



# Lecture (01)

## Build an extended service Set - Simulation

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By:

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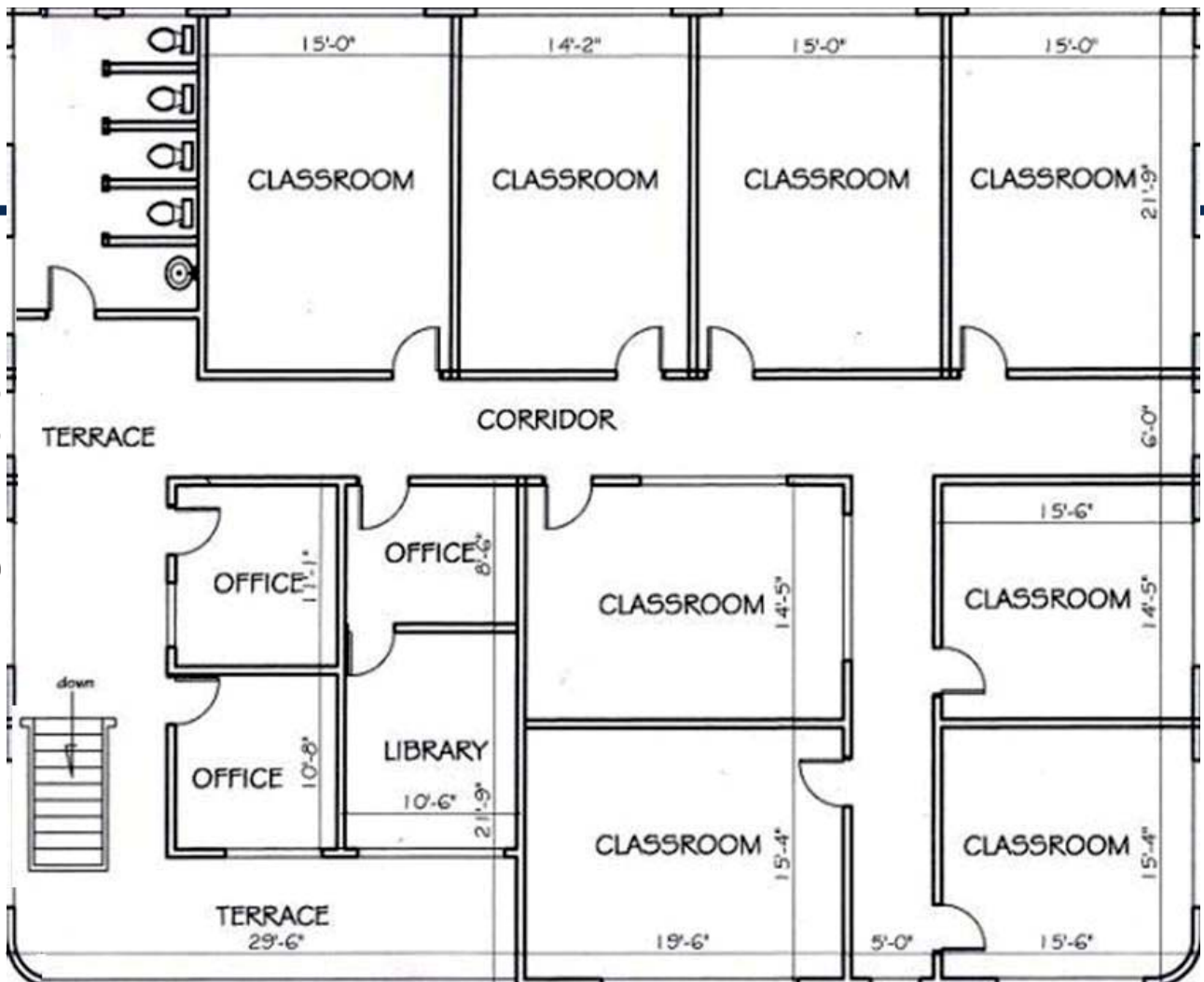
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## Exercise

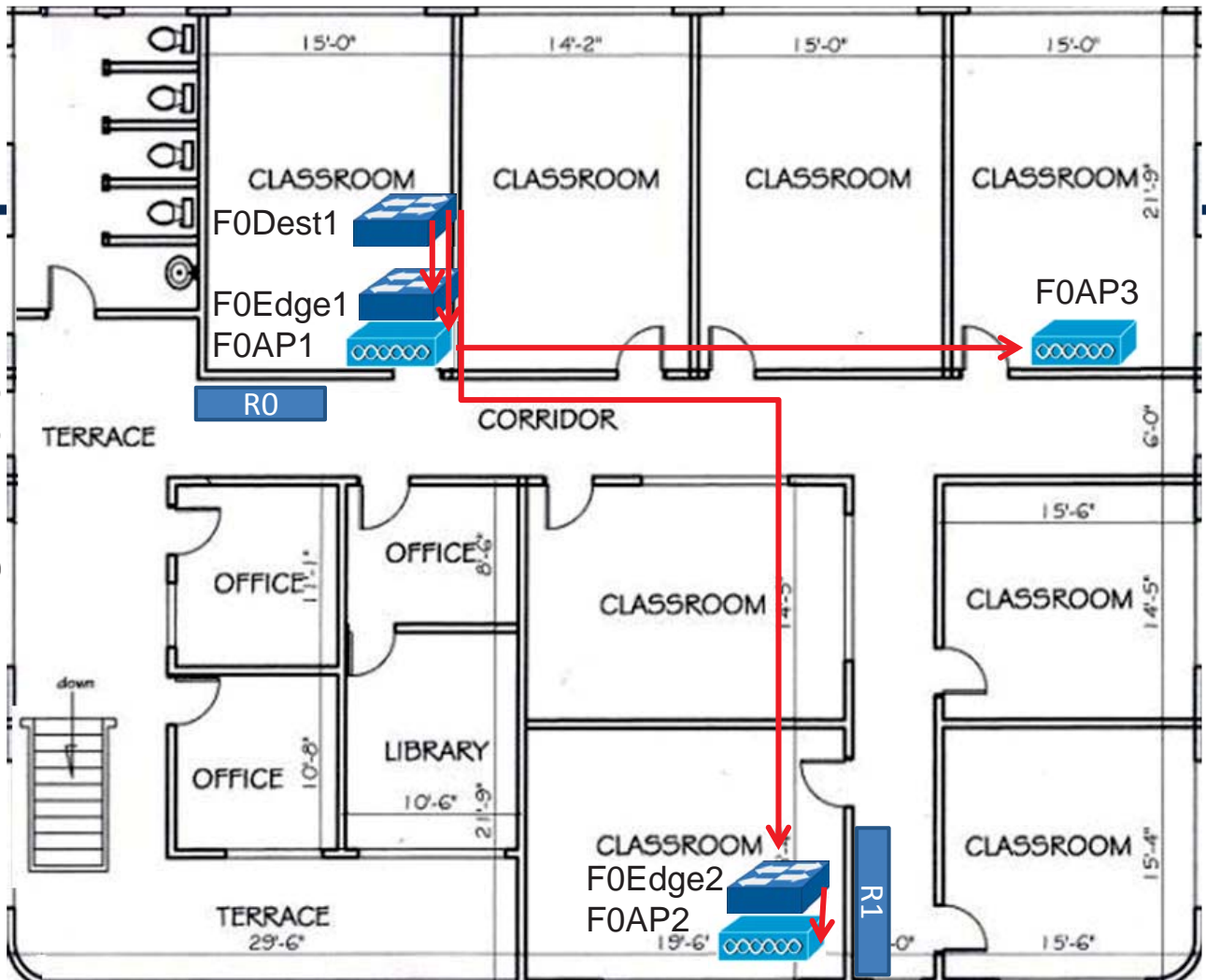
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- as a network administrator you are required to specify number and model of switches needed to cover the following school ground floor (plan in the following slide) with necessary network.
- Specify suggested number of switches and their locations (19' rack/boxes for switches and batch panels)
- You are requested to cover the whole floor with wireless LAN, specify the number and the location of required access points.

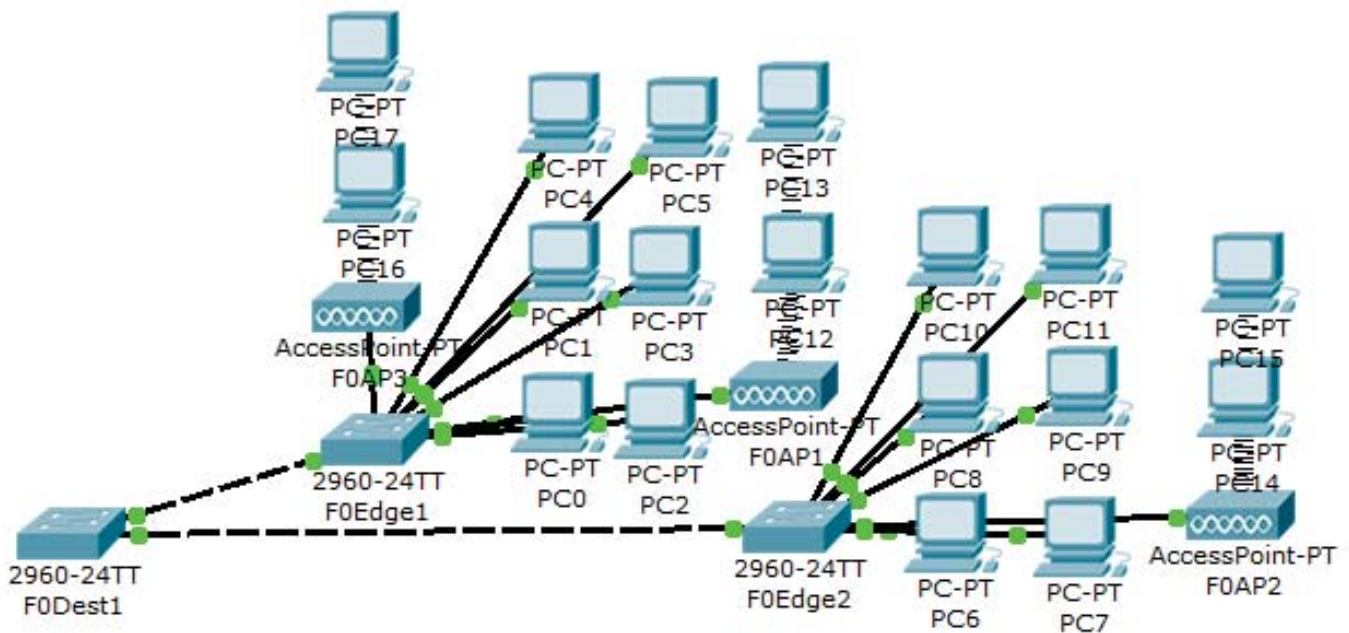
# G Floor



# G Floor



# Topology



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## F0Dest

```
enable
config t
hostname F0Dest1
```

```
line vty 0 4
password cisco
login
```

```
line console 0
password cisco
login
```

```
enable password cisco
```

```
enable secret cisco1
```

```
interface vlan 1
ip address 10.0.10.1 255.255.255.0
no shutdown
```

```
vtp domain ACU
vtp mode server
```

```
vlan 2
name vlan2
```

```
vlan 3
name vlan3
```

```
vlan 4
name vlan4
```

```
vlan 5
name wlan
```

```
interface range fa0/1-24
speed auto
duplex auto
```

```
interface range fa0/1-24
switchport mode trunk
```

```
spanning-tree vlan 1,2,3,4,5 root primary
```

```
end
```

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### F0Edge1

```
enable
config t
hostname F0Edge1

line vty 0 4
password cisco
login

line console 0
password cisco
login

enable password cisco

enable secret cisco1

interface vlan 1
ip address 10.0.10.2 255.255.255.0
no shutdown

vtp domain ACU
vtp mode client
```

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```
interface range fa0/1-24
speed auto
duplex auto
```

```
interface range fa0/23-24
switchport mode trunk
```

```
interface range fa0/1-7
switchport mode access
switchport access vlan 2
```

```
interface range fa0/8-14
switchport mode access
switchport access vlan 3
```

```
interface range fa0/15-21
switchport mode access
switchport access vlan 4
```

```
interface range fa0/22
switchport mode access
switchport access vlan 5
```

```
end
```

### F0Edge2

```
enable
config t
hostname F0Edge2

line vty 0 4
password cisco
login

line console 0
password cisco
login

enable password cisco

enable secret cisco1

interface vlan 1
ip address 10.0.10.3 255.255.255.0
no shutdown

vtp domain ACU
vtp mode client
```

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```
interface range fa0/1-24
speed auto
duplex auto
```

```
interface range fa0/23-24
switchport mode trunk
```

```
interface range fa0/1-7
switchport mode access
switchport access vlan 2
```

```
interface range fa0/8-14
switchport mode access
switchport access vlan 3
```

```
interface range fa0/15-21
switchport mode access
switchport access vlan 4
```

```
interface fa0/22
switchport mode access
switchport access vlan 5
```

```
end
```

## Access Point 1

The screenshot shows the configuration window for F0AP1. The window has two tabs: 'Physical' and 'Config'. The 'Config' tab is active. On the left, there is a sidebar with 'GLOBAL' and 'INTERFACE' sections. Under 'INTERFACE', 'Port 1' is selected. The main area is titled 'Port 1' and contains the following settings:

- Port Status:  On
- SSID: F0AP1
- Channel: 6
- Authentication:
  - Disabled
  - WEP
  - Key: [Empty text box]
  - WPA-PSK
  - WPA2-PSK
  - Pass Phrase: [Empty text box]
  - Encryption Type: Disabled

## Access Point 2

The screenshot shows the configuration window for F0AP2. The window has two tabs: 'Physical' and 'Config'. The 'Config' tab is active. On the left, there is a sidebar with 'GLOBAL' and 'INTERFACE' sections. Under 'INTERFACE', 'Port 1' is selected. The main area is titled 'Port 1' and contains the following settings:

- Port Status:  On
- SSID: F0AP2
- Channel: 11
- Authentication:
  - Disabled
  - WEP
  - Key: [Empty text box]
  - WPA-PSK
  - WPA2-PSK
  - Pass Phrase: [Empty text box]
  - Encryption Type: Disabled

## PC@VLAN02

The screenshot shows the configuration window for PC0. The 'Config' tab is active, and the 'FastEthernet' interface is selected. The settings are as follows:

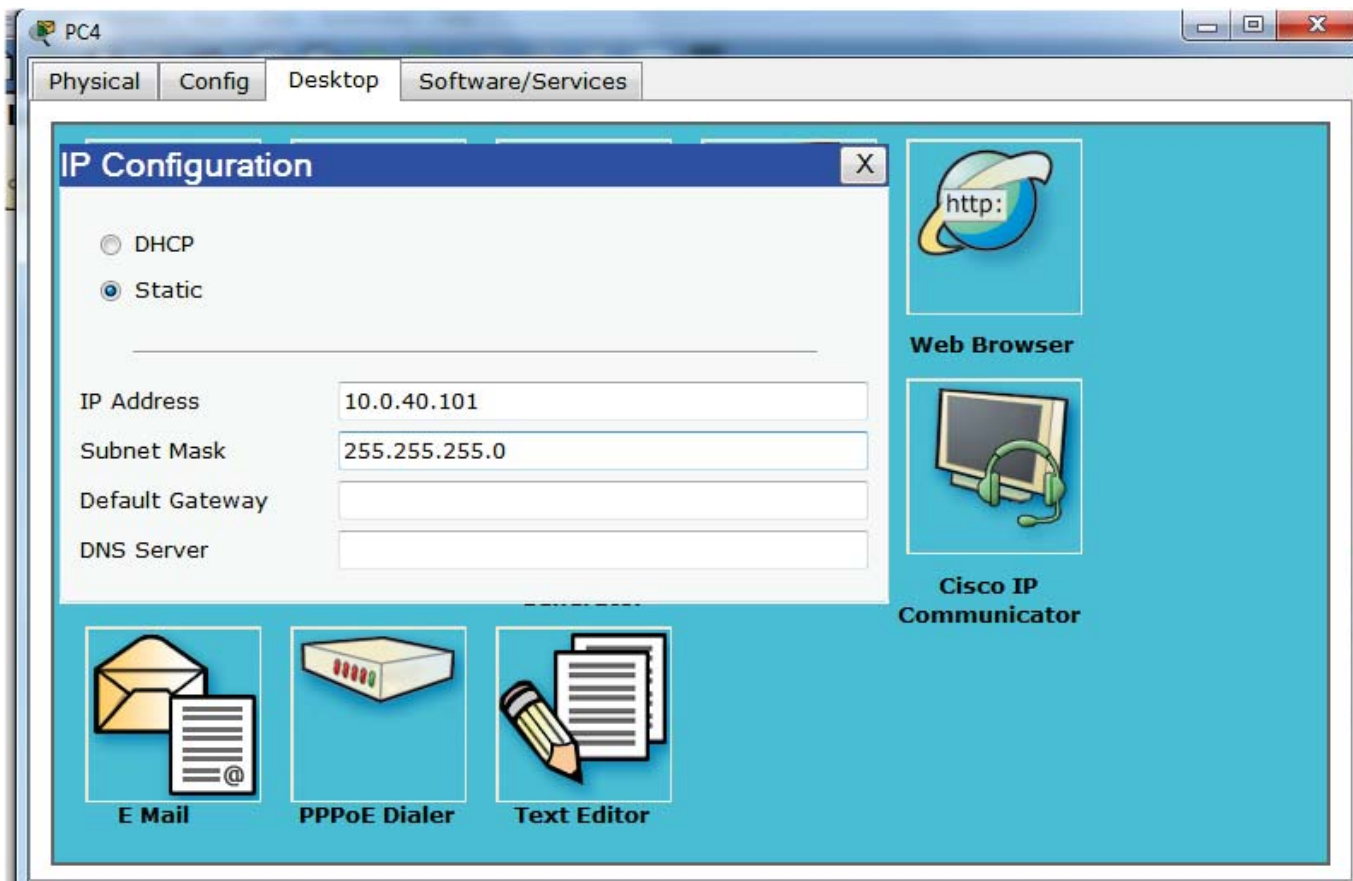
Setting	Value
Port Status	<input checked="" type="checkbox"/> On
Bandwidth	<input checked="" type="checkbox"/> Auto
Duplex	<input checked="" type="checkbox"/> Auto
MAC Address	0005.5E76.2C73
IP Configuration	<input checked="" type="radio"/> Static
IP Address	10.0.20.101
Subnet Mask	255.255.255.0
IPv6 Configuration	
Link Local Address:	
IPv6 Configuration	<input type="radio"/> DHCP
IPv6 Configuration	<input type="radio"/> Auto Config
IPv6 Configuration	<input checked="" type="radio"/> Static

## PC@VLAN03

The screenshot shows the configuration window for PC1. The 'Config' tab is active, and the 'FastEthernet' interface is selected. The settings are as follows:

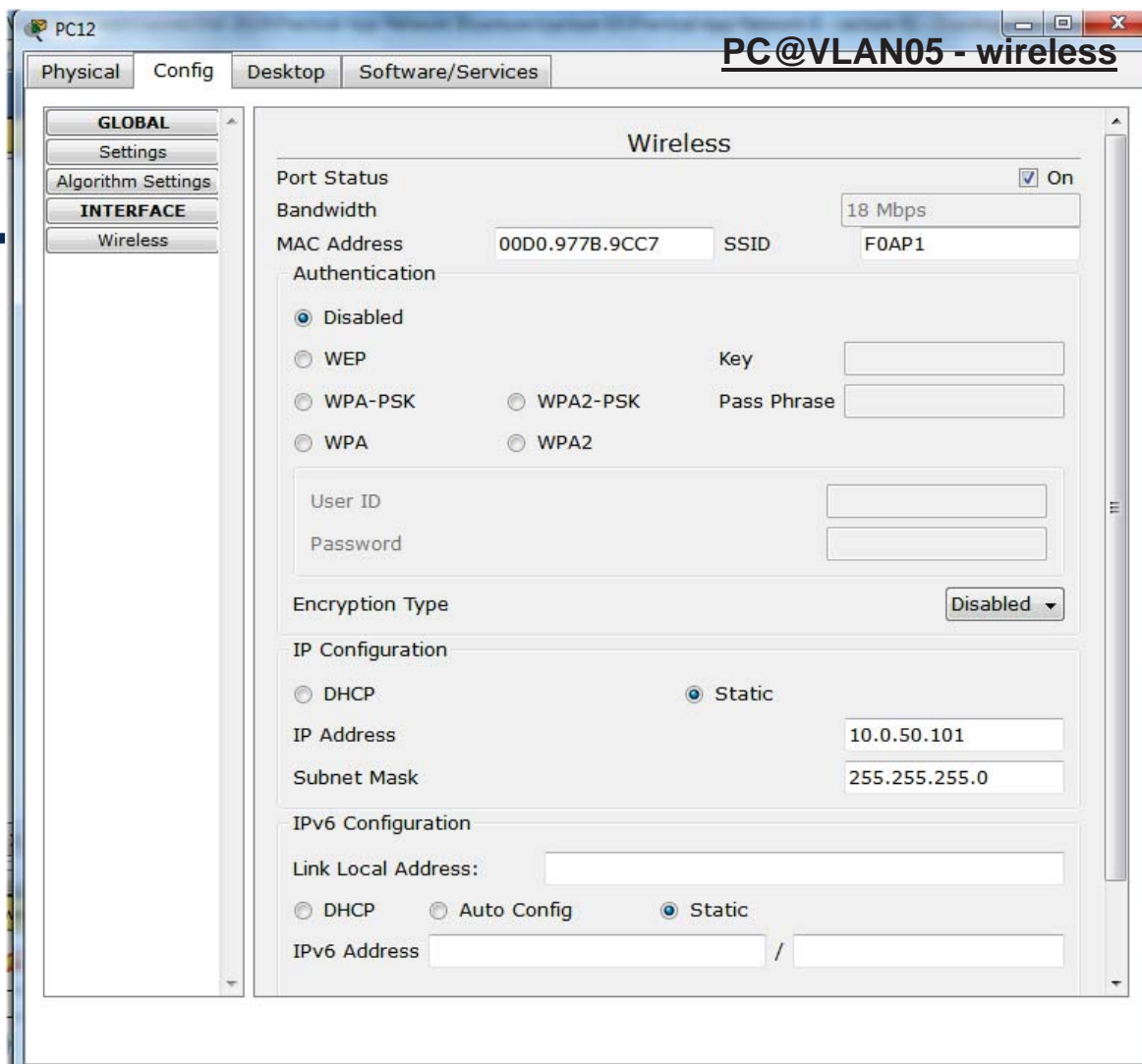
Setting	Value
Port Status	<input checked="" type="checkbox"/> On
Bandwidth	<input checked="" type="checkbox"/> Auto
Duplex	<input checked="" type="checkbox"/> Auto
MAC Address	000D.BD2C.E471
IP Configuration	<input checked="" type="radio"/> Static
IP Address	10.0.30.101
Subnet Mask	255.255.255.0
IPv6 Configuration	
Link Local Address:	
IPv6 Configuration	<input type="radio"/> DHCP
IPv6 Configuration	<input type="radio"/> Auto Config
IPv6 Configuration	<input checked="" type="radio"/> Static

# PC@VLAN04



13

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14

## Testing

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- all switches can access all other switches
- F0Dest is the core
- All PCs on VLAN 02 can access each other
- All PCs on VLAN 03 can access each other
- All PCs on VLAN 04 can access each other
- All Wireless PCs can access each other



**Thanks,..**  
**See you next week (ISA),...**