**Documentation**

**Description:** Automating your project deployment using a **Continuous Integration/Continuous Delivery (CI/CD)** pipeline streamlines the process of building, testing, and deploying your application. This documentation outlines the general steps and components involved. 🚀

**CI/CD Pipeline Deployment Automation**

**1. Prerequisites and Tools**

Tools which are used:

* **Version Control System (VCS):** A repository hosting service (e.g., **GitHub**, **GitLab**) for your source code.
* **CI/CD Tool:** A platform to automate the pipeline (**GitLab CI/CD**, **GitHub Actions**, **AWS(ec2)**).
* **Deployment Target:** The environment where the application will run (**AWS EC2**).

**2. Pipeline Stages**

**2.0. Deploy Stage (CD)**

1. **Lunch EC2 instance**
2. **Use ubuntu**
3. **Make key pair for login**
4. **Update python** 
   1. **Cmd1-sudo apt update**
   2. **Cmd2- sudo apt install python3-venv-y**
   3. **Apt-list --upgradable**

**2.1. Make sure you have self made project or Clone repository from GitHub**

1. **Command for push repo:**
   1. **Git clone <url>**
   2. **Git status**
   3. **Git add .**
   4. **Git commit -m “comment”**
   5. **Git push**
2. **Trigger:** **.[yml** ]file for automation of deployment on aws. Configure all automation steps in **.yml** file
3. **Checkout:** if you configured github action or not.

**2.2. Github action configuration**

1. **Go to settings**.
2. **Go to Secrets and virables**.
3. **Go to action , create new repo secret**
4. **Add EC2\_host**
5. **Add EC2\_username**
6. **Add EC2\_key**