

Network Engineering 2019 Exercises - Unit 3

0.1 Netmask Calculation

What is the netmask for this network?

87.107.129.52/0

Put your answer on a single line in `unit3/answers.txt`, with 800: at the beginning of the line, e.g., 800:255.255.255.0

What is the netmask for this network?

24.64.0.0/12

Put your answer on a single line in `unit3/answers.txt`, with 801: at the beginning of the line, e.g., 801:255.255.255.0

What is the netmask for this network?

26.123.64.0/18

Put your answer on a single line in `unit3/answers.txt`, with 802: at the beginning of the line, e.g., 802:255.255.255.0

What is the netmask for this network?

12.206.201.48/29

Put your answer on a single line in `unit3/answers.txt`, with 803: at the beginning of the line, e.g., 803:255.255.255.0

What is the netmask for this network?

72.89.98.230/31

Put your answer on a single line in `unit3/answers.txt`, with 804: at the beginning of the line, e.g., 804:255.255.255.0

What is the netmask for this network?

25.95.245.32/28

Put your answer on a single line in `unit3/answers.txt`, with 805: at the beginning of the line, e.g., 805:255.255.255.0

What is the netmask for this network?

93.69.92.96/29

Put your answer on a single line in `unit3/answers.txt`, with 806: at the beginning of the line, e.g., 806:255.255.255.0

What is the netmask for this network?

15.224.0.0/14

Put your answer on a single line in `unit3/answers.txt`, with 807: at the beginning of the line, e.g., `807:255.255.255.0`

What is the netmask for this network?

86.11.52.16/31

Put your answer on a single line in `unit3/answers.txt`, with 808: at the beginning of the line, e.g., `808:255.255.255.0`

What is the netmask for this network?

64.0.0.0/6

Put your answer on a single line in `unit3/answers.txt`, with 809: at the beginning of the line, e.g., `809:255.255.255.0`

What is the netmask for this network?

40.54.0.0/15

Put your answer on a single line in `unit3/answers.txt`, with 810: at the beginning of the line, e.g., `810:255.255.255.0`

What is the netmask for this network?

104.52.0.0/17

Put your answer on a single line in `unit3/answers.txt`, with 811: at the beginning of the line, e.g., `811:255.255.255.0`

What is the netmask for this network?

113.89.252.0/22

Put your answer on a single line in `unit3/answers.txt`, with 812: at the beginning of the line, e.g., `812:255.255.255.0`

What is the netmask for this network?

88.0.0.0/7

Put your answer on a single line in `unit3/answers.txt`, with 813: at the beginning of the line, e.g., `813:255.255.255.0`

What is the netmask for this network?

20.70.199.232/30

Put your answer on a single line in `unit3/answers.txt`, with 814: at the beginning of the line, e.g., `814:255.255.255.0`

What is the netmask for this network?

7.60.152.164/30

Put your answer on a single line in `unit3/answers.txt`, with 815: at the beginning of the line, e.g., `815:255.255.255.0`

What is the netmask for this network?

104.104.35.0/24

Put your answer on a single line in `unit3/answers.txt`, with 816: at the beginning of the line, e.g., `816:255.255.255.0`

What is the netmask for this network?

65.50.0.0/15

Put your answer on a single line in `unit3/answers.txt`, with 817: at the beginning of the line, e.g., `817:255.255.255.0`

What is the netmask for this network?

111.97.205.8/30

Put your answer on a single line in `unit3/answers.txt`, with 818: at the beginning of the line, e.g., `818:255.255.255.0`

What is the netmask for this network?

44.32.0.0/17

Put your answer on a single line in `unit3/answers.txt`, with 819: at the beginning of the line, e.g., `819:255.255.255.0`

What is the netmask for this network?

18.12.0.0/16

Put your answer on a single line in `unit3/answers.txt`, with 820: at the beginning of the line, e.g., `820:255.255.255.0`

What is the netmask for this network?

59.64.175.174/0

Put your answer on a single line in `unit3/answers.txt`, with 821: at the beginning of the line, e.g., `821:255.255.255.0`

What is the netmask for this network?

29.47.0.0/16

Put your answer on a single line in `unit3/answers.txt`, with 822: at the beginning of the line, e.g., `822:255.255.255.0`

What is the netmask for this network?

106.248.29.238/31

Put your answer on a single line in `unit3/answers.txt`, with 823: at the beginning of the line, e.g., `823:255.255.255.0`

What is the netmask for this network?

37.160.0.0/12

Put your answer on a single line in `unit3/answers.txt`, with 824: at the beginning of the line, e.g., `824:255.255.255.0`

What is the netmask for this network?

108.64.0.0/10

Put your answer on a single line in `unit3/answers.txt`, with 825: at the beginning of the line, e.g., `825:255.255.255.0`

What is the netmask for this network?

48.96.0.0/12

Put your answer on a single line in `unit3/answers.txt`, with 826: at the beginning of the line, e.g., `826:255.255.255.0`

What is the netmask for this network?

6.32.0.0/11

Put your answer on a single line in `unit3/answers.txt`, with 827: at the beginning of the line, e.g., `827:255.255.255.0`

What is the netmask for this network?

0.0.0.0/1

Put your answer on a single line in `unit3/answers.txt`, with 828: at the beginning of the line, e.g., `828:255.255.255.0`

What is the netmask for this network?

61.224.0.0/11

Put your answer on a single line in `unit3/answers.txt`, with 829: at the beginning of the line, e.g., `829:255.255.255.0`

What is the netmask for this network?

48.24.39.0/24

Put your answer on a single line in `unit3/answers.txt`, with 830: at the beginning of the line, e.g., `830:255.255.255.0`

What is the netmask for this network?

37.171.191.168/31

Put your answer on a single line in `unit3/answers.txt`, with 831: at the beginning of the line, e.g., `831:255.255.255.0`

What is the netmask for this network?

100.162.144.0/20

Put your answer on a single line in `unit3/answers.txt`, with 832: at the beginning of the line, e.g., `832:255.255.255.0`

What is the netmask for this network?

27.99.191.32/28

Put your answer on a single line in `unit3/answers.txt`, with 833: at the beginning of the line, e.g., `833:255.255.255.0`

What is the netmask for this network?

52.223.216.32/27

Put your answer on a single line in `unit3/answers.txt`, with 834: at the beginning of the line, e.g., `834:255.255.255.0`

What is the netmask for this network?

11.191.0.0/16

Put your answer on a single line in `unit3/answers.txt`, with 835: at the beginning of the line, e.g., 835:255.255.255.0

What is the netmask for this network?

13.4.21.96/27

Put your answer on a single line in `unit3/answers.txt`, with 836: at the beginning of the line, e.g., 836:255.255.255.0

What is the netmask for this network?

54.61.235.0/25

Put your answer on a single line in `unit3/answers.txt`, with 837: at the beginning of the line, e.g., 837:255.255.255.0

What is the netmask for this network?

18.35.236.170/31

Put your answer on a single line in `unit3/answers.txt`, with 838: at the beginning of the line, e.g., 838:255.255.255.0

What is the netmask for this network?

29.109.96.192/27

Put your answer on a single line in `unit3/answers.txt`, with 839: at the beginning of the line, e.g., 839:255.255.255.0

0.2 Variable Length Sub-net Masking

What is the VLSM name of the network corresponding to the following?

78.46.190.11 netmask 255.255.255.248

Put your answer on a single line in `unit3/answers.txt`, with 840: at the beginning of the line, e.g., 840:10.0.0.0/8

What is the VLSM name of the network corresponding to the following?

5.164.148.69 netmask 254.0.0.0

Put your answer on a single line in `unit3/answers.txt`, with 841: at the beginning of the line, e.g., 841:10.0.0.0/8

What is the VLSM name of the network corresponding to the following?

94.53.132.233 netmask 128.0.0.0

Put your answer on a single line in `unit3/answers.txt`, with 842: at the beginning of the line, e.g., `842:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

32.85.96.146 netmask 255.224.0.0

Put your answer on a single line in `unit3/answers.txt`, with 843: at the beginning of the line, e.g., `843:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

107.69.175.66 netmask 248.0.0.0

Put your answer on a single line in `unit3/answers.txt`, with 844: at the beginning of the line, e.g., `844:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

61.225.170.23 netmask 192.0.0.0

Put your answer on a single line in `unit3/answers.txt`, with 845: at the beginning of the line, e.g., `845:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

35.93.111.222 netmask 255.255.255.255

Put your answer on a single line in `unit3/answers.txt`, with 846: at the beginning of the line, e.g., `846:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

51.222.34.97 netmask 255.254.0.0

Put your answer on a single line in `unit3/answers.txt`, with 847: at the beginning of the line, e.g., `847:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

74.107.209.20 netmask 255.255.0.0

Put your answer on a single line in `unit3/answers.txt`, with 848: at the beginning of the line, e.g., `848:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

92.4.120.203 netmask 254.0.0.0

Put your answer on a single line in `unit3/answers.txt`, with 849: at the beginning of the line, e.g., `849:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

22.197.209.75 netmask 255.255.255.0

Put your answer on a single line in `unit3/answers.txt`, with 850: at the beginning of the line, e.g., `850:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

70.55.220.183 netmask 255.255.252.0

Put your answer on a single line in `unit3/answers.txt`, with 851: at the beginning of the line, e.g., `851:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

46.196.94.84 netmask 255.0.0.0

Put your answer on a single line in `unit3/answers.txt`, with 852: at the beginning of the line, e.g., `852:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

77.253.7.207 netmask 255.255.255.254

Put your answer on a single line in `unit3/answers.txt`, with 853: at the beginning of the line, e.g., `853:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

29.171.208.199 netmask 254.0.0.0

Put your answer on a single line in `unit3/answers.txt`, with 854: at the beginning of the line, e.g., `854:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

120.176.210.90 netmask 255.255.192.0

Put your answer on a single line in `unit3/answers.txt`, with 855: at the beginning of the line, e.g., `855:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

117.33.205.197 netmask 255.255.255.255

Put your answer on a single line in `unit3/answers.txt`, with 856: at the beginning of the line, e.g., `856:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

106.111.158.57 netmask 255.252.0.0

Put your answer on a single line in `unit3/answers.txt`, with 857: at the beginning of the line, e.g., `857:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

10.27.206.97 netmask 255.240.0.0

Put your answer on a single line in `unit3/answers.txt`, with 858: at the beginning of the line, e.g., `858:10.0.0.0/8`

What is the VLSM name of the network corresponding to the following?

87.63.134.58 netmask 224.0.0.0

Put your answer on a single line in `unit3/answers.txt`, with 859: at the beginning of the line, e.g., `859:10.0.0.0/8`

0.3 Configure Network Interfaces using the ifconfig and ip commands

What is ifconfig command equivalent to the following ip command sequence (apply any options in the order listed)?

```
ip address add 105.0.26.177/17 dev eth0
```

Put your answer on a single line in unit3/answers.txt, with 860: at the beginning of the line, e.g., 860:ip blah blah; ip again with other options; ip again with yet other options

What is ip command sequence to setup interface eth0 with the following network settings (apply any options in the order listed)?

```
112.98.17.41 netmask 112.96.0.0/13, but not running, TX queue
length = 2684
```

Put your answer on a single line in unit3/answers.txt, with 861: at the beginning of the line, e.g., 861:ip blah blah; ip again with other options; ip again with yet other options

What is ifconfig command equivalent to the following ip command sequence (apply any options in the order listed)?

```
ip address add 34.191.137.179/16 dev eth0 ip link set dev eth0 mtu
4346; ip link set eth0 down
```

Put your answer on a single line in unit3/answers.txt, with 862: at the beginning of the line, e.g., 862:ip blah blah; ip again with other options; ip again with yet other options

What is ifconfig command equivalent to the following ip command sequence (apply any options in the order listed)?

```
ip address add 39.143.39.189/20 dev eth0; ip link set dev eth0 arp
off; ip link set dev eth0 promisc on
```

Put your answer on a single line in unit3/answers.txt, with 863: at the beginning of the line, e.g., 863:ip blah blah; ip again with other options; ip again with yet other options

What is ip command sequence to setup interface eth0 with the following network settings (apply any options in the order listed)?

```
120.121.93.70 netmask 120.121.93.0/25, MTU = 2663, TX queue
length = 1880
```

Put your answer on a single line in unit3/answers.txt, with 864: at the beginning of the line, e.g., 864:ip blah blah; ip again with other options; ip again with yet other options

What is ip command sequence equivalent to the following ifconfig command (apply any options in the order listed)?

```
ifconfig eth0 36.207.122.162 netmask 255.255.254.0
```

Put your answer on a single line in `unit3/answers.txt`, with 865: at the beginning of the line, e.g., 865:ip blah blah; ip again with other options; ip again with yet other options

What is ip command sequence equivalent to the following ifconfig command (apply any options in the order listed)?

```
ifconfig eth0 109.32.247.243 netmask 255.0.0.0
```

Put your answer on a single line in `unit3/answers.txt`, with 866: at the beginning of the line, e.g., 866:ip blah blah; ip again with other options; ip again with yet other options

What is ip command sequence equivalent to the following ifconfig command (apply any options in the order listed)?

```
ifconfig eth0 14.64.17.228 netmask 255.255.255.248 mtu 2673 promisc
```

Put your answer on a single line in `unit3/answers.txt`, with 867: at the beginning of the line, e.g., 867:ip blah blah; ip again with other options; ip again with yet other options

What is the ifconfig command to setup interface eth0 with the following network settings (apply any options in the order listed)?

```
27.67.34.116 netmask 24.0.0.0/6, MTU = 2186, without ARP, TX  
queue length = 3966
```

Put your answer on a single line in `unit3/answers.txt`, with 868: at the beginning of the line, e.g., 868:ifconfig moo0 1.2.3.4 netmask 255.0.0.0 -broadcast

What is the ifconfig command to setup interface eth0 with the following network settings (apply any options in the order listed)?

```
126.191.200.130 netmask 126.191.200.128/29
```

Put your answer on a single line in `unit3/answers.txt`, with 869: at the beginning of the line, e.g., 869:ifconfig moo0 1.2.3.4 netmask 255.0.0.0 -broadcast

What is ifconfig command equivalent to the following ip command sequence (apply any options in the order listed)?

```
ip address add 90.192.149.73/11 dev eth0; ip link set eth0 down; ip
link set dev eth0 promisc on
```

Put your answer on a single line in `unit3/answers.txt`, with 870: at the beginning of the line, e.g., `870:ip blah blah; ip again with other options; ip again with yet other options`

What is ip command sequence equivalent to the following ifconfig command (apply any options in the order listed)?

```
ifconfig eth0 0.215.252.111 netmask 255.255.0.0 down
```

Put your answer on a single line in `unit3/answers.txt`, with 871: at the beginning of the line, e.g., `871:ip blah blah; ip again with other options; ip again with yet other options`

What is ifconfig command equivalent to the following ip command sequence (apply any options in the order listed)?

```
ip address add 19.8.247.47/18 dev eth0; ip link set eth0 down; ip
link set dev eth0 promisc on
```

Put your answer on a single line in `unit3/answers.txt`, with 872: at the beginning of the line, e.g., `872:ip blah blah; ip again with other options; ip again with yet other options`

What is the ifconfig command to setup interface eth0 with the following network settings (apply any options in the order listed)?

```
46.85.192.175 netmask 46.85.128.0/17, TX queue length = 3166
```

Put your answer on a single line in `unit3/answers.txt`, with 873: at the beginning of the line, e.g., `873:ifconfig moo0 1.2.3.4 netmask 255.0.0.0 -broadcast`

What is the ifconfig command to setup interface eth0 with the following network settings (apply any options in the order listed)?

```
108.177.8.72 netmask 108.176.0.0/12, but not running
```

Put your answer on a single line in `unit3/answers.txt`, with 874: at the beginning of the line, e.g., `874:ifconfig moo0 1.2.3.4 netmask 255.0.0.0 -broadcast`

What is ip command sequence equivalent to the following ifconfig command (apply any options in the order listed)?

```
ifconfig eth0 28.46.148.224 netmask 255.254.0.0 -arp
```

Put your answer on a single line in `unit3/answers.txt`, with 875: at the beginning of the line, e.g., 875:ip blah blah; ip again with other options; ip again with yet other options

What is ip command sequence equivalent to the following ifconfig command (apply any options in the order listed)?

```
ifconfig eth0 22.65.31.31 netmask 255.252.0.0 -arp
```

Put your answer on a single line in `unit3/answers.txt`, with 876: at the beginning of the line, e.g., 876:ip blah blah; ip again with other options; ip again with yet other options

What is ifconfig command equivalent to the following ip command sequence (apply any options in the order listed)?

```
ip address add 122.249.146.115/22 dev eth0 ip link set dev eth0 mtu 3659; ip link set eth0 down; ip link set dev eth0 txqueuelen 3444
```

Put your answer on a single line in `unit3/answers.txt`, with 877: at the beginning of the line, e.g., 877:ip blah blah; ip again with other options; ip again with yet other options

What is ip command sequence equivalent to the following ifconfig command (apply any options in the order listed)?

```
ifconfig eth0 0.130.184.189 netmask 255.255.128.0 down txqueuelen 1022
```

Put your answer on a single line in `unit3/answers.txt`, with 878: at the beginning of the line, e.g., 878:ip blah blah; ip again with other options; ip again with yet other options

What is the ifconfig command to setup interface eth0 with the following network settings (apply any options in the order listed)?

```
110.56.108.238 netmask 110.0.0.0/9, PPP remote address 62.97.99.88
```

Put your answer on a single line in `unit3/answers.txt`, with 879: at the beginning of the line, e.g., 879:ifconfig moo0 1.2.3.4 netmask 255.0.0.0 -broadcast

0.4 Configure Network Interfaces using `/etc/network/interfaces` file

0.4.1 Prepare `unit3/iface0-solution.txt`

Produce an `interfaces` file in `unit3/iface0-solution.txt`, that contains the following:

- A template called `moths0`, that specifies an MTU of 8952 and MAC address `FF:2F:82:55:F3:02`.
- A template called `wealth1`, that specifies an MTU of 6957 and MAC address `93:BB:5D:F7:6E:AB`.
- An interface named `ftdi0`, with IPv4 settings configured by DHCP.
- An interface named `jam1`, with IPv4 address `43.220.7.146` and netmask `255.255.255.192`.
- An interface named `wlan2`, with IPv4 settings configured by DHCP and inherits the template `wealth1`.

0.4.2 Prepare `unit3/iface1-solution.txt`

Produce an `interfaces` file in `unit3/iface1-solution.txt`, that contains the following:

- A template called `wealth0`, that specifies an MTU of 691 and MAC address `CE:00:25:E6:B1:B9`.
- A template called `ruins1`, that specifies an MTU of 6230 and MAC address `B0:10:B9:4C:E8:87`.
- A template called `castle2`, that specifies an MTU of 3390 and MAC address `85:68:04:94:B4:2C`.
- An interface named `eth0`, with IPv4 settings configured by DHCP.
- An interface named `wlan1`, with IPv4 address `6.250.237.161` and netmask `255.255.240.0`.
- An interface named `wlan2`, with IPv4 settings configured by DHCP.
- An interface named `ftdi3`, with IPv4 address `18.3.208.84` and netmask `255.0.0.0`.
- An interface named `ftdi4`, with IPv4 address `68.213.146.239` and netmask `255.255.240.0`.
- An interface named `ftdi5`, with IPv4 address `93.17.119.19` and netmask `255.255.255.252`.
- An interface named `eth6`, with IPv4 settings configured by DHCP and inherits the template `ruins1`.

0.4.3 Prepare unit3/iface2-solution.txt

Produce an `interfaces` file in `unit3/iface2-solution.txt`, that contains the following:

- A template called `castle0`, that specifies an MTU of 6176 and MAC address 94:22:8F:E9:68:67.
- A template called `wealth1`, that specifies an MTU of 988 and MAC address EF:E6:C9:C4:D5:5E.
- A template called `castle2`, that specifies an MTU of 7727 and MAC address 78:81:4D:26:48:B7.
- An interface named `jam0`, with IPv4 address 65.75.183.186 and netmask 255.255.254.0.
- An interface named `ftdi1`, with IPv4 address 73.87.150.45 and netmask 128.0.0.0.
- An interface named `eth2`, with IPv4 settings configured by DHCP and inherits the template `castle2`.

0.4.4 Prepare unit3/iface3-solution.txt

Produce an `interfaces` file in `unit3/iface3-solution.txt`, that contains the following:

- A template called `ruins0`, that specifies an MTU of 6877 and MAC address E7:47:AF:56:56:27.
- A template called `moths1`, that specifies an MTU of 6439 and MAC address 4E:20:5A:D1:DA:B2.
- A template called `wealth2`, that specifies an MTU of 1293 and MAC address 80:05:CF:BE:C7:33.
- A template called `moths3`, that specifies an MTU of 8894 and MAC address FF:BF:FD:87:E2:6E.
- A template called `wealth4`, that specifies an MTU of 2806 and MAC address B5:88:20:0B:AF:F7.
- An interface named `wlan0`, with IPv4 settings configured by DHCP and inherits the template `moths3`.
- An interface named `jam1`, with IPv4 settings configured by DHCP.
- An interface named `wlan2`, with IPv4 settings configured by DHCP and inherits the template `ruins0`.

- An interface named jam3, with IPv4 address 49.188.101.67 and netmask 192.0.0.0, and inherits the template wealth2.
- An interface named jam4, with IPv4 address 29.138.35.239 and netmask 252.0.0.0.
- An interface named eth5, with IPv4 settings configured by DHCP.
- An interface named eth6, with IPv4 settings configured by DHCP.

0.4.5 Prepare unit3/iface4-solution.txt

Produce an `interfaces` file in `unit3/iface4-solution.txt`, that contains the following:

- A template called moths0, that specifies an MTU of 1306 and MAC address DD:B8:AA:5E:3C:8F.
- A template called castle1, that specifies an MTU of 4727 and MAC address 72:E5:A5:C3:C4:94.
- A template called ruins2, that specifies an MTU of 2760 and MAC address A4:DB:43:AB:9C:57.
- A template called ruins3, that specifies an MTU of 4785 and MAC address 3A:D9:EA:C4:68:A9.
- A template called moths4, that specifies an MTU of 2469 and MAC address 62:A5:A3:9E:34:81.
- An interface named jam0, with IPv4 address 11.196.42.166 and netmask 252.0.0.0, and inherits the template moths0.
- An interface named jam1, with IPv4 settings configured by DHCP.
- An interface named wlan2, with IPv4 settings configured by DHCP.
- An interface named ftdi3, with IPv4 settings configured by DHCP.
- An interface named jam4, with IPv4 address 113.168.174.163 and netmask 255.224.0.0.
- An interface named wlan5, with IPv4 settings configured by DHCP.
- An interface named wlan6, with IPv4 address 87.98.177.107 and netmask 224.0.0.0.

0.5 Create and delete routes

0.5.1 Create files `unit3/routes0add.sh` and `unit3/routes0del.sh` that contains commands that will respectively establish and delete the following routes

- 61.223.104.0/24 via the interface to your 2nd VM
- 102.42.2.156/30 via the IP address of your 2nd VM
- 12.92.209.208/28 via the interface to your 2nd VM
- 63.220.171.0/24 via the interface to your 2nd VM
- 76.232.149.128/26 via the IP address of your 2nd VM
- 28.24.69.28/31 via the interface to your 2nd VM

0.5.2 Create files `unit3/routes1add.sh` and `unit3/routes1del.sh` that contains commands that will respectively establish and delete the following routes

- 69.247.6.192/27 via the interface to your 2nd VM
- 40.181.220.192/27 via the interface to your 2nd VM
- 17.254.67.0/24 via the interface to your 2nd VM
- 94.170.40.152/30 via the IP address of your 2nd VM
- 122.194.109.176/29 via the IP address of your 2nd VM
- 64.185.116.0/25 via the interface to your 2nd VM

0.5.3 Create files `unit3/routes2add.sh` and `unit3/routes2del.sh` that contains commands that will respectively establish and delete the following routes

- 69.226.107.32/28 via the interface to your 2nd VM
- 98.59.118.32/27 via the IP address of your 2nd VM
- 70.156.104.192/26 via the interface to your 2nd VM
- 88.154.128.0/18 via the interface to your 2nd VM
- 42.127.148.30/31 via the interface to your 2nd VM
- 117.106.246.0/24 via the interface to your 2nd VM

0.5.4 Create files `unit3/routes3add.sh` and `unit3/routes3del.sh` that contains commands that will respective establish and delete the following routes

- 25.75.0.0/16 via the IP address of your 2nd VM
- 120.51.223.0/24 via the IP address of your 2nd VM
- 90.111.64.0/19 via the interface to your 2nd VM
- 58.1.160.0/20 via the interface to your 2nd VM
- 119.113.0.0/18 via the IP address of your 2nd VM
- 51.177.0.0/16 via the IP address of your 2nd VM

0.5.5 Create files `unit3/routes4add.sh` and `unit3/routes4del.sh` that contains commands that will respective establish and delete the following routes

- 114.47.21.216/29 via the interface to your 2nd VM
- 21.20.192.0/19 via the IP address of your 2nd VM
- 48.11.223.0/24 via the interface to your 2nd VM
- 121.147.73.160/27 via the interface to your 2nd VM
- 40.92.250.104/30 via the interface to your 2nd VM
- 53.5.45.0/24 via the interface to your 2nd VM