

Practical Report: Setting up HTTP Server on Linux Mint

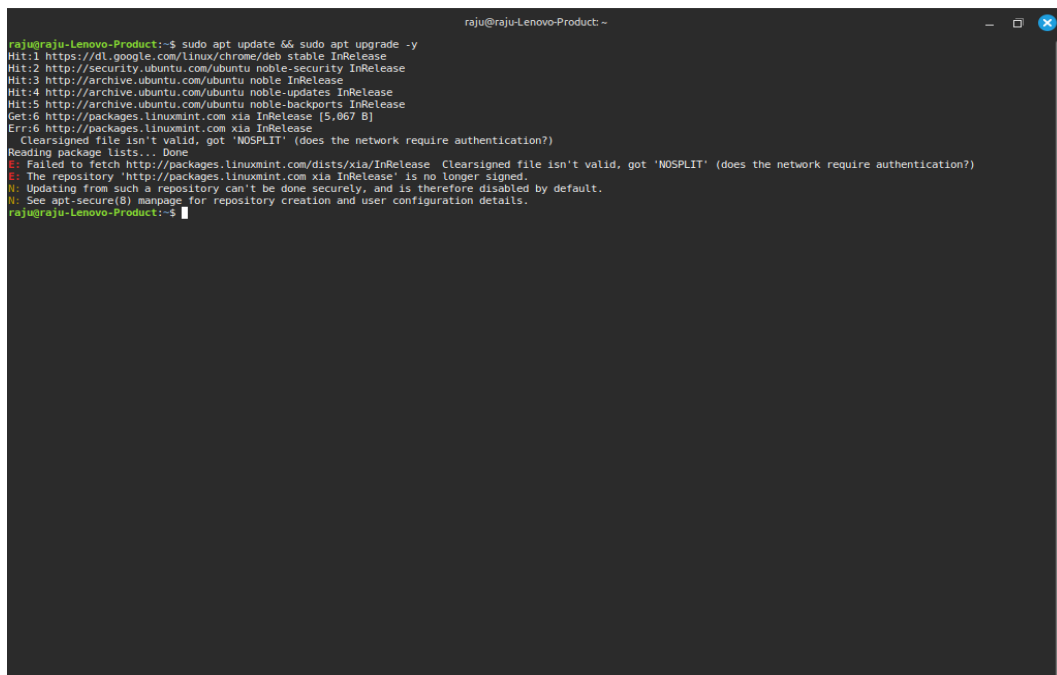
This report documents the complete practical steps taken to set up an HTTP server on Linux Mint using Apache2. It includes all commands executed, problems encountered, their resolutions, and the final output. Screenshots have been included at each stage for clarity.

Step 1: Updating and Upgrading the System

We started by updating and upgrading the system using the following command:

sudo apt update && sudo apt upgrade -y

An error related to Linux Mint repositories appeared, but we continued using Ubuntu repositories.



```
raju@raju-Lenovo-Product: ~  
raju@raju-Lenovo-Product:~$ sudo apt update && sudo apt upgrade -y  
Hit:1 https://dl.google.com/linux/chrome/deb stable InRelease  
Hit:2 https://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:3 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Get:6 http://packages.linuxmint.com xia InRelease [5,067 B]  
Err:6 http://packages.linuxmint.com xia InRelease  
  Clearsigned file isn't valid, got 'NOSPLIT' (does the network require authentication?)  
Reading package lists... Done  
E: Failed to fetch http://packages.linuxmint.com/dists/xia/InRelease: Clearsigned file isn't valid, got 'NOSPLIT' (does the network require authentication?)  
E: The repository 'http://packages.linuxmint.com xia InRelease' is no longer signed.  
H: Updating from such a repository can't be done securely, and is therefore disabled by default.  
H: See apt-secure(8) manpage for repository creation and user configuration details.  
raju@raju-Lenovo-Product:~$
```

Step 2: Installing Apache2

We installed Apache2 with:

sudo apt install apache2 -y

This installed Apache2 and dependencies.

```

E: Failed to fetch http://packages.linuxmint.com/dists/xia/InRelease Clearsigned file isn't valid, got "NOSPLIT" (does the network require authentication?)
E: The repository 'http://packages.linuxmint.com xia InRelease' is no longer signed.
W: Updating from such a repository can't be done securely, and is therefore disabled by default.
W: See apt-secure(8) manpage for repository creation and user configuration details.

raj@rajul-Lenovo-Product:~$ 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
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 344 not upgraded.
Need to get 1,902 kB of archives.
After this operation, 7,451 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-lubuntu0.1 [188 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libaprutil1t64 amd64 1.6.3-1-lubuntu07 [91.9 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.3-1-lubuntu07 [11.2 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-ldap amd64 1.6.3-1-lubuntu07 [9,116 B]
Get:5 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-bin amd64 2.4.58-lubuntu0.8 [1,351 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-data all 2.4.58-lubuntu0.8 [163 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-utils amd64 2.4.58-lubuntu0.8 [97.7 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2 amd64 2.4.58-lubuntu0.8 [90.2 kB]
Fetched 1,902 kB in 4s (443 kB/s)
Selecting previously unselected package libapr1t64:amd64.
(Reading database ... 456637 files and directories currently installed.)
Preparing to unpack .../0-libapr1t64-1.7.2.3-lubuntu0.1.amd64.deb ...
Unpacking libapr1t64:amd64 (1.7.2.3-lubuntu0.1) ...
Selecting previously unselected package libaprutil1t64:amd64.
Preparing to unpack .../1-libaprutil1t64-1.6.3-1-lubuntu07.amd64.deb ...
Unpacking libaprutil1t64:amd64 (1.6.3-1-lubuntu07) ...
Selecting previously unselected package libaprutil1-dbd-sqlite3:amd64.
Preparing to unpack .../2-libaprutil1-dbd-sqlite3-1.6.3-1-lubuntu07.amd64.deb ...
Unpacking libaprutil1-dbd-sqlite3:amd64 (1.6.3-1-lubuntu07) ...
Selecting previously unselected package libaprutil1-ldap:amd64.
Preparing to unpack .../3-libaprutil1-ldap-1.6.3-1-lubuntu07.amd64.deb ...
Unpacking libaprutil1-ldap:amd64 (1.6.3-1-lubuntu07) ...
Selecting previously unselected package apache2-bin.
Preparing to unpack .../4-apache2-bin-2.4.58-lubuntu0.8.amd64.deb ...
Unpacking apache2-bin (2.4.58-lubuntu0.8) ...
Selecting previously unselected package apache2-data.
Preparing to unpack .../5-apache2-data-2.4.58-lubuntu0.8.all.deb ...
Unpacking apache2-data (2.4.58-lubuntu0.8) ...
Selecting previously unselected package apache2-utils.
Preparing to unpack .../6-apache2-utils-2.4.58-lubuntu0.8.amd64.deb ...
Unpacking apache2-utils (2.4.58-lubuntu0.8) ...
Selecting previously unselected package apache2.
Preparing to unpack .../7-apache2-2.4.58-lubuntu0.8.amd64.deb ...
Unpacking apache2 (2.4.58-lubuntu0.8) ...
Setting up libapr1t64:amd64 (1.7.2.3-lubuntu0.1) ...
Setting up apache2-data (2.4.58-lubuntu0.8) ...

```

Step 3: Enabling and Starting Apache2 Service

We enabled and started the Apache2 service so it runs on boot:

```
sudo systemctl enable apache2
```

```
sudo systemctl start apache2
```

```
raju@raju-Lenovo-Product:~$ sudo systemctl enable apache2
sudo systemctl start 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
raju@raju-Lenovo-Product:~$
```

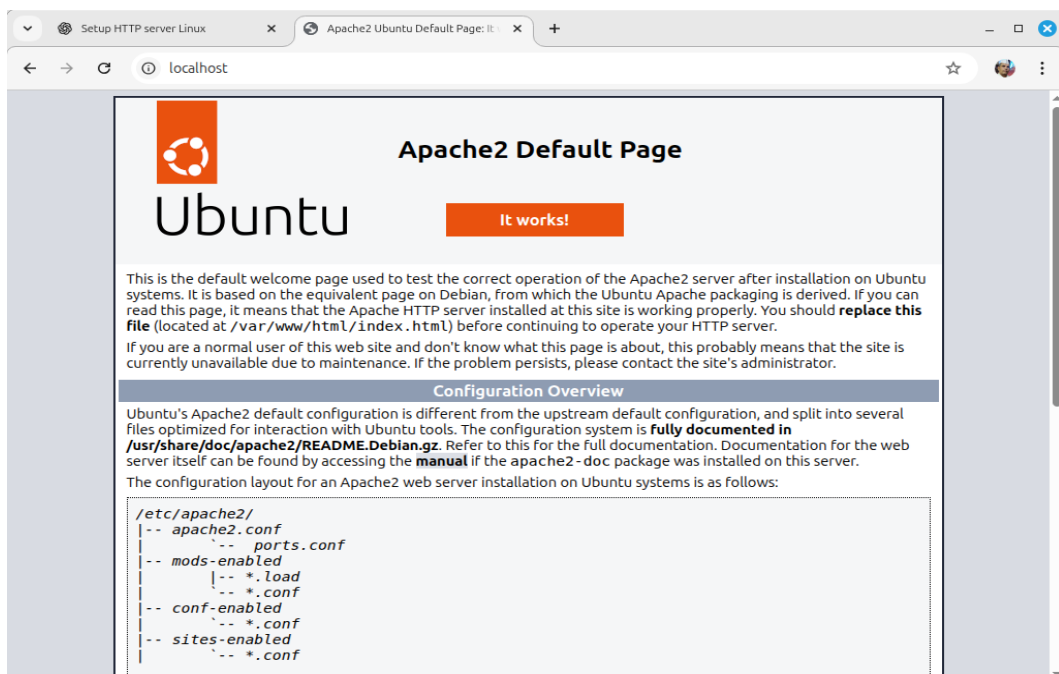
Step 4: Checking Apache2 Service Status

We confirmed Apache2 was running with:
sudo systemctl status apache2
The service was active and running.

```
raju@raju-Lenovo-Product: ~  
raju@raju-Lenovo-Product:~$ sudo systemctl status apache2  
● apache2.service - The Apache HTTP Server  
   Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)  
   Active: active (running) since Tue 2025-09-09 12:13:25 IST; 2min 4s ago  
     Docs: https://httpd.apache.org/docs/2.4/  
    Main PID: 4286 (apache2)  
      Tasks: 55 (limit: 9229)  
    Memory: 5.7M (peak: 6.2M)  
       CPU: 55ms  
    CGroup: /system.slice/apache2.service  
            └─ 4286 /usr/sbin/apache2 -k start  
              4288 /usr/sbin/apache2 -k start  
              4289 /usr/sbin/apache2 -k start  
  
Sep 09 12:13:25 raju-Lenovo-Product systemd[1]: Starting apache2.service - The Apache HTTP Server...  
Sep 09 12:13:25 raju-Lenovo-Product apache2[4285]: AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 127.0.1.1. Set the  
Sep 09 12:13:25 raju-Lenovo-Product systemd[1]: Started apache2.service - The Apache HTTP Server.  
(lines 1-16/16) (END)
```

Step 5: Testing Default Apache Page

We opened **http://localhost/** and saw the default Apache2 page, confirming installation.

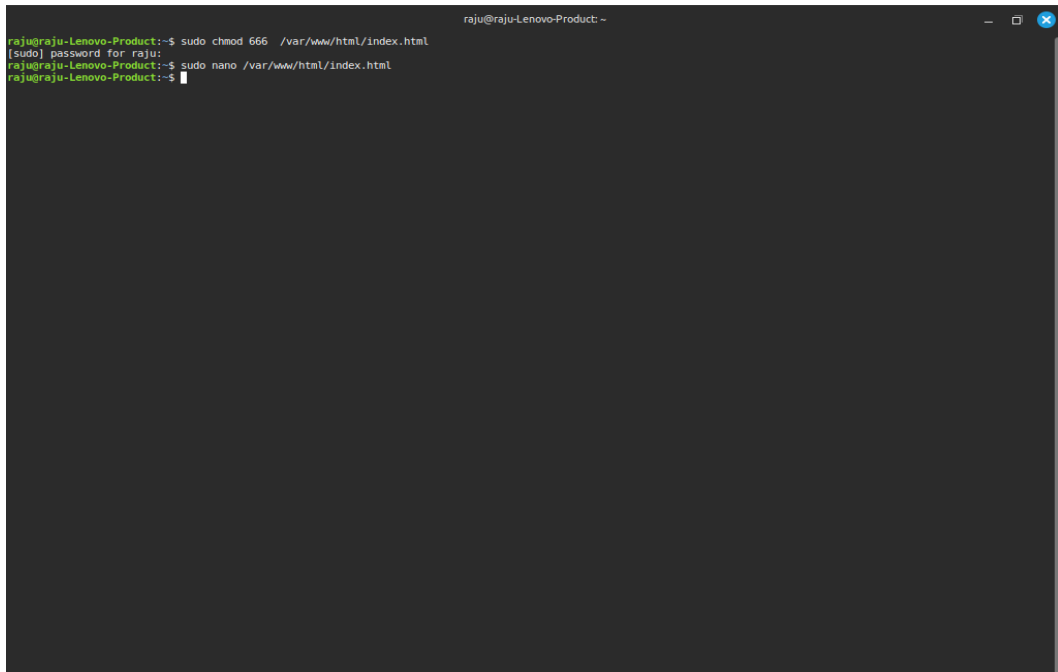


Step 6: Editing index.html

We changed file permissions and opened the default index.html with nano:

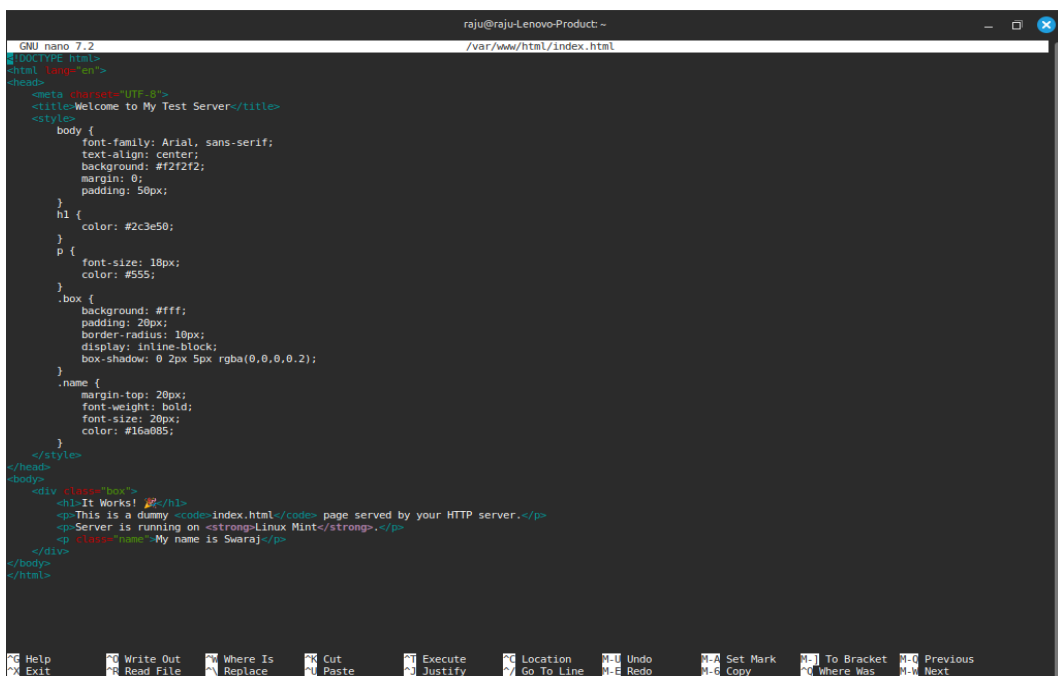
```
sudo chmod 666 /var/www/html/index.html
```

```
sudo nano /var/www/html/index.html
```

A terminal window titled 'raju@raju-Lenovo-Product: ~' showing the execution of the command 'sudo nano /var/www/html/index.html'. The prompt is 'raju@raju-Lenovo-Product:~\$' and the command is entered. The terminal shows the password prompt '[sudo] password for raju:' and the command 'sudo nano /var/www/html/index.html' is executed. The terminal then shows 'raju@raju-Lenovo-Product:~\$'.

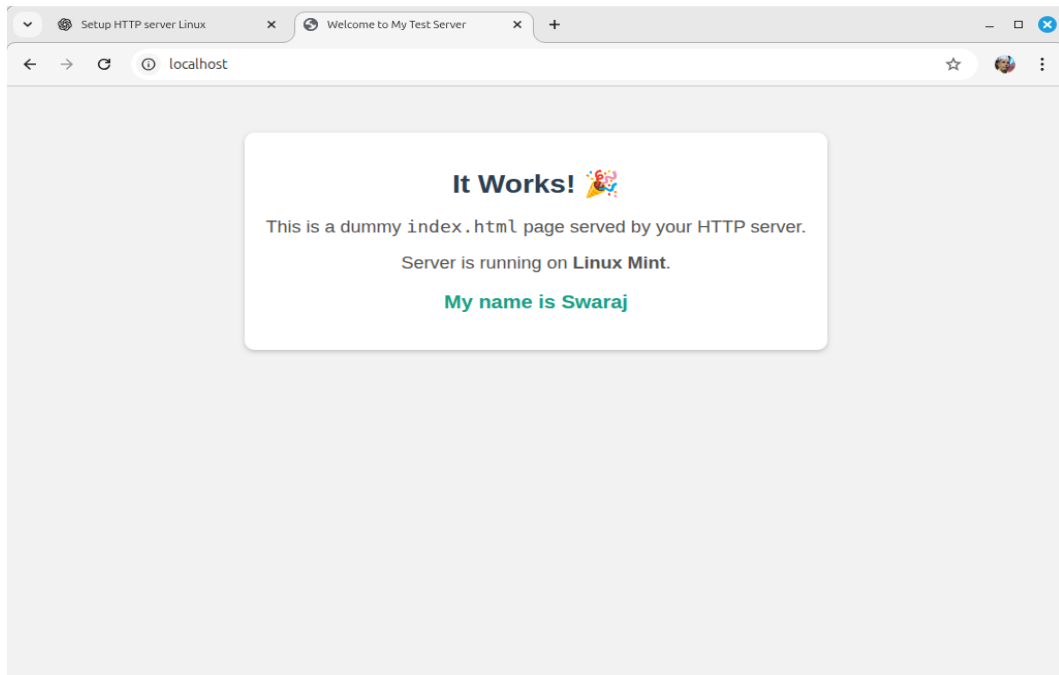
Step 7: Adding Custom HTML Content

We replaced the content with a custom HTML page displaying a message and the name 'Swaraj'.

A terminal window titled 'raju@raju-Lenovo-Product: ~' showing the content of the file '/var/www/html/index.html' in the nano editor. The terminal shows the command 'nano /var/www/html/index.html' and the content of the file. The content is a custom HTML page with a title 'Welcome to My Test Server', a style block, and a body with a message and the name 'Swaraj'. The terminal shows the command 'nano /var/www/html/index.html' and the content of the file. The content is a custom HTML page with a title 'Welcome to My Test Server', a style block, and a body with a message and the name 'Swaraj'. The terminal shows the command 'nano /var/www/html/index.html' and the content of the file. The content is a custom HTML page with a title 'Welcome to My Test Server', a style block, and a body with a message and the name 'Swaraj'.

Step 8: Final Output

Refreshing **http://localhost/** showed our customized page, confirming successful setup.



Conclusion

In this practical, we successfully installed and configured Apache2 on Linux Mint. We verified the service status, tested the default page, and replaced it with a custom HTML page that displayed personalized content. This demonstrates the basic setup and usage of an HTTP server in Linux.