

Architecting with Google Cloud Platform: Infrastructure

Learn to design, deploy and manage secure, scalable infrastructure on Google Cloud Platform, from virtual networks to containers.

5 Days

40 HOURS

16

MODULES

28

TOPICS

21

HANDS-ON ACTIVITIES

COURSE OVERVIEW

The “Architecting with Google Cloud Platform: Infrastructure” course is an in-depth training program designed to equip learners with the skills and knowledge necessary to create and manage a secure, scalable, and intelligent cloud infrastructure using Google Cloud Platform (GCP). The course covers various foundational and advanced topics, from understanding the core infrastructure components, such as Compute Engine and Cloud Storage, to mastering network design and implementing data storage services. Participants will gain hands-on experience through labs and demos, reinforcing their learning and preparing them for the GCP Cloud Architect Certification. Key areas such as Virtual Networks, IAM, Load Balancing, Autoscaling, and Managed Services are thoroughly explored, ensuring a comprehensive GCP Architect Training. Upon completion, learners will be well-positioned to architect robust GCP solutions, contributing to their organizations' successful digital transformation.

WHO THIS COURSE IS FOR

The Architecting with Google Cloud Platform: Infrastructure course is designed for IT professionals seeking to leverage Google Cloud for scalable, secure infrastructure.

Cloud Architects

Systems Engineers

IT Infrastructure Specialists

DevOps Engineers

Network Engineers

Security Specialists

Cloud Infrastructure Planners

IT Managers overseeing cloud adoption

Application Developers using Google Cloud services

Data Engineers and Data Analysts focusing on Google Cloud-based solutions

Technical Leads and Technical Project Managers working with GCP

Software Engineers interested in deploying applications on GCP

IT Professionals looking to understand GCP for comprehensive cloud solutions

What You Will Learn

- Explain core Google Cloud Platform infrastructure components
- Configure virtual networks, subnetworks and firewall rules
- Deploy and manage virtual machines using Compute Engine
- Apply Cloud IAM roles, members and best practices
- Compare data storage services such as Cloud Storage and Cloud SQL
- Configure load balancing and autoscaling for workloads
- Implement infrastructure automation with APIs and Deployment Manager
- Describe container deployment using Kubernetes Engine

COURSE SYLLABUS

16 Modules, 28 Topics

01

Lab

Demo

Lab

Introduction to Google Cloud Platform

TOPICS

Google Cloud Platform (GCP) Infrastructure · Using GCP

02

2 Labs

Virtual Networks

TOPICS

- Virtual Private Cloud (VPC), Projects, Networks, Subnetworks, IP addresses, Routes, Firewall rules
- Subnetworks for resource management instead of physical network topology

03

2 Labs

Virtual Machines

TOPICS

Compute Engine · Compute options (vCPU and Memory) · Images · Common Compute Engine actions

04

Lab

Cloud IAM

TOPICS

- Organizations, Roles, Members, Service accounts, Cloud IAM best practices

05**3 Labs**

Data Storage Services

TOPICS

Cloud Storage · Cloud SQL · Cloud Spanner, Cloud Datastore · Cloud Bigtable

06**Demo****Lab**

Resource Management

TOPICS

■ Cloud Resource Manager, Quotas, Labels, Names, Billing

07**2 Labs**

Resource Monitoring

TOPICS

Stackdriver, Monitoring · Logging, Error Reporting, Tracing, Debugging

08**Lab**

Interconnecting Networks

TOPICS

- Cloud Virtual Private Network (VPN)
- Cloud Router, Cloud Interconnect, External Peering, Cloud DNS

09**Lab**

Load Balancing

TOPICS

- Managed Instance Groups, HTTPS load balancing, Cross-region and content-based load balancing, SSL proxy/TCP proxy load balancing, Network load balancing

10**Lab**

Autoscaling

TOPICS

Autoscaling, Policies, Configuration

11

Lab

Infrastructure Automation with Google Cloud Platform

TOPICS

- APIs
- Infrastructure automation, Images, Metadata, Scripts, Google Cloud API

12

Lab

Infrastructure Automation with Deployment Manager

TOPICS

- Deployment Manager, Configuration, Cloud Launcher

13

Managed Services

TOPICS

- Cloud Dataproc, Cloud Dataflow, BigQuery, Cloud Datalab

14

Application Infrastructure Services

TOPICS

- Cloud Pub/Sub, API Management, Cloud Functions, Cloud Source Repositories, Specialty APIs

15

Application Development Services

TOPICS

App Engine

16

Lab

Containers

TOPICS

- Containers, Kubernetes Engine, Container Registry
- Kubernetes Engine, App Engine, or Containers on Compute Engine?

Practise What You Learn

#	MODULE	ACTIVITY
01	Introduction to Google Cloud Platform	Lab: Console and Cloud Shell Demo: Projects Lab: Infrastructure Preview
02	Virtual Networks	LAB - Virtual Networking - Bastion Host
03	Virtual Machines	LAB - Creating Virtual Machines - Working with Virtual Machines
04	Cloud IAM	Lab: Cloud IAM
05	Data Storage Services	LAB - Cloud Storage - Cloud SQL - Cloud Datastore
06	Resource Management	Demo: Billing Administration Lab: Examining Billing Data with BigQuery
07	Resource Monitoring	LAB - Resource Monitoring (Stackdriver) - Error Reporting and Debugging (Stackdriver)
08	Interconnecting Networks	Lab: Virtual Private Networks (VPN)
09	Load Balancing	Lab: VM Automation and Load Balancing
10	Autoscaling	Lab: Autoscaling
11	Infrastructure Automation with Google Cloud Platform	Lab: Google Cloud Platform API Infrastructure Automation
12	Infrastructure Automation with Deployment Manager	Lab: Deployment Manager
16	Containers	Lab: Kubernetes Load Balancing

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

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Live Online Classes (ILO)

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Flexi (Self-Paced)

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