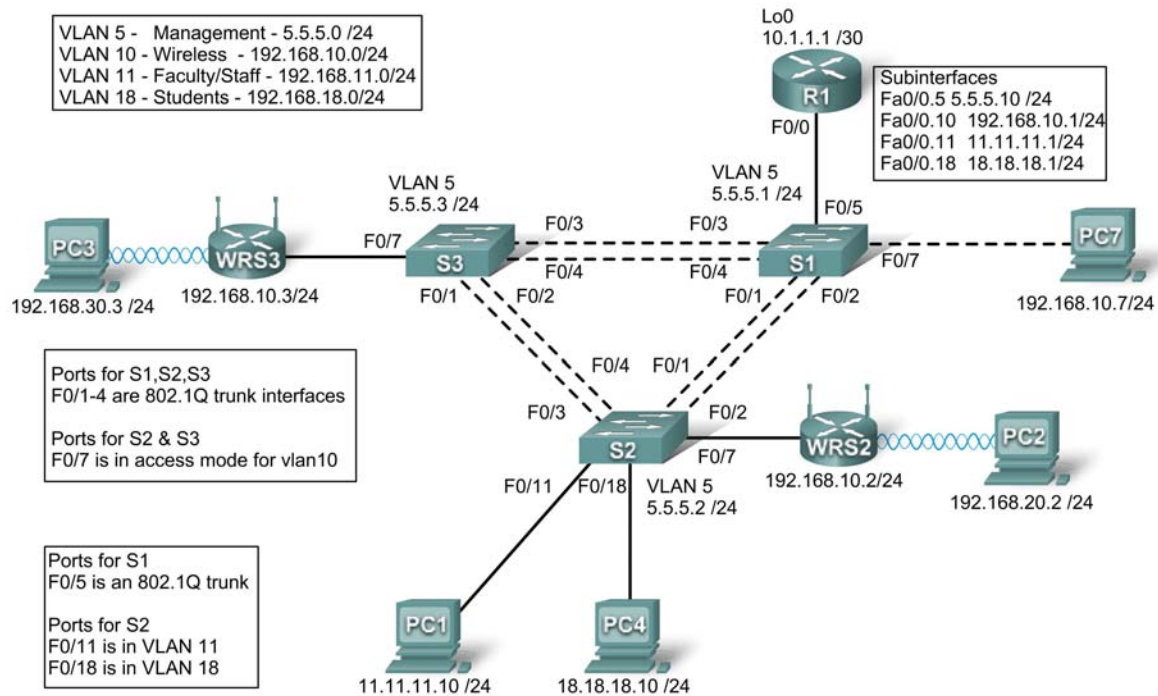


## Lab 7.5.3: Troubleshooting Wireless Configuration

### Topology Diagram



### Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	Fa0/0.5	5.5.5.10	255.255.255.0	N/A
	Fa0/0.10	192.168.10.1	255.255.255.0	N/A
	Fa0/0.11	11.11.11.1	255.255.255.0	N/A
	Fa0/0.18	18.18.18.1	255.255.255.0	N/A
	Lo0	10.1.1.1	255.255.255.252	N/A
WRS2	WAN	192.168.10.2	255.255.255.0	192.168.10.1
	LAN/Wireless	192.168.20.1	255.255.255.0	N/A
WRS3	WAN	192.168.10.3	255.255.255.0	192.168.10.1
	LAN/Wireless	192.168.30.1	255.255.255.0	N/A
PC1	NIC	11.11.11.10	255.255.255.0	11.11.11.1
PC4	NIC	18.18.18.10	255.255.255.0	18.18.18.1
S1	VLAN 5	5.5.5.1	255.255.255.0	N/A

<b>S2</b>	<b>VLAN 5</b>	5.5.5.2	255.255.255.0	N/A
<b>S3</b>	<b>VLAN 5</b>	5.5.5.3	255.255.255.0	N/A

## Scenario

In this lab, a basic network and wireless network have been configured improperly. You must find and correct the misconfigurations based on the minimum network specifications provided by your company.

Here are the configurations to load into your router and switches.

### R1 Configuration

```
hostname R1
!
interface Loopback0
 ip address 10.1.1.1 255.255.255.0
!
interface FastEthernet0/0
 no ip address
 duplex auto
 speed auto
 no shutdown
!
interface FastEthernet0/0.5
 encapsulation dot1Q 5
 ip address 5.5.5.10 255.255.255.0
!
interface FastEthernet0/0.10
 encapsulation dot1Q 10
 ip address 192.168.11.1 255.255.255.0
!
!
interface FastEthernet0/0.18
 encapsulation dot1Q 18
 ip address 18.18.18.1 255.255.255.0
!
ip route 192.168.20.0 255.255.255.0 192.168.10.2
ip route 192.168.30.0 255.255.255.0 192.168.10.3
!
line con 0
 exec-timeout 0 0
 logging synchronous
!
end
```

### Switch 1 Configuration

```
hostname S1
!
vtp mode transparent
!
vlan 5,10-11
!
```

```
interface FastEthernet0/1
  switchport trunk allowed vlan 5,10,11
  switchport mode trunk
  switchport trunk native vlan 5
!
interface FastEthernet0/2
  switchport trunk allowed vlan 5,10,11
  switchport mode trunk
  switchport trunk native vlan 5
!
interface FastEthernet0/3
  switchport trunk allowed vlan 5,10,11
  switchport mode trunk
  switchport trunk native vlan 5
!
interface FastEthernet0/4
  switchport trunk allowed vlan 5,10,11
  switchport mode trunk
  switchport trunk native vlan 5
!
interface FastEthernet0/5
  switchport mode trunk
  switchport trunk native vlan 5
!
interface Vlan5
  ip address 5.5.5.1 255.255.255.0
  no shutdown
!
line con 0
  exec-timeout 0 0
  logging synchronous
!
End
```

## Switch 2 Configuration

```
hostname S2
!
vtp mode transparent
ip subnet-zero
!
vlan 5,10-11,18
!
interface FastEthernet0/1
  switchport trunk allowed vlan 5,10,11,18
  switchport mode access
!
interface FastEthernet0/2
  switchport trunk allowed vlan 5,10,11,18
  switchport mode access
!
interface FastEthernet0/3
  switchport trunk allowed vlan 5,10,11,18
  switchport mode access
!
```

```
interface FastEthernet0/4
  switchport trunk allowed vlan 5,10,11,18
  switchport mode access
!
interface FastEthernet0/7
  switchport access vlan 10
!
interface FastEthernet0/11
  switchport access vlan 11
  switchport mode access
  switchport port-security mac-address sticky
  switchport port-security mac-address sticky 0336.5b1e.33fa
!
interface FastEthernet0/18
  switchport access vlan 18
  switchport mode access
  switchport port-security
  switchport port-security mac-address sticky
  switchport port-security mac-address sticky 022c.ab13.22fb
!
interface Vlan1
  no ip address
  shutdown
!
interface Vlan5
  ip address 5.5.5.2 255.255.255.0
  no shutdown
!
line con 0
  exec-timeout 0 0
  logging synchronous
!
End
```

### Switch 3 Configuration

```
hostname S3
!
vtp mode transparent
!
vlan 5,10-11,18
!
interface FastEthernet0/1
  switchport trunk allowed vlan 5,10,11,18
  switchport mode trunk
  switchport trunk native vlan 5
!
interface FastEthernet0/2
  switchport trunk allowed vlan 5,10,11,18
  switchport mode trunk
  switchport trunk native vlan 5
!
interface FastEthernet0/3
  switchport trunk allowed vlan 5,10,11,18
  switchport mode trunk
```

```
switchport trunk native vlan 5
!
interface FastEthernet0/4
switchport trunk allowed vlan 5,10,11,18
switchport mode trunk
switchport trunk native vlan 5
!
interface FastEthernet0/7
!
interface Vlan1
no ip address
no ip route-cache
!
interface Vlan5
ip address 6.6.6.3 255.255.255.0
no shutdown
!
line con 0
exec-timeout 0 0
logging synchronous
!
end
```

## Wireless Router Network Requirements

While troubleshooting WRS2 and WRS3, ensure that at least the following capabilities exist:

1. Connections via the IP addresses shown in the topology diagram.
2. More than 30 clients can get an IP address through DHCP at a single time.
3. A client can have a DHCP address for at least 2 hours.
4. Clients using both B and G wireless network modes can connect, but N clients cannot.
5. Wireless clients must be authenticated using WEP with a key of 5655545251.
6. Traffic between PC2 and PC3 must take the most efficient route possible.
7. Ping requests coming from outside WAN ports of the Linksys routers to their inside LAN/wireless IP addresses (192.168.30.1) must be successful.
8. DHCP must not give out IP addresses in a range that includes the addresses for PC2 and PC3.
9. The two wireless networks must not interfere with each other.

## Wireless Network Solution

Record your solution below.