from OA_TABLES;
```

This should generate a list of tables.

- Exit by typing `exit`.

You can perform more tests by using this driver with other JDBC applications.

Successful completion of this step indicates that the OpenAccess JDBC driver is set up properly and is able to connect to the specified OpenAccess Server. If you encounter problems then please refer to the troubleshooting chapter in the *OpenAccess Client User's Guide* for possible solutions.

5. Set up to connect to a OpenAccess database server

Follow the instructions below to set up the OpenAccess JDBC driver to connect to additional OpenAccess database servers.

Run the Administration Tool from the OpenAccess program group and use it to add entry for your database.

- a. Make sure you have the Database tab selected.
- b. Select New, to add a new database entry.
- c. Enter the following information

NAME	= Name of your database (i.e. myDatabase)
ADDRESS	= {server's IP address or host name}
PORT	= port your server is running on
CONNECT_STRING	= Leave blank
TYPE	= Leave blank
SCHEMA_PATH	= Leave blank
REMARKS	= DB for example

- e. Select OK to save and exit from the Administration Tool.

Congratulations!!! You have installed OpenAccess JDBC driver and have tested it by connecting to your OpenAccess database. You can repeat step 4 to create additional data source entries that connect to other OpenAccess databases.

Chapter 4

Installing the OpenAccess .NET Data Provider

This chapter details the steps required for installing the OpenAccess .NET Provider on a Microsoft Windows system. Do not refer to this chapter if you are working with the local OpenAccess SDK product.

Installation of the OpenAccess .NET Provider involves the following steps:

1. Installing the OpenAccess .NET Provider files on the system.
2. Appending {root}\bin\iwinnt to the PATH environment variable for oanet.dll.
3. Testing connectivity to an installed OpenAccess Server.

1. Gather the following information:

- Directory path to which you want to install the software
- The client license file
- The name of the OpenAccess database you want to connect to. To connect to the sample database installed on your server, use the name `test_{server name}`
- IP address/host name of your server (assuming you are on a TCP/IP network)
- The TCP/IP port the server is running at (1706 for example)

2. Start the installation process by following the instructions given below

From media:

- a. Insert the OpenAccess SDK CDROM.
- b. Run `netprv.exe`, or
 `{cdrom}\client\netprv.exe` and follow the instructions.

From installation file:

- a. Obtain a self extracting installation file (for example `oanet.exe`) and execute it.

The installation program copies the required files to the system and creates a program group with the icons for the installed software components. The directory structure shown in Table 4-1 is created under the target directory.

The installation program uses the specified OpenAccess database name to create a OpenAccess database entry. You will be able to use this entry in the next step.

Table 4-1: OpenAccess Directory Structure

Directory	Description
{root}	The root directory for OpenAccess products.
--bin	
--iwinnt	.NET provider DLL and support programs.
--schema	Files required for configuration of the OpenAccess components.
--config	
--iwinnt	Configuration files
--net	.NET sample files and .NET classes DLL

3. Connect to the OpenAccess database

Next we will run .NET samples, to test the .NET Provider. The installation installs a .NET provider with *OpenRDA.Data.OaClient* namespace. In OpenAccess .NET provider, all .NET objects name start with *Oa* as prefix. e.g. *OaConnection*, *OaCommand* etc.

We accept following keywords in connect string separated by semi colon:

- Database, Data Source or DSN – Server database name created using WRDAADMIN tool.
- User Id or UID – User name to authenticate the database access.
- Password or PWD - Password to authenticate the database access.

Make sure that the OpenAccess database server you specified during the installation is up and running.

Open a Windows command box and change to {root}/net directory.

- a. Execute the sample connect.exe application to test the connection:

```
C:\oasdk\net> connect
```

This application will connect to test_local database by default. If you want to connect to your IP specific database, you can provide the database name in the command line argument while running the connect program. Usage of the connect application is:

```
connect {database {UserName {password}}}
```

- b. Test table access using select.exe application, by giving following command:

```
C:\oasdk\net> select
```

This application will connect to test_local database and display records from EMP table by default. If you want to connect to your specific database and display records from any other table, you can provide the database name and table name in the command line argument. Usage of the select application is:

```
select {database {UserName {password {table}}}}
```

- c. You can perform more tests by using this provider with other .NET applications.

Successful completion of this step indicates that OpenAccess .NET Provider is set up properly and able to connect to a server through TCP/IP. If you encounter problems in step (b), then refer to the troubleshooting chapter for possible solutions.

4. Set up to connect to a OpenAccess database server

Follow the instructions below to set up the OpenAccess .NET provider to connect to additional OpenAccess database servers.

Run the Administration Tool from the OpenAccess program group and use it to add entry for the example database.

- a. Make sure you have the Database tab selected.
- b. Select New, to add a new database entry.
- c. Enter the following information

NAME	= {EXAMPLE}
ADDRESS	= {server's IP address or host name}
PORT	= port your server is running on
CONNECT_STRING	= Leave blank
TYPE	= Leave blank
SCHEMA_PATH	= Leave blank
REMARKS	= DB for example

- d. Select OK to save and exit from the Administration Tool.

Congratulations!!! You have installed OpenAccess .NET Provider and have tested it by connecting to your OpenAccess database. You can repeat step 4 to create additional data source entries that connect to other OpenAccess databases.

Chapter 5

Installing the OpenAccess ODBC Driver for UNIX

This chapter walks you through the steps to install the OpenAccess ODBC Driver for UNIX.

Installation of the OpenAccess ODBC software involves the following steps:

1. Installing the OpenAccess ODBC Driver, the DataDirect driver manager, and test programs on your UNIX platform.
2. Testing the operations of the installed software.
3. Testing ODBC access to a sample database from a client application.

Installing the ODBC Driver

Installation of the OpenAccess ODBC driver requires a set of files to be copied to your hard disk and configuration files to be modified.

1. Gather the following information:

- The device name of your CD-ROM from which you will install the software. In the instructions we assume '/dev/xxx'
- The client license file
- The information about the OpenAccess Server database you would like to connect to: name, IP address or host name and port number. Please note that the database name must match the database name as it exists on your OpenAccess server. Our examples assume mydb.

2. Install the files from the media

Follow the instructions in Table 5-2. Refer to Table 5-1 for platform identifiers.

Table 5-1: Platform Symbols

Symbol	Substitution	
{platform}	aunix	Alpha/Digital Unix (OSF)
	avms	Alpha/OpenVMS
	awinnt	Alpha/Microsoft Windows NT
	ilinux	Intel/Red Hat Linux MIPS/Linux
	iscounix	Intel/SCO Unix
	iscounix	Intel/SCO OpenServer 5.x
	iwinnt	Intel/Microsoft Windows NT
	os2	Intel/IBM OS/2 Warp 4
	phpux	PARISC/HPUX
	raix	RS6000/IBM AIX
	ssunos5	SPARC/Solaris 2.x Intel/Solaris 2.x
	vvms	VAX/OpenVMS

Table 5-2: Installing from CD-ROM or tar file

Platform	Instructions
Intel SCO UNIX SCO OpenServer Linux Solaris IBM RS6000 AIX 4.3 + HP-9000 HP-UX 10.x + Alpha Digital Unix (Tru64) Sun SPARC Solaris 7+	<p>If installing from a CD:</p> <ol style="list-style-type: none"> 1. Insert and mount the CD-ROM.¹ 2. Change to the {CD-ROM mount}/client/ directory and locate the compressed file set for your platform. 3. Continue with instructions below. <p>If installing from a compressed tar file (for example oadk.tar.z):</p> <ol style="list-style-type: none"> 1. Create a temporary directory and change to it 2. Uncompress the tar file in this temporary directory: % uncompress oadk.tar 3. Extract the file from the tar file % tar -xvf oadk.tar 4. Change to the install/{platform} directory 5. Execute setup.sh by typing: sh setup.sh

At this point all files have been copied to the target directory you specified and the basic setup is complete. An entry in the Database Resource Directory Database has been made for your server. Files on your system are organized as shown in Table 5-3. All directories labeled {platform} will change to the name of the platform the software is being installed on.

The following ready to run components are installed:

- OpenAccess ODBC Driver shared library
- DataDirect Driver Manager (you can optionally use the one you may already have installed)

¹ The CD-ROM is written in ISO 9660 Level 1 format and contains all of our supported platforms on one CD. Some platforms require special options to read these format CDs correctly. Notes for mounting the CD-ROM on most platforms are provided in Chapter 7 CD-ROM Mounting Notes.

- an ODBC Interactive SQL for interactively submitting queries to ODBC drivers

Table 5-3: OpenAccess Directory Structure

Directory	Description
{oaroot}	The root directory for OpenAccess products. Includes make files for any component that can be built
--lib --{platform}	Driver shared library and driver manager shared libraries
--inc	Include files to be used when building your application
--bin --{platform}	Interactive SQL and OpenAccess administration executables
--schema	Files required for configuration of the OpenAccess components
--config --{platform}	License and configuration files
--sdk --odbsamp	Sample application using the ODBC API

3. Set up the environment variables required by OpenAccess ODBC Driver

OpenAccess programs read their configuration information from a file named `OPENRDA.INI`. There are multiple ways of specifying which `openrda.ini` file to use for its configuration information. We recommend setting up the environment variable `OPENRDA_INI` and to use the `OPENRDA.INI` in the `{oa_root}\config\{platform}` folder. Also on non-Microsoft Windows platforms the environment variable `ENV_MAKEFILE` and `OA_ROOT` needs to be defined if you want to build the installed samples.

Set up the required environment variables by running a platform dependent environment file. The `setenv` scripts will set these variables to the correct values only if they are run from the `{oa_root}` directory.

Table 5-4: Default OPENRDA.INI Search Order

Platform	Steps
All	<ul style="list-style-type: none"> • File specified as part of the command line option (<code>-i configuration-file</code>) for the program • File specified by the environment variable <code>OPENRDA_INI</code> • User's Home directory using <code>\$HOME</code> • Current directory • <code>/tmp</code> directory

Table 5-5: Environment Variable Setup

Platform	Steps
Unix (csh)	<ol style="list-style-type: none"> 1. Change to the installation <code>{root}</code> directory. 2. Run <code>source config/{platform}/setenv.sh</code>
Unix (Korn)	<ol style="list-style-type: none"> 1. Change to the installation <code>{root}</code> directory. 3. Run <code>./config/{platform}/setenv.ksh</code>

If you will be installing only one version of the OpenAccess ODBC Driver software and prefer not to have to execute the environment file before each use, you can store the settings in your startup file(s) that are executed during login. You can incorporate the commands to set the `OPENRDA_INI` and `OA_ROOT` into the startup file or you can incorporate commands to change your directory to `{root}` and to source the environment script.

Table 5-6: Login Environment Variable Setup

Platform	Steps
Unix (csh)	Place the command: <pre>setenv OPENRDA_INI {root}/config/{platform}/openrda.ini setenv OA_ROOT {root}</pre> in the .cshrc file.
Unix (Korn)	Place the command <pre>export OPENRDA_INI={root}/config/{platform}/openrda.ini export OA_ROOT={root}</pre> In the .kshrc file
OpenVMS	Create a logical during startup – refer to Chapter 11

4. Test the ODBC configuration

Next we will run ODBC Interactive SQL, which is an ODBC compliant application, and connect to your database using the OpenAccess ODBC driver to test out the ODBC configuration. Installation sets up ODBC access to the database name you specified during installation – here we assume you specified mydb.

Please replace the table name used in the example query with a name of a table in your database. The installation process configures the environment file setenv.sh to make use of the installed DataDirect Driver Manager and the associated ODBC.INI file.

NOTE: A OpenAccess Server with database entry mydb must be up and running.

- Execute the ODBC version of the Interactive SQL program by running the `odbcisql` program located in `{root}/bin/{platform}`.
- Connect to the sample database by typing:

```
ISQL> connect username*pwd@mydb
```
- Type:

```
ISQL> select * from emp;
```

to get a list of values.
- Exit by typing `exit` at the ISQL prompt.

5. Set up the OpenAccess ODBC Driver for use with the ODBC driver manager

Refer to this step to customize the ODBC.INI file to access a different database or to use the OpenAccess ODBC Driver from a different Driver Manager (for example iODBC or unixODBC).

Skip this step if you don't need to use the OpenAccess ODBC driver with an ODBC driver manager – this is the case if you are building custom C/C++ or other applications that can directly link to the `oaodbc.so` library.

The OpenAccess ODBC driver shared library is installed in the `{root}/lib/{platform}` directory as `oaodbc.so` (`oaodbc.a` on HP-UX). The environment variable `OPENRDA_INI` must be set up as described in step three before this shared library can be used from an application.

To use the OpenAccess ODBC driver shared library to access the database you have set up, you need to configure the `.odbc.ini` file of your driver manager (DataDirect, iODBC or unixODBC). Here we provide details for setting up the `odbc.ini` file installed for use with the iODBC driver manager. `odbc.ini` file is installed in the `{root}/config/{platform}` directory.

NOTE:

If you are using a pre-installed ODBC driver manager then you need to make sure that:

- the `OPENRDA_INI` environment variable is set.
- the `ODBC.INI` file being used by your driver manager is properly configured and at the right location. `ODBCINI` environment variable should be set to `{oaroot}\config\{platform}\odbc.ini`.
- the `LD_LIBRARY_PATH` points to your driver manager's library or `SHLIB_PATH` in case of HP/UX.

Environment variables used by DataDirect ODBC Driver Manager

Driver manager and drivers use `odbc.ini` file or connection string when establishing a data source connection. On Windows, `odbc.ini` is located in Windows directory. On UNIX, the iODBC driver manager looks for the `odbc.ini` file in the following sequence:

- a. check environment variable `ODBCINI`
- b. check `$HOME/.odbc.ini`
- c. check home in `/etc/passwd` and try `.odbc.ini` in there
- d. system wide `odbc.ini` (settable at configuration time)

The preferred method is by setting the `ODBCINI` environment variable.

Applications that link to the driver manager need to be able to locate it at run-time. For this you need to set the environment variable `LD_LIBRARY_PATH` to `{oa_root}/lib/{platform}` folder. Exception is HP/UX, which uses `SHLIB_PATH`.

Steps to modify the `odbc.ini` file:

To add your database, you need to modify the `odbc.ini` file to perform the following changes.

NOTE: Data Direct and other driver managers name their ODBC configuration files `.odbc.ini`.

- a. First, you need to add the data source name under the `[ODBC Data Source]` section. In this example we assume you want to create an entry called `mydb`. This can be any name you want your client application to use to refer to this database.

`[ODBC Data Sources]`

`mydb = OpenRDA`

- b. Next, you need to create a section with the same name as the database which in our example is `mydb`. In this section you need to fill in the following entries:

`[MYDB]`

`Driver=` Path and file name of the `oaodbc.so` file

`Database=` Optional - The OpenrRDA database this entry will connect to.

CustomProperties= Optional - custom properties to be passed to the server.

If the Database entry is not supplied then it will default to the name of the section (MYDB in this example). For example, if you are running OpenAccess Server with a database test_server then you would set Database to test_server.

c. Enabling Tracing

The driver manager traces ODBC call invoked by the application. Default tracing file is odbctrac.out. Tracing option (i.e. on/off or optional tracing file name) can be set in odbcc.ini file (under a ODBC section) as:

```
[ODBC]
```

```
InstallDir=/export/home/oauser/oaodbc_560
```

```
Trace=0
```

```
TraceFile=/export/home/oauser/oaodbc_560/bin/ssunos5/odbctrac.out
```

```
TraceDll=/export/home/oauser/oaodbc_560/lib/ssunos5/odbctrac.so
```

The driver managers allow one to turn on/off tracing on selected connection(s). Different connections can share one or use different tracing file(s). ODBC calls on connections without tracing on will not be traced.

Sample odbcc.ini file for connecting to mydb with tracing on:

```
;
```

```
; odbcc.ini
```

```
;
```

```
[Data Sources]
```

```
mydb = OpenAccess
```

```
[mydb]
```

```
Driver = /export/home/oauser/oaodbc_560/lib/ssunos5/oaodbc.so
```

```
[ODBC]
```

```
InstallDir=/export/home/oauser/oaodbc_560
```

```
Trace=0
```

```
TraceFile=/export/home/oauser/oaodbc_560/bin/ssunos5/odbctrac.out
```

```
TraceDll=/export/home/oauser/oaodbc_560/lib/ssunos5/odbctrac.so
```

6. What's Next

Congratulations!!! The OpenAccess ODBC Driver for UNIX is correctly installed and operational. Please refer to the OpenAccess User's Guide for details on using the driver from PERL, Oracle, and other UNIX applications.

Chapter 6

Installing the OpenAccess JDBC Driver for UNIX

This chapter walks you through the steps to install the OpenAccess JDBC Driver for UNIX.

Installation of the OpenAccess JDBC Driver software involves the following steps:

1. Installing the OpenAccess JDBC Driver and the Interactive SQL on your UNIX platform.
2. Testing the operations of the installed software.

Installing the JDBC Driver

Installation of the OpenAccess JDBC driver requires a set of files to be copied to your hard disk and configuration files to be modified.

NOTE: You must have an OpenAccess Server installed and operational before you can use the OpenAccess JDBC driver.

1. Gather the following information:

- The device name of your CD-ROM from which you will install the software. In the instructions we assume '/dev/xxx'
- Client license file
- The name of the OpenAccess database you want to connect to. To connect to the sample database installed on your server, use the name `test_{server name}`
- IP address/host name of your server (assuming you are on a TCP/IP network)
- The TCP/IP port the server is running at (1706 for example)

2. Install the files from the media

Follow the instructions in Table 5-2. Refer to Table 5-1 for platform identifiers.

Table 6-1: Platform Symbols

Symbol	Substitution	
{platform}	aunix	Alpha/Digital Unix (OSF)
	avms	Alpha/OpenVMS
	awinnt	Alpha/Microsoft Windows NT
	ilinux	Intel/Red Hat Linux MIPS/Linux
	iscounix	Intel/SCO Unix
	iscounix	Intel/SCO OpenServer 5.x
	iwinnt	Intel/Microsoft Windows NT
	os2	Intel/IBM OS/2 Warp 4
	phpux	PARISC/HPUX
	raix	RS6000/IBM AIX
	ssunos5	SPARC/Solaris 2.x Intel/Solaris 2.x
	vvms	VAX/OpenVMS

Table 6-2: Installing from CD-ROM or tar file

Platform	Instructions
Intel Linux	If installing from a CD: 1. Insert and mount the CD-ROM. ² 2. Change to the {CD-ROM mount}/client/ directory and locate the compressed file set for your platform. 3. Continue with instructions below.
IBM RS6000 AIX 4.3 +	
HP-9000 HP-UX 10.x +	
Sun SPARC Solaris 7+	If installing from a compressed tar file (for example oadk.tar.z): 1. Create a temporary directory and change to it 2. Uncompress the tar file in this temporary directory: % uncompress oadk.tar 3. Extract the file from the tar file % tar -xvf oadk.tar 4. Change to the install/{platform} directory 5. Execute setup.sh by typing: sh setup.sh Please note that for the destination path you must enter a fully expanded path without any special characters (~/test is invalid).

At this point all files have been copied to the target directory you specified and the basic setup is complete. An entry in the Database Resource Directory Database has been made for your server. Files on your system are organized as shown in Table 5-3. All directories labeled {platform} will change to the name of the platform the software is being installed on.

The following ready to run components are installed:

- OpenAccess JDBC Driver jar file (oadriver.jar)

² The CD-ROM is written in ISO 9660 Level 1 format and contains all of our supported platforms on one CD. Some platforms require special options to read these format CDs correctly. Notes for mounting the CD-ROM on most platforms are provided in Chapter 7 CD-ROM Mounting Notes.

- OpenAccess client shared library (oajdbc.so or oajdbc.sl)
- Interactive SQL for interactively submitting queries to the server

Table 6-3: OpenAccess Directory Structure

Directory	Description
{root}	The root directory for OpenAccess products. Includes make files for any component that can be built
--lib --{platform}	Library files for {PLATFORM}
--jdbc	Include files to be used when building your application
--bin --{platform}	oadriver.jar file and jdbcisql Executables for {PLATFORM} and the oajdbc.so shared library
--schema	Files required for configuration of the OpenAccess components
--config --{platform}	License and configuration files

4. Set up the environment variables required by OpenAccess JDBC

To use OpenAccess JDBC driver, the CLASSPATH must include the {oa_root}/jdbc/oadriver.jar file and the library path (LD_LIBRARY_PATH) must include {oa_root}/bin/{platform}.

OpenAccess programs read their configuration information from a file named OPENRDA.INI that is installed in {oa_root}/config/{platform} folder. There are multiple ways of specifying which file to use for its configuration information. We recommend setting up the environment variable OPENRDA_INI on non-Microsoft Windows platforms.

The installation creates setenv.sh and setenv.ksh files that correctly set the required environment variables. Set up the required environment variables by running a platform dependent environment file as shown in Table 6-5. The setenv scripts will set these variables to the correct values only if they are run from the {oa_root} directory.

Table 6-4: Default OPENRDA.INI Search Order

Platform	Steps
All	<ul style="list-style-type: none"> • File specified by the environment variable OPENRDA_INI • User's Home directory using \$HOME • Current directory • /tmp directory

Table 6-5: Environment Variable Setup

Platform	Steps
Unix (csh)	<ol style="list-style-type: none"> 1. Change to the installation {oaroot} directory. 2. Run <code>source config/{platform}/setenv.sh</code>
Unix (Korn)	<ol style="list-style-type: none"> 1. Change to the installation {oaroot} directory. 2. Run <code>./config/{platform}/setenv.ksh</code>

If you will be installing only one version of the OpenAccess JDBC Driver software and prefer not to have to execute the environment file before each use, you can store the settings from the setenv files in your startup file(s) that are executed during login.

4. Set up to connect to a OpenAccess database server

Skip this step if you specified the OpenAccess database name during installation.

We will set up the OpenAccess database server information using the OpenAccess administration tool. Run the Administration Tool by executing `{oa_root}/bin/{platform}/rdaadmin.exe`.

- a. Make sure you have the Database tab selected.
- b. Select New, to add a new database entry.
- c. Enter the following information

NAME	= Name of your database (i.e. myDatabase)
ADDRESS	= {server's IP address or host name}
PORT	= port your server is running on
CONNECT_STRING	= Leave blank
TYPE	= Leave blank
SCHEMA_PATH	= Leave blank
REMARKS	= DB for example

- d. Select OK to save and exit from the Administration Tool.

5. Connect to the OpenAccess database you set up in the previous step

Next we will run Interactive SQL to connect to the OpenAccess JDBC driver. Installation installs a JDBC driver *jdbc.sql.oadriver* that accepts URL in the form of *jdbc:OpenAccess:database*.

- a. Make sure your OpenAccess Server is up and running.
- b. Change to `{oa_root}/jdbc` and run `jdbcisql`
- c. Connect to the database you set up in the previous step:
If no user name is required then,

```
ISQL> connect myDatabase
```

else use:

```
ISQL> connect uid*pwd@myDatabase
```

- d. Execute a query to get a list of tables:

```
ISQL>select * from OA_TABLES;
```

This should generate a list of tables.

- e. Exit by typing `exit`.

You can perform more tests by using this driver with other JDBC applications.

6. What's Next

Congratulations!!! The OpenAccess JDBC Driver for UNIX is correctly installed and operational. Please refer to the *OpenAccess Driver User's Guide* for details on using the driver.

Chapter 7

CD-ROM Mounting Notes

This chapter provides assistance in mounting ISO 9660 Level 1 CD-ROMs for various platforms.

Alpha/Tru64 Unix (formerly Digital UNIX)

The CDFS kernel option must be present to read ISO 9660 CDs. Because CDFS is a configurable kernel option, the following line must exist in the system configuration file:

```
options CDFS
```

If the system configuration file does not contain this line, modify the file and then rebuild the kernel.

Once the CDFS option is in place, use the following command to mount the file system, where X is the SCSI device ID of the CD-ROM drive and /cdrom is the pre-created mount point.

```
mount -t cdfs -o noversion /dev/rzXc /cdrom
```

SPARC/Solaris 2.x

Use Solaris's default automount feature. No special settings are needed.

PARISC/HPUX

Versions of HPUX prior to version 10.10, adhered to the ISO standard instead of the industry standard for the mounting of ISO CDs. This causes the use of the capitalized filenames on the CD, instead of converting them to the Unix industry standard all-lowercase filenames. For version 10.10 and above, mount with the cdcase option. For versions prior to 10.10, retrieve the patch from HP's support Web site, listed below:

http://us.external.hp.com/patches/html/ptc_hpux.html

Search for "9660".

Intel (NCR)/AT&T Unix

Additional options need to be specified to change the default permissions and convert the filenames to lowercase.

```
mount -F cdfs -r -o fperm=555,nmconv=lm /dev/dsk/c0tXd0s0 /cdrom
```

Intel/SCO Unix

The CDROM driver and device must be installed with the High Sierra/ISO 9660 option. Use the following mount command to access the CD.

```
mount -r -f HS,lower,novers /dev/cd0 /cdrom
```

Intel/SCO OpenServer Unix

The CDROM driver and device must be installed with the High Sierra/ISO 9660 option. Use the following mount command to access the CD.

```
mount -r -f HS,lower /dev/cd0 /cdrom
```

Intel/Linux Unix

The CDROM driver and device must be installed with the High Sierra/ISO 9660 option. Use one of the following mount command to access the CD.

```
1. mount -t iso9660 -o mode=0777 /dev/cdrom /cdrom
```

```
2. mount /mnt/cdr
```