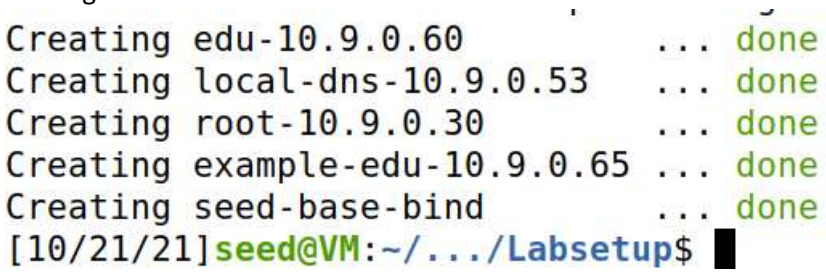
Advanced Computer Networking and Security - 5800

Assignment -7
DNS IN A BOX

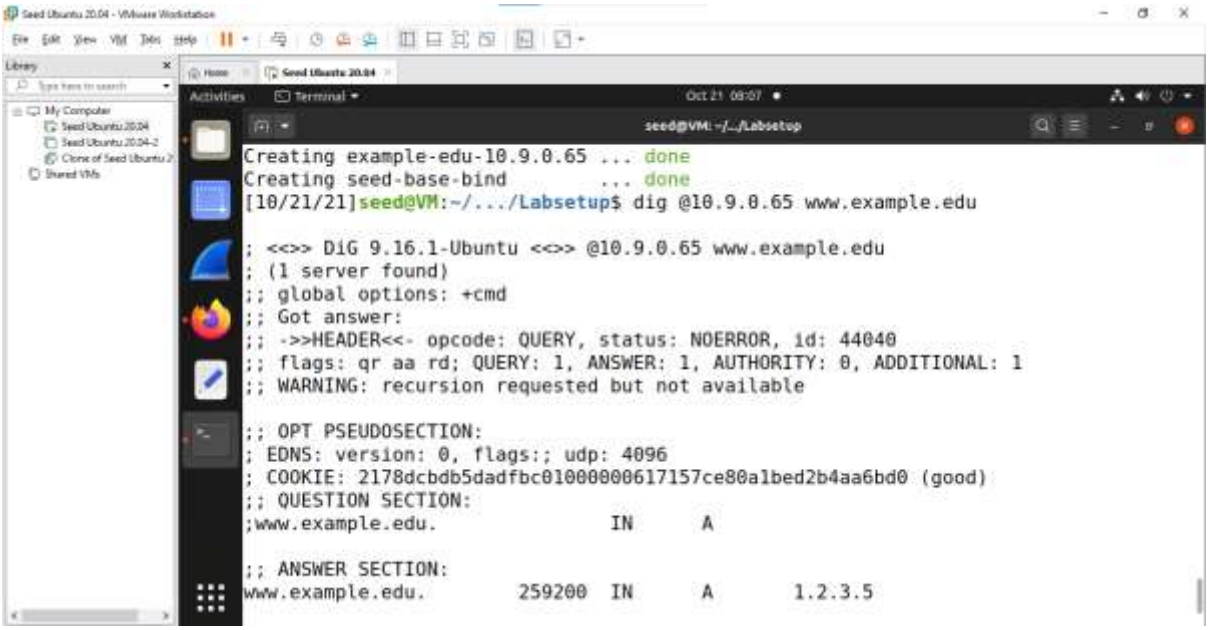
Name: SAI ROHIT JONNADA

ID :700723743

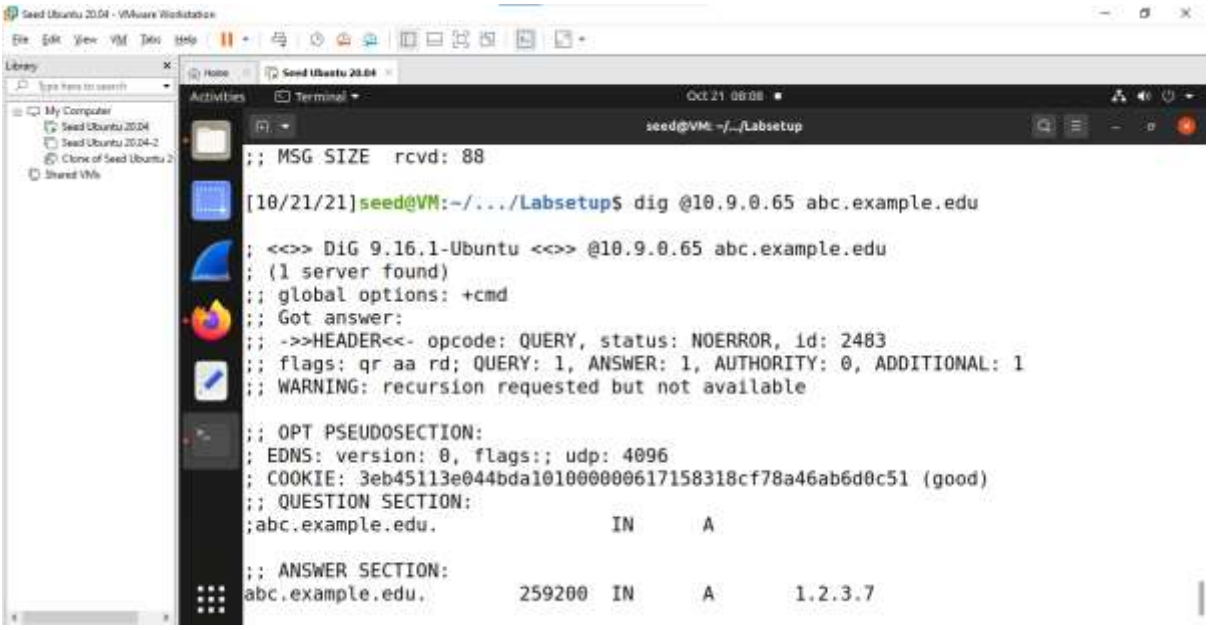
Turning on the docker



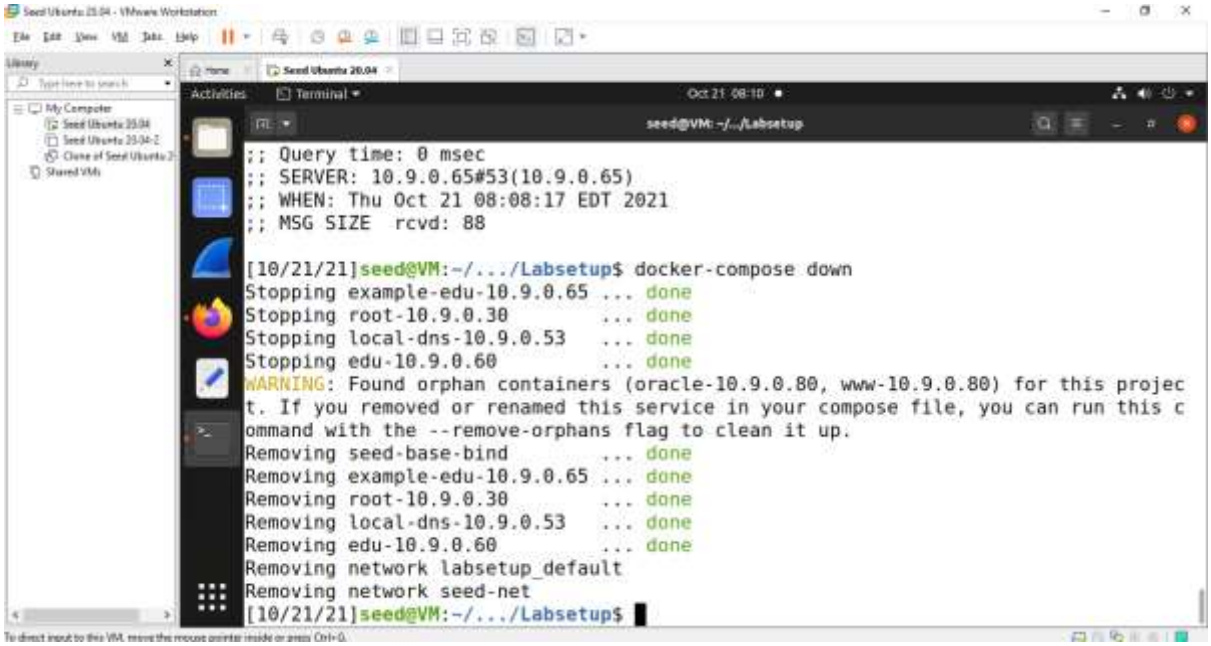
Running the dig command to check the server

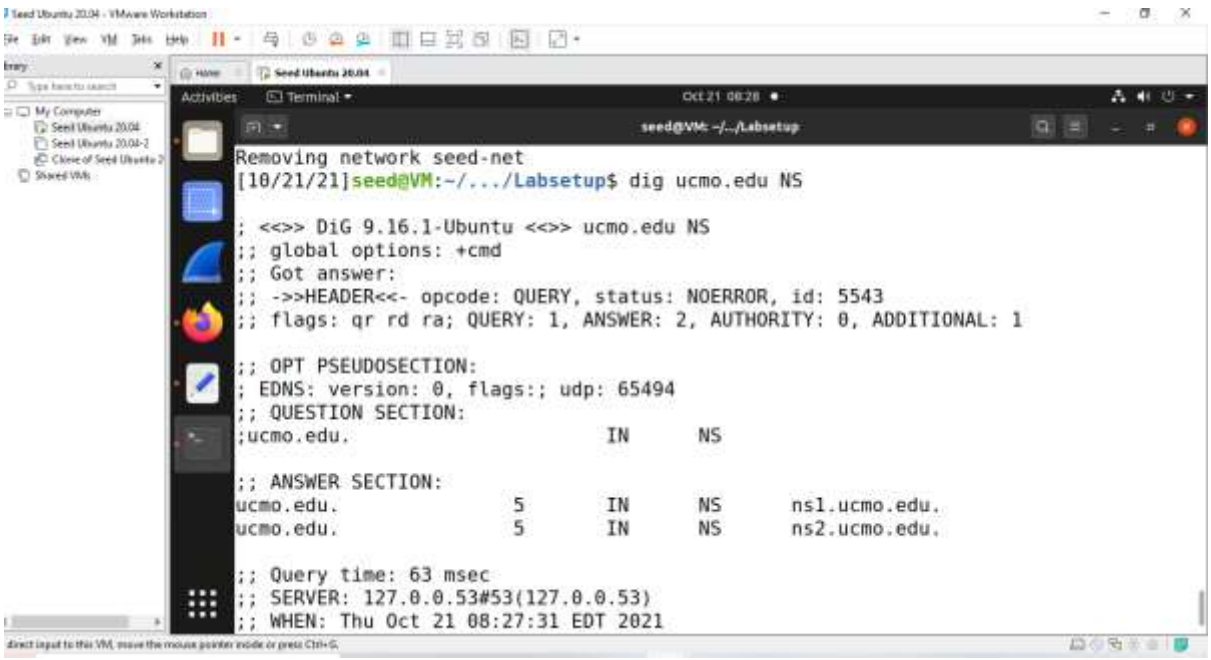


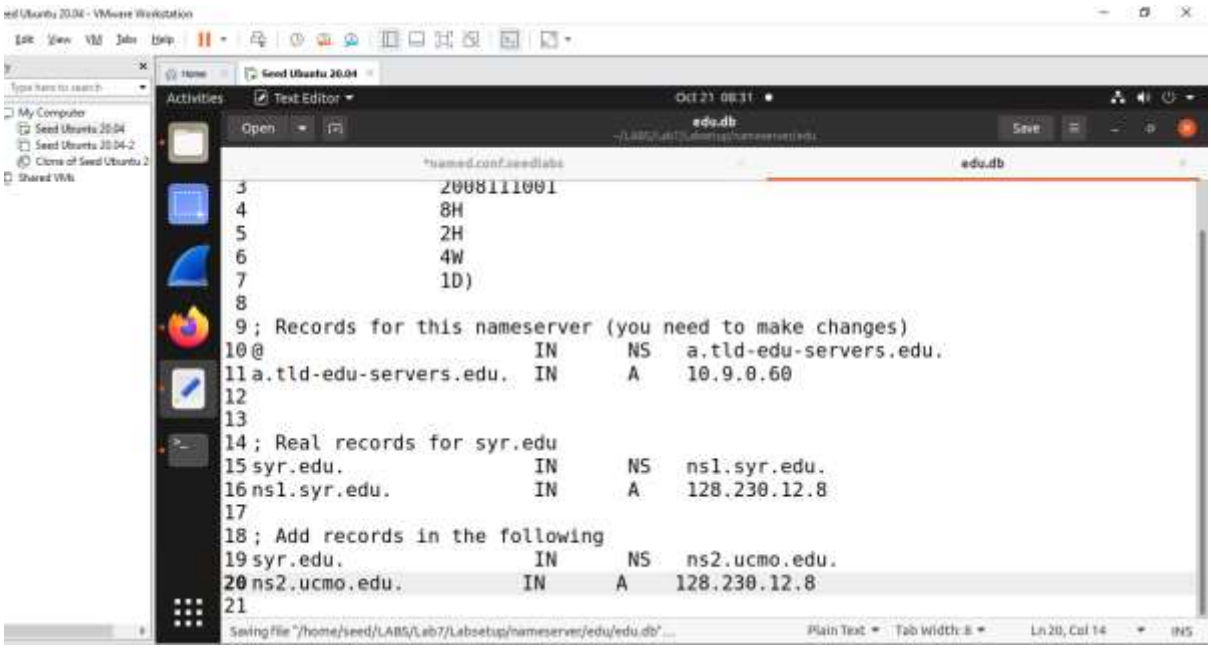
Checking with abc.example.edu

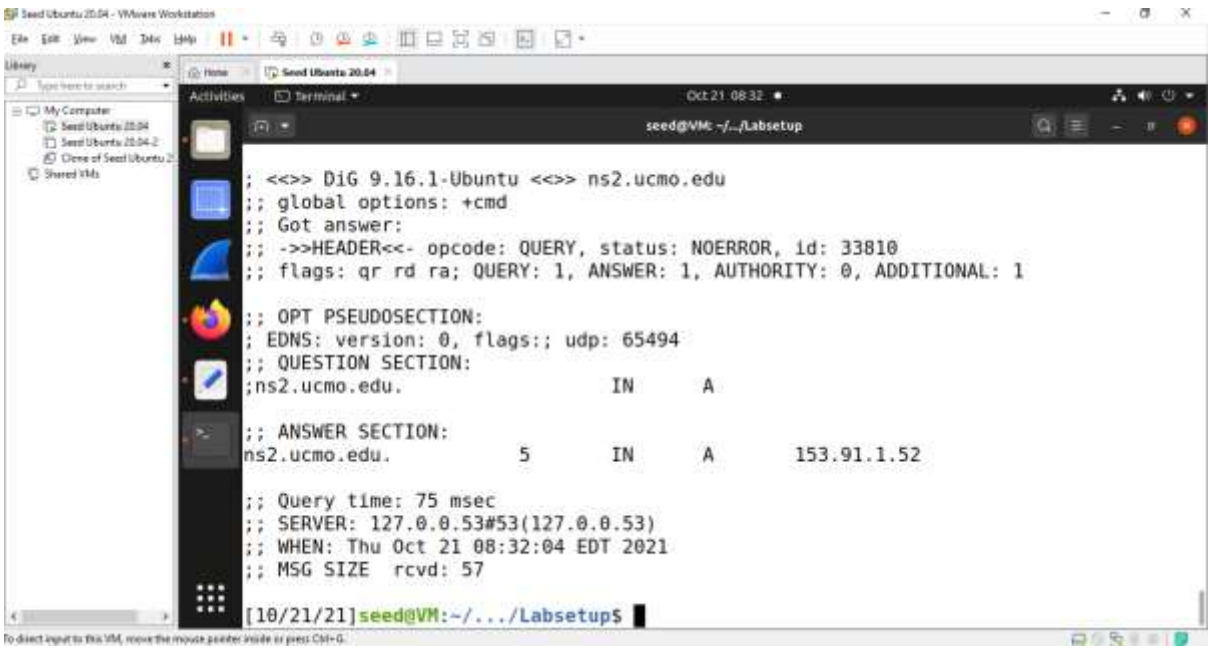


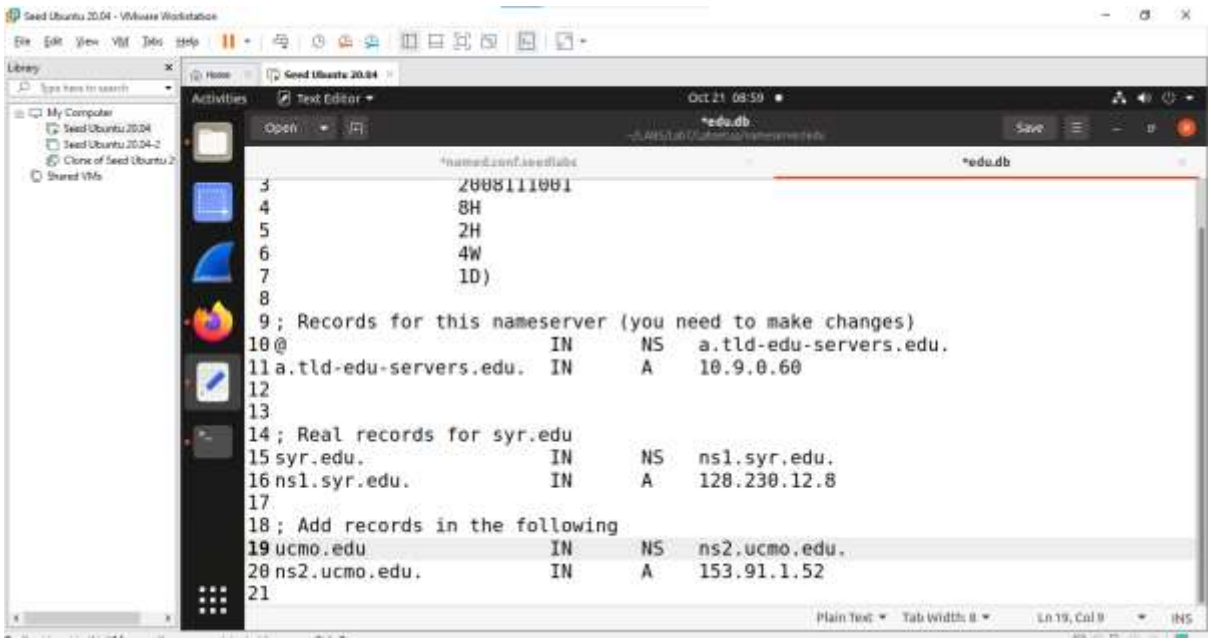
Turning off the docker

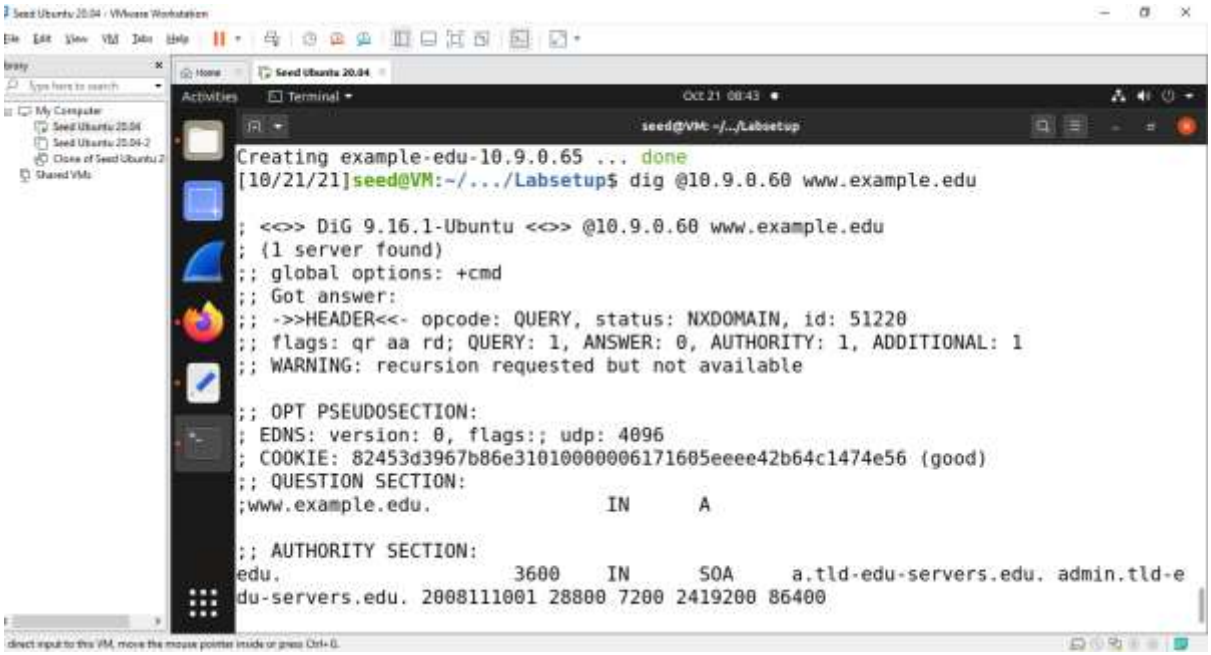


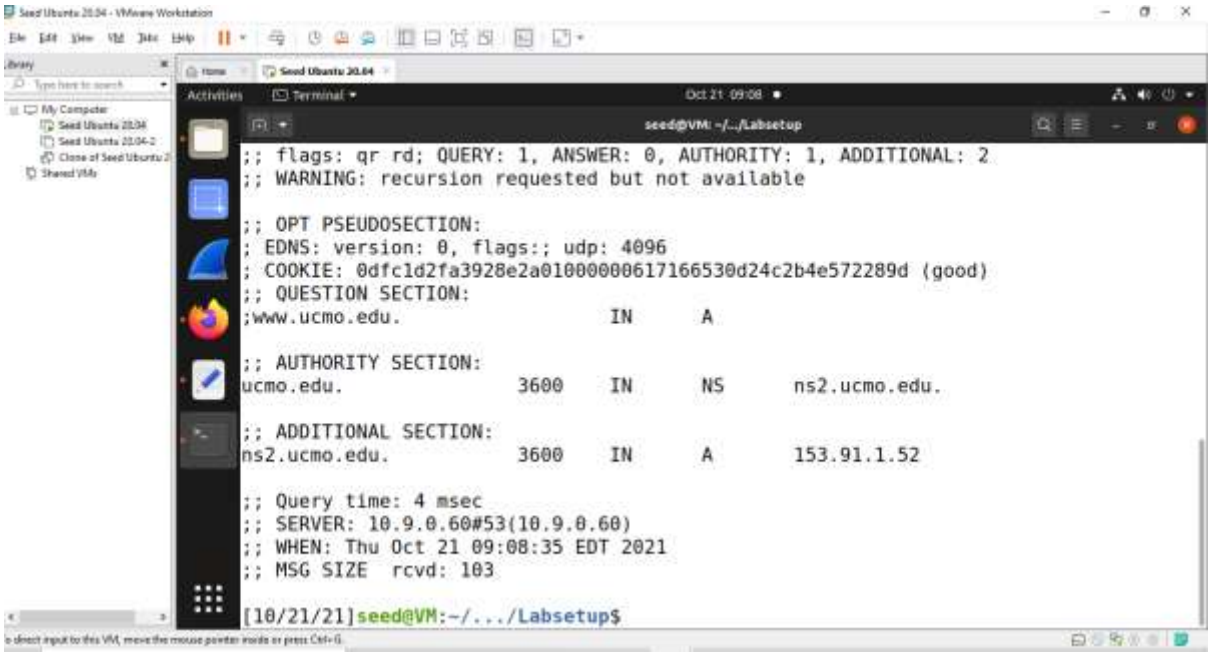

Activities
Terminal
Oct 21 08:28
seed@VM: ~/.../Labsetup
Removing network seed-net
[10/21/21]seed@VM:~/.../Labsetup$ dig ucmo.edu NS
; <<>> DiG 9.16.1-Ubuntu <<>> ucmo.edu NS
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 5543
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;ucmo.edu. IN NS
;; ANSWER SECTION:
ucmo.edu. 5 IN NS ns1.ucmo.edu.
ucmo.edu. 5 IN NS ns2.ucmo.edu.
;; Query time: 63 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Thu Oct 21 08:27:31 EDT 2021

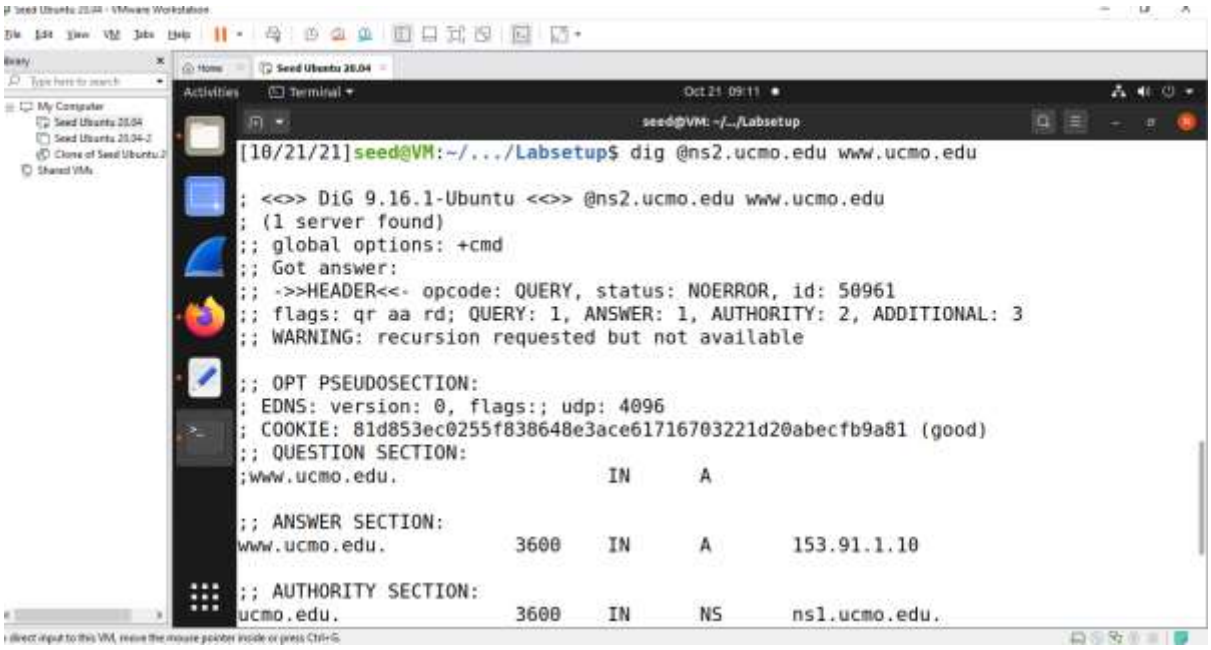

Activities
Text Editor
Oct 21 08:31
Open
edu.db
Save
*named.conf.seedlabs
edu.db
2008111001
8H
2H
4W
1D)
; Records for this nameserver (you need to make changes)
@ IN NS a.tld-edu-servers.edu.
a.tld-edu-servers.edu. IN A 10.9.0.60
; Real records for syr.edu
syr.edu. IN NS ns1.syr.edu.
ns1.syr.edu. IN A 128.230.12.8
; Add records in the following
syr.edu. IN NS ns2.ucmo.edu.
ns2.ucmo.edu. IN A 128.230.12.8
Plain Text
Tab Width: 8
Ln 20, Col 14
INS

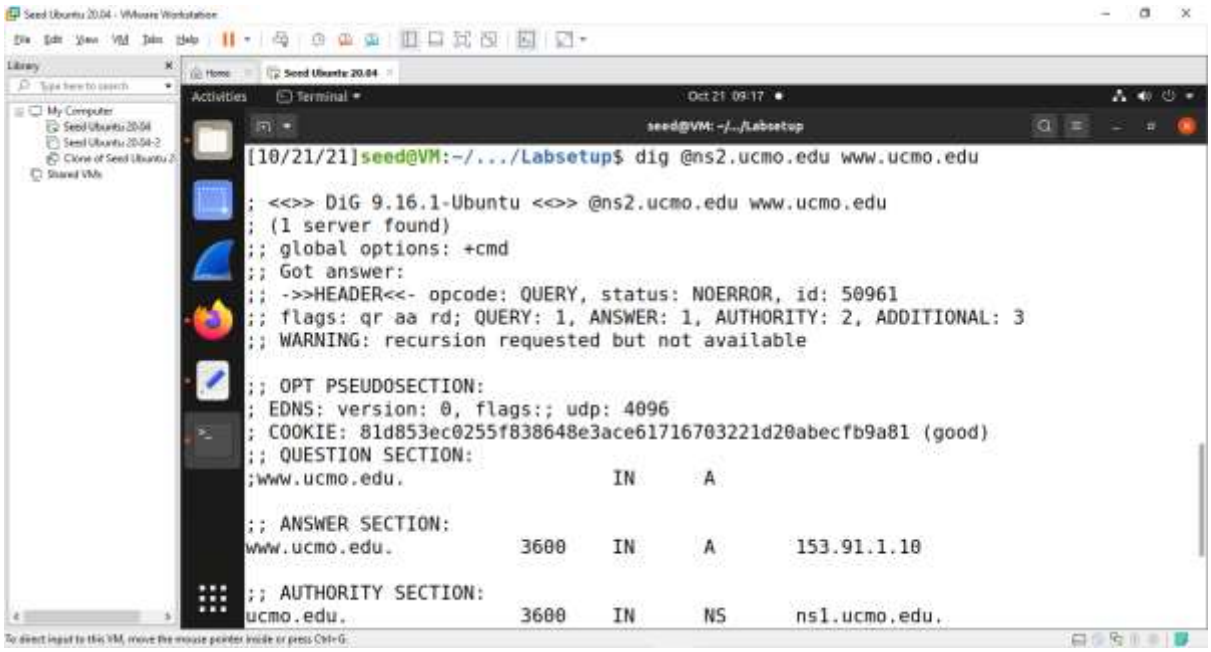

Activities
Terminal
Oct 21 08:32
seed@VM: ~/.../Labsetup
; <<>> DiG 9.16.1-Ubuntu <<>> ns2.ucmo.edu
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 33810
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;ns2.ucmo.edu. IN A
;; ANSWER SECTION:
ns2.ucmo.edu. 5 IN A 153.91.1.52
;; Query time: 75 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Thu Oct 21 08:32:04 EDT 2021
;; MSG SIZE rcvd: 57
[10/21/21]seed@VM:~/.../Labsetup$

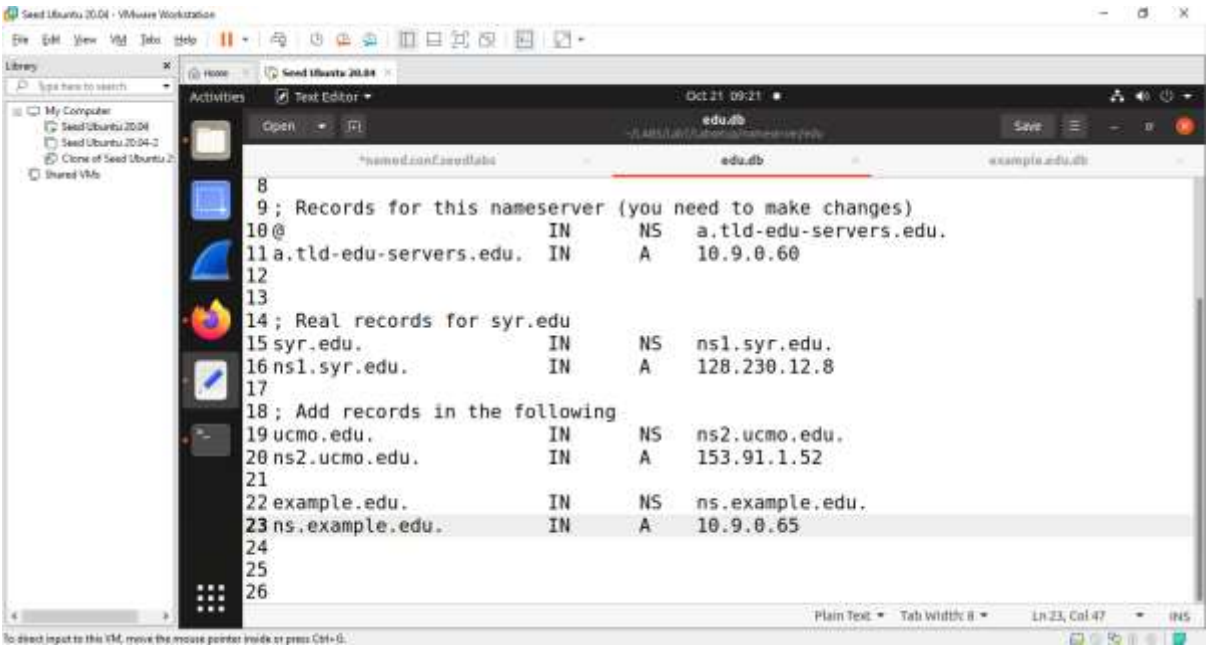

Activities
Text Editor
Oct 21 08:59
Open
*edu.db
Save
*named.conf.seedlabs
*edu.db
2008111001
8H
2H
4W
1D)
; Records for this nameserver (you need to make changes)
@ IN NS a.tld-edu-servers.edu.
a.tld-edu-servers.edu. IN A 10.9.0.60
; Real records for syr.edu
syr.edu. IN NS ns1.syr.edu.
ns1.syr.edu. IN A 128.230.12.8
; Add records in the following
ucmo.edu IN NS ns2.ucmo.edu.
ns2.ucmo.edu. IN A 153.91.1.52
Plain Text
Tab Width: 8
Ln 19, Col 9
INS


Activities
Terminal
Oct 21 08:43
seed@VM: ~/.../Labsetup
Creating example-edu-10.9.0.65 ... done
[10/21/21]seed@VM:~/.../Labsetup$ dig @10.9.0.60 www.example.edu
; <<>> DiG 9.16.1-Ubuntu <<>> @10.9.0.60 www.example.edu
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NXDOMAIN, id: 51220
;; flags: qr aa rd; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1
;; WARNING: recursion requested but not available
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: 82453d3967b86e31010000006171605eeee42b64c1474e56 (good)
;; QUESTION SECTION:
;www.example.edu. IN A
;; AUTHORITY SECTION:
edu. 3600 IN SOA a.tld-edu-servers.edu. admin.tld-e
du-servers.edu. 2008111001 28800 7200 2419200 86400

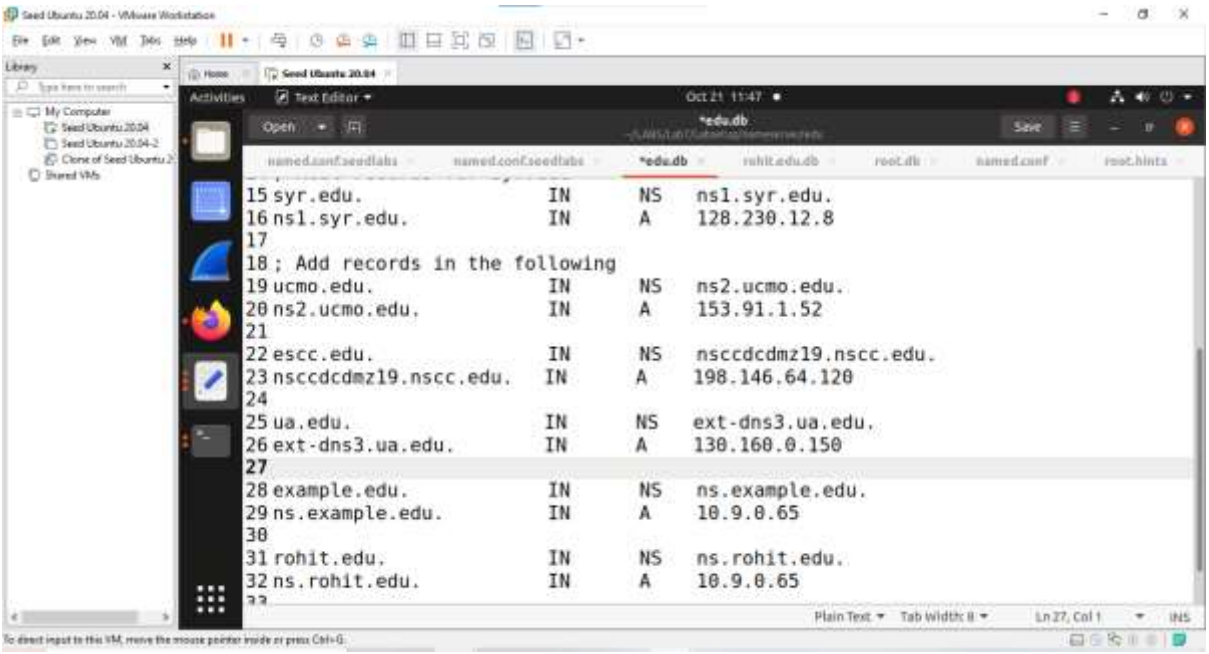

Activities
Terminal
Oct 21 09:08
seed@VM: ~/.../Labsetup
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 2
;; WARNING: recursion requested but not available
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: 0dfc1d2fa3928e2a01000000617166530d24c2b4e572289d (good)
;; QUESTION SECTION:
;www.ucmo.edu. IN A
;; AUTHORITY SECTION:
ucmo.edu. 3600 IN NS ns2.ucmo.edu.
;; ADDITIONAL SECTION:
ns2.ucmo.edu. 3600 IN A 153.91.1.52
;; Query time: 4 msec
;; SERVER: 10.9.0.60#53(10.9.0.60)
;; WHEN: Thu Oct 21 09:08:35 EDT 2021
;; MSG SIZE rcvd: 103
[10/21/21]seed@VM:~/.../Labsetup$


Activities
Terminal
Oct 21 09:11
seed@VM: ~/.../Labsetup
[10/21/21]seed@VM:~/.../Labsetup$ dig @ns2.ucmo.edu www.ucmo.edu
; <<>> DiG 9.16.1-Ubuntu <<>> @ns2.ucmo.edu www.ucmo.edu
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 50961
;; flags: qr aa rd; QUERY: 1, ANSWER: 1, AUTHORITY: 2, ADDITIONAL: 3
;; WARNING: recursion requested but not available
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: 81d853ec0255f838648e3ace61716703221d20abecfb9a81 (good)
;; QUESTION SECTION:
;www.ucmo.edu. IN A
;; ANSWER SECTION:
www.ucmo.edu. 3600 IN A 153.91.1.10
;; AUTHORITY SECTION:
ucmo.edu. 3600 IN NS ns1.ucmo.edu.

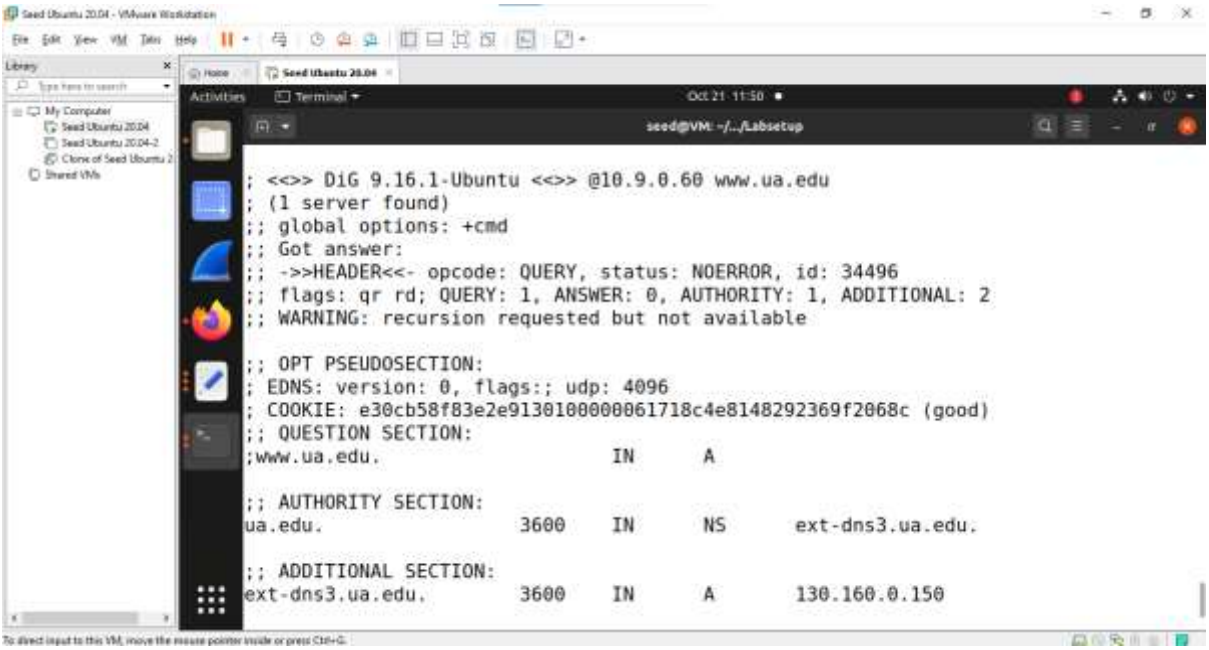

Activities
Terminal
Oct 21 09:17
seed@VM: ~/.../Labsetup
[10/21/21]seed@VM:~/.../Labsetup$ dig @ns2.ucmo.edu www.ucmo.edu
; <<>> DiG 9.16.1-Ubuntu <<>> @ns2.ucmo.edu www.ucmo.edu
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 50961
;; flags: qr aa rd; QUERY: 1, ANSWER: 1, AUTHORITY: 2, ADDITIONAL: 3
;; WARNING: recursion requested but not available
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: 81d853ec0255f838648e3ace61716703221d20abecfb9a81 (good)
;; QUESTION SECTION:
;www.ucmo.edu. IN A
;; ANSWER SECTION:
www.ucmo.edu. 3600 IN A 153.91.1.10
;; AUTHORITY SECTION:
ucmo.edu. 3600 IN NS ns1.ucmo.edu.

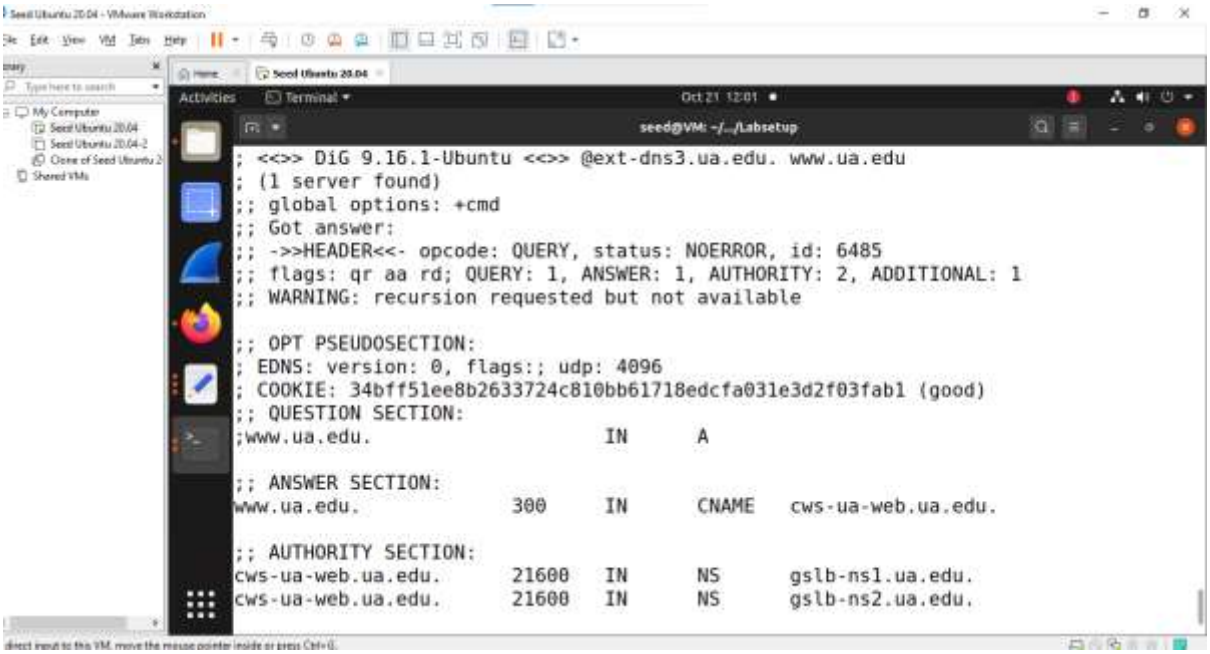


Adding two more domains to the file



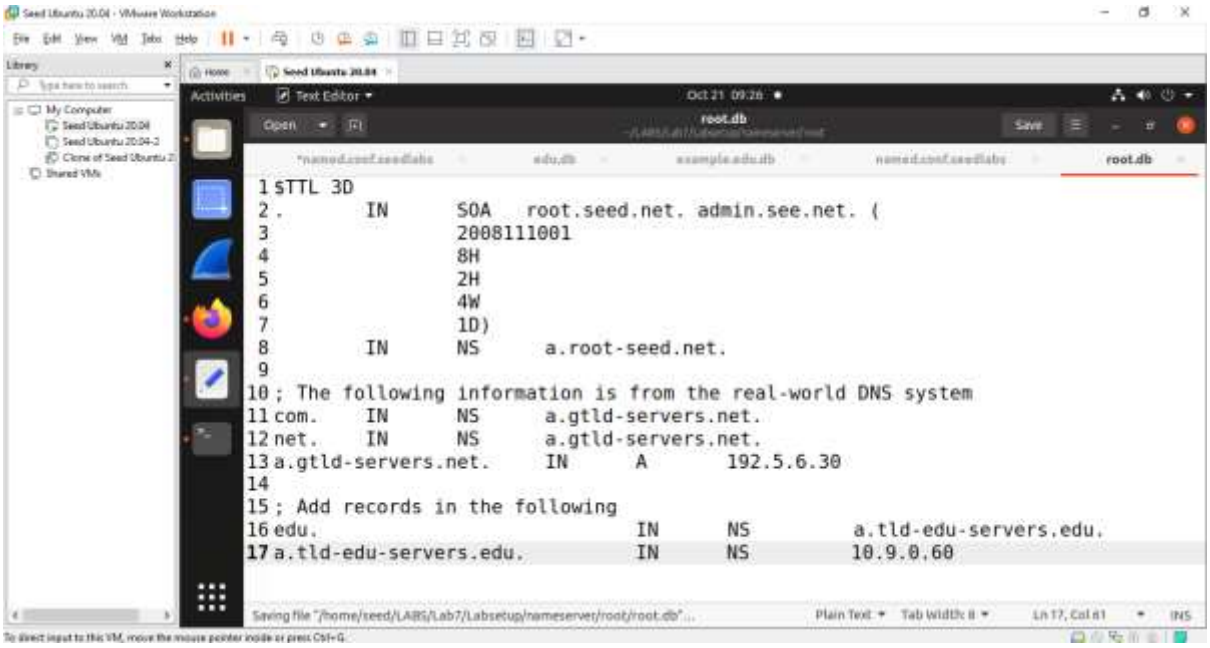
Checking for ua.edu

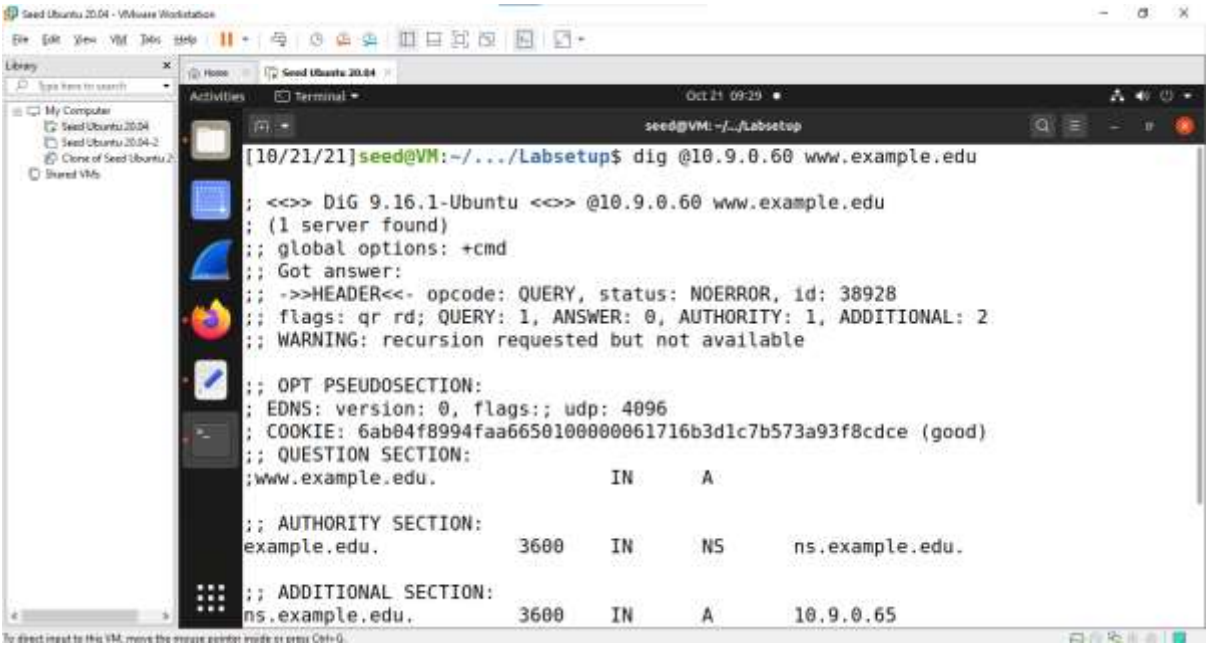


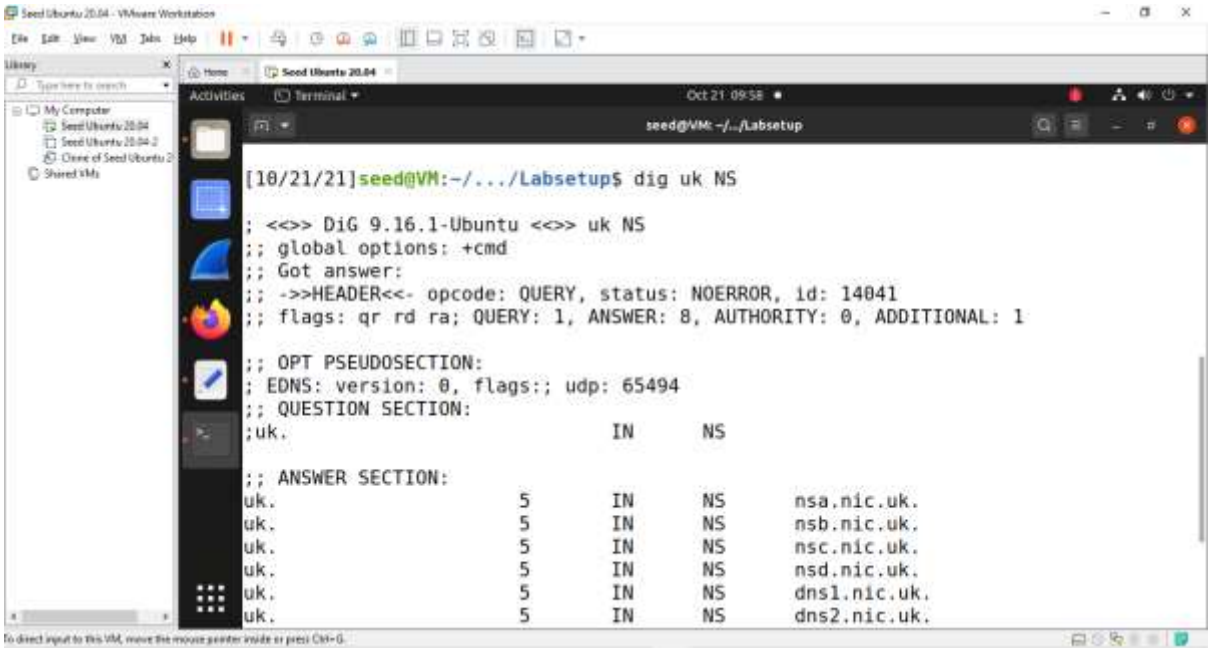


It is perfectly working

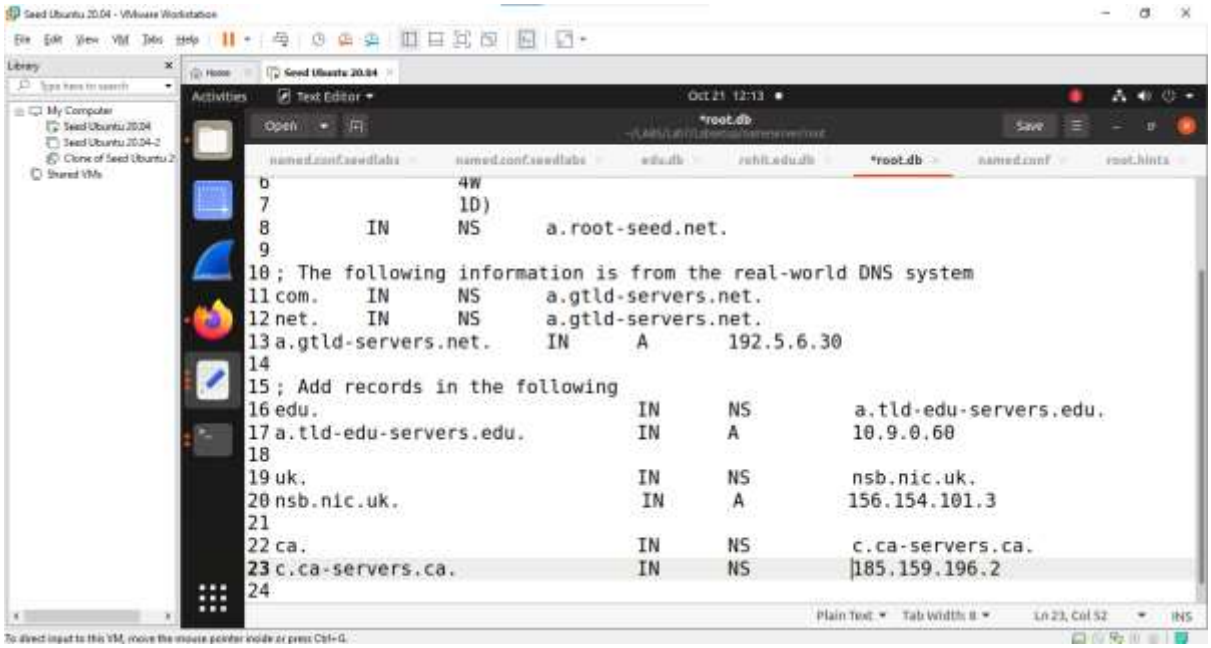
Changing in root file



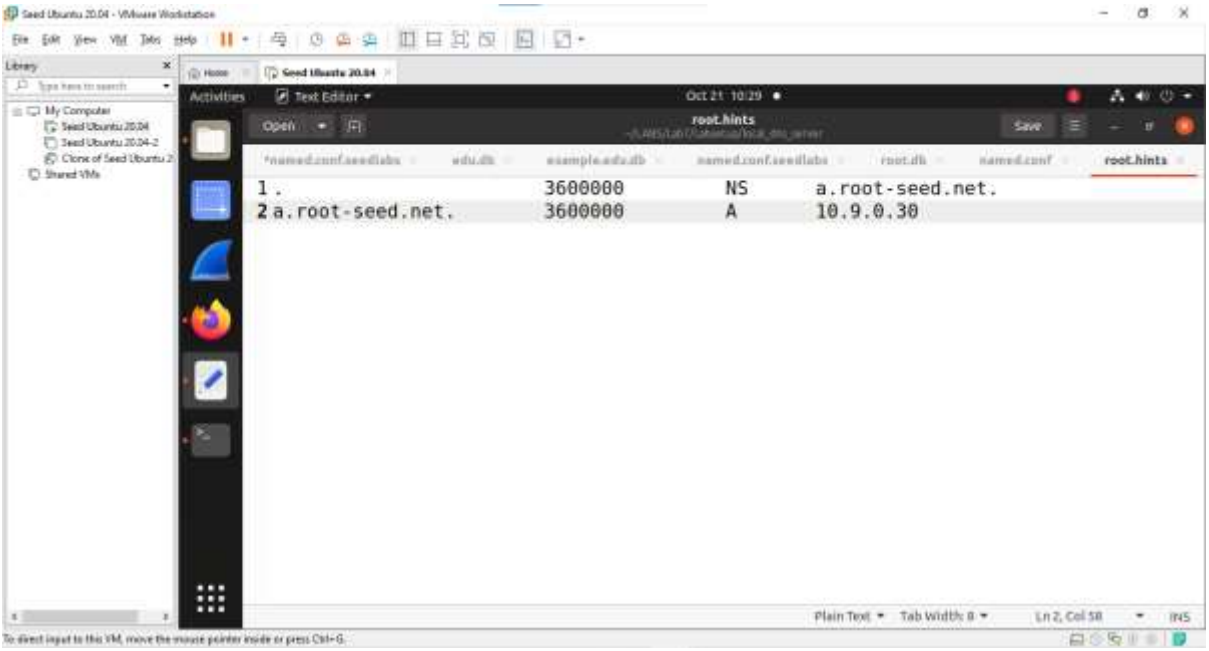


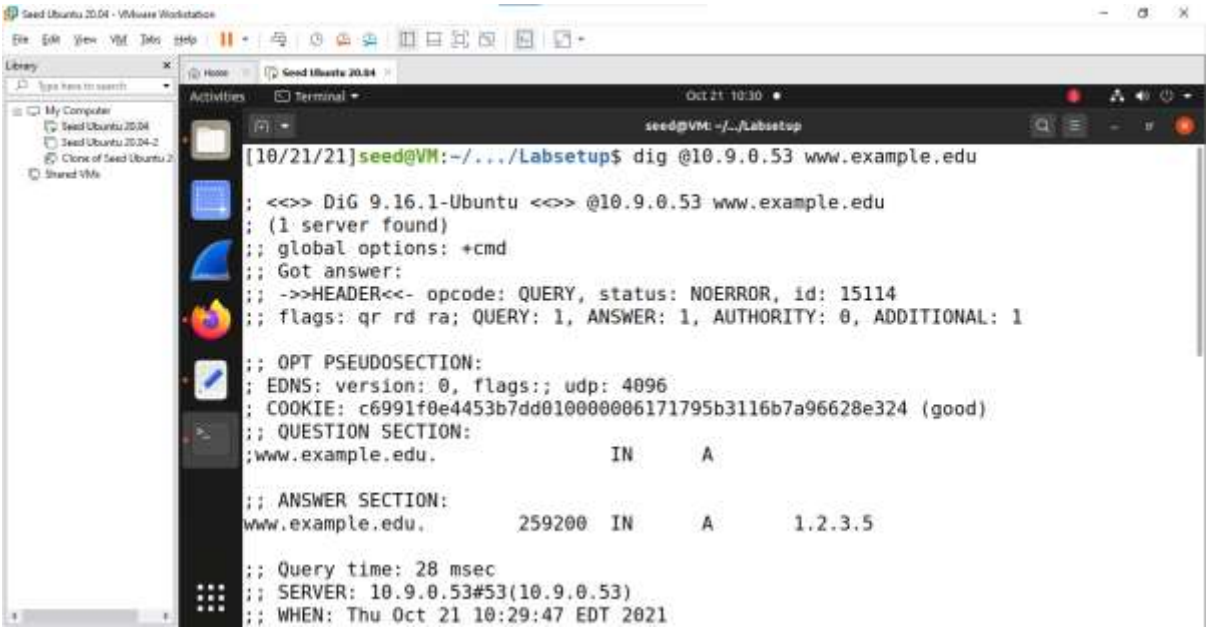


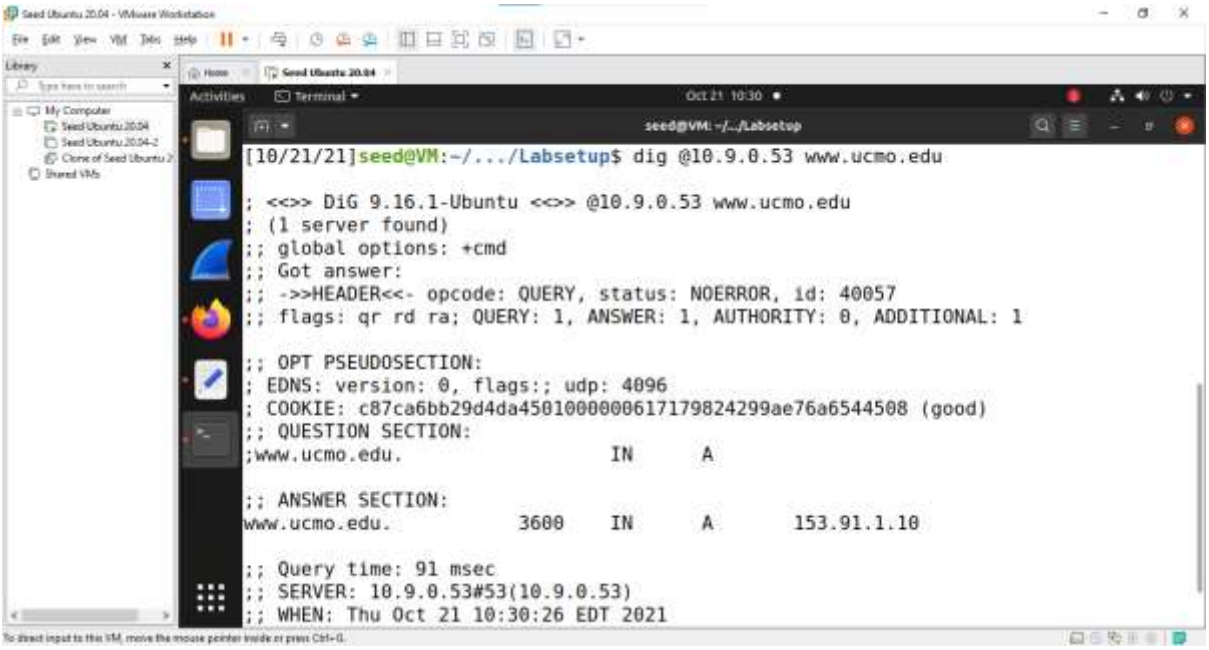
Adding Canada Server

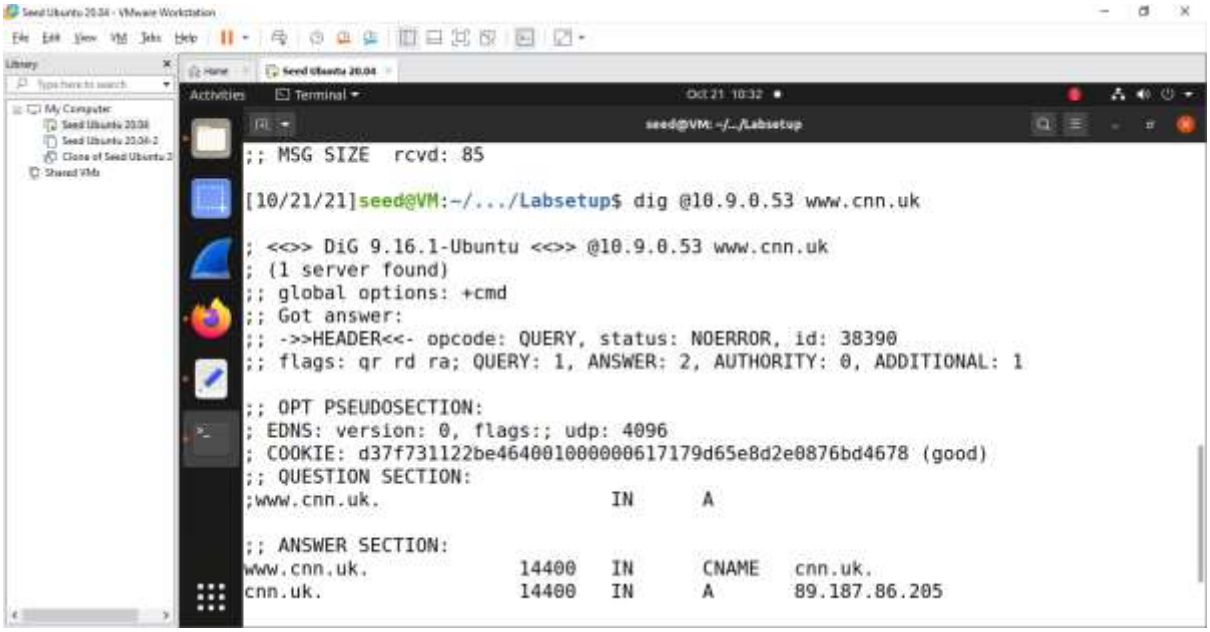


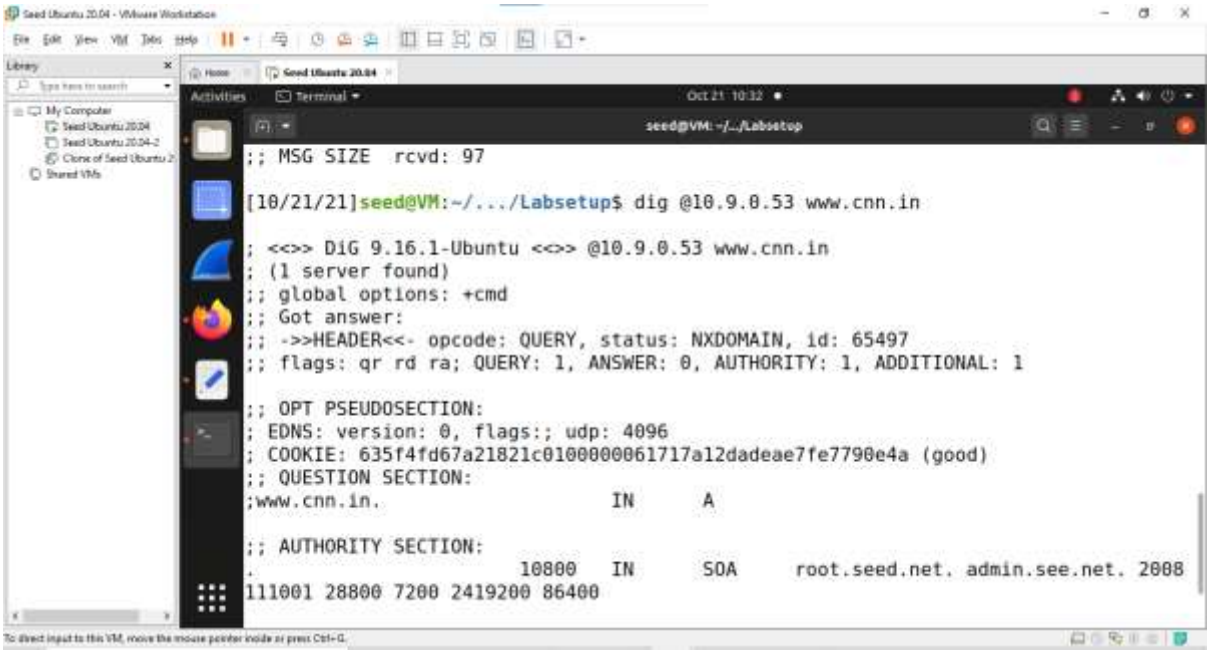
Task 5


root.hints
1 . 3600000 NS a.root-seed.net.
2 a.root-seed.net. 3600000 A 10.9.0.30


[10/21/21]seed@VM:~/.../Labsetup$ dig @10.9.0.53 www.example.edu
; <<>> DiG 9.16.1-Ubuntu <<>> @10.9.0.53 www.example.edu
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 15114
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: c6991f0e4453b7dd010000006171795b3116b7a96628e324 (good)
;; QUESTION SECTION:
;www.example.edu. IN A
;; ANSWER SECTION:
www.example.edu. 259200 IN A 1.2.3.5
;; Query time: 28 msec
;; SERVER: 10.9.0.53#53(10.9.0.53)
;; WHEN: Thu Oct 21 10:29:47 EDT 2021

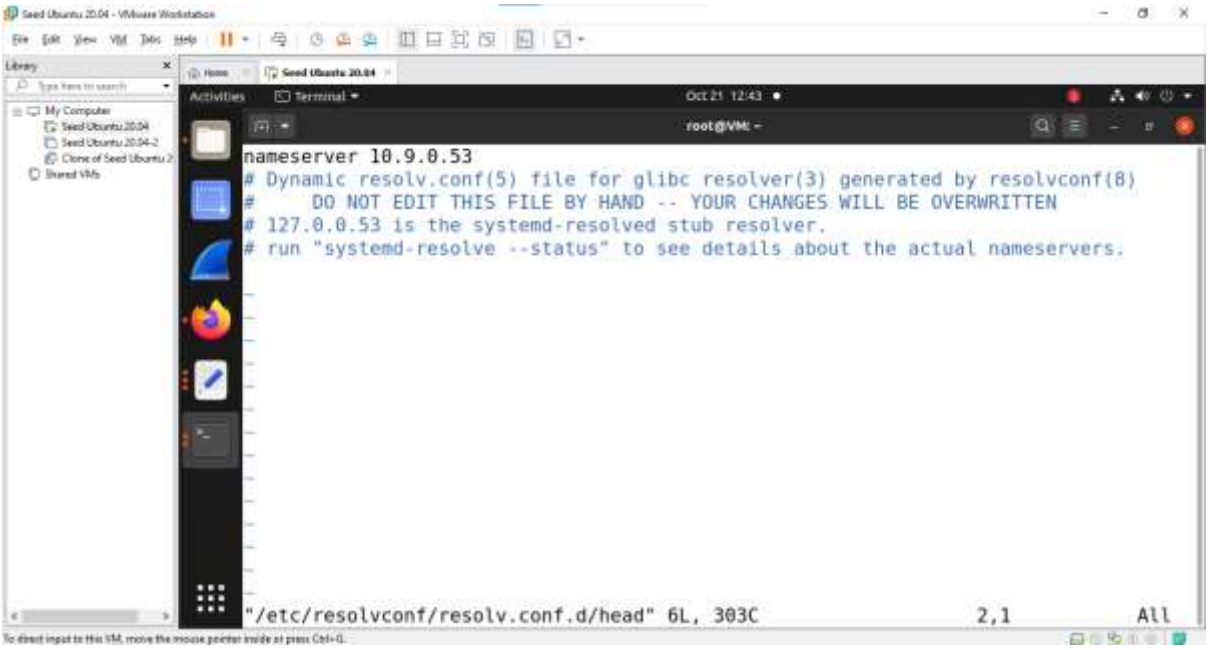

Activities
Terminal
Oct 21 10:30
seed@VM: ~/.../Labsetup
[10/21/21]seed@VM:~/.../Labsetup$ dig @10.9.0.53 www.ucmo.edu
; <<>> DiG 9.16.1-Ubuntu <<>> @10.9.0.53 www.ucmo.edu
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 40057
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: c87ca6bb29d4da450100000061717982 4299ae76a6544508 (good)
;; QUESTION SECTION:
;www.ucmo.edu. IN A
;; ANSWER SECTION:
www.ucmo.edu. 3600 IN A 153.91.1.10
;; Query time: 91 msec
;; SERVER: 10.9.0.53#53(10.9.0.53)
;; WHEN: Thu Oct 21 10:30:26 EDT 2021


Activities
Terminal
Oct 21 10:32
seed@VM: ~/.../Labsetup
;; MSG SIZE rcvd: 85
[10/21/21]seed@VM:~/.../Labsetup$ dig @10.9.0.53 www.cnn.uk
; <<>> DiG 9.16.1-Ubuntu <<>> @10.9.0.53 www.cnn.uk
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 38390
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: d37f731122be4640010000006171 79d65e8d2e0876bd4678 (good)
;; QUESTION SECTION:
;www.cnn.uk. IN A
;; ANSWER SECTION:
www.cnn.uk. 14400 IN CNAME cnn.uk.
cnn.uk. 14400 IN A 89.187.86.205

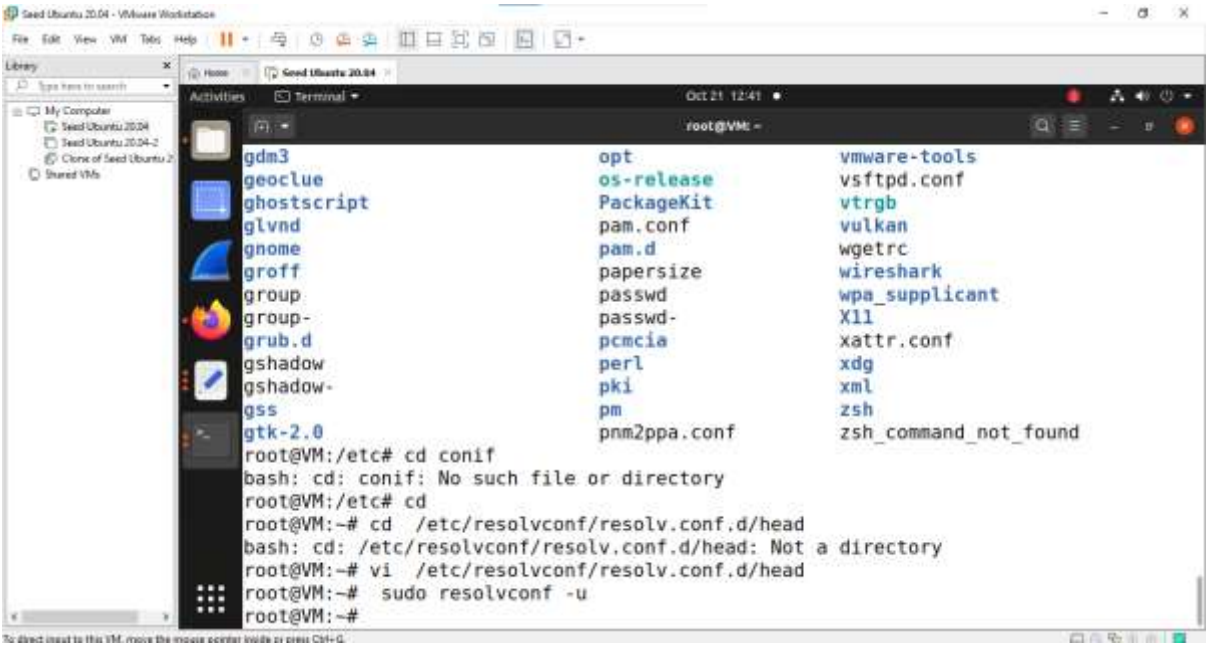


Task 6

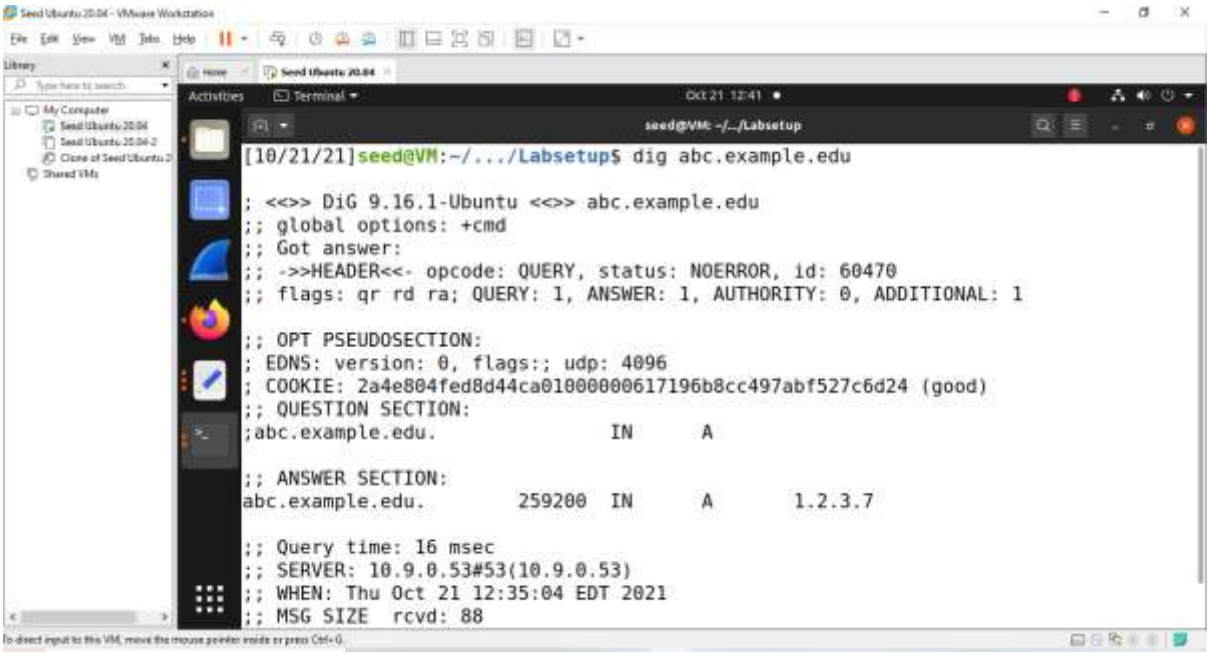
Task 6: Configure our VM to use this local DNS server



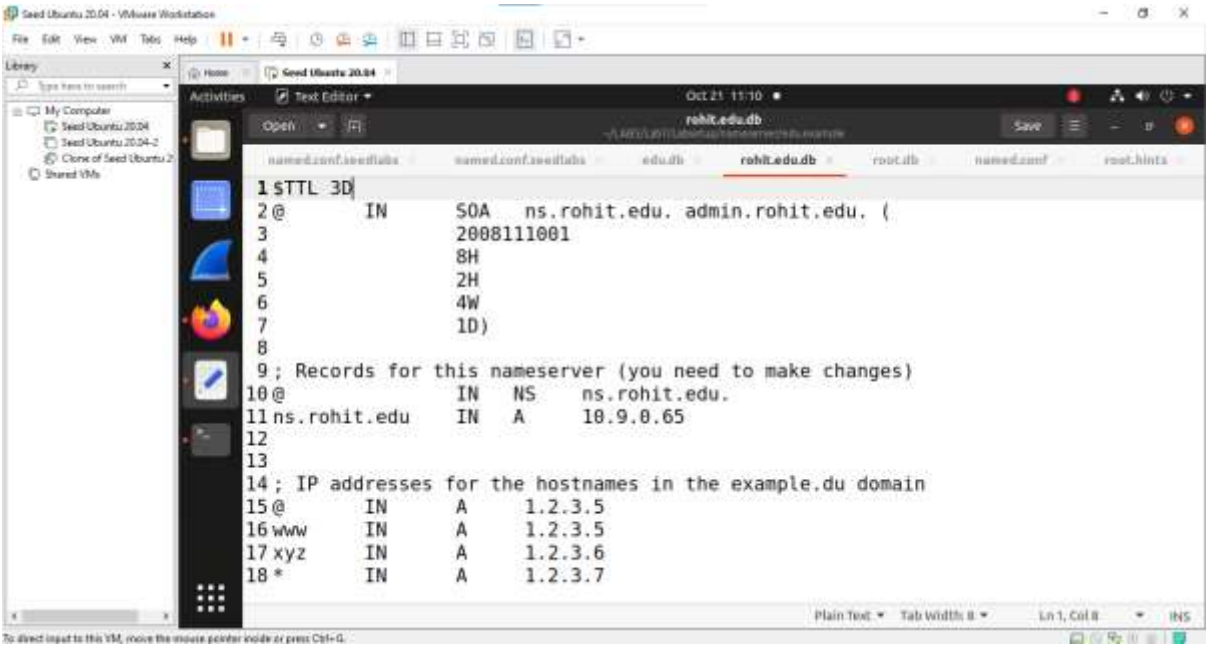
Executing resolvconf -u

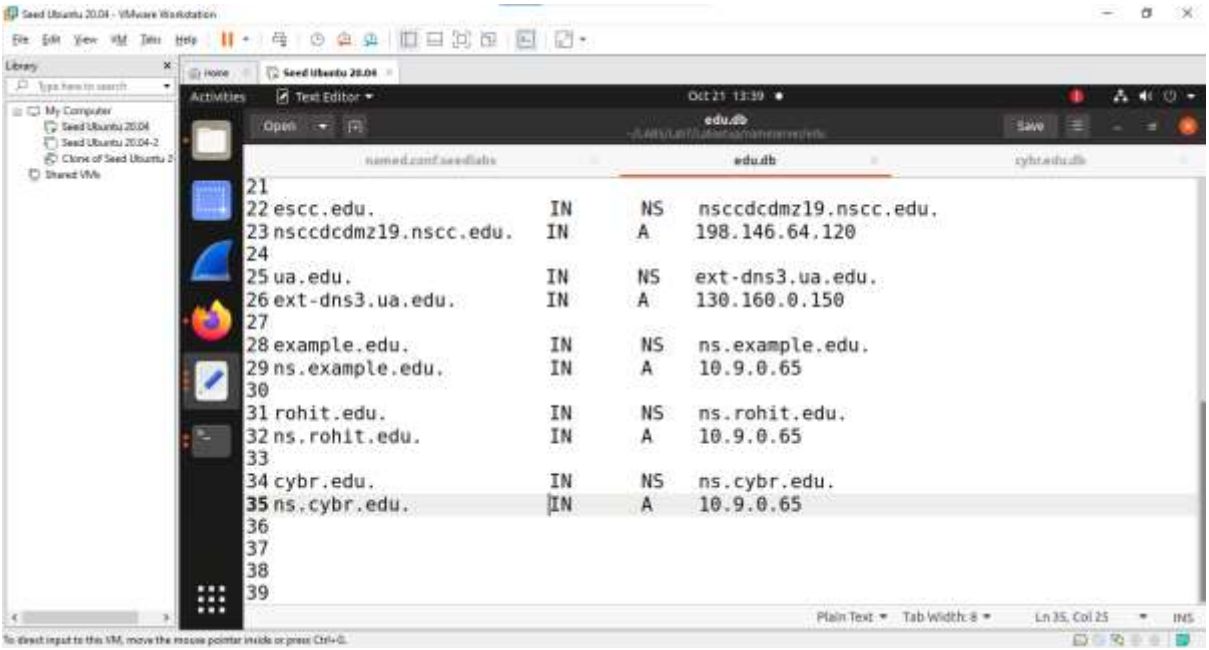


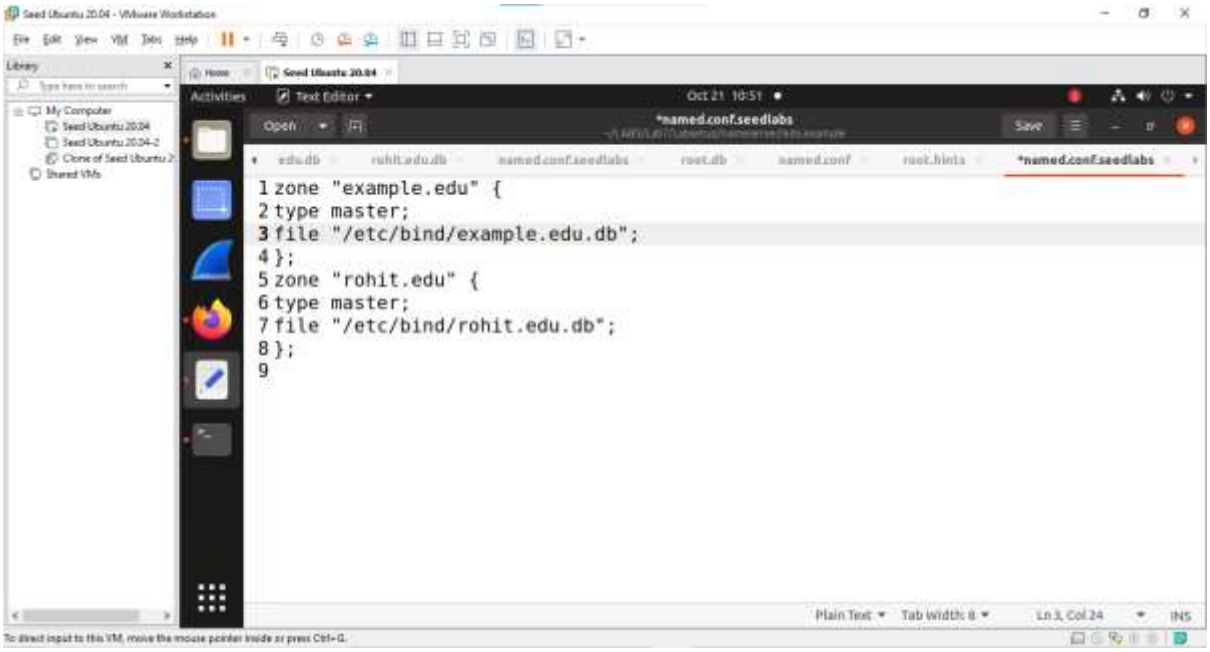
Successfully removed the ip address and checked using dig



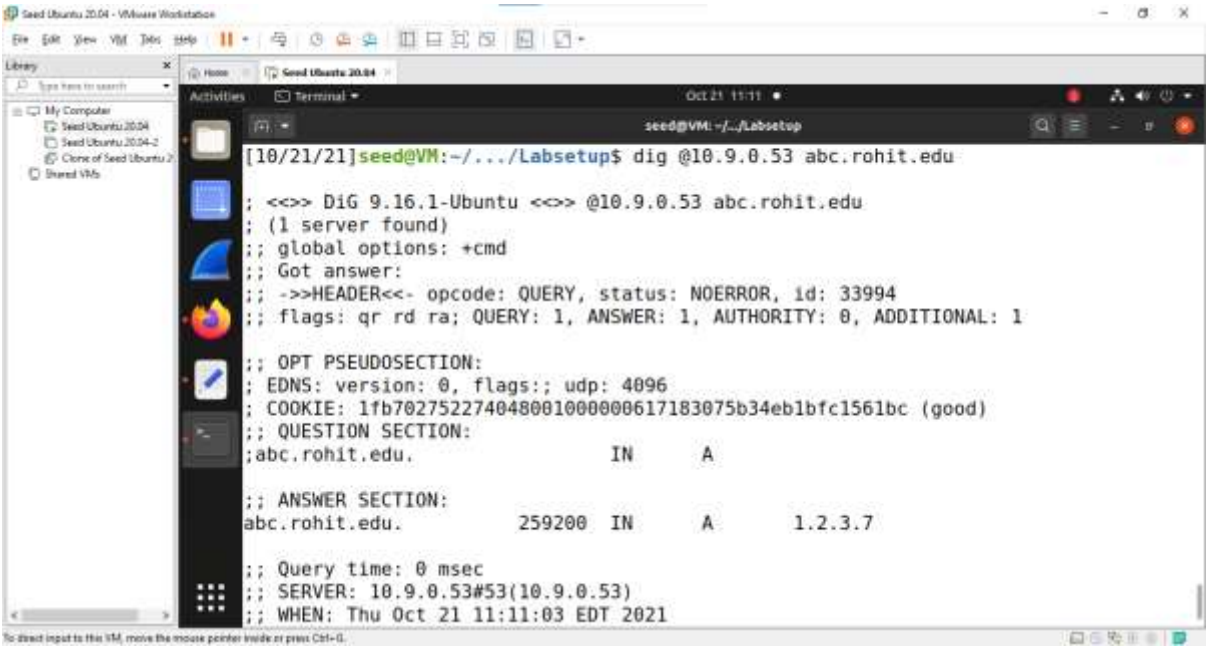
Task 7: Making It More Realistic



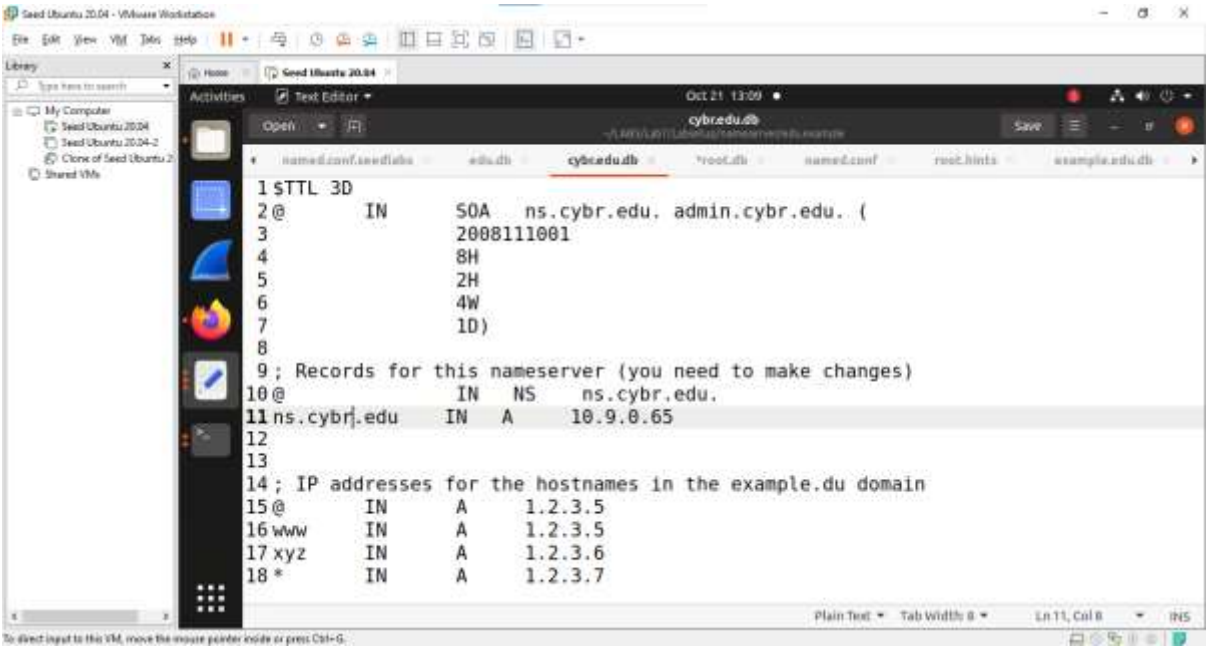


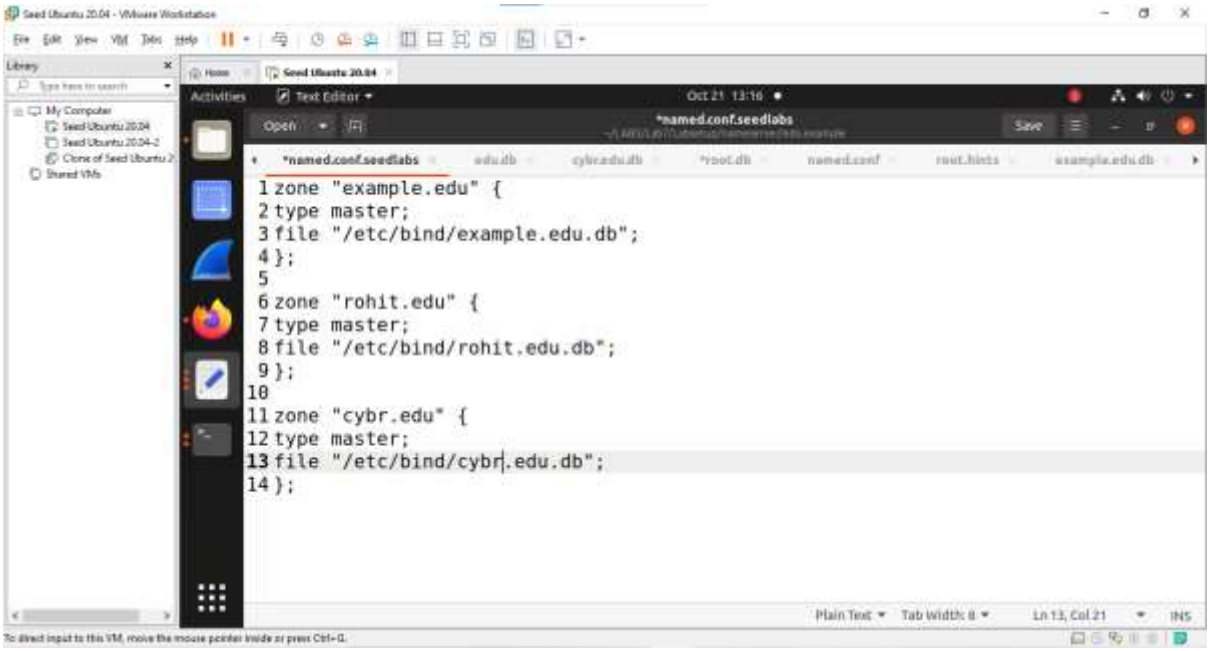
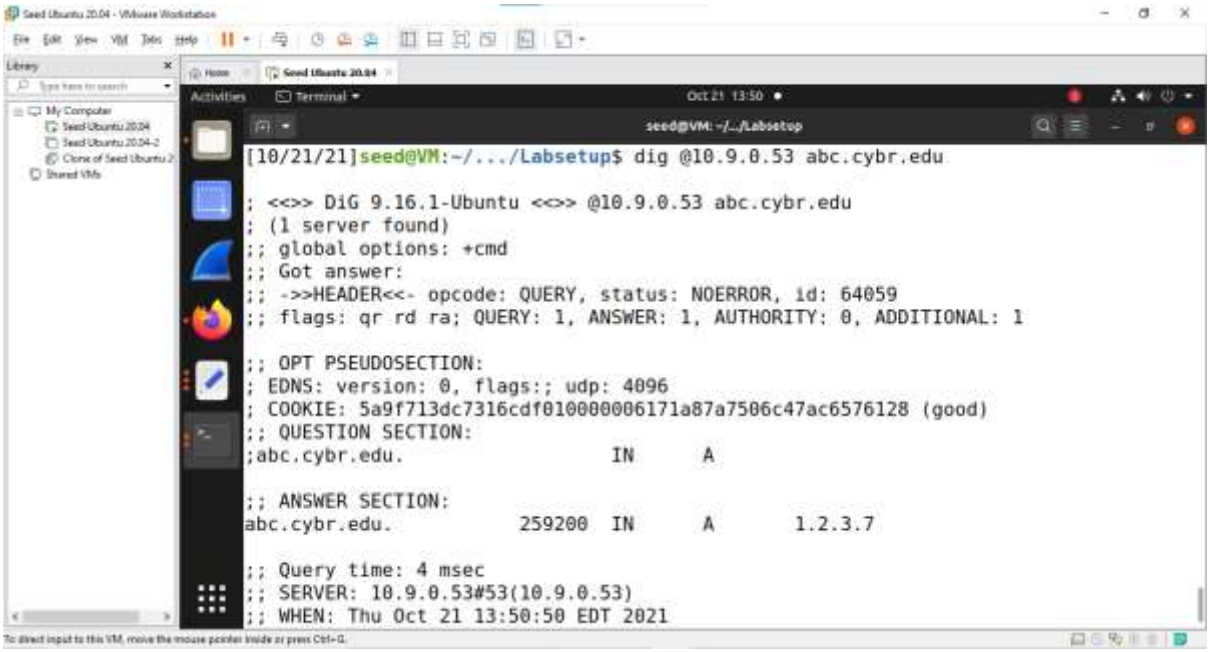


Successfully zone is created on my name



Creating one more zone





Succeffully checked with another zone too