



## TARGET SPECIFICATION:

Scan a Single Target	<code>nmap 192.168.10.1</code>
Scan Multiple Targets	<code>nmap 192.168.10.1 192.168.10.100 192.168.10.101</code>
Scan a Range of IP Addresses	<code>nmap 192.168.10.1-100</code>
Scan an Entire Subnet	<code>nmap 192.168.10.1/24</code>
<code>-iL &lt;inputfilename&gt;:</code>	Input from list of hosts/networks
<code>-iR &lt;number of hosts&gt;:</code>	Choose random targets
<code>--exclude &lt;host1[,host2][,host3],...&gt;:</code>	Exclude hosts/networks
<code>--excludefile &lt;exclude_file&gt;:</code>	Exclude list from file
<code>nmap --interactive</code>	<code>--interactive</code> option enables the Nmap interactive shell

## HOST DISCOVERY:

<code>-PN</code>	Don't Ping
<code>-sP</code>	Perform a Ping Only
<code>-PS</code>	Scan TCP SYN Ping
<code>-PA</code>	TCP ACK Ping
<code>-PU</code>	UDP Ping
<code>-PY</code>	SCTP INIT Ping
<code>-PE</code>	ICMP Echo Ping
<code>-PP</code>	ICMP Timestamp Ping
<code>-PM</code>	ICMP Address Mask Ping
<code>-PO</code>	IP Protocol Ping
<code>-PR</code>	ARP Ping
<code>--traceroute</code>	Traceroute
<code>-R</code>	Force Reverse DNS Resolution
<code>-n</code>	Disable Reverse DNS Resolution
<code>--system-dns</code>	Alternative DNS Lookup
<code>--dns-servers</code>	Manually Specify DNS Server(s)
<code>-sL</code>	Create a Host List

## SCAN TECHNIQUES:

<code>-sS/sT/sA/sW/sM/sP:</code>	TCP SYN/Connect()/ACK/Window/Maimon scans/Perform a ping only scan
<code>-sU:</code>	UDP Scan
<code>-sN/sF/sX:</code>	TCP Null, FIN, and Xmas scans
<code>--scanflags &lt;flags&gt;:</code>	Customize TCP scan flags
<code>-sI &lt;zombie host[:probeport]&gt;:</code>	Idle scan
<code>-sY/sZ:</code>	SCTP INIT/COOKIE-ECHO scans
<code>-sO:</code>	IP protocol scan
<code>-b &lt;FTP relay host&gt;:</code>	FTP bounce scan

## Comparison of two SCANS:

<code>ndiff</code>	Comparison Using Ndiff
<code>-v</code>	Ndiff Verbose Mode
<code>--xml</code>	XML Output Mode

## PORT SPECIFICATION AND SCAN ORDER:

<code>-p &lt;port ranges&gt;:</code>	Only scan specified ports Ex: <code>-p22; -p1-65535;</code>
<code>-p U: [UDP ports], T: [TCP ports]</code>	Scan Ports by Protocol Ex. <code>-p U:53,111,137,T:21-25,80,139,8080,S:9</code>
<code>-p ""</code>	Scan All Ports
<code>-F:</code>	Fast mode - Scan fewer ports than the default scan
<code>-r:</code>	Scan ports consecutively - don't randomize
<code>--top-ports &lt;number&gt;:</code>	Scan <number> most common ports
<code>--port-ratio &lt;ratio&gt;:</code>	Scan ports more common than <ratio>

## SERVICE/VERSION DETECTION:

<code>-sV:</code>	Probe open ports to determine service/version info
<code>-sR</code>	Troubleshooting Version Scans
<code>--version-intensity &lt;level&gt;:</code>	Set from 0 (light) to 9 (try all probes)
<code>--version-light:</code>	Limit to most likely probes (intensity 2)
<code>--version-all:</code>	Try every single probe (intensity 9)
<code>--version-trace:</code>	Show detailed version scan activity (for debugging), Perform a RPC Scan

## OS DETECTION:

-O:	Enable OS detection
--osscan-limit:	Limit OS detection to promising targets
--osscan-guess:	Guess OS more aggressively (Attempt to Guess an Unknown OS)

## FIREWALL/IDS EVASION AND SPOOFING:

-f; --mtu <val>:	fragment packets (optionally w/given MTU)
-D <decoy1,decoy2[,ME],...>:	Cloak a scan with decoys
-S <IP Address>:	Spoof source address
-e <iface>:	Use specified interface
-g/--source-port <portnum>:	Use given port number
--data-length <num>:	Append random data to sent packets
--ip-options <options>:	Send packets with specified ip options
--ttl <val>:	Set IP time-to-live field
--spoof-mac <mac address/prefix/vendor name>:	Spoof your MAC address
--badsum:	Send packets with a bogus TCP/UDP/SCTP checksum
--randomize-hosts	Randomize Target Scan Order

## TIMING AND PERFORMANCE:

Options which take <time> are in seconds, or append 'ms' (milliseconds), 's' (seconds), 'm' (minutes), or 'h' (hours) to the value (e.g. 30m).

-T<0-5>:	Set timing template (higher is faster)
--min-hostgroup/max-hostgroup <size>	Parallel host scan group sizes
--min-parallelism/max-parallelism <numprobes>	Minimum/Maximum number of parallel operations
--min-rtt-timeout/max-rtt-timeout/initial-rtt-timeout <time>:	Specifies probe round trip time.
--max-retries <tries>:	Caps number of port scan probe retransmissions.
--host-timeout <time>:	Give up on target after this long
--scan-delay/--max-scan-delay <time>	Adjust delay between probes
--min-rate <number>:	Send packets no slower than <number> per second
--max-rate <number>:	Send packets no faster than <number> per second
--defeat-rst-ratelimit	Defeat Reset Rate Limits

## MISC:

-6:	Enable IPv6 scanning
-A:	Enable OS detection, version detection, script scanning, and traceroute
--datadir <dirname>:	Specify custom Nmap data file location
--send-eth/--send-ip:	Send using raw ethernet frames or IP packets
--privileged:	Assume that the user is fully privileged
--unprivileged:	Assume the user lacks raw socket privileges
-V:	Print nmap version number
-h:	Print this help summary page.

## OUTPUT + Troubleshooting and Debugging:

-oN/-oX/-oS/-oG <file>:	Output scan in normal, XML, script kiddie Output, and Grepable format, respectively, to the given filename.
-oA <basename>:	Output in the three major formats at once
-v:	Increase verbosity level (use -vv or more for greater effect)
-d:	Increase debugging level (use -dd or more for greater effect)
--reason:	Display the reason a port is in a particular state
--open:	Only show open (or possibly open) ports
--packet-trace:	Show all packets sent and received
--iflist:	Print host interfaces and routes (for debugging)
--log-errors:	Log errors/warnings to the normal-format output file
--append-output:	Append to rather than clobber specified output files
--resume <filename>:	Resume an aborted scan
--stylesheet <path/URL>:	XSL stylesheet to transform XML output to HTML
--webxml:	Reference stylesheet from Nmap.Org for more portable XML
--no-stylesheet:	Prevent associating of XSL stylesheet w/XML output
--stats-every	Periodically Display Statistics

## SCRIPT SCAN:

-sC:	equivalent to --script=default
--script [script]	Execute Individual Scripts
--script [script1,script2,etc]	Execute Multiple Scripts
--script [category]	Execute Scripts by Category
--script [category1, category2]	Execute Multiple Script Categories
--script=<Lua scripts>:	<Lua scripts> is a comma separated list of directories, script-files or script-categories
--script-args=<n1=v1, [n2=v2,...]>:	provide arguments to scripts
--script-trace:	Show all data sent and received
--script-updatedb:	Update the script database.

## RUN TIME INTERACTION:

Key	Function
<b>v</b>	Pressing lowercase <b>v</b> during a scan will increase the verbosity level.
<b>V</b>	Pressing uppercase <b>V</b> during a scan will increase the verbosity level.
<b>d</b>	Pressing lowercase <b>d</b> during a scan will increase the debugging level.
<b>D</b>	Pressing uppercase <b>D</b> during a scan will increase the debugging level.
<b>p</b>	Pressing lowercase <b>p</b> during a scan will enable packet tracing.
<b>P</b>	Pressing uppercase <b>P</b> during a scan will disable packet tracing.
<b>?</b>	Pressing <b>?</b> during a scan will display the runtime interaction help.
Any other key not listed above	Pressing key other than the ones defined above during a scan will print a status message indicating the progress of the scan and how much time is remaining.