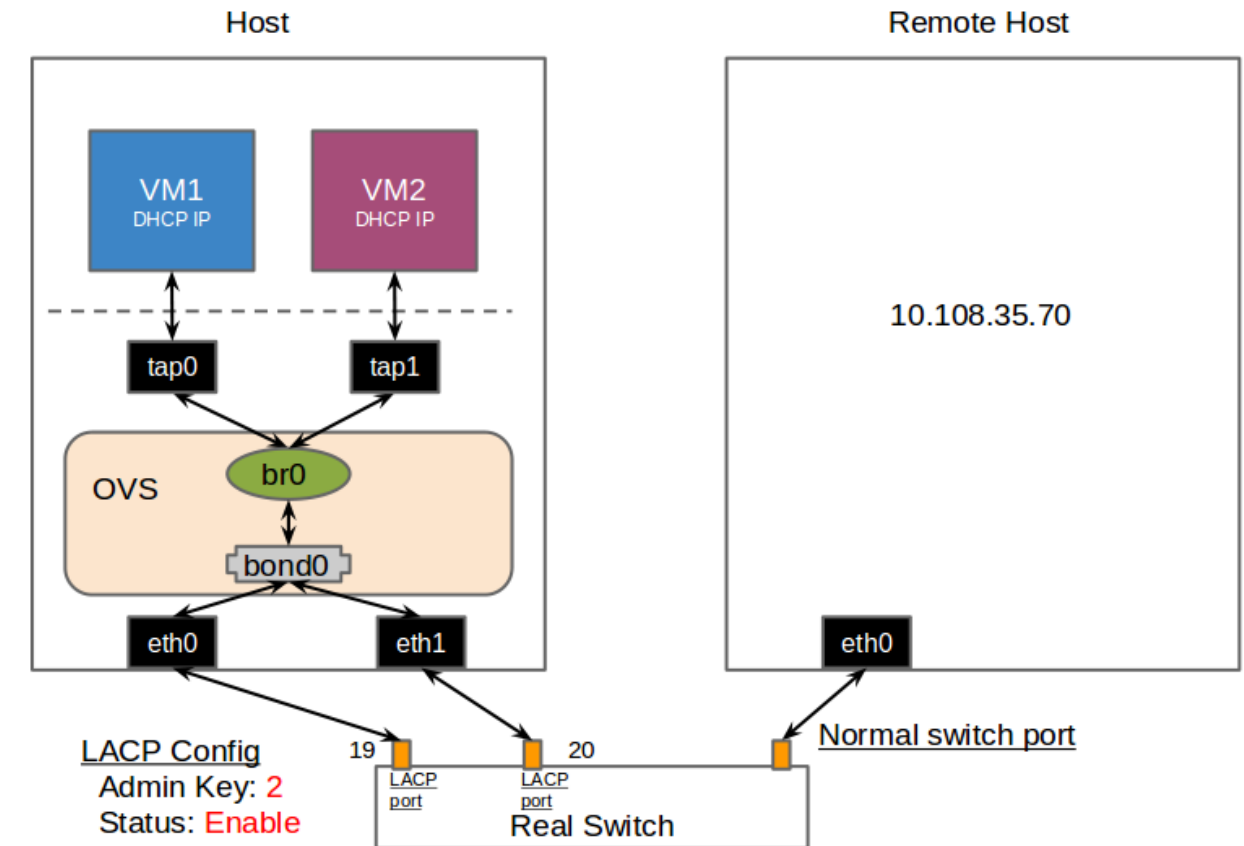


# How to setup ovs bonding

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OpenvSwitch handles all bonding functions. Please don't use Linux kernel bonding let OVS do this job.

## Network Topology



([edit](#))

## Ensure kernel support (YES)

```
sudo apt-get install ifenslave # for attach and detach slave nic to a bonding device
```

```
sudo vi /etc/modules
```

/etc/modules

```
...  
bonding
```

## Load the bonding kernel module

```
sudo stop networking # stop network
```

```
sudo modprobe bonding # load the bonding kernel module
```

### Step 1: Setup OpenvSwitch

sudo ovs-vsctl **add-br** br0

sudo ovs-vsctl **add-bond** br0 bond0 eth0 eth1 **lacp=active** bond-mode=**balance-slb**

(note: another bond mode=> **active-backup** mode)

check

sudo **ovs-appctl** bond/show bond0

```
ubuntu@compute1:~$ sudo ovs-appctl bond/show bond0
---- bond0 ----
bond_mode: balance-slb
bond-hash-basis: 0
updelay: 0 ms
downdelay: 0 ms
next rebalance: 7414 ms
lacp_status: negotiated

slave eth2: enabled
    active slave
    may_enable: true
    hash 178: 0 kB load
    hash 228: 2 kB load

slave eth3: enabled
    may_enable: true
```

### Step 2: Real Switch Setup

[LACP Config]:

Admin Key: **<Num>**

Status: **Enable**

LAG Table
Static LAG
LACP Config

Global Config

System Priority:  (0 - 65535)

LACP Config

Port

| Select                   | Port | Admin Key            | Port Priority (0-65535) | Status  |
|--------------------------|------|----------------------|-------------------------|---------|
| <input type="checkbox"/> |      | <input type="text"/> | <input type="text"/>    | Disable |
| <input type="checkbox"/> | 10   | 1                    | 32768                   | Disable |
| <input type="checkbox"/> | 11   | 1                    | 32768                   | Disable |
| <input type="checkbox"/> | 12   | 1                    | 32768                   | Disable |
| <input type="checkbox"/> | 13   | 1                    | 32768                   | Disable |
| <input type="checkbox"/> | 14   | 1                    | 32768                   | Disable |
| <input type="checkbox"/> | 15   | 1                    | 32768                   | Disable |
| <input type="checkbox"/> | 16   | 1                    | 32768                   | Disable |
| <input type="checkbox"/> | 17   | 1                    | 32768                   | Disable |
| <input type="checkbox"/> | 18   | 1                    | 32768                   | Disable |
| <input type="checkbox"/> | 19   | 2                    | 32768                   | Enable  |
| <input type="checkbox"/> | 20   | 2                    | 32768                   | Enable  |
| <input type="checkbox"/> | 21   | 1                    | 32768                   | Disable |
| <input type="checkbox"/> | 22   | 1                    | 32768                   | Disable |

### Step 3: Launch VM1 and VM2

*# KVM tap interface setup*

sudo vi /etc/ovs-ifup

/etc/ovs-ifup

```
#!/bin/sh

# add the tapx device to your br0
switch='br0'
/sbin/ifconfig $1 0.0.0.0 up
ovs-vsctl add-port ${switch} $1
```

sudo vi /etc/ovs-ifdown

/etc/ovs-ifdown

```
#!/bin/sh

# delete the port
switch='br0'
/sbin/ifconfig $1 0.0.0.0 down
ovs-vsctl del-port ${switch} $1
```

```
sudo chmod +x /etc/ovs-ifup /etc/ovs-ifdown
```

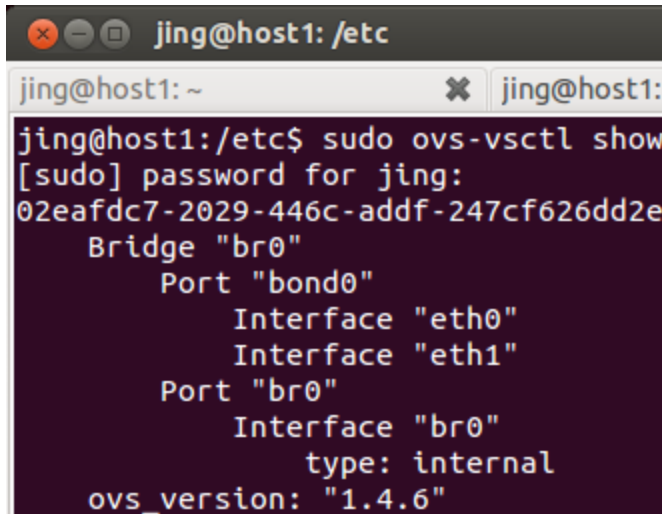
### Boot a VM

```
sudo kvm -m 512 -net nic,macaddr=00:11:22:EE:EE:EA -net  
tap,script=/etc/ovs-ifup,dnscript=/etc/ovs-ifdown vlan-clone1.qcow2
```

```
sudo kvm -m 512 -net nic,macaddr=00:11:22:EE:EE:EB -net  
tap,script=/etc/ovs-ifup,dnscript=/etc/ovs-ifdown vlan-clone2.qcow2
```

### OpenvSwitch Configuration Verification

```
ovs-vsctl show
```

A terminal window titled 'jing@host1: /etc' showing the output of the 'ovs-vsctl show' command. The output lists the configuration for bridge 'br0', including ports 'bond0' and 'br0', and interfaces 'eth0', 'eth1', and 'br0'. It also shows the OVS version as '1.4.6'.

```
jing@host1: /etc  
jing@host1: ~  
jing@host1:/etc$ sudo ovs-vsctl show  
[sudo] password for jing:  
02eafdc7-2029-446c-addf-247cf626dd2e  
    Bridge "br0"  
        Port "bond0"  
            Interface "eth0"  
            Interface "eth1"  
        Port "br0"  
            Interface "br0"  
                type: internal  
    ovs_version: "1.4.6"
```

### Detail OpenvSwitch Check

```
sudo ovs-appctl bond/show bond0  
=> bond_mode (bond-mode=active-backup , bond-mode=balance-slb (ref))
```

```
ex: sudo ovs-appctl bond/show bond0 bond-mode=balance-slb
```

```
sudo ovs-appctl lacp/show bond0
```

```
sudo ovs-vsctl list port bond0
```

### Traffic Verification

Install the nload and iperf on VM1, VM2, host, remote host

```
[Host] sudo apt-get install nload
```

```
[VM1 and VM2] sudo apt-get install iperf
```

## VM Installation Note

```
sudo http_proxy=http://<proxy ip> apt-get install nload iperf
```

ex:

```
sudo http_proxy=http://10.110.15.60:8080 apt-get install nload iperf
```

### Step 1: Setup iperf Server

```
[remote host] iperf -s
```

## Step 2: Setup iperf Client

```
[VM1] iperf -c 10.109.35.70 -t 100 -i 10
```

```
[VM2] iperf -c 10.109.35.70 -t 100 -i 10
```

### Step 3: Check the traffic on eth0 and eth1

```
[Host] nload eth0
```

```
[Host] nload eth1
```

eth0 traffic

```
jing@host1: ~  
jing@host1: ~ x jing@host1: ~ x jing@host1: ~ x jing@host1: ~ x  
Device eth0 [10.109.35.143] (1/1):  
===== Incoming:  
  
.....  
#####.  
#####.. .|  
.#####| |#####| | | |#|. |..| |.| | |#.  
##### Curr: 5.45 MBit/s  
##### Avg: 2.53 MBit/s  
##### Min: 776.00 Bit/s  
##### Max: 9.67 MBit/s  
##### Ttl: 227.29 MByte  
Outgoing:  
  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
##### Curr: 246.49 MBit/s  
##### Avg: 119.98 MBit/s  
##### Min: 0.00 Bit/s  
##### Max: 583.88 MBit/s  
##### Ttl: 9.01 GByte
```

eth1 traffic

```
jing@host1: ~  
jing@host1: ~ x jing@host1: ~ x jing@host1: ~ x jing@host1: ~ x jing@host1: ~  
Device eth1 [10.109.35.159] (1/1):  
=====
```

|                                                 |                     |
|-------------------------------------------------|---------------------|
| Incoming:                                       |                     |
| =====                                           |                     |
| . ## ####   # ..   ## ... #### ## #. ### .. # . |                     |
| #####                                           | Curr: 5.89 MBit/s   |
| #####                                           | Avg: 3.27 MBit/s    |
| #####                                           | Min: 0.00 Bit/s     |
| #####                                           | Max: 9.28 MBit/s    |
| #####                                           | Ttl: 232.00 MByte   |
| Outgoing:                                       |                     |
| #####                                           |                     |
| #####                                           |                     |
| #####                                           |                     |
| #####                                           |                     |
| #####                                           |                     |
| #####                                           |                     |
| #####                                           | Curr: 263.89 MBit/s |
| #####                                           | Avg: 134.84 MBit/s  |
| #####                                           | Min: 808.00 Bit/s   |
| #####                                           | Max: 408.16 MBit/s  |
| #####                                           | Ttl: 9.69 GByte     |
| =====                                           |                     |
| Avg: 2.55 MBit/s                                |                     |

## References

- UbuntuBonding, <https://help.ubuntu.com/community/UbuntuBonding>
- man ovs\_vswitchd.conf.db
- <http://blog.scottlowe.org/2012/10/19/link-aggregation-and-lACP-with-open-vswitch/>