

```

root@Ubuntu-Linux: /
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bash-5.1# ldd /bin/bash
bash: ldd: command not found
bash-5.1# exit
exit
root@Ubuntu-Linux:/# whereis ls
ls: /usr/bin/ls /usr/share/man/man1/ls.1.gz
root@Ubuntu-Linux:/# ls
bin      dev      example1.sh  example3.c  home    lib64     media  proc  sbin  swapfile  usr
boot     etc      example2.c  example3.sh  lib     libx32    mnt    root  snap  sys       var
cdrom    example1.c example2.sh  GB          lib32    lost+found  opt    run   srv      tmp
root@Ubuntu-Linux:/# ls GB
bin lib lib64
root@Ubuntu-Linux:/# mkdir GB/usr
root@Ubuntu-Linux:/# ls GB
bin lib lib64 usr
root@Ubuntu-Linux:/# mkdir GB/usr/bin
root@Ubuntu-Linux:/# ls GB/usr
bin
root@Ubuntu-Linux:/# cp /usr/bin/ls GB/usr/bin/
root@Ubuntu-Linux:/# ls GB/usr/bin
ls
root@Ubuntu-Linux:/# ldd /usr/bin/ls
linux-vdso.so.1 (0x00007ffc6f7e3000)
libselinux.so.1 => /lib/x86_64-linux-gnu/libselinux.so.1 (0x00007f0753c9f000)
libc.so.6 => /lib/x86_64-linux-gnu/libc.so.6 (0x00007f0753a00000)
libpcre2-8.so.0 => /lib/x86_64-linux-gnu/libpcre2-8.so.0 (0x00007f0753969000)
/lib64/ld-linux-x86-64.so.2 (0x00007f0753d00000)
root@Ubuntu-Linux:/# cp /lib/x86_64-linux-gnu/libselinux.so.1 GB/lib/
root@Ubuntu-Linux:/# cp /lib/x86_64-linux-gnu/libc.so.6 GB/lib/
root@Ubuntu-Linux:/# cp /lib/x86_64-linux-gnu/libpcre2-8.so.0 GB/lib/
root@Ubuntu-Linux:/# cp /lib64/ld-linux-x86-64.so.2 GB/lib64/
root@Ubuntu-Linux:/# chroot GB /bin/bash
bash-5.1# ls
bin lib lib64 usr
bash-5.1# ls -l
total 16
drwxr-xr-x 2 0 0 4096 Jun 20 15:13 bin
drwxr-xr-x 2 0 0 4096 Jun 21 11:03 lib
drwxr-xr-x 2 0 0 4096 Jun 20 16:29 lib64
drwxr-xr-x 3 0 0 4096 Jun 21 10:59 usr
bashbashbashbash-5.1# ls -l
total 16
drwxr-xr-x 2 0 0 4096 Jun 20 15:13 bin
drwxr-xr-x 2 0 0 4096 Jun 21 11:03 lib
drwxr-xr-x 2 0 0 4096 Jun 20 16:29 lib64
drwxr-xr-x 3 0 0 4096 Jun 21 10:59 usr
bash-5.1# ll
bash: ll: command not found
bash-5.1# ls
bin lib lib64 usr

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root@Ubuntu-Linux: /
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bash-5.1# ll
bash: ll: command not found
bash-5.1# ls
bin  lib  lib64  usr
bash-5.1# ls -al
total 24
drwxr-xr-x 6 0 0 4096 Jun 21 10:58 .
drwxr-xr-x 6 0 0 4096 Jun 21 10:58 ..
drwxr-xr-x 2 0 0 4096 Jun 20 15:13 bin
drwxr-xr-x 2 0 0 4096 Jun 21 11:03 lib
drwxr-xr-x 2 0 0 4096 Jun 20 16:29 lib64
drwxr-xr-x 3 0 0 4096 Jun 21 10:59 usr
bash-5.1# cd bin
bash-5.1# ls
bash
bash-5.1# cd ..
bash-5.1# ls
bin  lib  lib64  usr
bash-5.1# exit
exit
root@Ubuntu-Linux:/# ip a
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 08:00:27:7b:3a:1d brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.22/22 brd 10.0.3.255 scope global enp0s3
        valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe7b:3a1d/64 scope link
        valid_lft forever preferred_lft forever
3: br-d67b36e6ea62: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:ba:84:6c:bc brd ff:ff:ff:ff:ff:ff
    inet 172.18.0.1/16 brd 172.18.255.255 scope global br-d67b36e6ea62
        valid_lft forever preferred_lft forever
    inet6 fe80::42:baff:fe84:6cbc/64 scope link
        valid_lft forever preferred_lft forever
4: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN group default
    link/ether 02:42:de:3a:d1:91 brd ff:ff:ff:ff:ff:ff
    inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
        valid_lft forever preferred_lft forever
14: veth787d0af@if13: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
    link/ether 96:d9:d5:6d:42:cc brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet6 fe80::94d9:d5ff:fe6d:42cc/64 scope link
        valid_lft forever preferred_lft forever
16: veth7ab1734@if15: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
    link/ether 02:80:6b:30:f7:0d brd ff:ff:ff:ff:ff:ff link-netnsid 1
    inet6 fe80::80:6bff:fe30:f70d/64 scope link
        valid_lft forever preferred_lft forever
root@Ubuntu-Linux:/# ip netns add testns123
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valid_lft forever preferred_lft forever
14: veth787d0af@if13: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
link/ether 96:d9:d5:6d:42:cc brd ff:ff:ff:ff:ff:ff link-netnsid 0
inet6 fe80::94d9:d5ff:fe6d:42cc/64 scope link
valid_lft forever preferred_lft forever
16: veth7ab1734@if15: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
link/ether 02:80:6b:30:f7:0d brd ff:ff:ff:ff:ff:ff link-netnsid 1
inet6 fe80::80:6bff:fe30:f70d/64 scope link
valid_lft forever preferred_lft forever
root@Ubuntu-Linux:/# ip netns add testns123
root@Ubuntu-Linux:/# ip netns list
testns123
root@Ubuntu-Linux:/# ip netns exec testns123 bash
root@Ubuntu-Linux:/# ip a
1: lo: <LOOPBACK> mtu 65536 qdisc noop state DOWN group default qlen 1000
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
root@Ubuntu-Linux:/# ip a
1: lo: <LOOPBACK> mtu 65536 qdisc noop state DOWN group default qlen 1000
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
17: veth1@if18: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
link/ether 96:2b:47:ab:a8:2e brd ff:ff:ff:ff:ff:ff link-netnsid 0
root@Ubuntu-Linux:/# ip addr add 10.0.0.2/24 dev veth1
root@Ubuntu-Linux:/# ip a
1: lo: <LOOPBACK> mtu 65536 qdisc noop state DOWN group default qlen 1000
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
17: veth1@if18: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
link/ether 96:2b:47:ab:a8:2e brd ff:ff:ff:ff:ff:ff link-netnsid 0
inet 10.0.0.2/24 scope global veth1
valid_lft forever preferred_lft forever
root@Ubuntu-Linux:/# ip link set dev veth1 up
root@Ubuntu-Linux:/# ip a
1: lo: <LOOPBACK> mtu 65536 qdisc noop state DOWN group default qlen 1000
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
17: veth1@if18: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
link/ether 96:2b:47:ab:a8:2e brd ff:ff:ff:ff:ff:ff link-netnsid 0
inet 10.0.0.2/24 scope global veth1
valid_lft forever preferred_lft forever
inet6 fe80::942b:47ff:feab:a82e/64 scope link
valid_lft forever preferred_lft forever
root@Ubuntu-Linux:/# ping 10.0.0.1
PING 10.0.0.1 (10.0.0.1) 56(84) bytes of data.
64 bytes from 10.0.0.1: icmp_seq=1 ttl=64 time=0.052 ms
64 bytes from 10.0.0.1: icmp_seq=2 ttl=64 time=0.084 ms
64 bytes from 10.0.0.1: icmp_seq=3 ttl=64 time=0.084 ms
64 bytes from 10.0.0.1: icmp_seq=4 ttl=64 time=0.068 ms
^C
--- 10.0.0.1 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3052ms
rtt min/avg/max/mdev = 0.052/0.072/0.084/0.013 ms
root@Ubuntu-Linux:/# ping ya.ru
ping: ya.ru: Temporary failure in name resolution
root@Ubuntu-Linux:/#

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vboxuser@Ubuntu-Linux:/$ sudo ip link add veth0 type veth peer name veth1
[sudo] пароль для vboxuser:
vboxuser@Ubuntu-Linux:/$ ip a
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 08:00:27:7b:3a:1d brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.22/22 brd 10.0.3.255 scope global enp0s3
        valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe7b:3a1d/64 scope link
        valid_lft forever preferred_lft forever
3: br-d67b36e6ea62: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:ba:84:6c:bc brd ff:ff:ff:ff:ff:ff
    inet 172.18.0.1/16 brd 172.18.255.255 scope global br-d67b36e6ea62
        valid_lft forever preferred_lft forever
    inet6 fe80::42:baff:fe84:6cbc/64 scope link
        valid_lft forever preferred_lft forever
4: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN group default
    link/ether 02:42:de:3a:d1:91 brd ff:ff:ff:ff:ff:ff
    inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
        valid_lft forever preferred_lft forever
14: veth787d0af@if13: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
    link/ether 96:d9:d5:6d:42:cc brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet6 fe80::94d9:d5ff:fe6d:42cc/64 scope link
        valid_lft forever preferred_lft forever
16: veth7ab1734@if15: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
    link/ether 02:80:6b:30:f7:0d brd ff:ff:ff:ff:ff:ff link-netnsid 1
    inet6 fe80::80:6bff:fe30:f70d/64 scope link
        valid_lft forever preferred_lft forever
17: veth1@veth0: <BROADCAST,MULTICAST,M-DOWN> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether 96:2b:47:ab:a8:2e brd ff:ff:ff:ff:ff:ff
18: veth0@veth1: <BROADCAST,MULTICAST,M-DOWN> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether ce:52:3e:46:4b:86 brd ff:ff:ff:ff:ff:ff
vboxuser@Ubuntu-Linux:/$ sudo su
root@Ubuntu-Linux:/# ip link set veth1 netns test123
Error: argument "test123" is wrong: Invalid "netns" value

root@Ubuntu-Linux:/# ip link set veth1 netns testns123
root@Ubuntu-Linux:/# ip a
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 08:00:27:7b:3a:1d brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.22/22 brd 10.0.3.255 scope global enp0s3
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valid_lft forever preferred_lft forever
3: br-d67b36e6ea62: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
link/ether 02:42:ba:84:6c:bc brd ff:ff:ff:ff:ff:ff
inet 172.18.0.1/16 brd 172.18.255.255 scope global br-d67b36e6ea62
valid_lft forever preferred_lft forever
inet6 fe80::42:baff:fe84:6cbc/64 scope link
valid_lft forever preferred_lft forever
4: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN group default
link/ether 02:42:de:3a:d1:91 brd ff:ff:ff:ff:ff:ff
inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
valid_lft forever preferred_lft forever
14: veth787d0af@if13: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
link/ether 96:d9:d5:6d:42:cc brd ff:ff:ff:ff:ff:ff link-netnsid 0
inet6 fe80::94d9:d5ff:fe6d:42cc/64 scope link
valid_lft forever preferred_lft forever
16: veth7ab1734@if15: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
link/ether 02:80:6b:30:f7:0d brd ff:ff:ff:ff:ff:ff link-netnsid 1
inet6 fe80::80:6bff:fe30:f70d/64 scope link
valid_lft forever preferred_lft forever
18: veth0@if17: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
link/ether ce:52:3e:46:b8:86 brd ff:ff:ff:ff:ff:ff link-netns testns123
root@Ubuntu-Linux:/# ip addr add 10.0.0.1/24 dev veth0
root@Ubuntu-Linux:/# ip a
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 08:00:27:7b:3a:1d brd ff:ff:ff:ff:ff:ff
inet 10.0.2.222/22 brd 10.0.3.255 scope global enp0s3
valid_lft forever preferred_lft forever
inet6 fe80::a00:27ff:fe7b:3a1d/64 scope link
valid_lft forever preferred_lft forever
3: br-d67b36e6ea62: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
link/ether 02:42:ba:84:6c:bc brd ff:ff:ff:ff:ff:ff
inet 172.18.0.1/16 brd 172.18.255.255 scope global br-d67b36e6ea62
valid_lft forever preferred_lft forever
inet6 fe80::42:baff:fe84:6cbc/64 scope link
valid_lft forever preferred_lft forever
4: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN group default
link/ether 02:42:de:3a:d1:91 brd ff:ff:ff:ff:ff:ff
inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
valid_lft forever preferred_lft forever
14: veth787d0af@if13: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
link/ether 96:d9:d5:6d:42:cc brd ff:ff:ff:ff:ff:ff link-netnsid 0
inet6 fe80::94d9:d5ff:fe6d:42cc/64 scope link
valid_lft forever preferred_lft forever
16: veth7ab1734@if15: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
link/ether 02:80:6b:30:f7:0d brd ff:ff:ff:ff:ff:ff link-netnsid 1
inet6 fe80::80:6bff:fe30:f70d/64 scope link
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valid_lft forever preferred_lft forever
16: veth7ab1734@if15: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
link/ether 02:80:6b:30:f7:0d brd ff:ff:ff:ff:ff:ff link-netnsid 1
inet6 fe80::80:6bff:fe30:f70d/64 scope link
valid_lft forever preferred_lft forever
18: veth0@if17: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
link/ether ce:52:3e:46:4b:86 brd ff:ff:ff:ff:ff:ff link-netns testns123
inet 10.0.0.1/24 scope global veth0
valid_lft forever preferred_lft forever
root@Ubuntu-Linux:/# ip link set dev veth0 up
root@Ubuntu-Linux:/# ip a
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 08:00:27:7b:3a:1d brd ff:ff:ff:ff:ff:ff
inet 10.0.2.222/22 brd 10.0.3.255 scope global enp0s3
valid_lft forever preferred_lft forever
inet6 fe80::a00:27ff:fe7b:3a1d/64 scope link
valid_lft forever preferred_lft forever
3: br-d67b36e6ea62: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
link/ether 02:42:ba:84:6c:bc brd ff:ff:ff:ff:ff:ff
inet 172.18.0.1/16 brd 172.18.255.255 scope global br-d67b36e6ea62
valid_lft forever preferred_lft forever
inet6 fe80::42:baff:fe84:6cbc/64 scope link
valid_lft forever preferred_lft forever
4: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN group default
link/ether 02:42:de:3a:d1:91 brd ff:ff:ff:ff:ff:ff
inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
valid_lft forever preferred_lft forever
14: veth787d0af@if13: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
link/ether 96:d9:d5:6d:42:cc brd ff:ff:ff:ff:ff:ff link-netnsid 0
inet6 fe80::94d9:d5ff:fe6d:42cc/64 scope link
valid_lft forever preferred_lft forever
16: veth7ab1734@if15: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
link/ether 02:80:6b:30:f7:0d brd ff:ff:ff:ff:ff:ff link-netnsid 1
inet6 fe80::80:6bff:fe30:f70d/64 scope link
valid_lft forever preferred_lft forever
18: veth0@if17: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state LOWERLAYERDOWN group default qlen 1000
link/ether ce:52:3e:46:4b:86 brd ff:ff:ff:ff:ff:ff link-netns testns123
inet 10.0.0.1/24 scope global veth0
valid_lft forever preferred_lft forever
root@Ubuntu-Linux:/# ip a
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
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inet 10.0.2.222/22 brd 10.0.3.255 scope global enp0s3
    valid_lft forever preferred_lft forever
inet6 fe80::a00:27ff:fe7b:3a1d/64 scope link
    valid_lft forever preferred_lft forever
3: br-d67b36e6ea62: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:b8:84:6c:bc brd ff:ff:ff:ff:ff:ff
    inet 172.18.0.1/16 brd 172.18.255.255 scope global br-d67b36e6ea62
        valid_lft forever preferred_lft forever
    inet6 fe80::42:baff:fe84:6cbc/64 scope link
        valid_lft forever preferred_lft forever
4: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN group default
    link/ether 02:42:de:3a:d1:91 brd ff:ff:ff:ff:ff:ff
    inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
        valid_lft forever preferred_lft forever
14: veth787d0af@if13: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
    link/ether 96:d9:d5:6d:42:cc brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet6 fe80::94d9:d5ff:fe6d:42cc/64 scope link
        valid_lft forever preferred_lft forever
16: veth7ab1734@if15: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
    link/ether 02:80:6b:30:f7:0d brd ff:ff:ff:ff:ff:ff link-netnsid 1
    inet6 fe80::80:6bff:fe30:f70d/64 scope link
        valid_lft forever preferred_lft forever
18: veth0@if17: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
    link/ether ce:52:3e:46:4b:86 brd ff:ff:ff:ff:ff:ff link-netns testns123
    inet 10.0.0.1/24 scope global veth0
        valid_lft forever preferred_lft forever
    inet6 fe80::cc52:3eff:fe46:4b86/64 scope link
        valid_lft forever preferred_lft forever
root@Ubuntu-Linux:/# ping 10.0.0.2
PING 10.0.0.2 (10.0.0.2) 56(84) bytes of data:
 64 bytes from 10.0.0.2: icmp_seq=1 ttl=64 time=0.082 ms
 64 bytes from 10.0.0.2: icmp_seq=2 ttl=64 time=0.090 ms
 64 bytes from 10.0.0.2: icmp_seq=3 ttl=64 time=0.127 ms
 64 bytes from 10.0.0.2: icmp_seq=4 ttl=64 time=0.062 ms
 64 bytes from 10.0.0.2: icmp_seq=5 ttl=64 time=0.096 ms
 64 bytes from 10.0.0.2: icmp_seq=6 ttl=64 time=0.100 ms
 64 bytes from 10.0.0.2: icmp_seq=7 ttl=64 time=0.083 ms
 64 bytes from 10.0.0.2: icmp_seq=8 ttl=64 time=0.082 ms
^C
--- 10.0.0.2 ping statistics ---
 8 packets transmitted, 8 received, 0% packet loss, time 7148ms
 rtt min/avg/max/mdev = 0.062/0.090/0.127/0.017 ms
root@Ubuntu-Linux:/# ping ya.ru
PING ya.ru (77.88.55.242) 56(84) bytes of data:
 64 bytes from ya.ru (77.88.55.242): icmp_seq=1 ttl=51 time=59.2 ms
 64 bytes from ya.ru (77.88.55.242): icmp_seq=2 ttl=51 time=58.2 ms
 64 bytes from ya.ru (77.88.55.242): icmp_seq=3 ttl=51 time=57.3 ms
^C
--- ya.ru ping statistics ---
 3 packets transmitted, 3 received, 0% packet loss, time 2004ms
 rtt min/avg/max/mdev = 57.300/58.223/59.218/0.784 ms
root@Ubuntu-Linux:/#
```




```
root@Ubuntu-Linux: /
root@Ubuntu-Linux: /
root@Ubuntu-Linux: /
d: command not found
root@Ubuntu-Linux:/home/vboxuser# cd /
root@Ubuntu-Linux:/# ls -l /proc/$$
total 0
-r--r--r-- 1 root root 0 июн 21 19:34 arch_status
dr-xr-xr-x 2 root root 0 июн 21 19:34 attr
-rw-r--r-- 1 root root 0 июн 21 19:34 autogroup
-r----- 1 root root 0 июн 21 19:34 auxv
-r--r--r-- 1 root root 0 июн 21 19:34 cgroup
--W----- 1 root root 0 июн 21 19:34 clear_refs
-r--r--r-- 1 root root 0 июн 21 19:34 cmdline
-rw-r--r-- 1 root root 0 июн 21 19:34 comm
-rw-r--r-- 1 root root 0 июн 21 19:34 coredump_filter
-r--r--r-- 1 root root 0 июн 21 19:34 cpu_resctrl_groups
-r--r--r-- 1 root root 0 июн 21 19:34 cpuset
lrwxrwxrwx 1 root root 0 июн 21 19:34 cwd -> /
-r----- 1 root root 0 июн 21 19:34 environ
lrwxrwxrwx 1 root root 0 июн 21 19:34 exe -> /usr/bin/bash
dr-x----- 2 root root 0 июн 21 19:34 fd
dr-xr-xr-x 2 root root 0 июн 21 19:34 fdinfo
-rw-r--r-- 1 root root 0 июн 21 19:34 gid_map
-r----- 1 root root 0 июн 21 19:34 io
-r----- 1 root root 0 июн 21 19:34 ksm_merging_pages
-r--r--r-- 1 root root 0 июн 21 19:34 limits
-rw-r--r-- 1 root root 0 июн 21 19:34 loginuid
dr-x----- 2 root root 0 июн 21 19:34 map_files
-r--r--r-- 1 root root 0 июн 21 19:34 maps
-rw----- 1 root root 0 июн 21 19:34 mem
-r--r--r-- 1 root root 0 июн 21 19:34 mountinfo
-r--r--r-- 1 root root 0 июн 21 19:34 mounts
-r----- 1 root root 0 июн 21 19:34 mountstats
dr-xr-xr-x 55 root root 0 июн 21 19:34 net
dr-x--x--x 2 root root 0 июн 21 19:34 ns
-r--r--r-- 1 root root 0 июн 21 19:34 numa_maps
-rw-r--r-- 1 root root 0 июн 21 19:34 oom_adj
-r--r--r-- 1 root root 0 июн 21 19:34 oom_score
-rw-r--r-- 1 root root 0 июн 21 19:34 oom_score_adj
-r----- 1 root root 0 июн 21 19:34 pagemap
-r----- 1 root root 0 июн 21 19:34 patch_state
-r----- 1 root root 0 июн 21 19:34 personality
-rw-r--r-- 1 root root 0 июн 21 19:34 projid_map
lrwxrwxrwx 1 root root 0 июн 21 19:34 root -> /
-rw-r--r-- 1 root root 0 июн 21 19:34 sched
-r--r--r-- 1 root root 0 июн 21 19:34 schedstat
-r--r--r-- 1 root root 0 июн 21 19:34 sessionid
-rw-r--r-- 1 root root 0 июн 21 19:34 setgroups
-r--r--r-- 1 root root 0 июн 21 19:34 smaps
-r--r--r-- 1 root root 0 июн 21 19:34 smaps_rollup
-r----- 1 root root 0 июн 21 19:34 stack
-r--r--r-- 1 root root 0 июн 21 19:34 stat
-r--r--r-- 1 root root 0 июн 21 19:34 statn
-r--r--r-- 1 root root 0 июн 21 19:34 status
```




```

root@Ubuntu-Linux: /

root@Ubuntu-Linux: /
root@Ubuntu-Linux: /
root@Ubuntu-Linux: /

-r----- 1 root root 0 июн 21 19:34 stack
-r--r--r-- 1 root root 0 июн 21 19:34 stat
-r--r--r-- 1 root root 0 июн 21 19:34 statn
-r--r--r-- 1 root root 0 июн 21 19:34 status
-r----- 1 root root 0 июн 21 19:34 syscall
dr-xr-xr-x 3 root root 0 июн 21 19:34 task
-rw-r--r-- 1 root root 0 июн 21 19:34 timers_offsets
-r--r--r-- 1 root root 0 июн 21 19:34 timers
-rw-rw-rw- 1 root root 0 июн 21 19:34 timerslack_ns
-rw-r--r-- 1 root root 0 июн 21 19:34 uid_map
-r--r--r-- 1 root root 0 июн 21 19:34 wchan
root@Ubuntu-Linux: /# ls -l /proc/$$/ns
total 0
lrwxrwxrwx 1 root root 0 июн 21 19:37 cgroup -> 'cgroup:[4026531835]'
lrwxrwxrwx 1 root root 0 июн 21 19:37 ipc -> 'ipc:[4026531839]'
lrwxrwxrwx 1 root root 0 июн 21 19:37 mnt -> 'mnt:[4026531841]'
lrwxrwxrwx 1 root root 0 июн 21 19:37 net -> 'net:[4026531840]'
lrwxrwxrwx 1 root root 0 июн 21 19:37 pid -> 'pid:[4026531836]'
lrwxrwxrwx 1 root root 0 июн 21 19:37 pid_for_children -> 'pid:[4026531836]'
lrwxrwxrwx 1 root root 0 июн 21 19:37 time -> 'time:[4026531834]'
lrwxrwxrwx 1 root root 0 июн 21 19:37 time_for_children -> 'time:[4026531834]'
lrwxrwxrwx 1 root root 0 июн 21 19:37 user -> 'user:[4026531837]'
lrwxrwxrwx 1 root root 0 июн 21 19:37 uts -> 'uts:[4026531838]'
root@Ubuntu-Linux: /# unshare -u bash
root@Ubuntu-Linux: /# ls -l /proc/$$/ns
total 0
lrwxrwxrwx 1 root root 0 июн 21 19:48 cgroup -> 'cgroup:[4026531835]'
lrwxrwxrwx 1 root root 0 июн 21 19:48 ipc -> 'ipc:[4026531839]'
lrwxrwxrwx 1 root root 0 июн 21 19:48 mnt -> 'mnt:[4026531841]'
lrwxrwxrwx 1 root root 0 июн 21 19:48 net -> 'net:[4026531840]'
lrwxrwxrwx 1 root root 0 июн 21 19:48 pid -> 'pid:[4026531836]'
lrwxrwxrwx 1 root root 0 июн 21 19:48 pid_for_children -> 'pid:[4026531836]'
lrwxrwxrwx 1 root root 0 июн 21 19:48 time -> 'time:[4026531834]'
lrwxrwxrwx 1 root root 0 июн 21 19:48 time_for_children -> 'time:[4026531834]'
lrwxrwxrwx 1 root root 0 июн 21 19:48 user -> 'user:[4026531837]'
lrwxrwxrwx 1 root root 0 июн 21 19:48 uts -> 'uts:[4026532570]'
root@Ubuntu-Linux: /# top

top - 19:49:32 up 7:39, 4 users, load average: 0,29, 0,13, 0,10
Tasks: 292 total, 1 running, 291 sleeping, 0 stopped, 0 zombie
%Cpu(s): 2,1 us, 0,0 sy, 0,0 ni, 97,9 id, 0,0 wa, 0,0 hi, 0,0 si, 0,0 st
MiB Mem : 5806,1 total, 824,7 free, 2086,3 used, 2895,0 buff/cache
MiB Swap: 2048,0 total, 1947,4 free, 100,6 used. 3412,5 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM    TIME+  COMMAND
  2018 vboxuser  20   0 6548076 503860 107076 S   8,3   8,5   7:22.92 gnome-shell
    233 root        0 -20     0     0     0 I   4,2   0,0   0:01.11 kworker/7:1H-kblockd
309772 vboxadd  20   0 2371164 390468 33536 S   4,2   6,6   1:17.79 mysqld
315305 mysql      20   0 2373264 419840 35056 S   4,2   7,1   1:17.03 mysqld
428117 root       20   0     0     0     0 I   4,2   0,0   0:00.41 kworker/u16:0-flush-8:0
451257 root       20   0  22508   4664   3740 R   4,2   0,1   0:00.19 top
      1 root       20   0  168192  13792  8424 S   0,0   0,2   0:14.93 systemd

```




```

root@Ubuntu-Linux: /

root@Ubuntu-Linux: /
root@Ubuntu-Linux: /
root@Ubuntu-Linux: /

19 root 20 0 0 0 0 S 0,0 0,0 0:00.00 cpuhp/0
20 root 20 0 0 0 0 S 0,0 0,0 0:00.00 cpuhp/1
21 root -51 0 0 0 0 S 0,0 0,0 0:00.00 idle_inject/1
22 root rt 0 0 0 0 S 0,0 0,0 0:01.06 migration/1
23 root 20 0 0 0 0 S 0,0 0,0 0:00.50 ksoftirqd/1
25 root 0 -20 0 0 0 0 I 0,0 0,0 0:00.00 kworker/1:0H-events_high+
26 root 20 0 0 0 0 S 0,0 0,0 0:00.00 cpuhp/2

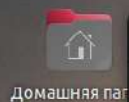
root@Ubuntu-Linux: /# exit
exit
root@Ubuntu-Linux: /# unshare --pid --net --fork --mount-proc /bin/bash
root@Ubuntu-Linux: /# exit
exit
root@Ubuntu-Linux: /# ls -l /proc/$$/ns
total 0
lrwxrwxrwx 1 root root 0 имн 21 19:37 cgroup -> 'cgroup:[4026531835]'
lrwxrwxrwx 1 root root 0 имн 21 19:37 ipc -> 'ipc:[4026531839]'
lrwxrwxrwx 1 root root 0 имн 21 19:37 mnt -> 'mnt:[4026531841]'
lrwxrwxrwx 1 root root 0 имн 21 19:37 net -> 'net:[4026531840]'
lrwxrwxrwx 1 root root 0 имн 21 19:37 pid -> 'pid:[4026531836]'
lrwxrwxrwx 1 root root 0 имн 21 19:37 pid_for_children -> 'pid:[4026531836]'
lrwxrwxrwx 1 root root 0 имн 21 19:37 time -> 'time:[4026531834]'
lrwxrwxrwx 1 root root 0 имн 21 19:37 time_for_children -> 'time:[4026531834]'
lrwxrwxrwx 1 root root 0 имн 21 19:37 user -> 'user:[4026531837]'
lrwxrwxrwx 1 root root 0 имн 21 19:37 uts -> 'uts:[4026531838]'
root@Ubuntu-Linux: /# unshare --pid --net --fork --mount-proc /bin/bash
root@Ubuntu-Linux: /# ls -l /proc/$$/ns
total 0
lrwxrwxrwx 1 root root 0 имн 21 19:53 cgroup -> 'cgroup:[4026531835]'
lrwxrwxrwx 1 root root 0 имн 21 19:53 ipc -> 'ipc:[4026531839]'
lrwxrwxrwx 1 root root 0 имн 21 19:53 mnt -> 'mnt:[4026532570]'
lrwxrwxrwx 1 root root 0 имн 21 19:53 net -> 'net:[4026532572]'
lrwxrwxrwx 1 root root 0 имн 21 19:53 pid -> 'pid:[4026532571]'
lrwxrwxrwx 1 root root 0 имн 21 19:53 pid_for_children -> 'pid:[4026532571]'
lrwxrwxrwx 1 root root 0 имн 21 19:53 time -> 'time:[4026531834]'
lrwxrwxrwx 1 root root 0 имн 21 19:53 time_for_children -> 'time:[4026531834]'
lrwxrwxrwx 1 root root 0 имн 21 19:53 user -> 'user:[4026531837]'
lrwxrwxrwx 1 root root 0 имн 21 19:53 uts -> 'uts:[4026531838]'
root@Ubuntu-Linux: /# top

top - 19:56:03 up 7:46, 4 users, load average: 0,15, 0,08, 0,08
Tasks: 2 total, 1 running, 1 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0,3 us, 0,3 sy, 0,0 ni, 99,3 id, 0,0 wa, 0,0 hi, 0,0 st, 0,0 st
MiB Mem : 5806,1 total, 815,3 free, 2094,4 used, 2896,4 buff/cache
MiB Swap: 2048,0 total, 1947,4 free, 100,6 used. 3404,4 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM    TIME+  COMMAND
    8 root        20   0   21936   3624   3260  R   0,3   0,1   0:00.02  top
    1 root        20   0   19340   4468   3780  S   0,0   0,1   0:00.00  bash

```



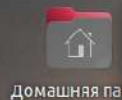


ДОМАШНЯЯ ПАГ

```
vboxuser@Ubuntu-Linux: /var/www
```

```
bashbashbash
```

```
bash-5.1# ls -l
total 16
drwxr-xr-x 2 0 0 4096 Jun 20 15:13 bin
drwxr-xr-x 2 0 0 4096 Jun 21 11:03 lib
drwxr-xr-x 2 0 0 4096 Jun 20 16:29 lib64
drwxr-xr-x 3 0 0 4096 Jun 21 10:59 usr
bash-5.1#
```

Домашняя па

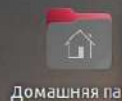
```
root@Ubuntu-Linux /
```

```
root@Ubuntu-Linux: /
```

```

testns123
root@Ubuntu-Linux:/# ip netns exec testns123 bash
root@Ubuntu-Linux:/# ip a
1: lo: <LOOPBACK> mtu 65536 qdisc noop state DOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
root@Ubuntu-Linux:/# ip a
1: lo: <LOOPBACK> mtu 65536 qdisc noop state DOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
17: veth1@if18: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1
000
    link/ether 96:2b:47:ab:a8:2e brd ff:ff:ff:ff:ff:ff link-netnsid 0
root@Ubuntu-Linux:/# ip addr add 10.0.0.2/24 dev veth1
root@Ubuntu-Linux:/# ip a
1: lo: <LOOPBACK> mtu 65536 qdisc noop state DOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
17: veth1@if18: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1
000
    link/ether 96:2b:47:ab:a8:2e brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet 10.0.0.2/24 scope global veth1
        valid_lft forever preferred_lft forever
root@Ubuntu-Linux:/# ip link set dev veth1 up
root@Ubuntu-Linux:/# ip a
1: lo: <LOOPBACK> mtu 65536 qdisc noop state DOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
17: veth1@if18: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group d
efault qlen 1000
    link/ether 96:2b:47:ab:a8:2e brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet 10.0.0.2/24 scope global veth1
        valid_lft forever preferred_lft forever
    inet6 fe80::942b:47ff:feab:a82e/64 scope link
        valid_lft forever preferred_lft forever
root@Ubuntu-Linux:/# ping 10.0.0.1
PING 10.0.0.1 (10.0.0.1) 56(84) bytes of data.
64 bytes from 10.0.0.1: icmp_seq=1 ttl=64 time=0.052 ms
64 bytes from 10.0.0.1: icmp_seq=2 ttl=64 time=0.084 ms
64 bytes from 10.0.0.1: icmp_seq=3 ttl=64 time=0.084 ms
64 bytes from 10.0.0.1: icmp_seq=4 ttl=64 time=0.068 ms
^C
--- 10.0.0.1 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3052ms
rtt min/avg/max/mdev = 0.052/0.072/0.084/0.013 ms
root@Ubuntu-Linux:/#

```

Домашняя па

```
root@Ubuntu-Linux: /
```

```

link/ether 02:42:ba:84:6c:bc brd ff:ff:ff:ff:ff:ff
inet 172.18.0.1/16 brd 172.18.255.255 scope global br-d67b36e6ea62
    valid_lft forever preferred_lft forever
inet6 fe80::42:baff:fe84:6cbc/64 scope link
    valid_lft forever preferred_lft forever
4: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN group default
    link/ether 02:42:de:3a:d1:91 brd ff:ff:ff:ff:ff:ff
    inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
        valid_lft forever preferred_lft forever
14: veth787d0af@if13: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
    link/ether 96:d9:d5:6d:42:cc brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet6 fe80::94d9:d5ff:fe6d:42cc/64 scope link
        valid_lft forever preferred_lft forever
16: veth7ab1734@if15: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master br-d67b36e6ea62 state UP group default
    link/ether 02:80:6b:30:f7:0d brd ff:ff:ff:ff:ff:ff link-netnsid 1
    inet6 fe80::80:6bff:fe30:f70d/64 scope link
        valid_lft forever preferred_lft forever
18: veth0@if17: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
    link/ether ce:52:3e:46:4b:86 brd ff:ff:ff:ff:ff:ff link-netns testns123
    inet 10.0.0.1/24 scope global veth0
        valid_lft forever preferred_lft forever
    inet6 fe80::cc52:3eff:fe46:4b86/64 scope link
        valid_lft forever preferred_lft forever
root@Ubuntu-Linux:/# ping 10.0.0.2
PING 10.0.0.2 (10.0.0.2) 56(84) bytes of data.
64 bytes from 10.0.0.2: icmp_seq=1 ttl=64 time=0.082 ms
64 bytes from 10.0.0.2: icmp_seq=2 ttl=64 time=0.090 ms
64 bytes from 10.0.0.2: icmp_seq=3 ttl=64 time=0.127 ms
64 bytes from 10.0.0.2: icmp_seq=4 ttl=64 time=0.062 ms
64 bytes from 10.0.0.2: icmp_seq=5 ttl=64 time=0.096 ms
64 bytes from 10.0.0.2: icmp_seq=6 ttl=64 time=0.100 ms
64 bytes from 10.0.0.2: icmp_seq=7 ttl=64 time=0.083 ms
64 bytes from 10.0.0.2: icmp_seq=8 ttl=64 time=0.082 ms
^C
--- 10.0.0.2 ping statistics ---
8 packets transmitted, 8 received, 0% packet loss, time 7148ms
rtt min/avg/max/mdev = 0.062/0.090/0.127/0.017 ms
root@Ubuntu-Linux:/#

```