Cloud Application Development

Assignment 1 report

Objective: Configuring Google Cloud environment, understanding basic directory and file management in Cloud Shell, writing basic shell script.

Exercise 1.

```
aipislam03@cloudshell:~$ gcloud --version
Google Cloud SDK 489.0.0
alpha 2024.08.16
app-engine-go 1.9.76
app-engine-java 2.0.29
app-engine-python 1.9.113
app-engine-python-extras 1.9.107
beta 2024.08.16
bigtable
bq 2.1.8
bundled-python3-unix 3.11.9
cbt 1.21.0
```

Questions:

What command did you use to authenticate with your Google account?

After running `gcloud init`, a new chrome tab opens where the user can log in. Alternatively, the `gcloud auth login` command can be used.

How did you set the default project?

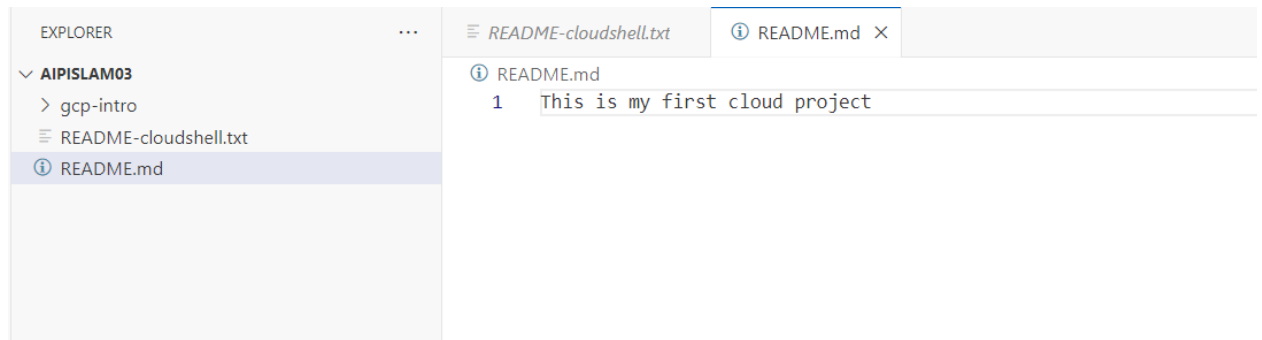After signing in, cloud shell offers user to create first project.

What information does the gcloud info command provide?

Google Cloud SDK version, installed components, system information, configuration information, logs and paths.

Exercise 2.

```
aipislam03@cloudshell:~$ gcloud config list
[accessibility]
screen_reader = True
[component_manager]
disable_update_check = True
[compute]
gce_metadata_read_timeout_sec = 30
[core]
```

```
aipislam03@cloudshell:~$ mkdir gcp-intro
aipislam03@cloudshell:~$ cd gcp-intro
aipislam03@cloudshell:~/gcp-intro$ █
```

EXPLORER

AIPISLAM03
> gcp-intro
≡ README-cloudshell.txt
ⓘ README.md

≡ README-cloudshell.txt   ⓘ README.md ✕

ⓘ README.md

1   This is my first cloud project

Questions:

What is the default home directory in Cloud Shell?

By default, the home directory is $HOME(/home/<username>)

What tools are pre-installed in Cloud Shell?

Google Cloud SDK, Programming languages, git, text editors, build and package tools, additional tools (Docker, iPython, MySQL client, gRPC compiler, TensorFlow, Terraform).

How can you open the built-in code editor in Cloud Shell?

By running `code .` command in the shell.

Exercise 3.

```
aipislam03@cloudshell:~$ gcloud projects list
PROJECT_ID: a3b4d4
NAME: a3b4d4
PROJECT_NUMBER: 897806749086

PROJECT_ID: asymmetric-cove-435619-s9
NAME: My First Project
PROJECT_NUMBER: 5055697567

PROJECT_ID: quick-pathway-435619-e0
NAME: My First Project
PROJECT_NUMBER: 92058031064
aipislam03@cloudshell:~$ █
```

```
aipislam03@cloudshell:~$ gcloud projects create w1e2r3 --name="My First GCP Project"
Create in progress for [https://cloudresourcemanager.googleapis.com/v1/projects/w1e2r3].
Waiting for [operations/cp.5713744431392948894] to finish...done.
Enabling service [cloudapis.googleapis.com] on project [w1e2r3]...
Operation "operations/acat.p2-50200619973-f56efae9-e2a2-426e-8fa2-f95b9ed0e9fb" finished successfully.
```

```
aipislam03@cloudshell:~$ gcloud config set project w1e2r3
Updated property [core/project].
aipislam03@cloudshell:~ (w1e2r3)$
```

```
aipislam03@cloudshell:~ (w1e2r3)$ gcloud projects describe w1e2r3
createTime: '2024-09-17T06:49:44.062462Z'
lifecycleState: ACTIVE
name: My First GCP Project
projectId: w1e2r3
projectNumber: '50200619973'
```

```
aipislam03@cloudshell:~ (w1e2r3)$ gcloud projects delete w1e2r3
Your project will be deleted.

Do you want to continue (Y/n)?  y

Deleted [https://cloudresourcemanager.googleapis.com/v1/projects/w1e2r3].

You can undo this operation for a limited period by running the command below.
    $ gcloud projects undelete w1e2r3

See https://cloud.google.com/resource-manager/docs/creating-managing-projects for information on shutting down projects.
```

Questions:

How do you list all projects associated with your account?

By running `gcloud projects list` command.

What command is used to set a default project?

`gcloud config set project PROJECT_ID`

How do you describe project metadata?

By running `gcloud projects describe PROJECT_ID` command. After running this
command, information about project (projectID, projectNumber, name,
lifycycleState, createTime) will be displayed.

Exercise 4.

```
aipislam03@cloudshell:~ (w1e2r3)$ mkdir -p myproject/src myproject/tests myproject/docs
aipislam03@cloudshell:~ (w1e2r3)$ ls
gcp-intro  myproject  README-cloudshell.txt  README.md
```

```
aipislam03@cloudshell:~ (w1e2r3)$ mkdir -p myproject/src myproject/tests myproject/docs
aipislam03@cloudshell:~ (w1e2r3)$ ls
gcp-intro  myproject  README-cloudshell.txt  README.md
aipislam03@cloudshell:~ (w1e2r3)$ cd myproject
aipislam03@cloudshell:~/myproject (w1e2r3)$ touch src/main.py
aipislam03@cloudshell:~/myproject (w1e2r3)$ touch tests/test.py
aipislam03@cloudshell:~/myproject (w1e2r3)$ nano docs/README.md
```

```
aipislam03@cloudshell:~/myproject (w1e2r3)$ cat docs/README.md
my project
aipislam03@cloudshell:~/myproject (w1e2r3)$ rm docs/README.md
```

Questions:

What command did you use to create the directory structure?

`mkdir -p myfirstproject/src myfirstproject/test myfirstproject/docs`

How did you upload a file to a Cloud Storage bucket?

By running `gsutil cp main.py gs://bucket_name`

How can you list the contents of a Cloud Storage bucket?

`gsutil ls gs://bucket_name`

Exercise 5.


```
aipislam03@cloudshell:~ (w1e2r3)$ touch shell.sh
```

```
  GNU nano 6.2                                                              shell.sh
mkdir -p new_project

cd new_project
touch info.txt

gcloud config set project r1t2y3




                                                              [ Read 6 lines ]
^G Help          ^O Write Out     ^W Where Is      ^K Cut           ^T Execute       ^C Location      M-U Undo
^X Exit          ^R Read File     ^\ Replace       ^U Paste         ^J Justify       ^/ Go To Line    M-E Redo
```

```
aipislam03@cloudshell:~ (w1e2r3)$ chmod +x shell.sh
aipislam03@cloudshell:~ (w1e2r3)$ ./shell.sh
WARNING: [aipislam03@gmail.com] does not have permission to access projects instance [r1t2y3] (or it may not exist): The caller does not have permission. This command is authenticated as
m03@gmail.com which is the active account specified by the [core/account] property
Are you sure you wish to set property [core/project] to r1t2y3?

Do you want to continue (Y/n)?  y

Updated property [core/project].
```

What command did you use to make the script executable?

`chmod +x setup.sh`

How did you ensure the script was executed correctly?

Listed directories in the current path: `ls`

What steps did your script automate?

1.Create the new project directory

2.Create the new info.txt file

3.Set the default Google Cloud project

//setup.sh

`mkdir -p new_project`

`cd new_project`

`touch info.txt`

```
gcloud config set project PROJECT_ID
```