Nutan Follow
Dec 12, 2020 · 5 min read · Listen

Deploy Machine Learning Model in Google Cloud Platform Using Flask — Part 3

Machine Learning Model Deployment

Load data, train model and save model — part 1

If you have not completed this part please go through below link

Deploy Machine Learning Model in Google Cloud Platform Using Flask — Part 1

Create Flask application — part 2

Deploy Machine Learning Model in Google Cloud Platform Using Flask — Part 2

Install Google Cloud Installer in your system

Google Cloud SDK is a set of tools that you can use to manage resources and applications hosted on Google Cloud. These tools include the `gcloud`, `gsutil`, and `bq` command-line tools.

Download and Install Google Cloud SDK from below link:

https://dl.google.com/dl/cloudsdk/channels/rapid/GoogleCloudSDKInstaller.exe

Create requirements.txt file

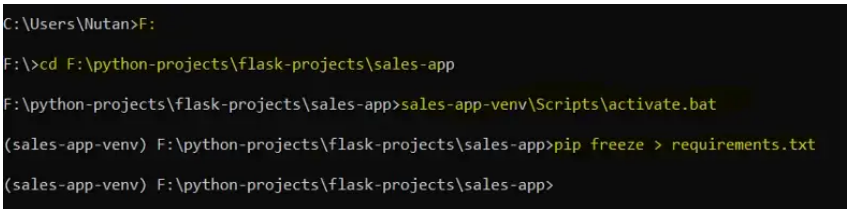
To get all the dependencies for the virtual environment, which is required for our project.

Go to project folder, activate your virtual environment after that run below command.

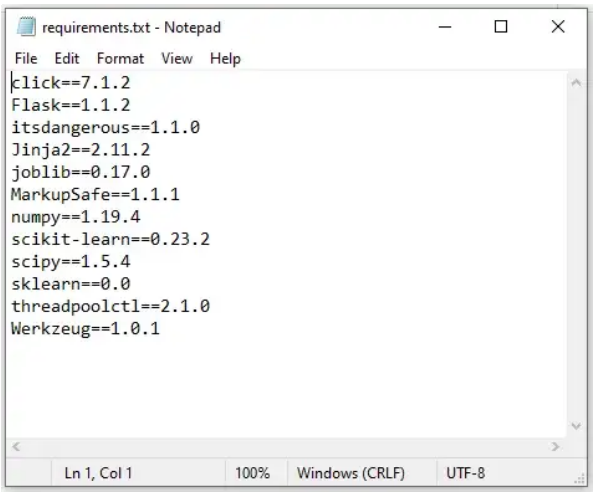
```
F:
cd F:\python-projects\flask-projects\sales-app

sales-app-venv\Scripts\activate.bat  # activate the virtual
environment

pip freeze > requirements.txt
```



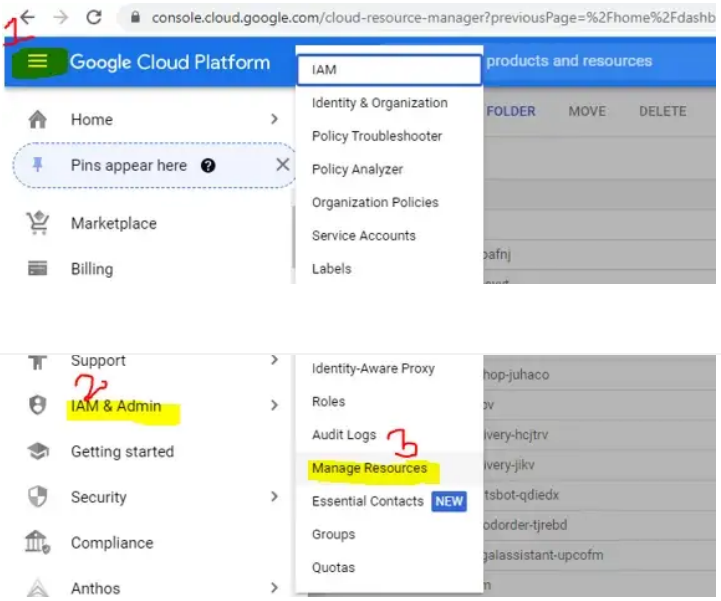
pip freeze command will create requirements.txt file in project root folder. You can open requirements.txt and see required modules.



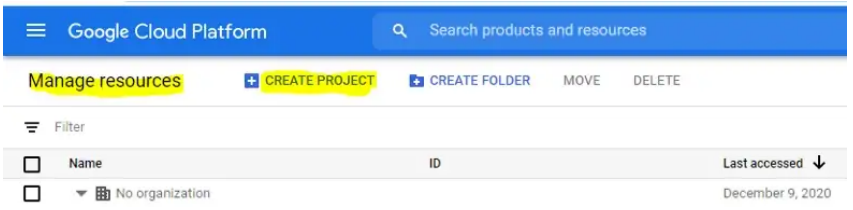
Create project in Google Cloud Platform

Login to https://console.cloud.google.com/

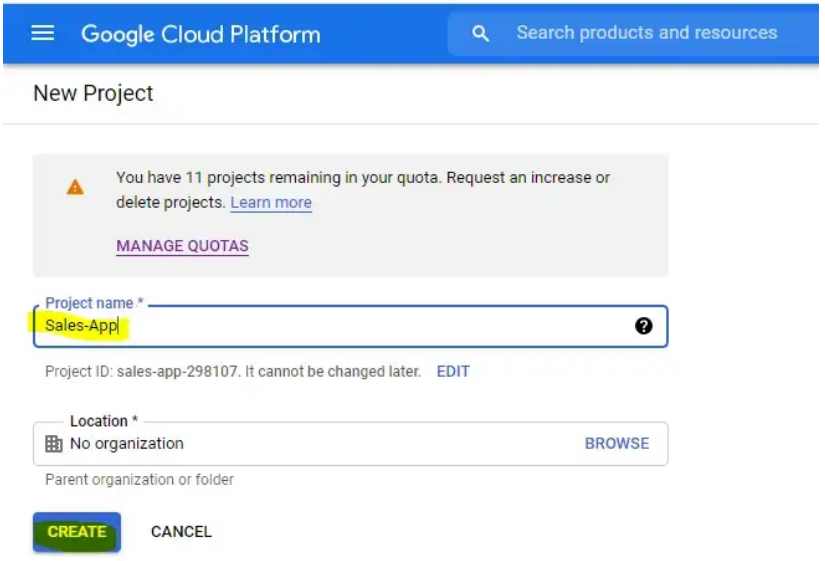
Click on menu icon -> IAM & Admin -> Manage Resources



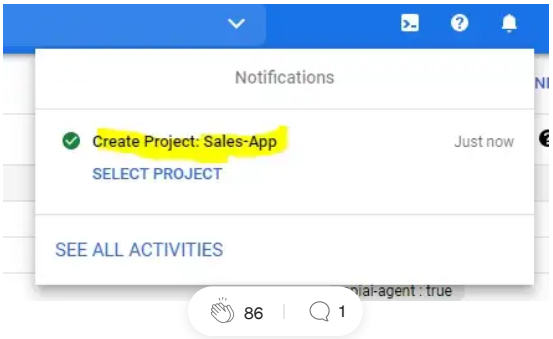
Next screen will show like below:



Click on “CREATE PROJECT” -> Enter project name -> click on CREATE



Next screen should get like below:



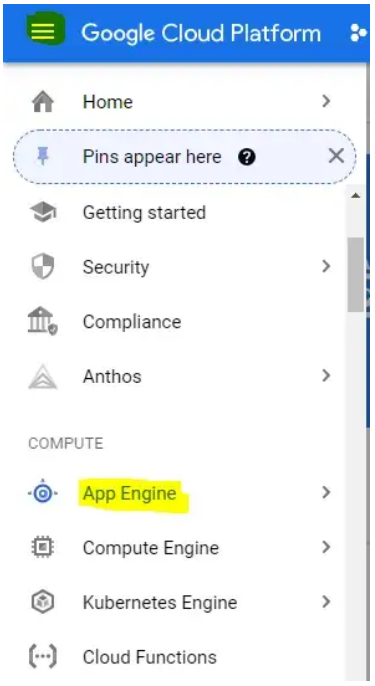
Project created successfully.

What is App Engine?

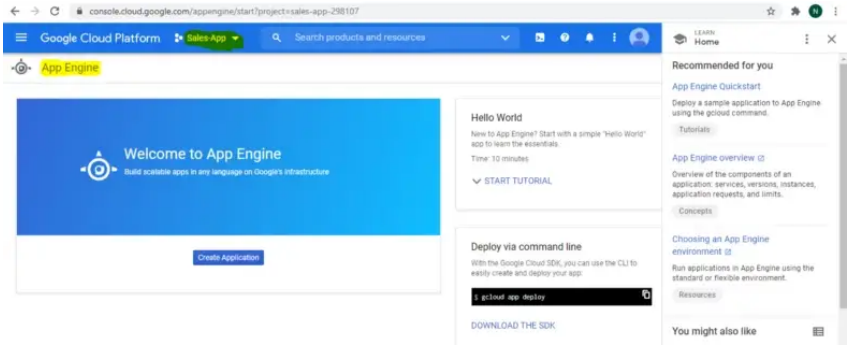
App Engine standard environment makes it easy to build and deploy an application that runs reliably under heavy load and with large amounts of data.

Your application runs within its own secure, reliable environment that is independent of the hardware, operating system, or physical location of the server.

We can view created project in App Engine.



Next screen will show like below:



Create app.yaml Configuration File in project root folder

We need to configure App Engine app's settings in the app.yaml file. The app.yaml file also contains information about your app's code, such as the runtime and the latest version identifier.

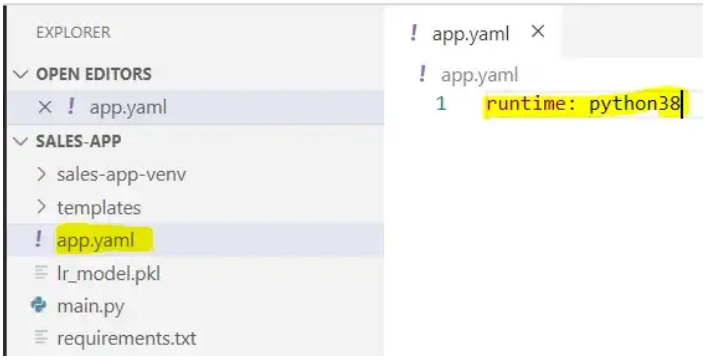
Each service in your app will have its own app.yaml file, which acts as a descriptor for its deployment.

Generally, app.yaml file requires only the runtime element for a simple Python 3 app in the standard environment, like:

runtime: python38 # or python37 for Python 3.7

Create app.yaml file in root project folder and write following code in that:

```
runtime: python38
```



Deploying the Flask application

Initialize Google Cloud in your project

"gcloud init" command to perform initial setup tasks.

gcloud init performs the following setup steps:

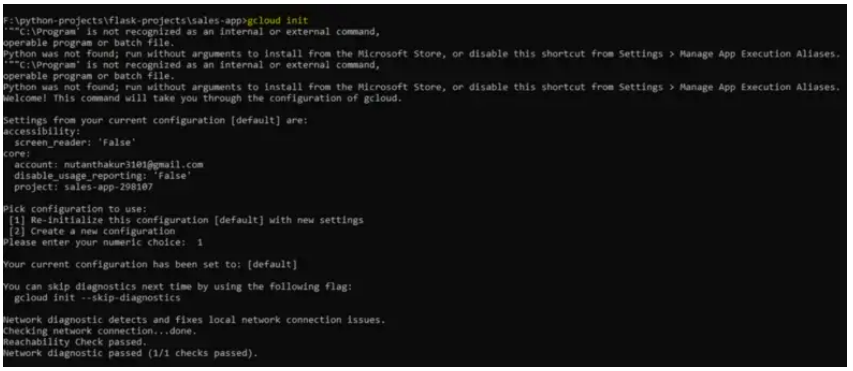
1. Authorizes Cloud SDK tools to use your user account credentials to access Google Cloud, or lets you select an account if you have previously authorized

access

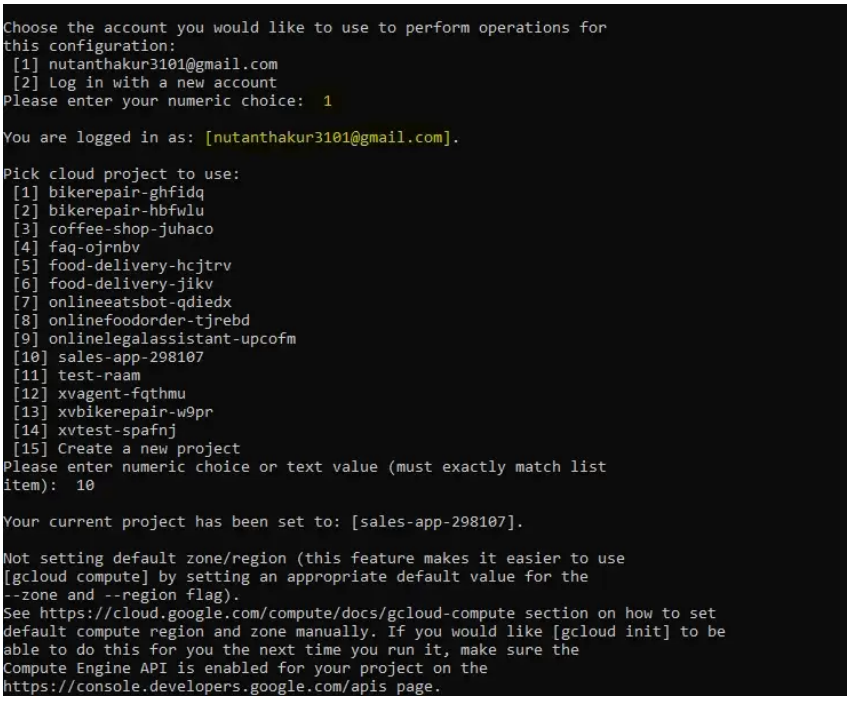
2. Sets up a Cloud SDK configuration and sets a base set of properties, including the active account from the step above, the current project, and if applicable, the default Google Compute Engine region and zone.

Open Google Cloud SDK Shell in your system, go to project folder and type below command

```
F:
cd F:\python-projects\flask-projects\sales-app
gcloud init
```



It will ask to “Pick Configuration to use” -> Choose option 1 if you are already logged in. Otherwise type 2 to Log in with a new account.



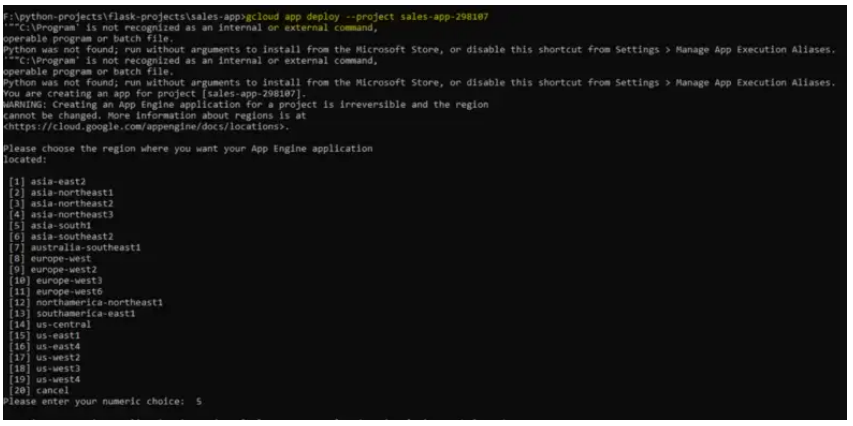
You need type your project number which you want to deploy. Here i typed 10 as my project is sales-app-298107.

Deploy the application

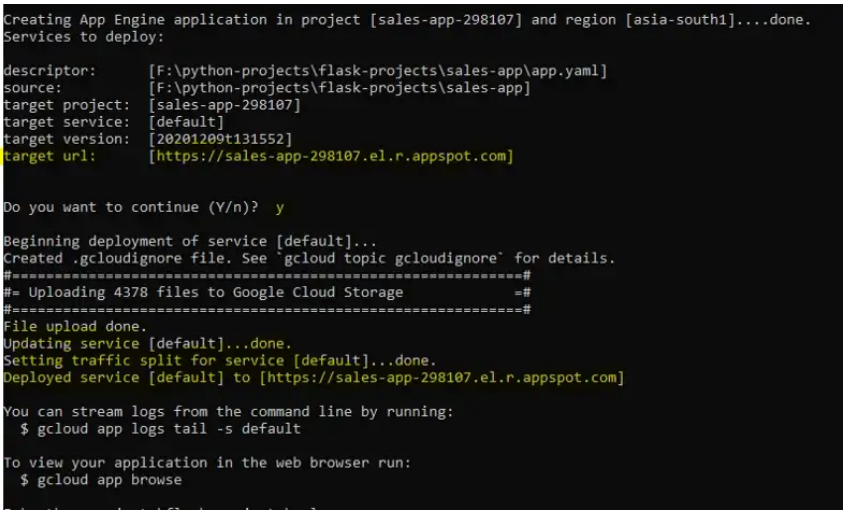
Deploy your application to App Engine using the “gcloud app deploy” command.

If you want you can add project id like screenshot:

```
gcloud app deploy --project sales-app-298107
```



It will ask to “Choose a region you want your App Engine application”. You can choose according to your choice, i have used 5. It will take some time to deploy, till the time you need to wait.



We can see project deployed successfully. Deployed url is

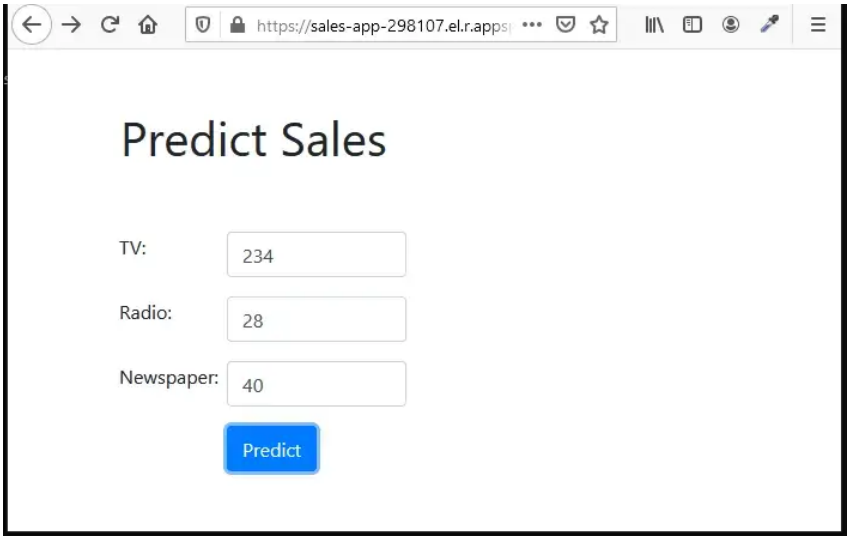
https://sales-app-298107.el.r.appspot.com/

Let us browse deployed url and predict

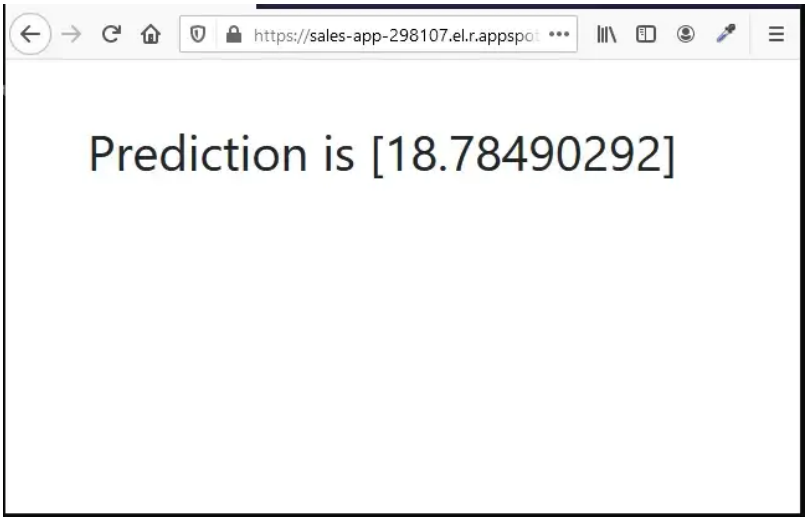
Open deployed url in browser.

https://sales-app-298107.el.r.appspot.com/

Fill the form and click on Predict



Prediction will show like below:



This flask application was deployed for training purpose.

It has been deleted to avoid billing from Google Cloud.

Ml Model Deployment Model Deployment Flask Ml Deployment On Gcp

Google Cloud Platform Ml Flask Deployment