



# Google Cloud Platform (GCP) Training Course: Compute Engine, GKE, BigQuery and Operations

2 – 6 May 2027  
Riyadh - KAFD district five-star



## Google Cloud Platform (GCP) Training Course: Compute Engine, GKE, BigQuery and Operations

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### Introduction:

Google Cloud Platform GCP training on Compute Engine, GKE, BigQuery and operations is a five-day course for cloud engineers, cloud architects and data engineers, ending with a Google Cloud Multi-Tier Deployment Package for a sample workload. Organisations adopting Google Cloud often grow projects, service accounts and firewall rules faster than their teams can govern them, so workloads become fragile, exposed and costly to run. Nominees already build or operate cloud infrastructure or data pipelines and work hands on in labs with the console, gcloud and Terraform. CoreConcept Training Center delivers this Google Cloud Platform course.

### Course Objectives:

- Structure organisations, folders, projects, billing accounts and IAM roles so that every Google Cloud resource has an owner and least-privilege access
- Configure VPC networks, firewall rules, Cloud Load Balancing and hybrid links between on-premises sites and Google Cloud
- Deploy and scale workloads on Compute Engine managed instance groups, GKE clusters and Cloud Run services
- Select Cloud Storage classes and database services, and query datasets in BigQuery with partitioning and cost controls
- Operate Google Cloud workloads with Cloud Monitoring, Cloud Logging, Terraform and Organization Policy guardrails
- Produce a Google Cloud Multi-Tier Deployment Package with Terraform code, a runbook and a pricing calculator estimate

### Target Audience:

- Cloud engineers responsible for provisioning and operating projects, networks and compute on Google Cloud
  - Cloud architects responsible for selecting Google Cloud services and landing workloads to agreed designs
  - Data engineers responsible for loading, modelling and querying analytical datasets in BigQuery
  - Platform and DevOps engineers responsible for container platforms, deployment pipelines and Terraform code
  - Infrastructure and network engineers responsible for connecting data centres to Google Cloud
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## Course Outline:

### Day 1: Google Cloud Resource Hierarchy, Projects, Billing and Identity

- Organization, Folder and Project Resource Hierarchy Design
- Cloud Billing Accounts, Budgets and Billing Export to BigQuery
- Cloud IAM Basic, Predefined and Custom Roles Assignment
- Service Accounts, Keys and Workload Identity Federation Setup
- Cloud Shell and gcloud CLI Project Configuration Lab

### Day 2: VPC Networking, Load Balancing and Hybrid Connectivity

- VPC Subnets, Routes and Firewall Rules Configuration
- Shared VPC and VPC Network Peering Between Projects
- Cloud Load Balancing Global and Regional Backend Selection
- Cloud VPN and Cloud Interconnect for Hybrid Connectivity
- Cloud DNS, Cloud NAT and Private Google Access

### Day 3: Compute Engine, GKE, Cloud Run and Data Storage Services

- Compute Engine Machine Types, Images and Persistent Disks
- Managed Instance Groups with Autoscaling and Autohealing Policies
- GKE Autopilot and Standard Cluster Deployment Lab
- Cloud Run Container Deployment and Revision Traffic Splitting
- Cloud Storage Classes, Cloud SQL, Spanner and Firestore Selection

### Day 4: BigQuery Analytics, Vertex AI, Operations Suite and Security Guardrails

- BigQuery Datasets, Partitioned Tables and Query Cost Control
- Vertex AI Workbench Notebooks and Model Endpoint Basics
- Cloud Monitoring Dashboards, Uptime Checks and Cloud Logging Sinks
- Terraform Google Provider Modules and Remote State in Cloud Storage
- Organization Policy, VPC Service Controls and Cloud KMS Keys

### Day 5: Lab Capstone Building the Google Cloud Multi-Tier Deployment Package

- Multi-Tier Workload Design on Google Cloud with Architecture Diagram
  - Terraform Deployment of Network, Instance Groups and Cloud SQL
  - Cloud Run Front End Behind External Application Load Balancer
  - Google Cloud Pricing Calculator Estimate and Budget Alert Thresholds
  - Multi-Tier Deployment Package Runbook and Design Review Completion
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## Skills You Will Gain:

- Google Cloud IAM Administration
- VPC Network Configuration
- Managed Instance Group Operations
- GKE Cluster Deployment
- BigQuery Query Optimisation
- Terraform Provisioning on Google Cloud
- Cloud Monitoring and Alerting
- Google Cloud Cost Estimation

## Why Attend This Course:

- Hand a Google Cloud Multi-Tier Deployment Package to the platform lead and the architecture review group
- Choose between Compute Engine, GKE and Cloud Run for each workload using scaling, operations and cost evidence
- Avoid open firewall rules, over-privileged service accounts and unbounded BigQuery scans that cause incidents and unexpected charges
- Pass Terraform modules, gcloud scripts and monitoring dashboards to colleagues building the next Google Cloud project

## Conclusion:

Back at work, the participant hands the Google Cloud Multi-Tier Deployment Package to the platform lead, the architecture review group and the budget holder. They use it to approve the project structure, network design and service choices for the next Google Cloud workload, and to reuse the Terraform modules as a starting baseline. After the first production release, the team should compare actual billing, alert volume, autoscaling behaviour and BigQuery scan costs against the estimate and runbook, then tighten IAM roles, budgets and scaling policies where they differ.

## Frequently Asked Questions FAQ:

### What should participants know before a Google Cloud Platform GCP training course?

Participants should be comfortable with Linux command lines, basic networking such as IP addressing and subnets, and containers at a conceptual level. Prior use of any public cloud helps. Bringing a workload they intend to run on Google Cloud makes the capstone more useful.

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## **How does a Google Cloud Platform GCP training course differ from a vendor-neutral cloud architecture course?**

It is platform-specific and hands on: participants configure real Google Cloud services such as VPC, Compute Engine, GKE and BigQuery. Vendor-neutral architecture courses compare providers and design principles, while migration and cost governance courses focus on planning and spend rather than building.

## **When should a team choose GKE or Cloud Run on Google Cloud Platform GCP?**

Cloud Run suits stateless containers that scale on requests with little cluster management. GKE suits workloads needing control over nodes, networking, stateful sets or many cooperating services. Many teams run both, placing simple services on Cloud Run and complex platforms on GKE.

## **What do participants take back from a Google Cloud Platform GCP training course?**

Participants take back a Google Cloud Multi-Tier Deployment Package: an architecture diagram, Terraform code for the network, compute and database tiers, a deployment runbook and a pricing calculator estimate with budget alerts, ready to adapt for their own projects.