

Assignment 5

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IP SUBNETTING AND STATIC ROUTING

In this assignment, I have considered R1, R2 and Kali as one subnet. This subnet has netmask of /29. So, in this subnet has network address as 10.10.10.0 and broadcast as 10.10.10.7. Rest of 6 addresses can be used as host addresses.

Here,

R1: 10.10.10.1 /29

R2: 10.10.10.2 /29

Kali: 10.10.10.3 /29

In the next subnet, R2 and R3 as a /30 subnet. This subnet has network address as 10.10.10.8 and broadcast as 10.10.10.11. Rest of 2 addresses can be used as host addresses.

Here,

R2: 10.10.10.9 /30

R3: 10.10.10.10 /30

The next subnet, R3 and R4 as a /30 subnet. This subnet has network address as 10.10.10.12 and broadcast as 10.10.10.15. Rest of 2 addresses can be used as host addresses.

Here,

R3: 10.10.10.13 /30

R4: 10.10.10.14 /30

In the next subnet, R4 and Ubuntu as a /30 subnet. This subnet has network address as 10.10.10.16 and broadcast as 10.10.10.19. Rest of 2 addresses can be used as host addresses.

Here,

R4: 10.10.10.17 /30

Ubuntu: 10.10.10.18 /30

In the next subnet, R4 and R2 as a /30 subnet. This subnet has network address as 10.10.10.20 and broadcast as 10.10.10.23. Rest of 2 addresses can be used as host addresses.

Here,

R2: 10.10.10.22 /30

R4: 10.10.10.21 /30

R1 Configuration

① vital.engineering.nyu.edu:23702/vnc_auto.html

```
GNU nano 2.5.3                               File: /etc/network/interfaces
# interfaces(5) file used by ifup(8) and ifdown(8)
auto lo
iface lo inet loopback

allow-hotplug eth0
iface eth0 inet dhcp

auto eth1
iface eth1 inet static
address 10.10.10.1
netmask 255.255.255.248
network 10.10.10.0
broadcast 10.10.10.7
up route add -net 10.10.10.20 netmask 255.255.255.252 gw 10.10.10.2
up route add -net 10.10.10.8 netmask 255.255.255.252 gw 10.10.10.2
up route add -net 10.10.10.16 netmask 255.255.255.252 gw 10.10.10.2
```

R1

R2 Configuration

```
GNU nano 2.5.3                               File: /etc/network/interfaces

# interfaces(5) file used by ifup(8) and ifdown(8)
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet static
address 10.10.10.2
network 10.10.10.0
netmask 255.255.255.248
broadcast 10.10.10.7

auto eth1
iface eth1 inet static
address 10.10.10.9
network 10.10.10.8
netmask 255.255.255.252
broadcast 10.10.10.11

auto eth2
iface eth2 inet static
address 10.10.10.22
network 10.10.10.20
broadcast 10.10.10.23
netmask 255.255.255.252
up route add -net 10.10.10.16 netmask 255.255.255.252 gw 10.10.10.21
```

R2

R3 Configuration

Connected (unencrypted) to: QEMU (263_20_35)

```
# interfaces(5) file used by ifup(8) and ifdown(8)
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet static
address 10.10.10.10
network 10.10.10.8
netmask 255.255.255.252
broadcast 10.10.10.11
up route add -net 10.10.10.0 netmask 255.255.255.248 gw 10.10.10.9

auto eth1
iface eth1 inet static
address 10.10.10.13
netmask 255.255.255.252
network 10.10.10.12
broadcast 10.10.10.15
up route add -net 10.10.10.16 netmask 255.255.255.252 gw 10.10.10.14
```

R3

R4 Configuration

```
Connected (unencrypted) to: QEMU (263_20_36)
GNU nano 2.5.3      File: /etc/network/interfaces

# interfaces(5) file used by ifup(8) and ifdown(8)
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet static
address 10.10.10.14
netmask 255.255.255.252
network 10.10.10.12
broadcast 10.10.10.15

auto eth1
iface eth1 inet static
address 10.10.10.21
netmask 255.255.255.252
network 10.10.10.20
broadcast 10.10.10.23
up route add -net 10.10.10.0 netmask 255.255.255.248 gw 10.10.10.22

auto eth2
iface eth2 inet static
address 10.10.10.17
netmask 255.255.255.252
network 10.10.10.16
broadcast 10.10.10.19
```

Kali Configuration

① vital.engineering.nyu.edu:23723/vnc_auto.html


```
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

source /etc/network/interfaces.d/*

# The loopback network interface
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet static
address 10.10.10.3
netmask 255.255.255.252
network 10.10.10.0
broadcast 10.10.10.7
up route add -net 10.10.10.20 netmask 255.255.255.252 gw 10.10.10.2
up route add -net 10.10.10.16 netmask 255.255.255.252 gw 10.10.10.2
up route add -net 10.10.10.8 netmask 255.255.255.252 gw 10.10.10.2

auto wlan0
iface wlan0 inet dhcp
~
~
~
~
```

The background of the terminal window features the Kali Linux logo, which is a stylized dragon in a dark blue-grey color. The word "KALI" is written in a bold, red, sans-serif font, positioned to the right of the dragon's head. A white mouse cursor is visible on the right side of the terminal window, pointing towards the bottom right.

Ubuntu Configuration

```
Connected (unencrypted) to: QEMU (263_20_37)
GNU nano 2.5.3 File: /etc/network/interfaces

# interfaces(5) file used by ifup(8) and ifdown(8)
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet static
address 10.10.10.18
network 10.10.10.16
netmask 255.255.255.252
broadcast 10.10.10.19
up route add -net 10.10.10.20 netmask 255.255.255.252 gw 10.10.10.17
up route add -net 10.10.10.0 netmask 255.255.255.248 gw 10.10.10.17
up route add -net 10.10.10.12 netmask 255.255.255.252 gw 10.10.10.17
```

R1 to all other machines

```
student@CN-R1:~$ ping 10.10.10.2
PING 10.10.10.2 (10.10.10.2) 56(84) bytes of data.
64 bytes from 10.10.10.2: icmp_seq=1 ttl=64 time=0.478 ms
64 bytes from 10.10.10.2: icmp_seq=2 ttl=64 time=0.478 ms
^C
--- 10.10.10.2 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.478/0.478/0.478/0.000 ms
student@CN-R1:~$ ping 10.10.10.3
PING 10.10.10.3 (10.10.10.3) 56(84) bytes of data.
64 bytes from 10.10.10.3: icmp_seq=1 ttl=64 time=0.509 ms
64 bytes from 10.10.10.3: icmp_seq=2 ttl=64 time=0.376 ms
^C
--- 10.10.10.3 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1009ms
rtt min/avg/max/mdev = 0.376/0.442/0.509/0.069 ms
student@CN-R1:~$ ping 10.10.10.9
PING 10.10.10.9 (10.10.10.9) 56(84) bytes of data.
64 bytes from 10.10.10.9: icmp_seq=1 ttl=64 time=0.454 ms
64 bytes from 10.10.10.9: icmp_seq=2 ttl=64 time=0.404 ms
^C
--- 10.10.10.9 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1016ms
rtt min/avg/max/mdev = 0.404/0.429/0.454/0.025 ms
student@CN-R1:~$ ping 10.10.10.21
PING 10.10.10.21 (10.10.10.21) 56(84) bytes of data.
64 bytes from 10.10.10.21: icmp_seq=1 ttl=63 time=0.814 ms
64 bytes from 10.10.10.21: icmp_seq=2 ttl=63 time=0.699 ms
^C
--- 10.10.10.21 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.699/0.756/0.814/0.063 ms
student@CN-R1:~$ ping 10.10.10.18
PING 10.10.10.18 (10.10.10.18) 56(84) bytes of data.
64 bytes from 10.10.10.18: icmp_seq=1 ttl=62 time=1.07 ms
64 bytes from 10.10.10.18: icmp_seq=2 ttl=62 time=1.04 ms
^C
--- 10.10.10.18 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 1.049/1.063/1.077/0.014 ms
student@CN-R1:~$ _
```

R2

Kali

R3

R4

Ubuntu

R2 to all other machine

```
student@CN-R2:~$ ping 10.10.10.1
PING 10.10.10.1 (10.10.10.1) 56(84) bytes of data.
64 bytes from 10.10.10.1: icmp_seq=1 ttl=64 time=0.468 ms
64 bytes from 10.10.10.1: icmp_seq=2 ttl=64 time=0.445 ms
^C
--- 10.10.10.1 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1019ms
rtt min/avg/max/mdev = 0.445/0.456/0.468/0.024 ms
student@CN-R2:~$ ping 10.10.10.3
PING 10.10.10.3 (10.10.10.3) 56(84) bytes of data.
64 bytes from 10.10.10.3: icmp_seq=1 ttl=64 time=0.844 ms
64 bytes from 10.10.10.3: icmp_seq=2 ttl=64 time=0.425 ms
^C
--- 10.10.10.3 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.425/0.634/0.844/0.211 ms
student@CN-R2:~$ ping 10.10.10.9
PING 10.10.10.9 (10.10.10.9) 56(84) bytes of data.
64 bytes from 10.10.10.9: icmp_seq=1 ttl=64 time=0.053 ms
64 bytes from 10.10.10.9: icmp_seq=2 ttl=64 time=0.041 ms
^C
--- 10.10.10.9 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1032ms
rtt min/avg/max/mdev = 0.041/0.047/0.053/0.006 ms
student@CN-R2:~$ ping 10.10.10.21
PING 10.10.10.21 (10.10.10.21) 56(84) bytes of data.
64 bytes from 10.10.10.21: icmp_seq=1 ttl=64 time=0.418 ms
64 bytes from 10.10.10.21: icmp_seq=2 ttl=64 time=0.393 ms
^C
--- 10.10.10.21 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1021ms
rtt min/avg/max/mdev = 0.393/0.405/0.418/0.023 ms
student@CN-R2:~$ ping 10.10.10.18
PING 10.10.10.18 (10.10.10.18) 56(84) bytes of data.
64 bytes from 10.10.10.18: icmp_seq=1 ttl=63 time=0.782 ms
64 bytes from 10.10.10.18: icmp_seq=2 ttl=63 time=0.776 ms
^C
--- 10.10.10.18 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.776/0.779/0.782/0.003 ms
student@CN-R2:~$
```

R1

Kali

R3

R4

Ubuntu

R3 to all other machine

```
Connected (unencrypted) to: QEMU (263_20_35)
student@CN-R3:~$ ping 10.10.10.1
PING 10.10.10.1 (10.10.10.1) 56(84) bytes of data.
64 bytes from 10.10.10.1: icmp_seq=1 ttl=63 time=0.884 ms
64 bytes from 10.10.10.1: icmp_seq=2 ttl=63 time=0.732 ms
^C
--- 10.10.10.1 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.732/0.808/0.884/0.076 ms
student@CN-R3:~$ ping 10.10.10.2
PING 10.10.10.2 (10.10.10.2) 56(84) bytes of data.
64 bytes from 10.10.10.2: icmp_seq=1 ttl=64 time=0.424 ms
64 bytes from 10.10.10.2: icmp_seq=2 ttl=64 time=0.357 ms
^C
--- 10.10.10.2 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1018ms
rtt min/avg/max/mdev = 0.357/0.390/0.424/0.038 ms
student@CN-R3:~$ ping 10.10.10.3
PING 10.10.10.3 (10.10.10.3) 56(84) bytes of data.
64 bytes from 10.10.10.3: icmp_seq=1 ttl=63 time=0.887 ms
64 bytes from 10.10.10.3: icmp_seq=2 ttl=63 time=0.784 ms
^C
--- 10.10.10.3 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.784/0.835/0.887/0.059 ms
student@CN-R3:~$ ping 10.10.10.14
PING 10.10.10.14 (10.10.10.14) 56(84) bytes of data.
64 bytes from 10.10.10.14: icmp_seq=1 ttl=64 time=0.778 ms
^C
--- 10.10.10.14 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 0.778/0.778/0.778/0.000 ms
student@CN-R3:~$ ping 10.10.10.18
PING 10.10.10.18 (10.10.10.18) 56(84) bytes of data.
64 bytes from 10.10.10.18: icmp_seq=1 ttl=63 time=0.799 ms
64 bytes from 10.10.10.18: icmp_seq=2 ttl=63 time=0.712 ms
^C
--- 10.10.10.18 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.712/0.755/0.799/0.051 ms
student@CN-R3:~$
```

R1

R2

Kali

R4

Ubuntu

R4 to all other machine

```
Connected (unencrypted) to: QEMU (263_20_36)
student@CN-R4:~$ ping 10.10.10.1
PING 10.10.10.1 (10.10.10.1) 56(84) bytes of data.
64 bytes from 10.10.10.1: icmp_seq=1 ttl=63 time=1.31 ms
^C
--- 10.10.10.1 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 1.311/1.311/1.311/0.000 ms
student@CN-R4:~$ ping 10.10.10.2
PING 10.10.10.2 (10.10.10.2) 56(84) bytes of data.
64 bytes from 10.10.10.2: icmp_seq=1 ttl=64 time=0.464 ms
64 bytes from 10.10.10.2: icmp_seq=2 ttl=64 time=0.425 ms
^C
--- 10.10.10.2 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1006ms
rtt min/avg/max/mdev = 0.425/0.444/0.464/0.028 ms
student@CN-R4:~$ ping 10.10.10.3
PING 10.10.10.3 (10.10.10.3) 56(84) bytes of data.
64 bytes from 10.10.10.3: icmp_seq=1 ttl=63 time=0.996 ms
^C
--- 10.10.10.3 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 0.996/0.996/0.996/0.000 ms
student@CN-R4:~$ ping 10.10.10.13
PING 10.10.10.13 (10.10.10.13) 56(84) bytes of data.
64 bytes from 10.10.10.13: icmp_seq=1 ttl=64 time=0.525 ms
64 bytes from 10.10.10.13: icmp_seq=2 ttl=64 time=0.408 ms
^C
--- 10.10.10.13 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1027ms
rtt min/avg/max/mdev = 0.408/0.466/0.525/0.062 ms
student@CN-R4:~$ ping 10.10.10.18
PING 10.10.10.18 (10.10.10.18) 56(84) bytes of data.
64 bytes from 10.10.10.18: icmp_seq=1 ttl=64 time=0.483 ms
64 bytes from 10.10.10.18: icmp_seq=2 ttl=64 time=0.416 ms
^C
--- 10.10.10.18 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1031ms
rtt min/avg/max/mdev = 0.416/0.449/0.483/0.039 ms
student@CN-R4:~$
```

R1

R2

Kali

R3

Ubuntu

Kali to all other machine

```
PING 10.10.10.1 (10.10.10.1) 56(84) bytes of data.  
64 bytes from 10.10.10.1: icmp_seq=1 ttl=64 time=0.478 ms  
^C  
--- 10.10.10.1 ping statistics ---  
1 packets transmitted, 1 received, 0% packet loss, time 0ms  
rtt min/avg/max/mdev = 0.478/0.478/0.478/0.000 ms  
student@kali:~$ ping 10.10.10.2  
PING 10.10.10.2 (10.10.10.2) 56(84) bytes of data.  
64 bytes from 10.10.10.2: icmp_seq=1 ttl=64 time=0.464 ms  
^C  
--- 10.10.10.2 ping statistics ---  
1 packets transmitted, 1 received, 0% packet loss, time 0ms  
rtt min/avg/max/mdev = 0.464/0.464/0.464/0.000 ms  
student@kali:~$ ping 10.10.10.10  
PING 10.10.10.10 (10.10.10.10) 56(84) bytes of data.  
64 bytes from 10.10.10.10: icmp_seq=1 ttl=63 time=0.892 ms  
64 bytes from 10.10.10.10: icmp_seq=2 ttl=63 time=0.793 ms  
^C  
--- 10.10.10.10 ping statistics ---  
2 packets transmitted, 2 received, 0% packet loss, time 1001ms  
rtt min/avg/max/mdev = 0.793/0.842/0.892/0.057 ms  
student@kali:~$ ping 10.10.10.21  
PING 10.10.10.21 (10.10.10.21) 56(84) bytes of data.  
64 bytes from 10.10.10.21: icmp_seq=1 ttl=63 time=0.918 ms  
64 bytes from 10.10.10.21: icmp_seq=2 ttl=63 time=0.824 ms  
^C  
--- 10.10.10.21 ping statistics ---  
2 packets transmitted, 2 received, 0% packet loss, time 1001ms  
rtt min/avg/max/mdev = 0.824/0.871/0.918/0.047 ms  
student@kali:~$ ping 10.10.10.18  
PING 10.10.10.18 (10.10.10.18) 56(84) bytes of data.  
64 bytes from 10.10.10.18: icmp_seq=1 ttl=62 time=1.20 ms  
64 bytes from 10.10.10.18: icmp_seq=2 ttl=62 time=1.18 ms  
^C  
--- 10.10.10.18 ping statistics ---  
2 packets transmitted, 2 received, 0% packet loss, time 1001ms  
rtt min/avg/max/mdev = 1.186/1.195/1.204/0.009 ms  
student@kali:~$
```

R1

R2

R3

R4

Ubuntu

Ubuntu to all other machine

```
Connected (unencrypted) to: QEMU (263_20_37)

student@Ubuntu:~$ ping 10.10.10.1
PING 10.10.10.1 (10.10.10.1) 56(84) bytes of data.
64 bytes from 10.10.10.1: icmp_seq=1 ttl=62 time=1.48 ms
^C
--- 10.10.10.1 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 1.487/1.487/1.487/0.000 ms
student@Ubuntu:~$ ping 10.10.10.2
PING 10.10.10.2 (10.10.10.2) 56(84) bytes of data.
64 bytes from 10.10.10.2: icmp_seq=1 ttl=63 time=0.773 ms
64 bytes from 10.10.10.2: icmp_seq=2 ttl=63 time=0.744 ms
^C
--- 10.10.10.2 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.744/0.758/0.773/0.031 ms
student@Ubuntu:~$ ping 10.10.10.3
PING 10.10.10.3 (10.10.10.3) 56(84) bytes of data.
64 bytes from 10.10.10.3: icmp_seq=1 ttl=62 time=1.23 ms
64 bytes from 10.10.10.3: icmp_seq=2 ttl=62 time=1.13 ms
^C
--- 10.10.10.3 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 1.131/1.181/1.232/0.061 ms
student@Ubuntu:~$ ping 10.10.10.13
PING 10.10.10.13 (10.10.10.13) 56(84) bytes of data.
64 bytes from 10.10.10.13: icmp_seq=1 ttl=63 time=1.12 ms
64 bytes from 10.10.10.13: icmp_seq=2 ttl=63 time=0.662 ms
^C
--- 10.10.10.13 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.662/0.894/1.127/0.234 ms
student@Ubuntu:~$ ping 10.10.10.17
PING 10.10.10.17 (10.10.10.17) 56(84) bytes of data.
64 bytes from 10.10.10.17: icmp_seq=1 ttl=64 time=0.415 ms
^C
--- 10.10.10.17 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 0.415/0.415/0.415/0.000 ms
student@Ubuntu:~$ _
```

R1

R2

Kali

R3

R4

ROUTING TABLES

Ubuntu 16.04.2 LTS CN-R1 tty1

CN-R1 login: student

Password:

Last login: Thu Oct 12 22:05:16 EDT 2017 on tty1

Welcome to Ubuntu 16.04.2 LTS (GNU/Linux 4.10.0-33-generic x86_64)

* Documentation: <https://help.ubuntu.com>
* Management: <https://landscape.canonical.com>
* Support: <https://ubuntu.com/advantage>

R1

219 packages can be updated.

2 updates are security updates.

student@CN-R1:~\$ route

Kernel IP routing table

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
default	10.20.1.1	0.0.0.0	UG	0	0	0	eth0
10.10.10.0	*	255.255.255.248	U	0	0	0	eth1
10.10.10.8	10.10.10.2	255.255.255.252	UG	0	0	0	eth1
10.10.10.16	10.10.10.2	255.255.255.252	UG	0	0	0	eth1
10.10.10.20	10.10.10.2	255.255.255.252	UG	0	0	0	eth1
10.20.1.0	*	255.255.255.0	U	0	0	0	eth0
link-local	*	255.255.0.0	U	1000	0	0	eth1

student@CN-R1:~\$ _

Ubuntu 16.04.2 LTS CN-R2 tty1

CN-R2 login: student

Password:

Last login: Thu Oct 12 21:38:33 EDT 2017 on tty1

Welcome to Ubuntu 16.04.2 LTS (GNU/Linux 4.8.0-56-generic x86_64)

* Documentation: <https://help.ubuntu.com>
* Management: <https://landscape.canonical.com>
* Support: <https://ubuntu.com/advantage>

R2

344 packages can be updated.
133 updates are security updates.

student@CN-R2:~\$ route

Kernel IP routing table

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
10.10.10.0	*	255.255.255.248	U	0	0	0	eth0
10.10.10.8	*	255.255.255.252	U	0	0	0	eth1
10.10.10.16	10.10.10.21	255.255.255.252	UG	0	0	0	eth2
10.10.10.20	*	255.255.255.252	U	0	0	0	eth2
link-local	*	255.255.0.0	U	1000	0	0	eth1

student@CN-R2:~\$

Ubuntu 16.04.2 LTS CN-R3 tty1

CN-R3 login: student

Password:

Last login: Thu Oct 12 22:13:08 EDT 2017 on tty1

Welcome to Ubuntu 16.04.2 LTS (GNU/Linux 4.8.0-56-generic x86_64)

* Documentation: <https://help.ubuntu.com>
* Management: <https://landscape.canonical.com>
* Support: <https://ubuntu.com/advantage>

R3

344 packages can be updated.
133 updates are security updates.

student@CN-R3:~\$ route

Kernel IP routing table

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
10.10.10.0	10.10.10.9	255.255.255.248	UG	0	0	0	eth0
10.10.10.8	*	255.255.255.252	U	0	0	0	eth0
10.10.10.12	*	255.255.255.252	U	0	0	0	eth1
10.10.10.16	10.10.10.14	255.255.255.252	UG	0	0	0	eth1
link-local	*	255.255.0.0	U	1000	0	0	eth1

student@CN-R3:~\$

Ubuntu 16.04.2 LTS CN-R4 tty1

CN-R4 login: student

Password:

Last login: Thu Oct 12 21:29:51 EDT 2017 on tty1

Welcome to Ubuntu 16.04.2 LTS (GNU/Linux 4.8.0-56-generic x86_64)

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R4

342 packages can be updated.

131 updates are security updates.

student@CN-R4:~\$ route

Kernel IP routing table

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
10.10.10.0	10.10.10.22	255.255.255.248	UG	0	0	0	eth1
10.10.10.12	*	255.255.255.252	U	0	0	0	eth0
10.10.10.16	*	255.255.255.252	U	0	0	0	eth2
10.10.10.20	*	255.255.255.252	U	0	0	0	eth1
link-local	*	255.255.0.0	U	1000	0	0	eth0

student@CN-R4:~\$ _

student@kali: ~

File Edit View Search Terminal Help

student@kali:~\$ route

bash: route: command not found

student@kali:~\$ sudo route

[sudo] password for student:

Kernel IP routing table

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
10.10.10.0	0.0.0.0	255.255.255.252	U	0	0	0	eth0
10.10.10.8	10.10.10.2	255.255.255.252	UG	0	0	0	eth0
10.10.10.16	10.10.10.2	255.255.255.252	UG	0	0	0	eth0
10.10.10.20	10.10.10.2	255.255.255.252	UG	0	0	0	eth0

student@kali:~\$

Kali

Ubuntu 16.04.2 LTS Ubuntu tty1

Ubuntu login: student

Password:

Last login: Thu Oct 12 22:06:40 EDT 2017 on tty1

Welcome to Ubuntu 16.04.2 LTS (GNU/Linux 4.8.0-54-generic x86_64)

* Documentation: <https://help.ubuntu.com>
* Management: <https://landscape.canonical.com>
* Support: <https://ubuntu.com/advantage>

Ubuntu

113 packages can be updated.

0 updates are security updates.

student@Ubuntu:~\$ route

Kernel IP routing table

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
10.10.10.0	10.10.10.17	255.255.255.248	UG	0	0	0	eth0
10.10.10.12	10.10.10.17	255.255.255.252	UG	0	0	0	eth0
10.10.10.16	*	255.255.255.252	U	0	0	0	eth0
10.10.10.20	10.10.10.17	255.255.255.252	UG	0	0	0	eth0
link-local	*	255.255.0.0	U	1000	0	0	eth0

student@Ubuntu:~\$ _