

Google Cloud Certified – Professional Cloud Network Engineer

Course Overview

This two-day instructor-led class is designed to help IT professionals prepare for the Google Cloud Certified – Professional Cloud Network Engineer certification exam.

Networking in Google Cloud – 2 Days

This course gives participants a broad study of networking options on Google Cloud. Through presentations, demonstrations, and hands-on labs, participants explore and deploy Google Cloud networking technologies, such as Google Virtual Private Cloud (VPC) networks, subnets, firewalls; interconnection among networks; load balancing; Cloud DNS; Cloud CDN; Cloud NAT. The course will also cover common network design patterns and automated deployment using Deployment Manager or Terraform.

Course Objectives

- Configure Google VPC networks, subnets, and routers
- Control administrative access to VPC objects
- Control network access to endpoints in VPCs
- Interconnect networks among Google Cloud projects
- Interconnect networks among Google Cloud VPC networks and on-premises or other-cloud networks
- Choose among Google Cloud load balancer and proxy options and configure them
- Use Cloud CDN to reduce latency and save money
- Optimize network spend using Network Tiers
- Configure Cloud NAT or Private Google Access to provide instances without public IP addresses access to other services
- Deploy networks declaratively using Cloud Deployment Manager or Terraform
- Design networks to meet common customer requirements
- Configure monitoring and logging to troubleshoot networks problems

Target Audience

- This class is intended for network engineers and network admins that are either using Google Cloud Platform or are planning to do so.
- The class is also for individuals that 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 Platform Fundamentals: Core Infrastructure or have equivalent experience
- Prior understanding of the OSI 7-layer model
- Prior understanding of IPv4 addressing
- Prior experience with managing IPv4 routes

Certifications

Attending this course meets the training requirement to achieve the following certification:

- Google Cloud Certified – Professional Cloud Network Engineer

Course Modules

Module 1: Google Cloud VPC Networking Fundamentals

- Recall that networks belong to projects.
- Explain the differences among default, auto, and custom networks.
- Create networks and subnets.
- Explain how IPv4 addresses are assigned to Compute Engine instances.
- Publish domain names using Google Cloud DNS.
- Create Compute Engine instances with IP aliases.
- Create Compute Engine instances with multiple virtual network.

Module 2: Controlling Access to VPC Networks

- Outline how IAM policies affect VPC networks.
- Control access to network resources using service accounts.
- Control access to Compute Engine instances with tag-based firewall rules.

Module 3: Sharing Networks across Projects

- Outline the overall workflow for configuring Shared VPC.
- Differentiate between the IAM roles that allow network resources to be managed.
- Configure peering between unrelated VPC Networks.
- Recall when to use Shared VPC and when to use VPC Network Peering.

Module 4: Load Balancing

- Recall the various load balancing services.
- Configure Layer 7 HTTP(S) load balancing.
- Whitelist and blacklist IP traffic with Cloud Armor.
- Cache content with Cloud CDN.
- Explain Layer 4 TCP or SSL proxy load balancing.
- Explain regional network load balancing.
- Configure internal load balancing.
- Recall the choices for enabling IPv6 Internet connectivity for Google Cloud load balancers.
- Determine which Google Cloud load balancer to use when.

Module 5: Hybrid Connectivity

- Recall the Google Cloud interconnect and peering services available to connect your infrastructure to Google Cloud.
- Explain Dedicated Interconnect and Partner Interconnect.
- Describe the workflow for configuring a Dedicated Interconnect.
- Build a connection over a VPN with Cloud Router.
- Determine which Google Cloud interconnect service to use when.
- Explain Direct Peering and Partner Peering.
- Determine which Google Cloud peering service to use when.

Module 6: Networking Pricing and Billing

- Recognize how networking features are charged for.
- Use Network Service Tiers to optimize spend.
- Determine which Network Service Tier to use when.
- Recall that labels can be used to understand networking spend.

Module 7: Network Design and Deployment

- Explain common network design patterns.
- Configure Private Google Access to allow access to certain Google Cloud services from VM instances with only internal IP addresses.
- Configure Cloud NAT to provide your instances without public IP addresses access to the internet.
- Automate the deployment of networks using Deployment Manager or Terraform.
- Launch networking solutions using Cloud Marketplace.

Module 8: Network Monitoring and Troubleshooting

- Configure uptime checks, alerting policies and charts for your network services.
- Use VPC Flow Logs to log and analyze network traffic behavior

Contact

If you have questions or need help registering for this course, click [here](#).



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