



HTTP

Introduction and/or Background

Http issues HTTP commands to retrieve files from a web server. If "files" are provided on the command line these are included in the request body data.

Objectives

In this project/lab the student will:

- Gain familiarity with the HTTP protocol

Equipment/Supplies Needed

- As specified in Lab 0.0.1.
- VMPC1, VMSVR1 available.

Procedure

Perform the steps in this lab in the order they are presented to you. Answer all questions and record the requested information. Use the Linux Virtual Machine to perform lab activities as directed. Unless otherwise stated, all tasks done as a non-root user. If root access is needed use the sudo command.

Assignment

Install an Apache 2 web server

1. First perform a system update:

```
apt-get update  
apt-get upgrade
```

2. Next

```
apt-get install apache2
```

Assuming you are root user, which you should be. Open a web browser and enter the following at the address bar,

```
Enter http://127.0.0.1
```

At this point the standard default page for Apache should appear on your screen. Take a snapshot of the screen, paste to Word doc.

Basic Configuration

1. Edit the following directory,

`/etc/apache2/apache2.conf`

With the editor of your choice. Find the KeepAlive directive and set to:

`KeepAlive Off`

2. Restart the apache service

`systemctl restart apache2.service`

Whenever there is a change of directives, the apache service must be restarted so as to for a reload of the directive tree. Take a snapshot of the screen and paste to Word doc.

AdHoc Directory Level Security

An .htaccess file is a way to configure the details of your website without needing to alter the server config files. The period that starts the file name will keep the file hidden within the folder.

You can create the .htaccess file in a text editor (make sure to name it only .htaccess without any other extension or name) and then upload it to your site through an ftp client.

Additionally, the placement of the .htaccess file is important. The configurations in that file will affect everything in its directory and the directories under it.

1. Still as root, edit the following file,

`/etc/apache2/apache2.conf`

Search for "<Dir". You should see a section "<Directory /var/www/>". Right below the "</Directory>" add the following section.

`<DirectoryMatch /test/(.)*/>
Options +Indexes`

```
</DirectoryMatch>
```

Don't forget to save the file and do a systemctl restart of the apache2.service.

2. cd to /var/www/html and create the directory test. cd into test and add the following files

```
touch file.one  
touch file.two  
touch file.three
```

Point your browser to <http://localhost/test/>

You should see a directory listing of your files.

3. In the test subdirectory create a file called index.html and add the following to the file.

```
<html>  
<body>  
<p> Gotcha!!!</p>  
</body>  
</html>
```

Then restart the server by

```
systemctl restart apache2.service
```

Point your browser again to <http://localhost/test/>

What happened? **Add your answer to the Word doc.**

Remove the index.html file from the /test/ directory. Point your browser back to <http://localhost/test/> and your directory listings should reappear.

Lets control directory access via an .htaccess file.

4. Need to modify some Directory directives in the apache2.conf file. Where you see AllowOverride None change to

```
AllowOverride All
```

Then restart the server by

systemctl restart apache2.service

5. In the /test/ directory create a file called .htaccess. In that file add the Following:

Options -Indexes

What happened? Add your answer to the Word doc.

Lab Submissions Proof: Provide screenshots as indicated in the lab; upload your proof to Canvas for grading.

Rubric

Checklist/Single Point Mastery

<u>Concerns</u> Working Towards Proficiency	<u>Criteria</u> Standards for This Competency	<u>Accomplished</u> Evidence of Mastering Competency
	Criteria #1: Recorded screenshot of http://127.0.0.1 (25 points)	
	Criteria #2: Recorded screenshot of systemctl restart apache2.service (25 points)	
	Criteria #3: Recorded response to what happens when accessing http://localhost/test/ (25 points)	
	Criteria #4: Recorded response to what happens when adding Options -Indexes to .htaccess file (25 points)	