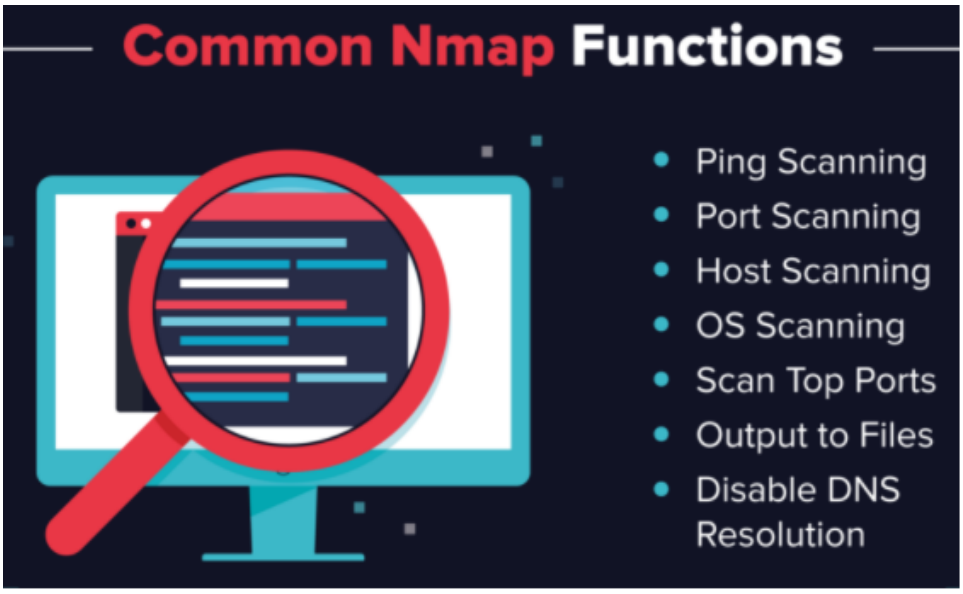
Nmap Commands



Most of the common functions of Nmap can be executed using a single command, and the program also uses a number of 'shortcut' commands that can be used to automate common tasks.

Here is a quick run-down:

1. Ping Scanning

As mentioned above, a ping scan returns information on every active IP on your network. You can execute a ping scan using this command:

1. #

2. Port Scanning

There are several ways to execute port scanning using Nmap. The most commonly used are these:

sS TCP SYN scan

sT TCP connect scan

sU UDP scans

sY SCTP INIT scan

sN TCP NULL

The major differences between these types of scans are whether they cover TCP or UDP ports and whether they execute a TCP connection. Here are the basic differences:

- The most basic of these scans is the sS TCP SYN scan, and this gives most users all the information they need. It scans thousands of ports per second, and because it doesn't complete a TCP connection it does not arouse suspicion.
- The main alternative to this type of scan is the TCP Connect scan, which actively queries each host, and requests a response. This type of scan takes longer than a SYN scan, but can return more reliable information.
- The UDP scan works in a similar way to the TCP connect scan but uses UDP packets to scan DNS, SNMP, and DHCP ports. These are the ports most frequently targeted by hackers, and so this type of scan is a useful tool for checking for vulnerabilities.
- The SCTP INIT scan covers a different set of services: SS7 and SIGTRAN. This type of scan can also be used to avoid suspicion when scanning an external network because it doesn't complete the full SCTP process.
- The TOP NULL scan is also a very crafty scanning technique. It uses a loophole in the TCP system that can reveal the status of ports without directly querying them, which means that you can see their status even where they are protected by a firewall.

3. Host Scanning

Host scanning returns more detailed information on a particular host or a range of IP addresses. As mentioned above, you can perform a host scan using the following command:

```
# nmap -sp <target IP range>
```

4. OS Scanning

OS scanning is one of the most powerful features of Nmap. When using this type of scan, Nmap sends TCP and UDP packets to a particular port, and then analyze its response. It compares this response to a database of 2600 operating systems, and return information on the OS (and version) of a host.

To run an OS scan, use the following command:

```
nmap -O <target IP>
```

2. p -O <target IP>

5. Scan The Most Popular Ports

If you are running Nmap on a home server, this command is very useful. It automatically scans a number of the most 'popular' ports for a host. You can run this command using:

```
nmap --top-ports 20 192.168.1.106
```

Replace the "20" with the number of ports to scan, and Nmap quickly scans that many ports. It returns a concise output that details the status of the most common ports, and this lets you quickly see whether you have any unnecessarily open ports.

6. Output to a File

If you want to output the results of your Nmap scans to a file, you can add an extension to your commands to do that. Simply add:

```
-oN output.txt
```

To your command to output the results to a text file, or:

```
-oX output.xml
```

To output to an XML.

7. Disable DNS Name Resolution

Finally, you can speed up your Nmap scans by using the -n parameter to disable reverse DNS resolution. This can be extremely useful if you want to scan a large network. For example, to turn off DNS resolution for the basic ping scan mentioned above, add -n:

```
# nmap -sp -n 192.100.1.1/24
```