University of Asia Pacific

Department of Computer Science & Engineering

Computer Networks Lab

CSE 320

SOHO Report

Submitted to:

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SOHO:

SOHO Small Office, Home Office. Router: An ethernet device that routes or transfers traffic from one Network to another. For SOHO purposes, typically your Network to the Internet. Switch: An Ethernet device that connects devices via ethernet cables on a common Network

SOHO Fundamental:

The objective of this series is to provide a fundamental baseline for small businesses who are in the market and building a SOHO network or need to upgrade their current infrastructure. We won't go too in depth into the techie nerd stuff, but we will cover the basic terminology, how to implement specific products, and some fundamental security considerations.

ISP- Internet Service Provider

Semi- obvious, this is the company that you get your internet from.

Router- A network device that allows two or more network devices to communicate with each other. When you purchase an ISP router with wireless support or a wireless router you are purchasing a device that is capable of routing traffic

internally and to the ISP's network which is connected to the internet. Not all routers support wireless access so it is important to pay attention to what you are purchasing.

WAP- Wireless Access Point

Firewall- A network security system that monitors and controls incoming and outgoing network traffic based on predetermined security rules. This can be an integrated system in the router or a dedicated device.

SOHO States:

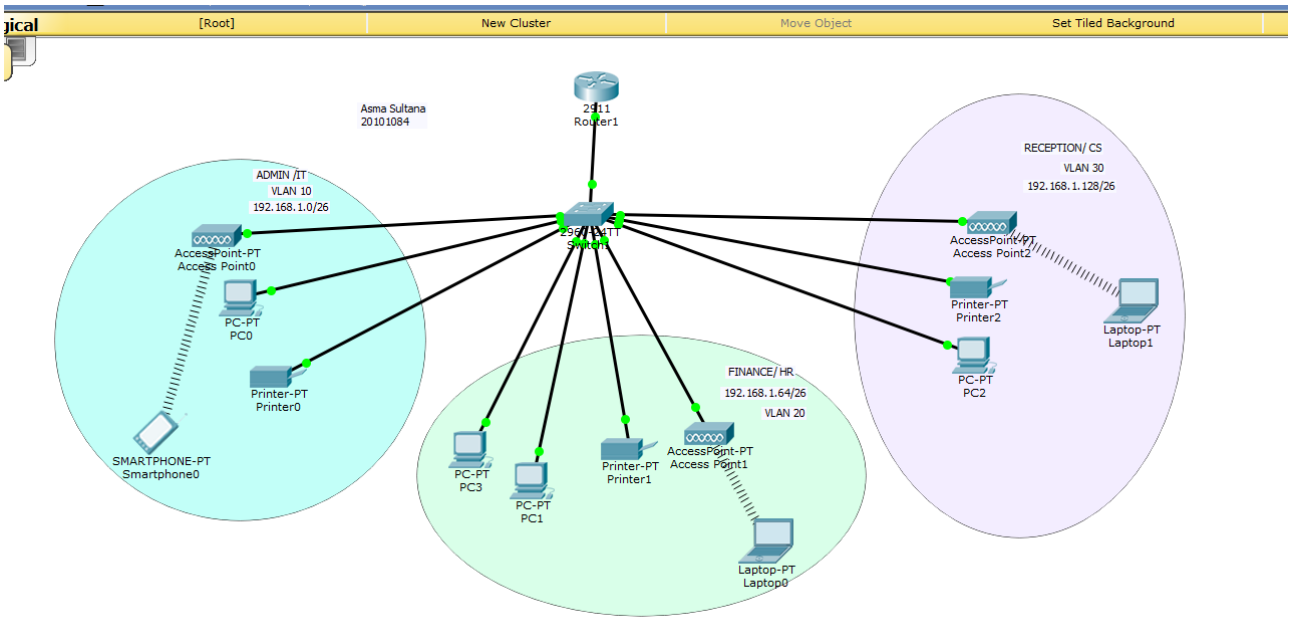
SOHO LANs. One of the most common local-area deployments is the Small-Office / Home-Office LAN (SOHO). It is a small computer network usually built of one Ethernet switch, one router, and one wireless access point. The LAN uses Ethernet cables to connect different end-devices to one of the switch ports.

Small office/home office (SOHO) routers are a staple networking appliance for millions of consumers. They are often the single point of ingress and egress from a SOHO network, manage domain name resolution, firewall protections, dynamic addressing, wireless connectivity, and of course, routing.

Typically, SOHO networks consists of less than 10 computers. Network service servers like DNS server, email server, web

server etc., are typically configured outside SOHO network. A SOHO network can be a small wired Ethernet LAN or made of both wired and wireless computers.

SOHO Structure:



Equipment:

- 2911 router
- 2960-24 switch
- PC-PT end devices
- Access point pt
- Wire

STEP FOR SOHO:

Determine your networking needs: Before setting up your network, decide what devices you need to connect, how many users will be on the network, and what types of applications and data will be used.

Choose your hardware: Select a router that meets your networking needs, such as the number of ports you need, Wi-Fi capabilities, and security features.

Connect the hardware: Connect your router to your modem using an Ethernet cable, and then connect your devices to the router using either wired or wireless connections.

Configure the router: Access the router's web-based configuration page using a web browser, and then configure the network settings, such as the network name (SSID), Wi-Fi password, and security settings.

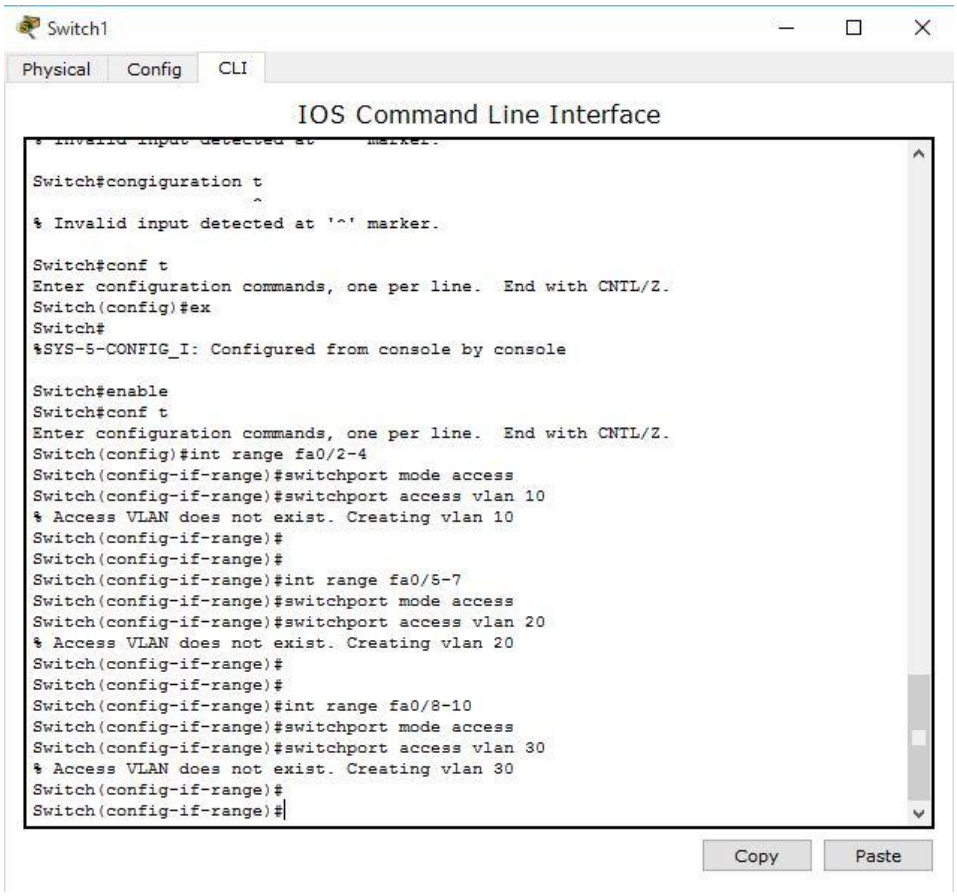
Set up file sharing: If you want to share files and printers across your network, enable file sharing and printer sharing on your devices, and configure sharing permissions.

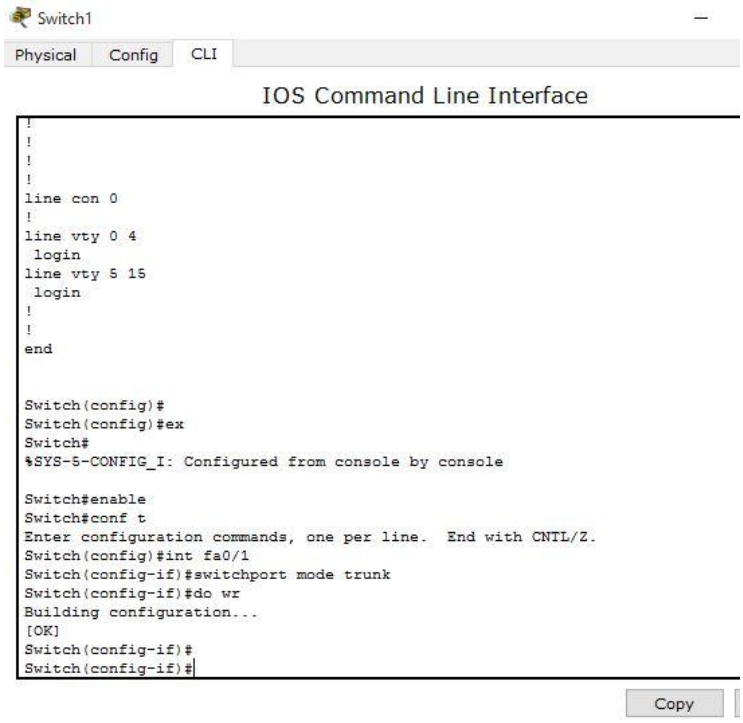
Secure your network: Enable security features on your router, such as WPA2 encryption, a firewall, and antivirus software, to protect your network from unauthorized access and malware.

Test your network: Test your network to ensure that all devices can connect to the internet, and that file sharing and printer sharing are working properly.

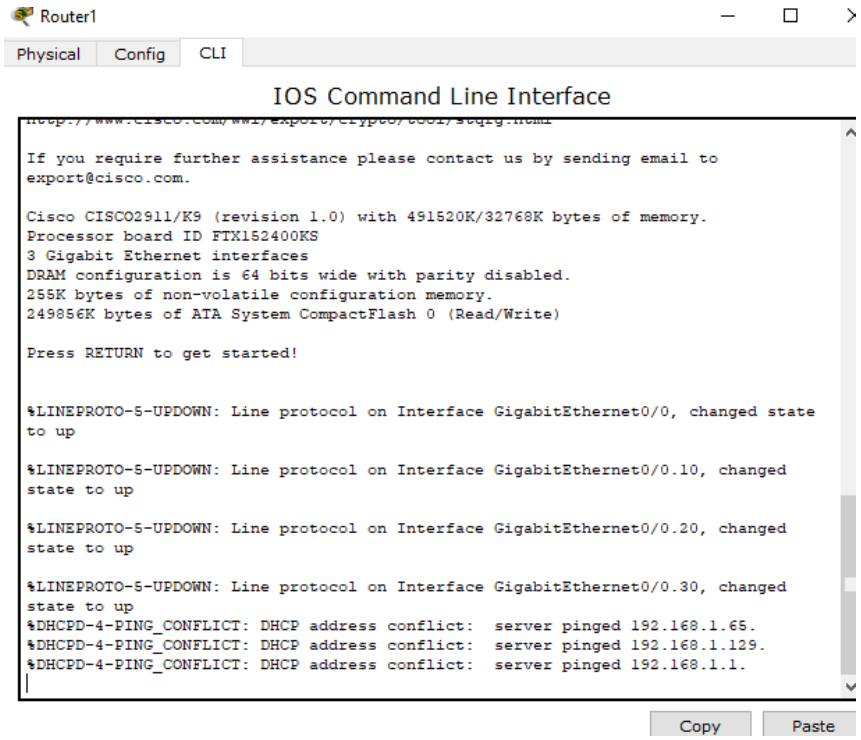
By following these steps, you can set up a basic SOHO network to connect your devices and provide internet access for your home or small business.

For Switch:

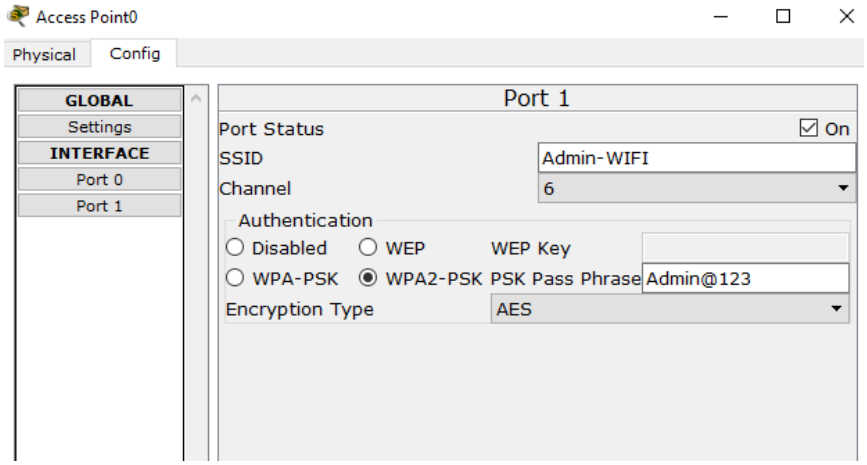


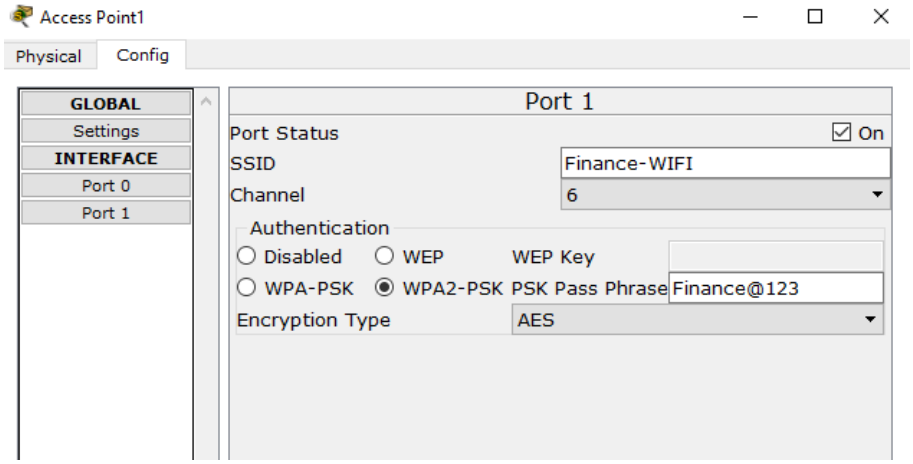

Switch1
Physical
Config
CLI
IOS Command Line Interface
!
!
!
!
line con 0
!
line vty 0 4
login
line vty 5 15
login
!
!
end
Switch(config)#
Switch(config)#ex
Switch#
%SYS-5-CONFIG_I: Configured from console by console
Switch#enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int fa0/1
Switch(config-if)#switchport mode trunk
Switch(config-if)#do wr
Building configuration...
[OK]
Switch(config-if)#
Switch(config-if)#
Copy

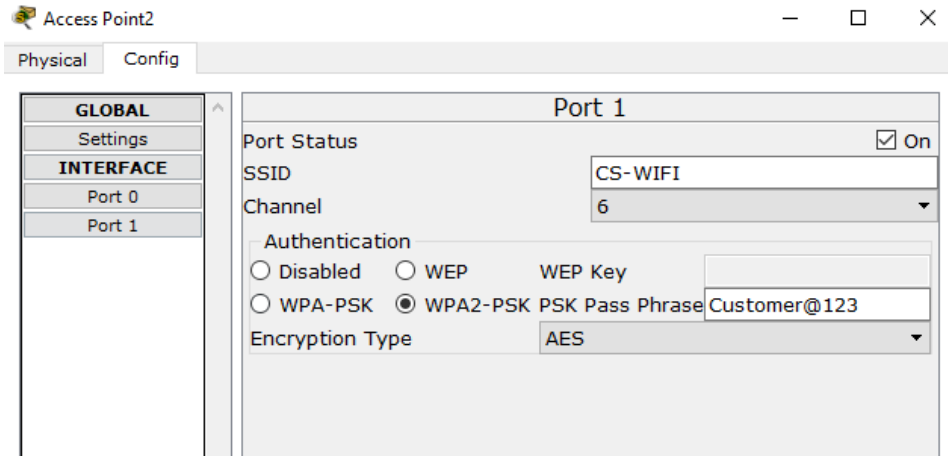
For Router:


Router1
Physical
Config
CLI
IOS Command Line Interface
If you require further assistance please contact us by sending email to
export@cisco.com.
Cisco CISCO2911/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
3 Gigabit Ethernet interfaces
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)
Press RETURN to get started!
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state
to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.10, changed
state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.20, changed
state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.30, changed
state to up
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 192.168.1.65.
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 192.168.1.129.
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 192.168.1.1.
Copy
Paste

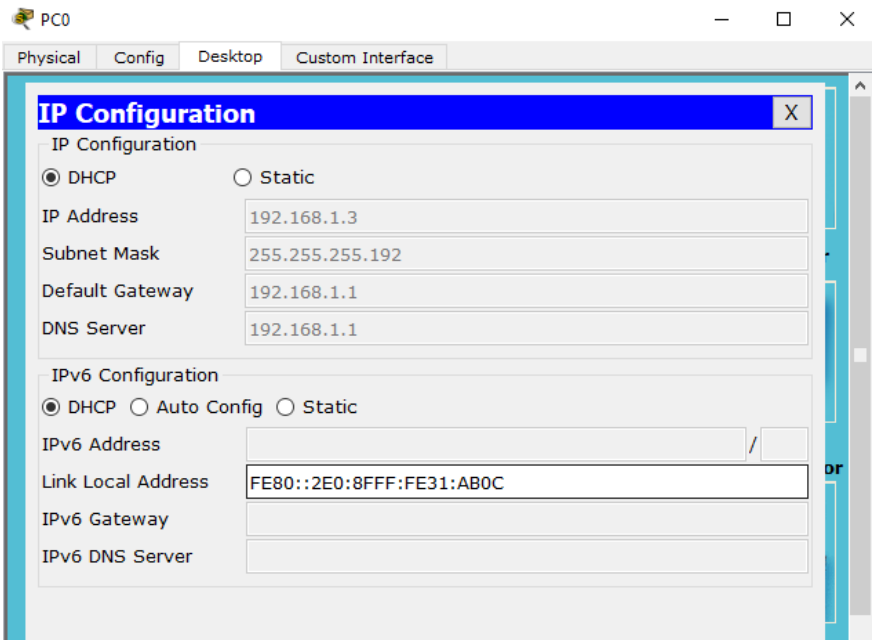
For Access Point:

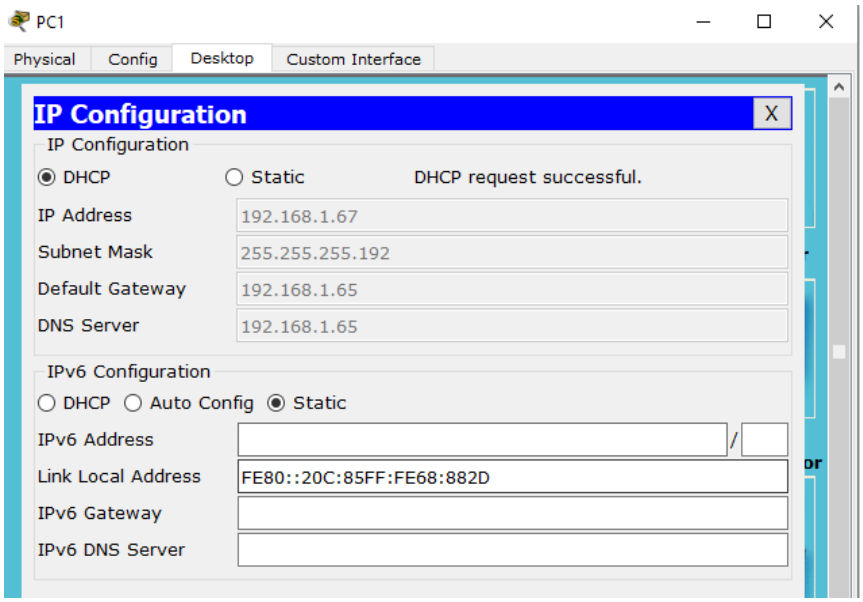


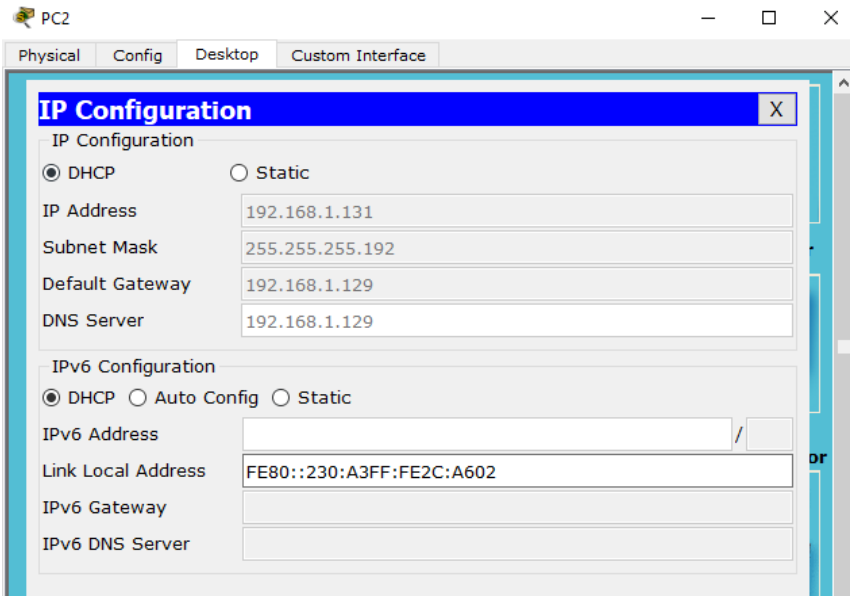




For IP Configure Pc:






PC2
Physical
Config
Desktop
Custom Interface
IP Configuration
X
IP Configuration
DHCP
Static
IP Address
192.168.1.131
Subnet Mask
255.255.255.192
Default Gateway
192.168.1.129
DNS Server
192.168.1.129
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
/
Link Local Address
FE80::230:A3FF:FE2C:A602
IPv6 Gateway
IPv6 DNS Server