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Devops Assignment no-(2)

1). Why is DevOps a major requirement in today's scenerio?

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

It is a major requirement because its a software development and operational approach that enables faster developments of new products and easy maintainance of existing deployments.
Some important benefits of devops as a major requirement:

* faster solution
* Increased efficiency
* Improved customer Experience
* faster ROI
* Improved peoformanle
* Continuous improvements
* Reduce failures & Roll back.

→ Greater stability of IT software applications as it brings various departmants such as IT, product, Engineering, Cybersecurity, Operations & more & units them in common objectives of achieving business targets.

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

2). Explain all DevOps tools in detail.

→ Since no single tool work across all areas of development & delivery. The need is to first understand the process and accordingly map the tool to be successfully establish devOps culture in Organization.

1) Jenkins! - an excellent devops automation tool being adopted by increased number of software development teams, it's essentially an Open Source CI/CD seven that helps in automoting the different stages of delivering pipelines.

*). Allows us to set up and customise CD pipelines as per individual needs.

*). Runs on linux, windows & Mac os.

*). Jenkins allows you to iterate & deploy new code with greater speed.

2). Git!

widely used across software industries; Git is an distributed SCM (service center management) DevOps that 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 when required.

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

* Requires a hosted repository such as github or bit bucket that offers unlimited private repositories.

*). Easy to learn & maintain with separate branches of source-code that can be merged through git.

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

*). facilates two methods of server monitoring
→ agent based on agentless.

*). Allow for monitoring of windows, UNIX, linux & web apps as well.

different version of Nagios are

1). Nagios Core → Command line tool.
2). Nagios XI → Web based GUI.

3). log server → searches log data with automatic alerts.
4). Nagios fusion → for simultaneous multiple network monitoring.

4). Docker:

it is one of the widely used development tool of DevOps & is known to provide platform independent integrated container security & agile operation for cloud nature & legacy application.

*). Easily automates app deployment & make distributed development easy.

*1. Dot Docker container support virtual Machine Environments & one platform independent.

*). Build-in support for docker available for both Google cloud & AWS.

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

*). it can be deployed to multiple computers through automated distribution.

*). kubernets is the first container orchestration tool.

*). Extremely useful in the streamlining complex projects acrross large teams.

6). Ansible. - it is primarly 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.

*). based on master slave Architecture.

*). it is an ideal Devops tool to manage complex deployments & speed up the process of development.

7). chef :- This DevOps tool is mainly used for checking the Configuration & it's helpful in automating the infrastructure.

*). Assist in standarizing and enforcing the Configurations continuously.

*). chef automates the whole process and make sure that the system are correctly configural.

*). chef automates helps you ensure that the config uration policies remain completely flexible, readable & testable.

8) Puppet: it is an open source Configuration management tool that is used for deploying, configuring & managing servers.

*). Offers master - slave architecture.

*). Puppets works smoothy for hybrid infra & application.

*). Compatible with linux, windows & UNIX OS.

9). Splunk: it is designed to make machine data usable as well as accessible to everyone by delivering operational intelligence to DevOps teams.

it is an excellent choice of tool that make companies move secure, productive & competitives.

*). splunk delivers a more centres & collective view of IOT service.

*). Easily detects patterns, highlights, anomolies, and areas of impact.

10). Gradle! an extremely Verstatile DevOps tool, Gradle allows you to write your code in various languages including c++, java, Python among others.

it is supported by various IDE's such as netbeans, Eclipse & IntelliJ IDEA.

*). The core model of gradel as based on tasks - actions, inputs & outputs.

*). The incremental builds of grade allow you to save a substantial amount of compile time.