

## 8- lab1

Create folder os.it.gov.eg and Create the index.html

Create the VirtualHost file

Enable the VirtualHost file

Add the domain to /etc/hosts

Restart Apache

```
GNU nano 7.2 /etc/apache2/sites-available/os.it.gov.eg.conf
<VirtualHost *:80>
    ServerAdmin webmaster@os.it.gov.eg
    DocumentRoot /var/www/os.it.gov.eg
    ServerName os.it.gov.eg
    ErrorLog ${APACHE_LOG_DIR}/error.log
    CustomLog ${APACHE_LOG_DIR}/access.log combined
</VirtualHost>
```

```
GNU nano 7.2 /etc/hosts
127.0.0.1 os.it.gov.eg
127.0.0.1 localhost
127.0.1.1 Ebram-laptop

# The following lines are desirable for IPv6 capable
::1 ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
```

```
nima@Ebram-Laptop:~$ sudo mkdir -p /var/www/os.it.gov.eg
nima@Ebram-Laptop:~$ cd /var/www
nima@Ebram-Laptop:/var/www$ ls
html os.it.gov.eg
nima@Ebram-Laptop:/var/www$ sudo nano /var/www/os.it.gov.eg/index.html
nima@Ebram-Laptop:/var/www$ sudo nano /etc/apache2/sites-available/os.it.gov.eg.conf
nima@Ebram-Laptop:/var/www$ sudo a2ensite os.it.gov.eg.conf
Enabling site os.it.gov.eg.
To activate the new configuration, you need to run:
    systemctl reload apache2
nima@Ebram-Laptop:/var/www$ sudo systemctl restart apache2
nima@Ebram-Laptop:/var/www$ sudo nano /etc/hosts
nima@Ebram-Laptop:/var/www$
```

← → 🔍 ⌂ ⚙️ Not secure os.it.gov.eg ☆

**This is the os.it.gov.eg site!**

**Welcome**

**Ebram Rasmy**

## 9-

```
nima@Ebram-Laptop:/var/www$ sudo a2enmod rewrite
Enabling module rewrite.
To activate the new configuration, you need to run:
    systemctl restart apache2
nima@Ebram-Laptop:/var/www$ sudo systemctl restart apache2
nima@Ebram-Laptop:/var/www$
```

## 10-

The `mod_rewrite` module is extremely important because it provides powerful and flexible URL manipulation capabilities in the Apache HTTP Server. It allows administrators to modify, redirect, and transform incoming URL requests based on defined rules.

- Improving SEO and user experience.
- Enhancing security and access control.
- Managing URL redirections and canonicalization.
- Handling dynamic content and routing.
- By leveraging `mod_rewrite`, you can create a more robust, secure, and user-friendly web application.

1- lab2

```
nima@Ebram-Laptop:/var/www$ sudo a2dismod mpm_prefork
Module mpm_prefork already disabled
nima@Ebram-Laptop:/var/www$ sudo a2dismod mpm_event
Module mpm_event disabled.
To activate the new configuration, you need to run:
  systemctl restart apache2
nima@Ebram-Laptop:/var/www$ sudo a2enmod mpm_worker
Considering conflict mpm_event for mpm_worker:
Considering conflict mpm_prefork for mpm_worker:
Enabling module mpm_worker.
To activate the new configuration, you need to run:
  systemctl restart apache2
nima@Ebram-Laptop:/var/www$ sudo systemctl restart apache2
nima@Ebram-Laptop:/var/www$
```

```
# worker MPM
# StartServers: initial number of server processes to start
# MinSpareThreads: minimum number of worker threads which are kept spare
# MaxSpareThreads: maximum number of worker threads which are kept spare
# ThreadLimit: ThreadsPerChild can be changed to this maximum value during a
#               graceful restart. ThreadLimit can only be changed by stopping
#               and starting Apache.
# ThreadsPerChild: constant number of worker threads in each server process
# MaxRequestWorkers: maximum number of threads
# MaxConnectionsPerChild: maximum number of requests a server process serves

StartServers          2
MinSpareThreads       25
MaxSpareThreads       75
ThreadLimit           64
ThreadsPerChild       25
MaxRequestWorkers     150
MaxConnectionsPerChild 0
```

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2-

```
nima@Ebram-Laptop:/var/www$ sudo apache2ctl -M
httpd2022_28-0ubuntu3 (Ubuntu)
reqtimeout_module (shared)
rewrite_module (shared)
setenvif_module (shared)
status_module (shared)
nima@Ebram-Laptop:/var/www$
```

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3-

a.

```
RewriteEngine On
RewriteCond %{QUERY_STRING} forbidden [NC]
RewriteRule ^ - [F]
```

localhost/page?queryString=forbidden

## Forbidden

You don't have permission to access this resource.

Apache/2.4.58 (Ubuntu) Server at localhost Port 80

b.

```
RewriteEngine On
RewriteCond %{QUERY_STRING} .+
RewriteRule ^(.*)$ /$1? [R=301,L]
```

http://localhost/page?queryString=Ebramrasmy

## Not Found

http://localhost/page?queryString=Ebramrasmy

localhost/page

## Not Found

The requested URL was not found on this server.

Apache/2.4.58 (Ubuntu) Server at localhost Port 80

C-

```
<IfModule mod_rewrite.c>
  RewriteEngine On
  RewriteBase /
  RewriteCond %{QUERY_STRING} (^|&)var=([^&]+)(&|$)
  RewriteRule ^page1\.html$ /page2.html?%{QUERY_STRING} [R=302,L]
</IfModule>
```

http://localhost/page1.html?var=val

http://localhost/page1.html?var=val

http://localhost/page1.html?var=val - Google Search

localhost/page2.html

## Welcome to Page2

Redirected to page 2 of lab 1

d-

```
RewriteEngine On
RewriteCond %{QUERY_STRING} (^|&)var=(^&+)(&|$)
RewriteRule ^path\.html$ /path/var/%2? [R=301,L]
```

http://localhost/path?var=val

http://localhost/path?var=val

localhost/path.html

path page

path page

path page

e-

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

http://localhost/example/one/two

http://localhost/example/one/two

path page

localhost/something.cgi

Not Found

f- **Bonus**

We will use a property => %{TIME\_HOUR}.

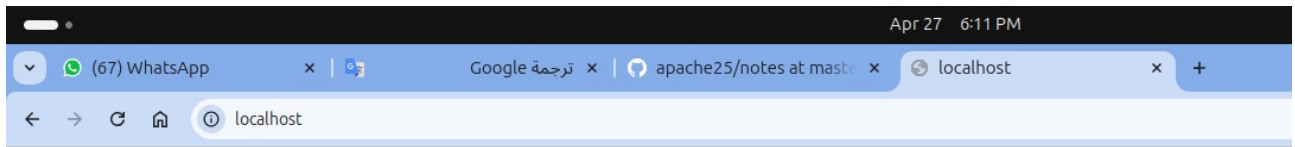
```
RewriteEngine On

RewriteCond %{TIME_HOUR} >=18
RewriteRule ^$ /goodevening.html [L]

RewriteCond %{TIME_HOUR} <18
RewriteRule ^$ /goodmorning.html [L]
```

Create goodmorning.html and goodevening.html

```
nima@Ebram-Laptop:/var/www/html$ sudo nano goodevening.html
nima@Ebram-Laptop:/var/www/html$ sudo nano goodmorning.html
nima@Ebram-Laptop:/var/www/html$
```



**Hi**

**Good Evening**

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4-Same question number 8 in lab 1, same steps