Linux System Access (Command Line and GUI)

Linux #redhat #ssh #ip

How to access Linux

3 Cases:

- Access it through the console in a physical machine
  - Hardware console access
  - Virtualization software
- If you are using windows 10 and you want to access a Linux machine remotely:
  - You will have to use a terminal or a client called PuTTY
- If you are using a Linux machine or a unix-based system like MacOS and you want to access a Linux machine remotely:
  - You could simply access your other Linux machine by opening a new terminal or using your SSH command.

Find IP

ifconfig

- Use the `ifconfig` command
  - It will list network adapters

Example using command:

```
[user@localhost ~]$ ifconfig
```

Output:

```
enp0s3: flags=4163<UP, BROADCAST, RUNNING, MULTICAST> mtu 1500
                inet 10.253.1.17 netmask 255.255.255.0 broadcast 10.253.1.255
                inet6 fe80::300:27ff:fe0f:8412 prefixlen 64 scopeid 0x20<link>
                ether 08:00:27:0f:84:12 txqueuelen 1900 (Ethernet)
                RX packets 69630 bytes 74734731 (71.2 MiB)
                RX errors 6 dropped e overruns e frame
                TX packets 7988 bytes 592186 (578.3 KiB)
                TX errors dropped overruns 0 carrier e collisions 0

lo: flags=73<UP, LOOPBACK, RUNNING> mtu 65536 10
                inet 127.0.0.1 netmask 255.0.0.0
                inet6::1 prefixlen 128 scopeid 0x10<host>
                Loop txqueuelen 1000 (Local Loopback) RX packets 4 bytes 240 (240.0 B)
                RX errors 8 dropped overruns 0 frame 8
                TX packets 4 bytes 248 (240.0 B)
                TX errors o dropped 0 overruns 0 carrier 8 collisions 0
```

- In this case we can see 2 network adapters. The one listed with the name enp0s3 is that actual adapter responsible for your connection. And the IP address would be listed in here. In this case we found it is: 10.253.1.17
- The second adapter named "lo" stands for local.

ip addr (RH)

- Use the `ip addr` command
  - It will list adapters associated with IPs

Example using command:

```
[user@localhost ~]$ ip addr
```

Output:

```
1: lo: <LOOPBACK, UP, LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group defaul
t 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 gr
oup default qlen 1000
        link/ether 08:00:27:0f:84:12 brd ffffffffffff
        inet 10.253.1.17/24 brd 10.253.1.255 scope global dynamic noprefixroute enpo
```

- IP is usually found after the word 'inet'

Windows -> Linux (Access Linux via PuTTY)

- Enter the IP address found in the Linux machine in PuTTY
- Then you have a terminal login
  - Put your username and password
- THIS IS AN SSH ACCESS
  - Here you do not have a GUI, like have it in the host machine

Linux -> Linux (SSH Access)

- Find out the Linux machine IP using `ifconfig`
- Connect to the Linux machine directly in the terminal by using the `ssh` command

ssh

Example using command:

```
[user@localhost ~]$ ssh -l macc 10.253.1.59
```

- `ssh` is the command used to establish a remote connection to a linux machine
- The `-l` specifier specifies to log in to the machine as a known user
- The user 'macc' will be logged in to the linux machine
- The IP address of the Linux machine is '10.253.1.59'

Output:

```
The authenticity of host 10.253.1.59 (10.253.1.59)' can't be established.
ECDSA key fingerprint is SHA256:N+SYzHurXxUdBYFY6q3Fp3z1V5GXaFt107ybl+BOBOK. Are you sure you want to
continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 10.253.1.59 (ECDSA) to the list of known hosts.
user@10.253.1.59's password:
```

- Note that the password of the specified user is asked to start the SSH access
- You can exit the Linux machine within the same terminal by using the `exit` command

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NOTE:

If using a virtual machine in Windows make sure to specify the Network adapter in the VM client as a Bridged Adapter. This will allow to use PuTTY in the same Windows machine to stablish an SSH Access.