

# Denodo AI Software Development Kit (SDK)

Powering GenAI and Agentic AI with Real-Time, Trusted Data



## Why AI Initiatives Need More Than Just a Model

Generative AI (GenAI) is transforming how organizations innovate, automate, and serve their customers. But as companies move from exploration to execution, a fundamental challenge comes into focus: connecting AI to the right data, securely, efficiently, and in real time.

Most enterprise data is still fragmented across cloud platforms, systems, and silos, making it difficult for AI models to access the trusted, context-rich information they need. Traditional data integration methods introduce latency and complexity, especially when AI use cases require live insights, governed access, or sensitive information handling.

At the same time, many organizations are grappling with a shortage of in-house expertise in GenAI development. Building intelligent agents, chatbots, or agentic workflows often requires navigating unfamiliar tools, frameworks, and integration patterns. For teams without deep AI engineering resources, this learning curve can become a bottleneck.

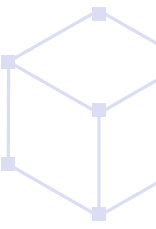
What's needed is a simpler, more accessible path forward, one that removes data integration friction and lowers the technical barriers to building powerful, AI-driven solutions. That's where the Denodo AI Software Development Kit (SDK) comes in.

## Overview

Building successful GenAI and agentic AI applications requires more than powerful models; it requires access to the right data, in the right context, at the right time.

To meet this need, the Denodo Platform provides a single, logical access point to all enterprise data, no matter where it resides: on-premises, in the cloud, or across hybrid environments. This enables real-time data access – and federated queries – across these disparate sources. By adding a unified semantic layer, the Denodo Platform transforms raw data into an intuitive, standardized form. It eliminates the complexities of traditional data integration while keeping data secure and governed.

On top of this foundation, the **Denodo AI SDK** empowers organizations to accelerate the development of intelligent applications. It simplifies how developers connect GenAI models to enterprise data by packaging processes such as complex data workflows, embedding, orchestration, access control, and more, into just a few intuitive REST API calls. This makes it easier for teams without deep AI or integration expertise to build chatbots, agents, and data-driven applications that are fast, secure, and context-aware, from day one.



## Key Capabilities

The AI landscape is evolving rapidly. What started with basic GenAI pilots—like text generation or chat-based Q&A—is now expanding into more sophisticated agentic systems that reason, plan, and act on behalf of the user. Organizations need a solution that can support today's foundational use cases while paving the way for tomorrow's more advanced AI architectures.

The Denodo AI SDK is purpose-built to meet these needs. It brings together three core capabilities that enable organizations to start quickly and scale confidently, from conversational analytics to multi-agent AI systems.

### 1. DENODO QUERY RAG – NATURAL LANGUAGE ACCESS TO TRUSTED DATA

Denodo Query RAG enables users to ask fact-based questions like “What happened?” or “How many?” and get fast, accurate answers, powered by real-time, governed data. It's ideal for replacing static dashboards and manual reports with intuitive, conversational self-service features that work across any data source.

### 2. DENODO DEEPQUERY – REASONING OVER COMPLEX, DISTRIBUTED DATA

For questions that require more than retrieval, like explaining why something happened, identifying root causes, or comparing outcomes across systems, Denodo DeepQuery delivers. It performs multi-step reasoning, synthesis, and explanation using real-time data and semantic context, enabling more intelligent, explainable responses.

### 3. MCP SUPPORT – OPEN, MULTI-AGENT INTEROPERABILITY

As AI applications become more agentic, interoperability becomes critical. With built-in support for Model Context Protocol (MCP), the AI SDK lets organizations integrate seamlessly with any MCP-compliant client. This enables orchestration across multiple AI agents, workflows, and systems—all grounded in trusted data from Denodo.

Together, these capabilities not only provide your organization with GenAI-ready data, but prepare you for the next wave of intelligent, context-aware, and autonomous applications.

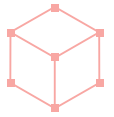
## Benefits of Using the Denodo AI SDK

The Denodo AI SDK empowers organizations to move faster, build smarter, and scale with confidence, whether you're deploying a simple chatbot or orchestrating a network of intelligent agents. The key benefits include:

- | Simplifies data integration** with a wide range of enterprise data sources, eliminating the need for custom connectors or manual data integration.
- | Accelerates development cycles** by removing repetitive coding and integration tasks, enabling teams to spend more time on business logic and innovation.
- | Streamlines data transformation** and merging, automatically preparing data for analysis, embedding, or large language model (LLM) input.
- | Delivers reliable, contextual responses** so GenAI and reasoning models operate on accurate, consistent, and context-rich data, which is critical for both traditional Q&A-type chatbots and complex decision-making.
- | Reduces orchestration complexity** with pre-built APIs that manage embedding, vectorizing, and LLM querying—so developers can focus on outcomes, not infrastructure.
- | Supports flexibility and scalability** with open-source components and interoperable architecture to support customization, multi-agent collaboration, and future use cases.
- | Applies enterprise-grade policies** for access control, privacy, and compliance within the SDK itself, for safe, responsible AI from day one.
- | Unifies AI workflows** through a single, easy-to-use API framework that supports both natural language queries and multi-step agentic reasoning.

The AI SDK is delivered as a Denodo Connect component, receiving full support and regular updates. It is compatible with Denodo Enterprise Plus 9.1 or later, as well as with Denodo Express.

## Abstracting Complexity for GenAI and Agentic AI

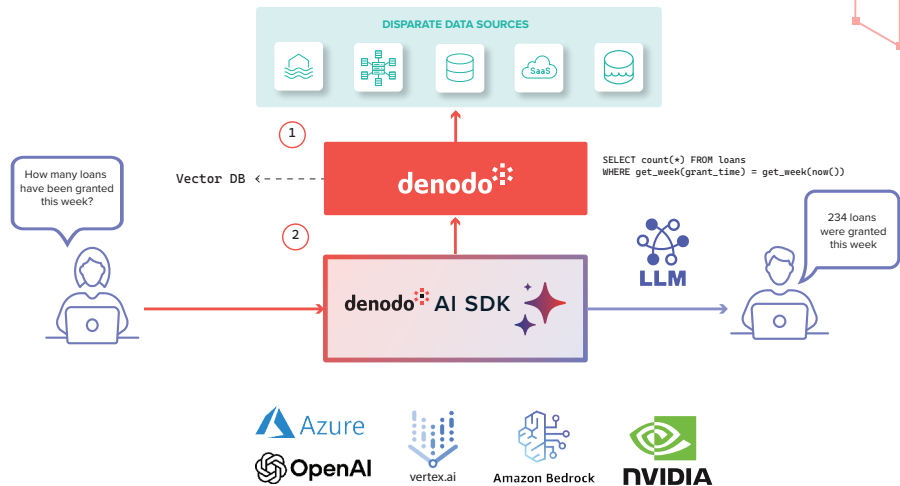


### 1. THE DENODO PLATFORM PROVIDES:

- A single access point for all data
- Fine-grained access control
- Access to fresh data in real time

### 2. THE DENODO AI SDK PROVIDES:

- Encapsulated processes in an easy-to-use SDK
- Simplified genAI adoption for developers



The diagram illustrates how the AI SDK handles the full workflow for both Query RAG and DeepQuery. For Query RAG, the SDK enables LLMs to retrieve real-time answers from governed enterprise data through Denodo. For DeepQuery, reasoning models generate multi-step plans, then execute a series of data queries—also routed through Denodo—to synthesize insights and explain results. In both cases, the SDK abstracts the orchestration, so developers don't have to manually manage query logic, data preparation, or workflow execution.

## How Customers Are Using the Denodo AI SDK



### KEY FEATURES INCLUDE

- **Comprehensive Integration Components:** All necessary components and configuration options to simplify integration with the Denodo platform.
- **Session-Level Security:** Standard Denodo Platform access controls, including basic authentication and authorization, applies to all queries performed and all data retrieved.
- **Streamlined LLM Integration:** Easy integration with popular commercial off-the-shelf (COTS) large language models (LLMs) through configuration parameters.
- **Vector Database:** The SDK offers a number of options in terms of vector database support, including the use of an embedded vector database as well as support for several external ones.
- **Example Front-End Application/Chatbot:** A sample application provided to assist with testing and custom developments, enhancing the user experience during implementation.
- **RESTful APIs:** Specifically designed for developing RAG-based AI agents, these APIs cover multiple stages of the development lifecycle, abstracting lower-level APIs and orchestration logic. The outputs of these APIs are specially formatted as JSON files, to facilitate integration with embedding APIs and vector databases.
- **API calls, which include:**
  - **Retrieve Metadata from VDP Databases:** This API call retrieves metadata from a specified Virtual DataPort (VDP) database and returns it in both JSON and natural language formats for easier interpretation and analysis. (API: getMetadata)
  - **Answer Data Question:** This API call enables users to submit a natural language query about data managed by the Denodo Platform and receive both a natural language response and the underlying SQL query used to generate the answer. It is the primary endpoint for answering questions based on your data. (API: answerdataquestion)
  - **Answer Meta Data Question:** This API call enables users to query the metadata managed by the Denodo Platform using natural language. (API: answermetadaquestion)

**Answer Complex Questions with an AI Reasoning Model:** This API call leverages an AI reasoning model to process complex, open-ended business questions. It generates insights through analysis and can also trigger reporting agents to produce a downloadable PDF report. (API: deepQuery)

#### CUSTOMER SUCCESS:

##### ALEXFORBES ACCELERATES FINANCIAL INTELLIGENCE WITH THE DENODO AI SDK

Alexforbes, a leading financial services firm in South Africa, used the Denodo AI SDK to transform how its teams access and interact with data. By enabling real-time, natural language queries across fragmented financial systems, the company streamlined critical calculations like broker and member contributions and improved customer service responsiveness.

With Denodo Query RAG—focused on metadata rather than full data embeddings—Alexforbes reduced complexity, secured data, and delivered faster insights, all without compromising data governance. A custom Power BI widget powered by the SDK further democratized access, making data-driven decisions easier for both technical and non-technical users.



#### CUSTOMER SUCCESS:

##### FESTO SIMPLIFIES AI ACCESS TO MANUFACTURING DATA WITH THE DENODO AI SDK

Festo, a global leader in factory automation, turned to the Denodo AI SDK to power internal GenAI applications like FestoGPT and Skillground. By integrating structured and unstructured data through Denodo's metadata-driven approach, Festo avoided costly replication and made real-time data available to customer-facing teams through a single, natural language interface.

With Denodo, Festo eliminated manual query writing, strengthened data governance, and improved the semantic accuracy of AI-generated responses—enabling more reliable insights for use cases ranging from pricing and product lookups to sales KPIs and project management, all without compromising security or performance.



# FESTO



Denodo is a leader in data management. The award-winning Denodo Platform is the leading logical data management platform for transforming data into trustworthy insights and outcomes for all data-related initiatives across the enterprise, including AI and self-service. Denodo's customers in all industries all over the world have delivered trusted AI-ready and business-ready data in a third of the time and with 10x better performance than with lakehouses and other mainstream data platforms alone.

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