

① In a nutshell the DevOps model allows companies to create viable appⁿ & programmer within a much shorter time frame, thus accelerating the speed of innovation.

- It is a major req. because it's a s/w development & operation approach that enables faster dev. of new products & easy maintenance of existing deployments.

Some imp. benefits of devops as a major req.:

- faster solⁿ
- Increased efficiency.
- Improved customer experience
- Faster ROI
- Improved performance
- Cont. ~~p~~ improvements.

→ ~~Greater~~ Greater stability of IT s/w appⁿ as it brings various departments such as IT, prod. engg., cybersecurity & operations & unites them in common obj. of achieving business targets.

(2) Since no single tool work across all areas of dev. & delivery. The need is to first understand the process of d/c. map the tool to be successfully establish design culture in organization.

1) Jenkins:- an excellent devops automation tool being adopted by inc. no. of s/w dev. team. it's essentially an open source ci/cd server that helps in automating the diff. stages of delivery pipeline.

2) Git: widely used across s/w industries, git is an distributed scm (src. code management) devops tool. it allows you to easily track the progress of your dev. work, where you can save different versions of source code & return to previous one as when req.

3) Nagios: one of it allows you to monitor your infrastructure real time so that identifying security threats, detection of outages & error becomes easier.

Nagios core \rightarrow Command line tool

Nagios XI \rightarrow web based GUI

Log server \rightarrow searches log data with automatic alert

Nagios fusion \rightarrow for simultaneous multiple

4) Docker: It is known to provide platform independent integrated container security & agile ops for cloud-native & legacy app.

5) Kubernetes: ideal for large teams, this is built on what docker started in the field of containerization, it is a powerful tool that can group containers by logical categorization.

6) Ansible: It is primarily a design management & org. devops tool. it is written in simple prog. lang. YAML. it makes easier for devops teams to scale the process of automation & speed up productivity.

7) Chef: It is used for checking the configuration & it is helpful in automating the infrastructure.

8) Puppet: It is used for deploying, configuring & managing servers.