DevOps
Assignment:-1

Jay Shah (B22)
107

Q1) What is DevOps?

⟹ DevOps is a collaboration between development & IT operations to make S/W production & deployment in an automated & repeatable way

→ DevOps helps to increase the organization's speed to deliver software apps & services

→ In simple words, DevOps can be defined as an alignment of development & IT operations with better communication & collaboration.

- Before DevOps, the development & operation team worked in complete isolation
- Testing & deployment were isolated activities done after design-build
- Without using devops, team members are spending a large amount of their time in testing, deploying & designing instead of building the project
- Manual code deployment leads to human error in production
- Coding & operation teams have their separate timelines & are not in synch causing further delays

2) Why is devOps used?

⟹ Devops allows agile development teams to implement continuous integration & continuous delivery. This helps them to launch products faster into the market.

- Predictability:- DevOps offers significantly lower failure rate of new releases
- Reproducibility:- Version everything so that earlier version can be released anytime
- Maintainability:- Effortless process of recovery in the events of a new release crashing or disabling the current system
- Greater Quality:- DevOps helps the team to provide quality of app development as it incorporates infra issue

- Resiliency:- The Operational state of the software systems is more stable, secure, & changes are auditable.
- Breaks larger code base into small pieces:- DevOps is based on the agile programming method. Therefore it allows breaking larger code bases into smaller & manageable chunks.

3) Explain DevOps lifecycle.

⟹ Development :- In this DevOps stage the development of software takes place constantly. In this phase, the entire development process is separated into small development cycles

- Testing :- QA team use tools like selenium to identify & fix bugs in the new piece of code
- Integration :- New functionality is integrated with the prevailing code & testing takes place.
- Deployment :- It takes place continuously. It is performed in such a manner that any changes made any time in the code, should not affect the functioning of high traffic website
- Monitoring :- In this, the operation team will take care of the inappropriate system behavior or bugs which are found in production.

→ Q4)

Agile	DevOps
→ Emphasize breaking down barriers between developers & management	→ DevOps is about software deployment & operation teams.
→ Address gap between customers requirements & development teams	→ Address the gap between development & Operation team
→ Focuses more on functional & non-functional readiness	→ It focuses operational & business readiness
→ Agile development pertains mainly to the way development is thought out by the company	→ It emphasis on deploying software in the most reliable & safest ways which aren't necessarily always the fastest
→ Agile development manages on sprints. It means that the time table is much shorter & several features are to be produced & released in that period.	→ DevOps strives for consolidated deadlines & benchmarks with major releases, rather than smaller & more frequent ones.