# Gemini in BigQuery for Data Practitioners Training

Duration: **1 Day**

BILGINÇ IT Academy
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This course provides practical guidance on using **AI and machine learning models in BigQuery** to perform generative AI tasks.

Participants work through a practical customer relationship management use case, following a step-by-step approach to developing solutions with **SQL queries and Python notebooks**. Throughout the course, learners explore Gemini capabilities within BigQuery across data exploration, preparation, code development, and AI/ML workflows.

The programme is designed to help data professionals understand how **Gemini models can be used within BigQuery to address practical business problems** and support more productive data workflows.

## Prerequisites

Participants should have:

- Previous programming experience with SQL and/or Python
- Basic knowledge of machine learning
- A foundational understanding of generative AI concepts

## Who Should Attend

This course is suitable for:

- Data analysts
- Data engineers
- Other data professionals who want to improve productivity using Gemini in BigQuery
- Data practitioners looking to gain greater insight from unstructured data

## What You Will Learn

By the end of the course, participants will be able to:

- Describe the Gemini in BigQuery features that support the data-to-AI pipeline
- Explore data using Insights and Table Explorer
- Develop code with assistance from Gemini
- Discover and visualise workflows using Data Canvas
- Explain the workflow for applying AI and machine learning models to predictive and generative tasks in BigQuery
- Build solutions that use Gemini models in BigQuery through SQL queries and Jupyter Notebooks

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## Training Outline

### 1. Gemini in BigQuery

This module introduces Gemini and examines its role within Google Cloud and BigQuery.

- Overview of Gemini on Google Cloud
- Introduction to Gemini in BigQuery
- Introduction to the course use case
- Capabilities of Gemini across Google Cloud and BigQuery

### 2. Data Exploration and Preparation

This section explores the tools available for understanding and preparing data in BigQuery.

- Data exploration and preparation tools
- Working with Insights
- Using Table Explorer
- Benefits of Insights and Table Explorer
- Restrictions and considerations associated with these features
- Data cleaning capabilities in BigQuery
- Data pipeline development features

### 3. Code Development with Gemini

This module focuses on using Gemini to support common code development activities.

- Writing code with Gemini assistance
- Using AI assistance during development
- Troubleshooting with Gemini
- Testing with Gemini
- Prompting best practices

### 4. Data Canvas

This section introduces **Data Canvas** and explores how it can support workflow discovery and visualisation.

- Introduction to Data Canvas
- Core Data Canvas capabilities
- Discovering workflows
- Visualising workflows
- Prompting best practices for Data Canvas

### 5. Working with Gemini Models in BigQuery

The final module explores how Gemini models can be incorporated into BigQuery workflows using its AI and machine learning capabilities.

- BigQuery ML capabilities
- Using Gemini within SQL queries
- Working with Gemini models through Jupyter Notebooks

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- Applying AI and machine learning workflows to predictive and generative tasks