

Different usage options

- Port discovery and specification
- Host discovery and specification
- Vulnerability scanning
- Application and service version detection
- Software version detection against the ports
- Firewall / IDS Spoofing

Nmap Cheat Sheet

Port Specification Options

Syntax	Example	Description
-P	nmap -p 23 172.16.1.1	Port scanning port specific port
-P	nmap -p 23-100 172.16.1.1	Port scanning port specific port range
-p	nmap -pU:110,T:23-25,443 172.16.1.1	U-UDP,T-TCP different port types scan
-p-	nmap -p- 172.16.1.1	Port scan for all ports
-p	nmap -ssmtp,https 172.16.1.1	Port scan from specified protocols
-F	nmap -F 172.16.1.1	Fast port scan for speed up
-P "*"	nmap -p "*" ftp 172.16.1.1	Port scan using name
-r	nmap -r 172.16.1.1	Sequential port scan

Host /172.16.1.1 Discovery

Switch/Syntax	Example	Description
-sL	nmap 172.16.1.1-5 -sL	List 172.16.1.1 without scanning
-sn	nmap 172.16.1.1/8 -sn	Disable port scanning
-Pn	nmap 172.16.1.1-8 -Pn	Port scans only and no host discovery
-PS	nmap 172.16.1.185 -PS22-25,80	TCP SYN discovery on specified port
-PA	nmap 172.16.1.185 -PA22-25,80	TCP ACK discovery on specified port
-PU	nmap 172.16.1.1-8 -PU53	UDP discovery on specified port
-PR	nmap 172.16.1.1-1/8 -PR	ARP discovery within local network
-n	nmap 172.16.1.1 -n	no DNS resolution

Version Detection

Switch/Syntax	Example	Description
-sV	nmap 172.16.1.1 -sV	Try to find the version of the service running on port
-sV --version-intensity	nmap 172.16.1.1 -sV --version-intensity 6	Intensity level range 0 to 9.
-sV --version-all	nmap 172.16.1.1 -sV --version-all	Set intensity level to 9
-sV --version-light	nmap 172.16.1.1 -sV --version-light	Enable light mode
-A	nmap 172.16.1.1 -A	Enables OS detection, version detection, script scanning, and traceroute
-O	nmap 172.16.1.1 -O	Remote OS detection

Firewall Proofing

nmap -f [172.16.1.1]	scan fragment packets
nmap -mtu [MTU] [172.16.1.1]	specify MTU
nmap -sI [zombie] [172.16.1.1]	scan idle zombie
nmap -source-port [port] [172.16.1.1]	manual source port - specify
nmap -data-length [size] [172.16.1.1]	randomly append data
nmap -randomize-hosts [172.16.1.1]	172.16.1.1 scan order randomization
nmap -badsum [172.16.1.1]	bad checksum

Nmap Timing Options

Syntax	Description
nmap -T0 172.16.1.1	Slowest scan
nmap -T1 172.16.1.1	Tricky scan to avoid IDS
nmap -T2 172.16.1.1	Timely scan
nmap -T3 172.16.1.1	Default scan timer
nmap -T4 172.16.1.1	Aggressive scan
nmap -T5 172.16.1.1	Very aggressive scan

Scanning Types

Switch/Syntax	Example	Description
-sS	nmap 172.16.1.1 -sS	TCP SYN port scan
-sT	nmap 172.16.1.1 -sT	TCP connect port scan
-sA	nmap 172.16.1.1 -sA	TCP ACK port scan
-sU	nmap 172.16.1.1 -sU	UDP port scan
-SF	nmap -SF 172.16.1.1	TCP FIN scan
-sX	nmap -SX 172.16.1.1	XMAS scan
-Sp	nmap -Sp 172.16.1.1	Ping scan
-sU	nmap -Su 172.16.1.1	UDP scan
-sA	nmap -Sa 172.16.1.1	TCP ACK scan
-SL	nmap -Sl 172.16.1.1	list scan

Scanning Command Syntax

nmap [scan types] [options] {172.16.1.1 specification}

Use of Nmap Scripts NSE

nmap --script= test script 172.16.1.0/24	execute the listed script against target IP address
nmap --script-update-db	adding new scripts
nmap -sV -sC	use of safe default scripts for scan
nmap --script-help="Test Script"	get help for script

Nmap output Formats

Default/normal output	nmap -oN scan.txt 172.16.1.1
XML	nmap -oX scanr.xml 172.16.1.1
Grepable format	snmap -oG grep.txt 172.16.1.1
All formats	nmap -oA 172.16.1.1

172.16.1.1 Specification

nmap 172.16.1.1	single IP scan
nmap 172.16.1.1 172.16.100.1	scan specific IPs
nmap 172.16.1.1-254	scan a range of IPs
nmap xyz.org	scan a domain
nmap 10.1.1.0/8	scan using CIDR notation
nmap -iL scan.txt	scan 172.16.1.1s from a file
nmap --exclude 172.16.1.1	specified IP s exclude from scan

Scan Options

Syntax	Description
nmap -SP 172.16.1.1	Ping scan only
nmap -PU 172.16.1.1	UDP ping scan
nmap -PE 172.16.1.1	ICMP echo ping
nmap -PO 172.16.1.1	IP protocol ping
nmap -PR 172.16.1.1	ARP ping
nmap -Pn 172.16.1.1	Scan without pinging
nmap -traceroute 172.16.1.1	Traceroute