

GCP Associate Cloud Engineer Course

Course Duration: 40 Hours

Course code: GACE

1. Course Overview

This course is designed to prepare learners for the Google Cloud Associate Cloud Engineer role. It focuses on deploying applications, managing cloud infrastructure, configuring networking, and ensuring security using Google Cloud Platform (GCP). The course provides hands-on experience with core services and prepares learners for the Associate Cloud Engineer certification exam.

2. What you'll learn?

By the end of the course, you will be able to:

- Understand core Google Cloud services and architecture
- Deploy and manage applications on GCP
- Configure compute, storage, and networking resources
- Implement Identity and Access Management (IAM)
- Monitor, troubleshoot, and optimize cloud resources
- Use command-line tools and Cloud Console effectively
- Apply basic security and compliance practices
- Prepare for the Google Associate Cloud Engineer certification

3. Target Audience

- Beginners in Cloud Computing
- System Administrators and IT Professionals
- Developers and Engineers
- Students preparing for GCP certification
- Professionals transitioning to cloud roles

4. Pre-Requisites

Before taking this course, you should have:

- Basic understanding of cloud computing concepts
- Familiarity with Linux command line (helpful)
- Basic networking knowledge
- No prior GCP experience required

5. Course content

Module 1: Course Introduction

- Course overview and objectives
- Introduction to Google Cloud Platform
- Certification overview and exam strategy

Module 2: Google Cloud Fundamentals

- Regions, zones, and infrastructure
- Resource hierarchy (Organization, Folders, Projects)
- Billing and account setup
- Cloud Console and Cloud Shell

Module 3: Compute Services

- Compute Engine (VM instances)
- Machine types and configurations
- Instance groups and autoscaling
- Preemptible VMs and cost optimization

Module 4: Storage Services

- Cloud Storage (buckets and objects)
- Storage classes and lifecycle policies
- Persistent disks and snapshots
- Filestore basics

Module 5: Networking in GCP

- Virtual Private Cloud (VPC)
- Subnets and IP addressing
- Firewall rules
- Load balancing

Module 6: Identity and Access Management (IAM)

- IAM roles and permissions
- Service accounts
- Policies and access control
- Best practices for IAM

Module 7: Managing Resources

- Resource deployment and management
- Using gcloud CLI
- Infrastructure management basics
- Labels and resource organization

Module 8: Kubernetes Engine (GKE) Basics

- Introduction to containers and Kubernetes
- Creating GKE clusters
- Deploying containerized applications
- Managing workloads

Module 9: App Deployment and Management

- App Engine basics
- Cloud Run overview
- Deploying applications
- Managing application versions

Module 10: Monitoring and Logging

- Cloud Monitoring
- Cloud Logging
- Setting up alerts
- Troubleshooting issues

Module 11: Security and Compliance Basics

- Shared responsibility model
- Data security basics
- Network security
- Compliance overview

Module 12: Cost Management and Optimization

- Pricing models
- Budgeting and alerts
- Cost optimization strategies
- Resource utilization

Module 13: Automation and Deployment Tools

- Deployment Manager basics
- Introduction to Terraform
- Automating infrastructure
- CI/CD overview

Module 14: Troubleshooting and Best Practices

- Common issues and solutions
- Debugging techniques
- Performance optimization
- Best practices for GCP

Module 15: Real-World Use Cases and Certification Preparation

- Hands-on labs and scenarios
- Practice tests and exam tips
- Real-world cloud architecture examples
- Final assessment and evaluation

