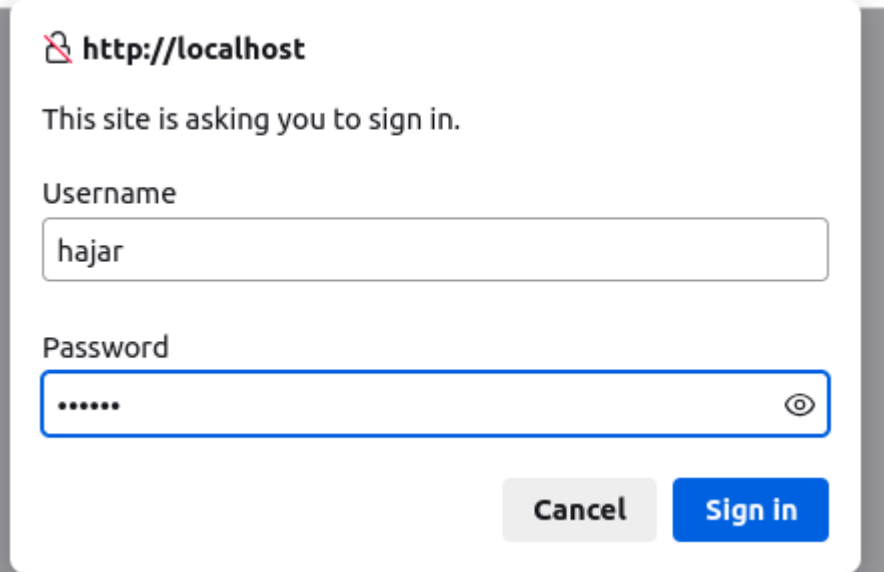## 1. Install Apache HTTP server

```
28 2023 ,لإ LEST 01:33.19 ø
hajar@hajar-G3-3500:~$ sudo apt update
[sudo] password for hajar:
Hit:1 http://eg.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://eg.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:4 http://eg.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:5 https://packages.microsoft.com/repos/code stable InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
154 packages can be upgraded. Run 'apt list --upgradable' to see them.
hajar@hajar-G3-3500:~$ sudo apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1 libaprutil1
  libaprutil1-dbd-sqlite3 libaprutil1-ldap
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom
The following NEW packages will be installed:
```

2. Create two simple html pages named "page1.html, page2.html" then use the suitable directive to automatically redirect from localhost/page1.html to localhost/page2.html.

```
hajar@hajar-G3-3500:~$ nano /var/www/html/page1.html
hajar@hajar-G3-3500:~$ sudo nano /var/www/html/page1.html
hajar@hajar-G3-3500:~$ sudo nano /var/www/html/page2.html
hajar@hajar-G3-3500:~$ sudo nano /etc/apache2/sites-available/000-default.conf
hajar@hajar-G3-3500:~$ sudo nano /etc/apache2/apache2.conf
hajar@hajar-G3-3500:~$ sudo systemctl restart apache2
hajar@hajar-G3-3500:~$ sudo nano /var/www/html/.htaccess
hajar@hajar-G3-3500:~$ sudo nano /var/www/html/.htaccess
[sudo] password for hajar:
Sorry, try again.
[sudo] password for hajar:
hajar@hajar-G3-3500:~$ cd /var/www/html
hajar@hajar-G3-3500:/var/www/html$ ls
index.html  page1.html  page2.html
hajar@hajar-G3-3500:/var/www/html$ nano index.html
```

🔒 **http://localhost**
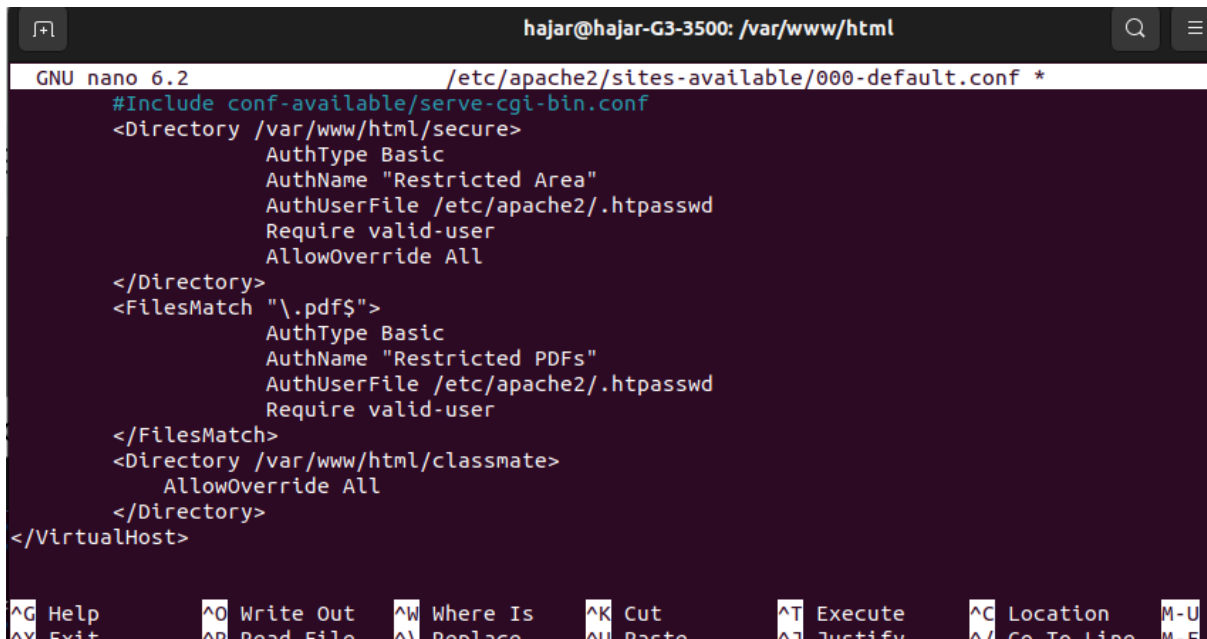
This site is asking you to sign in.

Username

hajar

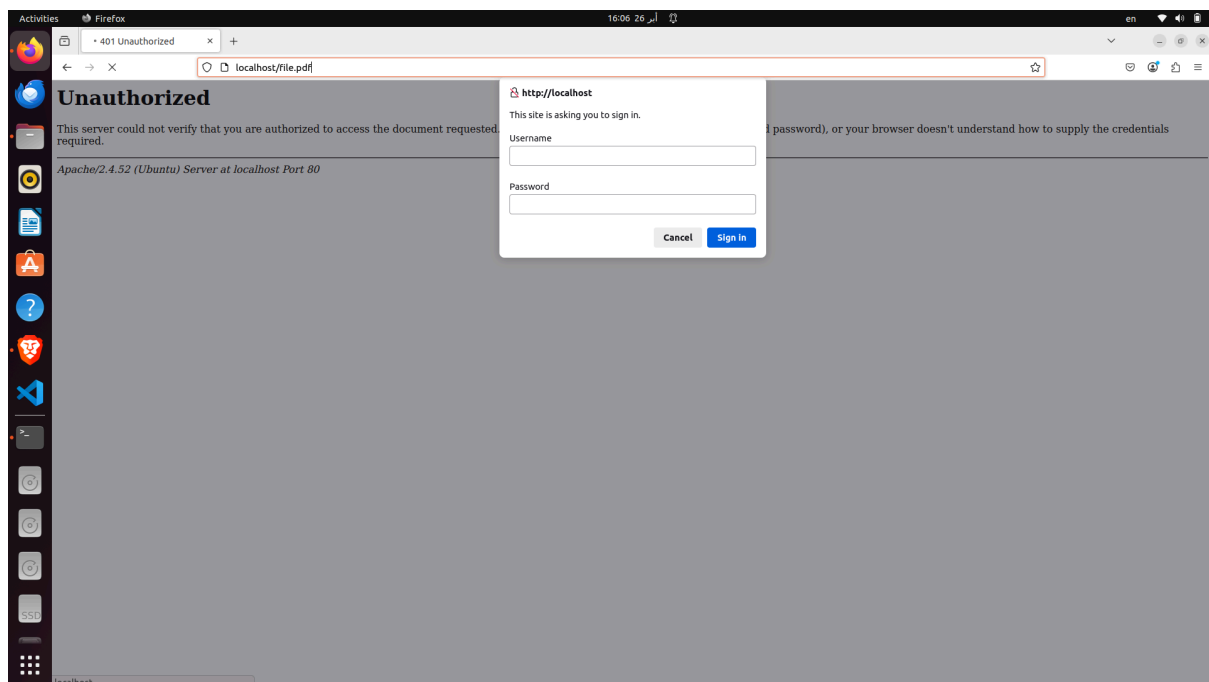Password

●●●●●● ◎

Cancel   **Sign in**

3. Ask for user name and password when accessing a directory

```
hajar@hajar-G3-3500:/var/www/html$ sudo nano /etc/apache2/sites-available/000-default.conf
[sudo] password for hajar:
hajar@hajar-G3-3500:/var/www/html$ sudo systemctl restart apache2
hajar@hajar-G3-3500:/var/www/html$ sudo htpasswd  /etc/apache2/.htpasswd hajar
```



```
  GNU nano 6.2                    /etc/apache2/sites-available/000-default.conf *
        #Include conf-available/serve-cgi-bin.conf
        <Directory /var/www/html/secure>
                AuthType Basic
                AuthName "Restricted Area"
                AuthUserFile /etc/apache2/.htpasswd
                Require valid-user
                AllowOverride All
        </Directory>
        <FilesMatch "\.pdf$">
                AuthType Basic
                AuthName "Restricted PDFs"
                AuthUserFile /etc/apache2/.htpasswd
                Require valid-user
        </FilesMatch>
        <Directory /var/www/html/classmate>
            AllowOverride All
        </Directory>
</VirtualHost>

^G Help       ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U
^X Exit       ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^/ Go To Line M-E
```

4. Apply authentication before downloading PDF files.

5. Create a directory then allow access to one of your classmates only.

```
hajar@hajar-G3-3500:/var/www/html$ cd dir1
hajar@hajar-G3-3500:/var/www/html/dir1$ sudo htpasswd -c /etc/apache2/.htpasswd placeyourusername
New password:
Re-type new password:
htpasswd: password verification error
hajar@hajar-G3-3500:/var/www/html/dir1$ sudo htpasswd -c /etc/apache2/.htpasswd hajar
New password:
Re-type new password:
Adding password for user hajar
hajar@hajar-G3-3500:/var/www/html/dir1$ sudo cat /etc/apache2/.htpasswd
hajar:$apr1$coiAMtJX$0W99LHLooA7jBtRdWTfLn0
hajar@hajar-G3-3500:/var/www/html/dir1$ sudo nano /etc/apache2/sites-available/000-default.conf
hajar@hajar-G3-3500:/var/www/html/dir1$ sudo nano /etc/apache2/sites-available/000-default.conf
hajar@hajar-G3-3500:/var/www/html/dir1$ sudo systemctl restart apache2
hajar@hajar-G3-3500:/var/www/html/dir1$ sudo nano /etc/apache2/sites-available/000-default.conf
```

```
hajar@hajar-G3-3500:/var/www/html$ sudo mkdir classmate
hajar@hajar-G3-3500:/var/www/html$ sudo nano index.html
hajar@hajar-G3-3500:/var/www/html$ sudo nano classmate/index.html
hajar@hajar-G3-3500:/var/www/html$ sudo nano /etc/apache2/sites-available/000-default.conf
hajar@hajar-G3-3500:/var/www/html$ sudo systemctl restart apache2
hajar@hajar-G3-3500:/var/www/html$ sudo nano classmate/.htaccess
hajar@hajar-G3-3500:/var/www/html$ sudo htpasswd -c /etc/apache2/.htpasswd amira
New password:
Re-type new password:
Adding password for user amira
hajar@hajar-G3-3500:/var/www/html$
```

6. Disable listing the directory content (hint use indexes)

```
hajar@hajar-G3-3500:/var/www/html$ sudo systemctl restart apache2
hajar@hajar-G3-3500:/var/www/html$ sudo nano /etc/apache2/apache2.conf
hajar@hajar-G3-3500:/var/www/html$ sudo systemctl restart apache2
```

```
</Directory>
<Directory /var/www/html>
                Options -Indexes
</Directory>
#<Directory /srv/>
#       Options Indexes FollowSymLinks
```

7. Change the default index page to be default.html instead of index.html (use DirectoryIndex)

```
hajar@hajar-G3-3500:/var/www/html$ sudo systemctl restart apache2
hajar@hajar-G3-3500:/var/www/html$ sudo nano /etc/apache2/apache2.conf
hajar@hajar-G3-3500:/var/www/html$ sudo systemctl restart apache2
```

```
  GNU nano 6.2                          /etc/apache2/apache2.conf
#
LogFormat "%v:%p %h %l %u %t \"%r\" %>s %O \"%{Referer}i\" \"%{User-Agent}i\"" vhost_combined
LogFormat "%h %l %u %t \"%r\" %>s %O \"%{Referer}i\" \"%{User-Agent}i\"" combined
LogFormat "%h %l %u %t \"%r\" %>s %O" common
LogFormat "%{Referer}i -> %U" referer
LogFormat "%{User-agent}i" agent

# Include of directories ignores editors' and dpkg's backup files,
# see README.Debian for details.

# Include generic snippets of statements
IncludeOptional conf-enabled/*.conf

# Include the virtual host configurations:
IncludeOptional sites-enabled/*.conf

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet
DirectoryIndex default.html index.html

```

```
^G Help        ^O Write Out    ^W Where Is     ^K Cut      ^T Execute   ^C Location    M-U
^X Exit        ^R Read File    ^\ Replace      ^U Paste    ^J Justify   ^/ Go To Line  M-E
```