



ODBC DRIVER FOR 4D SERVER

INTRODUCTION

Most Windows applications adhere to the norms created by Microsoft and are able to communicate with other data sources via an interface called ODBC (Open Database Connectivity). This interface uses the SQL standard to execute queries. With ODBC Driver for 4D Server, all types of applications (text files, spreadsheets, report generators, etc.) running on Windows may gain access to 4D Server to carry out database tasks. 4D ODBC Driver for 4D Server allows all client applications to send ODBC calls and SQL queries to 4D Server.

About ODBC

Open Database Connectivity (ODBC) defines a library of functions that enables an application, such as 4th Dimension, to access a Database Management System (DBMS) using Structured Query Language (SQL). The ODBC interface offers vendor-neutral access to different database management systems.

The ODBC architecture has four components:

- the application
- a driver manager
- the driver
- the data source

The main features provided by any ODBC driver include the following:

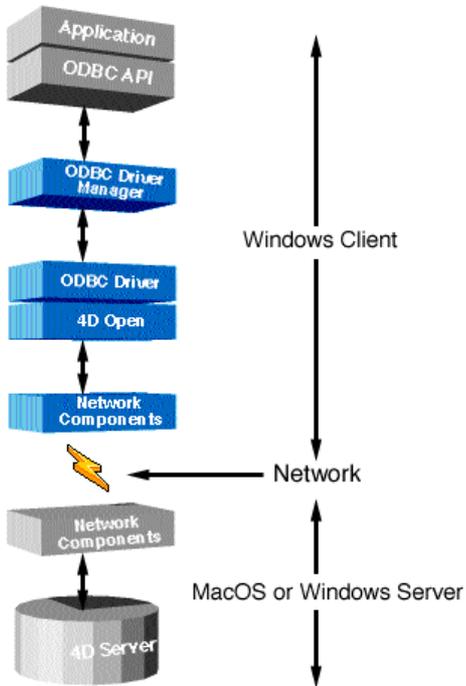
- connecting to and detaching from a DBMS
- performing queries and providing storage areas and data formats for query results
- allowing for online transaction processing
- features external to the ODBC interface (DBMS specific features)
- the driver manager is a dynamically linked library (DLL) that loads drivers, providing a single entry point to ODBC functions for different drivers.

The developer must select an ODBC driver appropriate for the back-end data source to which the application will be connected. ODBC drivers are available from multiple sources, with an abundance of choices available for the primary DBMS such as Sybase, Oracle, and MS SQL Server. If a native API (application programming interface) exists for the back-end data source, the driver will typically require that the API be installed.



OFFICE AUTOMATION FEATURES

ODBC Driver for 4D Server transforms a 4D Server application into an ODBC data source, thereby providing access to all standard Windows applications. These Windows applications may execute ODBC calls and SQL queries as well as standard operations such as printing mail merge letters, generating reports, displaying data in a spreadsheet, a word-processor, or a database.



COMPONENT ARCHITECTURE

The 4D Server ODBC architecture consists of four components:

- 1 The application which calls functions defined in the ODBC API to access a data source.
- 2 The Driver Manager which implements the ODBC API, loads the 4D Server driver dynamically, dispatches and manages the ODBC calls.
- 3 ODBC Driver for 4D Server which allows you to connect your ODBC-compliant application to a 4D Server database.

The ODBC Driver for 4D Server is made up of three components:

- ① ODBC Driver: The ODBC Driver for 4D Server itself. The driver processes ODBC function calls and manages exchanges between the application and the data source.
- ② 4D Open Library: the native client part of 4D Server.
- ③ Network Components: the network part of 4D Server.
- ④ Data Source: 4D Server is the data source which contains data that an application needs to access.

FEATURES

The ODBC driver for 4D Server does not require changes to a 4D Server database. All connections via the driver are handled as fully functional 4D Server client connections.

- ▶ Support for ODBC version 2.5
- ▶ Total control over data manipulation in 4D Server (SELECT, INSERT, UPDATE, DELETE).
- ▶ Standard ODBC error management
- ▶ Driver access available to custom C or C++ applications



Maximum capabilities of the data source

Number of tables in a database:	255
Number of columns per table:	511
Number of rows per table :	16 million
Number of select list columns per query:	300
Maximum length of table name:	31 characters
Maximum length of column name:.....	31 characters
Maximum user name length:	30 characters
Number of connections:.....	limited by the 4D Server application
Table qualifier:	limited by the OS
Number of joined tables:	limited by memory

The following table describes the major feature and architectural differences between ODBC Driver for 4D Sever and 4D ODBC, the connectivity plug-in.

Featur e	ODBC Driver for 4D Server	4D ODBC Connectivity plug-in
Compatibility	4D Server version 6 Windows and Mac OS	4D/4D Server Windows and Mac OS
Definition	Allows ODBC-compliant Windows applications to connect to 4D Server as clients and to execute database operations.	Allows 4D or 4D Server to connect to any ODBC data source to execute database operations. 4D or 4D Server act as clients of the data source.
Connections	ODBC-compliant applications: word processors, report generators, spreadsheets, file managers, CASE tools etc.	All data sources with an ODBC 32-bit driver.
Deployment	The driver is installed on the client application which becomes a client of 4D Server. The client application may execute SQL queries to manipulate data. ODBC Driver for 4D Server converts 4D Server data into ODBC SQL data.	4D ODBC allows 4D or 4D Server applications to connect generically to ODBC-compliant data sources. The 4D application becomes a front-end client to the ODBC back-end server.
Hardware	<u>Client machine:</u> PC running Windows 95, Windows NT 3.5 or Windows NT 4 <u>Server machine:</u> PC running Windows 95, Windows NT 3.5 or Windows NT 4, Macintosh or Power Macintosh, MacOS 7.x or higher	<u>4D Client:</u> PC running Windows 95, Windows NT 3.5 or Windows NT 4
Software	<u>Client machine:</u> Any ODBC-compliant application running on Windows 95, Windows NT 3.5 or Windows NT4 <u>Server machine:</u> Data source 4D Server version 6.	<u>4D Client:</u> 4th Dimension or 4D Server on Windows 95, Windows NT 3.5 or Windows NT 4D ODBC Plug-In <u>Server:</u> Any ODBC data source

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