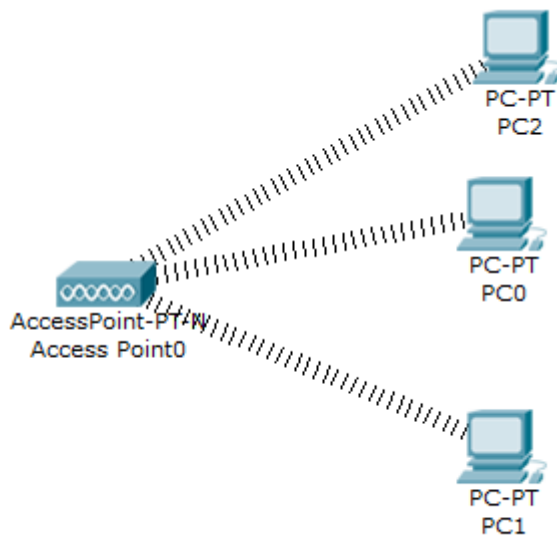# CNE301 – Network I – Lab 06

# Building Extended Service Set using Wireless LAN.
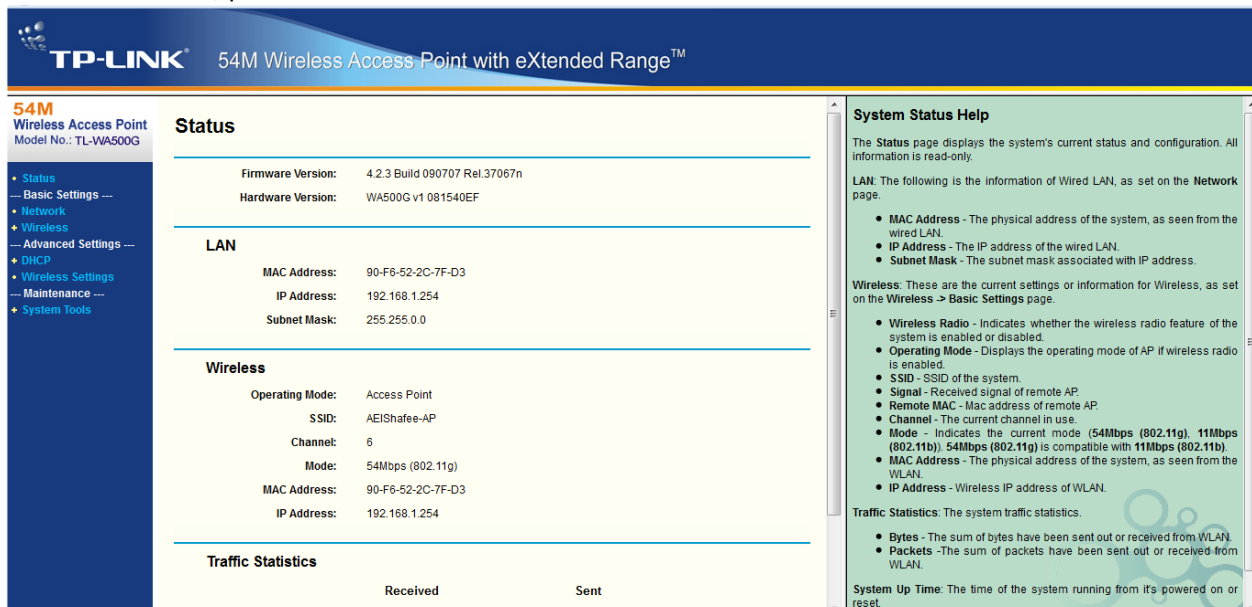
| # | Student ID | Student Name | Grade (10) |
|---|---|---|---|
| 1 | | | |

## Part1: Infrastructure Wireless Network



**Configuring Access point**

1. restore default configuration of access point by pressing reset button till all leds in the access point front panel become off

2. connect access point to your PC using cross over cable

3. open access point configuration page on your web browser using it default IP address 192.168.1.254, username: admin, password: admin

4. go to wireless/basic settings page and update SSID, Region fields, press save
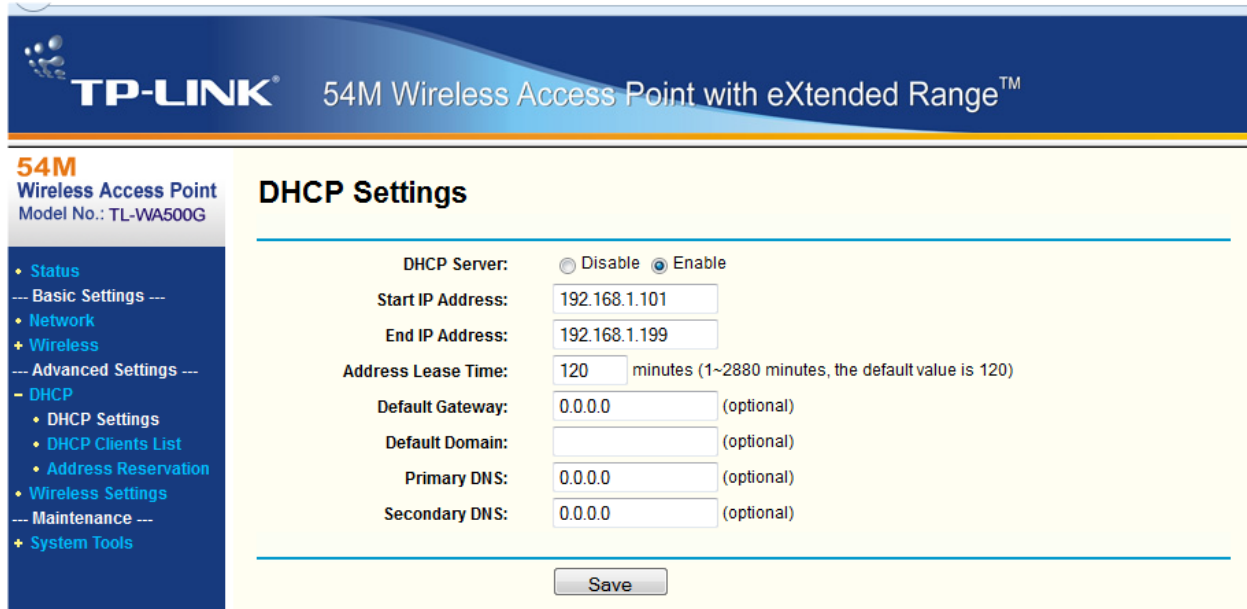


5. go to DHCP page update its field as shown, press save



Now your access point is ready

**Configuring client**
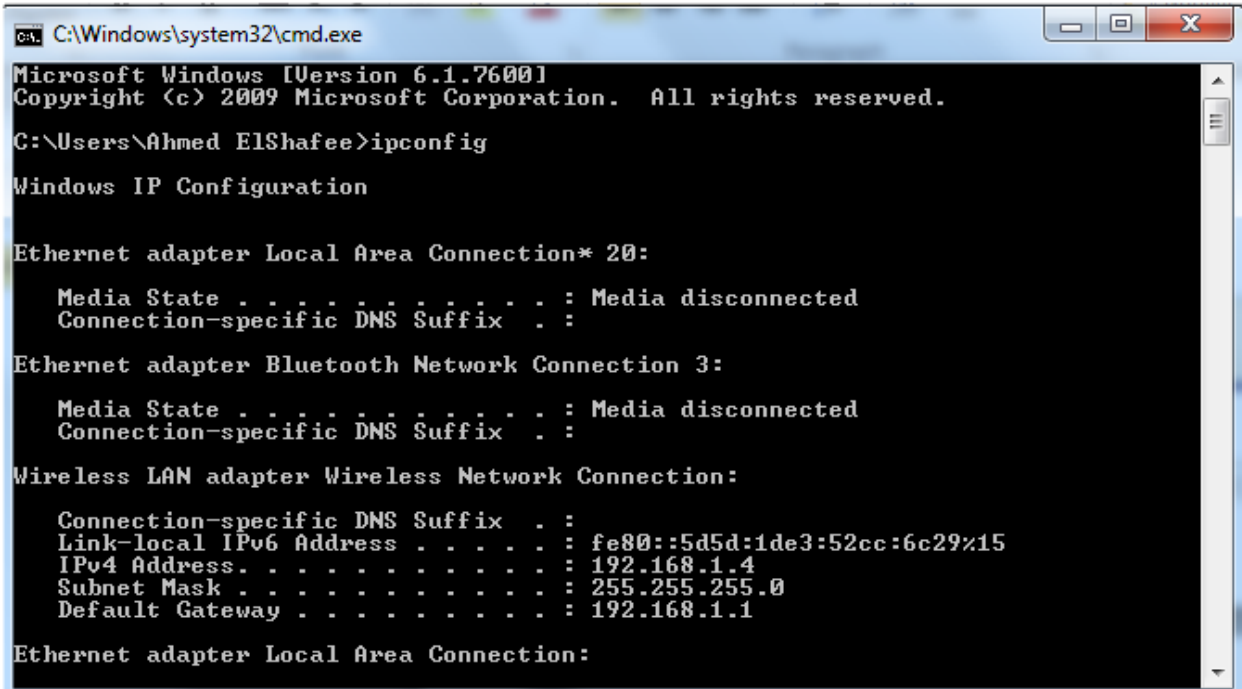
1. go to client pc make sure wireless network connection/TCPIP settings in automatic mode
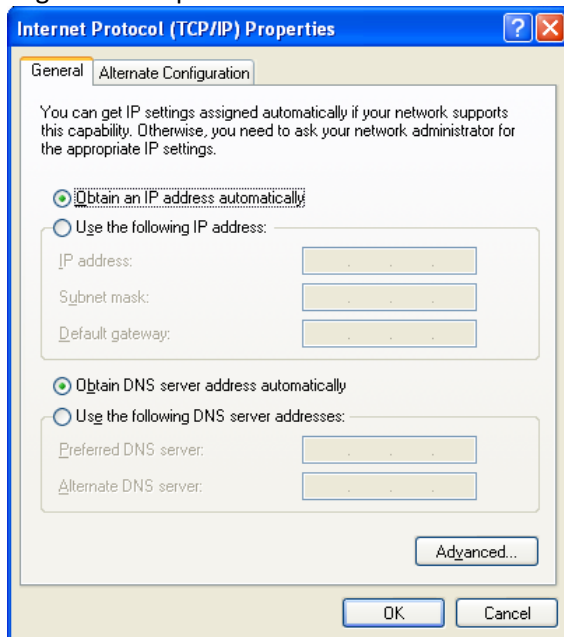


2. Go to client PC brows the available wireless networks
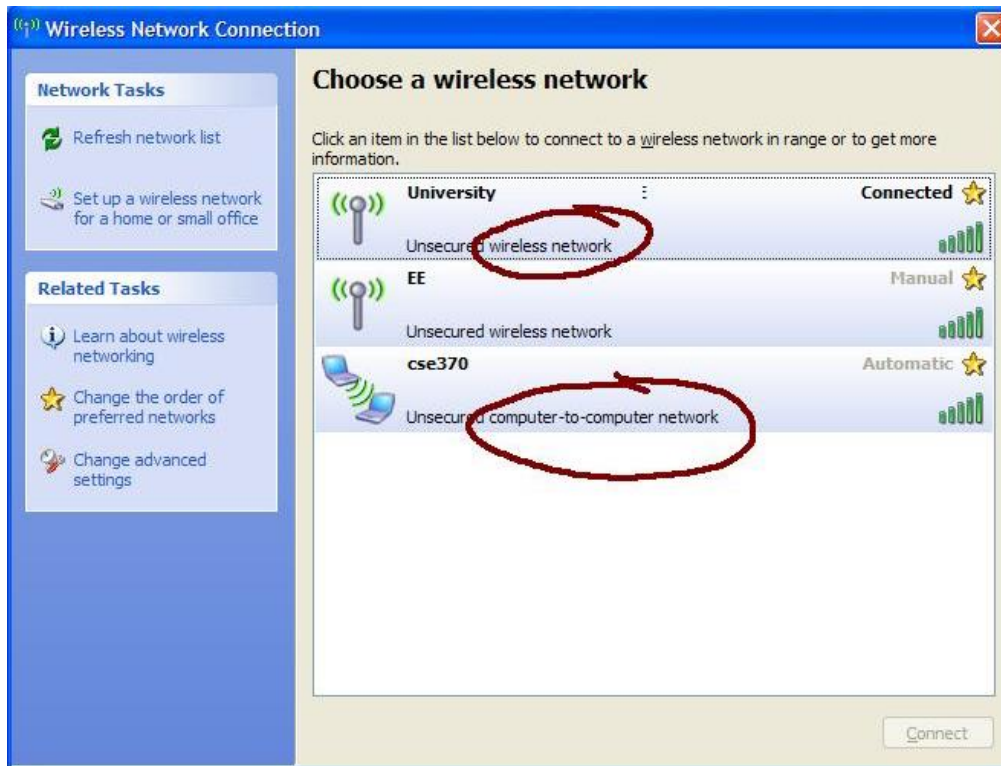
3. get ip address of connected hosts using ipconfig command



```
C:\Windows\system32\cmd.exe

Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\Ahmed ElShafee>ipconfig

Windows IP Configuration


Ethernet adapter Local Area Connection* 20:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Ethernet adapter Bluetooth Network Connection 3:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Wireless Network Connection:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::5d5d:1de3:52cc:6c29%15
   IPv4 Address. . . . . . . . . . . : 192.168.1.4
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.1.1

Ethernet adapter Local Area Connection:
```

4. test connectivity between clients and access point using ping command

## Part3: Wired Ethernet and Wireless Ethernet Integration (Extended service set)
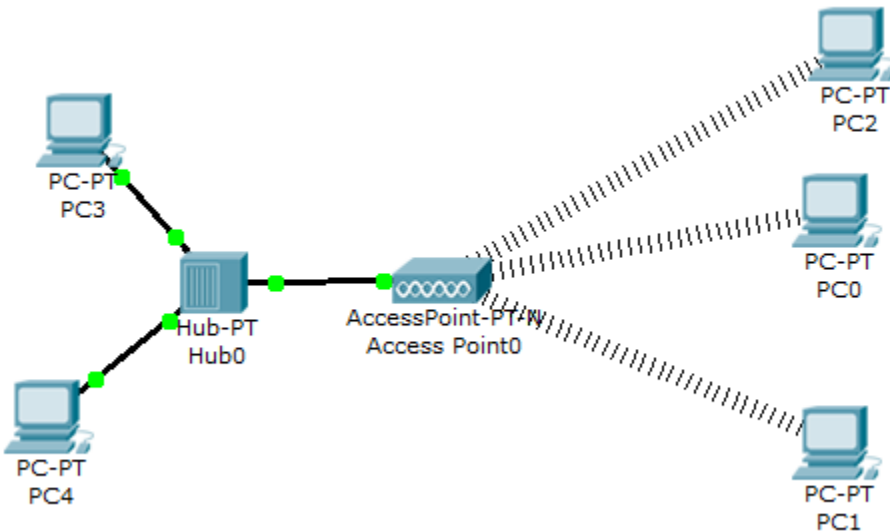


1. connect Access point to 8 ports hub using straight through cable
2. connect 2 PCs to hub using straight through cables too
3. make sure that the wired network connection tcp/ip configuration in automatic mode.
4. check IP of wired clients using ipconfig command
5. check connectivity between wired and wireless clients using ping command

**Conclusions**:

1. Wireless access point is acting as wireless hub not a wireless switch? Discuss?

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2. The physical layer speed of wired LAN is about twice the speed of wireless LAN. But when user transferee a huge files, wireless transferee speed is lower than expected if compared to wired LAN. Discuss?

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