STREAMLIT.IO DEMO

By: Tan Ming Jie

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

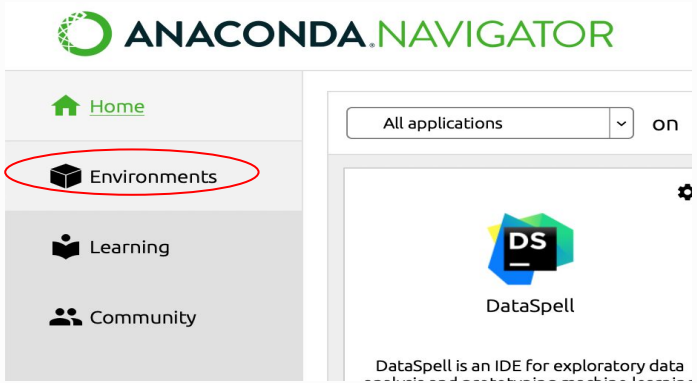
Creating Conda Environment

1

Open Anaconda-Navigator

2

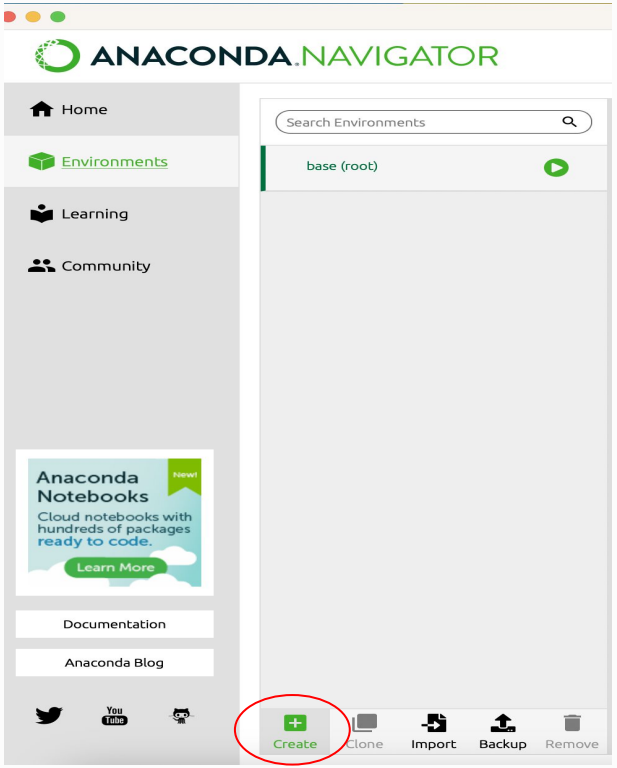
Access Environments



Creating Conda Environment

3

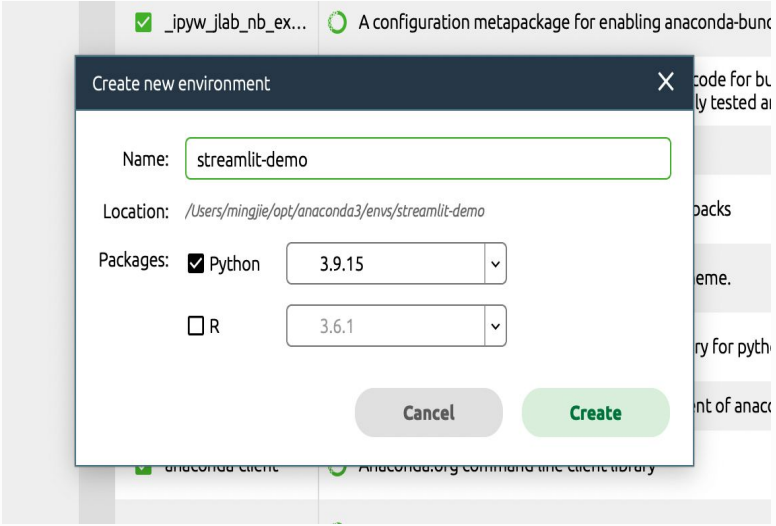
Create new environment



Creating Conda Environment

4

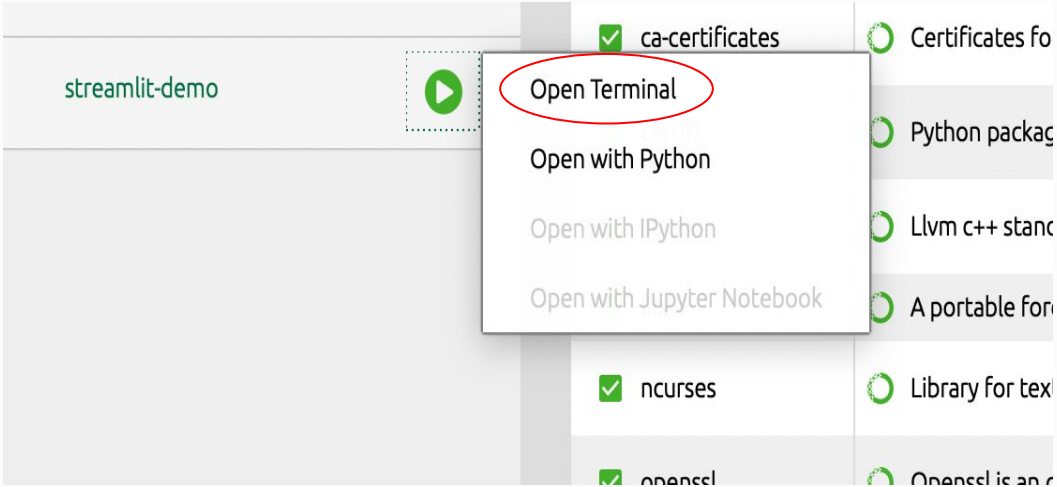
Create new environment



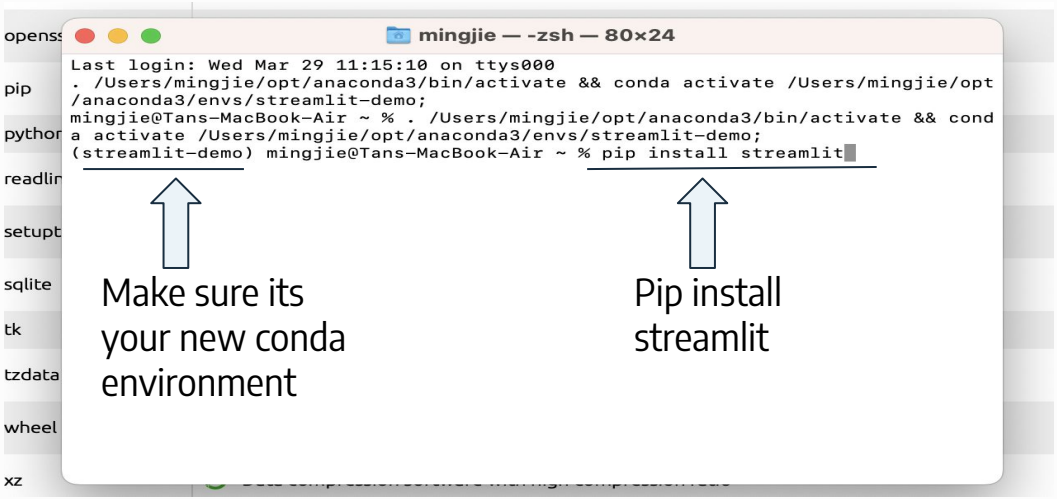
Installing streamlit

Installing streamlit

1



2

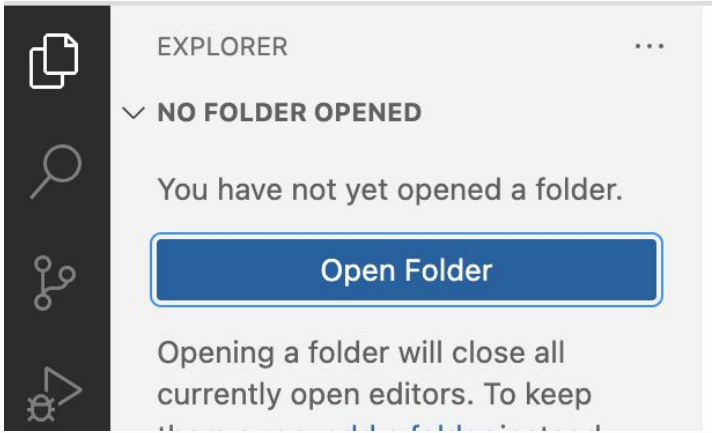


Creating your application

Creating an app.py file

1. **Create a new folder**

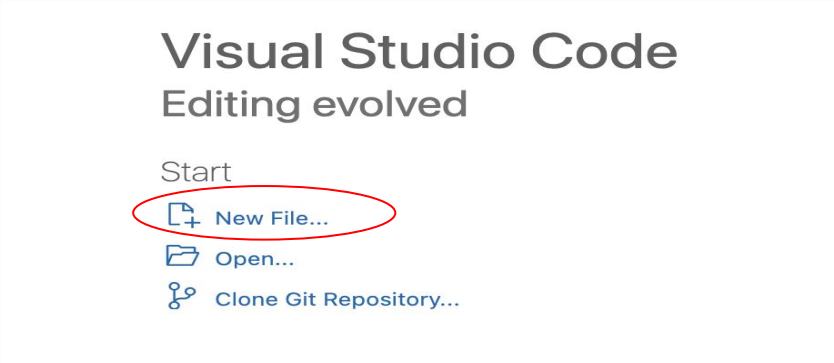
2. **Open your folder using your code editor**

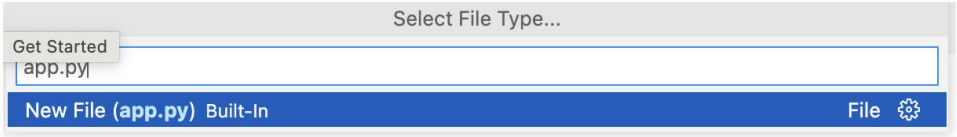


Creating an app.py file

3

Create an app.py file





Example : Coding a simple application

Input

app.py

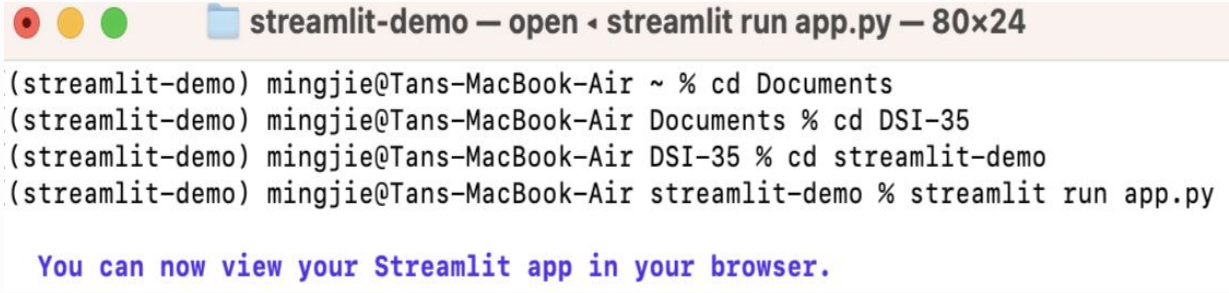
```python
import streamlit as st

# Title
st.title('This is a title')

# Markdown
st.markdown('This is a markdown')

# Assign input to var1 using select box
var1 = st.selectbox('Select Box', ('1','2','3'))

# Assign input to var2 using number input
var2 = st.number_input('Number Input', min_value=0, max_value=10)

# Creates a button
if st.button('Button'):
    # Logic that happens after the button is clicked
    st.markdown(f'The sum of var1 and var2 is {int(var1) + var2}')

```

Output

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



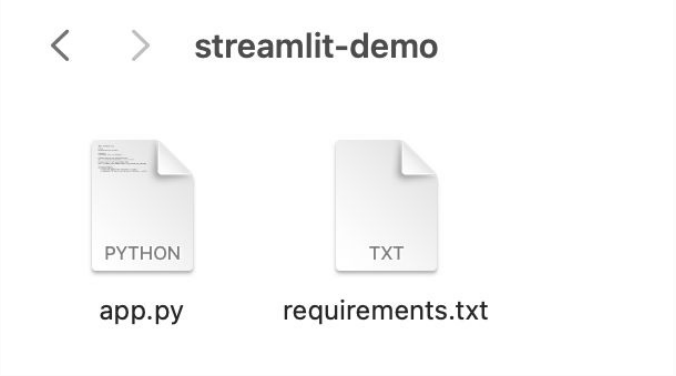
Deploying your application on streamlit.io cloud

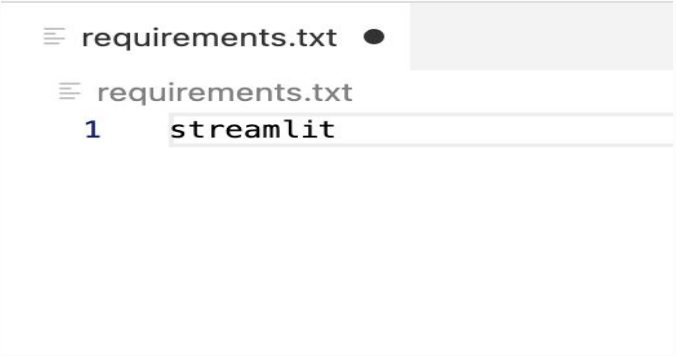
Deploying your app on streamlit.io cloud

1. **Open your folder using your code editor**

2. **Create requirements.txt inside the folder**

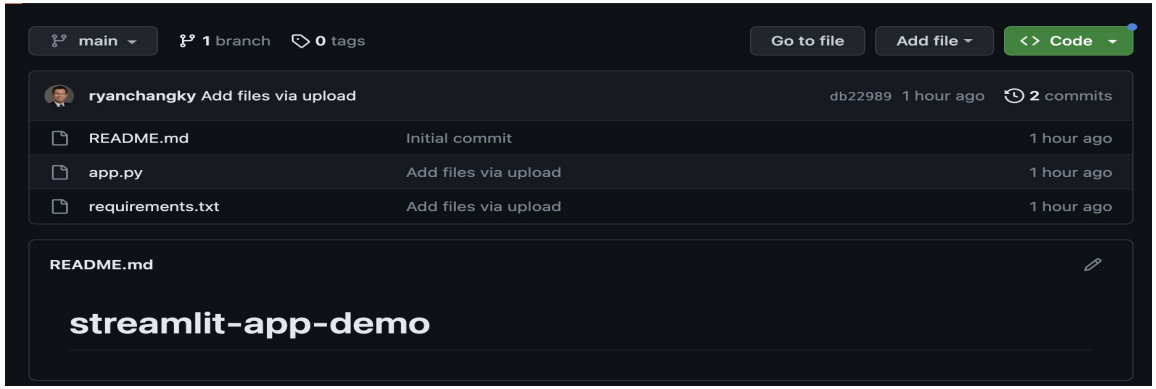
   The requirements.txt should include all libraries you used



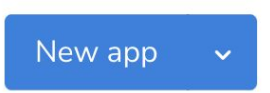


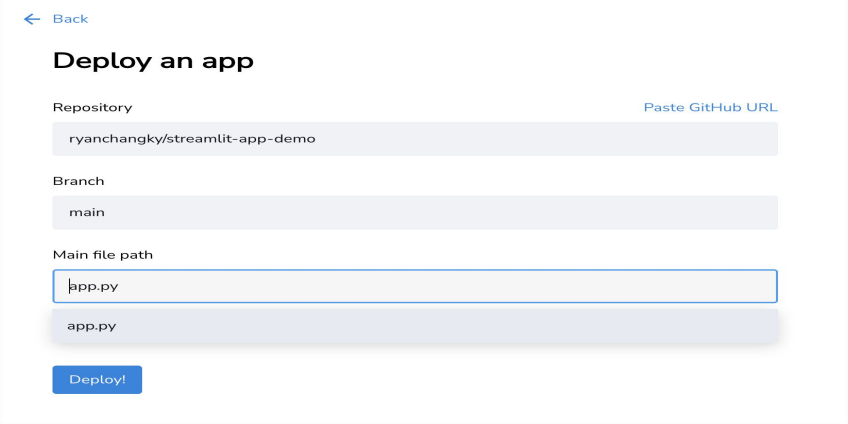
Deploying your app on streamlit.io cloud

3 **Upload the folder onto GitHub**



4 **Deploy it through streamlit.io using your GitHub repo**





Example : HDB Resale Price Prediction Application

Example : HDB Resale Price Predictor

Input

```python
import streamlit as st
import numpy as np
import joblib

# title
st.title('HDB Resale Price Predictor')

# another title
st.markdown('Please Input Values')

# features required for prediction
floor_area_sqft = st.number_input('Floor Area (Sqft)', min_value=333, max_value=3014)
lease_commence_date = st.number_input('Lease Commence Date', min_value=1966, max_value=2019)
mid = st.number_input('Floor of unit', min_value=1, max_value=50)
flat_type = st.selectbox('Flat Type',
                         ('1 ROOM', '2 ROOM', '3 ROOM', '4 ROOM', '5 ROOM', 'EXECUTIVE', 'MULTI-GENERATION'))
planning_area = st.selectbox('Area',('Jurong West', 'Woodlands', 'Sengkang', 'Tampines', 'Yishun', 'Bedok',
       'Punggol', 'Hougang', 'Ang Mo Kio', 'Choa Chu Kang', 'Bukit Merah',
       'Bukit Batok', 'Bukit Panjang', 'Toa Payoh', 'Pasir Ris', 'Queenstown',
       'Geylang', 'Sembawang', 'Clementi', 'Jurong East', 'Kallang',
       'Serangoon', 'Bishan', 'Novena', 'Marine Parade', 'Outram', 'Rochor',
       'Bukit Timah', 'Changi', 'Downtown Core', 'Tanglin',
       'Western Water Catchment'))

# predict button
if st.button('Predict'):
    model = joblib.load('final_model.joblib')
    X = np.array([flat_type,floor_area_sqft,lease_commence_date,mid,planning_area])
    X = X.reshape(1,-1)
    pred = model.predict(X)[0]
    st.markdown(f'### Predicted Resale Price of this HDB is ${str(int(round(pred,-3)))}')

```

Output

Breakdown of files within the folder

1. **app.py**

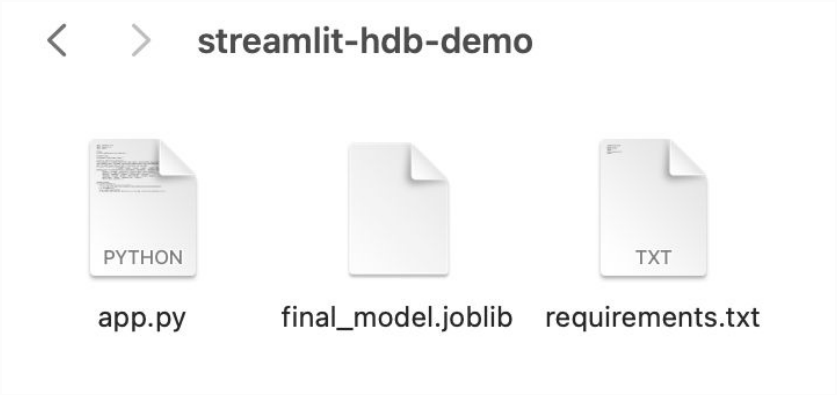
   As shown in previous slide

2. **final_model.joblib**

   Model pipeline saved using joblib

3. **requirements.txt**

   List of dependencies and their versions




```
streamlit~=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 re
quirements.txt
```

2. **Download requirements through requirements.txt**

pip install -r requirements.txt

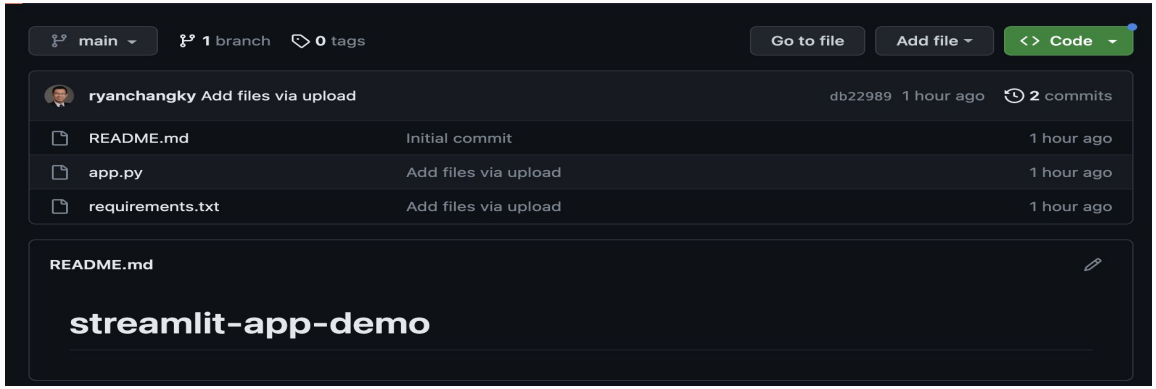
3. **Run app on LocalHost**

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

streamlit run app.py

Deploying the hdb-app on streamlit.io cloud

1. Upload the folder onto GitHub



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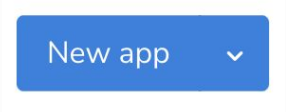

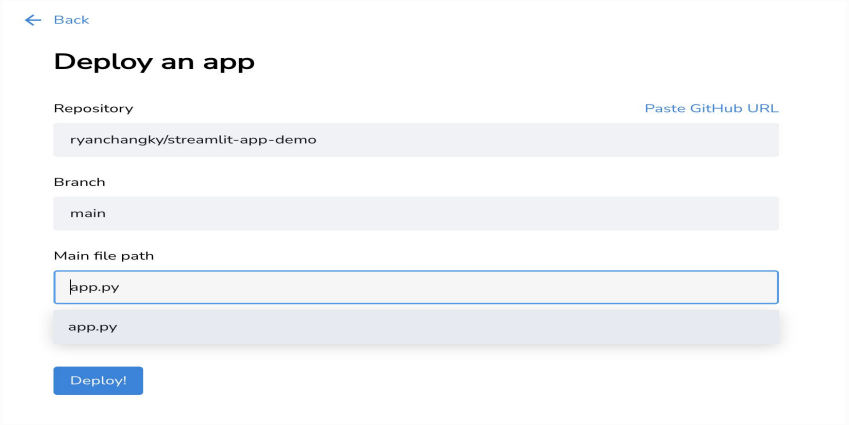

End