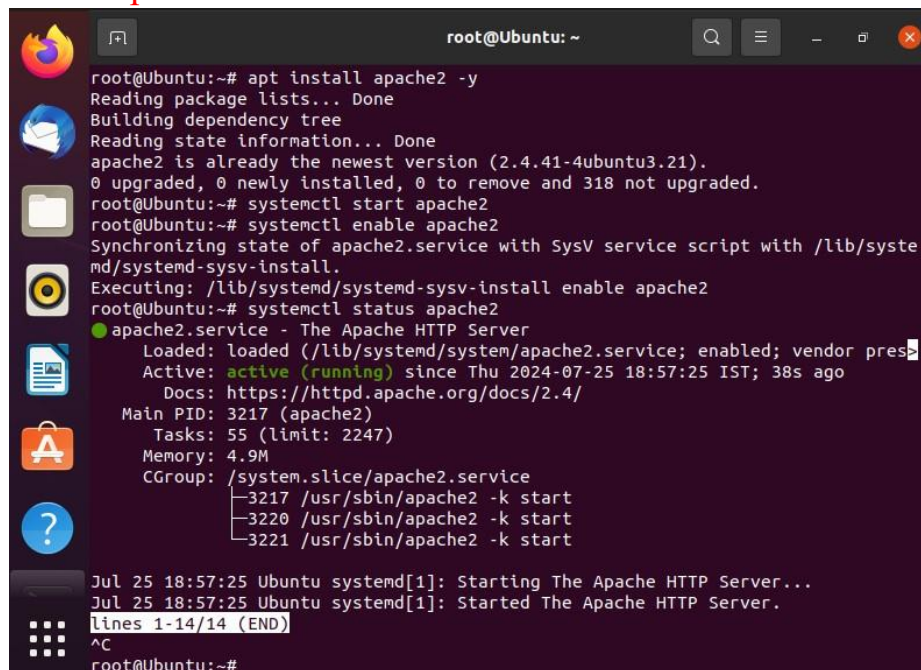


Implementing basic HTTP authentication to protect the website with a username and password

An Ubuntu 20.04 VM must be installed on your machine.

Solution:

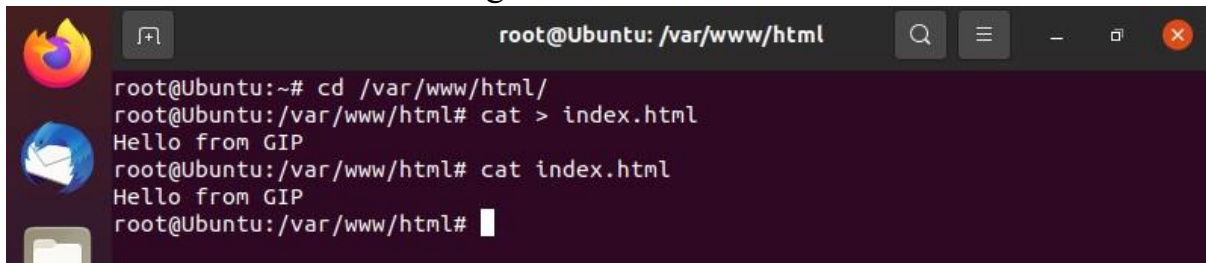
Step 1: Install the apache2 package using the `apt install apache2 -y` command. Start and enable the apache2 service using the `systemctl start apache2` and `systemctl enable apache2` commands. Check the status of the service using the `systemctl status apache2` command.

A terminal window titled 'root@Ubuntu: ~' showing the execution of several commands. The first command is 'apt install apache2 -y', which outputs that the package is already the newest version. The next two commands are 'systemctl start apache2' and 'systemctl enable apache2'. The final command is 'systemctl status apache2', which shows that the service is active (running) and provides details about its configuration, PID, tasks, memory, and CGroup. The terminal also shows system logs for the service starting.

```
root@Ubuntu:~# apt install apache2 -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
apache2 is already the newest version (2.4.41-4ubuntu3.21).
0 upgraded, 0 newly installed, 0 to remove and 318 not upgraded.
root@Ubuntu:~# systemctl start apache2
root@Ubuntu:~# systemctl enable apache2
Synchronizing state of apache2.service with SysV service script with /lib/syste
md/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable apache2
root@Ubuntu:~# systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor pres
   Active: active (running) since Thu 2024-07-25 18:57:25 IST; 38s ago
     Docs: https://httpd.apache.org/docs/2.4/
    Main PID: 3217 (apache2)
      Tasks: 55 (limit: 2247)
     Memory: 4.9M
    CGroup: /system.slice/apache2.service
            └─3217 /usr/sbin/apache2 -k start
              └─3220 /usr/sbin/apache2 -k start
                └─3221 /usr/sbin/apache2 -k start

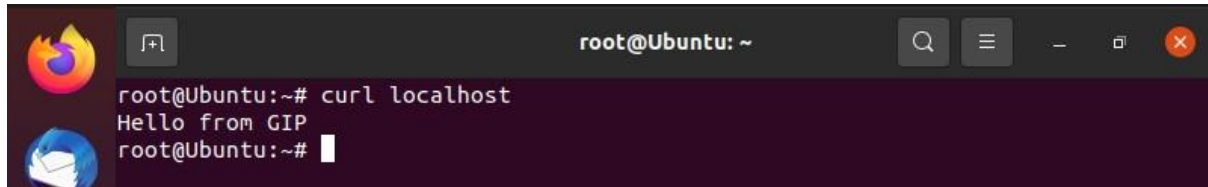
Jul 25 18:57:25 Ubuntu systemd[1]: Starting The Apache HTTP Server...
Jul 25 18:57:25 Ubuntu systemd[1]: Started The Apache HTTP Server.
lines 1-14/14 (END)
^C
root@Ubuntu:~#
```

Step 2: Go to the `/var/www/html` location and create a file named `index.html`. Add the content `"Hello from GIP"` using the `cat > index.html` command. Check whether the content is there using the `cat index.html` command.

A terminal window titled 'root@Ubuntu: /var/www/html' showing the navigation to the directory and the creation of a file. The user runs 'cd /var/www/html/' and then 'cat > index.html'. The prompt returns to the user, and they enter 'Hello from GIP'. Then, they run 'cat index.html' and the output 'Hello from GIP' is displayed.

```
root@Ubuntu:~# cd /var/www/html/
root@Ubuntu:/var/www/html# cat > index.html
Hello from GIP
root@Ubuntu:/var/www/html# cat index.html
Hello from GIP
root@Ubuntu:/var/www/html#
```

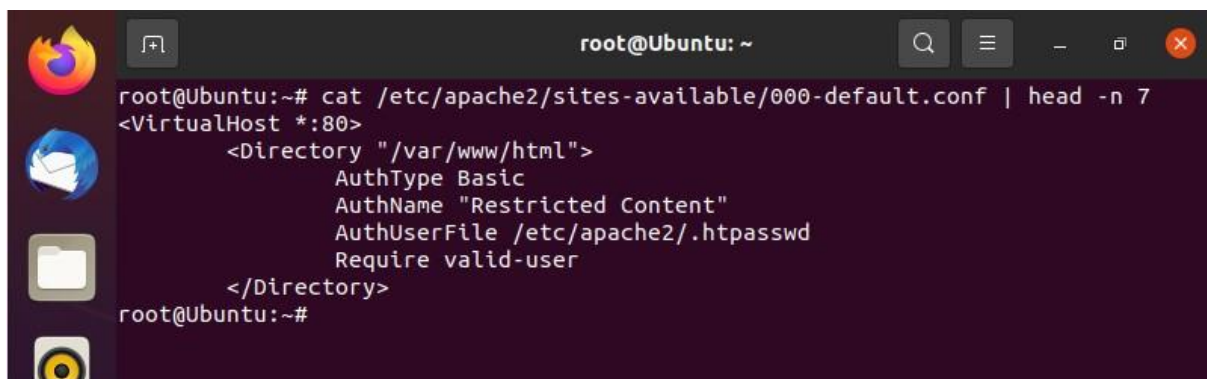
Step 3: Run the `curl localhost` command to check if a successful exchange occurs between the device and the server.

A terminal window titled 'root@Ubuntu: ~' with a search icon, a menu icon, and window control buttons. The terminal shows the command 'curl localhost' being executed, which returns the output 'Hello from GIP'. The prompt 'root@Ubuntu:~#' is visible on the line below.

```
root@Ubuntu:~# curl localhost
Hello from GIP
root@Ubuntu:~#
```

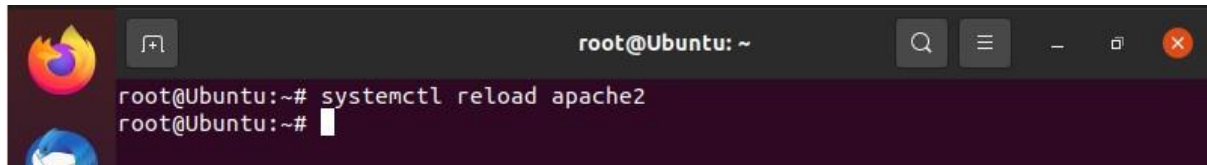
Step 4: Install the `apache2-utils` package using the `apt install apache2-utils -y` command. After that, run the `htpasswd -c /etc/apache2/.htpasswd <user_name>` command. This command creates a new password file for basic authentication in Apache and adds a user `<user_name>` to it with a password prompt. The `-c` option specifies that the file should be created if it does not already exist. Enter the password for that user when prompted.

Step 5: Add the following lines to the `/etc/apache2/sites-available/000-default.conf` file to modify the default configuration.

A terminal window titled 'root@Ubuntu: ~' with a search icon, a menu icon, and window control buttons. The terminal shows the command 'cat /etc/apache2/sites-available/000-default.conf | head -n 7' being executed. The output shows the configuration for the default virtual host, including the directory path and basic authentication settings. The prompt 'root@Ubuntu:~#' is visible at the bottom.

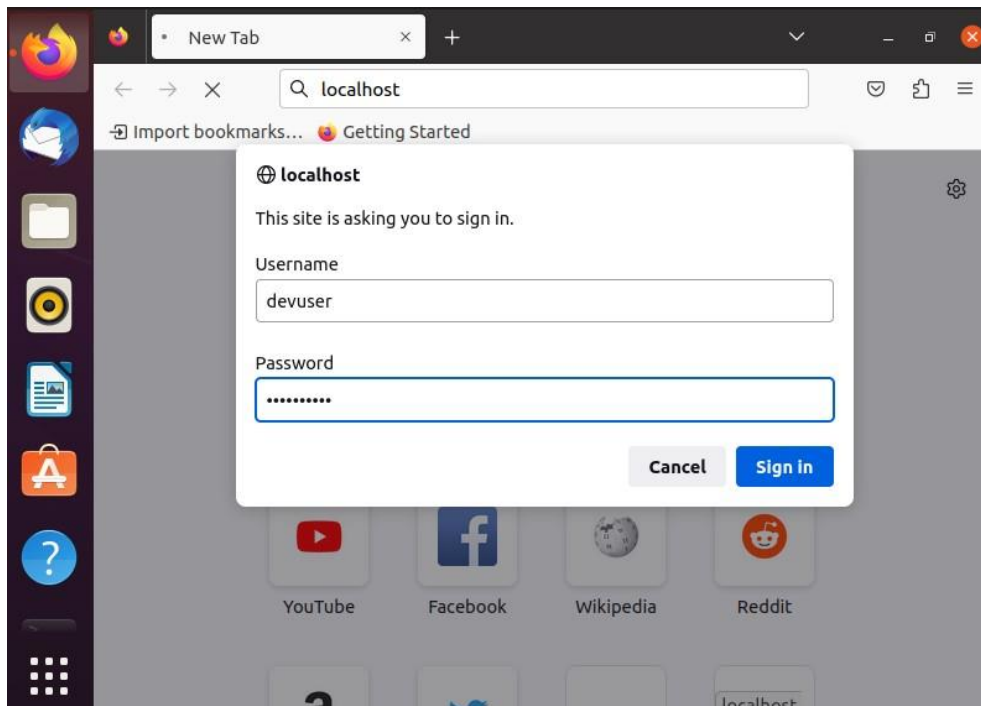
```
root@Ubuntu:~# cat /etc/apache2/sites-available/000-default.conf | head -n 7
<VirtualHost *:80>
    <Directory "/var/www/html">
        AuthType Basic
        AuthName "Restricted Content"
        AuthUserFile /etc/apache2/.htpasswd
        Require valid-user
    </Directory>
root@Ubuntu:~#
```

Step 6 - Reload the apache2 service to apply changes using the **‘systemctl reload apache2’** command

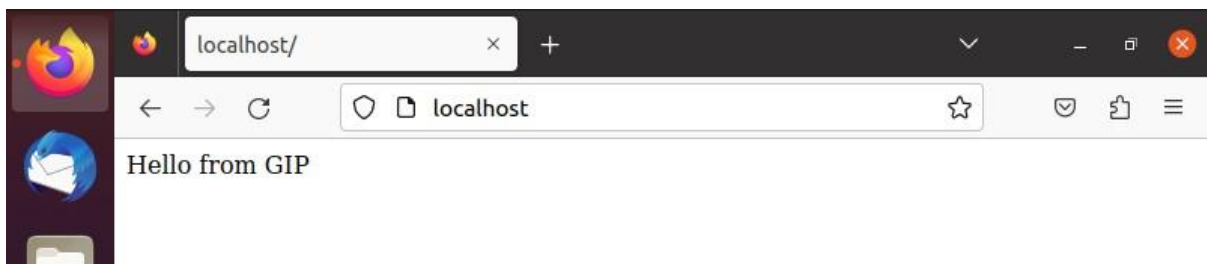


```
root@Ubuntu: ~  
root@Ubuntu:~# systemctl reload apache2  
root@Ubuntu:~#
```

Step 7 - On the browser, enter **http://localhost**, you will get the prompt to enter your username and password. Enter the correct username and password and click on sign in.



Step 8 - After clicking on sign in, you can see **‘Hello from GIP’** on the web page.



Task Successfully Completed
dasaremahir333@gmail.com