

# Google Cloud Architect for AWS Professional

**Course Duration: 40 Hours**

**Course code: GCAAP**

## 1. Course Overview

This course is designed for experienced AWS professionals who want to transition into Google Cloud Architect roles. It focuses on designing scalable, secure, and high-performance architectures on Google Cloud Platform (GCP), while mapping AWS services to their GCP equivalents. The course emphasizes solution architecture, multi-cloud strategies, migration planning, and real-world enterprise use cases.

## 2. What you'll learn?

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

- Compare AWS and Google Cloud architectures and services
- Design scalable, secure, and highly available solutions on GCP
- Map AWS services to GCP equivalents for architecture design
- Build networking, compute, and data architectures
- Design multi-cloud and hybrid cloud solutions
- Plan and execute AWS-to-GCP migration strategies
- Optimize cost, performance, and reliability
- Prepare for Google Professional Cloud Architect role

## 3. Target Audience

- AWS Solution Architects
- Cloud Architects and Engineers
- Senior DevOps Engineers
- IT Infrastructure Professionals
- Multi-cloud practitioners

## 4. Pre-Requisites

Before taking this course, you should have:

- Strong hands-on experience with AWS
- Understanding of cloud architecture principles
- Knowledge of networking, security, and databases
- Experience in designing scalable systems

## 5. Course content

Module 1: Course Introduction

- Course overview and objectives
- Role of a Cloud Architect
- Multi-cloud strategy and benefits

Module 2: AWS vs Google Cloud Architecture

- Core architectural differences
- Regions, zones, and global infrastructure
- Resource hierarchy comparison
- Design principles in GCP

Module 3: Identity and Access Management (IAM)

- AWS IAM vs Google IAM
- Roles, policies, and permissions
- Service accounts vs IAM roles
- Designing secure access control

Module 4: Compute Architecture

- EC2 vs Compute Engine
- AWS Lambda vs Cloud Functions
- Elastic Beanstalk vs App Engine / Cloud Run

- Designing scalable compute systems

#### Module 5: Storage Architecture

- S3 vs Cloud Storage
- EBS vs Persistent Disks
- EFS vs Filestore
- Storage lifecycle and cost optimization

#### Module 6: Networking Architecture

- VPC comparison (AWS vs GCP)
- Subnets, routing, and IP management
- Load balancing strategies
- Hybrid connectivity and multi-region design

#### Module 7: Containers and Kubernetes

- ECS/EKS vs GKE
- Container orchestration strategies
- Microservices architecture
- Workload deployment and scaling

#### Module 8: Data and Analytics Architecture

- RDS vs Cloud SQL
- DynamoDB vs Firestore / Bigtable
- Redshift vs BigQuery
- Data pipelines and ETL design

#### Module 9: DevOps and CI/CD Architecture

- AWS CodePipeline vs Cloud Build / Cloud Deploy
- CI/CD pipeline design
- Infrastructure automation

- Continuous delivery strategies

#### Module 10: Security Architecture

- AWS Security Hub vs Security Command Center
- Identity security and Zero Trust
- Data encryption and key management
- Threat detection and response

#### Module 11: High Availability and Disaster Recovery

- Multi-region and multi-zone architectures
- Backup and recovery strategies
- Failover design
- Resilient system architecture

#### Module 12: Cost Optimization and Performance

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

#### Module 13: Migration and Modernization

- Migration planning and assessment
- Rehost, replatform, refactor approaches
- Migration tools and best practices
- Post-migration optimization

#### Module 14: Governance and Compliance

- Policy and access management
- Compliance frameworks (ISO, GDPR, etc.)
- Auditing and logging

- Governance best practices

## Module 15: Real-World Use Cases and Capstone Project

- Enterprise architecture scenarios
- AWS to GCP migration case study
- Designing end-to-end solutions
- Final evaluation

