
flokinet-004 - VLANs

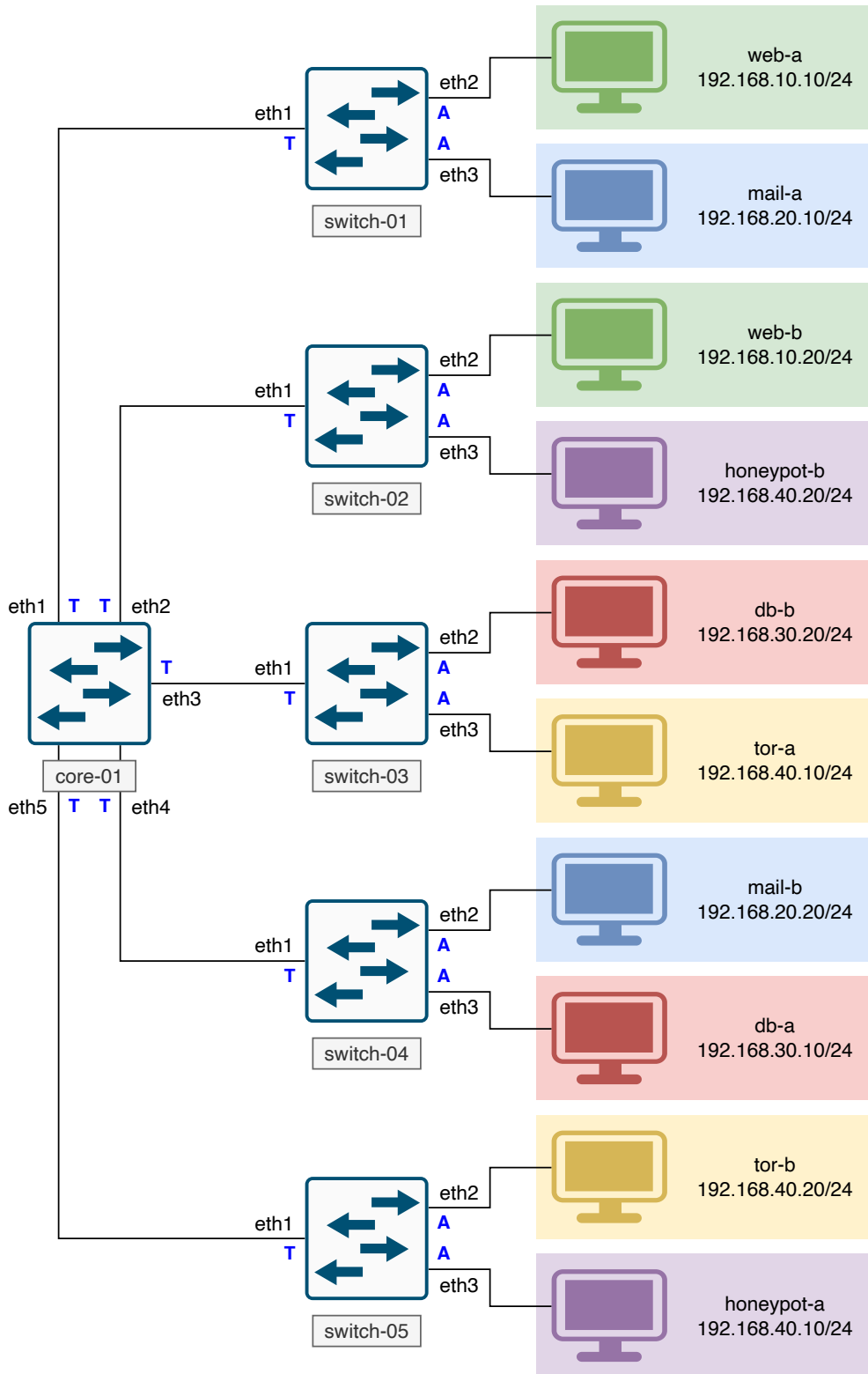
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Connecting to the lab server

- Open your favourite Terminal Emulator
- SSH to the netlab server:
 - `$ ssh-keygen -R netlab.nanocat.net` <- delete the cached fingerprint
(lab server rebuilt frequently)
 - `$ ssh lab@netlab.nanocat.net`
Password: (generated fresh each week)
- List the running containerlab devices:
 - `$ sudo containerlab inspect --all`
- Connect to an **Arista** device:
 - `$ sudo docker exec -it clab-device-name Cli`
- .. or connect to a **Linux** device:
 - `$ sudo docker exec -it clab-pcXX-name bash`

Diagram



web
192.168.10.0/24
vlan 10

mail
192.168.20.0/24
vlan 20

db
192.168.30.0/24
vlan 30

tor
192.168.40.0/24
vlan 40

honeypot
192.168.50.0/24
vlan 50

Goal

- all devices **in the same VLANs** can ping each other.

What you are responsible for configuring

- the two PCs connected to your switch
- your switch (**switch-XX**)
- your uplink port on **core-01**

Creating VLANs

```
!  
vlan 10  
    name web  
vlan 20  
    name mail  
!  
! etc etc
```

Configuring access (untagged) ports

```
!  
interface ethernet 2  
    description -- link to web-b --  
    switchport  
    switchport mode access  
    switchport access vlan 10  
!
```

Configuring trunk (tagged) ports

```
!  
interface ethernet 1  
    description -- link to switch-01 --  
    switchport  
    switchport mode trunk  
    switchport trunk allowed vlan 10,20  
!
```

Looking at the dot1q tags

Look at packets *without* VLAN tags:

```
switch-01#bash  
bash# tcpdump -i eth2 icmp
```

```
web-a# ping 192.168.10.20
```

Look at packets *with* VLAN tags:

```
switch-01#bash
bash# tcpdump -i eth1 icmp
web-a# ping 192.168.10.20
```

Inspecting the core switch

```
show mac address-table
show ip arp
show ip route
ping 192.168.x.x
```

Questions

- Can the switch ping the PCs?
- Can the PCs ping the switch?
- Is “core-01” routing packets?