

# APACHE MODULES PROJECT

Objective:

This project covers the following three tasks:

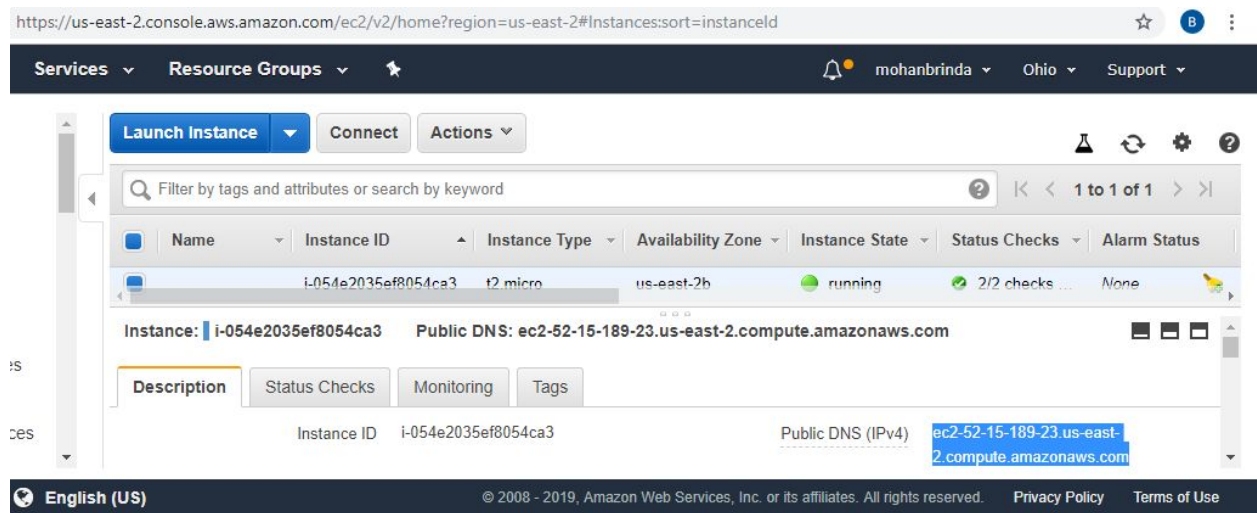
- 1) By default, when user browses for Apache ServerName, a get index.html file is printed in the browser even if no filename is mentioned in the URL. The task is to change that behaviour and make default index file as test.html.
- 2) Configure Apache in such a way that if someone browses for a page in apache (eg: test1.html), their browser redirects them to a different page. (eg: test2.html) (Tip: Use rewrite module in Apache)
- 3) Enable Password Authentication in Apache, so that when someone browse your website, they get a popup asking them to enter a username and password, before apache will display pages to them on their browser (Tip: use module auth\_basic)

## Apache modules

1) By default, when you browse for Apache ServerName, you get index.html printed in your browser even if you don't mention the file name in URL. Change that behaviour and make default index file as test.html.


The Ec1 machine can be accessed via the following url

Ec2-52-15-189-23.us-east-2.compute.amazonaws.com or 52.15.189.23



The screenshot shows the AWS Management Console interface for an EC2 instance. The top navigation bar includes the URL `https://us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#Instances:sort=instancetype`, a search bar, and user information for 'mohanbrinda' in the 'Ohio' region. The main content area displays a table of EC2 instances with the following columns: Name, Instance ID, Instance Type, Availability Zone, Instance State, Status Checks, and Alarm Status. A single instance is listed with Instance ID `i-054e2035ef8054ca3`, Instance Type `t2.micro`, Availability Zone `us-east-2b`, and Instance State `running`. Below the table, the instance details for `i-054e2035ef8054ca3` are shown, including the Public DNS: `ec2-52-15-189-23.us-east-2.compute.amazonaws.com`. The 'Description' tab is selected, showing the Instance ID and Public DNS (IPv4) details. The footer of the console displays 'English (US)', copyright information, and links to Privacy Policy and Terms of Use.

This is the default webpage before the changes



# Apache2 Ubuntu Default Page

## ubuntu

### It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

### Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/  
|-- apache2.conf  
|  
|   |-- ports.conf  
|  
|-- mods-enabled  
|  
|   |-- *.load  
|   |-- *.conf
```

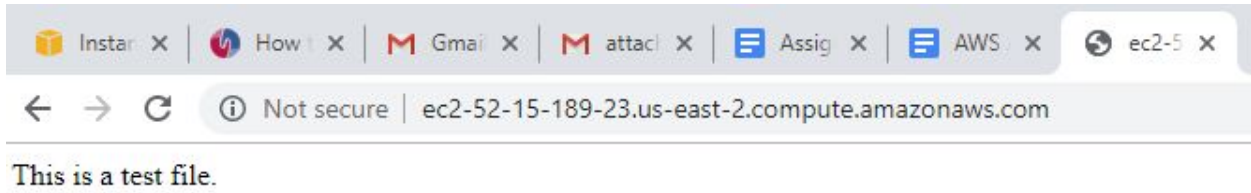
Made the following changes to the `apache2.conf` file

Added a new line `DirectoryIndex test.html` file

Commented the `Options Indexes FollowSymLinks`

```
ch: Select root@ip-172-31-27-98: /etc/apache2  
GNU nano 2.9.3      apache2.conf  
  
</Directory>  
  
<Directory /var/www/>  
#      Options Indexes FollowSymLinks  
#      Redirect permanent /test.html /test1.html  
      DirectoryIndex test.html  
      AllowOverride None  
      Require all granted  
</Directory>
```

After the changes default webpage loaded is the `test.html` file please see screenshot below after making default `index.html` to `test.html`



2) Configure Apache in such a way that if someone browse for a page in apache (eg: test1.html), their browser redirect them to a different page. (eg: test2.html) (Tip: Use rewrite module in Apache)

The above assignment has been implemented in two different ways

Using a) redirect command in the apache2.conf file and b) using rewrite module in Apache

a) Added the following code to the apache2.conf

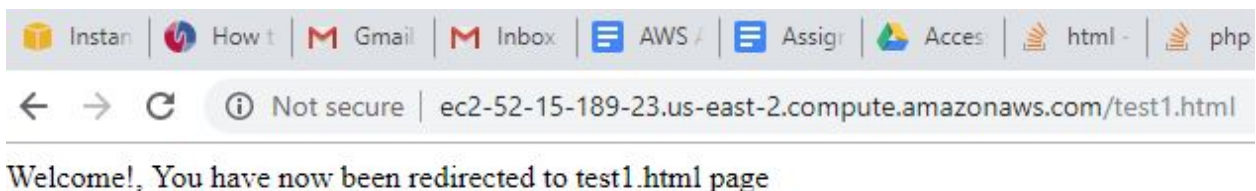
Redirect permanent /test.html /test1.html

```
Select root@ip-172-31-27-98: /etc/apache2
GNU nano 2.9.3          apache2.conf

</Directory>

<Directory /var/www/>
-   Options Indexes FollowSymLinks
    Redirect permanent /test.html /test1.html
    AllowOverride None
    Require all granted
</Directory>
```

When test.html is request it automatically redirects to test1.html file



You can access the instance at

Ec2-52-15-189-23.us-east-2.compute.amazonaws.com

b) used the apache rewrite module in apache..

STEP 1: Enabling mod rewrite

```
root@ip-172-31-27-98: /var/www/html
root@ip-172-31-27-98:/etc/apache2# sudo su -
root@ip-172-31-27-98:~# a2enmod rewrite
Enabling module rewrite.
To activate the new configuration, you need to run:
  systemctl restart apache2
root@ip-172-31-27-98:~# service apache2 restart
root@ip-172-31-27-98:~# a2enmod rewrite
Module rewrite already enabled
root@ip-172-31-27-98:~# systemctl restartapache2

Command 'systemctrl' not found, did you mean:
  command 'systemctl' from deb systemd

Try: apt install <deb name>

root@ip-172-31-27-98:~# systemctl restart apache2
```

Step 2: Setting up .htaccess file which required some code to be added to the default.conf file

```
www.digitalocean.com/community/tutorials/how-to-rewrite-urls-with-mod-
root@ip-172-31-27-98: /etc/apache2/sites-available
GNU nano 2.9.3                                000-default.conf

# Brinda code for rewrite url https://https://www.d
<Directory /var/www/html>
  Options Indexes FollowSymLinks MultiViews
  AllowOverride All
  Require all granted
</Directory>
# Available loglevels: trace8, ..., trace1, debug,
# error, crit, alert, emerg.

^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Jus
^X Exit      ^R Read File ^\ Replace   ^U Uncut Text^T To
```

Step 3: Save and close the file and restart apache using

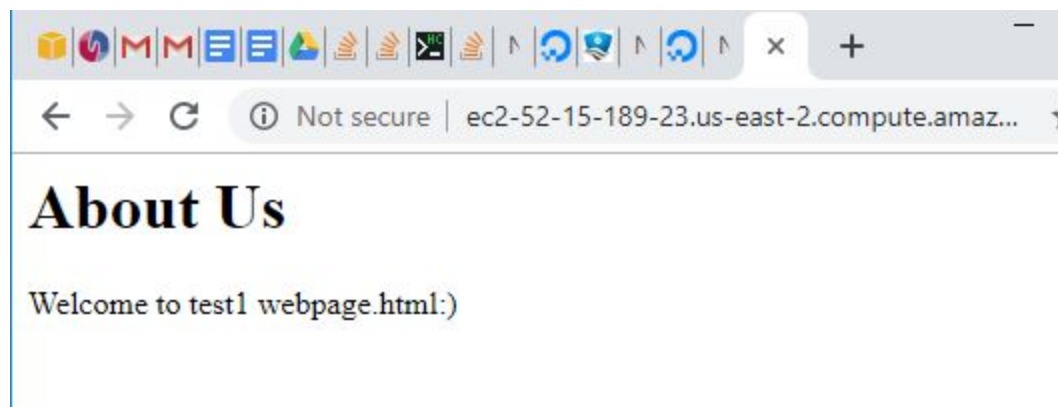
`systemctl restart apache2`

Step 4: Created `.htaccess` file with the following code to activate the rewrite engine

```
root@ip-172-31-27-98: /var/www/html
GNU nano 2.9.3 .htaccess Modified

RewriteEngine on
RewriteRule ^test$ test1.html [NC]

^G Get Help    ^O Write Out  ^W Where Is   ^K Cut Text
^X Exit        ^R Read File  ^\ Replace    ^U Uncut Text
```



3) Enable Password Authentication in Apache, so that when someone browse your website, they get a popup asking them to enter a username and password, before apache will display pages to them on their browser (Tip: use module `auth_basic`)

Step1:

Make changes to the `apache2.conf` file as follows

Change `→ Allow override All`



```
root@ip-172-31-27-98: /etc/apache2
GNU nano 2.9.3 apache2.conf

<Directory /var/www/>
    Options Indexes FollowSymLinks
#   Redirect permanent /test.html /test1.html
#   DirectoryIndex test.html
    AllowOverride All
    Require all granted
</Directory>
```

Step2:

Create .htaccess file to the directory we would like to restrict access and use the authbasic code

```
root@ip-172-31-27-98: /var/www/html
GNU nano 2.9.3 .htaccess

AuthType Basic
AuthName "Restricted Content"
AuthUserFile /etc/apache2/.htpasswd
Require valid-user

^G Get Help    ^O Write Out  ^W Where Is   ^K Cut Text
^X Exit        ^R Read File  ^\ Replace    ^U Uncut Text
```

Step 3:

restart apache2

Now try to access the instance, I get the following webpage



