| **Track(s):DevOps** |
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| **Project ID:2** |
| **Project Title:Petclinic** |
| **Group ID:GIZ1 SWD1 S3d** |
| **Project Short Description:**  Automated CI/CD pipeline using Jenkins, Docker, and Ansible to deploy the Pet Clinic app, with optional Kubernetes orchestration. |
| **Project Context (third party interfaces, APIs, or other third party tools that will interact with your proposed design):**  **GitHub**: Source code repository; triggers Jenkins on commits.  **Docker Hub**: Stores and manages Docker images for deployment.  **Ngrok**: Exposes Jenkins to the internet for webhook communication.  **AWS (EC2)**: Hosts the application in the cloud.  **Kubernetes (optional)**: Orchestrates container deployment for scalability.  **SMTP Server**: Sends email notifications for pipeline updates.  **MySQL**: Backend database for the application.  **Adminer**: Web interface for MySQL database management.  **Maven**: Manages project builds and dependencies.  **Ansible**: Automates deployment processes to virtual machines. |
| **Example Application of the Proposed Project:**  A **veterinary clinic** or **pet healthcare provider** could use the **Pet Clinic web application** to manage appointments, track pet health records, and maintain customer information. |
| **Tools (Hardware and Software needed for the project / needed to build a prototype):** |
| **Deliverables:**  Jenkins and Docker environments installed and configured.  Dockerized application running locally.  Basic Ansible setup  CI/CD pipeline plan documented  Jenkins job that builds Docker images.  Automated testing included in the pipeline.  Notifications configured for pipeline updates.  Ansible playbooks ready and tested.  Docker images automatically pushed to Docker Hub or a registry.  Successful deployment of the application to a AWS.  Fully refined CI/CD pipeline in Jenkins.  Documented CI/CD pipeline process.  Final deployment verified and tested on the AWS.  **Working Jenkins pipeline triggered by Git commits.** |
| **Project Notes (Background, Data, references…..etc):**  **References**:   * Pet Clinic Application Repository: [Azure-Samples/pet-clinic-war](https://github.com/Azure-Samples/pet-clinic-war) [EsraaShaabanElsayed/ci-cd-pipeline-with-jenkins-docker-ansible-aws](https://github.com/EsraaShaabanElsayed/ci-cd-pipeline-with-jenkins-docker-ansible-aws) |