DevOps is a software development methodology which improves the collaboration between developers and operations team using various automation tools. These automation tools are implemented using various stages which are a part of the DevOps Lifecycle

DevOps is a mythology not technology. DevOps provide a bridge between Developer and Operator. There is terminology of continuation process. The continuation process is

1. Continue Development
2. Continue Instigation
3. Continue Testing
4. Continue Deployment
5. Continue Delivery
6. Continue Monitoring
7. Continue Development

Continue Development possible with version controlling tools(VCT). VCT are Git, SVN and many more Git and GitHub is a very popular version controlling tools.

Git provide user to distributed Architecture for version control. Git featured with a local and centralize system for version control. All developer has local repository of software. So no need to take internet for add future or update on it If code Is competed the developer can push code to centre reposition this time only use internet.

GitHub is a free service to save user code and share with other developer.

Git is a command line tools. It has a feature of manage branch. Branch is useful when there is a large number of developers the , managing od branch is useful.

**Continuous Development**

This stage involves committing code to version control tools such as **Git** or **SVN** for maintaining the different versions of the code, and tools like **Ant**, **Maven**, **Gradle** for building/ packaging the code into an executable file that can be forwarded to the QAs for testing.

Git is a distributed version-control system for tracking changes in computer files and coordinating work on those files among multiple people. It is primarily used for source-code management in software development, but it can be used to keep track of changes in any set of files

**Continuous Integration**

The stage is a critical point in the whole Devops Lifecycle. It deals with integrating the different stages of the devops lifecycle, and is therefore the key in automating the whole Devops Process

Jenkins is an open source automation server written in Java.

Jenkins helps to automate the non-human part of the

software development process, with continuous integration and facilitating technical aspects of continuous delivery

**Continuous Deployment**

In this stage the code is built, the environment or the application is containerized and is pushed on to the desired server. The key processes in this stage are Configuration Management, Virtualization and Containerization

**Continuous Testing**

The stage deals with automated testing of the application pushed by the developer. If there is an error, the message is sent back to the integration tool, this tool in turn notifies the developer of the error. If the test was a success, the message is sent to Integration tool which pushes the build on the production server

Selenium is a portable software-testing framework used for web applications. It is an open source tool which is used for automating the tests carried out on web browsers (Web applications are tested using any web browser).

**Continuous Monitoring**

The stage continuously monitors the deployed application for bugs or crashes. It can also be setup to collect user feedback. The collected data is then sent to the developers to improve the application

Nagios is an open-source devops tool which is used for monitoring systems, networks and infrastructure. It also offers monitoring and alerting services for any configurable event.

We have discussed the Devops Methodology, but this methodology cannot be put into action without it’s corresponding tools. Let us discuss the devops tools with their respective lifecycle stages