LAB Report | MLOps Deployment from PROD to DEV

1. Objective

This report outlines the process of deploying a project from a development (DEV) environment to production (PROD), including environment setup, version control, collaboration through pull requests, and resolving challenges.

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2. Steps in Sequence

1. Form Pairs Done

2. Forking the Repository

- **I started by forking the original repository to my GitHub account to have my own copy for development.**

3. Cloning the Repository

- **I cloned the forked repository to my local machine using:**

```
git clone <repository-url>
```

4. Creating a Virtual Environment

- **I used Anaconda to create a new isolated environment for the project:**

```
conda create --name myenv python=3.x
```

5. Activating the Environment

- **Before installing dependencies, I activated the virtual environment:**

```
conda activate myenv
```

6. Installing Dependencies

- **Inside the project directory, I installed the required packages from requirements.txt:**

```
pip install -r requirements.txt
```

7. Running the Project

- **I tested the project to ensure it ran without errors in the new environment.**

8. Creating a Pull Request

- **After pushing the changes to GitHub, I created a pull request for review.**

9. Reviewing and Merging

- **The pull request was reviewed and then successfully merged into the main branch.**

10. Swapping Roles and Repeating the Process

- **After completing my part as the developer, we switched roles. I became the gatekeeper:**

- **I pulled my partner’s code.**
- **Set up a new environment.**
- **Installed their dependencies.**
- **Ran their project to confirm everything worked correctly.**

11. Developer Role: Create a Pull Request Done

12. Gatekeeper Role: Review and Merge Code Done

13. Gatekeeper Role: Setup and Test Project Done

14. Swap Roles and Repeat Done

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3. Challenges Faced

- **Ensuring the correct environment was active while running the code.**
- **Managing dependencies and avoiding conflicts.**
- **Confirming that the pull request process was completed and merged properly.**

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4. Conclusion

The project deployment was successfully completed. All major steps were followed: forking, cloning, environment setup, running the project, collaboration through pull requests, and role swapping. These steps ensured code reliability and collaboration efficiency. Good communication and proper setup were key to overcoming technical issues.