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## Day-1 Submission

- Fork this Repo.
→Done
- Start with a DevOps Roadmap[https://youtu.be/iOE9NTAG35g]
→Done
- Write a LinkedIn post or a small article about your understanding of DevOps
→Done
- What is DevOps
→DevOps is a set of practices aiming to automate and improve the relationship between software development and IT operations
- What is Automation, Scaling, Infrastructure
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1)Automation:

- **Definition**: Automation involves using tools and scripts to perform repetitive tasks without human intervention.
- **Purpose**: Increases efficiency, reduces errors, and speeds up processes such as code integration, testing, deployment, and monitoring.
- **Examples**: CI/CD pipelines, automated testing frameworks, infrastructure as code (IaC).

2)Scaling:

- **Definition**: Scaling refers to the capability of a system to handle increasing loads by adding resources either vertically (adding more power to existing machines) or horizontally (adding more machines).
- **Purpose**: Ensures that applications can handle growth in user demand and workload without performance degradation.
- **Examples**: Load balancing, auto-scaling groups in cloud environments, distributed systems.

3)Infrastructure:

- **Definition**: Infrastructure encompasses all the physical and virtual components that support the development, deployment, and operation of software applications.
- **Purpose**: Provides the necessary environment and resources for application development, testing, deployment, and maintenance.
- **Examples**: Servers, storage, networking components, cloud services, containerization tools like Docker, orchestration tools like Kubernetes

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- Why DevOps is Important, etc
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→ • **Faster Delivery**: Accelerates the software development lifecycle, enabling quicker release cycles.

- **Improved Quality**: Enhances the quality of code through continuous testing and integration.
- **Enhanced Collaboration**: Promotes better communication and collaboration between development and operations teams.
- **Greater Reliability**: Ensures more reliable and stable environments with consistent and repeatable processes.
- **Increased Efficiency**: Automates repetitive tasks, reducing manual effort and human error.

- **Key Components**:

  - **Continuous Integration (CI)**: Merging code changes frequently and automatically testing them.
  - **Continuous Delivery (CD)**: Automating the release of changes to production environments.
  - **Infrastructure as Code (IaC)**: Managing and provisioning infrastructure through code rather than manual processes.
  - **Monitoring and Logging**: Continuously tracking the performance and health of applications and infrastructure.
  - **Collaboration Tools**: Using tools like Slack, Jira, and Confluence to improve team communication and project management.