

✓ 1. GitHub Repository Setup:

- **Task:**
 - Create a new GitHub repository named "CloudDevOpsProject"
 - Initialize the repository with a README.
- **Deliverables:**
 - URL to the GitHub repository. <https://github.com/tarek-code/CloudDevOpsProject.git>

✓ 2. Containerization with Docker:

- **Task:**
 - Deliver Dockerfile for building the application image.
 - Find the source code from: <https://github.com/Ibrahim-Adel15/FinalProject.git>
- **Deliverables:**
 - Dockerfile is committed to the repository.

✓ 3. Container Orchestration with kubernetes:

- **Task:**
 - Setup Kubernetes cluster.
 - Create iVolve namespace.
 - Configure Deployment, service for the application.
- **Deliverables:**
 - Required YAML files are committed to the repository.

✓ 4. Infrastructure Provisioning with Terraform:

- **Task:**
 - Deliver Terraform scripts for AWS resource provisioning:
 - VPC, public subnets, IGW, and Network ACL.
 - EC2 instances for Jenkins with Security Groups.
 - Use S3 Terraform Backend state.
 - Integrate CloudWatch for monitoring EC2.
 - Use Terraform Modules (Network, Server).
- **Deliverables:**
 - Terraform scripts are committed to the repository.

✓ 5. Configuration Management with Ansible:

- **Task:**
 - Deliver Ansible playbooks for EC2 instance configuration:
 - Install the required packages (e.g., Git, Docker, Java).
 - Install Jenkins.
 - Use Ansible roles.
 - Use Dynamic Inventory.
- **Deliverables:**
 - Ansible modules and inventory are committed to the repository.

✓ 6. Continuous Integration with Jenkins:

- **Task:**
 - Deliver Jenkins pipeline configuration in Jenkinsfile:
 - Stages: Build Image, Scan Image, Push Image, Delete Image Locally, Update Manifests, Push Manifests.
 - Use Shared Library.
- **Deliverables:**
 - Jenkins file is committed to the repository.
 - Shared library directory (vars) is committed to the repository.

✓ 7. Continuous Deployment with ArgoCD:

- **Task:**
 - Configure ArgoCD to sync and deploy your app into cluster.
- **Deliverables:**
 - ArgoCD Application is committed to the repository.

✓ 8. Documentation:

- **Task:**
 - Deliver comprehensive documentation:
 - Setup instructions.
 - Architecture overview.