# HTTP

# HTTP

Short for **HyperText Transfer Protocol**

Specification for transmitting data

Uses request-response paradigm

# HTTP request methods

Accompany URL in outgoing request from web client to web server

Should be one of several verbs as designated below

Indicate intent of request

| Method | Usage |
|--------|-------|
| GET | Fetch a resource |
| POST | Create a resource |
| PUT | Replace a resource with edits<br>May create new resource if one does not exist |
| PATCH | Modifies existing resource |
| DELETE | Delete resource |

# HTTP request methods

Primarily a convention

e.g.: Technically, a GET request can be used to create a resource

Don't do this! Use POST instead

Convention may be enforced by browsers and other tools

# HTTP request methods

Not covered in this this course: HEAD, OPTIONS, TRACE, CONNECT

# HTTP requests

## Request body

Useful for POST, PUT, and PATCH requests

May contain form values, file upload data

May contain data in a given format e.g. JSON, XML, binary

# HTTP requests

## Request headers

Often used for "metadata"

Key-value pairs

May contain user authorization info

May contain content-type to describe format of request body

e.g. "Auth-Token": "ER3M1D9UIP123", "Content-Type": "application/json"

# HTTP responses

Returned to client by the server

Response body

Response header

Status codes

# HTTP status codes

| Status Code | Category |
|-------------|----------|
| 100-199 | Informational |
| 200-299 | Successful |
| 300-399 | Redirection |
| 400-499 | Client Error |
| 500-599 | Server Error |

Specific codes designated for certain situations

e.g.
1. Client requests resource that does not exist
2. Server responds with 404 (Not found)

e.g.
1. Client requests resource that they are unauthorized to access
2. Server responds with 403 (Forbidden)

Primarily a convention, loosely enforced