HTTP

POSSIBLE RESPONSES FROM A WEB REQUEST

Responses include

SOURCES OF REQUESTS

HYPERTEXT TRANSFER PROTOCOL (HTTP)

- Underlies many aspects of the web
- Based around sockets (usually port 80 for web pages)
- Fairly stable:
  - HTTP 0.9 (1991)
  - HTTP 1.0 (1996)
  - HTTP 1.1 (1997)
  - HTTP 2.0 (2015)
- Commonly accepted extensions: cookies
- HTTP 2 approved in 2015, including compression.

OVERVIEW

- Client/Server: (usually) no response without request
- Requests and responses have similar format:
  - **Request/Status Line** including HTTP version and Status Codes for response
  - **Headers** including the host in HTTP 1.1, allowing for multiple sites on same IP
  - **Blank Line**
- Can run manually using telnet

TELNET REQUESTS

At a Linux prompt:

```
telnet community.dur.ac.uk 80
GET /s.p.bradley/teaching/WP/lecture_http/ HTTP/1.1
Host: community.dur.ac.uk
```

Some sites require https (e.g. www.dur.ac.uk)

REQUEST

- **GET** most common
- **POST** for some forms
- **HEAD** to check if a page exists
- **PUT** rarely used outside web services
- **DELETE** rarely used outside web services

Headers can include cookie values

RESPONSE

Response Codes

- **100-199** Informational (e.g. continue). Client should respond
- **200-299** Successful
- **300-399** File has moved (permanently or temporarily)
- **400-499** Client error (401 Unauthorised, 403 Forbidden, 404 Not Found)
- **500-599** Server error