

Cloud Network Engineer

Content

Module 1: Preparing for Your Professional Cloud Network Engineer Journey

Topics Covered:

- Introduction
 - Designing, planning, and prototyping a Google Cloud Network
 - Implementing a VPC
 - Configuring network services
 - Implementing hybrid interconnectivity
 - Managing, monitoring, and optimizing network operations
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Module 2: Google Cloud Fundamentals: Core Infrastructure

Topics Covered:

- Introducing Google Cloud
- Resources and Access in the Cloud
- Virtual Machines and Networks in the Cloud
- Storage in the Cloud
- Containers in the Cloud
- Applications in the Cloud
- Developing and Deploying in the Cloud
- Logging and Monitoring in the Cloud

Hands-On Labs:

- A Tour of Google Cloud Hands-on Labs
 - Compute Engine: Qwik Start - Windows
 - Getting Started with Cloud Shell and gcloud
 - Kubernetes Engine: Qwik Start
 - Cloud Storage: Qwik Start - Cloud Console
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Module 3: Networking in Google Cloud: Defining and Implementing Networks

Topics Covered:

- Google Cloud VPC Networking Fundamentals

- Controlling Access to VPC Networks
- Sharing Networks across Projects
- Load Balancing

Hands-On Labs:

- Securing Virtual Machines using BeyondCorp Enterprise (BCE)
 - Multiple VPC Networks
 - VPC Networks - Controlling Access
 - HTTP Load Balancer with Cloud Armor
 - Create an Internal Load Balancer
 - Network Performance Testing
 - Improving Network Performance I
 - Improving Network Performance II
 - Building a High-throughput VPN
 - Cloud CDN
 - Network Tiers - Optimizing Network Spend
 - VPC Flow Logs - Analyzing Network Traffic
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Module 4: Logging, Monitoring and Observability in Google Cloud

Topics Covered:

- Introduction to Monitoring in Google Cloud
- Avoiding Customer Pain
- Alerting Policies
- Monitoring Critical Systems
- Configuring Google Cloud Services for Observability
- Advanced Logging and Analysis
- Monitoring Network Security and Audit Logs
- Managing Incidents
- Investigating Application Performance Issues
- Optimizing the Costs of Monitoring

Hands-On Labs:

- Cloud IAM: Qwik Start
 - IAM Custom Roles
 - Service Accounts and Roles: Fundamentals
 - VPC Network Peering
 - User Authentication: Identity-Aware Proxy
 - Getting Started with Cloud KMS
 - Setting up a Private Kubernetes Cluster
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