



# Google Cloud Infrastructure for AWS Professionals

## Course description

This comprehensive course is designed for experienced AWS professionals looking to expand their cloud expertise into Google Cloud Platform (GCP). It provides a structured approach to understanding GCP's core infrastructure, services, and operational paradigms by drawing parallels and highlighting key differences with AWS. Participants will learn to navigate GCP's console, provision resources, and implement solutions, leveraging their existing cloud knowledge to accelerate their proficiency. The course covers compute, storage, networking, security, databases, and management tools, enabling AWS experts to confidently design, deploy, and manage applications on GCP.

- Course level: Intermediate to Advanced
- Duration: 2 days

## Activities

This course includes presentations, interactive discussions comparing AWS and GCP architectures, hands-on labs with guided exercises, demonstrations of key GCP services, and architectural design challenges.

## Course objectives

In this course, you will learn to:

- Translate core AWS infrastructure concepts (e.g., EC2, S3, VPC, IAM) to their Google Cloud Platform equivalents.
- Understand the unique architectural differences and advantages of GCP compared to AWS.
- Navigate the Google Cloud Console and command-line interface (gcloud) effectively.
- Provision and manage compute, storage, and networking resources in GCP.
- Implement security best practices and understand IAM principles in GCP.
- Explore GCP's database, data analytics, and serverless offerings.
- Design resilient and scalable solutions on GCP by leveraging your AWS architectural knowledge.
- Identify key migration strategies and operational considerations when moving workloads from AWS to GCP.

## **Intended audience**

This course is intended for IT professionals with hands-on experience in AWS:

- AWS Architects
- AWS Solutions Engineers
- AWS DevOps Engineers
- Cloud Administrators
- Technical Leads
- System Engineers experienced with AWS
- Anyone looking to cross-skill from AWS to GCP

## **Prerequisites**

We recommend that attendees of this course have:

- At least 1-2 years of hands-on experience with core AWS services (e.g., EC2, S3, VPC, IAM, RDS).
- A basic understanding of networking concepts (IP addressing, routing, firewalls).
- Familiarity with command-line tools and scripting.

## **Course outline**

## **Module 1: GCP Fundamentals & AWS Comparison Overview**

- Introduction to Google Cloud Platform's global infrastructure (Regions, Zones, Edge Locations vs. AWS Regions, AZs, Edge Locations).
- Understanding GCP's Resource Hierarchy (Organizations, Folders, Projects vs. AWS Accounts, OUs).
- Introduction to Google Cloud Console and gcloud CLI (vs. AWS Management Console, AWS CLI).
- Core principles of GCP IAM (Members, Roles, Service Accounts vs. AWS Users, Groups, Roles, Policies).
- Hands-on Lab: Setting up a GCP Project and exploring IAM.

## **Module 2: Compute Services - VMs, Containers, and Serverless**

- Virtual Machines: Compute Engine (VM instances, instance groups, custom images) vs. AWS EC2 (instances, Auto Scaling Groups, AMIs).
- Container Services: Google Kubernetes Engine (GKE) vs. AWS EKS/ECS/Fargate.
- Serverless Compute: Cloud Functions vs. AWS Lambda.
- Managed Compute: Cloud Run vs. AWS Fargate or Lambda@Edge/CloudFront Functions.
- Hands-on Lab: Deploying a web application on Compute Engine and scaling with Instance Groups.

## **Module 3: Storage Services - Persistent, Object, and Data Warehousing**

- Object Storage: Cloud Storage (Buckets, storage classes, lifecycle management) vs. AWS S3 (Buckets, storage classes, lifecycle rules).
- Block Storage: Persistent Disk (Standard, SSD, Local SSD) vs. AWS EBS (gp2, io1, st1, sc1).
- File Storage: Filestore (NFS) vs. AWS EFS.
- Data Warehousing: BigQuery (Serverless, analytical database) vs. AWS Redshift/Athena.
- Hands-on Lab: Managing Cloud Storage buckets and object lifecycle.

## **Module 4: Networking - VPCs, Load Balancing, and Connectivity**

- Virtual Private Cloud (VPC): Global VPC, Subnets, Internal IP addressing vs. AWS VPCs, Subnets.
- Networking Services: Firewall Rules, Shared VPC, VPC Service Controls vs. AWS Security Groups, Network ACLs, VPC Peering, Transit Gateway.

- Load Balancing: Global External HTTP(S) Load Balancer, Network Load Balancer, Internal Load Balancer vs. AWS ELB (ALB, NLB, CLB).
- DNS: Cloud DNS vs. AWS Route 53.
- Interconnect & VPN: Cloud Interconnect, Cloud VPN vs. AWS Direct Connect, AWS Site-to-Site VPN.
- Hands-on Lab: Configuring a Global HTTP(S) Load Balancer with Compute Engine backends.

## **Module 5: Databases and Data Services**

- Managed Relational Databases: Cloud SQL (MySQL, PostgreSQL, SQL Server) vs. AWS RDS (Aurora, MySQL, PostgreSQL, SQL Server).
- Horizontally Scalable Relational: Cloud Spanner vs. AWS Aurora Global Database (conceptual comparison).
- NoSQL Databases: Cloud Datastore/Firestore, Bigtable vs. AWS DynamoDB, Amazon Keyspaces (Cassandra).
- Message Queuing: Pub/Sub vs. AWS Kinesis/SQS/SNS.
- Data Processing: Dataflow vs. AWS EMR/Glue.
- Hands-on Lab: Deploying a Cloud SQL instance and connecting an application.

## **Module 6: Security, Monitoring, and Operations**

- Security Services: Cloud KMS, Security Command Center vs. AWS KMS, Security Hub, GuardDuty.
- Logging & Monitoring: Cloud Logging, Cloud Monitoring, Cloud Trace, Cloud Audit Logs vs. AWS CloudWatch, CloudTrail, X-Ray.
- Infrastructure as Code: Deployment Manager, Terraform vs. AWS CloudFormation, Terraform.
- DevOps Tools: Cloud Build, Cloud Source Repositories, Cloud Deploy vs. AWS CodeBuild, CodeCommit, CodeDeploy.
- Cost Management: Cloud Billing vs. AWS Cost Explorer, Budgets.
- Hands-on Lab: Setting up Cloud Monitoring alerts and reviewing Cloud Audit Logs.

## **Module 7: Advanced Topics & Migration Strategies**

- Serverless Platforms: App Engine (Standard/Flexible) vs. AWS Elastic Beanstalk.
- AI/ML Services: Vertex AI (unified ML platform) vs. AWS SageMaker.
- Hybrid Cloud Solutions: Anthos vs. AWS Outposts.

- Migration Best Practices: Planning, assessment, data migration tools (Migration Center, Database Migration Service) vs. AWS Database Migration Service, Snow Family.
- Architectural Best Practices: Cost optimization, high availability, disaster recovery patterns in GCP.
- Hands-on Lab: Deploying a simple serverless application on Cloud Run or App Engine.

## **Module 8: Course Wrap-up & Next Steps**

- Review of key concepts and AWS to GCP mappings.
- Q&A session.
- Recommendations for further learning and GCP certifications.
- Resources for continued skill development.

Your course overview ends here.  
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## About CloudThat

Established in 2012, CloudThat is an award-winning company and the first in India to offer cloud training and consulting services for individuals and enterprises worldwide. Recently, it won Google Cloud's New Training Partner of the Year Award for 2025, becoming the first company in the world in 2025 to hold awards from all three major cloud giants: AWS, Microsoft, and Google. CloudThat notably won consecutive AWS Training Partner of the Year (APJ) awards in 2023 and 2024 and the Microsoft Training Services Partner of the Year Award in 2024, bringing its total award count to an impressive 12 awards in the last 8 years.

CloudThat specializes in Cloud Migration, Data Platforms, DevOps, IoT, and cutting-edge technologies like Gen AI & AI/ML. As a Microsoft Solutions Partner, AWS Premier Tier Training Partner, Google Cloud Platform Partner, and collaborator with leading organizations like HPE, Oracle, Nvidia and Databricks, CloudThat has trained over 850,000 professionals across 600+ cloud certifications, empowering students and professionals worldwide to advance their skills and careers.

To know more about our cloud certification training, email at [sales@cloudthat.com](mailto:sales@cloudthat.com) or call us at [+91-8880002200](tel:+91-8880002200) or [+1-8555588830](tel:+1-8555588830) for those from outside India.