

Labs for Google Cloud Architect

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Cloud Computing overview

GSP282- A Tour of Qwiklabs and Google Cloud

In this first hands-on lab you will access Qwiklabs and the Google Cloud Platform Console and use the basic GCP features: Projects, Resources, IAM Users, Roles, Permissions, APIs, and Cloud Shell.

Virtual Networks

GSP210-VPC Networking Fundamentals

In this lab, you create an auto mode VPC network with firewall rules and two VM instances. Then, you explore the connectivity for the VM instances.

Virtual Machines

GSP001 - Creating Virtual Machines

In this lab, you'll create virtual machine instances of various machine types using the Google Cloud Console and the gcloud command line. You'll also learn how to connect an NGINX web server to your virtual machine.

GSP093: Compute Engine: Qwik Start - Windows

In this hands-on lab, you learn how to launch a Windows Server instance in Compute Engine and use Remote Desktop Protocol (RDP) to connect to it.

Cloud IAM

GSP064 - Cloud IAM

Google Cloud's Identity and Access Management (IAM) service lets you create and manage permissions for Google Cloud resources. Cloud IAM unifies access control for Google Cloud services into a single system and provides a consistent set of operations. In this hands-on lab you learn how to assign a role to a second user and remove assigned roles associated with Cloud IAM. More specifically, you sign in with 2 different sets of credentials to experience how granting and revoking permissions works from Google Cloud Project Owner and Viewer roles.

Data Storage Services

GSP073 - Cloud Storage

Cloud Storage allows world-wide storage and retrieval of any amount of data at any time. You can use Cloud Storage for a range of scenarios including serving website content, storing data for archival and disaster recovery, or distributing large data objects to users via direct download. In this hands-on lab you will learn how to use the Cloud Console to create a storage bucket, then upload objects, create folders and subfolders, and make those objects publicly accessible.

GSP151 - Cloud SQL for MySQL

In this lab you will learn how to create and connect to a Google Cloud SQL MySQL instance and perform basic SQL operations using the Cloud Console and the mysql client.

Resource Monitoring

GSP089 - Cloud Monitoring

This hands-on lab shows you how to monitor a Compute Engine virtual machine (VM) instance with Cloud Monitoring. You'll also install monitoring and logging agents for your VM which collects more information from your instance, which could include metrics and logs from 3rd party apps.

GSP091 - Creating and Alerting on Logs-based Metrics

This lab describes how to deploy an autoscaling Compute Engine instance group that is automatically scaled using a custom Cloud monitoring metric

Interconnecting Networks

GSP211 - Multiple VPC Networks

In this lab you create several VPC networks and VM instances and test connectivity across networks. Specifically, you create two custom mode networks (managementnet and privatenet) with firewall rules and VM instances.

Or

GSP193 - VPC Network Peering

Google Cloud Virtual Private Cloud (VPC) Network Peering allows private connectivity across two VPC networks regardless of whether or not they belong to the same project or the same organization.

VPC Network Peering allows you to build SaaS (Software-as-a-Service) ecosystems in Google Cloud, making services available privately across different VPC networks within and across organizations, allowing workloads to communicate in private space.

Load Balancing

GSP007 - Set Up Network and HTTP Load Balancers

In this hands-on lab you'll learn the differences between a network load balancer and an HTTP load balancer and how to set them up for your applications running on Compute Engine virtual machines (VMs).

Infrastructure Automation with Deployment Manager

GSP146: Create a Custom Network Using Deployment Manager

This lab creates a complex Deployment Manager (DM) configuration for deploying a custom network resource in Google Cloud Platform. It also explains the basic fundamental block of developing a Deployment Manager.

Autoscaling

GSP087 - Autoscaling an Instance Group with Custom Cloud Monitoring Metrics

This lab describes how to deploy an autoscaling Compute Engine instance group that is automatically scaled using a custom Cloud monitoring metric

Managed Services

[GSP621 - Analyzing Billing Data with BigQuery](#)

In this lab you will create datasets and tables, import data from billing reports, and conduct a variety of queries on the data using BigQuery.

[GSP131 - Cloud Datastore](#)

This hands-on lab will show you how to store and query data in Google Cloud Datastore using the Google Cloud Platform.

[GSP096 - Google Cloud Pub/Sub](#)

This hands-on lab shows you how to publish and consume messages with a pull subscriber, using the Google Cloud Platform Console.

Application Development Services

[GSP027 - Deploy an ASP.NET Core App to App Engine](#)

In this lab, you will deploy a simple ASP.NET Core app to App Engine Flexible environment. This lab builds on the "Build and Launch an ASP.NET Core app from Google Cloud Shell" lab.

Containers

[GSP100 - Getting Started with Kubernetes Engine](#)

In this lab, you get hands-on practice with container creation and application deployment with GKE.