

Name: Anushareddy Ramachandra Reddy

1.Command: mkdir

Solution:

```
(kali㉿kali)-[~/Desktop]
$ mkdir Anushareddy_Ramachandra_reddy

(kali㉿kali)-[~/Desktop]
$ cd Anushareddy_Ramachandra_reddy
```

2.Command: ip

Solution:

```
(kali㉿kali)-[~/Desktop]
$ cd Anushareddy_Ramachandra_reddy

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ 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]}

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

3.Command: ip -v

Solution:

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

4.Command: ip addr show /ip a s

Solution:

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
└─$ 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 85635sec preferred_lft 85635sec
    inet6 fe80::cab:2d46:ecf1:f0bf/64 scope link noprefixroute
        valid_lft forever preferred_lft forever

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
└─$
```

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
└─$ 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 85609sec preferred_lft 85609sec
    inet6 fe80::cab:2d46:ecf1:f0bf/64 scope link noprefixroute
        valid_lft forever preferred_lft forever

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
└─$
```

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

Solution:

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
└─$ 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 85434sec preferred_lft 85434sec
    inet6 fe80::cab:2d46:ecf1:f0bf/64 scope link noprefixroute
        valid_lft forever preferred_lft forever

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
└─$
```

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

Solution:

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ ip -br addr show eth0
eth0      UP                  10.0.2.15/24 fe80::cab:2d46:ecf1:f0bf/64

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

7. Command: ip r

Solution:

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ 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

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

8. Command: sudo ip r add<New_Route_ip>via<Default_ip>

Solution:

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

9.Command: ip r (shows new route)

Solution:

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ 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

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

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

Solution:

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ 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/Anushareddy_Ramachandra_reddy]
$ 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

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

12. Command: ip link

Solution:

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ 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

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

13.Command: ip r get<Destination_Address>

Solution:

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

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

14.Command: hostname-I

Solution:

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

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

15.Command: ifconfig

Solution:

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ 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::cab:2d46:ecf1:f0bf 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 29 bytes 3462 (3.3 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

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

16.Command: ifconfig<network_name>

Solution:

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ 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::cab:2d46:ecf1:f0bf 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 29 bytes 3462 (3.3 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ 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 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

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

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

Solution:

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ sudo ifconfig lo down

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ 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::cab:2d46:ecf1:f0bf 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/Anushareddy_Ramachandra_reddy]
$ sudo ifconfig lo up

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ 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::cab:2d46:ecf1:f0bf 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

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

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

Solution:

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ sudo ifconfig eth0 down

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ 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/Anushareddy_Ramachandra_reddy]
$
```

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ sudo ifconfig eth0 up

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ 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::cab:2d46:ecf1:f0bf 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 43 bytes 4722 (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

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

19.Command: traceroute<website>

Solution:

```
(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$ traceroute www.nicerc.org
traceroute to www.nicerc.org (3.33.251.168), 30 hops max, 60 byte packets
 1  10.0.2.2 (10.0.2.2)  0.156 ms  0.100 ms  0.136 ms
 2  10.0.2.2 (10.0.2.2)  11.373 ms  11.202 ms  11.176 ms

(kali㉿kali)-[~/Desktop/Anushareddy_Ramachandra_reddy]
$
```

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

Solution:

```
C:\Users\ar2090>tracert www.nicerc.org

Tracing route to nicerc.org [15.197.225.128]
over a maximum of 30 hops:

  1    2 ms    3 ms    2 ms  192.168.4.1
  2    8 ms   16 ms    6 ms  47-184-64-1.dlcs.tx.frontiernet.net [47.184.64.1]
  3    4 ms    9 ms   23 ms  ae19--100.ber01.lwvl.tx.frontiernet.net [184.19.247.182]
  4   14 ms    4 ms   16 ms  ae1---0.ber01.irng.tx.frontiernet.net [74.40.10.230]
  5   12 ms   25 ms   21 ms  99.83.67.104
  6    9 ms   17 ms   13 ms  150.222.206.223
  7    *      *      *      Request timed out.
  8    *      *      *      Request timed out.
  9    *      *      *      Request timed out.
 10    *      *      *      Request timed out.
 11    *      *      *      Request timed out.
 12    *      *      *      Request timed out.
 13    5 ms    6 ms    5 ms  aec037177372cc6cd.awsglobalaccelerator.com [15.197.225.128]

Trace complete.

C:\Users\ar2090>
```