

Simba SDK

# Optimize Custom Driver Development

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**Magnitude Simba SDK contains a complete set of components** to quickly, easily and cost-effectively meet your data connectivity requirements.

## Enable Your Applications to Tap Into the Broadest Scope of Data Sources Possible

Many of the software data connectors that make it possible for diverse technologies to interoperate are available as standard, off-the-shelf drivers. There are applications and data sources, however, for which custom drivers are the best solution, due to complexity or other reasons.

When a software vendor determines a custom driver is needed to meet its solution's requirements, it must decide whether to partner with a third-party provider or build the custom driver in-house. Outsourcing to a third party can be the simplest, fastest, most cost-effective option, particularly because of the specialized expertise involved. Still, some software makers prefer to build their own data connectors, particularly to maximize their control over the process.

Magnitude Simba has played a leading role in providing dependable, high-performance off-the-shelf and custom drivers for an open-ended variety of data sources. In fact, over half of the ODBC drivers available today were built with Magnitude technology. For organizations that want to develop their own custom data connectors, Magnitude makes the Simba SDK—the same set of components and tools it uses to build drivers internally every day—available to the general public.

## Build Custom ODBC and JDBC Data Connectors in as Few as Five Days

### Problem

Creating a driver from scratch requires very specific development and workflow expertise.

### Solution

Simba SDK—same SDK used by Simba Engineers to develop Simba drivers.

**Magnitude Simba SDK improves developers' productivity for lower TCO and faster time to completion, while also simplifying development and reducing risk.**

### Benefits

- ✓ Reduce cost, complexity, risks, and time to market.

## Maximize Flexibility, Efficiency and Quality

While building data connectors in-house can be a sound strategy, doing so takes a specialized skill set, and often enough, developers have limited experience in this area (or none at all). Even the most robust development teams often find themselves lacking the expertise needed to do the job well on their own.

In fact, even those providers that have well-established expertise creating their own drivers can streamline the process and improve their immediate and long-term results by adopting the Simba SDK. Magnitude has encapsulated its decades of leadership experience at building data connectors into this offering.

With Simba SDK, companies have a more viable alternative than starting from scratch with unfamiliar APIs and processes that present unwelcome challenges on the paths to their goals. They can accrue business and technology benefits throughout the data connector lifecycle, from initial development to ongoing maintenance.

**For organizations developing custom data connectors, adopting the Simba SDK redirects resources from just keeping the lights on to the value-added tasks that create strategic advantages.**

## Three Main Areas of Benefit When Going with a Trusted SDK

### Super-Charge Developer Productivity

For development teams whose core competencies lie elsewhere, writing data connectors can be costly and time-consuming, placing strain on project budgets and timelines. By accelerating time to market, Simba SDK increases the team's efficiency, for faster and more cost-effective results.

The Simba SDK lays the groundwork for rapidly developing a prototype driver, refining its performance and stability and then bringing in additional functionality and optimizations as needed to prepare it for distribution. Developers take advantage of expertise developed in the field by Magnitude engineers, which is encapsulated and exposed in an easy-to-use form as Simba SDK.

This approach simplifies life for the developer as it limits risk for the organization as a whole. It also frees up developer resources to work on value-added product features.

### Enhance Product Quality

Beyond establishing baseline connectivity to a range of data sources, driver developers must also ensure that those connections are dependable, scalable and able to consistently meet application throughput and latency requirements.

Simba SDK provides simple APIs that define the operations underlying standards-based communication with both data sources and applications. Custom drivers use those APIs and operations to meet stability and performance requirements for production workloads.

Simba SDK helps further ensure quality by enabling developers to efficiently manage and optimize low-level implementation details. Overall, Magnitude Simba can improve the caliber of data connectors that the typical software maker is able to produce, as well as the range of data sources their products can connect to, improving products and market competitiveness.

### Streamline Long-Term Maintenance

Because data connectors need to be updated in cadence with their respective data sources, Simba SDK continues to deliver technology and business benefits over time. For example, Magnitude maintains the Simba SDK to provide early support for emerging versions of ODBC, JDBC and other relevant standards. This commitment is a continuation of Magnitude's role in developing the original ODBC standard with Microsoft in the early 1990s.

By simplifying the process of updating drivers to new standards, Simba SDK helps make data connectivity solutions more future-proof. Continuous standards compliance pays dividends in terms of helping make solutions more secure, as well as providing for the agility to more readily extend them to additional platforms and data sources.

## Leverage Established Practices and Workflows

Simba SDK is explicitly engineered to provide a single means of developing drivers based on JDBC, ODBC, ADO.NET and OLE DB standards, for the full gamut of data sources ranging from enterprise databases to sources based on SaaS and cloud services.

The SDK also supports a range of desktop tools, such as Microsoft Office, MicroStrategy, Tableau, PowerBI, Sisense, QlikView, SAP Business Objects and Crystal Reports. Simba SDK simplifies the process of launching and completing data connector development, by both experts and novices.

## Enable Developers with Purpose-Built Tools and Components

For compatibility with the way developers already work, Simba SDK integrates with popular development environments including Visual Studio, GNU Compilers and Xcode. A set of sample drivers to cover most supported platforms installs along with Simba SDK, providing a baseline or template for developers to use as they build their own custom drivers.

APIs and other components implement the functionality required to connect to data sources across various standards while also handling session management, state management, data conversion and error checking. By abstracting away the details of data access standards, these components remove responsibility for handling emerging versions of the standards from the developer. Magnitude handles those changes as part of its broader maintenance of Simba SDK.

Developer guides and other documentation are also provided with the Simba SDK at the time of install. Magnitude has created standard day-by-day sets of steps and best practices to guide the process of building various types of drivers in just five days. For more information, see the [Simba documentation](#).

## Adapt the Flexible SDK Architecture to Meet Your Application Needs

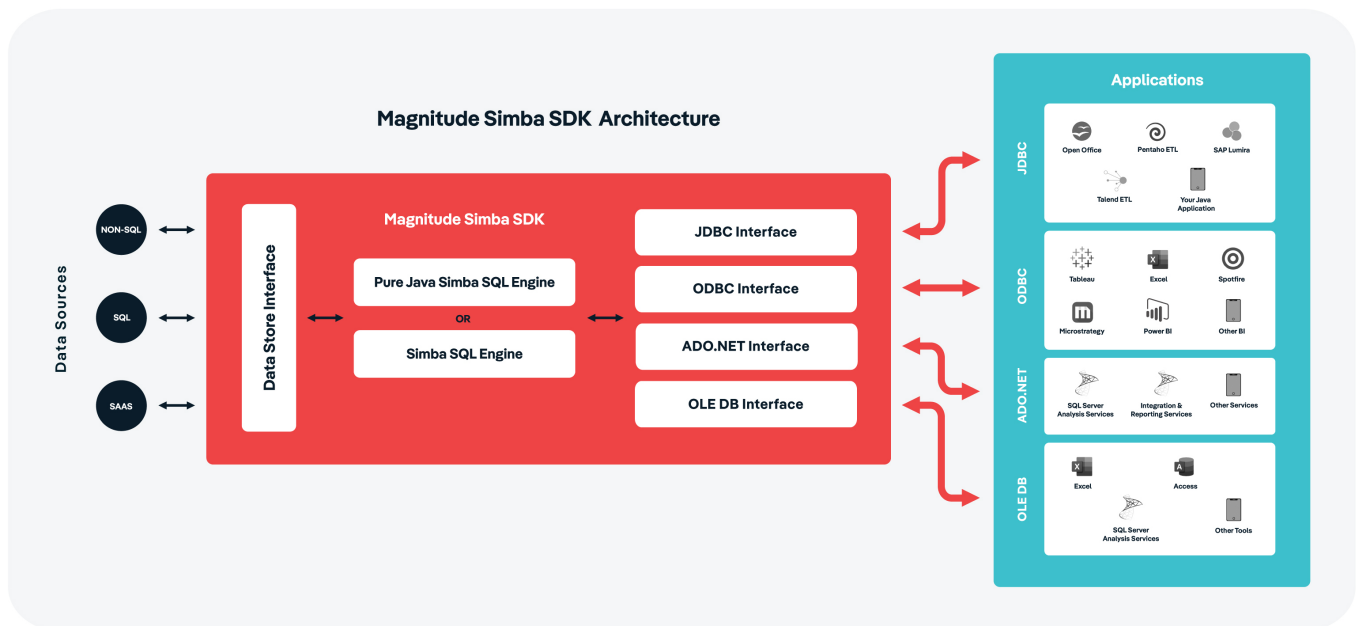
Simba SDK provides comprehensive ability to establish the basis for data connectivity between the broadest possible range of applications and data sources. It exposes ODBC, JDBC, ADO.NET and OLE DB interfaces for connectivity across application types and a Data Store Interface (DSI) for connecting to data sources.

A streamlined process enables the developer to create a custom DSI implementation using C++, Java or C# code to access a particular data store. Linking that code to other components creates a shared object—such as a .dll, .jar, .so or .dylib file—that enables Simba SDK to access the data and automatically handles conformance to data access standards.

**Simba SDK increases developer productivity and allows you to build custom ODBC and JDBC drivers in as few as five days.**

## Client-Server Architecture

To take advantage of server-class SQL processing resources and the performance of placing that processing close to the data store, Simba SDK supports the option of client-server deployment. SimbaServer—a high-performance server-side component—delivers highperformance query results while making very efficient use of system resources. Both ODBC and JDBC clients can access a single SimbaServer instance, using the lightweight Simba Message Protocol. In this mode, the custom driver runs on a network server, while SimbaClient is installed on client machines to enable applications to access the remote data store.



## Develop Data Connectors Across Operating Platforms and Programming Languages

Simba SDK can be used to create drivers that support 32-bit and 64-bit operation for Windows, Linux and MacOS X, as well as UNIX versions including Solaris, AIX and HP-UX. Development can be done natively in C#, C++ or Java, with Unicode support for international languages.

Simba SDK extends productivity advantages and provides for future extensibility by enabling developers to generate ODBC 3.8, JDBC 4.0/4.1/4.2, ADO.NET and OLE DB drivers by building just a single data store interface implementation. For example, after building an ODBC driver, a developer can create additional versions using components provided with the Simba SDK:

- Create a JDBC driver by employing JDBC Client with SimbaServer
- Create an OLE DB driver by employing OLE DB Client with SimbaServer
- Create an ADO.NET data provider by employing the ADO.NET Client with SimbaServer

## Model Success on Existing, Real-World Results

Software makers considering adoption of Simba SDK can draw on the experiences and examples of many successful implementations that have come before. Further details and other examples are available in our repository of [case studies](#).



## Algorithmics Builds Extensibility and Performance into Its Custom ODBC Driver

Helping financial institutions understand and manage various types of risk, Algorithmics provides sophisticated modeling and analytics with high performance and usability in a rapidly evolving international regulatory environment. Algorithmics built a custom driver using the Simba SDK to access data directly from any ODBC client application and connect it to the company's proprietary Algo Financial Modeler results database. The connectivity provides global customers with advanced functionality for joins, aggregations and queries.



## Galvanize Retains its Focus Amid Exploding Data-Source Diversity

To advance its governance, risk and compliance platform, Galvanize is compelled to provide data access across the broadest range possible of on-prem and cloud sources. The company must stay focused on innovation around its core functionality, even as data types and sources proliferate without limit. To help meet that challenge, Galvanize uses Simba SDK and collaborates closely with Magnitude to enable its customers to work with a broad and growing range of data sources to address customer needs in domains such as risk, audit and fraud.



## Microsoft Advances Connectivity Standards with Interoperability Testing

Building on its relationship that stretches back to 1992, Microsoft and Magnitude collaborated to test interoperability of Microsoft Office Business Scorecard Manager, a business analytics tool, with a broad range of data sources and providers across the industry. The approach the companies used was based on testing the tool against Simba SDK, a more streamlined alternative than using every individual data source. The testing demonstrated the assured, built-in compatibility of drivers based on Simba SDK with standards-based data sources such as Microsoft's.



## Snowflake Exchanges and Shares Data in a Multi-Cloud World

Available across all the major public cloud services, Snowflake is being widely adopted for implementations such as data pipelines, data warehousing, data lakes and data application development. The company used the Simba SDK to develop the custom data connectors that their service depends on to allow data to be moved and managed among clouds and geographic regions at will. The company recently expanded the Magnitude relationship by engaging Magnitude for ongoing maintenance and optimization of their data connectors.

## Conclusion

For cases where it makes sense for software makers to develop custom data connectors, Simba SDK drives business and technical advantages, with the same tools that Magnitude uses to build its products. Simba SDK helps optimize developer productivity and product quality while streamlining maintenance. It delivers a structured approach to driver development based on flexible architecture, tools and components. Using Simba SDK helps put data where applications need it, delivering its full value and helping foster a competitive advantage.

[Take the Simba SDK out for a spin.](#)

## Need More Help Building Custom Data Connectors?

The Magnitude Engineering Services team works with you to add data connectivity to your custom business intelligence or data integration applications. We specify, develop, test and provide ongoing support for complete, end-to-end data access systems.

Focus on your core business – and leave your connectivity to the experts. [Learn more about our OEM Data Connectivity Solutions.](#)

**The same Simba SDK that our engineering team uses to develop Simba drivers is available for you to develop your custom ODBC/JDBC driver for any SQL-enabled or Non-SQL capable data source.**