



# Week 5: Cloud and API deployment

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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.

```
@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)
```

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## Step 2: Initiating API Deployment:

A terminal window with a dark background and three colored window control buttons (red, yellow, green) in the top-left corner. It contains a single line of Python code.

```
app.run(host="0.0.0.0", port=8080)
```

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## 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.

Week 5: Cloud and API x Home - Canva x Create Web App - Mic... x Week 5 - Flyer (A4) x ChatGPT x Carbon | Create and sh... x

portal.azure.com/#create/Microsoft.WebSite

Microsoft Azure Search resources, services, and docs (G+/)

Home > Create a resource >

### Create Web App

Basics Database Deployment Networking Monitoring Tags Review + create

App Service Web Apps lets you quickly build, deploy, and scale enterprise-grade web, mobile, and API apps running on any platform. Meet rigorous performance, scalability, security and compliance requirements while using a fully managed platform to perform infrastructure maintenance. [Learn more](#)

**Project Details**

Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \* Azure for Students

Resource Group \* (New) Resource group [Create new](#)

**Instance Details**

Name \* Web App name .azurewebsites.net

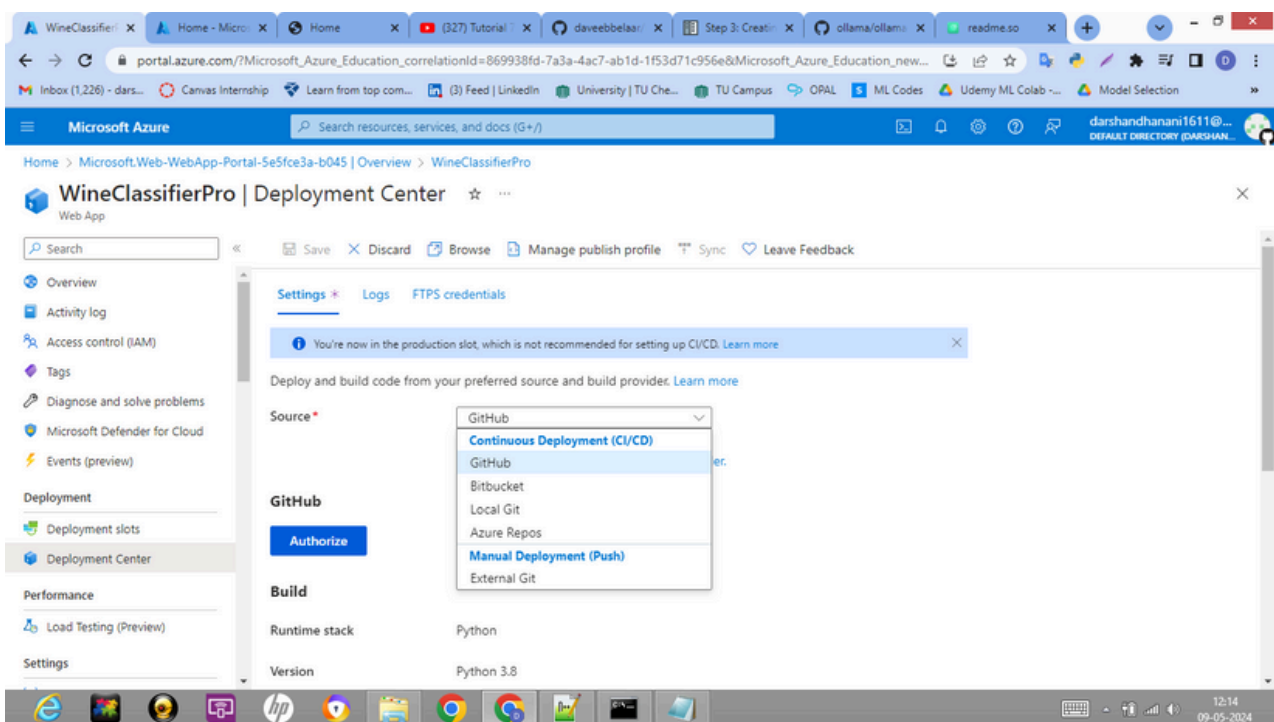
Publish \* ☒ Code ☐ Container ☐ Static Web App

[Review + create](#) < Previous Next : Database >

11:34 12-05-2024

## 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.

The screenshot shows the Azure Portal interface for a web app named 'wine-classifier-pro'. The left-hand menu is expanded to the 'Settings' section, and 'Environment variables' is selected. The main pane displays the 'App settings' tab for environment variables. A table lists the configured variables:

Name	Value	Deployment slot setting	Source	Delete
SCM_DO_BUILD_DURING_DEPLOYMENT	1		App Service	
WEBSITE_HTTPLOGGING_RETENTION_DAYS	15		App Service	
WEBSITES_PORT	8080		App Service	

At the bottom of the table, there are 'Apply' and 'Discard' buttons. The 'Apply' button is highlighted. The top of the page shows the Azure Portal header with the user's name 'darshandhanani1611@...' and the search bar.

## Step 8: Successful Deployment

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo and a search bar. The main content area displays the 'Overview' page for a deployment named 'Microsoft.Web-WebApp-Portal-5e5fce3a-b045'. The status is 'Your deployment is complete'. The deployment details show the start time as 5/9/2024, 12:08:41 PM, and the correlation ID as ea0997ab-988b-4ea8-bc51-6a32a28524b. The deployment is associated with the 'Azure for Students' subscription and the 'ML\_Projects' resource group. The 'Next steps' section includes links to 'Manage deployments for your app' and 'Protect your app with authentication'. The 'Cost Management' section provides information on staying within budget and setting up cost alerts. The 'Microsoft Defender for Cloud' section offers guidance on securing apps and infrastructure. The 'Free Microsoft tutorials' section encourages starting learning today. The 'Work with an expert' section mentions Azure experts as service provider partners. The bottom of the screen shows a Windows taskbar with various application icons and the system clock indicating 12:10 on 09-05-2024.

Microsoft Azure

Home > Microsoft.Web-WebApp-Portal-5e5fce3a-b045 | Overview

Deployment

Search

Delete Cancel Redeploy Download Refresh

Overview

Inputs

Outputs

Template

✓ Your deployment is complete

Deployment name: Microsoft.Web-WebApp-Portal-5e5fce3a-b045 Start time: 5/9/2024, 12:08:41 PM

Subscription: Azure for Students Correlation ID: ea0997ab-988b-4ea8-bc51-6a32a28524b

Resource group: ML\_Projects

Deployment details

Next steps

Manage deployments for your app. Recommended

Protect your app with authentication. Recommended

Go to resource

Give feedback

Tell us about your experience with deployment

Cost Management

Get notified to stay within your budget and prevent unexpected charges on your bill.

Set up cost alerts >

Microsoft Defender for Cloud

Secure your apps and infrastructure

Go to Microsoft Defender for Cloud >

Free Microsoft tutorials

Start learning today

Work with an expert

Azure experts are service provider partners

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo and a search bar. The main content area displays the 'Overview' page for a web application named 'wine-classifier-pro'. The status is 'Running'. The deployment is associated with the 'Azure for Students' subscription and the 'ML\_Projects' resource group. The 'Essentials' section includes links to 'Browse', 'Stop', 'Swap', 'Restart', 'Delete', 'Refresh', 'Download publish profile', 'Reset publish profile', and 'Share to mobile'. The 'Properties' section shows the name 'wine-classifier-pro', the publishing model 'Code', and the runtime stack 'Python - 3.8'. The 'Monitoring' section includes links to 'Logs', 'Capabilities', 'Notifications', and 'Recommendations'. The 'Settings' section includes links to 'Activity log', 'Access control (IAM)', 'Tags', 'Diagnose and solve problems', 'Microsoft Defender for Cloud', 'Events (preview)', 'Deployment slots', 'Deployment Center', 'Load Testing (Preview)', and 'Settings'. The bottom of the screen shows a Windows taskbar with various application icons and the system clock indicating 12:13 on 12-05-2024.

Microsoft Azure

Home > wine-classifier-pro

Web App

Search

Browse Stop Swap Restart Delete Refresh Download publish profile Reset publish profile Share to mobile

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Microsoft Defender for Cloud

Events (preview)

Deployment

Deployment slots

Deployment Center

Performance

Load Testing (Preview)

Settings

Essentials

Resource group (ML\_Projects)

Status: Running

Location (move): East US

Subscription (move): Azure for Students

Subscription ID: d91324f0-186e-4bd1-9623-0c69e4566604

Tags (edit): Add tags

Default domain: wine-classifier-pro.azurewebsites.net

App Service Plan: ASP-MLProjects-bb92 (B1: 1)

Operating System: Linux

Health Check: Not Configured

GitHub Project: https://github.com/darshan-1611-dev/wine-class-pro

Properties

Monitoring

Logs

Capabilities

Notifications

Recommendations

Web app

Name: wine-classifier-pro

Publishing model: Code

Runtime Stack: Python - 3.8

JSON View