**DevOps Case Study’s**

As part of our training program, we are approaching the next phase, which involves the completion of a hands-on case study on Docker and Kubernetes. This case study is designed to deepen your understanding of containerization and orchestration, providing practical experience in solving real-world challenges.

**Case Study Topics:**

1. Microservices Migration to Kubernetes for a Financial Institution
2. E-Commerce Platform Scaling with Kubernetes
3. Continuous Integration and Continuous Deployment (CI/CD) in a SaaS Company
4. Hybrid Cloud Implementation for a Healthcare Provider

**Instructions:**

* Select one or more case studies that align with your area of interest or expertise.
* Analyze the problem presented, the solution applied, and the final outcome.
* Provide your insights on how Docker and Kubernetes were used effectively in the case study and suggest any alternative approaches or improvements.

**Case Study 1: Microservices Migration to Kubernetes for a Financial Institution**

**Problem:** A financial institution faced challenges with its legacy monolithic application. The system was slow to deploy, difficult to scale, and required long maintenance windows, which affected customer experience and uptime.

**Case Study 2: E-Commerce Platform Scaling with Kubernetes**

**Problem:** An e-commerce platform experienced rapid growth, and its existing infrastructure couldn't handle sudden spikes in traffic during events like Black Friday sales. The static infrastructure led to crashes and long downtimes during these peak traffic periods.

**Case Study 3: Continuous Integration and Continuous Deployment (CI/CD) in a SaaS Company**

**Problem:** A Software-as-a-Service (SaaS) provider faced difficulties in managing its continuous integration and deployment pipeline. Every new feature or bug fix required manual intervention, causing delays and inconsistencies between different environments.

**Case Study 4: Hybrid Cloud Implementation for a Healthcare Provider**

**Problem:** A healthcare provider needed a solution that could run sensitive patient data workloads on-premise while leveraging the cloud for less sensitive applications, like front-end systems, to scale according to demand.