Connecting from a laptop

Using a wired network with PuTTY

Preparing the Raspberry Pi

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



2. Select "8 Advanced Options"

pi@	raspberrypi: ~ –	
		^
Raspberry Pi Software Con Setup Options	figuration Tool (raspi-config)	
1 Expand Filesystem 2 Change User Password 3 Enable Boot to Desktop/Scratch 4 Internationalisation Options 5 Enable Camera 6 Add to Rastrack 7 Overclock	Ensures that all of the SD card s Change password for the default u Choose whether to boot into a des Set up language and regional sett Enable this Pi to work with the R Add this Pi to the online Raspber Configure overclocking for your P	
9 About raspi-config	Information about this configurat	
<select></select>	<finish></finish>	
		Ū

3. Select "A4 SSH"

£	pi	@raspberrypi: ~	-	×
				^
Advanced Options	PI SOITWARE C	onriguration looi (raspi-conrig)		
A1 Overscan		You may need to configure over	sca	
A2 Hostname		Set the visible name for this	Pi	
A3 Memory Split		Change the amount of memory ma	de	
A4 SSH		Enable/Disable remote command	lin	
A5 SPI		Enable/Disable automatic loadi	ng	
A6 Audio		Force audio out through HDMI o	r 3	
A7 Update		Update this tool to the latest	ve	
	(Select)	Back		
	CDETECTY	Chacky		
				*

4. Select "<Enable>"

P	pi@raspberrypi: ~	 ×
		^
	Would you like the SSH server enabled or disabled?	
	<pre><enable> <disable></disable></enable></pre>	
		~

5. Select <Ok>



6. Select <Finish>

P	pi@raspberrypi: ~	 ×
		^
	SSH server enabled	
	×010	
		~

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"

P	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. 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)	0	^
10	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 pi@raspbe	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)		*

- 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.

<u></u>		Advanced IP Scanner	- 🗆 🗙
<u>File</u> <u>Action</u>	s <u>S</u> ettings <u>V</u> iew <u>H</u> elp		
Scan			Like us on Facebook
192.168.1.1	- 192.168.1.254		~
Results F	avorites		
itatus	Name		
▶ 🧟	192.168.1.1 JCB-LENOVO2		
<			>
2 alive, 23 dea	d, 229 unknown		
<u> </u>		Advanced IP Scanner	_ 🗆 🗡
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Eile Action	s <u>S</u> ettings <u>V</u> iew <u>H</u> elp	Advanced IP Scanner	Like us on Facebook
Eile Action Scan	s <u>S</u> ettings <u>V</u> iew <u>H</u> elp P C C - 192.168.1.254	Advanced IP Scanner	Like us on Facebook
Eile Action Scan 192.168.1.1 Results F	s <u>Settings View H</u> elp	Advanced IP Scanner	Like us on Facebook
Eile Action Scan 192.168.1.1 Results F itatus	s Settings View Help	Advanced IP Scanner	- C ×
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Eile Action Scan 192.168.1.1 Results F itatus 2 2 2 3 4 4 5 5 5 5 5 5 5 5 5 5 5	s Settings View Help 	Advanced IP Scanner	- C ×

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"

8	PuTTY Configuration	? ×			
Category:					
- Session	Basic options for your PuTTY se	Basic options for your PuTTY session			
Logging	- Specify the destination you want to conne	Specify the destination you want to connect to			
	Host Name (or IP address)	Port			
Bell	192.168.1.2	22			
 Features Window Appearance Behaviour Translation Selection 	Connection type:				
	Load, save or delete a stored session Saved Sessions	1			
Colours	Default Settings	Load			
Data		Save			
Proxy		Delete			
Rlogin SSH Serial		Delete			
	Close window on exit: Always Never Only on c	lean exit			
About He	lp Open	Cancel			

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



Using a wireless network with MobaXterm

Configure the Raspberry Pi

- 1. From the Raspberry Pi desktop, start "WiFiConfig"
- 2. With the proper adapter selected, cSlick "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. Clock "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 "Ixterminal&" 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

- 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