Cloud Native, DevOps, Agile, and NoSQL - Final Project Overview

Estimated time needed: 5 minutes

You will have the opportunity to take your Cloud Native, DevOps, Agile, and NoSQL skills and put them into action in a project that integrates these skills. You will receive a boilerplate code for the Tax Calculator app to work with.

Then using the skills you learned in this course, you will plan and implement the improvements in the application; while following CI/CD, Epics, and Stories, modernizing the application, and using containers.

This course offers two lab options—JavaScript and Python. We have already included a Lab Options by Programming Language reading at the start of the course; please review it before beginning this reading: Reading: Lab Options by Programming Language

Objectives:

1. Plan the changes using the epic and stories
2. Containerize the application
3. Run unit tests as part of the pipeline
4. Deploy the application when all tests pass

Project Breakdown

Part A: Plan your changes

1. Create the epic
2. Create the stories

Part B: Modernize the application

1. Containerize the application
2. Deploy the containerized application on IBM Cloud

Part C: Enhance DevOps

1. Create pipelines
2. Introduce unit tests in the pipeline
3. Deploy the application using the pipeline

Evaluation Criteria – 10 Points

You can submit your project deliverables in one of the following ways:

Option 1: AI-Graded Submission and Evaluation
When you choose Option 1, you will be redirected to an AI tool where you can upload your deliverables, which may include URLs, terminal outputs, code snippets, or screenshots. You will then receive an AI-generated grade that will automatically reflect on your progress page.

Option 2: Peer-Graded Submission and Evaluation
When you choose Option 2, you will upload your deliverables—such as URLs, terminal outputs, code snippets, or screenshots—through the My Submission section. Your submission will then be reviewed either by your peers or by AI grader.

> We recommend using Option 1 for faster grading. However, if you face any issues or cannot access it, you may use Option 2 instead.

> If you encounter any grading problems, please reach out to the Course Team through the Discussion Forums.

Please find the details of the Grading Criteria below:

Tasks:

1. Run unit tests using Jasmine **1 point**

2. Create the Dockerfile to deploy in a local Docker container **1 point**

3. Build the Docker image **1 point**

4. Deploy and test the web application deployed in a Docker container **1 point**

5. Tag and push to IBM Cloud Registry **1 point**

6. Deploy the Tax Calculator on IBM Cloud **1 point**

7. Create the Tekton Pipeline tasks **1 point**

8. Extend the Pipeline to call required tasks **1 point**

9. Run the Tekton pipeline **1 point**

10. Deploy the image built using pipeline **1 point**

Author(s)

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