Google Cloud

BigQuery for Data Analysts

This course is designed for data analysts who want to learn about using BigQuery for their data analysis needs. Through a combination of videos, labs, and demos, we cover various topics that discuss how to ingest, transform, and query your data in BigQuery to derive insights that can help in business decision-making.

DURATION
ILT: 2 days
On demand:
10 hours, 30 minutes

LEVEL
Intermediate

FORMAT
ILT and on demand

What you'll learn

- Learn the purpose and value of BigQuery, Google Cloud's enterprise data warehouse, and discuss its data analytics features.
- Analyze large datasets in BigQuery with SQL.
- Clean and transform your data in BigQuery with SQL.
- Ingest new BigQuery datasets, and discuss options for external data sources.
- Review visualization principles, and use Connected Sheets and Looker Studio to visualize data insights from BigQuery.
- Use Dataform to develop scalable data transformation pipelines in BigQuery.
- Use new integrations and assistive capabilities introduced with BigQuery Studio.

Overview	9 modules · 44 videos · 10 labs · one reading, three demos
Who this course is for	Data analysts who want to learn how to use BigQuery for their data analysis needs.
Products	BigQuery
Prerequisite	Introduction to Data Analytics on Google Cloud

Module 0 Course introduction

Topics

This module introduces the course agenda.

Objectives

Introduce the topics covered in the course.

Module 01 BigQuery for data analysts

Topics

- Overview
- Data analytics on Google Cloud
- From data to insights with BigQuery
- Real-world use cases of companies transformed through analytics on Google Cloud

Objectives

- Identify analytics challenges faced by data analysts, and compare big data on-premises versus in the cloud.
- Learn the purpose and value of BigQuery, Google Cloud's enterprise data warehouse, and discuss its data analytics features.

Module 02 Exploring and preparing your data with BigQuery

Topics

- Overview
- Common data exploration techniques
- Analysis of large datasets with BigQuery
- Query basics
- Working with functions
- Enriching your queries with UNIONs and JOINs

Objectives
- List common data exploration techniques.
- Review SQL query basics.
- Enrich queries with functions, unions, and joins.

Activities
- Lab: Exploring an Ecommerce Dataset using SQL in Google BigQuery
- Lab: Troubleshooting Common SQL Errors with BigQuery
- Lab: Troubleshooting and Solving Data Join Pitfalls

Module 03 Cleaning and transforming your data

Topics
- Overview
- Five principles of dataset integrity
- Clean and transform data using SQL
- Clean and transform data: Other options

Objectives
- Identify what makes a good dataset.
- Clean and transform data using SQL.
- Clean and transform data with other options.

Module 04 Ingesting and storing new BigQuery datasets

Topics
- Overview
- Permanent versus temporary data tables
- Ingesting new datasets
- External data sources

Objectives
- Review differences between permanent and temporary data tables.
- Ingest and store new BigQuery datasets.
- Discuss options for external data sources.

Activities
- Lab: Creating New Permanent Tables
- Lab: Ingesting and Querying New Datasets

Module 05 Visualizing your insights from BigQuery

Topics
- Overview
- Data visualization principles
- Connected Sheets
- Common data visualization pitfalls
- Looker Studio
- Analysis in a notebook

Objectives
- Review data visualization principles and common visualization pitfalls.
- Use Connected Sheets and Looker Studio to visualize data insights from BigQuery.
- Discuss running analyses in a Jupyter Notebook.

Activities
- Lab: Connected Sheets Qwik Start
- Lab: Explore and Create Reports with Looker Studio

Module 06 Developing scalable data transformation pipelines in BigQuery with Dataform

Topics
- Overview
- What is Dataform?
- Getting started with Dataform

Objectives
- Use Dataform to develop scalable data transformation pipelines in BigQuery.
- Learn how to get started with Dataform by creating a repository and development workspace.
- Create and execute a SQL workflow in Dataform.

Activities
- Demo
- Lab: Create and Execute a SQL Workflow in Dataform

Module 07 BigQuery Studio

Topics
- BigQuery Studio: What and why?
- Unified analytics
- Asset management
- Embedded assistance

Objectives
- Introduce BigQuery Studio.
- Use Duet AI in BigQuery to explain and generate SQL queries.
- Learn about new usability features and integrations with Dataform and Dataplex in the new BigQuery Studio interface.

Activities
- Demo
- Lab: Analyze Data with Duet AI Assistance
- Lab: Generate Personalized Email Content with BigQuery Continuous Queries and Gemini

Module 08 Summary

Topics Summary

Objectives Summarize the key topics covered in the course.