DevOps

Wednesday, January 8, 2025 2:18 PM

DevOps : Development + Operations

DevOps is a practice that allows single team to manage the entire application development life cycle that is development, testing, deployment and monitoring

(Or)

DevOps is a process or culture that helps organizations to deliver applications and services faster

(Or)

DevOps is a set of practices, principles and tools that aim to enhance the collaboration and communication between software development (DEV) and IT Operations (OPS) teams .

Development Without DevOps Culture :

- Release and deploy mismatch
- Unpredictable issues
- Blame game
- Lack of Monitoring

Development with DevOps Culture :

- Streamlined deliveries
- Team work collaboration
- Continuous Monitoring and Feedback

What needs to done ?

Developer :

- Use system with little or no waiting time
- Use system with updated

Operations :

- Systems should be up and running most of the time
- System required for easy administration
- Effective monitoring and feedback systems should be established

What DevOps is Not :

- DevOps is not a role , person or organization
- DevOps is not a separate team
- DevOps is not a product or tool
- DevOps is not about just writing scripts or implementing tools

What does DevOps do ?

- Integrates developers and operations team
- Improve collaboration and productivity by
    i. Automating infrastructure
    ii. Automating workflows
    iii. Continuously measuring application performance

Skills for DevOps Engineer :

Skills	Description
Tools	• Version Control System – Git • Continuous integration – Jenkins • Containerization – Docker / Kubernetis • Configuration Management – Puppet / Ansible • Monitoring – Nagios / Grafana
Networking Skills	• General network skills – establishing connection between the containers / port forwarding / container orchestration
Other Skills	• People Skills • Process Skills • Customer Skill and Empathy • Cloud Awareness

DevOps Life Cycle :

Plan : (Jira , Trello , Tridenti's)

First Stage of DevOps cycle , where you can plan , track , visualize and summarize your project before working / starting it .

Code : (Git , Big bucket , Gitlab)

Second stage of DevOps cycle where the developer write their code .

Build : (Maven , Gradle , Ant , Jenkins)

Build is a pre-release version and is defined by build number , rather than by a release number .

Test : (Selenium , SonarQube , JMeter)

Process of executing automated tests as part of the software delivery pipeline in order to obtain feedback on the business risks associated with a software release a rapidly as possible .

Release : (Bamboo , Gitlab , Travis CI)

This Phase helps to integrate code into a shared repository using which you can detect and locate errors quickly and easily .

Deploy : (AWS , Ansible , Chef , Kubernetis)

Manage and maintain development and deployment of software system and servers in my computational environment.

Monitor : (Nagios , Sensu , Splunk)

It ensures that the application is performing as designed and the environment is stable .

- It quickly determines when a service is unavailable and understand the issues .