Week 5: Deployment on Heroku

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1. Creating the ML Model

The model being used here is of predicting the car prices. The screenshot below shows the overview of the model:

```python
dataset = pd.read_csv('car_price.csv')

dataset['cylinder'].fillna(0, inplace=True)

dataset['km'].fillna(dataset['km'].mean(), inplace=True)

X = dataset.iloc[:, :3]
y = dataset.iloc[:, -1]

# Importing ML Library
from sklearn.linear_model import LinearRegression
regressor = LinearRegression()

#Fitting model with trainig data
regressor.fit(X, y)

# Saving model to disk
pickle.dump(regressor, open('model.pkl','wb'))

# Loading model to compare the results
model = pickle.load(open('model.pkl','rb'))
```

2. Creating the app.py file

Here the Flask class will get the name of the module as an argument

```python
app = Flask(__name__)
model = pickle.load(open('model.pkl', 'rb'))
```

The function route will give the Flask app the location of the webpage to load

```python
@app.route('/')
def home():
    return render_template('index.html')
```

```python
@app.route('/predict',methods=['POST'])
def predict():
    '''
    For rendering results on HTML GUI
    '''
    int_features = [int(x) for x in request.form.values()]
    final_features = [np.array(int_features)]
    prediction = model.predict(final_features)

    output = round(prediction[0], 2)

    return render_template('index.html', prediction_text='House price should be $ {}'.format(output))

if __name__ == "__main__":
    app.run(debug=True)
```
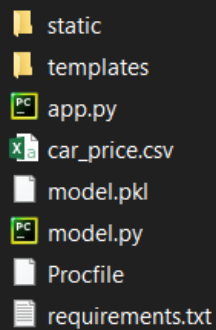
3. Creating index.html file

```html
<body>
<div class="login">
  <h1>Predict Car Price</h1>

    |
  <form action="{{ url_for('predict')}}"method="post">
  <input type="text" name="no_of_cylinders" placeholder="Number of Cylinders" required="required" />
      <input type="text" name="KM" placeholder="KM Run" required="required" />
  <input type="text" name="car_model" placeholder="Car Model" required="required" />

      <button type="submit" class="btn btn-primary btn-block btn-large">Predict</button>
  </form>

  <br>
  <br>
  {{ prediction_text }}
```
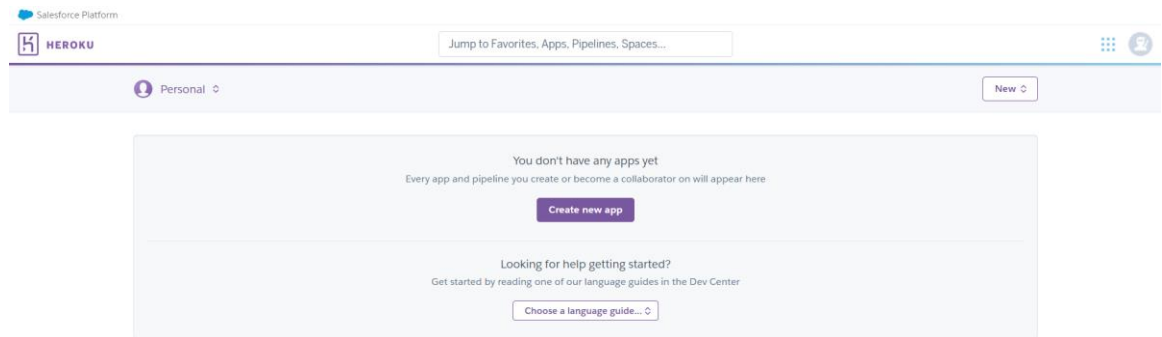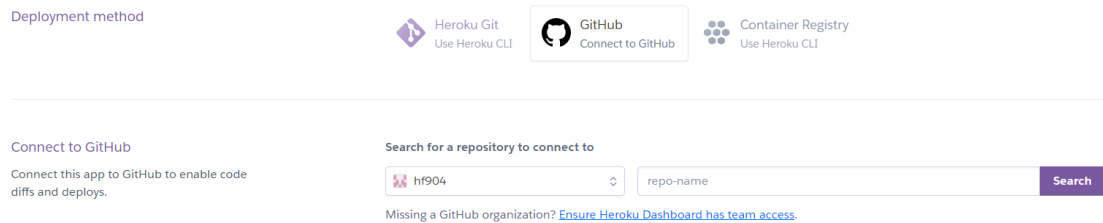
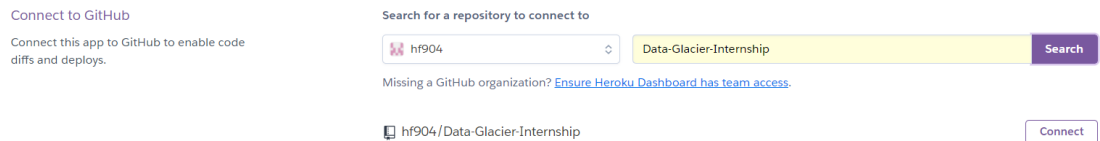4. Overview of the files

5. Deployment in Heroku
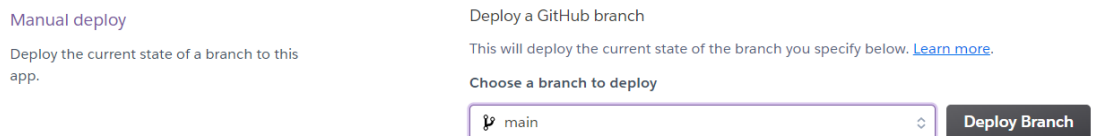Step 1: Click on the create new app button & provide a name

Step 2: Link the GitHub account to Heroku

Step 3: Search for the repository by searching it

Step 4: Select the repository and click on Deploy Branch

Step 5: Wait for the deployment to complete then click on View after successful deployment confirmation

Manual deploy

Deploy the current state of a branch to this app.

Deploy a GitHub branch

This will deploy the current state of the branch you specify below. Learn more.

Choose a branch to deploy

| main |

Deploy Branch

Receive code from GitHub ⊘

Build **main** c24c4752 ⊘

Release phase ⊘

Deploy to Heroku ✓

Your app was successfully deployed.

View

6. Viewing the App