Prerequisites: -

Required software’s: -

Install Python: -

* Follow the Link to install python local  
    
  - <https://www.python.org/downloads/>

Install vsCode: -

* Follow the below link to install the vsCode and select your operating system  
    
  - <https://code.visualstudio.com/download/>

**Deployment of code in your local: -**

**Step 1**: - First download the GitHub file and open it in the visual studio code or

any other code studio editor

* https://github.com/arunlakshmikabilan1982/GenAIPythonApp.git

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* Below are the steps to get your API key and index of pinecone

**step 2: -** In this env we need pinecone, and we must create index to store the data that is used in the rag app, so these are steps

**2.1 Pinecone DB: -**

* We used pinecone database to store the data which is uploaded by user as chunks into it you can use the below link to explore how it works.  
    
  - <https://docs.pinecone.io/guides/get-started/quickstart>  
  1. Login to Pinecone to create pinecone index and API key.  
     - [Sign up or log into Pinecone](https://login.pinecone.io/login?state=hKFo2SBmN3FYNmhtcFBtaVYtTll0aHBoWDFUMFJTLUg0VkJDRKFupWxvZ2luo3RpZNkgS2tZdDdoRGtsTTczdkFUTHZ0T18wRDdORC1pQ1kyekGjY2lk2SBUOEkyaEc2Q2FaazUwT05McWhmN3h6a1I0WmhMcVM0Qw&client=T8I2hG6CaZk50ONLqhf7xzkR4ZhLqS4C&protocol=oauth2&audience=https%3A%2F%2Fus-central1-production-console.cloudfunctions.net%2Fapi%2Fv1&scope=openid%20profile%20email%20read%3Acurrent_user&redirect_uri=https%3A%2F%2Fapp.pinecone.io&sessionType=signup&response_type=code&response_mode=query&nonce=OEtPd0NnR1BGMjUzUmFFQ2ZjMH52Qk0tVnkycFNrOGdMeVhjOTljOTl4Yw%3D%3D&code_challenge=6NspfKXE2FqCEWx22fkmH2plFWbig51pb55nCrsVr1A&code_challenge_method=S256&auth0Client=eyJuYW1lIjoiYXV0aDAtcmVhY3QiLCJ2ZXJzaW9uIjoiMS4xMi4xIn0%3D)
  + To integrate it with our application we need to create an index and API key.  
    >> After login you can see the dashboard as shown below.

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>> Click on the create index.  
  
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>> Name your index(geminiindex) and under configuration enter Dimensions as 768 and select Metric as COSINE

>> Leave the remaining to default and click on create index later you can find your created index in the dashboard

>> After creating an index, you can see your index as shown.

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**2.3** Now to access the API key click on the API keys which is on the left panel of the dashboard.  
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* You can create your own API key, or you can use the default one preferred to create a new one.A screenshot of a computer

  Description automatically generated
* We need Gemini API key to add in your secrets.toml file under .streamlit folder follow below step to create your own API key

**Step 3:** We need the Gemini API key also to work with this project so create the Gemini API key and so here to use we need the paid plan so do those things.

Creating Google Gemini API key: -

* 1. Goto the link below and click on Get API key in google AI studio and also you can find documents link there   
       
     - <https://ai.google.dev/gemini-api?gad_source=1&gclid=EAIaIQobChMIuPDB6ceKhwMVrB6DAx2qmw6EEAAYASAAEgKGsPD_BwE>
  2. It will direct to a page show below there you can create your own API key by clicking GET API KEY

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**Step 4: -** Add the secrets.toml file under .streamlit folder file as shown below

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>> Oadd .env file in your folder

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>> Add all the mentioned keys below in your .env file.A computer screen shot of a black screen

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**Step 5**: Create the python environment and install the requirements to the environment in the command line.  
 **5.1** To create the Environment.



**5.2** And then activate the environment with the following command.  
 

**5.3** To install the requirements



**5.4**: Run the below command to run the file in the VScode



**5.5**: Then you can see the code running in the local host

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Streamlit UI: -

Here we can deploy it in the cloud, and we share the app in online

**Step 6.1**: - Go to the below URL and sign up

[Streamlit • A faster way to build and share data apps](https://streamlit.io/)

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**6.2**: after login in the navigation bar, you can see the create app click on that

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**6.3**: After this you have to select your GitHub and select the respective repository (first you need the project in your own GitHub account)

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Description automatically generated**6.4:** After this you have to fill the below details and here as shown in the below screenshot provide your own domain name

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**6.5:** Go to the additional settings and add the secrets in these settings and click save

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**6.6**: After this step click on the deploy and your app will be deployed and, in the domain, provided you can see the website hosted like below

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**Steps for deployment in vercel for API’S**

**Step 7:** First you need to add the vercel.json file and here you have to provide the routes you are using with the respective python files

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**7.1** To host in Vercel you want one GitHub account and linked with vercel, and you have the check the requirements for this files also

**7.2** Then you can create a new project in the vercel, and you must give required details and then you can host the API routes

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**7.3:** In the environment variables mention the secrets and deploy it.

**API CALL: -**

* After that access the below URLs you can get the response by send message in body.

https://gen-ai-python-app.vercel.app/aitranslator

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>> https://gen-ai-python-app.vercel.app/imgtodescription

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>> https://gen-ai-python-app.vercel.app/askgenaibot

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