



DESIGN AND SIMULATION OF LOCAL AREA NETWORK USING CISCO PACKET TRACER

(CSC455 - Networks 2)



JUNE 21, 2021

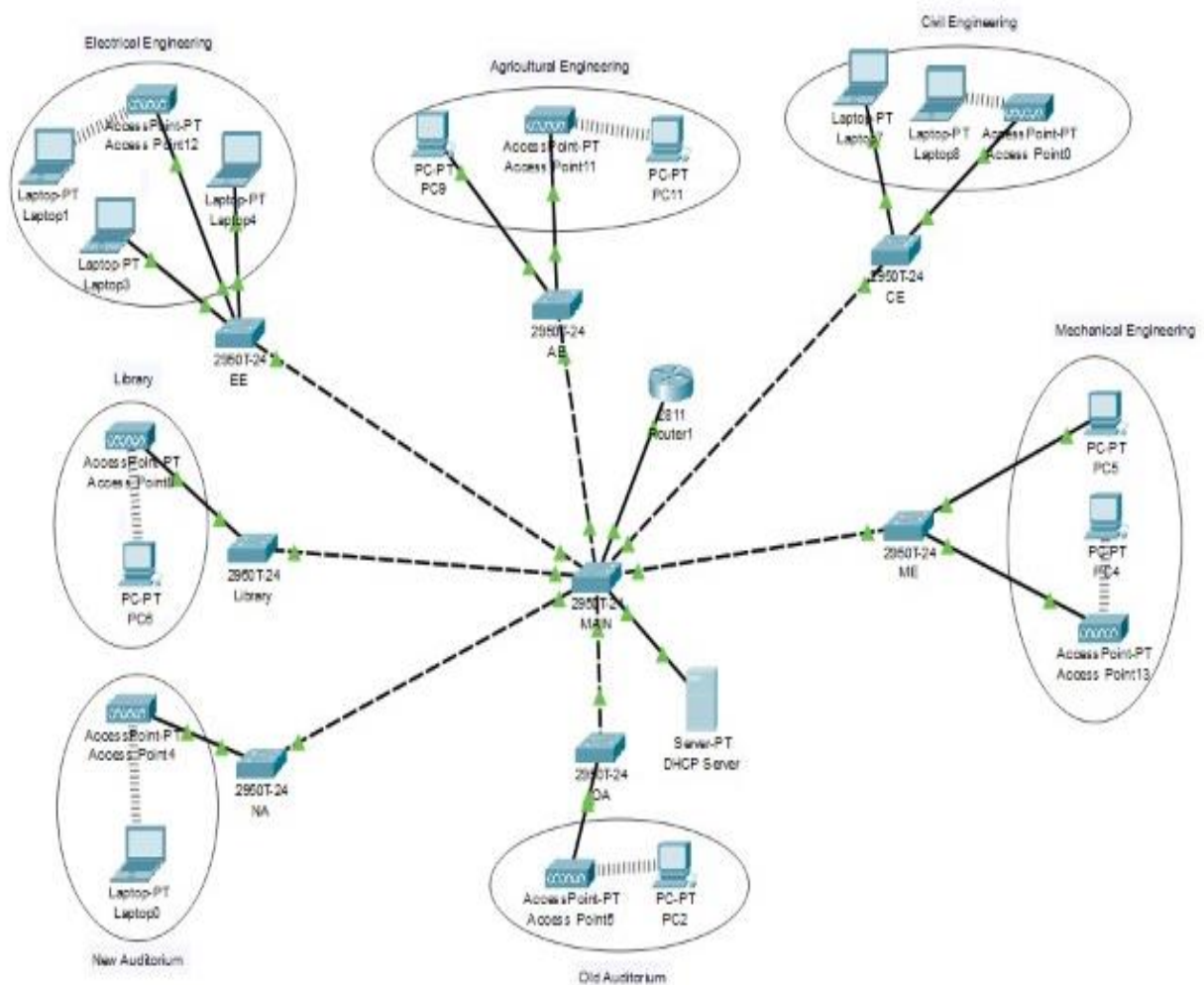
TEAM MEMBERS:

- 1- ABANOUB GOERGE
- 2- MAI MAHMOUD
- 3- NOUR BAHAA
- 4- IBRAHIM FAWZY

SUPERVISED BY:

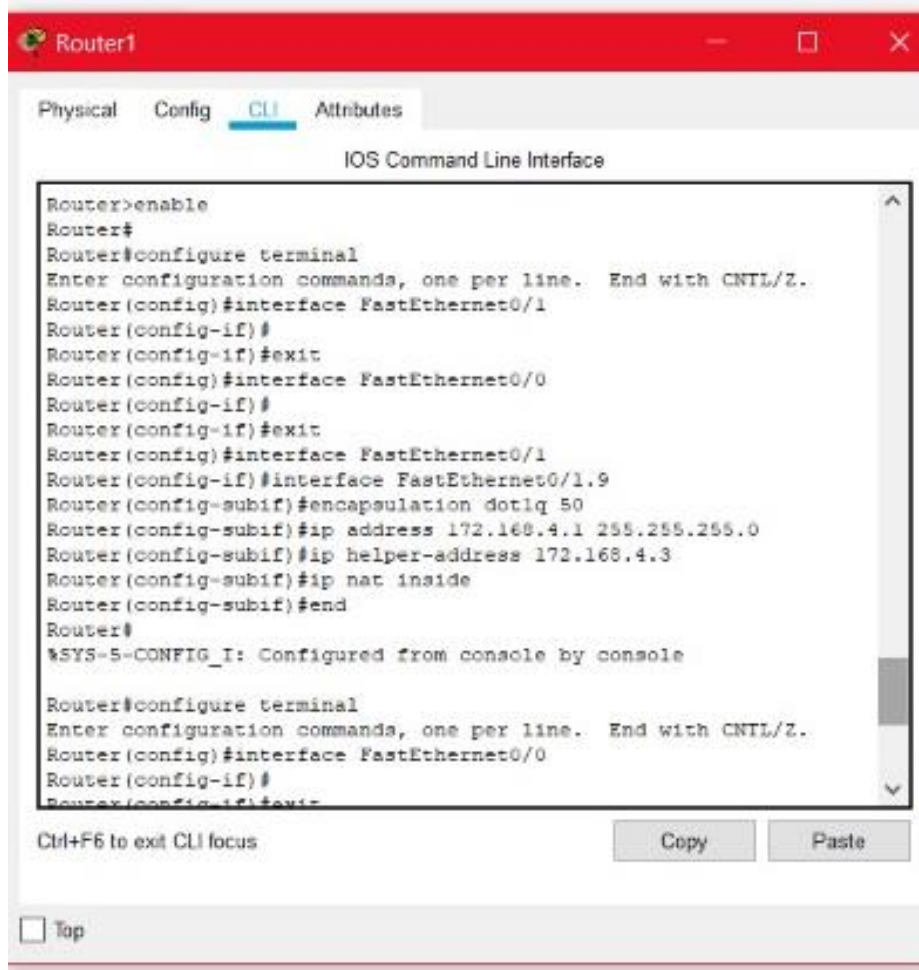
DOCTOR ISLAM THARWAT
ENG. AHMED HAZEM

Screenshot of the topology



Configuration Screenshots

Router



```
Router1
Physical Config CLI Attributes
IOS Command Line Interface

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#interface FastEthernet0/1.9
Router(config-subif)#encapsulation dot1q 50
Router(config-subif)#ip address 172.168.4.1 255.255.255.0
Router(config-subif)#ip helper-address 172.168.4.3
Router(config-subif)#ip nat inside
Router(config-subif)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

DHCP

“DHCP Config”

The screenshot shows the 'DHCP Server' configuration window with the 'IP Configuration' tab selected. The 'Static' radio button is chosen for IP Configuration. The fields are filled with: IP Address: 172.168.4.3, Subnet Mask: 255.255.255.0, Default Gateway: 172.168.4.1, and DNS Server: 0.0.0.0. The IPv6 Configuration section has 'Static' selected, with IPv6 Address and Link Local Address fields. The 802.1X section has 'Use 802.1X Security' unchecked, with 'MD5' selected for Authentication.

IP Configuration

☐ DHCP ☒ Static

IP Address: 172.168.4.3

Subnet Mask: 255.255.255.0

Default Gateway: 172.168.4.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::2D0:FFFF:FE64:3630

IPv6 Gateway:

IPv6 DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

“Vlan Pool”

The screenshot shows the 'DHCP Server' configuration window with the 'Services' tab selected. The 'DHCP' service is enabled. The 'Interface' is 'FastEthernet0'. The 'Pool Name' is 'serverPool'. The 'Default Gateway' is '172.168.4.1' and the 'DNS Server' is '172.168.4.3'. The 'Start IP Address' is '172.168.4.0' and the 'Subnet Mask' is '255.255.255.0'. The 'Maximum Number of Users' is '244'. The 'TFTP Server' and 'WLC Address' are both '0.0.0.0'. A table lists the configured VLAN pools.

SERVICES

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool

Default Gateway: 172.168.4.1

DNS Server: 172.168.4.3

Start IP Address: 172.168.4.0

Subnet Mask: 255.255.255.0

Maximum Number of Users: 244

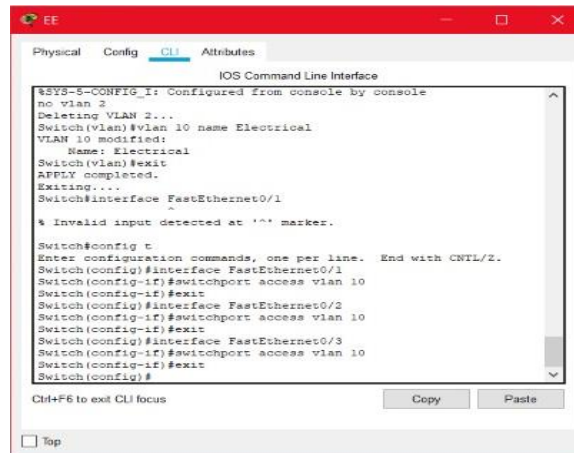
TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
VLAN80	172.168.4.1	172.168.4.3	172.168.4.5	255.255.255.0	251	0.0.0.0	0.0.0.0
serverPool	172.168.4.1	172.168.4.3	172.168.4.0	255.255.255.0	244	0.0.0.0	0.0.0.0
VLAN70	172.168.7.1	172.168.4.3	172.168.7.5	255.255.255.0	251	0.0.0.0	0.0.0.0
VLAN60	172.168.5.1	172.168.4.3	172.168.5.5	255.255.255.0	251	0.0.0.0	0.0.0.0
VLAN50	172.168.6.1	172.168.4.3	172.168.6.5	255.255.255.0	251	0.0.0.0	0.0.0.0
VLAN40	172.168.3.1	172.168.4.3	172.168.3.5	255.255.255.0	251	0.0.0.0	0.0.0.0
VLAN30	172.168.2.1	172.168.4.3	172.168.2.5	255.255.255.0	251	0.0.0.0	0.0.0.0
VLAN20	172.168.1.1	172.168.4.3	172.168.1.5	255.255.255.0	251	0.0.0.0	0.0.0.0
VLAN10	172.168.0.1	172.168.4.3	172.168.0.5	255.255.255.0	251	0.0.0.0	0.0.0.0

VLans

(Elictrical 10)



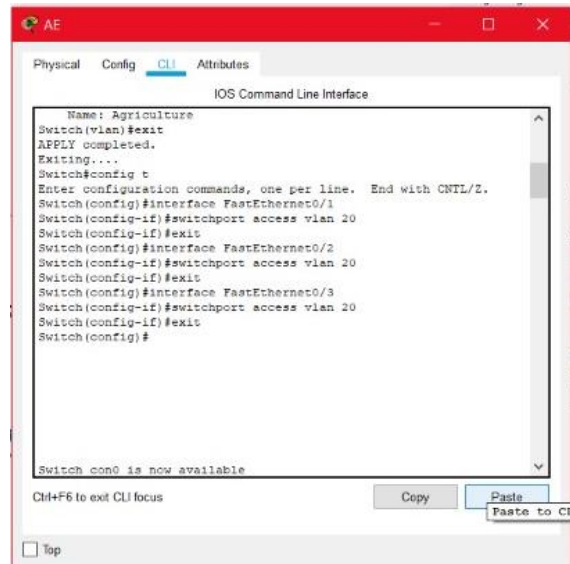
The screenshot shows the EE software interface with the 'CLI' tab selected. The 'IOS Command Line Interface' window displays the following commands and output:

```
$SYS-5-CONFIG-I: Configured from console by console
no vlan 2
Deleting VLAN 2...
Switch(vlan)#vlan 10 name Electrical
VLAN 10 modified:
  Name: Electrical
Switch(vlan)#exit
APPLY completed.
Exiting...
Switch#interface FastEthernet0/1
% Invalid input detected at '^' marker.

Switch#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface FastEthernet0/1
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/2
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/3
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#
```

Buttons for 'Copy' and 'Paste' are visible at the bottom right of the CLI window. A 'Top' button is at the bottom left.

(Agriculture 20)

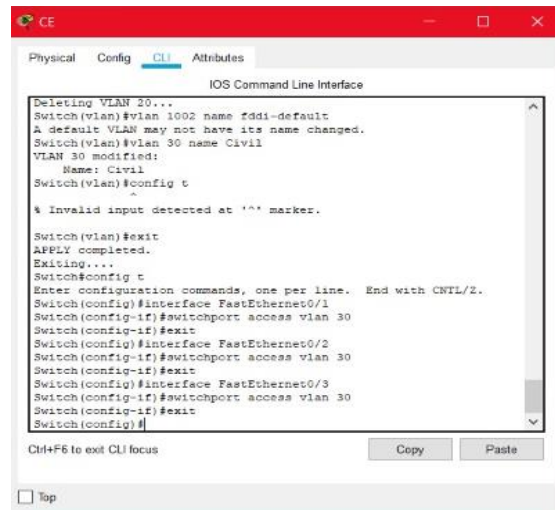


The screenshot shows the AE software interface with the 'CLI' tab selected. The 'IOS Command Line Interface' window displays the following commands and output:

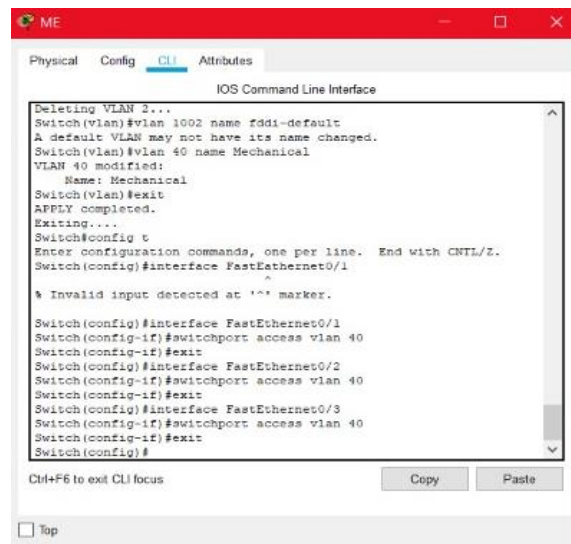
```
Name: Agriculture
Switch(vlan)#exit
APPLY completed.
Exiting...
Switch#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface FastEthernet0/1
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/2
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/3
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#
```

Buttons for 'Copy' and 'Paste' are visible at the bottom right of the CLI window. A 'Top' button is at the bottom left.

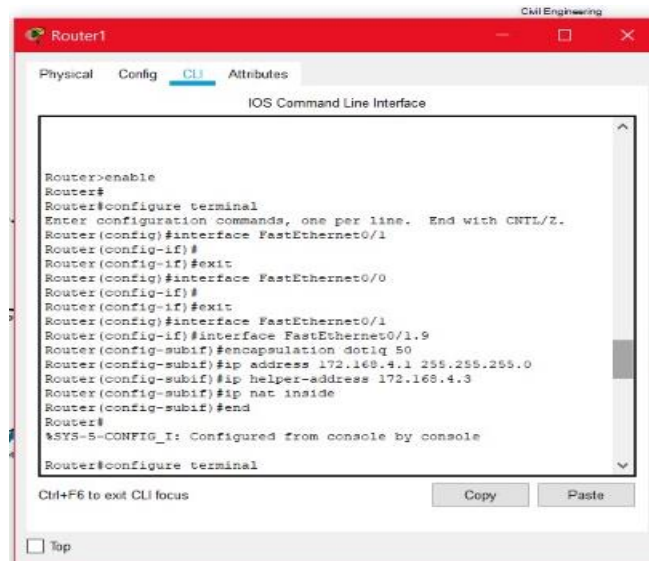
(Civil 30)



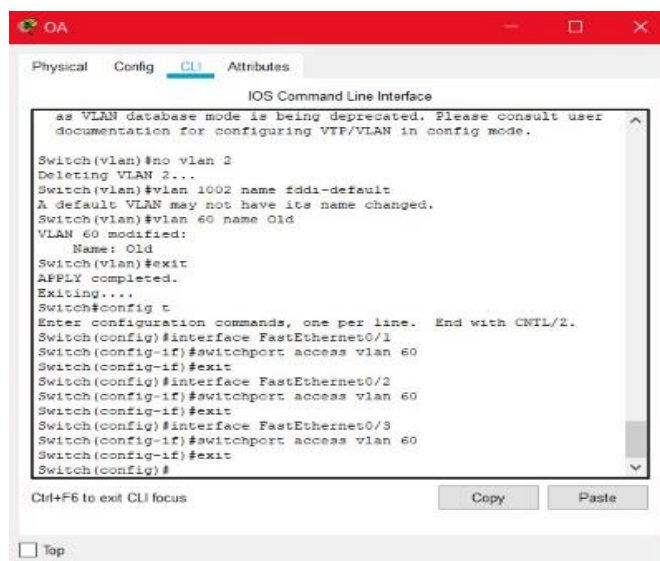
(Mechanical 40)



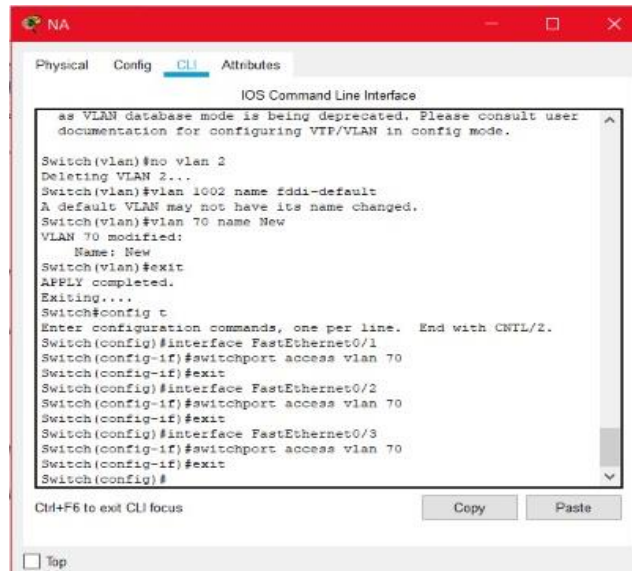
(Network 50)



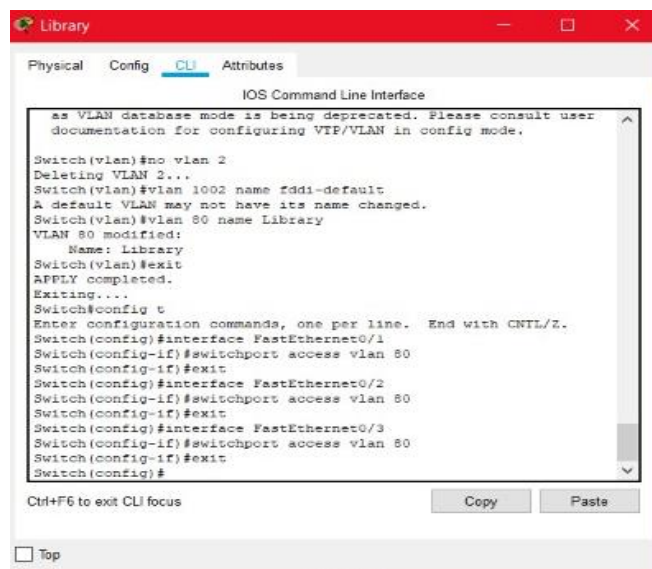
(Old 60)



(New 70)



(Library 80)



GitHub

<https://github.com/BonyGeorge/Design-and-Simulation-of-Local-Area-Network-Using-Cisco-Packet-Tracer>

Thank You 😊