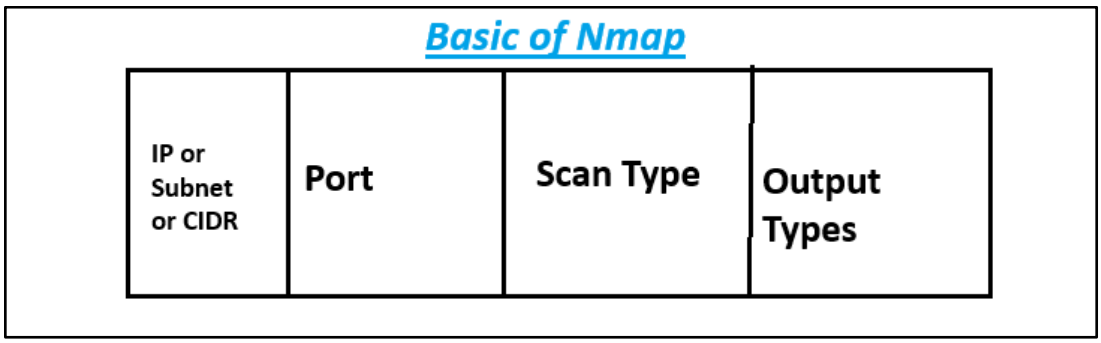
#session_task_33

Network VAPT

Contents :

Nmap [Network mapper]

- **Nmap** (**Network Mapper**) is a network scanner created by Gordon Lyon
- Nmap is used to discover hosts and services on a computer network by sending packets and analysing the responses.
- Nmap has become hugely popular, being featured in movies like The Matrix and the popular series Mr. Robot.
- Basic of nmap used in command line.



Uses of Nmap

- Used to identify the target port is up or not and what are the ports open with respect to that domain or ip address.
- It used various types of **scanning techniques** like TCP connection scan -sS, Tcp SYN scan -SS, XMAS scan -sX, null scan -sN, IDle scan, etc all these scans used for different purposes.

- Nmap has the feature to mention the **scan timing** like T0, T1, T2 ... .T5 and also can use the **Host Timeout** option if service is not responding up to a given time period and also there is a **scan delay** means you can mention the timings for sending the next packets.

- Nmap can also detect **application versions** with reasonable accuracy to help detect existing vulnerabilities.

- Nmap can find information about the **operating system** running on devices. It can provide detailed information like OS versions, making it easier to plan additional approaches during penetration testing.

- In Nmap you can use scripts which are called **NSE [Nmap script engine]** . There are various scripts available for different purposes . Path for the script to access - **/usr/share/nmap/scripts**

- Nmap has a graphical user interface called **Zenmap**. It helps you develop visual mappings of a network for better usability and reporting.

Basic command for Nmap

A.Target

1. nmap 1.2.3.4 //single IP
2. nmap 1.2.3.4/8 //subnet Range
3. nmap 1.2.3.4-8 //IP range
4. nmap 1.2.3.4 //single IP
5. nmap 1.2.3.4 1.3.4.5 //specific IPs
6. nmap -iL host.txt //Text file
7. nmap a.com //domain name

B.Port

1. nmap 1.2.3.4 -p80 //single port
2. nmap 1.2.3.4 -p20-30 //Sequential port
3. nmap 1.2.3.4 -p80,22,111 //Distributed port
4. nmap 1.2.3.4 -p http //service specific it'll scan 80, 8080

5. nmap 1.2.3.4 -p- //All ports [65535]
6. nmap 1.2.3.4 -p T:22 U:53 //Protocol specific,where T is tcp and U is UDp
7. nmap 1.2.3.4 - - top-ports 10 //Scan only top ports

C. Other command

1. nmap –host-timeout 500ms 1.2.3.4
2. nmap –scan-delay 1s 1.2.3.4
3. nmap 1.2.3.4 -oN 1.txt //it will store output in .txt format
4. nmap 1.2.3.4 -oX 2.txt //store output in .xml format
5. nmap <domainName> –script http-headers //used script for scan
6. nmap -sV 1.2.3.4 //service version
7. nmap -O 1.2.3.4 //OS detection
8. nmap -A 1.2.3.4 //service version+ OS detect + scan + traceroute

Nmap Script usage

- Nmap script used for security auditing and vulnerability scanning and known as nmap script Engine [NSE]

- Used for firewall bypass, FTP Enumeration, DNS Enumeration, Http Enumeration, etc.

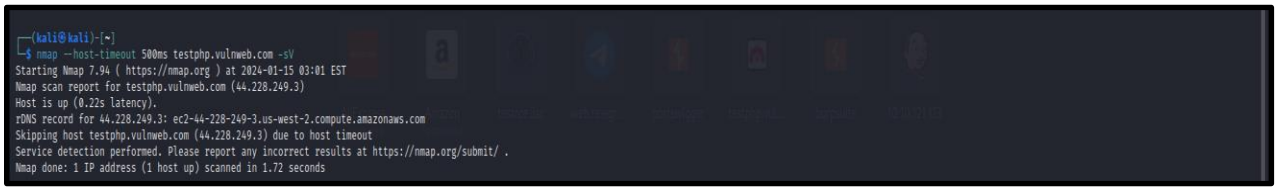
- Path to find all these scripts is -
  $ cd /usr/share/nmap/scripts

Practical

Scan the website - http://testphp.vulnweb.com/

1. Normal scan with time speed fast for that I mention -T4

2. Get to know what services are the services running.



References :

- ➢ https://www.freecodecamp.org/news/what-is-nmap-and-how-to-use-it-a-tutorial-for-the-greatest-scanning-tool-of-all-time/
- ➢ https://en.wikipedia.org/wiki/Nmap
- ➢ https://www.youtube.com/watch?v=DD3LopYcOYI