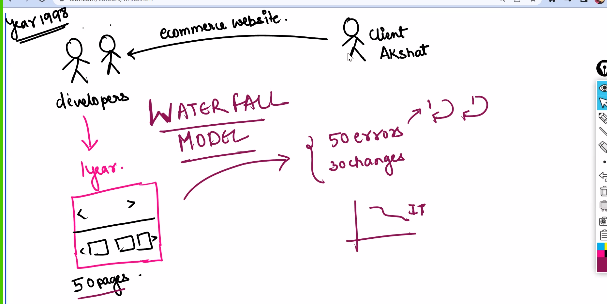
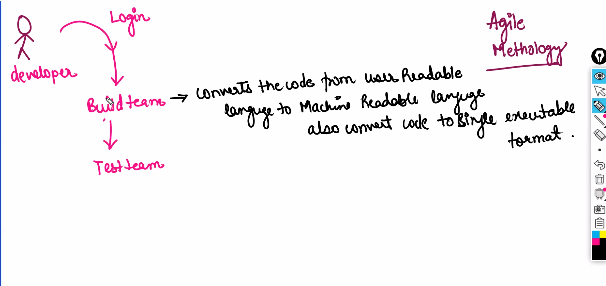
**DEVOPS CERTIFICATION MATERIAL**

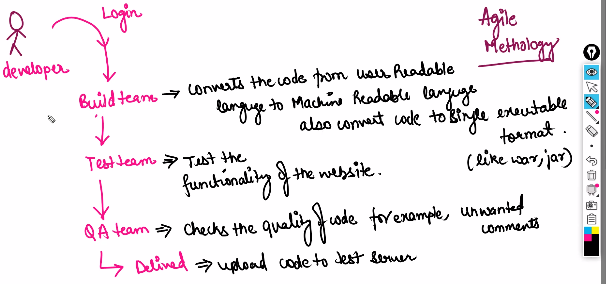
**Class 1**

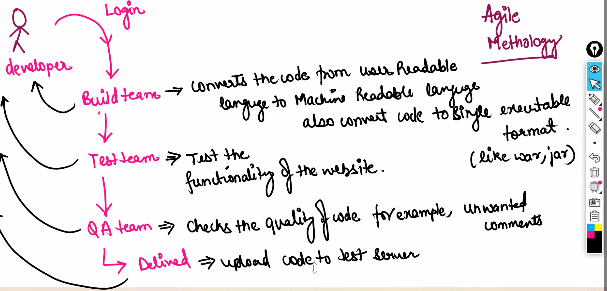
Topics of Devops

1. Introduction of devops
2. Git/Github.com
3. Jenkins
4. Ansible
5. Dockers
6. Kubernetes (K85)
7. Prometheus and Grafana
8. Ferreform

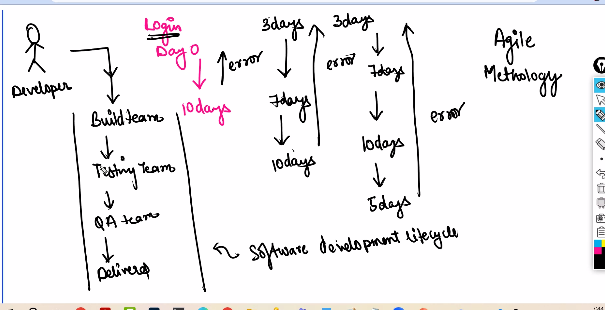
 

Build team🡪 Convert the codes from user readeable language to machine readeable language also convert code to single executable format (like war, jar)



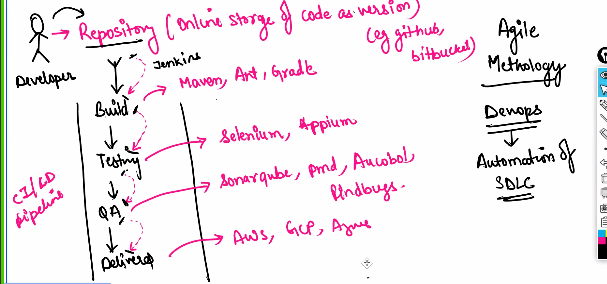


SDLC🡪 Software development life cycle



Instead of each teams the softwares going to performe the task automatically

With the help of Devops Automate the SDLC (Repository🡪Build🡪 Test 🡪 QA 🡪 Delivered)



Automated Software like

Repository🡪 Git/Github

Build🡪 Maven, Ant, Gradle

Test 🡪 Selenium, Appium

QA 🡪 SonarQube, PMB, Ansible, Rind byes

Delivered 🡪 AWS, GCP, Azure

Monitoring 🡪 Prometheus and Grafana

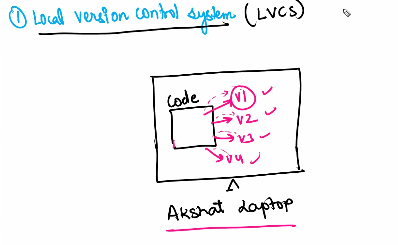
**Version Control System (VCS)**

1. **Local version control system (LVCS)**

All the version of code saves in local.

Cons:

Local machine may get failure (Laptop issue)

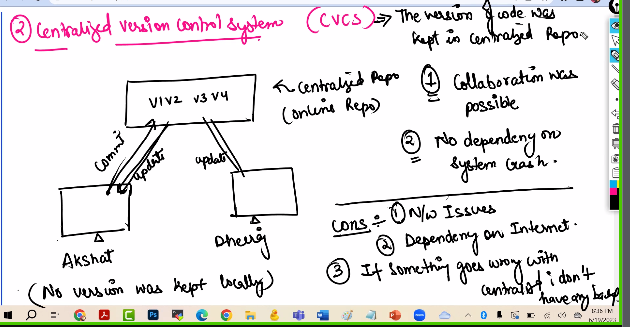


1. **Centralized version control system (CVCS)**

Every piece of code is saved in different versions.

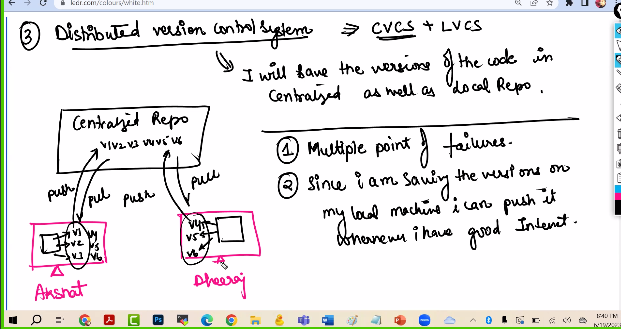
Cons:

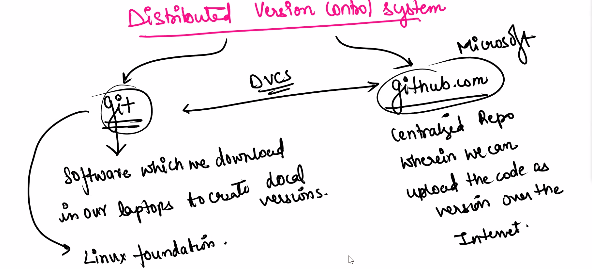
Network issue, Dependent on internet



1. **Distributed version control System 🡪 CVCS + LVCS**

I will save all the version of code in centralized as well as local repository.



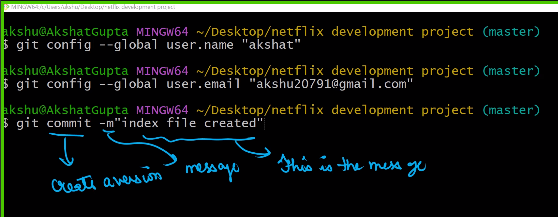


In Git bash we must initialize the code with the help of comment “git init”

Git add 🡪 Code will add from working directory to staging area.

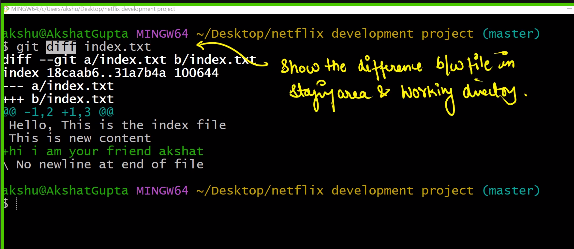
Git status

Git commit-m”msg”🡪Create the version

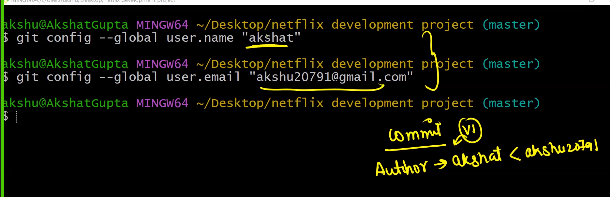


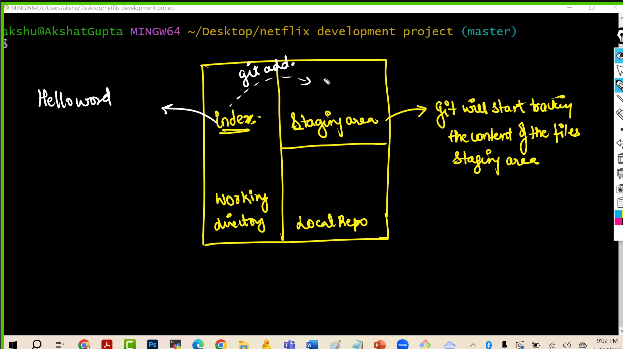
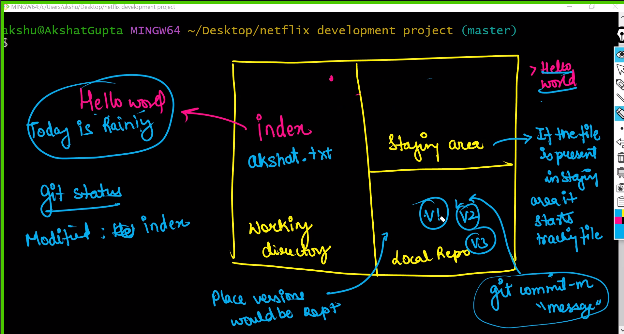
Git rm🡪 can remove the file

Git diff🡪 can check the content which is modified.



Git config



Linux course video link

<https://vimeo.com/700202539?share=copy>

<https://www.linkedin.com/in/akshat-g-57342938/>

Notes Drive link

<https://drive.google.com/drive/folders/1fUgjmpN1YbmYVBCswcngpqyW9ZmDh6Sc?usp=sharing>

git history 🡪 to see the

git log 🡪 to see the commits.

A screen shot of a computer

Description automatically generated with medium confidence

Git log – one line 🡪 to see the logs in single line

A screenshot of a computer program

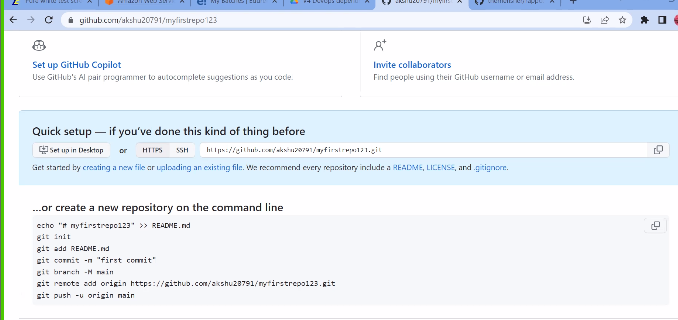
Description automatically generated with medium confidence

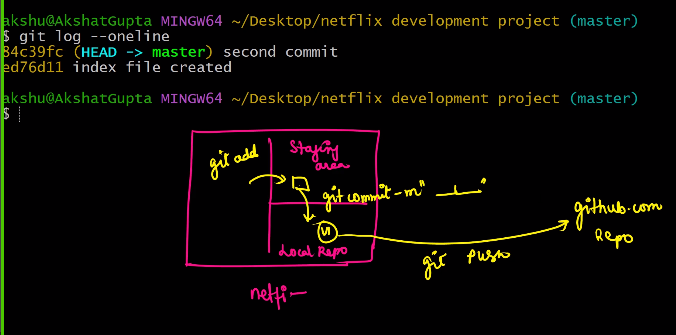
Touch file1 🡪

Repositories are 2 types 🡪 Public, Private both are secured.

Public🡪 Open-source software

Private 🡪 While Working for the client.





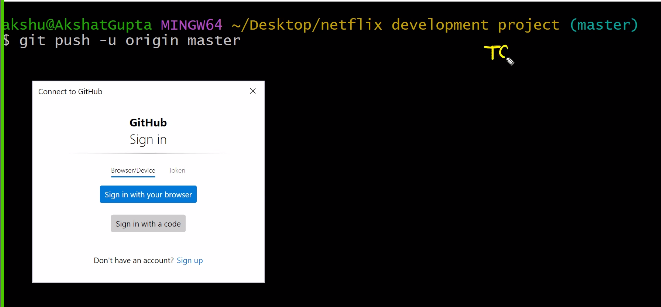
Git remote-v 🡪 to set a Origin where the codes to save



Git remote remove origin 🡪 to remove origin

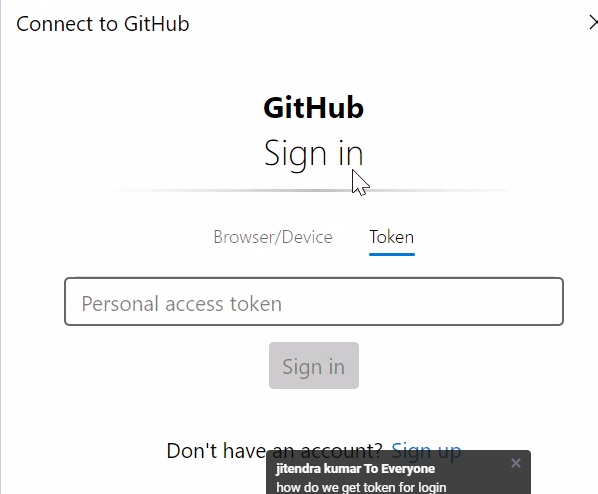


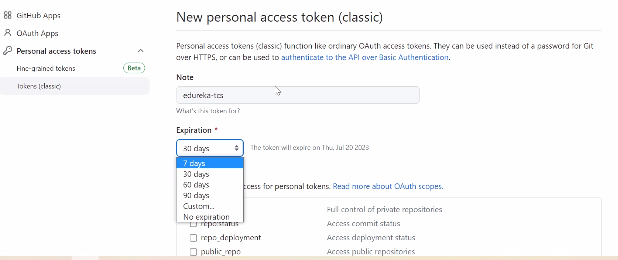
Git push-u origin master

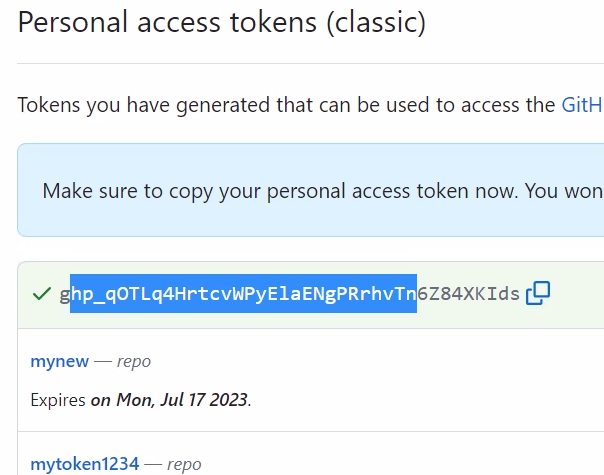


To get token

Top right in git hub account 🡪 settings🡪 developer options 🡪 Personal access token🡪 in notes put the name of the token & expiration days





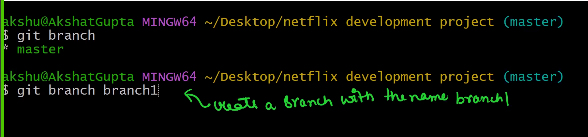


Cope the token paste in token box

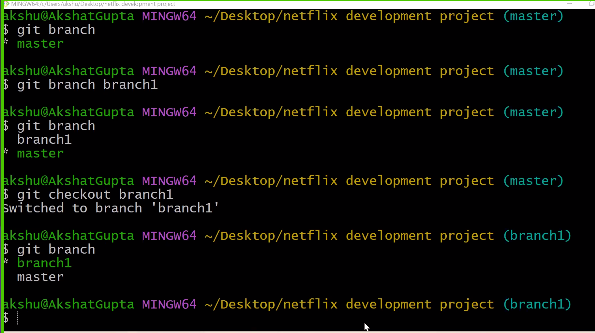


Git branch 🡪 it shows the list of the branch

Git branch branch1 🡪 create the branch 1 and entered into branch1



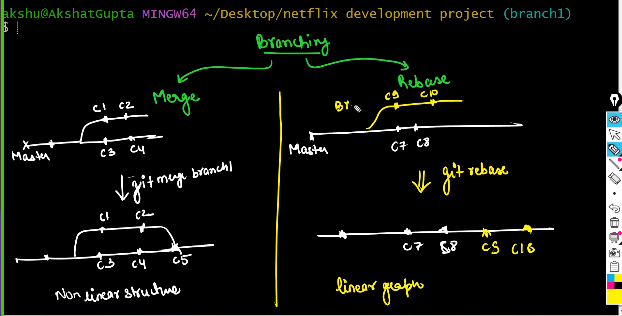
Git checkout branch1 🡪 check out from branch1.

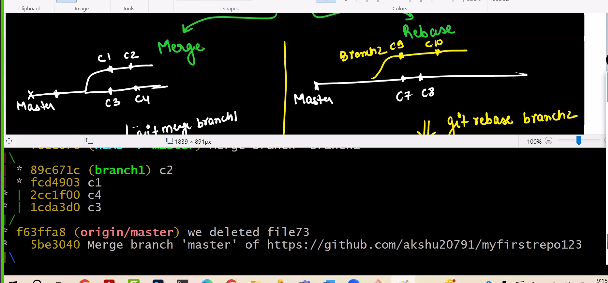


Branching is two types.

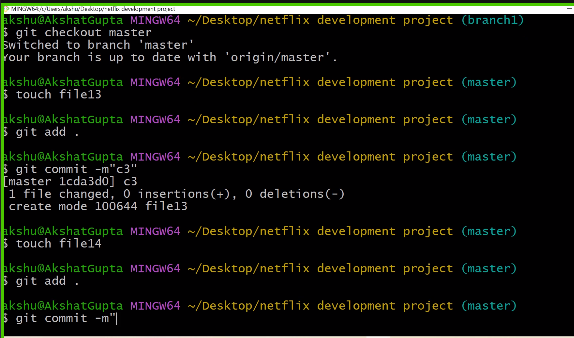
1. Merge 🡪 git merge
2. Rebase 🡪 git rebase.

C1, C2, C3, C4…… are commits

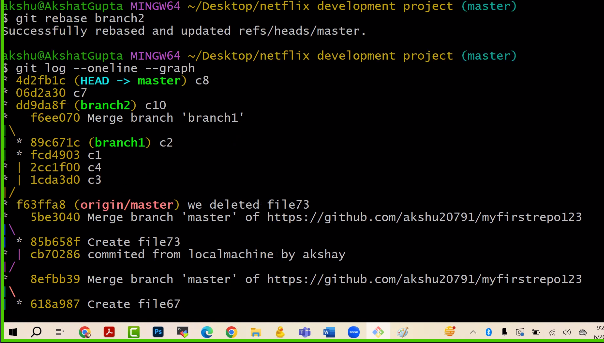




Books -- Git clone <https://github.com/akshu20791/Books>



Git rebase



Installing the Git in AWS

Commend: yum git install -y

cd /🡪 Creating directory

mkdir 🡪

**JENKINS**

Jenkins is an automation tool, we can automate whole CI/CD pipeline

It’s open-source tool.

A screen shot of a whiteboard

Description automatically generated with medium confidence

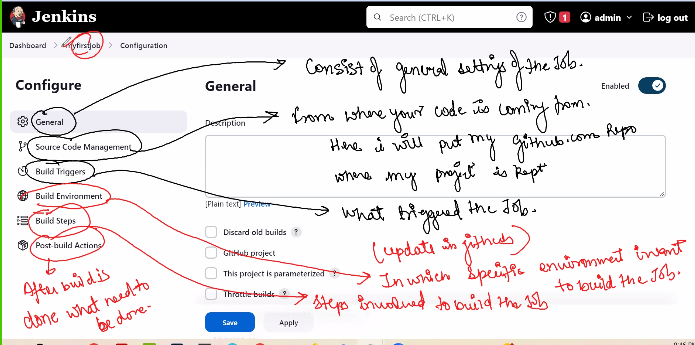
How to create AWS free account video link

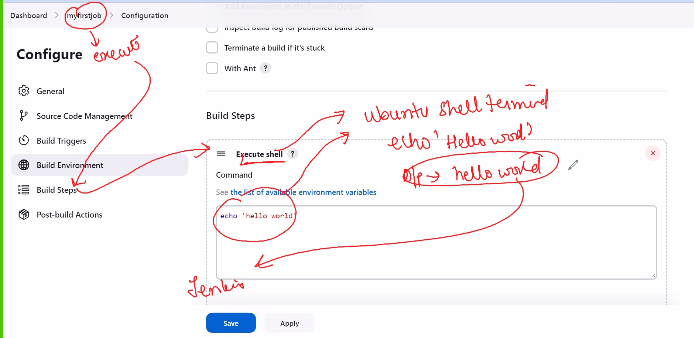
<https://www.youtube.com/watch?v=P7hVdusJF7I>

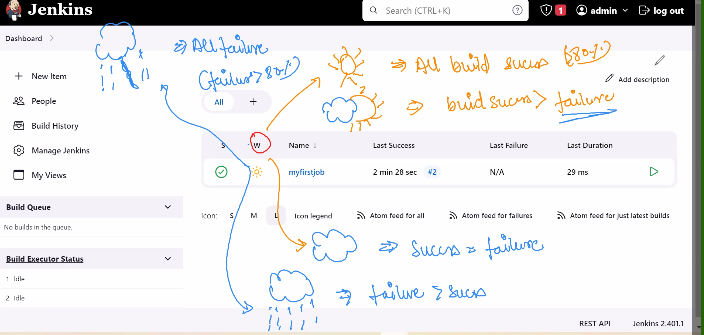
A screenshot of a computer

Description automatically generated with medium confidence

<https://docs.google.com/document/d/1V2xub11uWYc5z4BGk7SaI_d-VLnKnUco/edit?usp=sharing&ouid=103157204066713600014&rtpof=true&sd=true>

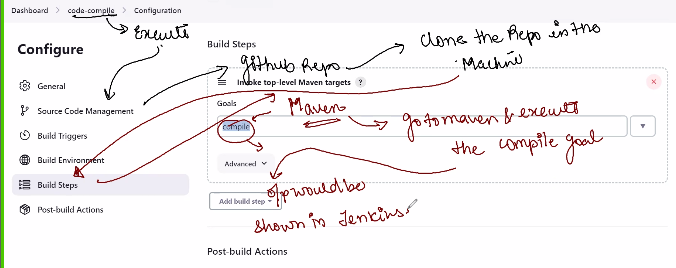






Git hub repo link : <https://github.com/akshu20791/DevOpsClassCodes>

Maven link <https://maven.apache.org/guides/introduction/introduction-to-the-lifecycle.html>



A screenshot of a computer

Description automatically generated

SCP🡪 Source code polling

Cronjob (Cronitor) link 🡪 [https://crontab.guru/#\*\_\*\_\*\_\*](https://crontab.guru/#*_*_*_*)

A screenshot of a computer

Description automatically generated with medium confidence

Groovy script

A screenshot of a computer

Description automatically generated with medium confidence

A screen shot of a computer code

Description automatically generated with low confidence

Sh means execute commend it is linux comment

A screenshot of a computer program

Description automatically generated with medium confidence

Access management 🡪 Admin

A screenshot of a computer

Description automatically generated

**ANSIBLE**

Ansible is configuration management tool.

A screenshot of a computer screen

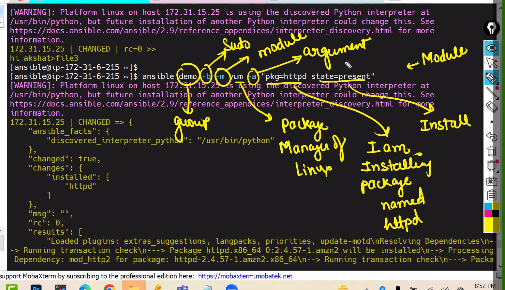
Description automatically generated with medium confidence

Docs Steps to install software in server.

<https://docs.google.com/document/d/1mWZ3kJNfOhgqOtaCk4YPP0X68dFQwAck/edit?usp=sharing&ouid=103157204066713600014&rtpof=true&sd=true>

A picture containing text, screenshot, handwriting, font

Description automatically generated



A picture containing text, screenshot, font, multimedia software

Description automatically generated

A screen shot of a computer

Description automatically generated with medium confidence

Asible

A screenshot of a computer

Description automatically generated with medium confidence

A picture containing text, screenshot, font

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer program

Description automatically generated with medium confidence

For change the password rekey

Docker

Docker is containerization service.

A picture containing text, handwriting, child art, font

Description automatically generated

A picture containing text, line, handwriting, font

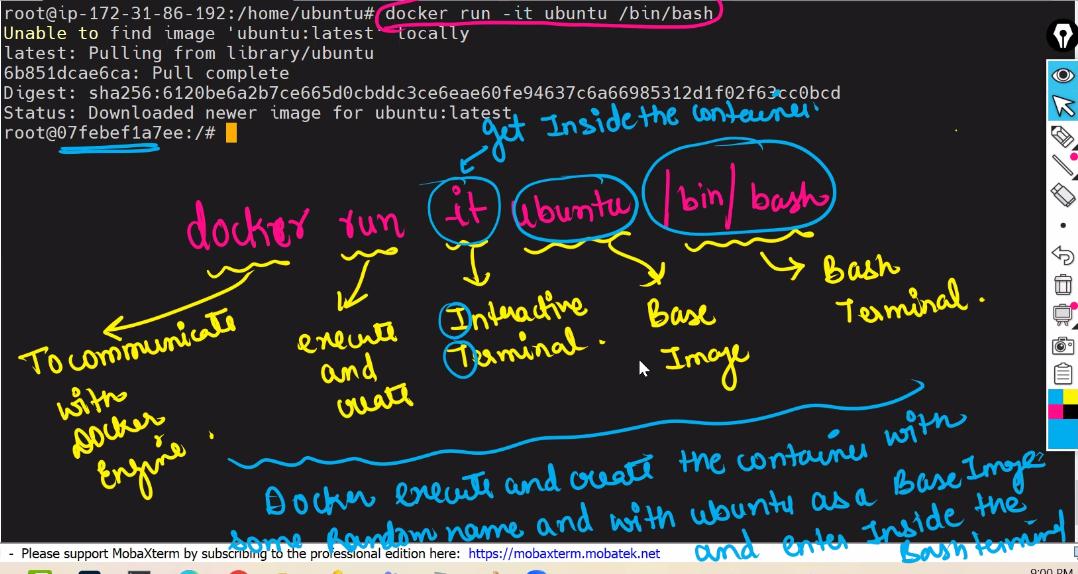
Description automatically generated

A picture containing text, diagram, handwriting, screenshot

Description automatically generated

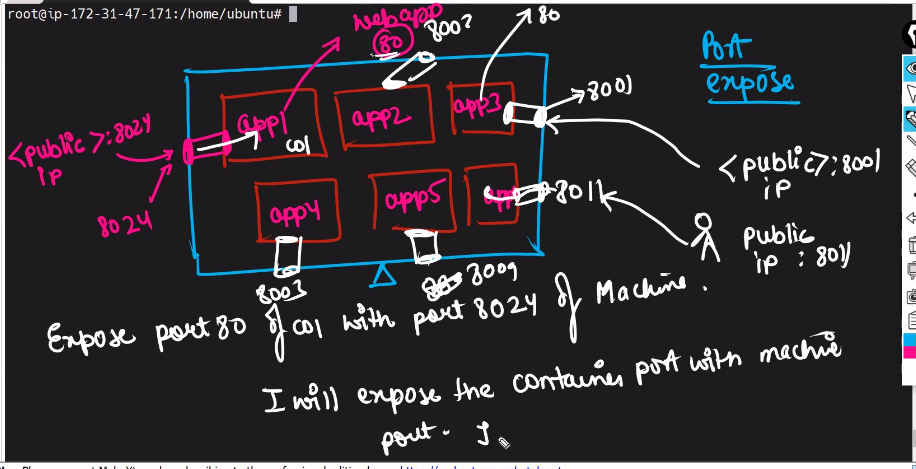
A picture containing text, diagram, handwriting, screenshot

Description automatically generated



Access the docker

Container dose not have IP, so we can access via PORT num

A picture containing text, screenshot, font, line

Description automatically generated

Docker attach is commend to enter the docker

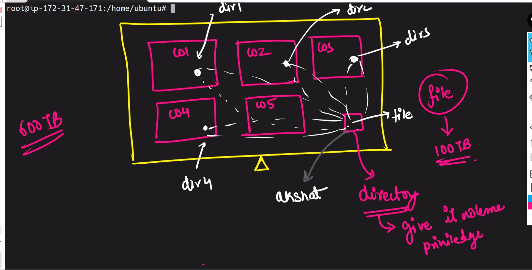
Apt install git-y to install git in container

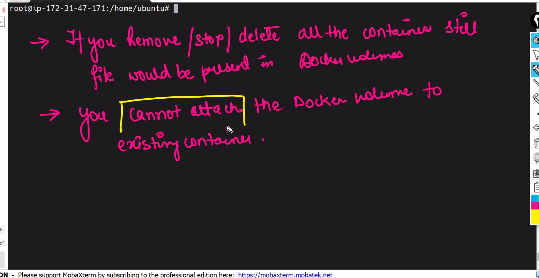
**Steps to create container**

1. Docker run -t –name ABC -p 8091 ubbuntu /bin/bash
2. Apt update
3. Apt install apache2
4. Service apache2 start
5. Cd/var/www/html 🡪 creating the file
6. Docker ps -a (ps means process) 🡪 It shows all the status of container
7. Docker commit c01 Subbaram img (execute the container with name of c01 and create the custom image of this container)
8. Docker images 🡪 it shows all the images which is presented in docker

Docker Volume

It is persistent volume



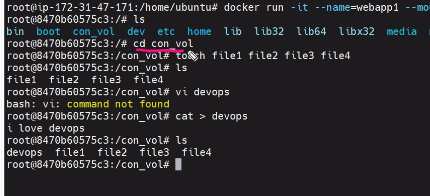
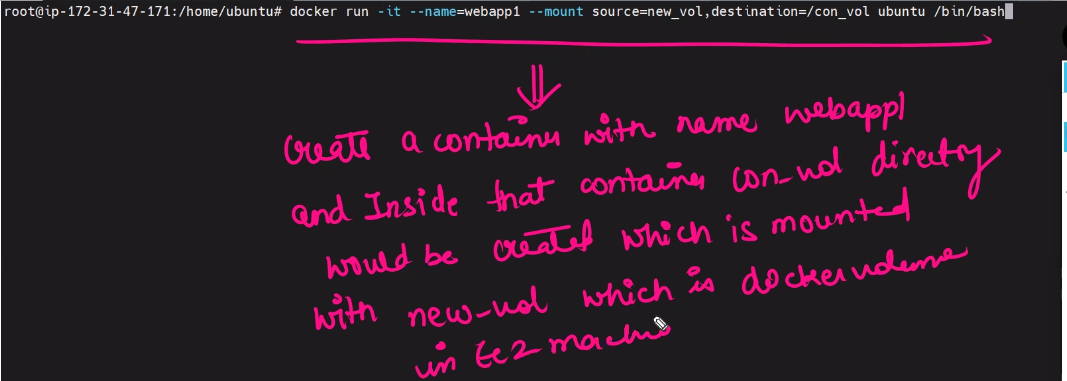


Create a directory

Docker volume create new\_vol

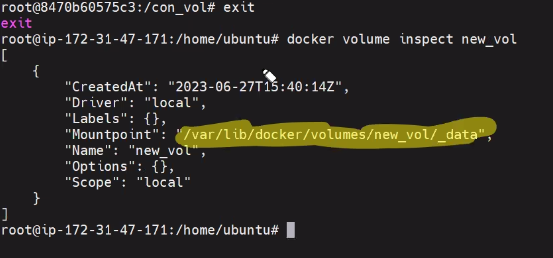
A screen shot of a computer screen

Description automatically generated with low confidence

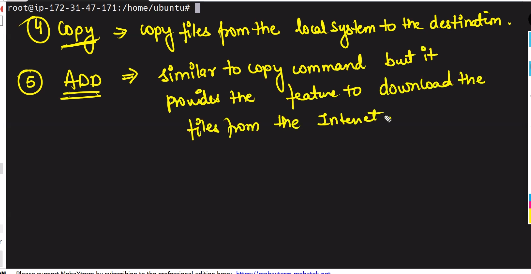
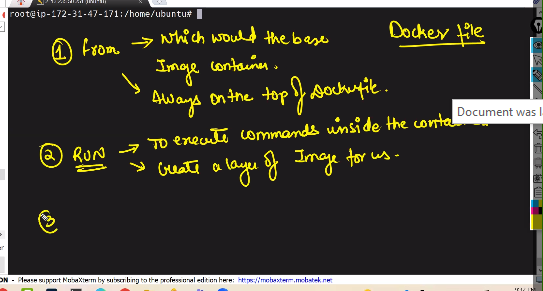
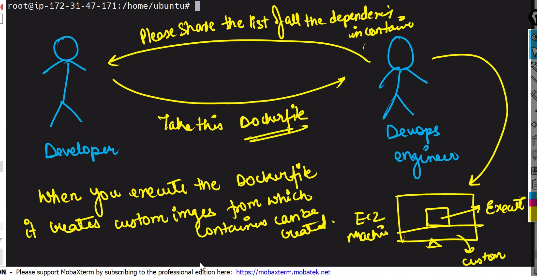


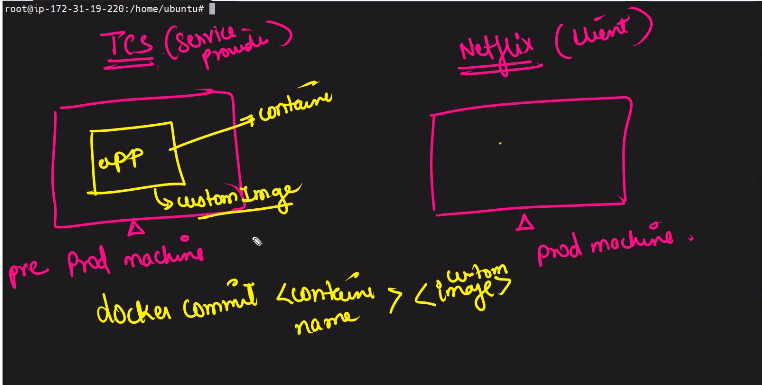
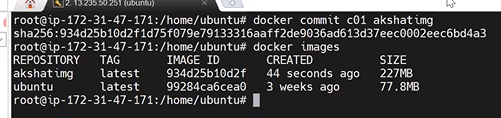
Docker volume inspect new\_vol

Insect 🡪 give all the detailes

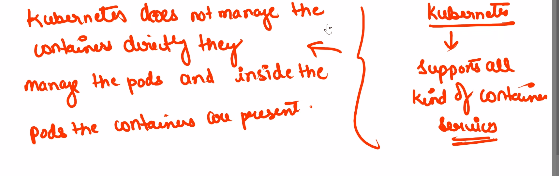


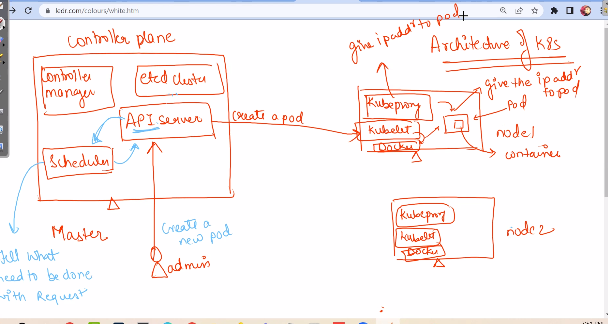
Docker commit <Container name ex C02> customing

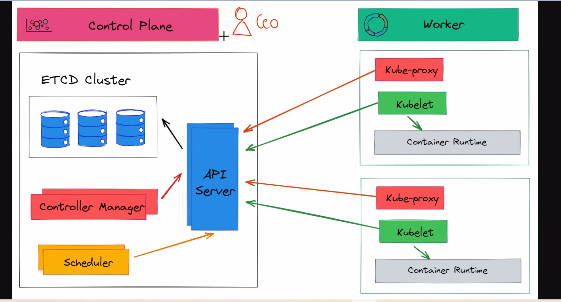


**Kubernetes K8s**







A black screen with white text

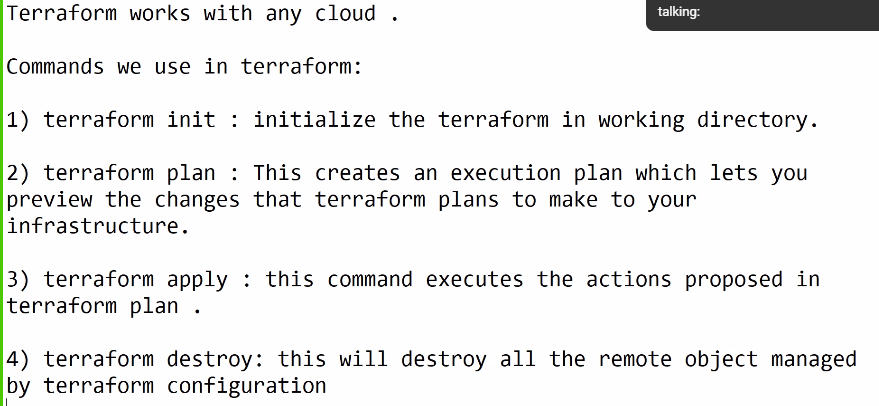
Description automatically generated with low confidence

A picture containing text, multimedia software, software, multimedia

Description automatically generated

**Terraform**

Commends used in terraform



<https://developer.hashicorp.com/terraform/downloads>

<https://code.visualstudio.com/>

<https://registry.terraform.io/providers/hashicorp/aws/latest/docs>

