

Network Engineering 2019 Exercises - Unit 3

0.1 Netmask Calculation

What is the netmask for this network?

9.2.160.0/19

Put your answer on a single line in `unit3/answers.txt`, with 0: at the beginning of the line, e.g., 0:255.255.255.0

What is the netmask for this network?

64.0.0.0/2

Put your answer on a single line in `unit3/answers.txt`, with 1: at the beginning of the line, e.g., 1:255.255.255.0

What is the netmask for this network?

72.0.0.0/5

Put your answer on a single line in `unit3/answers.txt`, with 2: at the beginning of the line, e.g., 2:255.255.255.0

What is the netmask for this network?

71.5.80.0/20

Put your answer on a single line in `unit3/answers.txt`, with 3: at the beginning of the line, e.g., 3:255.255.255.0

What is the netmask for this network?

16.61.0.0/17

Put your answer on a single line in `unit3/answers.txt`, with 4: at the beginning of the line, e.g., 4:255.255.255.0

What is the netmask for this network?

40.0.0.0/5

Put your answer on a single line in `unit3/answers.txt`, with 5: at the beginning of the line, e.g., 5:255.255.255.0

What is the netmask for this network?

96.0.0.0/4

Put your answer on a single line in `unit3/answers.txt`, with 6: at the beginning of the line, e.g., 6:255.255.255.0

What is the netmask for this network?

58.32.149.208/28

Put your answer on a single line in `unit3/answers.txt`, with 7: at the beginning of the line, e.g., 7:255.255.255.0

What is the netmask for this network?

20.0.0.0/6

Put your answer on a single line in `unit3/answers.txt`, with 8: at the beginning of the line, e.g., 8:255.255.255.0

What is the netmask for this network?

6.56.0.0/14

Put your answer on a single line in `unit3/answers.txt`, with 9: at the beginning of the line, e.g., 9:255.255.255.0

What is the netmask for this network?

77.51.173.160/28

Put your answer on a single line in `unit3/answers.txt`, with 10: at the beginning of the line, e.g., 10:255.255.255.0

What is the netmask for this network?

0.0.0.0/1

Put your answer on a single line in `unit3/answers.txt`, with 11: at the beginning of the line, e.g., 11:255.255.255.0

What is the netmask for this network?

111.192.0.0/11

Put your answer on a single line in `unit3/answers.txt`, with 12: at the beginning of the line, e.g., 12:255.255.255.0

What is the netmask for this network?

55.96.0.0/11

Put your answer on a single line in `unit3/answers.txt`, with 13: at the beginning of the line, e.g., 13:255.255.255.0

What is the netmask for this network?

53.0.0.0/12

Put your answer on a single line in `unit3/answers.txt`, with 14: at the beginning of the line, e.g., `14:255.255.255.0`

What is the netmask for this network?

1.34.89.0/27

Put your answer on a single line in `unit3/answers.txt`, with 15: at the beginning of the line, e.g., `15:255.255.255.0`

What is the netmask for this network?

122.128.0.0/9

Put your answer on a single line in `unit3/answers.txt`, with 16: at the beginning of the line, e.g., `16:255.255.255.0`

What is the netmask for this network?

46.5.0.0/17

Put your answer on a single line in `unit3/answers.txt`, with 17: at the beginning of the line, e.g., `17:255.255.255.0`

What is the netmask for this network?

16.0.0.0/4

Put your answer on a single line in `unit3/answers.txt`, with 18: at the beginning of the line, e.g., `18:255.255.255.0`

What is the netmask for this network?

0.0.0.0/0

Put your answer on a single line in `unit3/answers.txt`, with 19: at the beginning of the line, e.g., `19:255.255.255.0`

What is the netmask for this network?

14.0.0.0/7

Put your answer on a single line in `unit3/answers.txt`, with 20: at the beginning of the line, e.g., `20:255.255.255.0`

What is the netmask for this network?

17.246.0.0/15

Put your answer on a single line in `unit3/answers.txt`, with 21: at the beginning of the line, e.g., `21:255.255.255.0`

What is the netmask for this network?

0.0.0.0/1

Put your answer on a single line in `unit3/answers.txt`, with 22: at the beginning of the line, e.g., `22:255.255.255.0`

What is the netmask for this network?

0.0.0.0/0

Put your answer on a single line in `unit3/answers.txt`, with 23: at the beginning of the line, e.g., `23:255.255.255.0`

What is the netmask for this network?

20.10.128.0/17

Put your answer on a single line in `unit3/answers.txt`, with 24: at the beginning of the line, e.g., `24:255.255.255.0`

What is the netmask for this network?

0.0.0.0/9

Put your answer on a single line in `unit3/answers.txt`, with 25: at the beginning of the line, e.g., `25:255.255.255.0`

What is the netmask for this network?

14.0.0.0/8

Put your answer on a single line in `unit3/answers.txt`, with 26: at the beginning of the line, e.g., `26:255.255.255.0`

What is the netmask for this network?

88.0.0.0/7

Put your answer on a single line in `unit3/answers.txt`, with 27: at the beginning of the line, e.g., `27:255.255.255.0`

What is the netmask for this network?

53.15.0.0/18

Put your answer on a single line in `unit3/answers.txt`, with 28: at the beginning of the line, e.g., `28:255.255.255.0`

What is the netmask for this network?

56.0.0.0/6

Put your answer on a single line in `unit3/answers.txt`, with 29: at the beginning of the line, e.g., `29:255.255.255.0`

What is the netmask for this network?

64.0.0.0/9

Put your answer on a single line in `unit3/answers.txt`, with 30: at the beginning of the line, e.g., `30:255.255.255.0`

What is the netmask for this network?

40.18.96.224/29

Put your answer on a single line in `unit3/answers.txt`, with 31: at the beginning of the line, e.g., `31:255.255.255.0`

What is the netmask for this network?

38.114.198.178/31

Put your answer on a single line in `unit3/answers.txt`, with 32: at the beginning of the line, e.g., `32:255.255.255.0`

What is the netmask for this network?

0.0.0.0/0

Put your answer on a single line in `unit3/answers.txt`, with 33: at the beginning of the line, e.g., `33:255.255.255.0`

What is the netmask for this network?

75.34.128.0/19

Put your answer on a single line in `unit3/answers.txt`, with 34: at the beginning of the line, e.g., `34:255.255.255.0`

What is the netmask for this network?

95.189.222.128/26

Put your answer on a single line in `unit3/answers.txt`, with 35: at the beginning of the line, e.g., 35:255.255.255.0

What is the netmask for this network?

16.0.0.0/6

Put your answer on a single line in `unit3/answers.txt`, with 36: at the beginning of the line, e.g., 36:255.255.255.0

What is the netmask for this network?

76.0.0.0/6

Put your answer on a single line in `unit3/answers.txt`, with 37: at the beginning of the line, e.g., 37:255.255.255.0

What is the netmask for this network?

61.206.24.0/21

Put your answer on a single line in `unit3/answers.txt`, with 38: at the beginning of the line, e.g., 38:255.255.255.0

What is the netmask for this network?

28.18.0.0/15

Put your answer on a single line in `unit3/answers.txt`, with 39: at the beginning of the line, e.g., 39:255.255.255.0

0.2 Variable Length Sub-net Masking

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

82.251.181.134 netmask 255.255.252.0

Put your answer on a single line in `unit3/answers.txt`, with 40: at the beginning of the line, e.g., 40:10.0.0.0/8

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

51.23.46.56 netmask 255.255.224.0

Put your answer on a single line in `unit3/answers.txt`, with 41: at the beginning of the line, e.g., 41:10.0.0.0/8

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

54.18.119.158 netmask 192.0.0.0

Put your answer on a single line in `unit3/answers.txt`, with 42: at the beginning of the line, e.g., `42:10.0.0.0/8`

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

96.104.6.155 netmask 255.255.192.0

Put your answer on a single line in `unit3/answers.txt`, with 43: at the beginning of the line, e.g., `43:10.0.0.0/8`

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

27.217.189.212 netmask 255.252.0.0

Put your answer on a single line in `unit3/answers.txt`, with 44: at the beginning of the line, e.g., `44:10.0.0.0/8`

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

85.48.232.184 netmask 255.255.192.0

Put your answer on a single line in `unit3/answers.txt`, with 45: at the beginning of the line, e.g., `45:10.0.0.0/8`

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

84.6.82.151 netmask 255.255.255.192

Put your answer on a single line in `unit3/answers.txt`, with 46: at the beginning of the line, e.g., `46:10.0.0.0/8`

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

22.242.50.111 netmask 255.128.0.0

Put your answer on a single line in `unit3/answers.txt`, with 47: at the beginning of the line, e.g., `47:10.0.0.0/8`

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

83.91.23.89 netmask 255.255.255.248

Put your answer on a single line in `unit3/answers.txt`, with 48: at the beginning of the line, e.g., `48:10.0.0.0/8`

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

53.114.188.201 netmask 255.255.255.248

Put your answer on a single line in `unit3/answers.txt`, with 49: at the beginning of the line, e.g., `49:10.0.0.0/8`

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

78.158.164.112 netmask 255.192.0.0

Put your answer on a single line in `unit3/answers.txt`, with 50: at the beginning of the line, e.g., `50:10.0.0.0/8`

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

121.73.4.23 netmask 255.224.0.0

Put your answer on a single line in `unit3/answers.txt`, with 51: at the beginning of the line, e.g., `51:10.0.0.0/8`

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

6.230.79.17 netmask 128.0.0.0

Put your answer on a single line in `unit3/answers.txt`, with 52: at the beginning of the line, e.g., `52:10.0.0.0/8`

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

46.61.208.17 netmask 255.255.255.0

Put your answer on a single line in `unit3/answers.txt`, with 53: at the beginning of the line, e.g., `53:10.0.0.0/8`

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

86.112.222.246 netmask 255.255.255.0

Put your answer on a single line in `unit3/answers.txt`, with 54: at the beginning of the line, e.g., 54:10.0.0.0/8

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

22.141.61.39 netmask 255.255.255.248

Put your answer on a single line in `unit3/answers.txt`, with 55: at the beginning of the line, e.g., 55:10.0.0.0/8

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

102.111.172.206 netmask 255.255.255.254

Put your answer on a single line in `unit3/answers.txt`, with 56: at the beginning of the line, e.g., 56:10.0.0.0/8

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

11.51.107.176 netmask 255.248.0.0

Put your answer on a single line in `unit3/answers.txt`, with 57: at the beginning of the line, e.g., 57:10.0.0.0/8

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

85.103.126.98 netmask 255.224.0.0

Put your answer on a single line in `unit3/answers.txt`, with 58: at the beginning of the line, e.g., 58:10.0.0.0/8

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

7.163.173.95 netmask 255.255.252.0

Put your answer on a single line in `unit3/answers.txt`, with 59: at the beginning of the line, e.g., 59:10.0.0.0/8

0.3 Configure Network Interfaces using the `ifconfig` and `ip` commands

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

5.65.114.89 netmask 255.255.255.0, PPP remote address 90.23.223.178

Put your answer on a single line in `unit3/answers.txt`, with 60: at the beginning of the line, e.g., `60: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 75.201.71.198 netmask 255.248.0.0 mtu 3621 txqueuelen 2319`

Put your answer on a single line in `unit3/answers.txt`, with 61: at the beginning of the line, e.g., `61: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 13.143.108.213 netmask 255.192.0.0 -arp`

Put your answer on a single line in `unit3/answers.txt`, with 62: at the beginning of the line, e.g., `62: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 9.159.189.42/14 dev eth0; ip link set dev eth0 down; ip link set dev eth0 arp off; ip link set dev eth0 promisc on; ip link set dev eth0 txqueuelen 3458`

Put your answer on a single line in `unit3/answers.txt`, with 63: at the beginning of the line, e.g., `63: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 97.30.250.245 netmask 255.255.240.0`

Put your answer on a single line in `unit3/answers.txt`, with 64: at the beginning of the line, e.g., `64: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 24.45.114.175/4 dev eth0`

Put your answer on a single line in `unit3/answers.txt`, with 65: at the beginning of the line, e.g., `65: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)?

`66.222.2.218 netmask 255.255.255.240, in promiscuous mode`

Put your answer on a single line in `unit3/answers.txt`, with 66: at the beginning of the line, e.g., `66: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)?

`102.13.162.116 netmask 255.255.254.0, but not running`

Put your answer on a single line in `unit3/answers.txt`, with 67: at the beginning of the line, e.g., `67: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)?

`7.180.134.212 netmask 255.255.255.0, in promiscuous mode`

Put your answer on a single line in `unit3/answers.txt`, with 68: at the beginning of the line, e.g., `68: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)?

`27.154.129.255 netmask 255.255.248.0, TX queue length = 2345`

Put your answer on a single line in `unit3/answers.txt`, with 69: at the beginning of the line, e.g., `69: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)?

35.35.159.244 netmask 0.0.0.0, without ARP

Put your answer on a single line in `unit3/answers.txt`, with 70: at the beginning of the line, e.g., `70: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 51.68.175.198/5 dev eth0; ip link set dev eth0 arp off`

Put your answer on a single line in `unit3/answers.txt`, with 71: at the beginning of the line, e.g., `71: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 19.139.115.145 netmask 255.255.0.0 mtu 1348`

Put your answer on a single line in `unit3/answers.txt`, with 72: at the beginning of the line, e.g., `72: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)?

123.50.170.169 netmask 255.0.0.0, but not running, without ARP,
TX queue length = 3212

Put your answer on a single line in `unit3/answers.txt`, with 73: at the beginning of the line, e.g., `73: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)?

29.137.196.67 netmask 255.0.0.0, PPP remote address 102.132.41.166

Put your answer on a single line in `unit3/answers.txt`, with 74: at the beginning of the line, e.g., `74: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)?

8.163.46.247 netmask 255.255.255.224, PPP remote address 19.20.131.65,
TX queue length = 691

Put your answer on a single line in `unit3/answers.txt`, with 75: at the beginning of the line, e.g., 75:`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)?

123.38.207.115 netmask 255.255.255.248, MTU = 663, but not running, in promiscuous mode

Put your answer on a single line in `unit3/answers.txt`, with 76: at the beginning of the line, e.g., 76:`ifconfig moo0 1.2.3.4 netmask 255.0.0.0 -broadcast`

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

60.34.220.162 netmask 255.255.255.0, without ARP

Put your answer on a single line in `unit3/answers.txt`, with 77: at the beginning of the line, e.g., 77:`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 126.190.26.156/4 dev eth0`

Put your answer on a single line in `unit3/answers.txt`, with 78: at the beginning of the line, e.g., 78:`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 106.39.152.43 netmask 255.255.255.224 down`

Put your answer on a single line in `unit3/answers.txt`, with 79: at the beginning of the line, e.g., 79:`ip blah blah; ip again with other options; ip again with yet other options`

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 `ruins0`, that specifies an MTU of 1678 and MAC address 81:40:36:AB:7F:F4.
- A template called `moths1`, that specifies an MTU of 3232 and MAC address DD:1C:C0:01:AA:E5.
- A template called `moths2`, that specifies an MTU of 1022 and MAC address 58:E2:95:83:1D:EB.
- An interface named `jam0`, with IPv4 address 93.46.203.182 and netmask 255.252.0.0.
- An interface named `ftdi1`, with IPv4 address 30.109.19.160 and netmask 255.255.0.0.
- An interface named `jam2`, with IPv4 settings configured by DHCP, and inherits the template `ruins0`.

0.4.2 Prepare `unit3/iface1-solution.txt`

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

- A template called `moths0`, that specifies an MTU of 1216 and MAC address 63:E2:D9:CA:44:31.
- A template called `wealth1`, that specifies an MTU of 3205 and MAC address B4:CA:C4:D6:80:92.
- A template called `castle2`, that specifies an MTU of 8119 and MAC address 6F:1A:83:C9:3C:14.
- An interface named `ftdi0`, with IPv4 settings configured by DHCP, and inherits the template `castle2`.
- An interface named `jam1`, with IPv4 address 10.124.186.91 and netmask 255.224.0.0.
- An interface named `wlan2`, with IPv4 address 63.254.48.109 and netmask 128.0.0.0.

0.4.3 Prepare unit3/iface2-solution.txt

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

- A template called `moths0`, that specifies an MTU of 3391 and MAC address `E0:63:B1:5A:96:20`.
- A template called `wealth1`, that specifies an MTU of 5898 and MAC address `EA:B0:2E:44:B9:51`.
- A template called `castle2`, that specifies an MTU of 4785 and MAC address `A8:62:38:F3:05:76`.
- An interface named `eth0`, with IPv4 settings configured by DHCP.
- An interface named `wlan1`, with IPv4 settings configured by DHCP, and inherits the template `moths0`.
- An interface named `jam2`, with IPv4 settings configured by DHCP, and inherits the template `castle2`.
- An interface named `wlan3`, with IPv4 settings configured by DHCP, and inherits the template `castle2`.
- An interface named `ftdi4`, with IPv4 address `102.244.41.107` and netmask `255.224.0.0`, and inherits the template `castle2`.
- An interface named `ftdi5`, with IPv4 address `22.42.158.25` and netmask `255.255.252.0`, and inherits the template `moths0`.
- An interface named `wlan6`, with IPv4 settings configured by DHCP, and inherits the template `wealth1`.

0.4.4 Prepare unit3/iface3-solution.txt

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

- A template called `moths0`, that specifies an MTU of 6882 and MAC address `39:C3:29:66:98:DB`.
- A template called `moths1`, that specifies an MTU of 5042 and MAC address `DE:6B:91:89:61:35`.
- A template called `wealth2`, that specifies an MTU of 8832 and MAC address `4E:DF:CA:5F:02:C4`.
- A template called `castle3`, that specifies an MTU of 275 and MAC address `2E:96:8A:6A:8D:29`.

- An interface named `ftdi0`, with IPv4 address 113.152.126.198 and netmask 255.240.0.0, and inherits the template `moths1`.
- An interface named `jam1`, with IPv4 address 28.30.116.4 and netmask 255.224.0.0, and inherits the template `moths0`.
- An interface named `wlan2`, with IPv4 address 67.214.172.208 and netmask 255.255.192.0.

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 500 and MAC address 86:BC:E2:21:EA:79.
- A template called `moths1`, that specifies an MTU of 2516 and MAC address 06:D4:65:CC:C0:9F.
- An interface named `ftdi0`, with IPv4 address 20.122.47.69 and netmask 255.255.240.0, and inherits the template `moths1`.
- An interface named `ftdi1`, with IPv4 settings configured by DHCP.
- An interface named `eth2`, with IPv4 settings configured by DHCP.

0.5 Create and delete routes

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

- 65.243.227.208/30 via the IP address of your 2nd VM
- 97.93.105.220/30 via the IP address of your 2nd VM
- 70.22.128.0/18 via the interface to your 2nd VM
- 28.104.128.0/19 via the IP address of your 2nd VM
- 69.83.145.0/24 via the IP address of your 2nd VM
- 26.40.32.0/19 via the IP address of your 2nd VM

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

- 33.189.0.0/17 via the IP address of your 2nd VM
- 41.153.148.160/28 via the interface to your 2nd VM
- 69.33.228.244/31 via the interface to your 2nd VM
- 66.136.213.64/26 via the interface to your 2nd VM
- 35.230.63.0/25 via the IP address of your 2nd VM
- 75.185.6.0/23 via the IP address of your 2nd VM

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

- 123.241.156.0/22 via the IP address of your 2nd VM
- 18.227.253.172/30 via the IP address of your 2nd VM
- 106.30.224.0/19 via the interface to your 2nd VM
- 85.186.128.160/27 via the interface to your 2nd VM
- 77.60.0.0/19 via the IP address of your 2nd VM
- 94.184.64.0/23 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

- 108.178.215.128/26 via the IP address of your 2nd VM
- 52.99.0.0/16 via the IP address of your 2nd VM
- 22.49.189.84/30 via the interface to your 2nd VM
- 115.103.97.204/30 via the interface to your 2nd VM
- 73.33.226.128/25 via the interface to your 2nd VM
- 85.38.41.0/24 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

- 96.7.236.192/26 via the IP address of your 2nd VM
- 83.142.251.144/29 via the IP address of your 2nd VM
- 111.250.0.0/16 via the IP address of your 2nd VM
- 70.87.224.0/19 via the IP address of your 2nd VM
- 116.251.160.0/20 via the IP address of your 2nd VM
- 85.54.0.0/16 via the IP address of your 2nd VM