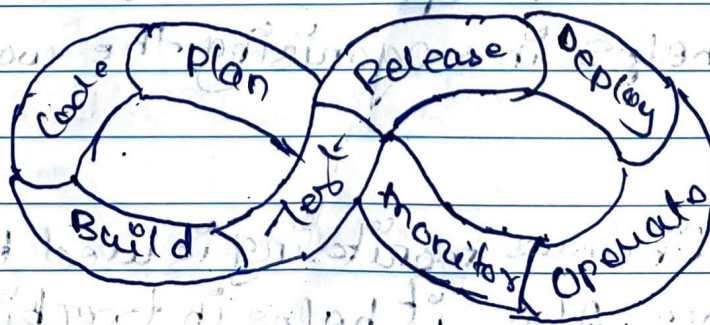# Ayush Tamale
T22 - 112

EXPERIMENT No. 1

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

Theory:

Definition

- DevOps is the combination of two words, one is Development & other is Operations. It is a culture to promote the development & operation.

- DevOps helps to increase organisation speed to deliver applications & services.

- DevOps can also be defined as sequence of development and IT operations with better communication & collaboration. DevOps has become one of the most valuable business disciplines by enterprises or organisation. With the help of DevOps, quality & speed of application delivery has improved.

Architecture

1. **Build :-** Without DevOps, the cost of the consumption of the resources was evaluated biased on the pre-defind individual usage with fixed hardware allocation. And with DevOps, the usage of cloud, sharing of resources comes into the picture.

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 expected output, and if necessary reverting to original code.

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.

4. **Plan :-** DevOps use Agile methodology its to plan development. With the operations & development team in sync. It helps in organising the work to plan accordingly.

5. **monitor :-** Continuous monitoring is used to indentify any risk of failure. Also, it helps in tracking the system accurately so that the health of application can be checked. The monitoring becomes more comfortable with service where the log data may get monitored through many

6. Deploy :- many systems can support the scheduler for automated deployment. The cloud management platform enables users, to capture a curated insights and view the optimization scenario, analytics on trends by deployment.

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

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.

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 & deployment of applications
- It responds faster to the market changes to improve business growth
- DevOps escalated business profit by decreasing software delivery time
- DevOps clears the descriptive process which gives clarity on product development
- It improves customer experience & satisfaction

Disadvantages :-

- DevOps professional or experts 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 continuous integration of automation projects

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