

# Esplorazione di Nmap

NMAP(1)

Nmap Reference Guide

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## NAME

nmap - Network exploration tool and security / port scanner

## SYNOPSIS

**nmap** [Scan Type...] [Options] {target specification}

## DESCRIPTION

Nmap ("Network Mapper") is an open source tool for network exploration and security auditing. It was designed to rapidly scan large networks, although it works fine against single hosts. Nmap uses raw IP packets in novel ways to determine what hosts are available on the network, what services (application name and version) those hosts are offering, what operating systems (and OS versions) they are running, what type of packet filters/firewalls are in use, and dozens of other characteristics. While Nmap is commonly used for security audits, many systems and network administrators find it useful for routine tasks such as network inventory, managing service upgrade schedules, and monitoring host or service uptime.

The output from Nmap is a list of scanned targets, with supplemental information on each depending on the options used. Key among that information is the "interesting ports table". That table lists the port number and protocol, service name, and state. The state is either open, filtered, closed, or unfiltered. Open means that an application on the target machine is listening for connections/packets on that port. Filtered means that a firewall, filter, or other network obstacle is blocking the port so that Nmap cannot tell whether it is open or closed. Closed ports have no application listening on them, though they could open up at any time. Ports are classified as unfiltered when they are responsive to Nmap's probes, but Nmap cannot determine whether they are open or closed. Nmap reports the state combinations open|filtered and closed|filtered when it cannot determine which of the two states describe a port. The port table may also include software version details when version detection has been requested. When an IP protocol scan is requested (**-s0**), Nmap provides information on supported IP protocols rather than listening ports.

In addition to the interesting ports table, Nmap can provide further information on targets, including reverse DNS names, operating system guesses, device types, and MAC addresses.

A typical Nmap scan is shown in Example 1. The only Nmap arguments used in this example are **-A**, to enable OS and version detection, script scanning, and traceroute; **-T4** for faster execution; and then the hostname.

### Example 1. A representative Nmap scan

```
# nmap -A -T4 scanme.nmap.org

Nmap scan report for scanme.nmap.org (74.207.244.221)
Host is up (0.029s latency).
```

Manual page nmap(1) line 1 (press h for help or q to quit)

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/example

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#### **Example 1. A representative Nmap scan**

```
# nmap -A -T4 scanme.nmap.org

Nmap scan report for scanme.nmap.org (74.207.244.221)
Host is up (0.029s latency).
rDNS record for 74.207.244.221: 1186-221.members.linode.com
Not shown: 995 closed ports
PORT      STATE      SERVICE      VERSION
22/tcp    open      ssh          OpenSSH 5.3p1 Debian 3ubuntu7 (protocol 2.0)
|_ ssh-hostkey: 1024 8d:60:f1:7c:ca:b7:3d:0a:d6:67:54:9d:69:d9:b9:dd (DSA)
|_ 2048 79:f8:09:ac:d4:e2:32:42:10:49:d3:bd:20:82:85:ec (RSA)
80/tcp    open      http         Apache httpd 2.2.14 ((Ubuntu))
|_ http-title: Go ahead and ScanMe!
646/tcp   filtered  ldap
1720/tcp  filtered  H.323/Q.931
9929/tcp  open      nping-echo   Nping echo
Device type: general purpose
Running: Linux 2.6.X
OS CPE: cpe:/o:linux:linux_kernel:2.6.39
OS details: Linux 2.6.39
Network Distance: 11 hops
Service Info: OS: Linux; CPE: cpe:/o:linux:kernel

TRACEROUTE (using port 53/tcp)
HOP RTT      ADDRESS
[Cut first 10 hops for brevity]
11  17.65 ms 1186-221.members.linode.com (74.207.244.221)

Nmap done: 1 IP address (1 host up) scanned in 14.40 seconds
```

The newest version of Nmap can be obtained from <https://nmap.org>. The newest version of this man page is available at <https://nmap.org/book/man.html>. It is also included as a chapter of Nmap Network Scanning: The Official Nmap Project Guide to Network Discovery and Security Scanning (see <https://nmap.org/book/>).

#### **OPTIONS SUMMARY**

This options summary is printed when Nmap is run with no arguments, and the latest version is always available at <https://svn.nmap.org/nmap/docs/nmap.usage.txt>. It helps people remember the most common options, but is no substitute for the in-depth documentation in the rest of this manual. Some obscure options aren't even included here.

```
Nmap 7.70 ( https://nmap.org )
Usage: nmap [Scan Type(s)] [Options] {target specification}
TARGET SPECIFICATION:
```

Can pass hostnames, IP addresses, networks, etc.

Manual page nmap(1) line 44 (press h for help or q to quit)

```
[analyst@sec0ps ~]$ nmap -A -T4 localhost
Starting Nmap 7.70 ( https://nmap.org ) at 2024-10-25 05:03 EDT
Nmap scan report for localhost (127.0.0.1)
Host is up (0.000031s latency).
Other addresses for localhost (not scanned): ::1
Not shown: 998 closed ports
PORT      STATE SERVICE VERSION
21/tcp    open  ftp      vsftpd 2.0.8 or later
| ftp-anon: Anonymous FTP login allowed (FTP code 230)
|_-rw-r--r--  1 0          0          0 Mar 26  2018 ftp_test
| ftp-syst:
|   STAT:
| FTP server status:
|   Connected to 127.0.0.1
|   Logged in as ftp
|   TYPE: ASCII
|   No session bandwidth limit
|   Session timeout in seconds is 300
|   Control connection is plain text
|   Data connections will be plain text
|   At session startup, client count was 5
|   vsFTPD 3.0.3 - secure, fast, stable
|_End of status
22/tcp    open  ssh      OpenSSH 7.7 (protocol 2.0)
| ssh-hostkey:
|   2048 b4:91:f9:d6:79:25:86:44:c7:9e:f8:e0:e7:5b:bb (RSA)
|   256  06:12:75:fe:b3:89:29:4f:8d:f3:9e:9a:d7:c6:03:52 (ECDSA)
|_  256  34:5d:f2:d3:5b:9f:b4:b6:08:96:a7:30:52:8c:96:06 (ED25519)
Service Info: Host: Welcome

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 11.58 seconds
[analyst@sec0ps ~]$ █
[analyst@sec0ps ~]$ ip address
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:a7:6d:ee brd ff:ff:ff:ff:ff:ff
    inet 192.168.2.150/24 brd 192.168.2.255 scope global dynamic enp0s3
        valid_lft 5657sec preferred_lft 5657sec
    inet6 fe80::a00:27ff:fea7:6dee/64 scope link
        valid_lft forever preferred_lft forever
[analyst@sec0ps ~]$ █
```

```
[analyst@secOps ~]$ nmap -A -T4 192.168.2.150/24
Starting Nmap 7.70 ( https://nmap.org ) at 2024-10-25 05:11 EDT
Nmap scan report for 192.168.2.1
Host is up (0.00077s latency).
Not shown: 997 filtered ports
PORT      STATE SERVICE      VERSION
53/tcp    open  domain       (generic dns response: NOIMP)
|_ fingerprint-strings:
|_   DNSVersionBindReqTCP:
|_     version
|_     bind
80/tcp    open  http         nginx
|_ http-server-header: nginx
|_ http-title: Did not follow redirect to https://192.168.2.1/
443/tcp   open  ssl/http     nginx
|_ http-server-header: nginx
|_ http-title: pfSense - Login
|_ ssl-cert: Subject: commonName=pfSense-6601573e40fd7/organizationName=pfSense GUI default Self-Signed Certificate
| Subject Alternative Name: DNS:pfSense-6601573e40fd7
| Not valid before: 2024-03-25T10:51:42
| Not valid after: 2025-04-27T10:51:42
|_ tls-alpn:
|_   h2
|_   http/1.1
1 service unrecognized despite returning data. If you know the service/version, please submit the following fingerprint at https://nmap.org/cgi-bin/submit.cgi?new-service :
SF-Port53-TCP:V=7.70I=77D=10/25Time=671860E1P=x86_64-unknown-linux-gnuI
SF:r(DNSVersionBindReqTCP,20,"\\0\\x1e\\0\\x06\\x81\\x85\\0\\x01\\0\\0\\0\\0\\0\\0\\x07ve
SF:rsion\\x04bind\\0\\0\\x10\\0\\x03")Zr(DNSStatusRequestTCP,E,"\\0\\x0c\\0\\0\\x90\\x
SF:04\\0\\0\\0\\0\\0\\0\\0\\0");

Nmap scan report for 192.168.2.150
Host is up (0.000035s latency).
Not shown: 998 closed ports
PORT      STATE SERVICE      VERSION
21/tcp    open  ftp         vsftpd 2.0.8 or later
|_ ftp-anon: Anonymous FTP login allowed (FTP code 230)
|_ --rw-r--r-- 1 0 0 0 Mar 26 2018 ftp_test
|_ ftp-syst:
|_   STAT:
|_   FTP server status:
|_     Connected to 192.168.2.150
|_     Logged in as ftp
|_     TYPE: ASCII
|_     No session bandwidth limit
|_     Session timeout in seconds is 300
|_     Control connection is plain text
|_     Data connections will be plain text
|_     At session startup, client count was 3
|_     vsFTPd 3.0.3 - secure, fast, stable
|_ End of status
22/tcp    open  ssh         OpenSSH 7.7 (protocol 2.0)
|_ ssh-hostkey:
|_   2048 b4:91:f9:d6:79:25:86:44:c7:9e:f8:e0:e7:5b:bb (RSA)
|_   256 06:12:75:fe:b3:89:29:4f:8d:f3:9e:9a:d7:c6:03:52 (ECDSA)

[analyst@secOps ~]$ nmap -A -T4 scanme.nmap.org
Starting Nmap 7.70 ( https://nmap.org ) at 2024-10-25 05:14 EDT
Nmap scan report for scanme.nmap.org (45.33.32.156)
Host is up (0.17s latency).
Other addresses for scanme.nmap.org (not scanned): 2600:3c01::f03c:91ff:fe18:bb2f
Not shown: 996 closed ports
PORT      STATE SERVICE      VERSION
22/tcp    open  ssh         OpenSSH 6.6.1p1 Ubuntu 2ubuntu2.13 (Ubuntu Linux; protocol 2.0)
|_ ssh-hostkey:
|_   1024 ac:00:a0:1a:82:ff:cc:55:99:dc:67:2b:34:97:6b:75 (DSA)
|_   2048 20:3d:2d:44:62:2a:b0:5a:9d:b5:b3:05:14:c2:a6:b2 (RSA)
|_   256 96:02:bb:5e:57:54:1c:4e:45:2f:56:4c:4a:24:b2:57 (ECDSA)
|_   256 33:fa:91:0f:e0:e1:7b:1f:6d:05:a2:b0:f1:54:41:56 (ED25519)
80/tcp    filtered http
9929/tcp  open  nping-echo  Nping echo
31337/tcp open  tcpwrapped
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 20.54 seconds
[analyst@secOps ~]$
```