Problem Statement:

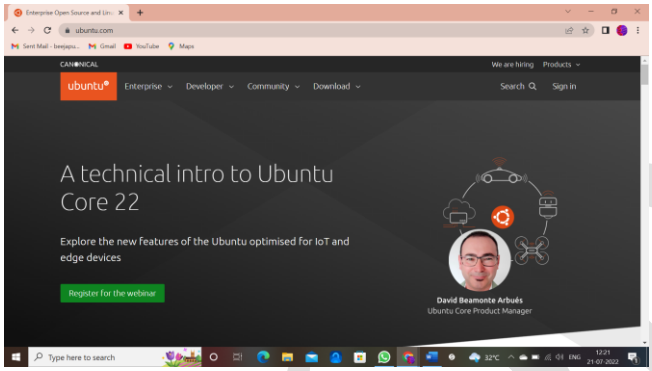
Download and install Ubuntu in VirtualBox.

Aim:

To download install ubuntu in VirtualBox.

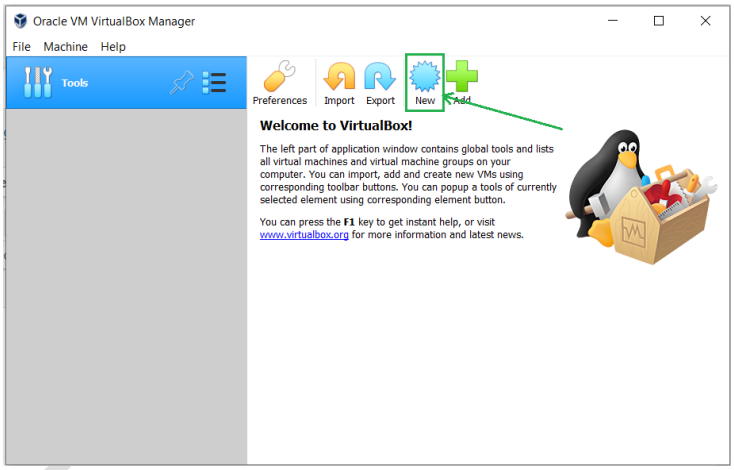
Procedure:

First visit the official website of Ubuntu from your favourite web browser. Once the page loads, click on Download.

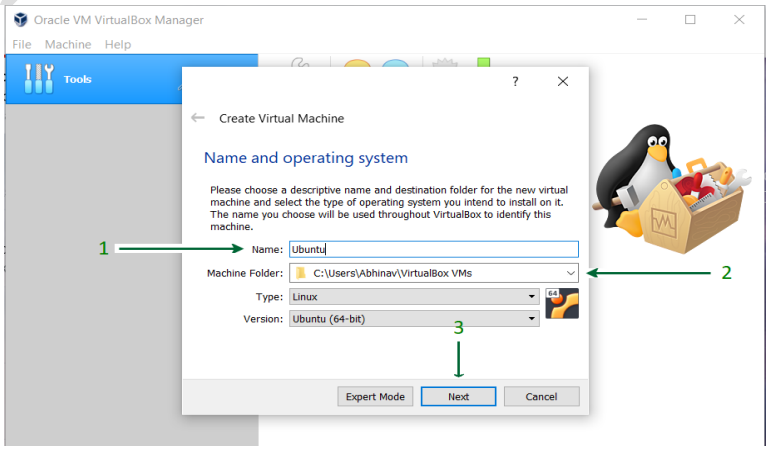


After the downloading is over, you can install Ubuntu on VirtualBox with the help of following instructions:

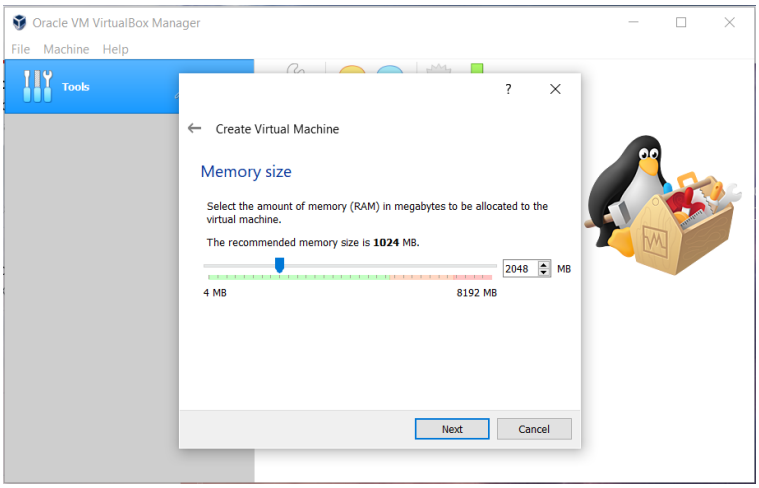
1. Open **VirtualBox** and click on the **New** button.



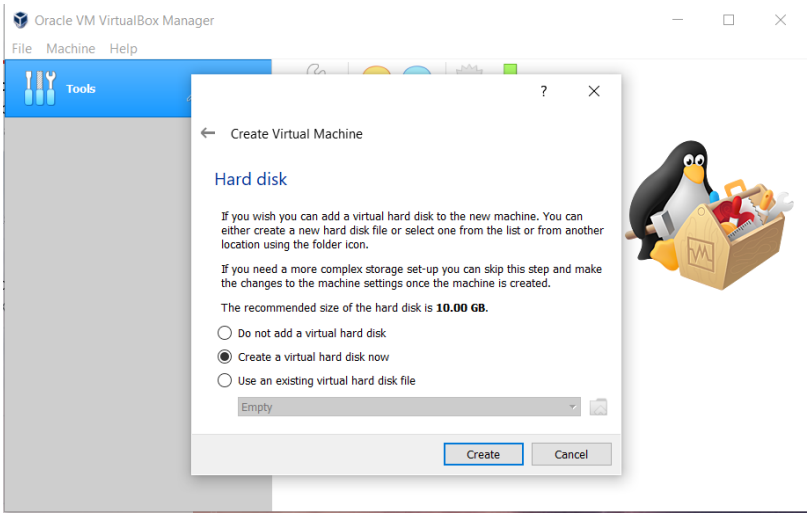
2. Give a name to your Virtual Machine and select the location for it to install.



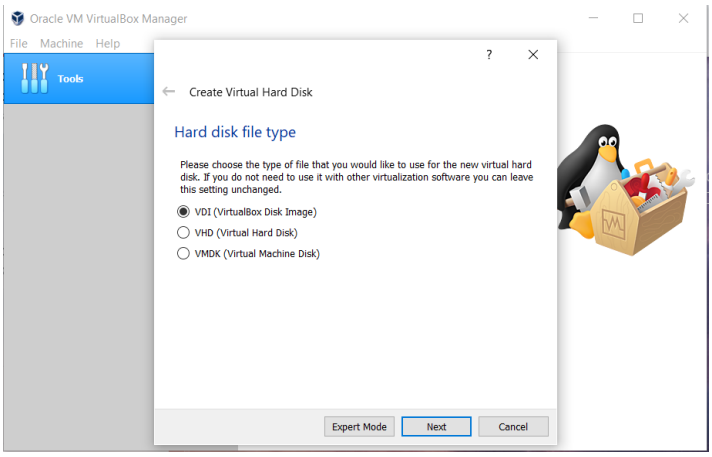
3. Assign RAM size to your Virtual Machine.



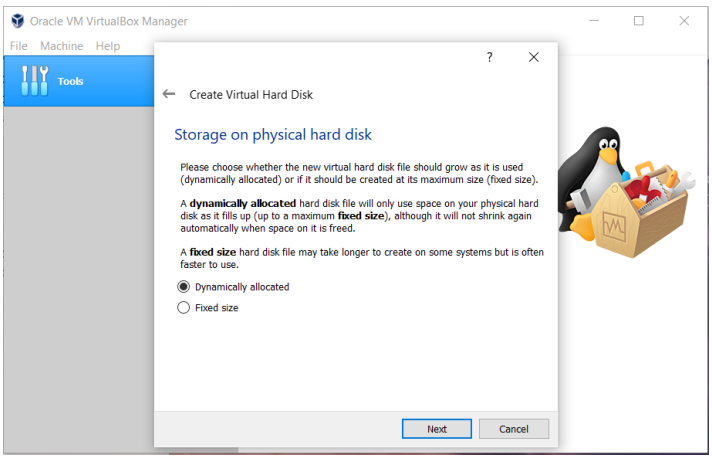
4. Create a Virtual Hard disk for the machine to store files.



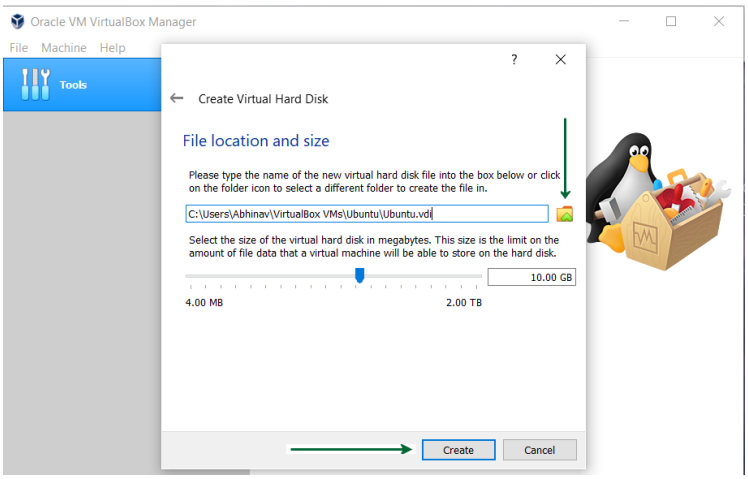
5. Select the type of Hard disk. Using **VDI** type is recommended.



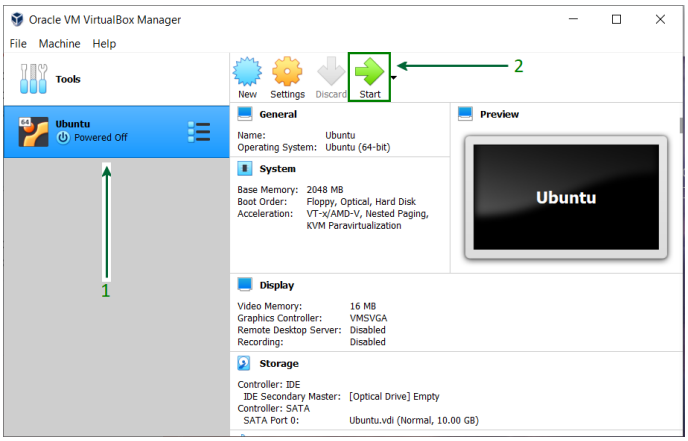
6. Either of the physical storage type can be selected. Using Dynamically allocated disk is by default recommended.



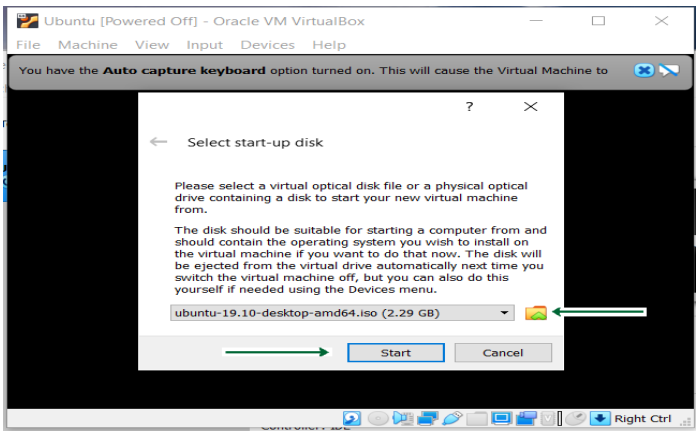
7. Select disk size and provide the destination folder to install.



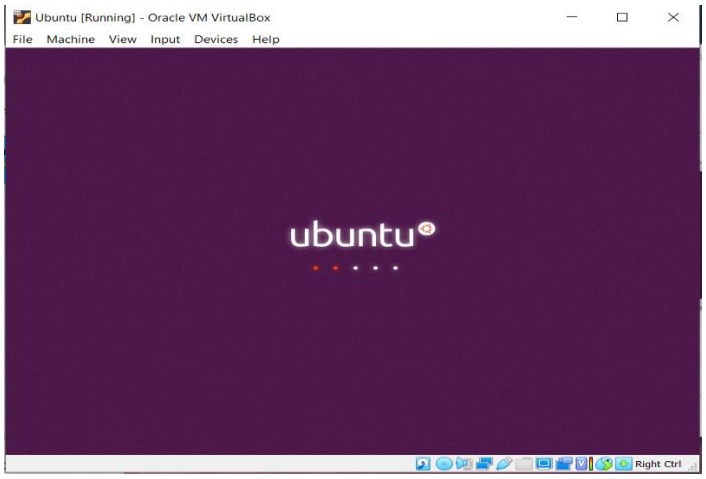
8. After the Disk creation is done, boot the Virtual Machine and begin installing Ubuntu.



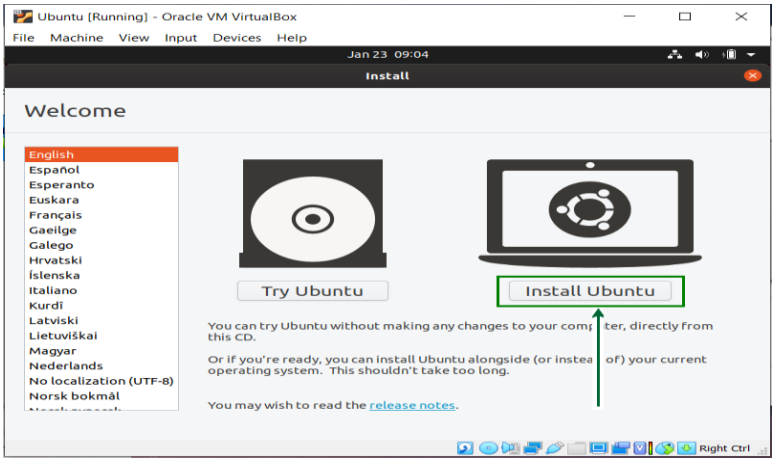
9. If the installation disk is not automatically detected. Browse the file location and select the ISO file for Ubuntu.



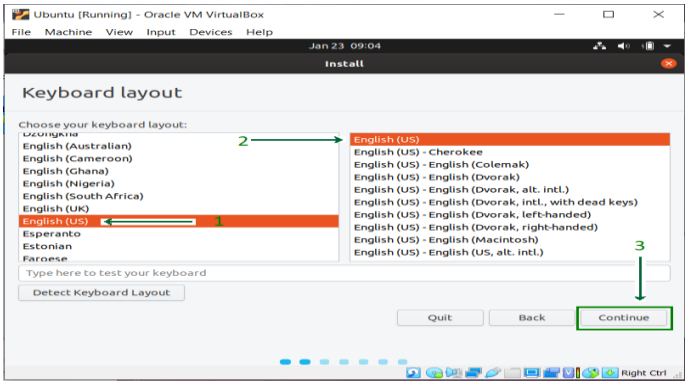
10. Proceed with the installation file and wait for further options.



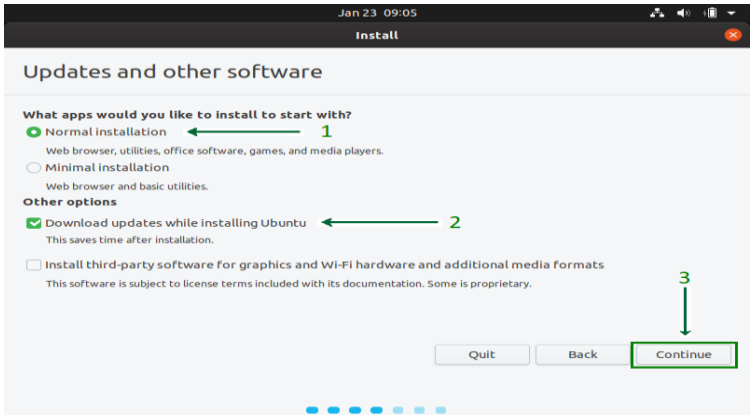
11. Click on the Install Ubuntu option, this might look different for other Ubuntu versions.



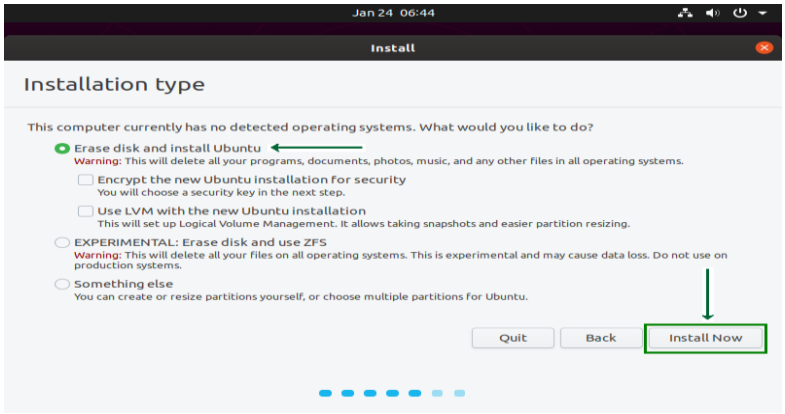
12. Select Keyboard layout, if the defaults are compatible, just click on the **continue** button and proceed.



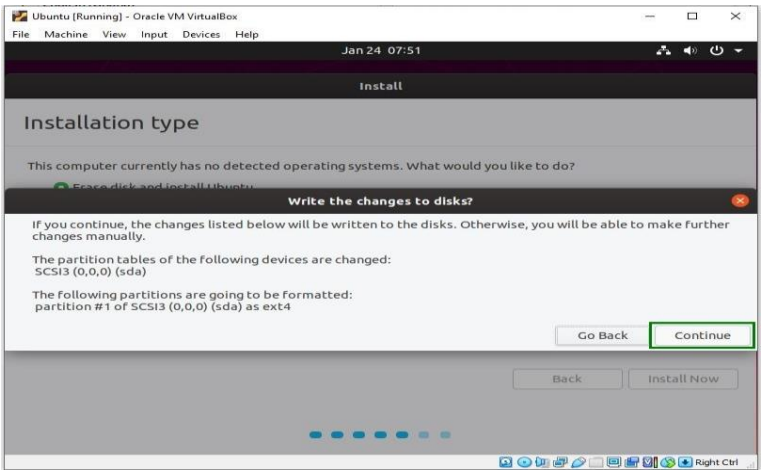
13. Select installation type. By default, it is set to Normal installation, which is recommended, but it can also be changed to Minimal installation if there is no need for all Ubuntu features.



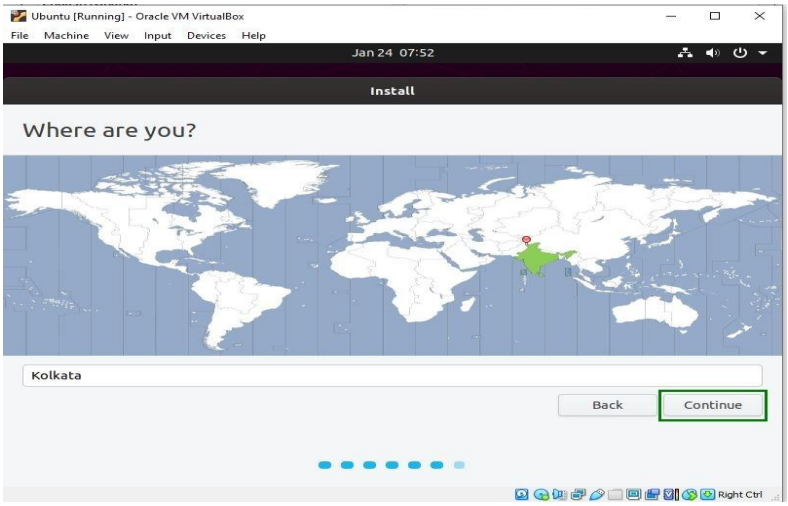
14. Click on the Install Now button and carry on with the installation. Do not get worried with the Erase disk option, it will only be effective inside the virtual machine, other system files outside the VirtualBox remain intact.



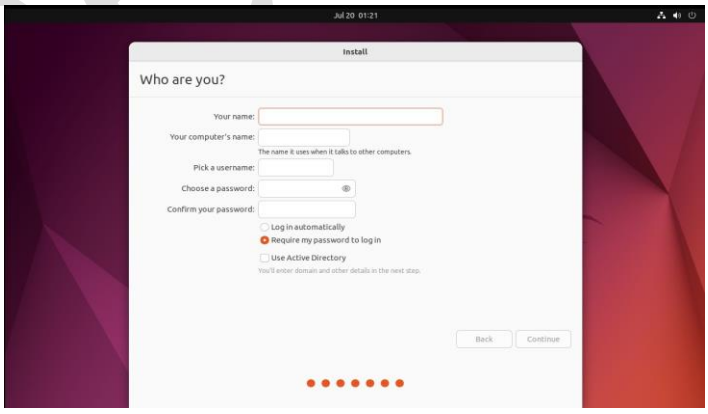
15. Click on the **continue** button, and proceed with writing changes on the disk.



16. Select your location to set the Time Zone.

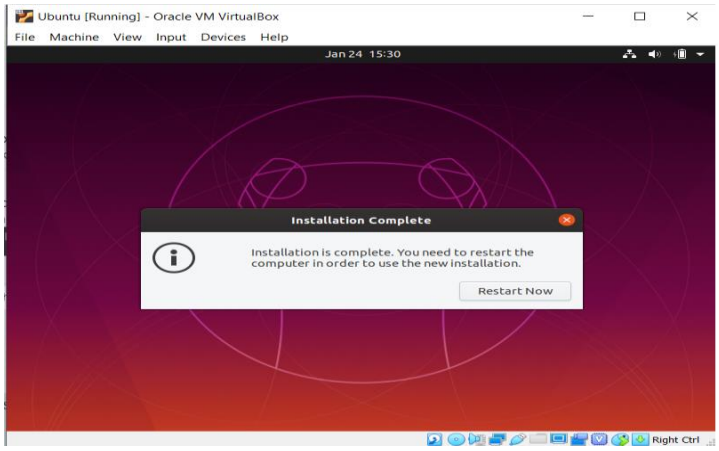


17. Choose a name for your computer and set a password to secure login info.

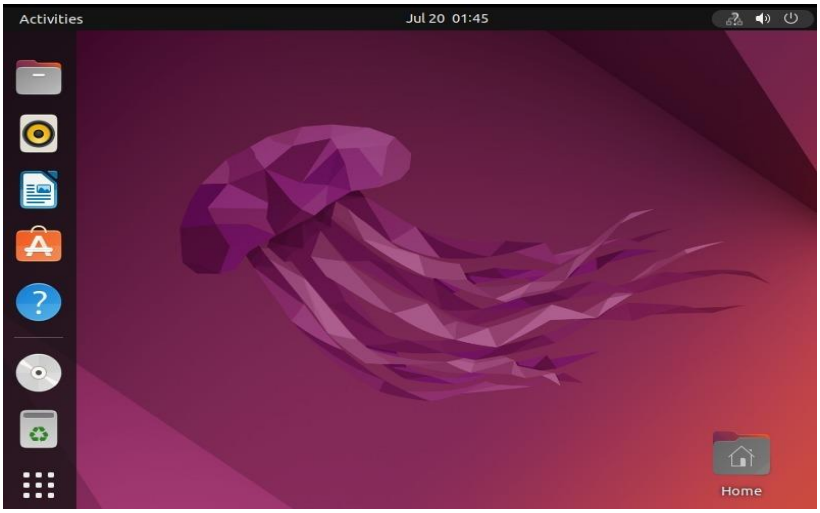


18. Wait for the installation process to complete.

19. Once the installation process is over, reboot your Virtual Machine.



20. Voila!! You're finished with the installation process. Now you can use Ubuntu along with the Windows, without creating a dual boot.



Result:

Downloading and Installation of Ubuntu on VirtualBox was completed successfully.

Problem Statement:

Execute Linux commands required for DevOps.

Aim:

To execute Linux Commands required for DevOps.

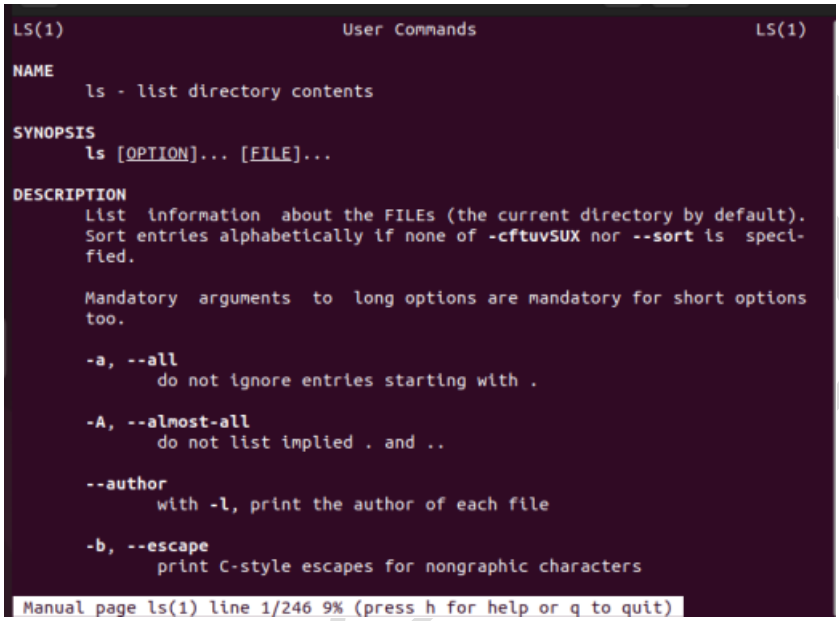
Linux Commands:

1.Man command:

man command in Linux is used to display the user manual of any command that we can run on the terminal

Syntax: $ man [COMMAND NAME]

Output:

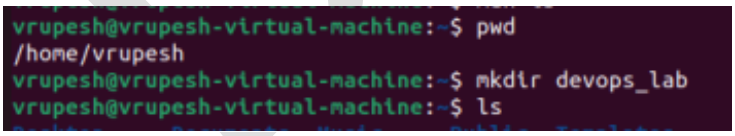


2.pwd Command:

The pwd command is used to display the location of the current working directory.

Syntax: -$ pwd

Output:

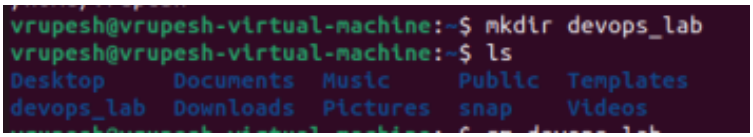


3.mkdir Command:

The mkdir command is used to create a new directory under any directory.

Syntax: -$ mkdir <directory name>

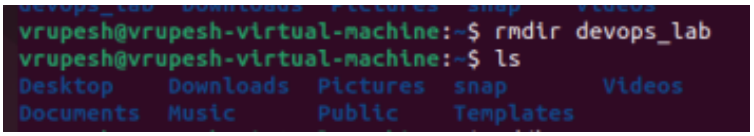
Output:



4.rmdir Command:

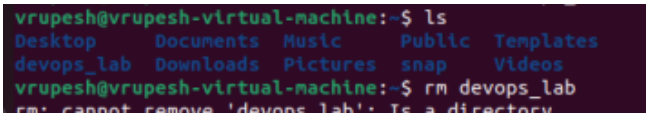
The rmdir command is used to delete a directory.

Syntax: -$ rmdir <directory name>
Output:



5.ls Command:

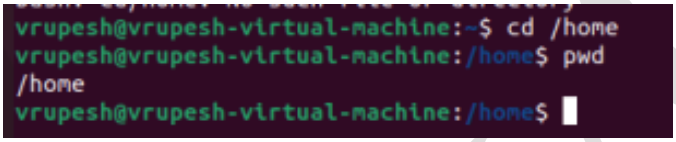
The ls command is used to display a list of content of a directory.
Syntax: -$ ls
Output:-



6.cd Command:

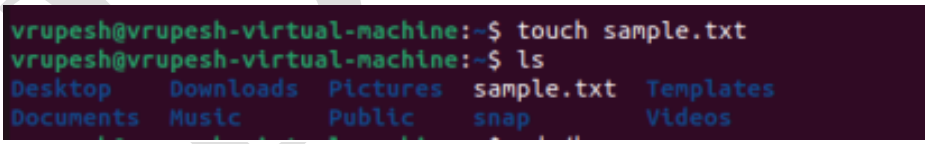
The cd command is used to change the current directory.
Syntax: -$ cd <directory name>

Output:-



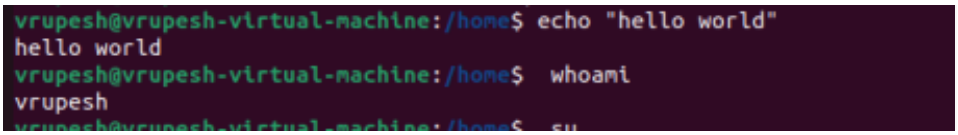
7.touch Command

The touch command is used to create empty files.We can create multiple empty files by executing it once.
Syntax: -$ touch <file name>
-$ touch <file 1><file 2>
-$ touch <file 1><file 2>
Output:



8.echo command:

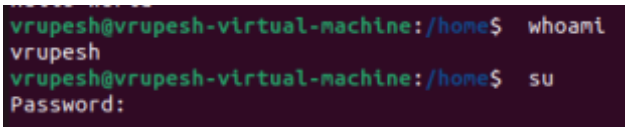
It is used to display a line of text that is passed in as an argument.
Syntax:echo [option] [string]
Output:-



9.whoami command:

It displays the username of the current user when this command is invoked.
Syntax: whoami [OPTION]

Output:



10.su Command:

The su command provides administrative access to another user. In other words, it allows access of the Linux shell to another user.

Syntax: su <user name>

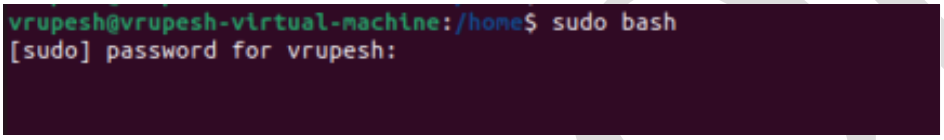
Output:-

11.sudo bash command:

It allows users to run programs with the security privileges of another user

Syntax:$ sudo bash

Output:-

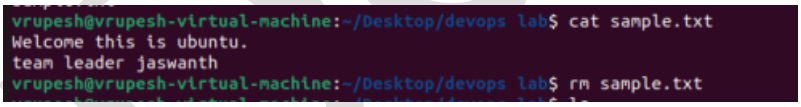


12.cat Command:

The cat command is a multiple-purpose utility in the Linux system. It can be used to create a file, display content of the file, copy the content of one file to another file and more.

Syntax: cat <file name>

Output:



13.rm command:

It helps to delete files and directories

Syntax: rm [OPTION]... FILE...

Output:-

14.cp command:

To copy files or directories from ome location to another

Syntax:cp [OPTION]

Output:

15.mv command:

mv stands for **move**. mv is used to move one or more files or directories from one place to another in a file system like UNIX.

Syntax:mv [Option] source destination

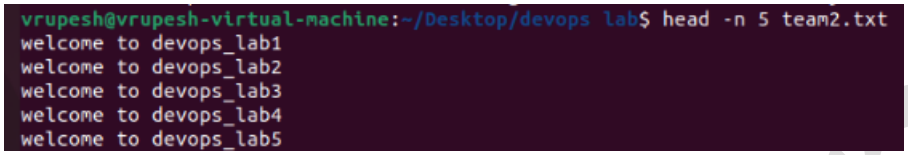
Output:

16.head command:

To print first N lines of a given file content.

Syntax: head [OPTION]... [FILE]...

Output:

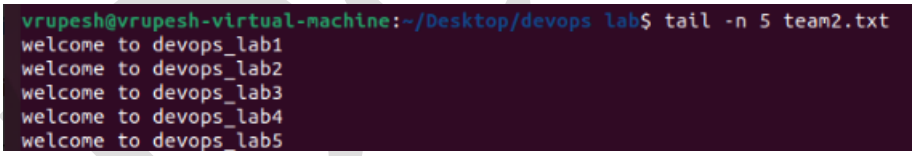


17.Tail command:

To print last N lines of a given file content

Syntax: tail [OPTION]... [FILE]...

Output:



18.History command:

Used to view a history of all commands previous executed inside bash terminal

Syntax:$history

Output:

```
welcome to devops_lab4
welcome to devops_lab5
vrupesh@vrupesh-virtual-machine:~/Desktop/devops lab$ history
    1  man ls
    2  ls
    3  man ls
    4  pwd
    5  mkdir devops_lab
    6  ls
    7  rm devops_lab
    8  ls
    9  rmdir devops_lab
   10  ls
   11  cd/home
   12  cd /home
   13  pwd
   14  touch sample.txt
   15  touch sampl.txt
   16  touch sample.txt
   17  ls
   18  cd /home
   19  echo "hello world"
   20  sudo bash
   21  touch sample.txt
   22  ls
   23  cat sample.txt
   24  rm sample.txt
   25  ls
   26  cp team10.txt sample.txt
```

Result:

Execution of Linux commands required for DevOps was completed successfully.

Problem Statement:

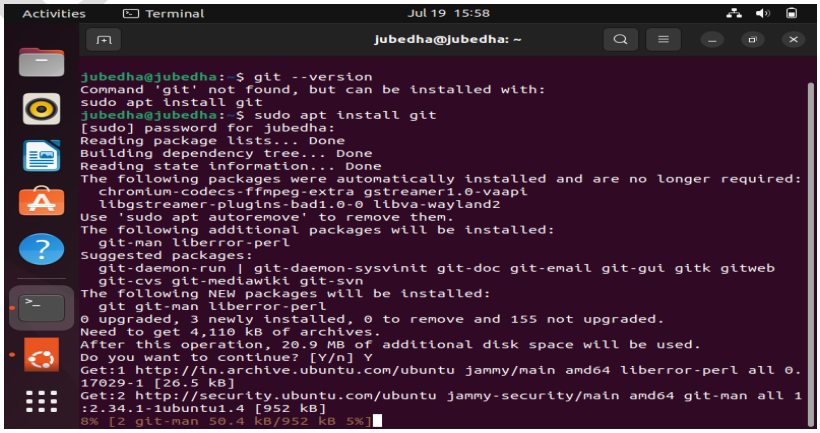
Download and install Git in Linux operating system.

Aim:

To download and install Git in Linux operating system.

Procedure:

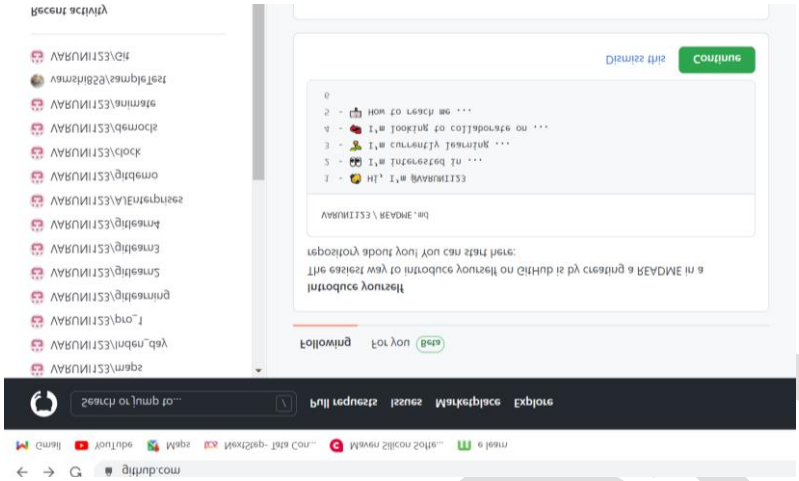
1. Open the Terminal and type sudo apt-get install git.



type sudo apt-get update

```
varuni520@varuni520-virtual-machine:~$ sudo apt-get update
Get:1 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Hit:2 http://in.archive.ubuntu.com/ubuntu jammy InRelease
Hit:3 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:4 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease
Fetched 110 kB in 11s (9,760 B/s)
Reading package lists... Done
```

2. Goto **www.github.com** and sign into your account. If you're a new user, you can simply sign-up.



3. And check the version of Git.

```
Processing triggers for man-db (2.10.2-1) ...
varuni520@varuni520-virtual-machine:~$ git --version
git version 2.34.1
```

Result:

Downloading and installation of Git in Linux operating system was completed successfully.

Problem Statement:

Execute Git commands in Linux operating system.

Aim:

To execute Git commands in Linux operating system.

Git commands:

1.git version:

This version is used to check the version of the git.

Syntax:git –version

Output:

```
varuni520@varuni520-virtual-machine:~$ git --version
git version 2.34.1
```

2.git config

This command sets the author name and email address respectively to be used with your commits.

Syntax: git config –global user.name "[name]"

git config –global user.email "[email address]"

Output:

```
varuni520@varuni520-virtual-machine:~/Desktop/git$ git config --global user.email "varunilal
varuni520@varuni520-virtual-machine:~/Desktop/git$ git config --global user.name "VARUNI123"
varuni520@varuni520-virtual-machine:~/Desktop/git$ git config --global user.name
VARUNI123
varuni520@varuni520-virtual-machine:~/Desktop/git$ git config --global user.email
varunilalitha.bysani@gmail.com
varuni520@varuni520-virtual-machine:~/Desktop/git$ git commit -m "sample commit"
```

3. **git init:**

This command is used to start a new repository.

Syntax: git init [repository name]

Output:

```
varuni520@varuni520-virtual-machine:~/Desktop/git$ git init
hint: Using 'master' as the name for the initial branch. This default branch
hint: is subject to change. To configure the initial branch name to use in al
hint: of your new repositories, which will suppress this warning, call:
hint:
hint:   git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:   git branch -m <name>
```

4. git add

This command adds a file to the staging area.

Syntax: git add [file] / git add *

Output:

The file is added in the git

```
varuni520@varuni520-virtual-machine:~/Desktop/git$ git add .
```

5. git status

This command lists all the files that have to be committed.

Syntax: git status

Output:

```
varuni520@varuni520-virtual-machine:~/Desktop/git$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   sample.txt
```

6. git commit

This command records or snapshots the file permanently in the version history.

Syntax: git commit -m "[Type in the commit message]"

Output:

This command commits any files you've added with the git add command and also commits any files you've changed since then.

```
varuni520@varuni520-virtual-machine:~/Desktop/git$ git commit -m "sample commit"
Author identity unknown

*** Please tell me who you are.

Run

  git config --global user.email "you@example.com"
  git config --global user.name "Your Name"

to set your account's default identity.
Omit --global to set the identity only in this repository.

fatal: unable to auto-detect email address (got 'varuni520@varuni520-virtual-machine.(none)')
```

7. git clone

This command is used to obtain a repository from an existing URL.

Syntax: git clone [url]

Output:

```
varuni520@varuni520-virtual-machine:~/Desktop/git$ git remote add origin https://github.com/VARUNI123/Git.git
```

8. git push

This command sends the committed changes of master branch to your remote repository.

Syntax: git push [variable name] master

Output:

```
varuni520@varuni520-virtual-machine:~/Desktop/git$ git push -u origin master
Username for 'https://github.com': VARUNI123
Password for 'https://VARUNI123@github.com':
remote: Support for password authentication was removed on August 13, 2021. Please use a personal access token instead.
remote: Please see https://github.blog/2020-12-15-token-authentication-requirements-for-git-operations/ for more information.
fatal: Authentication failed for 'https://github.com/VARUNI123/Git.git/'
```

9. git pull :

This command fetches and merges changes on the remote server to your working directory.

Syntax: git pull [Repository Link]

Output:

```
Welcome@Welcome-PC MINGW64 /e/git-demos/pull-tst (master)
$ git pull origin master
remote: Counting objects: 14, done.
remote: Compressing objects: 100% (10/10), done.
remote: Total 14 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (14/14), done.
From https://github.com/git-test-jaz/tst-pull-2
 * branch            master     -> FETCH_HEAD
 * [new branch]      master     -> origin/master

Welcome@Welcome-PC MINGW64 /e/git-demos/pull-tst (master)
$ ls
3.0_2-Git-delete-merge.png  3.0_6-Git-branch-create.png  demo1.txt  README.md
```

11. git rm:

This command deletes the file from your working directory and stages the deletion.

Syntax: git rm [file]

Output:

```
HiMaNshU@HiMaNshU-PC MINGW64 ~/Desktop/GitExample2 (master)
$ rm newfile2.txt
```

12. git branch:

This command lists all the local branches in the current repository.

Syntax: git branch

Output:

This command creates a new branch.

```
Welcome@Welcome-PC MINGW64 /e/git-demos/br-demo (br-tst1)
$ git branch -a
* br-tst1
  br-tst3
  bt-tst2
  master
  remotes/origin/br-tst1
  remotes/origin/br-tst3
  remotes/origin/master

Welcome@Welcome-PC MINGW64 /e/git-demos/br-demo (br-tst1)
$
```

13.git checkout:

This command is used to switch from one branch to another.

Syntax: git checkout [branch name]

Output:

```
Welcome@Welcome-PC MINGW64 /e/git-demos/br-demo (master)
$ git checkout br-tst1
Switched to branch 'br-tst1'
```

Date		EXP.N0.		Page No.	