Anurag Gaonkar T12

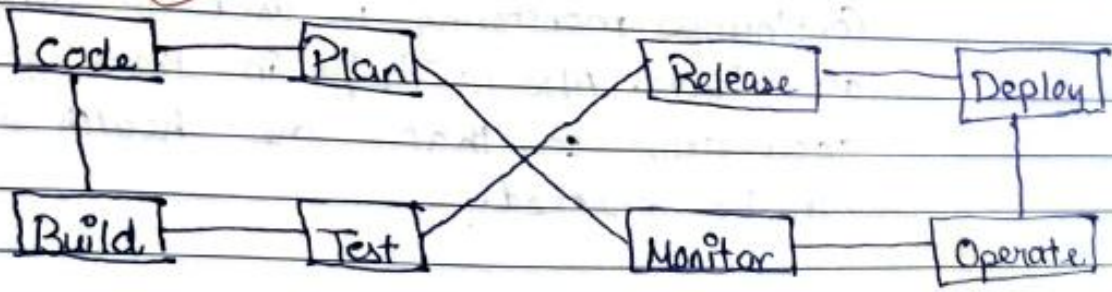
12/03/25
Wednesday Experiment - 1

Aim: To understand DevOps, principle ~~practices~~ practices and DevOps roles and responsibilities

Theory:

Defination: DevOps is the combination of two words, one is development and other is operations.
It is a culture to promote the development and operation ~~of~~ process collectively.
DevOps helps to increase organization speed to deliver applications and services.
It also allows organization to serves their customers better and compete more strongly in the market.
DevOps can also be difined as a sequence of development and IT operations with better communication and collaboration.
DevOps can also be defined as a sequence of development.
With the help of DevOps quality and speed of the application delivery has improved to a greeater extent.

Architecture



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Build: Without Devops the cost of the consumption of the resources was evaluated based on pre defined individual usagge with fixed hardware allocation. And with DevOps, the usage of cloud, sharing the resources comes into the picture and the build is independant upon users need, which is a mechanism to control the usage of resources or capacity.

Code: Many good practices such as git enables the code to be used which ensures writing the code for buisness, helps to track changes getting notified about the reason behind the difference in the actual and expected code output.

Test: The application will be ready for production after testing. In the case of manual tating, it consumes more time in testing and moving the code to the output.

Plan: DevOps use Agile methodology to plan the development. With the operations and development team in sync, it helps in organising the work to plan accordingly to increase productivity.

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.

Deploy: Many systems can support the scheduler for automated deployment. the cloud mangement & platform enables users to capture accurate insights and view the optimization scenario, analytics on trends by the deployment of dashboards.

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 services lifecycle.

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.

Principles:

1) Collaborative
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 opportunity.

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Advantages:

→ DevOps is an execellent approach for quick development and deployment of applications.
→ It responds faster to the market changes to improve buisness growth
→ DevOps clears the descriptive process, which gives clarity on product development and delivery.
→ It improves customer experience & satisfaction
→ DevOps simplifies collaboration and places all tools in the cloud for customers to access.

Disadvantages:

→ DevOps proffessional or expert developers are less available
→ Developing with DevOps is so expensive
→ Adopting new DevOps technology into the buisness industries is hard to manage in short time.