

Google Cloud Professional Network Engineer Outline

Duration: (5 day, 8 hrs/day)

Pre-requisites: None

With Associate Cloud Engineer Training completed duration is 2 days, 8hrs/day

Course Overview:

A Professional Cloud Network Engineer implements and manages network architectures in Google Cloud. This individual may work on networking or cloud teams with architects who design cloud infrastructure. The Cloud Network Engineer uses the Google Cloud Console and/or command line interface, and leverages experience with network services, application and container networking, hybrid and multi-cloud connectivity, implementing VPCs, and security for established network architectures to ensure successful cloud implementations.

After completing this course, participants will be able to:

1. Acquire knowledge on deploying and managing cloud network using console commands, securely establishing connections between multiple VPC's and managing hybrid as well as multi-cloud connectivity.
2. Attain skills required to clear the GCP Professional Network Engineer Certification Exam

Module No	Module Name	
1	Preparing for Your Professional Cloud Network Engineer Journey	
	1	Introduction
	2	Designing, planning, and prototyping a Google Cloud Network
	3	Implementing a VPC
	4	Configuring network services
	5	Implementing hybrid interconnectivity
	6	Managing, monitoring, and optimizing network operations

Module No	Module Name	
1	Hands-on	
	1	A Tour of Google Cloud Hands-on Labs
	2	Compute Engine: Qwik Start - Windows
	3	Getting Started with Cloud Shell and gcloud
	4	Kubernetes Engine: Qwik Start
	5	Cloud Storage: Qwik Start - Cloud Console
2	Google Cloud Fundamentals: Core Infrastructure	
	1	Introducing Google Cloud
	2	Resources and Access in the Cloud
	3	Virtual Machines and Networks in the Cloud
	4	Storage in the Cloud
	5	Containers in the Cloud
	6	Applications in the Cloud
	7	Developing and Deploying in the Cloud
	8	Logging and Monitoring in the Cloud
	Hands-on	
	1	Securing Virtual Machines using BeyondCorp Enterprise (BCE)
	2	Multiple VPC Networks
	3	VPC Networks - Controlling Access
	4	HTTP Load Balancer with Cloud Armor
	5	Create an Internal Load Balancer
3	Networking in Google Cloud: Defining and Implementing Networks	
	1	Google Cloud VPC Networking Fundamentals
	2	Controlling Access to VPC Networks
	3	Sharing Networks across Projects
	4	Load Balancing

Module No	Module Name	
3	Hands-on	
	1	Network Performance Testing
	2	Improving Network Performance I
	3	Improving Network Performance II
	4	Building a High-throughput VPN
	5	Cloud CDN
	6	Network Tiers - Optimizing Network Spend
	7	VPC Flow Logs - Analyzing Network Traffic
4	Logging, Monitoring and Observability in Google Cloud	
	1	Introduction to Monitoring in Google Cloud
	2	Avoiding Customer Pain
	3	Alerting Policies
	4	Monitoring Critical Systems
	5	Configuring Google Cloud Services for Observability
	6	Advanced Logging and Analysis
	7	Monitoring Network Security and Audit Logs
	8	Managing Incidents
	9	Investigating Application Performance Issues
	10	Optimizing the Costs of Monitoring
	Hands-on	
	1	Cloud IAM: Qwik Start
	2	IAM Custom Roles
	3	Service Accounts and Roles: Fundamentals
	4	VPC Network Peering
	5	User Authentication: Identity-Aware Proxy
	6	Getting Started with Cloud KMS
	7	Setting up a Private Kubernetes Cluster