ACROPOLIS INSTITUTE OF TECHNOLOGY & RESEARCH, INDORE

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Enlightening Wisdom

EVALUATION OF INTERNSHIP REPORT

B.Tech: III Year

Department of Computer Science & Information Technology

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Year 2022-23

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ACROPOLIS INSTITUTE OF TECHNOLOGY & RESEARCH, INDORE

Department of Computer Science & Information Technology

Certificate

Certified that training work entitled "*Cyber Security*" is a bonafied work carried out after fourth semester by "*Nitesh Rajput*" in partial fulfilment for the award of the degree of Bachelor of Technology in Computer Science and Information Technology from "Mr. *Yash Arya*" Acropolis Institute of Technology and Research during the academic year2022-23.

Name and Sign of Training Coordinator *Name & Sign of Internship Coordinator*

ACROPOLIS INSTITUTE OF TECHNOLOGY & RESEARCH, INDORE

Department of Computer Science & Information Technology

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INTRODUCTION

Cybersecurity is the practice of protecting critical systems and sensitive information from digital attacks.

Cyber Security is a process that's designed to protect networks and devices from external threats. Businesses typically employ Cyber Security professionals to protect their confidential information, maintain employee productivity, and enhance customer confidence in products and services.

The main element of Cyber Security is the use of authentication mechanisms. For example, a user name identifies an account that a user wants to access, while a password is a mechanism that proves the user is who he claims to be.

Cyber security is not only essential to business organizations and governmental institutions. It should be for everyone who is using digital devices like computers, mobile phones, tablets, etc. These devices contain many personal pieces of information that digital thieves would love to have. What is also important about it is that if your information is exposed to hackers, they can use you as a bait to lure your friends or family into a digital scam.

Every little thing that is connected to the internet, used for communication and other purposes, can be affected by a breach of security.

OBJECTIVES

1. To prepare students with the technical knowledge and skills needed to protect and defend computer systems and networks.
2. To prepare students that can plan, implement, and monitor cyber security mechanisms to help ensure the protection of information technology assets.
3. To prepare students that can identify, analyze, and remediate computer security breaches.

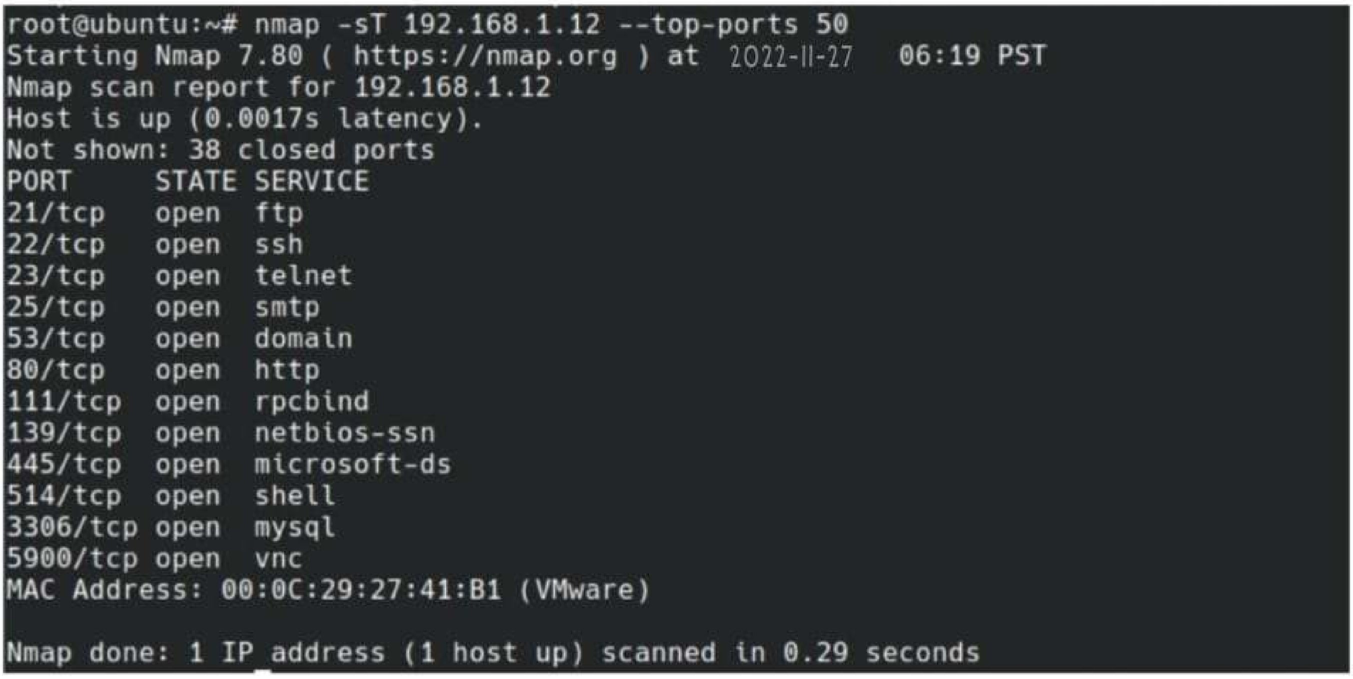
PROJECT DETAIL

NETWORK COMMAND

Nmap stands for Network Mapper which is a free Open source command-line tool.Nmap is an information-gathering tool used for recon reconnaissance. Basically, it scans hosts and services on a computer network which means that it sends packets and analyzes the response. Listed below are the most useful Scans which you can run with the help of Nmap tools.

TCP Scan/TCP Connect Scan:

```
nmap -sT 192.168.1.12 --top-ports 50
```



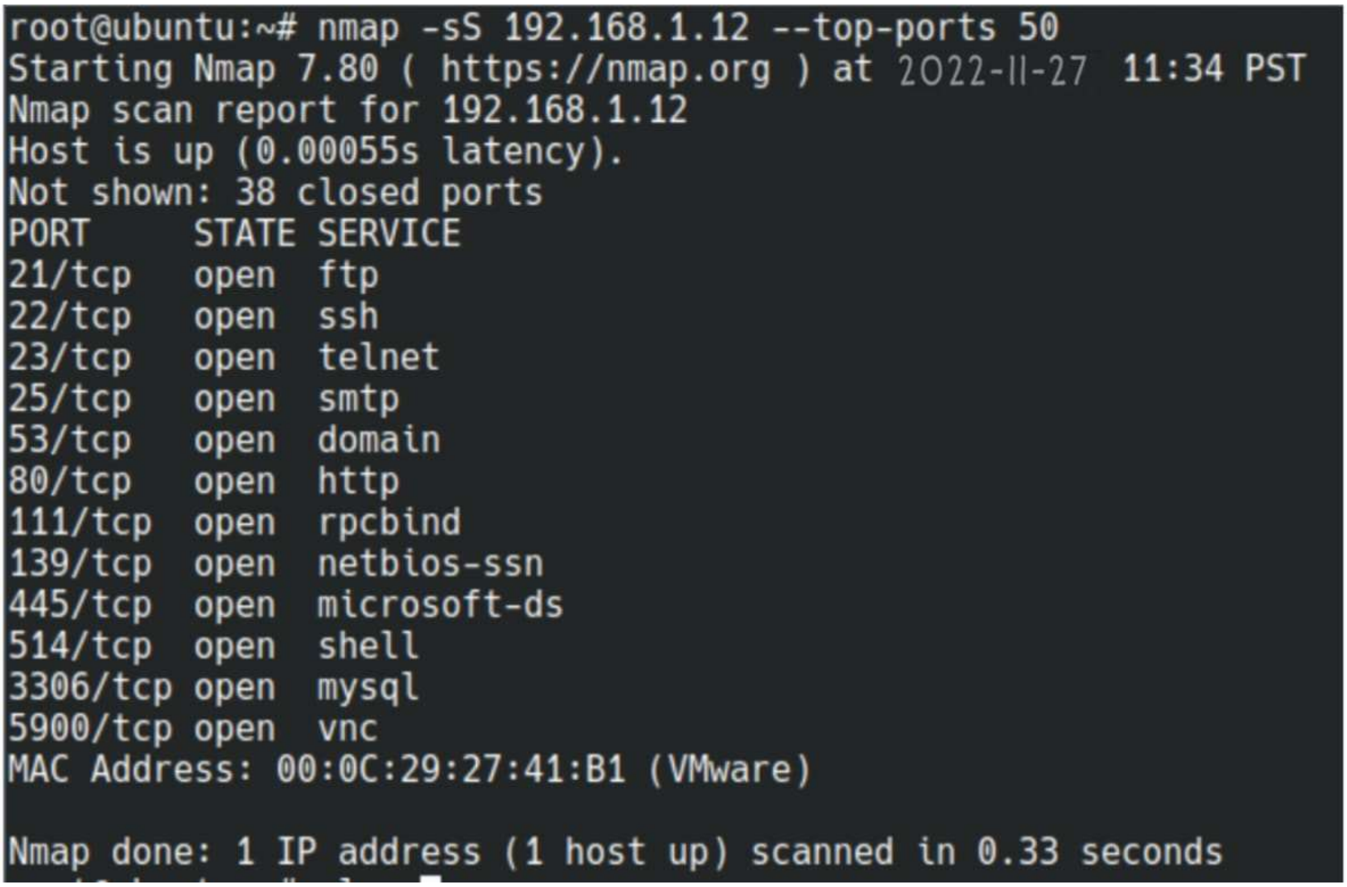
```
root@ubuntu:~# nmap -sT 192.168.1.12 --top-ports 50
Starting Nmap 7.80 ( https://nmap.org ) at  2022-11-27   06:19 PST
Nmap scan report for 192.168.1.12
Host is up (0.0017s latency).
Not shown: 38 closed ports
PORT     STATE SERVICE
21/tcp   open  ftp
22/tcp   open  ssh
23/tcp   open  telnet
25/tcp   open  smtp
53/tcp   open  domain
80/tcp   open  http
111/tcp  open  rpcbind
139/tcp  open  netbios-ssn
445/tcp  open  microsoft-ds
514/tcp  open  shell
3306/tcp open  mysql
5900/tcp open  vnc
MAC Address: 00:0C:29:27:41:B1 (VMware)

Nmap done: 1 IP address (1 host up) scanned in 0.29 seconds
```

the result of the TCP scan you can see the port number and state of the ports and services on these ports.

SYN Scan/Stealth Scan/Half Open Scan:

```
nmap -sS 192.168.1.12 --top-ports 50
```

In this scan, Source sends the SYN packet and the destination responds with SYN/ACK packets but the source interrupts the 3-way handshake by sending the RST packet. Because of the interruption Destination or host does not keep a record of the Source system.



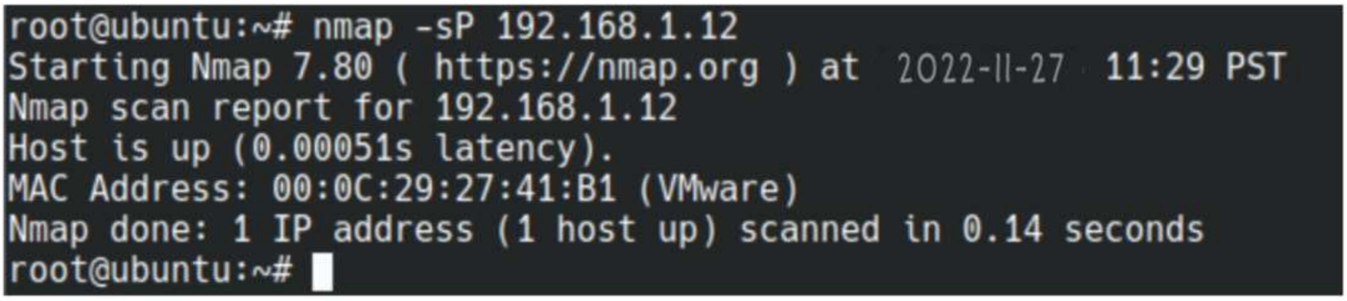
```
root@ubuntu:~# nmap -sS 192.168.1.12 --top-ports 50
Starting Nmap 7.80 ( https://nmap.org ) at 2022-11-27 11:34 PST
Nmap scan report for 192.168.1.12
Host is up (0.00055s latency).
Not shown: 38 closed ports
PORT     STATE SERVICE
21/tcp   open  ftp
22/tcp   open  ssh
23/tcp   open  telnet
25/tcp   open  smtp
53/tcp   open  domain
80/tcp   open  http
111/tcp  open  rpcbind
139/tcp  open  netbios-ssn
445/tcp  open  microsoft-ds
514/tcp  open  shell
3306/tcp open  mysql
5900/tcp open  vnc
MAC Address: 00:0C:29:27:41:B1 (VMware)

Nmap done: 1 IP address (1 host up) scanned in 0.33 seconds
```

Ping Scan/NO PORT Scan:

```
nmap -sn 192.168.1.0/24
```

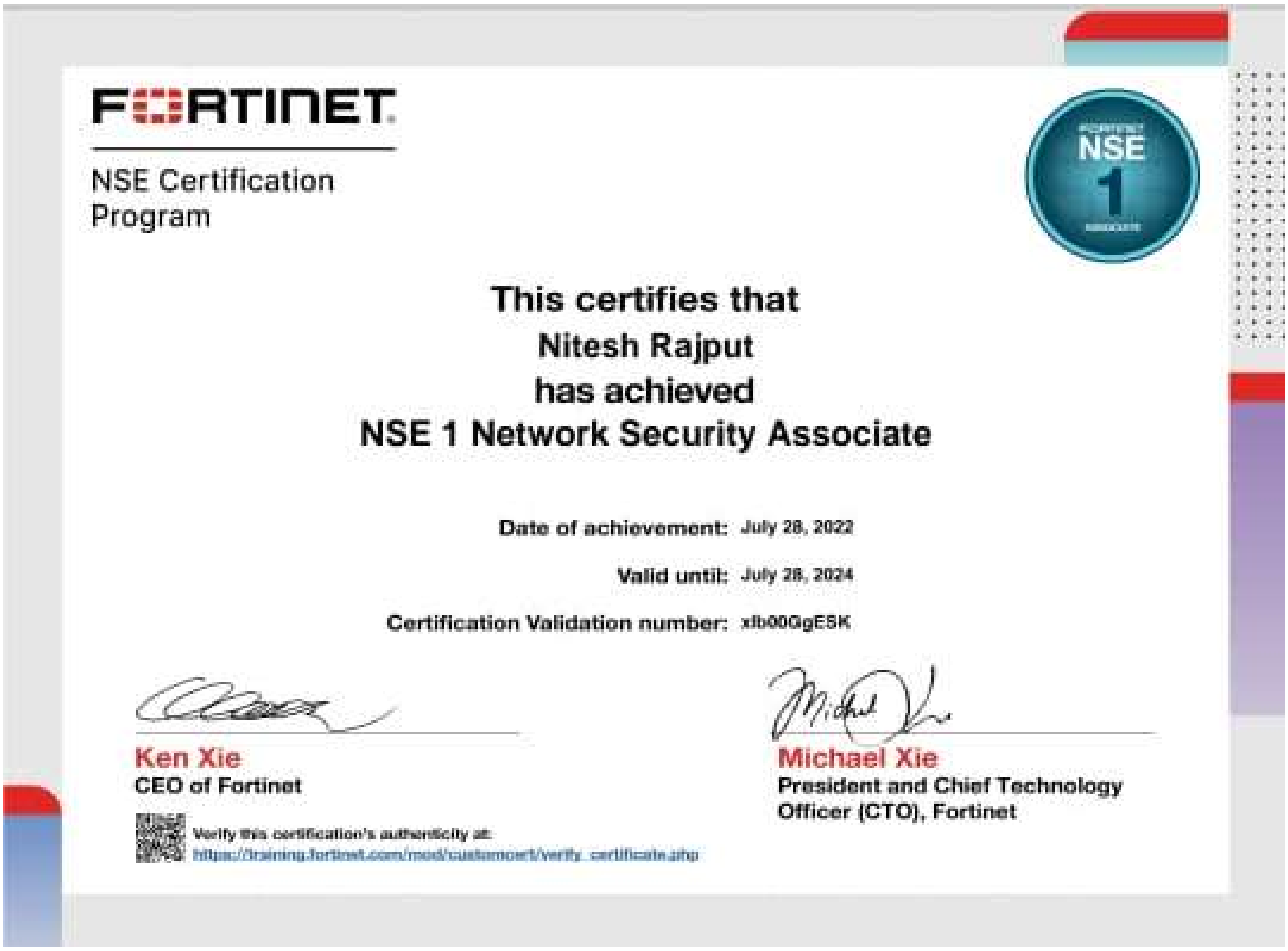
Here: -sn and -sP both are used for Ping Scan.

Only print the available host that responds to the host Discovery probes within the network. The above command does not tell anything about the ports of the system. you can also use it to check for a single IP to check that the host is up or not.



```
root@ubuntu:~# nmap -sP 192.168.1.12
Starting Nmap 7.80 ( https://nmap.org ) at 2022-11-27 11:29 PST
Nmap scan report for 192.168.1.12
Host is up (0.00051s latency).
MAC Address: 00:0C:29:27:41:B1 (VMware)
Nmap done: 1 IP address (1 host up) scanned in 0.14 seconds
root@ubuntu:~#
```

CERTIFICATE



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This certifies that
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NSE 1 Network Security Associate

Date of achievement: July 28, 2022

Valid until: July 28, 2024

Certification Validation number: xIb00GgESK

Ken Xie
CEO of Fortinet

Michael Xie
President and Chief Technology Officer (CTO), Fortinet

Verify this certification's authenticity at:
https://training.fortinet.com/mod/customcert/verify_certificate.php

GITHUB LINK

https://github.com/NiteshRajput123/Nitesh-Evaluation.git

CONCLUSION

Data plays an integral role in the commission of many cybercrimes and vulnerabilities to cybercrime. Even though data provides users of it (individuals, private companies, organizations, and governments) with innumerable opportunities, these benefits can be (and have been) exploited by some for criminal purposes. Specifically, data collection, storage, analysis, and sharing both enables many cybercrimes and the vast collection, storage, use, and distribution of data without users' informed consent and choice and necessary legal and security protections. What is more, data aggregation, analysis, and transfer occur at scales that governments and organizations are unprepared for, creating a slew of cybersecurity risks. Privacy, data protection, and security of systems, networks, and data are interdependent. In view of that, to protect against cybercrime, security measures are needed that are designed to protect data and user's privacy.

REFERENCES

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