

Google Cloud Big Data and Machine Learning Fundamentals

Code:	GCP-BD-ML
Length:	1 days
URL:	View Online

This course introduces the Google Cloud big data and machine learning products and services that support the data-to-AI lifecycle. It explores the processes, challenges, and benefits of building a big data pipeline and machine learning models with Vertex AI on Google Cloud.

Skills Gained

This course teaches participants the following skills:

- Identify the data-to-AI lifecycle on Google Cloud and the major products of big data and machine learning.
- Design streaming pipelines with Dataflow and Pub/Sub.
- Analyze big data at scale with BigQuery.
- Identify different options to build machine learning solutions on Google Cloud.
- Describe a machine learning workflow and the key steps with Vertex AI.
- Build a machine learning pipeline using AutoML.

Who Can Benefit

This class is intended for the following:

- Data analysts, data scientists, and business analysts who are getting started with Google Cloud
- Individuals responsible for designing pipelines and architectures for data processing, creating and maintaining machine learning and statistical models, querying datasets, visualizing query results, and creating reports
- Executives and IT decision makers evaluating Google Cloud for use by data scientists

Prerequisites

To get the most of out of this course, participants should have:

- Database query language such as SQL
- Data engineering workflow from extract, transform, load, to analysis, modeling, and deployment
- Machine learning models such as supervised versus unsupervised models

Course Details

Course Outline

Module 1: Course Introduction

- Recognize the data-to-AI lifecycle on Google Cloud
- Identify the connection between data engineering and machine learning

Module 2: Big Data and Machine Learning on Google Cloud

- Identify the different aspects of Google Cloud's infrastructure.
- Identify the big data and machine learning products on Google Cloud.
- Lab: Exploring a BigQuery Public Dataset
- Quiz

Module 3: Data Engineering for Streaming Data

- Describe an end-to-end streaming data workflow from ingestion
- to data visualization.
- Identify modern data pipeline challenges and how to solve them at scale
- with Dataflow.
- Build collaborative real-time dashboards with data visualization tools.
- Lab: Creating a Streaming Data Pipeline for a Real-Time Dashboard with Dataflow
- Quiz

Module 4: Big Data with BigQuery

- Describe the essentials of BigQuery as a data warehouse.
- Explain how BigQuery processes queries and stores data.
- Define BigQuery ML project phases.
- Build a custom machine learning model with BigQuery ML.
- Lab: Predicting Visitor Purchases Using BigQuery ML
- Quiz

Module 5: Machine Learning Options on Google Cloud

- Identify different options to build ML models on Google Cloud.
- Define Vertex AI and its major features and benefits.
- Describe AI solutions in both horizontal and vertical markets.
- Quiz

Module 6: The Machine Learning Workflow with Vertex AI

- Describe a ML workflow and the key steps.
- Identify the tools and products to support each stage.
- Build an end-to-end ML workflow using AutoML.

- Lab: Vertex AI: Predicting Loan Risk with AutoML
- Quiz

Module 7: Course Summary

- This section reviews the topics covered in the course and provides additional resources for further learning.
- Describe the data-to-AI lifecycle on Google Cloud and identify the major products of big data and machine learning.

Schedule (as of 4)

Date	Location
Jul 15, 2024 - Jul 15, 2024	Live Virtual Enroll

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