

# Databases and Cloud Concepts Notes

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*An important note, these notes are absolutely **NOT** guaranteed to be correct, representative of the course, or rigorous. Any result of this is not the author's fault.*

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# 1 The Internet

The internet is a world-wide computer network, connecting computing devices also known as hosts or end systems. These connections can take many forms, such as cables and radio waves. Intermediate switching devices inbetween hosts are known as routers.

## 1.1 Clients and Servers

A program or machine that responds to requests from others is called a server. A program or machine that sends requests to a server is a client.

## 1.2 Internet Layers

There are four internet layers:

Layer	Common Protocol	Description
Application	HTTP	Web browsers making requests and parsing responses
Transport	TCP	Breaks requests down into numbered packets and can reassemble messages
Network	IP	Attaches addresses to packets and groups packets based on their incoming addresses
Physical		Sends bits to the local router and assembles bits into packets

## 1.3 Protocols

Protocols are an agreement on how to communicate.

### 1.3.1 HTTP - HyperText Transfer Protocol

There are four main operations that can be carried out on HTTP resources:

Operation	Performed by...
Creation	HTTP POST
Reading	HTTP GET
Updating	HTTP PUT
Deletion	HTTP DELETE

Requests are formed by an operation as well as a `host` and `content-type` parameter to describe the format of information.

### **1.3.2 URL - Uniform Resource Locator**

Each URL is formed by a scheme (like `http` or `https`), a host (like `www.bristol.ac`), a path (like `.uk/home/maths`). Paths can have queries attached, preceded by `?` as parameters.