## Intro to Wireless Networking

Welcome to the world of wireless networking. With this Build-It-Night, we will configure an Autonomous Access Point (AP), or less formally a "fat" AP. This means it is not being managed by a wireless controller. You will learn how to create your own Basic Service Set and connect wireless clients. As bonus, you will bridge your AP to another group's AP. In addition, you will assign a WEP password to your AP.

Equipment

2x Friends or new friends!
1x Cisco 1242 Access Points (checkout from cage)
1x PoE Switch (located in your rack)
1x Wireless Dongle or Laptop
2x Pre configured VMs
1x Bench PC

Topology
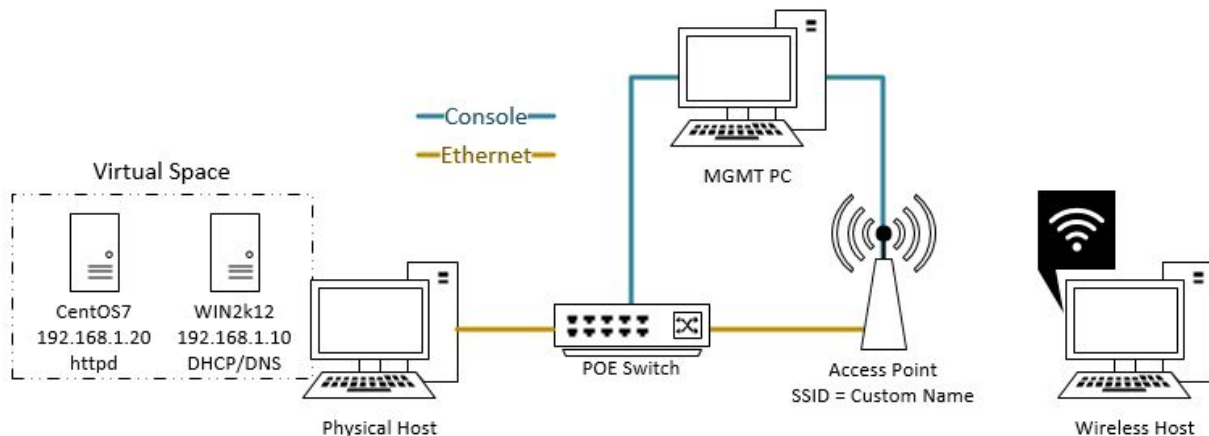
Switch Setup
1. Ensure that the switch supports POE (Switch explicitly says "INLINE POWER" or "PoE" on the front of it)
2. Console into your switch
3. Create a VLAN for your physical host and AP
4. Connect your physical host into the correct port and assign it an ip address
5. Connect your assigned Cisco AP to the correct port. The switch will provide power to your AP. Make sure your AP lights up after plugging it in.

VM Setup
1. Get a copy of the provided VM's from an EBoard member
2. Disconnect from the room network and into your switch
3. Boot the Windows Server 2012 and CentOS7
    a. Select "Take Ownership" when loading into Workstation
    b. Select "I copied it" when booting
4. Familiarise yourself with what is on the machines (Hint: it should look familiar)
    a. Start any necessary services
5. Assign static IP address to Centos (may have lost configuration during cloning)
    a. Change IP scheme if necessary
6. Make sure both VMs are set to Bridge

AP Setup

1. Console into your AP
2. You should then receive a prompt that says $ap >$. Type *enable* to start working. If the AP has a password, first try "Cisco"
3. Perform a write erase before starting configurations
4. Configure your SSID (Hint: *dot11* .). You can name your SSID anything you would like within reason.
5. Change your authentication mode to open so people can connect without issue and enable guest mode.
6. Connect to your SSID with the wireless host

Ping wired hosts and browse to website running on CentOS7

Bonus
1. Create a WEP password for your SSID
2. Get Internet access for your wireless client
3. Bridge your AP with another group's AP
    a. Ping the other group's client