

Q1 Why is DevOps a major requirement in today's scenario?

→ In a nutshell the DevOps model allows companies to create viable application and programmers within a much shorter time frame, thus accelerating the speed of innovation.

It is a major requirement because it is a software development and operational approach that enables faster developments of new products & easy maintainance of Existing deployments.

Some important benefits of devops as a major requirement

- faster sell
- Increased efficiency
- Improved customer Exp
- Faster ROI
- Improved performance
- Continuous improvement

As it bring various departments such as it, product engineering cyber security operations & more & units them in common objectives of achieving business targets

In this approach the software is seen as a tool to improve organizational efficiency and security by automating several key process.

Q 2 Explain all DevOps tools in detail.

1 Jenkins

- an Excellent devops automation tool being adopted by increased number of software development teams, it is essentially an open source CI/CD server that helps in automating the diff stages of delivery pipeline
- Allows us to set up and customise CI pipeline as per individual needs
- runs on linux, windows & Mac OS

2 Git

Widely used across software industries, Git is an distributed SCM devops tool. It allows you to easily track the progress of your development work, where you can save different versions of source code and return to previous one as required.

- * A free & open-source tool that supports most of the version control features of check-in, merging, labels, commit, branches

3 Nagios

One of the most popular free & open-source DevOps monitoring tool. Nagios allows you to monitor your infrastructure runtime so that identifying security threats, detection of outages & error becomes easier.

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- 4 Docker - It is one of the widely used development tool of DevOps & is known to provide platform independent integrated security & agile operations for cloud-native & legacy application.
 - Easily automates app deployment & make distributed development easy.
 - Docker container support virtual machine. Environment & are platform independent
- 5 Gradle: an extremely versatile DevOps tool. Gradle allows you to write your code in various languages like C++, Java, Python, etc. It is supported by various IDE's.
 - The incremental builds of Gradle allows you to save a substantial amount of compile time.
- 6 Ansible: It is primarily a design management and organization DevOps tool. It is written in simple programming language YAML. It makes easier for DevOps teams to scale the process of automation & speed up productivity.
 - It is ideal DevOps tool to manage complex deployments & speed up the process of development.
- 7 Kubernetes
ideal for large teams, this DevOps tool is

built on what docker started in the field of containerization. It is a powerful tool that can group containers by logical categorization.

- It can be deployed to multiple computers through automated distribution.
- Extremely useful in the streaming complex projects across large teams.