Meet Duoeja
T12, 27

THADOMAL SHAHANI TSEC ENGINEERING COLLEGE

SEPM [Experiment No. 1]

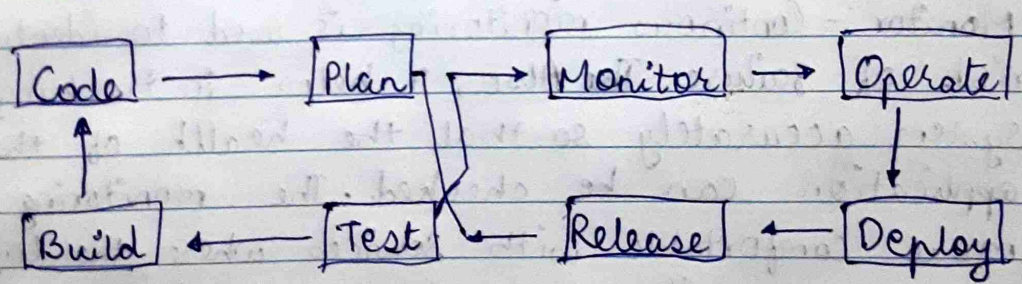
Aim: To understand DevOps, principles, practices and DevOps roles & responsibilities.

Theory:

Def^n :-

- DevOps is the combination of 2 words, one is development & other is operations. It is a culture to promote the development & operation process collectively.
- DevOps helps to increase organisation speed to deliver applications & services.
- DevOps can also be defined as a sequence of development & IT operations with better communication.
- DevOps has become one of most valuable business disciplines for enterprises or organisations.

Architecture :-



1) Build :- Without DevOps, the cost of the consumption of the resources was evaluated based on the predefined individual usage with fixed hardware allocation. And with DevOps, the usage of cloud, sharing of resources comes into the picture, & the build is dependent upon the user's need. which is a mechanism to control the usage of resources / capacity.

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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 about the reason behind the difference in the actual & the expected output. The code can be appropriately arranged in files, folders, etc. And they can be reused

3) Test :- The application will be ready for production after testing. In the case of manual testing, It consumes more time in testing & moving the code to the output. The testing can be automated, which decreases the time for testing so that the time to deploy the code to production can be reduced as automating the running of the scripts will remove many manual steps.

4) Plan :- DevOps use Agile methodology to plan the development. With the operations & development team in sync, it helps in organising the work to plan accordingly to use productivity.

5) Monitor :- Continous monitoring is used to identify any risk of failure. The Also, it helps in tracking the system accurately so that the health of the application can be checked. The monitoring becomes more comfortable with services where the log data may get monitored thru' many 3rd-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 & the view the optimiz^ scenario, analytics on trends by the deployment of dashboards.

7) Operate :- DevOps changes the traditional approach of developing & testing separately. The teams operate in a collaborative way where both the teams actively participate throughout the service lifecycle.

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

Principles :-

- Collaboration
- Data-Based Decision Making
- Customer-Centric Decision Making
- Constant Improvement
- Responsibility Throughout the lifecycle
- Automation
- failure as a learning Opportunity

Advantages :-

- DevOps is an excellent approach for quick development
- It responds faster to the market changes to improve business growth.
- DevOps escalate business profit by decreasing S/w delivery time & transportation costs.
- DevOps clears the descriptive process which gives clarity on product development & delivery
- It improves customer experience

Disadvantages :-

- DevOps professional or expert's developers are less available.
- Developing with DevOps is so expensive.
- Adopting new DevOps technology into the industries is hard to manage in a short time
- Lack of DevOps knowledge can be a problem in the continous integration of automa^n projects.

Conclusion :- Hence, we have known what DevOps is & its advantages & disadvantages.