THADOMAL SHAHANI TSEC ENGINEERING COLLEGE

Hanas H.
TJ3
66
SEPM

Assignment - 2

Aim: To understand DevOps: Principles, Practices and DevOps Engineer Role and Responsibility.

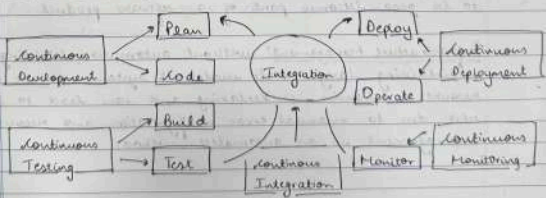
What is DevOps?

DevOps is a collaborative approach where teams work together to build and deliver software efficiently. It combines software development (Dev) and operations (Ops) to decide how to accelerate delivery through automation, collaboration, fast feedback and intellectual improvement. Built on Agile methodology, DevOps creates a culture of accountability, collaboration, and shared responsibilities for business outcomes.

Core Principles:

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

DevOps Practices:



THADOMAL SHAHANI
TSEC
ENGINEERING COLLEGE

Continuous Development: this is the phase that involves planning and coding versioning and managing build of the software application's functionality
example: git, github, maven, etc

Continuous Testing: 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
example: Bamboo, appium

Continuous Integration: refers to the build and unit testing stages of the software release process. Every revision that is committed triggers the automated build and test
example: Jenkins, Travis CI, circleci

Continuous Delivery and Development: originate 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 model it systems can be a resource-intensive undertaking and can lead to increased risk due to manual error configuration and resource management in an automated method

HADOOMAL SHAHANI
TSEC
ENGINEERING COLLEGE

DevOps Engineer Roles: a DevOps engineer manages a company's IT infrastructure, bridging development and operation. Key responsibilities includes:

Technical responsibilities:
- implement development, testing and automation tools
- set up infrastructure and tools
- code reviews and responsibilities
- Bug fixing and trouble shooting
- Build and maintain pipelines
- security implementation and monitoring

Management responsibilities:
- understand customer requirements and API's
- Plan team structure and activities
- Manage stakeholders
- Define development and operational process
- Co-ordinate team communication
- Monitor customer experience
- Provide periodic progress reports
- Mentor team members