Prepare the hardware and OS

Install VLAN Module

- In order for us to run VLANs on the server we need to install the VLAN module

```
#Install the VLAN package
sudo apt-get update
sudo apt-get install vlan
#Permanently load the module during boot time
sudo su -c 'echo "8021q" >> /etc/modules'
#Reboot the server
sudo reboot
#Confirm that it is loaded
lsmod  | grep 8021q
```

Install Bridge Utilities

- In order for us be be able to use the bridging capabilities on the server, we need to install the bridge utilities.

```
#Install the bridge-utils package
sudo apt-get update
sudo apt-get install bridge-utils
```

Configure the Interfaces

- If your server has **only one** interface card, edit the **/etc/rc.local** file to contain the following:

We assume here the eth0 port now has the public IP address and give the dummy interface the name of eth1. Please consider this in the configurations after this page and change accordingly.

```
# This script is executed at the end of each multiuser runlevel.
# Make sure that the script will "exit 0" on success or any other
# value on error.
#
# In order to enable or disable this script just change the execution
# bits.
#
```

```
# By default this script does nothing.

#Set up the dummy interface
/sbin/modprobe dummy
/sbin/ip link set name eth1 dev dummy0
/sbin/ifconfig eth1 hw ether 00:22:22:ff:ff:ff
/sbin/ip link set eth1 up promisc on

#Now add the VLAN
/sbin/vconfig add eth1 101
/sbin/ip link set eth1.101 up promisc on
/sbin/brctl addbr br0.101
/sbin/brctl addif br0.101 eth1.101
/sbin/ip addr add 10.101.0.1/16 dev br0.101
/sbin/ip link set dev br0.101 up

/sbin/vconfig add eth1 102
/sbin/ip link set eth1.102 up promisc on
/sbin/brctl addbr br0.102
/sbin/brctl addif br0.102 eth1.102
/sbin/ip addr add 10.102.0.1/16 dev br0.102
/sbin/ip link set dev br0.102 up


/sbin/vconfig add eth1 103
/sbin/ip link set eth1.103 up promisc on
/sbin/brctl addbr br0.103
/sbin/brctl addif br0.103 eth1.103
/sbin/ip addr add 10.103.0.1/16 dev br0.103
/sbin/ip link set dev br0.103 up

exit 0
```

- If your server has two intercace cards, edit the **/etc/network/interfaces** file to contain the following configuration.

```
#Remember also to configure eth1 to contain the public IP Address...

auto eth0.101
iface eth0.101 inet manual
        up ip link set $IFACE up promisc on

auto br0.101
iface br0.101 inet static
        address 10.101.0.1
        netmask 255.255.0.0
        bridge_ports eth0.101

auto eth0.102
iface eth0.102 inet manual
        up ip link set $IFACE up promisc on
```

```
auto br0.102
iface br0.102 inet static
        address 10.102.0.1
        netmask 255.255.0.0
        bridge_ports eth0.102

auto eth0.103
iface eth0.103 inet manual
        up ip link set $IFACE up promisc on

auto br0.103
iface br0.103 inet static
        address 10.103.0.1
        netmask 255.255.0.0
        bridge_ports eth0.103
```

Confirm it is correct

- Reboot the server and confirm that it came up with these bridges configured.

```
#Issue the ifconfig command to confirm the br0.101, br0.102 and br0.103 are
up and has the correct IP Address.
#Also use the brctl command to show you the bridges present
system@rd:~$ brctl show
bridge name bridge id        STP enabled    interfaces
br0.101     8000.000c294aafdf    no        eth0.101
br0.102     8000.000c294aafdf    no        eth0.102
br0.103     8000.000c294aafdf    no        eth0.103
```