SIT323/SIT737- Cloud Native Application Development 10.2HD: Building a Cloud-Native Application

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Overview

You are required to build a cloud-native web application built with Node.js and deployed on Google Cloud Platform (GCP). This task can be applied to your proposed app for HD project.

Part I

The required tools for doing this task are as follows:

- Git (https://github.com)
- Visual Studio (https://code.visualstudio.com/)
- Node.js (https://nodejs.org/en/download/)
- Docker
- Kubernetes // a computing platform to host your microservice
- Kubectl // the command-line tool for interacting with Kubernetes cluster
- MongoDB
- Docker Compose
- GCP access

Instructions

• Build a cloud-native web application using Node.js.
• Containerize the application using Docker and create a Dockerfile for the application.
• Set up a GCP account, create a project, and enable the relevant APIs for your project.
• Use Google Container Registry (GCR) to store the Docker image of your application.
• Create a Kubernetes Cluster
• Make a deployment for the docker image in the kubernetes cluster.
Use Google Container Registry (GCR) to store the Docker image of your application.
Configure monitoring and logging for your application using GCP tools.

Deliverables

- A cloud-native web application built with Node.js and containerized using Docker.
- A Dockerfile for the application.

Submission Details

- A link to the GitHub repository containing the source code and configuration files for your application, including the screenshots of each step.
- Submit the report documenting the steps taken, tools and configurations used, and any challenges encountered.