

# Using Connector/ODBC

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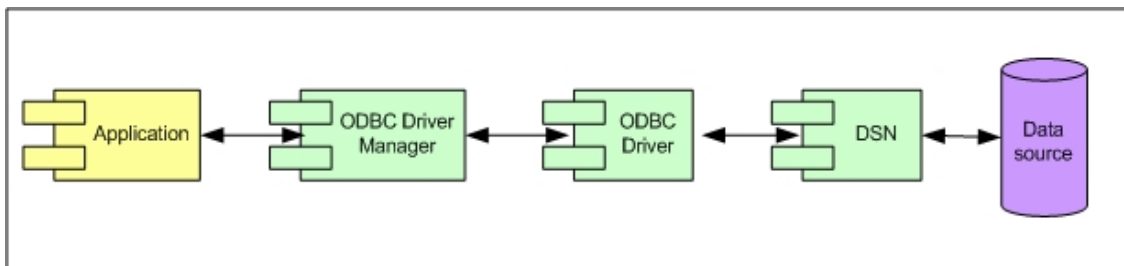
There is a widespread misconception that Open DataBase Connectivity (*ODBC*) is for Windows. It's a tribute to Microsoft's success in marketing Windows. ODBC was meant to be Microsoft's cross-platform application programming interface (API) for database access. The dream was that ODBC would be to microcomputer databases what Windows was to microcomputer desktops. Then came Linux, MySQL, smartphones.

ODBC is based on the Call-Level Interface (CLI) specifications from X/Open and ISO/IEC for database APIs, and uses SQL as its database access language. This provides you with a means to use SQL to address any database that supports ODBC, *even if the database does not directly support SQL!* For example, dBASE III does not support SQL, but there is an ODBC driver for dBASE III files that does support SQL.

ODBC is interoperable, but that interoperability is a double-edged sword. It permits a single application to address different data sources without changes in source code—a gain in *programming efficiency*. But it implies that any ODBC-compliant application can address any database—a loss in *execution efficiency* since interfacing with multiple database drivers cannot be done in zero time.

ODBC permits applications like Word, Excel, Access, PowerBuilder, Kylix, Delphi, Perl, Python, StarOffice and many others to call functions in the ODBC interface, without regard to the actual implementation of those functions, with results of guaranteed predictability. The responsibility for implementing the commands is left to the supplier of the particular ODBC module. These modules are called *drivers*; they insulate applications from database-specific syntax.

## ODBC architecture



*Fig 11-1: ODBC architecture*

Application communication with a *data source* via ODBC goes through a *driver manager* and a corresponding *driver*. The job of the driver manager is to manage communication between applications and ODBC drivers. The Windows interface to ODBC driver managers is a system program known as ODBC Administrator, an interface for defining data source names (DSNs). Once a DSN is defined, an application may connect to it simply by specifying the name of the DSN rather than by providing all its particulars.

The ODBC driver's job is to provide an SQL-enabled application interface for communicating with a data source. ODBC drivers may be provided by database or third-party vendors. MySQL AB provides the MySQL driver *Connector/ODBC* (MyODBC),

## Connector/ODBC in Windows

There are four versions: *3.51 32-bit*, with support for the ODBC 3.5x specification, mainly useful for older applications; *5.1* for MySQL 4.1.1 and later, with better Win64 support, full Unicode support, supports `SQL_NUMERIC_STRUCT` and the ODBC descriptor, uses a native Windows setup library; *5.2/5.3* with support for server-side prepared statements by default; and *8.0* in 2017 when MySQL aligned all version numbers.

The all-in-one MySQL installer (Chapter 3) installs Connector/ODBC. Absent that tool, download the driver from [www.mysql.com/products/connector](http://www.mysql.com/products/connector). Installation requires four mouse clicks, almost impossible to get wrong.

To read the rest of this and other chapters, *buy a copy of the book*

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