

Sela.



GCPArchComp

Architecting with Google Compute Engine



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Architecting with Google Compute Engine

GCPArchComp - Version: 1

3 days course

Description:

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.

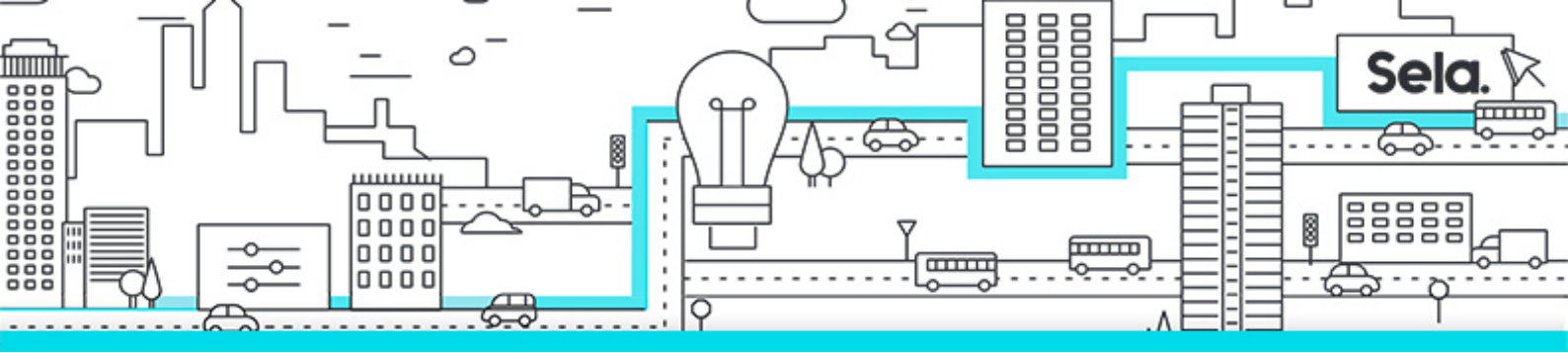
Intended Audience:

Cloud Solutions Architects, DevOps Engineers

Individuals using Google Cloud Platform to create new solutions or to integrate existing systems, application environments, and infrastructure, with a focus on Compute Engine

Prerequisites:

- 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.

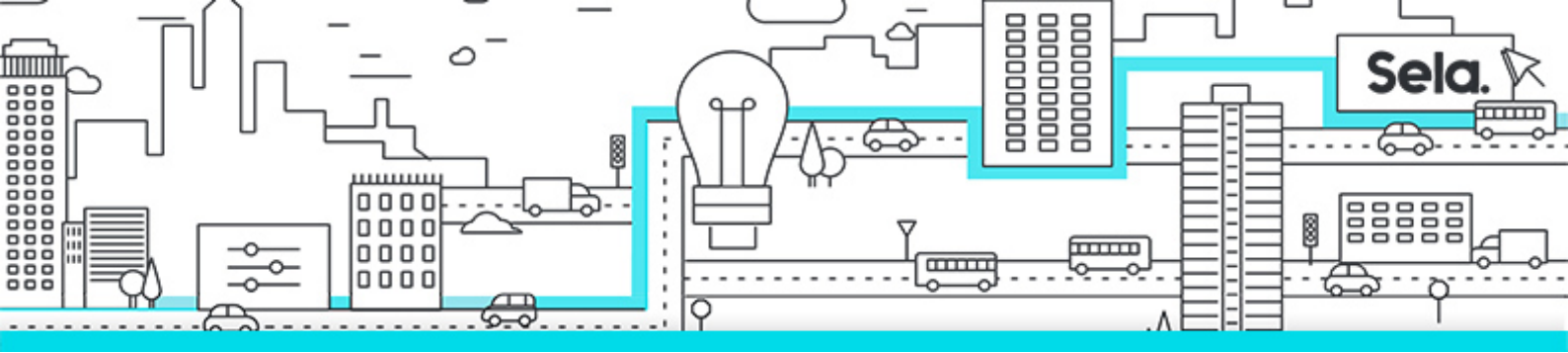


Objectives:

- 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

Topics:

- **Module 1: Introduction to Google Cloud**
 - List the different ways of interacting with Google Cloud.
 - Use the Cloud Console and Cloud Shell.
 - Create Cloud Storage buckets.
 - Use the Google Cloud Marketplace to deploy solutions.
- **Module 2: 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.
- **Module 3: 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.



- **Module 4: 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.

- **Module 5: 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.

- **Module 6: Resource Management**

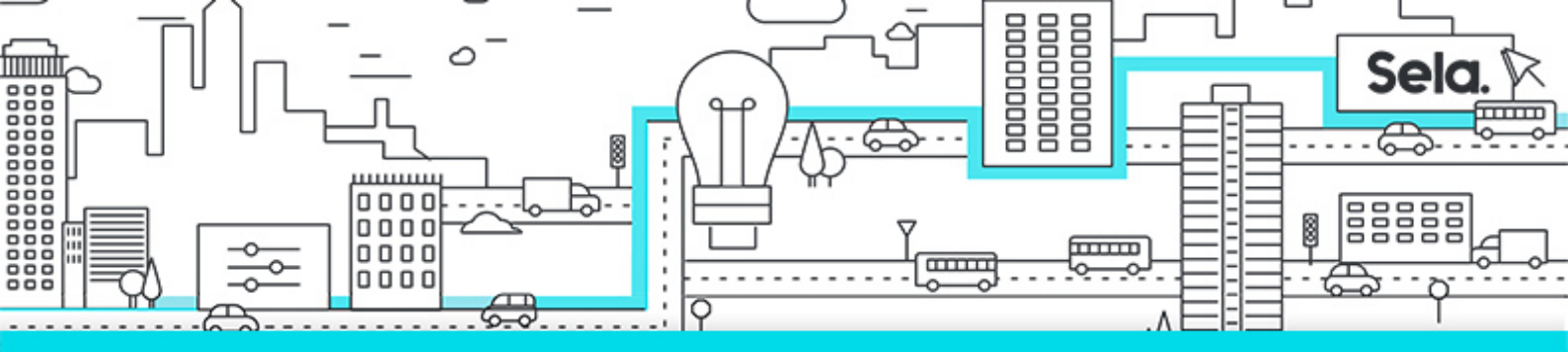
- Describe the cloud resource manager hierarchy.
- Recognize how quotas protect Google Cloud customers.
- Use labels to organize resources.
- Explain the behavior of budget alerts in Google Cloud.
- Examine billing data with BigQuery.

- **Module 7: 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.

- **Module 8: 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 circumstances.
- Create and configure VPN gateways.



- Recall when to use Shared VPC and when to use VPC Network Peering.

- **Module 9: 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.

- **Module 10: Infrastructure Modernization**

- Automate the deployment of Google Cloud services using Deployment Manager or Terraform.
- Outline the Google Cloud Marketplace.

- **Module 11: Managed Services**

- Describe the managed services for data processing in Google Cloud.