

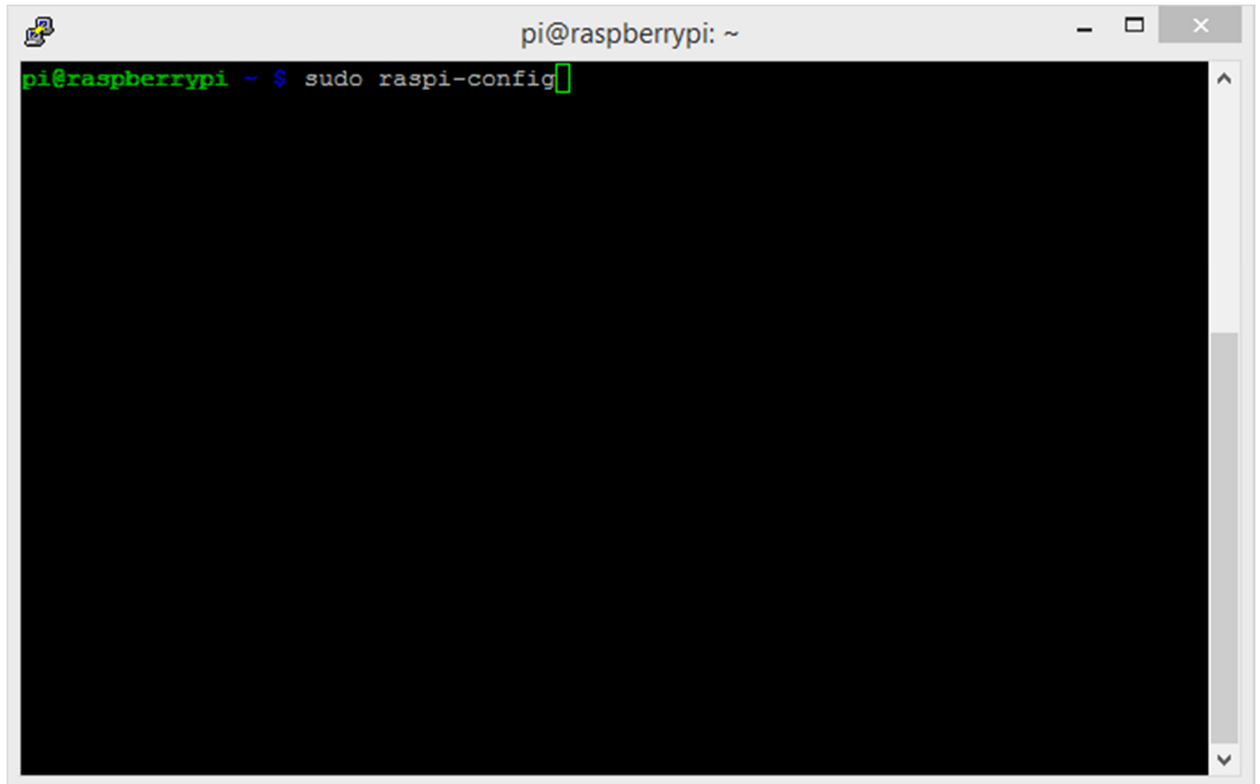
# Connecting from a laptop

## Using a wired network with PuTTY

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### Preparing the Raspberry Pi

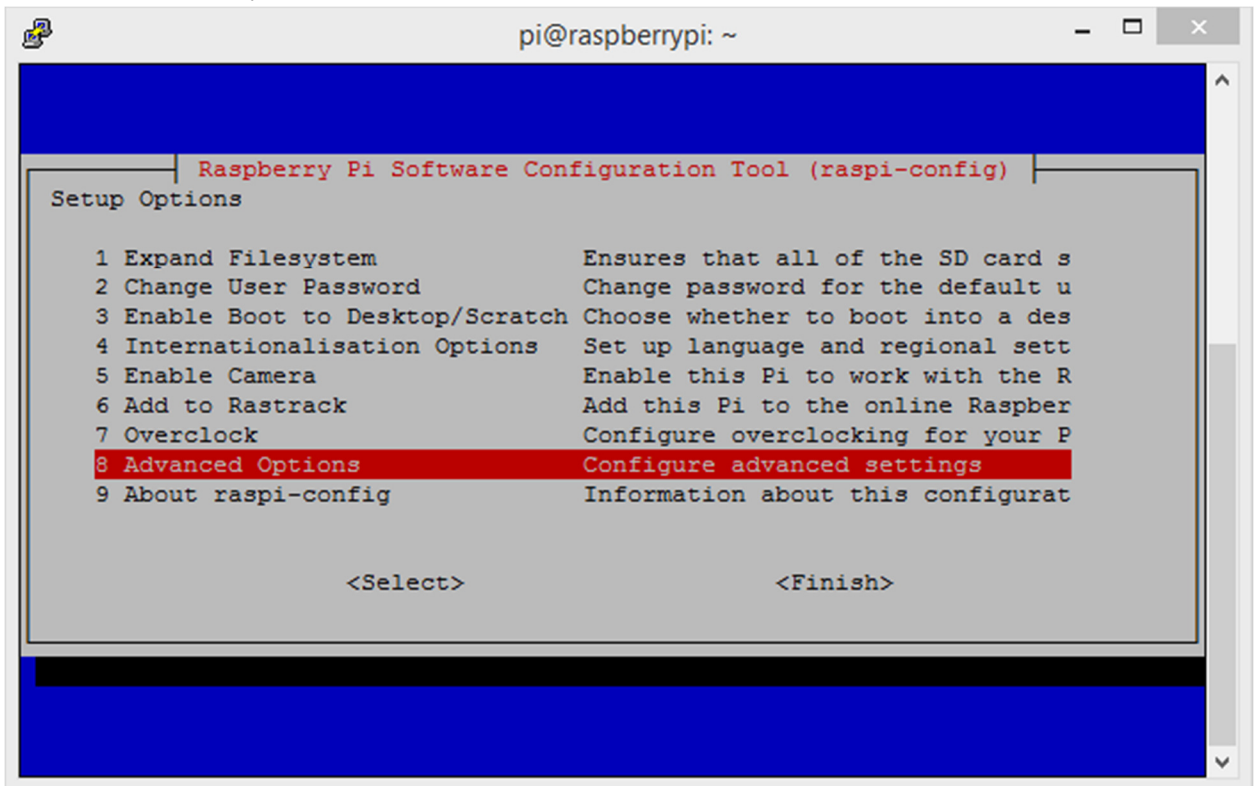
1. From a command prompt, enter "raspi-config"



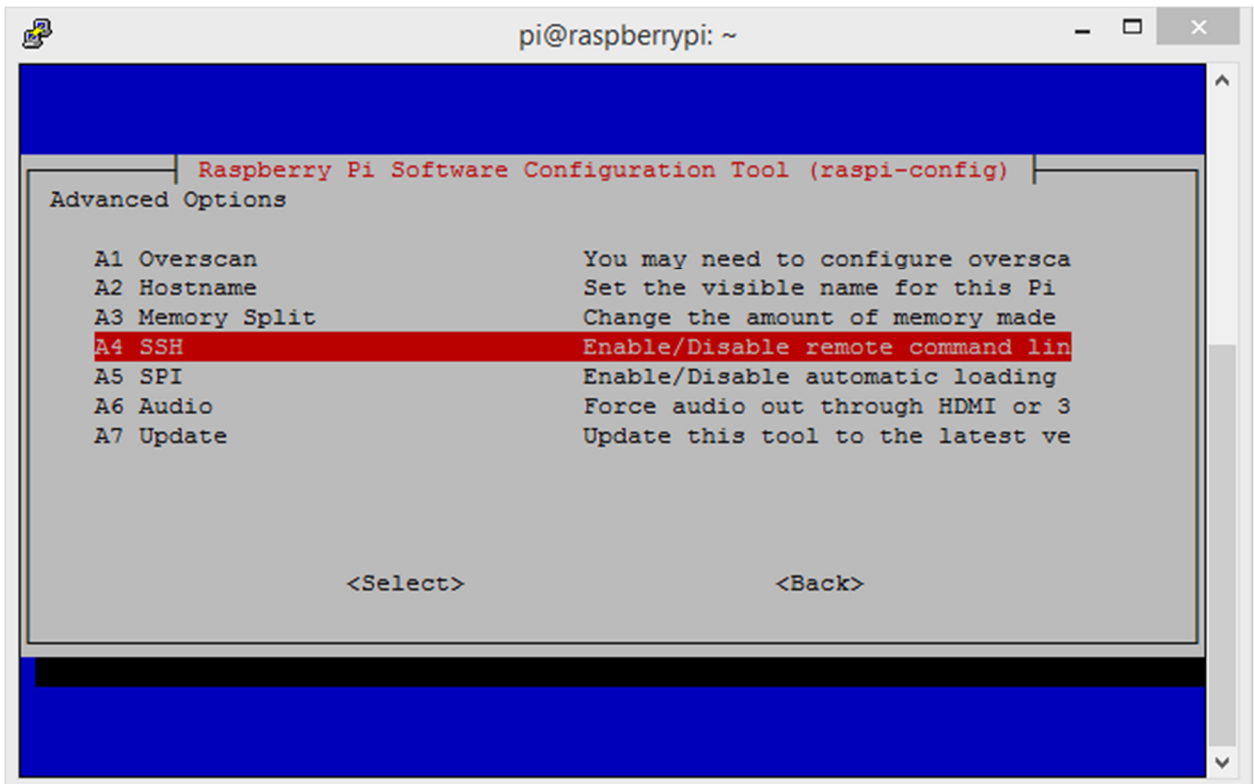
```
pi@raspberrypi: ~  
pi@raspberrypi ~ $ sudo raspi-config
```

The image shows a terminal window titled "pi@raspberrypi: ~". The prompt is "pi@raspberrypi ~ \$" and the command "sudo raspi-config" has been entered, with a green cursor at the end of the command. The terminal background is black, and the text is green. The window has standard Linux window controls (minimize, maximize, close) in the top right corner.

2. Select "8 Advanced Options"



3. Select "A4 SSH"



4. Select "<Enable>"



5. Select "<Ok>"

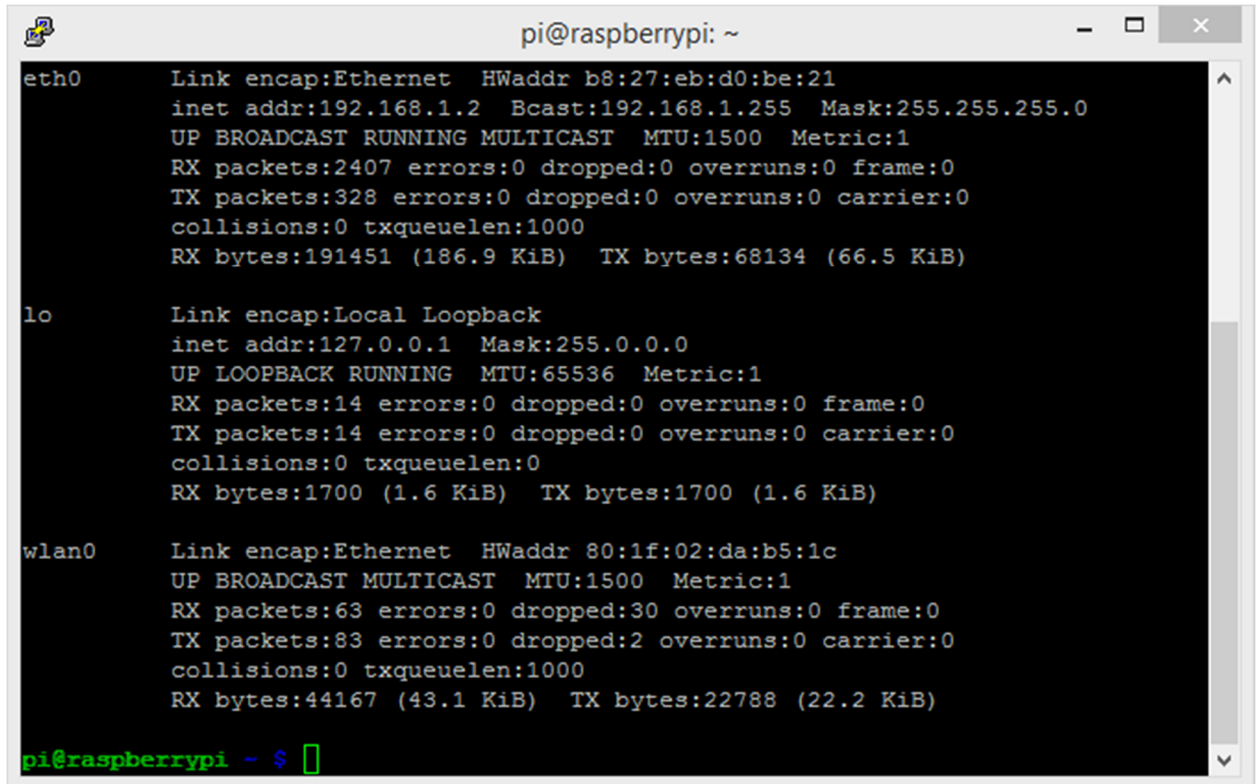


6. Select <Finish>



## Identify the Raspberry Pi

1. Connect the Raspberry Pi to a wired network
2. From a shell prompt, execute “ifconfig”. Observe the “inet addr” for the “eth0” adapter. In this example, the Raspberry Pi’s IP address is “192.168.1.2”



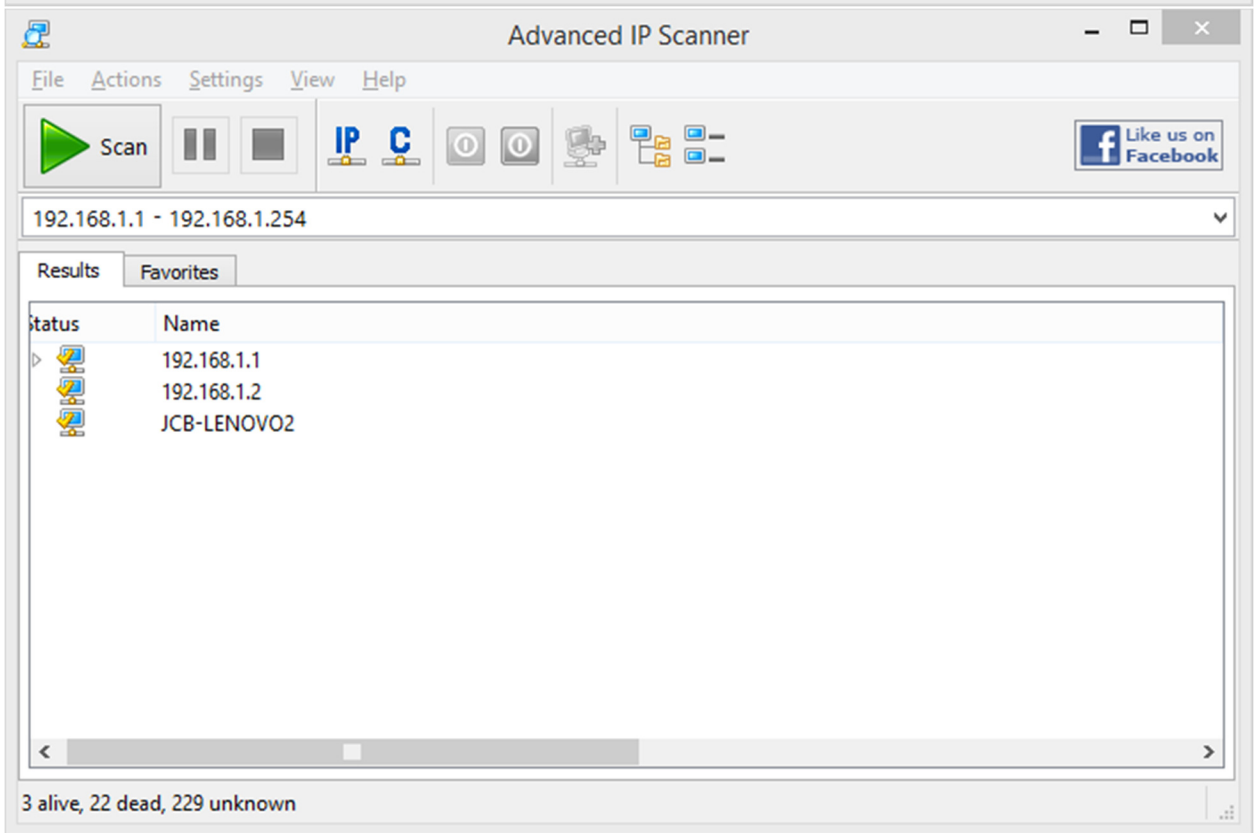
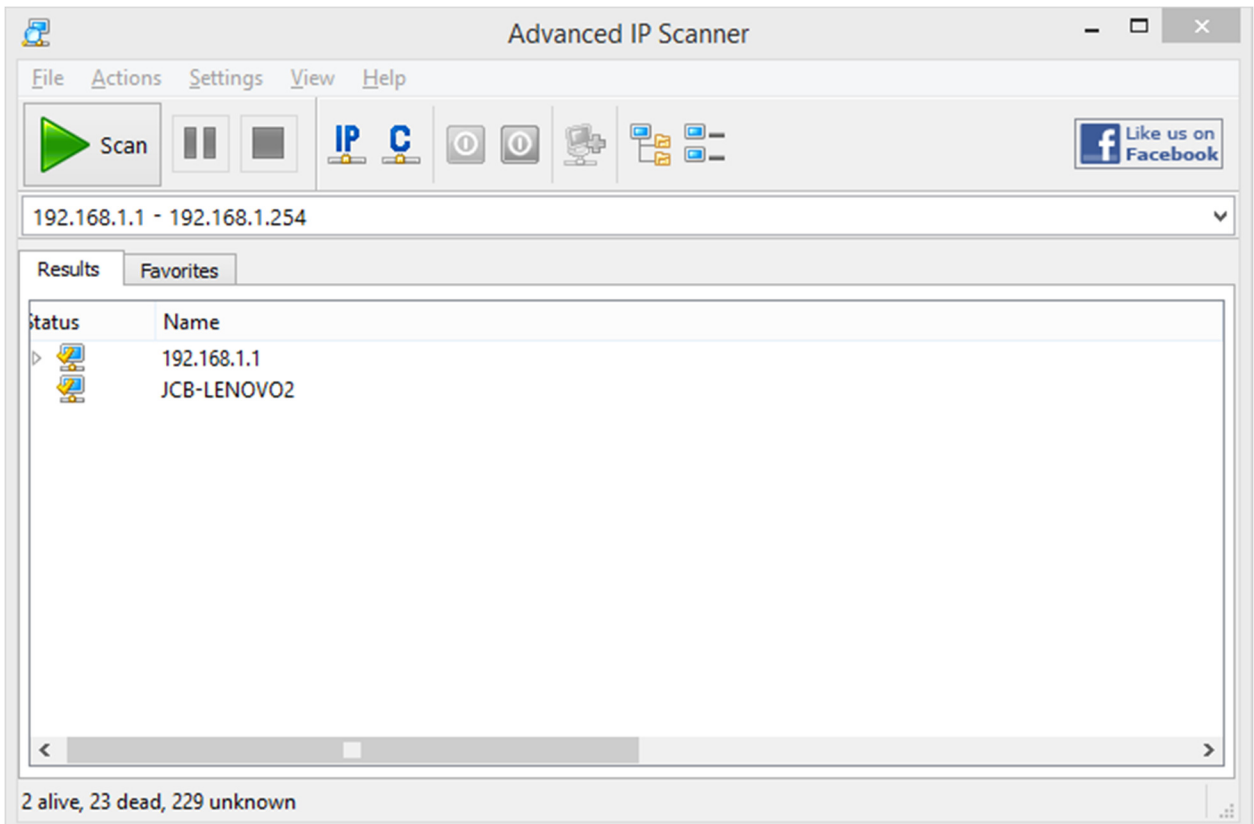
```
pi@raspberrypi: ~
eth0      Link encap:Ethernet  HWaddr b8:27:eb:d0:be:21
          inet addr:192.168.1.2  Bcast:192.168.1.255  Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:2407  errors:0  dropped:0  overruns:0  frame:0
          TX packets:328  errors:0  dropped:0  overruns:0  carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:191451 (186.9 KiB)  TX bytes:68134 (66.5 KiB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:14  errors:0  dropped:0  overruns:0  frame:0
          TX packets:14  errors:0  dropped:0  overruns:0  carrier:0
          collisions:0 txqueuelen:0
          RX bytes:1700 (1.6 KiB)  TX bytes:1700 (1.6 KiB)

wlan0     Link encap:Ethernet  HWaddr 80:1f:02:da:b5:1c
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:63  errors:0  dropped:30  overruns:0  frame:0
          TX packets:83  errors:0  dropped:2  overruns:0  carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:44167 (43.1 KiB)  TX bytes:22788 (22.2 KiB)

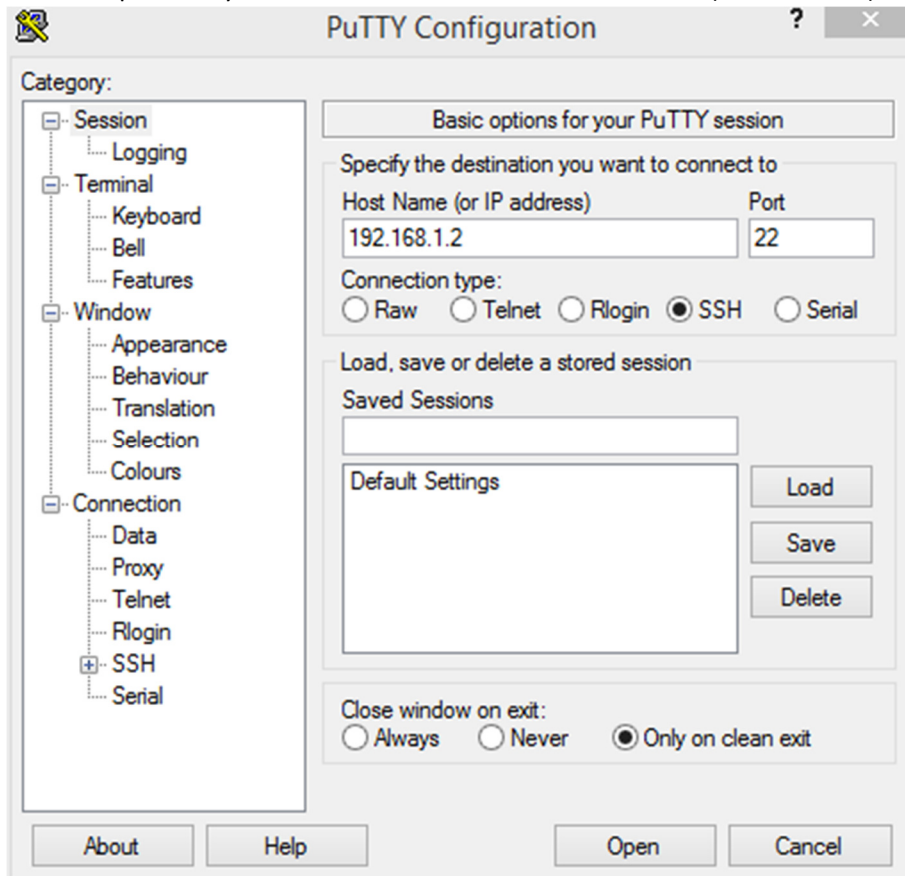
pi@raspberrypi ~ $
```

3. Alternatively, from your Windows laptop, run a network scanner, such as “Advanced IP Scanner”, available from <http://www.advanced-ip-scanner.com/>
4. Select “IP” for the current network, then “Scan”. You may want to run the scan with the Raspberry Pi disconnected and then run the scan again with the Raspberry Pi connected to identify the proper device.



## Connect using PuTTY

1. Install and start PuTTY. You can obtain the installer from <http://www.chiark.greenend.org.uk/~sgtatham/putty/>
2. Enter the previously identified IP address for the “Host Name (or IP Address)” and click “Open”



3. Enter the user id and password, "pi" and "raspberr" by default





# Using a wireless network with MobaXterm

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## Configure the Raspberry Pi

1. From the Raspberry Pi desktop, start “WiFiConfig”
2. With the proper adapter selected, click “Scan”
3. Double-click the desired network, “NETGEAR42” is available, as is the campus guest WiFi.
4. If needed, enter the PSK (key) for the network, “jaggedocean442” for “NETGEAR42”.
5. Click “Add”
6. Click “Close”
7. Select the desired network”
8. Click “Connect”

## Connect to the Raspberry Pi

1. Installed and start MobaXterm, available from <http://mobaxterm.mobatek.net/>
2. Click “Session”
3. Select “SSH”
4. Enter the Raspberry Pi’s address on the wireless network
5. Click “OK”
6. Enter login credentials
7. Try entering “lxdterminal&” What happens?
8. Try entering “pcmanfm&” What happens?
9. Try entering “midori&” What happens?
10. Try entering “wpa\_gui”

## Advanced – Connect directly from a laptop to the Raspberry Pi

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1. Configure the laptop with a fixed IP address, something like 192.168.3.2 would work well.
2. Configure the Raspberry Pi with a fixed IP address. To do that, modify the `/etc/network/interfaces` (make a backup first). Replace the line “`iface eth0 inet dhcp`” with:

```
iface eth0 inet static
address 192.168.3.3
netmask 255.255.255.0
network 192.168.3.0
broadcast 192.168.3.255
```

3. Execute “`sudo ifdown eth0`”
4. Execute “`sudo ifup eth0`”
5. Connect the laptop to the Raspberry Pi using a “crossover” cable
6. Connect to the Raspberry Pi using PuTTY or MobaXterm