# Problem Statement 1:

Title: Containerisation and Deployment of Wisecow Application on Kubernetes Project Repository: <https://github.com/nyrahul/wisecow> Wisecow App Objective: To containerize and deploy the Wisecow application, hosted in the

above-mentioned GitHub repository, on a Kubernetes environment with secure TLS

communication.

Requirements:

Dockerization:

* Develop a Dockerfile for creating a container image of the Wisecow application.

Kubernetes Deployment:

* Craft Kubernetes manifest files for deploying the Wisecow application in a Kubernetes environment.
* The Wisecow app must be exposed as a Kubernetes service for accessibility.

Continuous Integration and Deployment (CI/CD):

* Implement a GitHub Actions workflow for:
  + Automating the build and push of the Docker image to a container registry whenever changes are committed to the repository.
  + Continuous Deployment *[Challenge Goal]*: Automatically deploy the updated application to the Kubernetes environment following successful image builds.

TLS Implementation *[Challenge Goal]*:

* Ensure that the Wisecow application supports secure TLS communication.

Expected Artifacts:

* A private GitHub repository containing:
  + The Wisecow application source code.
  + The Dockerfile for the application.
  + Kubernetes manifest files for deployment.
  + The CI/CD pipeline configuration.
  + A GitHub Actions workflow file for facilitating Continuous Build and Deployment (CI/CD)

Access Control:

* The GitHub repository should be set to public.

End Goal: The successful containerisation and deployment of the Wisecow application to the Kubernetes environment with an automated CI/CD pipeline and secured with TLS communication