```
labex:~/ $ sudo a2dismod mpm_event
sudo a2dismod mpm_prefork
sudo a2enmod mpm_worker
sudo apachectl restart

Module mpm_event disabled.
To activate the new configuration, you need to run:
  service apache2 restart
Module mpm_prefork already disabled
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:
  service apache2 restart
httpd not running, trying to start
labex:~/ $ apachectl -V | grep MPM

Server MPM:        worker
labex:~/ $
```
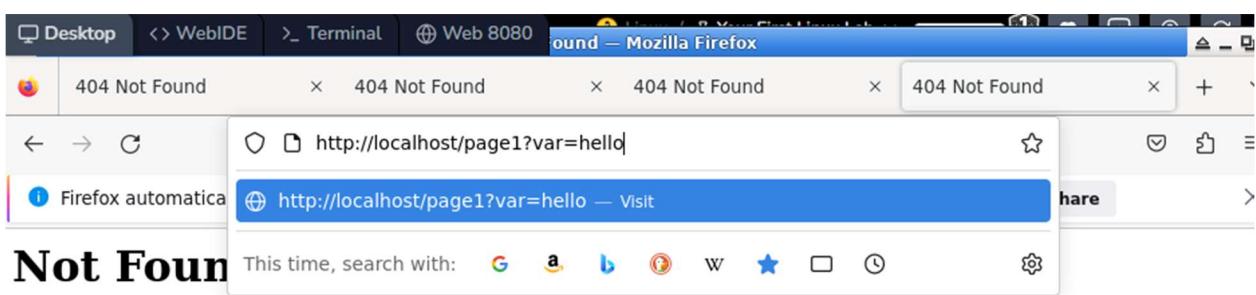
```
labex:~/ $ apachectl -M | grep rewrite

labex:~/ $ sudo a2enmod rewrite
sudo apachectl restart

Enabling module rewrite.
To activate the new configuration, you need to run:
  service apache2 restart
labex:~/ $ service apache2 restart
 * Restarting Apache httpd web server apache2
labex:~/ $ apachectl -M | grep rewrite

 rewrite_module (shared)
labex:~/ $
```
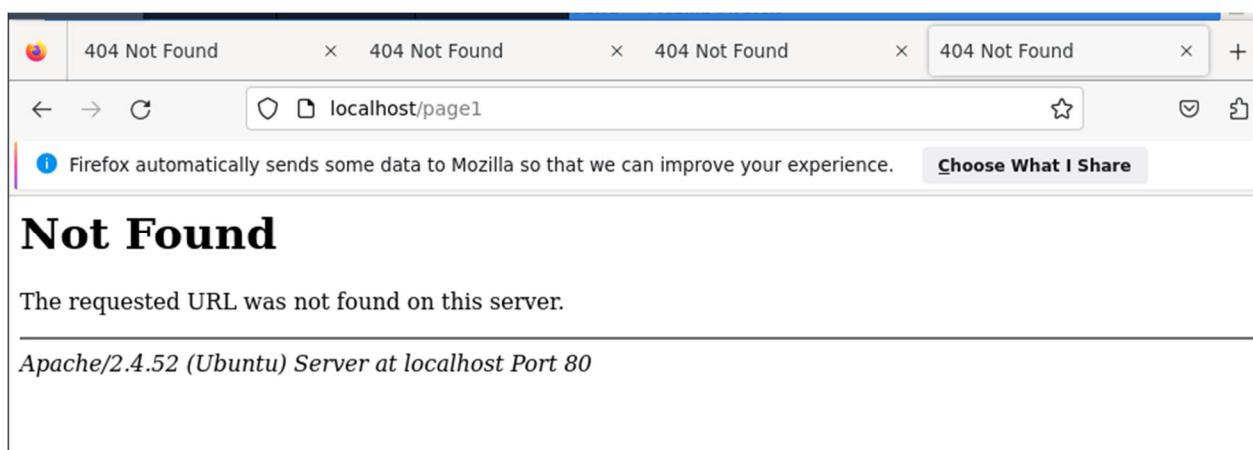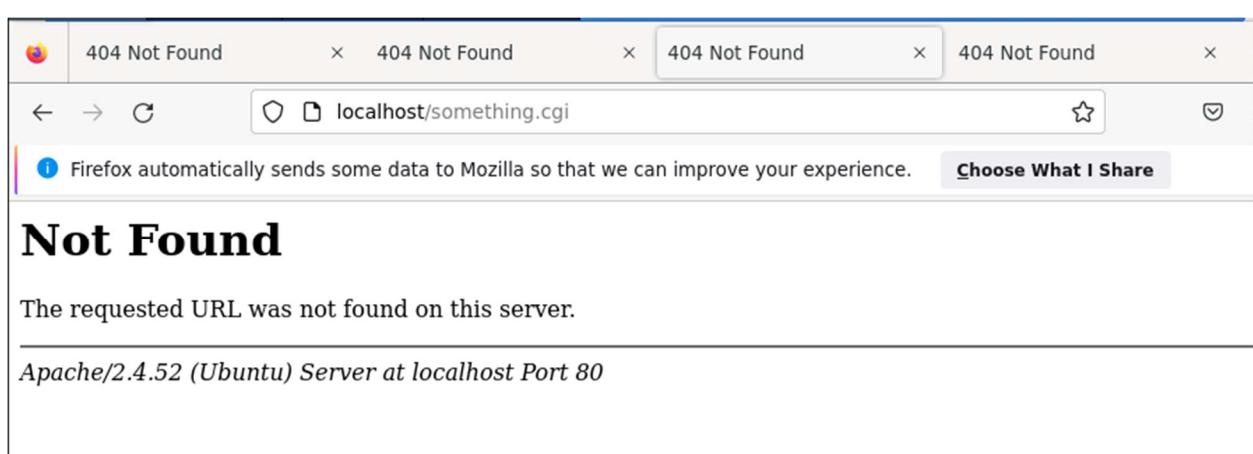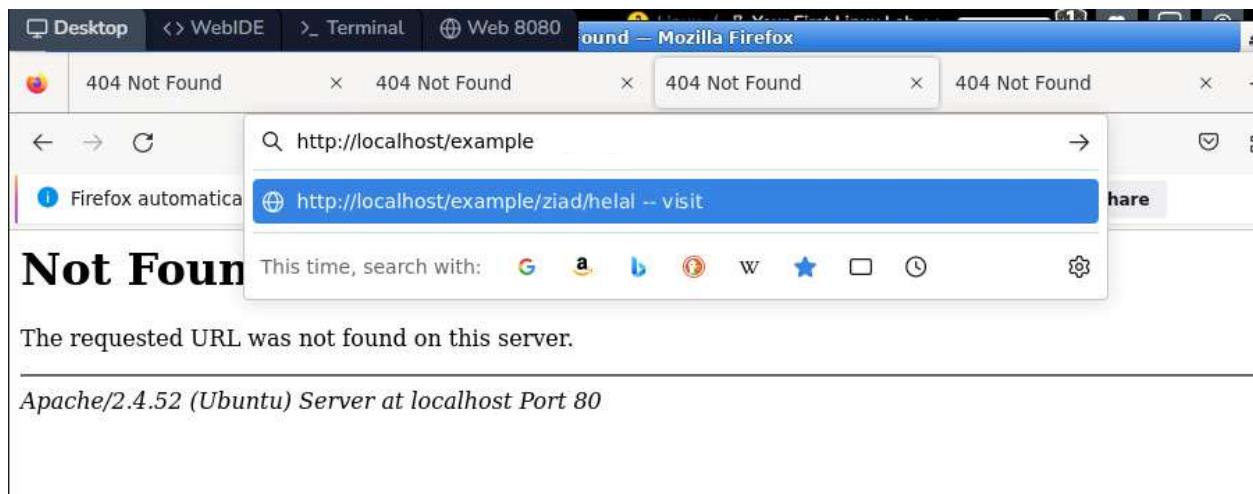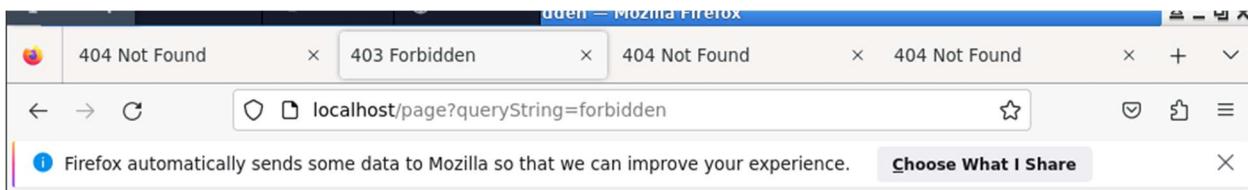
🖳 Desktop   <> WebIDE   >_ Terminal   ⊕ Web 8080   ound — Mozilla Firefox

404 Not Found   ×   404 Not Found   ×   404 Not Found   ×   404 Not Found   ×   +

← → C   ○ 🗋 http://localhost/page1?var=hello   ☆   ♡ 🔖 ≡

ⓘ Firefox automatica   ⊕ http://localhost/page1?var=hello — Visit   hare   >

This time, search with: G   a.   b   ⓞ   w   ★   ▢   ◔   ⚙

Not Foun

The requested URL was not found on this server.

_____

Apache/2.4.52 (Ubuntu) Server at localhost Port 80

404 Not Found × 404 Not Found × 404 Not Found × 404 Not Found ×

Q http://localhost/example →

⊕ http://localhost/example/ziad/helal -- visit

This time, search with: G a b ◉ W ★ □ 🕐 ⚙

Firefox automatica   hare

Not Foun

The requested URL was not found on this server.

Apache/2.4.52 (Ubuntu) Server at localhost Port 80

---

404 Not Found × 404 Not Found × 404 Not Found × 404 Not Found ×

localhost/something.cgi ☆ ⊘

Firefox automatically sends some data to Mozilla so that we can improve your experience. **Choose What I Share**

Not Found

The requested URL was not found on this server.

Apache/2.4.52 (Ubuntu) Server at localhost Port 80

---

404 Not Found × 404 Not Found × 404 Not Found × 404 Not Found × +

localhost/page1 ☆ ⊘

Firefox automatically sends some data to Mozilla so that we can improve your experience. **Choose What I Share**

Not Found

The requested URL was not found on this server.

Apache/2.4.52 (Ubuntu) Server at localhost Port 80

localhost/page?queryString=forbidden

Firefox automatically sends some data to Mozilla so that we can improve your experience.   **Choose What I Share**   ✕

Forbidden

You don't have permission to access this resource.

_____

Apache/2.4.52 (Ubuntu) Server at localhost Port 80

File   Edit   View   Terminal   Tabs   Help

GNU nano 6.2   /var/www/html/.htaccess

```
# a) Deny access if query string contains "forbidden"
RewriteCond %{QUERY_STRING} forbidden [NC]
RewriteRule ^ - [F]

# b) Remove the query string (redirect to same URL without it)
RewriteCond %{QUERY_STRING} .
RewriteRule ^ %{REQUEST_URI}? [R=301,L]

# c) Rewrite /page1?var=val → /page2?var=val only if var is present
RewriteCond %{QUERY_STRING} (^|&)var=.+(&|$)
RewriteRule ^page1$ /page2 [R=302,L]

# d) Transform /path?var=val → /path/var/val
RewriteCond %{QUERY_STRING} (^|&)var=([^&]+)(&|$)
RewriteRule ^path$ /path/var/%2? [R=301,L]

# e) Map /example/one/two → /something.cgi?arg=one&other=two
RewriteRule ^example/([^/]+)/([^/]+)$ /something.cgi?arg=$1&other=$2 [L,QSA]
```
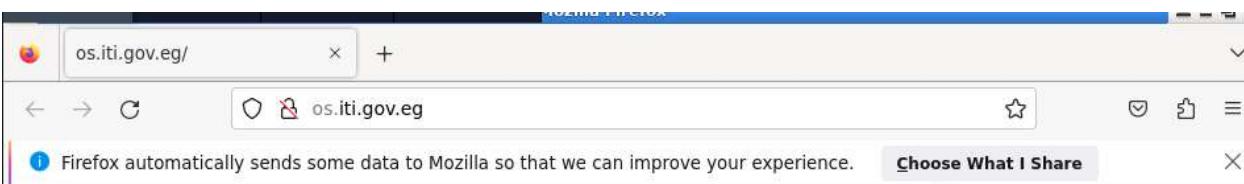
```
  GNU nano 6.2      /etc/apache2/sites-available/os.iti.gov.eg.conf *
<VirtualHost *:80>
    ServerName os.iti.gov.eg
    DocumentRoot /var/www/os.iti.gov.eg

    <Directory /var/www/os.iti.gov.eg>
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>

    ErrorLog ${APACHE_LOG_DIR}/os_error.log
    CustomLog ${APACHE_LOG_DIR}/os_access.log combined
</VirtualHost>
```

```
^G Help        ^O Write Out    ^W Where Is    ^K Cut      ^T Execute
^X Exit        ^R Read File    ^\ Replace     ^U Paste    ^J Justify
```

os.iti.gov.eg/

os.iti.gov.eg

Firefox automatically sends some data to Mozilla so that we can improve your experience.   Choose What I Share

Welcome to os.iti.gov.eg Virtual Host,