Lab2

Team Member :

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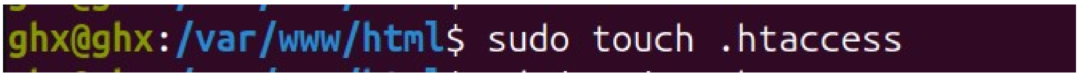
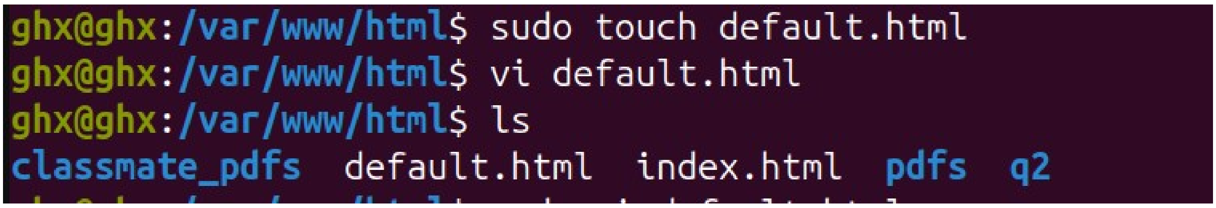
1. Change the default index page to default.html instead of index.html (use DirectoryIndex

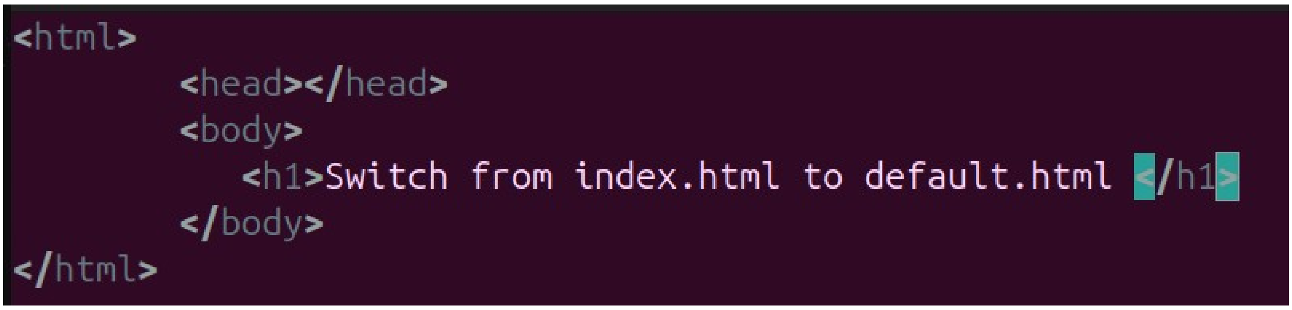


```
ghx@ghx:/var/www/html$ sudo touch .htaccess
```



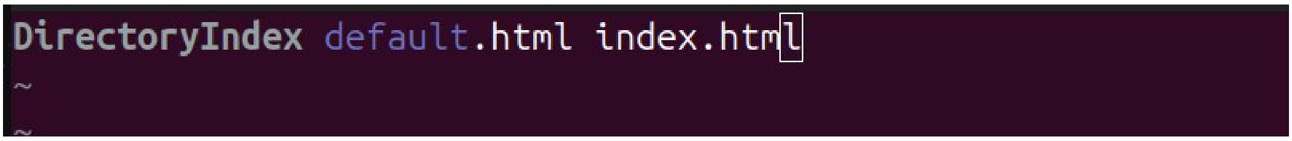
```
ghx@ghx:/var/www/html$ sudo touch default.html
ghx@ghx:/var/www/html$ vi default.html
ghx@ghx:/var/www/html$ ls
classmate_pdfs  default.html  index.html  pdfs  q2
```

in default.html



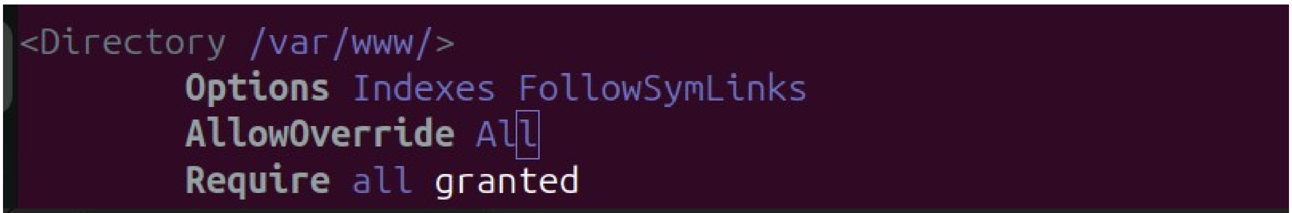
```
<html>
        <head></head>
        <body>
           <h1>Switch from index.html to default.html </h1>
        </body>
</html>
```

in .htaccess

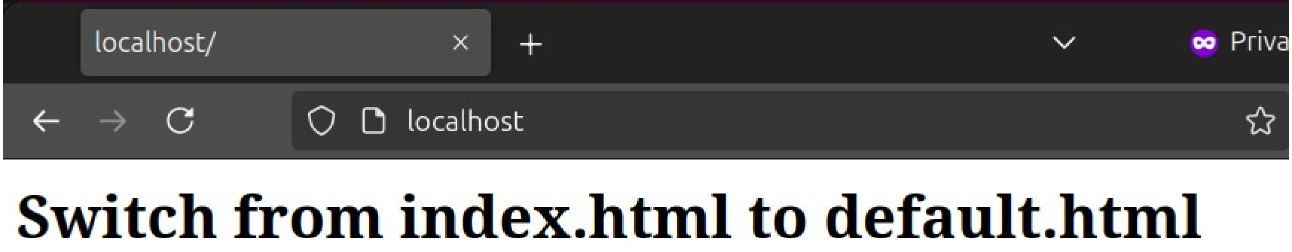


```
DirectoryIndex default.html index.html
~
~
```

in /etc/apache2/apache2.conf

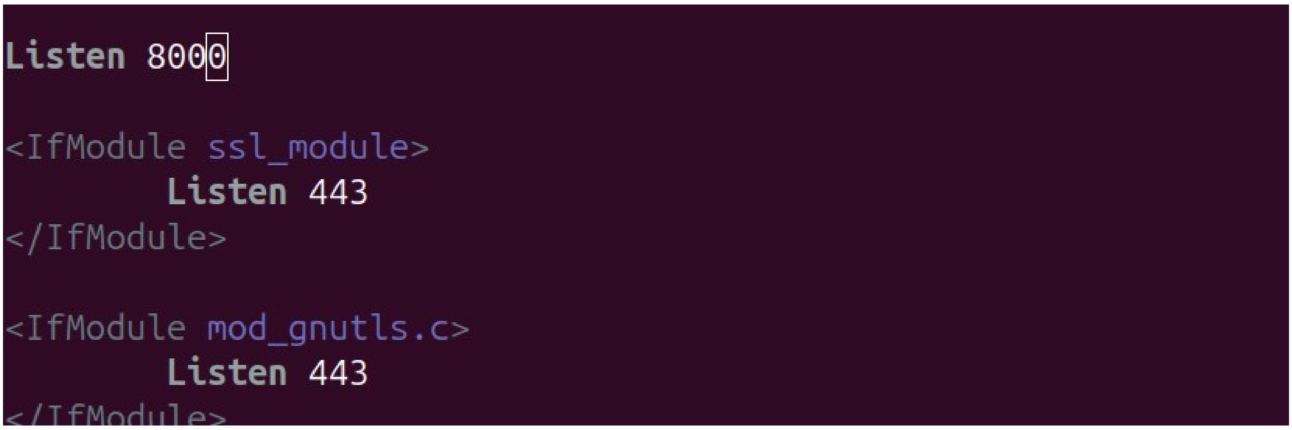


```
<Directory /var/www/>
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
```



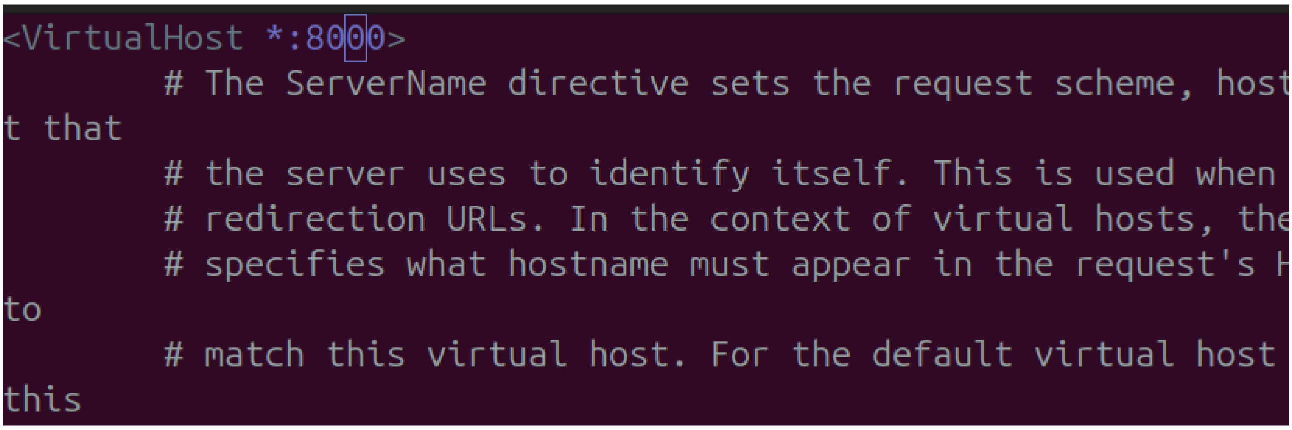
Switch from index.html to default.html

2. Change the default port to be 8000 instead of 80
in /etc/apache2/ports.conf

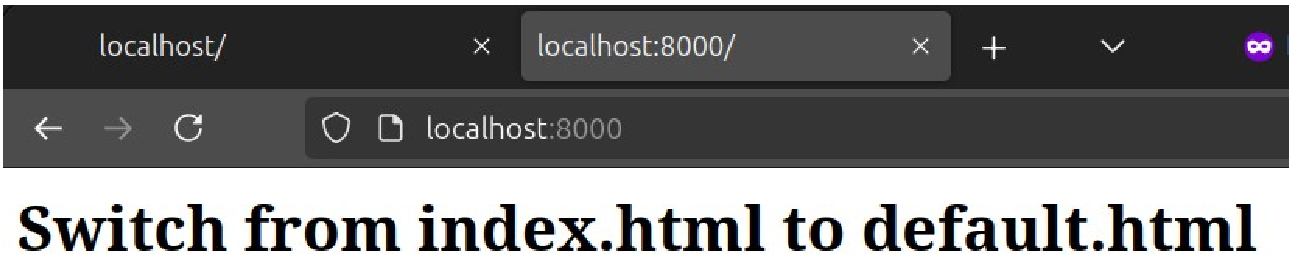


```
Listen 8000

<IfModule ssl_module>
        Listen 443
</IfModule>

<IfModule mod_gnutls.c>
        Listen 443
</IfModule>
```

in /etc/apache2/sites-enabled/000-default.conf



```
<VirtualHost *:8000>
        # The ServerName directive sets the request scheme, host
t that
        # the server uses to identify itself. This is used when
        # redirection URLs. In the context of virtual hosts, the
        # specifies what hostname must appear in the request's H
to
        # match this virtual host. For the default virtual host
this
```



Switch from index.html to default.html

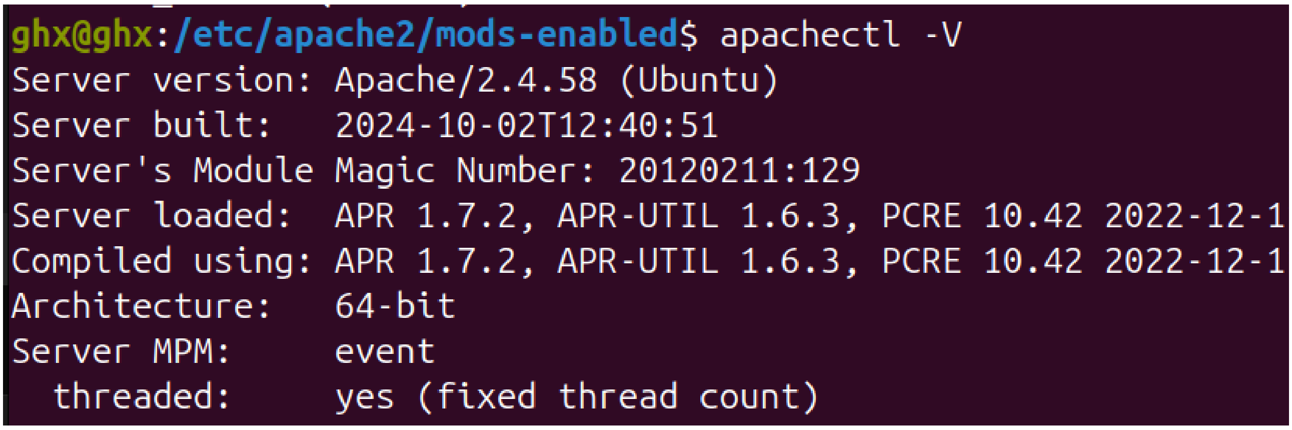
3.What is the importance of rewrite module?

1. mod_rewrite is a module for the Apache web server that enables URL redirection and rewriting. It is one of the most powerful tools for configuring URLs and allows website operators to dynamically rewrite URLs and thus improve the presentation of content.

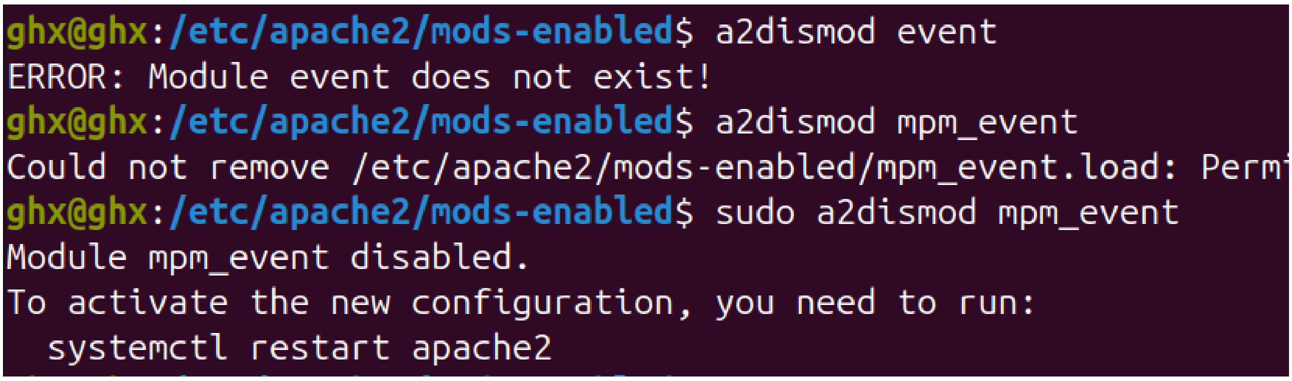
2. With mod_rewrite users can rewrite URLs to make them more search engine friendly, user friendly, and easier to understand.

3.Mod_rewrite allows redirecting multiple URLs to a single canonical URLto avoid duplicate content.

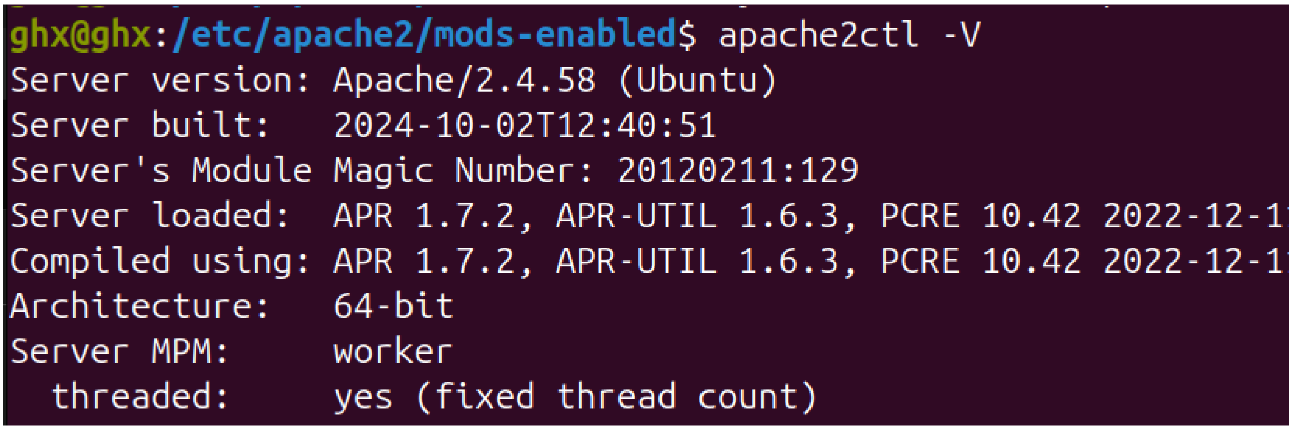
4. Configure apache to use Worker MPM



```
ghx@ghx:/etc/apache2/mods-enabled$ apachectl -V
Server version: Apache/2.4.58 (Ubuntu)
Server built:   2024-10-02T12:40:51
Server's Module Magic Number: 20120211:129
Server loaded:  APR 1.7.2, APR-UTIL 1.6.3, PCRE 10.42 2022-12-1
Compiled using: APR 1.7.2, APR-UTIL 1.6.3, PCRE 10.42 2022-12-1
Architecture:   64-bit
Server MPM:     event
  threaded:     yes (fixed thread count)
```



```
ghx@ghx:/etc/apache2/mods-enabled$ a2dismod event
ERROR: Module event does not exist!
ghx@ghx:/etc/apache2/mods-enabled$ a2dismod mpm_event
Could not remove /etc/apache2/mods-enabled/mpm_event.load: Perm
ghx@ghx:/etc/apache2/mods-enabled$ sudo a2dismod mpm_event
Module mpm_event disabled.
To activate the new configuration, you need to run:
  systemctl restart apache2
```



```
ghx@ghx:/etc/apache2/mods-enabled$ apache2ctl -V
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Server built:   2024-10-02T12:40:51
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Compiled using: APR 1.7.2, APR-UTIL 1.6.3, PCRE 10.42 2022-12-1
Architecture:   64-bit
Server MPM:     worker
  threaded:     yes (fixed thread count)
```
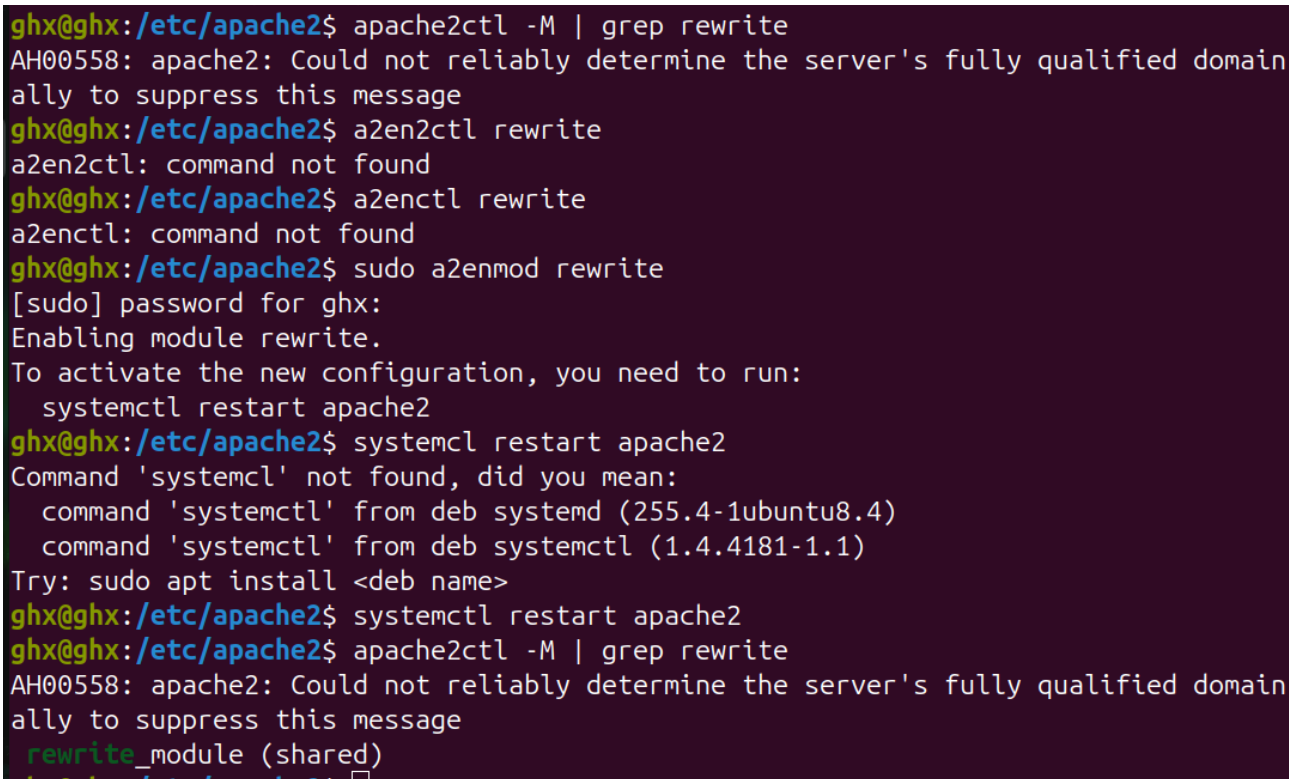

5. Check the status of rewrite_mod and enable it if it is enabled.

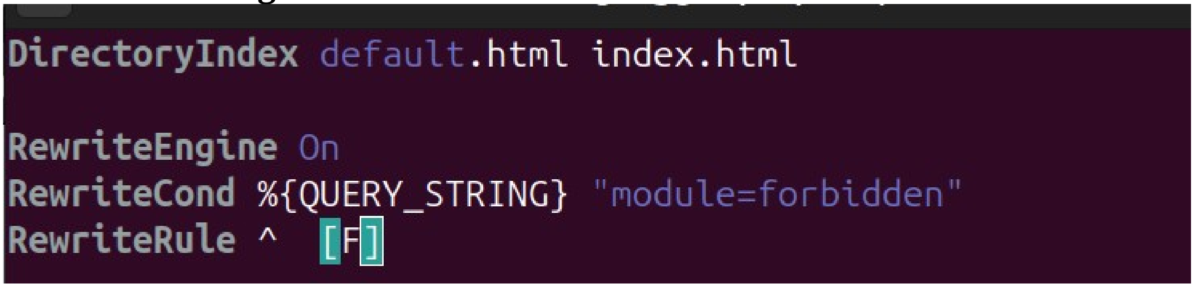


```
ghx@ghx:/etc/apache2$ apache2ctl -M | grep rewrite
AH00558: apache2: Could not reliably determine the server's fully qualified domain
ally to suppress this message
ghx@ghx:/etc/apache2$ a2en2ctl rewrite
a2en2ctl: command not found
ghx@ghx:/etc/apache2$ a2enctl rewrite
a2enctl: command not found
ghx@ghx:/etc/apache2$ sudo a2enmod rewrite
[sudo] password for ghx:
Enabling module rewrite.
To activate the new configuration, you need to run:
  systemctl restart apache2
ghx@ghx:/etc/apache2$ systemcl restart apache2
Command 'systemcl' not found, did you mean:
  command 'systemctl' from deb systemd (255.4-1ubuntu8.4)
  command 'systemctl' from deb systemctl (1.4.4181-1.1)
Try: sudo apt install <deb name>
ghx@ghx:/etc/apache2$ systemctl restart apache2
ghx@ghx:/etc/apache2$ apache2ctl -M | grep rewrite
AH00558: apache2: Could not reliably determine the server's fully qualified domain
ally to suppress this message
 rewrite_module (shared)
```

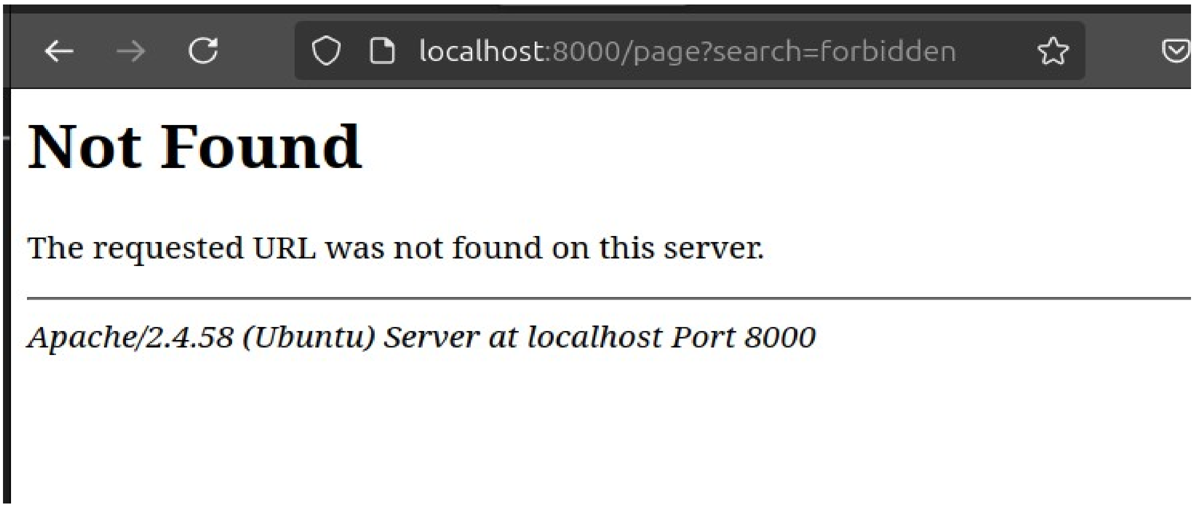
Bonus:

1- Write RewriteCond and RewiteRules for:

A. Deny access to http://localhost/page?queryString if queryString contains the string forbidden.



```
DirectoryIndex default.html index.html

RewriteEngine On
RewriteCond %{QUERY_STRING} "module=forbidden"
RewriteRule ^  [F]
```



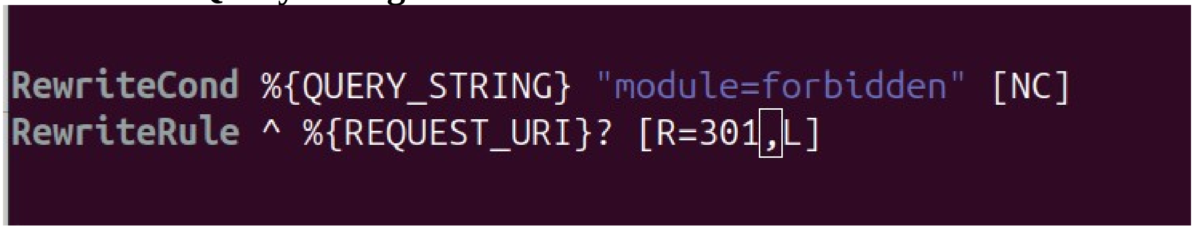
localhost:8000/page?search=forbidden

Not Found

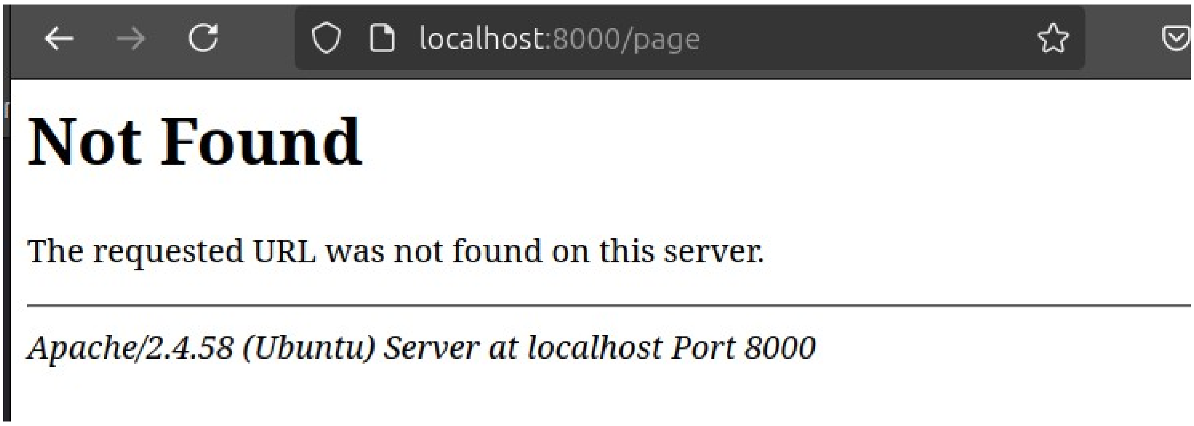
The requested URL was not found on this server.

Apache/2.4.58 (Ubuntu) Server at localhost Port 8000

B. Remove the Query String



```
RewriteCond %{QUERY_STRING} "module=forbidden" [NC]
RewriteRule ^ %{REQUEST_URI}? [R=301,L]
```

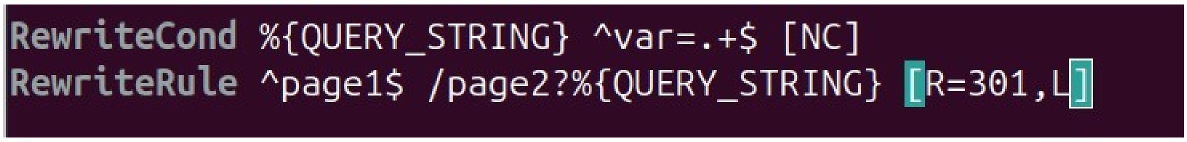


Not Found

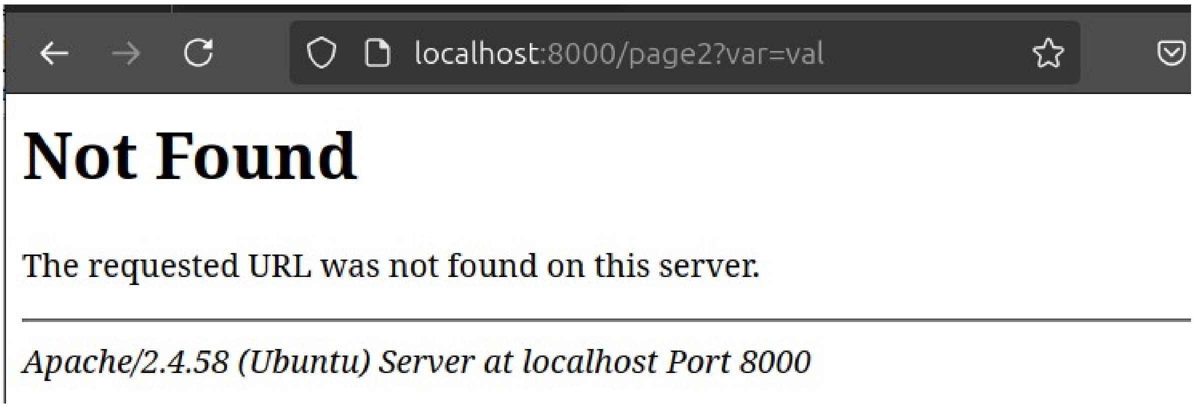
The requested URL was not found on this server.

Apache/2.4.58 (Ubuntu) Server at localhost Port 8000

C. Rewrite URLs like http://localhost/page1?var=val to http://localhost/page2?var=val but do not rewrite if val isn't present.



```
RewriteCond %{QUERY_STRING} ^var=.+$ [NC]
RewriteRule ^page1$ /page2?%{QUERY_STRING} [R=301,L]
```

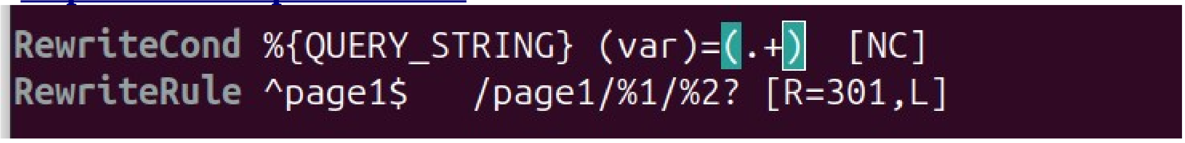


Not Found

The requested URL was not found on this server.

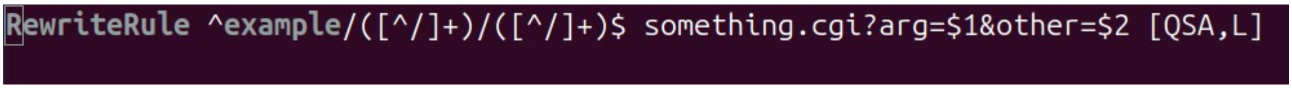
Apache/2.4.58 (Ubuntu) Server at localhost Port 8000

D. Take a URL of the form http://localhost/path?var=val and transform it into http://localhost/path/var/val.



```
RewriteCond %{QUERY_STRING} (var)=(.+)  [NC]
RewriteRule ^page1$   /page1/%1/%2? [R=301,L]
```

E. Map http://localhost/example/one/two to http://localhost/something.cgi?arg=one&other=two



```
RewriteRule ^example/([^/]+)/([^/]+)$ something.cgi?arg=$1&other=$2 [QSA,L]
```