| **Track(s):Software DevelopmentDevOps Engineer** |
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| **Project ID:** |
| **Project Title:Ultimate CI/CD Pipeline** |
| **Group ID:4** |
| **Project Short Description: Ultimate CI/CD Pipeline automates the creation and configuration of cloud infrastructure using Terraform and Ansible. This project sets up a Kubernetes cluster and integrates key DevOps tools like SonarQube, Nexus, Jenkins, Prometheus, and Grafana.**  **With a fully automated CI/CD pipeline, the project streamlines code updates, continuous testing, and real-time monitoring, ensuring efficient and reliable deployments. This setup enables teams to manage infrastructure as code, promoting rapid application delivery and scalability in cloud environments.** |
| **Project Context (third party interfaces, APIs, or other third party tools that will interact with your proposed design):** |
| **Example Application of the Proposed Project:** |
| **Tools (Hardware and Software needed for the project / needed to build a prototype):**   * **Terraform for infrastructure as code (IaC)** * **Ansible for configuration management** * **Kubernetes for container orchestration** * **Jenkins for CI/CD pipeline automation** * **SonarQube, Nexus, Prometheus, Grafana for DevOps monitoring and code quality** |
| **Deliverables:**  **<https://github.com/AhmedWaleedAhmed/DevOpsPipelineMastery>** |
| **Project Notes (Background, Data, references…..etc):** |