**Containerization Strategy**

**Objective**

The objective of this section is to demonstrate how Docker will be utilized to containerize the application components. By creating containers for all required services in the architecture design, we will ensure a consistent environment across different stages of development and deployment. This approach will streamline the development process, facilitate easier testing, and ensure that the application runs reliably when moved from one computing environment to another.

**Why Needed**

Containerization is essential for achieving consistent environments across different stages of the application lifecycle, from development to production. Docker, a leading platform for containerization, allows developers to package applications and their dependencies into lightweight, portable containers. These containers can run consistently on any environment that supports Docker, eliminating the "it works on my machine" problem. By applying containerization techniques, we will ensure that each service in our application architecture runs in its isolated environment, leading to better manageability, security, and scalability.

**Course Registration**

**UI Component – Couse Registration And User Login**

**Webapp.Dockerfile**

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Backend Microservices

1. Search Courses And Registration

Note - We are storing Vault Secret in docker-compose file however in pproduction we will store it in docker

* Docker Compose.yaml

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Config.py

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Docker for Flask AppA screenshot of a computer program

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1. Course Upload

* Docker Compose.yaml

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Config.py

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Docker for Flask App

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1. Notification

* Docker Compose.yaml

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Docker for Flask App

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