Training: Google Cloud
Google Cloud Fundamentals: Core Infrastructure

TRANING TERMS

2026-11-27 | 1 day | Virtual Classroom
2026-12-11 | 1 day | Virtual Classroom

TRAINING GOALS:

This course uses lectures and labs to give you an overview of Google Cloud products and services. You learn the value of Google Cloud and how to incorporate cloud-based solutions into your business strategies.

What you'll learn

- Identify the purpose and value of Google Cloud products and services.
- Define how infrastructure is organized and controlled in Google Cloud.
- Explain how to create basic infrastructure in Google Cloud.
- Select and use Google Cloud storage options.
- Describe the purpose and value of Google Kubernetes Engine.
- Identify the use cases for serverless Google Cloud services.
- Explore Google Clouds Generative AI tools and best practices.

Who this course is for

- Individuals planning to deploy applications and create application environments on Google Cloud
- Developers, systems operations professionals, and solution architects getting started with Google Cloud
- Executives and business decision makers evaluating the potential of Google Cloud to address their business needs

Products

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- Identity and Access Management (IAM)
- Cloud Marketplace
- Compute Engine
- Cloud Storage
- Cloud Bigtable
- Cloud SQL
- Cloud Spanner
- Firestore
- Google Kubernetes Engine
- Cloud Functions
- Cloud Run

CONSPECT:

- Module 0 Introduction to the Course
  - Topics
    - The course introduction explains the course goals and previews each section.
  - Objectives
    - Introduce course objectives and preview each section of the course.
- Module 1 Introducing Google Cloud
  - Topics
    - Cloud computing overview
    - IaaS and PaaS
    - The Google Cloud network
    - Environmental impact
    - Security
    - Open source ecosystems
    - Pricing and billing
  - Objectives
    - Identify the benefits of Google Cloud.
    - Define the components of the Google network infrastructure, including points of presence, data centers, regions, and zones.
    - Identify the difference between infrastructure as a service (IaaS) and platform as a service (PaaS).
- Module 2 Resources and Access in the Cloud
  - Topics
    - Google Cloud resource hierarchy

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        - IAM
        - IAM roles
        - Service accounts
        - Cloud Identity
        - Interacting with Google Cloud
    - Objectives
        - Identify the purpose of projects on Google Cloud.
        - Define the purpose of and use cases for IAM.
        - List interaction methods with Google Cloud.
        - Use Cloud Marketplace to interact with Google Cloud.
- Module 3 Virtual Machines and Networks in the Cloud
    - Topics
        - Virtual Private Cloud networking
        - Compute Engine
        - Scaling virtual machines
        - Important VPC compatibilities
        - Cloud Load Balancing
        - Cloud DNS and Cloud CDN
        - Connecting networks to Google VPC
    - Objectives
        - Explore the basics of networking in Google Cloud.
        - Identify the purpose of and use cases for Google Compute Engine.
        - Outline how Google Compute Engine can scale
        - Detail important VPC compatibilities including routing tables, firewalls and VPC peering.
        - Explore how Cloud Load Balancing functions in Google Cloud.
        - Deploy a basic infrastructure to Google Cloud
- Module 4 Storage in the Cloud
    - Topics
        - Cloud Storage
        - Cloud SQL
        - Cloud Spanner
        - Firestore
        - Cloud Bigtable
        - Comparing storage options
    - Objectives

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- Identify the purpose of and use cases for Cloud Storage.
- Distinguish between Cloud Storage classes.
- Distinguish between Google Cloud's Database storage options.
- Deploy an application that uses Cloud SQL and Cloud Storage.

- Module 5 Containers in the Cloud
  - Topics
    - Introduction to containers
    - Kubernetes
    - Google Kubernetes Engine
  - Objectives
    - Define the concept of a container and identify uses for containers.
    - Identify the purpose of and use cases for Kubernetes and Google Kubernetes Engine.
- Module 6 Applications in the Cloud
  - Topics
    - Cloud Run
    - Cloud Function
  - Objectives
    - Identify the purpose and use cases for Cloud Run
    - Describe how Cloud Functions can support application development on Google Cloud.
    - Deploy a containerized application on Cloud Run
- Module 7 Prompt Engineering
  - Topics
    - Introduction to generative AI
    - Introduction to large language models
    - Prompt engineering and recommended practices
  - Objectives
    - Define what generative AI is.
    - Explain how large language models are trained.
    - Detail the elements and types of a prompt.
    - Explore recommended practices when constructing prompts.
- Module 8 Course Summary
  - Topics
    - The course summary recaps the major concepts learners were introduced to during the course.
  - Objectives

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- Summarize the content covered in each section of the course.

REQUIREMENTS:

Familiarity with application development, systems operations, Linux operating systems, and data analytics or machine learning is helpful in understanding the technologies covered.

Difficulty level



CERTIFICATE:

The participants will obtain certificates signed by Google Cloud.

TRAINER:

Authorized Google Cloud Platform Trainer.

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