

Information Security Management

BCIS 5740.306

Name: Devi Sree Pendyala

1. Command : mkdir

Solution :

```
(kali㉿kali)-[~]  
$ mkdir Devisree_pendyalaoperation  
  
(kali㉿kali)-[~] #shell  
$ cd Desktop/Devisree_pendyala
```

2. Command : ip

Solution:

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]  
$ ip  
Usage: ip [ OPTIONS ] OBJECT { COMMAND | help }  
       ip [ -force ] -batch filename  
where  OBJECT := { address | addrlabel | fou | help | ila | ioam | l2tp | link |  
                  macsec | maddress | monitor | mptcp | mroute | mrule |  
                  neighbor | neighbour | netconf | netns | nexthop | ntable |  
                  ntbl | route | rule | sr | stats | tap | tcpmetrics |  
                  token | tunnel | tuntap | vrf | xfrm }  
       OPTIONS := { -V[ersion] | -s[tatistics] | -d[etails] | -r[esolve] |  
                   -h[uman-readable] | -iec | -j[son] | -p[retty] |  
                   -f[amily] { inet | inet6 | mpls | bridge | link } |  
                   -4 | -6 | -M | -B | -0 |  
                   -l[oops] { maximum-addr-flush-attempts } | -echo | -br[ief] |  
                   -o[neline] | -t[imestamp] | -ts[hort] | -b[atch] [filename] |  
                   -rc[vbuf] [size] | -n[etns] name | -N[umeric] | -a[ll] |  
                   -c[olor]}
```

3. Command : ip -V

Solution:

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]  
$ ip -V  
ip utility, iproute2-6.10.0, libbpf 1.4.5
```

4. Command : ip addr show / ip a s

Solution:

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ip addr show
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 noprefixroute
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
   link/ether 08:00:27:ad:25:87 brd ff:ff:ff:ff:ff:ff
   inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute eth0
       valid_lft 84709sec preferred_lft 84709sec
   inet6 fe80::479e:baed:a347:e590/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
```

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ip a s
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 noprefixroute
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
   link/ether 08:00:27:ad:25:87 brd ff:ff:ff:ff:ff:ff
   inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute eth0
       valid_lft 84655sec preferred_lft 84655sec
   inet6 fe80::479e:baed:a347:e590/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
```

5. Command : ip addr show <network_name>

Solution:

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ip addr show eth0
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
   link/ether 08:00:27:ad:25:87 brd ff:ff:ff:ff:ff:ff
   inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute eth0
       valid_lft 84582sec preferred_lft 84582sec
   inet6 fe80::479e:baed:a347:e590/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
```

6. Command : ip -br addr show <network_name>

Solution :

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ip -br addr show eth0
eth0      UP          10.0.2.15/24 fe80::479e:baed:a347:e590/64
```

7. Command : ip r

Solution :

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ip r
default via 10.0.2.2 dev eth0 proto dhcp src 10.0.2.15 metric 100
10.0.2.0/24 dev eth0 proto kernel scope link src 10.0.2.15 metric 100
```

8. Command : sudo ip r add <New_Route_IP> via <Default_IP>

Solution :

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ sudo ip r add 10.0.1.1 via 10.0.2.2
```

G. Command : ip r (shows new route)

Solution :

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ip r
default via 10.0.2.2 dev eth0 proto dhcp src 10.0.2.15 metric 100
10.0.1.1 via 10.0.2.2 dev eth0
10.0.2.0/24 dev eth0 proto kernel scope link src 10.0.2.15 metric 100
```

10. Command : sudo ip r del<New_Route_IP>via<Default_IP>

Solution:

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ sudo ip r del 10.0.1.1 via 10.0.2.2
```

11. Command : ip r (After delete of New Route IP)

Solution:

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ip r
default via 10.0.2.2 dev eth0 proto dhcp src 10.0.2.15 metric 100
10.0.2.0/24 dev eth0 proto kernel scope link src 10.0.2.15 metric 100
```

12. Command : ip link

Solution :

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ip link
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen 1000
   link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP mode DEFAULT group default qlen 1000
   link/ether 08:00:27:ad:25:87 brd ff:ff:ff:ff:ff:ff
```

13. Command : ip r get<Destination_Address>

Solution:

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ip r get 10.0.2.2
10.0.2.2 dev eth0 src 10.0.2.15 uid 1000
cache
```

14. Command : hostname -I

Solution:

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ hostname -I
10.0.2.15
```

15. Command : ifconfig

Solution :

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::479e:baed:a347:e590 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:ad:25:87 txqueuelen 1000 (Ethernet)
    RX packets 1 bytes 590 (590.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 30 bytes 3524 (3.4 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 8 bytes 480 (480.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 8 bytes 480 (480.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

16. Command : ifconfig <network_name>

Solution :

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ifconfig eth0
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::479e:baed:a347:e590 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:ad:25:87 txqueuelen 1000 (Ethernet)
    RX packets 1 bytes 590 (590.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 30 bytes 3524 (3.4 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ifconfig lo
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 8 bytes 480 (480.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 8 bytes 480 (480.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

17. Command : `sudo ifconfig <Network_Name> down(network off) / up(network on)`

Solution :

```
(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ sudo ifconfig lo down
iproute2: error: operation not supported

(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ifconfig -a
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::479e:baed:a347:e590 prefixlen 64 scopeid 0<link>
    ether 08:00:27:ad:25:87 txqueuelen 1000 (Ethernet)
    RX packets 1 bytes 590 (590.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 30 bytes 3524 (3.4 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ sudo ifconfig lo up

(kali㉿kali)-[~/Desktop/Devisree_pendyala]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::479e:baed:a347:e590 prefixlen 64 scopeid 0<link>
    ether 08:00:27:ad:25:87 txqueuelen 1000 (Ethernet)
    RX packets 1 bytes 590 (590.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 30 bytes 3524 (3.4 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 8 bytes 480 (480.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 8 bytes 480 (480.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

18. Command : `sudo ifconfig <Network_Name> down(network off) / up(network on)`

Solution :


```

(kali@kali)-[~/Desktop/Devisree_pendyala]
$ sudo ifconfig eth0 down

(kali@kali)-[~/Desktop/Devisree_pendyala]
$ ifconfig
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 8 bytes 480 (480.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 8 bytes 480 (480.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

(kali@kali)-[~/Desktop/Devisree_pendyala]
$ sudo ifconfig eth0 up

(kali@kali)-[~/Desktop/Devisree_pendyala]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::479e:baed:a347:e590 prefixlen 64 scopeid 0<link>
    ether 08:00:27:ad:25:87 txqueuelen 1000 (Ethernet)
    RX packets 2 bytes 1180 (1.1 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 44 bytes 4784 (4.6 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 8 bytes 480 (480.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 8 bytes 480 (480.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

```

1G. Command : traceroute <website>

Solution :

```

(kali@kali)-[~/Desktop/Devisree_pendyala]
$ traceroute www.nicerc.org
traceroute to www.nicerc.org (15.197.225.128), 30 hops max, 60 byte packets
 1  10.0.2.2 (10.0.2.2)  0.536 ms  0.499 ms  0.480 ms
 2  10.0.2.2 (10.0.2.2)  11.396 ms  11.371 ms  11.346 ms

```

20. Command : tracert <website> (windows command)

Solution :

Microsoft Windows [Version 10.0.22631.4317]
(c) Microsoft Corporation. All rights reserved.

C:\Users\devis>tracert www.nicerc.org

Tracing route to nicerc.org [3.33.251.168]
over a maximum of 30 hops:

1	4 ms	5 ms	4 ms	gateway.home [192.168.254.254]
2	52 ms	6 ms	4 ms	47-184-64-1.dlls.tx.frontiernet.net [47.184.64.1]
3	10 ms	10 ms	8 ms	ae19--100.ber01.irng.tx.frontiernet.net [184.19.247.180]
4	10 ms	10 ms	15 ms	ae11---0.scr05.dlls.tx.frontiernet.net [74.40.10.208]
5	17 ms	9 ms	47 ms	ae0---0.cbr03.dlls.tx.frontiernet.net [45.52.201.113]
6	14 ms	10 ms	7 ms	99.83.67.104
7	12 ms	10 ms	10 ms	150.222.206.217
8	*	*	*	Request timed out.
9	9 ms	8 ms	8 ms	52.93.34.147
10	6 ms	9 ms	10 ms	aec037177372cc6cd.awsglobalaccelerator.com [3.33.251.168]

Trace complete.

C:\Users\devis>