# DevSecOps Final Assessment - Jenkins Pipeline Task

Task: Create a Jenkins Pipeline where we need to perform the following:  
- Clone the application source code from GitHub.  
- Build a Docker image from the source code.  
- Push the Docker image to Amazon ECR (Elastic Container Registry).  
- Scan the Docker image using Trivy to identify vulnerabilities categorized as Critical, Medium, and Low.  
- Finally, deploy the Docker image using Docker Compose.  
  
GitHub Repository: https://github.com/Msocial123/Dimple-CapsuleProject.git

## Steps to Perform in Jenkins Pipeline

1. Step 1: Git Clone - Clone the repository from GitHub.
2. Step 2: Build Docker Image - Use Docker to build the image from the cloned repository.
3. Step 3: Push Docker Image - Push the built Docker image to AWS ECR.
4. Step 4: Scan Docker Image - Use Trivy to scan the image for vulnerabilities (Critical, Medium, Low).
5. Step 5: Run Docker Compose - Use docker-compose to deploy the application container.

## Infrastructure Setup - Step by Step

1. \*\*Step 1: Launch EC2 Instance\*\*  
   - Instance Type: t2.medium  
   - OS: Amazon Linux or Ubuntu
2. \*\*Step 2: Install Docker, Git, and Dependencies\*\*  
   Run the following script:  
   ```bash  
   curl https://raw.githubusercontent.com/Msocial123/docker-install-commands/master/docker-install.sh | sudo bash  
   ```
3. \*\*Step 3: Install AWS CLI\*\*  
   Use this script to install AWS CLI:  
   ```bash  
   curl https://raw.githubusercontent.com/Msocial123/k8-install-eks/master/eks-client.sh | sudo bash  
   ```
4. \*\*Step 4: Configure AWS CLI\*\*  
   Run the following command and provide your AWS credentials:  
   ```bash  
   aws configure  
   ```
5. \*\*Step 5: Install Jenkins\*\*  
   - Install Jenkins on the EC2 instance.  
   - Ensure port 8080 is open in the Security Group settings.  
   - Setup Jenkins and install necessary plugins.
6. \*\*Step 6: Create and Run Jenkins Pipeline\*\*  
   - Use the GitHub repo for your source code.  
   - Define the steps mentioned above in your Jenkins pipeline.