



Cloud Hero Intro to BigQuery: Analytics & Machine Learning

Course description

Learn how to analyze large datasets with BigQuery and build machine learning models directly in SQL using BigQuery ML through hands-on Cloud Hero challenges.

Through guided labs and real-world business scenarios, learners will gain practical experience using BigQuery ML to predict customer behavior, perform forecasting, and generate business insights from large datasets.

- Course level: Introductory
- Duration: 1 day

Activities

This course includes gamified cloud hero learning experience, hands-on analytics labs, sql-based machine learning exercises, data ingestion workshops, forecasting challenges, predictive analytics activities, and real-world dataset exploration to reinforce learning.

Course objectives

In this course, you will learn to:

- Use BigQuery to query and analyze large datasets.
- Import and manage datasets in BigQuery.
- Design data structures optimized for analytics.

- Build machine learning models using SQL and BigQuery ML.
- . Perform predictive analytics on customer datasets
- Create forecasting models using real-world data.
- Analyze and interpret machine learning results.
- Apply BigQuery ML to business intelligence and analytics use cases.

Key features

- BigQuery Analytics Fundamentals
- Command-Line BigQuery Operations
- Data Ingestion and Management
- Introduction to BigQuery ML
- Predictive Analytics
- Forecasting with Real-World Data
- SQL-Based Machine Learning
- Hands-On Challenge-Based Learning

Intended audience

This course is intended for:

- Data Analysts
- Business Intelligence Professionals
- Data Engineers
- Aspiring Machine Learning Practitioners
- SQL Developers
- Analytics Professionals
- Google Cloud Data Learners

Prerequisites

We recommend that attendees of this course have:

- Basic understanding of BigQuery.
- Familiarity with SQL concepts recommended.
- Interest in analytics and machine learning.

- Completion of Cloud Hero: BigQuery Skills is beneficial but not required.

Products covered

- BigQuery
- BigQuery ML

Course outline

Module 01 - BigQuery: Qwik Start - Command Line

- BigQuery Fundamentals
- SQL Queries
- Command-Line Operations
- Dataset Exploration

Module 02 - Ingesting New Datasets into BigQuery

- Data Ingestion
- Dataset Management
- Data Loading Techniques
- Analytics Data Preparation

Module 03 - Getting Started with BigQuery ML

- BigQuery ML Fundamentals
- Machine Learning with SQL
- Model Training
- Predictive Analytics

Module 04 - Predict Taxi Fare with a BigQuery ML Forecasting Model

- Forecasting Models
- Time-Series Analysis
- BigQuery ML Forecasting
- Real-World Predictive Analytics

Certification details

Participants receive a Cloud Hero completion badge and recognition upon successful completion of all challenge activities.

FAQs

Who should attend this Cloud Hero?

This Cloud Hero is designed for learners who want to explore machine learning capabilities within BigQuery and build predictive analytics skills.

Is prior machine learning experience required?

No. The challenge introduces machine learning concepts using SQL and BigQuery ML.

Is this a hands-on learning experience?

Yes. The entire Cloud Hero consists of guided labs and practical analytics challenges.

What machine learning topics are covered?

The course covers predictive modeling, forecasting, model training, evaluation, and machine learning workflows using BigQuery ML.

Do I need Python knowledge?

No. Machine learning models are built directly using SQL within BigQuery.

What products are used?

The challenge focuses on BigQuery and BigQuery ML.

How long does the Cloud Hero take?

The complete Cloud Hero experience takes approximately 195 minutes.

Will I receive a certificate?

Participants typically earn a Cloud Hero completion badge upon successful completion of all challenge activities.