



Associate Cloud Engineer

Course description

Master Google Cloud's flexible infrastructure. Learn to build, connect, and manage scalable solutions using Compute Engine, advanced networking, and automated deployments.

- Course level: Intermediate
- Duration: 3 days

Activities

This course includes instructor-led sessions, hands-on demonstrations, and interactive discussions to reinforce learning.

Course objectives

In this course, you will learn to:

- Configure VPC networks and firewall rules to secure cloud resources.
- Create and customize VM instances using Compute Engine.
- Manage Identity and Access Management (IAM) for granular resource control.
- Implement and manage various data storage services in Google Cloud.
- Connect on-premises infrastructure to Google Cloud via VPN and Interconnect.
- Configure load balancers and autoscaling to handle fluctuating traffic.

- Automate infrastructure deployment using Terraform.
- Monitor and manage the billing and health of cloud resources.

Key features

- Compute Engine Deep Dive: Extensive focus on creating, customizing, and managing Virtual Machine (VM) instances.
- Advanced Networking: Detailed modules on interconnecting networks (VPN, Peering, Interconnect) and Load Balancing.
- Infrastructure as Code (IaC): Practical experience using Terraform to automate Google Cloud service deployments.
- Comprehensive Ops Coverage: Includes identity management (IAM), resource monitoring, and billing management.

Intended audience

This course is intended for:

- Cloud Architects, Site Reliability Engineers, and Systems Administrators responsible for managing Google Cloud infrastructure.

Prerequisites

We recommend that attendees of this course have:

- Google Cloud Fundamentals: Core Infrastructure
- Getting Started with Google Kubernetes Engine
- Getting Started with Terraform for Google Cloud

Course outline

Introduction to Google Cloud

- Platform overview and interaction tools
- Interacting with the Google Cloud console and Cloud Shell
- Deploying solutions using Google Cloud Marketplace Learning Objectives
- Interact with the Google Cloud console and Cloud Shell
- Deploy solutions using Google Cloud Marketplace

Virtual Networks

- VPC, firewalls, and networking basics
- Implementing VPC networks and firewall rules Learning Objectives
- Implement VPC networks and firewall rules

Virtual Machines

- Compute Engine instances and customization
- Creating and customizing VM instances using Compute Engine Learning Objectives
- Create and customize VM instances using Compute Engine

Identity and Access Management (IAM)

- Resource hierarchy and roles
- Administering Identity and Access Management for resources Learning Objectives
- Administer Identity and Access Management for resources

Data Storage Services

- Cloud Storage, Cloud SQL, and specialized databases
- Implementing data storage services in Google Cloud Learning Objectives
- Implement data storage services in Google Cloud

Resource Management

- Quotas, labels, and billing
- Managing and examining billing of Google Cloud resources Learning Objectives
- Manage and examine billing of Google Cloud resources

Resource Monitoring

- Cloud Monitoring and logs
- Monitoring resources using Google Cloud services
- Debugger capabilities Learning Objectives
- Monitor resources using Google Cloud services

Interconnecting Networks

- HA VPN, Peering, and Interconnect

- Google Cloud interconnect and peering services available to connect infrastructure
 - When to use Shared VPC and when to use VPC Network Peering
- Learning Objectives
- Recall the Google Cloud interconnect and peering services available to connect your infrastructure to Google Cloud
 - Determine which Google Cloud interconnect or peering service to use in specific circumstances
 - Create and configure Google Cloud HA VPN
 - Recall when to use Shared VPC and when to use VPC Network Peering

Load Balancing and Autoscaling

- HTTP/Internal load balancers
- Various load balancing services
- Autoscaling behavior description - Learning Objectives
- Recall the various load balancing services
- Determine which Google Cloud load balancer to use in specific circumstances
- Describe autoscaling behavior
- Configure load balancers and autoscaling

Infrastructure Automation

- Terraform and Cloud Marketplace
- Automating the deployment of Google Cloud infrastructure services
- Google Cloud Marketplace outlines Learning Objectives
- Automate the deployment of Google Cloud services using Terraform
- Outline the Google Cloud Marketplace

Managed Services

- Overview of managed data processing services
- Leveraging managed services in Google Cloud Learning Objectives
- Describe the managed services for data processing in Google Cloud

Certification details

CloudThat Course Completion Certificate will be awarded to all learners who complete the training.

FAQs

How long is the course? It is a 3-day course when delivered as Instructor-led training.

Does the course cover Terraform? Yes, Module 10 is dedicated to automating infrastructure with Terraform.

Will I learn about networking? Yes, including VPCs, Firewalls, VPNs, and Load Balancing.

Is this for beginners? It is "Intermediate" and assumes basic cloud and networking knowledge.

What is the difference between this and the GKE course? This course focuses on Virtual Machines (Compute Engine), while the GKE course focuses on containers.

Can I take this course online? Yes, it is available in both Instructor-led and On-demand formats.

Will I learn about billing? Yes, Module 06 covers quotas and managing Google Cloud resource billing.

Are there labs? Yes, several hands-on labs are included to reinforce the lectures.

Does it cover hybrid cloud? Yes, Module 08 covers connecting on-premises infrastructure to Google Cloud.

Will I learn to use the command line? Yes, the course includes interaction with Cloud Shell.