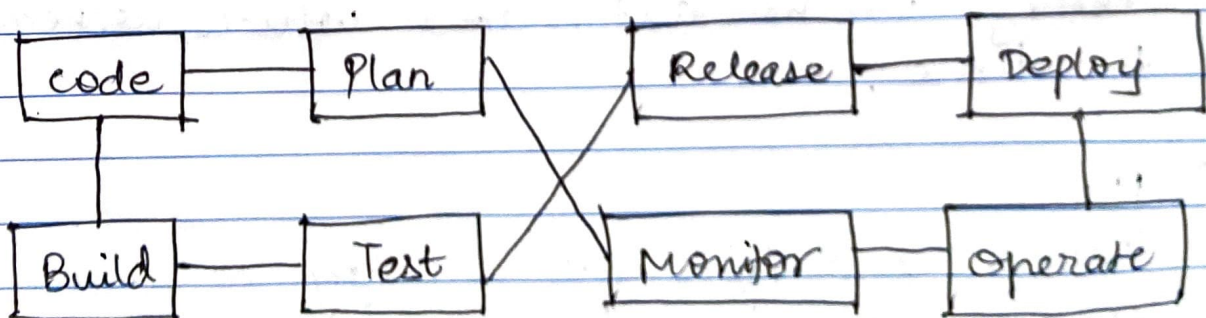Janhavi Gangawane
T12-28

Experiment 1

Aim: To understand Devops, principles, practices & Devops roles and responsibilities.

Theory:

Definition: DevOps is the combination of two words, one is development and other is operations. It is culture to promote the development and operation process collectively.

DevOps helps to increase organisation speed to deliver applications and services. It also allows organisations to serve their customers better and complete more strongly in the market. Devops can also be defined as a sequence of development and IT operations with better communication and collaboration. Devops has become one of the most valuable business disciplines for enterprises or organisations. with the help of DevOps, quality and speed of the application delivery has improved to a greater extent.

Architecture:

code	Plan	Release	Deploy

Build	Test	Monitor	Operate

1) **Build:**
without Devops, the of consumption of resources was evaluated based on predefined individual usage with fixed hardware allocation. And with devops, the usage of cloud, sharing the resources comes into picture. and the build is independent upon users need,

2) **code:**
Many good practices such as Git enables the code to be used, which ensures writing the code for business helps to track changes, getting notified about the reason behind the difference in the actual and unexpected code output, and if necessary reversing to original code developed.

3) **Test:**
The application will be ready for production after testing. In the case of manual testing, it consumes more time in testing and moving the code to the output. The testing can be automated which decreases the time.

4) **Plan:**
Devops use Agile methodology to plan the development. with the operations and development team in syne, it helps to organising the work to plan accordingly to increase productivity.

5) Monitor:

continuous monitoring is used to identify any risk of failure. Also it helps in tracking the system accurately so that the health of the application can be checked. The monitoring becomes more comfortably with services where the log data may get monitored through many third-party tools such as Splunk.

6) Deploy:

Many systems can support the scheduler for automated deployment. The # cloud management platform enables users to capture accurate insights and view the optimization scenario analytics on trends by the deployment of dashboards.

7) Operate:

DevOps changes the traditional approach of developing and testing seperately. The teams operate in collaborative way where both the teams actively participate throughout the service lifecycle. The operation team interacts with developers and they come up with a monitoring plan which serves the IT & bussiness development requirements.

8) Release:

Deployment to an environment can be done by automation. But when the deployment is made to the production environment, it is done by manual triggering. Many processes involved in release management commonly used to do the deployment in the production environment manually to lessen the impact on the customers.

9) Principles:

1) collaboration
2) Data - Based decision making
3) customer - centric decision making
4) constant improvement.
5) Responsibility throughout the lifecycle.
6) Automation.
7) Failure as a learning oppurtunity.

Advantages:

1) Devops is an excellent approach for quick development and deployment of applications.
2) It responds faster to the marked changes to improve business growth.
3) It improves customer experience & satisfaction.
4) Devops escalate business profits by decreasing software delivery time & transportation costs.

increase productivity.

5) Devops simplifies collaboration and places all tools in the cloud for customers to access.

6) Devops means collective responsibility, which leads to better team engagement and productivity.

Disadvantages:

1) Devops proffersionals or experts developers are less available.

2) Developing with Devops is so expensive.

3) Adopting new Devops technology into the business industries is hard to manage in a short time.