



# Google Cloud Fundamentals: Core Infrastructure

CPO100 - Version: 1

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 1 days Course

## Description:

This one-day instructor-led class provides an overview of Google Cloud Platform products and services. Through a combination of presentations, demos, and hands-on labs, participants learn the value of Google Cloud Platform and how to incorporate cloud-based solutions into business strategies.

## Intended audience:

Individuals planning to deploy applications and create application environments on Google Cloud Platform.

Developers, systems operations professionals, and solution architects getting started with Google Cloud Platform.

Executives and business decision makers evaluating the potential of Google Cloud Platform to address their business needs.

## Prerequisites:

Familiarity with the Linux command line, web servers, and text editors.

## Objectives:

Identify the purpose and value of Google Cloud Platform products and services

Interact with Google Cloud Platform services

Describe ways in which customers have used Google Cloud Platform

Choose among and use application deployment environments on Google Cloud Platform: Google App Engine, Google Kubernetes Engine, and Google Compute Engine

Choose among and use Google Cloud Platform storage options: Google Cloud Storage, Google Cloud SQL, Google Cloud Bigtable, and Google Cloud Datastore

Make basic use of BigQuery, Google's managed data warehouse for analytics

Make basic use of Cloud Deployment Manager, Google's tool for creating and managing cloud resources through templates

Make basic use of Google Stackdriver, Google's monitoring, logging, and diagnostics system

## Topics:

### Module 1: Introducing Google Cloud Platform

- Explain the advantages of Google Cloud Platform.
- Define the components of Google's network infrastructure, including: Points of presence, data centers, regions, and zones.
- Understand the difference between Infrastructure-as-a-Service (IaaS) and Platform-as-a-Service (PaaS).

### Module 2: Getting Started with Google Cloud Platform

- Identify the purpose of projects on Google Cloud Platform.
- Understand the purpose of and use cases for Identity and Access Management.
- List the methods of interacting with Google Cloud Platform.
- Lab: Getting Started with Google Cloud Platform.

### Module 3: Virtual Machines and Networks in the Cloud

- Identify the purpose of and use cases for Google Compute Engine.
- Understand the various Google Cloud Platform networking and operational tools and services.
- Lab: Compute Engine

### Module 4: Storage in the Cloud

- Understand the purpose of and use cases for: Google Cloud Storage, Google Cloud SQL, Google Cloud Bigtable, and Google Cloud Datastore.
- Learn how to choose between the various storage options on Google Cloud Platform.

- Lab: Cloud Storage and Cloud SQL

## Module 5: Containers in the Cloud

- Define the concept of a container and identify uses for containers.
- Identify the purpose of and use cases for Google Kubernetes Engine and Kubernetes.
- Lab: Kubernetes Engine

## Module 6: Applications in the Cloud

- Understand the purpose of and use cases for Google App Engine.
- Contrast the App Engine Standard environment with the App Engine Flexible environment.
- Understand the purpose of and use cases for Google Cloud Endpoints.
- Lab: App Engine

## Module 7: Developing, Deploying, and Monitoring in the Cloud

- Understand options for software developers to host their source code.
- Understand the purpose of template-based creation and management of resources.
- Understand the purpose of integrated monitoring, alerting, and debugging.
- Lab: Deployment Manager and Stackdriver

## Module 8: Big Data and Machine Learning in the Cloud

- Understand the purpose of and use cases for the products and services in the Google Cloud big data and machine learning platforms.
- Lab: BigQuery