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Google Cloud Fundamentals: Big Data and Machine Learning

Learn via: **Classroom/Virtual**

Duration: **1 Day**

Overview

This one-day instructor-led course introduces participants to the big data capabilities of Google Cloud Platform. Through a combination of presentations, demos, and hands-on labs, participants get an overview of the Google Cloud platform and a detailed view of the data processing and machine learning capabilities. This course showcases the ease, flexibility, and power of big data solutions on Google Cloud Platform.

Prerequisites

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

- Basic proficiency with common query language such as SQL.
- Experience with data modeling, extract, transform, load activities.
- Developing applications using a common programming language such Python.
- Familiarity with machine learning and/or statistics.

Who Should Attend

- Data analysts, Data scientists, Business analysts getting started with Google Cloud Platform.
- 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 Platform for use by data scientists.

What You Will Learn

- Identify the purpose and value of the key Big Data and Machine Learning products in the Google Cloud Platform.
- Use Cloud SQL and Cloud Dataproc to migrate existing MySQL and Hadoop/Pig/Spark/Hive workloads to Google Cloud Platform.
- Employ BigQuery and Cloud Datalab to carry out interactive data analysis.
- Train and use a neural network using TensorFlow.
- Employ ML APIs.
- Choose between different data processing products on the Google Cloud Platform.

Outline

Module 1: Introducing Google Cloud Platform

- Google Platform Fundamentals Overview.
- Google Cloud Platform Data Products and Technology.
- Usage scenarios.
- Lab: Sign up for Google Cloud Platform.

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 SparkML.

Module 4: Scaling Data Analysis

- Fast random access.
- Datalab.
- BigQuery.
- Lab: Build machine learning dataset.
- Machine Learning with TensorFlow.
- Lab: Train and use neural network.
- Fully built models for common needs.
- Lab: Employ ML APIs

Module 5: Data Processing Architectures

- Message-oriented architectures with Pub/Sub.
- Creating pipelines with Dataflow.
- Reference architecture for real-time and batch data processing.

Module 6: Summary

- Why GCP?
- Where to go from here
- Additional Resources