

Home > Guide > CentOS > How To Install Apache on CentOS 8

[CentOS](#) > [Guide](#)

How To Install Apache on CentOS 8

written by Schkn



This tutorial explains how to install Apache on CentOS 8 and how to configure virtual hosts easily

From all the web servers available, the [Apache Web Server](#) is probably one of the most popular ones.

Developed by the **Apache Foundation**, Apache is so popular that it runs 70% of all the web servers online.

It is a reliable and secure web server that every system administrator should know.

Apache is part of the **LAMP** stack that stands for **Linux, Apache, MariaDB** and **PHP** and it is commonly used by companies to host internal and external websites.



Today, we are going to see how **you can install Apache on CentOS 8.**

Table of Contents



1. Prerequisites
2. Installing Apache on CentOS 8
3. Start the Apache Web Server
4. Test your Apache Web Server
5. Configuring your CentOS 8 firewall for Apache
6. Manage your Apache Web Server on CentOS 8
7. Creating Virtual Hosts for the Apache Web Server
 - 7.1. Create the domain folders
 - 7.2. Create your first HTML page
 - 7.3. Creating a virtual host file on CentOS 8
 - 7.4. Update your SELinux firewall rules
 - 7.5. Restart your Apache server
8. Conclusion

Prerequisites

In order to install the Apache Web server, you are going to need [sudo privileges on CentOS 8.](#)

To check if you have sudo privileges on your host, run the following command

```
$ sudo -l
```

```
User devconnected may run the following commands on localhost:  
(ALL) ALL
```

Make sure that your [firewall](#) is running correctly on your CentOS 8 instance.

```
$ sudo systemctl status firewalld
```



```
[antoine@localhost ~]$ sudo systemctl status firewalld
● firewalld.service - firewalld - dynamic firewall daemon
  Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; vendor preset: enabled)
  Active: active (running) since Wed 2019-10-02 17:32:54 EDT; 2min 8s ago
    Docs: man:firewalld(1)
 Main PID: 835 (firewalld)
   Tasks: 2 (limit: 26213)
  Memory: 29.6M
   CGroup: /system.slice/firewalld.service
           └─835 /usr/libexec/platform-python -s /usr/sbin/firewalld --nofork --nopid

Oct 02 17:32:50 localhost.localdomain systemd[1]: Starting firewalld - dynamic firewall daemon
Oct 02 17:32:54 localhost.localdomain systemd[1]: Started firewalld - dynamic firewall daemon
[antoine@localhost ~]$
```

Installing Apache on CentOS 8

In order to install the Apache Web Server, first update your local packages by running the following command:

```
$ sudo yum update
```

When your update is done, you are ready to install Apache.

```
$ sudo yum install httpd
```

Start the Apache Web Server

In order to start your Apache Web server, run the following command:

```
$ sudo systemctl start httpd
```

Make sure to enable your httpd service in order for it to start on system boot.

```
$ sudo systemctl enable httpd
```



```
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service -> /usr/lib/systemd/system/httpd.service
```

Finally, make sure that your Apache Web server is running correctly by running a simple status command.

```
$ sudo systemctl status httpd
```

```
[antoine@localhost ~]$ sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
   Active: active (running) since Wed 2019-10-02 17:39:13 EDT; 2min 2s ago
     Docs: man:httpd.service(8)
  Main PID: 3779 (httpd)
    Status: "Running, listening on: port 80"
   Tasks: 213 (limit: 26213)
  Memory: 24.8M
   CGroup: /system.slice/httpd.service
           └─3779 /usr/sbin/httpd -DFOREGROUND
             └─3780 /usr/sbin/httpd -DFOREGROUND
               └─3784 /usr/sbin/httpd -DFOREGROUND
                 └─3785 /usr/sbin/httpd -DFOREGROUND
                   └─3786 /usr/sbin/httpd -DFOREGROUND

Oct 02 17:39:13 localhost.localdomain systemd[1]: Starting The Apache HTTP Server...
Oct 02 17:39:13 localhost.localdomain httpd[3779]: AH00558: httpd: Could not reliably determine the
Oct 02 17:39:13 localhost.localdomain httpd[3779]: Server configured, listening on: port 80
Oct 02 17:39:13 localhost.localdomain systemd[1]: Started The Apache HTTP Server.
lines 1-19/19 (END)
```

You can also check the version of your web server in order to make sure that it was installed correctly.

```
$ httpd -v
```



Test your Apache Web Server

In order to test that the Apache Web Server is working properly, you will first need **to find your current IP**.

To get your IP address, run the following command

```
$ hostname -I | awk '{print $1}'  
192.168.178.27
```

By default, **Apache will run on the port 80 on your server.**

In order to check that Apache is running correctly, you can either run a simple curl command or you can check your web browser.

```
$ curl <ip_address>:80
```



This is the default page that you should see if you browse to the correct URL as discussed earlier.

This is just a standard presentation page with some basic instructions sitting on it. If you are new to web server administration, you can have a read at the paragraphs presented on this page.

Configuring your CentOS 8 firewall for Apache

In order for the web server to be available by external hosts, you are going to need to open specific ports on the firewall.



By default, CentOS uses firewalld which is a firewall that runs as a daemon on your host and provides basic it.

In order to accept HTTP and HTTPS connections, you are going to open the ports 80 and 443 on your server

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

Make sure that the services are correctly authorized by running the following command

```
$ sudo firewall-cmd --list-all | grep services

services : cockpit dhcpv6-client http https ssh
```

Congratulations!

You successfully installed Apache on CentOS 8.

Your server is now accepting incoming HTTP requests to your web server.



Manage your Apache Web Server on CentOS 8

In order to manage your Apache Web Server, you have multiple options.

In order to restart Apache on CentOS 8, type the following command

```
$ sudo systemctl restart httpd
```

In order to stop the web server, run the following command

```
$ sudo systemctl stop httpd
```

If you want to start it again, you can run

```
$ sudo systemctl start httpd
```

If you made some Apache configuration modifications, you can reload your server instead of completely res

If you modified one website, it would restart the other unmodified websites which is obviously something th
to avoid.

```
$ sudo systemctl reload httpd
```

If you want your web server to start at boot (which is recommended in case you update your server and for
restart your web server), you have to run

```
$ sudo systemctl enable httpd
```



On the other hand, if you want to prevent your web server from starting at boot, run

```
$ sudo systemctl disable httpd
```

Creating Virtual Hosts for the Apache Web Server

Creating virtual hosts on Apache is very useful.

Instead of storing one single website on your web server, you can define multiple ones with a custom set of rules. Each website can have its own set of policy rules, its own SSL keys and its own redirections.

It makes website management easier and it decouples websites one from another.

In order to create virtual hosts for Apache on CentOS 8, we are going to take the example of a website called "website.com".

Create the domain folders

By default, your files are stored in "/var/www/html" on your host.



```
/var/www/  
├─ html
```

This path is also called “DocumentRoot” and it is used as the default entrypoint for your website on the server.

In order to store multiple websites, you are going to create multiple folders in your “/var/www/” and you are going to modify your httpd configuration file to point to those directories.

In this case, let’s create the following directory structure.

```
/var/www/  
├─ html  
├─ website.com  
  └─ html  
  └─ log
```

Create dedicated folders for your new website.

```
$ sudo mkdir -p /var/www/website.com/html
```

Make sure to create a file in order to store the log files of your website.

```
$ sudo mkdir -p /var/www/website.com/log
```

Create your first HTML page

Now that your folders are ready, you can create your first HTML page to be displayed to your users.

Create a new HTML file named “index.html”, and paste the following content inside.



```
$ cd /var/www/website.com/html
$ sudo vi index.html

<!doctype html>

<html lang="en">
<head>
  <meta charset="utf-8">

  <title>Website.com</title>
  <meta name="description" content="Website.com Homepage">
  <meta name="author" content="devconnected">
</head>

<body>
  This is the index page of website.com, welcome!
</body>
</html>
```

Save your file, and exit your editor.

Now that your website is ready, we can publish your website by creating a virtual host file.

Creating a virtual host file on CentOS 8

As discussed earlier, in order to publish your website, we are going to create a virtual host file.

Similarly to NGINX, we are going to create two directories :

- **sites-available** : that contains the entire list of websites available on our web server. Those websites are not necessarily enabled by default which is the purpose of the second folder.
- **sites-enabled** : that contains the list of websites that are accessible to users. A symbolic link will be created in this directory in order to activate and deactivate websites on demand.

First, create those two directories on your host.



```
$ sudo mkdir -p /etc/httpd/sites-enabled /etc/httpd/sites-available
```

Now that your folders are created, edit your default Apache configuration and find the following line.

```
$ sudo vi /etc/httpd/conf/httpd.conf

# Load config files in the "/etc/httpd/conf.d" directory if any
IncludeOptional conf.d/*.conf
```

Replace this line with the following line.

```
IncludeOptional sites-enabled/*.conf
```

Now that your Apache Web Server configuration is updated, create a virtual host file for your “website.com”

```
$ sudo vi /etc/httpd/sites-available/website.com.conf
```

Paste the following configuration in it.

```
<VirtualHost *:80>
    ServerName website.com
    ServerAlias www.website.com
    DocumentRoot /var/www/website.com/html
    ErrorLog /var/www/website.com/log/error.log
    CustomLog /var/www/website.com/log/requests.log combined
</VirtualHost>
```

Save your file, and make sure that your configuration is okay by running the following command.



```
$ sudo apachectl configtest
Syntax OK
```

Now, your website won't be directly available just by restarting your Apache Web server, it needs to be located in the sites-enabled folder.

To link it to the sites-enabled directory, create a symbolic link using this command.

```
$ sudo ln -s /etc/httpd/sites-available/website.com.conf /etc/httpd/sites-enabled/website.com.conf
```

Update your SELinux firewall rules

By default, SELinux is configured to work with default Apache configuration folders.

As you created custom ones, you need to enable them in SELinux.

In order for the Apache Web Server to start correctly, you need to modify your Apache policy to include custom directories.

To enable custom directories, run the following command

```
$ sudo setsebool -P httpd_unified 1
```

Restart your Apache server

Now that everything is correctly set up, it is time for you to restart your server to see your changes.

```
$ sudo systemctl restart httpd
```



Head over to the URL that you specified in your virtual hosts file, and you should see your website up and running.

Conclusion

In this tutorial, you learnt how you can install Apache on CentOS 8.

You also learnt how you can set up virtual hosts in order to store many different websites on a single Apache server.

If you are curious about system administration, we have a complete category dedicated to it on the website [^ e](#)

to check it out!

APACHE

APACHE CENTOS

APACHE WEB SERVER

CENTOS

CENTOS8

VIRTUAL HOSTS

 2 comments

 0

  



SCHKN

previous post

How To Add and Delete Users on CentOS 8

4 Ways to Transfer Files and Dire

YOU MAY ALSO LIKE

**How To Change Root Password
on Debian 10**

**How To Change Root Password
on CentOS 8**

**How To Install and I
Server on..**

2 COMMENTS

USER ADMINISTRATION COMPLETE GUIDE ON LINUX – DEVCONNECTED

[...] on your host. You may have seen that specific accounts are used for mail administration, or simple Apache server. Those accounts are often given restricted permissions and they are prev accessing an [...]

LUIS

IncludeOptional conf.d/*.conf, esto no lo he cambiado, si lo cambio según dice la publicación, n



LEAVE A COMMENT

Your Comment

Name*

Email*

Website

Save my name, email, and website in this browser for the next time I comment.

SUBMIT

Subscribe Newsletter

Subscribe to our newsletter for new blog posts about software engineering. Let's stay updated!

Email...

SUBSCRIBE

 TWITTER

 LINKEDIN

 EMAIL

Copyright © 2019 Antoine Solnichkin for devconnected. A

