Day 15

Exploitation Analyst

HTTP protocol:

What is HTTP? 'Hypertext Transfer Protocol'
HTTP is a stateless, application-layer protocol used for transferring web content (HTML, CSS, JS, etc.) between a client (browser) and a web server. It is a connectionless protocol.

Key Features of HTTP:

Feature	Description
Protocol	Text-based request-response protocol (part of the TCP/IP suite)
Port	Uses port 80 by default
Stateless	Each request is independent, server does not remember previous requests
Client-Server Model	Browser sends requests, server sends responses
Application Layer	Works at Layer 7 of the OSI Model

What is HTTP header?

YouTube: https://youtu.be/qgZiUvV41TI?si=lV1h5zfH-qW0wo_q

HTTP headers are key-value pairs sent in both HTTP requests and HTTP responses that carry metadata about the communication between the client (browser) and the server. They do not contain the actual content (like HTML or images), but instead describe how the content is sent, processed, cached, secured, etc.
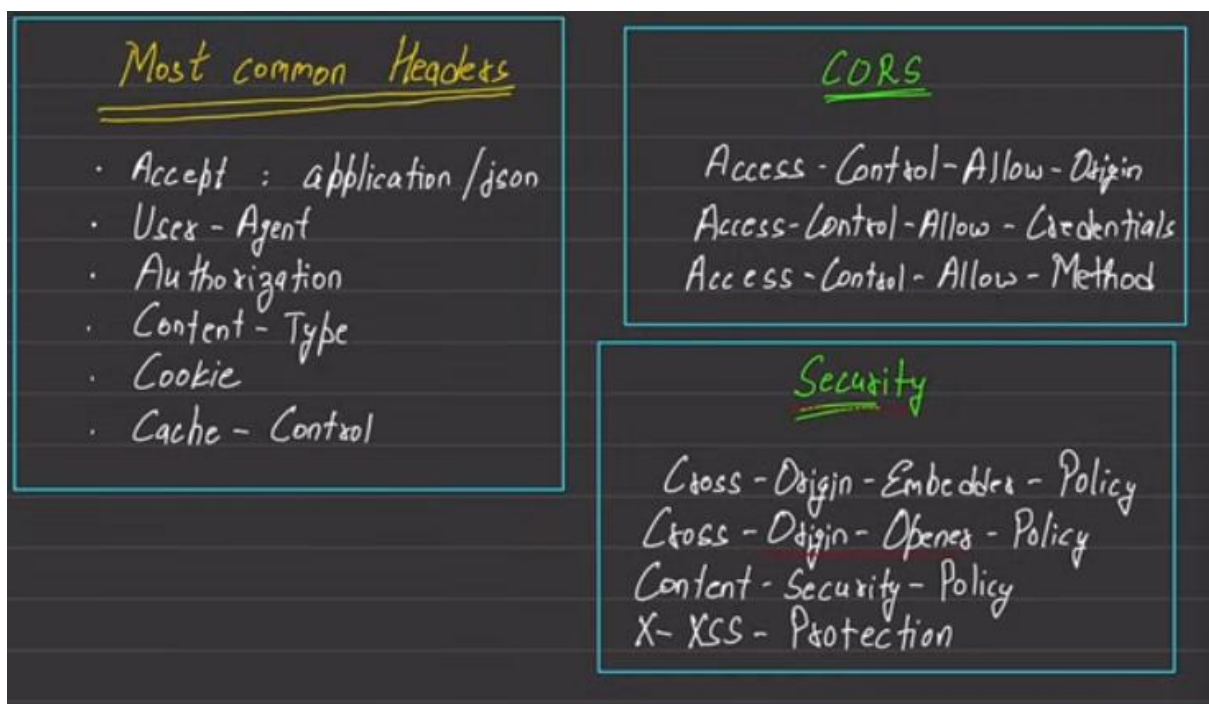
Some standard headers:

Security-Related Headers:

Header	Use
Strict-Transport-Security	Enforces HTTPS only
Content-Security-Policy	Prevents XSS by restricting sources
X-Frame-Options	Prevents clickjacking
X-Content-Type-Options	Blocks MIME sniffing
Referrer-Policy	Controls how much referrer info is shared

Some more header:

What are HTTP methods?

These are basic set of operations that can be used to interact with server.

Method	Used For	Body	Idempotent	Safe
GET	Read data	✗	✓	✓
POST	Send/Create data	✓	✗	✗
PUT	Replace resource	✓	✓	✗
DELETE	Remove resource	✗	✓	✗

Method	Used For	Body	Idempotent	Safe
HEAD	Headers only	❌	✅	✅
OPTIONS	Capabilities check	❌	✅	✅
PATCH	Partial update	✅	❌	❌

HTTP Status Code
- 1xx — Informational
- 2xx — Success
- 3xx — Redirection
- 4xx — Client error
- 5xx — Server error

Code	Meaning	Code	Meaning
100	Continue	400	Bad request
102	Processing	401	Unauthorized
200	Ok	402	Payment required
201	created	404	Not Found
202	accepted	500	Internal Server Error
307	temporary redirect	504	Gateway time Out
308	permanent redirect		

--The End--