

CSI3007 - ADVANCED PYTHON PROGRAMMING

LAB ACTIVITY – 20

Web Deployment (Streamlit Cloud)

G S VITHUN

22MID0099

Goal: To deploy a Streamlit-based Logic Puzzle & Riddle Quiz Web Application on Streamlit Community Cloud, enabling public web access to an interactive logic-based quiz app that was previously containerized locally using Docker.

Project Overview

Title –Logic Puzzle and Riddle Quiz Using Streamlit

Aim:

The aim of this project is to build and deploy a web-based puzzle quiz application using Streamlit that presents random logic puzzles of varying difficulty levels (Easy, Medium, Hard). The app evaluates user answers, provides explanations, and enhances logical reasoning skills. This project also demonstrates how a Dockerized Streamlit app can be deployed to the cloud for public use.

Framework Suitability: Streamlit

Project Structure

PUZZLE_APP/

```
|  
|   └── app.py      # Main Streamlit application  
|   └── puzzles_data.py    # Dataset of 150+ logic riddles  
|   └── Dockerfile      # Docker configuration for local containerization  
|   └── requirements.txt    # Python dependencies  
└── .dockerignore      # Ignored files (cache, env, etc.)
```

Build & Deployment Process

```
docker build -t puzzle-quiz-app .
```

```
docker run -p 8501:8501 puzzle-quiz-app
```

2. Push Image to Docker Hub

```
docker tag puzzle-quiz-app vithun0099/puzzle-quiz-app:latest
```

```
docker push vithun0099/puzzle-quiz-app:latest
```

DOCKER HUB SNAPSHOT WITH LOADED IMAGE:

The screenshot shows the Docker Desktop interface with the 'My Hub' tab selected. On the left, there's a sidebar with various options like Ask Gordon, Containers, Images, Volumes, Kubernetes, Builds, Models, MCP Toolkit, Docker Hub, Docker Scout, and Extensions. The main area displays a table of repositories under the heading 'Images'. The table includes columns for Tags, OS, Vulnerabilities, Last pushed, Size, and Actions (Pull and Copy). The repositories listed are:

| Repository | Tag | OS | Vulnerabilities | Last pushed | Size | Actions |
|-------------------------------|--------|----|-----------------|--------------|-----------|-----------|
| vithun0099/puzzle-quiz | latest | | Inactive | 2 hours ago | 168.84 MB | Pull Copy |
| vithun0099/simpledesk | latest | | Inactive | 19 hours ago | 64.4 MB | Pull Copy |
| vithun0099/omnicare-dashboard | latest | | Inactive | 21 hours ago | 194.11 MB | Pull Copy |
| | v1 | | Inactive | 21 hours ago | 194.11 MB | Pull Copy |
| vithun0099/omnicare-backend | latest | | Inactive | 21 hours ago | 156.63 MB | Pull Copy |
| | v1 | | Inactive | 21 hours ago | 156.63 MB | Pull Copy |
| vithun0099/musicstore | v3 | | Inactive | 2 days ago | 720.77 MB | Pull Copy |

At the bottom, there are navigation links for 'Repositories per page' (5), '1-5 of 5', and a terminal icon.

3. Streamlit Cloud Deployment

share.streamlit.io

vithun-007 My apps My profile Explore Discuss Create app

vithun-007's apps

- email-phishing · main · t/app.py
- email-phishing · main · t/streamlit_app.py
- gdp-dashboard · main · streamlit_app.py
- puzzle · main · app.py

Get started from a template

View all templates →

GDP over time

Chatbot

This is a simple chatbot that uses OpenAI's GPT-3 to model its generated responses. To use this app, you need to provide an OpenAI API key, which you can get [here](#). You can also learn how to build this app step by step by [following this guide](#).

What's new?

Existing tickets

You can edit the tickets by double-clicking on a cell. Note how the rows below update automatically. You can also sort the table by clicking on the column headers.

| ID | Title | Type | Priority | Last updated |
|--------------|---|-------------|----------|--------------|
| TICKET-12345 | System performance degradation | High | Medium | 2023-01-01 |
| TICKET-12346 | Customer support ticket regarding notifications | In Progress | Medium | 2023-01-08 |
| TICKET-12347 | System update causing unexpected results | Critical | Medium | 2023-01-12 |
| TICKET-12348 | Backend connection failed | Critical | High | 2023-01-18 |
| TICKET-12349 | Mobile application crashing | Critical | Medium | 2023-01-20 |
| TICKET-12350 | Website performance degradation | Critical | Medium | 2023-01-25 |
| TICKET-12351 | Customer data not loading correctly | Critical | Critical | 2023-01-25 |

My new app

Let's start building! For help and inspiration, head over to [DockerTemplates](#).

github.com/Vithun-007/puzzle

Vithun-007 / puzzle

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

main 1 Branch 0 Tags

Go to file Add file Code About

No description, website, or topics provided.

Vithun-007 Add files via upload 1 Commit

- .dockeignore Add files via upload 1 hour ago
- app.py Add files via upload 1 hour ago
- puzzles_data.py Add files via upload 1 hour ago
- requirements.txt Add files via upload 1 hour ago

README

Add a README

Help people interested in this repository understand your project by adding a README.

Add a README

Activity 0 stars 0 watching 0 forks

Releases No releases published Create a new release

Packages No packages published Publish your first package

Languages Python 100.0%

Suggested workflows Based on your tech stack

share.streamlit.io/deploy

vithun-007 My apps My profile Explore Discuss

Back Deploy an app

Repository: Vithun-007/puzzle

Branch: main

Main file path: app.py

App URL (optional): puzzle-ysd7att4aug7zoha3bedyr .streamlit.app

Domain is available

Advanced settings

Deploy

PUBLIC URL LINK: <https://puzzle-sba6pvzqd2g8kxjjeuxul.streamlit.app/>

Share ⚡ 🎁 🌐 ⏱

🧩 Logic Puzzle & Riddle Quiz

Sharpen your mind with logic puzzles! Choose wisely and learn from explanations 💬

Select Difficulty Level:

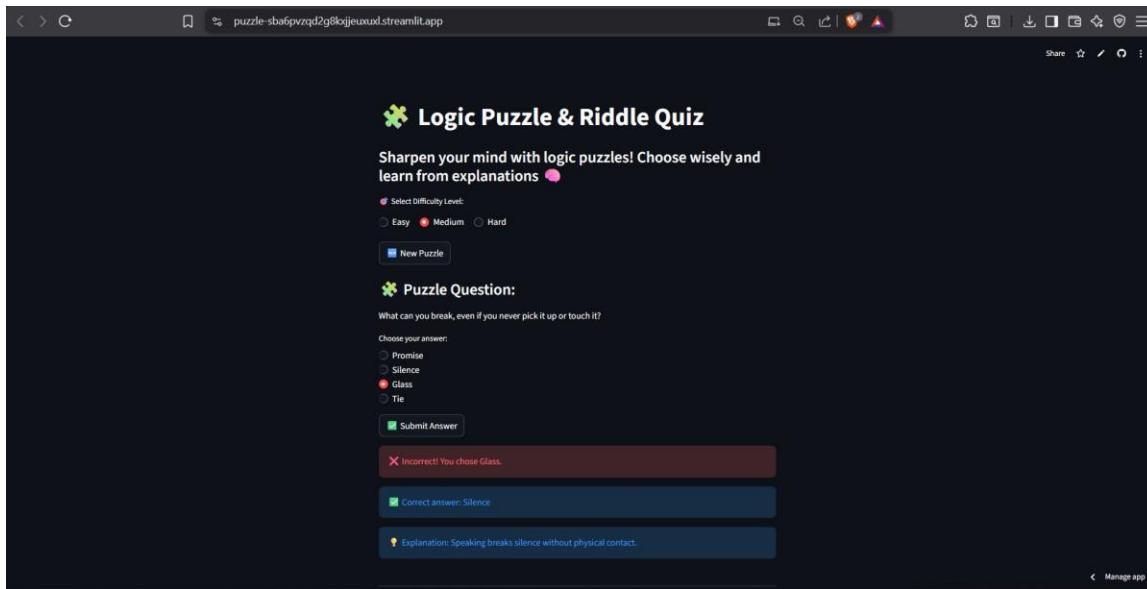
Easy Medium Hard

New Puzzle

Click New Puzzle to start playing!

Made with ❤️ using Streamlit | 150 logic puzzles with explanations 💬

Manage app



Conclusion

The deployment of the **Logic Puzzle and Riddle Quiz** web application on **Streamlit Community Cloud** successfully demonstrates a complete workflow — from local development and Docker-based containerization to cloud deployment.

This project showcases how Streamlit simplifies the process of publishing interactive Python web apps online while maintaining reliability, scalability, and ease of use.