

# Using SimbaEngine X SDK Versus Microsoft SDK

## Introduction

Both Microsoft and Simba offer ODBC Software Development Kits (SDK) to help developers create ODBC data drivers for databases. This can be confusing for someone who is looking for an ODBC SDK and is trying to choose between them. In fact, the two SDKs complement instead of compete with each other. If you must build a data driver for your data, you need both. Let me explain.

The term “SDK” can mean different things in different places. “ODBC SDK” is an older term for what Microsoft now calls Microsoft Open Database Connectivity. This is a set of definitions, utilities and documentation that define and support the ODBC interface standard. ODBC is a standard interface for accessing relational databases. It is maintained by Microsoft and supported on Microsoft Windows with built-in functionality such as the ODBC Driver Manager and ODBC Data Source Administrator.

Through the ODBC standard, Microsoft has created the most successful and widely-used database access standard outside of the SQL language itself. If you are building an ODBC driver, you need to become familiar with the Microsoft ODBC SDK and through it the ODBC standard. The most recent version of the ODBC standard in common use is ODBC 3.8.

SimbaEngine SDK is a software development kit offered by Simba Technologies to make it easy for you build ODBC drivers per the Microsoft ODBC specification. This means that if your customers want to use Microsoft Office applications like Excel and Power BI, Tableau, Qlik, Microstrategy or build web-based data access portals, the SimbaEngine SDK will get you there faster than anything else. With SimbaEngine SDK, you can quickly build a stand-alone ODBC driver, and then re-link your code to create a remote solution that provides ODBC access, JDBC access, or ADO.NET or OLE DB access via available bridges.

SimbaEngine SDK provides all the components you

need to create a standard database access solution. All you need to do is make a series of simple modifications to a sample driver to link the SimbaEngine SDK components to your target data store. This is the case whether your data store provides SQL processing or not, and whether the data store provides a view of the data as tables and rows or something else.

## What is in each SDK?

You can see that the goals of the SDKs are different. As you might expect, the contents of the SDKs are quite different as well. Let’s look inside them.

## Microsoft ODBC SDK

The Microsoft ODBC SDK contains all the materials needed to define the ODBC API. This includes extensive background and supporting documentation, a complete definition of the ODBC API, behavior rules, error codes, tools and utilities.

The documentation in the Microsoft ODBC SDK is extensive and complete. You can find it in MSDN. There is a short history of database access and how it led to the first ODBC specification. This is background for understanding the architecture of the API and how it works. Look first under ODBC Programmer’s Reference at the Introduction to ODBC and Developing Applications and Drivers.

One of the most important components of the Microsoft ODBC SDK is ODBCTest. This little test app allows you to make any ODBC API function call with any argument values and look at all of the results. Its value developing driver code can’t be underestimated. Typically, developing a driver becomes a walk through ODBC functionality, starting with connecting and disconnecting and winding up with the more esoteric functionality. ODBCTest allows you to isolate the functionality you are writing and to test it until it works correctly.

ODBCTest has gone through several versions since its first appearance. It now works with both ASCII and Unicode text data, and runs on 32- and 64-bit Windows. It is so useful there is even an open source version that runs on UNIX and Linux.

Entire Microsoft ODBC SDK is available on MSDN. Every copy of Windows includes the ODBC Driver Manager and Data Source Administrator. If you are going to be developing either ODBC drivers or applications, you need to be familiar with this material. However, while having access to a free copy of the Microsoft ODBC SDK helps you understand what is needed in an ODBC driver, it does not get you very far toward a working ODBC driver.

### SimbaEngine X SDK

SimbaEngine X SDK is specifically designed to get you very close to having a working ODBC driver before you even start working. In fact, SimbaEngine SDK is so complete that you can have an ODBC driver working with applications like Microsoft Excel within five days. This is because SimbaEngine SDK contains all the features and functionality of a complete, working ODBC driver. Your role is to connect your data store to SimbaEngine SDK's back-end API, the Data Store Interface or DSI, so that the SimbaEngine SDK components can access the data. Once that connection is made, the SimbaEngine SDK components provide functionality your customers want.

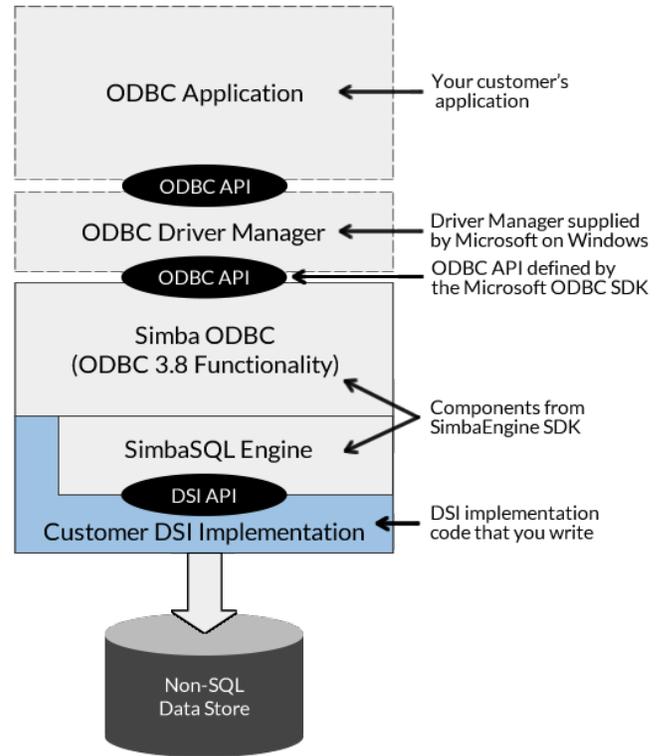


Diagram 1: A simple example of an ODBC driver built for a non-SQL data store using SimbaEngine SDK. Many more deployment variations are possible.

If you need an ODBC driver, the SimbaODBC component provides the ODBC interface and all of the data checks, sequence checks and error reporting that applications like Microsoft Excel expect. You don't have to be an ODBC expert. We have bundled all of our ODBC expertise into this component and it provides you with the most complete and compatible ODBC driver you can build.

Whether you need an ODBC driver, JDBC access from a web server, or ADO.NET or OLE DB access, if your data store does not understand SQL you will need the component to process SQL queries from your customer's reporting and BI applications. Simba SQL Engine is a complete SQL-92 engine that can parse, validate, optimize and execute virtually any SQL query generated by standard reporting and BI applications. While the ADO.NET and OLE DB interfaces do not require SQL capability from the data provider, ODBC and JDBC do require SQL, and virtually all serious reporting and BI tools expect to be able to execute SQL queries against the databases they are querying.

If your deployment requirements are anything but simple, you may want to be able to access your data store remotely, or you may need to deploy part of your data access solution on a 64-bit machine, or both. SimbaEngine SDK includes a set of client/server components that allow you to deploy your DSI implementation on one machine and your client access on others. All of the SimbaEngine SDK components have 32- and 64-bit versions, and they can mix and match between the client and server so you can have any deployment architecture you need. Of course, if you need part of your data access solution on Linux and UNIX, the Microsoft ODBC SDK can't help you, but SimbaEngine SDK can. Call us for options.

SimbaEngine SDK includes source code examples of drivers written for in-memory data and for simple comma-separated-values (.csv) files. The Codebase example driver illustrates all of the functionality of SimbaEngine SDK. You get all the source code so you can see how we implemented a commercial-quality driver. The Quickstart driver works against comma-

separated-values files and is very basic. However, we include step-by-step instructions that show how to transform the Quickstart driver into a basic driver that works with your data store in less than five days. This is especially useful for evaluating SimbaEngine SDK and for exploring how to connect your data store to the DSI API. When you are ready to continue, you can turn your prototype Quickstart driver into a commercial driver by adding more functionality. The example drivers in SimbaEngine SDK come with complete Visual Studio solution files or make files so you can get started immediately.

SimbaEngine SDK delivers a commercial implementation of the ODBC API defined by Microsoft. It connects to your data through the Data Store Interface (DSI) and the glue code you write. Using SimbaEngine SDK, you can concentrate on connecting to your data store and delivering value to your customers without having to worry about the implementation details of the ODBC API.

Microsoft ODBC SDK	SimbaEngine X SDK
Description of all ODBC API functions	SimbaODBC component that implements the ODBC API
Specification for SQL-92	SimbaEngine component implementing SQL-92 specification
Code snippets for using the ODBC API functions	Source code for seven complete, working ODBC drivers
Definitions for operations on 64-bit Windows	Full support for 32 and 64 bit projects
ODBCTest application	Over 20,000 API and SQL tests performed on the SDK Tested against all major ODBC applications
Available on supported Windows platforms	Available for Windows, Linux, Mac OS, and iOS, Solaris, HP-UX and AIX
	...plus: <ul style="list-style-type: none"> <li>• Support for Non-SQL data stores via SQL SimbaEngine component</li> <li>• Collaborative Query Execution Engine to speed up queries</li> <li>• Dynamic indexing for improved performance</li> <li>• Ability to leverage your Java/C# expertise when creating ODBC driver</li> <li>• Support for custom data types and data converters</li> <li>• Localization support</li> <li>• Complete client/server solution ready to link</li> <li>• Upgrades for new functionality used by apps</li> <li>• Telephone and e-mail support when you need it</li> </ul>

### Saving Time and Money

Of course, developers like challenges and there can be a temptation to try to build an ODBC driver from scratch using the Microsoft ODBC SDK. However, this can mean a surprising amount of work because there is a tremendous amount of knowledge and experience beyond basic database skills that is required to build a robust, commercial ODBC driver. Most companies that need an ODBC driver really need a well-known solution. This means that there is tremendous savings to be gained by buying a commercially available solution that has all the known problems solved already. This leaves you to solve the problems that relate directly to your data store.

This is really a simple build-or-buy decision, and these decisions usually fall out on the side of “buy” unless you have a really oddball problem. Whether your data store understands SQL, or some variant, or none at all, SimbaEngine SDK will deliver 99% of the tools and technology you need to build a data driver. Compatibility with the full range of popular reporting and BI tools is guaranteed by Simba. If there is a

problem with SimbaEngine SDK, call us and we will fix it. The compatibility, performance and reliability tricks learned over 18 years of working with ODBC and data access are built-in. SimbaEngine SDK is the fastest route to a commercial ODBC driver you can choose.

### Focus

With SimbaEngine SDK, you let someone else worry about data access and compatibility, while you and your developers can concentrate on delivering value to your customers. Your developers can spend the time to learn about the compatibility, performance and reliability tricks of your product rather than getting distracted solving a problem for which you can buy a solution.

Simba’s exclusive focus is on providing standards-based data access for non-standard data stores. Simba co-developed the original ODBC data standard with Microsoft in the early 1990’s. We are the leading vendor of ODBC and SQL-based data access solutions, and virtually the only vendor in the world of MDX-based multi-dimensional data access solutions.

## SimbaEngine X SDK Specifications

### Stand-alone Data Driver and Server Platforms

All SimbaEngine X components support 32 and 64-bit versions of Windows, Linux, Solaris, AIX, HPUX, as well as Mac OS X and iOS.

### Client Platforms

**SimbaClient for ODBC** supports the 32 and 64-bit versions of Windows, UNIX, Linux, Mac OS X, AIX, HPUX, Solaris  
**SimbaClient for JDBC** supports all client operating systems running a Java Virtual Machine (JVM) 1.6 or above.

### Development Software

**Windows:** Microsoft Visual Studio 2013/2015. • **Linux:** GNU Compiler environment. • **Mac:** Xcode Clang 5.x/6.x/7.x • **UNIX:** For all platforms, the native compiler is supported.

### BI Tool Support

Any ODBC- or JDBC-capable application, including Excel, Microsoft Power BI, MicroStrategy, SAP Cloud for Analytics, QlikView, Tableau.

### About Simba Technologies Inc

Simba Technologies is industry’s choice for standards-based data access and analytics solutions. Our reputation as a relational and multi-dimensional / MDX connectivity pioneer has made us the partner of choice for an innovative and complete ODBC SDK, JDBC SDK, OLE DB for OLAP (ODBO) SDK, XML for Analysis (XMLA) SDK, and other industry leading data connectivity.