

Build AI Apps with Azure Database for PostgreSQL

Courses Code: AI-3019

Duration: 1 Day

Delivery Mode: Instructor-led Training (ILT) | Virtual Instructor led Training (VILT)

Overview

This learning path explores how the Azure AI and Azure Machine Learning Services integrations provided by the Azure AI extension for Azure Database for PostgreSQL - Flexible Server can enable you to build AI-powered apps.

Skills Covered

- Build generative AI applications using Azure Database for PostgreSQL and the Azure AI extension.
- Enable semantic search with embedding vectors and vector similarity.
- Summarize complex content using Azure AI Services.
- Perform sentiment analysis and opinion mining on textual data.
- Extract insights using Azure AI Language tools (key phrases, entities, PII).
- Translate text using Azure AI Translator with PostgreSQL data.
- Train and deploy models with Azure Machine Learning and use them for inference from PostgreSQL.

Who Should Attend

This course is designed for developers and AI engineers who want to build AI-powered applications using Azure Database for PostgreSQL, Azure AI, and Azure Machine Learning Services. Learners should have experience with PostgreSQL, SQL queries, and basic AI/ML concepts.

Prerequisites

Before starting this module, you should have experience working with PostgreSQL databases, writing SQL queries, and a general understanding of AI and ML concepts.

Course Modules

Module 1: Get started with generative AI in Azure Database for PostgreSQL

- This module explores how to effectively use Azure Database for PostgreSQL - Flexible Server and the Azure AI extension to develop powerful Generative AI applications.

Module 2: Enable semantic search in Azure Database for PostgreSQL

- This module explores semantic search, embedding vectors, vector similarity, and using Azure Database for PostgreSQL - Flexible Server with PostgreSQL Vector and Azure AI extensions to generate, store, and query rows with semantic search.



Module 3: Integrate AI Services to enrich your applications with intelligent features in Azure Database for PostgreSQL

- This module explores how to integrate Azure AI Services with Azure Database for PostgreSQL to add intelligent capabilities to your applications. You'll learn to use the `azure_ai` extension to call Azure AI Language services for text summarization, sentiment analysis, opinion mining, key phrase extraction, named entity recognition, and PII detection. You'll also explore text translation with Azure Translator and how to perform inference using Azure Machine Learning endpoints directly from your database.

Module 4: Build RAG applications with Azure Database for PostgreSQL

- Learn how to implement Retrieval Augmented Generation (RAG) on Azure Database for PostgreSQL, integrate Azure AI for embeddings, and build scalable, accurate AI-powered applications.

Module 5: Implement generative AI agents with Azure Database for PostgreSQL

- This module explores how to implement generative AI agents using Azure Database for PostgreSQL. You'll learn about agent architectures, information retrieval techniques, and how to integrate AI agents with Azure services like Azure AI Foundry Agent Service and Model Context Protocol (MCP). The module includes hands-on exercises to build and test an AI agent solution.

Module 6: Develop PostgreSQL solutions in Visual Studio Code with the PostgreSQL extension and GitHub Copilot

- Learn how to streamline PostgreSQL development using the Visual Studio Code PostgreSQL extension and GitHub Copilot.

Ref: <https://trainocate.com/courses/microsoft/ai-3019-build-ai-apps-with-azure-database-for-postgresql-training>

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