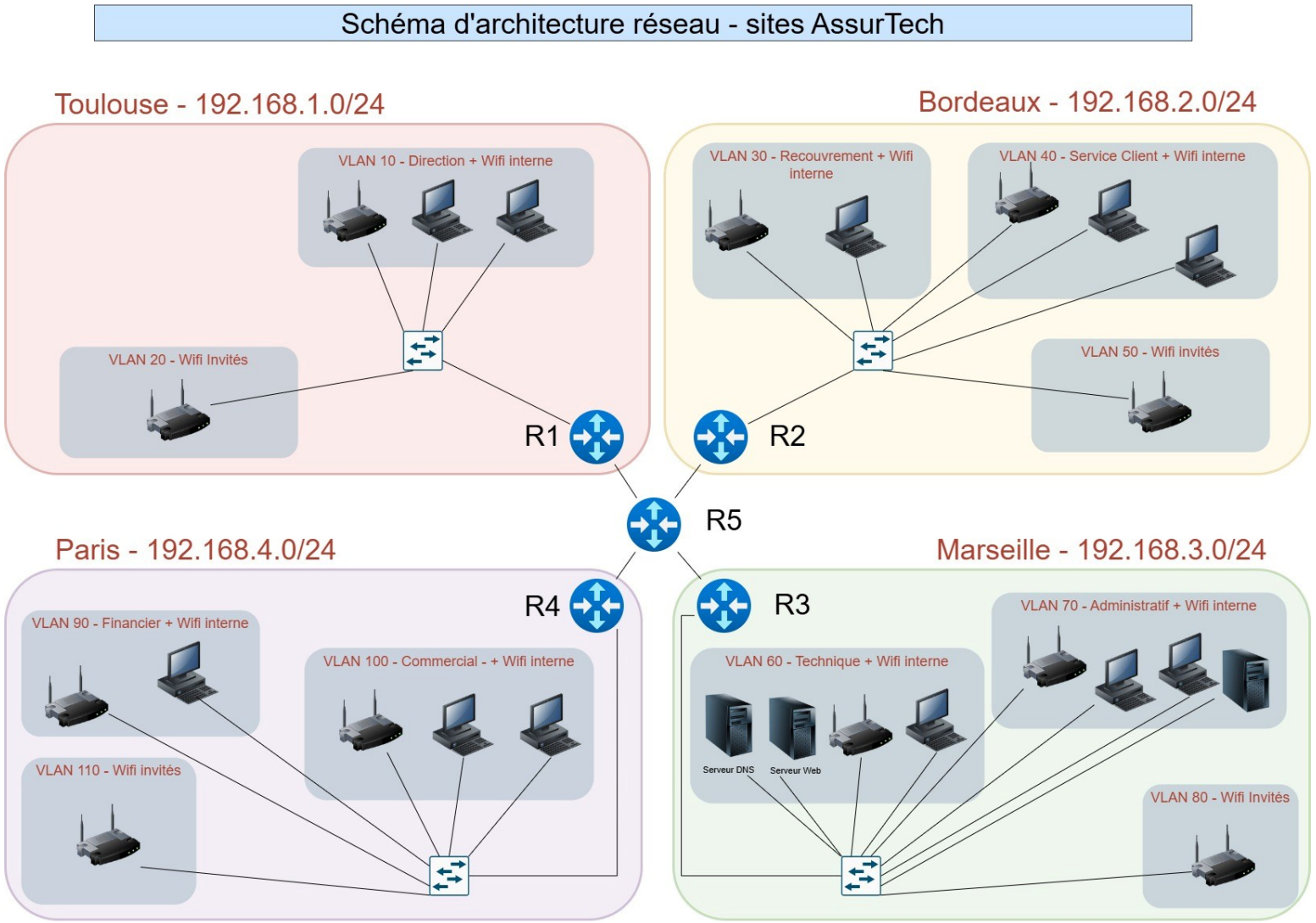
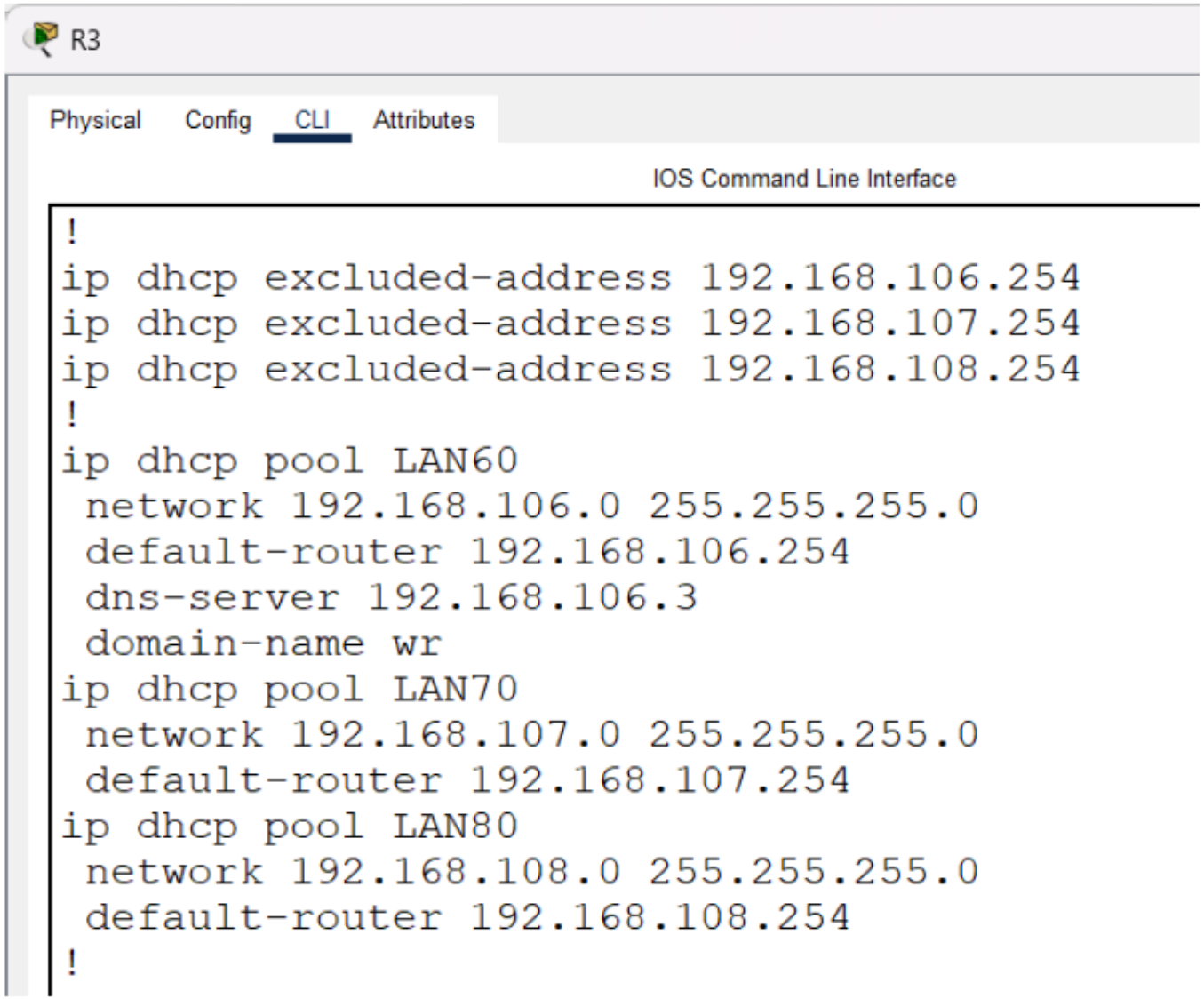
# TP Infra Cisco

Schéma d’architecture réseau



Documentation technique

Configuration du DHCP sur les VLANs de Marseille :



# Documentation technique

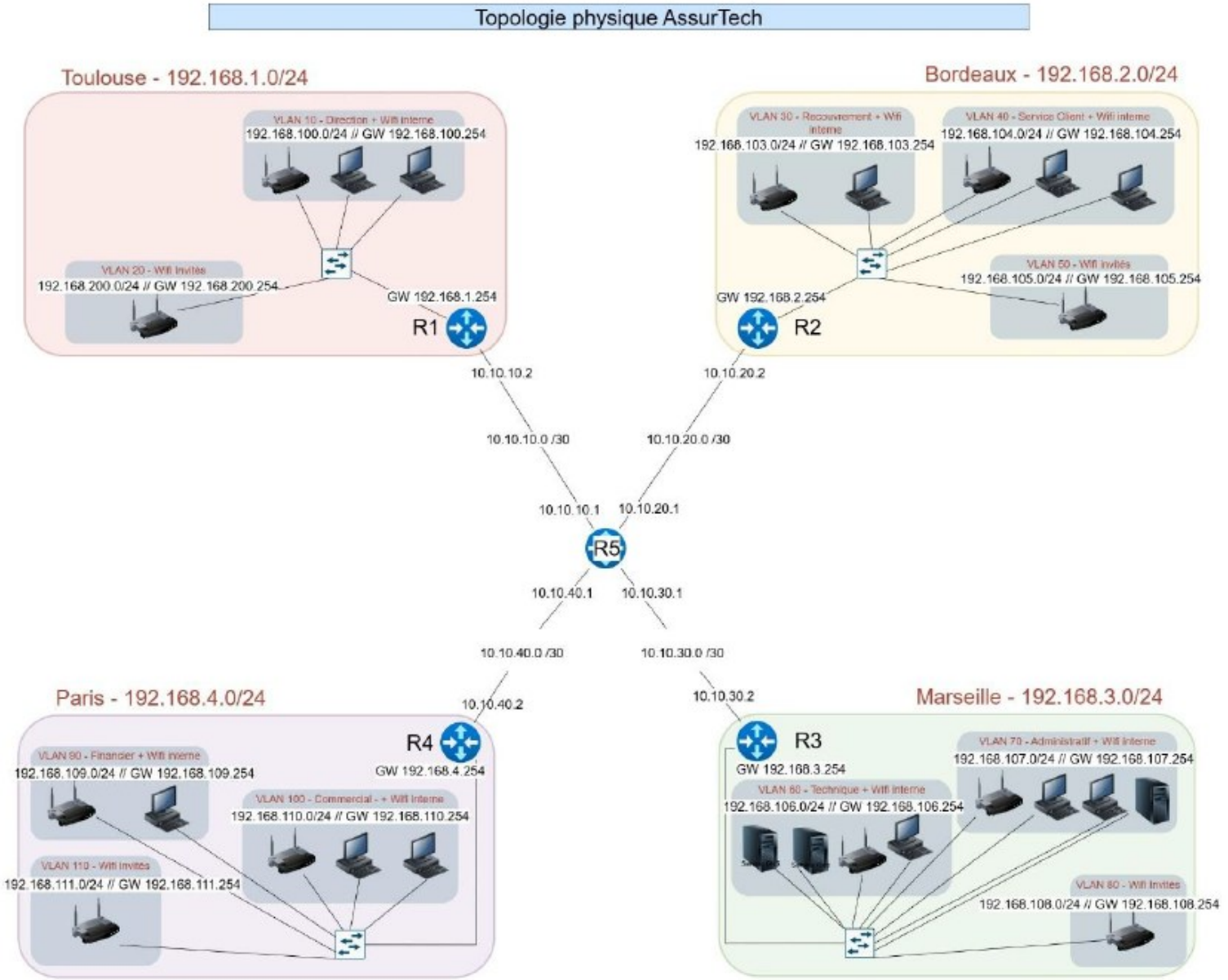
| Ville | IP réseau ville et GW | VLANs (usage + réseau) | Routeur local (IP vers R5 / Réseau interco / IP R5) | DHCP (Pool / Plage / GW / Exclusions / DNS) |
|---|---|---|---|---|
| **Toulouse** (R1) | IP : 192.168.1.0/24<br>GW : 192.168.1.254 | VLAN 10 – Direction : 192.168.100.0/24<br>GW : 192.168.100.254<br>VLAN 20 – WiFi invités : 192.168.200.0/24<br>GW : 192.168.200.254 | 10.10.10.2<br>10.10.10.0/30<br>10.10.10.1 | LAN10 : 192.168.100.0 / GW 192.168.100.254 / exclue : .254<br>LAN20 : 192.168.200.0 / GW 192.168.200.254 / exclue : .254 |
| **Bordeaux** (R2) | IP : 192.168.2.0/24<br>GW : 192.168.2.254 | VLAN 30 – Recouvrement : 192.168.103.0/24<br>GW : 192.168.103.254<br>VLAN 40 – Service client : 192.168.104.0/24<br>GW : 192.168.104.254<br>VLAN 50 – WiFi invités : 192.168.105.0/24<br>GW : 192.168.105.254 | 10.10.20.2<br>10.10.20.0/30<br>10.10.20.1 | LAN30 : 192.168.103.0 / GW 192.168.103.254 / exclue : .254<br>LAN40 : 192.168.104.0 / GW 192.168.104.254 / exclue : .254<br>LAN50 : 192.168.105.0 / GW 192.168.105.254 / exclue : .254 |
| **Marseille** (R3) | IP : 192.168.3.0/24<br>GW : 192.168.3.254 | VLAN 60 – Technique : 192.168.106.0/24<br>GW : 192.168.106.254<br>VLAN 70 – Administratif : 192.168.107.0/24<br>GW : 192.168.107.254<br>VLAN 80 – WiFi invités : 192.168.108.0/24<br>GW : 192.168.108.254 | 10.10.30.2<br>10.10.30.0/30<br>10.10.30.1 | LAN60 : 192.168.106.0 / GW 192.168.106.254 / exclue : .254 / DNS : 192.168.106.3<br>LAN70 : 192.168.107.0 / GW 192.168.107.254 / exclue : .254<br>LAN80 : 192.168.108.0 / GW 192.168.108.254 / exclue : .254 |
| **Paris** (R4) | IP : 192.168.4.0/24<br>GW : 192.168.4.254 | VLAN 90 – Financier : 192.168.109.0/24<br>GW : 192.168.109.254<br>VLAN 100 – Commercial : 192.168.110.0/24<br>GW : 192.168.110.254<br>VLAN 110 – WiFi invités : 192.168.111.0/24<br>GW : 192.168.111.254 | 10.10.40.2<br>10.10.40.0/30<br>10.10.40.1 | LAN90 : 192.168.109.0 / GW 192.168.109.254 / exclue : .254<br>LAN100 : 192.168.110.0 / GW 192.168.110.254 / exclue : .254<br>LAN110 : 192.168.111.0 / GW 192.168.111.254 / exclue : .254 |

Documentation technique

## Topologie logique

- **Toulouse (R1)**
  - IP réseau du site : **192.168.1.0/24**
    - IP du routeur (GW site) : **192.168.1.254**
  - Connexion avec R5 via **10.10.10.0/30**
    - IP R1 : **10.10.10.2**, IP R5 : **10.10.10.1**
  - VLAN 10 – Direction : **192.168.100.0/24**, GW : **192.168.100.254**
  - VLAN 20 – WiFi invités : **192.168.200.0/24**, GW : **192.168.200.254**

# Documentation technique



# Documentation technique

Les services d'un même site peuvent communiquer entre eux grâce à :
- la configuration trunk sur les switchs, autorisant la communication

S1

Physical Config CLI Attributes

IOS Command Line Interface

```
!
interface GigabitEthernet0/1
 switchport trunk allowed vlan 10,20
 switchport mode trunk
!
```

- la configuration des sous-interfaces sur les routeurs (encapsulation dot1Q)

R2

Physical Config CLI Attributes

IOS Command Line Interface

```
!
interface GigabitEthernet0/0.30
 encapsulation dot1Q 30
 ip address 192.168.103.254 255.255.255.0
 ip helper-address 192.168.103.100
!
interface GigabitEthernet0/0.40
 encapsulation dot1Q 40
 ip address 192.168.104.254 255.255.255.0
 ip helper-address 192.168.103.100
!
interface GigabitEthernet0/0.50
 encapsulation dot1Q 50
 ip address 192.168.105.254 255.255.255.0
 ip helper-address 192.168.103.100
!
```

Les services de Toulouse et Paris peuvent communiquer entre eux grâce à :
- la configuration trunk sur les switchs, autorisant la communication (vu précédemment)
- la configuration des sous-interfaces sur les routeurs (encapsulation dot1Q) (vu précédemment)
- routages statiques inter-VLANs configurés sur les routeurs de Toulouse (R1) et Paris (R4)

R1

Physical Config CLI Attributes

IOS Command Line Interface

```
      10.0.0.0/8 is variably subnetted, 3 subnets, 3 masks
C        10.0.0.0/8 is directly connected, GigabitEthernet0/0
L        10.10.10.2/32 is directly connected, GigabitEthernet0/0
S        10.10.20.0/30 [1/0] via 10.10.10.1
      192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.1.0/24 is directly connected, GigabitEthernet0/1
L        192.168.1.254/32 is directly connected, GigabitEthernet0/1
S     192.168.2.0/24 [1/0] via 10.10.20.2
S     192.168.3.0/24 [1/0] via 10.10.30.2
S     192.168.4.0/24 [1/0] via 10.10.40.2
      192.168.100.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.100.0/24 is directly connected, GigabitEthernet0/1.10
L        192.168.100.254/32 is directly connected, GigabitEthernet0/1.10
S     192.168.106.0/24 [1/0] via 10.10.10.1
S     192.168.109.0/24 [1/0] via 10.10.10.1
S     192.168.110.0/24 [1/0] via 10.10.10.1
S     192.168.111.0/24 [1/0] via 10.10.10.1
      192.168.200.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.200.0/24 is directly connected, GigabitEthernet0/1.20
L        192.168.200.254/32 is directly connected, GigabitEthernet0/1.20
```

R4

Physical Config CLI Attributes

IOS Command Line Interface

```
      10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C        10.0.0.0/8 is directly connected, GigabitEthernet0/3/0
L        10.10.40.2/32 is directly connected, GigabitEthernet0/3/0
S     192.168.1.0/24 [1/0] via 10.10.10.2
S     192.168.2.0/24 [1/0] via 10.10.20.2
S     192.168.3.0/24 [1/0] via 10.10.30.2
      192.168.4.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.4.0/24 is directly connected, GigabitEthernet0/0
L        192.168.4.254/32 is directly connected, GigabitEthernet0/0
S     192.168.100.0/24 [1/0] via 10.10.40.1
S     192.168.106.0/24 [1/0] via 10.10.40.1
      192.168.109.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.109.0/24 is directly connected, GigabitEthernet0/0.90
L        192.168.109.254/32 is directly connected, GigabitEthernet0/0.90
      192.168.110.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.110.0/24 is directly connected, GigabitEthernet0/0.100
L        192.168.110.254/32 is directly connected, GigabitEthernet0/0.100
      192.168.111.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.111.0/24 is directly connected, GigabitEthernet0/0.110
L        192.168.111.254/32 is directly connected, GigabitEthernet0/0.110
S     192.168.200.0/24 [1/0] via 10.10.40.1
```