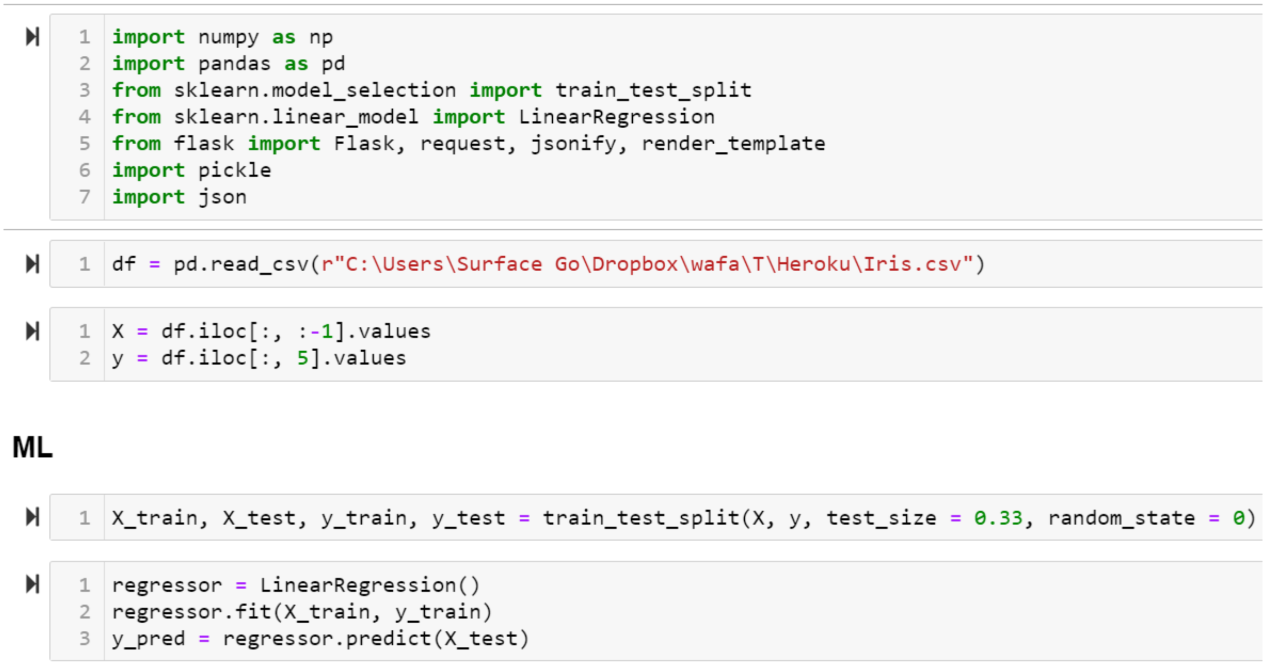
Name: Wafa Faisal

Batch Name: LISUM01

Cloud and API deployment on Heroku

Step 1:

Develop ML model for mall customers datasets using Linear Regression Model



```
import numpy as np
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from flask import Flask, request, jsonify, render_template
import pickle
import json
```

```
df = pd.read_csv(r"C:\Users\Surface Go\Dropbox\wafa\T\Heroku\Iris.csv")
```

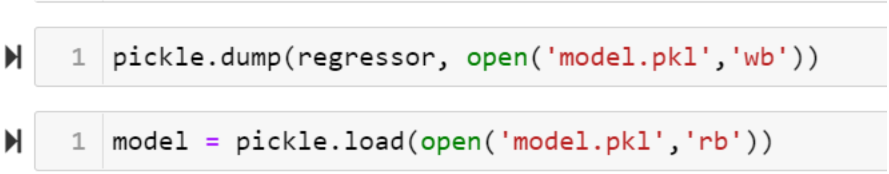
```
X = df.iloc[:, :-1].values
y = df.iloc[:, 5].values
```

ML

```
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size = 0.33, random_state = 0)
```

```
regressor = LinearRegression()
regressor.fit(X_train, y_train)
y_pred = regressor.predict(X_test)
```

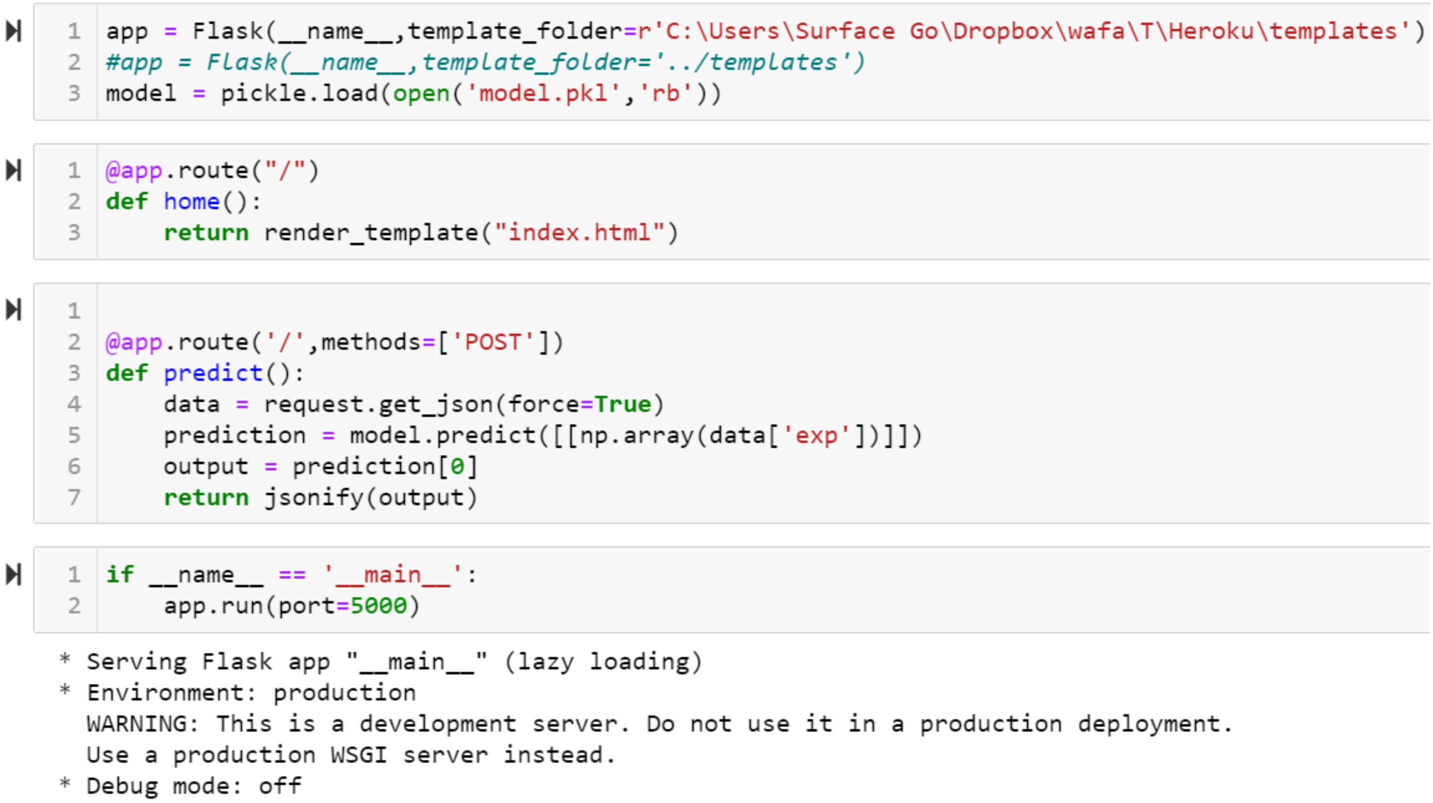
Step 2: save trained model



```
pickle.dump(regressor, open('model.pkl','wb'))
```

```
model = pickle.load(open('model.pkl','rb'))
```

Step 3: Model deployment



```python
app = Flask(__name__,template_folder=r'C:\Users\Surface Go\Dropbox\wafa\T\Heroku\templates')
#app = Flask(__name__,template_folder='../templates')
model = pickle.load(open('model.pkl','rb'))
```

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

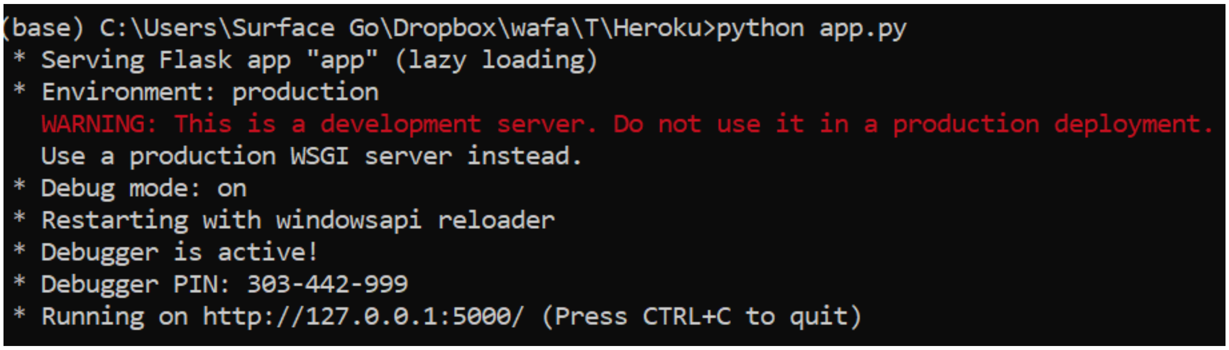
```python

@app.route('/',methods=['POST'])
def predict():
    data = request.get_json(force=True)
    prediction = model.predict([[np.array(data['exp'])]])
    output = prediction[0]
    return jsonify(output)
```

```python
if __name__ == '__main__':
    app.run(port=5000)
```

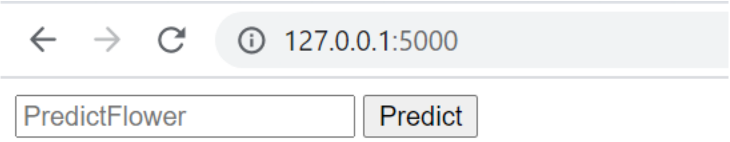
```
 * Serving Flask app "__main__" (lazy loading)
 * Environment: production
   WARNING: This is a development server. Do not use it in a production deployment.
   Use a production WSGI server instead.
 * Debug mode: off
```

Step 4: python app in CMD



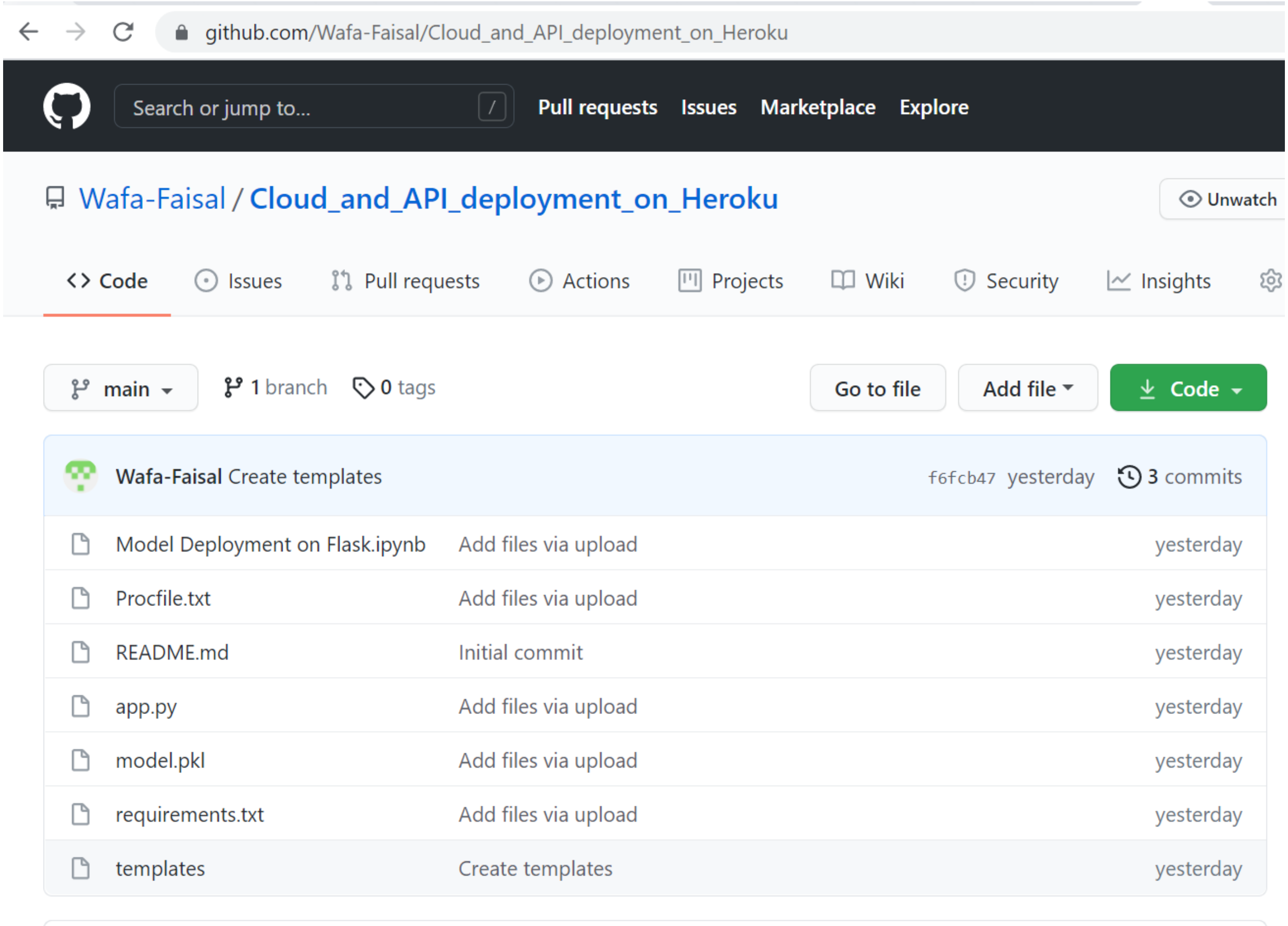
```
(base) C:\Users\Surface Go\Dropbox\wafa\T\Heroku>python app.py
 * Serving Flask app "app" (lazy loading)
 * Environment: production
   WARNING: This is a development server. Do not use it in a production deployment.
   Use a production WSGI server instead.
 * Debug mode: on
 * Restarting with windowsapi reloader
 * Debugger is active!
 * Debugger PIN: 303-442-999
 * Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

Step 5: creating web app



Step 6: create Procfile using web: gunicorn app:app and pip freeze requirements.txt command

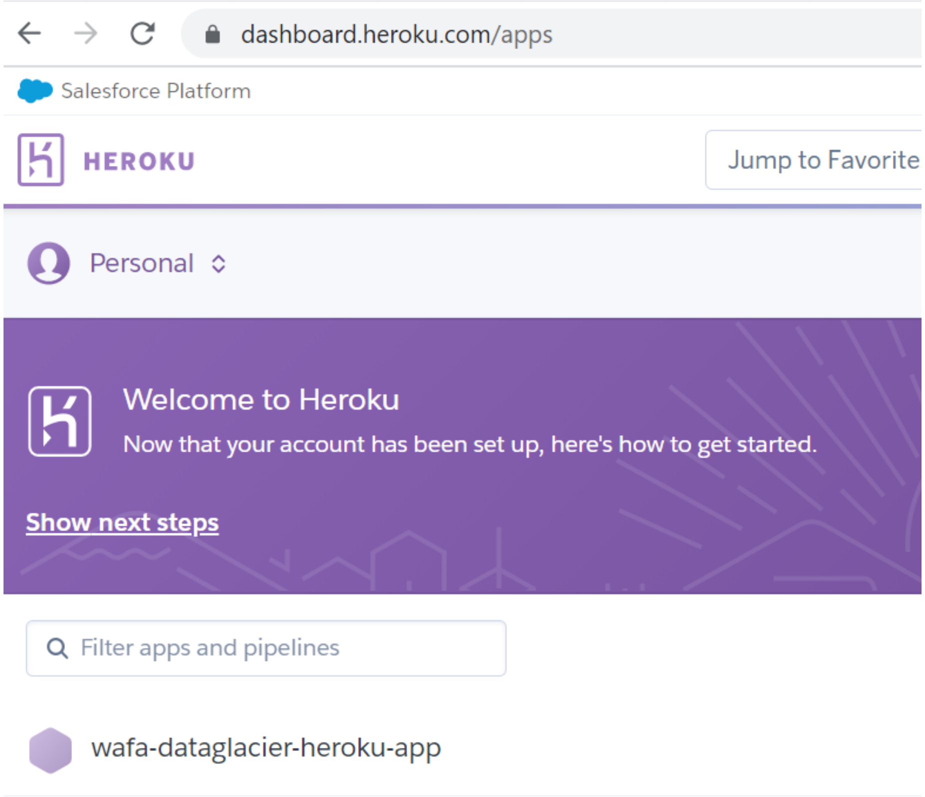
Step7: create repository on GitHub



Wafa-Faisal Create templates f6fcb47 yesterday 3 commits

Model Deployment on Flask.ipynb	Add files via upload	yesterday
Procfile.txt	Add files via upload	yesterday
README.md	Initial commit	yesterday
app.py	Add files via upload	yesterday
model.pkl	Add files via upload	yesterday
requirements.txt	Add files via upload	yesterday
templates	Create templates	yesterday

Step 8: create Heroku account and the create an app



dashboard.heroku.com/apps

Salesforce Platform

HEROKU

Jump to Favorite

Personal

Welcome to Heroku

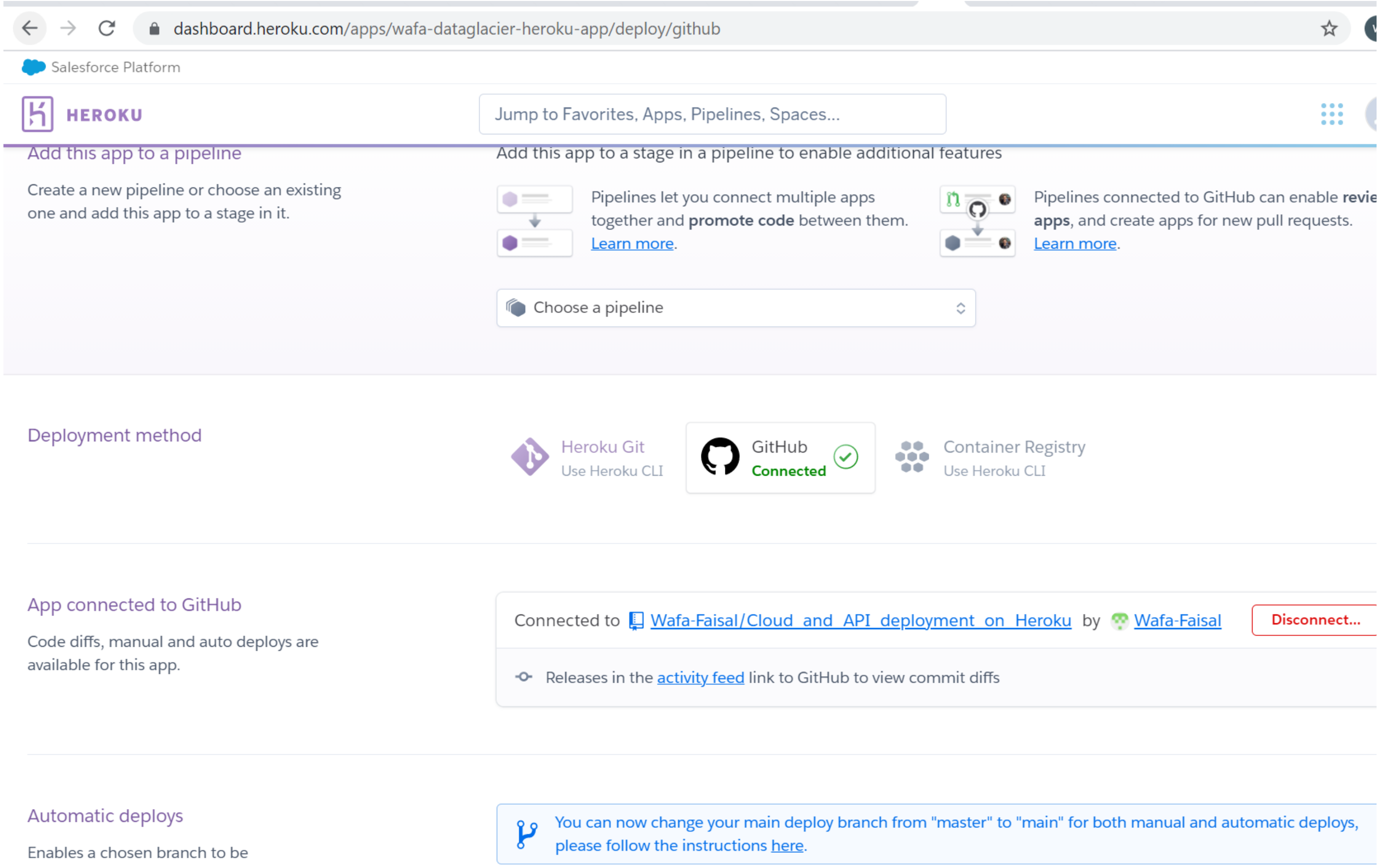
Now that your account has been set up, here's how to get started.

Show next steps

Filter apps and pipelines

wafa-dataglacier-heroku-app

Step 9: link GitHub account with Heroku app



dashboard.heroku.com/apps/wafa-dataglacier-heroku-app/deploy/github

Salesforce Platform

HEROKU

Jump to Favorites, Apps, Pipelines, Spaces...

Add this app to a pipeline

Create a new pipeline or choose an existing one and add this app to a stage in it.

Add this app to a stage in a pipeline to enable additional features

Pipelines let you connect multiple apps together and **promote code** between them. Learn more.

Pipelines connected to GitHub can enable **revie** **apps**, and create apps for new pull requests. Learn more.

Choose a pipeline

Deployment method

Heroku Git
Use Heroku CLI

GitHub ✓
Connected

Container Registry
Use Heroku CLI

App connected to GitHub

Code diffs, manual and auto deploys are available for this app.

Connected to Wafa-Faisal/Cloud_and_API_deployment_on_Heroku by Wafa-Faisal

Disconnect...

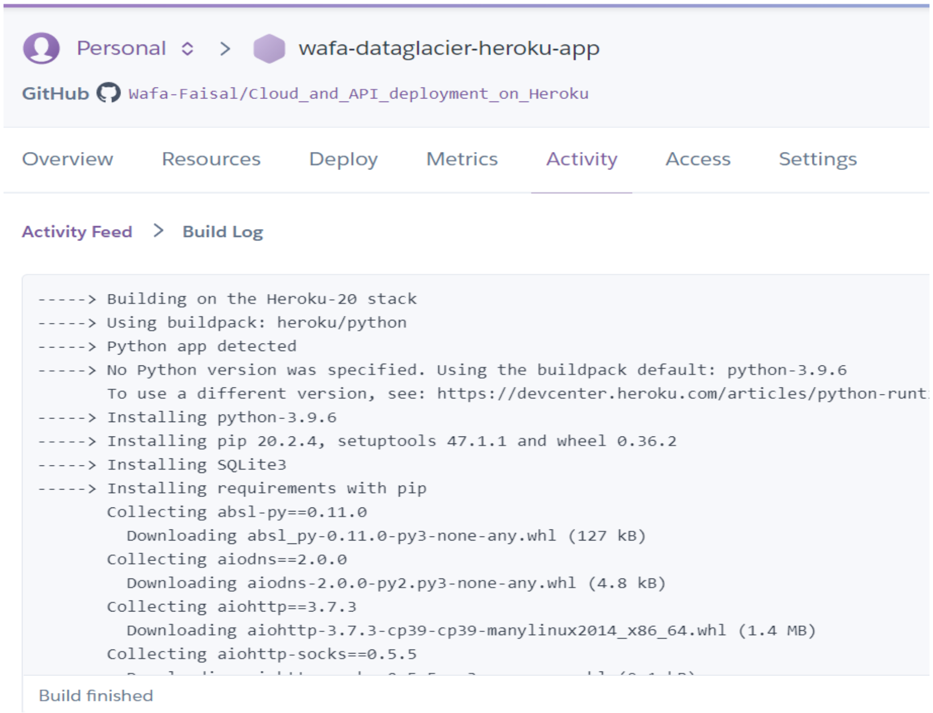
Releases in the activity feed link to GitHub to view commit diffs

Automatic deploys

Enables a chosen branch to be

You can now change your main deploy branch from "master" to "main" for both manual and automatic deploys, please follow the instructions here.

Step 10: Finally, deploy the model on Heroku



Personal
wafa-dataglacier-heroku-app
GitHub Wafa-Faisal/Cloud_and_API_deployment_on_Heroku
Overview
Resources
Deploy
Metrics
Activity
Access
Settings
Activity Feed > Build Log

```
-----> Building on the Heroku-20 stack
-----> Using buildpack: heroku/python
-----> Python app detected
-----> No Python version was specified. Using the buildpack default: python-3.9.6
       To use a different version, see: https://devcenter.heroku.com/articles/python-runt
-----> Installing python-3.9.6
-----> Installing pip 20.2.4, setuptools 47.1.1 and wheel 0.36.2
-----> Installing SQLite3
-----> Installing requirements with pip
       Collecting absl-py==0.11.0
         Downloading absl_py-0.11.0-py3-none-any.whl (127 kB)
       Collecting aiodns==2.0.0
         Downloading aiodns-2.0.0-py2.py3-none-any.whl (4.8 kB)
       Collecting aiohttp==3.7.3
         Downloading aiohttp-3.7.3-cp39-cp39-manylinux2014_x86_64.whl (1.4 MB)
       Collecting aiohttp-socks==0.5.5
```

Build finished