

Network and Networking Devices Workshop

PROJECT REPORT – INITC19



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Introduction

The project we have created aims to show a simplified version of Network Design as used in Hotels using Cisco Packet Tracer.

Key Points:

- Use any of the following network simulation software to implement the above topology.
 - Simulation software: Cisco Packet tracer or GNS3 for design and implementation.
- Use OSPF as the routing protocol to advertise routes.
- Each department is required to have a wireless network for the users.
- Each department except the server room will be anticipated to have around 60 users both wired and wireless users.
- Host devices in the network are required to obtain IPv4 addresses automatically.
- Devices in all the departments are required to communicate with each other.
- Create HTTP, and E-mail servers.
- All devices in the network are expected to obtain an IP address dynamically from the dedicated DHCP servers located at the server room.
- Configure SSH in all the routers for remote login.
- Configure the basic configuration of the devices: Hostnames, Line Console and Enable passwords, Banner messages Disable domain IP lookup, encrypt all configured passwords.
- Each department should be in a different VLAN and subnetwork; VLANs you will use in your case, e.g. 10, 20, 30... etc..
- Planning of IP Addresses: You have been given 192.168.10.0 as the base address for this network. Do subnetting based on the number of hosts in every department as provided above. Identify subnet mask, useable IP address range, and broadcast address for each subnet.
- End Device Configurations: Configure all the end devices in the network with the appropriate IP address based on the calculations above.
- Configure port-security: Use sticky command to obtain MAC Address and Violation mode of the shutdown.
- Test and Verifying Network Communication.

Technologies Implemented:

1. Creating a network topology using Cisco Packet Tracer.
2. Hierarchical Network Design.
3. Connecting Networking devices with Correct cabling.
4. Configuring Basic device settings.
5. Creating VLANs and assigning ports VLAN numbers.
6. Subnetting and IP Addressing.
7. Configuring Inter-VLAN Routing on the Multilayer switches (Switch Virtual Interface).
8. Configuring Dedicated DHCP Server device to provide dynamic IP allocation.
9. Configuring SSH for secure Remote access.
10. Configuring OSPF as the routing protocol.
11. Configuring switchport security or Port-Security on the switches.
12. Configuring WLAN or wireless network (Cisco Access Point).
13. Host Device Configurations.
14. Test and Verifying Network Communication.

Network Components and Their Utilization:

- Router:

- Manages communication between different branches of the financial institution.
- Connects the financial institution's internal network to external networks such as the internet and other financial networks.
- Ensures secure and efficient data transfer between branches and external parties.
- Implements security features such as firewalls to protect sensitive financial information.

- Switch:

- Connects various end devices within each branch's local network, such as computers, printers, servers, and access points.
- Facilitates communication between devices within the branch, ensuring efficient data exchange.
- Helps manage network traffic within the branch to maintain optimal performance.
- Supports VLANs to separate different types of network traffic, such as customer transactions and administrative data.

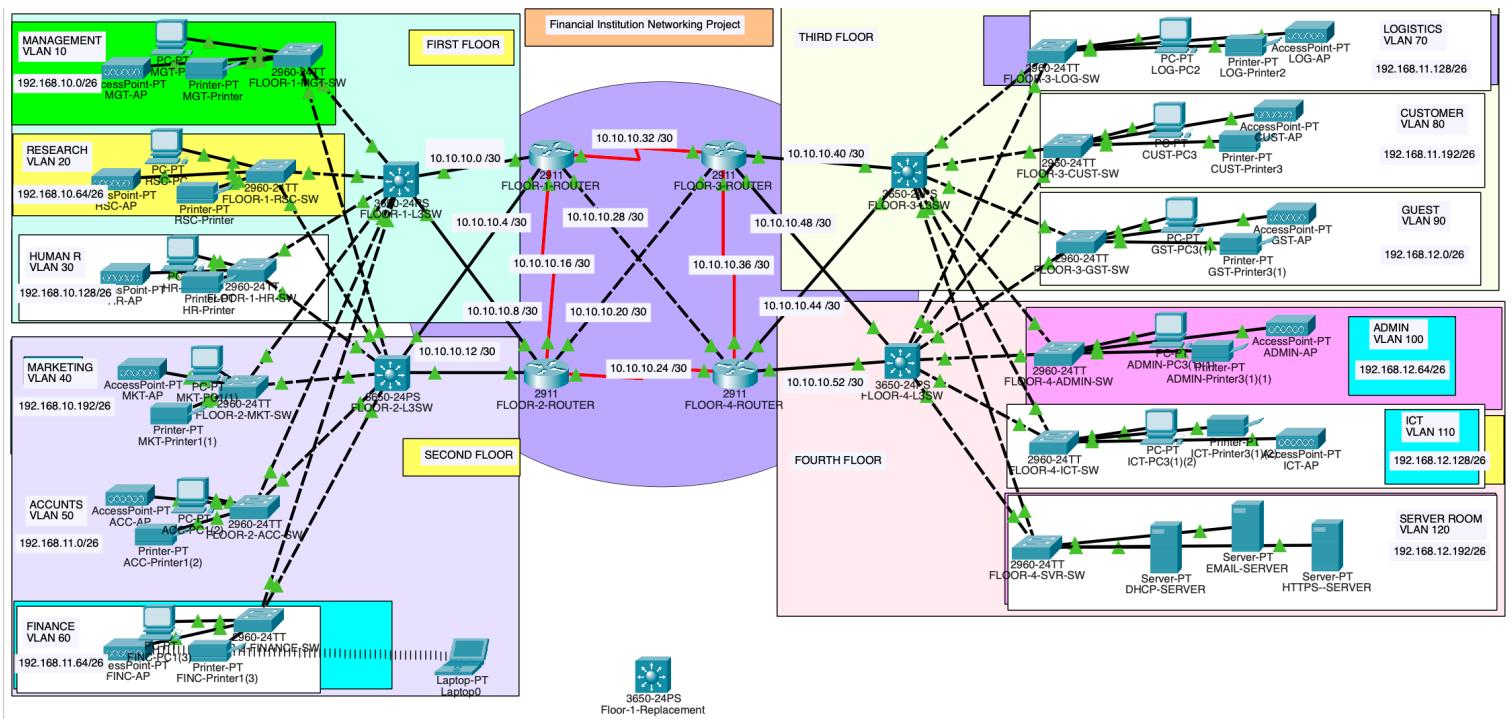
- Server:

- Hosts critical banking applications and databases, including core banking systems, customer databases, and transaction processing systems.
 - Provides centralized storage for customer account information, transaction records, and other sensitive data.
 - Ensures high availability and reliability to support uninterrupted financial operations.
 - Implements security measures such as encryption and access controls to protect sensitive financial data.
- **Multipoint Switch:**
- Facilitates communication between multiple branches of the financial institution, allowing them to exchange data and access centralized resources.
 - Ensures secure and efficient data transfer between branches, even during peak times of network traffic.
 - Supports Quality of Service (QoS) features to prioritize important financial transactions over less critical data.
- **End Devices (PCs and Printers):**
- Used by financial institution employees for various tasks, including customer service, account management, and administrative work.
 - PCs run banking applications and software for accessing customer accounts, processing transactions, and managing branch operations.
 - Printers are used for printing customer transaction receipts, account statements, and other financial documents.
 - Located in various areas of the branch, such as teller stations, customer service desks, and administrative offices.
 - Connected to the branch's network to access centralized resources such as databases, servers, and other end devices.
 - Implements security measures such as antivirus software, user authentication, and encryption to prevent unauthorized access and protect sensitive financial data.
- **VLAN:**
- In a financial institution, VLANs (Virtual Local Area Networks) are pivotal for network management, security, and efficiency. By segmenting the network logically, VLANs ensure that sensitive financial data is isolated, complying with stringent security regulations like PCI DSS and GDPR. This segmentation prioritizes critical transactions, optimizing network resources and bandwidth.

usage. VLANs streamline network management by providing a structured approach to device organization and access control, simplifying tasks for administrators. Additionally, they enhance disaster recovery and business continuity efforts by facilitating redundancy and failover mechanisms. Ultimately, VLANs empower financial institutions to safeguard their data, maintain compliance, and ensure seamless operations amidst dynamic business environments.

Views:

1. Logical View:

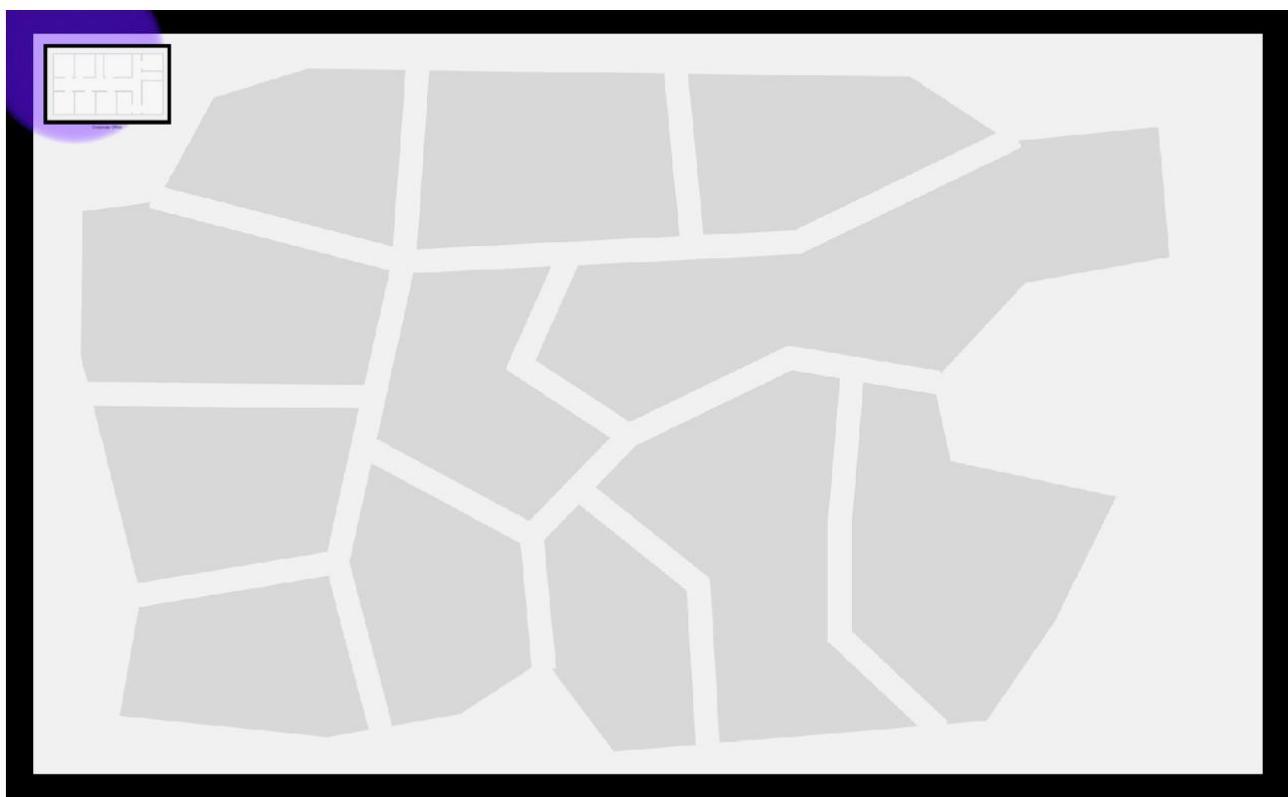


2. Physical View:

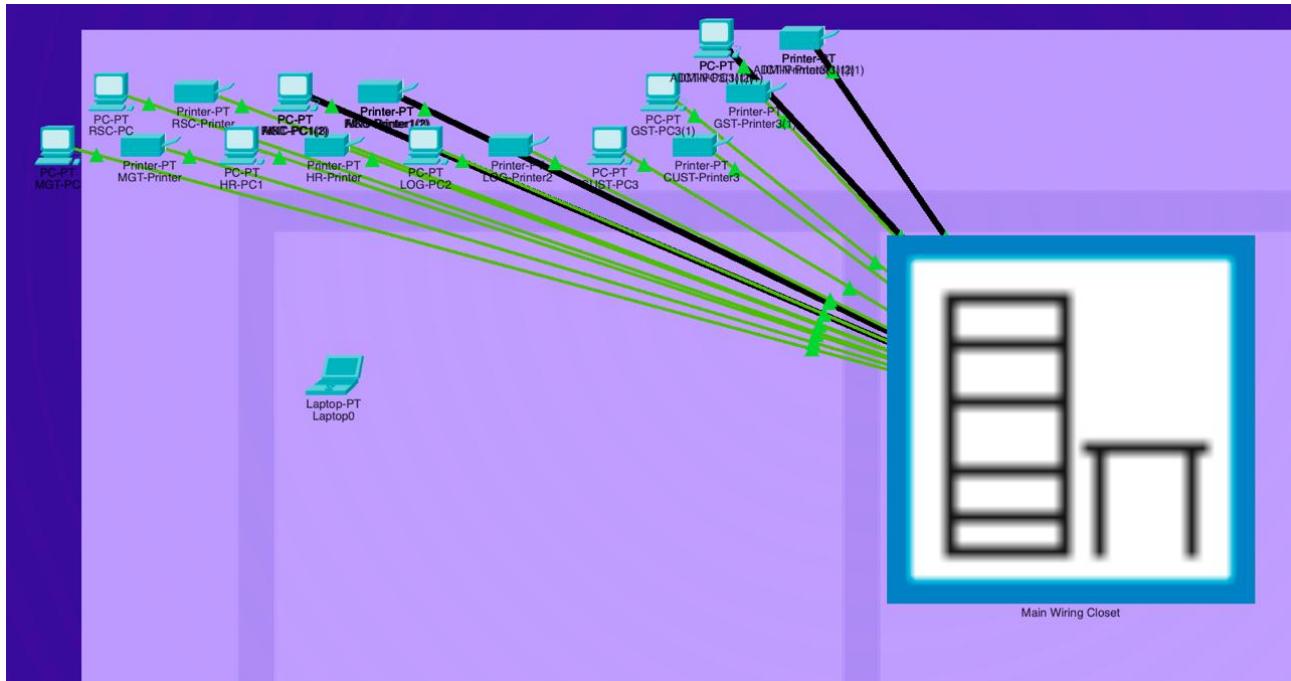
Intercity View:



Homecity View:



Corporate Office View:



Implementation:

- Setup:

• Adding All required components :

- Routers
- Switches
- PCs
- Laptops
- Printers
- Mobiles or Tablets
- Access Points

• Arrange and Label Devices:

- Arrange devices into floors and required sections for better connection
- Label devices, floors, sections and routes for better organization and visualization

• Configure PCs for routing:

- Add IP addresses and default gateways to all PCs and Laptops either using static or DHCP

• Add Cable connections:

- Add connections between routers using serial cable
- Add connection between Switch and end devices

- o Add connection between Switch and Router

- Configure SSH on routers and switches:

- Hostnames
- Line console and VTY passwords
- Banner messages
- Disable Domain IP lookups

Layer 2 switch:

```

Switch>
Switch>
Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname F1-Mgt-SW
F1-Mgt-SW(config)#banner motd #This Floor1-mgt switch#
F1-Mgt-SW(config)#line console 0
F1-Mgt-SW(config-line)#pass
F1-Mgt-SW(config-line)#password cisco
F1-Mgt-SW(config-line)#login
F1-Mgt-SW(config-line)#exit
F1-Mgt-SW(config)#
F1-Mgt-SW(config)#
F1-Mgt-SW(config)#
F1-Mgt-SW(config)#line vty 0 15
F1-Mgt-SW(config-line)#pass
F1-Mgt-SW(config-line)#password cisco
F1-Mgt-SW(config-line)#login
F1-Mgt-SW(config-line)#exit
F1-Mgt-SW(config)#
F1-Mgt-SW(config)#no ip domain-lo
F1-Mgt-SW(config)#no ip domain-lookup
F1-Mgt-SW(config)#enable
F1-Mgt-SW(config)#enable p
F1-Mgt-SW(config)#enable password cisco
F1-Mgt-SW(config)#
F1-Mgt-SW(config)#serv
F1-Mgt-SW(config)#service pas
F1-Mgt-SW(config)#service password-encryption
F1-Mgt-SW(config)#
F1-Mgt-SW(config)#
F1-Mgt-SW(config)#
F1-Mgt-SW(config)#
Building configuration...
[OK]
F1-Mgt-SW(config)#

```

Layer 3 switch:

```

Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostna
Switch(config)#hostname F1-13sw
F1-13sw(config)#bann
F1-13sw(config)#banner m
F1-13sw(config)#banner motd #This 13-switch#
F1-13sw(config)#line consol
F1-13sw(config)#line console 0
F1-13sw(config-line)#pass
F1-13sw(config-line)#password cisco
F1-13sw(config-line)#login
F1-13sw(config-line)#exit
F1-13sw(config)#line vty 0 15
F1-13sw(config-line)#pass
F1-13sw(config-line)#password cisco
F1-13sw(config-line)#logi
F1-13sw(config-line)#login
F1-13sw(config-line)#exit
F1-13sw(config)#
F1-13sw(config)#
F1-13sw(config)#
F1-13sw(config)#no ip domain
F1-13sw(config)#no ip domain-
F1-13sw(config)#no ip domain-
F1-13sw(config)#no ip domain-lookup

```

```
How many bits in the modulus [512]: 1024
Generating 1024 bit RSA keys, keys will be non-exportable...[OK]
```

```
F1-13sw(config)#  
*Mar 1 2:17:30.969: %SSH-5-ENABLED: SSH 1.99 has been enabled  
F1-13sw(config)#  
F1-13sw(config)#line vty 0 15  
F1-13sw(config-line)#log  
F1-13sw(config-line)#login  
F1-13sw(config-line)#login local  
F1-13sw(config-line)#tran  
F1-13sw(config-line)#transport in  
F1-13sw(config-line)#transport input s  
F1-13sw(config-line)#transport input ssh  
F1-13sw(config-line)#ex  
* Ambiguous command: "ex"  
F1-13sw(config-line)#  
F1-13sw(config-line)#  
F1-13sw(config-line)# [ ]  
F1-13sw(config-line)#exit  
F1-13sw(config)#  
F1-13sw(config)#  
F1-13sw(config)#  
F1-13sw(config)#do wr  
Building configuration...  
Compressed configuration from 7383 bytes to 3601 bytes[OK]  
[OK]  
F1-13sw(config)#
```

Router:

```
Router(config)#hostname Core-LayerR
Core-LayerR(config)#banner motd #This is Core-LayerR #
Core-LayerR(config)#
Core-LayerR(config)#line console 0
Core-LayerR(config-line)#password cisco
Core-LayerR(config-line)#login
Core-LayerR(config-line)#exit
Core-LayerR(config)#
Core-LayerR(config)#ip domain-name cisco.net
Core-LayerR(config)#username cisco password cisco
Core-LayerR(config)#crypto key generate rsa
The name for the keys will be: Core-LayerR.cisco.net
Choose the size of the key modulus in the range of 360 to 2048 for your
General Purpose Keys. Choosing a key modulus greater than 512 may take
a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

Core-LayerR(config)#line vty 0 15
*Mar 1 2:37:1.399: %SSH-5-ENABLED: SSH 1.99 has been enabled
Core-LayerR(config-line)#login local
Core-LayerR(config-line)#transport input ssh
Core-LayerR(config-line)#exit
Core-LayerR(config)#
Core-LayerR(config)#
Core-LayerR(config)#no ip domain-lookup
Core-LayerR(config)#enable password cisco
Core-LayerR(config)#service password-encryption
Core-LayerR(config)#
Core-LayerR(config)#do wr
Building configuration...
[OK]
Core-LayerR(config)#
Core-LayerR(config)#[
```

- VLAN Assignment and Switch Port Security:

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed sta  
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed sta  
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed sta  
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed sta  
  
F1-Mgt-SW(config-if-range)#  
F1-Mgt-SW(config-if-range)#  
F1-Mgt-SW(config-if-range)#ex  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config-vlan)#name Mgt  
F1-Mgt-SW(config-vlan)#exit  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#int range fa0/3-24  
F1-Mgt-SW(config-if-range)#switc  
F1-Mgt-SW(config-if-range)#switchport m  
F1-Mgt-SW(config-if-range)#switchport mode tr  
F1-Mgt-SW(config-if-range)#switchport mode ac  
F1-Mgt-SW(config-if-range)#switchport mode access  
F1-Mgt-SW(config-if-range)#sw  
F1-Mgt-SW(config-if-range)#switchport a  
F1-Mgt-SW(config-if-range)#switchport access v  
F1-Mgt-SW(config-if-range)#switchport access vlan 10  
F1-Mgt-SW(config-if-range)#  
F1-Mgt-SW(config-if-range)#[
```

```
F1-Mgt-SW(config-if-range)#switchport access vlan 10  
F1-Mgt-SW(config-if-range)#  
F1-Mgt-SW(config-if-range)#  
F1-Mgt-SW(config-if-range)#swit  
F1-Mgt-SW(config-if-range)#switchport p  
F1-Mgt-SW(config-if-range)#switchport port-se  
F1-Mgt-SW(config-if-range)#switchport port-security  
F1-Mgt-SW(config-if-range)#sw  
F1-Mgt-SW(config-if-range)#switchport p  
F1-Mgt-SW(config-if-range)#switchport port-s  
F1-Mgt-SW(config-if-range)#switchport port-security ma  
F1-Mgt-SW(config-if-range)#switchport port-security maximum 2  
F1-Mgt-SW(config-if-range)#switchport port-security ma  
F1-Mgt-SW(config-if-range)#switchport port-security mac  
F1-Mgt-SW(config-if-range)#switchport port-security mac-address st  
F1-Mgt-SW(config-if-range)#switchport port-security mac-address sticky  
F1-Mgt-SW(config-if-range)#switchport port-security v  
F1-Mgt-SW(config-if-range)#switchport port-security violation shu  
F1-Mgt-SW(config-if-range)#switchport port-security violation shutdown  
F1-Mgt-SW(config-if-range)#  
F1-Mgt-SW(config-if-range)#  
F1-Mgt-SW(config-if-range)#  
F1-Mgt-SW(config-if-range)#do wr  
Building configuration...  
[OK]  
F1-Mgt-SW(config-if-range)#  
F1-Mgt-SW(config-if-range)#  
F1-Mgt-SW(config-if-range)#exit  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#  
F1-Mgt-SW(config)#do
```

```

switchport access vlan 10
switchport mode access
switchport port-security
switchport port-security maximum 2
switchport port-security mac-address sticky
!
interface FastEthernet0/8
switchport access vlan 10
switchport mode access
switchport port-security
switchport port-security maximum 2
switchport port-security mac-address sticky
!
interface FastEthernet0/9
switchport access vlan 10
switchport mode access
switchport port-security
switchport port-security maximum 2
switchport port-security mac-address sticky
!
interface FastEthernet0/10
switchport access vlan 10
switchport mode access
switchport port-security
switchport port-security maximum 2
switchport port-security mac-address sticky
!
interface FastEthernet0/11
switchport access vlan 10
switchport mode access
switchport port-security

```

F1-Mgt-SW(config)#do sh

```

interface FastEthernet0/11
switchport access vlan 10
switchport mode access
switchport port-security

```

F1-Mgt-SW(config)#do sh port-security

| Secure Port | MaxSecureAddr | CurrentAddr | SecurityViolation | Action |
|-------------|---------------|-------------|-------------------|----------|
| (Count) | (Count) | (Count) | | |
| Fa0/3 | 2 | 0 | 0 | Shutdown |
| Fa0/4 | 2 | 0 | 0 | Shutdown |
| Fa0/5 | 2 | 0 | 0 | Shutdown |
| Fa0/6 | 2 | 0 | 0 | Shutdown |
| Fa0/7 | 2 | 0 | 0 | Shutdown |
| Fa0/8 | 2 | 0 | 0 | Shutdown |
| Fa0/9 | 2 | 0 | 0 | Shutdown |
| Fa0/10 | 2 | 0 | 0 | Shutdown |
| Fa0/11 | 2 | 0 | 0 | Shutdown |
| Fa0/12 | 2 | 0 | 0 | Shutdown |
| Fa0/13 | 2 | 0 | 0 | Shutdown |
| Fa0/14 | 2 | 0 | 0 | Shutdown |
| Fa0/15 | 2 | 0 | 0 | Shutdown |
| Fa0/16 | 2 | 0 | 0 | Shutdown |
| Fa0/17 | 2 | 0 | 0 | Shutdown |
| Fa0/18 | 2 | 0 | 0 | Shutdown |
| Fa0/19 | 2 | 0 | 0 | Shutdown |
| Fa0/20 | 2 | 0 | 0 | Shutdown |
| Fa0/21 | 2 | 0 | 0 | Shutdown |
| Fa0/22 | 2 | 0 | 0 | Shutdown |
| Fa0/23 | 2 | 0 | 0 | Shutdown |
| Fa0/24 | 2 | 0 | 0 | Shutdown |

F1-Mgt-SW(config) #

- OSPF on routers and switches:

Router:

The screenshot shows the Cisco Network Assistant interface for a device named "FLOOR-1-ROUTER". The "CLI" tab is selected. The terminal window displays the following configuration commands:

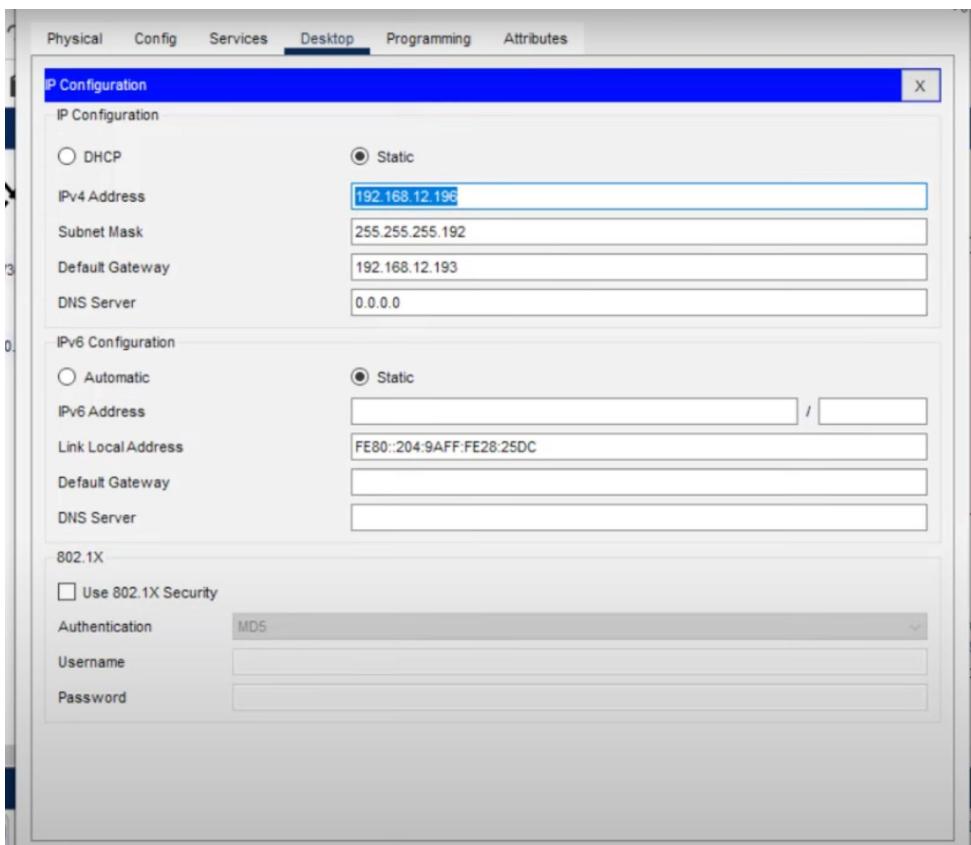
```
password:  
password:  
Core-LayerR>en  
password:  
Core-LayerR#  
Core-LayerR#  
Core-LayerR#  
Core-LayerR#  
Core-LayerR#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
Core-LayerR(config)#  
Core-LayerR(config)#  
Core-LayerR(config)#  
Core-LayerR(config) #rout  
Core-LayerR(config) #router o  
Core-LayerR(config) #router ospf 10  
Core-LayerR(config-router)#  
Core-LayerR(config-router)#  
Core-LayerR(config-router) #  
Core-LayerR(config-router) #net  
Core-LayerR(config-router) #network 10.10.10.0 0.0.0.3 ar  
Core-LayerR(config-router) #network 10.10.10.0 0.0.0.3 area 0  
Core-LayerR(config-router) #network 10.10.10.4 0.0.0.3 area 0  
Core-LayerR(config-router) #network 10.10.10.16 0.0.0.3 area 0  
Core-LayerR(config-router) #network 10.10.10.28 0.0.0.3 area 0  
Core-LayerR(config-router) #network 10.10.10.32 0.0.0.3 area 0  
Core-LayerR(config-router) #ex  
Core-LayerR(config) #  
Core-LayerR(config) #  
Core-LayerR(config) #  
Core-LayerR(config) #do wr  
Building configuration...  
(OK)  
Core-LayerR(config) #
```

Switch:

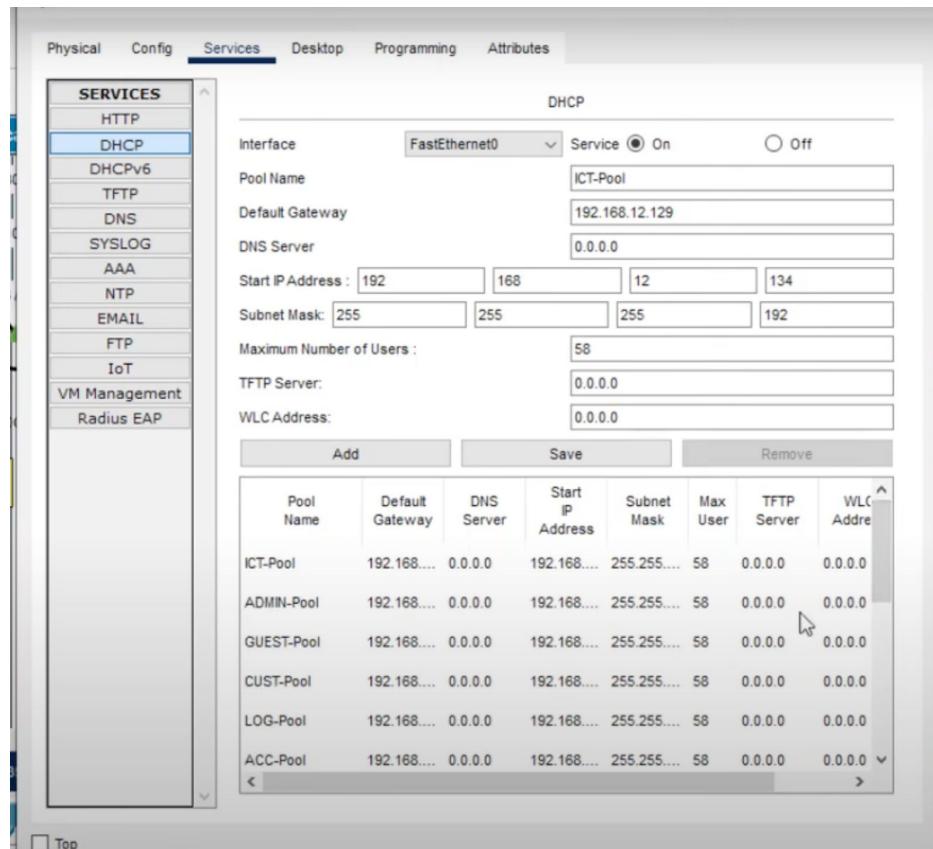
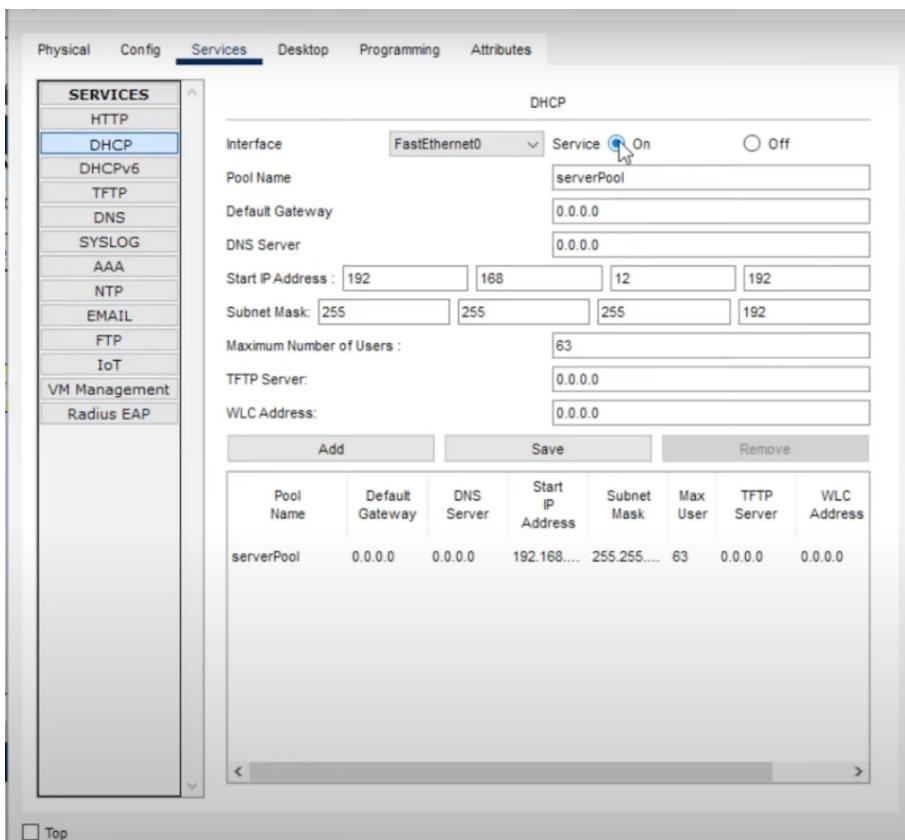
The screenshot shows the Cisco Network Assistant interface for a device named "FLOOR-3-L3SW". The "CLI" tab is selected. The terminal window displays the following configuration commands and interface status messages:

```
$LINK-5-CHANGED: Interface GigabitEthernet1/0/7, changed state to up  
$LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/0/7, changed state to up  
$LINK-5-CHANGED: Interface GigabitEthernet1/0/8, changed state to up  
$LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/0/8, changed state to up  
User Access Verification  
Password:  
Layer-3-Sw>en  
password:  
Layer-3-Sw#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
Layer-3-Sw(config)#ip routing  
Layer-3-Sw(config) #rout ospf 10  
Layer-3-Sw(config-router) #network 10.10.10.42 0.0.0.3 area 0  
Layer-3-Sw(config-router) #network 10.10.10.40 0.0.0.3 area 0  
Layer-3-Sw(config-router) #  
Layer-3-Sw(config-router) #network 192.168.11.128 0.0.0.63 area 0  
Layer-3-Sw(config-router) #network 192.168.11.192 0.0.0.63 area 0  
Layer-3-Sw(config-router) #network 192.168.12.0 0.0.0.63 area 0  
Layer-3-Sw(config-router) #network 192.168.12.64 0.0.0.63 area 0  
Layer-3-Sw(config-router) #network 192.168.12.128 0.0.0.63 area 0  
Layer-3-Sw(config-router) #network 192.168.12.192 0.0.0.63 area 0  
Layer-3-Sw(config-router) #  
Layer-3-Sw(config-router) #  
Layer-3-Sw(config-router) #do wr  
Building configuration...  
Compressed configuration from 7383 bytes to 3601 bytes(OK)  
(OK)  
Layer-3-Sw(config-router) #
```

- **Static IP address to server room devices:**



- DHCP server device configurations:



- Inter-VLAN routing:

Physical Config CLI Attributes

IOS Command Line Interface

```
User Access Verification
Password:
F1-13sw>en
Password:
F1-13sw#conf t
Enter configuration commands, one per line. End with CNTL/Z.
F1-13sw(config)#
F1-13sw(config)#vlan 10
F1-13sw(config-vlan)#vlan 20
F1-13sw(config-vlan)#vlan 30
F1-13sw(config-vlan)#vlan 40
F1-13sw(config-vlan)#vlan 50
F1-13sw(config-vlan)#vlan 60
F1-13sw(config-vlan)#ex
F1-13sw(config)#
F1-13sw(config)#
F1-13sw(config)#
F1-13sw(config)#
do sh vlan database
sh vlan database
^
% Invalid input detected at '^' marker.

F1-13sw(config)#
Ctrl+F6 to exit CLI focus
Copy Paste
Top
```

```
F1-13sw(config)#
do sh vlan database
sh vlan database
^
% Invalid input detected at '^' marker.

F1-13sw(config)#
do sh vlan

VLAN Name          Status      Ports
-----  -----
1    default        active     Gig1/0/9, Gig1/0/10, Gig1/0/11, Gig1/0/12
                                         Gig1/0/13, Gig1/0/14, Gig1/0/15,
                                         Gig1/0/17, Gig1/0/18, Gig1/0/19,
                                         Gig1/0/21, Gig1/0/22, Gig1/0/23,
                                         Gig1/1/1, Gig1/1/2, Gig1/1/3, Gig1/1/4
                                         Gig1/0/20
                                         Gig1/0/24
                                         Gig1/1/1, Gig1/1/2, Gig1/1/3, Gig1/1/4
10   VLAN0010        active
20   VLAN0020        active
30   VLAN0030        active
40   VLAN0040        active
50   VLAN0050        active
60   VLAN0060        active
1002 fddi-default   active
1003 token-ring-default active
1004 fddinet-default active
1005 trnet-default   active

VLAN Type   SAID      MTU      Parent RingNo BridgeNo Stp   BrdgMode Transl Trans2
-----  -----
1    enet    100001    1500     -       -       -       -       0       0
--More--
```

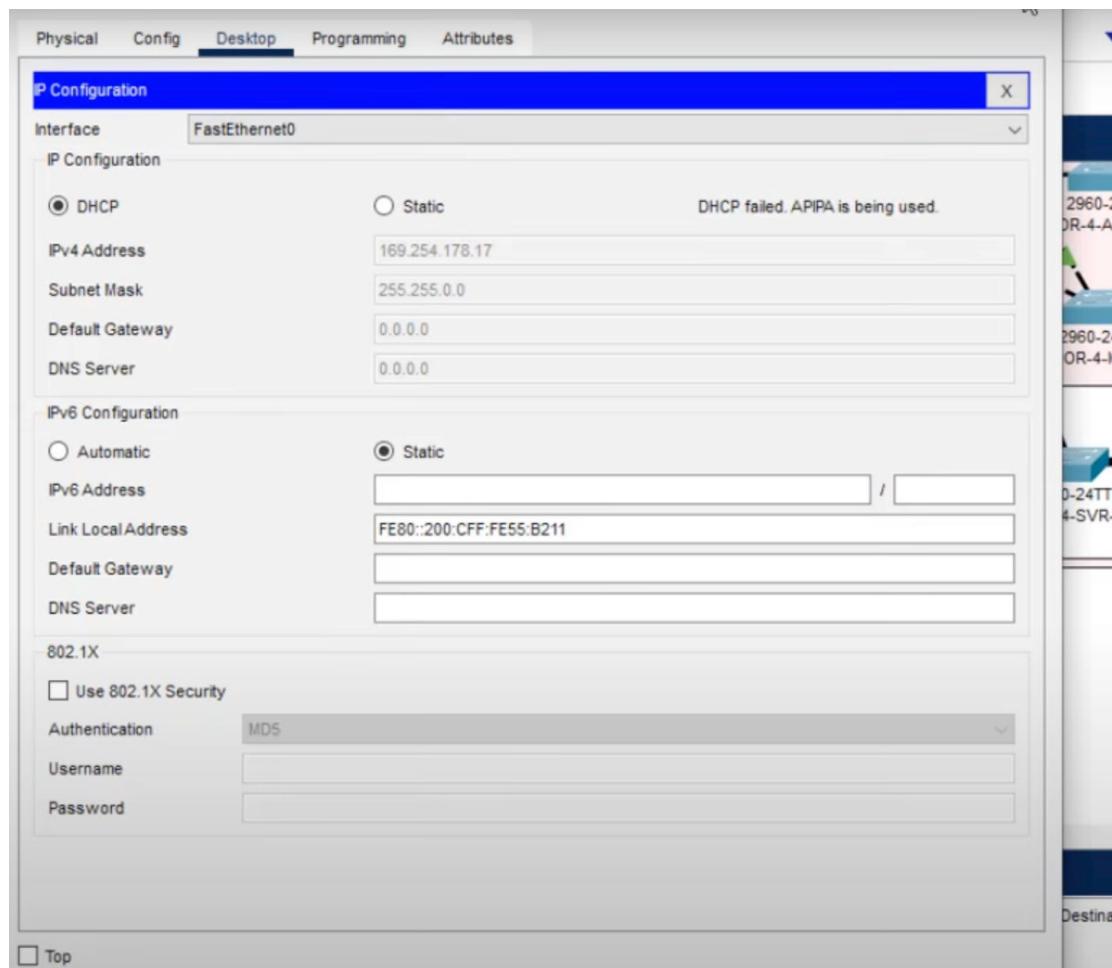
```

F1-13sw(config-if)#
F1-13sw(config-if)#no shut
F1-13sw(config-if)#
F1-13sw(config-if)#
F1-13sw(config-if)#
F1-13sw(config-if)#
F1-13sw(config-if)#
F1-13sw(config-if)ip add
F1-13sw(config-if)ip address 192.168.10.1 255.255.255.192
F1-13sw(config-if)#
F1-13sw(config-if)#
F1-13sw(config-if)#
F1-13sw(config-if)#
F1-13sw(config-if)ip dhcp
F1-13sw(config-if)ip dhcp help
F1-13sw(config-if)ip dhcp helper-add
F1-13sw(config-if)ip dhcp helper-address
^
% Invalid input detected at '^' marker.

F1-13sw(config-if)ip he
F1-13sw(config-if)ip help
F1-13sw(config-if)ip helper-address |

```

- Wireless Network Configurations:



Physical Config Services Desktop Programming Attributes

SERVICES

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS**
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DNS

DNS Service On Off

Resource Records

| Name | Type |
|---------------|----------|
| www.gtech.com | A Record |

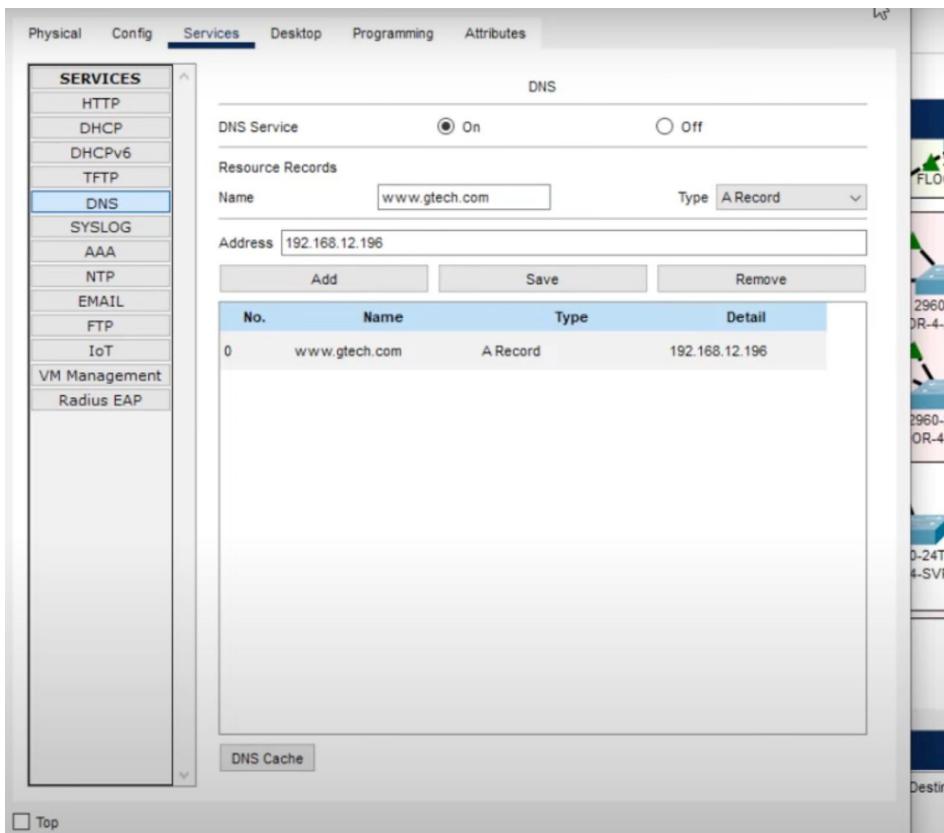
Address 192.168.12.196

Add Save Remove

| No. | Name | Type | Detail |
|-----|---------------|----------|----------------|
| 0 | www.gtech.com | A Record | 192.168.12.196 |

DNS Cache

Top



Physical Config Attributes

GLOBAL

Settings

INTERFACE

Port 0

Port 1

Port 1

Port Status On

SSID Finance-WIFI

2.4 GHz Channel 6

Coverage Range (meters) 140.00

Authentication

Disabled WEP WPA2-PSK

WEP Key

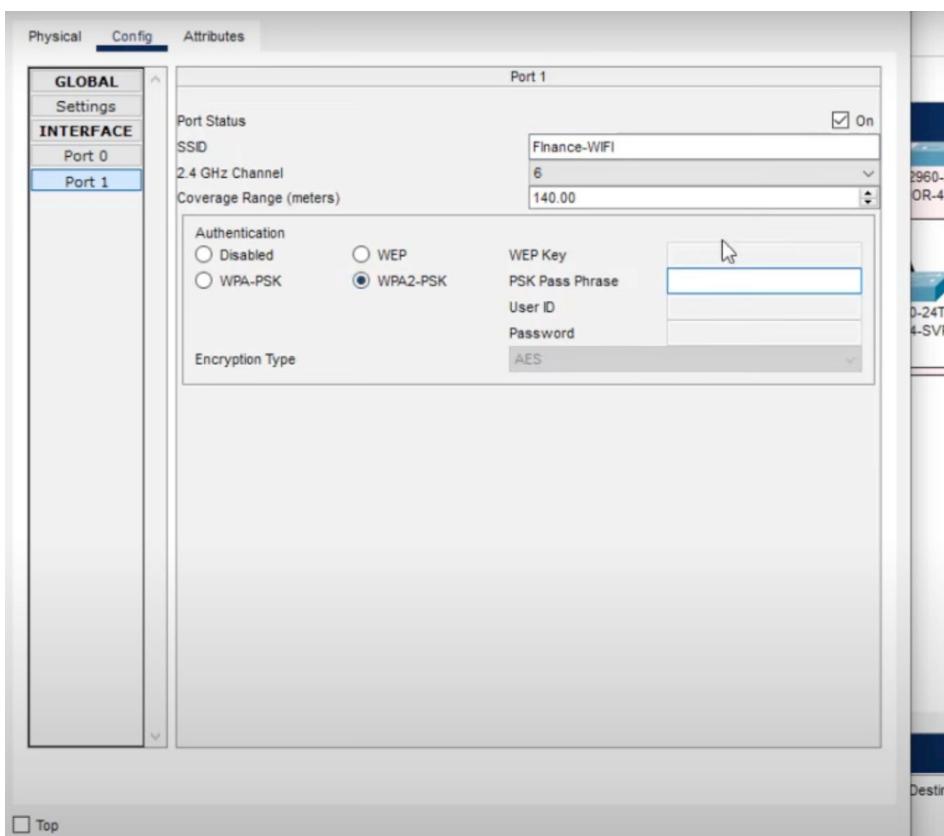
PSK Pass Phrase

User ID

Password

Encryption Type AES

Top



- Verifying and Testing Configuration:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.11.70

Pinging 192.168.11.70 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 192.168.11.70: bytes=32 time=39ms TTL=124
Reply from 192.168.11.70: bytes=32 time=7ms TTL=124

Ping statistics for 192.168.11.70:
    Packets: Sent = 4, Received = 2 (50% loss),
Approximate round trip times in milli-seconds:
        Minimum = 7ms, Maximum = 39ms, Average = 23ms

C:\>
```

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.1

Pinging 192.168.10.1 with 32 bytes of data:

Request timed out.
Reply from 192.168.10.1: bytes=32 time<1ms TTL=252
Reply from 192.168.10.1: bytes=32 time=11ms TTL=252
Reply from 192.168.10.1: bytes=32 time<1ms TTL=252

Ping statistics for 192.168.10.1:
    Packets: Sent = 4, Received = 3 (25% loss),
Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 11ms, Average = 3ms

C:\>|
```