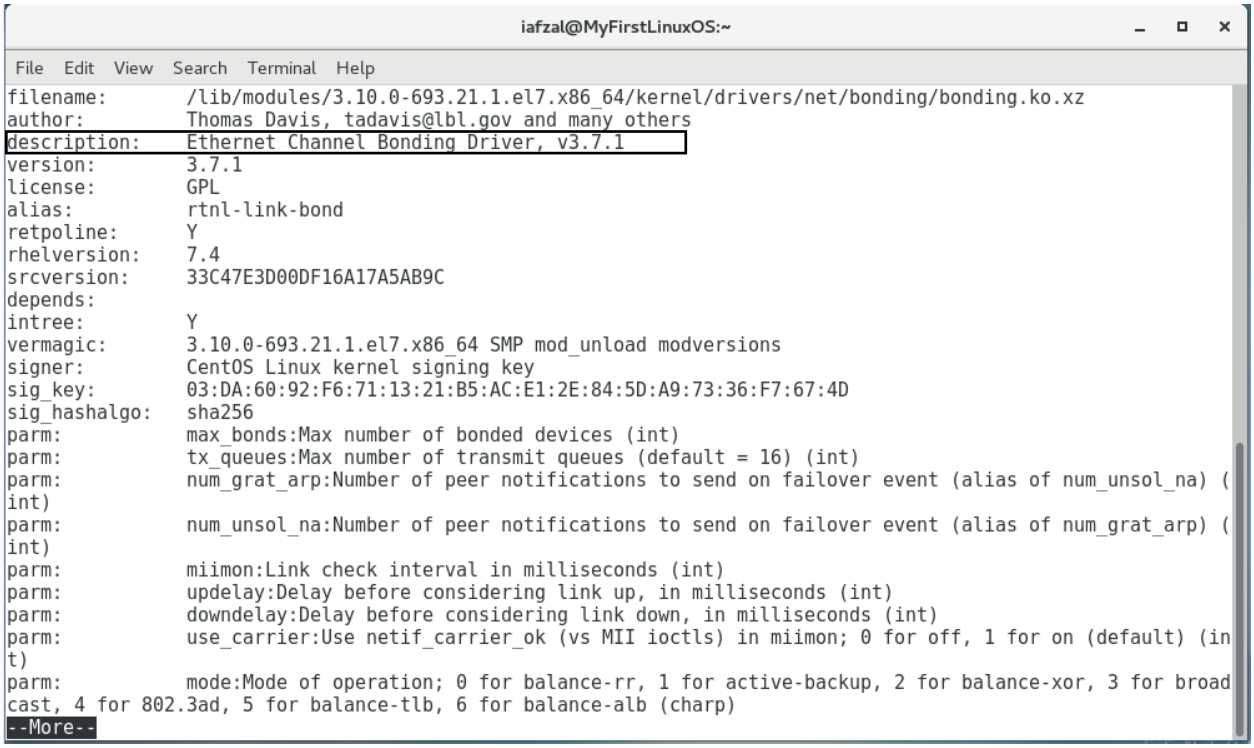
Creating NIC Bonding:

- Add a new NIC if it does not exist
- Install bonding driver = **`modprobe bonding`**
- To list the bonding module info = **`modinfo bonding`**

  You will see the driver version as seen below if the driver is installed and loaded



Create Bond Interface File

- vi /etc/sysconfig/network-scripts/ifcfg-bond0
- Add the following parameters

```
DEVICE=bond0
TYPE=Bond
NAME=bond0
BONDING_MASTER=yes
BOOTPROTO=none
ONBOOT=yes
IPADDR=192.168.1.80
NETMASK=255.255.255.0
GATEWAY=192.168.1.1
BONDING_OPTS="mode=5 miimon=100"
```

- Save and exit the file
- The bonding options details are can be found on the following table

Mode	Policy	How it works	Fault Tolerance	Load balancing
0	Round Robin	packets are sequentially transmitted/received through each interfaces one by one.	No	Yes
1	Active Backup	one NIC active while another NIC is asleep. If the active NIC goes down, another NIC becomes active. only supported in x86 environments.	Yes	No
2	XOR [exclusive OR]	In this mode the, the MAC address of the slave NIC is matched up against the incoming request's MAC and once this connection is established same NIC is used to transmit/receive for the destination MAC.	Yes	Yes
3	Broadcast	All transmissions are sent on all slaves	Yes	No
4	Dynamic Link Aggregation	aggregated NICs act as one NIC which results in a higher throughput, but also provides failover in the case that a NIC fails. Dynamic Link Aggregation requires a switch that supports IEEE 802.3ad.	Yes	Yes
5	Transmit Load Balancing (TLB)	The outgoing traffic is distributed depending on the current load on each slave interface. Incoming traffic is received by the current slave. If the receiving slave fails, another slave takes over the MAC address of the failed slave.	Yes	Yes
6	Adaptive Load Balancing (ALB)	Unlike Dynamic Link Aggregation, Adaptive Load Balancing does not require any particular switch configuration. Adaptive Load Balancing is only supported in x86 environments. The receiving packets are load balanced through ARP negotiation.	Yes	Yes

miimon

Specifies the MII link monitoring frequency in milliseconds. This determines how often the link state of each slave is inspected for link failures

Edit the First NIC File (enp0s3)

- vi /etc/sysconfig/network-scripts/ifcfg-enp0s3
- Delete the entire content
- Add the following parameters

```
TYPE=Ethernet
BOOTPROTO=none
DEVICE=enp0s3
ONBOOT=yes
HWADDR="MAC from the ifconfig command"
MASTER=bond0
SLAVE=yes
```

- Save and exit the file

Create the Second NIC File (enp0s8) or Copy enp0s3

- vi /etc/sysconfig/network-scripts/ifcfg-enp0s8
- Add the following parameters

```
TYPE=Ethernet
BOOTPROTO=none
DEVICE=enp0s8
ONBOOT=yes
HWADDR="MAC from the ifconfig command"
MASTER=bond0
SLAVE=yes
```

- Save and exit the file

Restart the Network Service

- **systemctl restart network**

Test and verify the configuration

- **ifconfig or ifconfig | more**

Use following command to view bond interface settings like bonding mode & slave interface

- **cat /proc/net/bonding/bond0**