Networking in Google Cloud

Course 4324– 16 Hours

Overview

This 2-day instructor-led course gives participants a broad study of networking options on Google Cloud Platform. Through presentations, demonstrations, and hands-on labs, learners explore and deploy GCP networking technologies, such as Google Virtual Private Cloud (VPC) networks, subnets, firewalls, interconnection among networks, load balancing, Cloud DNS, and Cloud CDN. The course also covers common network design patterns and automated deployment using Cloud Deployment Manager.

On Completion, Delegates will be able to

- Configure Google VPC networks, subnets, and routers
- Control administrative access to VPC objects
- Control network access to endpoints in VPCs
- Interconnect networks among GCP projects
- Interconnect networks among GCP VPC networks and on-premises or other-cloud networks
- Choose among GCP load balancer and proxy options and configure them
- Use Cloud CDN to reduce latency and save money
- Optimize network spend using Network Tiers
- Deploy networks declaratively using Cloud Deployment Manager
- Design networks to meet common customer requirements
- Configure monitoring and logging to troubleshoot networks problems

Who Should Attend

- Network Engineers and Network Admins who are either using Google Cloud Platform or planning to do so
- Individuals who want to be exposed to software-defined networking solutions in the cloud

Prerequisites

To get the most out of this course, participants should have:

- Completed Google Cloud Fundamentals: Core Infrastructure or have equivalent experience
- Clear understanding of the 7-layer OSI model
- Clear understanding of IPv4 addressing
- Prior experience with managing IPv4 routes

Course Contents

Part 1: Networking in Google Cloud: Defining and Implementing Networks

Module 1: Google Cloud VPC Networking Fundamentals

In this module, we're going to cover the fundamentals of Virtual Private Cloud (VPC) networking in Google Cloud. This includes the different types of VPC objects, Internal DNS, Cloud DNS, IP aliases and VMs with multiple network interfaces.

Module 2: Controlling Access to VPC Networks

In this module, we're going to cover ways to control access to VPC Networks. This includes Cloud Identity and Access Management (Cloud IAM) and firewall rules.

Module 3: Sharing Networks across Projects

In this module, we are going to cover two configurations for sharing VPC networks across Google Cloud projects. First, we will go over Shared VPC which allows you to share a network across several projects in your Google Cloud organization. Then, we will go over VPC Network Peering which allows you to configure private communication across projects in the same or different organizations.

Module 4: Load Balancing

In this module, we are going to cover the five different types of load balancers that are available in Google Cloud. We will also go over managed instance groups, Cloud Armor and Cloud CDN.

Part 2: Networking in Google Cloud: Hybrid Connectivity and Network Management

Module 5: Hybrid Connectivity

In this module, we are going to cover the Google Cloud interconnect and peering services available to connect your infrastructure to Google Cloud. These services are Dedicated Interconnect, Partner Interconnect, IPsec VPN, Direct Peering and Carrier Peering.

Module 6: Networking Pricing and Billing

In this module, we are going to cover how Google Cloud networking features are charged for, how to leverage Network Service Tiers to optimize your spend and how to administer billing within Google Cloud.

Module 7: Network Monitoring and Troubleshooting

In this module, we are going to cover network monitoring and logging features that can help you troubleshoot your Google Cloud network infrastructure.