

Cloud Architecture: Design, Implement, and Manage

Advanced 7 Steps 8 hours 49 Credits

This quest of "Challenge Labs" gives the student preparing for the [Google Cloud Certified Professional Cloud Architect](#) certification hands-on practice with common business/technology solutions using Google Cloud architectures. Challenge Labs do not provide the "cookbook" steps, but require solutions to be built with minimal guidance, across many Google Cloud technologies. All labs have activity tracking, and in order to earn this badge you must score 100% in each lab. This quest is not easy and will put your Google Cloud technology skills to the test! Be aware that while practice with these labs will increase your knowledge and abilities, additional study, experience, and background in cloud architecture is recommended to prepare for this certification. Complete this quest to receive an exclusive Google Cloud digital badge.

Infrastructure

Prerequisites:

This Quest expects solid hands-on proficiency with Google Cloud workflows and processes, especially those involving multiple services working together. It is recommended that the student have at least earned a Badge by completing the hands-on labs in the [Cloud Architecture](#) Quest before beginning. Additional lab experience with the [Google Cloud Solutions I](#), the [Google Cloud Solutions II](#), and the [Kubernetes Solutions](#) Quests will be useful.

Quest Outline

[Google Cloud Essential Skills: Challenge Lab](#)

This is a Challenge Lab where you must complete a series of tasks within a limited time period. Instead of following step-by-step instructions, you will be presented with a general objective, and will be scored automatically based on your activity.

45 minutes

Fundamental

5 Credits

[Deploy a Compute Instance with a Remote Startup Script](#)

Configure a Linux Google Compute Engine instance that installs an Apache web server software using a remote startup script, then confirm that Apache has successfully installed.

1 hour

Advanced

7 Credits

[Configure a Firewall and a Startup Script with Deployment Manager](#)

You have been asked to develop a Deployment Manager template that will be used to deploy and configure the Google Cloud environment that is required to support this product. You must create this template and test your deployment.

1 hour 15 minutes

Advanced

7 Credits

[Configure Secure RDP using a Windows Bastion Host](#)

This is a Challenge Lab where you must complete a series of tasks within a limited time period. Instead of following step-by-step instructions, you will be presented with a general objective, and will be scored automatically based on your activity.

1 hour

Advanced

7 Credits

[Build and Deploy a Docker Image to a Kubernetes Cluster](#)

In this hands-on lab you will build a Docker container image using a tag that allows it to be stored on the Google Container Registry (GCR), then push it out to GCR before deploying. Create a Kubernetes cluster and deploy the sample app to the cluster.

1 hour 15 minutes

Advanced

7 Credits

[Scale Out and Update a Containerized Application on a Kubernetes Cluster](#)

This is a Challenge Lab where you must complete a series of tasks within a limited time period. Instead of following step-by-step instructions, you will be presented with a general objective, and will be scored automatically based on your activity.

1 hour

Advanced

7 Credits

[Migrate a MySQL Database to Google Cloud SQL](#)

Your challenge is to migrate the database to Google Cloud SQL and then reconfigure the application so that it no longer relies on the local MySQL database.

1 hour 15 minutes

Expert

9 Credits

Quest Complete!

Congrats! You completed this quest and earned a badge. Become a cloud expert and start another.

