

Design Document (Solution Architecture)

Architecture Diagram :

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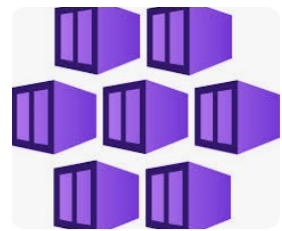
Github Link : <https://github.com/sriramsurendhran/surge-api-case-study-1.git>



GITUB



DOCKER



AKS

1. CI/CD Pipeline: GitHub Actions for automation. The workflow builds, tests, and deploys the Dockerized Flask application to an AKS cluster.
2. Docker: The application is containerized with Docker, enabling easy and consistent deployment across environments.
3. AKS Cluster: A managed Kubernetes cluster provided by Azure is used to host the application, ensuring scalability and availability.
4. Ingress Controller: An NGINX ingress controller manages traffic and exposes the application to the internet
5. SSL Certificate: HTTPS is implemented using a trusted SSL certificate obtained through Cert-Manager (Let's Encrypt).