Google Cloud Infrastructure for Azure Professionals

Course description

In this course, Azure professionals will gain a comprehensive understanding of Google Cloud Platform (GCP) infrastructure, services, and operational paradigms. You will learn to map your existing Azure knowledge and skills to their GCP equivalents, enabling a smooth transition and expansion of your cloud expertise. This course provides practical insights into GCP's core components, architecture, and best practices for deploying, managing, and securing resources, helping you leverage GCP to solve real-world business challenges. By the end of the course, you will be proficient in navigating the GCP console, understanding its billing and identity management, and designing solutions that integrate various GCP services.

- Course level: Intermediate
- Duration: 2 days

Activities

This course includes presentations, hands-on labs in the Google Cloud Console, demonstrations, and mapping exercises to compare Azure and GCP services.

Course objectives

In this course, you will learn to:

- Summarize Google Cloud's core infrastructure and service categories, mapping them to familiar Azure concepts.
- Explain the GCP resource hierarchy, Identity and Access Management (IAM), and billing model, comparing them with Azure management groups, subscriptions, and RBAC.
- Design and implement secure networking solutions in GCP, including VPCs, firewalls, and load balancers, using Azure VNet knowledge as a foundation.
- Deploy and manage compute resources, from virtual machines (Compute Engine) to container orchestration (Google Kubernetes Engine) and serverless functions (Cloud Functions), aligning with Azure VM, AKS, and Azure Functions.
- Evaluate and utilize GCP storage options (Cloud Storage, Persistent Disk, Filestore) and database services (Cloud SQL, Firestore, BigQuery) based on Azure Storage and Database service experience.
- Implement robust security, monitoring, logging, and operational practices in GCP, drawing parallels to Azure Security Center, Monitor, and Log Analytics.
- Explore GCP's data analytics and machine learning capabilities, understanding their relevance and application compared to Azure's data platform services.

Intended audience

This course is intended for Azure professionals looking to expand their cloud skills into Google Cloud Platform:

- Azure Solution Architects
- Azure Cloud Engineers
- Azure Developers
- Azure Administrators
- IT Managers overseeing Azure environments
- DevOps professionals working with Azure

Prerequisites

We recommend that attendees of this course have:

- A solid understanding of core Azure services (compute, networking, storage, databases, identity).
- Familiarity with cloud computing concepts and terminology.
- Basic experience with the Azure portal and CLI.

Course outline

Module 1: Introduction to Google Cloud for Azure Professionals

- Google Cloud overview and key differentiators
- Mapping Azure services to GCP equivalents
- GCP resource hierarchy: Organizations, Folders, Projects, and Resources (vs. Management Groups, Subscriptions, Resource Groups)
- Identity and Access Management (IAM) in GCP (vs. Azure Active Directory and RBAC)
- Billing and cost management in GCP (vs. Azure Cost Management)
- Demo: Navigating the Google Cloud Console and CLI

Module 2: Networking in Google Cloud

- Virtual Private Cloud (VPC) networks, subnets, and regions (vs. Azure VNets and Subnets)
- Firewall rules and network security (vs. Network Security Groups - NSGs)
- Load balancing options: Global, Regional, Internal (vs. Azure Load Balancer, Application Gateway, Front Door)
- Cloud DNS (vs. Azure DNS)
- Connecting hybrid environments: Cloud VPN, Cloud Interconnect (vs. Azure VPN Gateway, ExpressRoute)
- Hands-on Lab: Configuring a GCP VPC with subnets and firewall rules

Module 3: Compute Services on GCP

- Compute Engine: Virtual Machines (VMs), instance types, images, custom images (vs. Azure Virtual Machines, VM Scale Sets)
- Google Kubernetes Engine (GKE): Managed Kubernetes, clusters, node pools (vs. Azure Kubernetes Service - AKS)
- Serverless compute: Cloud Functions (vs. Azure Functions), Cloud Run (vs. Azure Container Apps/Web Apps)
- App Engine: Platform as a Service (PaaS) for web applications (vs. Azure App Service)
- Hands-on Lab: Deploying a web application on Compute Engine and scaling with GKE

Module 4: Storage and Databases

- Cloud Storage: Object storage buckets, classes, lifecycle management (vs. Azure Blob Storage, Data Lake Storage)

- Persistent Disk: Block storage for Compute Engine VMs (vs. Azure Managed Disks)
- Filestore: Managed network file storage (vs. Azure Files, Azure NetApp Files)
- Managed relational databases: Cloud SQL (PostgreSQL, MySQL, SQL Server) (vs. Azure SQL Database, Azure Database for MySQL/PostgreSQL)
- NoSQL databases: Firestore, Cloud Spanner (vs. Azure Cosmos DB)
- BigQuery: Serverless data warehouse (vs. Azure Synapse Analytics)
- Hands-on Lab: Storing data in Cloud Storage and querying with BigQuery

Module 5: Security, Compliance, and Operations

- Shared responsibility model in GCP
- IAM roles, custom roles, service accounts (deep dive from Module 1)
- Data encryption at rest and in transit, Key Management Service (KMS) (vs. Azure Key Vault)
- Security Command Center: Security posture management (vs. Azure Security Center, Azure Defender)
- Resource Policies and Organization Policies (vs. Azure Policies)
- Auditing and compliance in GCP
- Hands-on Lab: Implementing IAM roles and service accounts for secure access

Module 6: Monitoring, Logging, and DevOps on GCP

- Cloud Monitoring: Metrics, dashboards, alerts (vs. Azure Monitor, Application Insights)
- Cloud Logging: Centralized log management, log sinks (vs. Azure Log Analytics, Azure Sentinel)
- Cloud Trace and Error Reporting: Application performance monitoring
- Cloud Build: Continuous Integration (CI) service (vs. Azure Pipelines)
- Cloud Source Repositories (vs. Azure Repos)
- Cloud Deploy: Continuous Delivery (CD) for GKE (vs. Azure Pipelines for CD)
- Hands-on Lab: Setting up monitoring and alerts for a GKE application

Module 7: Data Analytics and Machine Learning on GCP

- BigQuery: Advanced analytics and querying (revisit and deepen)

- Dataflow: Fully managed service for stream and batch data processing (vs. Azure Data Factory, Azure Databricks)
- Dataproc: Managed Apache Spark and Hadoop service (vs. Azure HDInsight, Azure Databricks)
- Vertex AI: Unified ML platform for building, deploying, and scaling ML models (vs. Azure Machine Learning)
- AI Platform (Legacy) and Vision/Natural Language/Translation AI APIs (vs. Azure Cognitive Services)
- Demo: Using BigQuery for data analysis and exploring Vertex AI capabilities

Module 8: Migration Strategies, Hybrid Cloud & Course Wrap-up

- Strategies for migrating applications and data from Azure to GCP
- Migration tools and services: Transfer Appliance, Database Migration Service
- Hybrid Cloud with Anthos (vs. Azure Arc)
- Cost optimization best practices in GCP (vs. Azure Cost Optimization)
- Certification paths for GCP
- Next steps and additional resources for Azure professionals
- Course summary and Q&A

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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 or call us at +91-8880002200 or +1-8555588830 for those from outside India.