Google Cloud, Google Cloud | GCP100B

Google Cloud Platform Big Data and Machine Learning Fundamentals

7h

Learning outcomes

- Knowledge of Google Cloud Platform products and services, particularly those related to data processing and machine learning
- Knowledge of basic products and services related to computing and storage
- Knowledge of Cloud SQL and Dataproc
- Knowledge of Datalab and BigQuery
- Knowledge of TensorFlow and Machine Learning APIs
- Knowledge of Pub / Sub and Dataflow

Target audience

Before enrolling in this course, participants should have roughly one (1) year of experience with one or more of the following: A common query language such as SQL Extract, transform, load activities Data modeling Machine learning and/or statistics Programming in Python

Prerequisites

- experience with a common query language such as SQL

- experience with an ETL
- data modeling experience
- experience in machine learning and / or statistics
- experience with programming in Python

Course Outline

The course includes presentations, demonstrations, and hands-on labs.

Module 1: Introducing Google Cloud Platform

Google Platform Fundamentals Overview.
Google Cloud Platform Big Data Products.

Module 2: Compute and Storage Fundamentals

CPUs on demand (Compute Engine).
A global filesystem (Cloud Storage).
CloudShell.
Lab: Set up a Ingest-Transform-Publish data processing pipeline.

Module 3: Data Analytics on the Cloud

Stepping-stones to the cloud.
Cloud SQL: your SQL database on the cloud.
Lab: Importing data into CloudSQL and running queries.
Spark on Dataproc.
Lab: Machine Learning Recommendations with Spark on Dataproc.

Module 4: Scaling Data Analysis

Fast random access.
Datalab.
BigQuery.
Lab: Build machine learning dataset.

Module 5: Machine Learning

Machine Learning with TensorFlow.
Lab: Carry out ML with TensorFlow
Pre-built models for common needs.

Lab: Employ ML APIs.

Module 6: Data Processing Architectures

Message-oriented architectures with Pub/Sub.

Creating pipelines with Dataflow.

Reference architecture for real-time and batch data processing.

Module 7: Summary

Why GCP?

Where to go from here

Additional Resources