

Scripts are written on Cumulus VS switch console

1. Configuring bridge mode on all leaf-1 switch ports which need to communicate to another device (Same is done for all other switches):
net add bridge bridge ports swp 2-5
net pending
net commit
brctl show
2. All switch ports are by default trunk ports. To configure the leaf ports as access ports (as they are forwarding to end point devices or another switch) in leaf-1 and assign them their dedicated VLAN id (same is done for all other switches):
net add interface swp3,4 bridge access 10
net pending
net commit
net show interface all
net show bridge vlan
3. To enable STP protocol and BPDugaurd portadminedge defense on all the leaf-1 (same is done for all other leaf switches)::
net add interface swp3,4 stp bpdugaurd
net add interface swp3,4 stp portadminedge
net commit
mstpctl showbridge
mstpctl showport bridge
4. Using Tcpdump to check your newtork traffic on ceratin ports and filtering your output (same is done for all other switches):
sudo tcpdump -i swp3 inbound
sudo tcpdump -i swp3 not icmp and inbound
sudo tcpdump -i swp3 not icmp and outbound
5. Enabling layer 3 switching on leaf-1 so management VLAN 40 has access to all devices. Assign IP address to each which and give VLAN 40 access to these IP subnets (same is done for all other switches):
net add vlan 40 ip address 10.10.40.101/24
ip -br a
6. Enabling LACP bonding of mod 802.3ad on leaf-1 (same is done for all other leaf switches):
net del bridge bridge ports swp2
net ad bond bond1 bond slaves swp2,5
net add bond bond1 bond mode 802.3ad

```
net add bridge bridge ports bond1  
net show int all  
ip -br a
```

7. Enabling MLAG bonding on spine-1 (same is done for all spine switches):

```
net del bridge bridge ports swp1,2,4  
net ad bond bond1 bond slaves swp1  
net ad bond bond2 bond slaves swp2  
net ad bond bond3 bond slaves swp4  
net add bond bond1 clag id 1  
net add bond bond3 clag id 2  
net add bond bond3 clag id 3  
net add bridge bridge ports bond1-3  
net add clag peer sys-mac 44:38:39:BE:EF:AA interface swp14,15 primary  
backup-ip 30.30.30.2  
net show int all  
ip -br a
```

References:

- 1) docs.nvidia.com. (n.d.). Bonding - Link Aggregation | Cumulus Linux 4.0. [online] Available at: <https://docs.nvidia.com/networking-ethernet-software/cumulus-linux-40/Layer-2/Bonding-Link-Aggregation/#:~:text=Linux%20bonding%20provides%20a%20method> [Accessed 28 Oct. 2022].
- 2) docs.nvidia.com. (n.d.). Multi-Chassis Link Aggregation - MLAG | Cumulus Linux 4.2. [online] Available at: <https://docs.nvidia.com/networking-ethernet-software/cumulus-linux-42/Layer-2/Multi-Chassis-Link-Aggregation-MLAG/> [Accessed 28 Oct. 2022].
- 3) Secure Networking - A Company Network Project on Open-Source (2022), Udemy Available at: <https://www.udemy.com/course/secure-networking-a-company-network-project-on-open-source/> (Accessed: 18 Oct. 2022)