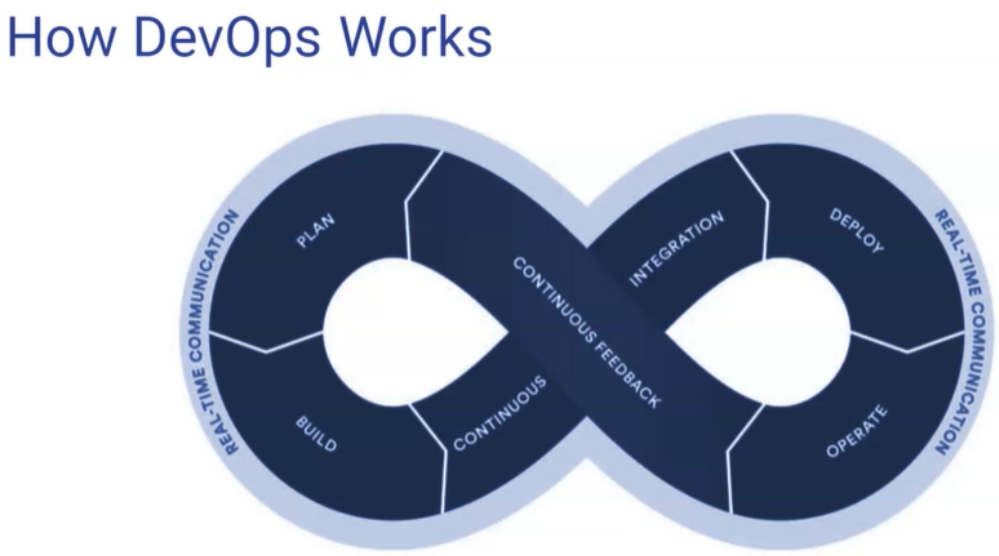
DevOps

DevOps Introduction

1. DevOps is a set of practices that combine software development and information-technology operations which aims to shorten the system development life cycle and provide delivery with high software quality

2. DevOps is a culture that promotes collaboration between Development and Operation Team to deploy code to production faster in an automated and repeatable way. the word ‘DevOps’ is a combination of two words ‘development’ and ‘operations’.

3. DevOps is a set of practice and automates the processes between software development and IT teams, in order that they can build, test and release software faster and more reliably



DevOps Benefits

- Speed
- Predictability
- Reproducibility
- Maintainability
- Rapid Delivery

- Time To market
- Greater Quality
- Reduced risk

Jenkins

jenkins Introduction

1. Jenkins is a leading open-source CI tool used to build and test projects continuously making it easier to integrate changes to the system.

2. Jenkins is a continuous integration tool that allows continuous development,test, and deployment of newly created source code

3. Jenkins is an open-source CI/CD tool written in java

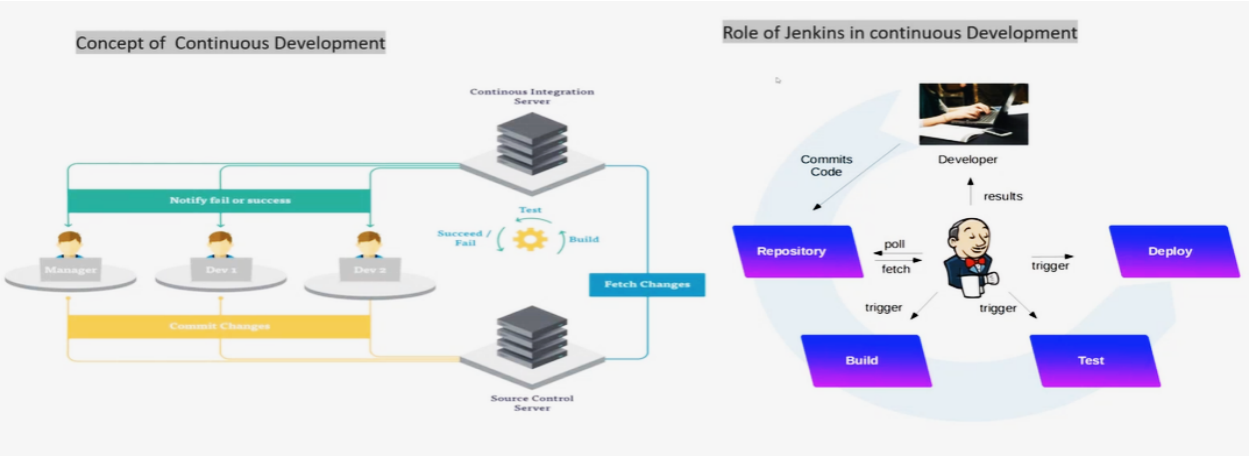
4. It is an automation server used to build and deliver a Software project

5. The Key Benefits of Jenkins is plugin availability

6. There are lots of tools available but Jenkins is an open-source free and still have a large user base

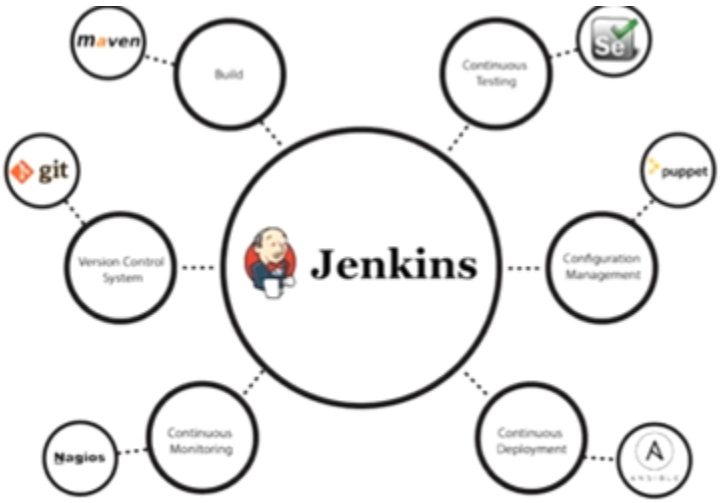
7. Jenkins provides feedback loop back to the developer and fixes the error
   - Its developer has fresh in the memory for quick error

8. Jenkins can publish every build of your software
   - And build already gone through the automation testing



Jenkins Use

- Easy Interface
- Easy to navigate
- Easy Document and example
- Free and open-source written in java
- Plugin and functionality
- A highly configurable system by itself
- The additional community-developed plugins provide even more flexibility
- Jenkins is used by teams of all different sizes, for projects with various languages
  By combining Jenkins



Installation

Steps:-

1. Go to https://www.jenkins.io/download/
2. Search Download Jenkins 2.263.1 LTS for (LTS:-Longtime search) and Click on Windows or Ubuntu on per your OS
   And Download will start for windows automatically
3. For Ubuntu:-

   -This is the Debian package repository of Jenkins to automate installation and upgrade. To use this repository, first, add the key to your system:

wget -q -O - https://pkg.jenkins.io/debian-stable/jenkins.io.key | sudo apt-key add -

Then for add the following entry

>cd /
>cd /etc/apt/
>sources.list
>ls
>ls -alps
>sudo gedit sources.list

-Then One file will open add the following line into it in last

deb https://pkg.jenkins.io/debian-stable binary/

-Then again first change the directory

>cd home/

>Now Update your local package index, then finally install Jenkins:

>sudo apt-get update
>sudo apt-get install Jenkins
>sudo systemctl start jenkins
>sudo systemctl status jenkins

- downloading and Installation Completed

-After installation follow the steps after the 8th one from the following link

https://www.blazemeter.com/blog/how-to-install-jenkins-on-windows

Or go to the following link and download the war file

https://repo.jenkins-ci.org/releases/org/jenkins-ci/main/jenkins-war/

Then go to the download location and run the cmd file and run the following command

Java -jar jenkins.war

4. Now Installation For windows go to the following link website

https://www.blazemeter.com/blog/how-to-install-jenkins-on-windows

Note:-

For stoping an already running Jenkins instance(or if you get port already in use error)

sudo systemctl stop jenkins

Run A Java File On Jenkins(Ubuntu/Windows)

- Go to the location where you download the jar file and run cmd from there
- Run command
- Java -jar jenkins.war
- //jenkins.war=jenkins war file name with or without version
- Go to browser and run
- http://localhost:8080
- Go to a new item
- Give a name for your job
- Choose freestyle job
- Click on ok
- Save the job
- Go to C:\Users\user_name\.jenkins\workspace\job_name
- And make one .java file
- Now go back to Jenkins server job and go to configure
- scroll down go to Build and choose execute window batch or shell
- And write command
- Javac java_file_name
- Java java_class_name
- Now save
- Click on build now
- Check your successful build

- Follow the link**:-**

https://www.javatpoint.com/jenkins-setup-build-jobs

https://support.cloudbees.com/hc/en-us/articles/216118748-How-to-Start-Stop-or-Restart-your-Instance