LETTERKENNY INSTITUTE OF TECHNOLOGY

ASSIGNMENT COVER SHEET

Lecturer's Name: Ruth Lennon

Assessment Title: OOPR For Server Admin

Work to be submitted to: Ruth Lennon

Date for submission of work: 29/11/2021

Place and time for submitting work: Blackboard as per submission link

To be completed by the Student

Student's Name: Luis Gonzalez

Class: OOPR For Server Admin

Subject/Module: OOPR For Server Admin

Word Count (where applicable): N/A

I confirm that the work submitted has been produced solely through my own efforts.

Student's signature: Luis Gonzalez **Date:** 29/11/2021

Notes

Penalties: The total marks available for an assessment is reduced by 15% for work submitted up to one week late. The total marks available are reduced by 30% for work up to two weeks late. Assessment work received more than two weeks late will receive a mark of zero. [Incidents of alleged plagiarism and cheating are dealt with in accordance with the Institute's Assessment Regulations.]

Plagiarism: Presenting the ideas etc. of someone else without proper acknowledgement (see section L1 paragraph 8).

Cheating: The use of unauthorised material in a test, exam etc., unauthorised access to test matter, unauthorised collusion, dishonest behaviour in respect of assessments, and deliberate plagiarism (see section L1 paragraph 8).

Continuous Assessment: For students repeating an examination, marks awarded for continuous assessment, shall normally be carried forward from the original examination to the repeat examination.

Aims/Description

As per Assignment Question:

(Preparation: Not code) Install apache2 on the vm.

The first command installs the web server. The second allows the server through the firewall – if this was a production machine I would not do it this way! The next command reboots the vm to allow the changes to take effect. Next, start the server and then test that it is running.

```
sudo apt-get install apache2
sudo ufw allow 'Apache Full'
sudo init 6
sudo systemctl start apache2
sudo systemctl status apache2
```

Open a browser on your own host machine (not the vm) and point it to the ip address of the vm. It should show a default web page. Use screenshots to demonstrate that this worked. Save them to a file named L0012345_Q1_File_1 where L0012345 is replace by your own L number.

Results

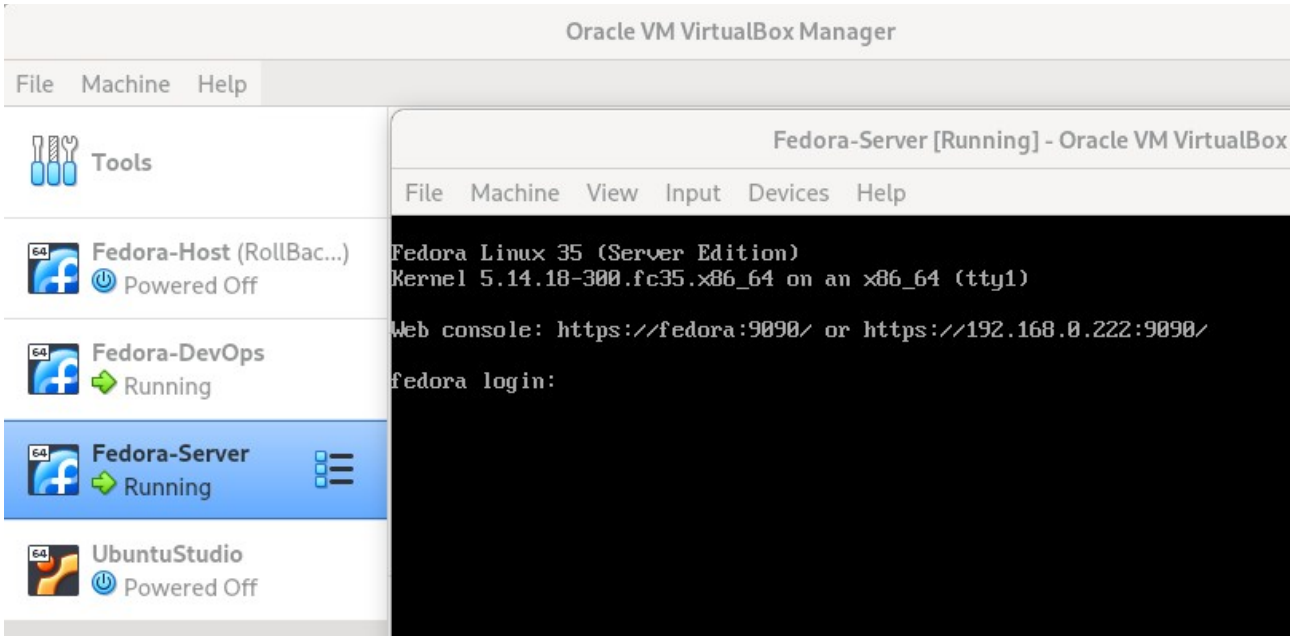
1. Virtual Server was installed (Fedora Server 35) successfully
2. httpd (apache) service was installed
3. Firewall (ufw) ports were open to allow connection to server
4. Successfully able to connect to port 80 (apache) & port 22 (ssh)
5. Current file was uploaded to Student's GitHub Repository into OOPRAssignment_Q1 https://github.com/L00170299/OOPRForServerAdmin

Conclusions

Student have always loved/used Linux at home. Creating a new virtual server and installing services is something Student is used to.
Although Ubuntu has been used in the past by Student. It was decided to use Fedora as the distribution to work with as its the main/favourite to use at home.
This particular question was easy to have it done.

Appendix

VirtualBox running Fedora Server 35



Installing httpd service (apache)

```
[vserver@fedora jenkins]$ sudo dnf install httpd
Last metadata expiration check: 0:19:29 ago on Mon 29 Nov 2021 19:29:53.
Dependencies resolved.
================================================================================
 Package                    Architecture   Version                 Repository       Size
================================================================================
Installing:
 httpd                      x86_64         2.4.51-2.fc35           fedora          1.4 M
Installing dependencies:
 apr                        x86_64         1.7.0-14.fc35           fedora          123 k
 apr-util                   x86_64         1.6.1-17.fc35           fedora           94 k
 fedora-logos-httpd         noarch         35.0.0-2.fc35           updates          16 k
 httpd-filesystem           noarch         2.4.51-2.fc35           fedora           12 k
 httpd-tools                x86_64         2.4.51-2.fc35           fedora           80 k
Installing weak dependencies:
 apr-util-bdb               x86_64         1.6.1-17.fc35           fedora           12 k
 apr-util-openssl           x86_64         1.6.1-17.fc35           fedora           15 k
 julietaula-montserrat-fonts noarch        1:7.222-1.fc35          updates         1.6 M
 mod_http2                  x86_64         1.15.24-1.fc35          updates         150 k
 mod_lua                    x86_64         2.4.51-2.fc35           fedora           60 k

Transaction Summary
================================================================================
Install  11 Packages

Total download size: 3.5 M
Installed size: 10 M
Is this ok [y/N]:
```

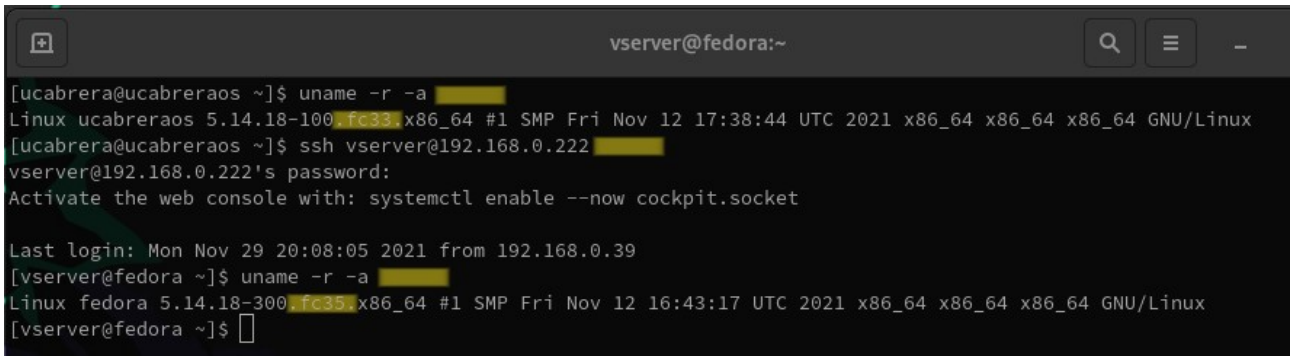
Check status, enable & start httpd service

```
[vserver@fedora jenkins]$ sudo systemctl status httpd.service
● httpd.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)
     Active: inactive (dead)
       Docs: man:httpd.service(8)
[vserver@fedora jenkins]$ sudo systemctl enable httpd.service
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/
httpd.service.
[vserver@fedora jenkins]$ sudo systemctl start httpd.service
[vserver@fedora jenkins]$ sudo systemctl status httpd.service
● httpd.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
     Active: active (running) since Mon 2021-11-29 19:51:49 GMT; 22s ago
       Docs: man:httpd.service(8)
   Main PID: 28174 (httpd)
     Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes served/sec:   0 B/s>
      Tasks: 177 (limit: 4649)
     Memory: 13.6M
        CPU: 52ms
     CGroup: /system.slice/httpd.service
             ├─28174 /usr/sbin/httpd -DFOREGROUND
             ├─28175 /usr/sbin/httpd -DFOREGROUND
             ├─28176 /usr/sbin/httpd -DFOREGROUND
             ├─28177 /usr/sbin/httpd -DFOREGROUND
             └─28178 /usr/sbin/httpd -DFOREGROUND

Nov 29 19:51:49 fedora systemd[1]: Starting The Apache HTTP Server...
Nov 29 19:51:49 fedora httpd[28174]: AH00558: httpd: Could not reliably determine the server's full>
Nov 29 19:51:49 fedora systemd[1]: Started The Apache HTTP Server.
Nov 29 19:51:49 fedora httpd[28174]: Server configured, listening on: port 80
lines 1-20/20 (END)
```

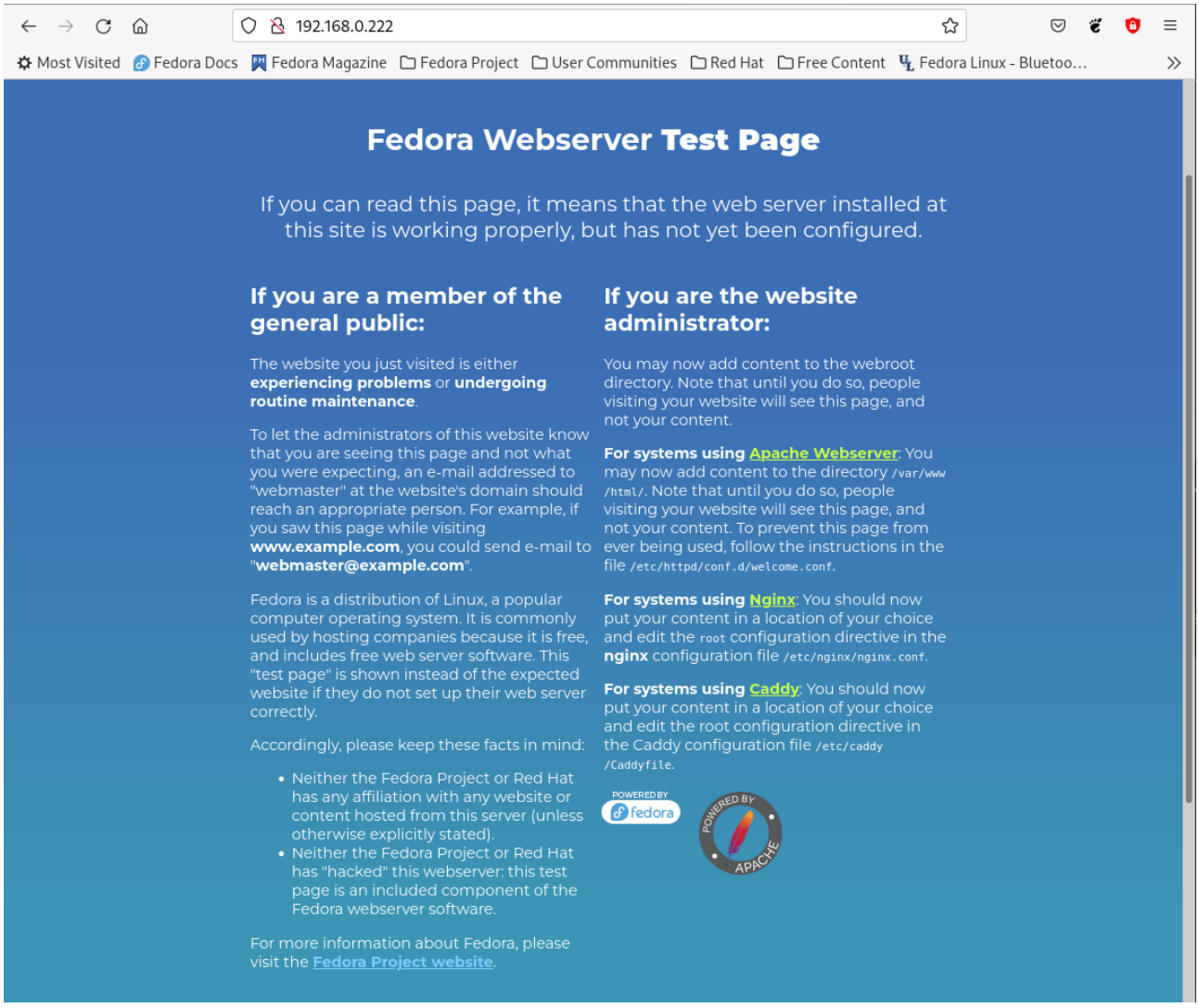
Check status , enable, allow port 80 (apache) and reload of rules of firewall (ufw). SSH its allowed by default

```
[vserver@fedora jenkins]$ sudo ufw status numbered
Status: inactive
[vserver@fedora jenkins]$ sudo ufw enable
Firewall is active and enabled on system startup
[vserver@fedora jenkins]$ sudo ufw status numbered
Status: active

     To                         Action      From
     --                         ------      ----
[ 1] SSH                        ALLOW IN    Anywhere
[ 2] 224.0.0.251 mDNS           ALLOW IN    Anywhere
[ 3] 22                         ALLOW IN    Anywhere

[vserver@fedora jenkins]$ sudo ufw allow 80
Rule added
Rule added (v6)
[vserver@fedora jenkins]$ sudo ufw reload
Firewall reloaded
[vserver@fedora jenkins]$ sudo ufw status numbered
Status: active

     To                         Action      From
     --                         ------      ----
[ 1] SSH                        ALLOW IN    Anywhere
[ 2] 224.0.0.251 mDNS           ALLOW IN    Anywhere
[ 3] 22                         ALLOW IN    Anywhere
[ 4] 80                         ALLOW IN    Anywhere
[ 5] 80 (v6)                    ALLOW IN    Anywhere (v6)

[vserver@fedora jenkins]$
```

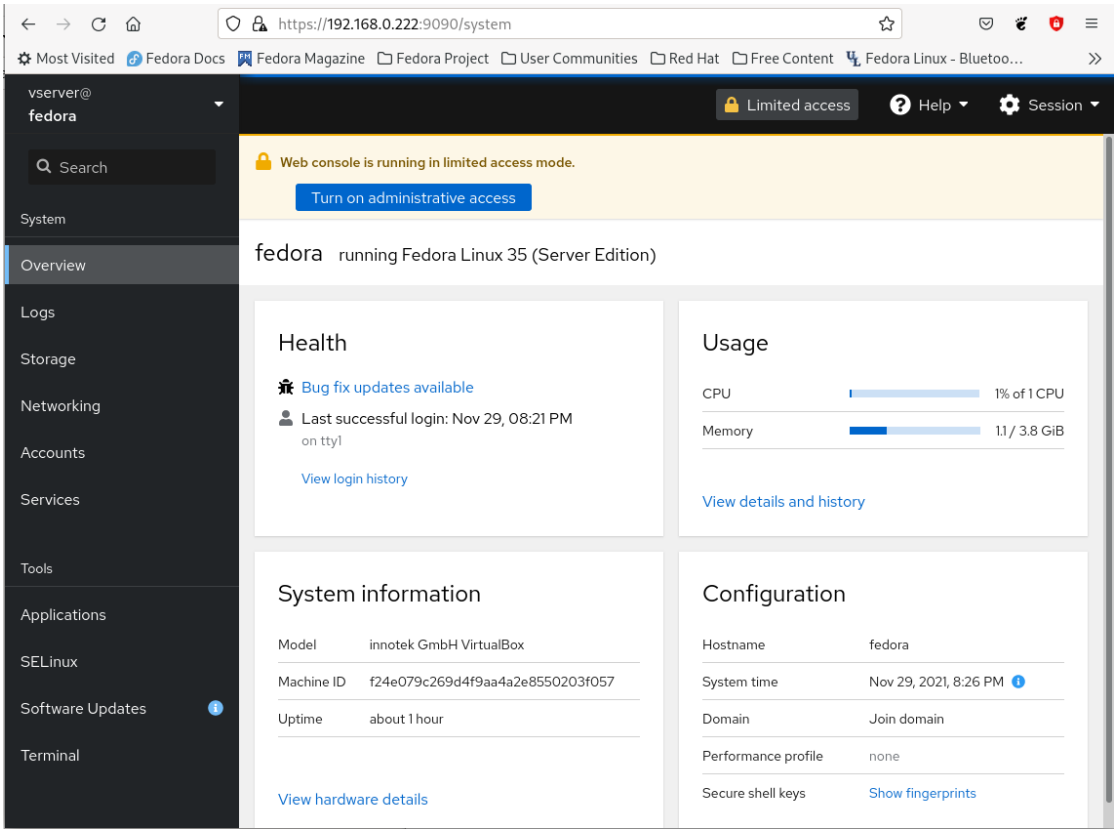
Accessing Fedora Server from another Terminal (ssh)



Browsing httpd website (default apache)



Other web tools installed and ports open:
9090: Web Admin console from RedHat



8080: Jenkins