Course : Networking in Google Cloud

Official course, preparation for Google Cloud certification exams

Practical course - 3d - 21h00 - Ref. NTQ
Price : 2990 € E.T.

Nouvelle édition

With this training course, you'll learn about the various networking options available on Google Cloud Platform. Through hands-on exercises, you'll discover and deploy Google Cloud Platform (GCP) networking technologies such as Google Virtual Private Cloud (VPC) networks, subnets and firewalls, interconnections between networks, load balancing, Cloud DNS, Cloud CDN and Cloud NAT.

Teaching objectives

At the end of the training, the participant will be able to:

- Configure and administer Google VPC networks (subnets, routers, access)
- Manage network connectivity, including between projects and via private connections
- Control network access to VPC services and endpoints
- Implement load balancing and optimize performance (Cloud CDN)
- Optimize network costs and performance with service levels

Intended audience

Engineers and network administrators who want to master software-defined networking solutions in the cloud.

Prerequisites

Completion of the [Google Cloud Fundamentals: Core Infrastructure " training course and knowledge of the OSI model, IPv4 addressing and IPv4 route management.

Certification

This course prepares you for the key concepts assessed in the Google Cloud Professional Network Engineer certification, although it does not cover all the topics on the exam.
Comment passer votre examen ?

PARTICIPANTS

Engineers and network administrators who want to master software-defined networking solutions in the cloud.

PREREQUISITES

Completion of the [Google Cloud Fundamentals: Core Infrastructure " training course and knowledge of the OSI model, IPv4 addressing and IPv4 route management.

TRAINER QUALIFICATIONS

The experts who lead the training courses are specialists in the subjects covered. They are approved by the publisher and certified for the course. They have also been validated by our teaching teams in terms of both professional knowledge and teaching skills for each course they teach. They have at least three to ten years of experience in their field and hold or have held positions of responsibility in companies.

ASSESSMENT TERMS

Assessment of targeted skills prior to training.
Assessment by the participant, at the end of the training course, of the skills acquired during the training course.
Validation by the trainer of the participant's learning outcomes, specifying the tools used: multiple-choice questions, role-playing exercises, etc.
At the end of each training course, ITTCERT provides participants with a course evaluation questionnaire, which is then analysed by our teaching teams. Participants also complete an official evaluation of the publisher.
An attendance sheet for each half-day of attendance is provided at the end of the training course, along with a certificate of completion if the participant has attended the entire session.

Practical details

Teaching methods

Training in French. Official course material in English.

Course schedule

1 Introduction to network architecture

- Describe the components provided by Google Cloud that create a good network architecture.
- Summarize key considerations for network design.

2 Google Cloud VPC networking basics

- Create a Compute Engine virtual machine with multiple network interfaces.
- Use the standard level to reduce cloud networking costs.
- Use the premium level to offer lower latency and faster access to Google Cloud resources.

3 Network routing and addressing in Google Cloud

- Define the main routing and addressing concepts relevant to Google Cloud.
- Describe the configuration and management options for Google Cloud DNS, including private and managed zones.
- Configure and manage routing tables to control traffic flow.
- Efficiently resolve domain names and use NAT rules for secure access.

4 Mail order network sharing

- Describe the different ways of sharing VPC networks available in Google Cloud.
- Identify when to use a shared VPC and when to use VPC network pairing.
- Configure pairing between unrelated VPC networks.

5 Network monitoring and logging

- Configure availability checks, alert strategies and graphics for your network services.
- Monitor Google Cloud network resources.
- Use VPC Flow Logs to log and analyze network traffic behavior.

6 Private connection options

- Define and differentiate between different private connection options.
- Explore the use cases of Private Service Connect, Private Service Access and Private Google Access.
- Implement Private Google Access with Cloud NAT.

TEACHING AIDS AND TECHNICAL RESOURCES

The teaching resources used are the publisher's official materials and practical exercises.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training course.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you have specific accessibility requirements? Contact Ms FOSSE, disability advisor, at the following address: psh-accueil@orsys.fr so that we can assess your request and its feasibility.

7 Network topologies

- Explain when to use each network topology according to specific requirements.
- Identify potential bottlenecks or security vulnerabilities in network topologies.
- Implement a mesh topology for a resilient and scalable network architecture.

8 Protection against distributed denial-of-service (DDoS) attacks

- Identify the four layers of DDoS attack mitigation.
- Identify the methods used by Google Cloud to mitigate the risk of DDoS attacks for its customers.
- Use Google Cloud Armor to block an IP address and restrict access to a global external application load balancer.

9 Controlling access to VPC networks

- Describe how IAM strategies affect access to the VPC network.
- Identify the benefits of hierarchical Cloud Firewall strategies at different levels of the cloud infrastructure.
- Apply global and regional network firewall policies using Cloud Firewall.
- Explain the role of Cloud IDS in protecting VPC networks from malicious activity.
- Deploy Cloud IDS and configure its settings according to specific security needs.
- Describe the role of Secure Web Proxy in improving network resilience and availability.
- Describe best practices in cloud network security.

10 Advanced security monitoring and analysis

- Define Packet Mirroring and explain its purpose in network monitoring and security.
- Learn best practices in network security.

11 Hybrid load balancing and traffic management

- Cloud Load Balancing and Traffic Director
- Describe the advantages of hybrid load balancing.
- Configure load balancing traffic management.

12 Caching and load balancing optimization

- Describe how to configure an internal network load balancer as a next hop.
- Use Cloud CDN configuration to optimize content delivery performance.
- Create a Google Cloud Armor device security policy to protect content.

13 Connectivity options

- Describe the different connectivity options offered by Google Cloud for hybrid and multicloud environments.
- Define and differentiate the different cloud interconnection options available in Google Cloud.

14 Cloud VPN (Interconnect and Direct Peering)

- Implement a high-availability VPN (HA VPN) for redundancy and failover.
- Identify the benefits and use cases of HA VPN in the cloud.

Dates and locations

REMOTE CLASS
2026 : 1 Apr., 22 June, 21 Sep., 25 Nov.

PARIS LA DÉFENSE
2026 : 25 Mar., 15 June, 14 Sep., 18 Nov.