The aim of this room is to provide a beginner's introduction to the basic principles of networking. Networking is a *massive* topic, so this really will just be a brief overview; however, it will hopefully give you some foundational knowledge of the topic, which you can build upon for yourself.

The topics that we're going to cover in this room are:

- · The OSI Model
- . The TCP/IP Model
- · How these models look in practice
- · An introduction to basic networking tools

Answer the questions below

Let's get started!

No answer needed

✓ Correct Answer

Layer I -- Physical:

UDP

The physical layer is right down to the hardware of the computer. This is where the electrical pulses that make up data transfer over a network are sent and received. It's the job of the

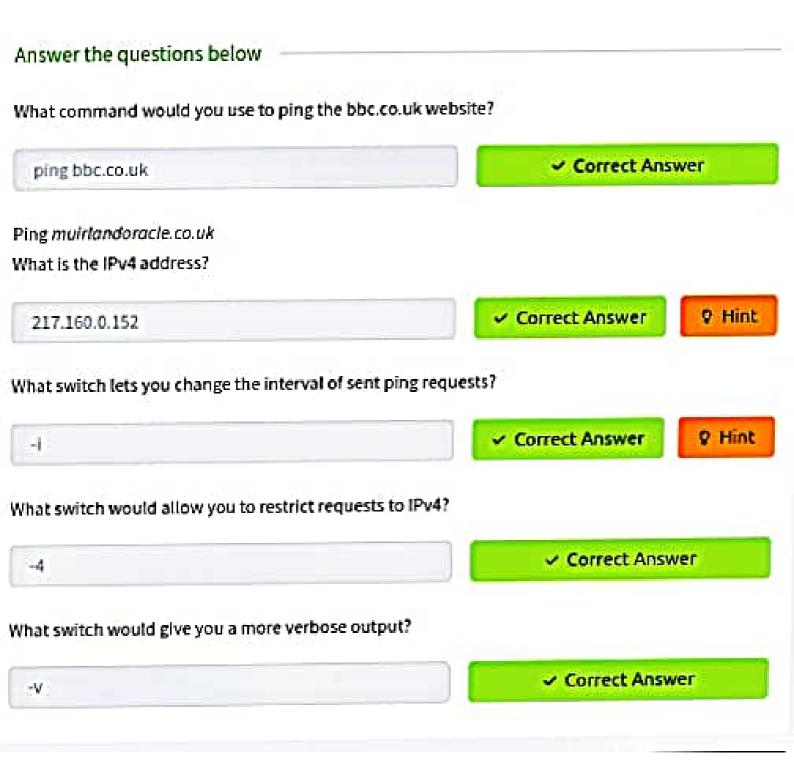
across the network, as well as receiving incoming signals and converting them back into binary data. For the "Which Layer" Questions below, answer using the layer number (1-7)	
Which layer would choose to send data over TCF	P or UDP?
4	✓ Correct Answer
Which layer checks received information to mak	se sure that it hasn't been corrupted?
2	✓ Correct Answer
n which layer would data be formatted in prepa	aration for transmission?
2	✓ Correct Answer
Which layer transmits and receives data?	
1	✓ Correct Answer
Which layer encrypts, compresses, or otherwise ormat?	transforms the initial data to give it a standardise
6	✓ Correct Answer
Which layer tracks communications between the	e host and receiving computers?
5	✓ Correct Answer
Which layer accepts communication requests fro	om applications?
7	✓ Correct Answer
Which layer handles logical addressing?	
3	✓ Correct Answer
When sending data over TCP, what would you ca	all the "bite-sized" pieces of data?
Segments	✓ Correct Answer
Research] Which layer would the FTP protocol	communicate with?
7	✓ Correct Answer

✓ Correct Answer

Which model was introduced first, OSI or To	CP/IP?
TCP/IP	✓ Correct Answer
Which layer of the TCP/IP model covers the	functionality of the Transport layer of the OSI model
(Full Name)?	
Transport	✓ Correct Answer
Which layer of the TCP/IP model covers the	functionality of the Session layer of the OSI model (Ful
Name)?	
Application	✓ Correct Answer
The Network Interface layer of the TCP/IP m	nodel covers the functionality of two layers in the OSI
model. These layers are Data Link, and? (F	(54)
Physical	✓ Correct Answer
Which layer of the TCP/IP model handles th	e functionality of the OSI network layer?
Internet	✓ Correct Answer
What kind of protocol is TCP?	
Connection-based	✓ Correct Answer
What is SYN short for?	
Synchronise	✓ Correct Answer
What is the second step of the three way ha	ndshake?
SYN/ACK	✓ Correct Answer
What is the short name for the "Acknowled;	gement" segment in the three-way handshake?
ACK	✓ Correct Answer

connected to, rather than the URL that was requested. This is a handy secondary application for ping, as it can be used to determine the IP address of the server hosting a website. One of the big advantages of ping is that it's pretty much ubiquitous to any network enabled device. All operating systems support it out of the box, and even most embedded devices can use ping!

Have a go at the following questions. Any questions about syntax can be answered using the man page for ping (man ping on Linux).



216.58.205.46

Now it's your turn. As with before, all questions about switches can be answered with the man page for traceroute

man traceroute

