Google Cloud Engineer for AWS Professional

Course Duration: 32 Hours **Course code: GCEAP**

1. Course Overview

This course is designed for AWS professionals who want to transition to Google Cloud Platform (GCP). It provides a hands-on and comparative understanding of GCP services by mapping them to AWS equivalents. Learners will gain practical skills in deploying, managing, and securing cloud resources on GCP while leveraging their existing AWS knowledge.

2. What you'll learn?

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

- Compare AWS and Google Cloud services and architectures
- Map AWS services to GCP equivalents
- Deploy and manage infrastructure on GCP
- Configure compute, storage, and networking resources
- Implement IAM and security best practices
- Monitor, log, and troubleshoot applications
- Migrate workloads from AWS to GCP
- Prepare for GCP certification pathways

3. Target Audience

- AWS Cloud Engineers and Administrators
- AWS Developers and DevOps Engineers
- IT Professionals transitioning to GCP
- Multi-cloud engineers

4. Pre-Requisites

Before taking this course, you should have:

- Hands-on experience with AWS
- Understanding of cloud computing concepts
- Basic networking and Linux knowledge
- Familiarity with scripting (Python/Bash preferred)

5. Course content

Module 1: Course Introduction

- Course overview and objectives
- Why transition from AWS to GCP
- Multi-cloud fundamentals

Module 2: AWS vs Google Cloud Fundamentals

- Global infrastructure comparison
- Regions, zones, and availability
- Resource hierarchy (AWS accounts vs GCP projects)
- Pricing and billing comparison

Module 3: Identity and Access Management (IAM)

- AWS IAM vs Google IAM
- Roles, policies, and permissions
- Service accounts vs IAM roles
- Best practices for access control

Module 4: Compute Services

- EC2 vs Compute Engine
- Instance configuration and management
- Autoscaling comparison
- Serverless (Lambda vs Cloud Functions / Cloud Run)

Module 5: Storage Services

- S3 vs Cloud Storage
- EBS vs Persistent Disk
- EFS vs Filestore
- Storage lifecycle management

Module 6: Networking

- AWS VPC vs Google VPC
- Subnets, routing, and IP addressing
- Firewall rules and security groups comparison
- Load balancing and traffic management

Module 7: Containers and Kubernetes

- ECS/EKS vs GKE
- Container deployment strategies
- Managing clusters and workloads
- Scaling containerized applications

Module 8: Databases and Data Services

- RDS vs Cloud SQL
- DynamoDB vs Firestore / Bigtable
- Redshift vs BigQuery
- Data migration strategies

Module 9: Monitoring and Logging

- CloudWatch vs Cloud Operations Suite
- Metrics, logs, and alerts
- Troubleshooting tools
- Performance monitoring

Module 10: DevOps and CI/CD

- AWS CodePipeline vs Cloud Build / Cloud Deploy
- Pipeline setup and automation
- Artifact management
- Deployment strategies

Module 11: Security and Compliance

- AWS Security services vs GCP security tools
- Data protection and encryption
- Identity security
- Compliance frameworks

Module 12: Infrastructure as Code (IaC)

- CloudFormation vs Terraform
- Deployment Manager basics
- Automating infrastructure provisioning
- Best practices

Module 13: Migration Strategies

- Migration planning
- Tools and services for migration
- Rehost, replatform, refactor
- Migration best practices

Module 14: Cost Optimization and Performance

- Pricing comparison (AWS vs GCP)
- Cost management tools
- Resource optimization strategies
- Performance tuning

Module 15: Real-World Use Cases and Capstone Project

- AWS to GCP migration scenarios
- Multi-cloud use cases
- End-to-end deployment project
- Final evaluation