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PRACTICAL 01

❖ Question :

- 1) Configuration of apache web server.

- 2) Create one directory with your name and another with your friend's name in apache server's root directory and configure your apache server in such a way that whenever you try to access the contents of the directory with your name, it gets redirected and display contents from the directory with your friend's name.

- 3) Create one directory with your enrolment number in apache server's root directory and another with your friend's enrolment number outside the root path. Configure your apache server in such a way that you should be able to access the contents of a directory while trying to access content from another directory.

1. Configuration of apache web server :

- use the following command to switch to the root user

» Run the following command to switch to the root user :

```
su root
```

then enter password (redhat)

```
[student@workstation ~]$ su root
Password:
(process:3053): dconf-WARNING **: 09:18:22.713: failed
to commit changes to dconf: The connection is closed
[root@workstation student]#
```

» To install the Apache HTTP Server (httpd) on a Red Hat-based Linux distribution using the **yum** package manager, you can use the following command :

```
yum install httpd
```

```
[root@workstation student]# yum install httpd
Last metadata expiration check: 0:04:35 ago on Wed 10 Jan 2024 09:17:14 AM EST.
Package httpd-2.4.37-21.module+el8.2.0+5008+cca404a3.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@workstation student]#
```

» To start the httpd service use following command :

```
service httpd start
```

```
[root@workstation student]# service httpd start
Redirecting to /bin/systemctl start httpd.service
[root@workstation student]#
```

» By running these commands, you'll navigate to the home directory for the Apache web server (**httpd**) and see the files and directories within that location :

```
cd var/www/html
ls
```

```
[root@workstation Tushar]# service httpd start
Redirecting to /bin/systemctl start httpd.service
[root@workstation Tushar]# cd /var/www/html/
[root@workstation html]# ls
batch61 index.html James_Bond Tushar your_name
```

Then restart the service and check status of httpd service :

```
service httpd restart
```

```
service httpd status
```

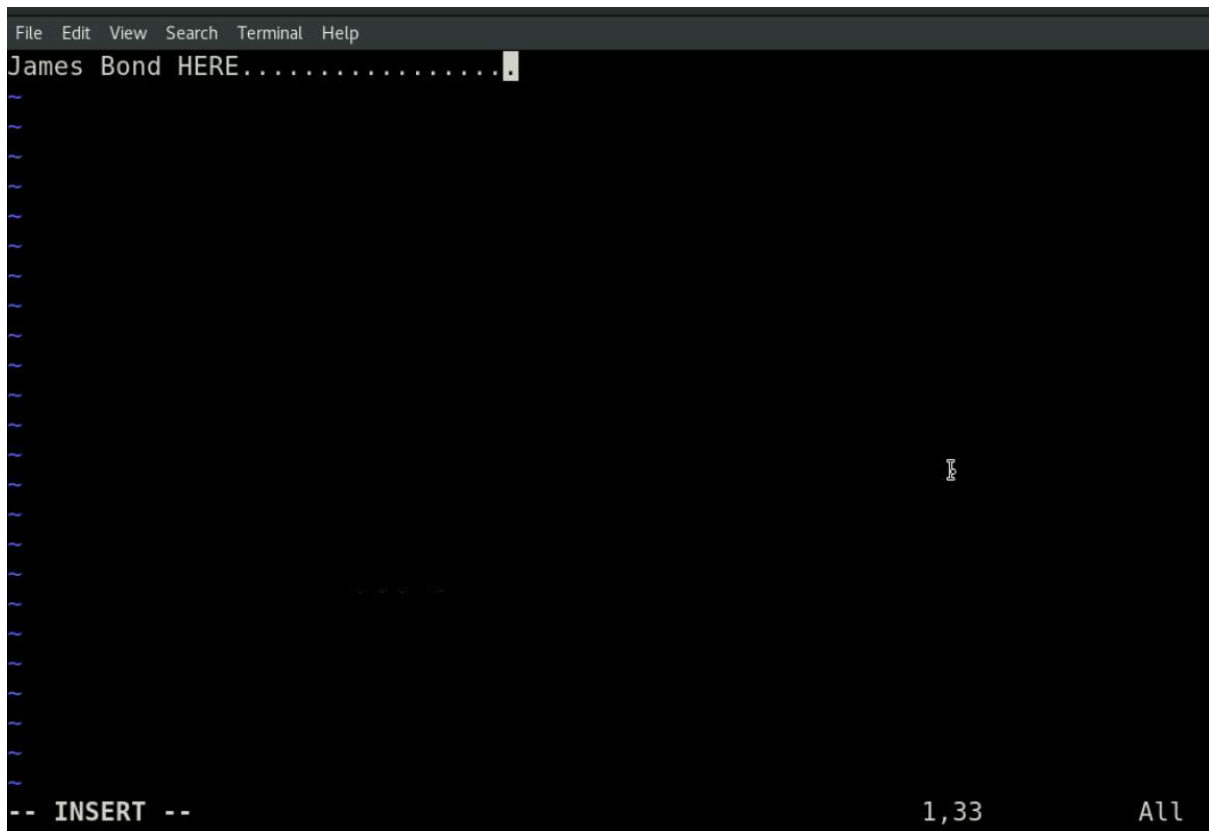
```
[root@workstation html]# service httpd restart
Redirecting to /bin/systemctl restart httpd.service
[root@workstation html]# service httpd status
Redirecting to /bin/systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor pr>
   Active: active (running) since Wed 2024-01-10 11:32:11 EST; 7s ago
     Docs: man:httpd.service(8)
  Main PID: 2949 (httpd)
    Status: "Started, listening on: port 80"
     Tasks: 213 (limit: 36446)
    Memory: 30.9M
    CGroup: /system.slice/httpd.service
            └─2949 /usr/sbin/httpd -DFOREGROUND
              └─2956 /usr/sbin/httpd -DFOREGROUND
                └─2957 /usr/sbin/httpd -DFOREGROUND
                  └─2958 /usr/sbin/httpd -DFOREGROUND
                    └─2959 /usr/sbin/httpd -DFOREGROUND

Jan 10 11:32:11 workstation.lab.example.com systemd[1]: Stopped The Apache H>
Jan 10 11:32:11 workstation.lab.example.com systemd[1]: Starting The Apache >
Jan 10 11:32:11 workstation.lab.example.com systemd[1]: Started The Apache H>
Jan 10 11:32:11 workstation.lab.example.com httpd[2949]: Server configured, >
lines 1-19/19 (END)
```

» To create and edit an index.html file inside that html folder use this command :

```
vim /var/www/html/index.html
```

then to write anything in that html file press 'I' key to enter an insert mode the write :

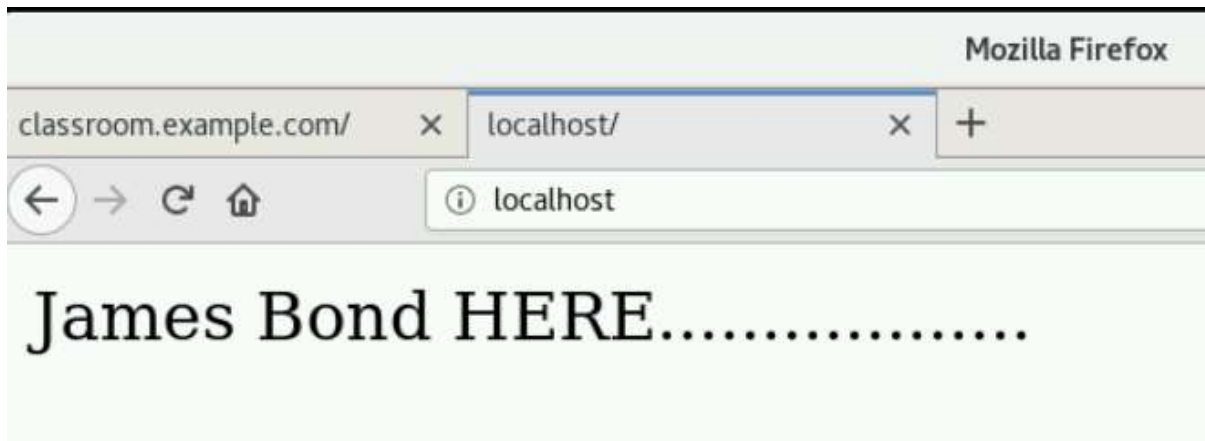
A screenshot of a terminal window with a dark background. The title bar at the top shows 'File Edit View Search Terminal Help'. The first line of the text area contains 'James Bond HERE.....' followed by a white cursor. On the left side, there are several blue wavy lines representing line numbers. At the bottom left, it says '-- INSERT --'. At the bottom right, it shows '1,33' and 'All'.

```
File Edit View Search Terminal Help
James Bond HERE.....
-- INSERT --                               1,33    All
```

Then to save and exit press 'escape' and write ':wq' and hit enter :

A screenshot of a terminal window with a dark background. The first line of the text area contains ':wq' followed by a white cursor. On the left side, there are several blue wavy lines representing line numbers.

```
:wq
```



- » To edit the configuration file for the Apache HTTP server (**httpd**), you can use the following command to open the file using the **vim** text editor::

```
vim /etc/httpd/conf/httpd.conf
```

```
[root@workstation html]# vim /etc/httpd/conf/httpd.conf
[root@workstation html]#
```

```
#
# This is the main Apache HTTP server configuration file. It contains the
# configuration directives that give the server its instructions.
# See <URL:http://httpd.apache.org/docs/2.4/> for detailed information.
# In particular, see
# <URL:http://httpd.apache.org/docs/2.4/mod/directives.html>
# for a discussion of each configuration directive.
#
# See the httpd.conf(5) man page for more information on this configuration,
# and httpd.service(8) on using and configuring the httpd service.
#
# Do NOT simply read the instructions in here without understanding
# what they do. They're here only as hints or reminders. If you are unsure
# consult the online docs. You have been warned.
#
# Configuration and logfile names: If the filenames you specify for many
# of the server's control files begin with "/" (or "drive:/" for Win32), the
# server will use that explicit path. If the filenames do *not* begin
# with "/", the value of ServerRoot is prepended -- so 'log/access_log'
# with ServerRoot set to '/www' will be interpreted by the
# server as '/www/log/access_log', where as '/log/access_log' will be
# interpreted as '/log/access_log'.
#
# ServerRoot: The top of the directory tree under which the server's
"/etc/httpd/conf/httpd.conf" 356L, 11899C 1,1 Top
```


2. Creating directory with my name and my friend's name with mkdir Tushar JamesBond. Mkdir is used to make directories followed by directory name :

- » Run Here I used mkdir command to create Tushar & James_Bond Directories :

```
mkdir Tushar James_Bond
```

```
[root@workstation html]# cd
[root@workstation ~]# cd /var/www/html
[root@workstation html]# ls
index.html
[root@workstation html]# mkdir Tushar James_Bond
[root@workstation html]# ls
index.html  James_Bond  Tushar
[root@workstation html]#
```

- » Adding index.html using touch index.html. The **touch** command in Linux is typically used to update the access and modification timestamps of a file or create an empty file if it doesn't exist :

```
touch index.html
```

```
[root@workstation html]# ls
index.html  James_Bond  Tushar
[root@workstation html]# cd Tushar
[root@workstation Tushar]# touch index.html
[root@workstation Tushar]# cd ..
[root@workstation html]# cd James_Bond/
[root@workstation James_Bond]# touch index.html
[root@workstation James_Bond]# ls
index.html
[root@workstation James_Bond]#
```

- » To add content in file In index.html use this command :

```
vim index.html
```

Tushar is Here....

: wq

Same goes for James Bond folder's Index.html :

James Bond is Here....

: wq

- » Certainly, if you want to configure a permanent redirect from **/tushar** to **http://localhost/James_bond** in the Apache **httpd.conf** file, you can add the following line:

```
Redirect permanent /tushar http://localhost/james_bond
```

Use this command to add above line in config file :

```
vim /etc/httpd/conf/httpd.conf
```

```
[root@workstation html]# vim /etc/httpd/conf/httpd.conf
[root@workstation html]# service httpd restart
Redirecting to /bin/systemctl restart httpd.service
[root@workstation html]# service httpd status
Redirecting to /bin/systemctl status httpd.service
```

```
# (Combined Logfile Format) you can use the following directive.
#
CustomLog "logs/access_log" combined
</IfModule>

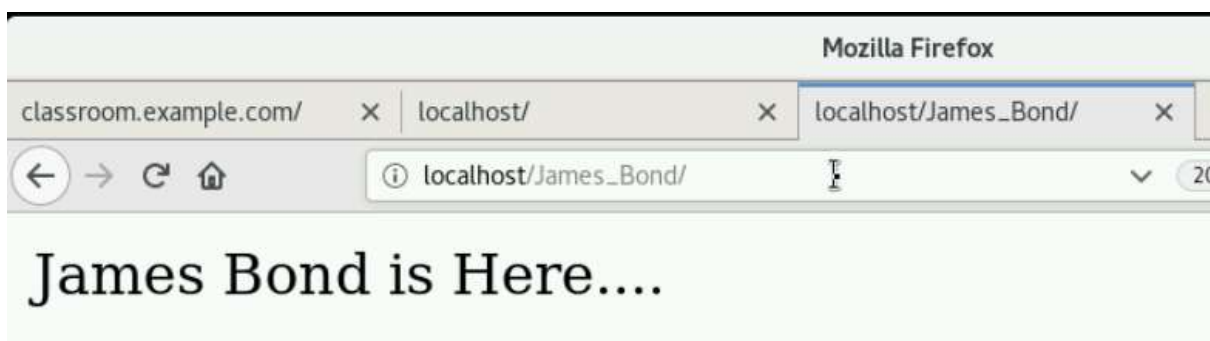
<IfModule alias_module>
#
# Redirect: Allows you to tell clients about documents that used to
# exist in your server's namespace, but do not anymore. The client
# will make a new request for the document at its new location.
# Example:
# Redirect permanent /foo http://www.example.com/bar
Redirect permanent /tushar http://localhost/james_bond
#
# Alias: Maps web paths into filesystem paths and is used to
# access content that does not live under the DocumentRoot.
# Example:
# Alias /webpath /full/filesystem/path
#
# If you include a trailing / on /webpath then the server will
# require it to be present in the URL. You will also likely
# need to provide a <Directory> section to allow access to
# the filesystem path.

#
-- INSERT --                                     230,55      65%
```

Then restart httpd service and check status of it :


```
[root@workstation html]# cd Tushar/
[root@workstation Tushar]# service httpd restart
Redirecting to /bin/systemctl restart httpd.service
[root@workstation Tushar]# service httpd status
Redirecting to /bin/systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor pr>
   Active: active (running) since Wed 2024-01-10 12:15:42 EST; 4s ago
     Docs: man:httpd.service(8)
  Main PID: 4764 (httpd)
    Status: "Started, listening on: port 80"
     Tasks: 213 (limit: 36446)
    Memory: 28.9M
    CGroup: /system.slice/httpd.service
            └─4764 /usr/sbin/httpd -DFOREGROUND
              └─4771 /usr/sbin/httpd -DFOREGROUND
                └─4772 /usr/sbin/httpd -DFOREGROUND
                  └─4773 /usr/sbin/httpd -DFOREGROUND
                    └─4774 /usr/sbin/httpd -DFOREGROUND

Jan 10 12:15:42 workstation.lab.example.com systemd[1]: Stopped The Apache H>
Jan 10 12:15:42 workstation.lab.example.com systemd[1]: Starting The Apache >
Jan 10 12:15:42 workstation.lab.example.com systemd[1]: Started The Apache H>
Jan 10 12:15:42 workstation.lab.example.com httpd[4764]: Server configured, >
```



3. Create two directories with enrollment no:

- » Run Here I used mkdir command to create 211622101014 & 21162101007 Directories :

```
mkdir 21162101014 21162101007
```

```
[root@workstation Tushar]# cd ..
[root@workstation html]#
[root@workstation html]# mkdir 21162101014 21162101007
[root@workstation html]# ls
21162101007 21162101014 index.html James_Bond Tushar
[root@workstation html]#
```

- ```
touch index.html
```

```
[root@workstation html]# cd 21162101014/
[root@workstation 21162101014]# touch index.html
[root@workstation 21162101014]# ls
index.html
[root@workstation 21162101014]# cd ..
[root@workstation html]# cd 21162101007/
[root@workstation 21162101007]# touch index.html
[root@workstation 21162101007]#
```

- ```
vim index.html
```

[illegible]

- » Certainly, the **Alias** directive in Apache allows you to map a URL path to a specific directory in your server's file system. In this case, you want to use an **Alias** directive to display the content of **/var/www/html/21162101014** when accessing **http://localhost/21162101007**.
- » Here's how you can add the **Alias** directive in the Apache **httpd.conf** file:

```
Alias /21162101014 /var/www/html/21162101007
```

Use this command to add above line in config file :

```
vim /etc/httpd/conf/httpd.conf
```

```
</IfModule>

<IfModule alias_module>
    #
    # Redirect: Allows you to tell clients about documents that use
    # exist in your server's namespace, but do not anymore. The cli
    # will make a new request for the document at its new location.
    # Example:
    # Redirect permanent /foo http://www.example.com/bar
    Redirect permanent /tushar http://localhost/james_bond
    #
    # Alias: Maps web paths into filesystem paths and is used to
    # access content that does not live under the DocumentRoot.
    # Example:
    # Alias /webpath /full/filesystem/path
    Alias /21162101014 /var/www/html/21162101007
    # If you include a trailing / on /webpath then the server will
    # require it to be present in the URL. You will also likely
    # need to provide a <Directory> section to allow access to
    # the filesystem path.
```

```
:wq
```

Then restart httpd service and check status of it :

```
[root@workstation html]# vim /etc/httpd/conf/httpd.conf
[root@workstation html]# service httpd restart
Redirecting to /bin/systemctl restart httpd.service
[root@workstation html]# service httpd status
Redirecting to /bin/systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor pre>
   Active: active (running) since Wed 2024-01-10 12:40:29 EST; 11s ago
     Docs: man:httpd.service(8)
  Main PID: 2898 (httpd)
    Status: "Running, listening on: port 80"
     Tasks: 213 (limit: 36446)
    Memory: 33.0M
    CGroup: /system.slice/httpd.service
            └─2898 /usr/sbin/httpd -DFOREGROUND
              └─2906 /usr/sbin/httpd -DFOREGROUND
                └─2907 /usr/sbin/httpd -DFOREGROUND
                  └─2908 /usr/sbin/httpd -DFOREGROUND
                    └─2909 /usr/sbin/httpd -DFOREGROUND
```

