Google Cloud

Gemini in BigQuery for Data Practitioners

This course demonstrates how to use AI/ML models for generative AI tasks in BigQuery. Through a practical use case involving customer relationship management, you learn the workflow of solving a business problem with Gemini models. To facilitate comprehension, the course also provides step-by-step guidance through coding solutions using both SQL queries and Python notebooks.

DURATION
1 day

LEVEL
Intermediate

FORMAT
Instructor led

What you'll learn

• Define the features of Gemini in BigQuery that aid the data-to-AI pipeline.

• Explore data with Insights and Table Explorer.

• Develop code with Gemini assistance.

• Discover and visualize workflow with data canvas.

• Explain the workflow of using AI/ML models for predictive and generative tasks in BigQuery.

• Create a solution for leveraging Gemini models in BigQuery with SQL queries and Jupyter Notebooks.

Overview	5 modules · 5 labs · 5 classroom activities
Who this course is for	Data analysts, data engineers, and other data professionals who wish to use Gemini in BigQuery to boost productivity and understand their unstructured data.
Products	• Gemini • BigQuery • Vertex AI
Prerequisites	• Prior experience with programming languages including SQL and/or Python. • Basic knowledge of ML and generative AI.

Module 01   **Gemini on BigQuery**

Topics
- Gemini on Google Cloud
- Overview of Gemini on BigQuery
- Introduction to course use case

Objectives
- Understand capabilities of Gemini on Google Cloud.
- Understand capabilities of Gemini on BigQuery.

Module 02   **Data Exploration and Preparation**

Topics
- Data exploration and preparation
- Insights
- Table Explorer

Objectives
- Discover tools that support data exploration.
- Identify the benefits and restrictions of Insights and Table Explorer.
- Explore data cleaning and pipeline development features in BigQuery.

Activities
Lab: Explore Data with Gemini in BigQuery

Module 03   Code Development with Gemini

Topics
- Gemini for writing code
- Troubleshooting and testing with Gemini
- Prompting best practices

Objectives
- Explore using Gemini for writing code.
- Identify how Gemini can assist with troubleshooting.
- Discover prompting best practices.

Activities   Lab: Develop Code with Gemini in BigQuery

Module 04   Data Canvas

Topics
- Introduction to Data Canvas
- Data Canvas capabilities
- Prompting best practices for Data Canvas

Objectives
- Explore Data Canvas features.
- Discover prompting best practices for Data Canvas.

Activities   Lab: Use Data Canvas to Visualize and Design Queries

Module 05   Working with Gemini Models in BigQuery

Topics
- BigQuery ML
- Using Gemini in your SQL queries
- Gemini in BigQuery Notebooks

Objectives
- Discover the capabilities of BigQuery ML.
- Explore using Gemini in your SQL queries.
- Explore using Gemini in Jupyter Notebooks.

Activities
- Lab: Analyze Customer Reviews with SQL
- Lab: Analyze Customer Reviews with Python Notebooks