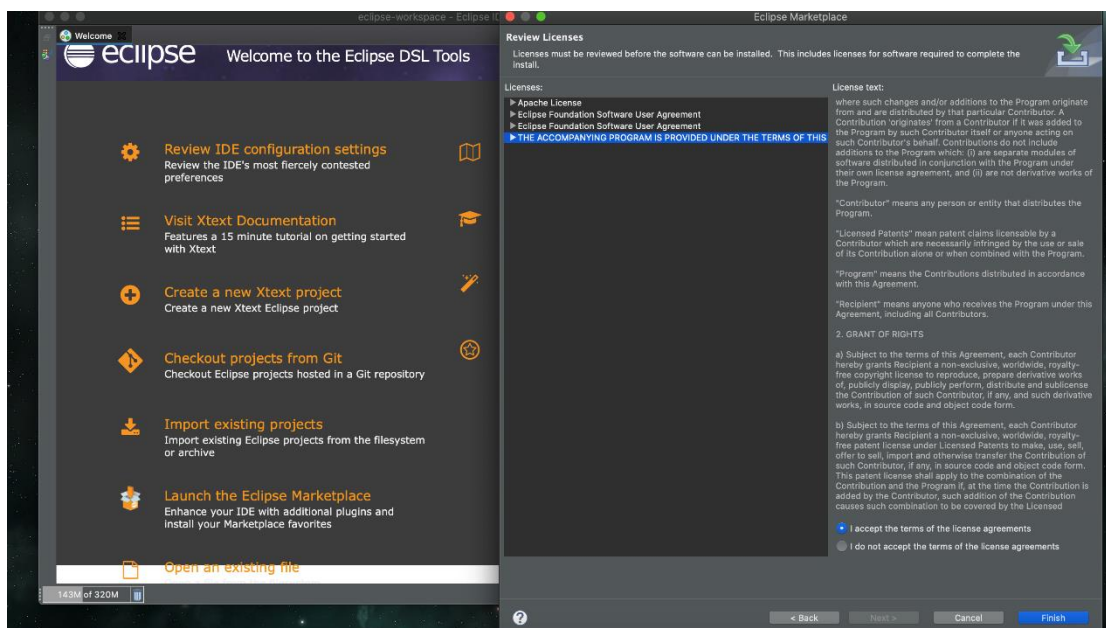
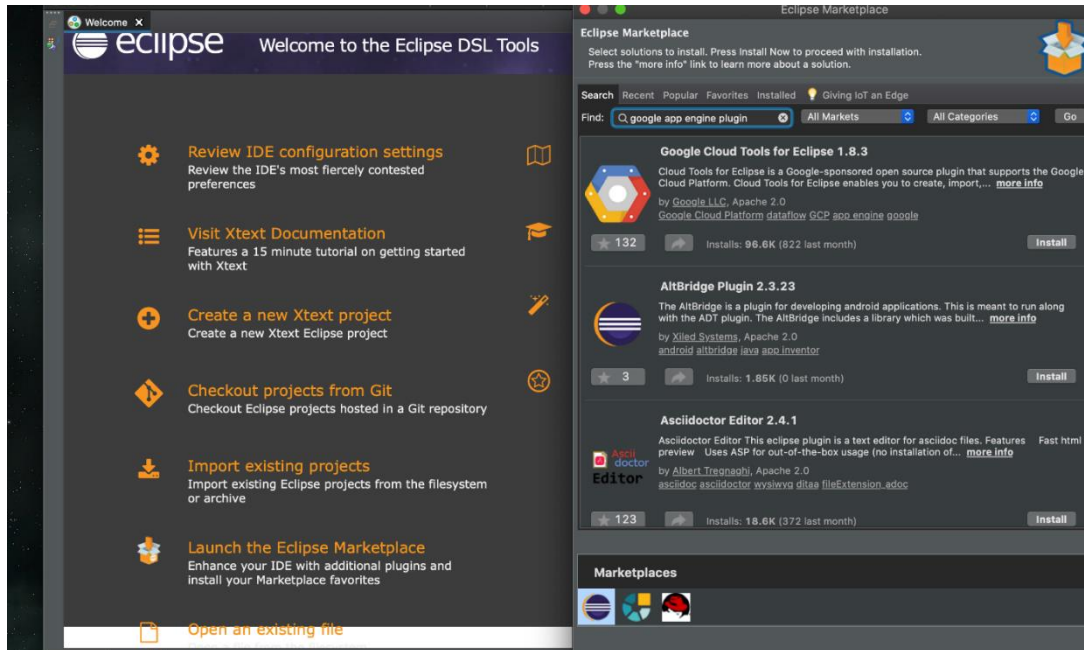
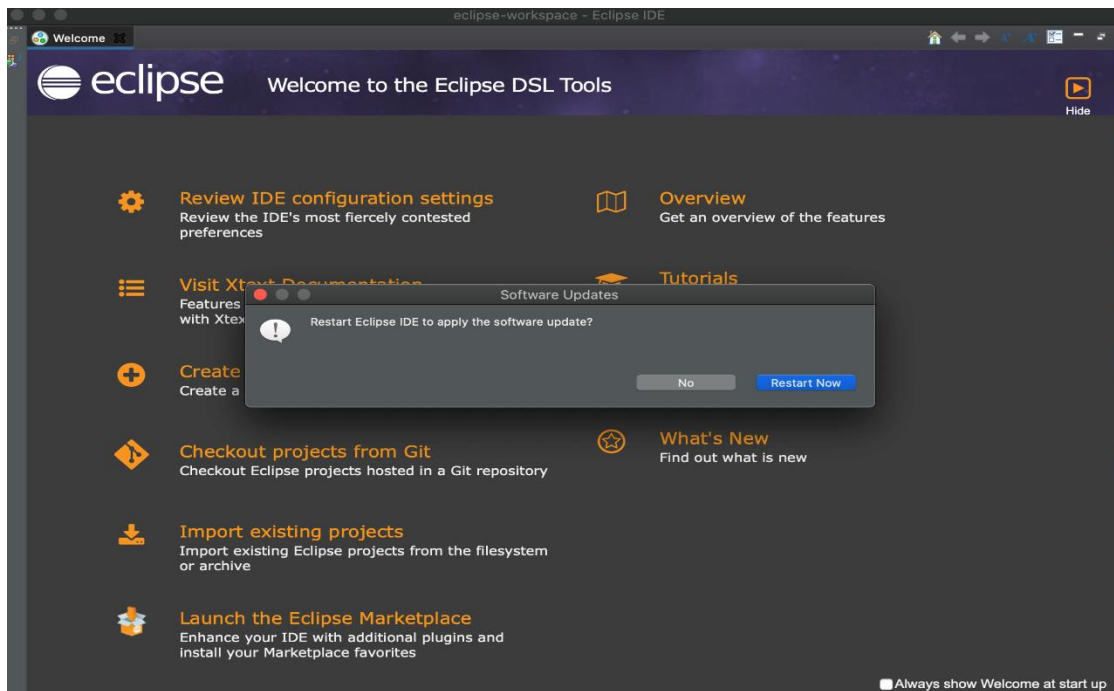


## Lab 2

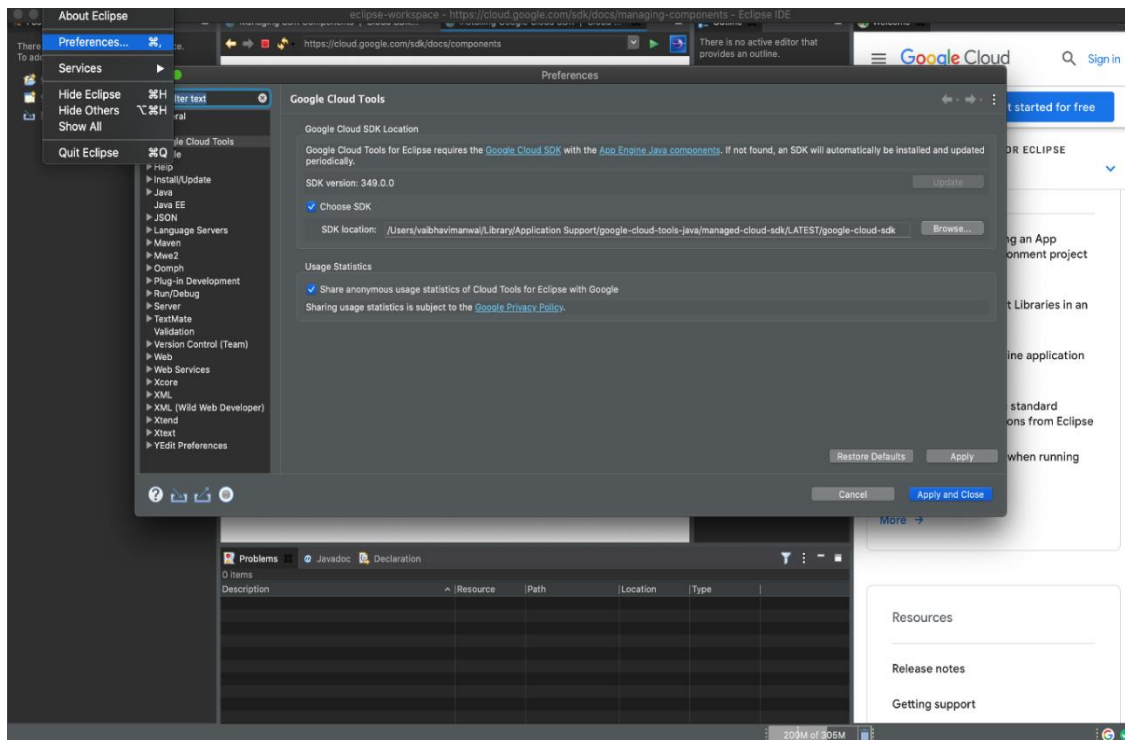
**Aim:** To use GOOGLE APP ENGINE launcher to launch the web applications using eclipse.

Step 1: Install eclipse with Google app engine plugin. To do so go to eclipse marketplace and search Google Cloud tools for eclipse as shown below.

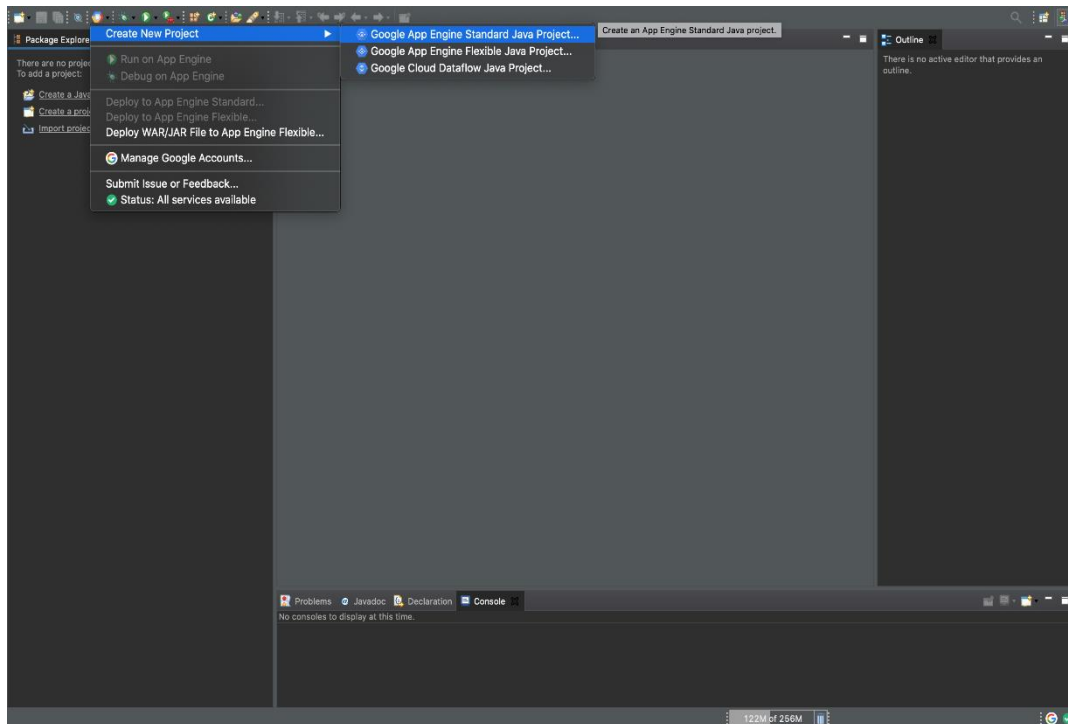




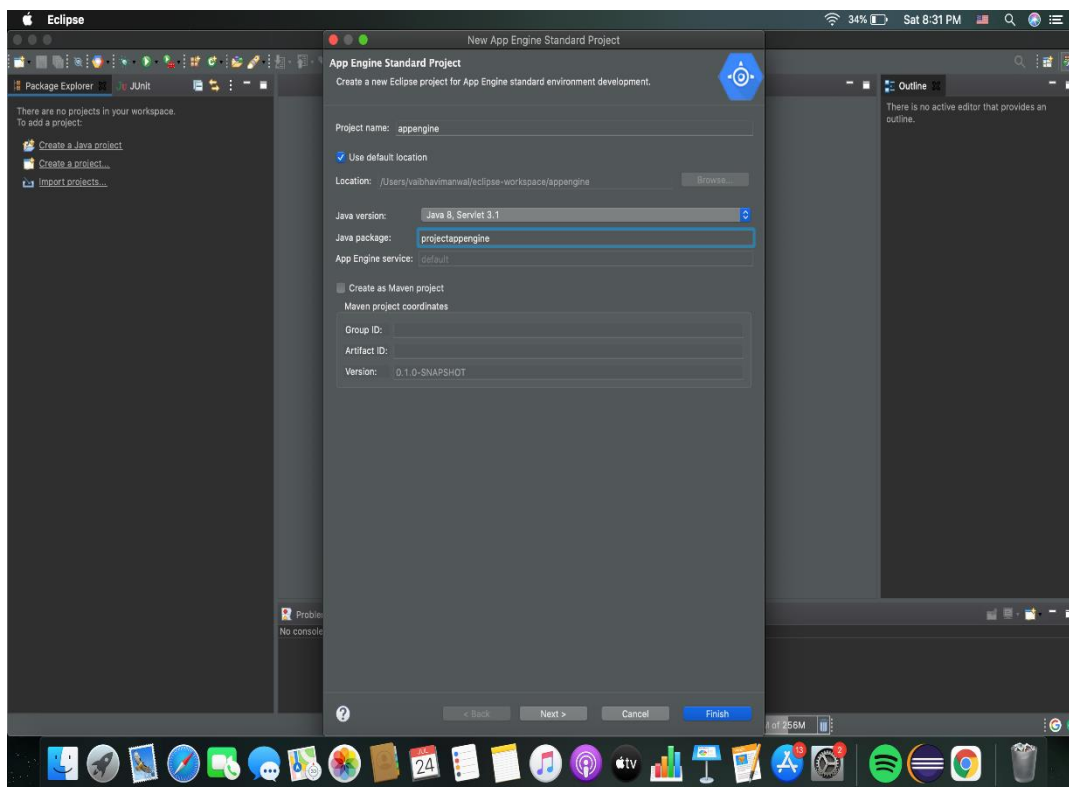
Step 2: You need Google Cloud SDK to use features or API of Google cloud platform. It will automatically install with Google cloud tools. To add it to Google cloud plugin, Go to Eclipse->preference->Select 'choose SDK' ->Apply and close.

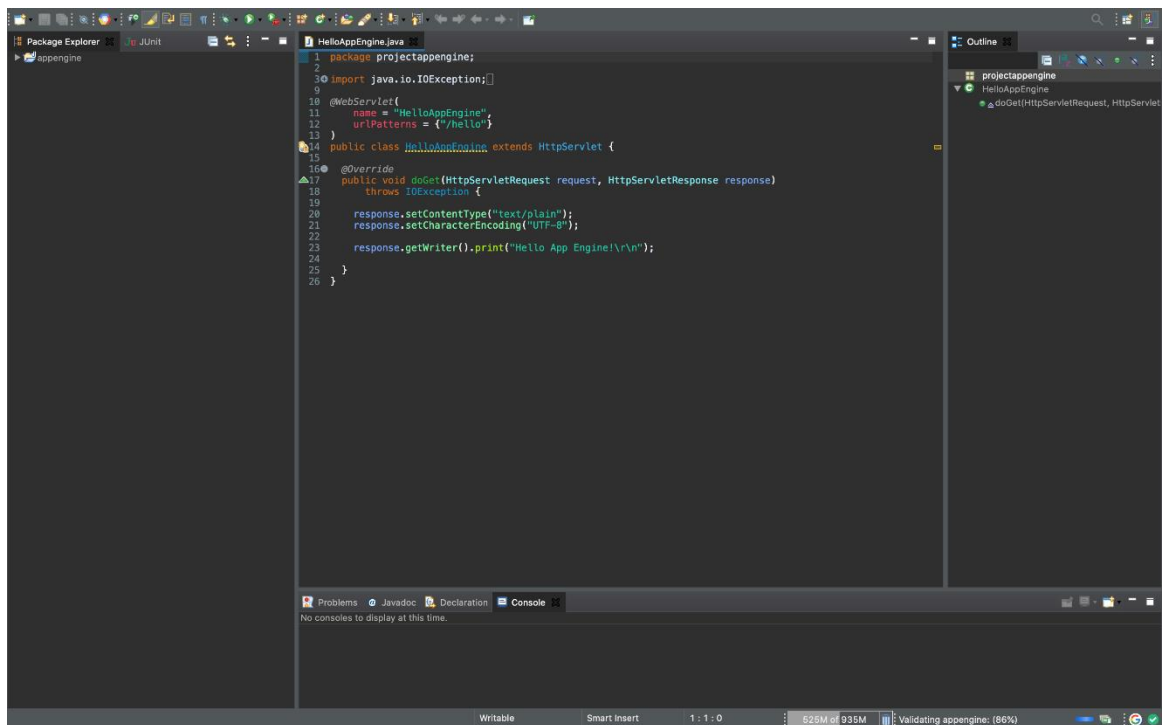
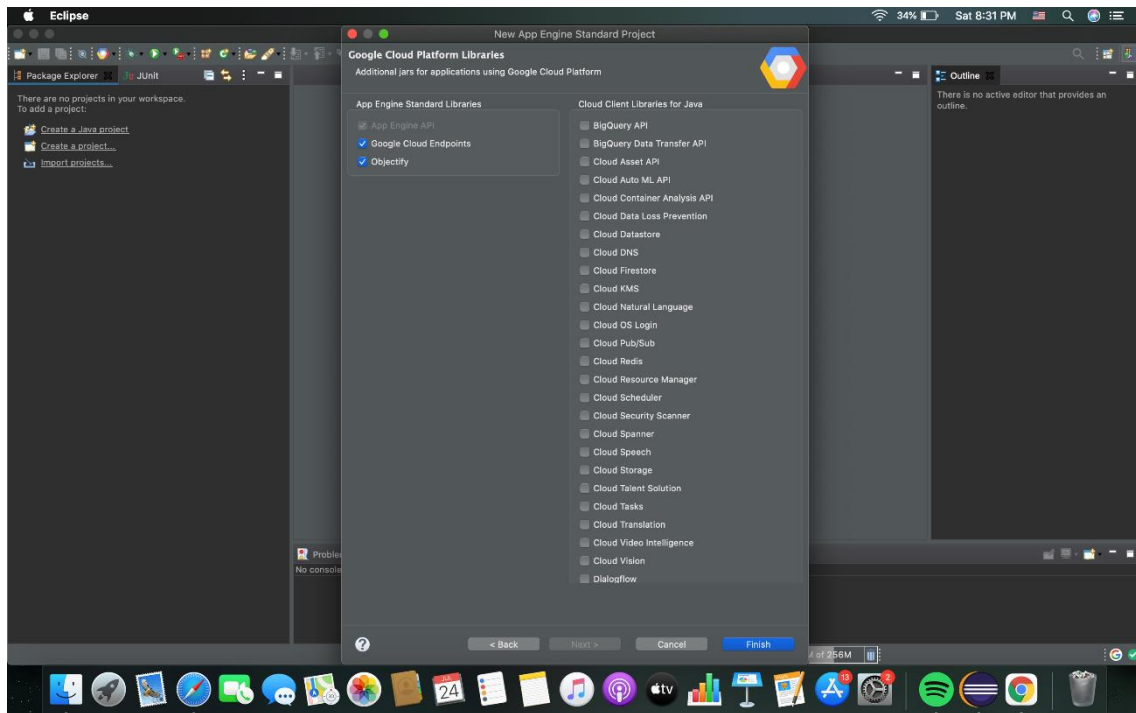


Step 3: Open eclipse and select Google icon on top. Then select 'create a project' and app engine runtime environment(here I'm selecting standard)



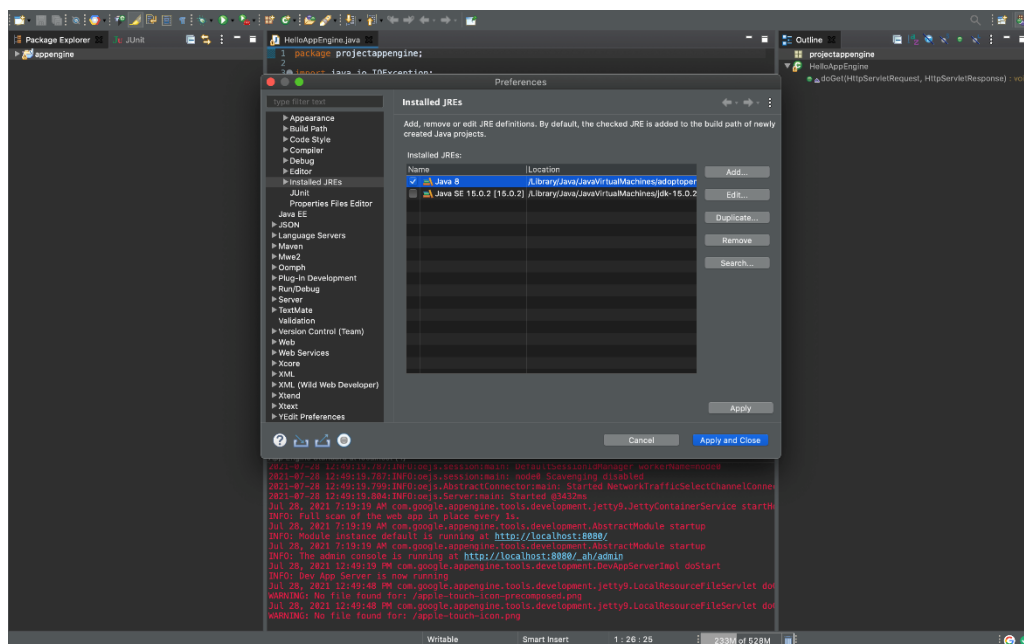
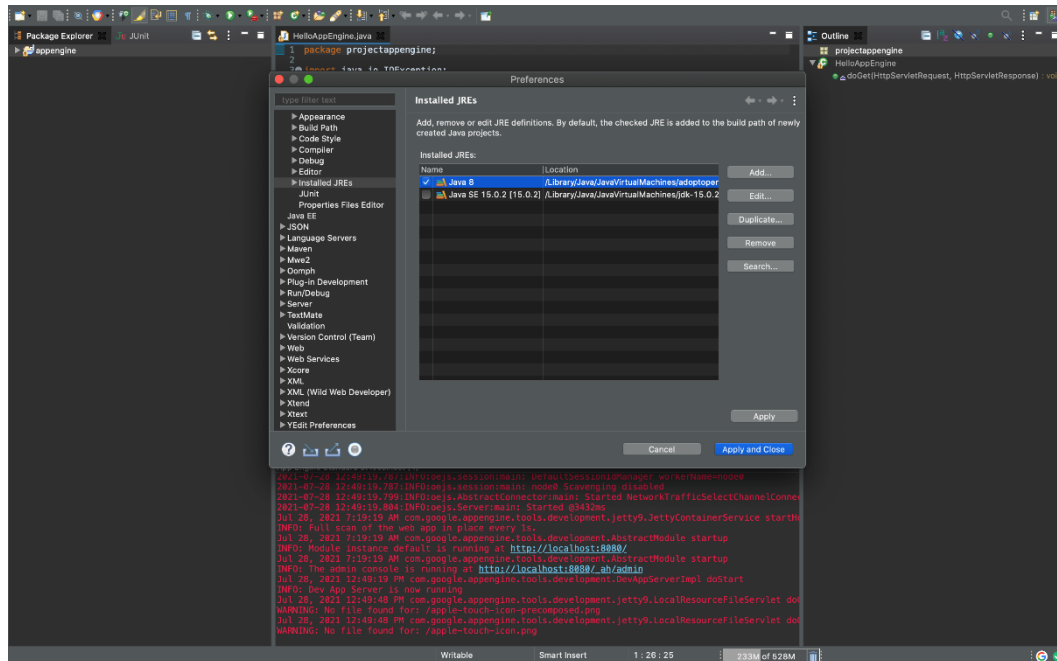
Step 4: Now name the project and package. Select maven if you want to add it to download dependencies for your project. After that select App engine API and objectify. (Select endpoints if you want to add it). A sample project will be created for you.



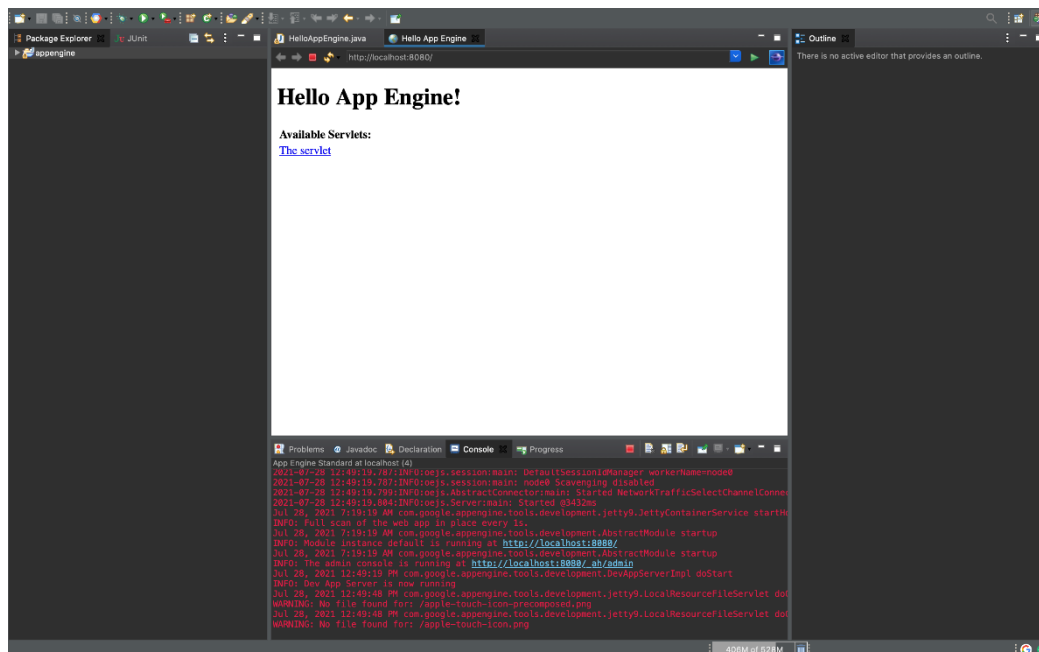
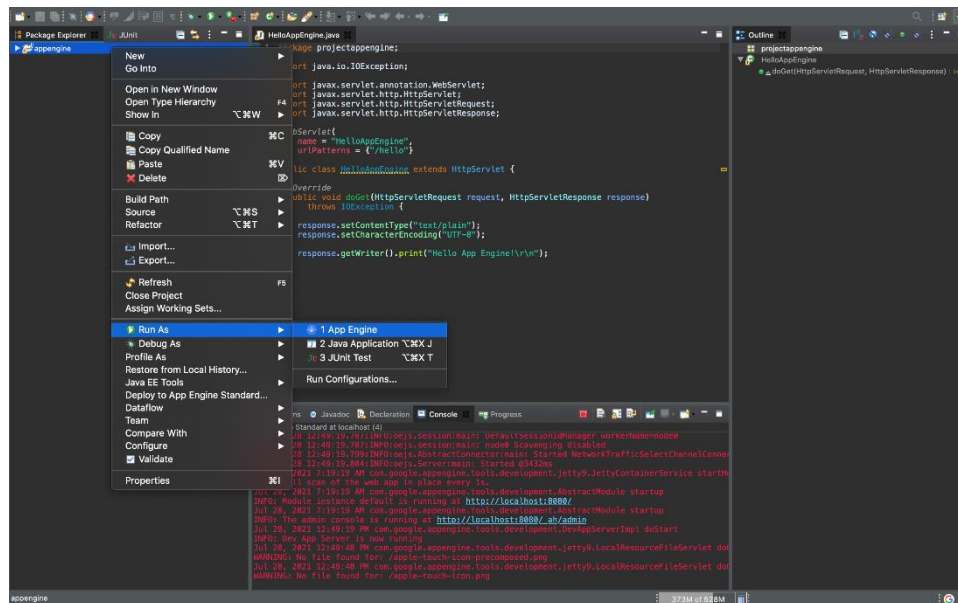


Step 5: Run the program locally. To run the program, ensure that you have Java 8 VM installed on your system. Try installing a Java 8 VM from [AdoptOpenJDK.net](https://adoptopenjdk.net) or some other provider, and then:

1. Open *Preferences > Java > Installed JREs*. Choose *Add* or *Search* if your Java 8 VM is not found.
2. Open *Preferences > Java > Installed JREs > Execution Environments* and select JavaSE-1.8, and ensure that your Java 8 VM is checked as the default VM.

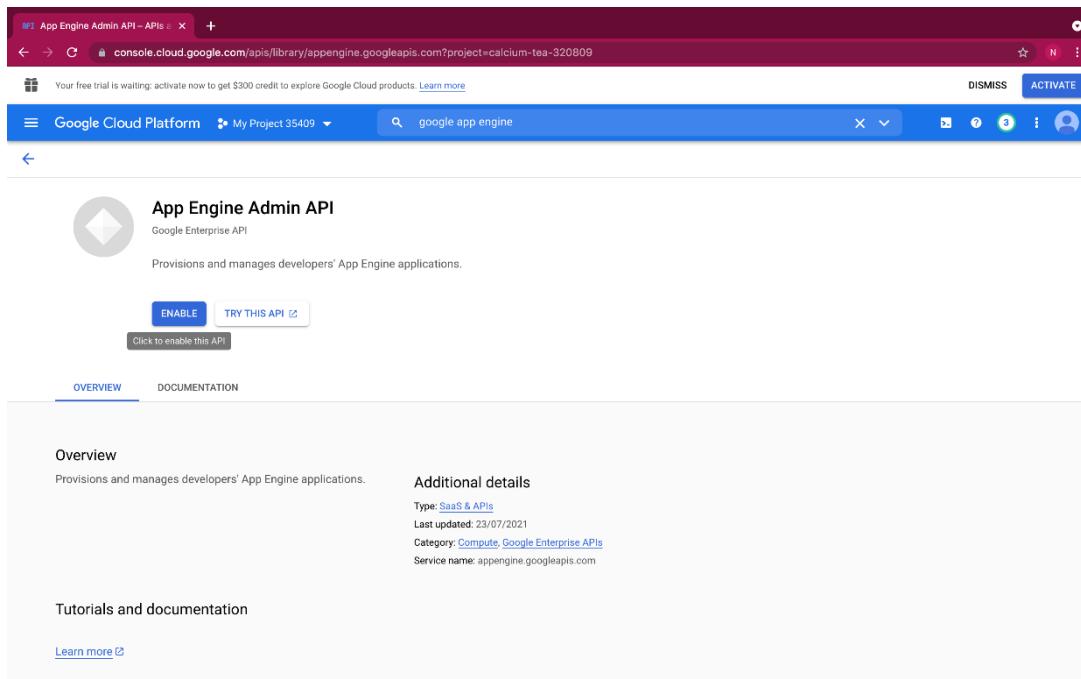
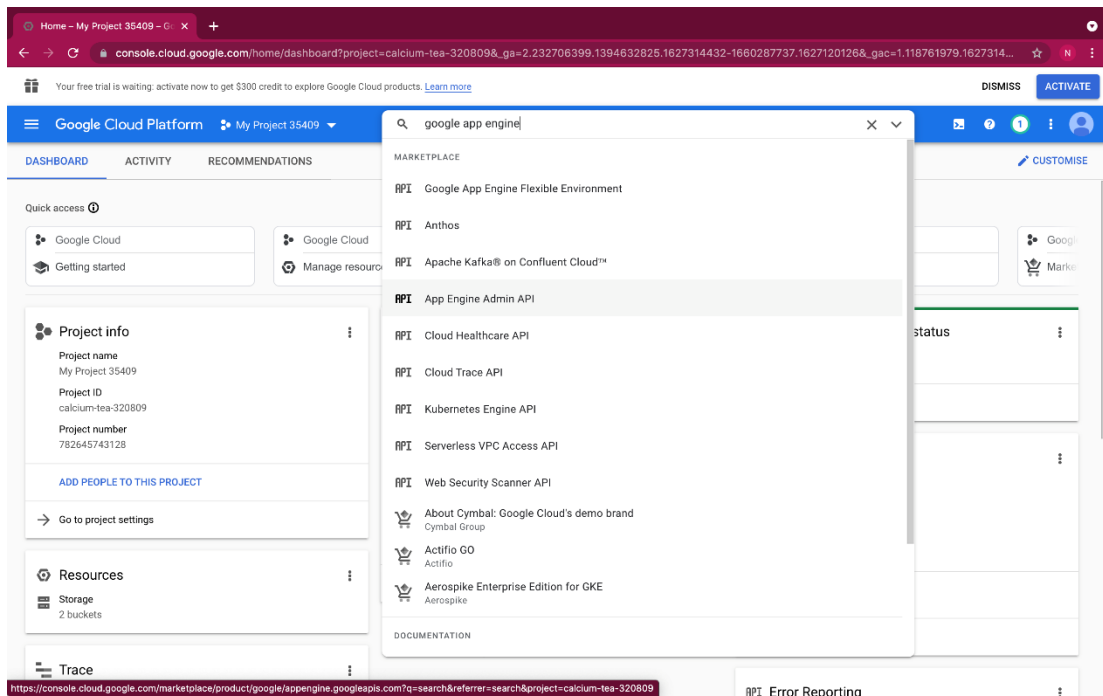


Step 6: Now right click on your project and run the project as App engine.

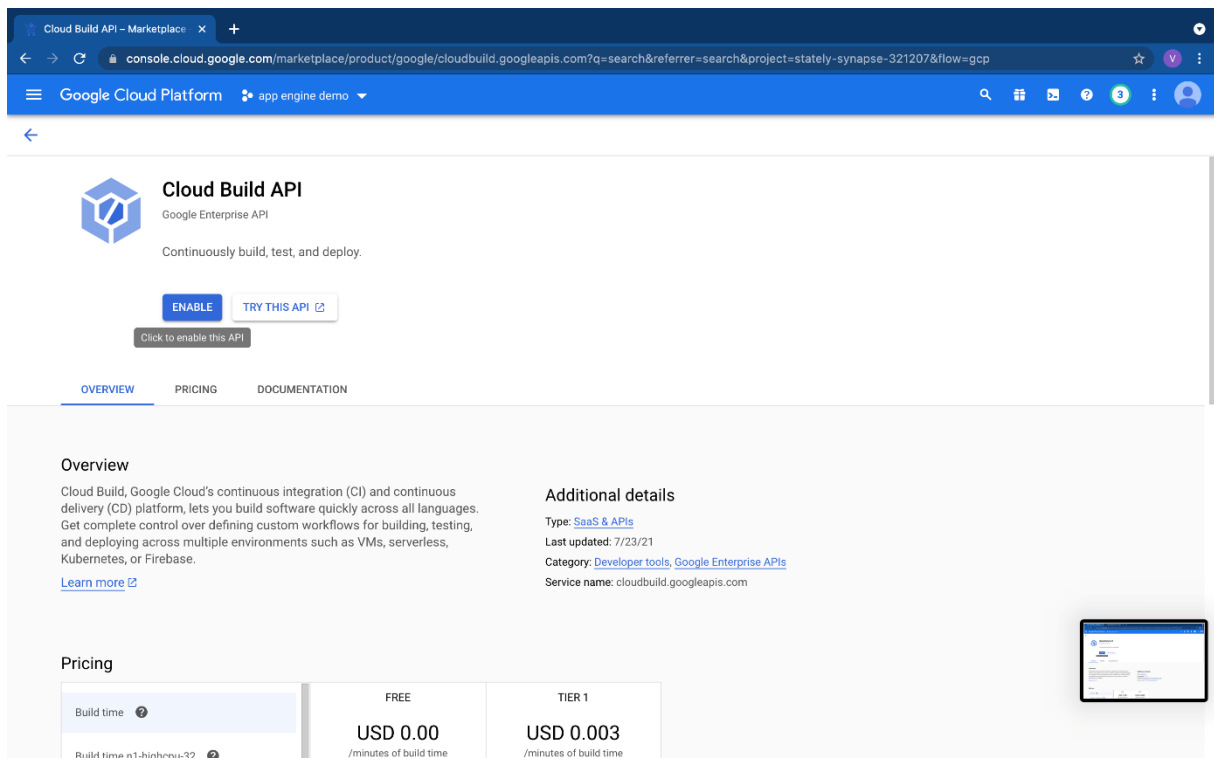
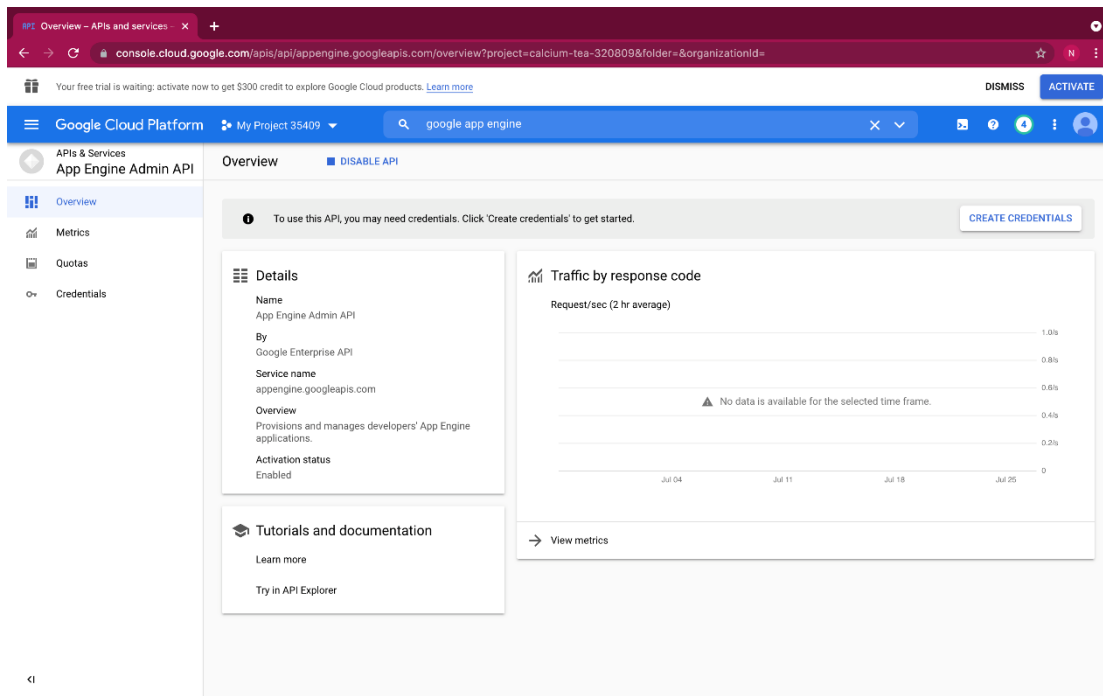


Step 7: Now to deploy the project, sign into your google cloud platform and enable app engine admin API and Cloud Build API.

NOTE: You need a billing account to deploy your application in GCP. Don't worry if you don't have one. Just follow the below steps in your normal account and learn how to deploy.







Step 8: Now open Google cloud platform Shell and type below command to create an app engine application. Inside this App, you will deploy your project (or service).

Command: `gcloud app create`



Then select a reason where you want to create your app engine app. Here I'm selecting asia-east1 region.

The screenshot shows the Google Cloud Platform console with the 'DASHBOARD' tab selected. The 'Terminal' window at the bottom displays the following output:

```
oashimanwal@cloudshell:~ (stately-synapse-321207) $ gcloud app create
You are creating an app for project [stately-synapse-321207].
WARNING: Creating an App Engine application for a project is irreversible and the region
cannot be changed. More information about regions is at
<https://cloud.google.com/appengine/docs/locations>.

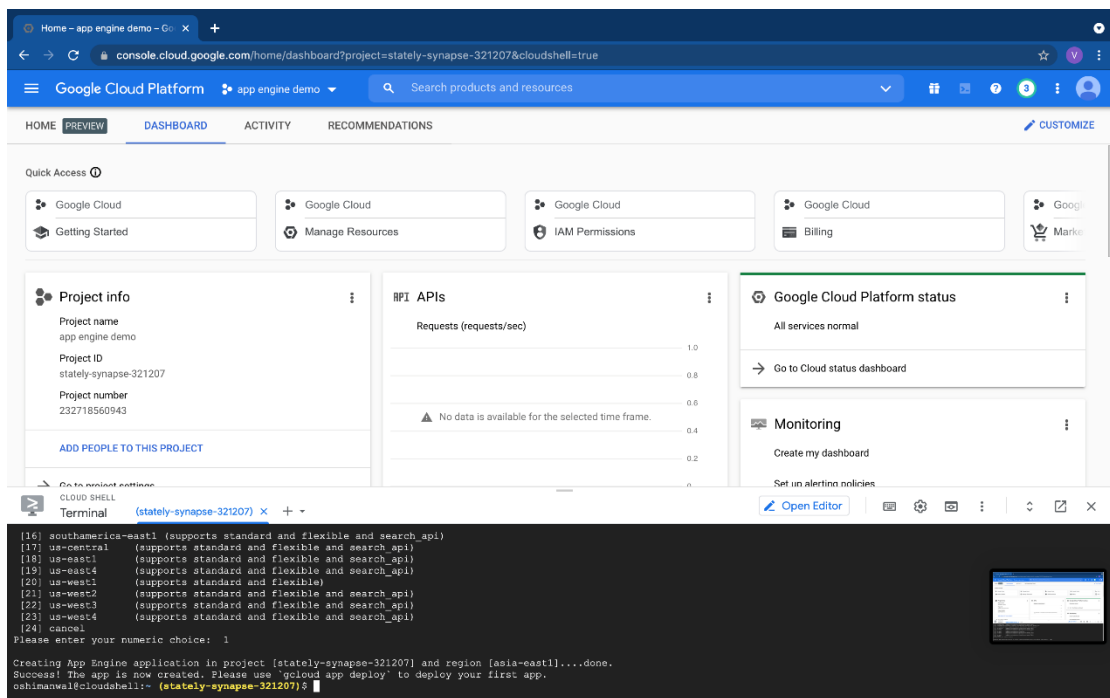
Please choose the region where you want your App Engine application
located:

(1) asia-east1 (supports standard and flexible)
(2) asia-east2 (supports standard and flexible and search_api)
(3) asia-northeast1 (supports standard and flexible and search_api)
(4) asia-northeast2 (supports standard and flexible and search_api)
(5) asia-northeast3 (supports standard and flexible and search_api)
```

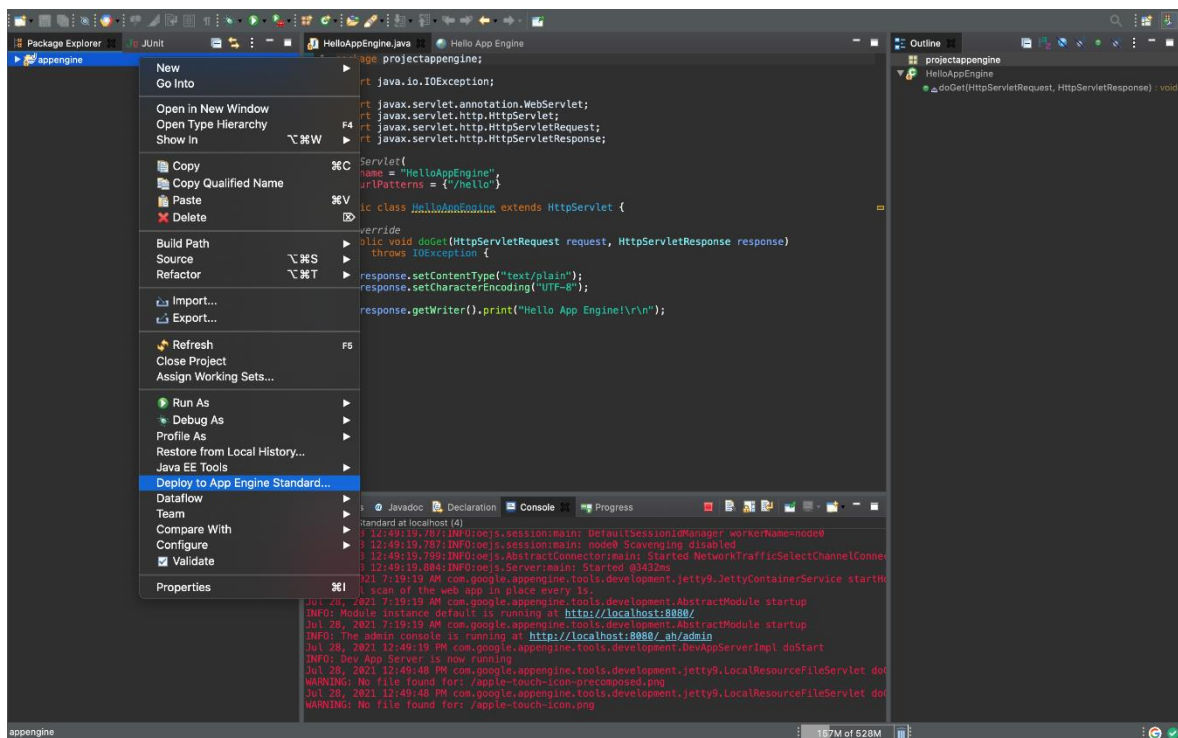
The screenshot shows the Google Cloud Platform console with the 'DASHBOARD' tab selected. The 'Terminal' window at the bottom displays the following output:

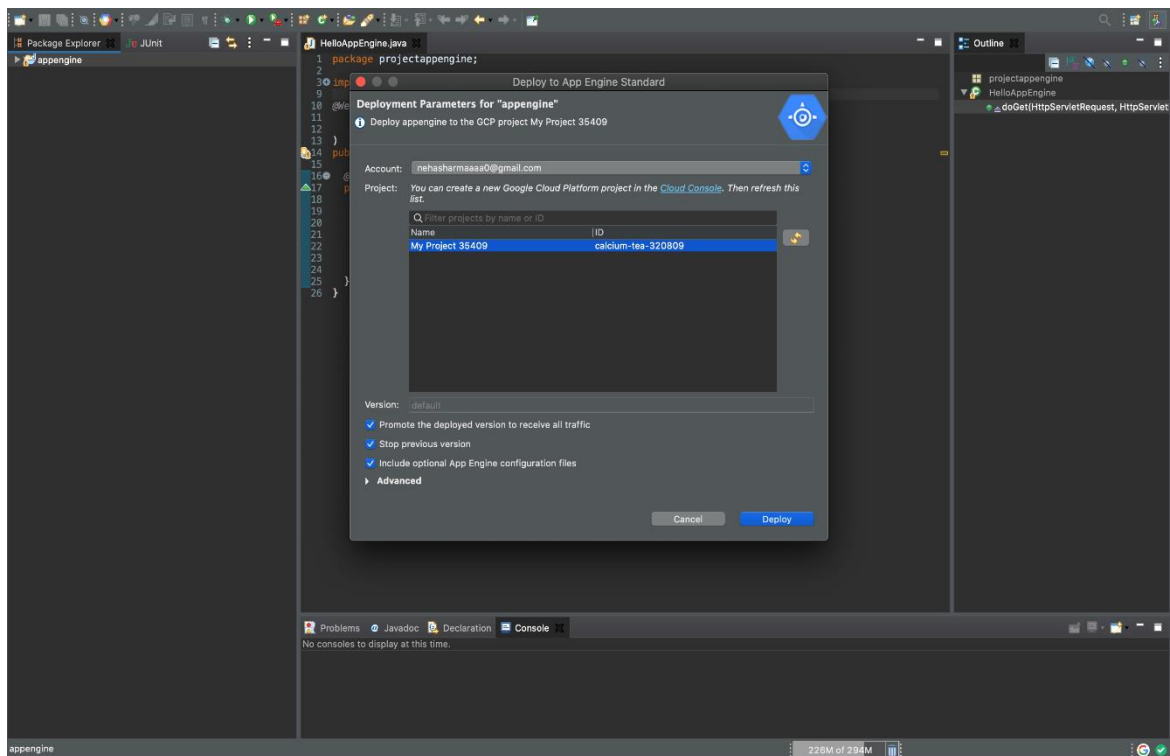
```
(12) europe-west2 (supports standard and flexible and search_api)
(13) europe-west3 (supports standard and flexible and search_api)
(14) europe-west6 (supports standard and flexible and search_api)
(15) northamerica-northeast1 (supports standard and flexible and search_api)
(16) southamerica-east1 (supports standard and flexible and search_api)
(17) us-central1 (supports standard and flexible and search_api)
(18) us-east1 (supports standard and flexible and search_api)
(19) us-east4 (supports standard and flexible and search_api)
(20) us-west1 (supports standard and flexible)
(21) us-west2 (supports standard and flexible and search_api)
(22) us-west3 (supports standard and flexible and search_api)
(23) us-west4 (supports standard and flexible and search_api)
(24) cancel

Please enter your numeric choice: 1
```



Step 9: Sign in to your google account in eclipse and connect your project to deploy your application. To do so right click on your project and press 'deploy to app engine standard'.





Now click deploy, your app engine application will be deployed to Google cloud platform.