THADOMAL SHAHANI
TSEC
ENGINEERING COLLEGE

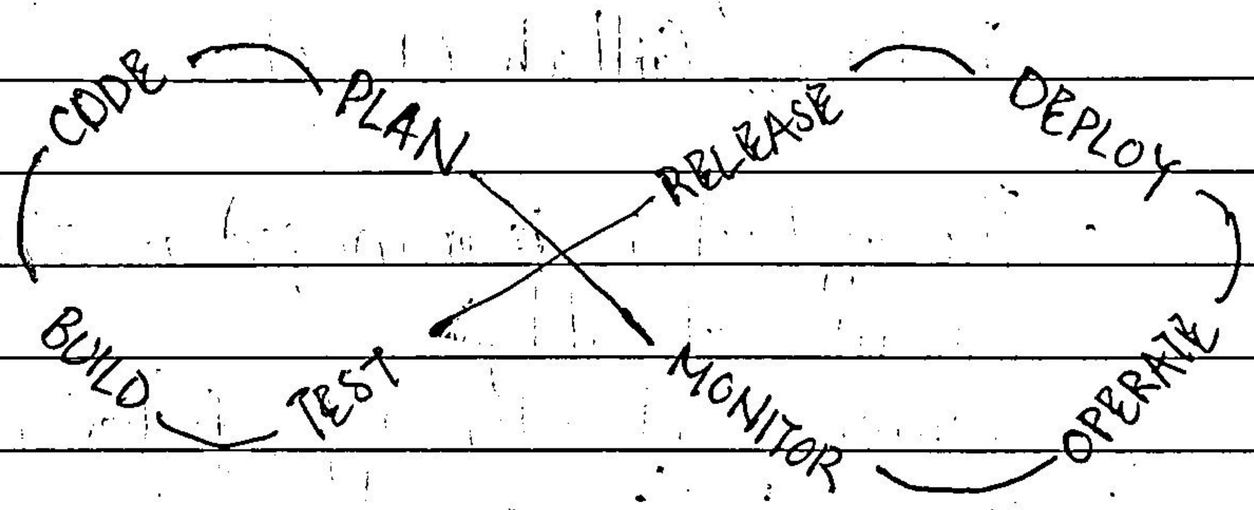
Shrirang Zend T2-3 2201125

Experiment 1.

Aim : To understand Devops, principles, practices, and devops roles and responsibilities.

Theory : Devops is a combination of two words, one is developments and other is operations. It is a culture to promote the development & operations process collectively.

Devlops can also be defined as an sequence of development and IT operations with better communication and collaboration.



1. Plan :
- Define project scope, requirements & goals
- Teams collaborate using tools like JIRA for sprint planning & tracking.

2. Code :
- Developers write source code using version control
- Code is modular, reusable & follows best practices for collaboration.

3. Build :
- Source code is compiled & converted into executable artifact
- Build tools Maven, or Gradle are used, often integrated in CI pipelines.

4. Test : ○ Automated and manual tests ensures code qualit
and catch bugs easly.
○ Tools like Selenium or JUnit are used for consistent,
fast feedback.

5. Release : ○ Approved builds are packaged and marked read
for deployment.
○ Release management ensures right version goes
to the right environment.

6. Deploy : ○ The code is deployed to staging or productio
environments.
○ This is often automated using CI/CD tools lik
Jenkins, Gitlab CI, etc.

7. Operate : ○ The application is managed in the live environme
ensuring stability.
○ Includes load balancing, failover handling, and
system health monitoring.

8. Monitor : ○ Real-time monitoring tracks performance, logs &
user-activity.
○ Tools like Prometheus, Grafana help detect issue

○ Advantages : 1) Faster Delivery & Updates
2) Improved Collaboration.

○ Disadvantages : 1) Cultural Shift required
2) Complex Toolchain Management.