

AI-3019: Build AI Apps with Azure Database for PostgreSQL

Duration: 01 days (08 hours)

Learning objectives:

After completing this course, students will be able to:

- Develop powerful Generative AI applications using Azure Database for PostgreSQL - Flexible Server.
- Implement semantic search and use embedding vectors for vector similarity.
- Summarize complex data using Generative AI summarization techniques.
- Perform sentiment analysis and opinion mining to extract insights from textual data.
- Utilize Azure AI Language tools for key phrase extraction, entity recognition, and redaction.
- Translate textual data into multiple languages using Azure AI Translator.
- Train and deploy machine learning models using Azure Machine Learning and integrate them with Azure Database for PostgreSQL

Pre-requisite:

- Familiarity with Azure AI Services and the Azure portal.
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Module 01: Get started with generative AI in Azure Database for PostgreSQL

- Making AI easy to use in Azure Database for PostgreSQL
- Using Azure AI and Machine Learning with your data
- Introduction to creating smarter applications

Module 02: Enable semantic search in Azure Database for PostgreSQL

- Creating vector columns to store embeddings.
- Enabling the pgvector and azure_ai extensions.
- Generating and storing embeddings.
- Querying the database using a query vector.

Module 03: Summarize data with Azure AI Services and Azure Database for PostgreSQL

- Describe and explain the differences between the various summarization techniques accessible through the azure_ai extension and Azure AI services.
- Apply generative AI summarization techniques to data in a PostgreSQL database using the azure_ai extension.

Module 04: Perform sentiment analysis and opinion mining with Azure Database for PostgreSQL

- Explore the fundamentals of sentiment analysis and how it can be used to gain insights into user sentiments and emotions.
- Learn opinion mining techniques to identify sentiments related to specific attributes.
- Apply generative AI summarization techniques to data in a PostgreSQL database using the azure_ai extension.

Module 05: Extract insights using Azure AI Language and Azure Database for PostgreSQL

- **Key phrase extraction:** Pulling out the most important phrases to quickly grasp the main ideas.
- **Named entity recognition:** Identifying and categorizing important entities in text.
- **PII detection:** Safeguarding sensitive information by identifying and redacting personal data.

Module 06: Translate Text with Azure AI Translator and Azure Database for PostgreSQL

- Learn how to translate documents using the Azure AI Translator.
- Learn how the Azure AI extension enables seamless interaction between Azure Database for PostgreSQL - Flexible Server and Azure AI Translator.
- Understand one way to translate documents automatically as part of record insertion.