

Send Packet

From: computer1

To: computer1

Packet Type: arp_request

Data: computer6

Send Packet

- From computer1
- To computer1 (to indicate it is broadcast)
- Packet Type: "ARP Request"
- Data: computer6 (because we are asking for computer6 MAC address using ARP Request)

How many devices can see the ARP Request?

4

Correct Answer

Hint

Did computer6 receive the ARP Request? (Y/N)

n

Correct Answer

Send a packet with the following:

Legend

- TCP Packet
- TCP Handshake
- UDP Packet
- ARP Packet
- Ping Packet

Send Packet

From: computer1

To: computer1

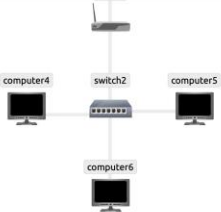
Packet Type: arp_request

Data: computer6

Send Packet

Network Log

ARP RESPONSE: Hey computer1, I am computer6



Send Packet

From: computer4

To: computer4

Packet Type: arp_request

Data: computer6

Send Packet

- From computer4
- To computer4 (to indicate it is broadcast)
- Packet Type: "ARP Request"
- Data: computer6 (because we are asking for computer6 MAC address using ARP Request)

How many devices can see the ARP Request?

4

Correct Answer

Hint

Did computer6 reply to the ARP Request? (Y/N)

y

Correct Answer

Send a packet with the following:

Legend

- TCP Packet
- TCP Handshake
- UDP Packet
- ARP Packet
- Ping Packet

Send Packet

From: computer4

To: computer4

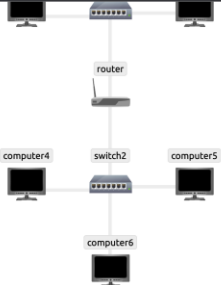
Packet Type: arp_request

Data: computer6

Send Packet

Network Log

ARP RESPONSE: Hey computer4, I am computer6



Task 3 Enumerating Targets

Task 4 Discussion Live Hacks

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Task 3 Enumerating Targets

Woop woop! Your answer is correct.

We mentioned the different *techniques* we can use for scanning in Task 1. Before we explain each in detail and put it into use against a live target, we need to specify the targets we want to scan. Generally speaking, you can provide a list, a range, or a subnet. Examples of target specification are:

- list: `MACHINE_IP scanme.nmap.org example.com` will scan 3 IP addresses.
- range: `10.11.12.15-20` will scan 6 IP addresses: `10.11.12.15` `10.11.12.16` ... and `10.11.12.20`
- subnet: `MACHINE_IP/30` will scan 4 IP addresses.

You can also provide a file as input for your list of targets, `nmap -iL list_of_hosts.txt`.

If you want to check the list of hosts that Nmap will scan, you can use `nmap -sL TARGETS`. This option will give you a detailed list of the hosts that Nmap will scan without scanning them; however, Nmap will attempt a reverse-DNS resolution on all the targets to obtain their names. Names might reveal various information to the pentester. (If you don't want Nmap to the DNS server, you can add `-n`)

Launch the AttackBox using the Start AttackBox button, open the terminal when the AttackBox is ready, and use Nmap to answer the following.

Answer the questions below

What is the first IP address Nmap would scan if you provided `10.10.12.13/29` as your target?

10.10.12.8

Correct Answer

Hint

How many IP addresses will Nmap scan if you provide the following range `10.10.0-255.101-125`?

6400

Correct Answer

Hint

Task 4 Discovering Live Hosts

Task 5 Nmap Host Discovery Using ARP

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Answer the questions below

Send a packet with the following:

- From computer1
- To computer3
- Packet Type: "Ping Request"

What is the type of packet that computer1 sent before the ping?

arp request

Correct Answer

What is the type of packet that computer1 received before being able to send the ping?

arp response

Correct Answer

How many computers responded to the ping request?

1

Correct Answer

Send a packet with the following:

- From computer2
- To computer5
- Packet Type: "Ping Request"

What is the name of the first device that responded to the first ARP Request?

router

Correct Answer

What is the name of the first device that responded to the second ARP Request?

computer5

Correct Answer

Send another Ping Request. Did it require new ARP Requests? (Y/N)

n

Correct Answer

Legend

- TCP Packet
- TCP Handshake
- UDP Packet
- ARP Packet
- Ping Packet

Send Packet

From: computer1

To: computer5

Packet Type: ping_request

Data:

Network Log

computer1 to computer5

PING: computer5 received ping request from computer1, sending ping response to computer1

PING: Sending Ping Response packet from computer5 to computer1

PING: computer1 received ping response from computer5

Nmap: Netw... THM AttackBox

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packets it generates. The syntax is quite similar. `-p` can be followed by a port number, list, or range. Consider the following examples:

- `masscan MACHINE_IP/24 -p443`
- `masscan MACHINE_IP/24 -p80,443`
- `masscan MACHINE_IP/24 -p22-25`
- `masscan MACHINE_IP/24 --top-ports 100`

Masscan is not installed on the AttackBox; however, it can be installed using `apt install masscan`.

Answer the questions below

Which TCP ping scan does not require a privileged account?

tcp syn ping Correct Answer

Which TCP ping scan requires a privileged account?

tcp ack ping Correct Answer

What option do you need to add to Nmap to run a TCP SYN ping scan on the telnet port?

-PS23 Correct Answer Hint

Task 8 Using Reverse-DNS Lookup

Task 9 Summary

Created by [tryhackme](#) and [strategos](#)

Legend

- TCP Packet
- TCP Handshake
- UDP Packet

Send Packet

From: computer1

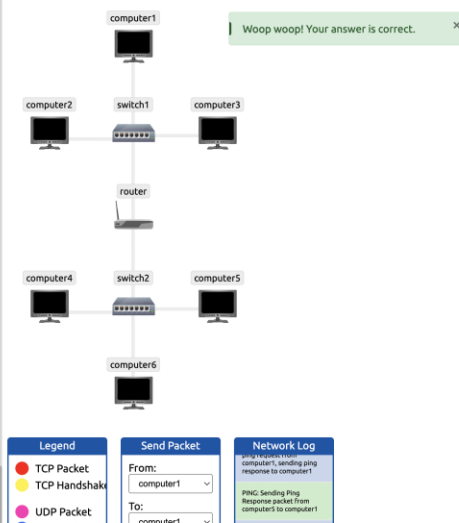
To: computer1

Network Log

tryhackme: Nmap: Sending ping response to computer1

PING: Sending Ping Response packet from computer3 to computer1

Nmap: Net... THM AttackBox



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Task 6 Nmap Host Discovery Using ICMP

Task 7 Nmap Host Discovery Using TCP and UDP

Task 8 Using Reverse-DNS Lookup

Nmap's default behaviour is to use reverse-DNS online hosts. Because the hostnames can reveal a lot, this can be a helpful step. However, if you don't want to send such DNS queries, you use `-n` to skip this step.

By default, Nmap will look up online hosts; however, you can use the option `-R` to query the DNS server even for offline hosts. If you want to use a specific DNS server, you can add the `--dns-servers DNS_SERVER` option.

Answer the questions below

We want Nmap to issue a reverse DNS lookup for all the possible hosts on a subnet, hoping to get some insights from the names. What option should we add?

-r Correct Answer

Task 9 Summary

Created by [tryhackme](#) and [strategos](#)

This is a free room, which means anyone can deploy virtual machines in the room (without being subscribed!) 65032 users are in here and this room is 428 days old.

Legend

- TCP Packet
- TCP Handshake
- UDP Packet

Send Packet

From: computer1

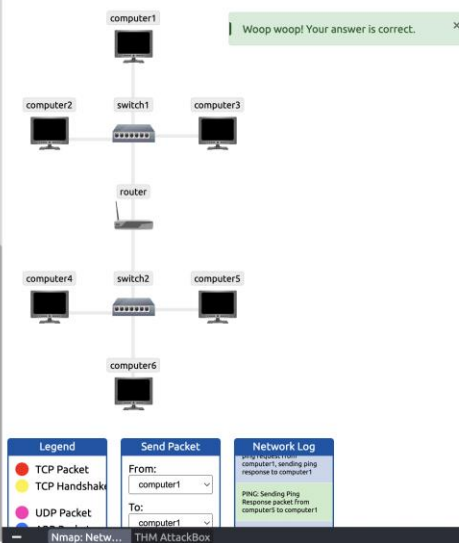
To: computer1

Network Log

tryhackme: Nmap: Sending ping response to computer1

PING: Sending Ping Response packet from computer3 to computer1

Nmap: Net... THM AttackBox



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This room explains the steps that Nmap carries out to discover the systems that are online before port-scanning. This stage is crucial because trying to port-scan offline systems will only waste time and create unnecessary noise on the network.

We present the different approaches that Nmap uses to discover live hosts. In particular, we cover:

1. ARP scan: This scan uses ARP requests to discover live hosts
2. ICMP scan: This scan uses ICMP requests to identify live hosts
3. TCP/UDP ping scan: This scan sends packets to TCP ports and UDP ports to determine live hosts.

We also introduce two scanners, `arp-scan` and `masscan`, which overlap with part of Nmap's host discovery.

As already mentioned, starting with this room, we will use Nmap and its services actively. Nmap was created by Gordon Lyon (Fyodor), a network expert and open source programmer. It was released in 1999. Nmap Mapper, is free, open-source software released under GPL. It is a standard tool for mapping networks, identifying live hosts, and discovering services. Nmap's scripting engine can further extend its functionality, adding fingerprinting services to exploiting vulnerabilities. A Nmap scan is the steps shown in the figure below, although many are optional and depend on the command-line arguments you provide.

1 Enumerate targets
2 Discover live hosts
3 Reverse-DNS lookup
4 Scan ports
5 Detect versions

computer1
computer2 switch1 computer3
computer5
computer6

Woop woop! Your answer is correct.

Congratulations
You've completed the room! Share this with your friends:

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Legend
● TCP Packet
● TCP Handshake
● UDP Packet

Send Packet
From: computer1
To: computer1

Network Log
computer1, sending ping response to computer1
PING: Sending Ping
Response packet from computer1 to computer1

Nmap: Netw... THM AttackBox