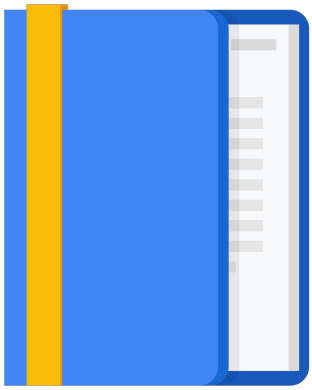
In this module, we will provide you with an introduction to GCP by building on what you learned about the GCP infrastructure from the course introduction.

Agenda

Using GCP

Labs



Google Cloud

This module is focused on how to interact with GCP.

In the labs of this module, you will explore both GCP's graphical user interface and its command-line interface. You will also deploy a solution from the GCP Marketplace without having to manually configure the software, virtual machine instances, storage, or network settings.

Let's get started!

There are four ways to interact with GCP

Google Cloud Platform Console

Web user interface

Cloud Shell and Cloud SDK

Command-line interface

REST-based API

For custom applications

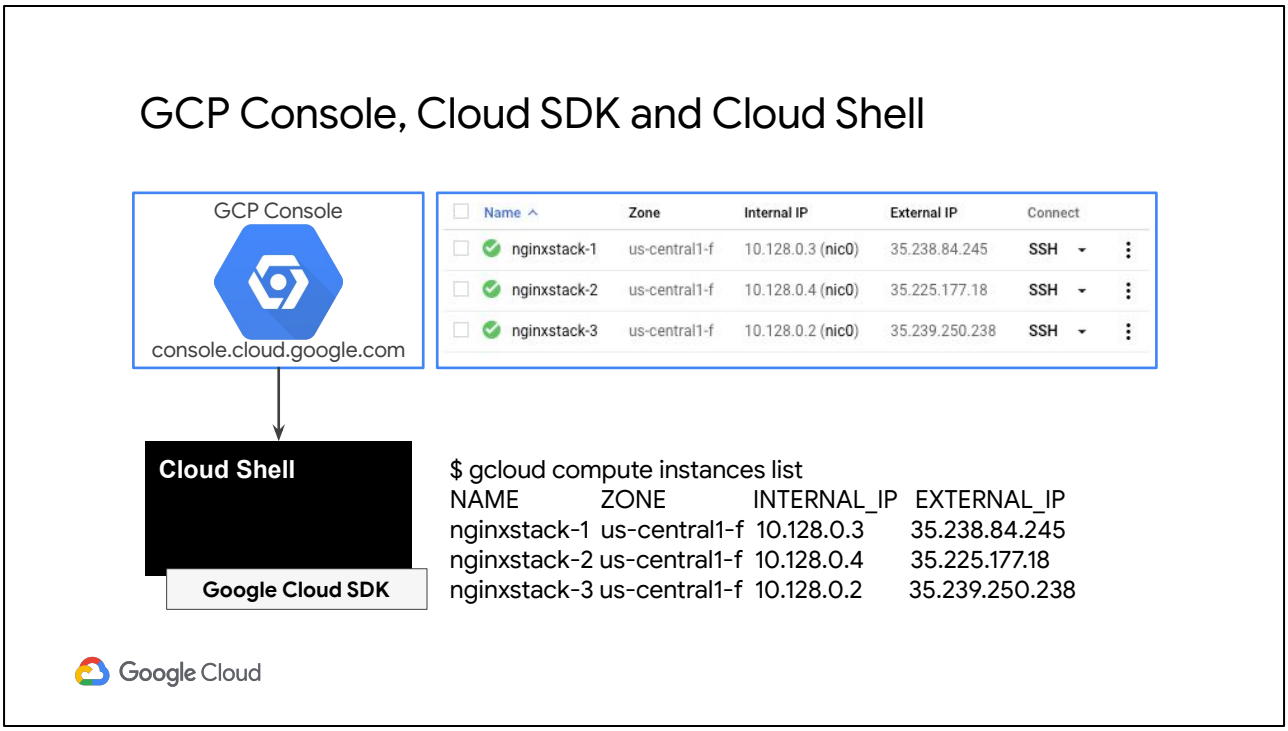
Cloud Mobile App

For iOS and Android

Google Cloud

There are four ways you can interact with GCP, and we'll talk about each in turn.

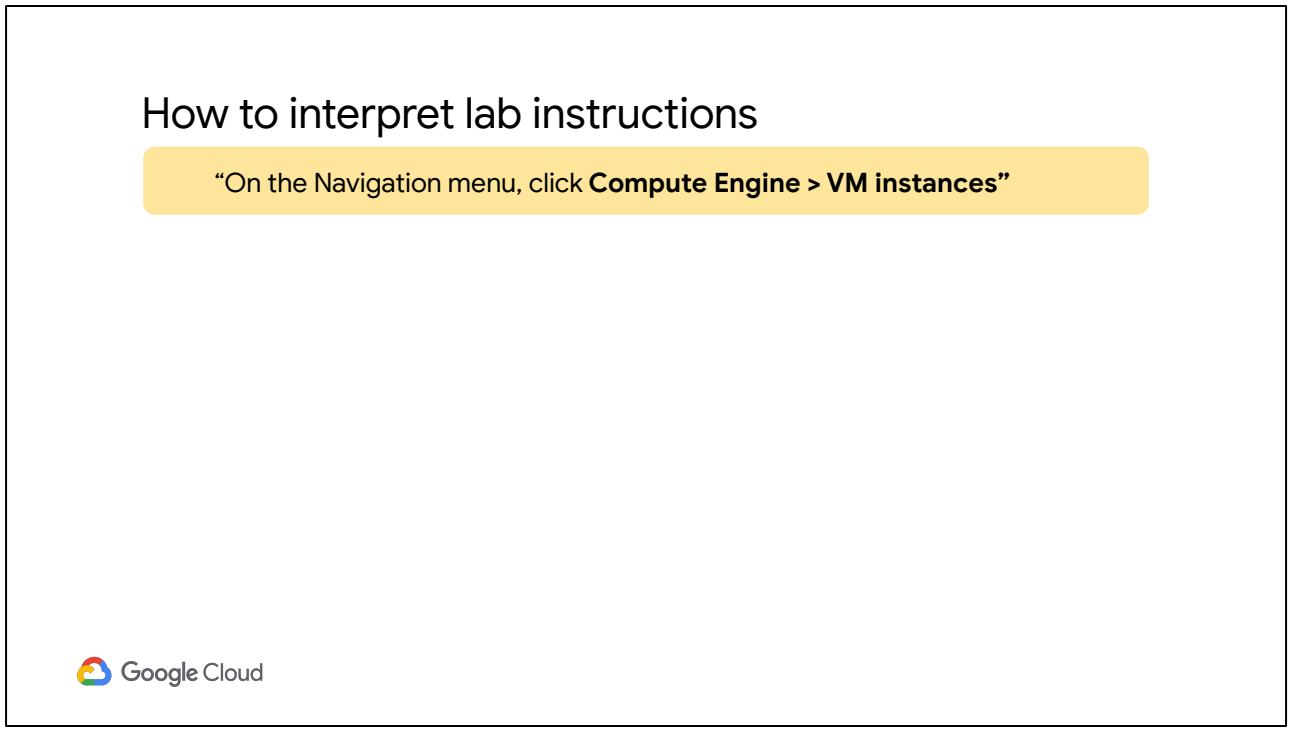
There's the Google Cloud Platform Console (or GCP Console), Cloud Shell and the Cloud SDK, the APIs, and the Cloud Mobile App.



The GCP Console provides a web-based, graphical user interface that you access through Console.cloud.google.com. For example, you can view your virtual machines and their details, as shown on the top.

If you prefer to work in a terminal window, the Cloud SDK provides the gcloud command-line tool. For example, you can list your virtual machines and their details as shown on the bottom with the “gcloud compute instances list” command.

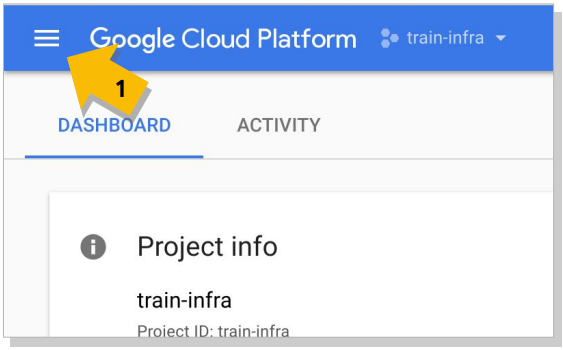
GCP also provides Cloud Shell, which is a browser-based, interactive shell environment for GCP that you can access from the GCP Console. Cloud Shell is a temporary virtual machine with 5 GB of persistent disk storage that has the Cloud SDK pre-installed.



Throughout this course, you will apply what you learn in different labs. These labs will have instructions to use the GCP Console, such as, “On the Navigation menu, click Compute Engine > VM instances.” Let me dissect these instructions.

How to interpret lab instructions

"On the Navigation menu, click **Compute Engine > VM instances**"

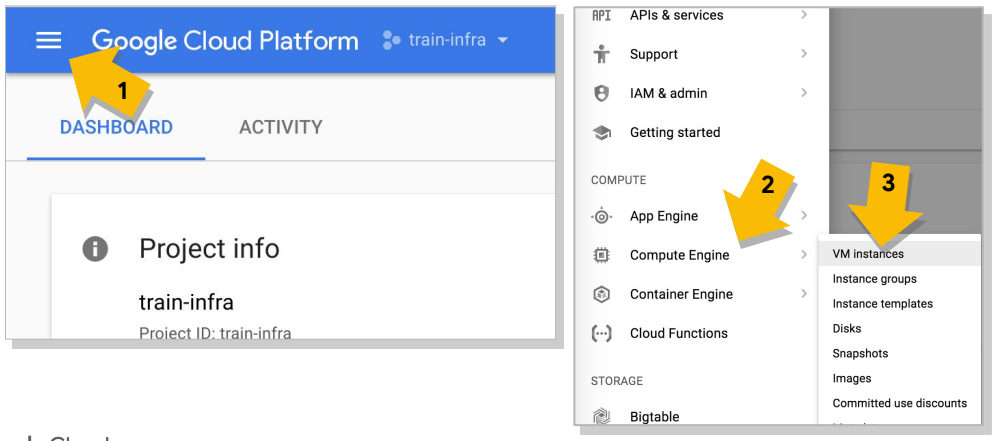


Google Cloud

First, within the GCP Console you will click on the icon with the three horizontal lines, which is the Navigation menu, as shown on the left.

How to interpret lab instructions

"On the Navigation menu, click **Compute Engine > VM instances**"



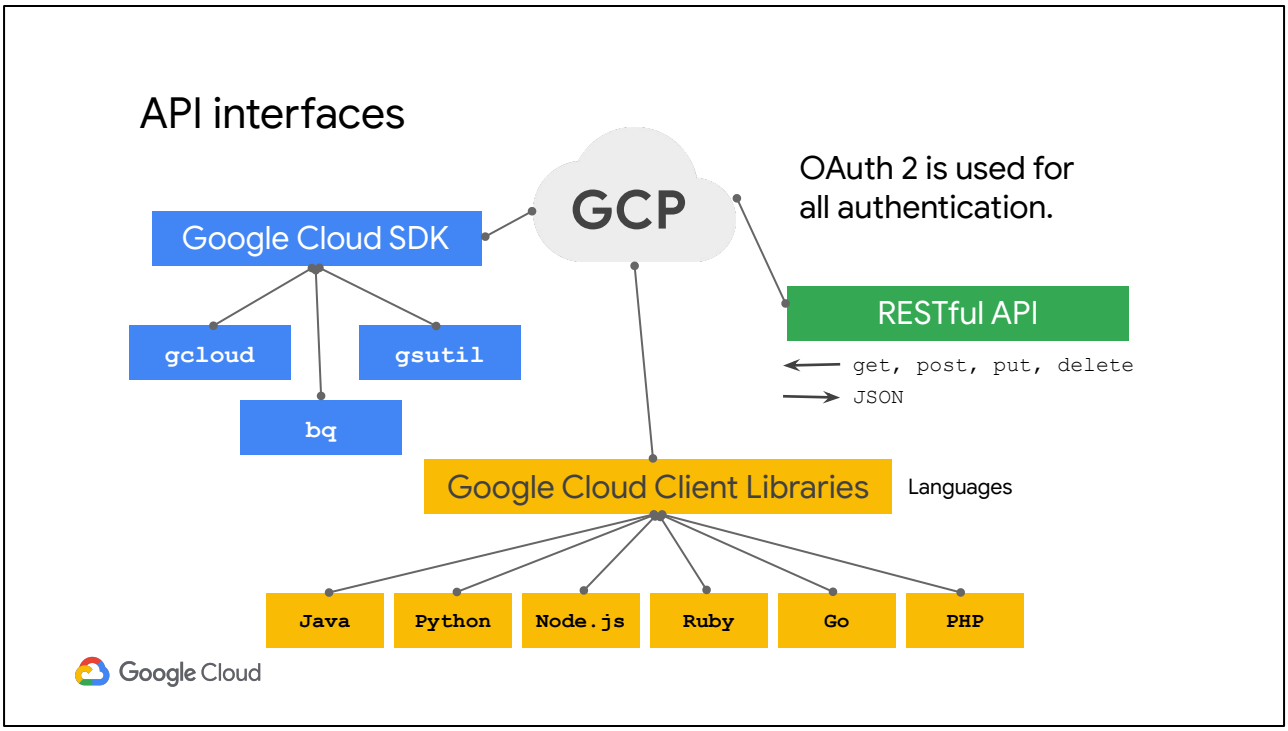
Google Cloud

This opens a menu, as shown on the right. All of the major products and services are listed on this menu.

Then, within the menu, hover over "Compute Engine" to open a submenu.
Finally, click on "VM instances" on the submenu.

You will get more comfortable with these instructions and the GCP Console as you work on labs.

Now, labs will also use command-line instructions. You will enter these instructions either in Cloud Shell or an SSH terminal by simply copying and pasting them. In some cases, you will have to modify these commands, for example, when choosing a globally unique name for a Cloud Storage bucket.

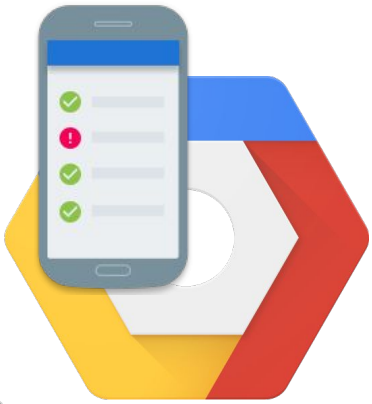


In addition to the Cloud SDK, you can also use client libraries that enable you to easily create and manage resources. GCP client libraries expose APIs for two main purposes:

- App APIs provide access to services, and they are optimized for supported languages, such as Node.js or Python.
- Admin APIs offer functionality for resource management. For example, you can use admin APIs if you want to build your own automated tools.

Cloud Mobile App

- Manage virtual machines and database instances.
- Manage apps in App Engine.
- Manage your billing.
- Visualize your projects with a customizable dashboard.



GET IT ON Google Play

Download on the App Store

Google Cloud

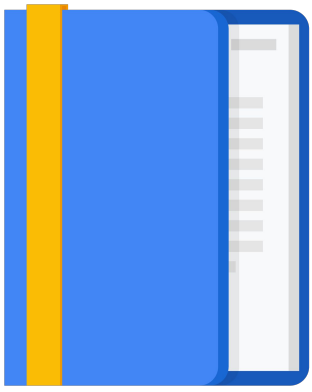
The Cloud Mobile App is another way to interact with GCP. It allows you to manage GCP services from your Android or iOS device. For example, you can start, stop, and SSH into Compute Engine instances and see logs from each instance. You can also set up customizable graphs showing key metrics such as CPU usage, network usage, requests per second, and server errors. The app even offers alerts and incident management and allows you to get up-to-date billing information for your projects and get billing alerts for projects that are going over budget.

You can download the Cloud Mobile App from Google Play or from the App Store.

Agenda

Using GCP

Labs



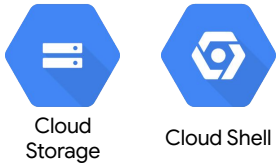
Google Cloud

Slides are great for explaining concepts, but let's apply what we just talked about.

20 minutes

Lab #1 of 2

Console and Cloud Shell



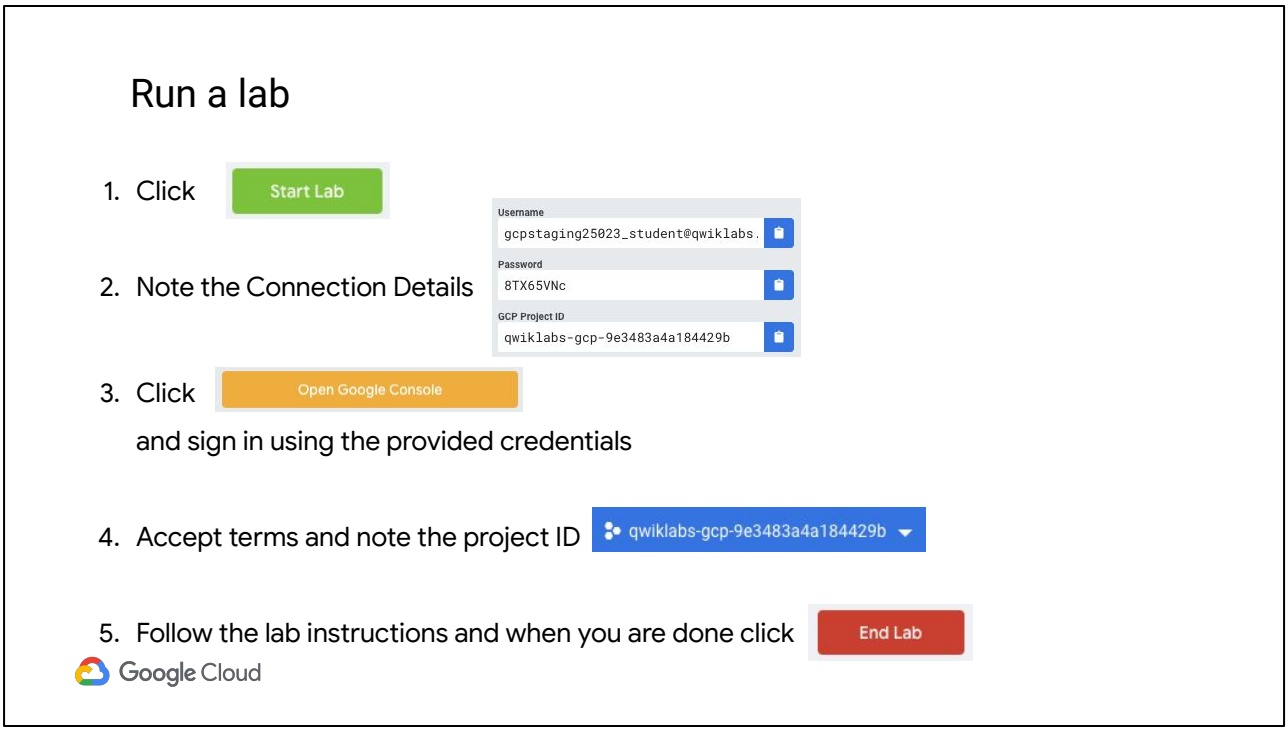
Objectives

- Get access to GCP
- Create a Cloud Storage bucket using the GCP Console
- Create a Cloud Storage bucket using Cloud Shell
- Become familiar with Cloud Shell features

Google Cloud

In this first lab, you'll explore the GCP interface and the entry point of the graphical user interface that's called the GCP Console. Within the GCP Console, you will create a storage bucket in Cloud Storage, which is Google's unified object storage. Then you will repeat the same task using Cloud Shell, which is the command-line interface in GCP.

We encourage you to develop familiarity with both the GCP Console and Cloud Shell and to become comfortable moving back and forth between them.



When ready to begin:

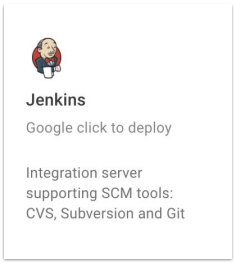
1. Click **Start Lab**
2. Note the lab's username, password, and project ID
3. Click **Open Google Console** and sign in to Cloud Console with these credentials
4. Accept the terms and note the project set for you.
5. Follow the lab instructions and when you are done click **End Lab**. The account will be wiped out and removed. You'll lose all work you have in the project.

Most labs are designed to be standalone, that is, you need to end lab when you finish each lab.

15 minutes

Lab #2 of 2

Infrastructure Preview



Google Cloud

Objectives

- Use Google Cloud Platform Marketplace to build a Jenkins Continuous Integration environment
- Verify that you can manage the service from the Jenkins UI
- Administer the service from the Virtual Machine host through SSH

In this lab, you're going to experience the power of GCP automation by setting up a complete Jenkins continuous integration environment using the GCP Marketplace. You will then verify that you can manage the service from the Jenkins UI and administer the service from the VM host through SSH.

Now, you could accomplish a very similar result through manual configuration in a couple of hours or days. But in this lab, you'll see it set up in only a few minutes.

Also, if you're interested to learn more about projects, feel free to watch this demo. Projects are the key organizer of infrastructure resources and relate these resources to billing accounts. Resources can only be created and consumed within projects, in a way that projects isolate related resources from one another.

Quiz

Which of the following tools allow you to interact with Google Cloud Platform (select 2)?

A. The GCP Console which is a web-based, graphical user interface that you access through Console.cloud.google.com

B. Google Cloud Wi-Fi hotspot which is available in some cities

C. Google Cloud SDK which is a command-line interface that can be installed locally or accessed through Cloud Shell

D. Google Cloud Operator which is a phone service that uses speech recognition to transmit your commands

Quiz

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A. The GCP Console which is a web-based, graphical user interface that you access through Console.cloud.google.com

B. Google Cloud Wi-Fi hotspot which is available in some cities

C. Google Cloud SDK which is a command-line interface that can be installed locally or accessed through Cloud Shell

D. Google Cloud Operator which is a phone service that uses speech recognition to transmit your commands

A. Yes. You can use the GCP Console which provides a web-based, graphical user interface that you access through Console.cloud.google.com.

B. No. There is no Google Cloud Wi-Fi hotspot nor a phone service that uses speech recognition to interact with GCP.

C. Yes. If you prefer to work in a terminal window, Google Cloud SDK provides the gcloud command-line tool. The Cloud SDK can also be accessed through Cloud Shell, which is a browser-based, interactive shell environment for GCP that you can access from the GCP Console.

D. No. There is no Google Cloud Wi-Fi hotspot nor a phone service that uses speech recognition to interact with GCP.

Quiz

What is the difference between the GCP Console and Cloud Shell?

A. The GCP Console is a command-line tool, while Cloud Shell is a graphical user interface

B. Cloud Shell is a command-line tool, while the GCP Console is a graphical user interface

C. Cloud Shell is a locally installed tool, while the GCP Console is a temporary virtual machine

D. There is no difference as these tools are 100% identical

Quiz

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C. Cloud Shell is a locally installed tool, while the GCP Console is a temporary virtual machine

D. There is no difference as these tools are 100% identical

Google Cloud

A. No
B. Yes. The GCP Console is a graphical user interface and Cloud Shell is a command-line tool. Both tools allow you to interact with GCP. Even though the GCP Console can do things Cloud Shell can't do and vice-versa, don't think of them as alternatives, but think of them as one extremely flexible and powerful interface.
C. No.
D. No.

Review

Introduction to GCP

Google Cloud

In this module, we looked at how to use GCP, which you got to experience first-hand in two short labs. We also provided a demonstration of how to use projects, which are the key organizer of infrastructure resources.

Now that you can interact with GCP, it's time to explore two of the foundational components of GCP's infrastructure: virtual networks and virtual machines. Move on to the next module to learn more.


Google Cloud