Data Science Intern at Data Glacier

Week 5 : Cloud and API Deploment

Name : Anuj Singh

Batch Code: LISUM19
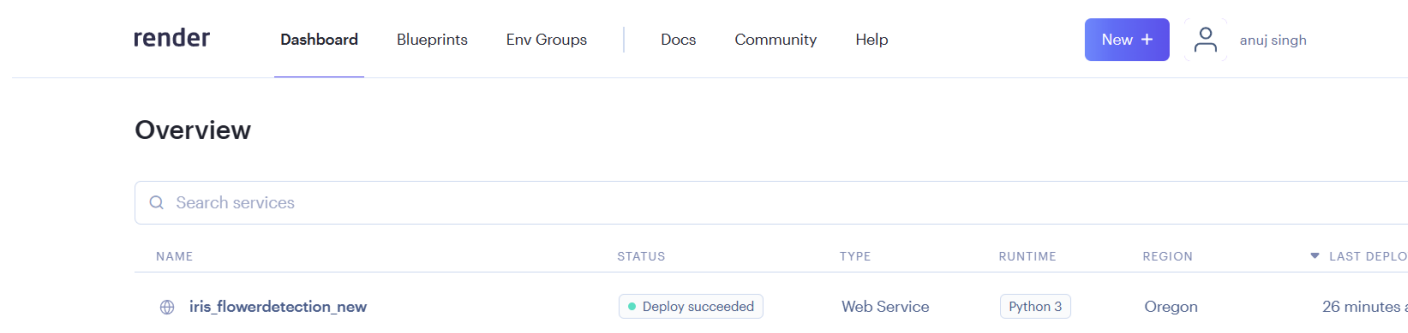
Date : 25th April 2023

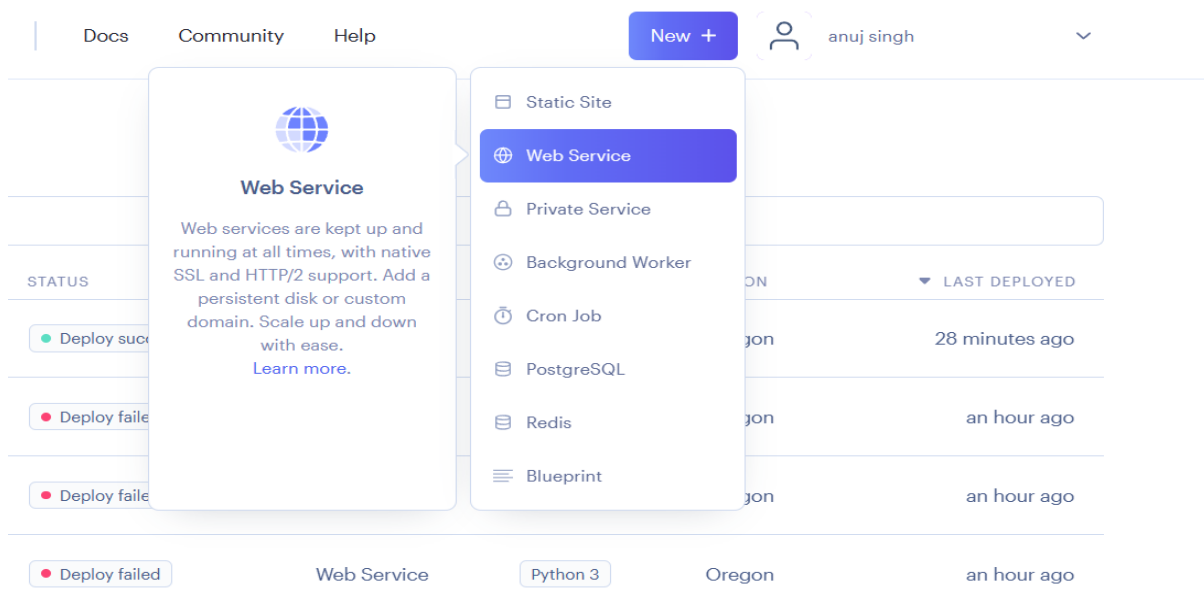Submitted to : Data Glacier

Submission link : week 5 files – singhanuj695/WEEK5 (github.com)

Cloud Deployment steps

1. Since Heroku is not used, the open source cloud Render https://render.com/ is used for this assignment.

 2. The steps from [1] are followed in order to deploy the ML application on cloud.

3. Create an account in render and click on New

4. Click on **Web Service**

5. Connect to your Github account and select the repository to be deployed ([singhanuj695/WEEK5 (github.com)](github.com)) already contains the ML application deployed using Flask submitted for Week 5)
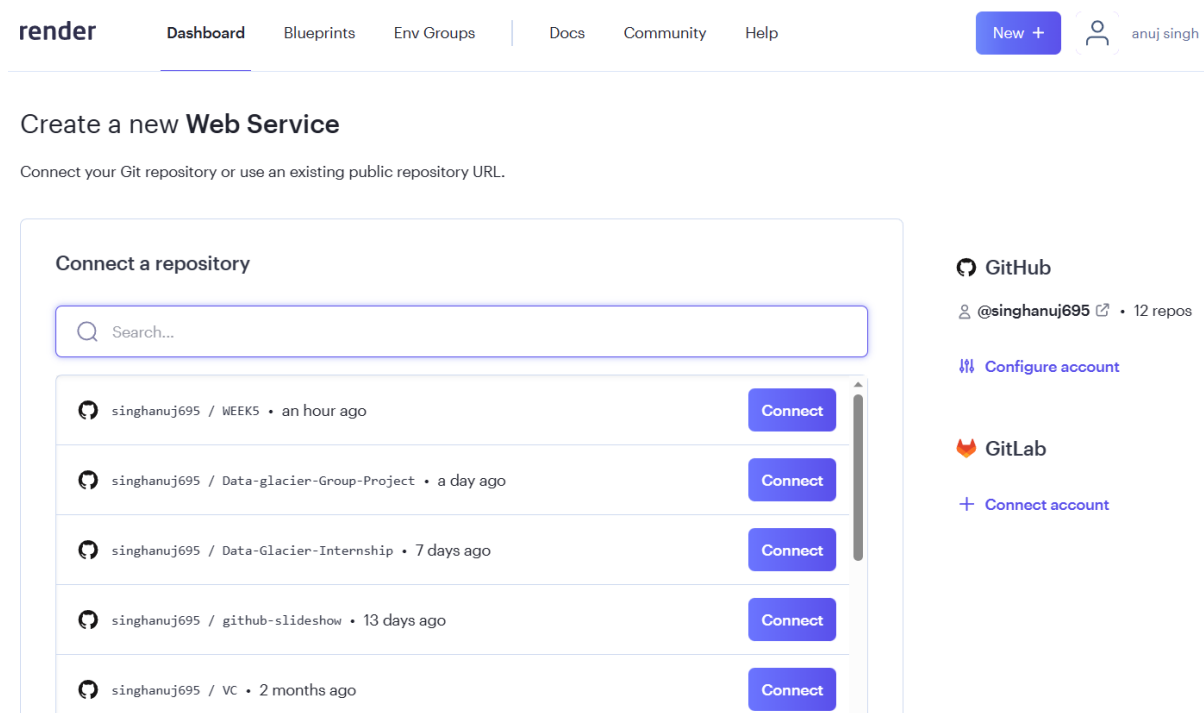
6. Provide a name to the service

You are deploying a web service for singhanuj695/WEEK5.

You seem to be using **Flask**, so we've autofilled some fields accordingly. Make sure the values look right to you!

Name
A unique name for your web service.

    iris_flowerdetection_new

Region
The region where your web service runs. Services must be in the same region to communicate privately and you currently have services running in **Oregon**.

    Oregon (US West)

Branch
The repository branch used for your web service.

    main

Root Directory   Optional
Defaults to repository root. When you specify a root directory that is different from your repository root, Render runs all your commands in the specified directory and ignores changes outside the directory.

    e.g. src

7. Enter gunicorn app:flask_app as the start command and click Create Web Service (flask_app is the name of my flask app in the file app.py)

Render runs all your commands in the specified directory and ignores changes outside the directory.

Runtime
The runtime for your web service.

    Python 3

Build Command
This command runs in the root directory of your repository when a new version of your code is pushed, or when you deploy manually. It is typically a script that installs libraries, runs migrations, or compiles resources needed by your app.

    $ pip install -r requirements.txt

Start Command
This command runs in the root directory of your app and is responsible for starting its processes. It is typically used to start a webserver for your app. It can access environment variables defined by you in Render.

    $ gunicorn app:Flask_app

8. It will start running and you can see the progress in the terminal. While it's running it will show the status as "in

progress". It will first install all the packages given in requirements.txt

April 25, 2023 at 1:27 PM   Live

c6b22bc Update app.py

Search logs   Search   ⌗ Maximize   Scroll to top

```
Apr 25 01:30:48 PM     UserWarning,
Apr 25 01:30:48 PM  /opt/render/project/src/.venv/lib/python3.7/site-packages/sklearn/base.py:338: UserWarning: Trying to unpickle estimat
or RandomForestClassifier from version 1.1.3 when using version 1.0.2. This might lead to breaking code or invalid results. Use at your ow
n risk. For more info please refer to:
Apr 25 01:30:48 PM  https://scikit-learn.org/stable/modules/model_persistence.html#security-maintainability-limitations
Apr 25 01:30:48 PM     UserWarning,
Apr 25 01:30:48 PM  [2023-04-25 08:00:48 +0000] [52] [INFO] Starting gunicorn 20.1.0
Apr 25 01:30:48 PM  [2023-04-25 08:00:48 +0000] [52] [INFO] Listening at: http://0.0.0.0:10000 (52)
Apr 25 01:30:48 PM  [2023-04-25 08:00:48 +0000] [52] [INFO] Using worker: sync
Apr 25 01:30:48 PM  [2023-04-25 08:00:48 +0000] [62] [INFO] Booting worker with pid: 62
```
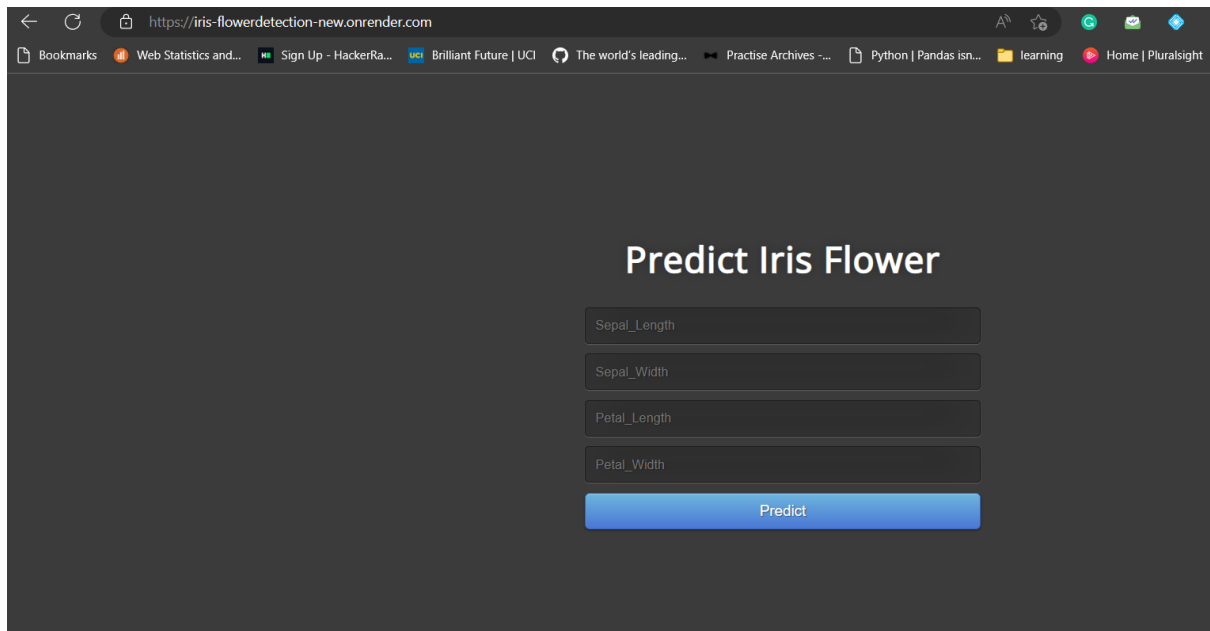
9. After a successful build, the service starts with the gunicorn app:flask_app command and the status changes from "in progress" to "live". To run the application in the browser, click on the url provided below the web service name (ML API (iris-flowerdetection-new.onrender.com))

Predict Iris Flower

Sepal_Length

Sepal_Width

Petal_Length

Petal_Width

Predict

10.Testing the ML application

Predict Iris Flower

2.1
3.2
4.5
2.3

Predict

Predict Iris Flower

Sepal_Length
Sepal_Width
Petal_Length
Petal_Width

Predict

The flower species is ['Virginica']

References: [1] Heroku Alternative | Learn to deploy Python application on Render | Step by step deployment guide, Raj Kapadia, https://www.youtube.com/watch?v=OBGaCULCZz