

Lab 1

STEPS TO INSTALL APACHE WEB SERVER IN LINUX

To run a command as administrator (user "root"), use "sudo <command>". See "man sudo_root" for details.

```
sahil@18cfbe74344a5b9:~$ grep -E '^(VERSION|NAME)= ' /etc/os-release
NAME="Ubuntu"
VERSION="24.04.1 LTS (Noble Numbat)"
```

```
sahil@18cfbe74344a5b9:~$ sudo apt update
[sudo] password for sahil:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
7 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

```
sahil@18cfbe74344a5b9:~$ sudo apt upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following NEW packages will be installed:
  ethtool
The following upgrades have been deferred due to phasing:
  libpolkit-agent-1-0 libpolkit-gobject-1-0 polkitd
The following packages will be upgraded:
  libnetplan1 netplan-generator netplan.io python3-netplan
4 upgraded, 1 newly installed, 0 to remove and 3 not upgraded.
Need to get 513 kB of archives.
(Reading database ... 40794 files and directories currently installed.)
Preparing to unpack .../netplan-generator_1.1.1-1ubuntu24.04.1_amd64.deb ...
Adding 'diversion of /lib/systemd/system-generators/netplan to /lib/systemd/system-generators/netplan usr-is-merged by netplan-generator'
Unpacking netplan-generator (1.1.1-1ubuntu24.04.1) over (1.0.1-1ubuntu2~24.04.1) ...
Preparing to unpack .../python3-netplan_1.1.1-1ubuntu24.04.1_amd64.deb ...
Unpacking python3-netplan (1.1.1-1ubuntu24.04.1) over (1.0.1-1ubuntu2~24.04.1) ...
Selecting previously unselected package ethtool.
Preparing to unpack .../ethtool_1%3a6.7-1build1_amd64.deb ...
Unpacking ethtool (1:6.7-1build1) ...
Preparing to unpack .../netplan.io_1.1.1-1ubuntu24.04.1_amd64.deb ...
Unpacking netplan.io (1.1.1-1ubuntu24.04.1) over (1.0.1-1ubuntu2~24.04.1) ...
Preparing to unpack .../libnetplan1_1.1.1-1ubuntu24.04.1_amd64.deb ...
Unpacking libnetplan1:amd64 (1.1.1-1ubuntu24.04.1) over (1.0.1-1ubuntu2~24.04.1) ...
Setting up libnetplan1:amd64 (1.1.1-1ubuntu24.04.1) ...
Setting up python3-netplan (1.1.1-1ubuntu24.04.1) ...
Setting up netplan-generator (1.1.1-1ubuntu24.04.1) ...
Removing 'diversion of /lib/systemd/system-generators/netplan to /lib/systemd/system-generators/netplan usr-is-merged by netplan-generator'
Setting up ethtool (1:6.7-1build1) ...
Setting up netplan.io (1.1.1-1ubuntu24.04.1) ...
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for dbus (1.14.10-4ubuntu4.1) ...
```

Activate Window
Go to Settings to act

```
sahil@18cfbe74344a5b9:~$ sudo apt install apache2 -y
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
  liblua5.4-0 ssl-cert
Suggested packages:
  e.ubuntu.com/ubuntu noble-updates/main amd64 netplan-generator amd64 1.1.1-1~ubuntu24.04.1 [60.8 kB]
  python3-netplan amd64 1.1.1-1~ubuntu24.04.1 [24.3 kB]
  libnetplan1 amd64 1.1.1-1~ubuntu24.04.1 [131 kB]
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser ufw
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
  liblua5.4-0 ssl-cert
0 upgraded, 10 newly installed, 0 to remove and 3 not upgraded.
Need to get 2084 kB of archives.
After this operation, 8094 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libapr1t64 amd64 1.7.2-3.1ubuntu0.1 [108 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1t64 amd64 1.6.3-1.1ubuntu7 [91.9 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.3-1.1ubuntu7 [11.2 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-ldap amd64 1.6.3-1.1ubuntu7 [9116 B]
Get:5 http://archive.ubuntu.com/ubuntu noble/main amd64 liblua5.4-0 amd64 5.4.6-3build2 [166 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-bin amd64 2.4.58-1ubuntu8.5 [1329 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-data all 2.4.58-1ubuntu8.5 [163 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-utils amd64 2.4.58-1ubuntu8.5 [97.1 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2 amd64 2.4.58-1ubuntu8.5 [90.2 kB]
Get:10 http://archive.ubuntu.com/ubuntu noble/main amd64 ssl-cert all 1.1.2ubuntu1 [17.8 kB]
Fetched 2084 kB in 5s (390 kB/s)
Preconfiguring packages ...
Selecting previously unselected package libapr1t64:amd64.
(Reading database ... 40810 files and directories currently installed.)
Preparing to unpack .../0-libapr1t64_1.7.2-3.1ubuntu0.1_amd64.deb ...
Unpacking libapr1t64:amd64 (1.7.2-3.1ubuntu0.1) ...
Selecting previously unselected package libaprutil1t64:amd64.
Preparing to unpack .../1-libaprutil1t64_1.6.3-1.1ubuntu7_amd64.deb ...
Unpacking libaprutil1t64:amd64 (1.6.3-1.1ubuntu7) ...
Selecting previously unselected package libaprutil1-dbd-sqlite3:amd64.
Preparing to unpack .../2-libaprutil1-dbd-sqlite3_1.6.3-1.1ubuntu7_amd64.deb ...
Unpacking libaprutil1-dbd-sqlite3:amd64 (1.6.3-1.1ubuntu7) ...
```

```
sahil@18cfbe74344a5b9:~$ sudo systemctl enable apache2
Synchronizing state of apache2.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable apache2
```

```
sahil@18cfbe74344a5b9:~$ echo "<html><head><title>Example</title></head><body><h1>GF6</h1><p>This is a test.</p></body></html>" | sudo tee /var/www/html/test_website/index.html
<html><head><title>Example</title></head><body><h1>GF6</h1><p>This is a test.</p></body></html>
```

```
sahil@18cfbe74344a5b9:~$ sudo tee /etc/httpd/conf.d/web.conf <<EOF
> <VirtualHost *:80>
>     ServerName web.testingserver.com
>     DocumentRoot /var/www/html/website
>     DirectoryIndex index.html
>     ErrorLog /var/log/httpd/example.com_error.log
>     CustomLog /var/log/httpd/example.com_requests.log combined
> </VirtualHost>
> EOF
<VirtualHost *:80>
    ServerName web.testingserver.com
    DocumentRoot /var/www/html/website
    DirectoryIndex index.html
    ErrorLog /var/log/httpd/example.com_error.log
    CustomLog /var/log/httpd/example.com_requests.log combined
</VirtualHost>
```

```
sahil@18cfbe74344a5b9:~$ sudo chmod -R 755 /var/www/html/test_website
```

