**DEVOPS DOCUMENT 1**

**DEVOPS**

**What is Devops?**

* **DevOps** is a collaboration between Development and IT Operations to make software production and Deployment in an automated & repeatable way. DevOps helps increase the organization’s speed to deliver software applications and services. The full form of ‘DevOps’ is a combination of ‘Development’ and ‘Operations.’
* It allows organizations to serve their customers better and compete more strongly in the market. In simple words, DevOps can be defined as an alignment of development and IT operations with better communication and collaboration.

**Why we need Devops?**

* Before DevOps, the development and operation team worked in complete isolation.
* Testing and Deployment were isolated activities done after design-build. Hence they consumed more time than actual build cycles.
* Without using DevOps, team members spend a large amount of their time testing, deploying, and designing instead of building the project.
* Manual code deployment leads to human errors in production.
* Coding & operation teams have separate timelines and are not synch, causing further delays

**What was practised before Devops?**

**Waterfall:** This approach treated developing in stages: Analyze requirement, design, develop, test and deploy into operation. This approach required the output of the previous stage to make progress and thus making it time consuming, slower deployment rate, conflict between operation and development team is error occurred since it is staged approach.

**Agile:** This approach also treats developing in stages but at each stage, team looks for improvement at their work and it releases application with small frequent phases. This being a stage process makes it time consuming and also frequent small release also accounts for it.

**DevOps Principles:**

Here are six principles that are essential when adopting DevOps:

**1. Customer-Centric Action:**The DevOps team must constantly take customer-centric action to invest in products and services.

**2. End-To-End Responsibility:**The DevOps team needs to provide performance support until they become end-of-life. This enhances the level of responsibility and the quality of the products engineered.

**3. Continuous Improvement:**DevOps culture focuses on continuous improvement to minimize waste, and it continuously speeds up the improvement of products or services offered.

**4. Automate everything:**Automation is a vital principle of the DevOps process, and this is not only for software development but also for the entire infrastructure landscape.

**5. Work as one team:**In the DevOps culture, the designer, developer, and tester are already defined, and all they need to do is work as one team with complete collaboration.

**6. Monitor and test everything:**Monitor and test everything: The DevOps team needs robust monitoring and testing procedures.

**Merits of Devops:**

* Faster, better product delivery.
* Faster issue resolution and reduced complexity.
* Greater scalability and availability.
* More stable operating environments.
* Better resource utilization.
* Greater automation.
* Greater visibility into system outcomes.
* Greater innovation.