Course : Architecting with Google Compute Engine

Official course, preparation for Google Cloud certification exams

Practical course - 3d - 21h00 - Ref. AGJ
Price : 2790 € E.T.

★★★★½   **4,7 / 5**

`ActionCo`

Formation éligible au financement Atlas

With this training course, you'll discover Google Cloud's flexible infrastructure and platform services, centered on Compute Engine. Through lectures, demonstrations and hands-on labs, you'll learn how to deploy networks, systems and application services, as well as concrete solutions such as hybrid networking, key management, security, billing and monitoring.

Teaching objectives

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

- ✓ Use the Google Cloud Console and Cloud Shell to deploy solutions via the Marketplace.
- ✓ Implement VPC networks, firewall rules and customized Compute Engine instances.
- ✓ Manage identities, access and data storage services.
- ✓ Connect the infrastructure to Google Cloud and configure load balancing and autoscaling.
- ✓ Monitor, administer and analyze billing for Google Cloud resources.
- ✓ Automate deployment and use Google Cloud managed services.

Intended audience

Cloud architects, DevOps engineers and professionals using Google Cloud to create or integrate Compute Engine-centric solutions.

Prerequisites

Google Cloud Fundamentals training or equivalent experience, Linux and command line basics, application deployment and management.

Certification

We recommend you take this course if you want to prepare for the [Google Cloud Associate Cloud Engineer " certification and the [Google Cloud Professional Cloud Architect " certification.

[Comment passer votre examen ?](#)

Practical details

Teaching methods

Training in French. Official course material in English.

Course schedule

1 **Introduction to Google Cloud**

- Discover the different ways to interact with Google Cloud.
- Use Google Cloud Console and Cloud Shell.
- Create Cloud Storage buckets.
- Deploy solutions via the Marketplace.

Hands-on work

Console and Cloud Shell, infrastructure overview.

2 **Virtual networks**

- Identify VPC objects in Google Cloud.
- Explore the VPC network.
- Implement Private Google Access and Cloud NAT.

Hands-on work

VPC network, implementation of Private Google Access and Cloud NAT.

3 **Virtual machines**

- Identify CPU and memory options for virtual machines.
- Describe the available disk options.
- Explain VM pricing and discounts.
- Create and customize instances with Compute Engine.

Hands-on work

Create virtual machines, use virtual machines.

4 **Identity and access management (IAM)**

- Describe the IAM resource hierarchy.
- Explain the different types of IAM roles.
- Identify IAM member types.
- Implement resource access control with IAM.

Hands-on work

Cloud IAM.

(5) Storage and database services

- Differentiating between Cloud Storage, Cloud SQL, Cloud Spanner, Firestore and Cloud Bigtable
- Choosing the right storage service for your needs
- Implement data storage services

Hands-on work
Cloud Storage, implementation of Cloud SQL.

(6) Resource management

- Describe the cloud resource manager hierarchy.
- Explain the role of quotas in protecting Google Cloud customers.
- Organize resources using labels.
- Understand how budget alerts work.
- Analyze billing data with BigQuery.

Hands-on work
Billing data analysis with BigQuery.

(7) Resource supervision

- Introduce monitoring, logging, error reporting, tracing and debugging services.
- Create graphics, alerts and availability checks with Cloud Monitoring.
- Identify and correct errors with Cloud Debugger.

Hands-on work
Resource monitoring, error reporting and debugging.

(8) Network interconnection

- Identify the interconnection and peering services available to connect your infrastructure to Google Cloud.
- Choose the right interconnection or peering service for each situation.
- Know when to use shared VPC or VPC Network Peering.
- When to use shared VPC and when to use network VPC pairing.

Hands-on work
Virtual private networks (VPN).

(9) Automatic load distribution and scaling

- Identify the different load balancing services.
- Choose the right load balancer for the job.
- Describe how autoscaling works.
- Configure load balancing and autoscaling.

Hands-on work
Configuration of an HTTP load balancer with autoscaling, configuration of an internal load balancer.

(10) Infrastructure automation

- Automate deployment of Google Cloud services with Terraform.
- Introducing the Google Cloud Marketplace.

Hands-on work
Automating infrastructure deployment with Terraform.

(11) Managed services

- Present Google Cloud's managed data processing services.

Dates and locations

REMOTE CLASS
2026 : 28 Apr., 23 June, 25 Aug., 27 Oct., 15 Dec.

PARIS LA DÉFENSE
2026 : 28 Apr., 23 June, 25 Aug., 27 Oct., 15 Dec.