



COEN 240: CLOUD COMPUTING

THE READING CIRCLE



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01

Introduction

Introduction

Project Title : The Reading Circle

Team Members :

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Abstract:

Book exchange clubs are popular among book lovers who are interested in exchanging books with other like-minded individuals.



02

Motivation & Problem Statement.....

Motivation & Problem Statement

Motivation

- Three of our group members work as student assistants in the library. Everyday, we see people asking for textbooks or reference materials. But, many times it happens that the book is already given to some other student or is just not available.
- People who dont have library cards cant checkout books they love. As a result, people who want to read a variety of books at home may not have access to them.
- It gets difficult to keep track of books if a group if there is no proper way to document it.

Motivation & Problem Statement

Problem Statement

- The problem that the book exchange system web app would address is the high cost of purchasing new books and the waste that results from unused books. Many people have a collection of books that they have read but are unlikely to read again.
- These books take up space and often end up being discarded. At the same time, purchasing new books can be expensive, especially for those on a tight budget.
- The reading circle web app aims to solve both these problems by providing a platform for users to exchange books with one another.



02

Background Information

Background Information

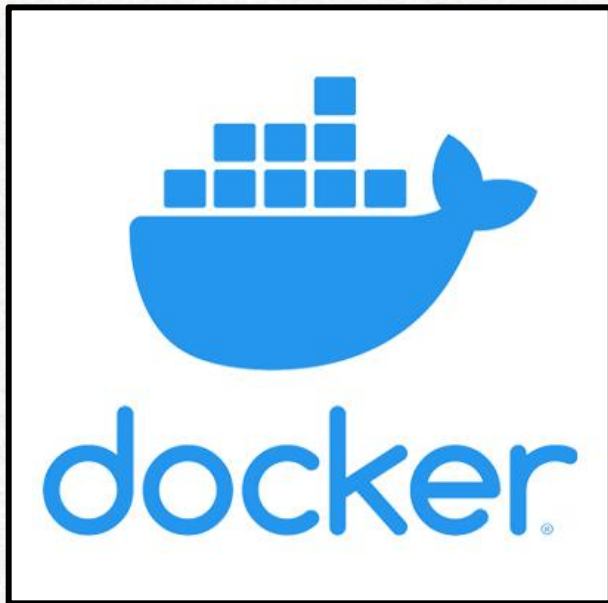
Amazon - EC2



- Amazon Elastic Compute Cloud (EC2) is a part of Amazon's cloud computing platform AWS (Amazon Web Services).
- It provides scalable compute capacity in the cloud. It allows you to launch virtual servers, also known as instances, with a variety of operating systems and configurations.
- We are using Amazon EC2 's virtual instances to run our web application.

Background Information

Docker



Docker is an open source containerization platform.

Docker Image

A Docker container image is a lightweight, standalone, executable package of software that includes everything needed to run an application.

Container

A container is a standard unit of software that packages up code and all its dependencies so the application runs quickly and reliably from one computing environment to another.

- We are writing a docker file which contains all the commands which will pack the whole app in one container which we can run on any platform

Background Information

AWS S3



- Amazon S3 provides a simple web service interface that you can use to store and retrieve any amount of data, at any time, from anywhere.
- You can store virtually any kind of data in any format.

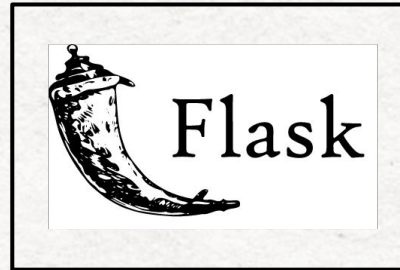
Background Information

AWS RDS



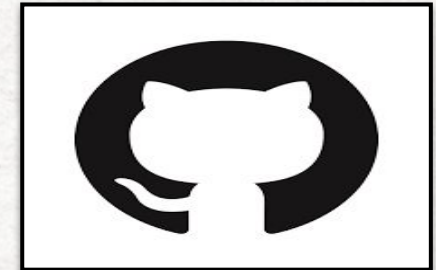
Amazon Relational Database Service (RDS) makes it easy to set up, operate, and scale a relational database in the cloud.

Flask

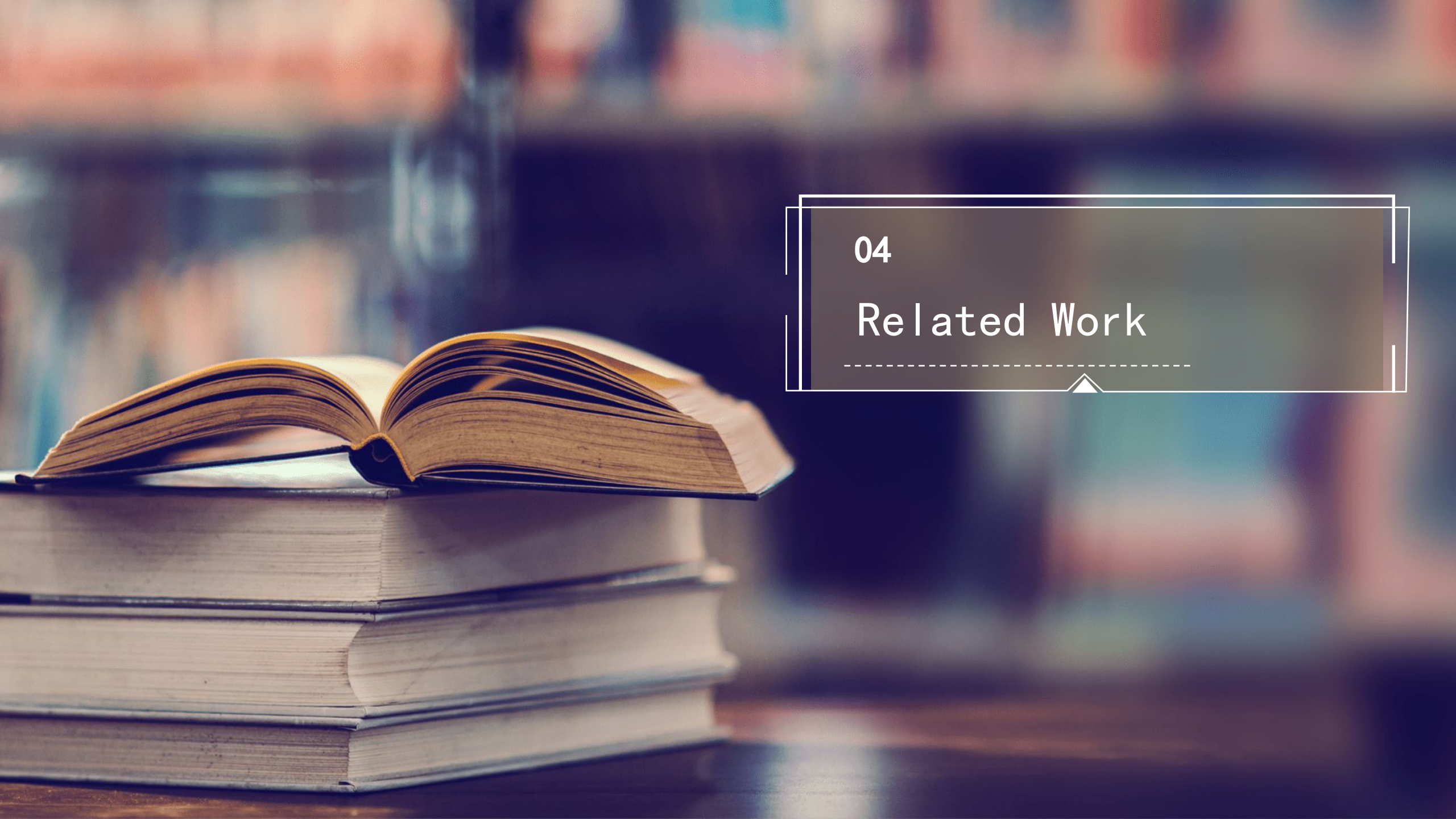


Micro web framework written in Python for developing web applications which have a built-in development server.

Github




GitHub is a code hosting platform for version control and collaboration. It lets you and others work together on projects from anywhere.



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Related Work



Popular Book Exchange Websites

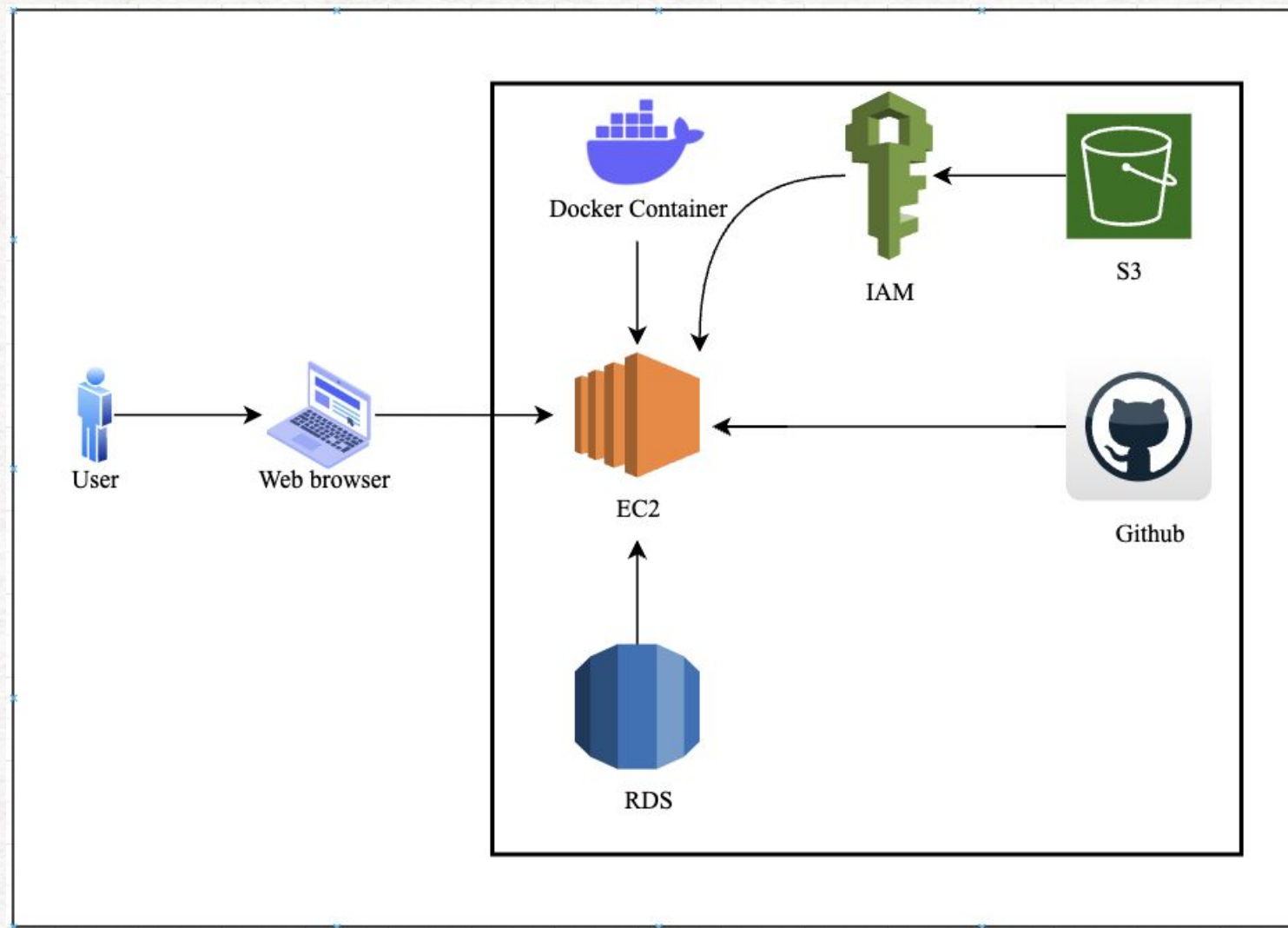
- PaperBackSwap
- BookCrossing
- BookMooch.
- BooksFreeSwap



05

System Architecture

System Architecture

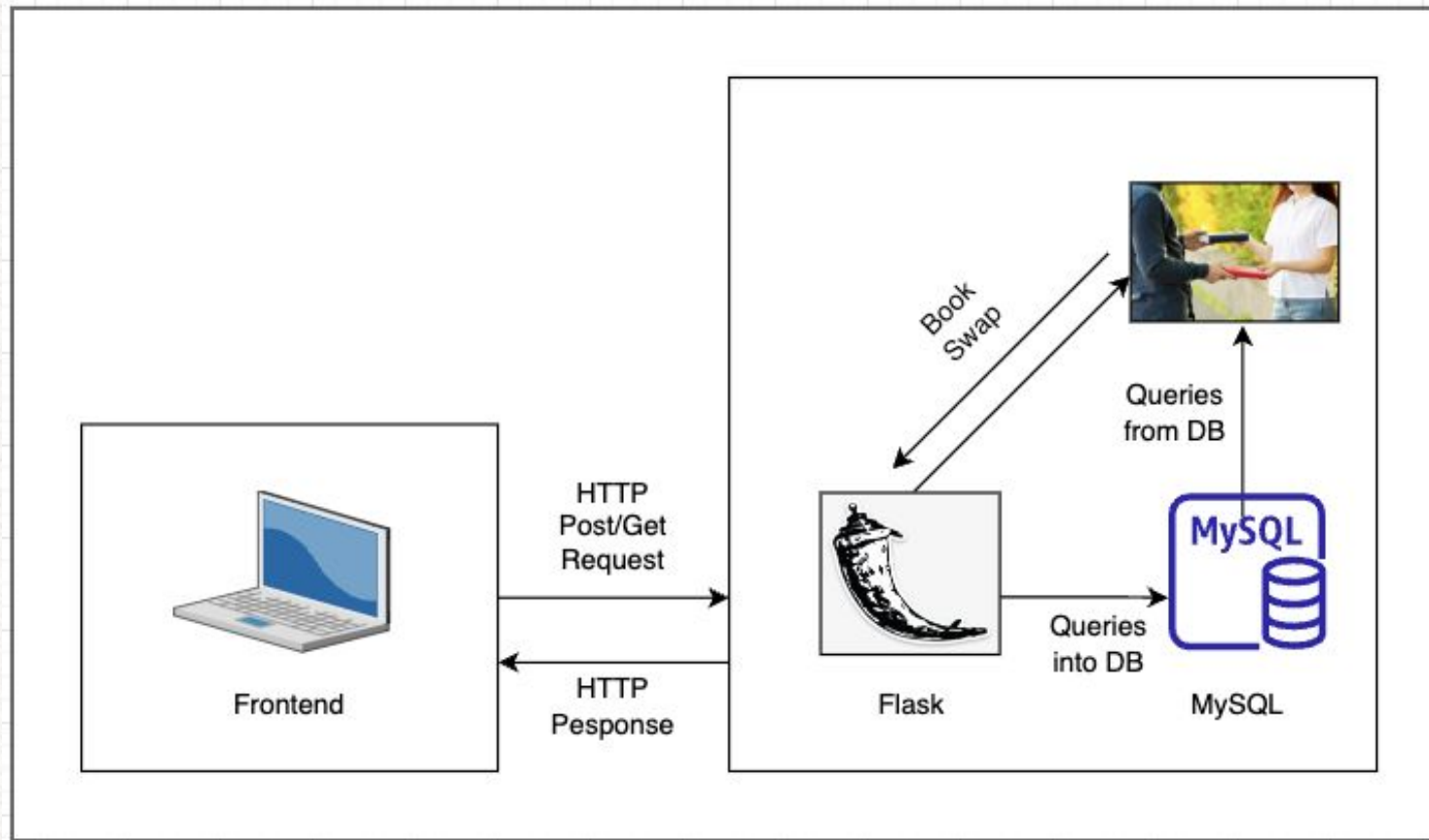




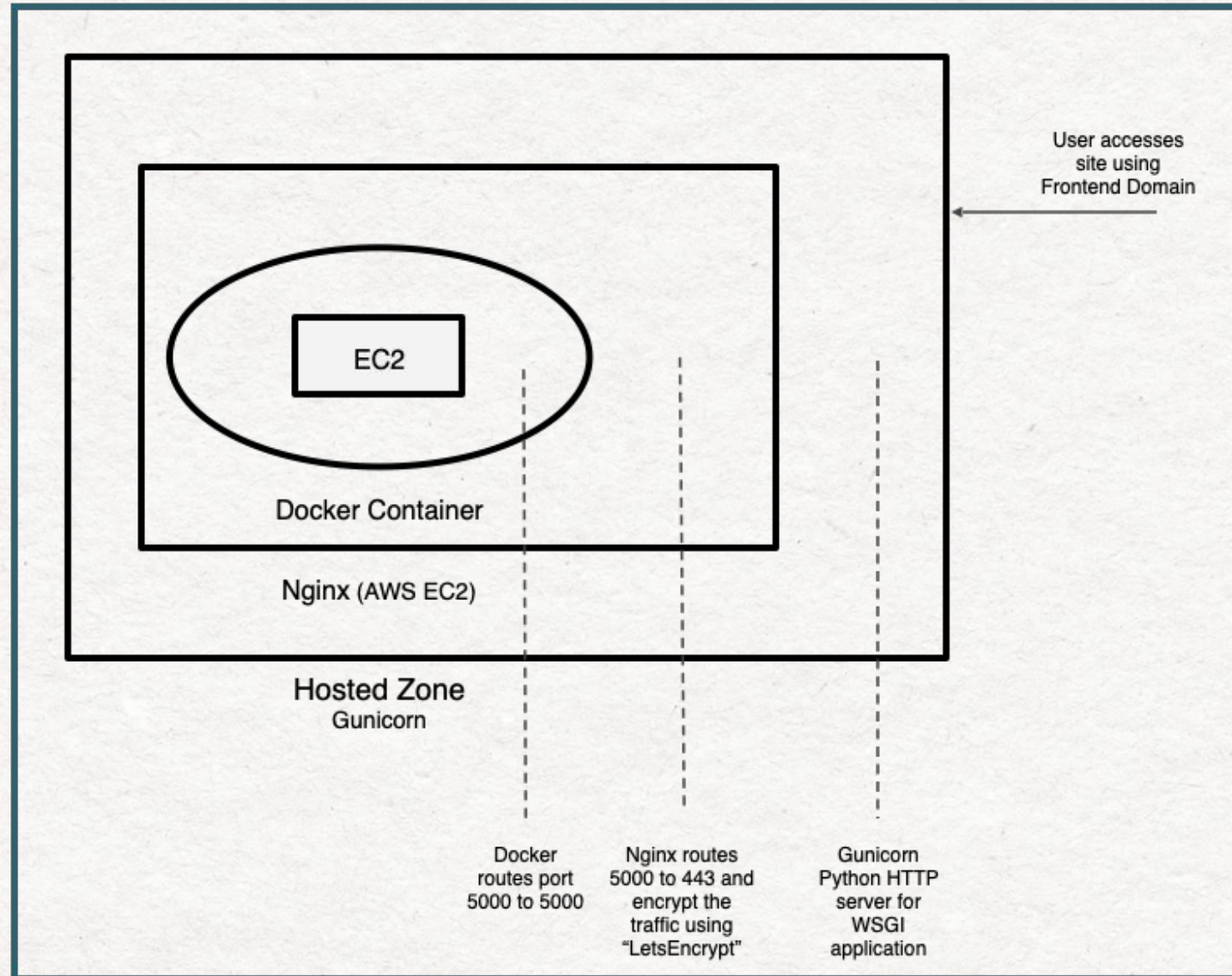
05

Software Architecture

Software Architecture



Routing Overview





DEMO

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Outcome



Outcome

- We integrated backend and frontend using Flask and GitHub for collaboration.
- We gained knowledge about cloud services like EC2, Docker, and S3 individually before creating a web app using them.
- We learned how to use these technologies together to build scalable, reliable, and cross-platform web applications.
- Working with various cloud services taught us how to deploy and maintain applications in a cloud environment.
- Flask and GitHub facilitated efficient development and change tracking in the project.



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Future Aspects



Future Aspects

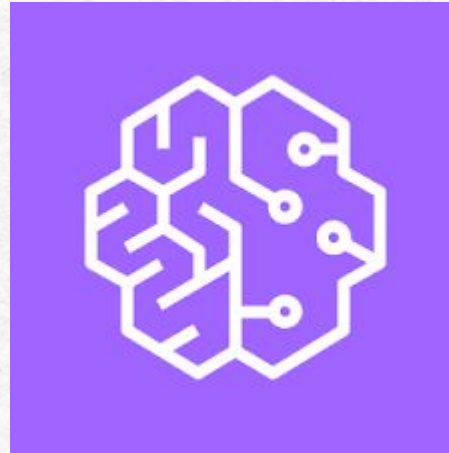


Amazon Location Service

Add location data to applications

Use cases :

1. Using travel time, distance, and directions between a departure point and one or more destinations.
2. Visualize or combine multiple data sources to identify patterns and relationships to accelerate decisions.



Amazon SageMaker

Build, train, and deploy machine learning models

Use cases :

1. Personalized Recommendations- Deliver customized, unique experiences.
2. Extract & Analyze Data Automatically



Stumbled Upon

Discover overlooked Books

Use cases :

1. Everyone's definition of "good book" is different
- 2.



Thank you