Cloud Development

Fundamental 9 Steps 1 day 86 Credits

The hands-on labs in this Quest are structured to give experienced app developers hands-on practice with the state-of-the-art developing applications in Google Cloud. The topics align with the Google Cloud Certified Professional Cloud Developer Certification. These labs follow the sequence of activities needed to create and deploy an app in GCP from beginning to end. Labs in the sequence with application code are presented in two language flavors, Java and Python. Be aware that while practice with these labs will increase your skills and abilities, we recommend that you also review the exam guide and other available preparation resources.

Application Development

Prerequisites:

These labs assume basic familiarity with GCP Services, particularly those in computing and networking. It is recommended that the student have earned a Badge by completing the hands-on labs in the GCP Essentials Quests before beginning. Additional experience from the Deploying Applications Quest will be beneficial.

Quest Outline

App Dev: Setting up a Development Environment - Python

In this lab, you will provision a Google Compute Engine virtual machine and install software libraries for software development.

50 minutes | Fundamental | 5 Credits

App Dev: Setting up a Development Environment - Java

In this lab, you will provision a Google Compute Engine virtual machine and install software libraries for software development.

50 minutes | Fundamental | 5 Credits

App Dev: Storing Application Data in Cloud Datastore - Python

In this lab, you will review the case study application, an online Quiz. You will store application data for the Quiz application in Cloud Datastore.

50 minutes | Advanced | 7 Credits

App Dev - Storing Application Data in Cloud Datastore - Java

In this lab, you will review the case study application, an online Quiz. You will store application data for the Quiz application in Cloud Datastore.

1 hour | Advanced | 7 Credits

App Dev: Storing Image and Video Files in Cloud Storage - Python

In this lab, you add images and video to an application. You store files as objects in a Cloud Storage bucket.

1 hour | Advanced | 7 Credits

App Dev-Storing Image and Video Files in Cloud Storage-Java

In this lab, you will enhance the online Quiz application to work with images. You will store files as objects in a Cloud Storage bucket.

1 hour | Advanced | 7 Credits

App Dev: Adding User Authentication to your Application - Python

In this lab, you will enhance the online Quiz application to use Firebase authentication.

1 hour | Advanced | 7 Credits

App Dev-Adding User Authentication to your Application-Java

In this lab, you will enhance the online Quiz application to use Firebase authentication.

50 minutes | Advanced | 7 Credits

App Dev: Developing a Backend Service - Python

In this lab, you will enhance the online Quiz application by developing a backend service to process user feedback and save scores.

1 hour 20 minutes | Expert | 9 Credits

App Dev: Developing a Backend Service - Java

In this lab, you enhance the online Quiz application by developing a backend service to process user feedback and save scores.

1 hour 20 minutes | Expert | 9 Credits

App Dev: Deploying the Application into Kubernetes Engine - Python

In this lab, you will deploy the quiz application into Kubernetes Engine, leveraging Google Cloud Platform resources including Container Builder and Container Registry, and Kubernetes resources including Deployments, Pods, and Services.

50 minutes | Fundamental | 5 Credits

App Dev - Deploying the Application into Kubernetes Engine - Java

In this lab, you will deploy the quiz application into Kubernetes Engine, leveraging Google Cloud Platform resources including Container Builder and Container Registry, and Kubernetes resources including Deployments, Pods, and Services.

50 minutes | Fundamental | 5 Credits

App Dev - Deploying the Application into App Engine Flexible Environment - Java

In this lab, you will deploy the quiz application into App Engine flexible environment, leveraging App Engine features including instances, versions, and traffic splitting.

50 minutes | Fundamental | 5 Credits

Cloud Monitoring: Qwik Start

This lab shows you how to monitor a Google Compute Engine virtual machine (VM) instance with Cloud Monitoring. Watch the short videos Monitor Health of All Your Cloud Apps with Google Cloud monitoring and Monitor a VM Instance with Cloud monitoring, GCP Essentials.

50 minutes	Introductory	1 Credit

Cloud Profiler: Qwik Start

In this lab you'll learn how to use Cloud Profiler on GCP by downloading a sample Go program then exploring the captured data in the Profiler console.

30 minutes	Introductory	Free

Quest Complete!

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