

Apache HTTP Server Installation and Configuration on CentOS 7

Introduction

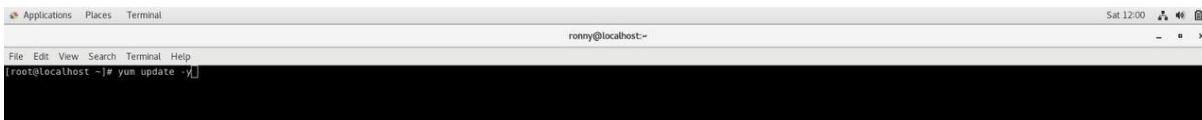
Apache HTTP Server, commonly referred to as Apache, is a widely-used open-source web server software. In this guide, I will walk you through the step-by-step process of installing and configuring Apache on a CentOS 7 server.

Apache HTTP server

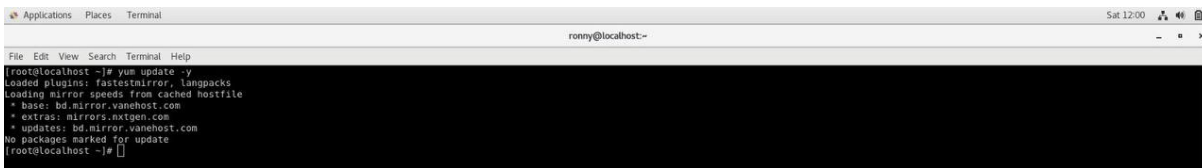
httpd is the Apache HyperText Transfer Protocol (HTTP) server program. It is designed to be run as a standalone daemon process. When used like this it will create a pool of child processes or threads to handle requests.

Step 1: Update CentOS

#yum update -y



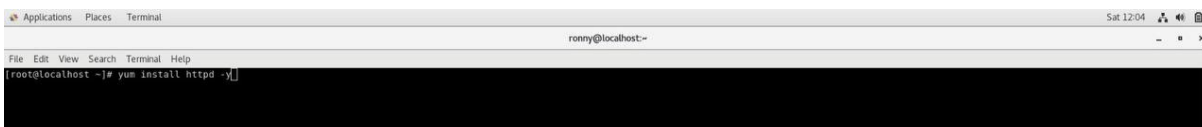
```
ronny@localhost:~$ yum update -y
```



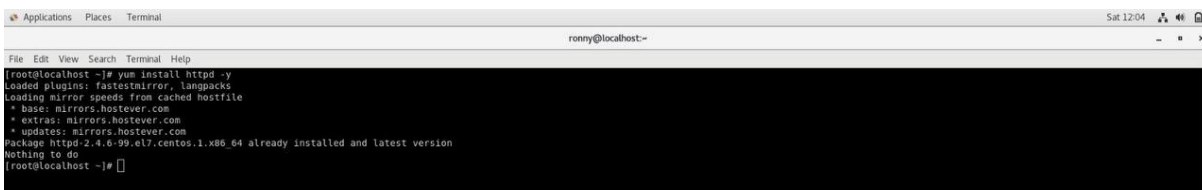
```
ronny@localhost:~$ yum update -y
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: bd.mirror.vanehost.com
 * extras: mirrors.extgen.com
 * updates: bd.mirror.vanehost.com
No packages marked for update
ronny@localhost:~$
```

Step 2: Install Apache HTTP Server

#yum install httpd -y



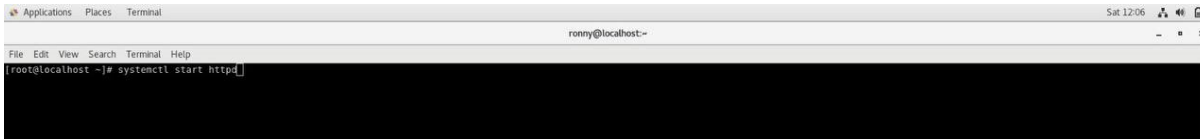
```
ronny@localhost:~$ yum install httpd -y
```



```
ronny@localhost:~$ yum install httpd -y
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: mirrors.hostever.com
 * extras: mirrors.hostever.com
 * updates: mirrors.hostever.com
Package httpd-2.4.6-99.el7.centos.1.x86_64 already installed and latest version
Nothing to do
ronny@localhost:~$
```

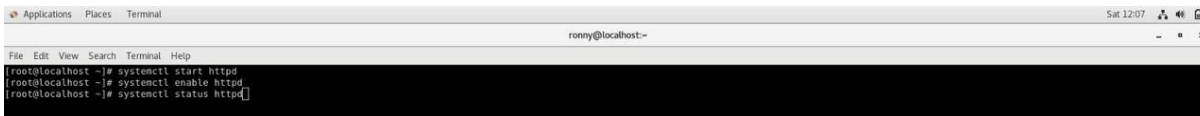
Step 3: Start and Enable Apache

#systemctl start httpd



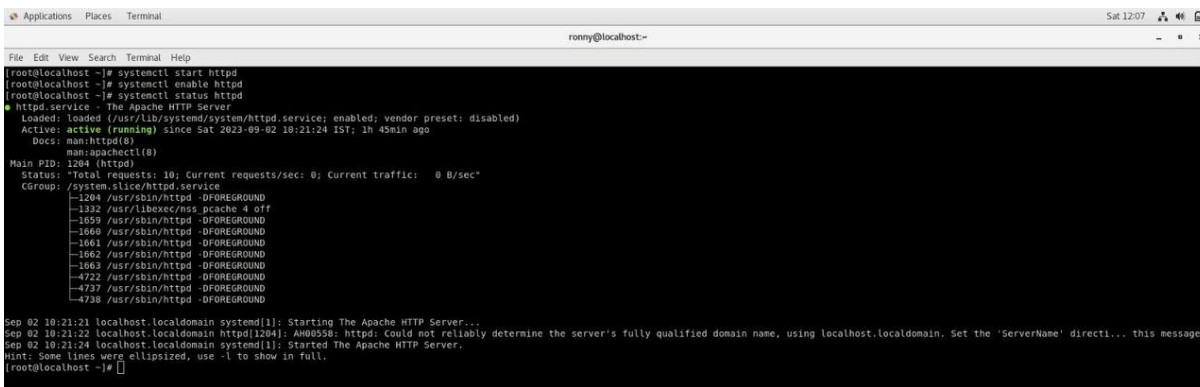
```
ronny@localhost:~$ systemctl start httpd
```

#systemctl enable httpd



```
ronny@localhost:~$ systemctl enable httpd
```

#systemctl status httpd



```
ronny@localhost:~$ 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 Sat 2023-09-02 10:21:24 IST; 1h 45min ago
     Docs: man:httd(8)
           man:apachectl(8)
   Main PID: 1204 (httpd)
   Status: "Total requests: 10; Current requests/sec: 0; Current traffic: 0 B/sec"
   CGroup: /system.slice/httpd.service
           └─1204 /usr/sbin/httpd -DFOREGROUND
             1332 /usr/libexec/ssl/openssl s_client -connect 127.0.0.1:80
             1659 /usr/sbin/httpd -DFOREGROUND
             1660 /usr/sbin/httpd -DFOREGROUND
             1661 /usr/sbin/httpd -DFOREGROUND
             1662 /usr/sbin/httpd -DFOREGROUND
             1663 /usr/sbin/httpd -DFOREGROUND
             4722 /usr/sbin/httpd -DFOREGROUND
             4737 /usr/sbin/httpd -DFOREGROUND
             4738 /usr/sbin/httpd -DFOREGROUND

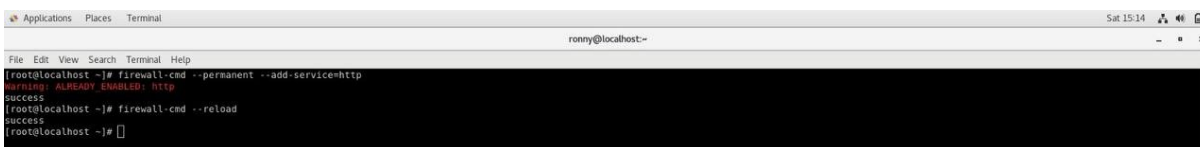
Sep 02 10:21:21 localhost.localdomain systemd[1]: Starting The Apache HTTP Server...
Sep 02 10:21:22 localhost.localdomain httpd[1204]: AH00558: httpd: Could not reliably determine the server's fully qualified domain name, using localhost.localdomain. Set the 'ServerName' directi... this message
Sep 02 10:21:24 localhost.localdomain systemd[1]: Started The Apache HTTP Server.
Hint: Some lines were ellipsized, use -l to show in full.
ronny@localhost:~$
```

Step 4: Configure Firewall

Allowing HTTP traffic (port 80) to pass through.

#firewall-cmd - -permanent - -add-service=http

#firewall-cmd - -reload



```
ronny@localhost:~$ firewall-cmd --permanent --add-service=http
success
ronny@localhost:~$ firewall-cmd --reload
success
ronny@localhost:~$
```

Step 5: Create HTML, CSS, JavaScript Pages

index.html

```
index.html - DevOps - Visual Studio Code
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4
5 <script src="javaS.js"></script>
6
7 <meta charset="UTF-8">
8 <meta name="viewport" content="width=device-width, initial-scale=1.0">
9 <link rel="stylesheet" href="styles.css">
10 <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.15.3/css/all.min.css">
11
12 <title>DevOps Training Institute</title>
13 </head>
14 <body>
15 <header>
16 <nav>
17 <div class="logo">CloudBlitz</div>
18 <ul class="nav-links">
19 <li><a href="#home">Home</a></li>
20 <li><a href="#courses">Courses</a></li>
21 <li><a href="#about">About Us</a></li>
22 <li><a href="#contact">Contact</a></li>
23 </ul>
24 </nav>
25 </header>
26 <section id="home" class="hero">
27 <div class="hero-content">
28 <h1>It's time to take your Career to the next level</h1>
29 <p>Get hired first, pay later Your dream job is just a step away, Join FDEC now and secure your future</p>
30 <a href="#courses" class="btn">Explore courses</a>
31 </div>
32 </section>
33 <section id="courses" class="course-section">
34 <h2></h2>
35 <div class="course-card">
36 <div class="course-img">
```

javaScript.js

```
javaS.js - DevOps - Visual Studio Code
1 // JavaScript for all pages
2 const currentPage = window.location.pathname.split('/').pop();
3 const navLinks = document.querySelectorAll('.nav-links a');
4
5 navLinks.forEach(link => {
6   if (link.getAttribute('href') === currentPage) {
7     link.classList.add('active');
8   }
9 });
10
11 // JavaScript for chapter collapsible content
12 const chapterHeaders = document.querySelectorAll('.course-chapter h2');
13
14 chapterHeaders.forEach(header => {
15   header.addEventListener('click', () => {
16     const content = header.nextElementSibling;
17     content.classList.toggle('expanded');
18   });
19 });
20
21 // JavaScript for smooth scrolling
22 const smoothScrollLinks = document.querySelectorAll('a[href~="#"]');
23
24 smoothScrollLinks.forEach(link => {
25   link.addEventListener('click', (e) => {
26     e.preventDefault();
27     const target = document.querySelector(link.getAttribute('href'));
28     if (target) {
29       target.scrollIntoView({ behavior: 'smooth' });
30     }
31   });
32 });
33
```

styles.css

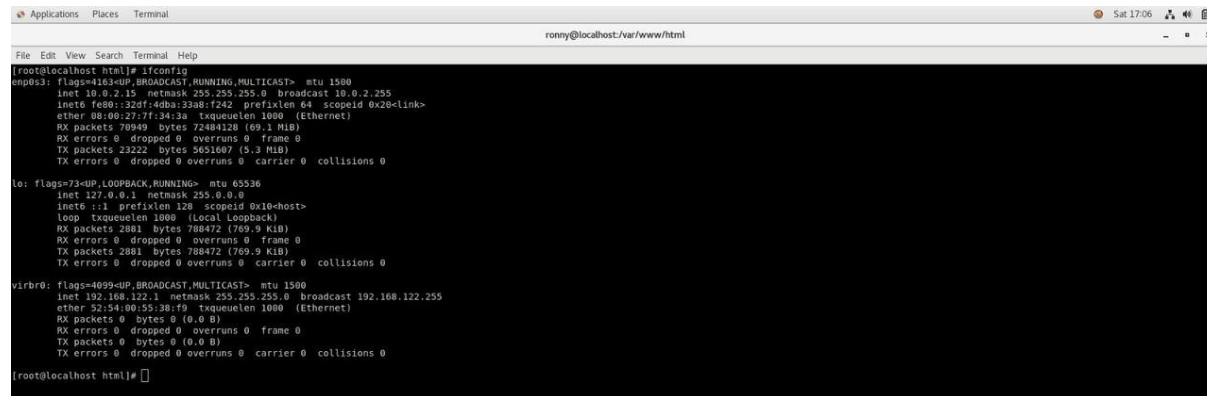
```
styles.css - DevOps - Visual Studio Code
1 /* Reset default margin and padding */
2 body, h1, h2, h3, p {
3   margin: 0;
4   padding: 0;
5 }
6
7 body {
8   font-family: 'Roboto', sans-serif;
9 }
10
11 /* Header */
12 header {
13   background-color: #ffff;
14   box-shadow: 0px 1px 5px #000000;
15   position: fixed;
16   width: 100%;
17   z-index: 100;
18 }
19
20 nav {
21   display: flex;
22   justify-content: space-between;
23   align-items: center;
24   padding: 20px;
25 }
26
27 .logo {
28   font-size: 24px;
29   font-weight: bold;
30 }
31
32 .nav-links {
33   list-style: none;
34   display: flex;
35   gap: 20px;
36 }
37
```

Move our Create your index.html, javaScript.js, styles.css to **/var/www/html** Location.

Step 6: Access Web Page

To get server's IP address use.

#ifconfig

A terminal window titled 'ronny@localhost: /var/www/html' showing the output of the 'ifconfig' command. The output displays details for three network interfaces: 'enp0s3' (ethernet), 'lo' (loopback), and 'virbr0' (bridge). Each interface shows its IP address, netmask, broadcast address, and various statistics like RX/TX packets and errors.

```
[root@localhost html]# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::320f:4dba:33a8:f242 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:7f:3a:3a txqueuelen 1000 (Ethernet)
    RX packets 70949 bytes 72484128 (69.1 MiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 23222 bytes 9651887 (9.3 MiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

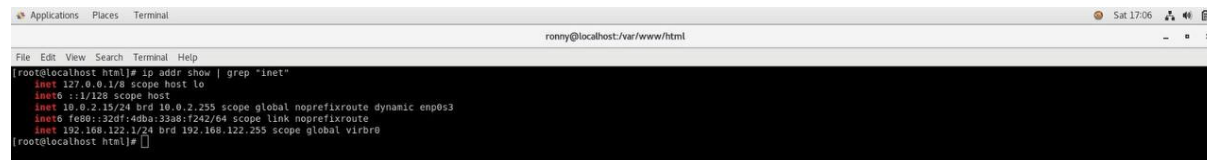
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 2881 bytes 788472 (769.9 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 2881 bytes 788472 (769.9 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

virbr0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    inet 192.168.122.1 netmask 255.255.255.0 broadcast 192.168.122.255
    ether 52:54:00:15:58:79 txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

[root@localhost html]#
```

Or

#ip addr show | grep "inet"

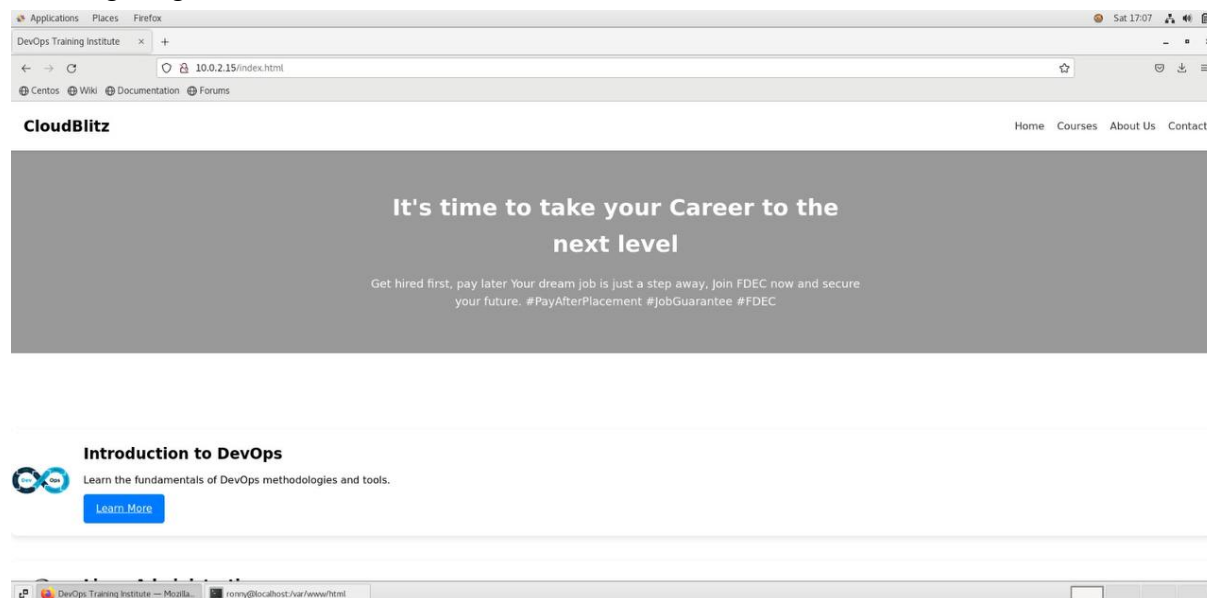
A terminal window titled 'ronny@localhost: /var/www/html' showing the output of the 'ip addr show | grep "inet"' command. The output lists the IP addresses for the 'lo', 'enp0s3', and 'virbr0' interfaces in a more concise format than ifconfig.

```
[root@localhost html]# ip addr show | grep "inet"
    inet 127.0.0.1/8 scope host lo
    inet6 ::1/128 scope host
    inet 10.0.2.15/24 brd 10.0.2.255 scope global noprefixroute dynamic enp0s3
    inet6 fe80::320f:4dba:33a8:f242/64 scope link noprefixroute
    inet 192.168.122.1/24 brd 192.168.122.255 scope global virbr0

[root@localhost html]#
```

After getting the ip address now we can see the Web page on Internet Browser.

Landing Page-



Courses-

ApplicationsPlacesFirefox

DevOps Training Institute x +

← → ↻ 🔒 10.0.2.15/index.html ☆

Centos Wiki Documentation Forums

CloudBlitz

Home Courses About Us Contact



Introduction to DevOps
Learn the fundamentals of DevOps methodologies and tools.
[Learn More](#)



Linux Administration
Master the skills needed to administer Linux systems effectively.
[Learn More](#)



Amazon Web Services (AWS)
Explore cloud computing with hands-on experience on the AWS platform.
[Learn More](#)

DevOps Training Institute — Mozilla...romy@localhost:var/www/html

About Us-

ApplicationsPlacesFirefox

DevOps Training Institute x +

← → ↻ 🔒 10.0.2.15/index.html ☆

Centos Wiki Documentation Forums

CloudBlitz

Home Courses About Us Contact



Amazon Web Services (AWS)
Explore cloud computing with hands-on experience on the AWS platform.
[Learn More](#)

About Us

We are a leading DevOps training institute dedicated to providing high-quality training...

DevOps Training Institute — Mozilla...romy@localhost:var/www/html

Contact Us-

ApplicationsPlacesFirefox

DevOps Training Institute x +

← → ↻ 🔒 10.0.2.15/index.html ☆

Centos Wiki Documentation Forums

CloudBlitz

Home Courses About Us Contact

Contact Us

Have questions? Get in touch with us!

Your Name

Your Email

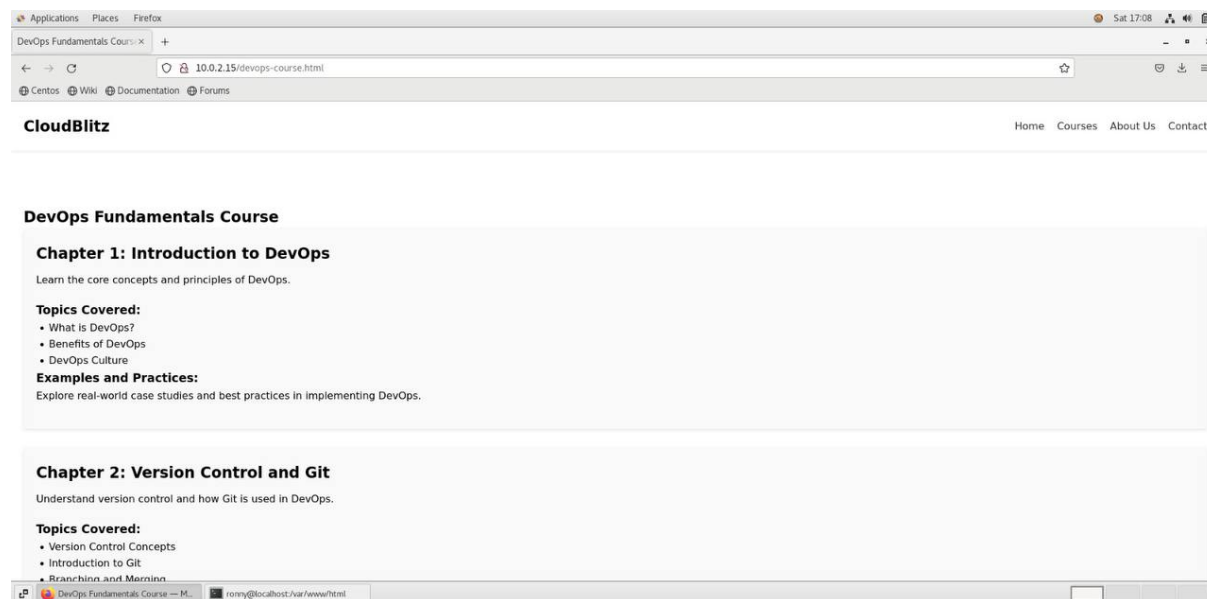
Your Message

Send

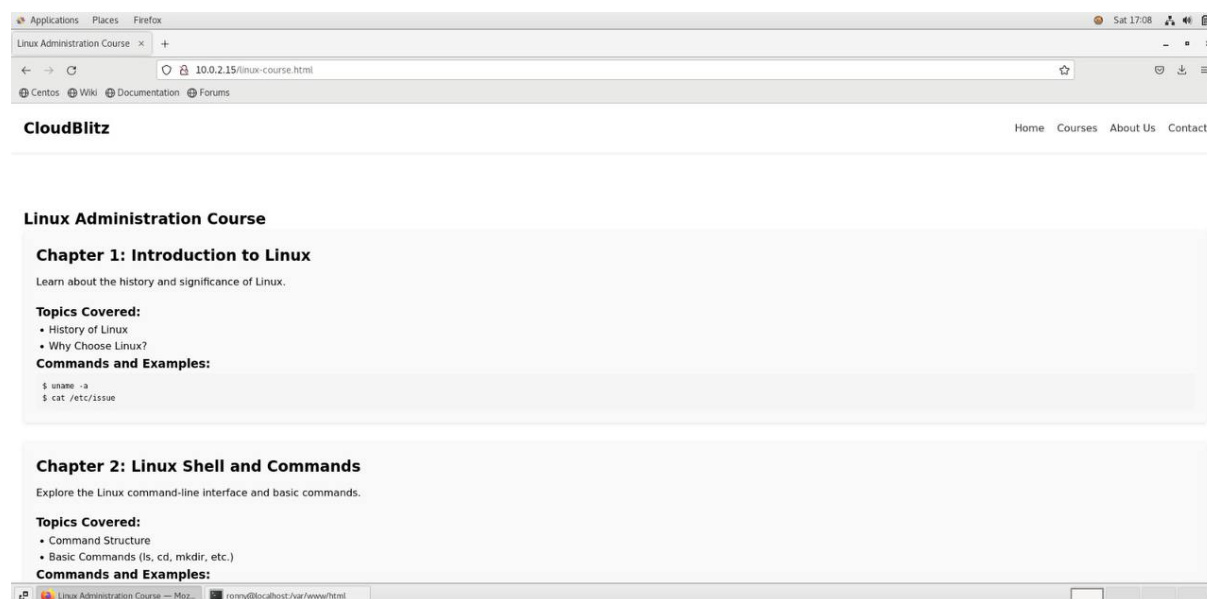
© 2023 DevOps Institute. All rights reserved.

DevOps Training Institute — Mozilla...romy@localhost:var/www/html

DevOps Course Page-



Linux Course Page-



Conclusion

Completed the installation and basic configuration of Apache HTTP Server on CentOS 7. Apache is a versatile web server capable of hosting multiple websites and applications.

Abhijeet Ray
02-09-2023

