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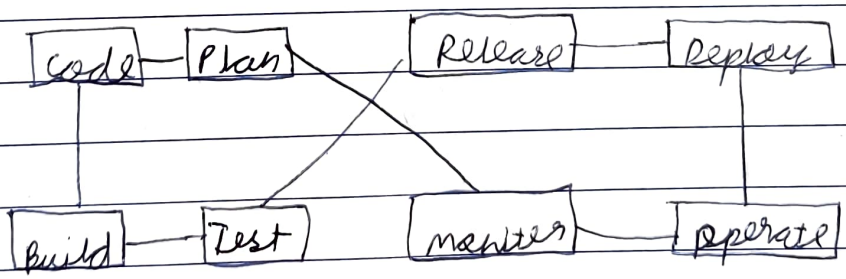
Aim: To understand DevOps principles, practices and DevOps tools and responsibility

Theory:

Definition: DevOps is a the combination of two words one is Development and other is operations. It is a culture to promote the development and operation process collectively. DevOps helps to increase organization to serve their customers better and compete 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 valued business disciplines for enterprises or organizations. With the help of DevOps quality and speed of the application delivery has improved to a greater extent.

architecture



1.) Build: without devops, the cost of the consumption of the resource was evaluated based on the predefined individu usage fixed hardware allocation and with devops the usage of cloud, sharing the resource comes into the picture and the build is dependent upon user's need which is a mechanism to control the usage of resources as capacity.

2.) code: many good ~~prod~~ practices such as git enable the code to be used ~~to~~ either ensure within the code peer business rely to track changes getting notified about the reason behind the difference in the actual and exposed code output and if necessary rewesting to the original code developed.

3.) Test: - The application will be ready for production after testing in the case of manual testing. it consume more time in testing and moving the code to the output. The testing can be automated which decreases the time so that the time to deploy the code to production can be reduced.

4.) Plan - Devops use Agile methodology to plan the development with the operations and development team in sync it helps in organizing the work to plan accordingly to increase productivity.

5.) monitor - continue monitoring is used to identify any risk of failure also it helps in tracking the system closely so that the health of the application can be checked. The monitoring becomes more comfortable with a service where the bug data may get monitored through many third-party tool such as Splunk.

6.) Deploy :- many system can support the scheming of automated of deployment. the cloud management platform enables user to capture accurate insights and view the optimization service, analytics on trends by the deployment of dashboards.

7.) Operate :- Devops changes the traditional approch of developing and testing seperately the teams operate in a collaborative way where both the teams actively participate throughout the service lifecycle. The operation team interacts with developers and they come up with a remote plan which serves the IT and business development required.

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 process involved in release management commonly used to do the deployment in the production environment manually to lessen the impact on the customers

Principles :

1.) Collaboration
2.) Data-Based decision making
3.) Custom centric Decision making
4.) Content improvement
5.) Responsibility throughout
6.) Automation
7.) failure as a learning opportunity

Advantages :-

1.) DevOps is an excellent approach for quick development and deployment of application.

2.) it responds faster to the market changes to improve business growth.

3.) DevOps escalate business profit by decreasing software delivery time and transportation costs.

4.) DevOps cleans the descriptive process, which gives clarity on product development.

disadvantages

1.) DevOps professional or expert developers are less available

2.) Developing units DevOps is so expensive.

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