

Experiment - 1
SEPM ASSIGNMENT 2

Aim : To understand DevOps : Principles, practices
DevOps Engineer role and responsibility

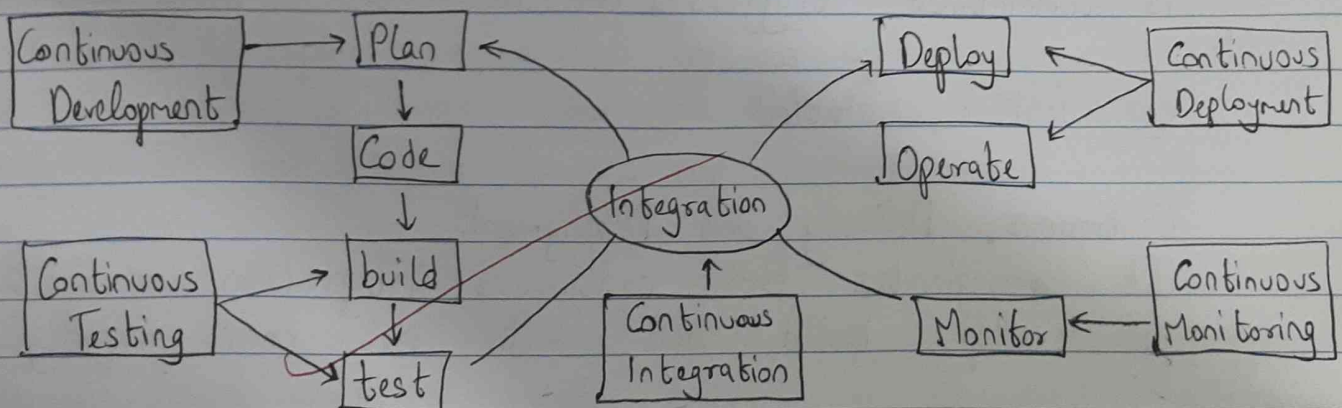
What is DevOps?

DevOps is a collaborative approach where teams work together to build and deliver secure software efficiently. It combines software development (dev) and operations (ops) to decide how to accelerate through automations, collaboration, fast feedback and iterative improvements.

Core Principle :

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

DevOps practices :



Continuous Development

This is the phase that involves planning and versioning and managing build of the software applications functionality

eg. git , github, maven, etc.

Continuous Testing

It is executing automated tests , continuously and repeatedly against the code base and the various deployment environments. It is a software testing methodology which focuses on achieving continuous quality and improvement

eg. Bamboo ,

Continuous Integration

It refers to the build and unit testing stages of the software releases process. Every revision that is committed triggers an automated build and test

eg. Jenkins, circleci

Continuous Delivery and Deployment

It originates from continuous integration, a method to develop, build and test new code rapidly

with automation so that only code that is known to be good becomes part of a software product.

Infrastructure management

Without automation, building and maintaining large scale modern IT systems can be a resource-intensive undertaking and can lead to increased risk due to manual error configuration and resource management is an automated method for maintaining computer systems and software in an unknown consistent state.

Configuration Management

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

Microservice Architecture

Dockers is a tool designed to make it easier to create, deploy and use application by using containers. Containers allows a developer to package up an application with all of the parts it needs such as libraries used other dependencies and deploy it as one package.

Cloud Base DevOps

DevOps 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. ~~Az~~ Amazon Web Service, amazon lambda, google cloud

DevOps Engineer Roles :

- Implement development, testing and automation tools
- Set up infrastructure and tools
- Code review and responsibilities
- Bug fixing and trouble shooting
- Build and maintain CI/CD pipelines
- Security Implementation and monitoring.

Management Responsibilities

- Understand customer requirements and API's
- Plan team initiatives and activities.
- Manage Stakeholders
- Define development and Operational processes
- Coordinate team communication
- Monitor Customer experience
- Provide Periodic progress reports.
- Mentor Team Members.

A devOps engineer manages a company's IT infrastructure, bridging development, and operation.

MORRIS
(A)