Lab Report - Lab 2

Name: Tyler Burleson Date: 2/5/2024

Summary

During this lab we focused on creating an EC2 instances and spinning up an Ubuntu image to host a webserver using Apache. We started by navigating to EC2 and creating a new instance. We configured the image to be Ubuntu and to use our VPC. In the configuration we set the subnet to our FluxSubnet and security group. Additionally, we added our private key to secure our connection. Once our instance was configured and running, we connected to our server with Putty.

Once logged in we updated our version and upgraded to the newest version. After our server was updated, we installed MySQL and Apache so we can host our webserver. Once we ensured our services were running, we added a new firewall rule to allow HTTP from any IPv4 address. Now that we had access, we were able to reach our webpage using our public IP. The original web page displayed the default Ubuntu-Apache webserver index page, but we wanted to change this.

To change the default page, we needed to do a couple things first. We started by changing the site configuration file to face our copy with the set server name. Once the configuration file was set, we needed to upload our flux site to our server. We accomplished this by using PowerShell on our windows machine and logging in to the server using our “WebAdmin” account we made through SFTP. We then uploaded the Flux site and unzipped in on the Ubuntu server with the “Unzip” tool we installed.

Once we had access to the site files, we were able to change the default page. We navigated to the html folder on the server and deleted the original index file and pointed the server to our new Flux site. We then restarted the Apache server and navigated back to the IP, then we were presented with the new page.

Screen Shots

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Pub
FluxUbuntuWebServer	i-0f53b21b7ccbf820c	Running	t2.micro	Initializing	View alarms	us-east-1e	ec2

Figure 1

```
[ + ]  acpid
[ + ]  apache-htcacheclean
[ + ]  apache2
[ + ]  apparmor
[ + ]  apport
[ + ]  chrony
[ - ]  console-setup.sh
[ + ]  cron
[ - ]  cryptdisks
[ - ]  cryptdisks-early
[ + ]  dbus
[ - ]  grub-common
[ - ]  hibagent
[ - ]  hwclock.sh
[ - ]  irqbalance
[ - ]  iscsid
[ - ]  keyboard-setup.sh
[ + ]  kmod
[ - ]  lvm2
[ - ]  lvm2-lvmpolld
[ + ]  mysql
[ - ]  open-iscsi
[ - ]  open-vm-tools
[ + ]  plymouth
[ + ]  plymouth-log
[ + ]  procps
[ - ]  rsync
[ - ]  screen-cleanup
[ + ]  ssh
[ + ]  udev
[ + ]  ufw
[ + ]  unattended-upgrades
[ - ]  uuidd
(END)
```

Figure 2

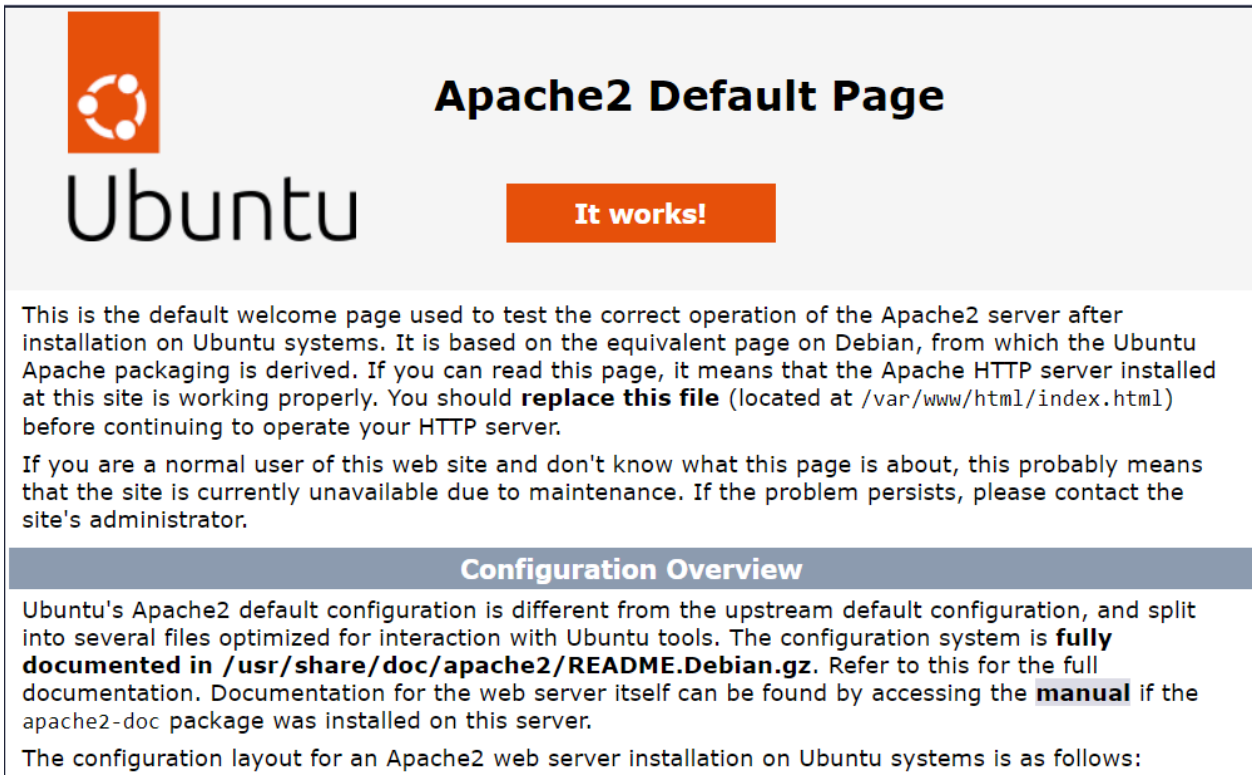

Figure 3

```
  GNU nano 6.2                                  fluxltd.conf *
<VirtualHost *:80>
        ServerName www.fluxltd.loc

        ServerAdmin burlesont1@etsu.edu
        DocumentRoot /var/www/html

        ErrorLog ${APACHE_LOG_DIR}/error.log
        CustomLog ${APACHE_LOG_DIR}/access.log combined

</VirtualHost>

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet
```

Figure 4

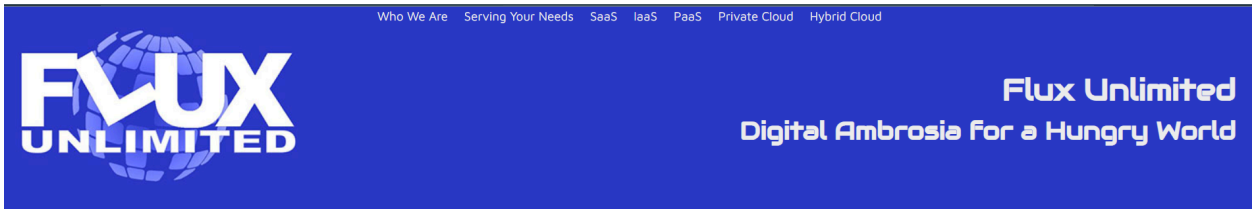
Who We Are
Serving Your Needs
SaaS
IaaS
PaaS
Private Cloud
Hybrid Cloud
FLUX UNLIMITED
Flux Unlimited
Digital Ambrosia for a Hungry World

Figure 5

Research Questions

1. What is the name of Apache2's main configuration file? The main configuration file is called Apache2.conf
2. Which directory (full path) contains the Apache2 modules? /etc/apache2/mods-enabled/
3. Which directory (full path) contains the enabled virtual domains? /etc/apache2/sites-enabled/
4. Which file defines the ports that Apache2 will listen to? /etc/apaches2/sites-enabled/ports.conf/
5. How are modules, global configuration files, and virtual hosts activated? These are activated by symlinking available config files from their respective *-available/counterparts.
6. Knowing what you now know about installing the LAMP stack, what do you think it would be like if you had to install LAMP on 10 machines? 50? 100? What could you do on the front end to ease the pain? (This should be real vanilla for you...there are plenty of hints above) You could have AWS create however many instances you want with a premade image of ubuntu with Apache pre-configured the first time.
7. Who owns index.html file? Ubuntu
8. In your opinion, is it better (more comfortable, more efficient, etc.) to work from a command line or a GUI? (I hesitate to ask this because I think I know how it's going to pan out...your opinion, please, not what you think I 'want' to hear) I prefer to work on the command line since it is significantly faster. The only time I prefer to work with a GUI is when I'm managing several docker containers and instead of keeping up with them in my head or displaying the list over and over, I use Portainer to manage them.
9. What 'well-known' ports do the following protocols use?

a. Telnet- 23
b. SSH- 22
c. DNS- 53
d. HTTP- 80
e. FTP- 21
f. MySQL- 3306
g. RDP- 3389
h. SMTP- 25
i. POP- 110
j. IMAP- 143

10. We did just a little bit with Ubuntu today. But how much Unix/Linux do you remember from CSCI 2200? I'm asking because I've been reviewing a lot of Dr. Pfeiffer's lecture materials for him this semester. I'm seeing a lot of overlap with the material that I have. Answering this will help me determine if I need to change some stuff. If you honestly don't remember a lot of it (it's been two years since 2200 for many of you, after all), that's fine -- less work for me. But I don't want to waste your time, and can find other topics of value. I remember a pretty good amount of Unix since I used it frequently during my internship working with production VM's and when I'm configuring my home lab containers. Personally, I would really like to learn about new tools or technologies I may have not known before. (Example- This past weekend I tought myself how a reverse proxy works and configured Traefik and Crowdsec to communicate together so I could expose my home router with a Ddns to access a webserver hosted in my homelab.)