Azure DevOps Capstone Project

Project: Streamline the Software Development Lifecycle for ”TechCo” using Azure DevOps

Background:

"TechCo"; is a leading technology company specializing in software solutions. They have a team of software engineers working on various projects simultaneously. However, the current development process lacks organization and collaboration, leading to delays and inefficiencies. To address these issues, "TechCo"; has decided to adopt Azure DevOps and wants the software engineering team to utilize its capabilities effectively.

Problem Statement:

As a software engineer at "TechCo," your task is to leverage Azure DevOps to streamline the Software Development Lifecycle (SDLC) for a new project called "ProjectX." This project aims to develop a web application for managing customer orders.

Requirements:

1. Creation of Boards:

a. Create an "Epic" in Azure DevOps for "ProjectX." The Epic should represent the overall goal of the project.

b. Break down the Epic into user-centric "User Stories" with clear acceptance criteria. Each User Story should represent a specific functionality of the web application.

c. Create tasks within each User Story to define the specific work items required for implementation.

2. Utilize Repos:

a. Create a new Git repository in Azure DevOps to host the source code for "ProjectX."

b. Initialize the repository with a basic project structure that includes necessary files and folders for the web application.

c. Collaboratively work on the source code using branches and pull requests. Ensure that each feature or bug fix is developed on a separate branch and merged back to the main branch after review.

3. Build CICD Pipelines:

a. Configure a Continuous Integration (CI) pipeline to automatically build the web application whenever changes are pushed to the main branch of the

repository.
b. Set up automated testing as part of the CI pipeline to ensure the code quality.
c. Implement a Continuous Deployment (CD) pipeline to automatically deploy the web application to a staging environment whenever changes are successfully built and pass the tests.
d. Enable manual approval gates before deploying the web application to the production environment.

Deliverables:
1. Create and organize Epics, User Stories, and Tasks on Azure DevOps Boards for "ProjectX."
2. Develop the source code for "ProjectX" on Azure DevOps Repos, utilizing branches and pull requests for collaboration.
3. Configure a CI pipeline to build the web application, including automated testing.
4. Implement a CD pipeline to deploy the web application to staging and production environments, with manual approval gates.

Evaluation Criteria:

1. Proper organization of Epics, User Stories, and Tasks on Azure DevOps Boards.
2. Effective utilization of Azure DevOps Repos for source code management and collaboration.
3. Successful configuration of CI pipeline for building the web application.
4. Successful implementation of the CD pipeline with staging and production deployments.s

Note: You are encouraged to explore and utilize other Azure DevOps features that can enhance the SDLC workflow, such as Azure Repos Wiki for documentation or Azure Artifacts for package management.