**Level 1 Assessment**

1. **What is your understanding of a DevOps Culture in an Organization? (Explain in not less than 500 words)**

Before DevOps, organizations were using Agile and traditional IT systems - (a linear system) to build applications, this made it difficult for developers and operations team of a company to work together smoothly, because, the codes that worked fine on developers system were causing bugs on operations team application, this made developing robust applications time consuming, and sometimes before developers are done with the App (for example, desktop App), trends may have changed (from desktop app to mobile app) and the customer or business would have lost the opportunity to sell the product, because the demand has changed to mobile app.

A linear model of coding is quite difficult, just like water flowing over the edge of a cliff cannot be pulled back, it is difficult to rollback linear applications when bugs are discovered, it is more difficult tracing where those bugs are coming from.

DevOps is an evolution from Agile/linear model of software development, DevOps is a methodology that bridges the gap between Developers and Operations team of an organization

DevOps tools:

1. **Plan** stage Here, business owners or customers with development team discuss project goals and create a plan
2. C**ode** phase, programmers design and code application using tools like Git to store application code
3. **Build**: Take code from Git repository and combine them to build
4. **Test**: Application is tested to ensure software quality.

***Note***: where there is quality failure, a feedback is sent to developers with detailed information. The process iterates until quality code is ensured. This wasn’t possible in the linear model.

1. **Integration**: When testing is complete and code quality is successful, it integrates new features automatically to already existing code base. This is possible with the help of **continuous** **integration** (like **Jenkins**) installed on your system
2. **Deploy**: Application is now packaged and deployed in production server (**continuous Deployment**)
3. **Operate**: Here is where operations team perform server configuration, provisioning them with required resources to run the App
4. **Monitor**: Monitor for impact on end users and identify specific issues.

DevOps has saved organizations productive time, applications are started and built on time, sales projections are achieved and milestones reached. Businesses have time to make on-time decisions for growth.

1. **List and explain some of the IT tools you need to know to be a good DevOps engineer**

**1. Git**: A distributed version control system helping me to pull, push and store my codes locally and remotely.

2. **Kubernetes** and **Docker**: I need to learn Docker to containerized applications on cloud platforms and learn how to manage the containers using Kubernetes.

3. **Jenkins**: I cannot wait to learn how to install Jenkins on my platform (a **continues integration tool**) that helps to automate developers’ tools by iterating **code**, **build** and **test** and returning feedback to developers. Successful results are deployed, unsuccessful results iterate the process again. This is amazing.

Name: JoyceMimi