Утилита lsof

List all Open Files with lsof Command

Sections and it’s values are self-explanatory. However, we’ll review **FD & TYPE** columns more precisely.

FD – stands for File descriptor and may seen some of the values as:

- **cwd** current working directory
- **rtd** root directory
- **txt** program text (code and data)
- **mem** memory-mapped file

Also in **FD** column numbers like **1u** is actual file descriptor and followed by u,r,w of it’s mode as:

- **r** for read access.
- **w** for write access.
- **u** for read and write access.

TYPE – of files and it’s identification.

- **DIR** – Directory
- **REG** – Regular file
- **CHR** – Character special file.
- **FIFO** – First In First Out

List User Specific Opened Files

The below command will display the list of all opened files of user **uba**.

```
# lsof -u uba
COMMAND PID USER FD TYPE DEVICE SIZE/OFF NODE NAME
sshd 17162 uba cwd DIR 253,0 242 96 /
sshd 17162 uba rtd DIR 253,0 242 96 /
sshd 17162 uba txt REG 253,0 853040 17110610 /usr/sbin/sshd
sshd  17162  uba  mem  REG  253,0  15480  33614436
```

```
/usr/lib64/security/pam_lastlog.so
sshd   17162   uba   mem   REG   253,0   15632   16840218
/usr/lib64/libpam_misc.so.0.82.0
sshd   17162   uba   mem   REG   253,0   309272   33605135
/usr/lib64/security/pam_systemd.so
sshd   17162   uba   mem   REG   253,0   19600   33614437
/usr/lib64/security/pam_limits.so
```

Find Processes running on Specific Port

To find out all the running process of specific port, just use the following command with option **-i**. The below example will list all running process of port **22**.

```
# lsof -i TCP:22
COMMAND   PID  USER  FD   TYPE  DEVICE   SIZE/OFF  NODE   NAME
sshd     3507  root   3u  IPv4   27109        0t0  TCP
*:ssh (LISTEN)
sshd    17160  root   3u  IPv4 1930572        0t0  TCP
mail:ssh->gateway:48242 (ESTABLISHED)
sshd    17162   uba   3u  IPv4 1930572        0t0  TCP
mail:ssh->gateway:48242 (ESTABLISHED)
```

List Only IPv4 & IPv6 Open Files

In below example shows only **IPv4** and **IPv6** network files open with separate commands.

```
# lsof -i 4
COMMAND   PID    USER  FD   TYPE  DEVICE SIZE/OFF NODE NAME
rsync     3090   root   4u  IPv4   23493      0t0  TCP *:rsync
(LISTEN)
chronyd   3249 chrony   1u  IPv4   25647      0t0  UDP
localhost:323
sshd      3507   root   3u  IPv4   27109      0t0  TCP *:ssh
(LISTEN)
openvpn   3511 nobody   6u  IPv4   30082      0t0  UDP
*:openvpn
redis-ser 3515  redis   4u  IPv4   27976      0t0  TCP
localhost:6379 (LISTEN)
redis-ser 3515  redis   5u  IPv4 1935299      0t0  TCP
```

```
localhost:6379->localhost:56878 (ESTABLISHED)
redis-ser 3515  redis   6u  IPv4 1935301      0t0  TCP
localhost:6379->localhost:56880 (ESTABLISHED)
redis-ser 3515  redis   7u  IPv4 1946266      0t0  TCP
localhost:6379->localhost:56886 (ESTABLISHED)
redis-ser 3515  redis   8u  IPv4 1946268      0t0  TCP
localhost:6379->localhost:56888 (ESTABLISHED)
nmbd      3520   root  14u  IPv4   28204      0t0  UDP
*:netbios-ns
```

```
# lsof -i 6
```

List Open Files of TCP Port ranges 1-1024

To list all the running process of open files of **TCP** Port ranges from **1-1024**.

```
# lsof -i TCP:1-1024
COMMAND PID USER FD TYPE DEVICE SIZE/OFF NODE NAME
rsync 3090 root 4u IPv4 23493 0t0 TCP *:rsync (LISTEN)
sshd 3507 root 3u IPv4 27109 0t0 TCP *:ssh (LISTEN)
smbd  3571  root  30u  IPv4  30137  0t0  TCP  tst.tst-amo.net.ua:microsoft-ds (LISTEN)
smbd  3571  root  31u  IPv4  30138  0t0  TCP  tst.tst-amo.net.ua:netbios-ssn (LISTEN)
smbd 3571 root 32u IPv4 30139 0t0 TCP mail:microsoft-ds (LISTEN)
smbd 3571 root 33u IPv4 30140 0t0 TCP mail:netbios-ssn (LISTEN)
```

Exclude User with ‘^’ Character

```
# lsof -i -u^root
COMMAND     PID      USER   FD   TYPE  DEVICE SIZE/OFF NODE NAME
chronyd    3249    chrony    1u  IPv4   25647      0t0  UDP localhost:323
openvpn    3511    nobody    6u  IPv4   30082      0t0  UDP *:openvpn
redis-ser  3515     redis    4u  IPv4   27976      0t0  TCP localhost:6379 (LISTEN)
memcached  3522 memcached   26u  IPv4   28032      0t0  TCP localhost:memcache (LISTEN)
```

```
icecast    3523   icecast    4u  IPv4   27491      0t0  TCP
mail:irdmi (LISTEN)
```

Find Out who’s Looking What Files and Commands?

Below example shows user uba is using command like **ping** and **/home/uba** directory .

```
# lsof -i -u svm |grep ping
ping 17660 uba cwd DIR 253,2 4096 99 /home/uba
ping 17660 uba rtd DIR 253,0 242 96 /
ping 17660 uba txt REG 253,0 66176 210234 /usr/bin/ping
ping  17660  uba  mem  REG  253,0  106070960  987152
/usr/lib/locale/locale-archive
List all Network Connections
```

The following command with option **‘-i’** shows the list of all network connections ‘**LISTENING & ESTABLISHED’**.

```
# lsof -i
```

Search by PID

The below example only shows whose **PID** is **1** [**One**].

```
# lsof -p 1
COMMAND PID USER FD TYPE DEVICE SIZE/OFF   NODE  NAME
systemd   1 root cwd DIR  253,0      242     96  /
systemd   1 root rtd DIR  253,0      242     96  /
systemd    1  root  txt  REG   253,0   1620416  154627
/usr/lib/systemd/systemd
```

Kill all Activity of Particular User

Sometimes you may have to kill all the processes for a specific user. Below command will kills all the processes of **uba** user.

```
# kill -9 'lsof -t -u uba'
```

Убить процес пользователя uba ping:

```
#  lsof -i -u uba |  grep ping
# lsof -p 17660
```

```
# kill -9 `lsof -t -p 17660`
```

10 lsof Command Examples in Linux