Tirlan
T22 96
SEPM

THADOMAL SHAHANI TSEC ENGINEERING COLLEGE

Experiment No. 1

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

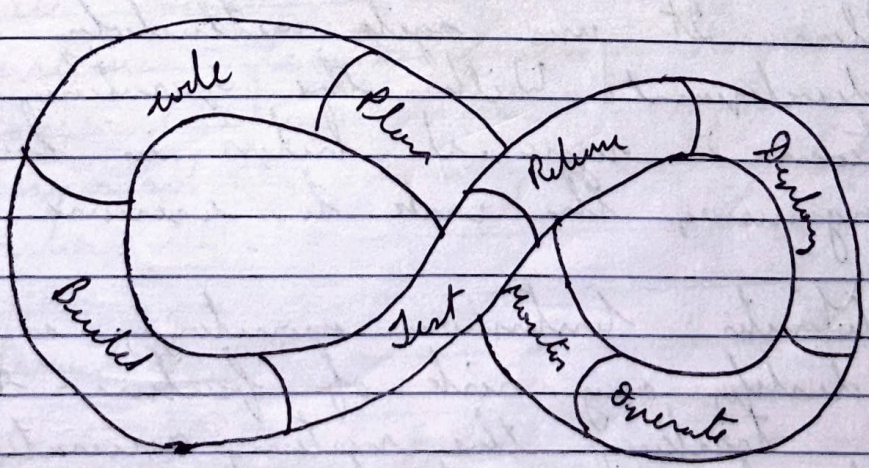
Theory:

Definitions

- DevOps is the combination of two words, one is Development and other is Operations. It is the culture to promote the development and operations process collectively

- DevOps helps to increase organisation speed to deliver applications and services. It also allows organisations 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 Architecture

1. Build: Without DevOps, the rest of the consumption of the resource was evaluated based on the pre-defined individual usage with fixed hardware allocations. And with DevOps, the usage of cloud, sharing of resources came 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 reasons behind the difference in the actual and expected output.

3. Test: The application will be ready for production after testing. The testing can be automated which decreases the time for testing so that the time to deploy the code to production can be reduced.

4. Plan: It was agile methodology to plan the development. With the operations and development teams in sync, it helps in helps in organizing the code 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 was the health of the application can be checked part Data can be monitored through many tools such as Splunk.

6. Deploy: Many systems can support the schedules for automated deployment. The cloud management platform enables users to capture dynamic insights and view the optimum scenario.

7. Operate: DevOps changes the traditional approach of developing and testing separately. The term operate is a collaborative way where both the team actively participate throughout the service 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

Advantages:

- Responds faster to the market changes to improve business growth.
- Evaluate business profits by decreasing inefficiencies, time and transportation costs.

- Clears the decision process, which gives clarity on product development and delivery.
- Improves customer experience and satisfaction
- Leads to better team engagement and productivity.

Disadvantages

- DevOps professional or expert is developers are less available.
- Developing with DevOps is so expensive
- Hard to manage in short time
- Lack of DevOps knowledge can be a problem in the continuous integration of automation projects.

Conclusion: Here, we have known what DevOps is and its advantage and disadvantage