Training: Google Cloud
Architecting with Google Compute Engine

Google Cloud

TRANING TERMS

2025-08-27 | 3 days | Warszawa / Virtual Classroom
2025-12-17 | 3 days | Kraków / Virtual Classroom

TRAINING GOALS:

This course will familiarize you with Google Cloud's flexible infrastructure and platform services, with a specific focus on Compute Engine. This session uses a combination of lectures, demos, and hands-on labs to explore and deploy solution elements, including infrastructure components like networks, systems, and application services. You'll also learn how to deploy practical solutions such as secure interconnecting networks, customer-supplied encryption keys, security and access management, quotas and billing, and resource monitoring.

Course objectives:

- Configure VPC networks and virtual machines
- Administer Identity and Access Management for resources
- Implement data storage services in GCP
- Manage and examine billing of GCP resources
- Monitor resources using Stackdriver services
- Connect your infrastructure to GCP
- Configure load balancers and autoscaling for VM instances
- Automate the deployment of GCP infrastructure services
- Leverage managed services in GCP

Audience:

- Cloud Solutions Architects, DevOps Engineers
- Individuals using Google Cloud to create new solutions or to integrate existing systems, application environments, and infrastructure, with a focus on Compute Engine

CONSPECT:

- Introduction to Google Cloud
  - List the different ways of interacting with Google Cloud.

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- Use the Cloud Console and Cloud Shell.
- Create Cloud Storage buckets.
- Use the Google Cloud Marketplace to deploy solutions.

- Virtual Networks
  - List the VPC objects in Google Cloud.
  - Differentiate between the different types of VPC networks.
  - Implement VPC networks and firewall rules.
  - Implement Private Google Access and Cloud NAT.
- Virtual Machines
  - Recall the CPU and memory options for virtual machines.
  - Describe the disk options for virtual machines.
  - Explain VM pricing and discounts.
  - Use Compute Engine to create and customize VM instances.
- CloudIAM
  - Describe the Cloud IAM resource hierarchy.
  - Explain the different types of IAM roles.
  - Recall the different types of IAM members.
  - Implement access control for resources using Cloud IAM.
- Storage and Database Services
  - Differentiate between Cloud Storage, Cloud SQL, Cloud Spanner, Cloud Firestore and Cloud Bigtable.
  - Choose a data storage service based on your requirements.
  - Implement data storage services.
- Resource Management
  - Describe the cloud resource manager hierarchy.
  - Recognize how quotas protect Google Cloud customers.
  - Use labels to organize resources.
  - Explain the behavior of budget alerts in Google Cloud.
  - Examine billing data with BigQuery.
- Resource Monitoring
  - Describe the services for monitoring, logging, error reporting, tracing, and debugging.
  - Create charts, alerts, and uptime checks for resources with Cloud Monitoring.
  - Use Cloud Debugger to identify and fix errors.
- Interconnecting Networks
  - Recall the Google Cloud interconnect and peering services available to connect your infrastructure to Google Cloud.
  - Determine which Google Cloud interconnect or peering service to use in specific

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circumstances.
    - Create and configure VPN gateways.
    - Recall when to use Shared VPC and when to use VPC Network Peering.
- Load Balancing and Autoscaling
    - Recall the various load balancing services.
    - Determine which Google Cloud load balancer to use in specific circumstances.
    - Describe autoscaling behavior.
    - Configure load balancers and autoscaling.
- Infrastructure Modernization
    - Automate the deployment of Google Cloud services using Deployment Manager or Terraform.
    - Outline the Google Cloud Marketplace.
- Managed Services
    - Describe the managed services for data processing in Google Cloud.

REQUIREMENTS:

- Have completed Google Cloud Platform Fundamentals: Core Infrastructure or have equivalent experience.
- Have basic proficiency with command-line tools and Linux operating system environments.
- Have systems operations experience, including deploying and managing applications, either on-premises or in a public cloud environment.

Difficulty level

CERTIFICATE:

The participants will obtain certificates signed by Google Cloud.

This course additionally helps prepare for **Associate Cloud Architect** and **Professional Cloud Architect** certification exams available at Kryterion test centers.

TRAINER:

Authorized Google Cloud Trainer.

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