

LAB: Apache Server on Ubuntu Virtual Machine.

3. Installing Apache

```
ubuntu@ip-172-31-25-2:~$ 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 Fri 2026-01-16 13:53:26 UTC; 14s ago
    Docs: https://httpd.apache.org/docs/2.4/
   Main PID: 3571 (apache2)
      Tasks: 55 (limit: 4667)
     Memory: 5.3M (peak: 5.7M)
        CPU: 32ms
       CGroup: /system.slice/apache2.service
             ├─3571 /usr/sbin/apache2 -k start
             ├─3573 /usr/sbin/apache2 -k start
             └─3574 /usr/sbin/apache2 -k start

Jan 16 13:53:26 ip-172-31-25-2 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Jan 16 13:53:26 ip-172-31-25-2 systemd[1]: Started apache2.service - The Apache HTTP Server.
ubuntu@ip-172-31-25-2:~$
```



The screenshot shows a web browser window displaying the Apache2 Default Page. The page features the Ubuntu logo and the text "Apache2 Default Page". A red button labeled "It works!" is prominently displayed. Below the button, there is a message about the default welcome page and instructions for users. A "Configuration Overview" section provides details on the configuration layout, mentioning the main configuration file "apache2.conf" and other related files like "ports.conf", "mod-enabled", "conf-enabled", and "sites-enabled". A code block shows the directory structure of these files. At the bottom, a list of bullet points explains the purpose of each file and how they are managed.

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Apache2 Default Page

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should [replace this file](#) (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is [fully documented in `/usr/share/doc/apache2/README.Debian.gz`](#). Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the [manual](#) if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|   '-- ports.conf
|-- mods-enabled
|   '-- *.Load
|   '-- *.conf
|-- conf-enabled
|   '-- *.conf
|-- sites-enabled
|   '-- *.conf
```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- `ports.conf` is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.
- Configuration files in the `mods-enabled/`, `conf-enabled/` and `sites-enabled/` directories contain particular configuration snippets which manage modules, global configuration fragments, or virtual host configurations, respectively.
- They are activated by symlinking available configuration files from their respective `*-available/` counterparts. These should be managed by using our `a2enmod`, `a2dismod`, `a2ensite` and `a2dissite` scripts.

5.1 Creating a New Website Directory

```
ubuntu@ip-172-31-25-2:~$ sudo mkdir -p /var/www/your_domain
ubuntu@ip-172-31-25-2:~$ sudo chmod -R 755 /var/www/your_domain
ubuntu@ip-172-31-25-2:~$ sudo nano /var/www/your_domain/index.html
ubuntu@ip-172-31-25-2:~$ cat /var/www/your_domain/index.html
<html>
  <head>
    <title>Welcome to Your Domain!</title>
  </head>
  <body>
    <h1>Success! The your_domain virtual host is working!</h1>
  </body>
</html>
ubuntu@ip-172-31-25-2:~$
```

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE apache2-site SYSTEM "http://www.apache.org/xml/apache2-site.dtd">
<VirtualHost *:80>
  ServerAdmin webmaster@localhost
  ServerName your_domain
  ServerAlias www.your_domain
  DocumentRoot /var/www/your_domain
  ErrorLog ${APACHE_LOG_DIR}/error.log
  CustomLog ${APACHE_LOG_DIR}/access.log combined
</VirtualHost>
ubuntu@ip-172-31-25-2:~$
```

5.4 Enabling the Virtual Host

```
ubuntu@ip-172-31-25-2:~$ sudo a2ensite your_domain.conf
Enabling site your_domain.
To activate the new configuration, you need to run:
  systemctl reload apache2
ubuntu@ip-172-31-25-2:~$ sudo a2dissite 000-default.conf
Site 000-default disabled.
To activate the new configuration, you need to run:
  systemctl reload apache2
ubuntu@ip-172-31-25-2:~$ sudo apache2ctl configtest
Syntax OK
ubuntu@ip-172-31-25-2:~$ sudo systemctl restart apache2
ubuntu@ip-172-31-25-2:~$
```

- Configuring and testing the virtual host.



Success! The your_domain virtual host is working!