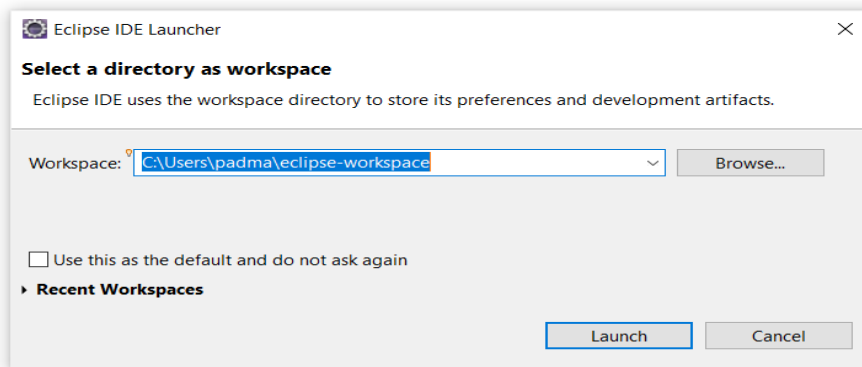


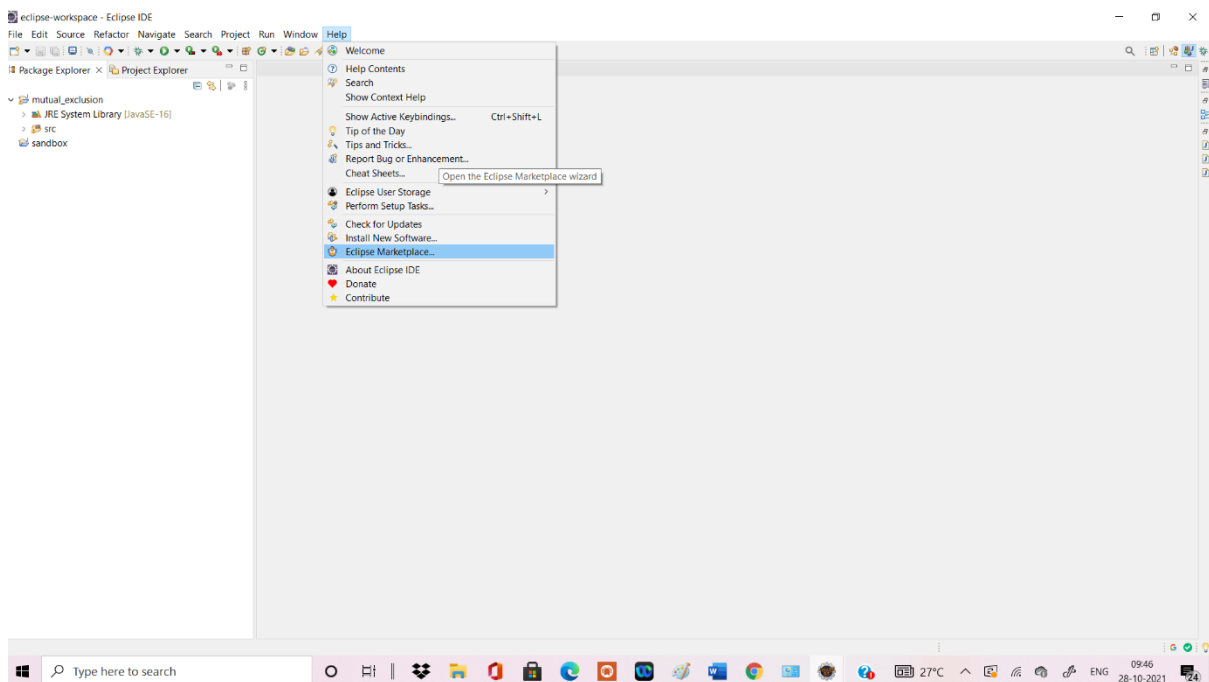
Write a Program to developed an Application using Google App Engine by using Eclipse IDE

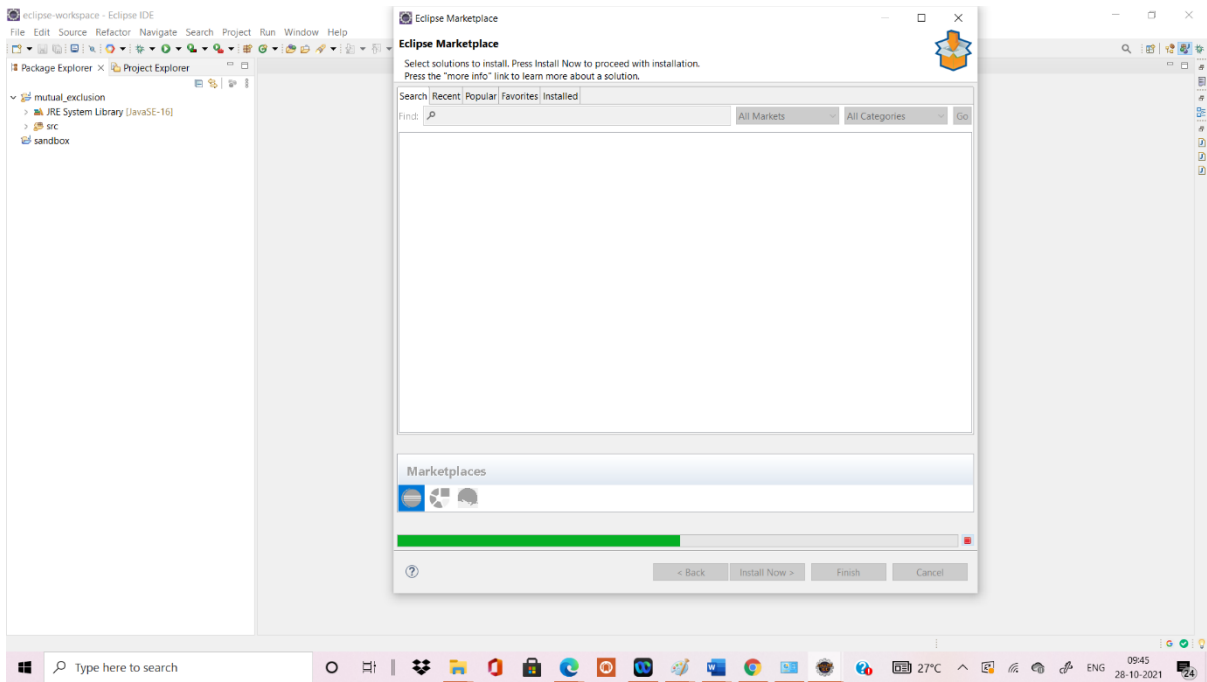
Step 1



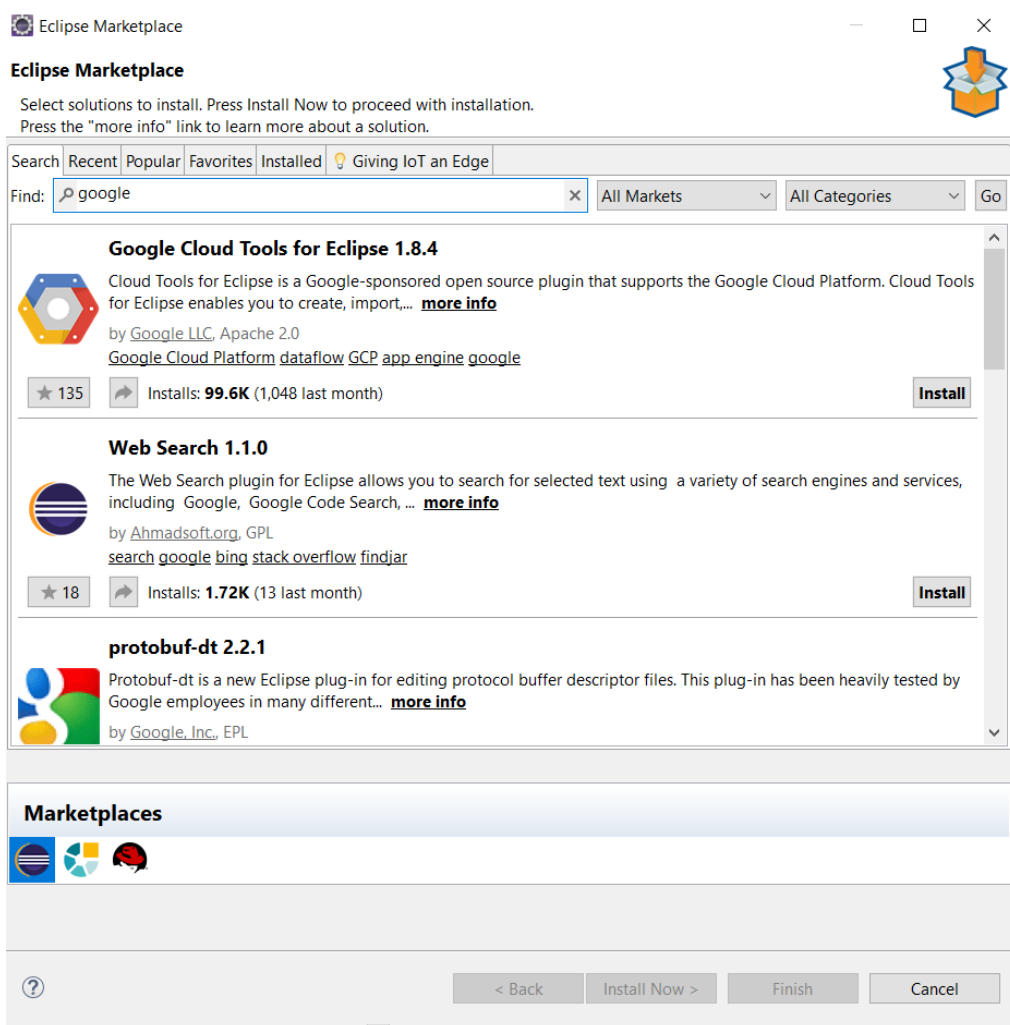
After Creating Workspace below screen will appear

Click on **HELP->Eclipse Marketplace**





Once the Eclipse Marketplace window appear in search textbox write **google** click on enter



Click on Confirm

Eclipse Marketplace

Confirm Selected Features

Press Confirm to continue with the installation. Or go back to choose more solutions to install.



- Google Cloud Tools for Eclipse 1.8.4 <https://dl.google.com/eclipse/google-cloud-eclipse/stable/>
 - Google Cloud Platform for Eclipse (required)
 - YEdit Feature



< Install More

Confirm >

Finish

Cancel

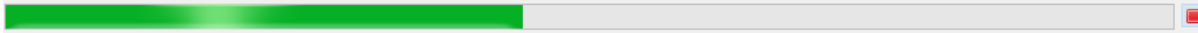
Confirm Selected Features



Press Confirm to continue with the installation. Or go back to choose more solutions to install.

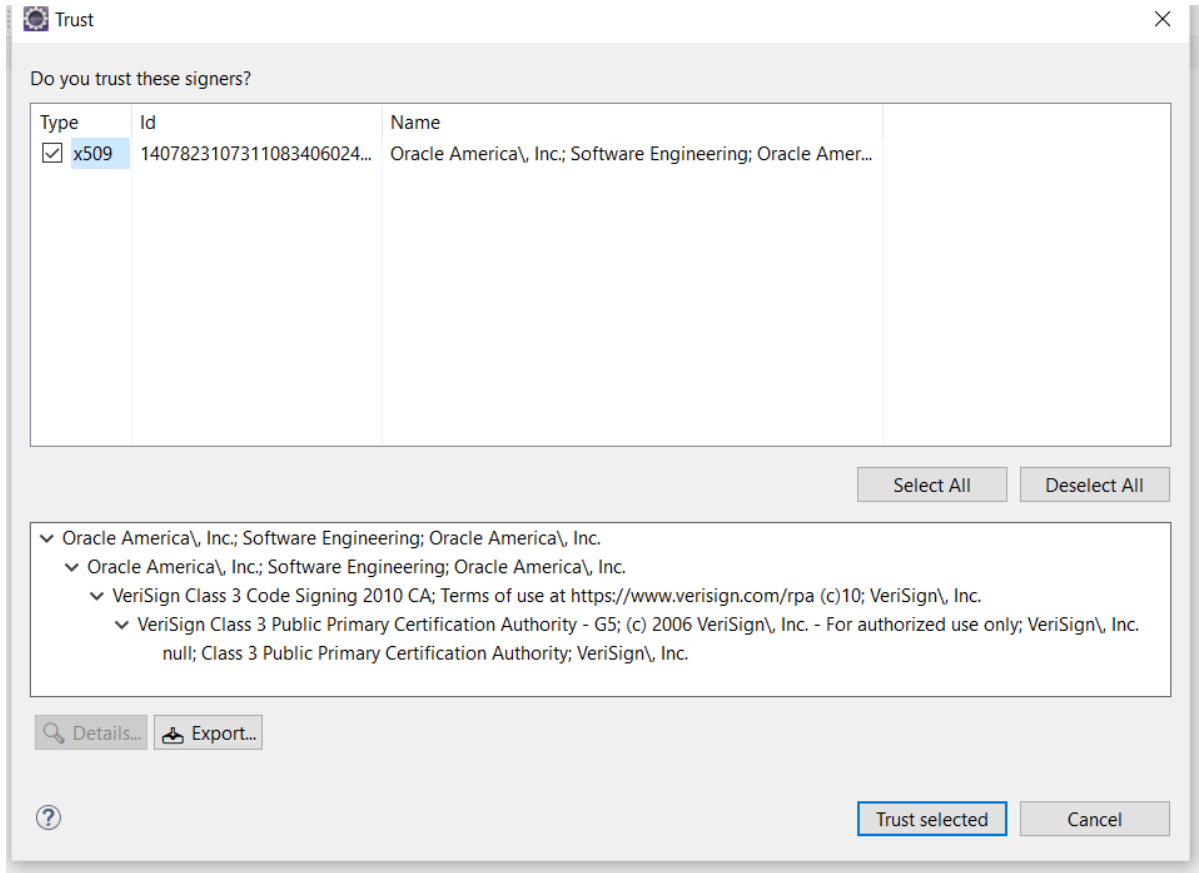
- ▼ Google Cloud Tools for Eclipse 1.8.4 <https://dl.google.com/eclipse/google-cloud-eclipse/stable/>
 - Google Cloud Platform for Eclipse (required)
 - YEdit Feature

Calculating requirements and dependencies.

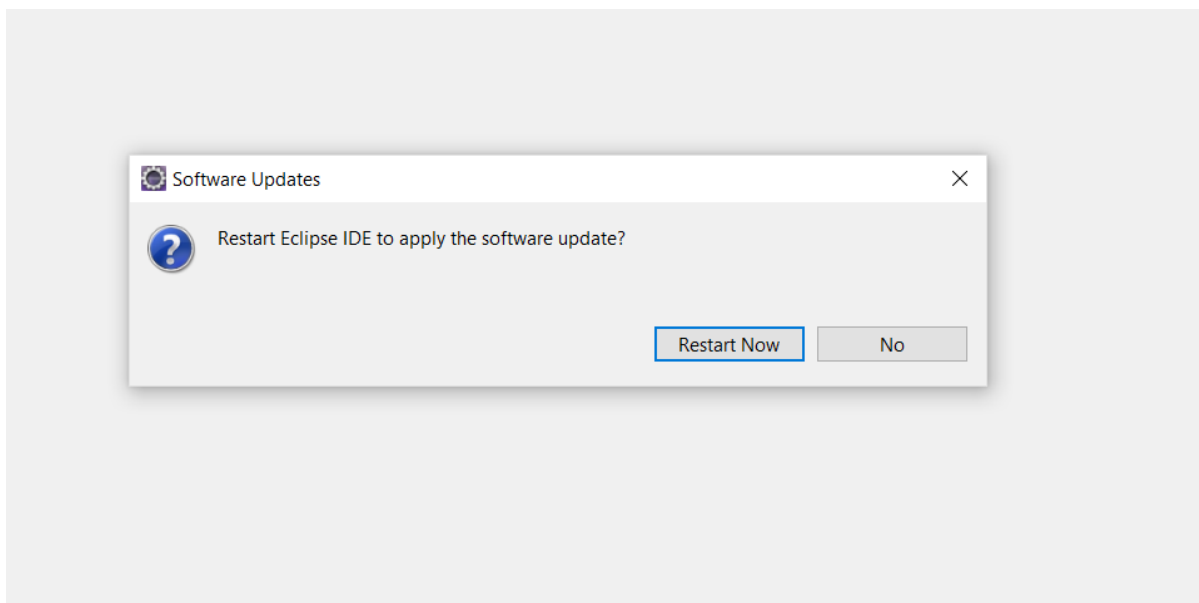


< Install More Confirm > Finish Cancel

Once the below window appear click on **trust selected**



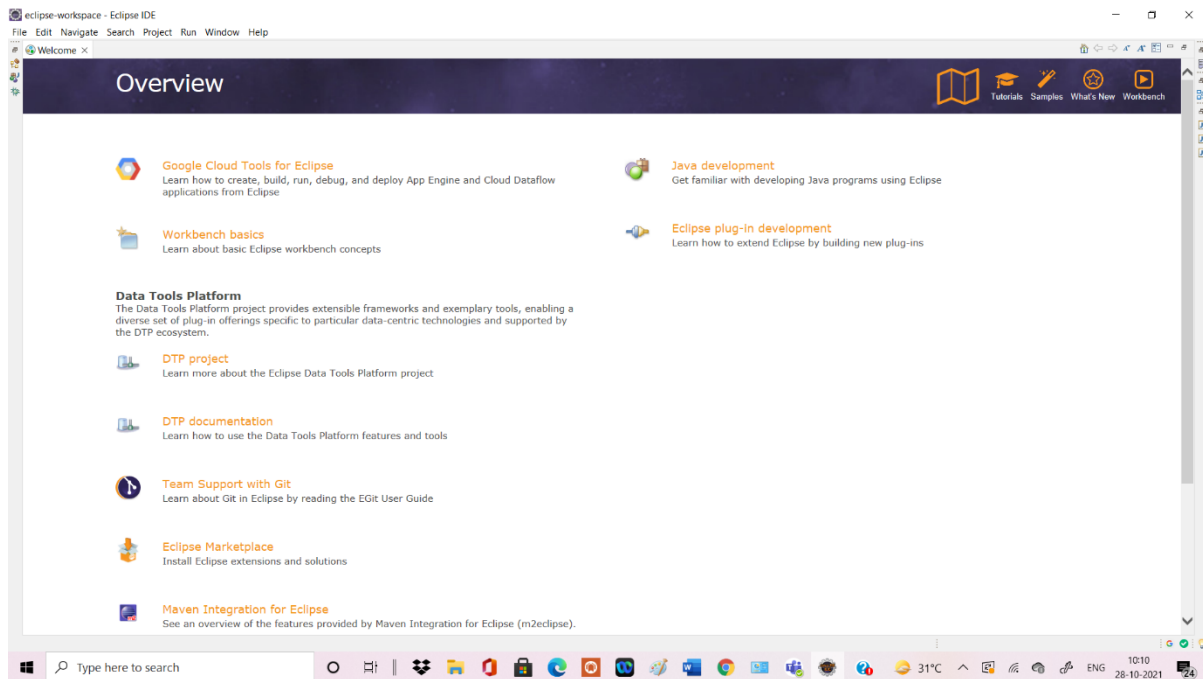
Click on restart now



Below window will appear



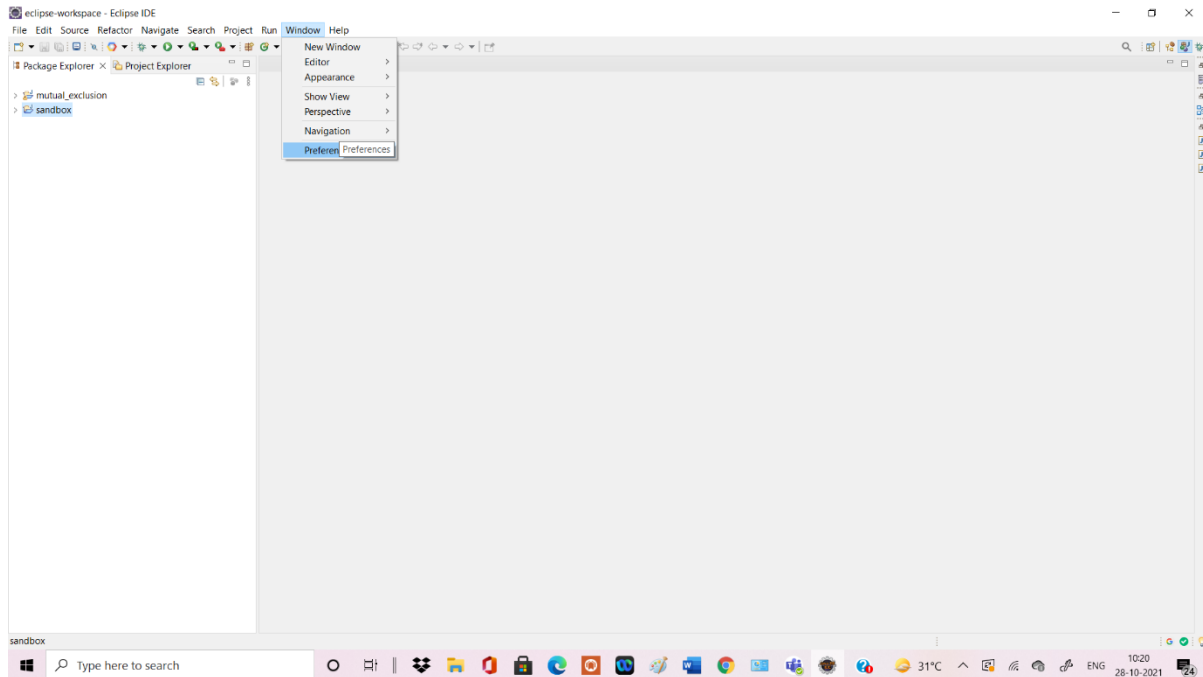
Below window will appear **close the welcome page**



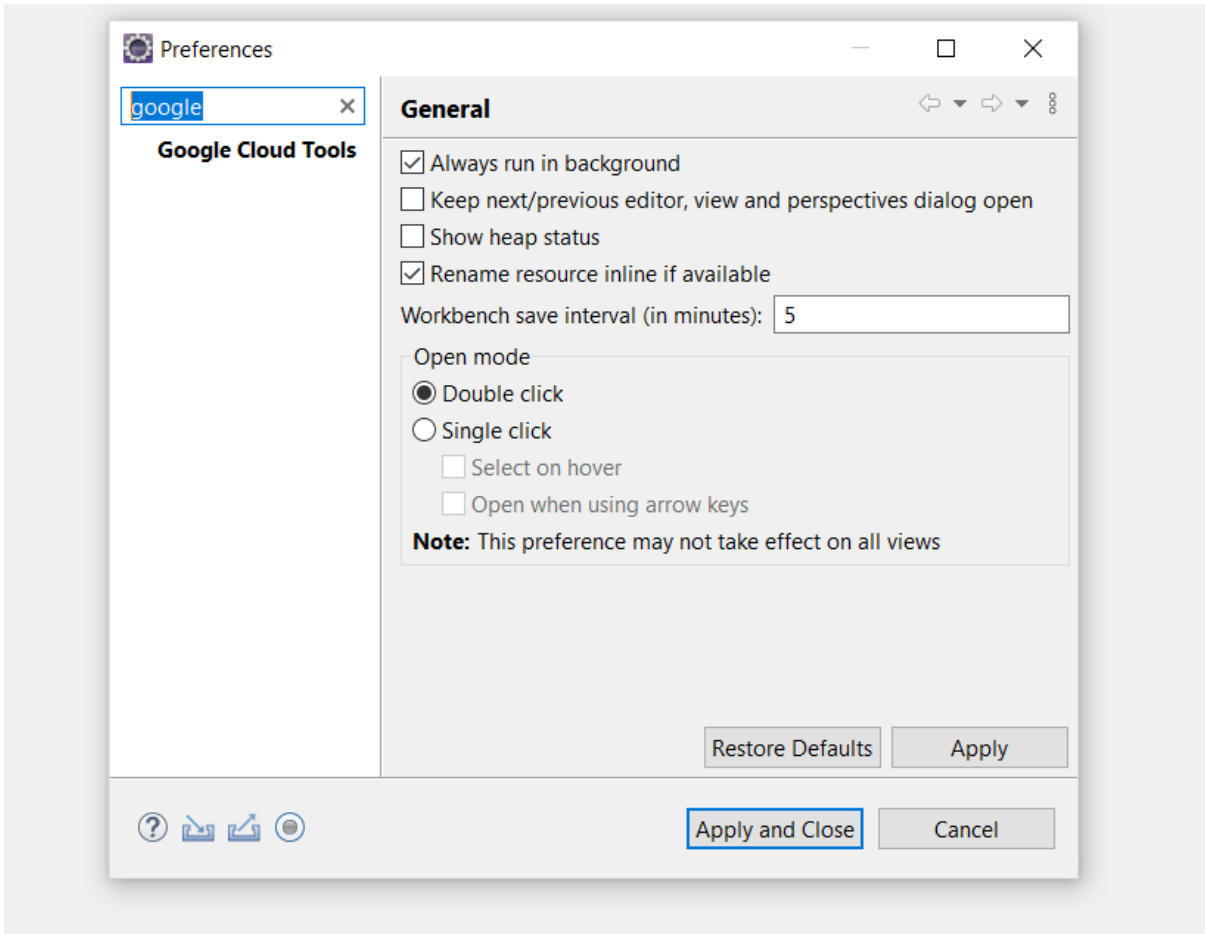
Step 2

This Step is optional(if tools doesn't get installed)

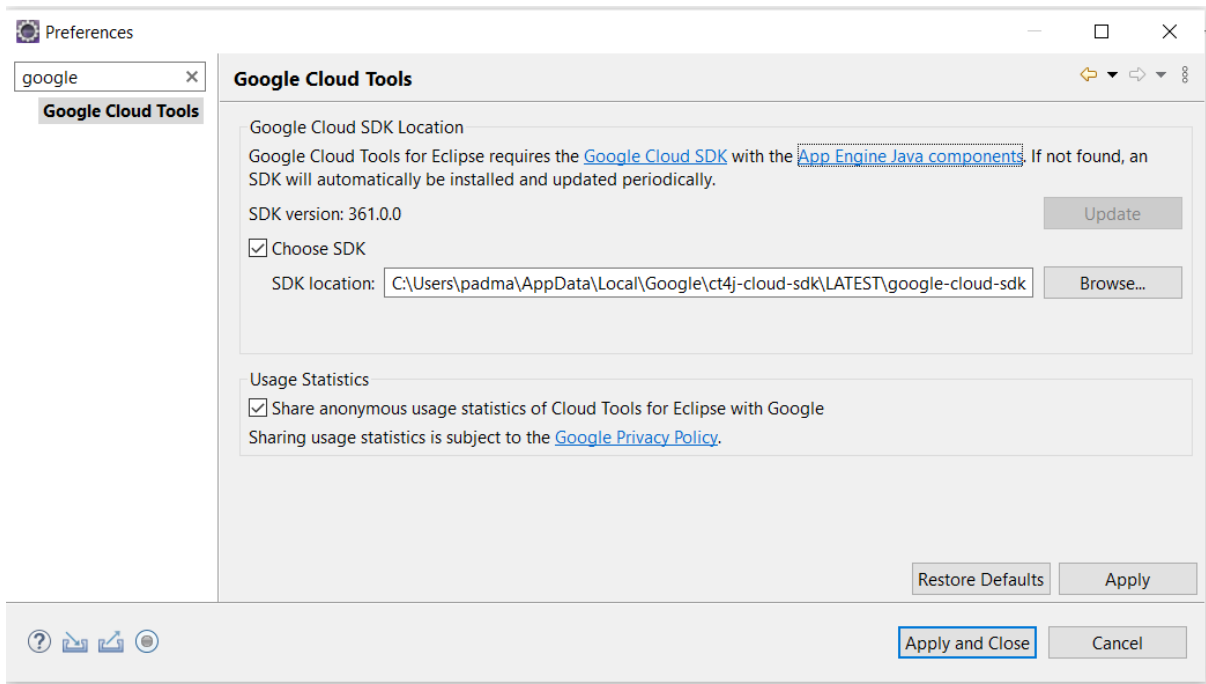
Once the eclipse window appear -click on **WINDOW->PREFERENCES**



Below Preferences window will appear **SEARCH FOR GOOGLE**



Click for **APP ENGINE JAVA COMPONENTS** and click on **APPLY AND CLOSE**

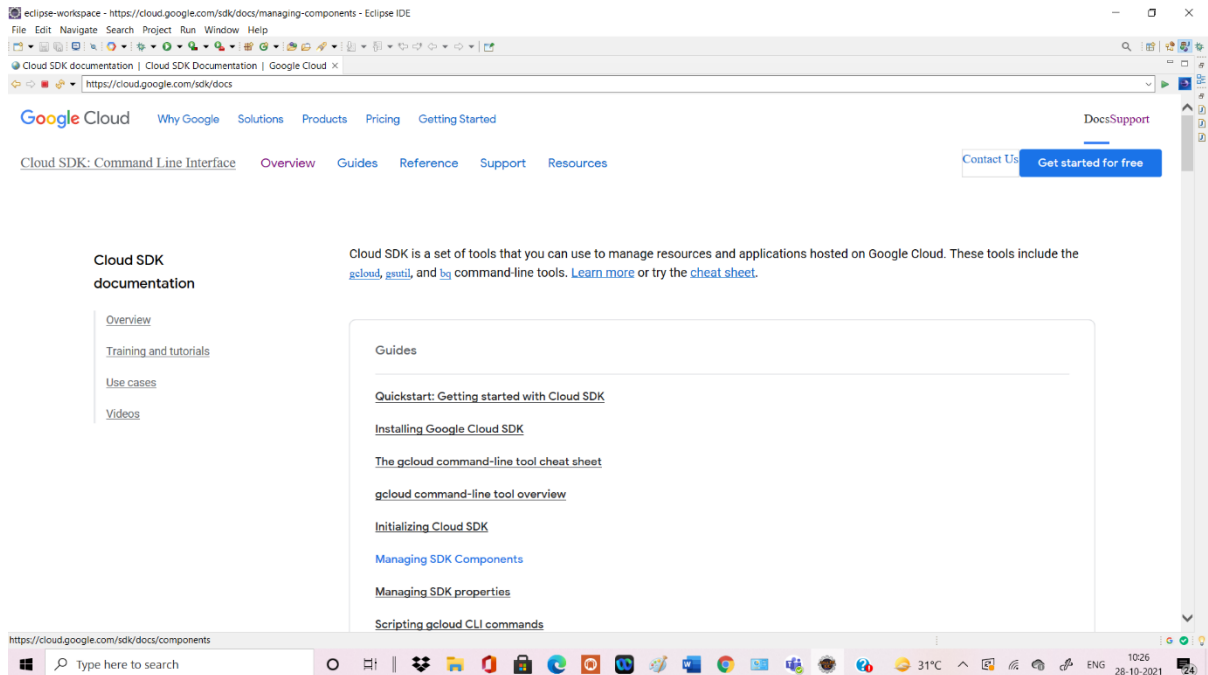


If below Screen does not appear

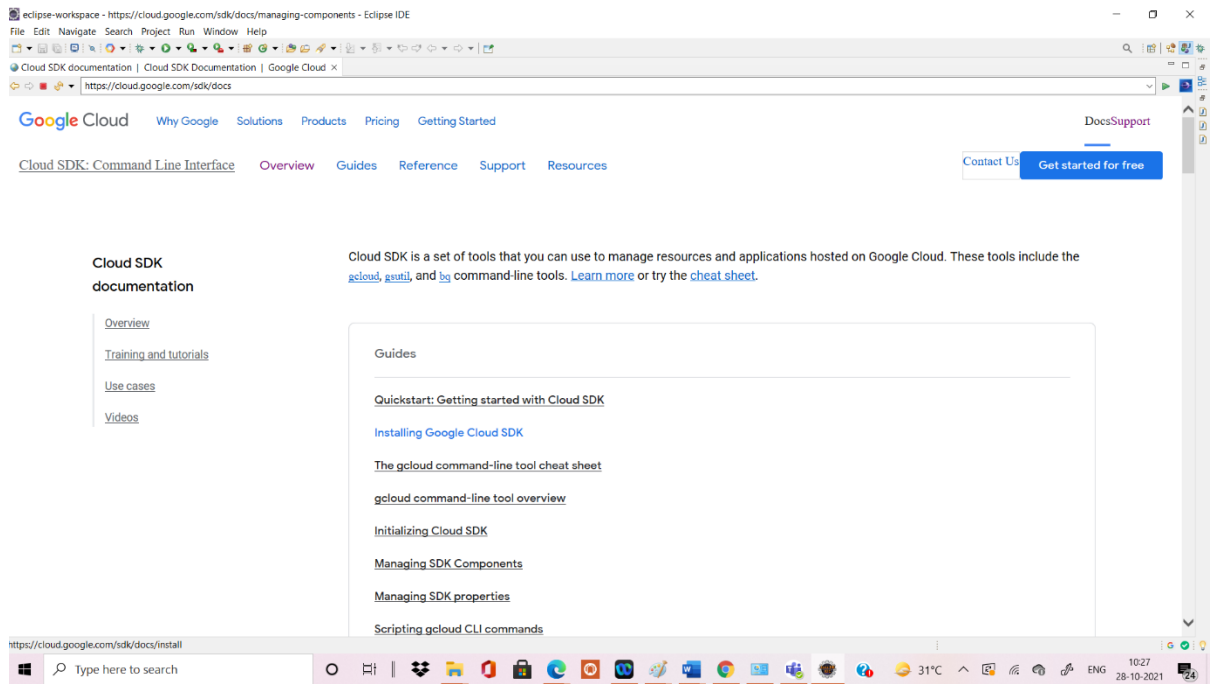
Click on below click

Link: <https://cloud.google.com/sdk/docs/components>

Below screen will appear

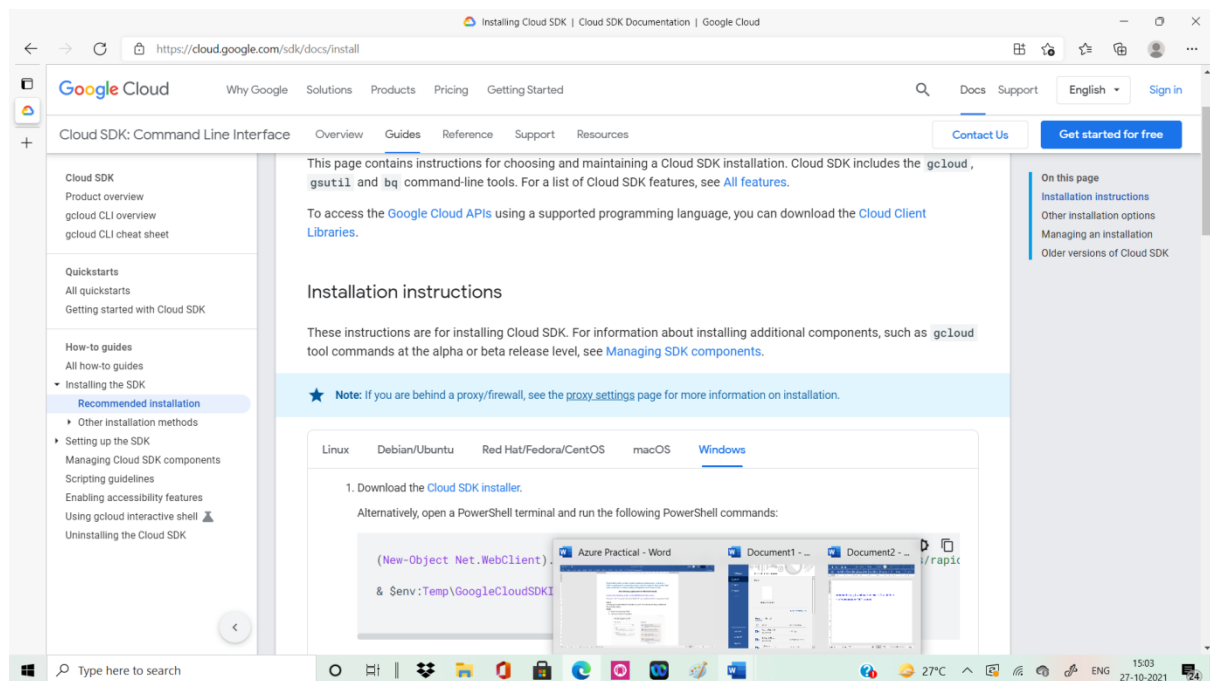


Click on **installing Google Cloud SDK**

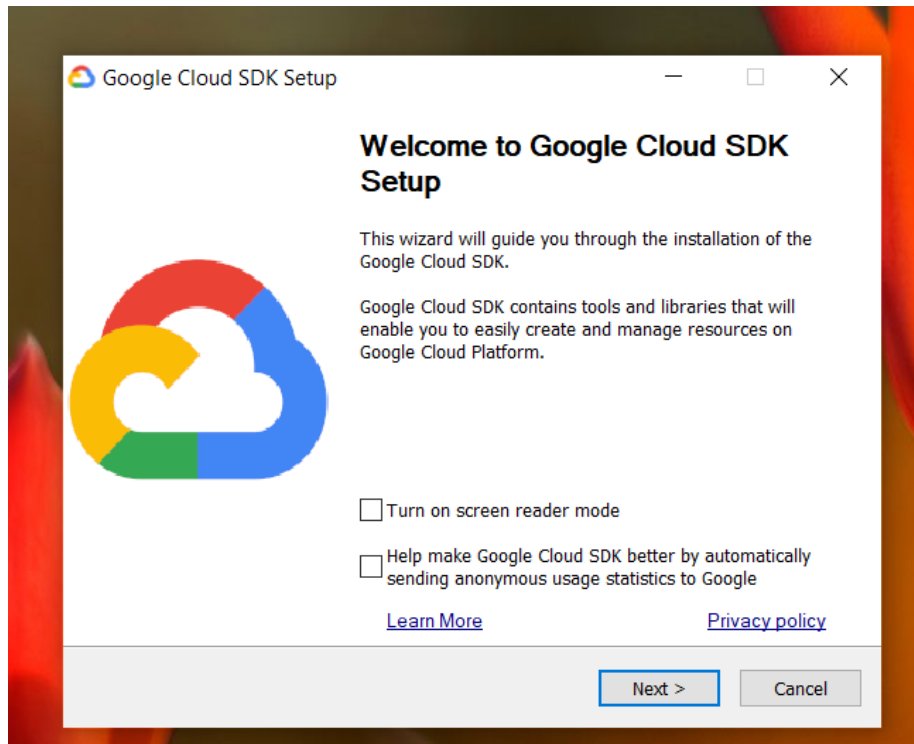


2. [Installing Cloud SDK | Cloud SDK Documentation | Google Cloud](https://cloud.google.com/sdk/docs/install)

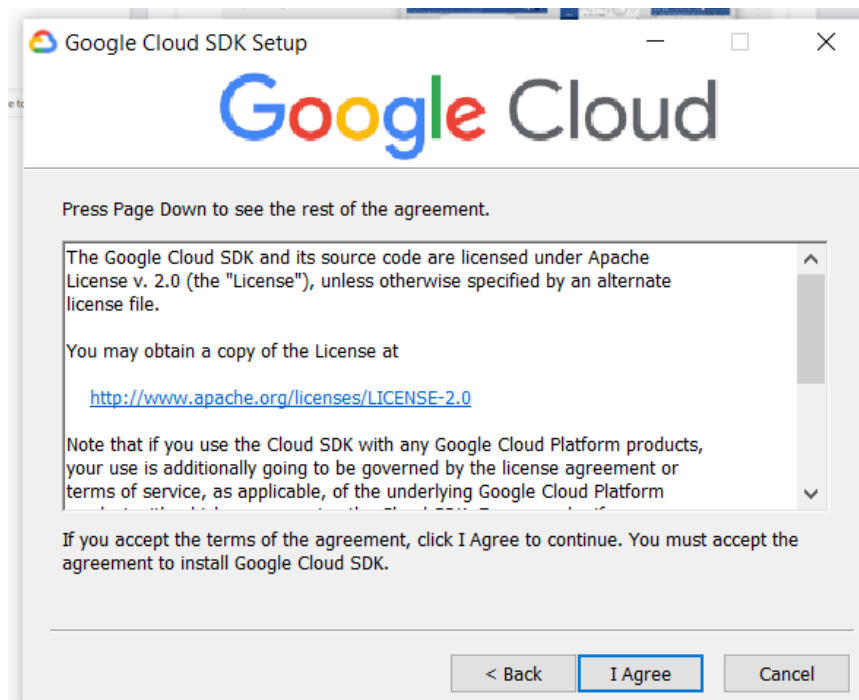
<https://cloud.google.com/sdk/docs/install>

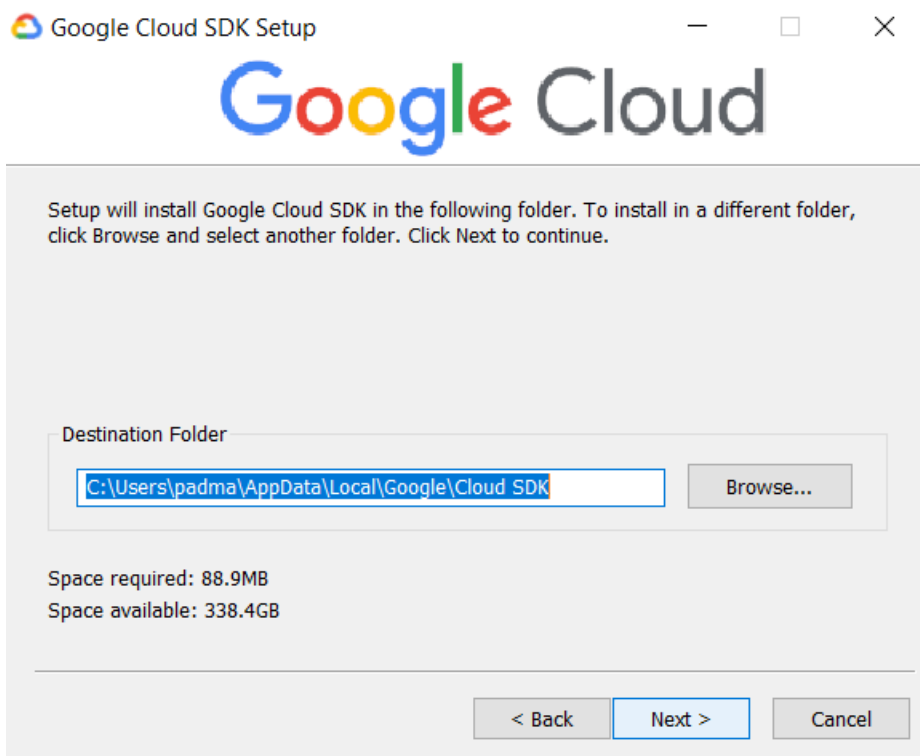
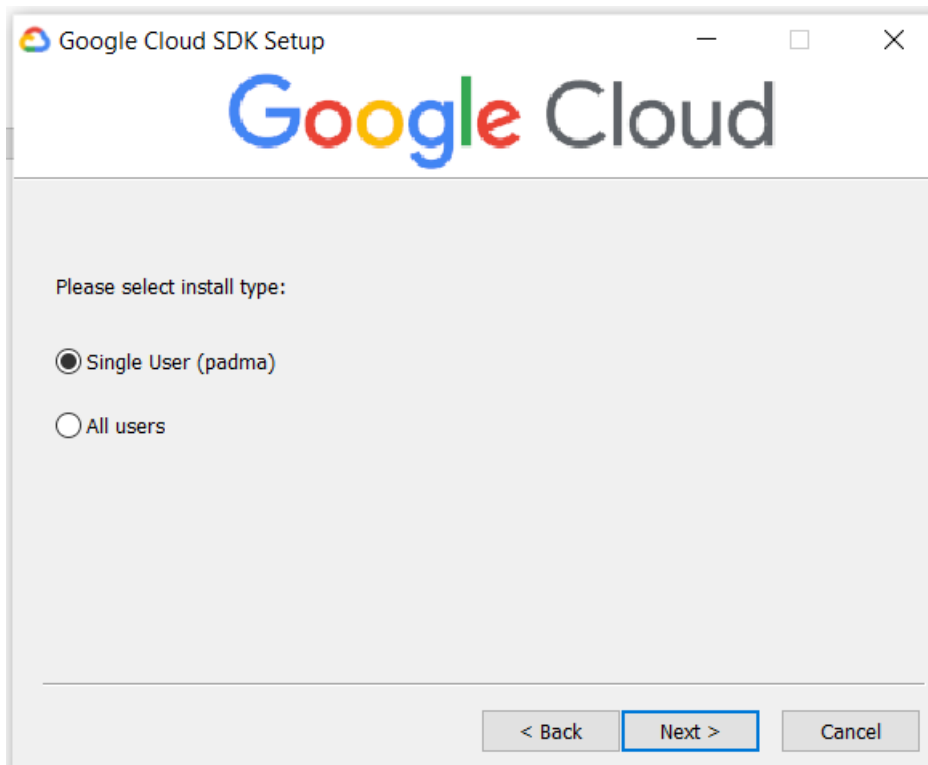


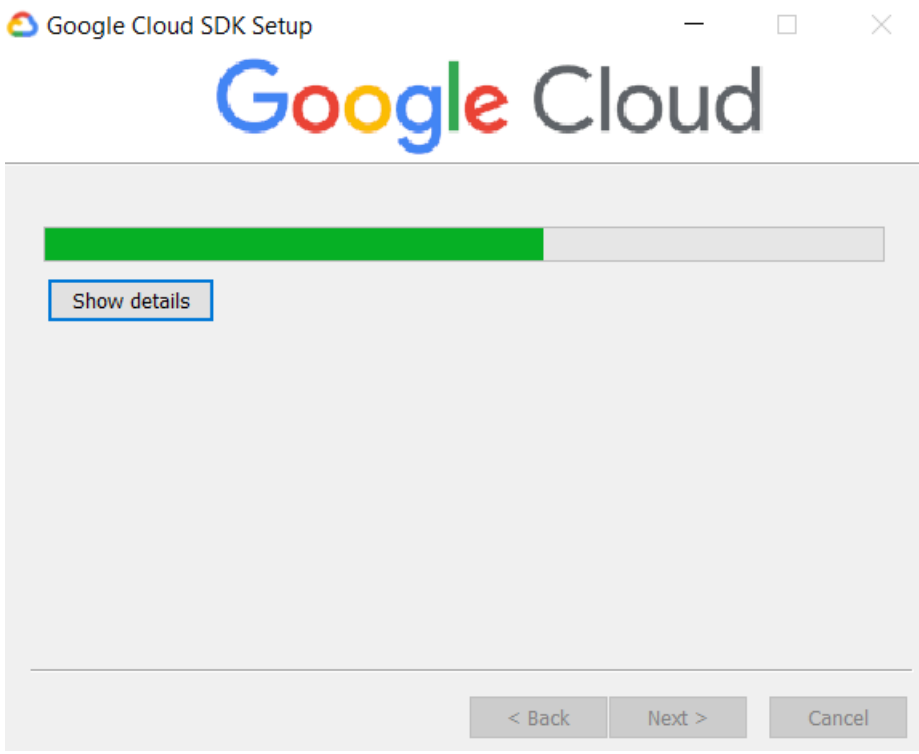
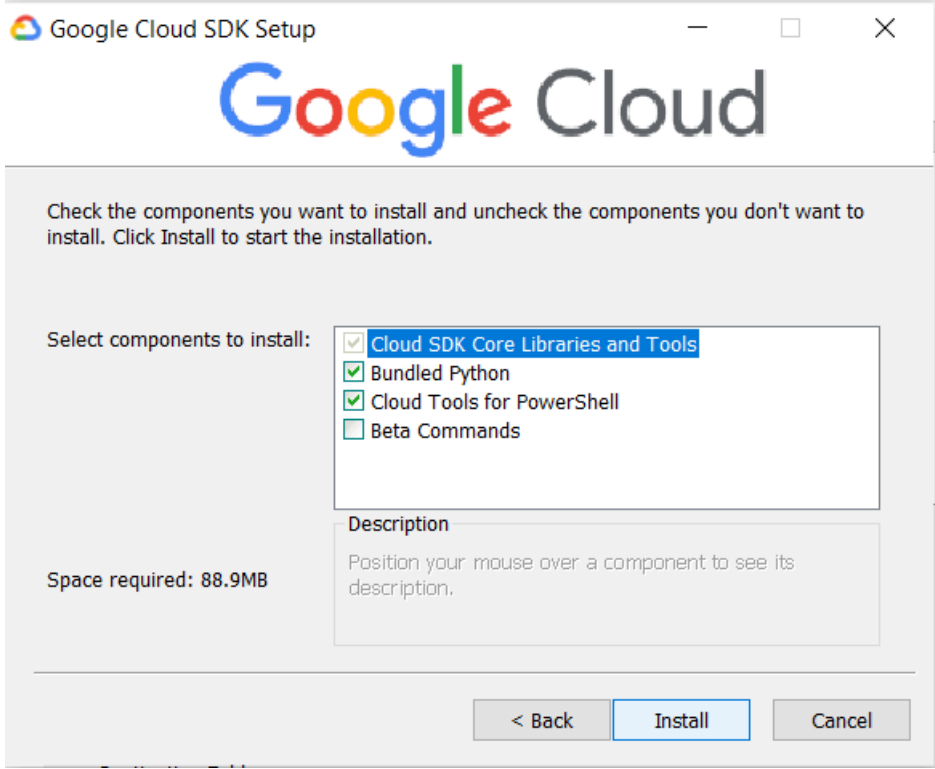
3.

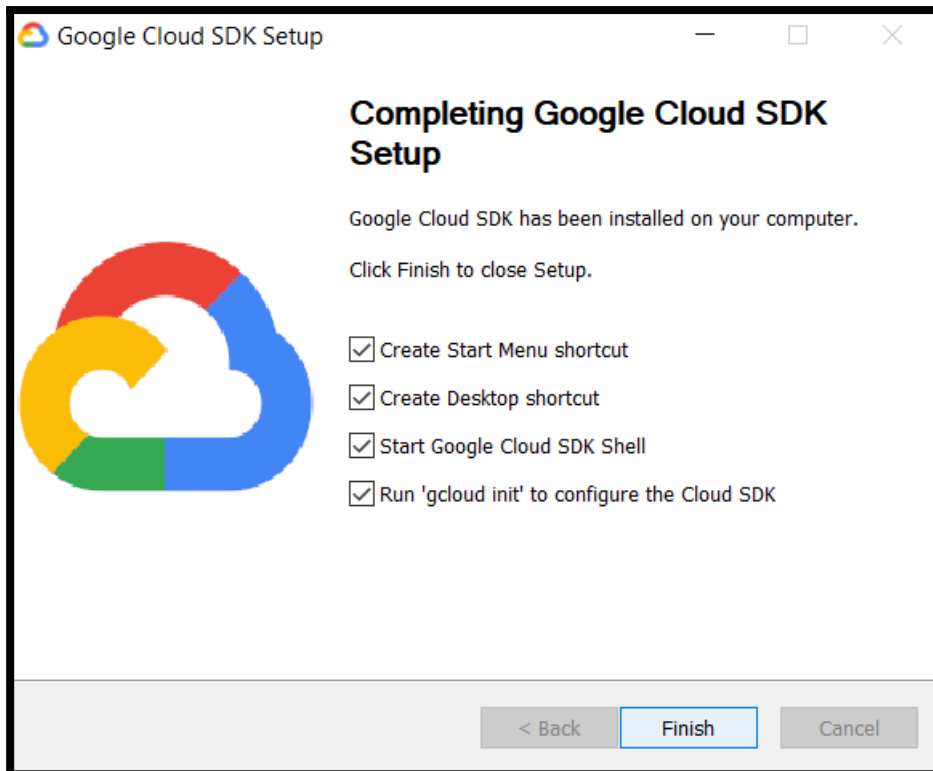


4









Below **gcloud init** Command Prompt will appear

```
gcloud init
Welcome to the Google Cloud SDK! Run "gcloud -h" to get the list of available commands.
---
Welcome! This command will take you through the configuration of gcloud.
Your current configuration has been set to: [default]
You can skip diagnostics next time by using the following flag:
  gcloud init --skip-diagnostics
Network diagnostic detects and fixes local network connection issues.

Checking network connection...done.
Reachability Check passed.
Network diagnostic (1/1 checks) passed.
You must log in to continue. Would you like to log in (Y/n)?
```

Choose the **option Log in with a new account**

```
C:\Windows\system32\cmd.exe
Welcome! This command will take you through the configuration of gcloud.

Settings from your current configuration [default] are:
accessibility:
  screen_reader: 'False'
core:
  account: mishrapadma1988@gmail.com
  disable_usage_reporting: 'True'

Pick configuration to use:
[1] Re-initialize this configuration [default] with new settings
[2] Create a new configuration
[3] Switch to and re-initialize existing configuration: [demo1]
Please enter your numeric choice: 3

Your current configuration has been set to: [demo1]

You can skip diagnostics next time by using the following flag:
gcloud init --skip-diagnostics

Network diagnostic detects and fixes local network connection issues.
Checking network connection...done.
Reachability Check passed.
Network diagnostic passed (1/1 checks passed).

Choose the account you would like to use to perform operations for this configuration:
[1] mishrapadma1988@gmail.com
[2] padmamishra286@gmail.com
[3] Log in with a new account
Please enter your numeric choice:
```

```
Google Cloud SDK Shell - gcloud init
[1] Re-initialize this configuration [demo1] with new settings
[2] Create a new configuration
[3] Switch to and re-initialize existing configuration: [default]
Please enter your numeric choice: 3

Your current configuration has been set to: [default]

You can skip diagnostics next time by using the following flag:
gcloud init --skip-diagnostics


Network diagnostic detects and fixes local network connection issues.
Checking network connection...done.
Reachability Check passed.
Network diagnostic passed (1/1 checks passed).


Choose the account you would like to use to perform operations for this configuration:
[1] mishrapadma1988@gmail.com
[2] padmamishra286@gmail.com
[3] Log in with a new account
Please enter your numeric choice: 3

Your browser has been opened to visit:

  https://accounts.google.com/o/oauth2/auth?response_type=code&client_id=32555940559.apps.googleusercontent.com&redirect_uri=http%3A%2F%2Flocalhost%3A8085%2F&scope=openid+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fuserinfo.email+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fcloud-platform+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fappengine.admin+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fcompute+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Faccounts.reauth&state=5zt3snVNoUu5k3yU0YzW7ZwnIJAsJE&access_type=offline&code_challenge=U2ij9gBye-i1Q5nmh3Aj63gBbXcERQ04LVJzQisqxk&code_challenge_method=S256
```


Once you choose **options Login with a new account** below screen will appear **sign in with Google**


 Sign in with Google



Choose an account

to continue to [Google Cloud SDK](#)

 **Padma Mishra**
padmamishra122021@gmail.com

 Use another account

To continue, Google will share your name, email address, language preference, and profile picture with Google Cloud SDK.

English (United States) ▼

[Help](#)

[Privacy](#)

[Terms](#)

Choose a Gmail Account which you want to continue with then below screen will appear.




Then **Click -> Allow**



Google Cloud SDK wants to access your Google Account

 padmamishra122021@gmail.com

This will allow **Google Cloud SDK** to:

- See, edit, configure and delete your Google Cloud data and see the email address for your Google Account. 
- View and manage your Google Compute Engine resources 
- View and manage your applications deployed on Google App Engine 

Make sure that you trust Google Cloud SDK

You may be sharing sensitive info with this site or app. You can always see or remove access in your [Google Account](#).

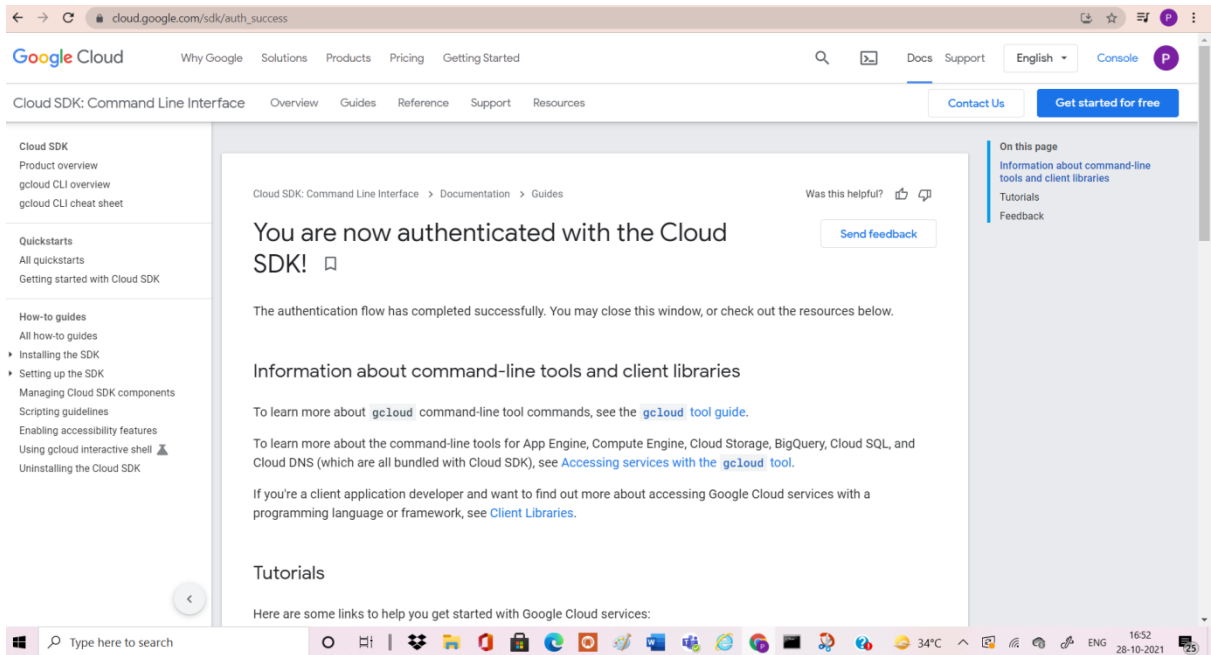
Learn how Google helps you [share data safely](#).

See Google Cloud SDK's privacy policy and Terms of Service.

Cancel

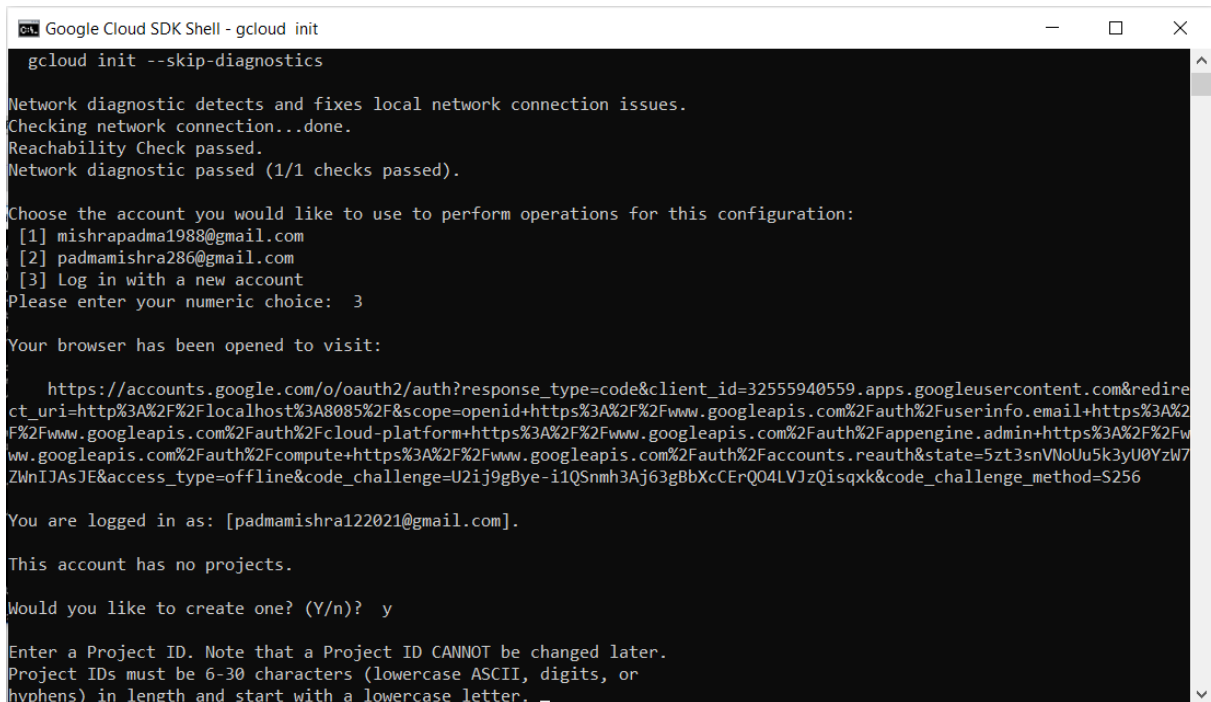
Allow

Below **Screen will appear** you are now authenticated with the cloud SDK!



Below screen will appear

1. It will show list of project in your account **if you receive the message this account has no projects.**
2. **Then create new projects**



To update your SDK Installation to the latest version below command need to run

\$ **gcloud components update;**

```
Google Cloud SDK Shell
Not Installed | Cloud Pub/Sub Emulator | pubsub-emulator | 60.7 MiB
Not Installed | Cloud SQL Proxy | cloud_sql_proxy | 7.2 MiB
Not Installed | Emulator Reverse Proxy | emulator-reverse-proxy | 14.5 MiB
Not Installed | Google Container Registry's Docker credential helper | docker-credential-gcr | 1.8 MiB
Not Installed | Minikube | minikube | 27.1 MiB
Not Installed | Skaffold | skaffold | 18.9 MiB
Not Installed | anthos-auth | anthos-auth | 18.1 MiB
Not Installed | config-connector | config-connector | 45.0 MiB
Not Installed | gcloud Alpha Commands | alpha | < 1 MiB
Not Installed | gcloud Beta Commands | beta | < 1 MiB
Not Installed | gcloud app Java Extensions | app-engine-java | 52.7 MiB
Not Installed | gcloud app PHP Extensions | app-engine-php | 19.1 MiB
Not Installed | gcloud app Python Extensions | app-engine-python | 7.8 MiB
Not Installed | gcloud app Python Extensions (Extra Libraries) | app-engine-python-extras | 26.4 MiB
Not Installed | kubect1 | kubect1 | < 1 MiB
Not Installed | kubect1-oidc | kubect1-oidc | 18.1 MiB
Not Installed | pkg | pkg |
Installed | BigQuery Command Line Tool | bq | < 1 MiB
Installed | Cloud SDK Core Libraries | core | 20.7 MiB
Installed | Cloud Storage Command Line Tool | gsutil | 8.1 MiB
-----
To install or remove components at your current SDK version [362.0.0], run:
$ gcloud components install COMPONENT_ID
$ gcloud components remove COMPONENT_ID

To update your SDK installation to the latest version [362.0.0], run:
$ gcloud components update

C:\Users\padma\AppData\Local\Google\Cloud SDK>
```

```
cmd.exe /c "C:\Users\padma\AppData\Local\Temp\tmpmatlevf8\python\python.exe" "-S" "C:\Users\padma\AppData\Local\Googl...
App Engine Go Extensions | 1.9.71 | 4.8 MiB |
Cloud Datastore Emulator | 2.1.0 | 18.4 MiB |
gRPC Python library | 1.20.0 | 1.5 MiB |
gcloud app Python Extensions | 1.9.96 | 7.8 MiB |
-----
For the latest full release notes, please visit:
https://cloud.google.com/sdk/release_notes

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

#-=====#
#- Creating update staging area =#
#-=====#
#- Installing: App Engine Go Extensions =#
#-=====#
#- Installing: App Engine Go Extensions =#
#-=====#
#- Installing: Cloud Datastore Emulator =#
#-=====#
#- Installing: gRPC Python library =#
#-=====#
#- Installing: gRPC Python library =#
#-=====#
#- Installing: gcloud app Python Extensions =#
#-=====#
#- Creating backup and activating new installation =#
#-=====#

Performing post processing steps...\
```

```
Google Cloud SDK Shell
C:\Users\padma\AppData\Local\Google\Cloud SDK>gcloud components update
To help improve the quality of this product, we collect anonymized usage data and anonymized stacktraces when crashes
are encountered; additional information is available at <https://cloud.google.com/sdk/usage-statistics>. This data is
handled in accordance with our privacy policy <https://cloud.google.com/terms/cloud-privacy-notice>. You may choose to
opt in this collection now (by choosing 'Y' at the below prompt), or at any time in the future by running the following
command:

  gcloud config set disable_usage_reporting false

Do you want to opt-in (y/N)? y
Beginning update. This process may take several minutes.

All components are up to date.

C:\Users\padma\AppData\Local\Google\Cloud SDK> gcloud config set disable_usage_reporting false
Updated property [core/disable_usage_reporting].

C:\Users\padma\AppData\Local\Google\Cloud SDK>gcloud components install app-engine-go

Restarting command:
$ gcloud components install app-engine-go

C:\Users\padma\AppData\Local\Google\Cloud SDK>
```

```

Google Cloud SDK Shell
-----
Not Installed | config-connector | config-connector | 45.0 MiB |
Not Installed | gcloud Alpha Commands | alpha | < 1 MiB |
Not Installed | gcloud Beta Commands | beta | < 1 MiB |
Not Installed | gcloud app Java Extensions | app-engine-java | 52.7 MiB |
Not Installed | gcloud app PHP Extensions | app-engine-php | 19.1 MiB |
Not Installed | gcloud app Python Extensions (Extra Libraries) | app-engine-python-extras | 26.4 MiB |
Not Installed | kubectcl | kubectcl | < 1 MiB |
Not Installed | kubectcl-oidc | kubectcl-oidc | 18.1 MiB |
Not Installed | pkg | pkg |
Installed | App Engine Go Extensions | app-engine-go | 4.8 MiB |
Installed | BigQuery Command Line Tool | bq | < 1 MiB |
Installed | Cloud Datastore Emulator | cloud-datastore-emulator | 18.4 MiB |
Installed | Cloud SDK Core Libraries | core | 20.7 MiB |
Installed | Cloud Storage Command Line Tool | gsutil | 8.1 MiB |
Installed | gcloud app Python Extensions | app-engine-python | 7.8 MiB |
-----
To install or remove components at your current SDK version [362.0.0], run:
$ gcloud components install COMPONENT_ID
$ gcloud components remove COMPONENT_ID

To update your SDK installation to the latest version [362.0.0], run:
$ gcloud components update

C:\Users\padma\AppData\Local\Google\Cloud SDK>gcloud components install app-engine-java

Restarting command:
$ gcloud components install app-engine-java

```

```

cmd.exe /c ""C:\Users\padma\AppData\Local\Temp\tmplaujyd75\python\python.exe" "-S" "C:\Users\padma\AppData\Local\Googl...
-----
our current Cloud SDK version is: 362.0.0
ninstalling components from version: 362.0.0

-----+
These components will be installed. |
-----+
Name | Version | Size |
-----+
gcloud app Java Extensions | 1.9.91 | 52.7 MiB |
-----+

or the latest full release notes, please visit:
https://cloud.google.com/sdk/release\_notes


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

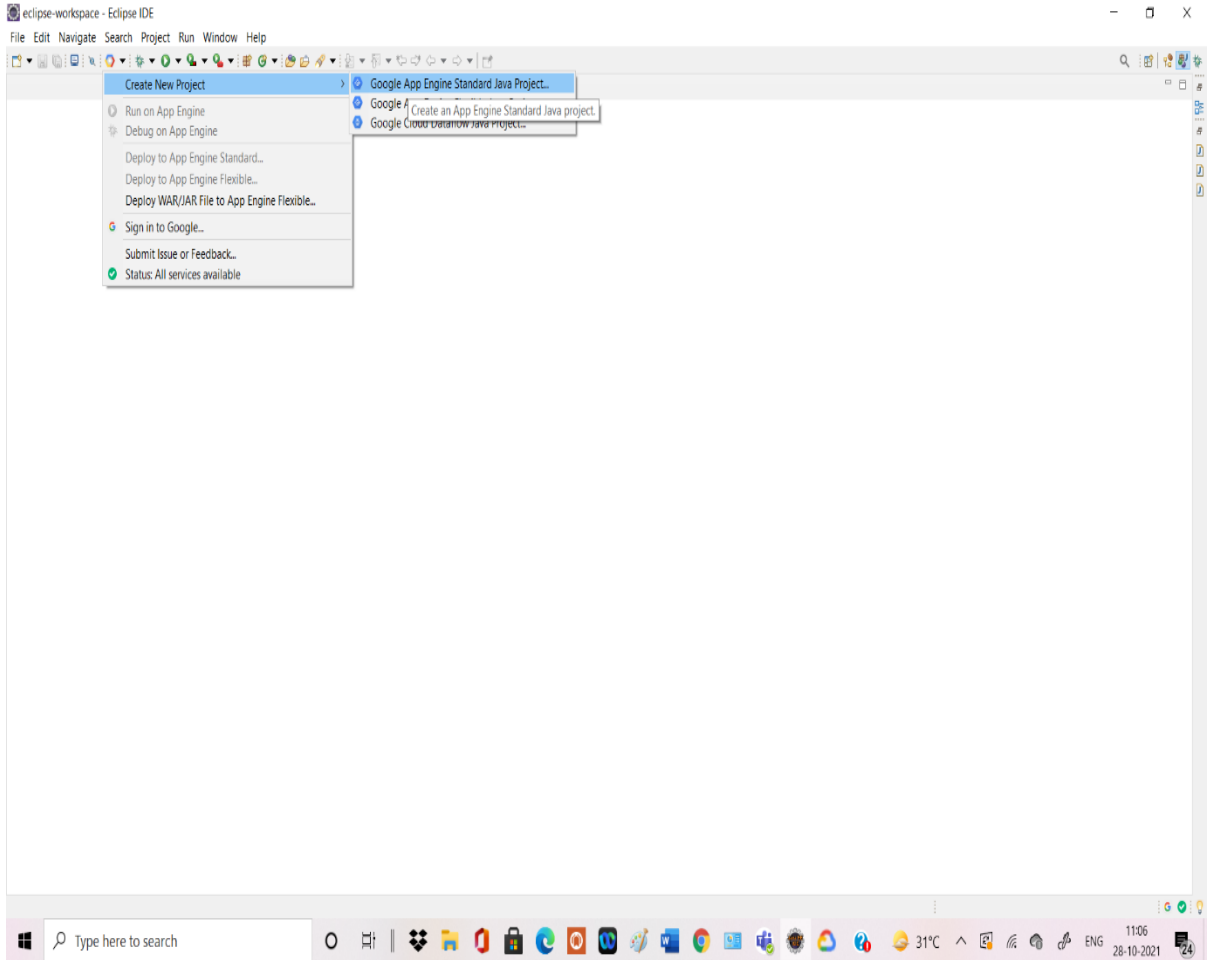
=====
= Creating update staging area =#
=====
= Installing: gcloud app Java Extensions =#

```

Close the command prompt

Step 3

In Eclipse workspace  **click on dropdown ->Click ->Create New Project->Google App Engine Standard Java Project.**



Below screen will appear New App Engine Standard Project

Provide the Project Name & Java Package as mentioned below

Project Name: My SandboxProject

Java Package: com.gonevertical.server.sandbox

Click on Next

New App Engine Standard Project

App Engine Standard Project

Create a new Eclipse project for App Engine standard environment development.

Project name:

Use default location

Location:

Java version:

Java package:

App Engine service:

Create as Maven project

Maven project coordinates

Group ID:

Artifact ID:

Version:

Below screen will appear

FROM App Engine Standard Libraries

Select 1.App Engine API

Select 2.Objectify

3.Click on Finish

Google Cloud Platform Libraries



Additional jars for applications using Google Cloud Platform

App Engine Standard Libraries

- App Engine API
- Google Cloud Endpoints
- Objectify

Cloud Client Libraries for Java

- BigQuery API
- BigQuery Data Transfer API
- Cloud Asset API
- Cloud Auto ML API
- Cloud Container Analysis API
- Cloud Data Loss Prevention
- Cloud Datastore
- Cloud DNS
- Cloud Firestore
- Cloud KMS
- Cloud Natural Language
- Cloud OS Login
- Cloud Pub/Sub
- Cloud Redis
- Cloud Resource Manager
- Cloud Scheduler
- Cloud Security Scanner
- Cloud Spanner
- Cloud Speech
- Cloud Storage
- Cloud Talent Solution
- Cloud Tasks
- Cloud Translation
- Cloud Video Intelligence
- Cloud Vision
- Dialogflow
- IoT Core
- Kubernetes
- Phishing Protection
- reCAPTCHA Enterprise



< Back

Next >

Finish

Cancel

Google Cloud Platform Libraries

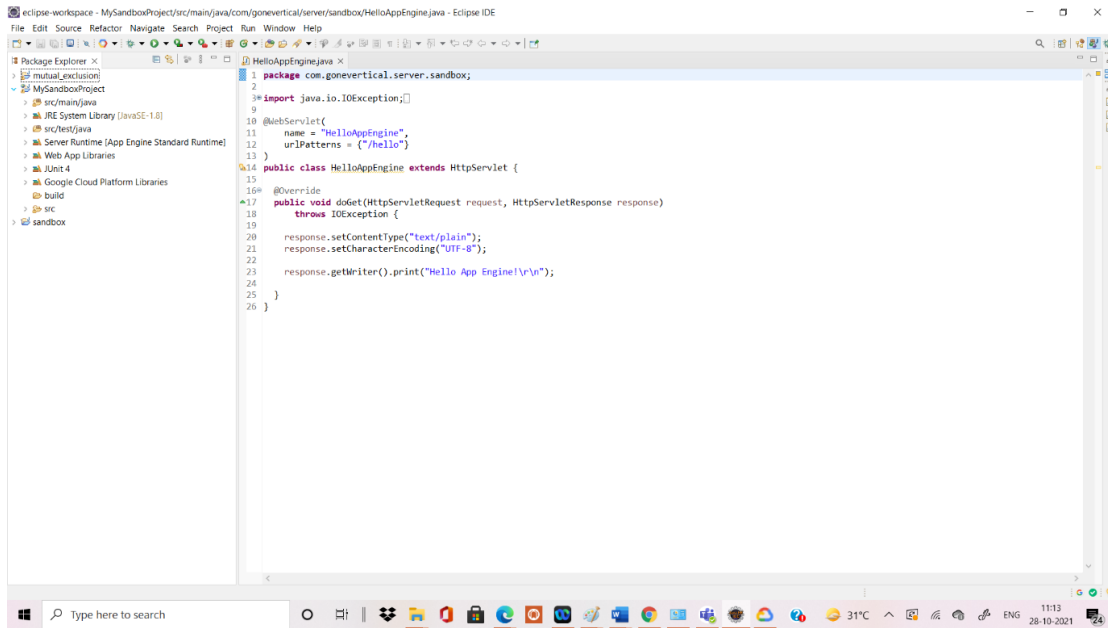


Additional jars for applications using Google Cloud Platform

App Engine Standard Libraries	Cloud Client Libraries for Java
<input checked="" type="checkbox"/> App Engine API	<input type="checkbox"/> BigQuery API
<input type="checkbox"/> Google Cloud Endpoints	<input type="checkbox"/> BigQuery Data Transfer API
<input checked="" type="checkbox"/> Objectify	<input type="checkbox"/> Cloud Asset API
	<input type="checkbox"/> Cloud Auto ML API
	<input type="checkbox"/> Cloud Container Analysis API
	<input type="checkbox"/> Cloud Data Loss Prevention
	<input type="checkbox"/> Cloud Datastore
	<input type="checkbox"/> Cloud DNS
	<input type="checkbox"/> Cloud Firestore
	<input type="checkbox"/> Cloud KMS
	<input type="checkbox"/> Cloud Natural Language
	<input type="checkbox"/> Cloud OS Login
	<input type="checkbox"/> Cloud Pub/Sub
	<input type="checkbox"/> Cloud Redis
	<input type="checkbox"/> Cloud Resource Manager
	<input type="checkbox"/> Cloud Scheduler
	<input type="checkbox"/> Cloud Security Scanner
	<input type="checkbox"/> Cloud Spanner
	<input type="checkbox"/> Cloud Speech
	<input type="checkbox"/> Cloud Storage
	<input type="checkbox"/> Cloud Talent Solution
	<input type="checkbox"/> Cloud Tasks
	<input type="checkbox"/> Cloud Translation
	<input type="checkbox"/> Cloud Video Intelligence
	<input type="checkbox"/> Cloud Vision
	<input type="checkbox"/> Dialogflow
	<input type="checkbox"/> IoT Core
	<input type="checkbox"/> Kubernetes
	<input type="checkbox"/> Phishing Protection
	<input type="checkbox"/> reCAPTCHA Enterprise

Installing App Engine Java Standard Environment facet...

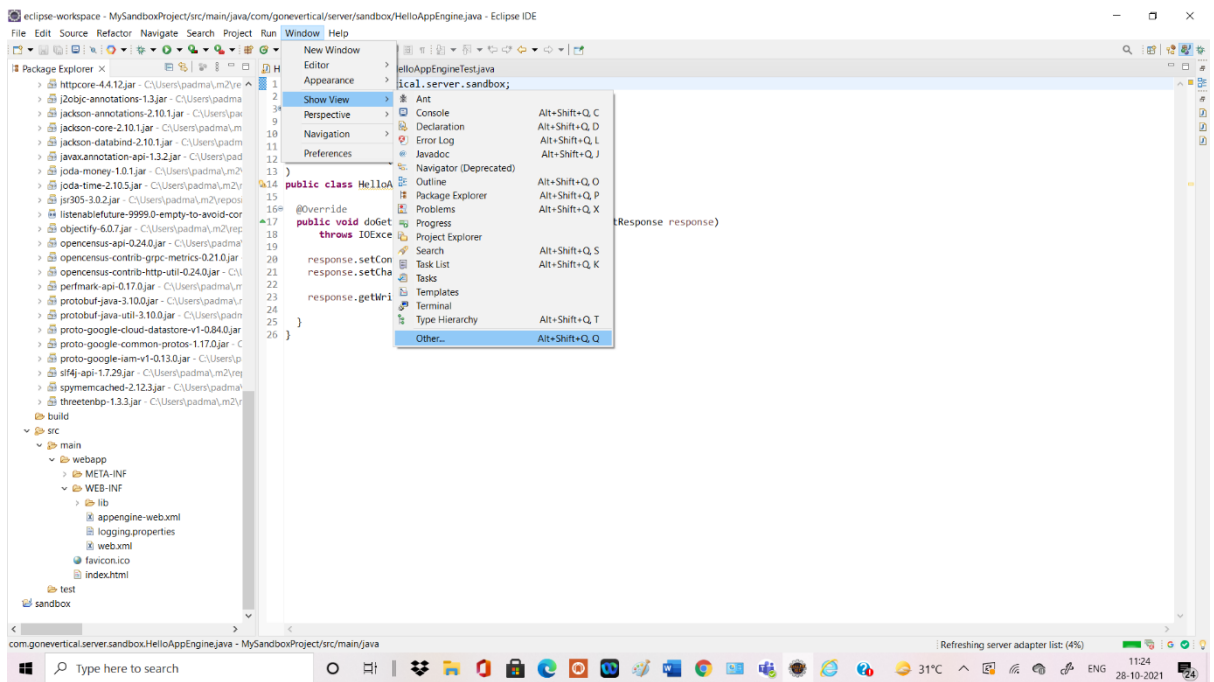
Below Screen will Appear **HelloAppEngine.java**



The screenshot shows the Eclipse IDE interface. The Package Explorer on the left displays the project structure, including the 'sandbox' package. The main editor window shows the code for 'HelloAppEngine.java'. The code is as follows:

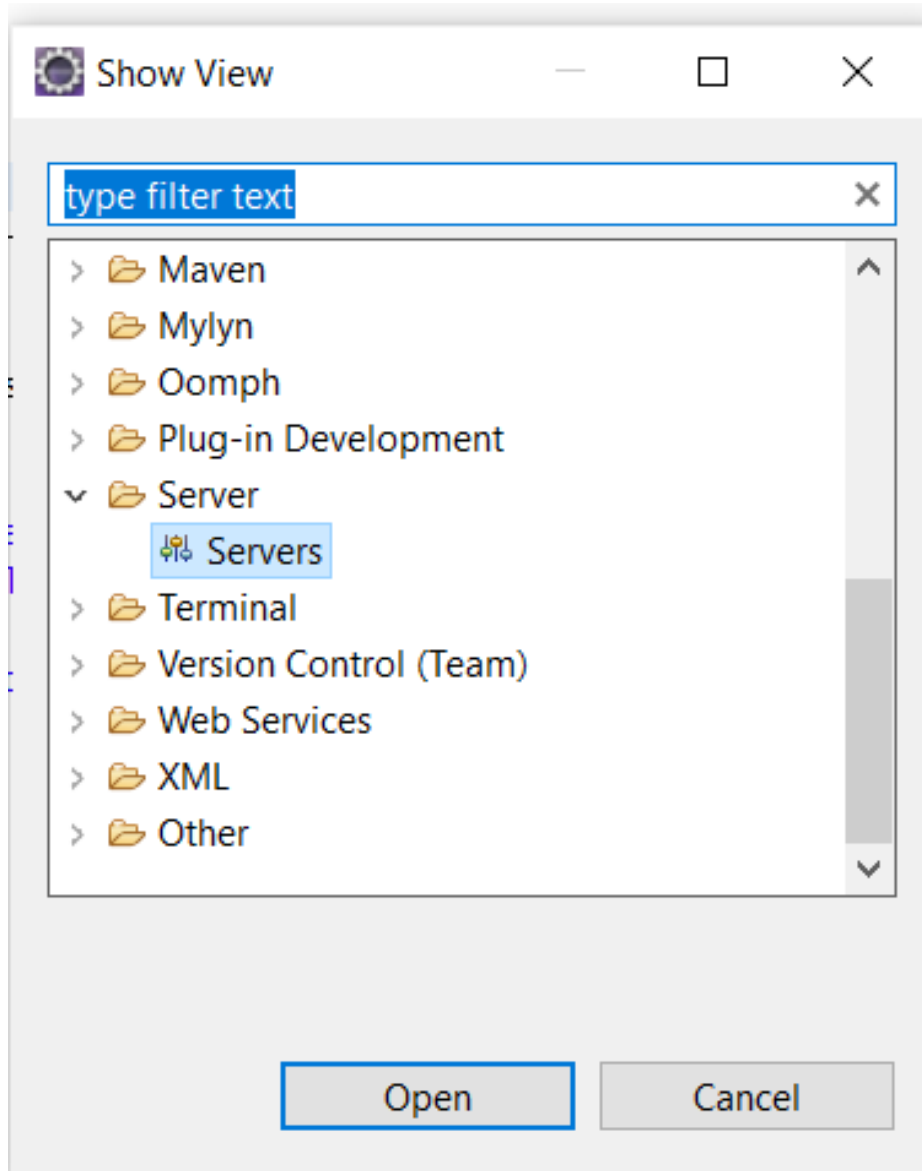
```
1 package com.gonevertical.server.sandbox;
2
3 import java.io.IOException;
4
5 @WebServlet({
6     name = "HelloAppEngine",
7     urlPatterns = {"/hello"}
8 })
9
10 public class HelloAppEngine extends HttpServlet {
11
12     @Override
13     public void doGet(HttpServletRequest request, HttpServletResponse response)
14         throws IOException {
15
16         response.setContentType("text/plain");
17         response.setCharacterEncoding("UTF-8");
18
19         response.getWriter().print("Hello App Engine!\r\n");
20
21     }
22 }
23
24
25
26 }
```

Go to **Window->Show View->Other**

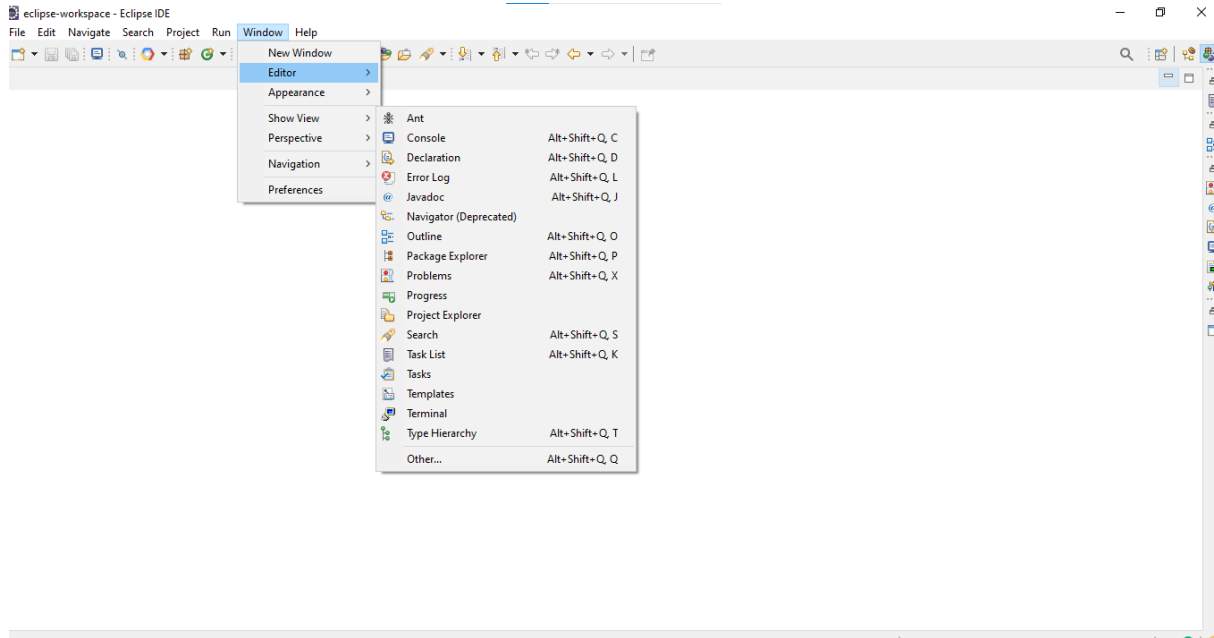


After clicking on **other** below Screen of **Show View** will appear

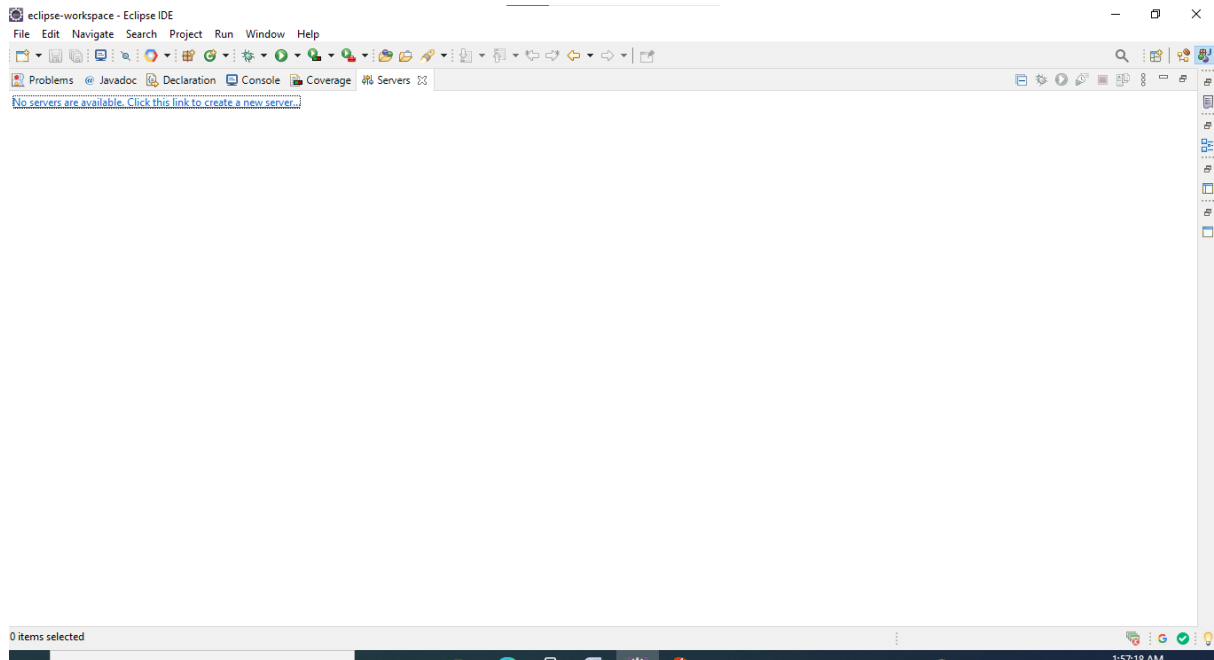
1. Click on **Server->Servers**
2. Click on **Open**



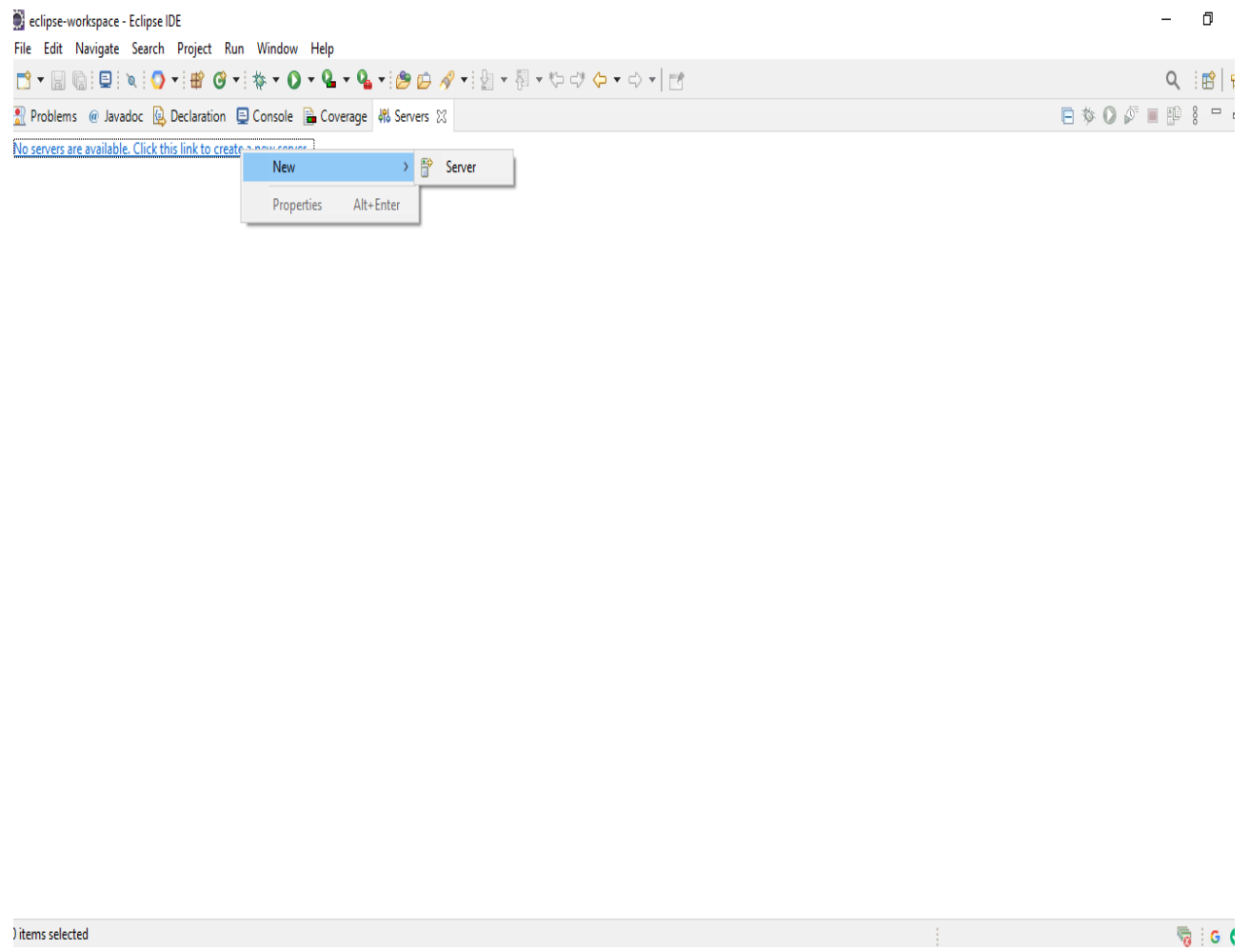
Click on **Window->Editor->Console**



Once the **Console screen appear ->Click on Servers**



Right click on server ->New->Server



To define a new server will below screen appear 1. Select **App Engine Standard** 2. **Click on Next** 3. **Click on Finish**

New Server

Define a New Server

Choose the type of server to create

Select the server type:

type filter text

- > Apache
- > Basic
- ▼ Google
 - App Engine Standard**
- > IBM
- > Oracle

Publishes and runs projects on a local App Engine server

Server's host name: localhost

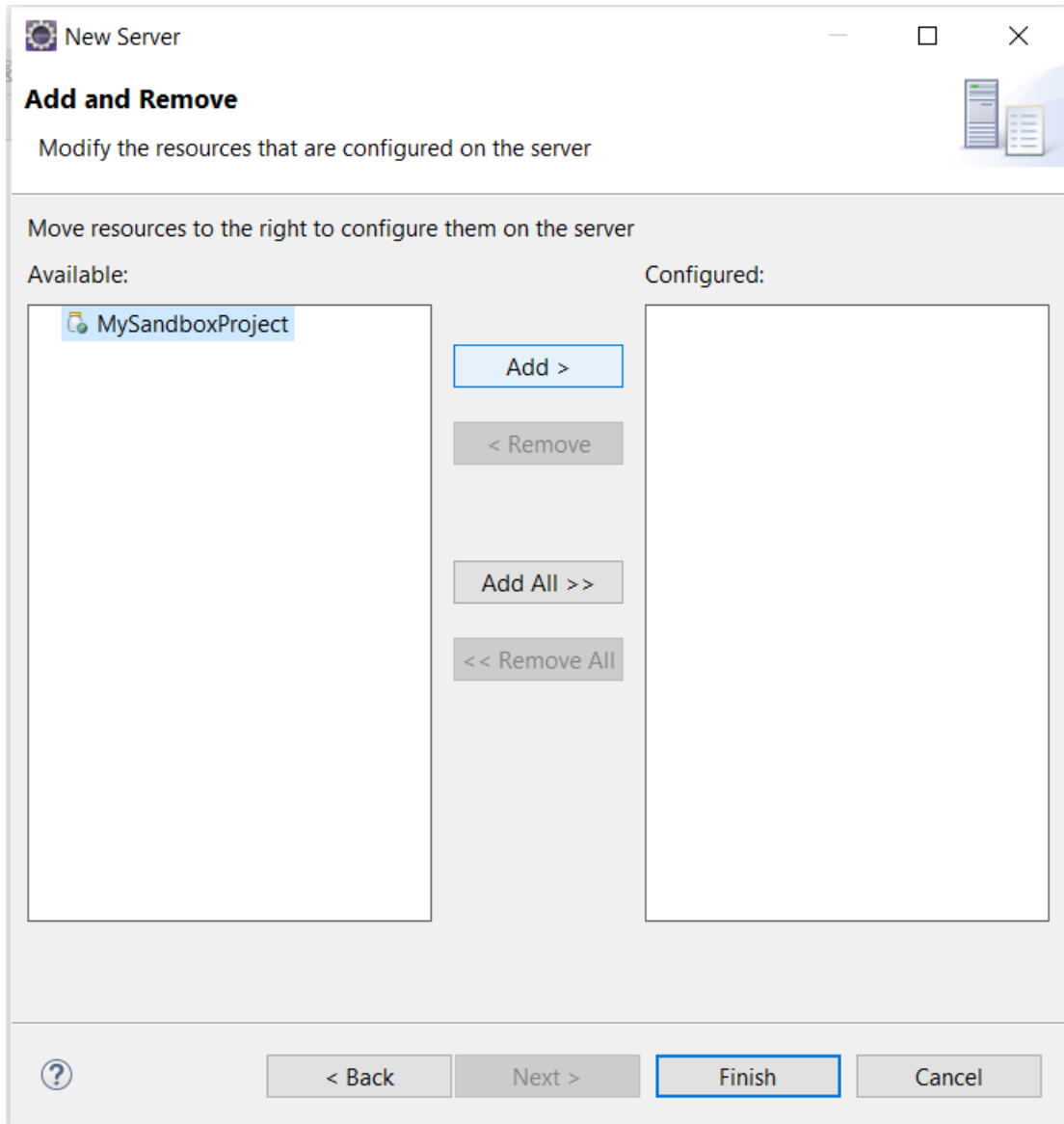
Server name: App Engine Standard at localhost

Server runtime environment: App Engine Standard Runtime [Add...](#)
[Configure runtime environments...](#)

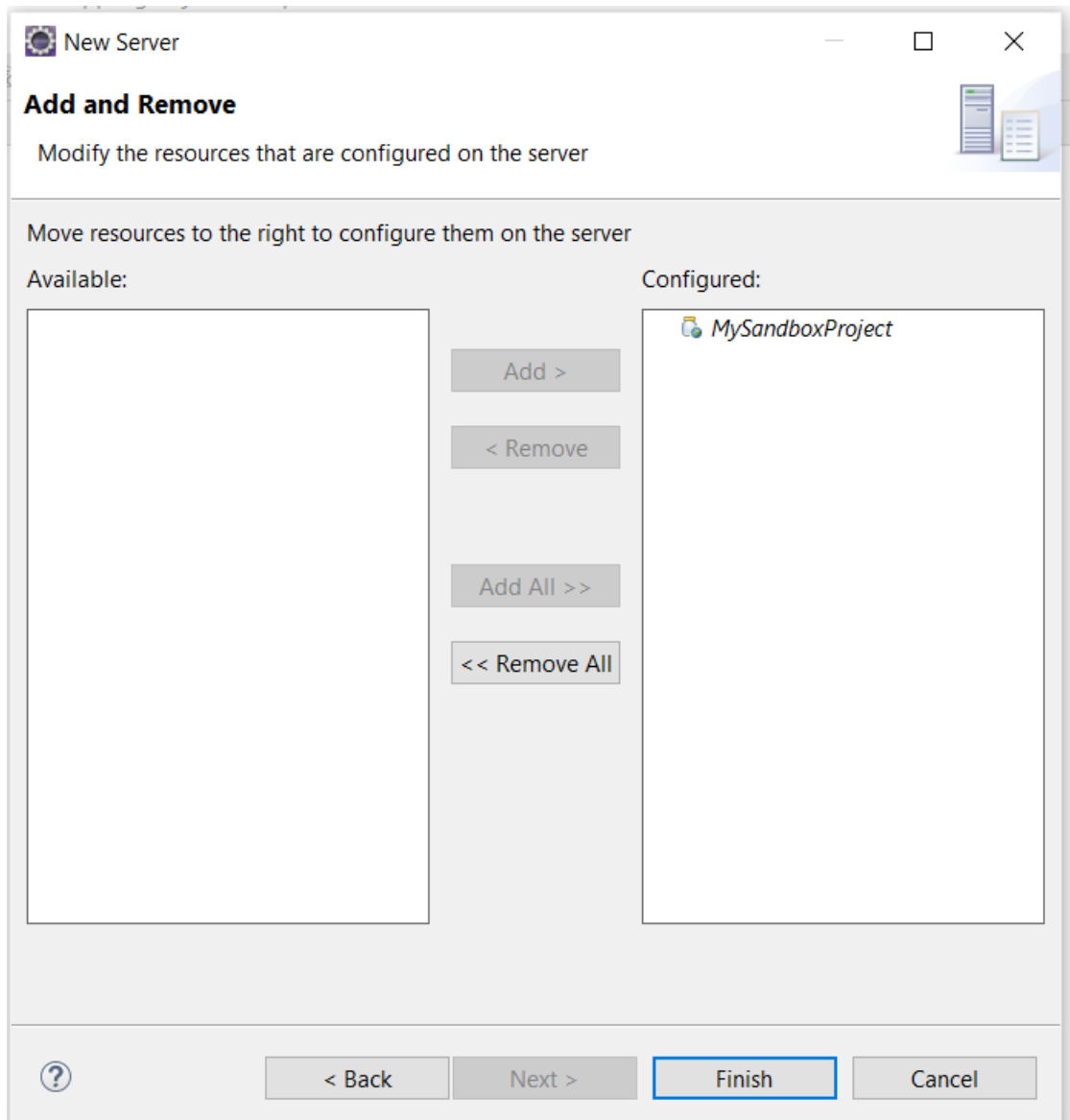
Server port: 8080

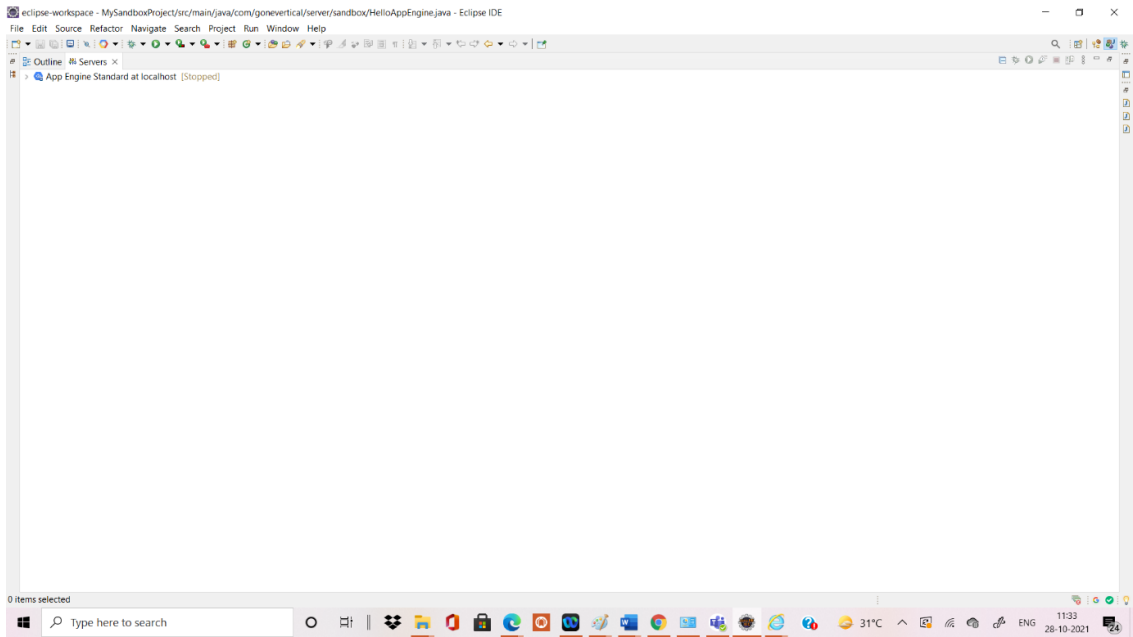
[?](#) < Back Next > **Finish** Cancel

Select from Available Project: **MySandboxProject** and then **click on Add Button**

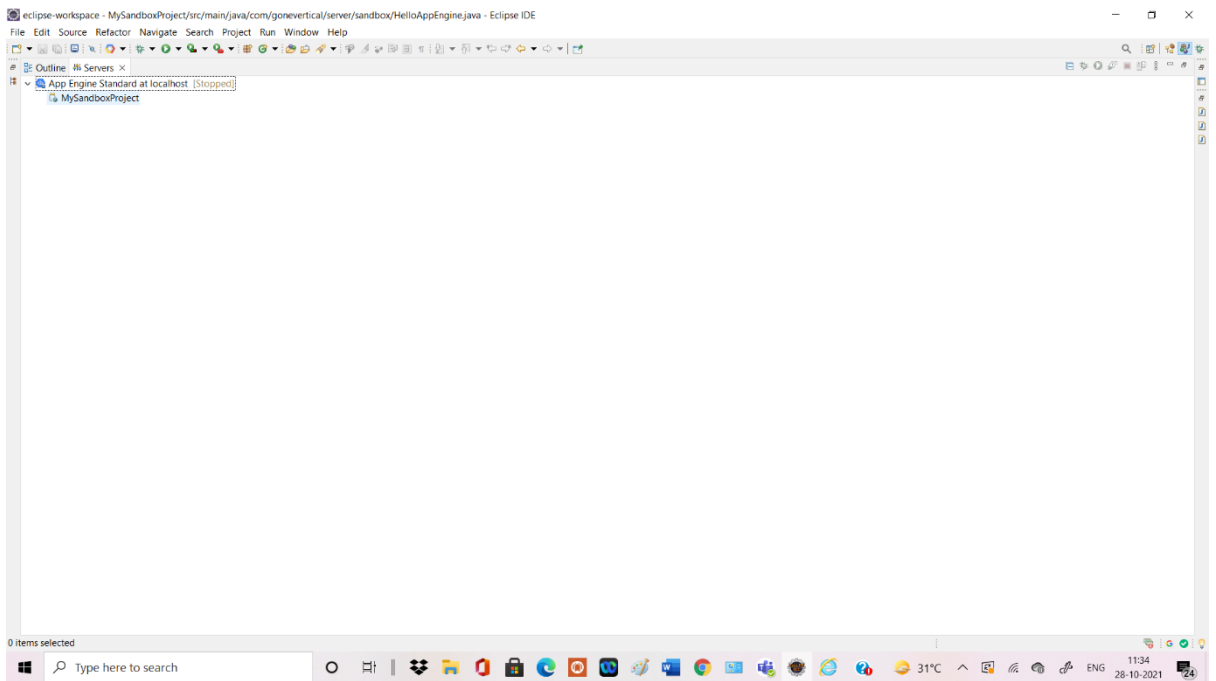


After adding **MySandboxProject** in Configured then **Click on Finish Button**

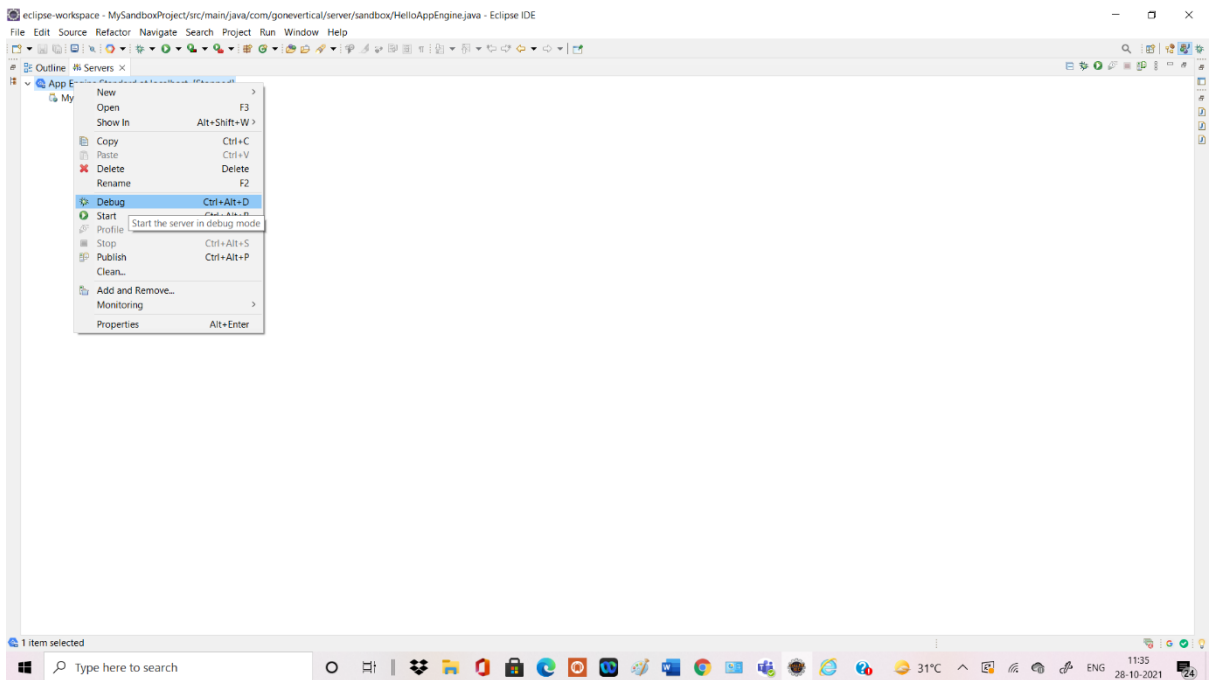




Click On **App Engine Standard At localhost ->MySandboxProject**



Right click on **App Engine Standard At localhost** -> Click on **Debug**



Final Output Screen will appear

