Cloud Engineer Assessment

A developer has created an application, and that application code is hosted in a GitHub repo located at https://github.com/vaskokelkocev-rldatix/dotnet-todo. The developer has provided some simple test cases in the readme file that can be used to test the validity of the built artefact.

As a Cloud Engineer your objective is to create a process that will deliver the application code to the public cloud.

Tasks:

0. Provide a private GitHub repository with the code copied from the original repository with your solution, and give access to:
    - vaskokelkocev-rldatix
    - vaskovanevski-allocate
1. Using GitHub Actions create a CI pipeline that will build **docker image** from application source code.
    a. Create Dockerfile and build it.
    b. Update the README.md file that explains how to build and run your Docker Image
    c. Implement Semantic Versioning for the application builds.
    d. Use code analysis tool by your choice to inspect the source code.
2. Create a Helm Chart template for the docker image created in Step 1. (Can be accomplished with minikube/microk8s locally)
    a. Create the Helm Chart template in a separate folder.
    b. Create values.yaml that can be used to customize the chart template
    c. Update README.md on how to deploy the Helm chart.
3. Github actions workflow (pipeline)
    a. Create a workflow that will initiate a small Kubernetes (ex. Minikube) cluster on GitHub Actions Runner
    b. Deploy the application from step 1 and 2 to the created Kubernetes cluster.
    c. Run some tests to your application endpoints using the examples in the Readme file
    d. Update README.md with explanation about the workflow, jobs, and steps.
    e. Considering we will have access to your repository please run the workflow once so we can check the action workflow output.
4. Write an infrastructure as a code solution that will host the built application from Step 1 on to an AWS Lambda service running inside a VPC. The solution should expose the app on the internet. Any domain name can be used, AWS built ones are acceptable.

We will evaluate the solution on the following criteria:

- Correctness
- Completeness
- Legibility
- Extensibility
- Best practices