Week 5: Cloud and API deployment

Name: Darshan Dhanani

Batch code: LISUM32

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Submitted to:

Snapshots of Cloud deployment

Step 1: Crafting API

1. **Retrieve Wine Dataset - /api/dataset**
   - **Method:** GET
   - **Description:** Access the dataset containing wine class information utilized for model training.

2. **Predict Wine Class - /api/predict-wine-class**
   - **Method**: POST
   - **Description**: Submit data to predict the wine class using the trained model.

```python
@app.route("/api/dataset", methods=['GET'])
def dataset_api():
    datas = pd.read_csv('dataset/wine_data.csv').iloc[:, 1:]
    data_dict = datas.to_dict(orient='records')
    return jsonify(data_dict)


@app.route("/api/predict-wine-class", methods=['POST'])
def predict_api():
    # convert form value into array
    features = [[(x) for x in request.form.values()]]

    # make predication with multiple model
    predicted_data = pred.process_data(features)

    response = [{'model': item[0], 'prediction class': float(item[1])} for item in predicted_data]
    return jsonify(response)
```

Step 2: Initiating API Deployment:

Step 3: Sign in to Azure Portal Dashboard

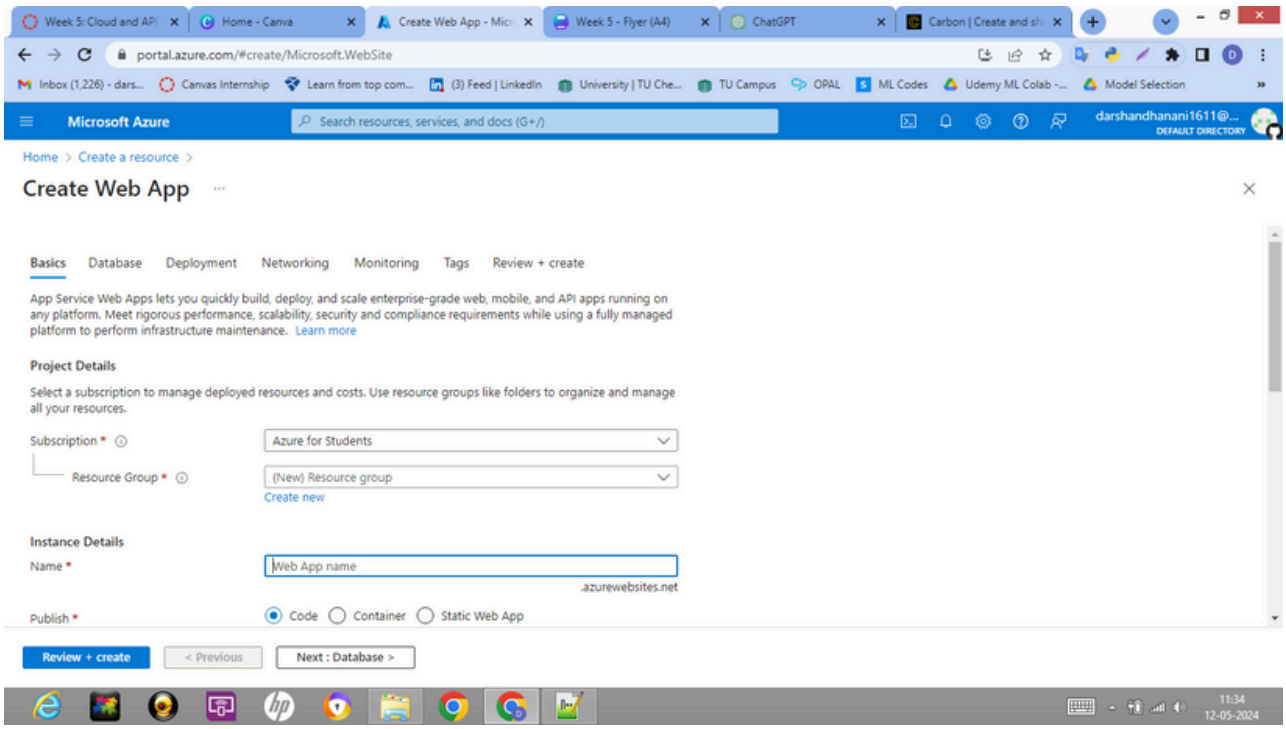
- Access the Azure Portal at portal.azure.com.
- Enter credentials to sign in.

Step 4: Create Resource Group

- Navigate to the left-hand menu and select "Resource groups".
- Click on "Create resource group".
- Enter the name for the resource group.(In this case name is “ML_Projects”)
- Choose desired subscription. (Student Pack)
- Select the preferred region for deployment.
- Click "Review + create" and then "Create" to finalize.

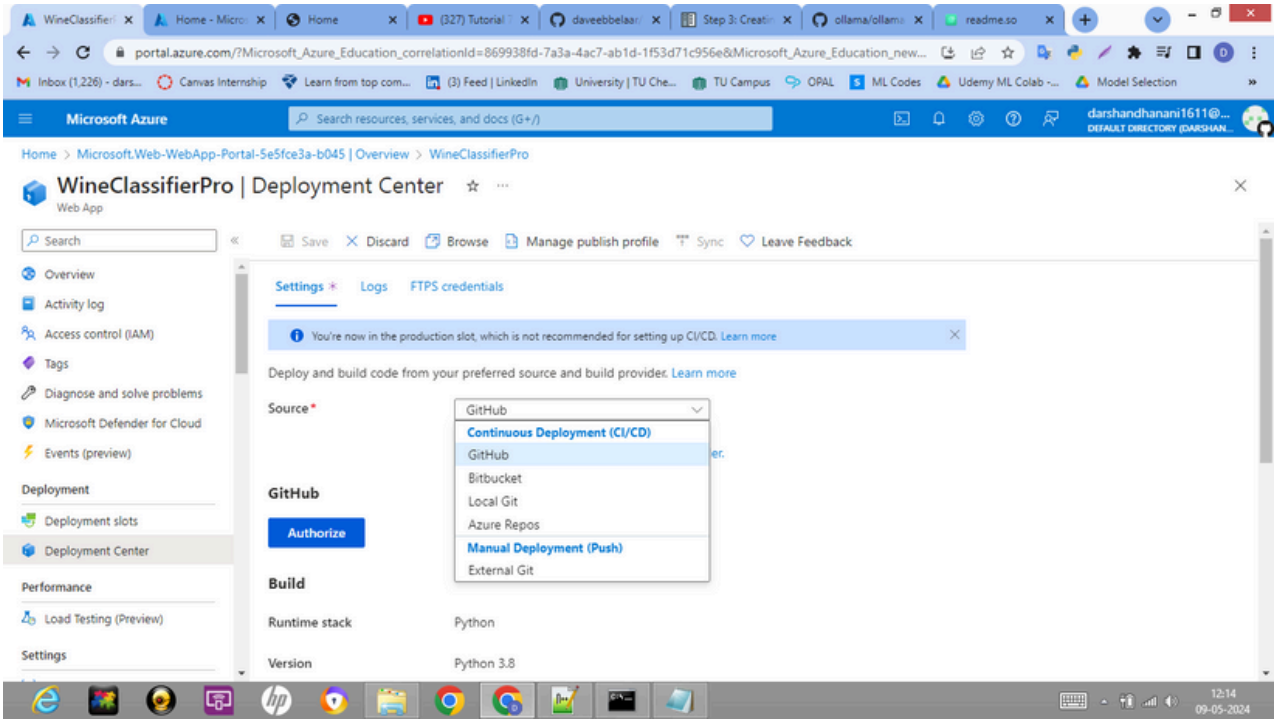
Step 5: Create Web App

- From the Azure Portal dashboard, click on "Create a resource".
- Search for "Web App" and select it from the list of available options.
- Click "Create" to start the creation process.



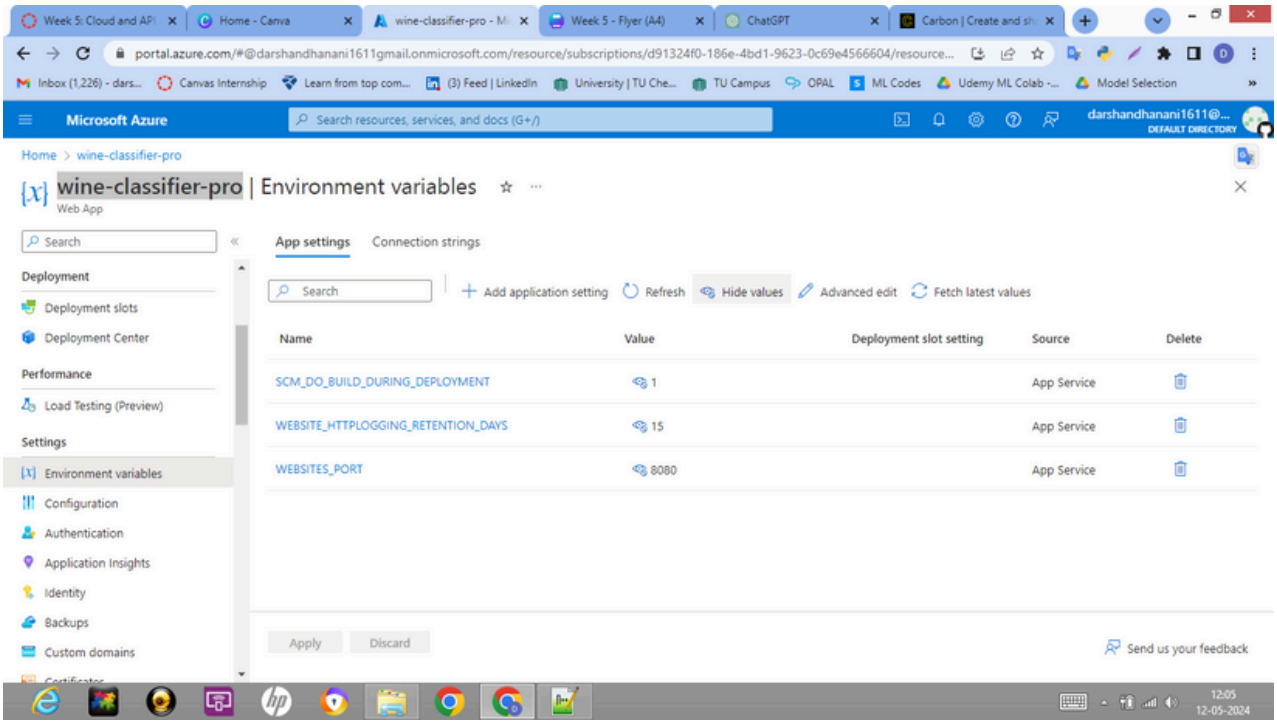
Step 6: Connect Source Code App

- After creating the web app, navigate to the "Deployment Center" tab.
- Click on "Deployment Center" from the left-hand menu.
- Choose your preferred source control option; (in this case "GitHub")
- Follow the prompts to authorize Azure to access GitHub repositories.
- Select the repository containing source code.
- Configure the deployment settings as required, such as branch to deploy from.
- Review the settings and click "Finish" or "Deploy" to connect your source code with the web app.



Step 7: Set Environment Variables

- From the Azure Portal dashboard, navigate to your web app.
- In the left-hand menu, select "Configuration" under the Settings section.
- Click on "New application setting" to add a new environment variable.
- Set the following environment variables:
- **WEBSITES_PORT:** Value set to **8080.**
- **WEBSITE_HTTPLOGGING_RETENTION_DAYS**: Value set to **15**.
- Save your changes to apply the environment variables to your web app.



Step 8: Successful Deployment