

DP-800T00-A: Develop AI-enabled Database Solutions

Course Description

This course equips learners with the skills to design and develop **AI-enabled database solutions** across Microsoft SQL platforms, including:

- **SQL Server**
- **Azure SQL**
- **SQL databases in Microsoft Fabric**

It focuses on integrating **structured and semi-structured data** and incorporating **AI features** like vector search and embeddings into **scalable enterprise applications**.

Duration : 4 Days

Audience Profile

- Data Analysts
- Data Engineers
- Data Scientists
- Database Administrators

Prerequisites

- Basic understanding of SQL and relational databases
- Familiarity with Azure services
- Experience with data modeling and querying
- General awareness of AI concepts (e.g., machine learning, embeddings)

Course Content Coverage

Day 1 – Foundations of AI in Databases

- Course introduction and objectives
- Overview of SQL Server, Azure SQL, and Microsoft Fabric SQL

- Understanding structured vs. semi-structured data (JSON, XML, unstructured inputs)
- Introduction to AI concepts in database systems
- Lab: Exploring AI features in SQL Server

Day 2 – Working with Data & AI Features

- Designing schemas for AI-enabled solutions
- Handling semi-structured data in SQL platforms
- Built-in AI functions in SQL Server and Azure SQL
- Extending SQL with external AI models
- Lab: Implementing AI functions in Azure SQL

Day 3 – Vector Search & Embeddings

- Introduction to vector databases and embeddings
- Semantic search concepts and use cases
- Implementing vector search in SQL Server and Azure SQL
- Integrating embeddings into enterprise applications
- Lab: Building semantic search queries with embeddings

Day 4 – Scalable AI-Enabled Applications

- Developing enterprise-scale AI-enabled applications
- Performance optimization strategies
- Security and compliance considerations
- SQL in Microsoft Fabric – AI-driven enhancements
- Case studies and demos of real-world AI database solutions
- Lab: Deploying AI-enabled applications in Azure and Fabric environments
- Course wrap-up and certification guidance