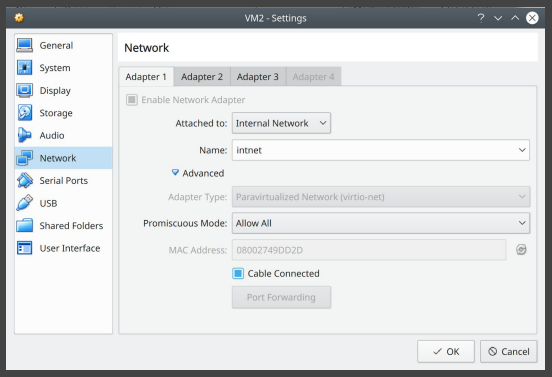
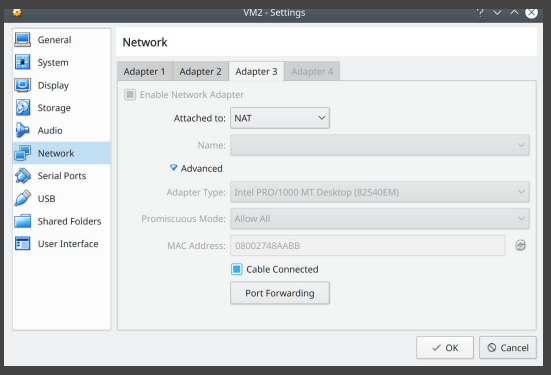
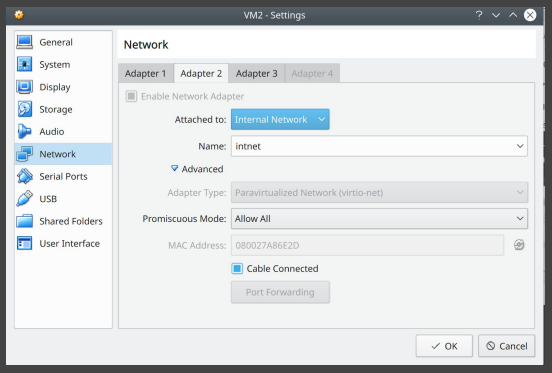
Link aggregation
Steps for bonding:

- Download ubuntu-18.04.3-live-server-amd64.iso
- Create one VM with following network configuration:







Two adapters for bonding, one adapter for internet connection

- Explore modes

Modes:
Mode 0 (balance-rr)
Mode 1 (active-backup)
Mode 2 (balance-xor)
Mode 3 (broadcast)
Mode 4 (802.3ad)
Mode 5 (balance-tlb)
Mode 6 (balance-alb)

There is no best mode and every mode is the most suitable for some situations.
As an example the following bonding modes:
Bonding Mode 0 (round-robin)
Bonding Mode 3 (broadcast)
Bonding Mode 5 (balance-tlb)

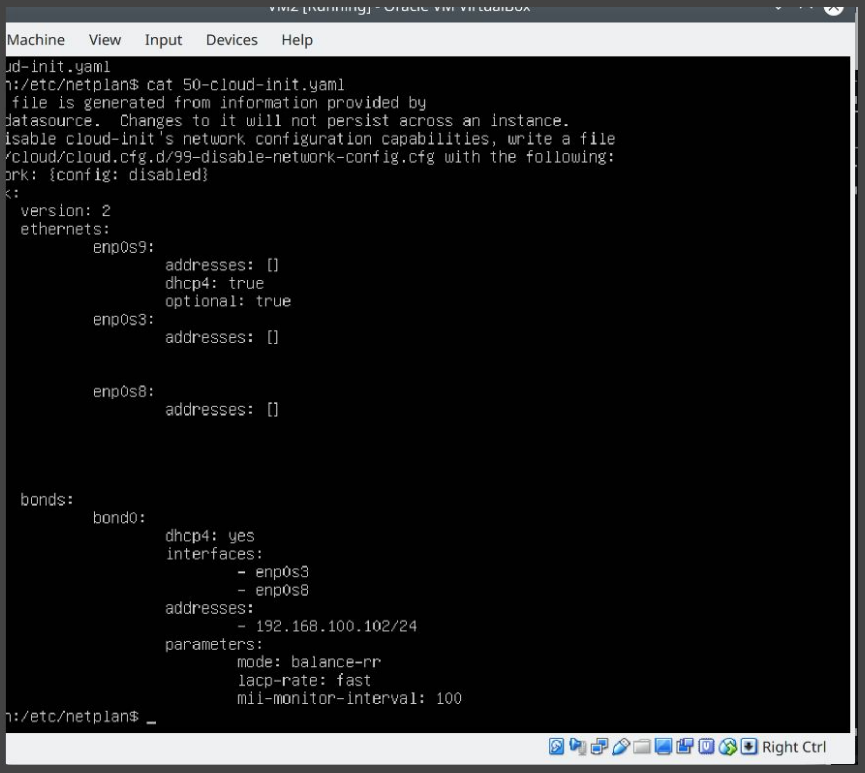
Bonding Mode 6 (balance-alb)
Do not guarantee in-order delivery of TCP streams.

- Run VM
- Install ifenslave via:
  sudo apt-get install ifenslave
- Check via:
  sudo lsmod | grep bonding
  If nothing shows up, try:
  sudo modprobe bonding

- File /etc/modules should look like this:

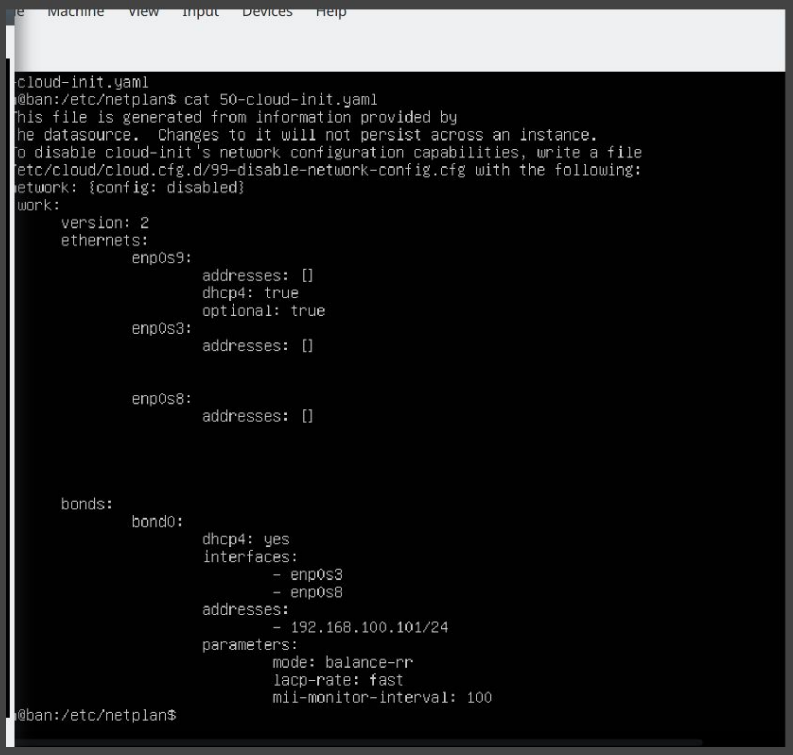
```
ban@ban:/etc/netplan$ cat /etc/modules
# /etc/modules: kernel modules to load at boot time.
#
# This file contains the names of kernel modules that should be loaded
# at boot time, one per line. Lines beginning with "#" are ignored.
bonding
```

- Check the interfaces names using ifconfig -a
- Configure netplan (with usage of interfaces from previous step):



- Run *sudo netplan apply*

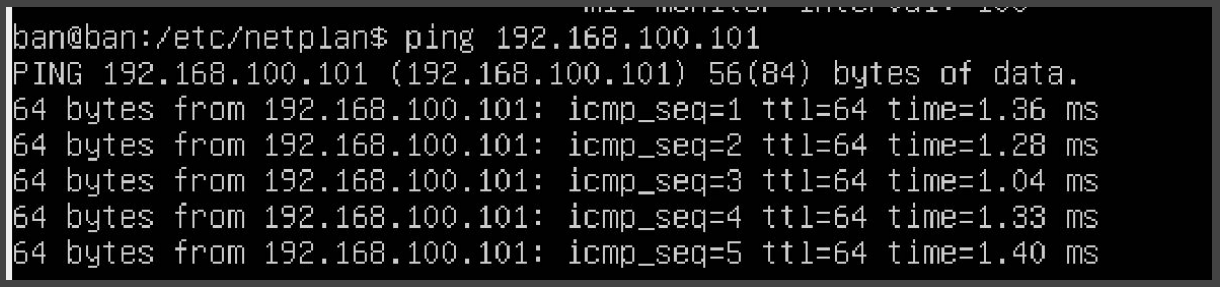
- Turn off VM
- Create new VM via copy function in virtualbox
- Change new VM's netplan configuration a bit (pick another address)



- Run *ip link set bond0 promisc on* on both machines

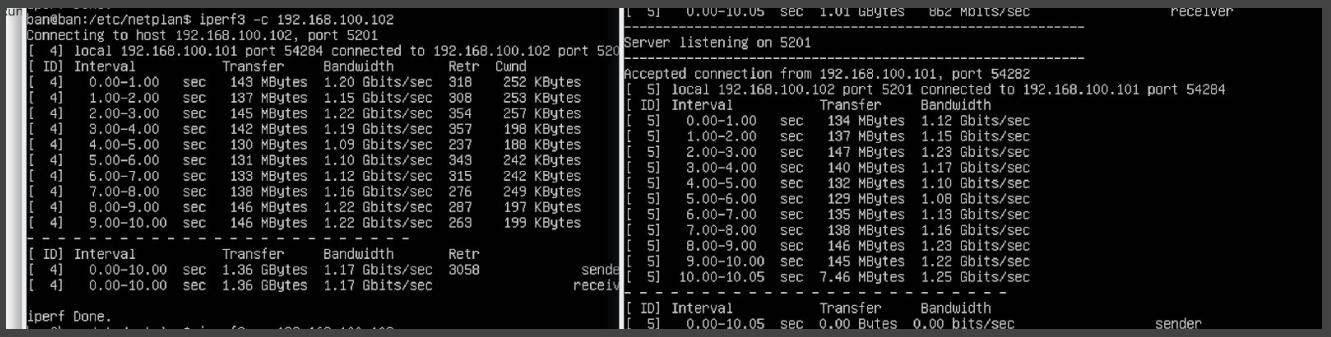
Testing

- ping is ok



- Checking bandwidth

  Run *sudo apt-get install iperf3* on both machines
  Run iperf3 -s from one machine
  Run iperf3 -c from another machine



- Uncheck cable connected to check if our mode is fault-tolerant