

BCA Semester – III
Skill Enhancement Course (SEC-2)

SEC-2: Title of the Course: Open Source Tools
Course Code: 053BCA061

Course No.	Type of Course	Mode of Exam	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Duration of Exam	Formative Assessment Marks	Summative Assessment Marks	Total Marks
SEC	SEC-2	Practical	02	1T +2P	30 hrs	2 hrs	25	25	50

SEC-2 Lab Programs : 30Hrs

1. Demonstrate Basic File Commands In Ubuntu.
2. Demonstrate Basic Networking Commands in Ubuntu.
3. How to check for a File Existence in the file System using Ubuntu.
4. Demonstrate the Vi Editor & its Mods in Ubuntu.
5. Installation and Configuration of Apache server in Ubuntu.
6. Demonstrate the usage of Design Tool ArgoUML.
7. Install Git on Ubuntu and write the each steps of installation
8. Demonstrate how to track Bugs using Bugzilla
9. Demonstrate how to track Bugs using trac.
10. Create your college website using Bootstrap Components
11. Write the steps to Create Wikipedia Account and create a Wikipedia Page for Yourself/Organization/ Biography
12. Demonstrate setting updation of Mozilla Firefox
13. Build a Website With Joomla 4
14. Demonstrate how to use the libreoffice.
 - a) Writer (Word processing)
 - b) Calc (spreadsheets)
 - c) Impress (presentations)
 - d) Draw (vector graphics and flowcharts)
 - e) Base (databases),
 - f) Math (formula editing).
15. Write the steps to install GNU Compiler to Ubuntu.

1. Demonstrate Basic File Commands In Ubuntu.

ls command

The ls command lists the content of a folder, including files and directories.

Here's the syntax:

```
ls [options] [directory_or_path]
```

If you omit the path, the ls command will check the content of your current directory. To list items inside subfolders, add the -R option. Meanwhile, use -a to show hidden content.

touch command

Run the touch command to create a new empty file in a specific directory. The syntax is as follows:

```
touch [options] [path_and_file_name]
```

If you omit the path, the touch command will create a new file in your current working directory.

cat command

The concatenate or cat command has various usages. The most basic one is printing the content of a file. Here's the syntax:

```
cat file_name
```

You can also use cat with the operator to combine the content of multiple files into a new item. In this command, file1.txt and file2.txt will merge into target.txt:

mkdir command

The mkdir command lets you create one or multiple directories. The syntax looks like this:

```
mkdir [options] directory_name1 directory_name2
```

To create a folder in another location, specify the full path. Otherwise, this command will make the new item in your current working directory.

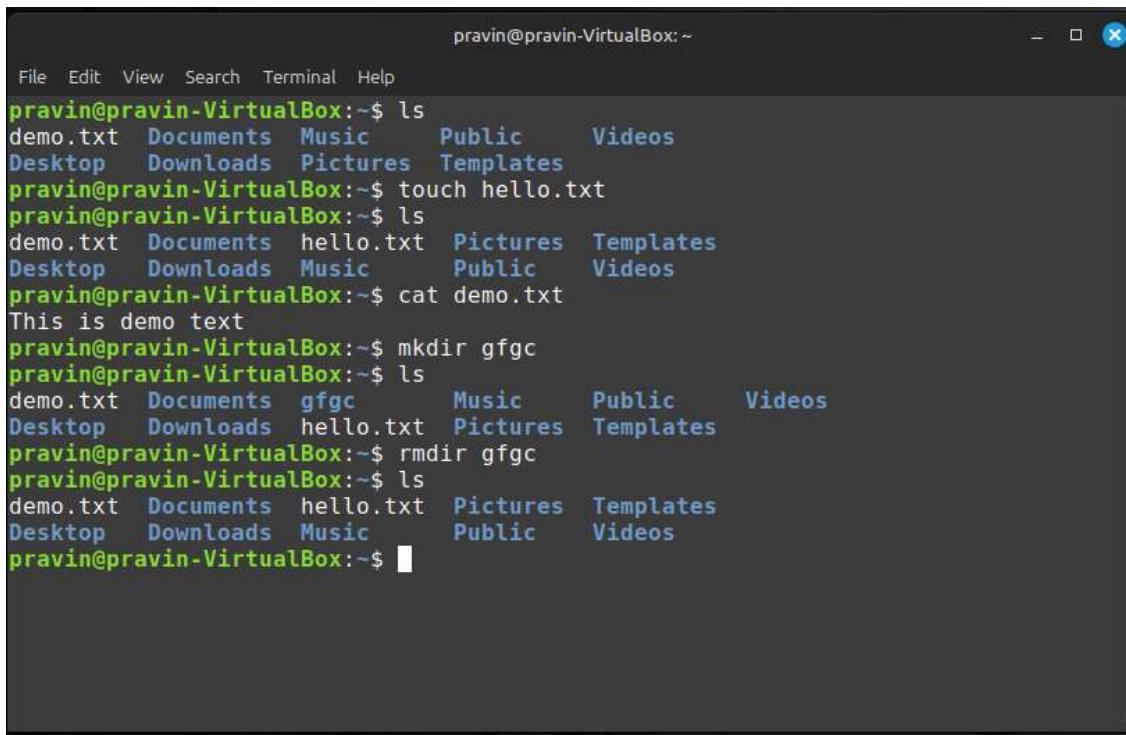
rmdir command

Run rmdir to delete empty directories in your Linux system. The command syntax looks like this:

```
rmdir [options] directory_name
```

The rmdir command won't work if the directory contains subfolders. To force the deletion, add the -p option.

1 Output



A screenshot of a terminal window titled "pravin@pravin-VirtualBox:~". The window contains the following command-line session:

```
File Edit View Search Terminal Help
pravin@pravin-VirtualBox:~$ ls
demo.txt  Documents  Music  Public  Videos
Desktop   Downloads  Pictures  Templates
pravin@pravin-VirtualBox:~$ touch hello.txt
pravin@pravin-VirtualBox:~$ ls
demo.txt  Documents  hello.txt  Pictures  Templates
Desktop   Downloads  Music  Public  Videos
pravin@pravin-VirtualBox:~$ cat demo.txt
This is demo text
pravin@pravin-VirtualBox:~$ mkdir gfgc
pravin@pravin-VirtualBox:~$ ls
demo.txt  Documents  gfgc  Music  Public  Videos
Desktop   Downloads  hello.txt  Pictures  Templates
pravin@pravin-VirtualBox:~$ rmdir gfgc
pravin@pravin-VirtualBox:~$ ls
demo.txt  Documents  hello.txt  Pictures  Templates
Desktop   Downloads  Music  Public  Videos
pravin@pravin-VirtualBox:~$
```

2. Demonstrate Basic Networking Commands in Ubuntu.

ping command:

The ping command sends packets to a target server and fetches the responses. It is helpful for network diagnostics. The basic syntax looks like the following:

```
ping [option] [hostname_or_IP_address]
```

By default, ping sends infinite packets until the user manually stops it by pressing Ctrl + C.

netstat command:

The netstat command displays information about your system's network configuration. The syntax is simple:

```
netstat [options]
```

Add an option to query specific network information. Here are several flags to use:

- a – displays listening and closed sockets.
- t – shows TCP connections, -u – lists UDP connections.
- r – displays routing tables, -i – shows information about network interfaces.

traceroute command:

The traceroute command tracks a packet's path when traveling between hosts, providing information like the transfer time and involved routers. Here's the syntax:

```
traceroute [options] destination
```

You can use a hostname, domain name, or IP address as the destination. If you don't specify an option, traceroute will run the test using the default settings.

ip command / ifconfig:

The ip utility lets you list and manage your system's network parameters, similar to the ifconfig command in older Linux distros. Here's the syntax:

```
ip [options] object command
```

Running this command without any argument will print the manual, including an explanation about acceptable options and objects.

dig command:

The domain information groper or dig command displays information about a domain. It is similar to nslookup but more comprehensive. The syntax looks as follows:

```
dig [options] [server] [type] name-or-ip
```

Running dig without an argument will check A records of the specified domain using the operating system's default resolver.

2 Output

```
pravin@pravin-VirtualBox:~$ ping google.com
PING google.com (142.250.196.78) 56(84) bytes of data.
64 bytes from maa03s46-in-f14.le100.net (142.250.196.78): icmp_seq=1 ttl=255 time=21.4 ms
64 bytes from maa03s46-in-f14.le100.net (142.250.196.78): icmp_seq=2 ttl=255 time=20.7 ms
64 bytes from maa03s46-in-f14.le100.net (142.250.196.78): icmp_seq=3 ttl=255 time=21.6 ms
64 bytes from maa03s46-in-f14.le100.net (142.250.196.78): icmp_seq=4 ttl=255 time=20.9 ms
64 bytes from maa03s46-in-f14.le100.net (142.250.196.78): icmp_seq=5 ttl=255 time=22.6 ms
^C
--- google.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4389ms
rtt min/avg/max/mdev = 20.679/21.439/22.581/0.661 ms
pravin@pravin-VirtualBox:~$
```

```
pravin@pravin-VirtualBox:~$ netstat
File Edit View Search Terminal Help
pravin@pravin-VirtualBox:~$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
udp      0      0 pravin-VirtualBo:bootpc _gateway:bootps          ESTABLISHED
Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags       Type      State         I-Node      Path
unix    3      [ ]        STREAM   CONNECTED     13518      @/tmp/.X11-unix/X0
unix    2      [ ]        STREAM   CONNECTED     8758       /run/systemd/journal/
stdout
unix    3      [ ]        STREAM   CONNECTED     7588       /run/systemd/journal/
stdout
unix    3      [ ]        STREAM   CONNECTED     7496       /run/systemd/journal/
stdout
unix    3      [ ]        STREAM   CONNECTED     12496
unix    3      [ ]        STREAM   CONNECTED     13669
unix    3      [ ]        STREAM   CONNECTED     14932      /run/user/1000/at-spi
/bus_0
unix    3      [ ]        STREAM   CONNECTED     13350
unix    3      [ ]        STREAM   CONNECTED     13321      /run/user/1000/bus
unix    3      [ ]        STREAM   CONNECTED     9423       /run/dbus/system_bus_
socket
unix    3      [ ]        STREAM   CONNECTED     11987      /run/user/1000/bus
unix    3      [ ]        STREAM   CONNECTED     13380      /run/user/1000/bus
unix    3      [ ]        STREAM   CONNECTED     10236      /run/user/1000/bus
unix    3      [ ]        STREAM   CONNECTED     12863      /run/systemd/journal/
```

```
pravin@pravin-VirtualBox:~$ traceroute google.com
traceroute to google.com (142.250.196.78), 30 hops max, 60 byte packets
1 _gateway (10.0.2.2)  4.834 ms  4.463 ms  4.201 ms
2 * * *
3 * * *
4 * * *
5 * * *
6 * * *
7 * * *
8 * * *
9 * * *
10 * * *
11 * * *
12 * *^C
pravin@pravin-VirtualBox:~$ traceroute facebook.com
traceroute to facebook.com (157.240.192.35), 30 hops max, 60 byte packets
1 _gateway (10.0.2.2)  0.618 ms  0.549 ms  0.512 ms
2 * * *
3 * * *
4 * * *
5 * * *
6 * * *
7 *^C
pravin@pravin-VirtualBox:~$
```

```
pravin@pravin-VirtualBox:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.0.2.15  netmask 255.255.255.0  broadcast 10.0.2.255
                inet6 fd00::919b:ea95:d0d0:2f5f  prefixlen 64  scopeid 0x0<global>
                inet6 fd00::1b36:7a64:28b3:69fc  prefixlen 64  scopeid 0x0<global>
                inet6 fe80::4181:bf78:4451:fea5  prefixlen 64  scopeid 0x20<link>
                ether 08:00:27:eb:e9:40  txqueuelen 1000  (Ethernet)
                  RX packets 199231  bytes 236570777 (236.5 MB)
                  RX errors 0  dropped 0  overruns 0  frame 0
                  TX packets 47198  bytes 7243466 (7.2 MB)
                  TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
                inet6 ::1  prefixlen 128  scopeid 0x10<host>
                loop  txqueuelen 1000  (Local Loopback)
                  RX packets 2333  bytes 288263 (288.2 KB)
                  RX errors 0  dropped 0  overruns 0  frame 0
                  TX packets 2333  bytes 288263 (288.2 KB)
                  TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

pravin@pravin-VirtualBox:~$
```

3. How to check for a File Existence in the file System using Ubuntu.

In Ubuntu (or any Linux-based system), you can check if a file exists in the file system using the `test` command, its shorthand [], or by using tools like `ls` and `find`. Here are a few common methods:

1. Using `test` Command in a Script

```
if test -f "/path/to/your/file"; then
    echo "File exists."
else
    echo "File does not exist."
fi
```

2. Direct Command-Line Check

Run this in the terminal:

```
[ -f "/path/to/your/file" ] && echo "File exists." || echo "File
does not exist."
```

3. Using `ls` Command

You can check if a file exists by listing it:

```
ls /path/to/your/file && echo "File exists." || echo "File does not
exist."
```

4. Using `find` Command

To check for a specific file:

```
find /path/to/directory -name "filename" -type f
```

If the file exists, the path will be printed. If not, nothing will be returned.

Explanation of Flags

- `-f`: Checks if the file exists and is a regular file.
- `-e`: Checks if the file exists (regardless of type).
- `-d`: Checks if the path exists and is a directory.

Choose the method based on your specific needs. If you're scripting, the `test` or [] methods are commonly used.

3 Output

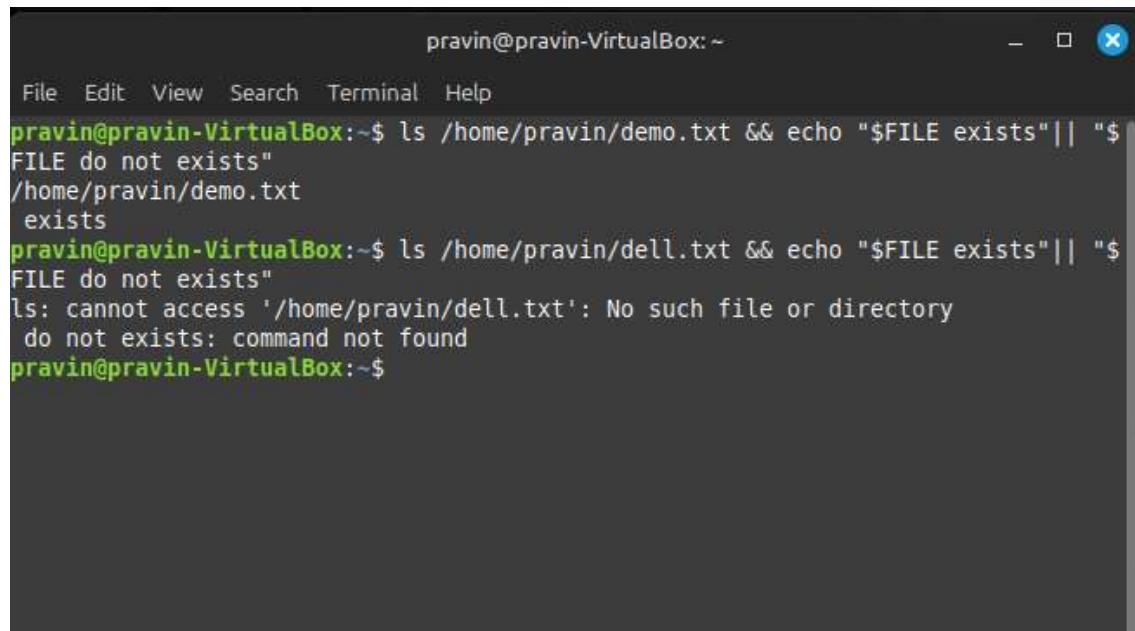
bash file.sh

```
file.sh (~)
File Edit View Search Tools Documents Help
File.sh x
if test -f "/home/pravin/demo.txt"; then
    echo "File exists."
else
    echo "File does not exist."
fi
pravin@pravin-VirtualBox:~$ bash file.sh
File exists.
pravin@pravin-VirtualBox:~$
```

```
[ -f "/path/to/your/file" ] && echo "File exists." || echo "File
does not exist."
```

```
pravin@pravin-VirtualBox:~$ [ -f "/home/pravin/demo.txt" ] && echo "$FILE exists"
"|| \"$FILE do not exists"
exists
pravin@pravin-VirtualBox:~$ [ -f "/home/pravin/dell.txt" ] && echo "$FILE exists"
"|| \"$FILE do not exists"
do not exists: command not found
pravin@pravin-VirtualBox:~$
```

```
ls /path/to/your/file && echo "File exists." || echo "File does not exist."
```



A screenshot of a terminal window titled "pravin@pravin-VirtualBox:~". The window has a dark background with white text. At the top, there is a menu bar with options: File, Edit, View, Search, Terminal, and Help. Below the menu, the terminal prompt is "pravin@pravin-VirtualBox:~\$". The user then types "ls /home/pravin/demo.txt && echo "\$FILE exists"|| "\$FILE do not exists" and presses Enter. The terminal displays the output: "/home/pravin/demo.txt exists". Next, the user types "ls /home/pravin/dell.txt && echo "\$FILE exists"|| "\$FILE do not exists" and presses Enter. The terminal displays the output: "ls: cannot access '/home/pravin/dell.txt': No such file or directory do not exists: command not found". Finally, the user types "pravin@pravin-VirtualBox:~\$" and presses Enter.

```
pravin@pravin-VirtualBox:~$ ls /home/pravin/demo.txt && echo "$FILE exists"|| "$FILE do not exists"
/home/pravin/demo.txt
exists
pravin@pravin-VirtualBox:~$ ls /home/pravin/dell.txt && echo "$FILE exists"|| "$FILE do not exists"
ls: cannot access '/home/pravin/dell.txt': No such file or directory
do not exists: command not found
pravin@pravin-VirtualBox:~$
```

```
find /path/to/directory -name "filename" -type f
```



A screenshot of a terminal window titled "pravin@pravin-VirtualBox:~". The window has a dark background with white text. At the top, there is a menu bar with options: File, Edit, View, Search, Terminal, and Help. Below the menu, the terminal prompt is "pravin@pravin-VirtualBox:~\$". The user then types "find /home/pravin -name "demo.txt"" and presses Enter. The terminal displays the output: "/home/pravin/demo.txt". Finally, the user types "pravin@pravin-VirtualBox:~\$" and presses Enter.

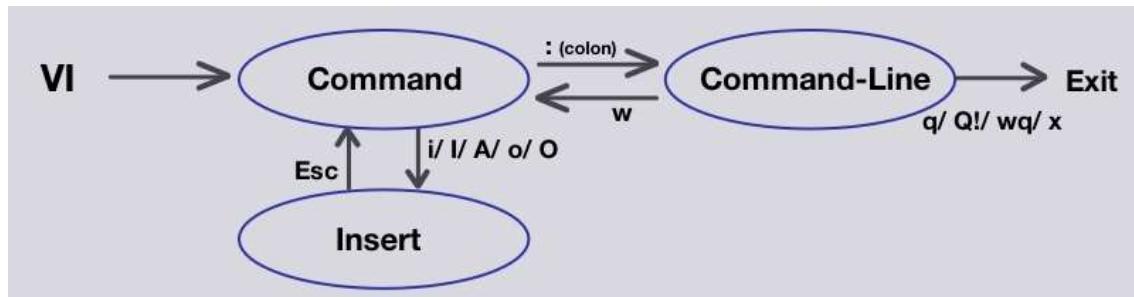
```
pravin@pravin-VirtualBox:~$ find /home/pravin -name "demo.txt"
/home/pravin/demo.txt
pravin@pravin-VirtualBox:~$
```

4. Demonstrate the Vi Editor & its Mods in Ubuntu.

Vi editor is a powerful and widely used text editor in UNIX and Linux operating system. It allows us to create, edit and manage text files. Vim is the advanced version of vi editor. There are three modes in vi: Command mode, Last Line Mode and Insert Mode.

Modes of Operation in the vi editor

Vi has three main modes Command mode, Insert mode and Command-Line mode.



The editor begins in command mode, where cursor movement and copy/paste commands can be issued. If you are ever unsure which mode you're in, press Esc to return to command mode.

Vi Command Mode :

When vi starts up, it is in Command Mode. This mode is where vi interprets any characters we type as commands and thus does not display them in the window. This mode allows us to move through a file, and delete, copy, or paste a piece of text. Enter into Command Mode from any other mode, requiring pressing the [Esc] key. If we press [Esc] when we are already in Command Mode, then vi will beep or flash the screen.

Vi Insert mode:

This mode enables you to insert text into the file. Everything that's typed in this mode is interpreted as input and finally, it is put in the file. The vi always starts in command mode. To enter text, you must be in insert mode. To come in insert mode, you simply type i. To get out of insert mode, press the Esc key, which will put you back into command mode.

Vi Last Line Mode (Escape Mode):

Last Line Mode is invoked by typing a colon [:], while vi is in Command Mode. The cursor will jump to the last line of the screen and vi will wait for a command. This mode enables you to perform tasks such as saving files and executing commands.

NOTE: vi editor in Linux is case-sensitive.

Open vi editor in Linux :

To open vi editors, we just need to type the command mentioned below.

```
vi [file_name]
```

Insert in vi editor in Linux :

To enter in insert mode in vi editor in Linux we just need to press 'i' on our keyboard and we will be in insert mode. we can just start entering our content.

Basic Navigation:

- h - Move left
- j - Move down
- k - Move up
- l - Move right
- 0 - Move to the beginning of the line
- \$ - Move to the end of the line
- w - Jump to the next word
- b - Jump to the previous word
- G - Go to the last line of the file
- gg - Go to the first line of the file

Insert Mode Commands:

- i - Insert before the cursor
- I - Insert at the beginning of the line
- a - Append after the cursor
- A - Append at the end of the line
- o - Open a new line below the current line
- O - Open a new line above the current line

Editing Commands:

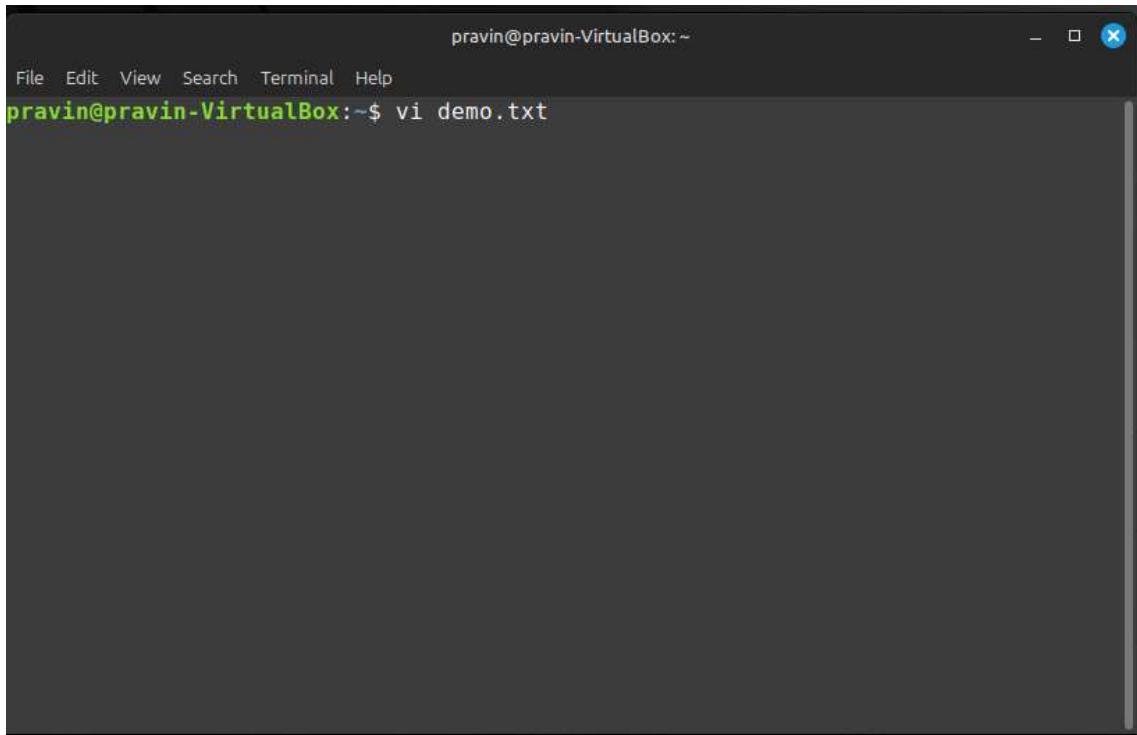
- x - Delete the character under the cursor
- dw - Delete a word
- dd - Delete the current line
- D - Delete from the cursor to the end of the line
- u - Undo the last action
- Ctrl + r - Redo the last undone action
- yy or Y - Yank (copy) the current line
- p - Paste after the cursor
- P - Paste before the cursor

Save and Quit (command mode):

- :w Save changes to buffer
- :wq Save changes and quit
- :w Save file to new file
- :q! Quit without saving

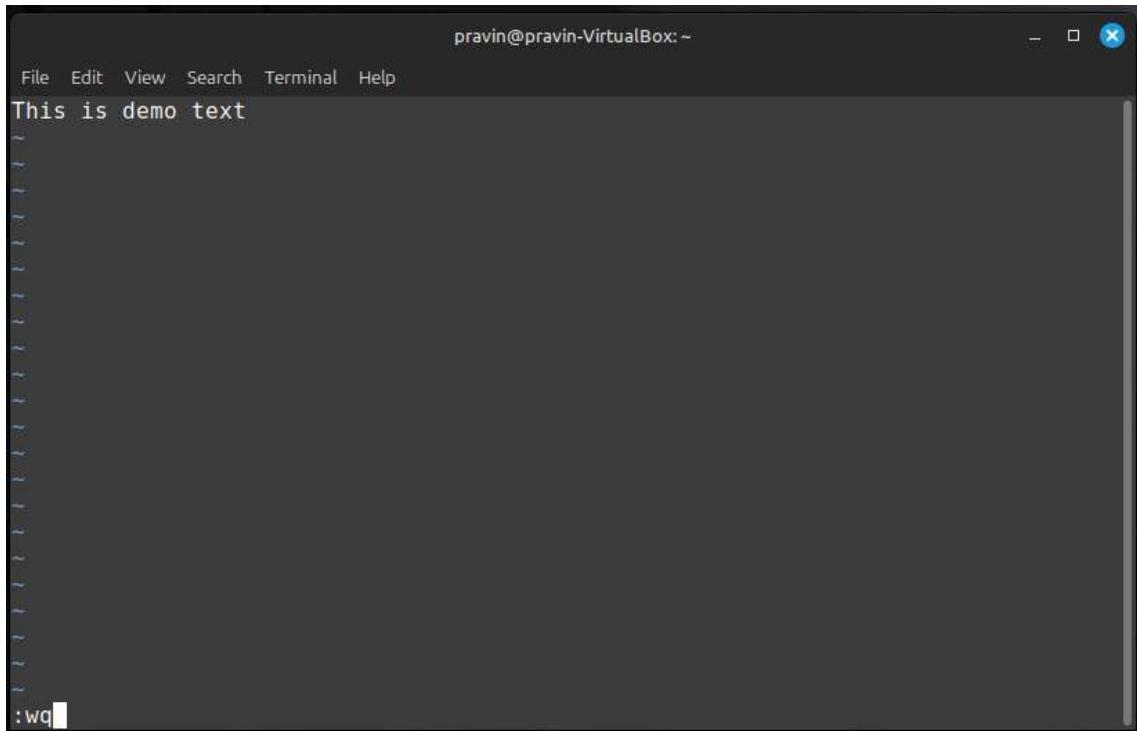
4 Output:

vi demo.txt



A screenshot of a terminal window titled "pravin@pravin-VirtualBox: ~". The window has a dark background and a light-colored text area. At the top, there is a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". Below the menu bar, the command "pravin@pravin-VirtualBox:~\$ vi demo.txt" is displayed in green. The main text area is currently empty, showing only the cursor.

Press i for insert mode. After entering, press esc for command mode. :wq to save and quit.



A screenshot of a terminal window titled "pravin@pravin-VirtualBox: ~". The window has a dark background and a light-colored text area. At the top, there is a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". Below the menu bar, the text "This is demo text" is displayed in white. In the bottom right corner of the text area, there is a small input field containing the command ":wq".

cat demo.txt to display text

5. Installation and Configuration of Apache server in Ubuntu.

The Apache HTTP Server, commonly referred to as "httpd," is an open-source web server developed and maintained by the Apache Software Foundation. It is designed to provide a secure, efficient, and extensible server that complies with current HTTP standards. Launched in 1995, it has been the most popular web server on the Internet since April 1996.

Update Package Manager:

```
sudo apt update (package manager)
```

Install Apache:

```
sudo apt install apache2
```

```
sudo systemctl status apache2
```

Start Service:

```
sudo service apache2 start
```

Stop Service:

```
sudo service apache2 stop
```

Check Demo Homepage

Open any browser and type 'localhost' in address bar

localhost or 127.0.0.1

Location of website File:

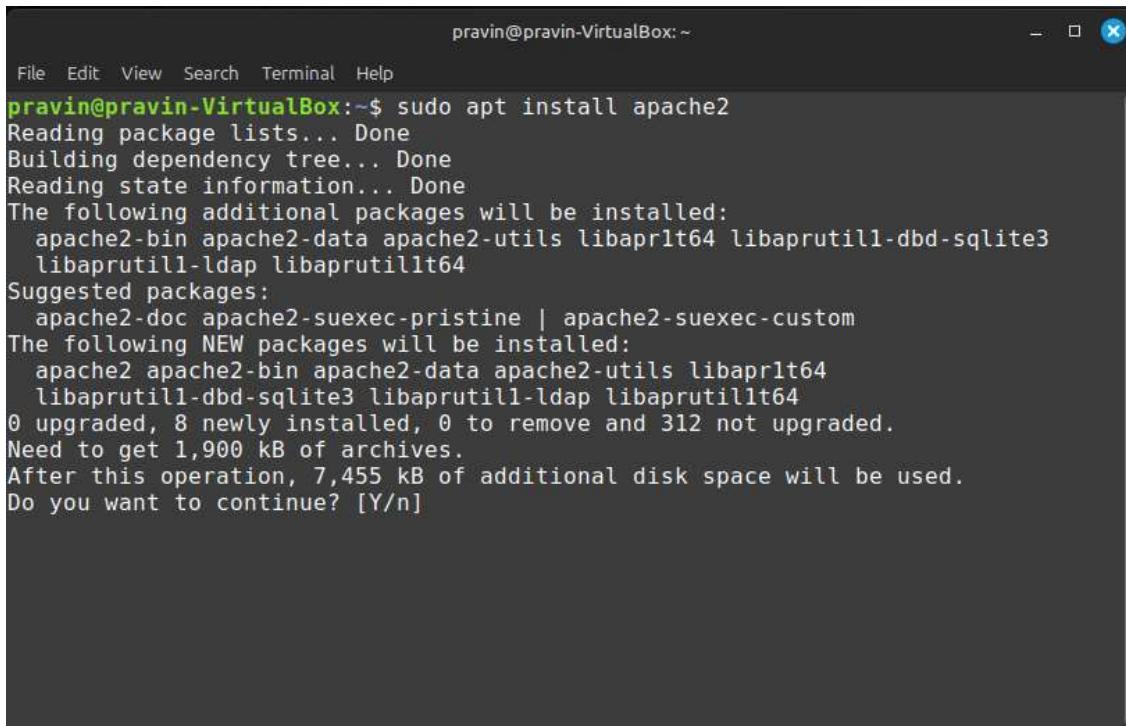
/var/www/html/index.html

Location of Config file:

/etc/apache2/

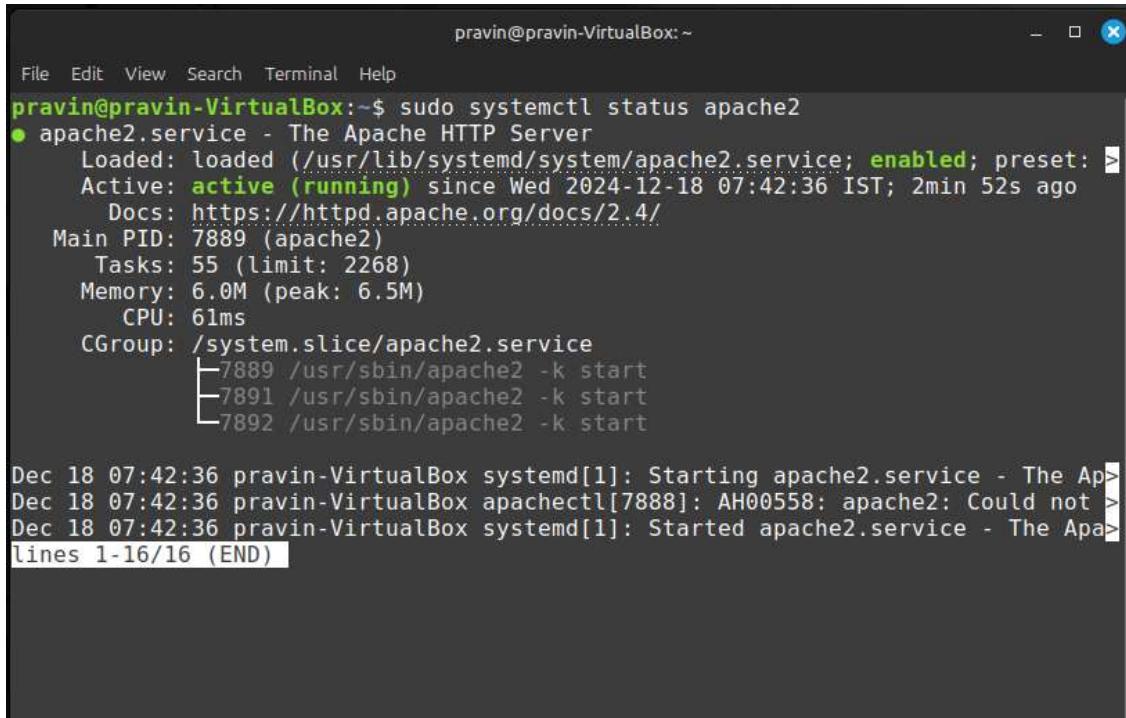
5 Output

```
sudo apt install apache2
```



```
pravin@pravin-VirtualBox:~$ sudo apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3
  libaprutil1-ldap libaprutil1t64
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1t64
  libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
0 upgraded, 8 newly installed, 0 to remove and 312 not upgraded.
Need to get 1,900 kB of archives.
After this operation, 7,455 kB of additional disk space will be used.
Do you want to continue? [Y/n]
```

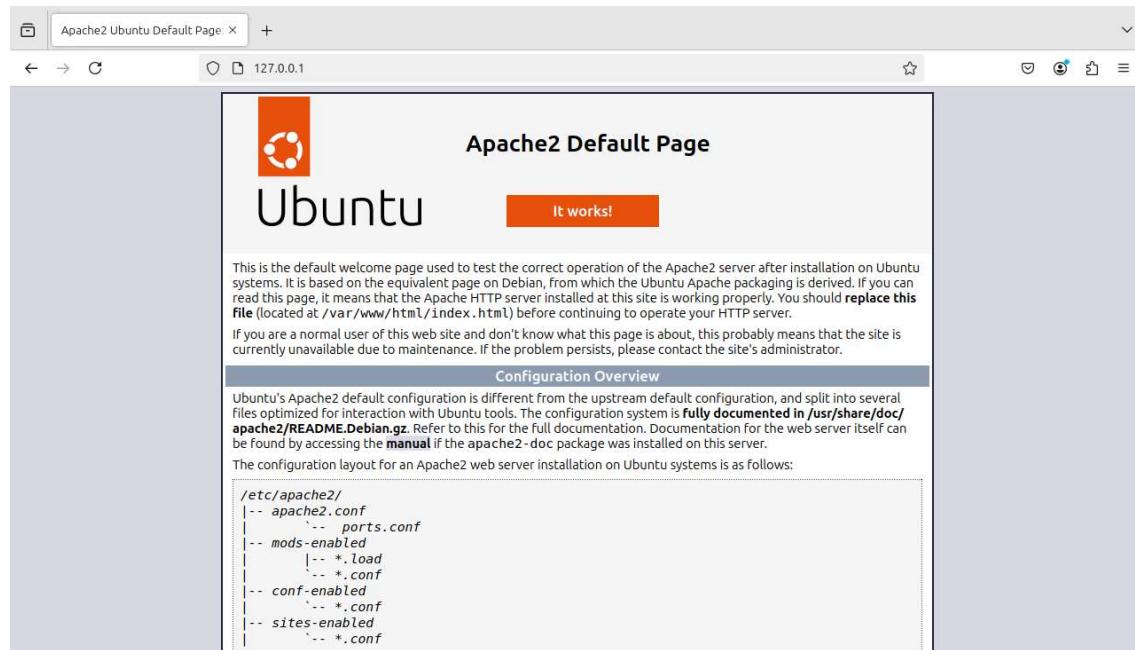
```
sudo systemctl status apache2
```



```
pravin@pravin-VirtualBox:~$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
  Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: ▶)
  Active: active (running) since Wed 2024-12-18 07:42:36 IST; 2min 52s ago
    Docs: https://httpd.apache.org/docs/2.4/
   Main PID: 7889 (apache2)
      Tasks: 55 (limit: 2268)
     Memory: 6.0M (peak: 6.5M)
        CPU: 61ms
       CGroup: /system.slice/apache2.service
               └─7889 /usr/sbin/apache2 -k start
                  ├─7891 /usr/sbin/apache2 -k start
                  ├─7892 /usr/sbin/apache2 -k start
                  └─7893 /usr/sbin/apache2 -k start

Dec 18 07:42:36 pravin-VirtualBox systemd[1]: Starting apache2.service - The Ap...
Dec 18 07:42:36 pravin-VirtualBox apachectl[7888]: AH00558: apache2: Could not ...
Dec 18 07:42:36 pravin-VirtualBox systemd[1]: Started apache2.service - The Ap...
lines 1-16/16 (END)
```

Open Browser and type localhost or 127.0.0.1 in address bar:



```
sudo service apache2 stop
```

A screenshot of a terminal window titled "pravin@pravin-VirtualBox:~". The user runs the command "sudo service apache2 stop". The output shows the service status and logs for the apache2 service, indicating it was loaded, active (dead), and then stopped successfully. The logs also show the start and stop events from the systemd service manager.

6. Demonstrate the usage of Design Tool ArgoUML.

ArgoUML is an **open-source** UML modeling tool designed for creating and managing UML diagrams. Its user interface (UI) is straightforward and follows a structured layout, making it user-friendly for both beginners and experienced modelers.

Key Features of the ArgoUML User Interface

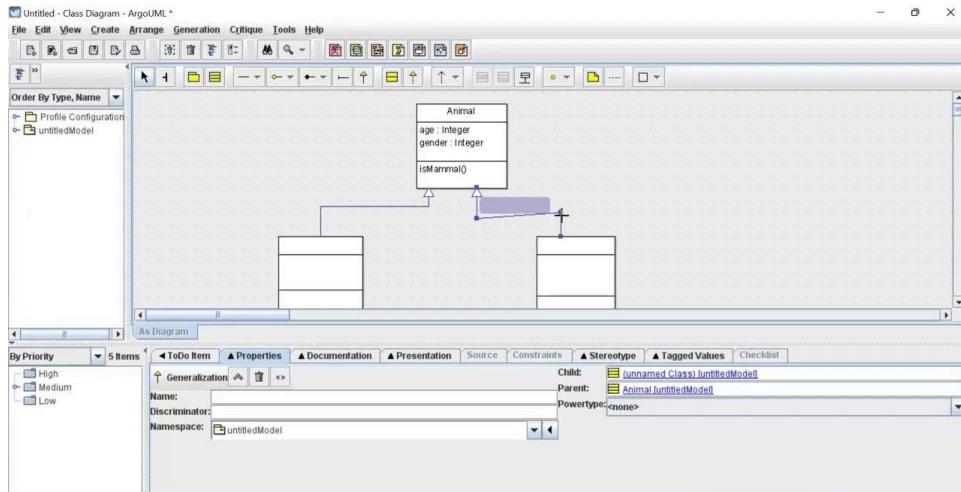
1. **Drag-and-Drop Functionality:** Easily add and connect elements to diagrams.
2. **Consistency Checking:** Built-in tools to validate models and ensure they adhere to UML standards.
3. **Customizable Views:** Allows zooming, panning, and rearranging panels for personalized workflows.
4. **Export Options:** Supports exporting diagrams to formats like PNG, GIF, and PostScript.
5. **Extensibility:** Plugins and extensions are available for adding functionality.

How to Use the Interface

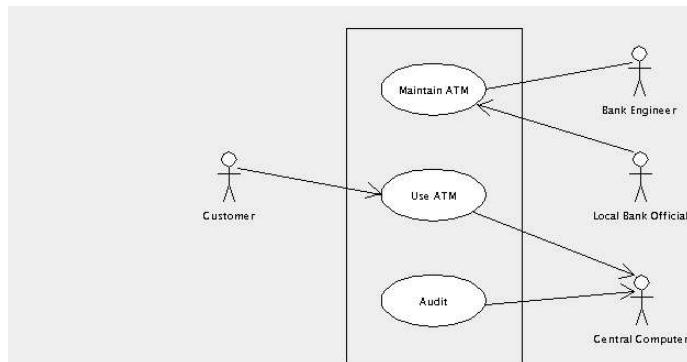
1. **Start a New Project:**
 - Use the File menu to create a new project or open an existing one.
2. **Create Diagrams:**
 - Select the type of diagram from the toolbar or menu and start adding elements.
3. **Edit Elements:**
 - Use the Properties Panel to modify the attributes of selected elements.
4. **Validate Diagrams:**
 - Check the To-Do Panel for warnings or suggestions and resolve them.

6 Output

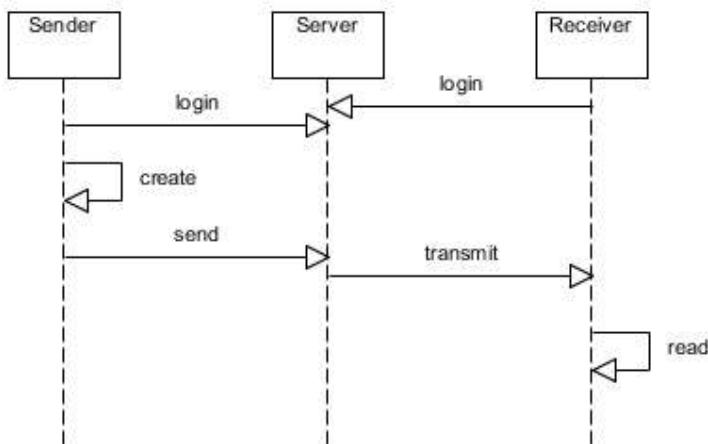
Class Diagram:



Use Case Diagram:



Sequence Diagram:



7. Install Git on Ubuntu and write the each steps of installation

Git is a distributed version control system designed to handle everything from small to very large projects with speed and efficiency. It helps you keep track of code changes, collaborate with other developers, and manage different versions of your codebase.

Installing git:

```
sudo apt get git  
git --version
```

Cloning Remote Repo:

```
git clone "https://path_to_github_repo.git"]
```

CONFIG:

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

ADD:

```
git add . (adding all files to commit )
```

COMMIT:

```
git commit:  
git commit -m "first commit"
```

REMOTE ADD ORIGIN:

```
git remote add origin https://github.com/pravin-inspire/bca.git
```

GIT PUSH:

```
git push -u origin main  
github username  
github password
```

7 Output:

```
pravin@pravin-VirtualBox:~$ git --version
Command 'git' not found, but can be installed with:
sudo apt install git
[sudo] password for pravin:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  git-man liberror-perl
Suggested packages:
  git-daemon-run | git-daemon-sysvinit git-doc git-email git-gui gitk gitweb
  git-cvs git-mediawiki git-svn
The following NEW packages will be installed:
  git git-man liberror-perl
0 upgraded, 3 newly installed, 0 to remove and 312 not upgraded.
Need to get 4,804 kB of archives.
After this operation, 24.5 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

```
pravin@pravin-VirtualBox:~$ 
File Edit View Search Terminal Help
Get:1 http://archive.ubuntu.com/ubuntu noble/main amd64 liberror-perl all 0.1702
9-2 [25.6 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 git-man all 1:2.
43.0-1ubuntu7.1 [1,100 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 git amd64 1:2.43
.0-1ubuntu7.1 [3,679 kB]
Fetched 4,804 kB in 4s (1,147 kB/s)
Selecting previously unselected package liberror-perl.
(Reading database ... 456725 files and directories currently installed.)
Preparing to unpack .../liberror-perl_0.17029-2_all.deb ...
Unpacking liberror-perl (0.17029-2) ...
Selecting previously unselected package git-man.
Preparing to unpack .../git-man_1%3a2.43.0-1ubuntu7.1_all.deb ...
Unpacking git-man (1:2.43.0-1ubuntu7.1) ...
Selecting previously unselected package git.
Preparing to unpack .../git_1%3a2.43.0-1ubuntu7.1_amd64.deb ...
Unpacking git (1:2.43.0-1ubuntu7.1) ...
Setting up liberror-perl (0.17029-2) ...
Setting up git-man (1:2.43.0-1ubuntu7.1) ...
Setting up git (1:2.43.0-1ubuntu7.1) ...
Processing triggers for man-db (2.12.0-4build2) ...
pravin@pravin-VirtualBox:~$ git --version
git version 2.43.0
pravin@pravin-VirtualBox:~$
```

```
pravin@pravin-VirtualBox: ~/bca
File Edit View Search Terminal Help
pravin@pravin-VirtualBox:~$ git clone https://github.com/pravin-inspire/bca
Cloning into 'bca'...
remote: Enumerating objects: 8, done.
remote: Counting objects: 100% (8/8), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 8 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (8/8), 338.98 KiB | 2.20 MiB/s, done.
pravin@pravin-VirtualBox:~$ ls
bca Desktop Downloads hello.txt Pictures Templates
demo.txt Documents file.sh Music Public Videos
pravin@pravin-VirtualBox:~/bca$ cd bca
pravin@pravin-VirtualBox:~/bca$ ls
'4.2 array counting.c' '4.4 array duplicates.o'
'4.4 array duplicates.c' 'BCA 3 SEC OST Journal 2024 - Google Docs.pdf'
pravin@pravin-VirtualBox:~/bca$ touch hello.c
pravin@pravin-VirtualBox:~/bca$ ls
'4.2 array counting.c' 'BCA 3 SEC OST Journal 2024 - Google Docs.pdf'
'4.4 array duplicates.c' hello.c
'4.4 array duplicates.o'
pravin@pravin-VirtualBox:~/bca$ git add .
pravin@pravin-VirtualBox:~/bca$ git commit -m "first commit"
Author identity unknown

*** Please tell me who you are.
```

```
pravin@pravin-VirtualBox: ~/bca
File Edit View Search Terminal Help
GNU nano 7.2          /home/pravin/bca/.git/COMMIT_EDITMSG *
new file added
# Please enter the commit message for your changes. Lines starting
# with '#' will be ignored, and an empty message aborts the commit.
#
# On branch main
# Your branch is up to date with 'origin/main'.
#
# Changes to be committed:
#       new file:  hello.c
#
```

```
pravin@pravin-VirtualBox: ~/bca
File Edit View Search Terminal Help
pravin@pravin-VirtualBox:~/bca$ git add .
pravin@pravin-VirtualBox:~/bca$ git commit
[main 8ff4924] new file added
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 hello.c
pravin@pravin-VirtualBox:~/bca$
```

8. Demonstrate how to track Bugs using Bugzilla

Bugzilla is an open source defect tracking system developed by the Mozilla Foundation. It is implemented in PERL and is quite mature.

Features include:

1. attachments and comments
2. custom fields
3. reporting and charts
4. integrated email
5. user preferences and profiles
6. saved searches
7. good security
8. high performance and scalability

Technology stack

1. Perl (5.10.1 +)
2. MySQL/Oracle/PostgreSQL databases
3. Apache (2.2 +) or IIS (7 +)
4. all web browsers

License:

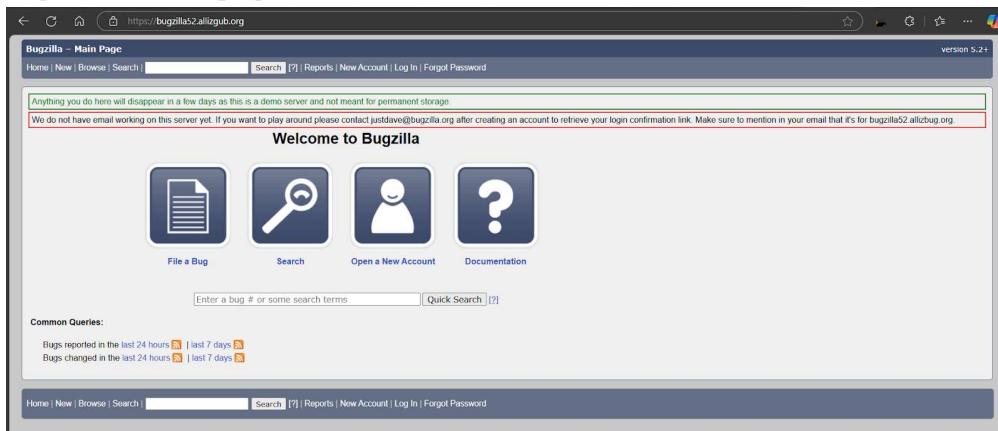
Mozilla Public License

Bugzilla Playgroun :

[Bugzilla Main Page](https://bugzilla52.allizgub.org/) [https://bugzilla52.allizgub.org/]

8 Output:

Bugzilla Homepage:



Filing a Bug (Do Not work on Playground) :

Bugzilla – Enter Bug: FoodReplicator

Home | New | Browse | Search | Search [?] | Reports | My Requests | Preferences | Help | Log out | loginbugzilla@gmail.com

Notice: Due to a recent [data disclosure](#) all current passwords have been reset and will require a new password to be set the next time this site is accessed. To do so, click the "Forgot Password" link at the top.

Before reporting a bug, please read the [bug writing guidelines](#), please look at the list of [most frequently reported bugs](#), and please [search](#) for the bug.

[Show Advanced Fields](#)

*** Product:** FoodReplicator

*** Component:** renamed component

(*) = Required Field

Reporter: loginbugzilla@gmail.com

Component Description

Select a component to read its description.

*** Version:** 1.0

Severity: normal

Hardware: PC

OS: Windows NT

We've made a guess at your operating system and platform. Please check them and make any corrections if necessary.

*** Summary:**

Description:

Attachment: [Add an attachment](#)

[Submit Bug](#)

Browsing Bugs:

9. Demonstrate how to track Bugs using trac.

Trac is a minimalistic approach to web-based management of software projects. Its goal is to simplify effective tracking and handling of software issues, enhancements and overall progress.

All aspects of Trac have been designed with the single goal to help developers write great software while staying out of the way and imposing as little as possible on a team's established process and culture.

You can use trac-admin to configure Trac to better fit your project, especially in regard to components, versions and milestones.

Trac features:

1. Interface to Subversion and Git (or other version control systems)
2. Integrated Wiki
3. Convenient reporting facilities
4. Allows wiki markup in issue descriptions and commit messages
5. Creates links and seamless references between bugs, tasks, changesets, files and wiki pages
6. Deeply integrates ticket tracking, version control, and wiki

trac playground:

[Trac Demo 1.4](https://trac.edgewall.org/demo-1.4) <https://trac.edgewall.org/demo-1.4>

9 Output:

View Tickets:

Trac Demo 1.4

#1051 closed defect (fixed)

Opened 3 years ago
Closed 3 years ago
Last modified 4 hours ago

Footer : Get in touch with Facebook social media icon is not working

Reported by: anonymous Owned by: somebody
Priority: critical Milestone: milestone1
Component: component1 Version:
Keywords: bug_functional Cc:

Description

URL / Environment : QA/DEV/PROD
Browser configuration :

Steps to reproduce :

1.
2.
3.
4.

Expected Result : Footer : Get in touch with Facebook social media icon should navigate to the respective FB business page

Actual Result : Footer : Get in touch with Facebook social media icon is not working

Attachments (0)

Change History (3)

comment:1 by anonymous, 3 years ago

follow up: 1 2

Oldest first Newest first Threaded
Show comments Show property changes

New Ticket:

Create New Ticket

Properties

Summary:

Your email or anonymous
username: E-mail address and name can be saved in the [Preferences](#).

Description:

You may use [WikiFormatting](#) here.

Type: defect Priority: major

Milestone: (unset) Component: component1

Version: (unset) Keywords:

Cc: Set your email in [Preferences](#)

Action

create The status will be 'new'.
 assign to < default > The owner will be the specified user. The status will be 'assigned'.

I have files to attach to this ticket

[Preview](#) [Create ticket](#)

Note: See [TracTickets](#) for help on using tickets.



Powered by Trac 1.4.3
By Edgewall Software

Visit the Trac open source project at
<https://trac.edgewall.org>

Browse Source:

Trac Demo 1.4

Default Repository

Name	Size	Rev	Age	Author	Last Change
branches					17869 55 years (none)
plugins					17871 55 years (none)
sandbox					10651 55 years (none)
tags					17720 55 years (none)
trunk					17870 55 years (none)

Repository Index

Name	Size	Rev	Age	Author	Last Change
babel.svn					
bitten.svn					
cboos.git		eb2df0a	6 years	cboos	(#131167) add ticket comment buttons via insertNearReplyToComment ...
genshi.svn					
mercurial-plugin hg					invalidConnector: Unsupported version control system "hg": Can't find an appropriate component, maybe the corresponding plugin was not enabled
trac.git		4e4d052	5 weeks	jomae	1.7.1dev: merge [17869] from 1.6-stable (110n/a) [skip ci] ...
trac hg					invalidConnector: Unsupported version control system "hg": Can't find an appropriate component, maybe the corresponding plugin was not enabled
trac.svn					

[View changes...](#)

Note: See [TracBrowser](#) for help on using the repository browser.

Powered by Trac 1.4.3 | Visit the Trac open source project at <https://trac.edgewall.org>

Timeline:

Trac Demo 1.4

Roadmap

Milestone: milestone1

No date set

Total number of tickets: 14 - closed: 4 - active: 10

Milestone: milestone2

No date set

Total number of tickets: 4 - closed: 0 - active: 4

Milestone: milestone3

No date set

Total number of tickets: 1 - closed: 0 - active: 1

Milestone: milestone4

No date set

Download in other formats: [iCalendar](#)

Note: See [TracRoadmap](#) for help on using the roadmap.

Powered by Trac 1.4.3 | Visit the Trac open source project at <https://trac.edgewall.org>

10. Create your college website using Bootstrap Components

Bootstrap is a popular, open-source front-end framework used for building responsive and mobile-first websites and web applications. It provides pre-designed templates, styles, and components to speed up web development. Bootstrap is widely used because it simplifies the creation of visually appealing and consistent layouts across devices and browsers.

Key Features of Bootstrap:

1. **Responsive Grid System:**
 - A flexible 12-column grid layout that adapts to different screen sizes, ensuring that websites look good on desktops, tablets, and mobile devices.
2. **Pre-designed Components:**
 - Includes ready-made UI elements like navigation bars, buttons, modals, forms, carousels, and more.
3. **Cross-browser Compatibility:**
 - Ensures your site works seamlessly across modern web browsers.
4. **Utility Classes:**
 - Provides helper classes for quick styling adjustments (e.g., margins, padding, text alignment).
5. **Mobile-first Approach:**
 - Designed to prioritize mobile device compatibility, making sites responsive by default.

How to Use Bootstrap:

Include Bootstrap in Your Project:

- Use a CDN (Content Delivery Network):
`<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css" rel="stylesheet">`
- Or download and host the files locally.

Use the Classes and Components:

- Apply Bootstrap's predefined classes to HTML elements to style them.
- Example:

```
<button class="btn btn-primary">Click Me</button>
```

CODE:

```
<!-- College Website using Bootstrap-->
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>College Name</title>
    <!-- Bootstrap CSS IMPORTANT-->
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
    <!-- Navbar -->
    <nav class="navbar navbar-expand-lg navbar-light bg-light">
        <div class="container-fluid">
            <a class="navbar-brand" href="#">GFGC Dharwad</a>
            <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">
                <span class="navbar-toggler-icon"></span>
            </button>
            <div class="collapse navbar-collapse" id="navbarNav">
                <ul class="navbar-nav ms-auto">
                    <li class="nav-item"><a class="nav-link" href="#about">About</a></li>
                    <li class="nav-item"><a class="nav-link" href="#courses">Courses</a></li>
                    <li class="nav-item"><a class="nav-link" href="#contact">Contact</a></li>
                </ul>
            </div>
        </div>
    </nav>
```

```

<!-- Hero Section -->

<div class="container text-center py-5">
    <h1>Welcome to GFGC Dharwad</h1>
    <p class="lead">Empowering Education for a Brighter Future</p>
    <a href="#courses" class="btn btn-primary">Explore Courses</a>
</div>

<!-- About Section -->

<section id="about" class="py-5 bg-light">
    <div class="container">
        <h2 class="text-center">About Us</h2>
        <p class="text-center">Our college is committed to providing high-quality education and
        fostering innovation. With experienced faculty and state-of-the-art facilities, we aim to nurture talent
        and drive success.</p>
    </div>
</section>

<!-- Courses Section -->

<section id="courses" class="py-5">
    <div class="container">
        <h2 class="text-center">Our Courses</h2>
        <div class="row">
            <div class="col-md-4">
                <div class="card mb-4">
                    <div class="card-body">
                        <h5 class="card-title">Computer Science</h5>
                        <p class="card-text">Learn the latest in software development, AI, and data
                        science.</p>
                </div>
            </div>
            <div class="col-md-4">

```

```

<div class="card mb-4">
    <div class="card-body">
        <h5 class="card-title">Business Management</h5>
        <p class="card-text">Develop leadership and management skills for the corporate world.</p>
    </div>
</div>
</div>

<div class="col-md-4">
    <div class="card mb-4">
        <div class="card-body">
            <h5 class="card-title">Engineering</h5>
            <p class="card-text">Explore opportunities in mechanical, electrical, and civil engineering.</p>
        </div>
    </div>
</div>
</div>
</div>
</div>
</section>

```

```

<!-- Contact Section -->
<section id="contact" class="py-5 bg-light">
    <div class="container">
        <h2 class="text-center">Contact Us</h2>
        <form>
            <div class="mb-3">
                <label for="name" class="form-label">Name</label>
                <input type="text" class="form-control" id="name" placeholder="Your Name">
            </div>
            <div class="mb-3">
                <label for="email" class="form-label">Email</label>

```

```
<input type="email" class="form-control" id="email" placeholder="Your Email">
</div>
<div class="mb-3">
    <label for="message" class="form-label">Message</label>
    <textarea class="form-control" id="message" rows="4" placeholder="Your Message"></textarea>
</div>
<button type="submit" class="btn btn-primary">Submit</button>
</form>
</div>
</section>
<!-- Footer --&gt;
&lt;footer class="text-center py-3 bg-dark text-light"&gt;
    &lt;p&gt;&amp;copy; 2024 GFGC Dharwad. All rights reserved.&lt;/p&gt;
&lt;/footer&gt;
<!-- Bootstrap JS --&gt;
&lt;script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"&gt;&lt;/script&gt;
&lt;/body&gt;
&lt;/html&gt;</pre>
```

10 Output:

GFGC Dharwad

About Courses Contact

Welcome to GFGC Dharwad

Empowering Education for a Brighter Future

[Explore Courses](#)

About Us

Our college is committed to providing high-quality education and fostering innovation. With experienced faculty and state-of-the-art facilities, we aim to nurture talent and drive success.

Our Courses

Computer Science

Learn the latest in software development, AI, and data science.

Business Management

Develop leadership and management skills for the corporate world.

Engineering

Explore opportunities in mechanical, electrical, and civil engineering.

Contact Us

Name

Your Name

Email

Your Email

Message

Your Message

[Submit](#)

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11. Write the steps to Create Wikipedia Account and create a Wikipedia Page for Yourself/Organization/ Biography

Steps to Create a Wikipedia Account

1. Open the Wikipedia Homepage

- Go to the official Wikipedia website: www.wikipedia.org.
 - Select your preferred language by clicking on it (e.g., English).
-

2. Click on "Create Account"

- At the top-right corner of the page, click the "**Create account**" link.
-

3. Fill Out the Registration Form

You will be directed to a form. Complete it as follows:

1. Username:
 2. Password:
 3. Email Address
 4. Captcha Verification:
-

4. Click "Create Your Account"

- After filling in the required details, click the "**Create your account**" button.
-

5. Confirm Your Email Address (Optional)

- If you provided an email address, check your inbox for a confirmation email from Wikipedia.
- Click the link in the email to confirm your email address.

Creating a Wikipedia page for an organization:

Creating a Wikipedia page for an organization is a detailed process that requires adherence to Wikipedia's guidelines, particularly around **notability** and **neutrality**. Below are the steps to create a Wikipedia page for an organization:

Step 1: Check Eligibility (Notability)

- Ensure the organization meets Wikipedia's **notability criteria**:
 - It should have significant coverage in **reliable, independent sources** (e.g., news articles, books, journals).
 - Promotional or self-published content (e.g., press releases, blogs, the organization's website) is not considered sufficient.

Step 2: Create a Wikipedia Account

1. Visit [Wikipedia](#) and click **Create Account**.
2. Register with a username, password, and optional email for verification.
3. Once registered, log in to your account.

Step 3: Familiarize Yourself with Wikipedia Guidelines

1. Review the **Wikipedia Manual of Style** and the **notability guidelines** for organizations.
2. Understand Wikipedia's **neutral point of view (NPOV)** policy to ensure the page is factual and unbiased.
3. Learn about **conflict of interest (COI)** policies if you are directly affiliated with the organization.

Step 4: Gather Reliable Sources

- Collect verifiable, independent sources about the organization, such as:
 - Articles from major news outlets.
 - Academic or industry journals.
 - Published books.

Step 5: Draft the Page

1. **Go to Wikipedia's Sandbox:**
 - Use your personal sandbox to draft the page:
<https://en.wikipedia.org/wiki/Special:MySandbox>.
2. **Include Key Sections:**
 - **Introduction:** A brief summary of the organization, including its name, purpose, and founding date.
 - **History:** The organization's origins and significant milestones.
 - **Products/Services:** An overview of what the organization offers.
 - **References:** Include a list of reliable sources supporting the content.
 - **External Links:** Link to the official website and other relevant non-promotional pages.
3. **Citations:**

- Use inline citations with the `<ref></ref>` tags to reference your sources.
-

Step 6: Submit the Article

1. **Move the Draft to the Mainspace:**
 - Once you are confident the draft meets Wikipedia's guidelines, move it from your sandbox to the main article space.
 - To do this, click on the "Submit" button or manually move it by following Wikipedia's guidelines.
 2. **Request Review:**
 - If you're unsure about the notability or content, submit the draft for review via **Wikipedia's Articles for Creation (AFC)** process.
 - Wait for an experienced editor to approve the page.
-

Step 7: Maintain the Page

1. Monitor for Edits:
 - Once published, other editors can modify the page. Keep an eye on the page to ensure accuracy.
2. Update Information:
 - Add new information as the organization evolves, ensuring all updates comply with Wikipedia's guidelines.

11 Output

WIKIPEDIA
The Free Encyclopedia

Search Wikipedia

Search

Create account

Tools ▾

Username (username policy)

Your username is public and cannot be made private later.

Password

It is recommended to use a unique password that you are not using on any other website.

Confirm password

Email address (recommended)

Email is required to recover your account if you lose your password.

CAPTCHA Security check


[Can't see the image? Request an account](#)

Wikipedia is made by people like you.

 1,258,920,219 edits

 6,925,862 articles

 121,697 recent contributors

en.wikipedia.org/wiki/Wikipedia:Article_wizard

Project page Talk Read View source View history

WIKIPEDIA
The Free Encyclopedia

Navigation
Main page
Content
Featured content
Current events
Random article
Donate to Wikipedia
Wikimedia Shop

Interaction
Help
About Wikipedia
Community portal
Recent changes
Contact Wikipedia

Toolbox
What links here
Related changes
Upload file
Special pages
Permanent link
Page information

Print/export
Create a book
Download as PDF
Printable version

Introduction Subject Notability Sources Content End

Welcome to the Wikipedia Article Wizard! This wizard will help you through the process of submitting a new article to Wikipedia. There are 6 sections to step through, and then you'll be taken to the editing page. As each section is completed, the next will become available.

If you have questions at any point, you can get help from other Wikipedians by going to the New Contributors' Help Page or the help desk, or by using the "live chat" links (top right) for live help. (Please be sure to look at the available written guidance before asking for help; assistance to you will be provided by volunteers.)

Are you ready to create an article?

Learn a bit more about editing first
(recommended if you've not edited before)

Learn a bit more about creating articles first
(recommended if this is your first new article)

Basics of editing
Try editing a few existing articles before you create your first article. Incorrectly formatted and unreferenced articles are often deleted. Learning a bit of our house style first increases your chances of success.
To learn more about the basics of editing, see this tutorial.

Shortcuts:
WP:WIZARD
WP:IWZ

Live Help Chat

Categories: Wikipedia article wizard | Wikipedia tutorials

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12. Demonstrate setting updation of Mozilla Firefox

Firefox is a free, Open Source web browser developed by the Mozilla Foundation and Mozilla Corporation in 2004. The Firefox web browser can be used with Windows, Mac and Linux operating systems, as well as Android and iOS mobile devices. Firefox uses the Google search page as its homepage and default search engine.

You can update Firefox using Ubuntu's built-in package manager. This method ensures that Firefox integrates well with your system but may not provide the absolute latest version released by Mozilla.

Step 1: Update your package list to get the latest information on available packages:

```
sudo apt update
```

Step 2: Install or upgrade Firefox using the following command:

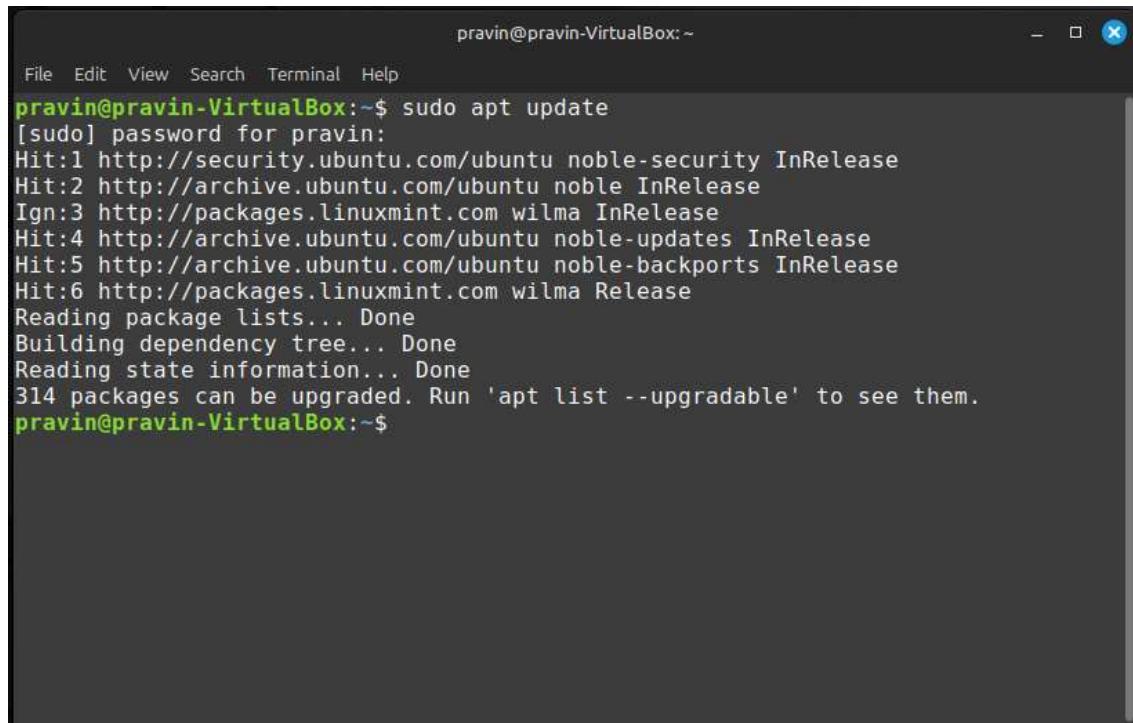
```
sudo apt install firefox
```

Step 3: Check latest installed version

```
firefox --version
```

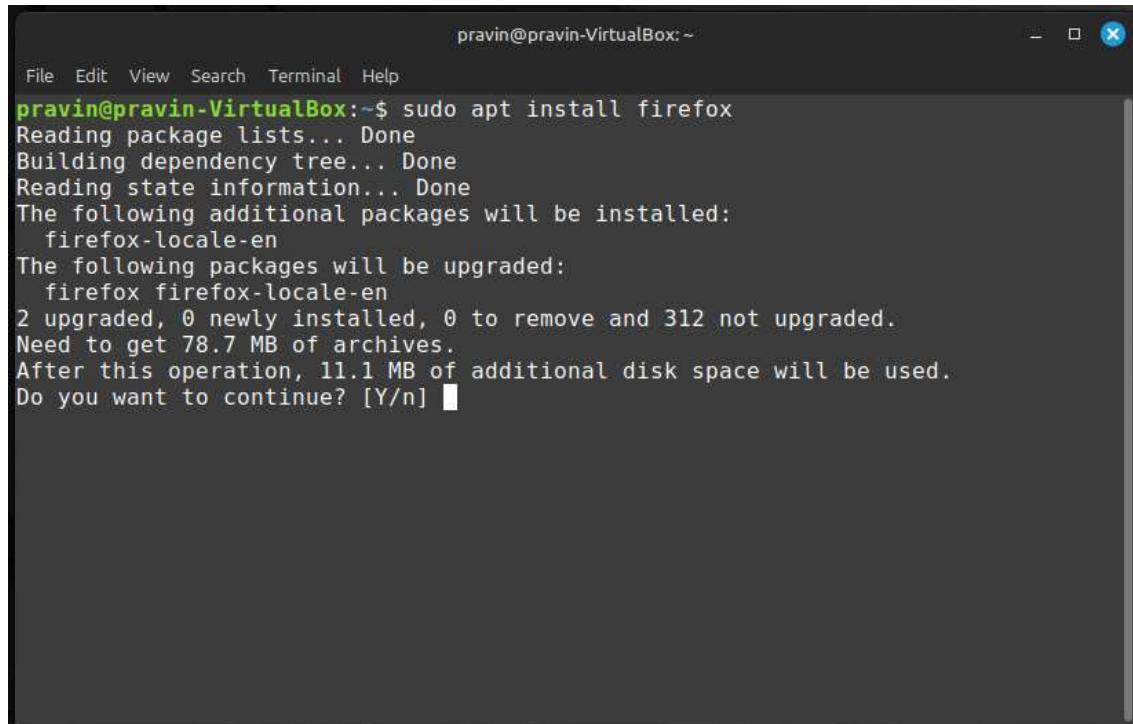
12 Output

```
sudo apt update
```



A terminal window titled "pravin@pravin-VirtualBox:~". The window shows the command "sudo apt update" being run, followed by a password prompt "[sudo] password for pravin:". The output lists several package sources and their status: Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease, Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease, Ign:3 http://packages.linuxmint.com wilma InRelease, Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease, Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease, Hit:6 http://packages.linuxmint.com wilma Release. It then shows the process of reading package lists, building a dependency tree, and reading state information, all completed "Done". It concludes with a message stating "314 packages can be upgraded. Run 'apt list --upgradable' to see them." The command "pravin@pravin-VirtualBox:~\$" is shown at the bottom.

```
sudo apt install firefox
```



A terminal window titled "pravin@pravin-VirtualBox:~". The window shows the command "sudo apt install firefox" being run. The output shows the package lists being read, the dependency tree being built, and the state information being read, all completed "Done". It then lists additional packages to be installed: "firefox-locale-en". It lists packages to be upgraded: "firefox firefox-locale-en". It shows the number of upgrades, newly installed packages, and packages to remove, along with the total size of archives needed: "2 upgraded, 0 newly installed, 0 to remove and 312 not upgraded. Need to get 78.7 MB of archives." It also indicates the disk space used after the operation: "After this operation, 11.1 MB of additional disk space will be used." Finally, it asks the user if they want to continue with the operation, displaying "[Y/n]" for input.

```
firefox --version (to check latest version)
```

13. Build a Website With Joomla 4

Joomla is a **free and open-source content management system (CMS)** designed for building and managing websites and online applications. It is built on PHP and uses a MySQL or PostgreSQL database for storing data. Joomla is known for its flexibility, user-friendliness, and extensive customization options, making it suitable for creating websites ranging from simple blogs to complex e-commerce platforms and corporate portals.

Installing joomla on wamp

Installing Joomla on a WAMP (Windows, Apache, MySQL, PHP) server involves several steps. Here's a step-by-step guide:

Prerequisites

1. Download and install **WAMP** from wampserver.com.
 2. Download the latest Joomla package from the [official Joomla website](#).
-

Step-by-Step Installation

1. Start WAMP

- Launch the WAMP server and ensure the WAMP icon in the system tray turns green, indicating that Apache and MySQL are running.
 - If the icon stays orange, check for issues such as conflicting software (e.g., Skype, which may use port 80).
-

2. Create a Database for Joomla

1. Open the WAMP homepage:
 - In the system tray, click the WAMP icon and select **phpMyAdmin**.
 - Alternatively, open a browser and go to <http://localhost/phpmyadmin>.
 2. Log in to phpMyAdmin:
 - Default username: **root**
 - Default password: Leave blank (unless you've set one).
 3. Create a database:
 - Click **Databases**.
 - Enter a name for your database (e.g., **joomla_db**) and click **Create**.
-

3. Place Joomla Files in WAMP's Root Directory

1. Extract the Joomla package you downloaded.
2. Copy the extracted files into WAMP's root directory:

- Navigate to C:\\wamp64\\www\\ (or the directory where WAMP is installed).
 - Create a new folder (e.g., joomla) and paste the Joomla files into this folder.
-

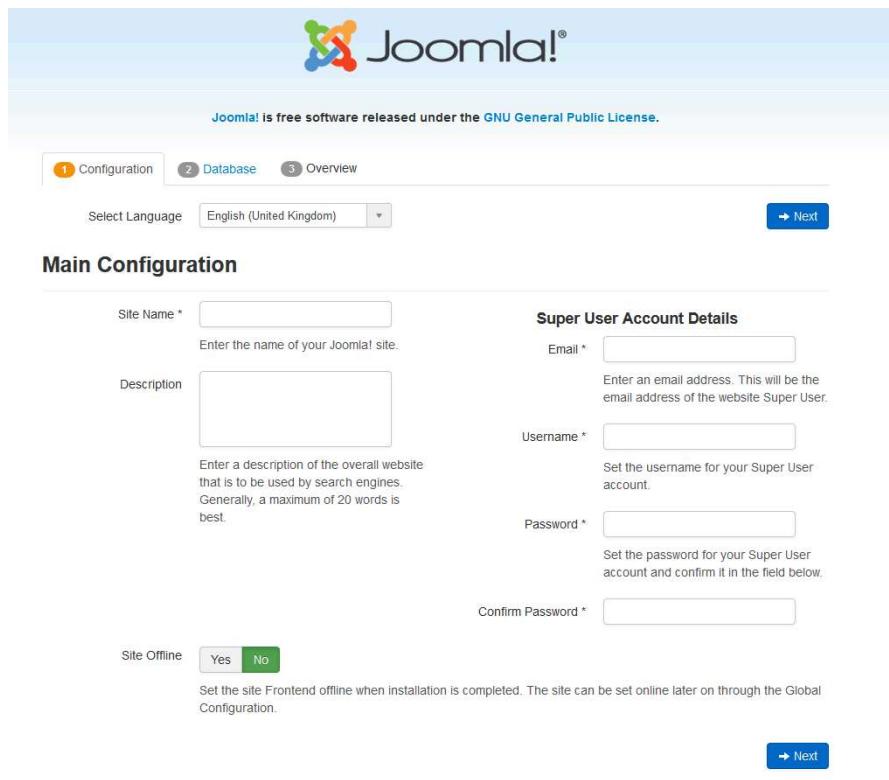
5. Begin Joomla Installation

1. Open a browser and navigate to your Joomla folder:
 - For example, <http://localhost/joomla>.
2. Follow the on-screen setup wizard:
 - **Step 1: Configuration**
 - Choose the site name and enter administrative details like username (e.g., admin), password, and email.
 - **Step 2: Database Setup**
 - Database type: MySQL
 - Host name: localhost
 - Username: root
 - Password: Leave blank (unless set in phpMyAdmin)
 - Database name: Enter the name you created earlier (e.g., joomla_db).
 - **Step 3: Finalization**
 - Choose whether to install sample data (useful for beginners).
 - Review the settings and click **Install**.

6. Finalize Installation

- After installation is complete, delete the **installation** folder as prompted for security reasons:
 - Click the button **Remove installation folder**.
- Access your Joomla site:
 - Frontend: <http://localhost/joomla>
 - Backend (Administrator Panel):
<http://localhost/joomla/administrator>

13 Output



The screenshot shows the Joomla! configuration interface. At the top, it says "Joomla! is free software released under the [GNU General Public License](#)". Below that, there are tabs: "1 Configuration" (selected), "2 Database", and "3 Overview". A language selection dropdown shows "English (United Kingdom)". A "Next" button is at the bottom right.

Main Configuration

Site Name * Enter the name of your Joomla! site.

Description Enter a description of the overall website that is to be used by search engines. Generally, a maximum of 20 words is best.

Super User Account Details

Email * Enter an email address. This will be the email address of the website Super User.

Username * Set the username for your Super User account.

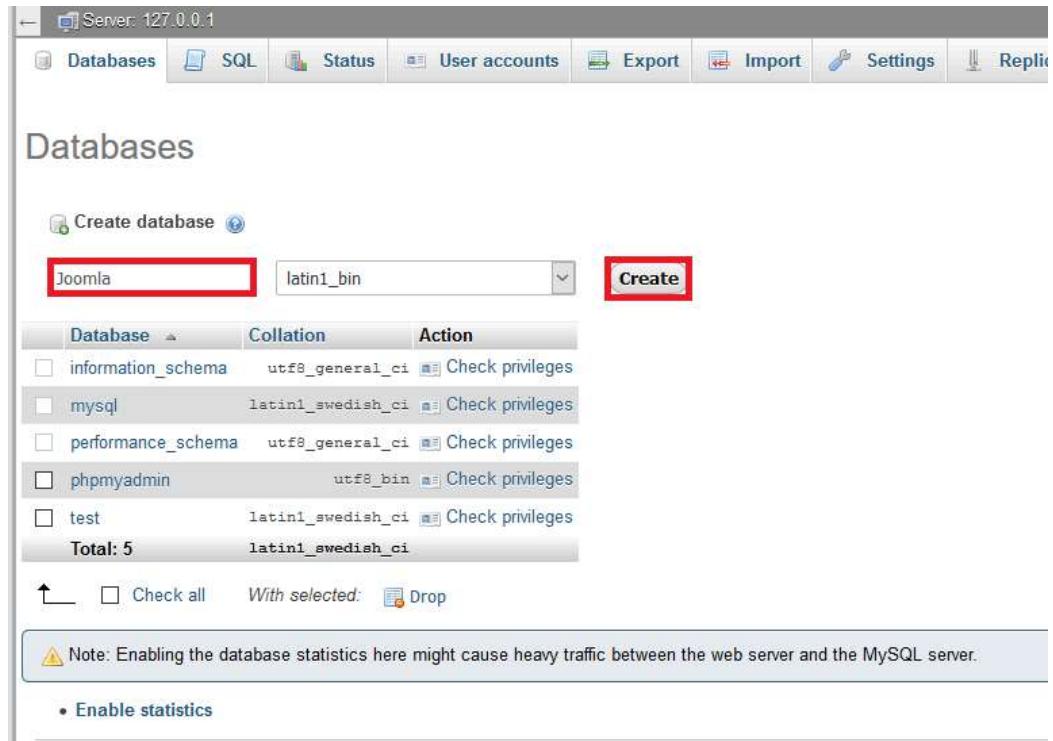
Password * Set the password for your Super User account and confirm it in the field below.

Confirm Password *

Site Offline Yes No

Set the site Frontend offline when installation is completed. The site can be set online later on through the Global Configuration.

[Next](#)



The screenshot shows the phpMyAdmin interface for managing databases. The top navigation bar includes "Server: 127.0.0.1", "Databases", "SQL", "Status", "User accounts", "Export", "Import", "Settings", and "Replic".

Databases

Create database [?](#)

latin1_bin [Create](#)

Database	Collation	Action
information_schema	utf8_general_ci	Check privileges
mysql	latin1_swedish_ci	Check privileges
performance_schema	utf8_general_ci	Check privileges
phpmyadmin	utf8_bin	Check privileges
test	latin1_swedish_ci	Check privileges
Total: 5	latin1_swedish_ci	

Check all With selected: [Drop](#)

Note: Enabling the database statistics here might cause heavy traffic between the web server and the MySQL server.

Enable statistics

Joomla! is free software released under the [GNU General Public License](#).

1 Configuration 2 Database 3 Overview

Database Configuration

← Previous → Next

Database Type * MySQL
This is probably "MySQL".

Host Name * localhost
This is usually "localhost" or a name provided by your host.

Username * root
Either a username you created or a username provided by your host.

Password
For site security using a password for the database account is mandatory.

Database Name * Joomla
Some hosts allow only a certain DB name per site. Use table prefix in this case for distinct Joomla! sites.

Table Prefix * z6bg4_
Create a table prefix or use the randomly generated one. Ideally four or five characters long, it may only have alphanumeric characters and MUST end in an underscore. Make sure that the prefix chosen is not already used by other tables.

Old Database Process *
"Backup" or "Remove" any existing tables from former Joomla! installations with the same "Table Prefix".

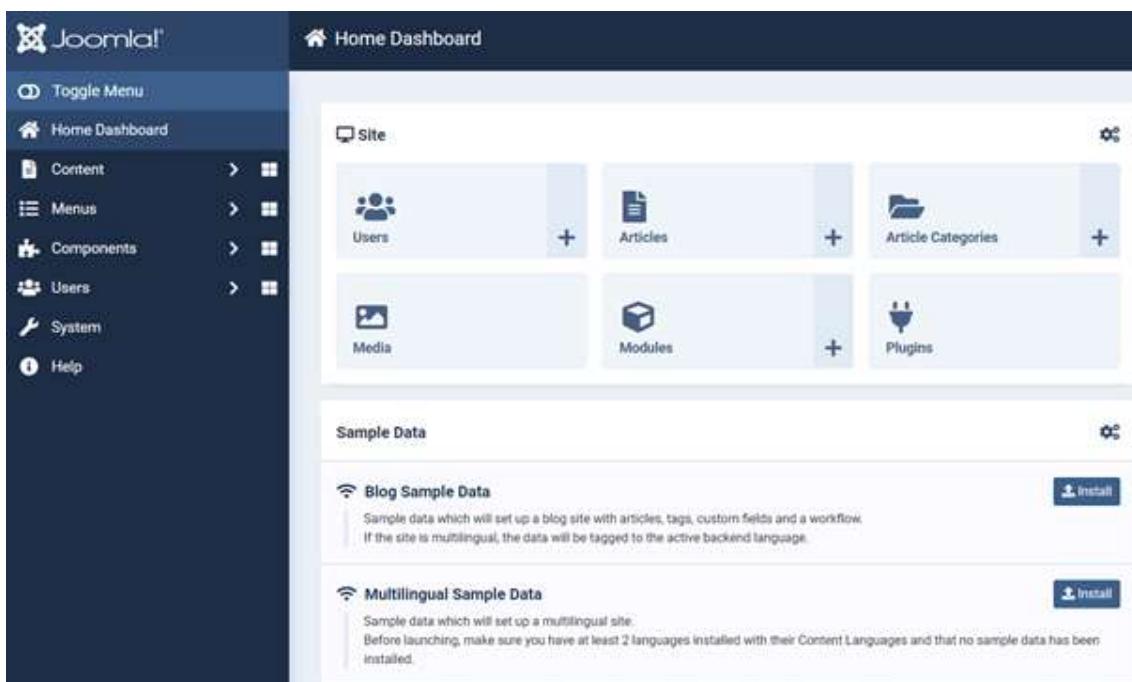
← Previous → Next



localhost/joomla/administrator



joomla backend

A screenshot of the Joomla! Home Dashboard. The left sidebar contains a 'Toggle Menu' button and links for 'Content', 'Menus', 'Components', 'Users', 'System', and 'Help'. The main dashboard has a 'Site' section with icons for 'Users', 'Articles', 'Article Categories', 'Media', 'Modules', and 'Plugins'. Below this is a 'Sample Data' section with 'Blog Sample Data' and 'Multilingual Sample Data' options, each with an 'Install' button.

14. Demonstrate how to use the libreoffice.

- a) Writer (Word processing)
- b) Calc (spreadsheets)
- c) Impress (presentations)
- d) Draw (vector graphics and flowcharts)
- e) Base (databases),
- f) Math (formula editing).

LibreOffice is a free and open-source office suite developed by The Document Foundation. It is a powerful alternative to proprietary office software like Microsoft Office, offering similar functionality for a wide range of office-related tasks. LibreOffice is available for multiple platforms, including Windows, macOS, and Linux.

Key Features:

1. File Compatibility: LibreOffice supports a wide range of file formats, including Microsoft Office formats (e.g., DOCX, XLSX, PPTX) and open standards like ODF (Open Document Format).
2. Free and Open Source: It is completely free to use, modify, and distribute, making it a popular choice for individuals, businesses, and governments.
3. Community-Driven: Continuous development and support are provided by a global community of volunteers and contributors.
4. Cross-Platform Support: Works on Windows, macOS, and Linux.

LibreOffice consists of several components, each designed for specific office tasks. Here's an explanation of each:

1. Writer (Word Processor)

- **Purpose:** Similar to Microsoft Word, Writer is used for creating and editing text documents.
 - **Features:**
 - Text formatting tools (fonts, styles, and templates).
 - Support for headers, footers, tables, and page numbering.
 - Spellcheck, grammar check, and thesaurus.
 - Compatibility with DOC, DOCX, and other text file formats.
 - Export to PDF.
 - **Use Cases:** Writing reports, letters, resumes, books, and articles.
-

2. Calc (Spreadsheet Application)

- **Purpose:** Comparable to Microsoft Excel, Calc is used for handling data in spreadsheets.
- **Features:**
 - Support for formulas, functions, and pivot tables.
 - Data visualization through charts and graphs.
 - Conditional formatting and data filtering.
 - Compatibility with XLS, XLSX, and CSV files.

- Export to PDF and data import from external sources.
 - **Use Cases:** Financial analysis, budgeting, data tracking, and statistical analysis.
-

3. Impress (Presentation Software)

- **Purpose:** Similar to Microsoft PowerPoint, Impress is used for creating slide-based presentations.
 - **Features:**
 - Slide design templates and customizable layouts.
 - Support for animations, transitions, and multimedia elements.
 - Export presentations as PDF, PPTX, or SWF (Flash).
 - **Use Cases:** Business presentations, academic lectures, and project proposals.
-

4. Draw (Vector Graphics and Diagram Tool)

- **Purpose:** Used for creating vector graphics, flowcharts, diagrams, and illustrations.
 - **Features:**
 - Tools for drawing shapes, lines, and connecting objects.
 - Support for layers and grouping elements.
 - Export to various image formats like PNG, JPG, and SVG.
 - **Use Cases:** Technical diagrams, organization charts, and illustrations.
-

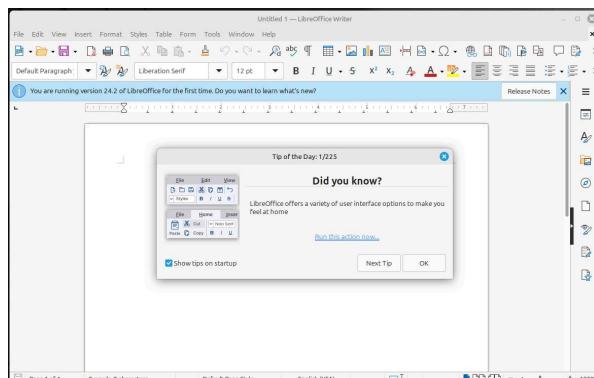
5. Base (Database Management System)

- **Purpose:** Comparable to Microsoft Access, Base is used for creating and managing databases.
 - **Features:**
 - Tools for designing tables, queries, forms, and reports.
 - Support for various database engines (HSQLDB, MySQL, PostgreSQL).
 - Integration with external data sources like ODBC or JDBC.
 - Visual SQL query builder.
 - **Use Cases:** Inventory management, CRM systems, and data organization.
-

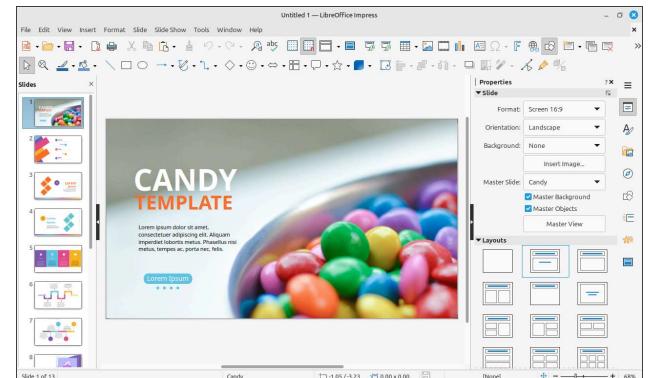
6. Math (Formula Editor)

- **Purpose:** Used for creating and editing mathematical equations.
- **Features:**
 - Graphical interface for writing formulas.
 - Support for complex mathematical and scientific notations.
 - Integration with Writer, Impress, and other components.
 - Export equations as part of documents or standalone objects.
- **Use Cases:** Scientific papers, academic documents, and technical manuals.

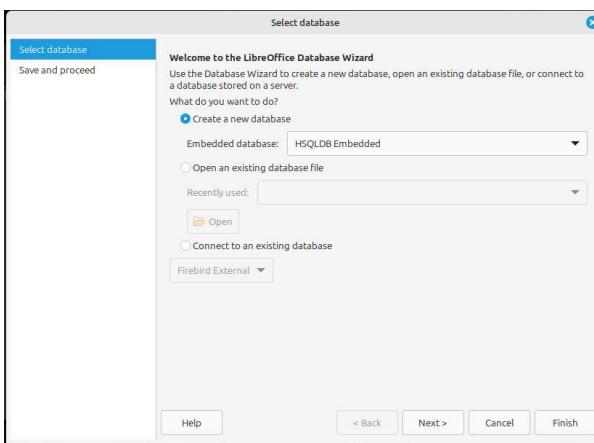
14 Output



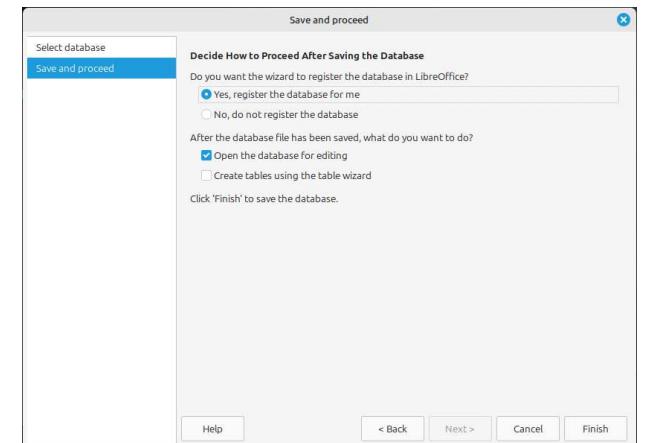
The screenshot shows the LibreOffice Writer interface with a 'Tip of the Day' dialog box open. The dialog displays a 'did you know?' fact about LibreOffice's user interface options. It includes a 'Run this action now.' button, a 'Next Tip' button, and an 'OK' button. The main document area is blank.



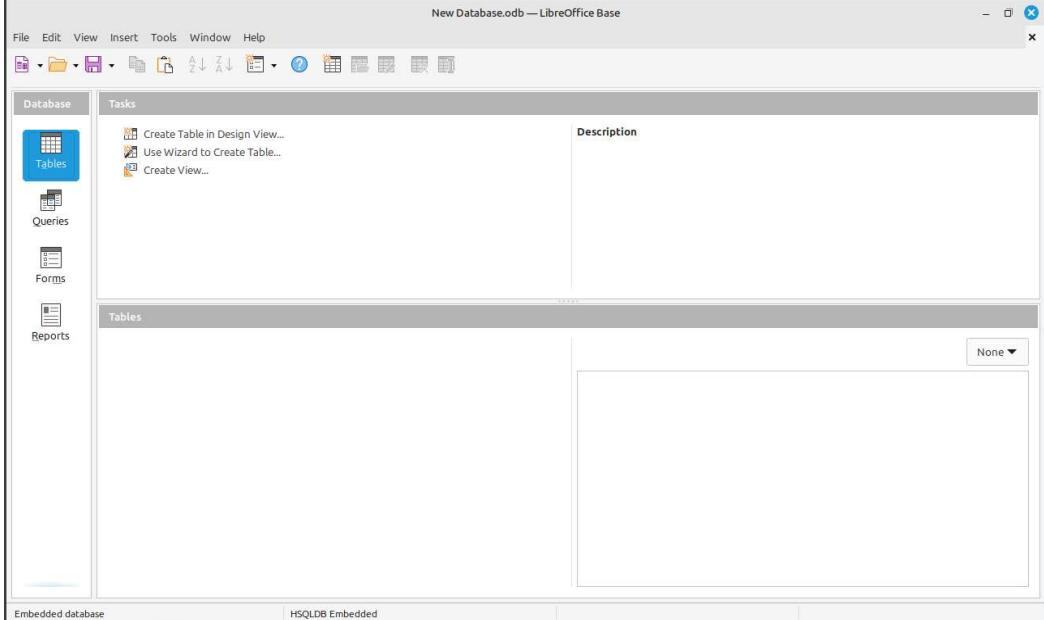
The screenshot shows the LibreOffice Impress interface. A slide titled 'CANDY TEMPLATE' is displayed, featuring a background image of colorful candy beans. The slide contains placeholder text 'Lorem ipsum' and a small decorative graphic. The 'Properties' panel on the right shows settings for the slide, including orientation (Landscape), background (None), and master slide (Candy). The 'Layouts' panel shows various slide layout options.



The screenshot shows the 'Select database' step of the LibreOffice Database Wizard. It asks what type of database to create. Options include 'Create a new database' (selected), 'Open existing database file', and 'Connect to an existing database'. The 'Recently used:' dropdown shows 'Firebird External'. Navigation buttons at the bottom are 'Help', '< Back', 'Next >', 'Cancel', and 'Finish'.



The screenshot shows the 'Save and proceed' step of the LibreOffice Database Wizard. It asks if the wizard should register the database. Options are 'Yes, register the database for me' (selected) and 'No, do not register the database'. Below, it asks what to do after saving: 'Open the database for editing' (selected) or 'Create tables using the table wizard'. A note says to click 'Finish' to save the database. Navigation buttons at the bottom are 'Help', '< Back', 'Next >', 'Cancel', and 'Finish'.



The screenshot shows the LibreOffice Base interface with a database named 'New Database.odb'. The left sidebar shows 'Tables', 'Queries', 'Forms', and 'Reports'. The main area shows a 'Tasks' section with three items: 'Create Table in Design View...', 'Use Wizard to Create Table...', and 'Create View...'. Below is a 'Tables' section with a table icon and a 'None' dropdown. The status bar at the bottom indicates an 'Embedded database' and 'HSQLDB Embedded'.

15. Write the steps to install GNU Compiler to Ubuntu.

The GCC (GNU Compiler Collection) is a free software compiler system capable of compiling several programming languages, including C, C++, Objective-C, and Fortran.

Prerequisites

- Ubuntu 20.04 or Ubuntu 22.04 installed.
- Access to a terminal window/command line.
- A user account with root or sudo privileges.

Installation:

To install the GCC compiler from Ubuntu repositories:

Step 1: Update the Ubuntu package repository using the following command:

```
sudo apt update
```

Step 2: Install the *build-essential* package:

The *build-essential* package includes the GCC compiler and other utilities required for building software. These packages are libc, gcc, g++, make, dpkg-dev etc.

```
sudo apt install build-essential
```

Step 3: Use the following command to check the GCC version:

```
gcc --version
```

Removing build-essential tool from Ubuntu:

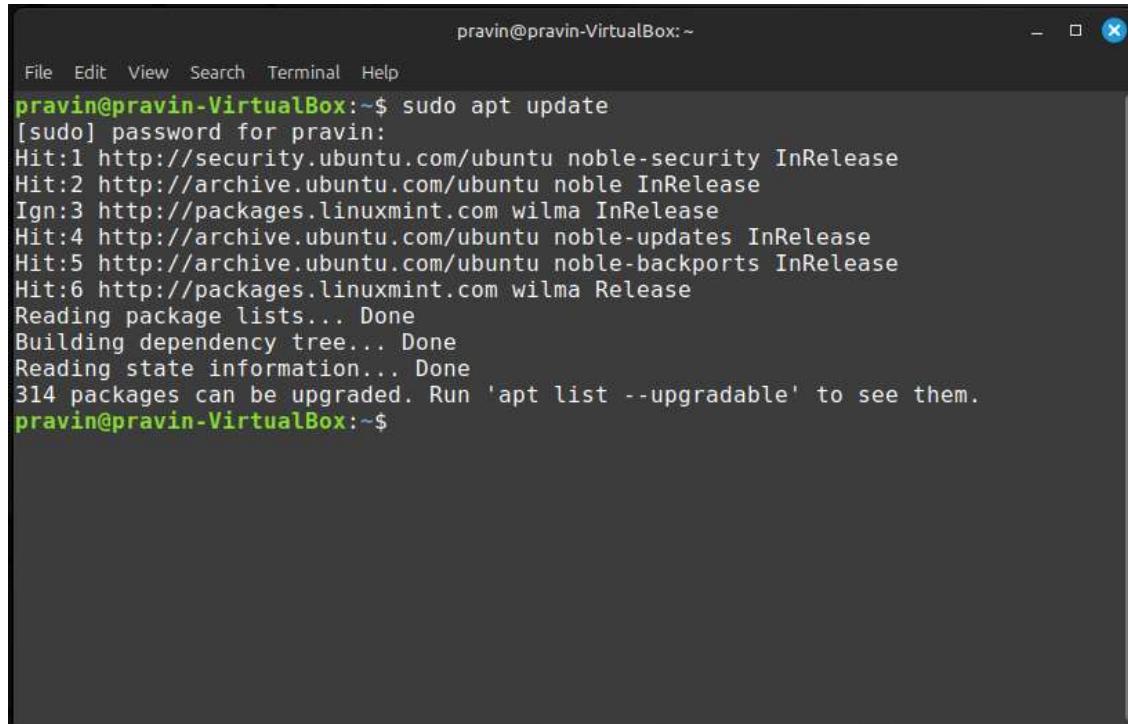
```
sudo apt remove build-essential
```

It will be a good idea to run the autoremove command to remove the residual dependency packages as well:

```
sudo apt autoremove
```

15 Output:

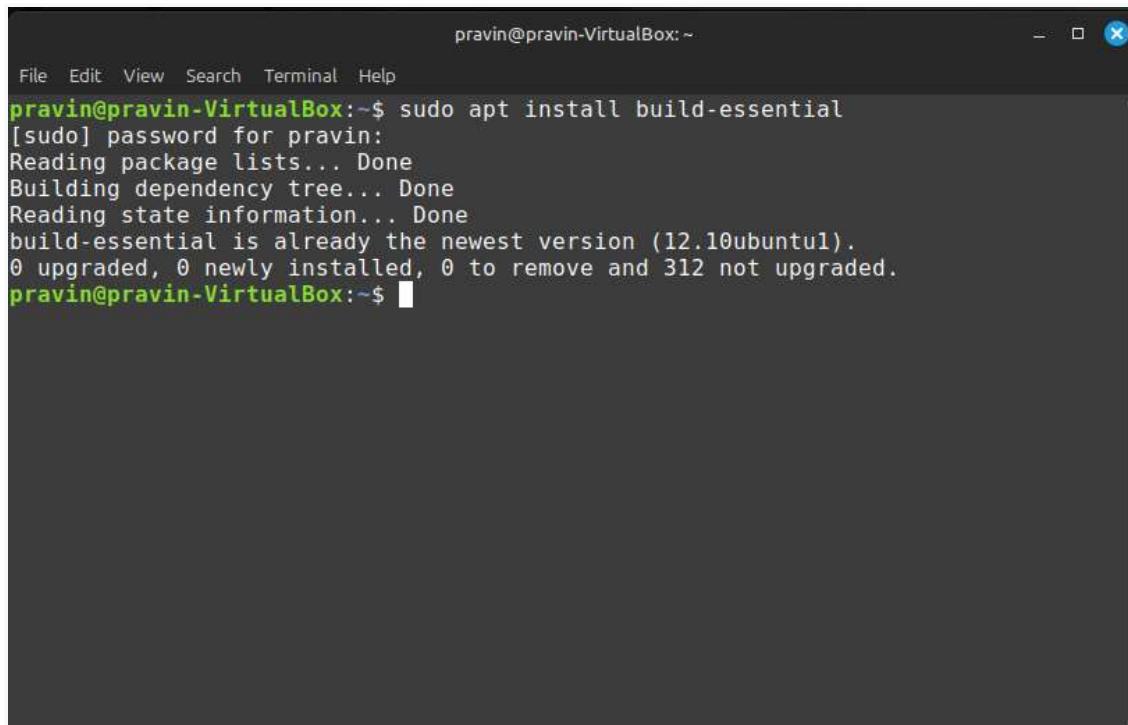
```
sudo apt update
```



A terminal window titled "pravin@pravin-VirtualBox:~". The window shows the command "sudo apt update" being run. It displays the progress of the update process, including hits from various repositories like security.ubuntu.com, archive.ubuntu.com, and packages.linuxmint.com. It also shows that 314 packages can be upgraded. The terminal window has a standard Linux-style title bar with icons for minimize, maximize, and close.

```
pravin@pravin-VirtualBox:~$ sudo apt update
[sudo] password for pravin:
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease
Ign:3 http://packages.linuxmint.com wilma InRelease
Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:6 http://packages.linuxmint.com wilma Release
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
314 packages can be upgraded. Run 'apt list --upgradable' to see them.
pravin@pravin-VirtualBox:~$
```

```
sudo apt install build-essential
```



A terminal window titled "pravin@pravin-VirtualBox:~". The window shows the command "sudo apt install build-essential" being run. It displays the progress of the installation process, including reading package lists, building dependency trees, and reading state information. It also notes that build-essential is already the newest version. The terminal window has a standard Linux-style title bar with icons for minimize, maximize, and close.

```
pravin@pravin-VirtualBox:~$ sudo apt install build-essential
[sudo] password for pravin:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
build-essential is already the newest version (12.10ubuntu1).
0 upgraded, 0 newly installed, 0 to remove and 312 not upgraded.
pravin@pravin-VirtualBox:~$
```

