COMP-8677
Networking and Data Security

Lab 1 Report

Submitted To:

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Submitted By:

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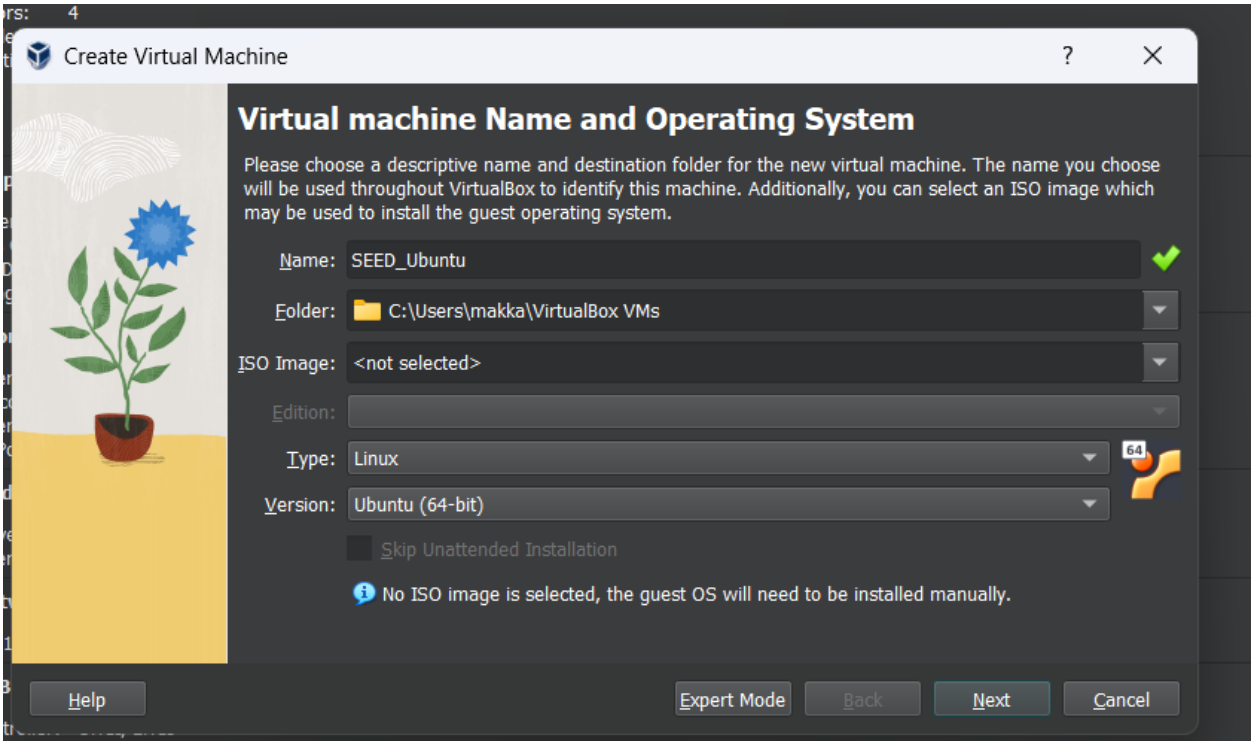
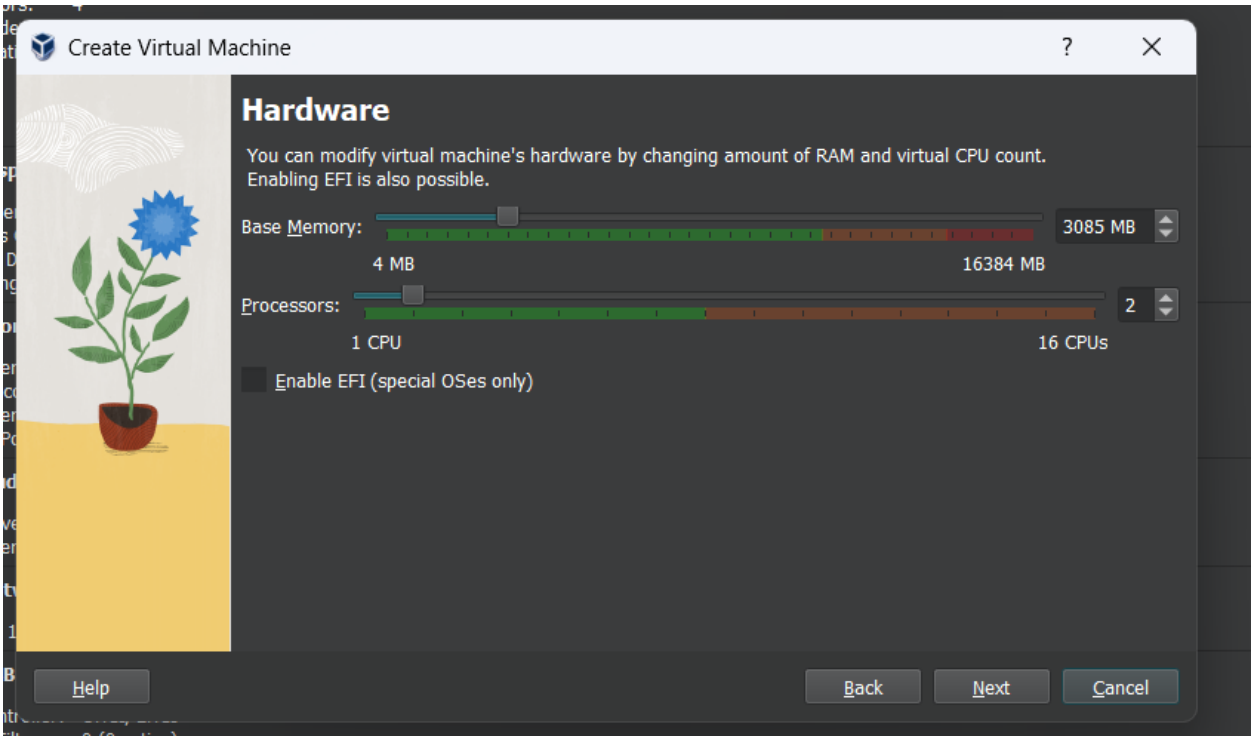
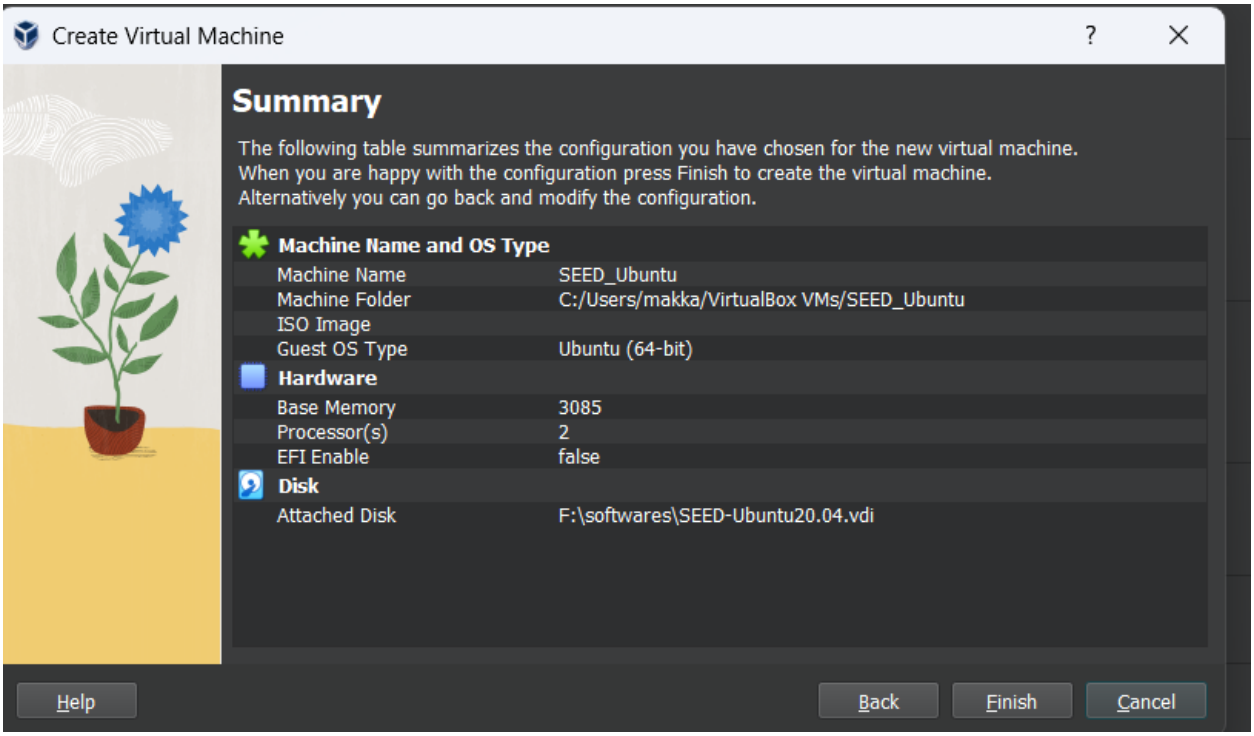
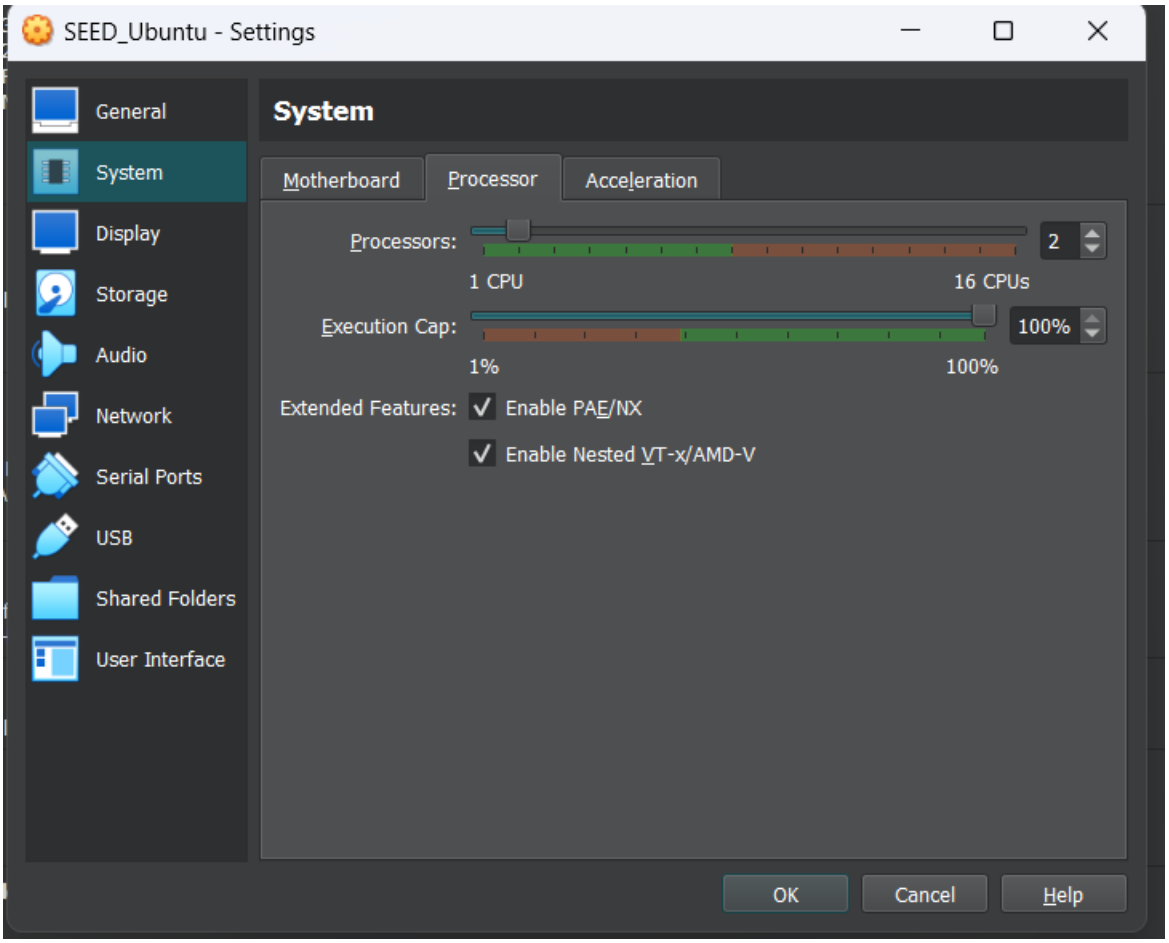
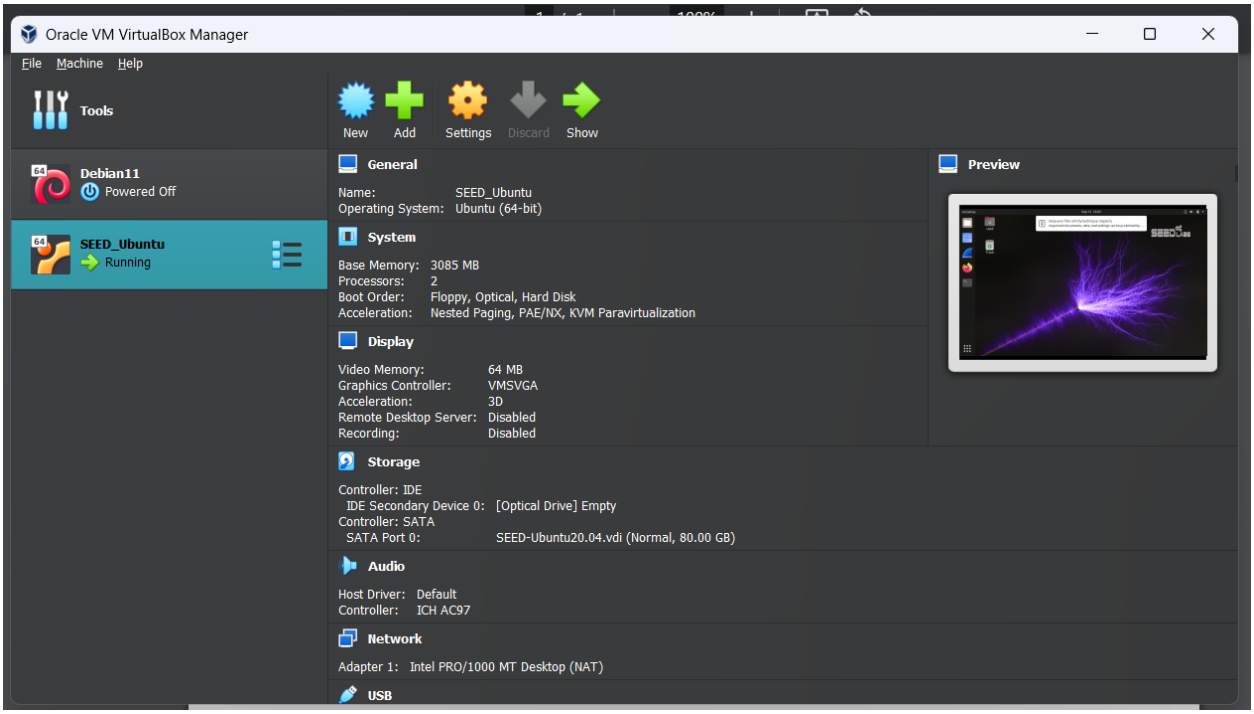
1. Complete the SEEDLAB setup. You can set up on your computer or cloud (if your computer is not possible). Provide a screen shot as a proof of completing your task.






Create Virtual Machine
Summary
The following table summarizes the configuration you have chosen for the new virtual machine.
When you are happy with the configuration press Finish to create the virtual machine.
Alternatively you can go back and modify the configuration.
Machine Name and OS Type
Machine Name SEED_Ubuntu
Machine Folder C:/Users/makka/VirtualBox VMs/SEED_Ubuntu
ISO Image
Guest OS Type Ubuntu (64-bit)
Hardware
Base Memory 3085
Processor(s) 2
EFI Enable false
Disk
Attached Disk F:\softwares\SEED-Ubuntu20.04.vdi
Help
Back
Finish
Cancel


SEED_Ubuntu - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
System
Motherboard
Processor
Acceleration
Processors:
2
1 CPU
16 CPUs
Execution Cap:
100%
1%
100%
Extended Features:
Enable PAE/NX
Enable Nested VT-x/AMD-V
OK
Cancel
Help


Oracle VM VirtualBox Manager
File Machine Help
Tools
New Add Settings Discard Show
Debian11
Powered Off
SEED_Ubuntu
Running
General
Name: SEED_Ubuntu
Operating System: Ubuntu (64-bit)
System
Base Memory: 3085 MB
Processors: 2
Boot Order: Floppy, Optical, Hard Disk
Acceleration: Nested Paging, PAE/NX, KVM Paravirtualization
Display
Video Memory: 64 MB
Graphics Controller: VMSVGA
Acceleration: 3D
Remote Desktop Server: Disabled
Recording: Disabled
Storage
Controller: IDE
IDE Secondary Device 0: [Optical Drive] Empty
Controller: SATA
SATA Port 0: SEED-Ubuntu20.04.vdi (Normal, 80.00 GB)
Audio
Host Driver: Default
Controller: ICH AC97
Network
Adapter 1: Intel PRO/1000 MT Desktop (NAT)
USB
Preview

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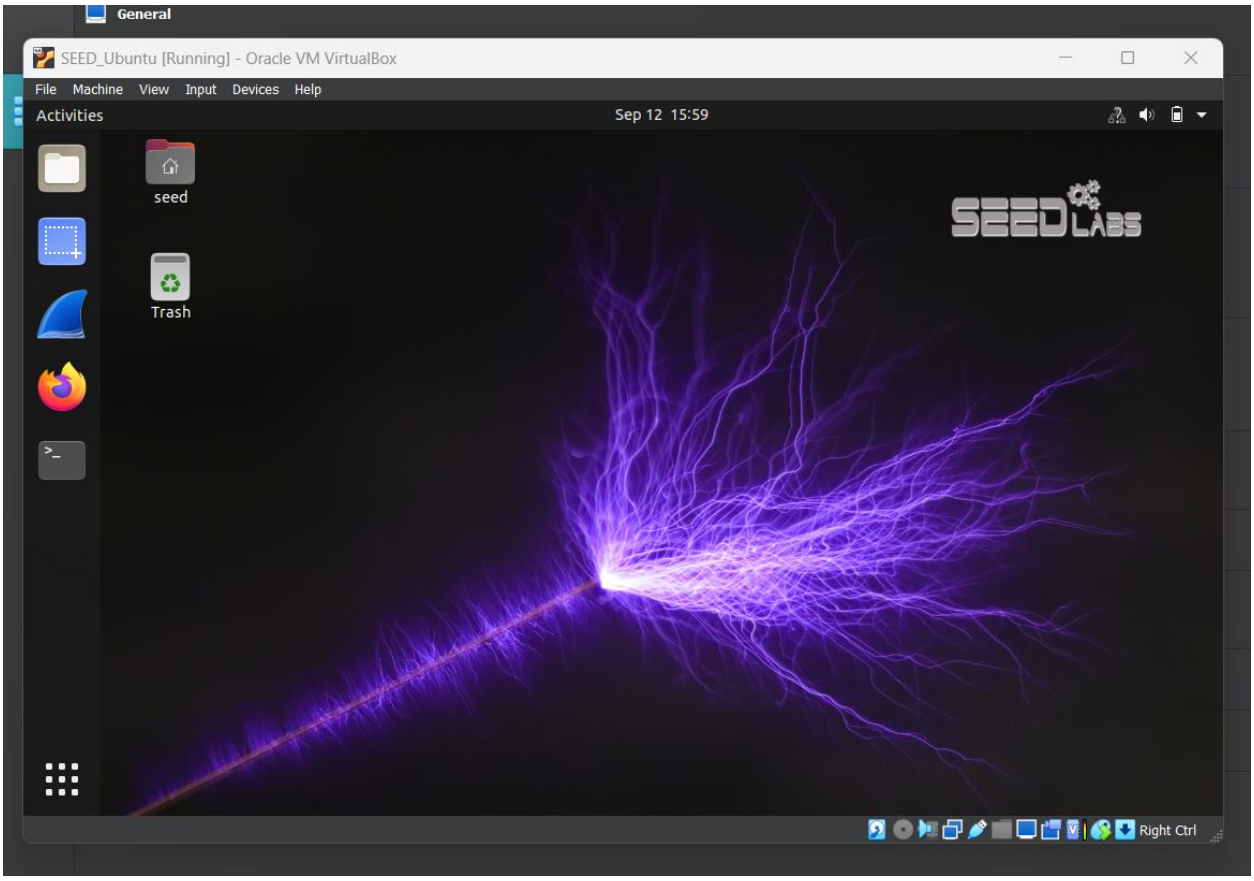
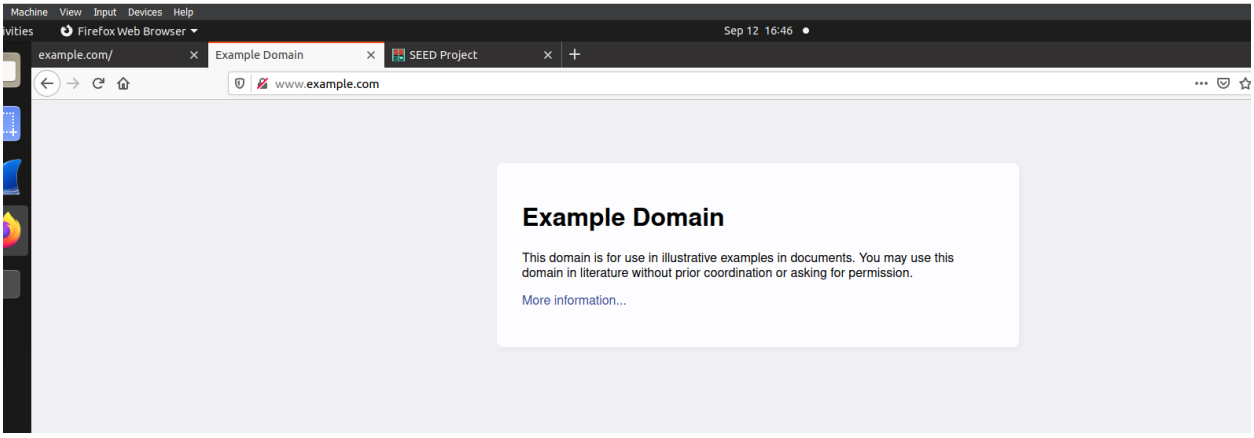
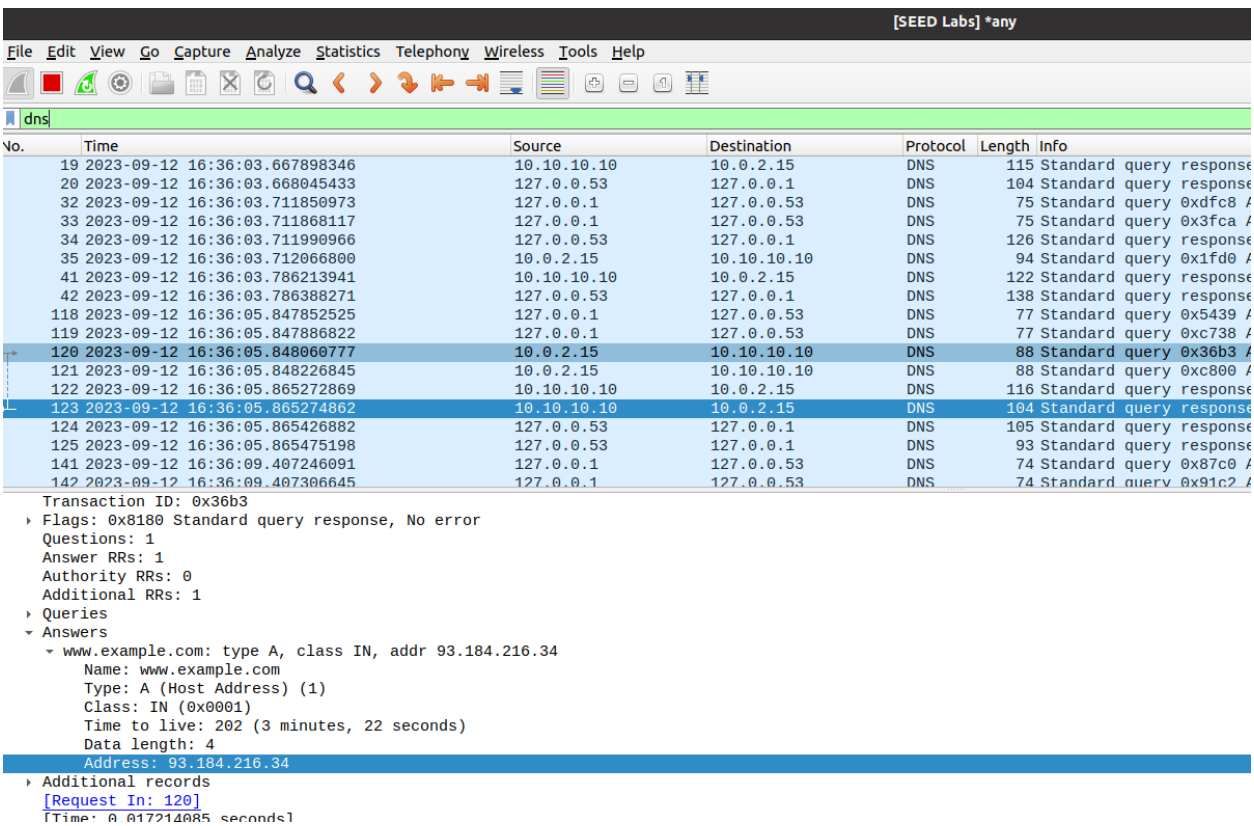

General
SEED_Ubuntu [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities
Sep 12 15:59
seed
Trash
SEED LABS
Right Ctrl

2a. In order to access the selected website, your browser will first issue DNS query to find out the ip address of this website. Find this query packet and the response packet. What is the ip address of the website? You can apply filter dns in your Wireshark to restrict the packet list to DNS packets only.

Website opened on Firefox-

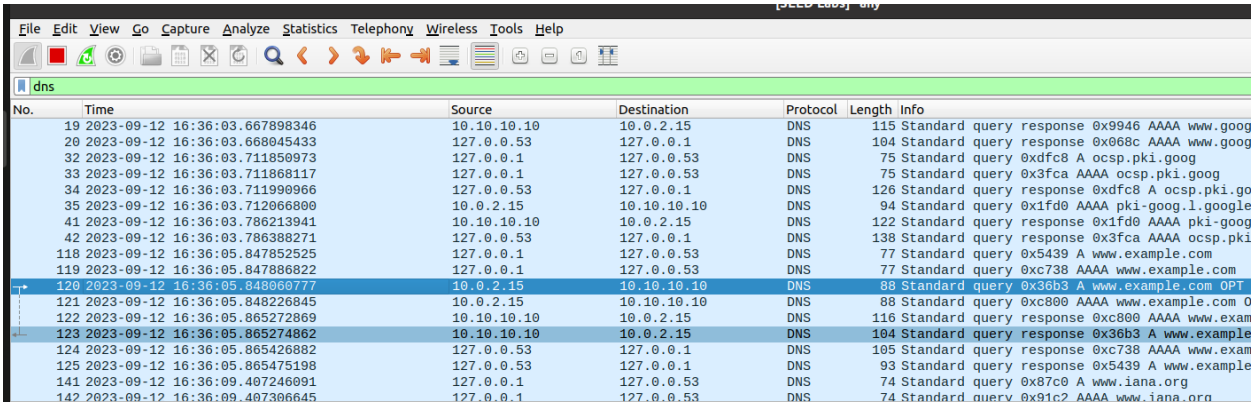


Packet ID 120 is sent by machine to get the IP address of example.com and in packet ID 123 it receives the IP address of the example.com.



In the packet response, in the answers we can find the **IP address of the website** (http://example.com) which is **93.184.216.34**

2b. The source IP address of the DNS query packet will be your IP address and the destination IP address of the DNS query packet will be the DNS server's IP address. What is the ip address of this DNS server? What is the ip address of your machine?



File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

dns

No.	Time	Source	Destination	Protocol	Length	Info
19	2023-09-12 16:36:03.667898346	10.10.10.10	10.0.2.15	DNS	115	Standard query response 0x9946 AAAA www.goog
20	2023-09-12 16:36:03.668045433	127.0.0.53	127.0.0.1	DNS	104	Standard query response 0x068c AAAA www.goog
32	2023-09-12 16:36:03.711850973	127.0.0.1	127.0.0.53	DNS	75	Standard query 0xdfc8 A ocsp.pki.goog
33	2023-09-12 16:36:03.711868117	127.0.0.1	127.0.0.53	DNS	75	Standard query 0x3fca AAAA ocsp.pki.goog
34	2023-09-12 16:36:03.711990966	127.0.0.53	127.0.0.1	DNS	126	Standard query response 0xdfc8 A ocsp.pki.go
35	2023-09-12 16:36:03.712066800	10.0.2.15	10.10.10.10	DNS	94	Standard query 0x1fd0 AAAA pki-goog.l.google
41	2023-09-12 16:36:03.786213941	10.10.10.10	10.0.2.15	DNS	122	Standard query response 0x1fd0 AAAA pki-goog
42	2023-09-12 16:36:03.786388271	127.0.0.53	127.0.0.1	DNS	138	Standard query response 0x3fca AAAA ocsp.pki
118	2023-09-12 16:36:05.847852525	127.0.0.1	127.0.0.53	DNS	77	Standard query 0x5439 A www.example.com
119	2023-09-12 16:36:05.847886822	127.0.0.1	127.0.0.53	DNS	77	Standard query 0xc738 AAAA www.example.com
120	2023-09-12 16:36:05.848060777	10.0.2.15	10.10.10.10	DNS	88	Standard query 0x36b3 A www.example.com OPT
121	2023-09-12 16:36:05.848226845	10.0.2.15	10.10.10.10	DNS	88	Standard query 0xc800 AAAA www.example.com O
122	2023-09-12 16:36:05.865272869	10.10.10.10	10.0.2.15	DNS	116	Standard query response 0xc800 AAAA www.exam
123	2023-09-12 16:36:05.865274862	10.10.10.10	10.0.2.15	DNS	104	Standard query response 0x36b3 A www.example
124	2023-09-12 16:36:05.865426882	127.0.0.53	127.0.0.1	DNS	105	Standard query response 0xc738 AAAA www.exam
125	2023-09-12 16:36:05.865475198	127.0.0.53	127.0.0.1	DNS	93	Standard query response 0x5439 A www.example
141	2023-09-12 16:36:09.407246091	127.0.0.1	127.0.0.53	DNS	74	Standard query 0x87c0 A www.iana.org
142	2023-09-12 16:36:09.407306645	127.0.0.1	127.0.0.53	DNS	74	Standard query 0x91c2 AAAA www.iana.org

The packet id 120 is the packet sent by my machine and packet id 123 is received as response of it.

The source IP address of packet id 120 here denotes my **machine IP address**, which is **10.0.2.15** and destination IP address is the **DNS server IP address is 10.10.10.10**