

# Install LAMP on CentOS 9

LAMP stands for Linux, Apache, MySQL, and PHP (not really but these are the technologies that we care in this course).

Its components are open source, and we will use it for developing web applications.

Linux -> The operating system where we will install all the other components. Here I have chosen CentOS 9.

Apache -> Web Server used to process HTTP requests.

MySQL -> Relational Database

PHP -> Programming language

Before we start with the actual steps, update the system packages and after that reboot. All the commands will be highlighted in grey.

```
sudo dnf update -y
```

```
reboot
```

## Step 1. Install Apache

```
sudo dnf install httpd httpd-tools -y
```

dnf is a package manager for installing and removing packages.

Start the Apache service

```
sudo systemctl start httpd
```

Enable it

```
sudo systemctl start httpd
```

The systemctl command manages both system and service configurations, enabling administrators to manage the OS and control the status of services.

Check the status of Apache service

```
systemctl status httpd
```

```
igli@localhost:~ — systemctl status httpd

● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor pr>
  Drop-In: /usr/lib/systemd/system/httpd.service.d
           └─php-fpm.conf
   Active: active (running) since Wed 2022-12-07 01:46:45 CET; 59min left
     Docs: man:httpd.service(8)
  Main PID: 1152 (httpd)
    Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Byte>
    Tasks: 213 (limit: 10566)
   Memory: 23.6M
      CPU: 106ms
   CGroup: /system.slice/httpd.service
           └─1152 /usr/sbin/httpd -DFOREGROUND
             1188 /usr/sbin/httpd -DFOREGROUND
             1193 /usr/sbin/httpd -DFOREGROUND
             1197 /usr/sbin/httpd -DFOREGROUND
             1198 /usr/sbin/httpd -DFOREGROUND

Dec 07 01:46:45 localhost.localdomain systemd[1]: Starting The Apache HTTP Ser>
Dec 07 01:46:45 localhost.localdomain httpd[1152]: AH00558: httpd: Could not r>
Dec 07 01:46:45 localhost.localdomain systemd[1]: Started The Apache HTTP Serv>
Dec 07 01:46:45 localhost.localdomain httpd[1152]: Server configured, listenin>
lines 1-22/22 (END)
```

Allow HTTP and HTTPS traffic through the firewall.

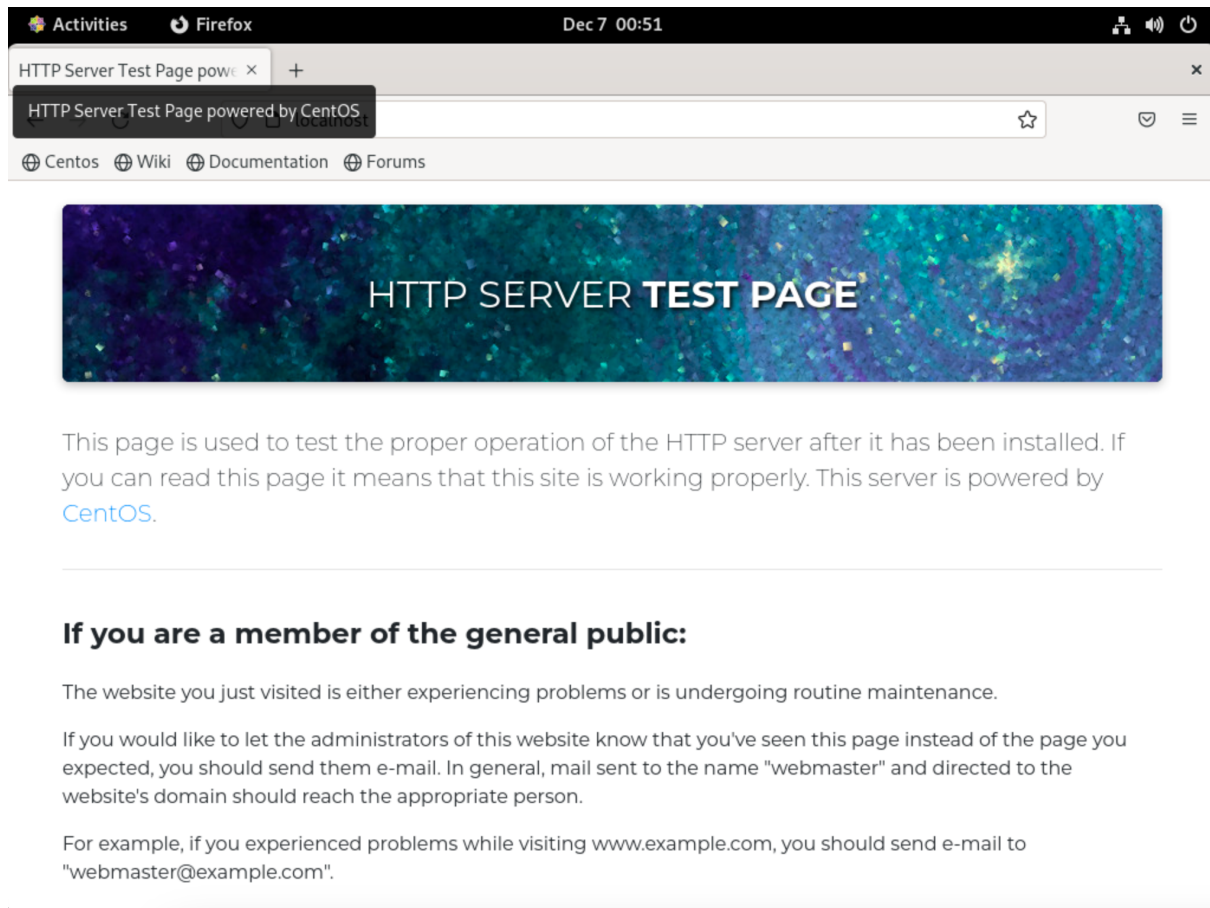
```
sudo firewall-cmd --permanent --zone=public --add-service=http
```

```
sudo firewall-cmd --permanent --zone=public --add-service=https
```

Reload the firewall to apply the changes

```
sudo firewall-cmd --reload
```

Now open your browser on <http://localhost> and you should see something like the below image



## Step 2. Install MySQL

Install MySQL

```
sudo dnf install mysql-server -y
```

Start and enable the service (same as we did with Apache)

```
sudo systemctl start mysqld
```

```
sudo systemctl enable mysqld
```

Check the status of MySQL

```
systemctl status mysqld
```

```

• mysqld.service - MySQL 8.0 database server
   Loaded: loaded (/usr/lib/systemd/system/mysqld.service; enabled; vendor preset: disabled)
   Active: active (running) since Wed 2022-12-07 01:46:45 CET; 52min left
     Process: 999 ExecStartPre=/usr/libexec/mysql-check-socket (code=exited, status=0/SUCCESS)
     Process: 1044 ExecStartPre=/usr/libexec/mysql-prepare-db-dir mysqld.service (code=exited, status=0/SUCCESS)
    Main PID: 1090 (mysqld)
      Status: "Server is operational"
        Tasks: 39 (limit: 10566)
       Memory: 108.8M
          CPU: 3.988s
       CGroup: /system.slice/mysqld.service
               └─1090 /usr/libexec/mysqld --basedir=/usr

Dec 07 01:46:44 localhost systemd[1]: Starting MySQL 8.0 database server...
Dec 07 01:46:45 localhost.localdomain systemd[1]: Started MySQL 8.0 database server.

```

Secure MySQL (pick the default options)

```
sudo mysql_secure_installation
```

## Step 3. Install PHP

Install PHP

```
sudo dnf install php -y
```

Check PHP version

```
php --version
```

```

[igli@localhost ~]$ php --version
PHP 8.0.20 (cli) (built: Jun  8 2022 00:33:06) ( NTS gcc aarch64 )
Copyright (c) The PHP Group
Zend Engine v4.0.20, Copyright (c) Zend Technologies
    with Zend OPcache v8.0.20, Copyright (c), by Zend Technologies
[igli@localhost ~]$

```

Reload the webserver to accept PHP requests.

```
sudo systemctl restart httpd
```

## Step 4. Test PHP

Edit the PHP configuration file

```
sudo vi /var/www/html/info.php
```

Add the following lines

```
<?php  
    echo("hi");  
?>
```

I hope you got out of VIM 🙄

Go to your browser and open <http://localhost/info.php>

