



Using Netstat to check which ports are listening in Linux

Netstat is a command line utility for Linux that prints network connections, routing tables, interface statistics, masquerade connections, and multicast memberships. Netstat can be used to diagnose network issues and service problems.

NOTE: Netstat has recently been deprecated in favor of ss and ip route, now part of the net-tools package. For more specific information on ss and ip route, please see [**this**](#) knowledgebase article!

Reviewing the man pages for netstat in our CentOS 6 installation, we find that netstat has the following options;

Options

--verbose , -v

Tell the user what is going on by being verbose. Especially print some useful information about unconfigured address families.

--numeric , -n

Show numerical addresses instead of trying to determine symbolic host, port or user names.

--numeric-hosts

shows numerical host addresses but does not affect the resolution of port or user names.

--numeric-ports

shows numerical port numbers but does not affect the resolution of host or user names.

--numeric-users

shows numerical user IDs but does not affect the resolution of host or port names.

--protocol=*family* , -A

Specifies the address families (perhaps better described as low level protocols) for which connections are to be shown. *family* is a comma (',') separated list of address family keywords

like **inet**, **unix**, **ipx**, **ax25**, **netrom**, and **ddp**. This has the same effect as using the **--inet**, **--unix (-x)**, **--ipx**, **--ax25**, **--netrom**, and **--ddp** options.

The address family **inet** includes raw, udp and tcp protocol sockets.

-c, --continuous

This will cause **netstat** to print the selected information every second continuously.

-e, --extend

Display additional information. Use this option twice for maximum detail.

-o, --timers

Include information related to networking timers.

-p, --program

Show the PID and name of the program to which each socket belongs.

-l, --listening

Show only listening sockets. (These are omitted by default.)

-a, --all

Show both listening and non-listening (for TCP this means established connections) sockets. With the **--interfaces** option, show interfaces that are not marked

-f

Print routing information from the FIB. (This is the default.)

-c

Print routing information from the route cache.

-Z --context

If SELinux enabled print SELinux context.

-T --notrim

Stop trimming long addresses.

delay

Netstat will cycle printing through statistics every **delay** seconds. *UP*.

In this specific knowledgebase, we'll discuss figuring out whether a standard Apache web server is up and running on ports 80 and 443. Our standard Apache web server has been installed on CentOS 6 using yum, and an SSL host has been configured on the default vHost as well.

Let's first ensure that apache is actually running.

On CentOS 5/6:

```
root@web01 [~]# service httpd status
httpd (pid 14770) is running...
```

On Ubuntu 12/14:

```
root@web01:~$ service apache2 status  
* apache2 is running
```

Now that we have determined that Apache is indeed running, we'll proceed with our netstat testing. In the above listed options we'll want to pay close attention to a couple options specifically. The option '-l', the option '-p' and the option '-t' are all useful here. -l tells netstat to show us specifically the sockets that are listening. The -p tells netstat to show us the PID of the process in question associated to the port. The -t tells netstat to ONLY show us TCP based connections - which is perfect, given we know exactly what kind of connection HTTP and HTTPS traffic is going to be.

The output of the command on CentOS 6:

```
root@web01[~]# netstat -tlp
```

Active Internet connections (only servers)

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	State	PID/Program name
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tcp	0	0	*:autodesk-nlm	*:*	LISTEN	29241/cpdavd - acce
-----	---	---	----------------	-----	--------	---------------------

tcp	0	0	*:imaps	*:*	LISTEN	29084/dovecot
-----	---	---	---------	-----	--------	---------------

tcp	0	0	*:infowave	*:*	LISTEN	10376/cpsrvd (SSL)
-----	---	---	------------	-----	--------	--------------------

tcp	0	0	localhost:43234	*:*	LISTEN	3009/mms
-----	---	---	-----------------	-----	--------	----------

tcp	0	0	localhost:decbsrv	*:*	LISTEN	20036/cPhulkd - pro
-----	---	---	-------------------	-----	--------	---------------------

tcp	0	0	*:pop3s	*:*	LISTEN	29084/dovecot
-----	---	---	---------	-----	--------	---------------

tcp	0	0	*:radsec	*:*	LISTEN	10376/cpsrvd (SSL)
-----	---	---	----------	-----	--------	--------------------

tcp	0	0	*:gnunet	*:*	LISTEN	10376/cpsrvd (SSL)
-----	---	---	----------	-----	--------	--------------------

tcp	0	0	*:eli	*:*	LISTEN	10376/cpsrvd (SSL)
-----	---	---	-------	-----	--------	--------------------

tcp	0	0	*:submission	*:*	LISTEN	28689/exim
-----	---	---	--------------	-----	--------	------------

tcp	0	0	*:memcache	*:*	LISTEN	2032/memcached
-----	---	---	------------	-----	--------	----------------

tcp	0	0	*:pop3	*:*	LISTEN	29084/dovecot
-----	---	---	--------	-----	--------	---------------

tcp	0	0	localhost:783	*:*	LISTEN	31134/spamd-dormant
-----	---	---	---------------	-----	--------	---------------------

tcp	0	0	*:imap	*:*	LISTEN	29084/dovecot
-----	---	---	--------	-----	--------	---------------

tcp	0	0	*:nbx-ser	*:*	LISTEN	10376/cpsrvd (SSL)
-----	---	---	-----------	-----	--------	--------------------

tcp	0	0	*:http	*:*	LISTEN	11398/httpd
-----	---	---	--------	-----	--------	-------------

tcp	0	0	*:nbx-dir	*:*	LISTEN	10376/cpsrvd (SSL)
-----	---	---	-----------	-----	--------	--------------------

tcp	0	0	*:urd	*:*	LISTEN	28689/exim
-----	---	---	-------	-----	--------	------------

tcp	0	0	*:ftp	*:*	LISTEN	29507/pure-ftpd (SE
-----	---	---	-------	-----	--------	---------------------

tcp	0	0	*:ssh	*:*	LISTEN	5579/sshd
-----	---	---	-------	-----	--------	-----------

tcp	0	0	*:smtp	*:*	LISTEN	28689/exim
-----	---	---	--------	-----	--------	------------

tcp	0	0	*:https	*:*	LISTEN	11398/httpd
-----	---	---	---------	-----	--------	-------------

tcp	0	0	*:tsrmagt	*:*	LISTEN	29241/cpdavd - acce
-----	---	---	-----------	-----	--------	---------------------

tcp	0	0	*:tpcsrvr	*:*	LISTEN	29241/cpdavd - acce
-----	---	---	-----------	-----	--------	---------------------

tcp	0	0	*:idware-router	*:*	LISTEN	29241/cpdavd - acce
-----	---	---	-----------------	-----	--------	---------------------

tcp	0	0	*:imaps	*:*	LISTEN	29084/dovecot
-----	---	---	---------	-----	--------	---------------

tcp	0	0	*:pop3s	*:*	LISTEN	29084/dovecot
-----	---	---	---------	-----	--------	---------------

tcp	0	0	*:mysql	*:*	LISTEN	21643/mysqld
-----	---	---	---------	-----	--------	--------------

tcp	0	0	*:submission	*:*	LISTEN	28689/exim
-----	---	---	--------------	-----	--------	------------

tcp	0	0	*:memcache	*:*	LISTEN	2032/memcached
-----	---	---	------------	-----	--------	----------------

tcp	0	0	*:pop3	*:*	LISTEN	29084/dovecot
-----	---	---	--------	-----	--------	---------------

tcp	0	0	localhost:783	*:*	LISTEN	31134/spamd-dormant
-----	---	---	---------------	-----	--------	---------------------


tcp	0	0	*:imap	*:*	LISTEN	29084/dovecot
-----	---	---	--------	-----	--------	---------------

tcp	0	0	localhost:7984	*:*	LISTEN	29887/java
-----	---	---	----------------	-----	--------	------------

```
tcp 0 0 *:http *: LISTEN 11398/httpd
tcp 0 0 *:urd *: LISTEN 28689/exim
tcp 0 0 *:sd *: LISTEN 3061/acronisagent
tcp 0 0 *:ftp *: LISTEN 29507/pure-ftpd (SE
tcp 0 0 *:munin *: LISTEN 26774/perl
tcp 0 0 *:ssh *: LISTEN 5579/sshd
tcp 0 0 localhost:8984 *: LISTEN 29887/java
tcp 0 0 *:smtp *: LISTEN 28689/exim
tcp 0 0 *:https *: LISTEN 11398/httpd
```

As you can see from the highlighted text above, we've found that http and https are indeed listening TCP sockets on our linux server. We could search for just the string "http" as well, using grep. Grep will be covered in another knowledgebase article, but here is an example:

```
root@web01 [~]# netstat -tlp | grep -i http
tcp 0 0 *:http *: LISTEN 14770/httpd
tcp 0 0 *:https *: LISTEN 14770/httpd
tcp 0 0 *:http *: LISTEN 14770/httpd
tcp 0 0 *:https *: LISTEN 14770/httpd
```

-  netstat, centos 6, ubuntu, ports, services

Related Articles

Using the ss command to examine sockets in Linux

'ss', short for "socket statistics", is the preferred replacement for netstat in CentOS/RHEL 7...

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