

Network Engineering 2019 Exercises - Unit 3

0.1 Netmask Calculation

What is the netmask for this network?

82.127.224.0/20

Put your answer on a single line in `unit3/answers.txt`, with 2000: at the beginning of the line, e.g., `2000:255.255.255.0`

What is the netmask for this network?

99.79.70.212/30

Put your answer on a single line in `unit3/answers.txt`, with 2001: at the beginning of the line, e.g., `2001:255.255.255.0`

What is the netmask for this network?

0.0.0.0/2

Put your answer on a single line in `unit3/answers.txt`, with 2002: at the beginning of the line, e.g., `2002:255.255.255.0`

What is the netmask for this network?

64.92.0.0/14

Put your answer on a single line in `unit3/answers.txt`, with 2003: at the beginning of the line, e.g., `2003:255.255.255.0`

What is the netmask for this network?

0.0.0.0/5

Put your answer on a single line in `unit3/answers.txt`, with 2004: at the beginning of the line, e.g., `2004:255.255.255.0`

What is the netmask for this network?

8.99.204.202/0

Put your answer on a single line in `unit3/answers.txt`, with 2005: at the beginning of the line, e.g., `2005:255.255.255.0`

What is the netmask for this network?

55.0.176.0/20

Put your answer on a single line in `unit3/answers.txt`, with 2006: at the beginning of the line, e.g., `2006:255.255.255.0`

What is the netmask for this network?

120.7.186.100/31

Put your answer on a single line in `unit3/answers.txt`, with 2007: at the beginning of the line, e.g., 2007:255.255.255.0

What is the netmask for this network?

92.0.0.0/6

Put your answer on a single line in `unit3/answers.txt`, with 2008: at the beginning of the line, e.g., 2008:255.255.255.0

What is the netmask for this network?

45.46.0.0/17

Put your answer on a single line in `unit3/answers.txt`, with 2009: at the beginning of the line, e.g., 2009:255.255.255.0

What is the netmask for this network?

60.0.0.0/7

Put your answer on a single line in `unit3/answers.txt`, with 2010: at the beginning of the line, e.g., 2010:255.255.255.0

What is the netmask for this network?

11.16.43.192/30

Put your answer on a single line in `unit3/answers.txt`, with 2011: at the beginning of the line, e.g., 2011:255.255.255.0

What is the netmask for this network?

118.98.0.0/15

Put your answer on a single line in `unit3/answers.txt`, with 2012: at the beginning of the line, e.g., 2012:255.255.255.0

What is the netmask for this network?

81.8.0.0/13

Put your answer on a single line in `unit3/answers.txt`, with 2013: at the beginning of the line, e.g., 2013:255.255.255.0

What is the netmask for this network?

21.142.136.224/30

Put your answer on a single line in `unit3/answers.txt`, with 2014: at the beginning of the line, e.g., 2014:255.255.255.0

What is the netmask for this network?

31.80.0.0/12

Put your answer on a single line in `unit3/answers.txt`, with 2015: at the beginning of the line, e.g., 2015:255.255.255.0

What is the netmask for this network?

97.127.49.176/30

Put your answer on a single line in `unit3/answers.txt`, with 2016: at the beginning of the line, e.g., 2016:255.255.255.0

What is the netmask for this network?

21.51.42.10/31

Put your answer on a single line in `unit3/answers.txt`, with 2017: at the beginning of the line, e.g., 2017:255.255.255.0

What is the netmask for this network?

104.0.0.0/5

Put your answer on a single line in `unit3/answers.txt`, with 2018: at the beginning of the line, e.g., 2018:255.255.255.0

What is the netmask for this network?

0.0.0.0/2

Put your answer on a single line in `unit3/answers.txt`, with 2019: at the beginning of the line, e.g., 2019:255.255.255.0

What is the netmask for this network?

103.176.124.0/24

Put your answer on a single line in `unit3/answers.txt`, with 2020: at the beginning of the line, e.g., 2020:255.255.255.0

What is the netmask for this network?

72.0.0.0/5

Put your answer on a single line in `unit3/answers.txt`, with 2021: at the beginning of the line, e.g., `2021:255.255.255.0`

What is the netmask for this network?

62.0.0.0/7

Put your answer on a single line in `unit3/answers.txt`, with 2022: at the beginning of the line, e.g., `2022:255.255.255.0`

What is the netmask for this network?

79.223.108.0/23

Put your answer on a single line in `unit3/answers.txt`, with 2023: at the beginning of the line, e.g., `2023:255.255.255.0`

What is the netmask for this network?

52.125.128.0/17

Put your answer on a single line in `unit3/answers.txt`, with 2024: at the beginning of the line, e.g., `2024:255.255.255.0`

What is the netmask for this network?

112.118.141.72/29

Put your answer on a single line in `unit3/answers.txt`, with 2025: at the beginning of the line, e.g., `2025:255.255.255.0`

What is the netmask for this network?

108.192.0.0/10

Put your answer on a single line in `unit3/answers.txt`, with 2026: at the beginning of the line, e.g., `2026:255.255.255.0`

What is the netmask for this network?

59.23.112.0/20

Put your answer on a single line in `unit3/answers.txt`, with 2027: at the beginning of the line, e.g., `2027:255.255.255.0`

What is the netmask for this network?

31.0.0.0/8

Put your answer on a single line in `unit3/answers.txt`, with 2028: at the beginning of the line, e.g., `2028:255.255.255.0`

What is the netmask for this network?

7.133.230.128/25

Put your answer on a single line in `unit3/answers.txt`, with 2029: at the beginning of the line, e.g., `2029:255.255.255.0`

What is the netmask for this network?

66.64.0.0/10

Put your answer on a single line in `unit3/answers.txt`, with 2030: at the beginning of the line, e.g., `2030:255.255.255.0`

What is the netmask for this network?

29.49.31.0/26

Put your answer on a single line in `unit3/answers.txt`, with 2031: at the beginning of the line, e.g., `2031:255.255.255.0`

What is the netmask for this network?

41.137.0.0/16

Put your answer on a single line in `unit3/answers.txt`, with 2032: at the beginning of the line, e.g., `2032:255.255.255.0`

What is the netmask for this network?

6.0.0.0/9

Put your answer on a single line in `unit3/answers.txt`, with 2033: at the beginning of the line, e.g., `2033:255.255.255.0`

What is the netmask for this network?

4.0.0.0/6

Put your answer on a single line in `unit3/answers.txt`, with 2034: at the beginning of the line, e.g., `2034:255.255.255.0`

What is the netmask for this network?

11.154.250.202/31

Put your answer on a single line in `unit3/answers.txt`, with 2035: at the beginning of the line, e.g., 2035:255.255.255.0

What is the netmask for this network?

31.152.0.0/14

Put your answer on a single line in `unit3/answers.txt`, with 2036: at the beginning of the line, e.g., 2036:255.255.255.0

What is the netmask for this network?

14.64.0.0/11

Put your answer on a single line in `unit3/answers.txt`, with 2037: at the beginning of the line, e.g., 2037:255.255.255.0

What is the netmask for this network?

31.0.0.0/8

Put your answer on a single line in `unit3/answers.txt`, with 2038: at the beginning of the line, e.g., 2038:255.255.255.0

What is the netmask for this network?

96.0.0.0/3

Put your answer on a single line in `unit3/answers.txt`, with 2039: at the beginning of the line, e.g., 2039:255.255.255.0

0.2 Variable Length Sub-net Masking

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

91.67.11.122 netmask 255.192.0.0

Put your answer on a single line in `unit3/answers.txt`, with 2040: at the beginning of the line, e.g., 2040:10.0.0.0/8

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

69.182.252.224 netmask 255.255.224.0

Put your answer on a single line in `unit3/answers.txt`, with 2041: at the beginning of the line, e.g., 2041:10.0.0.0/8

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

100.166.27.180 netmask 255.255.255.224

Put your answer on a single line in `unit3/answers.txt`, with 2042: at the beginning of the line, e.g., 2042:10.0.0.0/8

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

43.56.255.199 netmask 255.248.0.0

Put your answer on a single line in `unit3/answers.txt`, with 2043: at the beginning of the line, e.g., 2043:10.0.0.0/8

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

12.239.115.132 netmask 255.128.0.0

Put your answer on a single line in `unit3/answers.txt`, with 2044: at the beginning of the line, e.g., 2044:10.0.0.0/8

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

57.92.225.71 netmask 255.224.0.0

Put your answer on a single line in `unit3/answers.txt`, with 2045: at the beginning of the line, e.g., 2045:10.0.0.0/8

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

89.158.231.51 netmask 255.248.0.0

Put your answer on a single line in `unit3/answers.txt`, with 2046: at the beginning of the line, e.g., 2046:10.0.0.0/8

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

115.28.207.133 netmask 255.255.255.240

Put your answer on a single line in `unit3/answers.txt`, with 2047: at the beginning of the line, e.g., 2047:10.0.0.0/8

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

8.242.73.93 netmask 255.255.255.252

Put your answer on a single line in `unit3/answers.txt`, with 2048: at the beginning of the line, e.g., 2048:10.0.0.0/8

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

26.36.85.165 netmask 255.255.224.0

Put your answer on a single line in `unit3/answers.txt`, with 2049: at the beginning of the line, e.g., 2049:10.0.0.0/8

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

7.188.1.4 netmask 255.255.0.0

Put your answer on a single line in `unit3/answers.txt`, with 2050: at the beginning of the line, e.g., 2050:10.0.0.0/8

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

0.138.215.178 netmask 224.0.0.0

Put your answer on a single line in `unit3/answers.txt`, with 2051: at the beginning of the line, e.g., 2051:10.0.0.0/8

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

127.85.102.31 netmask 255.255.254.0

Put your answer on a single line in `unit3/answers.txt`, with 2052: at the beginning of the line, e.g., 2052:10.0.0.0/8

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

5.121.5.174 netmask 255.255.240.0

Put your answer on a single line in `unit3/answers.txt`, with 2053: at the beginning of the line, e.g., 2053:10.0.0.0/8

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

109.21.172.191 netmask 255.255.0.0

Put your answer on a single line in `unit3/answers.txt`, with 2054: at the beginning of the line, e.g., 2054:10.0.0.0/8

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

115.4.197.87 netmask 255.255.255.128

Put your answer on a single line in `unit3/answers.txt`, with 2055: at the beginning of the line, e.g., 2055:10.0.0.0/8

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

103.65.61.186 netmask 255.255.254.0

Put your answer on a single line in `unit3/answers.txt`, with 2056: at the beginning of the line, e.g., 2056:10.0.0.0/8

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

16.101.73.236 netmask 255.252.0.0

Put your answer on a single line in `unit3/answers.txt`, with 2057: at the beginning of the line, e.g., 2057:10.0.0.0/8

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

57.138.56.243 netmask 255.255.240.0

Put your answer on a single line in `unit3/answers.txt`, with 2058: at the beginning of the line, e.g., 2058:10.0.0.0/8

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

80.33.147.123 netmask 255.255.254.0

Put your answer on a single line in `unit3/answers.txt`, with 2059: at the beginning of the line, e.g., 2059:10.0.0.0/8

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)?

110.93.48.61 netmask 64.0.0.0/2, PPP remote address 96.12.117.15,
but not running

Put your answer on a single line in unit3/answers.txt, with 2060: at the beginning of the line, e.g., 2060: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)?

9.183.246.105 netmask 0.0.0.0/2

Put your answer on a single line in unit3/answers.txt, with 2061: at the beginning of the line, e.g., 2061: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 52.170.164.74/13 dev eth0; ip link set eth0 down

Put your answer on a single line in unit3/answers.txt, with 2062: at the beginning of the line, e.g., 2062: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)?

55.244.206.238 netmask 55.244.0.0/14, MTU = 1508, PPP remote
address 65.27.180.48, TX queue length = 2498

Put your answer on a single line in unit3/answers.txt, with 2063: at the beginning of the line, e.g., 2063: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 127.97.79.230 netmask 255.255.0.0

Put your answer on a single line in unit3/answers.txt, with 2064: at the beginning of the line, e.g., 2064: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)?

27.164.128.247 netmask 27.164.128.0/20, MTU = 1904, PPP remote address 12.109.0.227, but not running, in promiscuous mode

Put your answer on a single line in `unit3/answers.txt`, with 2065: at the beginning of the line, e.g., 2065:`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 24.203.177.13 netmask 255.254.0.0 -arp`

Put your answer on a single line in `unit3/answers.txt`, with 2066: at the beginning of the line, e.g., 2066:`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)?

73.45.105.7 netmask 73.0.0.0/9, without ARP, TX queue length = 3039

Put your answer on a single line in `unit3/answers.txt`, with 2067: at the beginning of the line, e.g., 2067:`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 11.213.71.96/31 dev eth0; ip link set eth0 down; ip link set dev eth0 txqueuelen 1012`

Put your answer on a single line in `unit3/answers.txt`, with 2068: at the beginning of the line, e.g., 2068:`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 38.120.136.134/6 dev eth0; ip link set dev eth0 mtu 1897; ip link set dev eth0 arp off`

Put your answer on a single line in `unit3/answers.txt`, with 2069: at the beginning of the line, e.g., 2069:`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)?

62.44.71.84 netmask 0.0.0.0/2, MTU = 2139, PPP remote address
53.162.196.163, but not running, without ARP

Put your answer on a single line in `unit3/answers.txt`, with 2070: at the beginning of the line, e.g., `2070: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)?

47.7.30.54 netmask 47.6.0.0/15, MTU = 3234

Put your answer on a single line in `unit3/answers.txt`, with 2071: at the beginning of the line, e.g., `2071: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)?

21.215.227.175 netmask 21.208.0.0/13

Put your answer on a single line in `unit3/answers.txt`, with 2072: at the beginning of the line, e.g., `2072: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)?

84.74.174.18 netmask 84.64.0.0/11, but not running, TX queue length
= 1689

Put your answer on a single line in `unit3/answers.txt`, with 2073: at the beginning of the line, e.g., `2073: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 119.221.158.165/17 dev eth0`

Put your answer on a single line in `unit3/answers.txt`, with 2074: at the beginning of the line, e.g., `2074: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 2.47.58.39 netmask 248.0.0.0 mtu 4074
```

Put your answer on a single line in `unit3/answers.txt`, with 2075: at the beginning of the line, e.g., 2075: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)?

```
127.202.50.10 netmask 96.0.0.0/3, MTU = 842, PPP remote address  
7.209.80.142
```

Put your answer on a single line in `unit3/answers.txt`, with 2076: at the beginning of the line, e.g., 2076: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)?

```
15.86.239.155 netmask 14.0.0.0/7, PPP remote address 81.75.3.224,  
without ARP
```

Put your answer on a single line in `unit3/answers.txt`, with 2077: at the beginning of the line, e.g., 2077: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 77.158.26.142/12 dev eth0; ip link set dev eth0 arp  
off
```

Put your answer on a single line in `unit3/answers.txt`, with 2078: at the beginning of the line, e.g., 2078: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)?

```
61.205.64.14 netmask 60.0.0.0/6, but not running, in promiscuous  
mode
```

Put your answer on a single line in `unit3/answers.txt`, with 2079: at the beginning of the line, e.g., 2079: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 `castle0`, that specifies an MTU of 1424 and MAC address `D6:37:11:B6:9A:5F`.
- A template called `castle1`, that specifies an MTU of 5888 and MAC address `D5:D3:A2:21:B7:98`.
- A template called `wealth2`, that specifies an MTU of 2287 and MAC address `83:C2:CA:91:E8:CF`.
- A template called `moths3`, that specifies an MTU of 7024 and MAC address `5E:0F:A3:E3:FE:19`.
- An interface named `wlan0`, with IPv4 settings configured by DHCP.
- An interface named `ftdi1`, with IPv4 address `71.21.253.116` and netmask `255.248.0.0`.
- An interface named `jam2`, with IPv4 address `42.14.4.161` and netmask `255.192.0.0`, and inherits the template `moths3`.
- An interface named `wlan3`, with IPv4 address `80.123.242.188` and netmask `255.255.255.248`, and inherits the template `castle1`.
- An interface named `jam4`, with IPv4 settings configured by DHCP.
- An interface named `wlan5`, with IPv4 address `122.202.132.207` and netmask `255.255.192.0`.
- An interface named `eth6`, with IPv4 settings configured by DHCP.

0.4.2 Prepare `unit3/iface1-solution.txt`

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

- A template called `castle0`, that specifies an MTU of 7506 and MAC address `BE:77:10:F5:B0:AB`.
- A template called `wealth1`, that specifies an MTU of 6500 and MAC address `08:A6:B9:4D:33:DE`.
- A template called `castle2`, that specifies an MTU of 7010 and MAC address `12:B2:ED:44:4F:C0`.

- An interface named `ftdi0`, with IPv4 address 56.2.65.61 and netmask 255.0.0.0, and inherits the template `castle2`.
- An interface named `ftdi1`, with IPv4 address 29.218.73.235 and netmask 255.224.0.0, and inherits the template `wealth1`.
- An interface named `eth2`, with IPv4 settings configured by DHCP and inherits the template `wealth1`.

0.4.3 Prepare `unit3/iface2-solution.txt`

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

- A template called `ruins0`, that specifies an MTU of 2889 and MAC address 17:EB:AB:29:9E:99.
- A template called `ruins1`, that specifies an MTU of 5069 and MAC address 59:B7:2A:02:92:3F.
- A template called `moths2`, that specifies an MTU of 5170 and MAC address 2B:B2:80:8E:6D:4B.
- An interface named `wlan0`, with IPv4 settings configured by DHCP and inherits the template `ruins1`.
- An interface named `ftdi1`, with IPv4 settings configured by DHCP.
- An interface named `jam2`, with IPv4 address 28.168.79.156 and netmask 255.192.0.0.

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 4558 and MAC address 86:53:E2:8D:FD:0D.
- A template called `moths1`, that specifies an MTU of 6113 and MAC address 9B:AD:C8:3C:81:C8.
- An interface named `wlan0`, with IPv4 settings configured by DHCP.
- An interface named `ftdi1`, with IPv4 address 6.242.75.43 and netmask 255.255.224.0, and inherits the template `moths1`.
- An interface named `wlan2`, with IPv4 settings configured by DHCP.
- An interface named `ftdi3`, with IPv4 address 18.99.83.208 and netmask 248.0.0.0.

- An interface named jam4, with IPv4 settings configured by DHCP.
- An interface named jam5, with IPv4 address 91.245.80.39 and netmask 255.255.255.252.
- An interface named wlan6, with IPv4 address 115.205.115.145 and netmask 255.255.128.0, and inherits the template moths1.

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 4956 and MAC address 48:78:F9:FD:C1:8B.
- A template called ruins1, that specifies an MTU of 1173 and MAC address 70:8F:EF:52:D6:8C.
- A template called ruins2, that specifies an MTU of 936 and MAC address D6:D9:D7:A1:C8:53.
- A template called castle3, that specifies an MTU of 1561 and MAC address 89:8A:F2:EA:94:A5.
- An interface named eth0, with IPv4 settings configured by DHCP and inherits the template castle3.
- An interface named eth1, with IPv4 address 38.3.241.47 and netmask 255.255.0.0, and inherits the template ruins2.
- An interface named eth2, with IPv4 settings configured by DHCP and inherits the template ruins1.

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

- 18.198.181.0/24 via the IP address of your 2nd VM
- 112.7.109.0/25 via the IP address of your 2nd VM
- 37.34.37.180/31 via the interface to your 2nd VM
- 31.34.66.144/28 via the interface to your 2nd VM
- 69.23.78.96/27 via the IP address of your 2nd VM
- 101.60.157.128/25 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

- 103.27.0.0/16 via the interface to your 2nd VM
- 97.95.8.0/21 via the IP address of your 2nd VM
- 114.191.128.0/17 via the IP address of your 2nd VM
- 122.57.0.0/16 via the IP address of your 2nd VM
- 104.192.247.206/31 via the interface to your 2nd VM
- 38.72.24.0/25 via the interface to your 2nd VM

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

- 11.132.128.0/18 via the IP address of your 2nd VM
- 45.216.140.34/31 via the interface to your 2nd VM
- 79.121.239.128/25 via the IP address of your 2nd VM
- 76.10.176.0/20 via the interface to your 2nd VM
- 57.168.82.0/23 via the interface to your 2nd VM
- 34.105.72.0/23 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

- 72.177.0.0/16 via the interface to your 2nd VM
- 86.106.210.0/24 via the interface to your 2nd VM
- 93.118.30.0/23 via the IP address of your 2nd VM
- 14.197.240.0/21 via the IP address of your 2nd VM
- 56.93.138.0/24 via the IP address of your 2nd VM
- 18.230.182.128/25 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

- 122.246.64.0/21 via the IP address of your 2nd VM
- 105.68.25.0/25 via the IP address of your 2nd VM
- 52.11.4.208/31 via the IP address of your 2nd VM
- 79.35.48.0/20 via the interface to your 2nd VM
- 58.114.128.0/17 via the interface to your 2nd VM
- 78.55.58.160/27 via the IP address of your 2nd VM