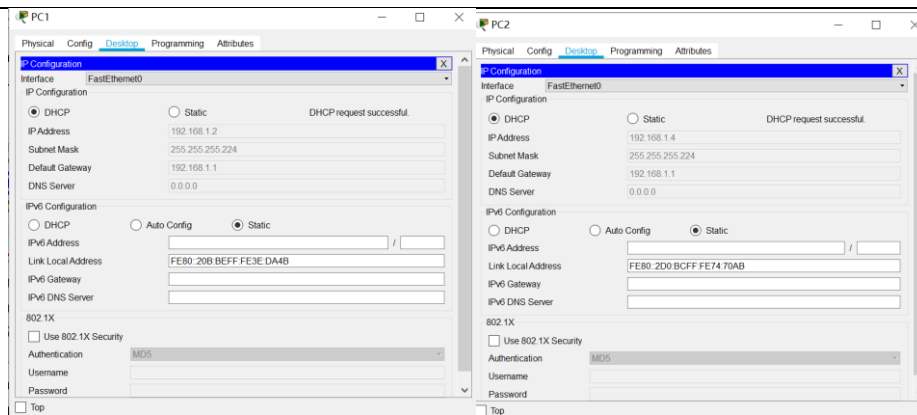
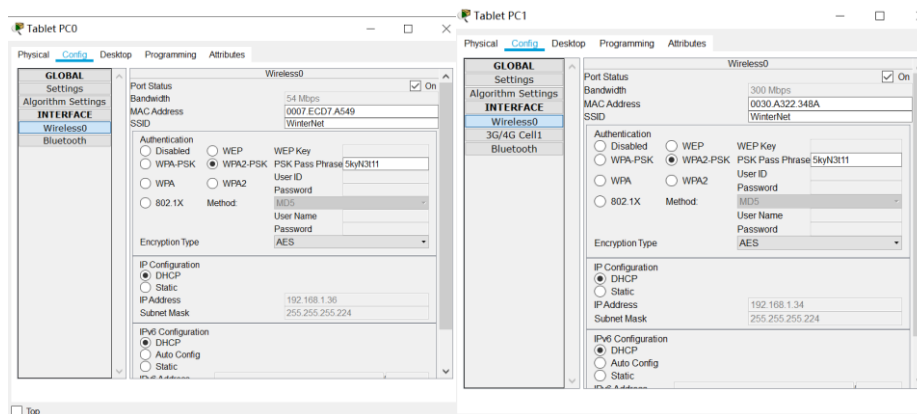


DAILY LOG

DATE	Screenshot	Description																																																																																																																																												
9.24	<table><thead><tr><th colspan="3">subnet bit</th><th colspan="5">host bits</th><th>Decimal</th><th>Subnet #</th><th>Network ID</th><th>Subnet Mask</th><th>Usable IP</th><th>Boardcast Address</th></tr><tr><th>2^7</th><th>2^6</th><th>2^5</th><th>2^4</th><th>2^3</th><th>2^2</th><th>2^1</th><th>2^0</th><th></th><th></th><th></th><th></th><th></th><th></th></tr></thead><tbody><tr><td>128</td><td>64</td><td>32</td><td>16</td><td>8</td><td>4</td><td>2</td><td>1</td><td>0</td><td>1</td><td>192.168.1.0/24</td><td>255.255.255.224</td><td>.1 to .30</td><td>192.168.1.31</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>2</td><td>192.168.1.32/25</td><td>255.255.255.224</td><td>.33 to .62</td><td>192.168.1.63</td></tr><tr><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>3</td><td>192.168.1.64/24</td><td>255.255.255.224</td><td>.65 to .94</td><td>192.168.1.95</td></tr><tr><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>4</td><td>192.168.1.96/24</td><td>255.255.255.224</td><td>.97 to .126</td><td>192.168.1.127</td></tr><tr><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>5</td><td>192.168.1.128/24</td><td>255.255.255.224</td><td>.129 to .158</td><td>192.168.1.159</td></tr><tr><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>6</td><td>192.168.1.160/24</td><td>255.255.255.224</td><td>.161 to .190</td><td>192.168.1.191</td></tr><tr><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>7</td><td>192.168.1.192/24</td><td>255.255.255.224</td><td>.193 to .222</td><td>192.168.1.223</td></tr><tr><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>8</td><td>192.168.1.224/24</td><td>255.255.255.224</td><td>.225 to .254</td><td>192.168.1.255</td></tr></tbody></table>	subnet bit			host bits					Decimal	Subnet #	Network ID	Subnet Mask	Usable IP	Boardcast Address	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0							128	64	32	16	8	4	2	1	0	1	192.168.1.0/24	255.255.255.224	.1 to .30	192.168.1.31	0	0	0	0	0	0	0	0	0	2	192.168.1.32/25	255.255.255.224	.33 to .62	192.168.1.63	0	0	1	0	0	0	0	0	0	3	192.168.1.64/24	255.255.255.224	.65 to .94	192.168.1.95	0	1	0	0	0	0	0	0	0	4	192.168.1.96/24	255.255.255.224	.97 to .126	192.168.1.127	0	1	1	0	0	0	0	0	0	5	192.168.1.128/24	255.255.255.224	.129 to .158	192.168.1.159	1	0	0	0	0	0	0	0	0	6	192.168.1.160/24	255.255.255.224	.161 to .190	192.168.1.191	1	0	1	0	0	0	0	0	0	7	192.168.1.192/24	255.255.255.224	.193 to .222	192.168.1.223	1	1	0	0	0	0	0	0	0	8	192.168.1.224/24	255.255.255.224	.225 to .254	192.168.1.255	Finish the IP address subnetting table.
subnet bit			host bits					Decimal	Subnet #	Network ID	Subnet Mask	Usable IP	Boardcast Address																																																																																																																																	
2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0																																																																																																																																							
128	64	32	16	8	4	2	1	0	1	192.168.1.0/24	255.255.255.224	.1 to .30	192.168.1.31																																																																																																																																	
0	0	0	0	0	0	0	0	0	2	192.168.1.32/25	255.255.255.224	.33 to .62	192.168.1.63																																																																																																																																	
0	0	1	0	0	0	0	0	0	3	192.168.1.64/24	255.255.255.224	.65 to .94	192.168.1.95																																																																																																																																	
0	1	0	0	0	0	0	0	0	4	192.168.1.96/24	255.255.255.224	.97 to .126	192.168.1.127																																																																																																																																	
0	1	1	0	0	0	0	0	0	5	192.168.1.128/24	255.255.255.224	.129 to .158	192.168.1.159																																																																																																																																	
1	0	0	0	0	0	0	0	0	6	192.168.1.160/24	255.255.255.224	.161 to .190	192.168.1.191																																																																																																																																	
1	0	1	0	0	0	0	0	0	7	192.168.1.192/24	255.255.255.224	.193 to .222	192.168.1.223																																																																																																																																	
1	1	0	0	0	0	0	0	0	8	192.168.1.224/24	255.255.255.224	.225 to .254	192.168.1.255																																																																																																																																	
9.25(2)	<div><div>Company Switch</div><div>Physical Config CLI Attributes</div><div>CompanySwitch# CompanySwitch>config t Enter configuration commands, one per line. End with CNTL/Z. CompanySwitch(config)#banner motd & Enter TEXT message. End with the character '<div>***** !!!!!! AUTHORIZED ACESS ONLY !!!!! *****</div> & CompanySwitch(config)#enable secret Admin CompanySwitch(config)#service password-encryption CompanySwitch(config)#line console 0 CompanySwitch(config-line)#password cisco CompanySwitch(config-line)#logging synchronous CompanySwitch(config-line)#login CompanySwitch(config-line)#history size 15 CompanySwitch(config-line)#exec-timeout 5 45 CompanySwitch(config-line)#end CompanySwitch# %SYS-5-CONFIG_I: Configured from console by console CompanySwitch#config t Enter configuration commands, one per line. End with CNTL/Z. CompanySwitch(config)#line vty 0 15 CompanySwitch(config-line)#exec-timeout 8 20 CompanySwitch(config-line)#password cisco CompanySwitch(config-line)#logging synchronous CompanySwitch(config-line)#login CompanySwitch(config-line)#history size 15 CompanySwitch(config-line)#end CompanySwitch# %SYS-5-CONFIG_I: Configured from console by console CompanySwitch#exit</div><div>Company Switch</div><div>Physical Config CLI Attributes</div><div>IOS Command Line Interface</div><div>Press RETURN to get started!</div><div>***** !!!!!! AUTHORIZED ACESS ONLY !!!!! ***** User Access Verification Password: CompanySwitch>enable Password: CompanySwitch#</div><div>Ctrl+F6 to exit CLI focus</div><div>Copy Paste</div></div> <div>***** !!!!!! AUTHORIZED ACESS ONLY !!!!! ***** User Access Verification Password: </div>	Configured the administration on the company switch. And tested if the banner works (the last screenshot) Password is required after setting. LAN is built up and interfaces are configured.																																																																																																																																												
9.25(2)	<div>Company Wireless Router</div> <div>Physical Config GUI Attributes</div> <div>GLOBAL Settings</div> <div>Algorithm Settings</div> <div>INTERFACE Settings</div> <div>Internet</div> <div>Wireless</div> <div>Wireless Settings</div> <div>SSID</div> <div>2.4 GHz Channel</div> <div>Wireless</div> <div>1-2 41201u</div> <div>Authentication</div> <div><input type="radio"/> Disabled</div> <div><input type="radio"/> WPA2-PSK</div> <div><input checked="" type="radio"/> WEP</div> <div>WEP Key</div> <div>PSK Pass Phrase</div> <div>SkyN3T11</div> <div>RADIUS Server Settings</div> <div>IP Address</div> <div>Shared Secret</div> <div>Encryption Type</div> <div>AES</div> <div>Tablet PC0</div> <div>Physical Config Desktop Programming Attributes</div> <div>Global Settings</div> <div>Algorithm Settings</div> <div>INTERFACE Settings</div> <div>Wireless</div> <div>Bluetooth</div> <div>Port Status</div> <div>Handheld</div> <div>MAC Address</div> <div>0007.EC07.A549</div> <div>Vendor</div> <div>Wireless</div> <div>Authentication</div> <div><input type="radio"/> Disabled</div> <div><input type="radio"/> WPA2-PSK</div> <div><input checked="" type="radio"/> WEP</div> <div>WEP Key</div> <div>PSK Pass Phrase</div> <div>SkyN3T11</div> <div>Encryption Type</div> <div>WPA2-PSK</div> <div>User ID</div> <div>Password</div> <div>802.1X</div> <div>Method</div> <div>WPA2-PSK</div> <div>User Name</div> <div>Password</div> <div>AES</div> <div>IP Configuration</div> <div><input checked="" type="radio"/> DHCP</div> <div><input type="radio"/> Static</div> <div>IP Address</div> <div>192.168.1.34</div> <div>Subnet Mask</div> <div>255.255.255.224</div> <div>IPv6 Configuration</div> <div><input checked="" type="radio"/> DHCP</div> <div><input type="radio"/> Static</div> <div>IP Address</div> <div>2001:0000:0000:0000:0000:0000:0000:0000</div>	Wireless router and device setup so the devices can be connected to the router therefore can be connected to the Internet.																																																																																																																																												
9.26	<div>CR#configure t Enter configuration commands, one per line. End with CNTL/Z. CR(config)#ip dhcp excluded-address 192.168.1.1 CR(config)#ip dhcp pool wired_network CR(dhcp-config)#network 192.168.1.0 255.255.255.224 CR(dhcp-config)#default-router 192.168.1.1 CR(dhcp-config)#exit CR(config)#</div>	Configure the dhcp setting for both wired and wireless devices. And changed the IP configuration on																																																																																																																																												



DHCP for the wireless devices



Check which IP address has been assigned.

192.168.1.2	Hardware address	
Automatic	000B.BE3E.DA4B	--
192.168.1.3	0003.E473.BD0A	--
Automatic		
192.168.1.4	00D0.BC74.70AB	--
Automatic		
CR#		

9.27

NAT on company router

```
CR(config)#
CR(config)#ip nat pool ISP 192.168.1.66 192.168.1.66 netmask
255.255.255.224
CR(config)#access-list 1 permit 192.168.1.0 0.0.0.31
CR(config)#ip nat inside source list 1 pool ISP overload
CR(config)#
```

NAT setting for wireless devices.

```
CR(config)#access-list 1 permit 192.168.1.96 0.0.0.31
CR(config)#interface fa0/0
CR(config-if)#ip nat inside
CR(config-if)#exit
CR(config)#end
CR#
```

Show on router if nat is working or not

```
CR#show ip nat translation
Pro Inside global      Inside local      Outside local
Outside global
icmp 192.168.1.66:1    192.168.1.2:1    192.168.1.65:1
192.168.1.65:1
icmp 192.168.1.66:2    192.168.1.2:2    192.168.1.65:2
192.168.1.65:2
icmp 192.168.1.66:3    192.168.1.2:3    192.168.1.65:3
192.168.1.65:3
icmp 192.168.1.66:4    192.168.1.2:4    192.168.1.65:4
192.168.1.65:4
```

PC from static to DHCP. And checked on the PC if the IP address is allocated correctly or not. And check on company router which IP address has been assigned.

Setting the NAT for wired and wireless devices so they can connect to the external server. And check on the router if the nat is working.



Wireless router GUI Screenshot

Status

Company Wireless Router

Physical Config GUI Attributes

Wireless-N Broadband Router

Firmware Version: v0.93.3

Wireless-N Broadband Router WRT300N

Status

Setup Wireless Security Access Restrictions Applications & Gaming Administration Status

Router

Local Network

Wireless Network

Router Information

Firmware Version: v0.93.3

Current Time: Not Available

Internet MAC Address: 0001.426A.0901

Host Name:

Domain Name:

Internet Connection

Connection Type: Static IP

Internet IP Address: 192.168.1.98

Subnet Mask: 255.255.255.224

Default Gateway: 192.168.1.97

DNS1:

DNS2:

DNS3:

MTU: 1500

DHCP Lease Time:

IP Address Release

IP Address Renew

Help...

Setup

Company Wireless Router

Physical Config GUI Attributes

Setup Wireless Security Restrictions & Gaming Administration Status

Basic Setup DNS MAC Address Clone Advanced Routing

Internet Setup

Internet Connection type: Static IP

Internet IP Address: 192.168.1.98

Subnet Mask: 255.255.255.224

Default Gateway: 192.168.1.97

DNS 1: 0.0.0.0

DNS 2 (Optional): 0.0.0.0

DNS 3 (Optional): 0.0.0.0

Host Name:

Domain Name:

MTU: Size: 1500

Optional Settings (required by some internet service providers)

Network Setup

Router IP: IP Address: 192.168.1.33

Subnet Mask: 255.255.255.224

DHCP Server Settings

DHCP Server: ☒ Enabled ☐ Disabled

DHCP Reservation

Start IP Address: 192.168.1.33

Maximum number of Users: 28

IP Address Range: 192.168.1.33 - 60

Client Lease Time: 0 minutes (0 means one day)

Static DNS 1: 0.0.0.0

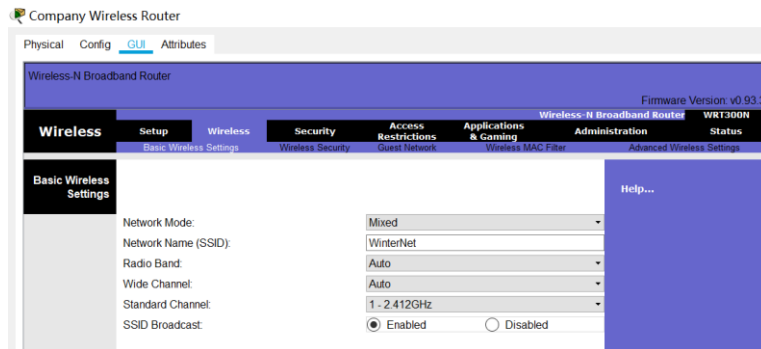
Static DNS 2: 0.0.0.0

Static DNS 3: 0.0.0.0

WINS: 0.0.0.0

Help...

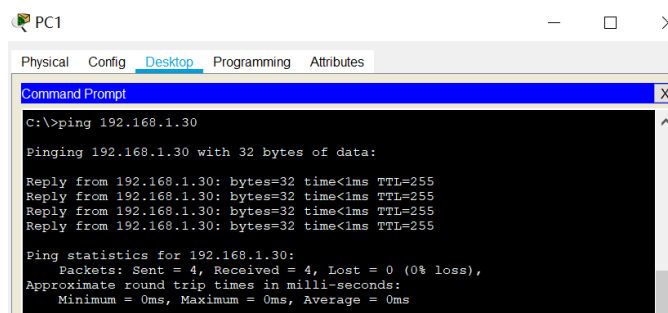
Wireless



PING TEST

1.From **PC1** to Web server.

From PC1 to Vlan1(192.168.1.30). Successfully.



From PC1 to both ports of the company router.

Default Gateway (Fa0/1 192.168.1.1). Successfully.

Serial0/1/0 (192.168.1.66). Successfully.

```
PC1
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.1.66

Pinging 192.168.1.66 with 32 bytes of data:

Reply from 192.168.1.66: bytes=32 time<1ms TTL=255
Reply from 192.168.1.66: bytes=32 time<1ms TTL=255
Reply from 192.168.1.66: bytes=32 time<1ms TTL=255
Reply from 192.168.1.66: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.1.66:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

From PC1 to both ports of the ISP router.

Serial0/3/0 192.168.1.65. Successfully.

FA0/0 202.136.4.1. Successfully.

```
PC1
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 192.168.1.65

Pinging 192.168.1.65 with 32 bytes of data:

Reply from 192.168.1.65: bytes=32 time=1ms TTL=254
Reply from 192.168.1.65: bytes=32 time=1ms TTL=254
Reply from 192.168.1.65: bytes=32 time=1ms TTL=254
Reply from 192.168.1.65: bytes=32 time=3ms TTL=254

Ping statistics for 192.168.1.65:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 3ms, Average = 1ms

C:\>ping 202.136.4.1

Pinging 202.136.4.1 with 32 bytes of data:

Reply from 202.136.4.1: bytes=32 time=1ms TTL=254
Reply from 202.136.4.1: bytes=32 time=1ms TTL=254
Reply from 202.136.4.1: bytes=32 time=1ms TTL=254
Reply from 202.136.4.1: bytes=32 time=2ms TTL=254

Ping statistics for 202.136.4.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

From PC1 to Vlan1(202.136.4.254) of the ISP side. Successfully.

```
PC1
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 202.136.4.254

Pinging 202.136.4.254 with 32 bytes of data:

Reply from 202.136.4.254: bytes=32 time=2ms TTL=253
Reply from 202.136.4.254: bytes=32 time=1ms TTL=253
Reply from 202.136.4.254: bytes=32 time=2ms TTL=253
Reply from 202.136.4.254: bytes=32 time=1ms TTL=253

Ping statistics for 202.136.4.254:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

From PC1 to Web Server (202.136.4.2). Successfully.

```
PC1
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 202.136.4.2

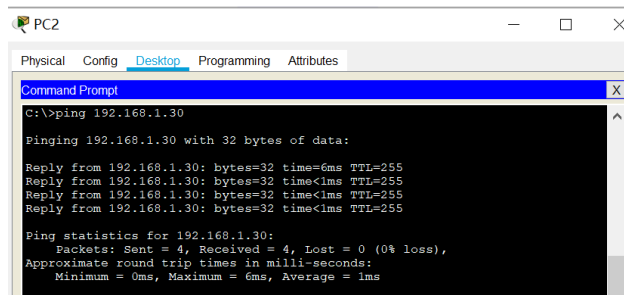
Pinging 202.136.4.2 with 32 bytes of data:

Reply from 202.136.4.2: bytes=32 time=3ms TTL=126
Reply from 202.136.4.2: bytes=32 time=1ms TTL=126
Reply from 202.136.4.2: bytes=32 time=1ms TTL=126
Reply from 202.136.4.2: bytes=32 time=1ms TTL=126

Ping statistics for 202.136.4.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 3ms, Average = 1ms
```

2.From **PC2** to Web server.

From PC2 to Vlan1(192.168.1.30). Successfully.



```
PC2
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 192.168.1.30

Pinging 192.168.1.30 with 32 bytes of data:

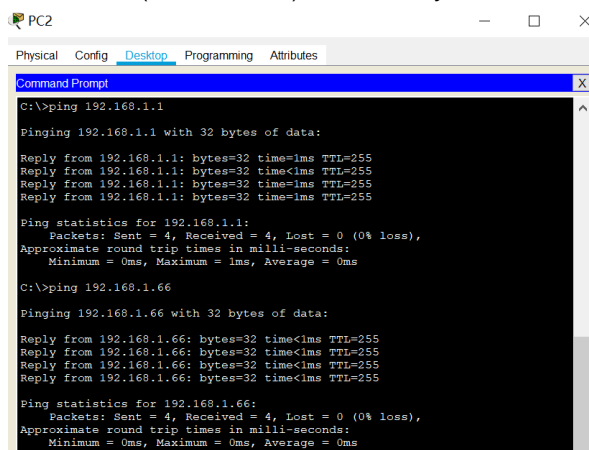
Reply from 192.168.1.30: bytes=32 time=6ms TTL=255
Reply from 192.168.1.30: bytes=32 time<1ms TTL=255
Reply from 192.168.1.30: bytes=32 time<1ms TTL=255
Reply from 192.168.1.30: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.1.30:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 6ms, Average = 1ms
```

From PC2 to both ports of the company router.

Default Gateway (Fa0/1 192.168.1.1). Successfully.

Serial0/1/0 (192.168.1.66). Successfully.



```
PC2
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.1.66

Pinging 192.168.1.66 with 32 bytes of data:

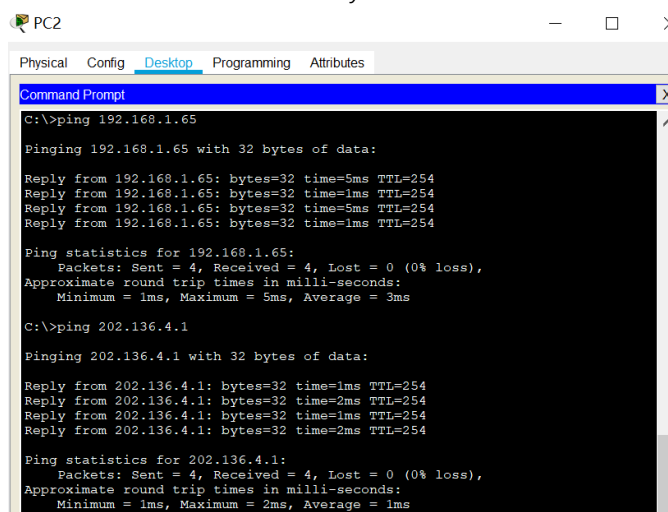
Reply from 192.168.1.66: bytes=32 time<1ms TTL=255
Reply from 192.168.1.66: bytes=32 time<1ms TTL=255
Reply from 192.168.1.66: bytes=32 time<1ms TTL=255
Reply from 192.168.1.66: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.1.66:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

From PC2 to both ports of the ISP router.

Serial0/3/0 192.168.1.65. Successfully.

FA0/0 202.136.4.1. Successfully.



```
PC2
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 192.168.1.65

Pinging 192.168.1.65 with 32 bytes of data:

Reply from 192.168.1.65: bytes=32 time=5ms TTL=254
Reply from 192.168.1.65: bytes=32 time=1ms TTL=254
Reply from 192.168.1.65: bytes=32 time=5ms TTL=254
Reply from 192.168.1.65: bytes=32 time=1ms TTL=254

Ping statistics for 192.168.1.65:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 5ms, Average = 3ms

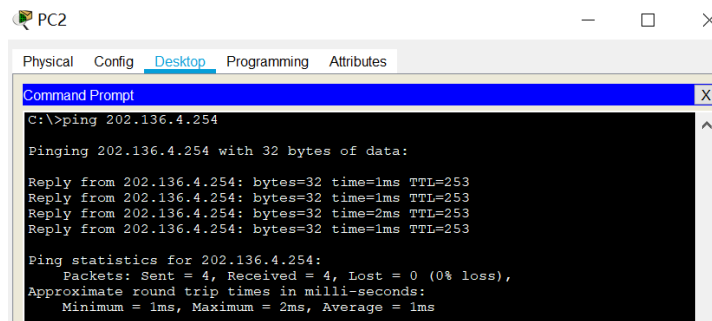
C:\>ping 202.136.4.1

Pinging 202.136.4.1 with 32 bytes of data:

Reply from 202.136.4.1: bytes=32 time=1ms TTL=254
Reply from 202.136.4.1: bytes=32 time=2ms TTL=254
Reply from 202.136.4.1: bytes=32 time=1ms TTL=254
Reply from 202.136.4.1: bytes=32 time=2ms TTL=254

Ping statistics for 202.136.4.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

From PC2 to Vlan1(202.136.4.254) of the ISP side. Successfully.



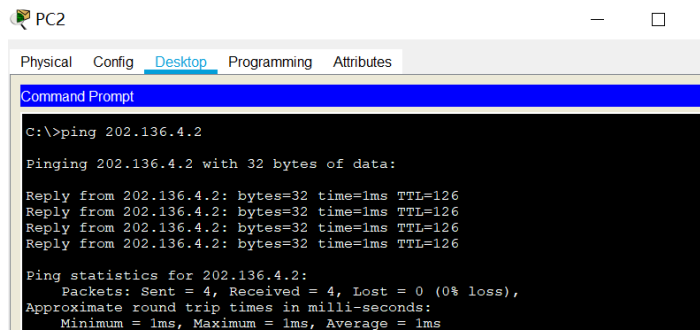
```
PC2
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 202.136.4.254

Pinging 202.136.4.254 with 32 bytes of data:

Reply from 202.136.4.254: bytes=32 time=1ms TTL=253
Reply from 202.136.4.254: bytes=32 time=1ms TTL=253
Reply from 202.136.4.254: bytes=32 time=2ms TTL=253
Reply from 202.136.4.254: bytes=32 time=1ms TTL=253

Ping statistics for 202.136.4.254:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

From PC2 to Web Server (202.136.4.2). Successfully.



```
PC2
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 202.136.4.2

Pinging 202.136.4.2 with 32 bytes of data:

Reply from 202.136.4.2: bytes=32 time=1ms TTL=126
Reply from 202.136.4.2: bytes=32 time=1ms TTL=126
Reply from 202.136.4.2: bytes=32 time=1ms TTL=126
Reply from 202.136.4.2: bytes=32 time=1ms TTL=126

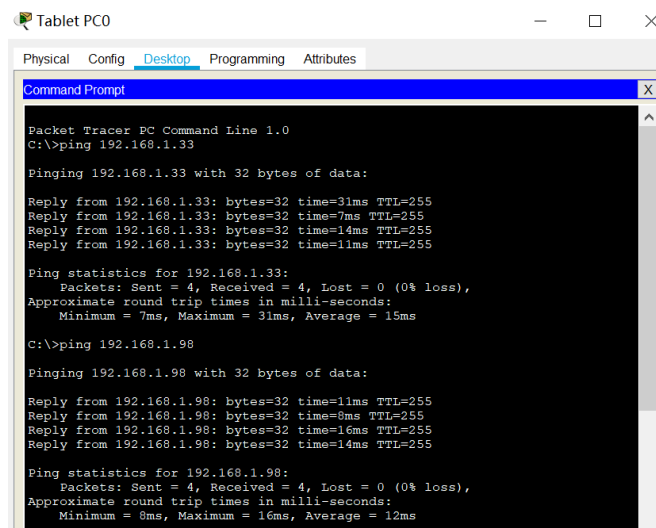
Ping statistics for 202.136.4.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 1ms, Average = 1ms
```

3. From **Wireless PC0** to Web server.

From Tablet PC0 to the LAN and the Internet.

LAN (192.168.1.33). Successfully.

Internet (192.168.1.98). Successfully.



```
Tablet PC0
Physical Config Desktop Programming Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.33

Pinging 192.168.1.33 with 32 bytes of data:

Reply from 192.168.1.33: bytes=32 time=31ms TTL=255
Reply from 192.168.1.33: bytes=32 time=7ms TTL=255
Reply from 192.168.1.33: bytes=32 time=14ms TTL=255
Reply from 192.168.1.33: bytes=32 time=11ms TTL=255

Ping statistics for 192.168.1.33:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 7ms, Maximum = 31ms, Average = 15ms

C:\>ping 192.168.1.98

Pinging 192.168.1.98 with 32 bytes of data:

Reply from 192.168.1.98: bytes=32 time=11ms TTL=255
Reply from 192.168.1.98: bytes=32 time=8ms TTL=255
Reply from 192.168.1.98: bytes=32 time=16ms TTL=255
Reply from 192.168.1.98: bytes=32 time=14ms TTL=255

Ping statistics for 192.168.1.98:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 8ms, Maximum = 16ms, Average = 12ms
```

From Tablet PC0 to both ports of the company router.

(Fa0/0 192.168.1.97). Successfully.

Serial0/1/0 (192.168.1.66). Successfully.

```
C:\>ping 192.168.1.97

Pinging 192.168.1.97 with 32 bytes of data:

Reply from 192.168.1.97: bytes=32 time=15ms TTL=254
Reply from 192.168.1.97: bytes=32 time=14ms TTL=254
Reply from 192.168.1.97: bytes=32 time=12ms TTL=254
Reply from 192.168.1.97: bytes=32 time=7ms TTL=254

Ping statistics for 192.168.1.97:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 7ms, Maximum = 15ms, Average = 12ms

C:\>ping 192.168.1.66

Pinging 192.168.1.66 with 32 bytes of data:

Reply from 192.168.1.66: bytes=32 time=13ms TTL=254
Reply from 192.168.1.66: bytes=32 time=6ms TTL=254
Reply from 192.168.1.66: bytes=32 time=13ms TTL=254
Reply from 192.168.1.66: bytes=32 time=7ms TTL=254

Ping statistics for 192.168.1.66:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 13ms, Average = 9ms
```

From Tablet PC0 to both ports of the ISP router.

Serial0/3/0 192.168.1.65. Successfully.

FA0/0 202.136.4.1. Successfully.

```
C:\>ping 192.168.1.65

Pinging 192.168.1.65 with 32 bytes of data:

Reply from 192.168.1.65: bytes=32 time=9ms TTL=253
Reply from 192.168.1.65: bytes=32 time=15ms TTL=253
Reply from 192.168.1.65: bytes=32 time=16ms TTL=253
Reply from 192.168.1.65: bytes=32 time=12ms TTL=253

Ping statistics for 192.168.1.65:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 9ms, Maximum = 16ms, Average = 13ms

C:\>ping 202.136.4.1

Pinging 202.136.4.1 with 32 bytes of data:

Reply from 202.136.4.1: bytes=32 time=12ms TTL=253
Reply from 202.136.4.1: bytes=32 time=11ms TTL=253
Reply from 202.136.4.1: bytes=32 time=23ms TTL=253
Reply from 202.136.4.1: bytes=32 time=11ms TTL=253

Ping statistics for 202.136.4.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 11ms, Maximum = 23ms, Average = 14ms
```

From Tablet PC0 to Vlan1(202.136.4.254) of the ISP side. Successfully.

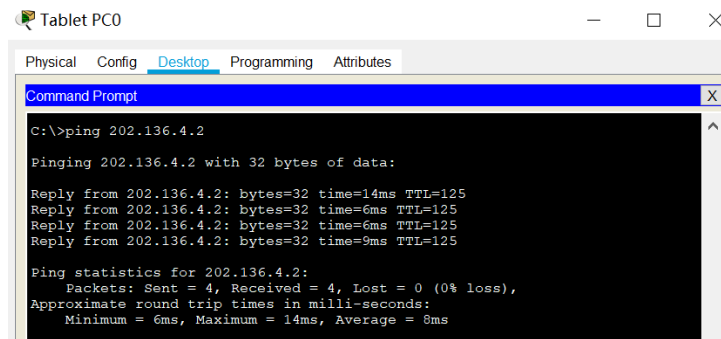
```
C:\>ping 202.136.4.254

Pinging 202.136.4.254 with 32 bytes of data:

Reply from 202.136.4.254: bytes=32 time=9ms TTL=252
Reply from 202.136.4.254: bytes=32 time=16ms TTL=252
Reply from 202.136.4.254: bytes=32 time=15ms TTL=252
Reply from 202.136.4.254: bytes=32 time=9ms TTL=252

Ping statistics for 202.136.4.254:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 9ms, Maximum = 16ms, Average = 12ms
```

From PC2 to Web Server (202.136.4.2). Successfully.



```
C:\>ping 202.136.4.2

Pinging 202.136.4.2 with 32 bytes of data:

Reply from 202.136.4.2: bytes=32 time=14ms TTL=125
Reply from 202.136.4.2: bytes=32 time=6ms TTL=125
Reply from 202.136.4.2: bytes=32 time=6ms TTL=125
Reply from 202.136.4.2: bytes=32 time=9ms TTL=125

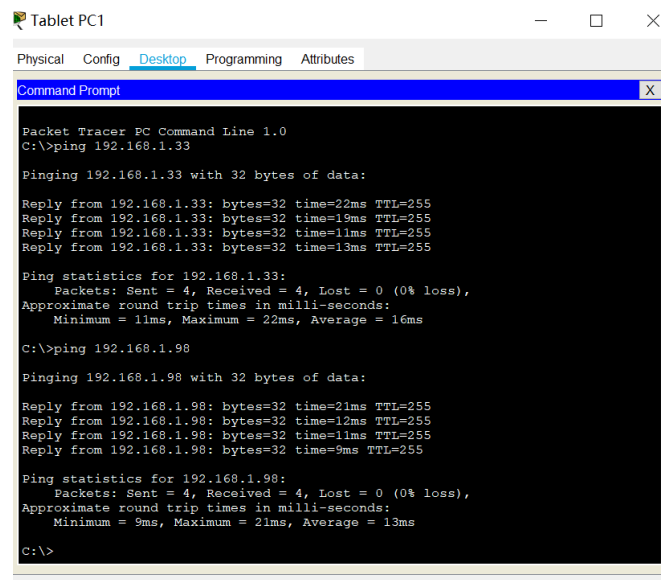
Ping statistics for 202.136.4.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 14ms, Average = 8ms
```

4. From **Wireless PC1** to Web server.

From Tablet PC1 to the LAN and the Internet.

LAN (192.168.1.33). Successfully.

Internet (192.168.1.98). Successfully.



```
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.33

Pinging 192.168.1.33 with 32 bytes of data:

Reply from 192.168.1.33: bytes=32 time=22ms TTL=255
Reply from 192.168.1.33: bytes=32 time=19ms TTL=255
Reply from 192.168.1.33: bytes=32 time=11ms TTL=255
Reply from 192.168.1.33: bytes=32 time=13ms TTL=255

Ping statistics for 192.168.1.33:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 11ms, Maximum = 22ms, Average = 16ms

C:\>ping 192.168.1.98

Pinging 192.168.1.98 with 32 bytes of data:

Reply from 192.168.1.98: bytes=32 time=21ms TTL=255
Reply from 192.168.1.98: bytes=32 time=12ms TTL=255
Reply from 192.168.1.98: bytes=32 time=11ms TTL=255
Reply from 192.168.1.98: bytes=32 time=9ms TTL=255

Ping statistics for 192.168.1.98:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 9ms, Maximum = 21ms, Average = 13ms

C:\>
```

From Tablet PC0 to both ports of the company router.

(Fa0/0 192.168.1.97). Successfully.

Serial0/1/0 (192.168.1.66). Successfully.

```
Tablet PC1
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 192.168.1.97

Pinging 192.168.1.97 with 32 bytes of data:

Reply from 192.168.1.97: bytes=32 time=13ms TTL=254
Reply from 192.168.1.97: bytes=32 time=15ms TTL=254
Reply from 192.168.1.97: bytes=32 time=17ms TTL=254
Reply from 192.168.1.97: bytes=32 time=14ms TTL=254

Ping statistics for 192.168.1.97:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 13ms, Maximum = 17ms, Average = 14ms

C:\>ping 192.168.1.66

Pinging 192.168.1.66 with 32 bytes of data:

Reply from 192.168.1.66: bytes=32 time=20ms TTL=254
Reply from 192.168.1.66: bytes=32 time=17ms TTL=254
Reply from 192.168.1.66: bytes=32 time=18ms TTL=254
Reply from 192.168.1.66: bytes=32 time=7ms TTL=254

Ping statistics for 192.168.1.66:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 7ms, Maximum = 20ms, Average = 15ms
```

From Tablet PC0 to both ports of the ISP router.
Serial0/3/0 192.168.1.65. Successfully.
FA0/0 202.136.4.1. Successfully.

```
Tablet PC1
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 192.168.1.65

Pinging 192.168.1.65 with 32 bytes of data:

Reply from 192.168.1.65: bytes=32 time=9ms TTL=253
Reply from 192.168.1.65: bytes=32 time=7ms TTL=253
Reply from 192.168.1.65: bytes=32 time=16ms TTL=253
Reply from 192.168.1.65: bytes=32 time=11ms TTL=253

Ping statistics for 192.168.1.65:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 7ms, Maximum = 16ms, Average = 10ms

C:\>ping 202.136.4.1

Pinging 202.136.4.1 with 32 bytes of data:

Reply from 202.136.4.1: bytes=32 time=9ms TTL=253
Reply from 202.136.4.1: bytes=32 time=15ms TTL=253
Reply from 202.136.4.1: bytes=32 time=9ms TTL=253
Reply from 202.136.4.1: bytes=32 time=8ms TTL=253

Ping statistics for 202.136.4.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 8ms, Maximum = 15ms, Average = 10ms
```

From Tablet PC0 to Vlan1(202.136.4.254) of the ISP side. Successfully.

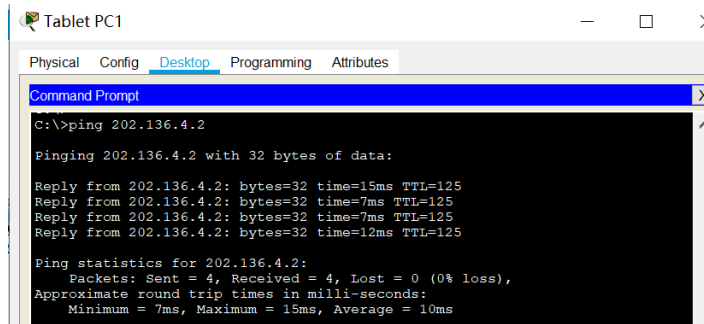
```
Tablet PC1
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 202.136.4.254

Pinging 202.136.4.254 with 32 bytes of data:

Reply from 202.136.4.254: bytes=32 time=9ms TTL=252
Reply from 202.136.4.254: bytes=32 time=14ms TTL=252
Reply from 202.136.4.254: bytes=32 time=9ms TTL=252
Reply from 202.136.4.254: bytes=32 time=12ms TTL=252

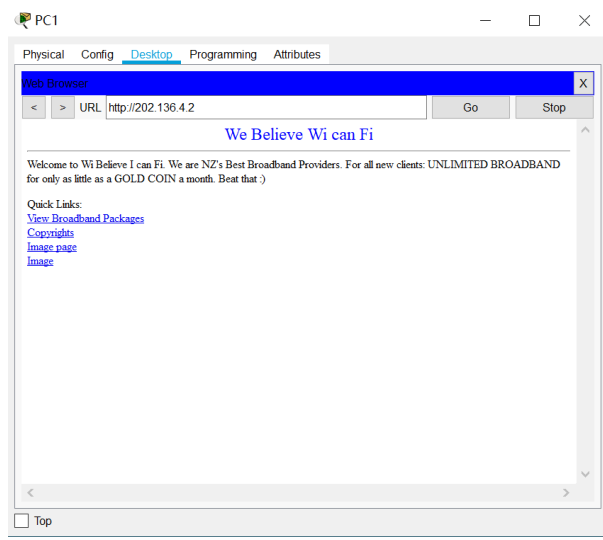
Ping statistics for 202.136.4.254:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 9ms, Maximum = 14ms, Average = 11ms
```

From PC2 to Web Server (202.136.4.2). Successfully.

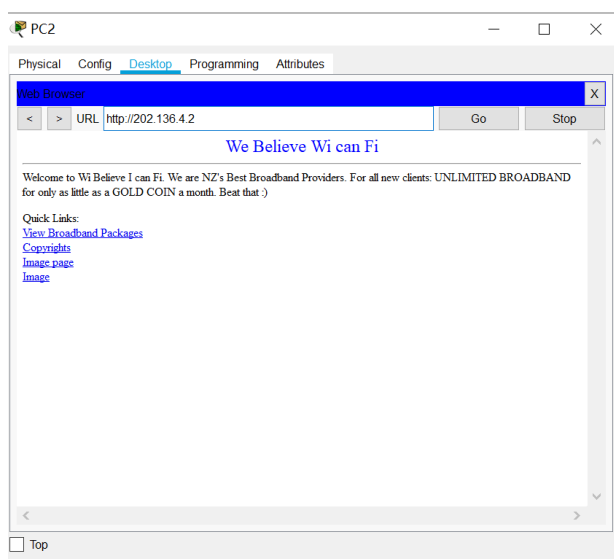


WEB BROWSING

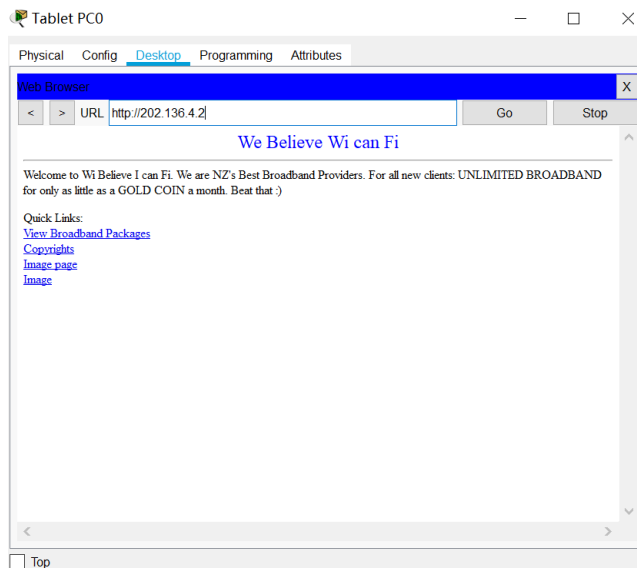
Web Browsing from wired PC1. Successfully.



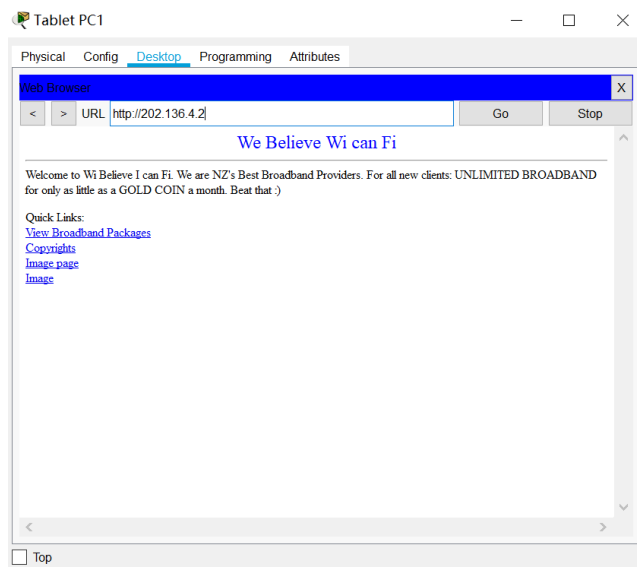
Web Browsing from PC2. Successfully.



Web browsing from wireless PC0. Successfully.

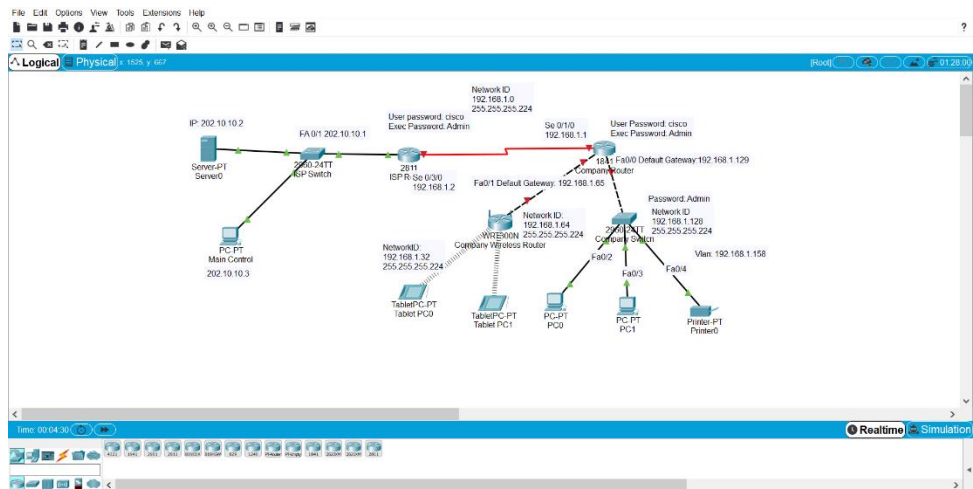


Web Browsing from wireless PC1. Successfully.



Troubleshooting

Before troubleshooting.



Fault 1

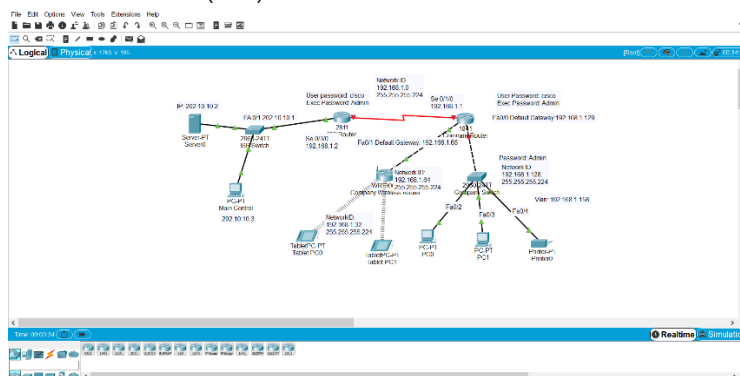
Identified(Yes)

Described: The company router hasn't turned on.

Resolution described: Physically turn on the router.

Tested: Pass

Fault corrected (Yes)



The connection between company router and wireless router becomes green.

Fault 2

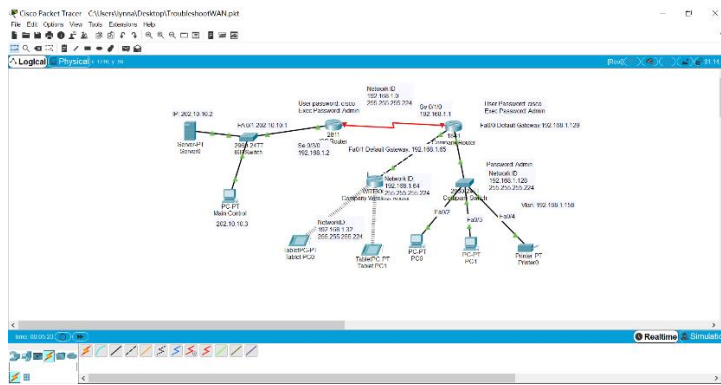
Identified(Yes)

Described: Using the wrong wire between the company switch and company router.

Resolution described: changed the wire from copper cross-over to copper straight-through.

Tested: Pass

Fault corrected (Yes)



The connection between company router and the company switch becomes green after changing the wire.

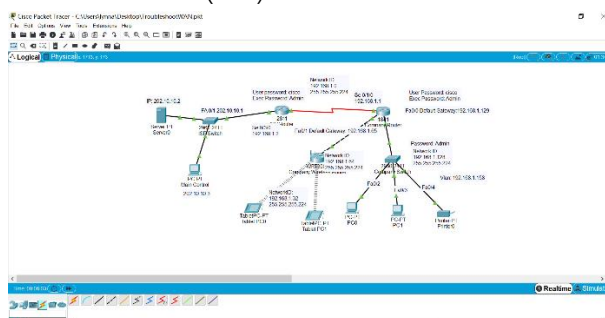
Fault 3

Identified(Yes)

Described: And the clock is at the wrong place(company router), should be on the ISP router. And the wire connected to the wrong port on the ISP router, should be on Se0/3/0
Resolution described: change the direction and connected port.

Tested: Pass/Fail

Fault corrected (Yes)



The connection between ISP router and the company router becomes green after refining the wire between.

Fault 4

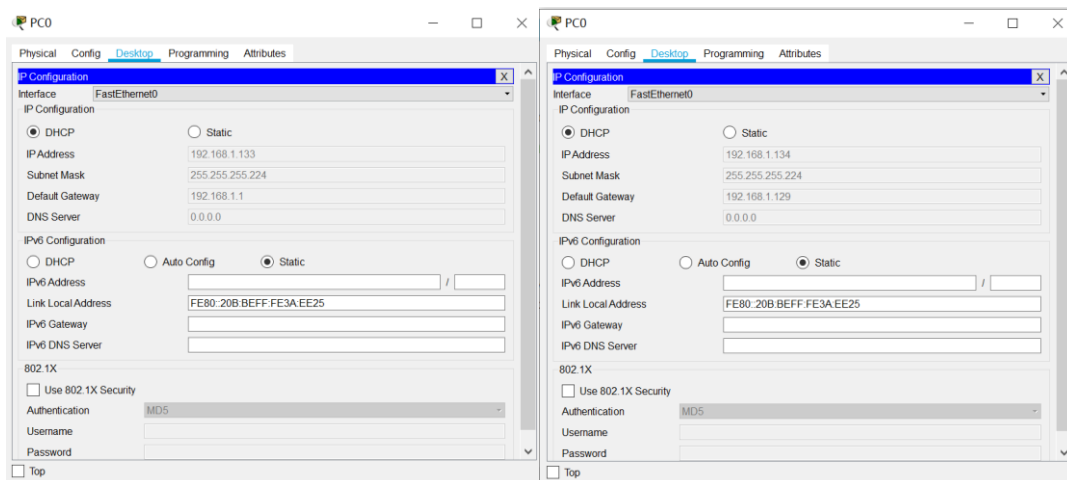
Identified(Yes)

Described: wrong default gateway

Resolution described: change the default gateway on switch and the dhcp setting on the router.

Tested: Pass/Fail

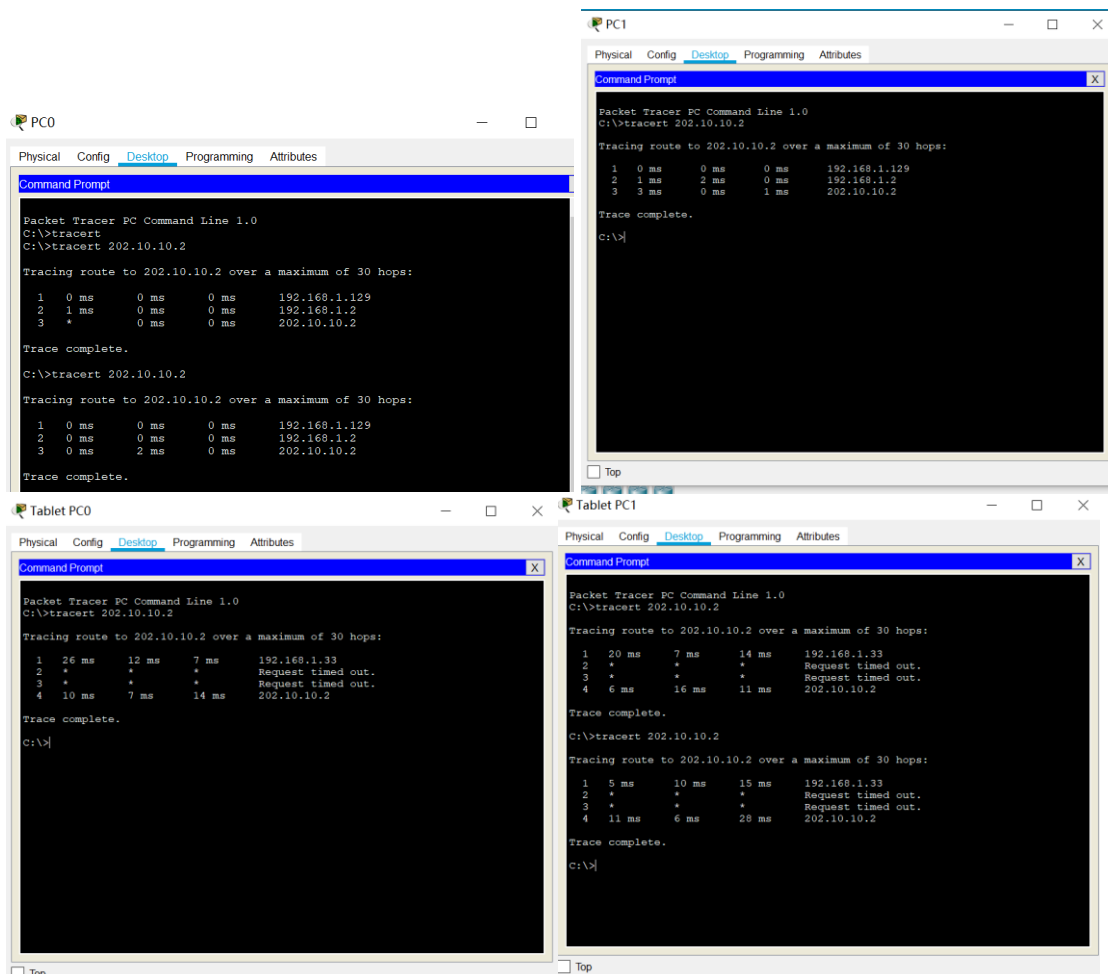
Fault corrected (Yes)



The default gateway on the PC was 192.168.1.1 which is the wrong port's IP address. After reset the default gateway on the switch and the DHCP setting and refresh on the PC. We can see that the default gateway changed to 192.168.1.129.

Troubleshooting Testing

Tracert/Trace router (to web server). Successfully.



Web browsing. Successfully.

