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Internet and Networking

IP

More generally, **IP** is **Internet Protocol**, which really just means that every computer (and phone and tablet) on the Internet follows a certain set of rules.

IP Address

An **IP address** is a unique address that identifies these devices on the Internet (well, these days we're actually running out of addresses, but more on that in a second).

AP

Notice that the laptop connects wirelessly to an **AP**, **access point**, which typically comes with antennas. The access point allows devices to talk to the rest of the network wirelessly. At home, this might be called a home router, made by D-Link or Linksys or the like.

Router

The access point is connected to a **switch**, which is connected to a **router**, and there is other equipment in between the router and the cloud on the right, representing the rest of the world.

DNS

DNS is a bit more interesting, standing for **Domain Name System**. These servers translate the URLs of websites to IP addresses, and vice versa.

TCP

Routers also allow "guaranteed" delivery. **TCP**, **Transmission Control Protocol**, is another technology used on the Internet, often used together with IP (you may have seen TCP/IP).

Ports/Services

With TCP, we have a set of conventional numbers associated with certain services:

- ports
- 21 FTP
- 25 SMTP
- 53 DNS
- 80 HTTP
- 443 HTTPS

Traceroute

Allows us to see what routers our messages go through

HTTP

HTTP stands for **Hypertext Transfer Protocol**, or what web browsers use to speak to web servers.

SMTP

Simple mail transfer protocol used in e-mail

HTML

You'll see lots of cryptic text, and the response is in the language called **HTML**, **Hypertext Markup Language**. It's not a programming language because it doesn't have functions or loops, but a markup language in that it has tags and attributes that tell a browser what to display on the screen and how to display it, like centering or bolding text, or changing its color.