SHUBHAM PANDEY
TE / T21
ROLL NO:- 70

21/01/2025

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ENGINEERING COLLEGE

Experiment No. 01

Aim :— To understand DevOps :- Principles, Practices and DevOps Engineer Role and Responsibility.
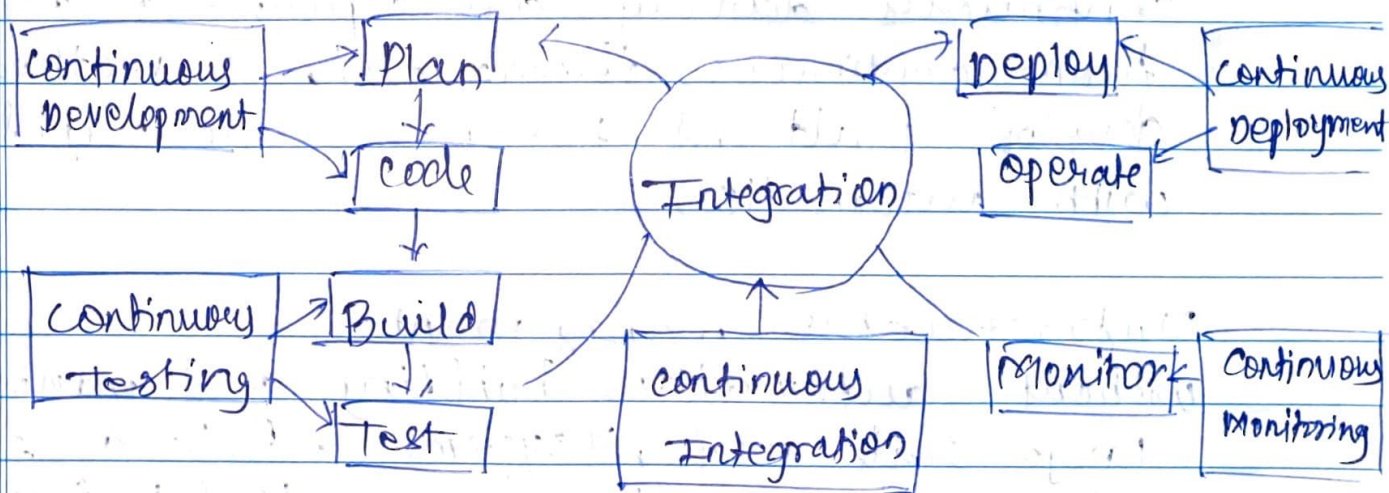
What is DevOps?

DevOps is a collaborative approach where team work together to build and deliver secure software efficiently. It combines software development (Dev) and operations (ops) to decide decide how to accelerate delivery through automation, collaboration, fast feedback and iterative improvement.

Core Principles :—

1. Develop and test in production - like environments
2. Deploy build frequently.
3. Continuously validate operational quality.

Devops Practices :-

Continuous Development

This is the phase that involves planning and coding, versioning and managing build of the software application's functionality.

Ex :- Git, Github, Maven etc.

Continuous Testing

Continuous testing is executing automated test continuously and repeatedly against the codebase and the various deployment environments.

Ex :- Bamboo, appium.

Continuous Integration

Continuous integration refers to build and unit testing stages of the software release process. Every revision that is committed triggers on automated build and test.

Ex :- Jenkins, Travis CI, Circle Ci.

Continuous Delivery & Deployment

Continuous delivery and deployment originates from continuous integration, a method to develop, build and test new code rapidly with automation.

Infrastructure management

Without automation, building and maintaining large scale modern systems can be a resource intensive undertaking and can lead to increased risk due to manual error.

Configuration Management.

Infrastructure as code is the practise of describing all software runtime environment and networking setting, and parameters in simple textual format that can be stored in your version control system (VCS) and versond on request.

Microservice Architecture.

Docker is a tool designed to make it easier to create, deploy and run application by using containers. Containers allows a developer to package up on application with all of the faults it needs such as libraries and other dependencies and deploy it as one package.

Ex :- Nagios, splunk etc.

Cloud Based Devops.

Devop automation is becoming cloud centric. Most public and private cloud computing provides support. Devops. systematically on their platform, including continuous integration and continuous development tools.

Eg :- AWS, Amazon lambda, Google cloud etc

Devops Engineer Roles:-

A Devop's engineer manages a company's IT infrastructure, bridging development and operation. Key Responsibilities include:-

Technical Responsibilites
- Set up infrastructure and tools.
- Code review and responsibilities.
- Build and mantain c/w pipelines
- Security implementation and monitoring.

Management Responsibilities:
- Plan team structure and activities
- Manage stakeholders.
- Mentor team members.
- Co-ordinate team communication

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