

## Hosting a Web Server

### Prerequisite:

- Login to your EC2 instance
1. Once you have logged in to your EC2 instance, you need to install **Apache HTTP Server** on your EC2 instance. For this, you need to change the user. Enter the command **sudo su** to change the user to root user.

```
[ec2-user@ip-172-31-87-124 ~]$ sudo su  
[root@ip-172-31-87-124 ec2-user]#
```

2. Once you have changed the user to root user, you need to run the following command to install the **Apache HTTP server**:

```
yum install httpd -y
```

Type in the above command and press **Enter**. This will install the **Apache HTTP Server**.

```
(5/9): httpd-filesystem-2.4.46-1.amzn2.noarch.rpm | 23 KB 00:00:00
(6/9): httpd-tools-2.4.46-1.amzn2.x86_64.rpm | 87 KB 00:00:00
(7/9): httpd-2.4.46-1.amzn2.x86_64.rpm | 1.3 MB 00:00:00
(8/9): mailcap-2.1.41-2.amzn2.noarch.rpm | 31 KB 00:00:00
(9/9): mod_http2-1.15.14-2.amzn2.x86_64.rpm | 147 KB 00:00:00
-----
Total | 8.8 MB/s | 1.8 MB 00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : apr-1.6.3-5.amzn2.0.2.x86_64 1/9
  Installing : apr-util-bdb-1.6.1-5.amzn2.0.2.x86_64 2/9
  Installing : apr-util-1.6.1-5.amzn2.0.2.x86_64 3/9
  Installing : httpd-tools-2.4.46-1.amzn2.x86_64 4/9
  Installing : generic-logos-httpd-18.0.0-4.amzn2.noarch 5/9
  Installing : mailcap-2.1.41-2.amzn2.noarch 6/9
  Installing : httpd-filesystem-2.4.46-1.amzn2.noarch 7/9
  Installing : mod_http2-1.15.14-2.amzn2.x86_64 8/9
  Installing : httpd-2.4.46-1.amzn2.x86_64 9/9
  Verifying : apr-util-1.6.1-5.amzn2.0.2.x86_64 1/9
  Verifying : httpd-filesystem-2.4.46-1.amzn2.noarch 2/9
  Verifying : apr-util-bdb-1.6.1-5.amzn2.0.2.x86_64 3/9
  Verifying : httpd-tools-2.4.46-1.amzn2.x86_64 4/9
  Verifying : mod_http2-1.15.14-2.amzn2.x86_64 5/9
  Verifying : apr-1.6.3-5.amzn2.0.2.x86_64 6/9
  Verifying : mailcap-2.1.41-2.amzn2.noarch 7/9
  Verifying : generic-logos-httpd-18.0.0-4.amzn2.noarch 8/9
  Verifying : httpd-2.4.46-1.amzn2.x86_64 9/9

Installed:
  httpd.x86_64 0:2.4.46-1.amzn2

Dependency Installed:
  apr.x86_64 0:1.6.3-5.amzn2.0.2          apr-util.x86_64 0:1.6.1-5.amzn2.0.2          apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2
  generic-logos-httpd.noarch 0:18.0.0-4.amzn2  httpd-filesystem.noarch 0:2.4.46-1.amzn2          httpd-tools.x86_64 0:2.4.46-1.amzn2
  mailcap.noarch 0:2.1.41-2.amzn2          mod_http2.x86_64 0:1.15.14-2.amzn2

Complete!
[root@ip-172-31-87-124 ec2-user]#
```

3. Next, you need to start this service. To do so you need to enter the following command:

```
service httpd start
```

To check whether the service has started or not, you can use the following command:

```
service httpd status
```

If you get the status as **active (running)** that means the service has successfully started.

```
[root@ip-172-31-87-124 ec2-user]# service httpd start
Redirecting to /bin/systemctl start httpd.service
[root@ip-172-31-87-124 ec2-user]# service httpd status
Redirecting to /bin/systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)
   Active: active (running) since Thu 2021-01-14 14:21:49 UTC; 7s ago
     Docs: man:httpd.service(8)
  Main PID: 32558 (httpd)
    Status: "Processing requests..."
    CGroup: /system.slice/httpd.service
            └─32558 /usr/sbin/httpd -DFOREGROUND
              └─32559 /usr/sbin/httpd -DFOREGROUND
                └─32560 /usr/sbin/httpd -DFOREGROUND
                  └─32561 /usr/sbin/httpd -DFOREGROUND
                    └─32562 /usr/sbin/httpd -DFOREGROUND
                      └─32563 /usr/sbin/httpd -DFOREGROUND

Jan 14 14:21:49 ip-172-31-87-124.ec2.internal systemd[1]: Starting The Apache HTTP Server...
Jan 14 14:21:49 ip-172-31-87-124.ec2.internal systemd[1]: Started The Apache HTTP Server.
[root@ip-172-31-87-124 ec2-user]#
```

4. Enter the following command to change the directory. You will be creating an **HTML** file in this directory.

```
cd /var/www/html
```

Type the above command and press **Enter**.

5. Now to create an HTML file, you would need to enter the following command:

```
vi index.html
```

This will open **Vim**, a text editor.

6. Press **i** to enter into insert mode in this editor. Copy and paste the following code in this editor.


```
<html>
<body>
<h1>
Welcome to Upgrad!!
</h1>
</body>
</html>
```




Instance: i-0e46f8a1adc57cf5a (CloudComupting)


Details | **Security** | Networking | Storage | Status Checks | Monitoring | Tags

▼ Security details

IAM Role	Owner ID
-	 360448222316

IAM Role	Owner ID
-	 360448222316

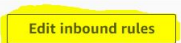
**Security groups**

 sg-0e2952e0371d49725 (launch-wizard-11)

▼ Inbound rules

10. A new page will appear. On this page, you need to edit the inbound rules. Click on the **Edit inbound rules** button.

Inbound rules | Outbound rules | Tags

**Inbound rules** 

Type	Protocol	Port range	Source	Description - optional
SSH	TCP	22	106.207.19.168/32	-

11. A new page will appear. On this page, you will see there is one rule for **SSH**.

Inbound rules [Info](#)

Type [Info](#) Protocol [Info](#) Port range [Info](#) Source [Info](#) Description - optional [Info](#)

SSH TCP 22 Custom

12. Click on **Add rule** and from the dropdown under **Type** section select **HTTP** and make sure that under the **Source** section the value selected is **My IP** as shown below.

**Edit inbound rules** [Info](#)

Inbound rules control the incoming traffic that's allowed to reach the instance.

**Inbound rules** [Info](#)

Type	Protocol	Port range	Source	Description - optional	
SSH	TCP	22	My IP		Delete
HTTP	TCP	80	My IP		Delete

[Add rule](#)

13. Once done click on **Save rules** button in the bottom right corner as shown below.

**Inbound rules** [Info](#)

Type	Protocol	Port range	Source	Description - optional	
SSH	TCP	22	My IP		Delete
HTTP	TCP	80	My IP		Delete

[Add rule](#)

**NOTE:** Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

Cancel [Preview changes](#) [Save rules](#)

14. Now, open your EC2 dashboard. To open your EC2 dashboard click on EC2 as shown below.

✓ Inbound security group rules successfully modified on security group (sg-0e2952e0371d49725 | launch-wizard-11)

► Details

EC2 > Security Groups > sg-0e2952e0371d49725 - launch-wizard-11

## sg-0e2952e0371d49725 - launch-wizard-11

**Details**

Security group name launch-wizard-11	Security group ID sg-0e2952e0371d49725	Description launch-wizard-11 created 2021-01-14T18:07:12.591+05:30
Owner 360448222316	Inbound rules count 2 Permission entries	Outbound rules count 1 Permission entry

15. Now select your EC2 instance and then copy the **‘Public IPv4 address’** information as shown in the screenshot.

Filter instances

Instance state: running X Clear filters

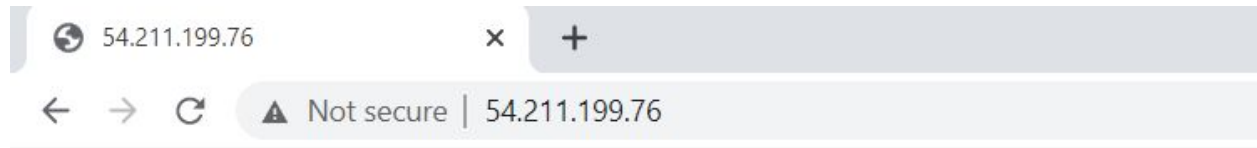
Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
Running	t2.micro	2/2 checks ...	No alarms +	us-east-1c	ec2-54-211-199-76.co...	54.211.199.76

**Details** Security Networking Storage Status Checks Monitoring Tags

▼ Instance summary Info

Instance ID i-0e46f8a1adc57cf5a (CloudComputing)	Public IPv4 address 54.211.199.76 open address	Private IPv4 addresses 172.31.87.124
Instance state Running	Public IPv4 DNS ec2-54-211-199-76.compute-1.amazonaws.com   open	Private IPv4 DNS ip-172-31-87-124.ec2.internal

16. Open a new tab in your browser and paste this address. You will get a page as shown below.



With this, you have successfully hosted a simple web server on your EC2 instance.