Google Cloud SDK

The Google Cloud SDK installs command-line tools for interacting with cloud resources from the terminal on the local machine:

1. Go to https://cloud.google.com/sdk/ to download and install the appropriate Cloud SDK for your machine type (see Figure 3-12).

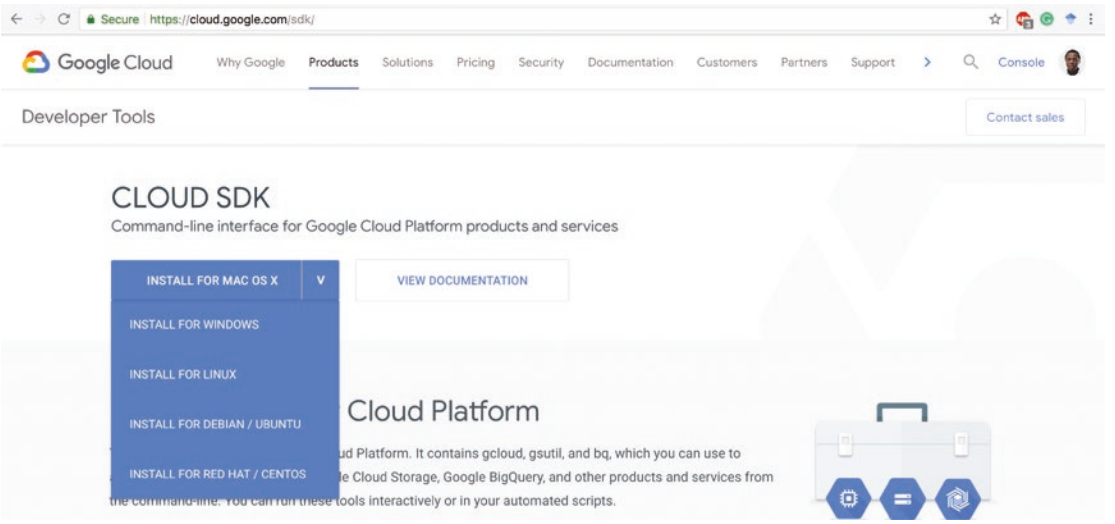

Figure 3-12. *Download Google Cloud SDK*

2. Follow the instructions for the operating system (OS) type to install the Google Cloud SDK. The installation installs the default Cloud SDK components.

3. Open the terminal application of your OS and run the command 'gcloud init' to begin authorization and configuration of the Cloud SDK.

```
gcloud init

Welcome! This command will take you through the configuration
of gcloud.

Pick configuration to use:
 [1] Create a new configuration
Please enter your numeric choice:  1
```

4. Select the name for your configuration. Here, it is set to the name 'your-email-id'.

```
Enter configuration name. Names start with a lower case letter and
contain only lower case letters a-z, digits 0-9, and hyphens '-':
your-email-id

Your current configuration has been set to: [your-email-id]
```

5. Select the Google account to use for the configuration. The browser will open to log in to the selected account (see Figures 3-13, 3-14, and 3-15). However, if a purely terminal initialization is desired, the user can run 'gcloud init --console-only'.

```
Choose the account you would like to use to perform operations for
this configuration:
 [1] Log in with a new account
Please enter your numeric choice:  1

Your browser has been opened to visit:

https://accounts.google.com/o/oauth2/auth?redirect_
uri=......=offline
```

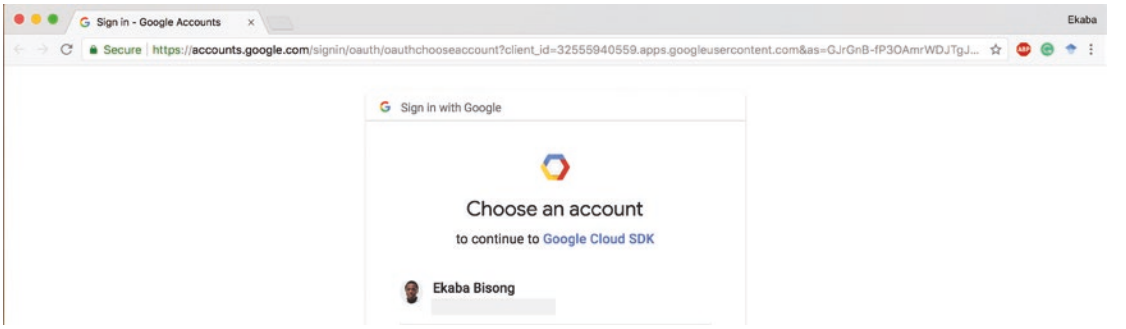

Figure 3-13. *Select Google account to authorize for Cloud SDK configuration*

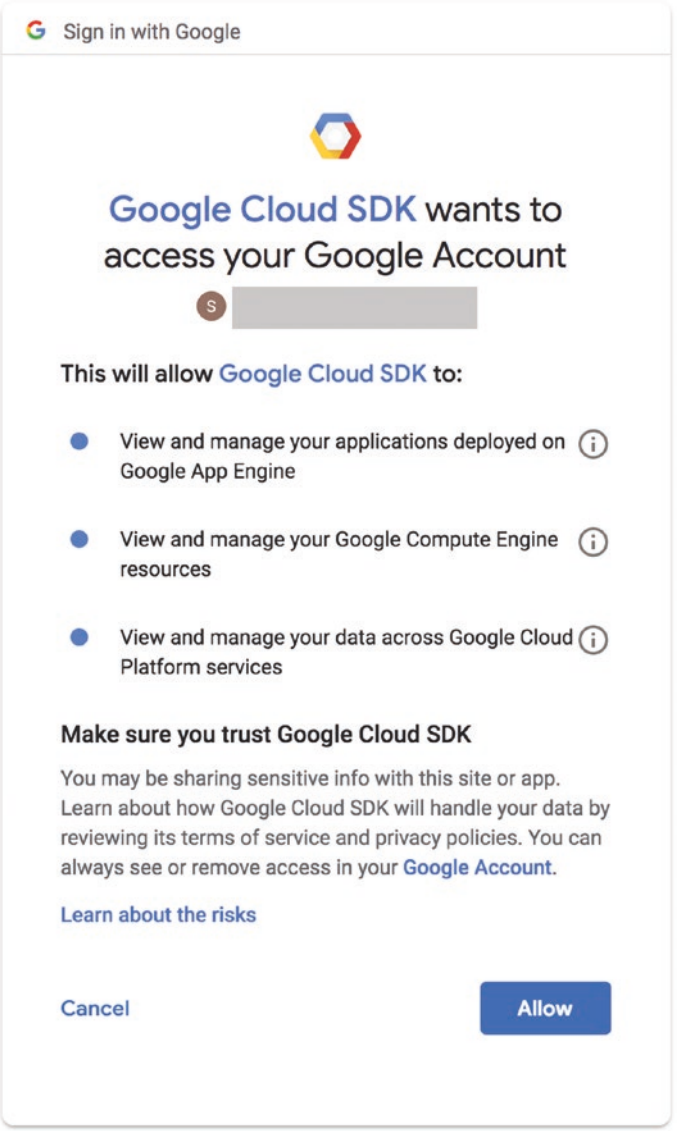

Figure 3-14. *Authenticate Cloud SDK to access Google account*

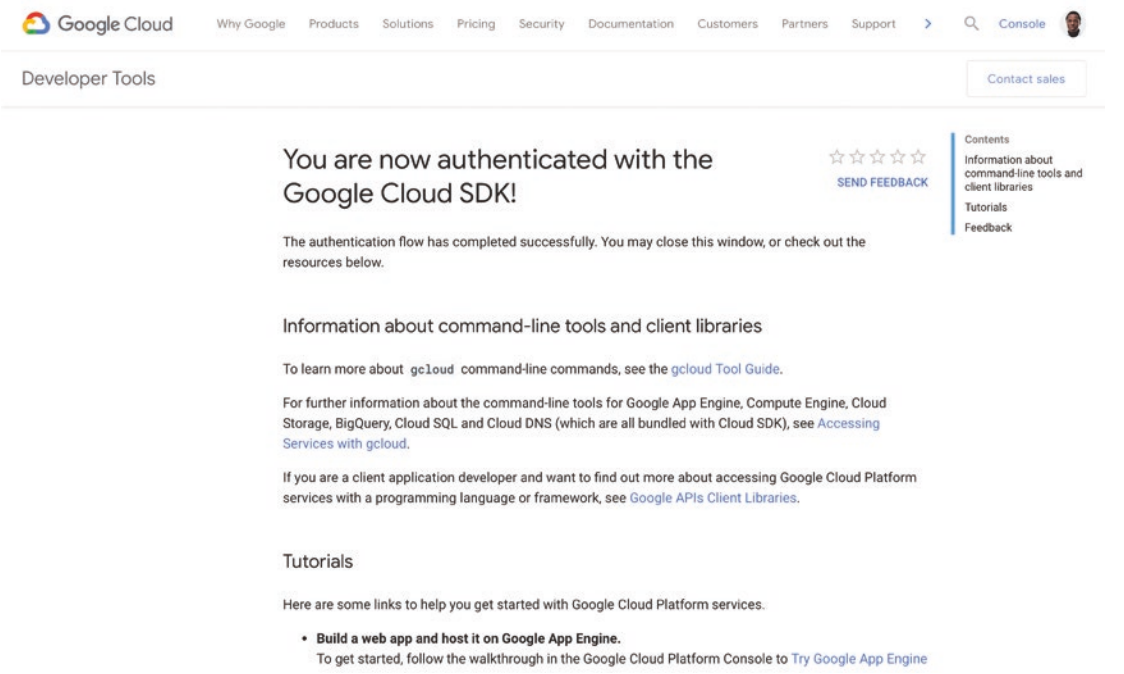

Figure 3-15. *Confirmation page for Cloud SDK authentication*

6. Select the cloud project to use after the browser-based authentication in a Google account.

```
You are logged in as: [your-email-id@gmail.com].

Pick cloud project to use:
 [1] secret-country-192905
 [2] Create a new project
Please enter numeric choice or text value (must exactly match list
item): 1

Your current project has been set to: [secret-country-192905].

Your Google Cloud SDK is configured and ready to use!

* Commands that require authentication will use your-email-id@
gmail.com by default
* Commands will reference project `secret-country-192905` by
default
```

```
Run `gcloud help config` to learn how to change individual
settings

This gcloud configuration is called [your-configuration-name].
You can create additional configurations if you work with multiple
accounts and/or projects.
Run `gcloud topic configurations` to learn more.

Some things to try next:

* Run `gcloud --help` to see the Cloud Platform services you can
interact with. And run `gcloud help COMMAND` to get help on any
gcloud command.
* Run `gcloud topic -h` to learn about advanced features of the
SDK like arg files and output formatting
```

The Google Cloud SDK is now configured and ready to use. The following are a few terminal commands for managing 'gcloud' configurations:

- 'gcloud auth list': Shows accounts with GCP credentials and indicates which account configuration is currently active.

```
gcloud auth list

                    Credentialed Accounts
ACTIVE  ACCOUNT
*       your-email-id@gmail.com

To set the active account, run:
    $ gcloud config set account `ACCOUNT`
```

- 'gcloud config configurations list': List existing Cloud SDK configurations.

```
gcloud config configurations list

NAME  IS_ACTIVE  ACCOUNT  PROJECT  DEFAULT_ZONE  DEFAULT_REGION
your-email-id  True  your-email-id@gmail.com     secret-
country-192905
```

- 'gcloud config configurations activate [CONFIGURATION_NAME]':
  Use this command to activate a configuration.

  ```
  gcloud config configurations activate your-email-id

  Activated [your-email-id].
  ```

- 'gcloud config configurations create [CONFIGURATION_NAME]':
  Use this command to create a new configuration.

This chapter covers how to set up command-line access for interacting with GCP resources. This includes working with the web-based Cloud Shell and installing the Cloud SDK to access GCP resources via the terminal on the local machine.

In the next chapter, we'll introduce Google Cloud Storage (GCS) for storing ubiquitous data assets on GCP.

CHAPTER 4

Google Cloud Storage (GCS)

Google Cloud Storage is a product for storing a wide range of diverse data objects. Cloud storage may be used to store both live and archival data. It has guarantees of scalability (can store increasingly large data objects), consistency (the most updated version is served on request), durability (data is redundantly placed in separate geographic locations to eliminate loss), and high availability (data is always available and accessible).

Let's take a brief tour through creating and deleting a storage bucket, as well as uploading and deleting files from a cloud storage bucket.

Create a Bucket

A bucket, as the name implies, is a container for storing data objects on GCP. A bucket is the base organizational structure on Cloud Storage. It is similar to the topmost directory on a file system. Buckets may have a hierarchy of sub-folders containing data assets.

To create a bucket,

1. Click 'Create bucket' on the cloud storage dashboard as shown in Figure 4-1.
2. Give the bucket a unique name (see Figure 4-2). Buckets in GCP must have a global unique name. That is to say, no two storage buckets on Google Cloud can have the same name. A common naming convention for buckets is to prefix with your organization's domain name.

E. Bisong, *Building Machine Learning and Deep Learning Models on Google Cloud Platform*,
https://doi.org/10.1007/978-1-4842-4470-8_4