Lab 5.3.5 Configure Ethernet/FastEthernet Interface

Estimated Time: 15 minutes

Number of Team Members: Students will work in teams of two.

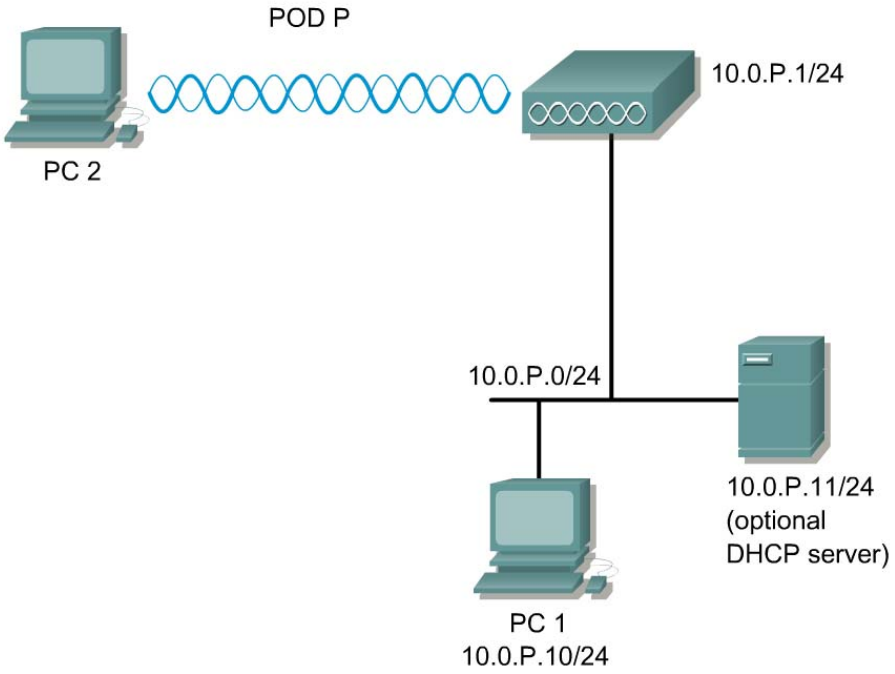
Objective

In this lab, the student will use the AP setting pages to enter speed and duplex information for the AP.

Scenario

This section describes how to configure the AP radio Ethernet and FastEthernet interfaces to lock in speed and duplex settings.

Topology



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Preparation

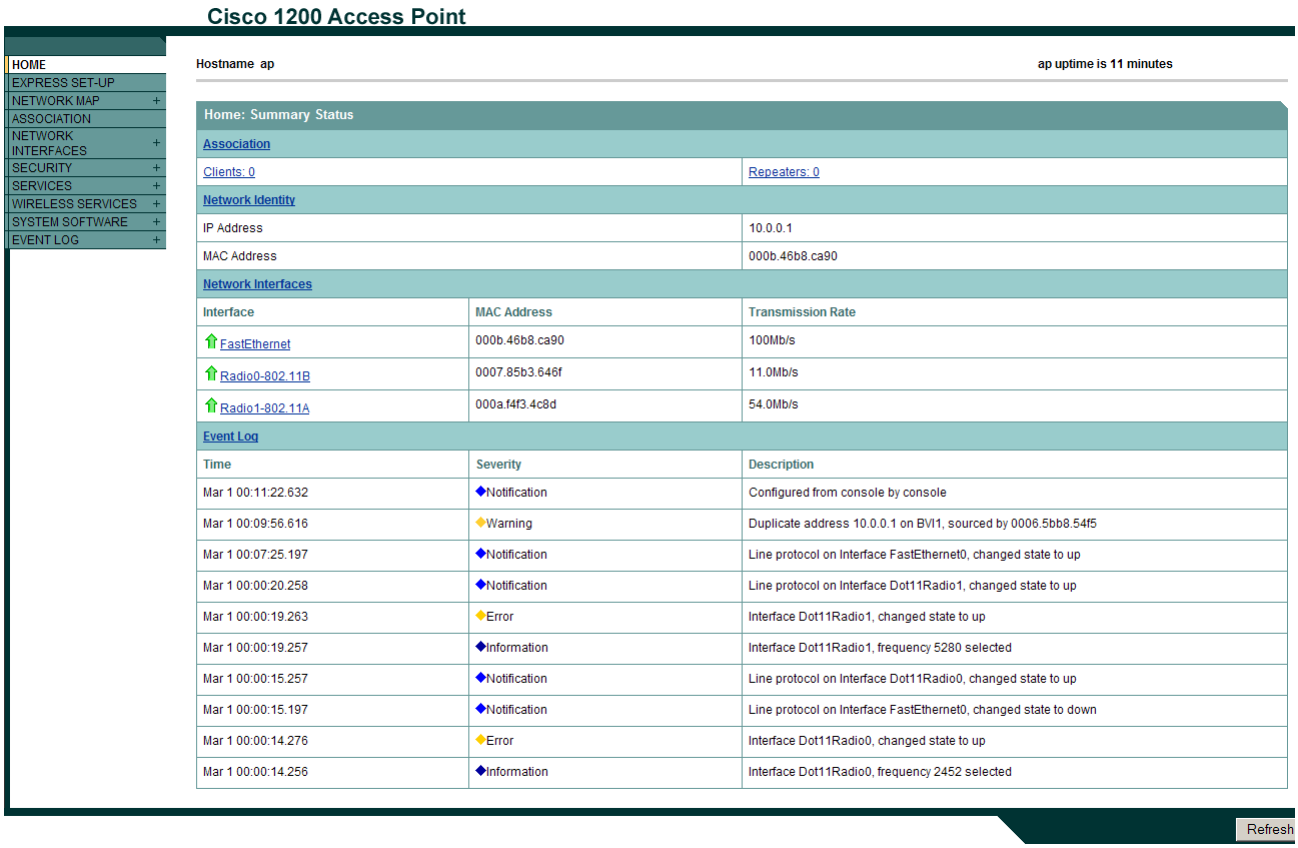
Below are the basic settings to be applied to the AP.

Team	AP Name	SSID	Address
1	Pod1	AP1	10.0.1.1/24
2	Pod2	AP2	10.0.2.1/24

Tools and Resources

- One Cisco 1200 AP
- PCs with properly installed Cisco wireless client adapters and utility.
- Several PCs on the wired network that can maintain connectivity to the configuration management pages on the AP.

Step 1 Obtaining and Assigning an IP Address



a. If needed, console into the AP and configure the BVI IP address to 10.0.P.1/24. Set the hostname as well according to the Preparation table. Make sure the wired PC TCP/IP

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settings are configured according to the Topology. A wireless connection to the AP can also be used.

1. Record the configuration commands below needed for Step1a.

_____

_____

_____

_____

_____

b. Open up a browser on PC1 and browse to the AP's **Home** page

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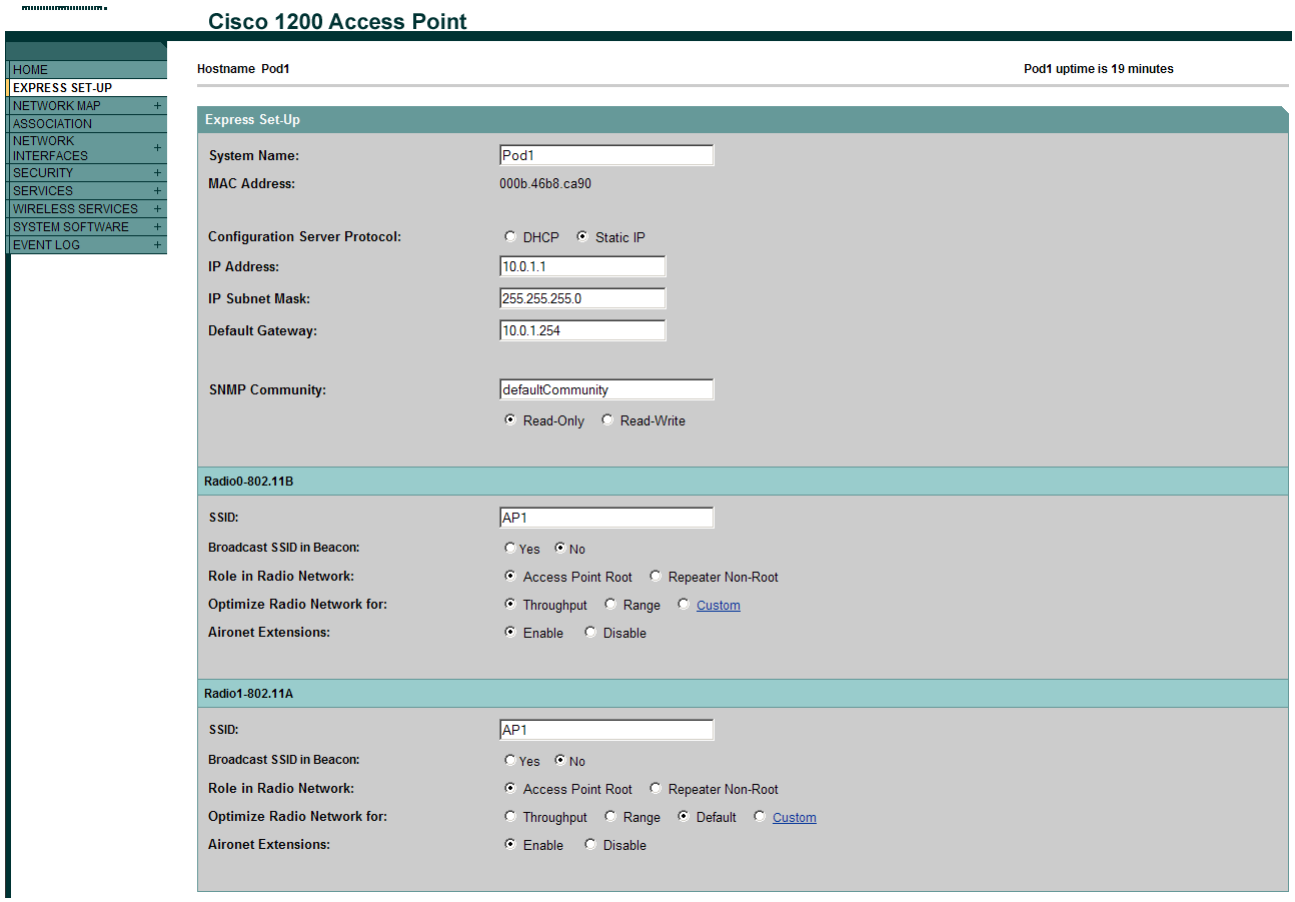
Step 2 Express Setup page



Browse to the **EXPRESS SET-UP** Page and verify the settings configured in Step 1 through GUI.

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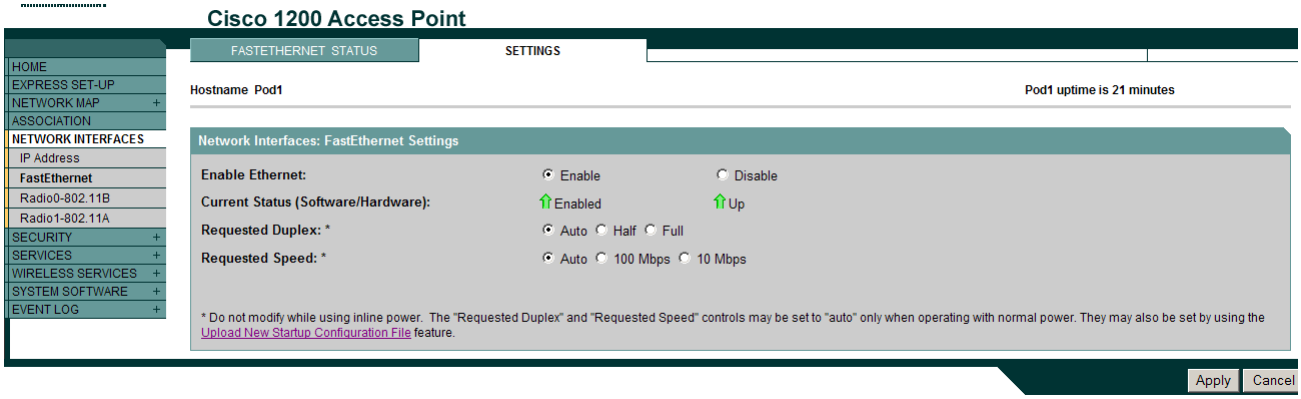
Step 3 Data rate speed and Duplex of the FastEthernet interface



a. Go to the **NETWORK INTERFACES>FastEthernet** Page and click on the settings tab of the AP.

b. The **Enable Ethernet:** setting should be set to **Enable**.

Note If the FastEthernet settings are modified while connected through the wired network, the connection may be lost. These will actually be modified in Step 4 through the Console. The Requested Duplex Setting should be set to **Auto** by default. In a production environment, the duplex should be locked into the optimum setting of the connected switch.

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c. The Requested Speed Setting should be set to **Auto** by default**.** In a production environment, the speed should be locked into the optimum setting of the connected switch.

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Step 4 Configure Ethernet/FastEthernet Interfaces through IOS CLI

Typically, an IP address is configured on the BVI interface only. However, there are some other settings which should be set on the FastEthernet interface. Below is a command table which will be used in this step.

Command	Description
configure terminal	enter global configuration mode
interface fastEthernet *interface number*	enter the device Ethernet/fastEthernet interface
duplex *auto|full|half*	set the role of the AP device
show interfaces *<cr>|interface number*	View the interface(s) detailed status
show ip interface brief	View a brief status of IP interfaces
show running-config	View the running configuration
speed *10|100|auto*	set the data rate of the AP

Console into the AP

a. Beginning in configuration mode. Follow these steps to set the AP Ethernet/FastEthernet settings:

```
PodP(config)#interface fastEthernet 0
```

b. Now see what duplex settings are possible.

```
PodP(config-if)#duplex ?
  auto  Enable AUTO duplex configuration
  full  Force full duplex operation
  half  Force half-duplex operation
```

c. Set the duplex to full

```
PodP(config-if)#duplex full
```

d. Now see what speed settings are possible.

```
PodP(config-if)# speed ?
  10    Force 10 Mbps operation
  100   Force 100 Mbps operation
  auto  Enable AUTO speed configuration
```

e. Now set the speed to 100 Mbps.

```
PodP(config-if)#speed 100
PodP(config-if)#end
```

f. Check the running configuration.

```
PodP#show running-config
```

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g. Display the FastEthernet interface status

```
PodP#show interfaces fastEthernet 0
FastEthernet0 is up, line protocol is up
  Hardware is PowerPC405GP Ethernet, address is 000b.46b8.ca90 (bia 000b.46b8.ca90)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, MII
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:23:18, output 00:01:54, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     1783 packets input, 164809 bytes
     Received 29 broadcasts, 0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
     0 watchdog
     0 input packets with dribble condition detected
     1141 packets output, 449852 bytes, 0 underruns
     0 output errors, 0 collisions, 4 interface resets
     0 babbles, 0 late collision, 0 deferred
     0 lost carrier, 0 no carrier
     0 output buffer failures, 0 output buffers swapped out
```

h. Quickly verify all the interfaces are up

```
PodP#show ip interface brief
PodP#show ip interface brief
Interface                  IP-Address      OK? Method Status           Protocol
BVI1                       10.0.P.1        YES other  up               up
Dot11Radio0                unassigned      YES TFTP   up               up
Dot11Radio1                unassigned      YES TFTP   up               up
FastEthernet0              unassigned      YES other  up               up
Virtual-Dot11Radio0        unassigned      YES TFTP   down             down
Virtual-Dot11Radio1        unassigned      YES TFTP   down             down
PodP#
```

i. Now check the detailed status of all the interfaces

```
PodP#show interfaces
```

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