

Network Engineering 2019 Exercises - Unit 3

0.1 Netmask Calculation

What is the netmask for this network?

0.0.0.0/1

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?

30.249.16.80/30

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?

48.0.0.0/4

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?

109.128.0.0/10

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?

0.0.0.0/0

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?

4.8.0.0/16

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?

10.167.210.0/23

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?

116.0.0.0/6

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?

74.98.156.0/22

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?

40.0.0.0/7

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?

0.0.0.0/4

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?

64.0.0.0/2

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?

46.0.0.0/8

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?

0.0.0.0/2

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?

109.172.130.232/29

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?

32.0.0.0/3

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?

0.0.0.0/0

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?

0.0.0.0/5

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?

48.0.0.0/6

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?

0.0.0.0/1

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?

118.48.0.0/12

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?

92.0.0.0/6

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?

13.0.0.0/10

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?

70.34.0.0/16

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?

76.128.0.0/11

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?

26.216.0.0/13

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?

72.0.0.0/6

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?

11.193.64.0/18

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?

79.0.0.0/8

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?

23.36.64.192/26

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?

0.0.0.0/1

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?

0.0.0.0/4

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?

12.126.144.64/31

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?

104.0.0.0/5

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?

2.220.188.0/24

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?

103.144.0.0/12

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?

102.96.232.0/24

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?

120.0.0.0/7

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?

28.205.209.192/30

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?

64.0.0.0/3

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?

47.233.192.138 netmask 255.254.0.0

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?

67.191.114.80 netmask 255.255.255.128

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?

100.84.60.149 netmask 0.0.0.0

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?

114.221.124.11 netmask 240.0.0.0

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?

106.231.226.200 netmask 255.255.255.254

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?

112.32.230.222 netmask 255.252.0.0

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?

76.86.157.65 netmask 255.255.255.240

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?

6.0.101.178 netmask 192.0.0.0

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?

10.247.12.28 netmask 255.255.255.224

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?

22.164.62.232 netmask 192.0.0.0

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?

25.46.7.83 netmask 255.252.0.0

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?

6.234.70.238 netmask 255.255.255.0

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?

69.8.153.230 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?

114.245.83.31 netmask 255.128.0.0

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?

64.253.104.63 netmask 255.255.254.0

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?

75.58.168.76 netmask 255.128.0.0

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?

35.107.111.7 netmask 255.255.255.240

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?

106.227.30.3 netmask 255.255.255.240

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?

94.122.205.28 netmask 255.252.0.0

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?

59.35.251.224 netmask 248.0.0.0

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)?

103.194.86.238 netmask 255.255.255.254

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

35.146.96.153 netmask 255.255.255.128, PPP remote address 69.238.213.168

Put your answer on a single line in `unit3/answers.txt`, with 61: at the beginning of the line, e.g., `61: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 75.38.198.2 netmask 224.0.0.0 down txqueuelen 3159`

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

74.186.108.161 netmask 255.255.128.0, but not running

Put your answer on a single line in `unit3/answers.txt`, with 63: at the beginning of the line, e.g., `63: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 101.201.164.121/11 dev eth0; ip link set dev eth0
promisc on`

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

`ifconfig eth0 40.120.236.131 netmask 255.255.255.128`

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

`88.131.200.53 netmask 255.255.255.128`

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

`105.168.221.34 netmask 255.128.0.0`

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)?

`74.16.141.135 netmask 255.0.0.0, without ARP`

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

`ip address add 82.32.247.115/1 dev eth0; ip link set dev eth0 arp off`

Put your answer on a single line in `unit3/answers.txt`, with 69: at the beginning of the line, e.g., `69: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 42.4.216.3 netmask 255.255.240.0
```

Put your answer on a single line in `unit3/answers.txt`, with 70: at the beginning of the line, e.g., 70: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)?

```
15.19.45.170 netmask 255.255.255.252
```

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 19.194.245.19 netmask 248.0.0.0 down
```

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)?

```
7.197.77.91 netmask 255.255.255.128, MTU = 3218, but not running,  
without ARP
```

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)?

```
48.147.219.108 netmask 255.255.255.0, TX queue length = 2593
```

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

```
ifconfig eth0 40.240.73.76 netmask 255.252.0.0 down -arp txqueuelen
1303
```

Put your answer on a single line in `unit3/answers.txt`, with 75: at the beginning of the line, e.g., `75: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 19.131.49.62 netmask 255.255.255.252 down txqueuelen
3350
```

Put your answer on a single line in `unit3/answers.txt`, with 76: at the beginning of the line, e.g., `76: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 6.39.75.24 netmask 255.252.0.0
```

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

```
5.76.28.199 netmask 255.255.254.0
```

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

```
50.126.22.169 netmask 255.255.252.0, but not running, TX queue
length = 2425
```

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 `wealth0`, that specifies an MTU of 4339 and MAC address `75:56:C9:37:3B:AB`.
- A template called `ruins1`, that specifies an MTU of 3382 and MAC address `89:98:92:B3:8D:D5`.
- An interface named `ftdi0`, with IPv4 settings configured by DHCP.
- An interface named `ftdi1`, with IPv4 settings configured by DHCP.
- An interface named `jam2`, with IPv4 settings configured by DHCP.
- An interface named `ftdi3`, with IPv4 address `47.113.149.98` and netmask `255.255.224.0`, and inherits the template `wealth0`.
- An interface named `eth4`, with IPv4 address `100.124.131.214` and netmask `255.255.255.240`, and inherits the template `wealth0`.
- An interface named `jam5`, with IPv4 settings configured by DHCP, and inherits the template `ruins1`.
- An interface named `wlan6`, with IPv4 address `119.181.74.178` and netmask `255.255.192.0`.

0.4.2 Prepare `unit3/iface1-solution.txt`

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

- A template called `ruins0`, that specifies an MTU of 7504 and MAC address `81:81:DF:80:15:41`.
- A template called `moths1`, that specifies an MTU of 8588 and MAC address `6C:9E:26:43:1B:06`.
- A template called `castle2`, that specifies an MTU of 6932 and MAC address `79:B5:D2:C0:F5:58`.
- A template called `wealth3`, that specifies an MTU of 7224 and MAC address `6A:3D:37:F0:1D:AC`.
- A template called `wealth4`, that specifies an MTU of 8442 and MAC address `2E:8B:1E:43:CC:12`.

- An interface named wlan0, with IPv4 address 10.109.44.56 and netmask 255.255.0.0, and inherits the template moths1.
- An interface named wlan1, with IPv4 address 19.21.15.30 and netmask 255.255.255.224.
- An interface named ftdi2, with IPv4 address 35.61.170.169 and netmask 255.0.0.0.

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 8699 and MAC address 80:14:54:2C:B2:82.
- A template called moths1, that specifies an MTU of 2013 and MAC address C5:83:E3:09:BB:93.
- An interface named ftdi0, with IPv4 address 24.182.143.55 and netmask 255.255.255.254.
- An interface named eth1, with IPv4 address 77.97.40.203 and netmask 255.0.0.0.
- An interface named wlan2, with IPv4 settings configured by DHCP, and inherits the template moths0.

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 8376 and MAC address 8A:EC:DE:41:BD:A4.
- A template called wealth1, that specifies an MTU of 516 and MAC address AD:80:33:1F:B7:92.
- A template called castle2, that specifies an MTU of 4744 and MAC address ED:CD:34:15:42:24.
- A template called wealth3, that specifies an MTU of 3205 and MAC address 85:42:96:8E:A1:D0.
- An interface named wlan0, with IPv4 address 119.214.121.43 and netmask 255.255.255.240, and inherits the template wealth1.
- An interface named ftdi1, with IPv4 address 99.112.127.49 and netmask 255.255.255.128.
- An interface named jam2, with IPv4 address 115.69.174.57 and netmask 255.0.0.0.

0.4.5 Prepare unit3/iface4-solution.txt

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

- A template called `ruins0`, that specifies an MTU of 2908 and MAC address `E1:4B:CD:45:BC:52`.
- A template called `wealth1`, that specifies an MTU of 5219 and MAC address `E0:29:23:CB:54:DF`.
- An interface named `wlan0`, with IPv4 address `76.186.32.193` and netmask `255.255.255.0`, and inherits the template `wealth1`.
- An interface named `eth1`, with IPv4 address `13.192.48.164` and netmask `255.255.255.248`.
- An interface named `eth2`, with IPv4 address `114.37.81.144` and netmask `128.0.0.0`.
- An interface named `jam3`, with IPv4 address `102.147.185.74` and netmask `240.0.0.0`, and inherits the template `wealth1`.
- An interface named `ftdi4`, with IPv4 settings configured by DHCP, and inherits the template `wealth1`.
- An interface named `wlan5`, with IPv4 settings configured by DHCP.
- An interface named `jam6`, with IPv4 address `34.128.91.138` and netmask `255.128.0.0`.

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

- `48.67.230.0/25` via the IP address of your 2nd VM
- `53.60.10.128/27` via the interface to your 2nd VM
- `23.83.128.0/18` via the interface to your 2nd VM
- `32.65.160.0/19` via the IP address of your 2nd VM
- `54.197.154.0/23` via the IP address of your 2nd VM
- `106.117.8.0/22` via the interface to 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

- 43.228.128.0/18 via the IP address of your 2nd VM
- 33.124.159.0/24 via the interface to your 2nd VM
- 86.184.160.0/19 via the interface to your 2nd VM
- 40.209.33.8/30 via the IP address of your 2nd VM
- 63.219.192.0/23 via the IP address of your 2nd VM
- 48.78.176.0/21 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

- 66.107.120.0/21 via the interface to your 2nd VM
- 32.190.0.0/16 via the IP address of your 2nd VM
- 114.56.200.12/30 via the IP address of your 2nd VM
- 75.25.64.0/19 via the interface to your 2nd VM
- 92.132.250.128/25 via the IP address of your 2nd VM
- 88.18.109.76/31 via the IP address of 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

- 69.94.0.0/18 via the interface to your 2nd VM
- 55.150.128.0/17 via the IP address of your 2nd VM
- 51.150.27.64/26 via the IP address of your 2nd VM
- 24.198.130.0/24 via the interface to your 2nd VM
- 22.254.32.0/20 via the IP address of your 2nd VM
- 50.183.247.0/24 via the interface to 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

- 88.182.0.0/16 via the interface to your 2nd VM
- 122.72.125.0/25 via the interface to your 2nd VM
- 29.105.160.0/20 via the interface to your 2nd VM
- 94.187.0.0/16 via the IP address of your 2nd VM
- 22.109.137.204/30 via the IP address of your 2nd VM
- 117.135.44.0/24 via the IP address of your 2nd VM