


STREAMLIT.IO DEMO



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Requirements



Requirements

1

streamlit.io account

www.streamlit.io

2

GitHub Account

www.github.com

3

Conda Environment

4

Code Editor

E.g. Visual Studio Code, Sublime, Pycharm

Creating Conda Environment



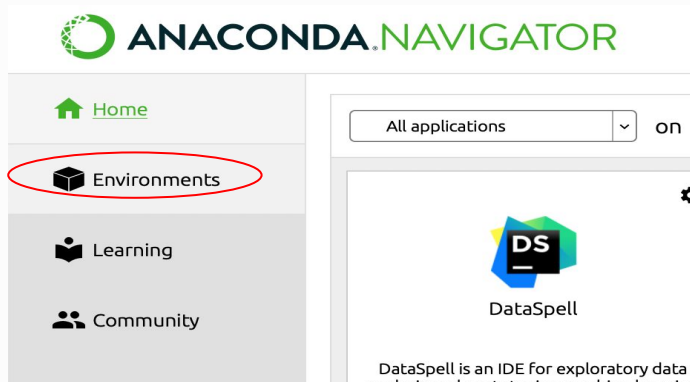
Creating Conda Environment

1

Open Anaconda-Navigator

2

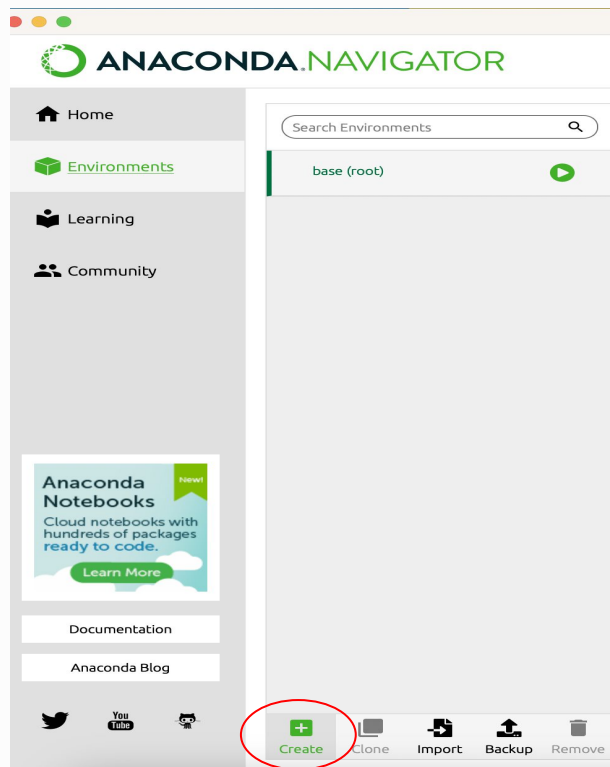
Access Environments



Creating Conda Environment

3

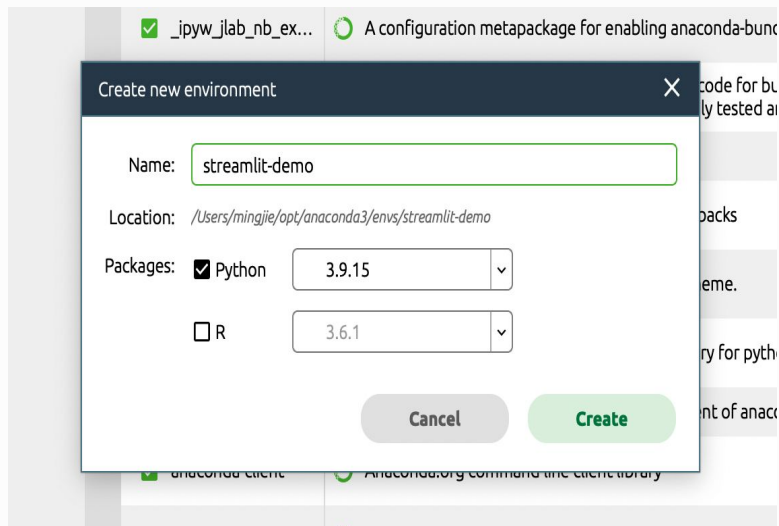
Create new environment



Creating Conda Environment

4

Create new environment

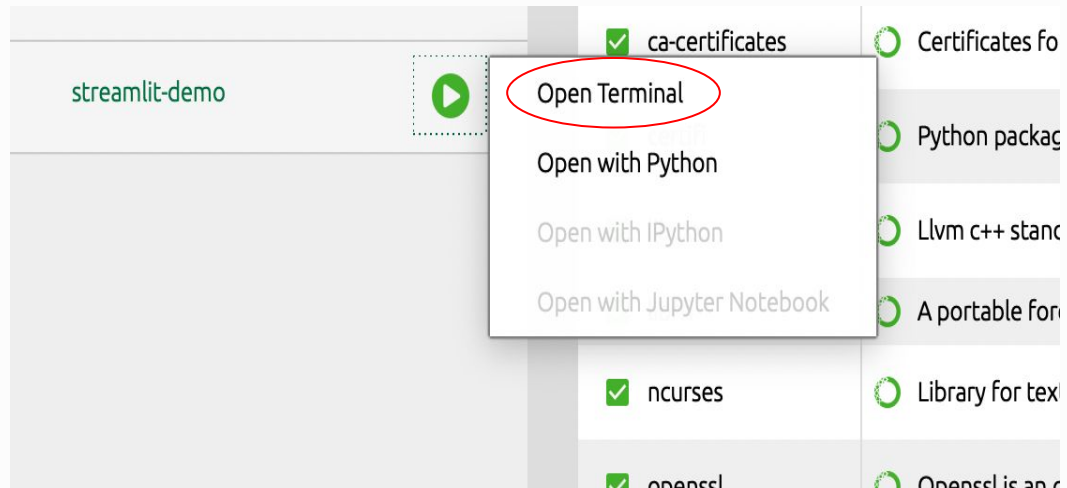


Installing streamlit



Installing streamlit

1



2

```
Last login: Wed Mar 29 11:15:10 on ttys000
. /Users/mingjie/opt/anaconda3/bin/activate && conda activate /Users/mingjie/opt/anaconda3/envs/streamlit-demo;
mingjie@Tans-MacBook-Air ~ % . /Users/mingjie/opt/anaconda3/bin/activate && conda activate /Users/mingjie/opt/anaconda3/envs/streamlit-demo;
(streamlit-demo) mingjie@Tans-MacBook-Air ~ % pip install streamlit
```

Make sure its your new conda environment

Pip install streamlit

Creating your application



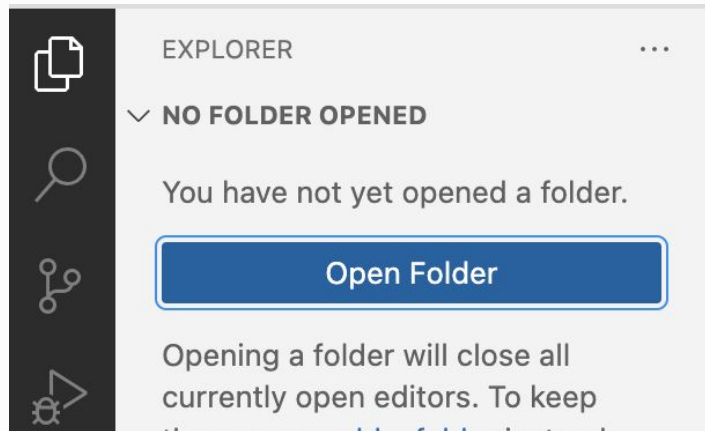
Creating an app.py file

1

Create a new folder

2

**Open your folder using
your code editor**



Creating an app.py file

3

Create an app.py file

Visual Studio Code Editing evolved

Start

 New File...

 Open...

 Clone Git Repository...

Select File Type...

Get Started

app.py

New File (app.py) Built-In

File 

Example : Coding a simple application

Input

app.py

```
1  import streamlit as st
2
3  # Title
4  st.title('This is a title')
5
6  # Markdown
7  st.markdown('This is a markdown')
8
9  # Assign input to var1 using select box
10 var1 = st.selectbox('Select Box', ('1','2','3'))
11
12 # Assign input to var2 using number input
13 var2 = st.number_input('Number Input', min_value=0, max_value=10)
14
15 # Creates a button
16 if st.button('Button'):
17     # Logic that happens after the button is clicked
18     st.markdown(f'The sum of var1 and var2 is {int(var1) + var2}')
```

Output

This is a title

This is a markdown

Select Box

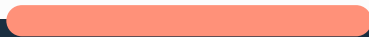
1

Number Input

0

Button

Running your application on LocalHost



Running your application on localhost

1

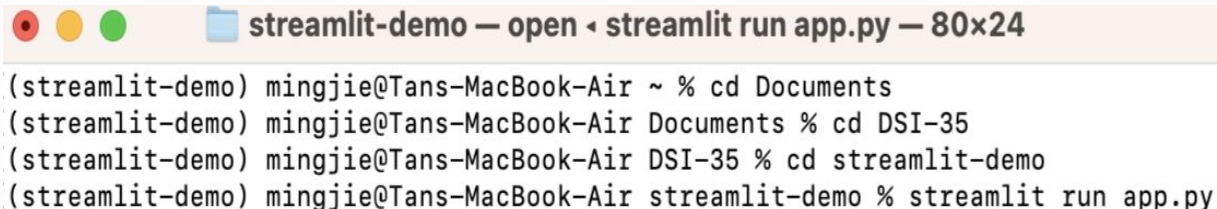
Open your new environment's terminal

2

Change directory to where the app.py file is located

3

**Run command :
streamlit run
app.py**



```
streamlit-demo — open • streamlit run app.py — 80x24
(streamlit-demo) mingjie@Tans-MacBook-Air ~ % cd Documents
(streamlit-demo) mingjie@Tans-MacBook-Air Documents % cd DSI-35
(streamlit-demo) mingjie@Tans-MacBook-Air DSI-35 % cd streamlit-demo
(streamlit-demo) mingjie@Tans-MacBook-Air streamlit-demo % streamlit run app.py
```

You can now view your Streamlit app in your browser.

Deploying your application on streamlit.io cloud



Deploying your app on streamlit.io cloud

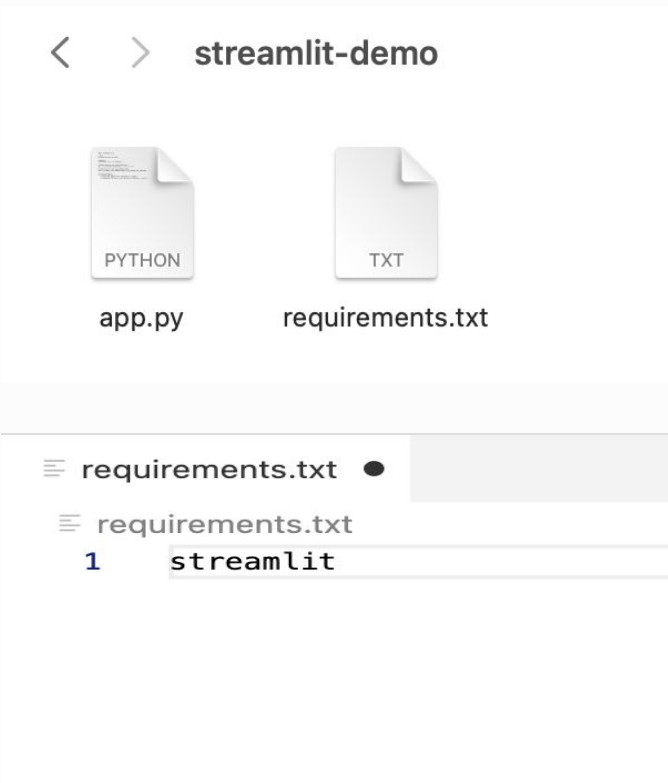
1

**Open your folder
using your code
editor**

2

**Create
requirements.txt
inside the folder**

The requirements.txt should
include all libraries you used



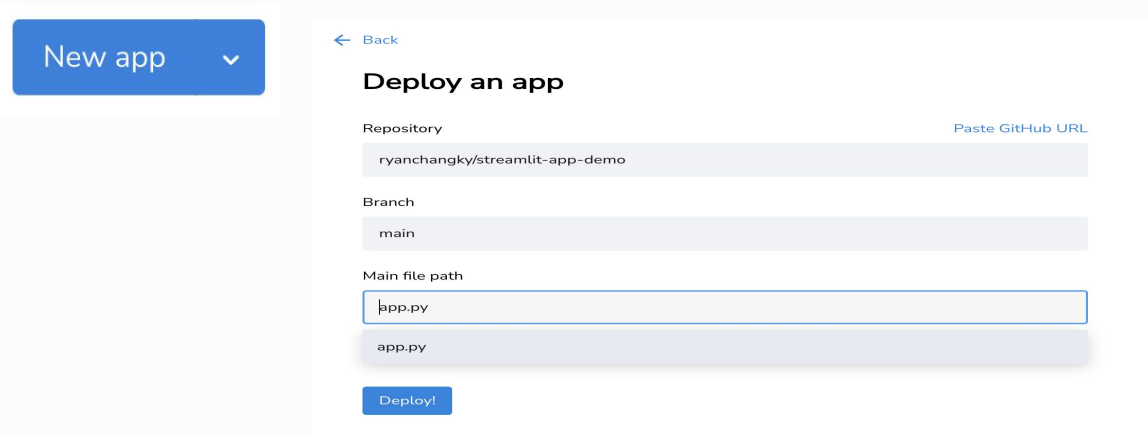
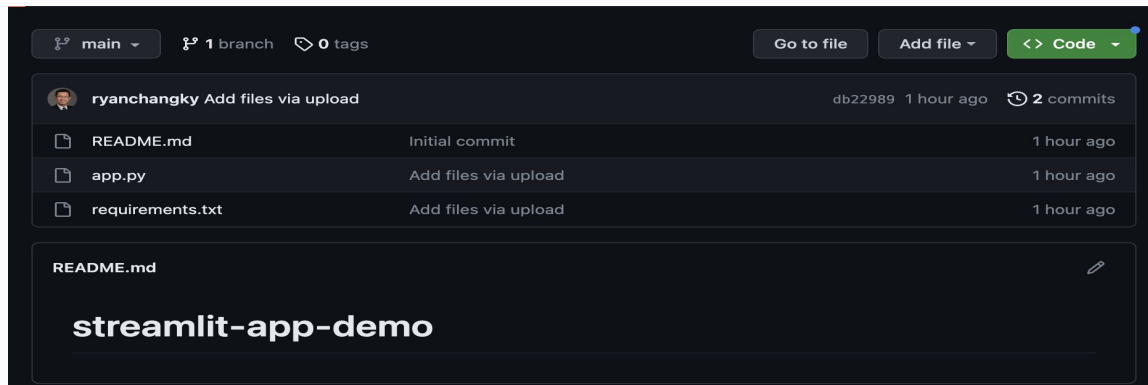
Deploying your app on streamlit.io cloud

3

Upload the folder
onto GitHub

4

Deploy it through
streamlit.io using
your GitHub repo



Example : HDB Resale Price Prediction Application

A thick, solid orange horizontal bar is positioned below the text, centered horizontally. It spans approximately one-third of the width of the slide.

Example : HDB Resale Price Predictor

Input

```
1 import streamlit as st
2 import numpy as np
3 import joblib
4
5 # title
6 st.title('HDB Resale Price Predictor')
7
8 # another title
9 st.markdown('Please Input Values')
10
11 # features required for prediction
12 floor_area_sqft = st.number_input('Floor Area (Sqft)', min_value=333, max_value=3014)
13 lease_commence_date = st.number_input('Lease Commence Date', min_value=1966, max_value=2019)
14 mid = st.number_input('Floor of unit', min_value=1, max_value=50)
15 flat_type = st.selectbox('Flat Type',
16                          ('1 ROOM', '2 ROOM', '3 ROOM', '4 ROOM', '5 ROOM', 'EXECUTIVE', 'MULTI-GENERATION'))
17 planning_area = st.selectbox('Area', ('Jurong West', 'Woodlands', 'Sengkang', 'Tampines', 'Yishun', 'Bedok',
18                                       'Punggol', 'Hougang', 'Ang Mo Kio', 'Choa Chu Kang', 'Bukit Merah',
19                                       'Bukit Batok', 'Bukit Panjang', 'Toa Payoh', 'Pasir Ris', 'Queenstown',
20                                       'Geylang', 'Sembawang', 'Clementi', 'Jurong East', 'Kallang',
21                                       'Serangoon', 'Bishan', 'Novena', 'Marine Parade', 'Outram', 'Rochor',
22                                       'Bukit Timah', 'Changi', 'Downtown Core', 'Tanglin',
23                                       'Western Water Catchment'))
24
25 # predict button
26 if st.button('Predict'):
27     model = joblib.load('final_model.joblib')
28     X = np.array([flat_type, floor_area_sqft, lease_commence_date, mid, planning_area])
29     X = X.reshape(1,-1)
30     pred = model.predict(X)[0]
31     st.markdown(f'### Predicted Resale Price of this HDB is ${str(int(round(pred,-3)))}')
32
```

Output

HDB Resale Price Predictor

Please Input Values

Floor Area (Sqft)

333

Lease Commence Date

1966

Floor of unit

1

Flat Type

1 ROOM

Area

Jurong West

Predict

Predicted Resale Price of this HDB is \$175000

Breakdown of files within the folder

1

app.py

As shown in previous slide

2

final_model.joblib

Model pipeline saved using joblib

3

requirements.txt

List of dependencies and their versions

< > streamlit-hdb-demo



app.py



final_model.joblib



requirements.txt

```
streamlit~=1.19.0
pandas~=1.5.3
numpy~=1.24.2
joblib
scikit-learn==1.2.1
xgboost
```

Running the streamlit-hdb-demo file

1

**With your new environment's terminal
change directory to where
streamlit-hdb-demo is located**

```
[(streamlit-demo) mingjie@Tans-MacBook-Air ~ % cd Documents  
[(streamlit-demo) mingjie@Tans-MacBook-Air Documents % cd DSI-35  
[(streamlit-demo) mingjie@Tans-MacBook-Air DSI-35 % cd streamlit-hdb-demo  
[(streamlit-demo) mingjie@Tans-MacBook-Air streamlit-hdb-demo % pip install -r requirements.txt
```

2

**Download requirements through
requirements.txt**

`pip install -r requirements.txt`

3

Run app on LocalHost

`streamlit run app.py`

```
[(streamlit-demo) mingjie@Tans-MacBook-Air streamlit-hdb-demo % streamlit run app.py
```

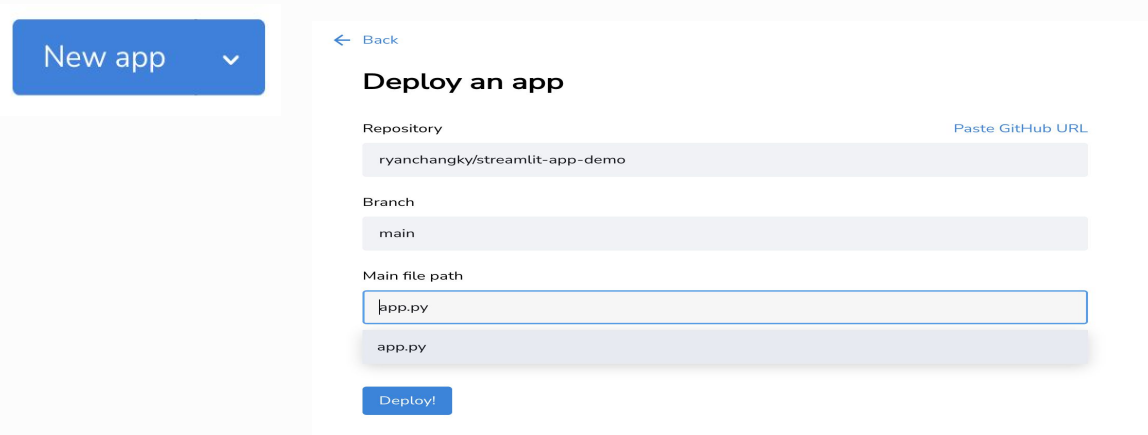
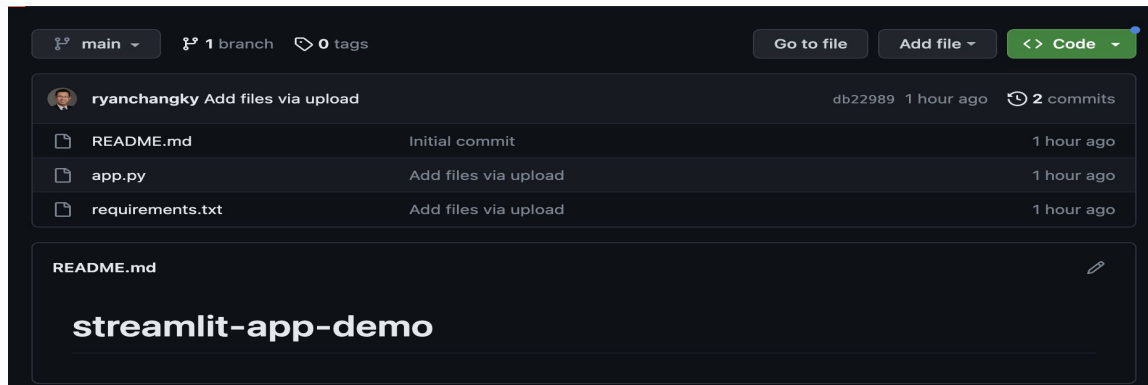
Deploying the hdb-app on streamlit.io cloud

1

Upload the folder
onto GitHub

2

Deploy it through
streamlit.io using
your GitHub repo



End