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Question **1**

Not yet answered

Marked out of 10.00

Tasks:

#1 : Analyze and Product Design.

- Analyze the given problem statement using **W3H** techniques and document it.
- Make a system design using **UML** and **Database design** document it.
- Prepare UI Wireframe

#2: Product Back-End Implementation.

- Use **MySQL** as your database.
- Create a web-based application for the given scenario using **Three Tier Architecture**.
- Use Web API (With MVC Design Pattern) as a Back End.
- Use **REST API** as an Architecture Style.
- Perform all the required **CRUD** operations using **Entity Framework**.

#3: Product Front-End Implementation.

- Use React (Babel /Webpack) as Front-End
- Make the application as user interactive.
- Apply style using **CSS / Bootstrap**.
- Perform the validations using react.

#4: Perform Code Quality Analysis.

- Perform the Code Quality Analysis of your project using **SonarQube**.
- Generate the SonarQube Report.
- Correct your code as suggested in the report
- Repeat the process until you get the clean report

#5: Test your application.

White Box Testing (Unit Testing)

- Write the Unit Test cases by using **NUnit** for your Back end [Web Api].
- Write the Unit Test cases by using **Jest** for your Front-End [React].

Black Box Testing:

Functional Testing (Manual Testing):

- Write the **Manual Test Case** for the Front-End of your application.

Functional Testing (Automated Testing):

- Write the Automated Test cases by using **Selenium** for your application.

#6: DevOps CI/CD implementation of your application.

- Add the application to the Git Repository (Use the necessary commands)
- Configure the Jenkins tool with required plugins and paths.
- Start the Sonar server and configure the project.
- Start the Docker Engine.
- Create a Dockerfile in your application and add necessary steps and commit the changes.
- Create a Jenkins pipeline job and the pipeline script to get the application from Git, build the application, run unit tests, run code quality tests and deploy the application in docker.
- Run the application in Docker Container.

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Files

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