**Final Project-1**

**Application Deployment**

**GitHub Repo URL**: [**https://github.com/Nandoo-03/Final-Project**](https://github.com/Nandoo-03/Final-Project)

Deployed site URL: http://<EC2-Public-IP>:80/  
Port number: 80

**DockerHub Repo URL**: <https://hub.docker.com/repository/docker/nandoo03/prod/general>

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* **Prod Repo (PRIVATE):** **nandoo03/prod**

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* **Dev Repo (PUBLIC):** **nandoo03/dev**

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**Version Control:**

**Note:** All Git operations, including pushing code to the dev branch and merging, were performed using the CLI. Merging was carried out both through the CLI and via direct pull requests on GitHub.

**Webhook:**  
**Note:** Configured Jenkins to automatically trigger builds from GitHub on both dev and master branches.

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**Jenkins:**

**Note:** The project has been implemented using a Jenkins multi-branch pipeline to handle both dev and master branch workflows. And enabled necessary plugins for Jenkins (Docker, Git, AWS EC2, Pipeline stage view and multi branch pipeline

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**Configuration:**

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**Dev branch stage view:**

**Note:** The deployment uses the **production image** built from the **master** branch. Therefore, changes pushed to the dev branch will not trigger a deployment. **Deployment occurs only after dev is merged into master.**

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**Master branch stage view:**

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**Console Output:**

The console output is captured from the master branch, as deployments are triggered only when changes are merged into master.

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**AWS EC2 instance:**

Note: Although the project requirements specified **t2.micro**, it was unavailable. Therefore, a **t3.small** instance was provisioned for deployment.

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**Security group and inbound rules:**

**Note:** SSH login to the server is restricted to my IP address only, as per the security configuration. Application access on port 80 is open for all users.

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**Prometheus and Grafana:**

**Note:** I configured Prometheus and Grafana on AWS EC2 via a setup script (available in the GitHub repo). Application health monitoring was implemented using Blackbox Exporter, with its script also uploaded to the repository.  
 **Prometheus:**

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**Grafana:**

**Node Exporter for system status:**

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**Blackbox Exporter for Application status:**

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**Deployed site:  
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