

Burp it up

by Santiago

This presentation is only for education purposes.

Before assessing a web application, ask for consent.

Agenda

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3. A little bit of Hypertext Transfer Protocol (HTTP)
4. Using Burp
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Setup

Setup

- Ubuntu 20.04
 - BurpSuite Community Edition
 - Docker
 - Damn Vulnerable Web Application (DVWA)



Intro to BurpSuite

Intro to BurpSuite

- Application designed for web application security assessments.
- Framework that includes tools and allows extensions.
- Included tools:
 - Proxy
 - Repeater
 - Decoder
 - Comparer
 - Sequencer
 - Intruder
 - Extender

BurpSuite Professional vs. Community Edition

Burp Suite Community Edition

Essential manual toolkit - perfect for learning more about AppSec.

- ✓ HTTP(s) / WebSockets proxy and history.
- ✓ Essential tools - Repeater, Decoder, Sequencer, and Comparer.
- ✓ Burp Intruder (demo).

- ✓ **Everything in Community Edition, plus ...**
- ✓ Project files (save your work).
- ✓ Orchestrate custom attacks (Burp Intruder - full version).
- ✓ Web vulnerability scanner.
- ✓ Pro-exclusive BApp extensions.
- ✓ Search function.
- ✓ Auto and manual OAST testing (Burp Collaborator).
- ✓ Automatically crawl and discover content to test.
- ✓ And much more ...

Burp Suite Professional

Faster, more reliable security testing for AppSec professionals.

BUY NOW - \$399

A little bit of Hypertext Transfer Protocol (HTTP)

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Client




Server



A little bit of Hypertext Transfer Protocol (HTTP)

Client



The diagram illustrates a basic HTTP client-server architecture. It features two main components: a 'Client' on the left and a 'Server' on the right. The 'Client' label is enclosed in a red hand-drawn oval. A vertical blue line extends downwards from the 'Client' label, and another vertical blue line extends downwards from the 'Server' label. These lines represent the communication channel between the two entities.

Server

A little bit of Hypertext Transfer Protocol (HTTP)

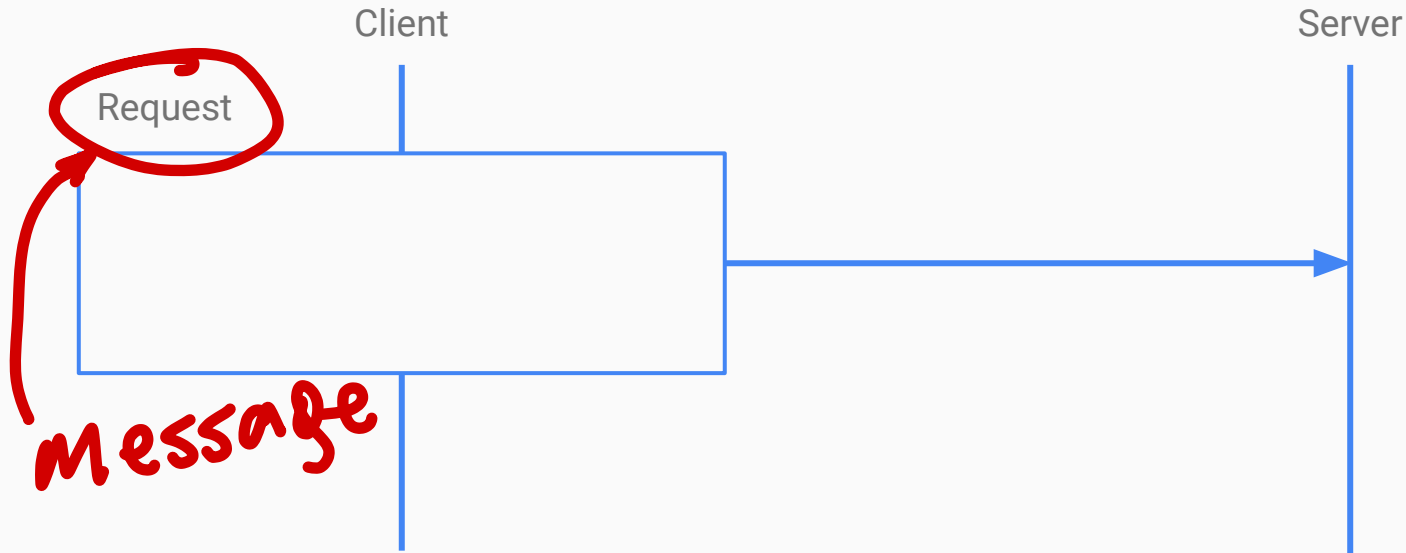
Client



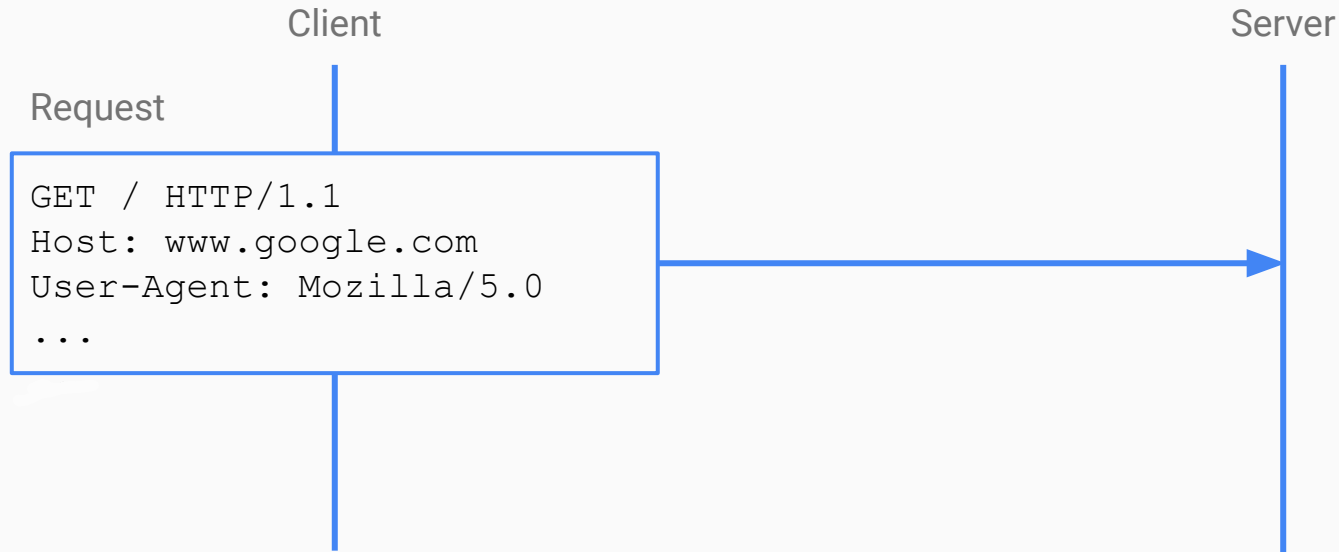
Server



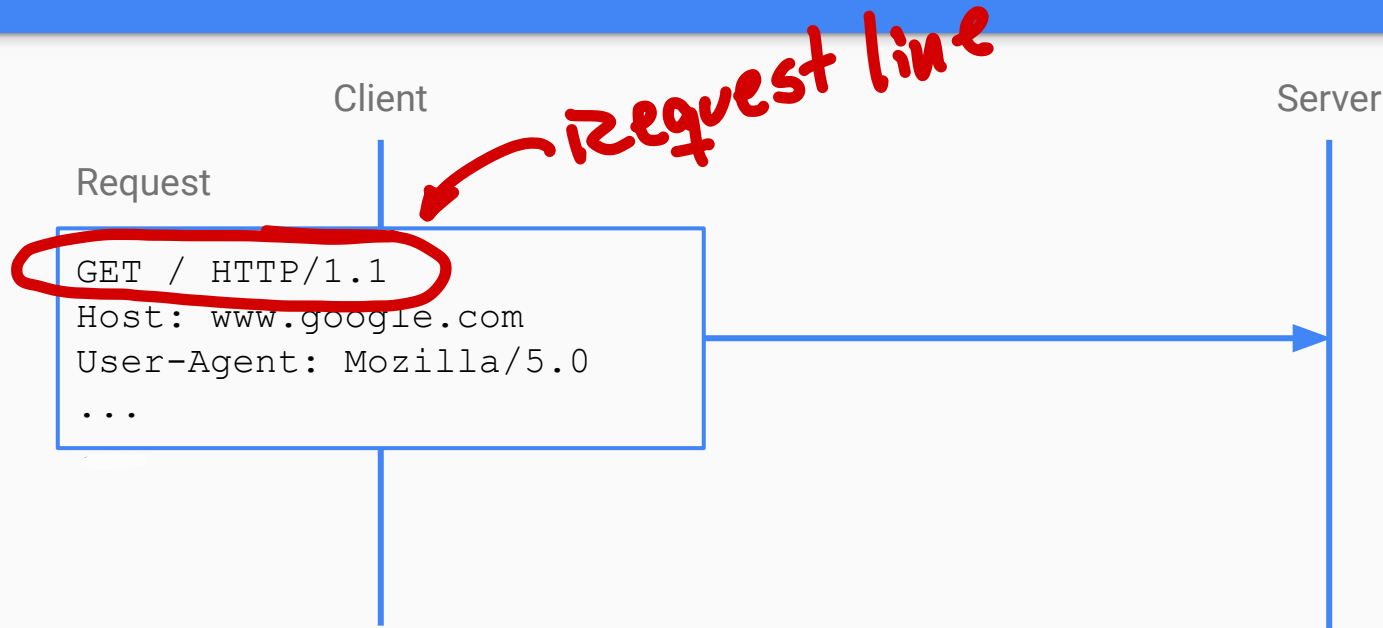
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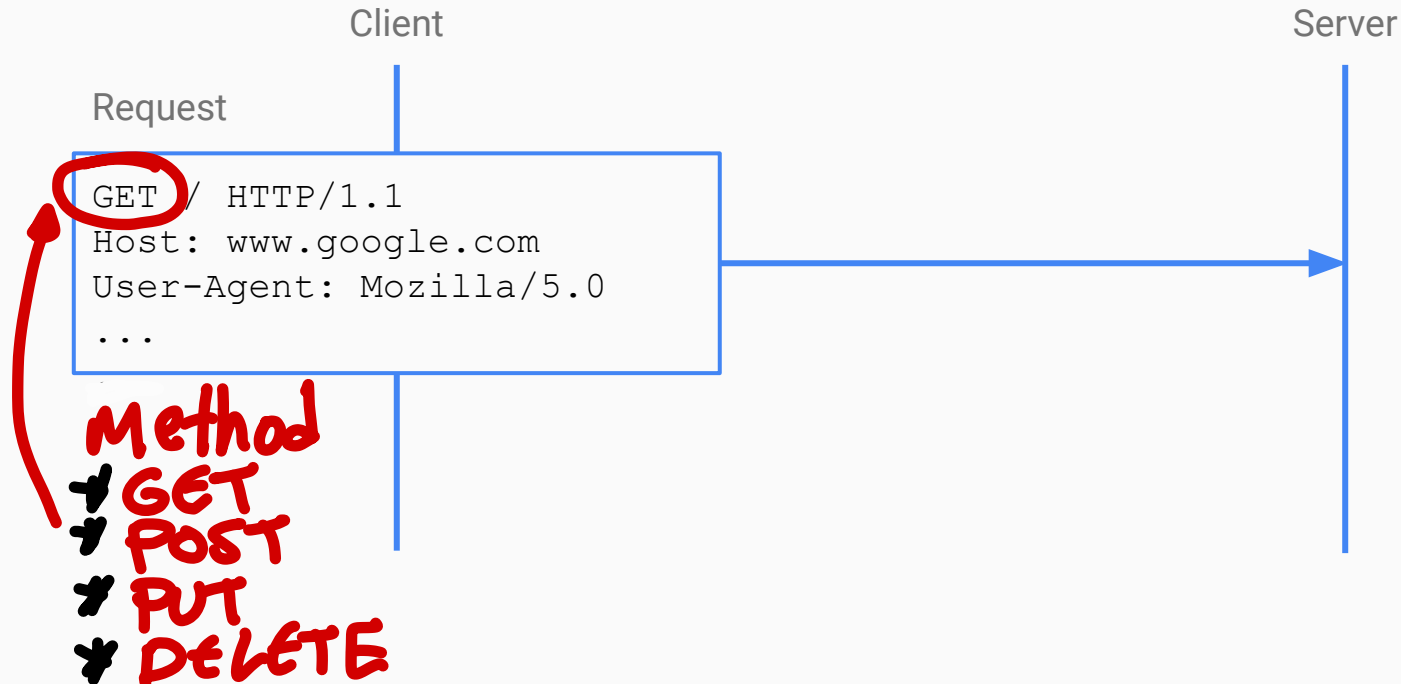
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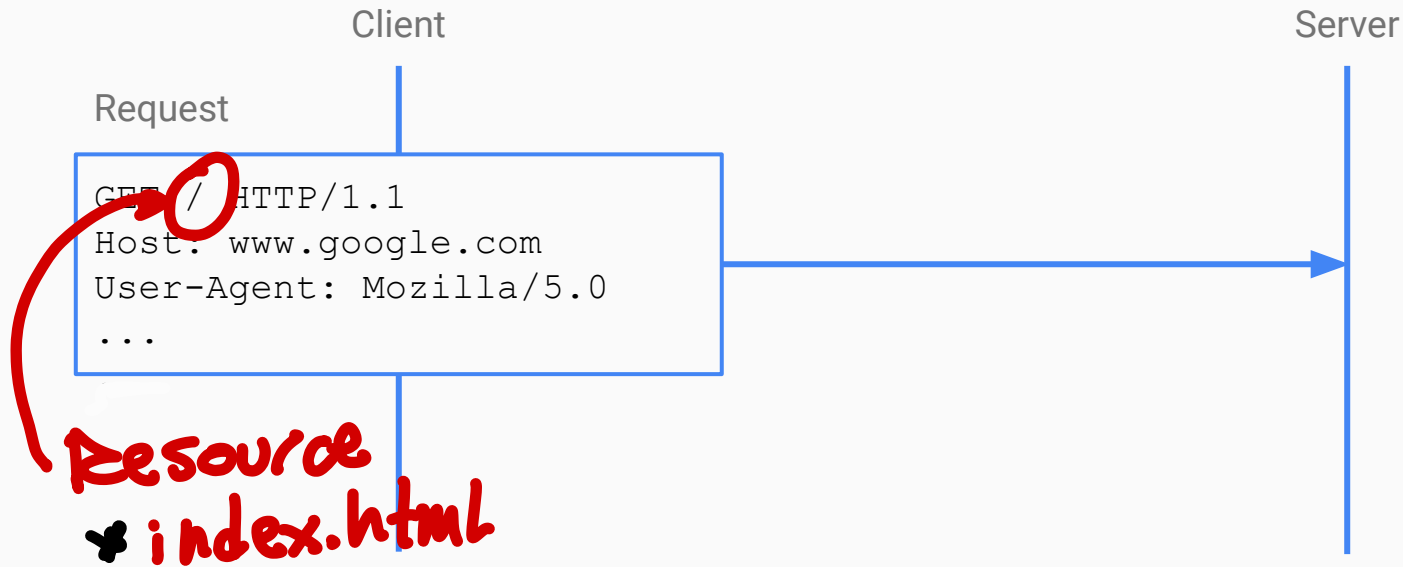
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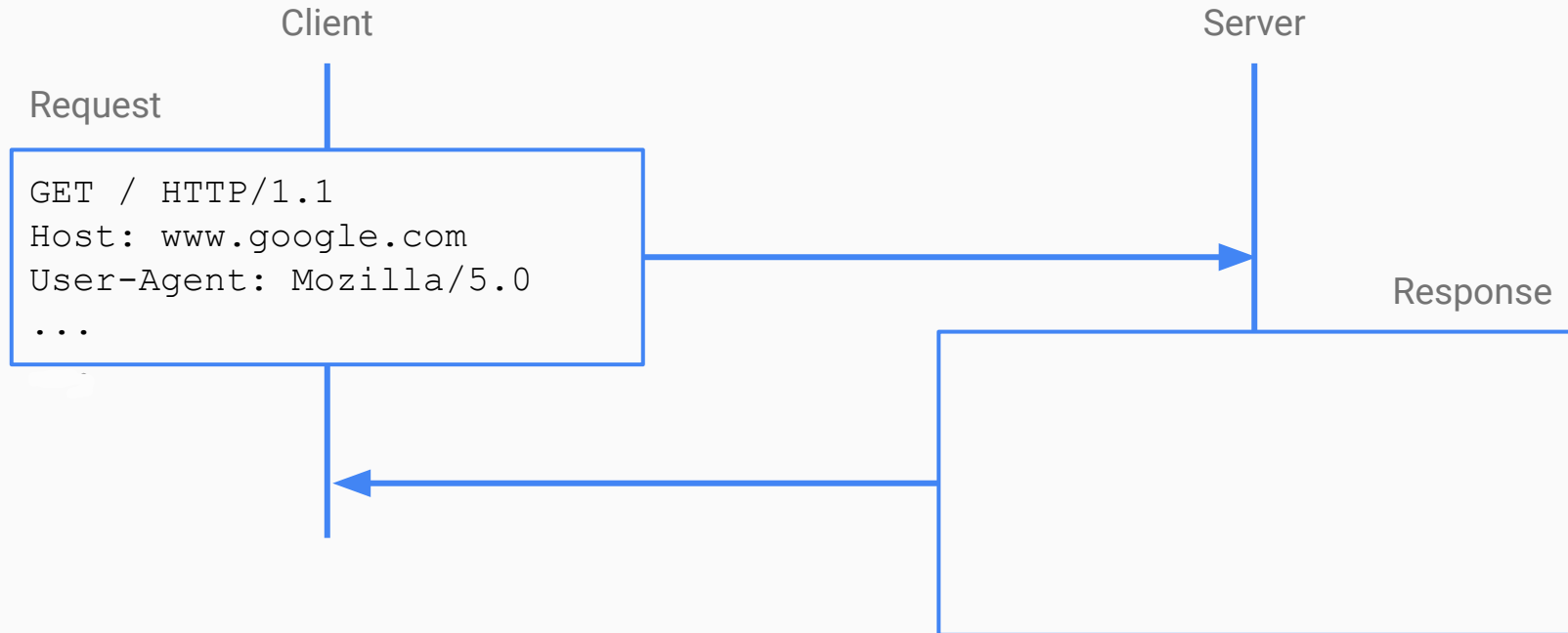
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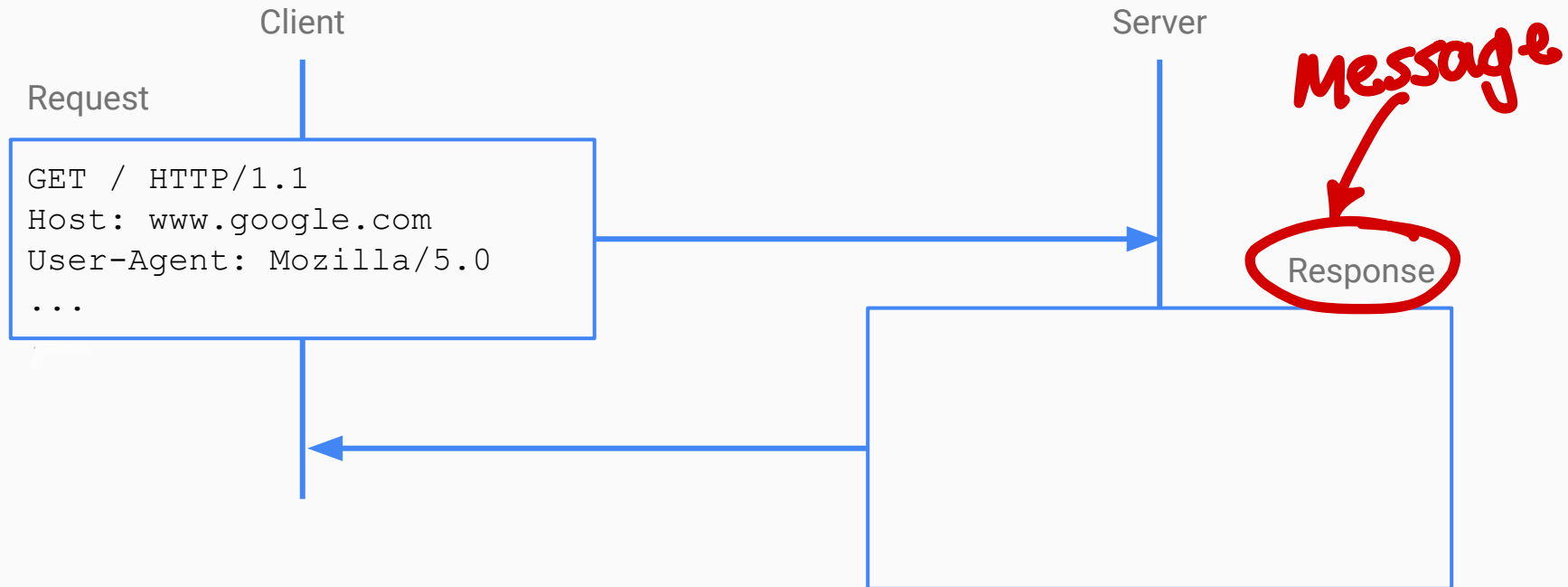
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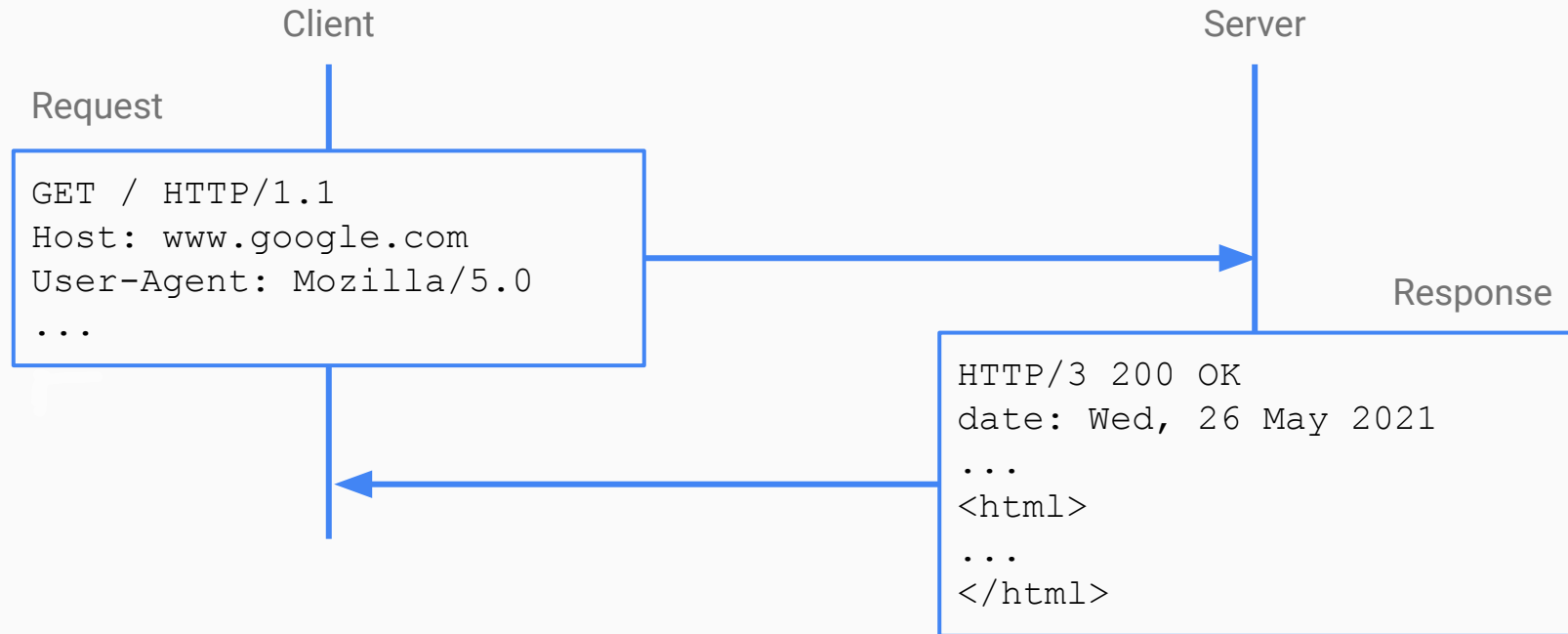
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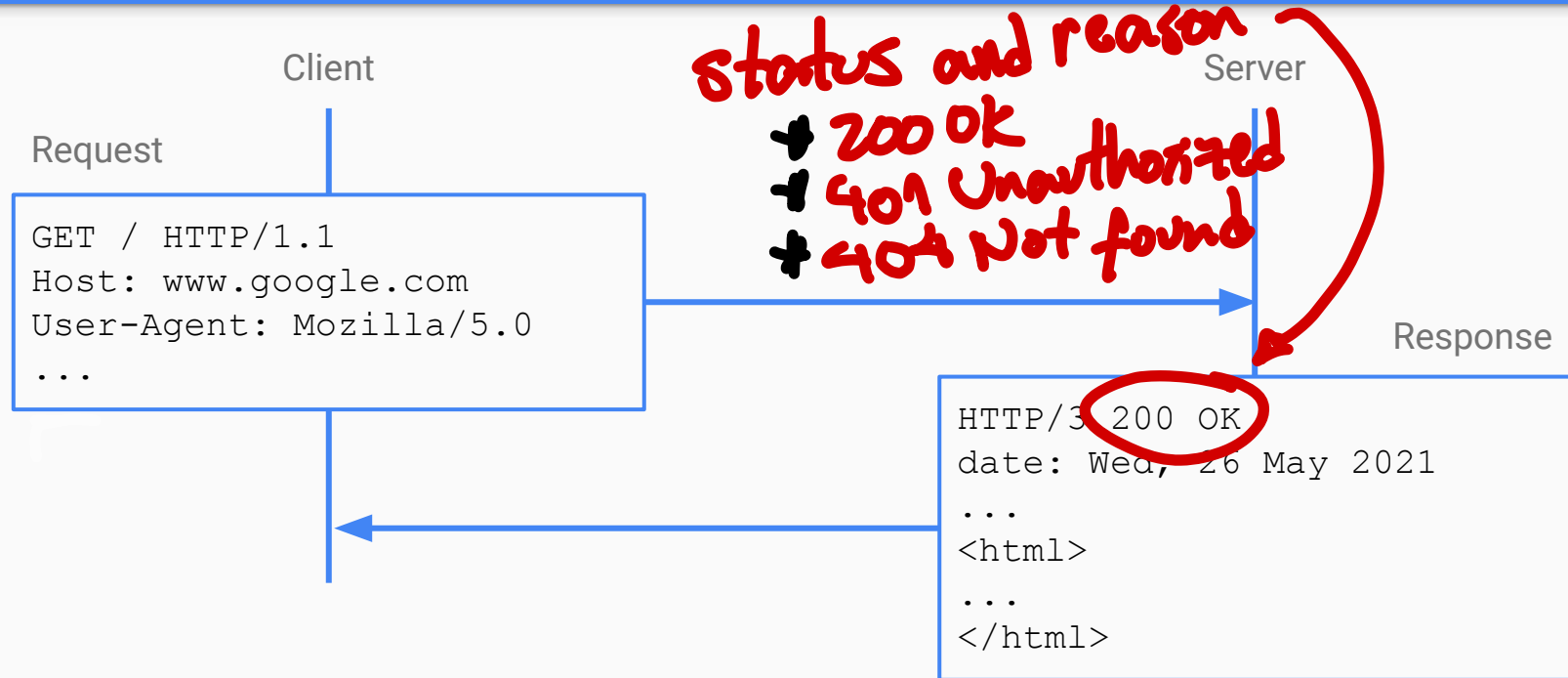
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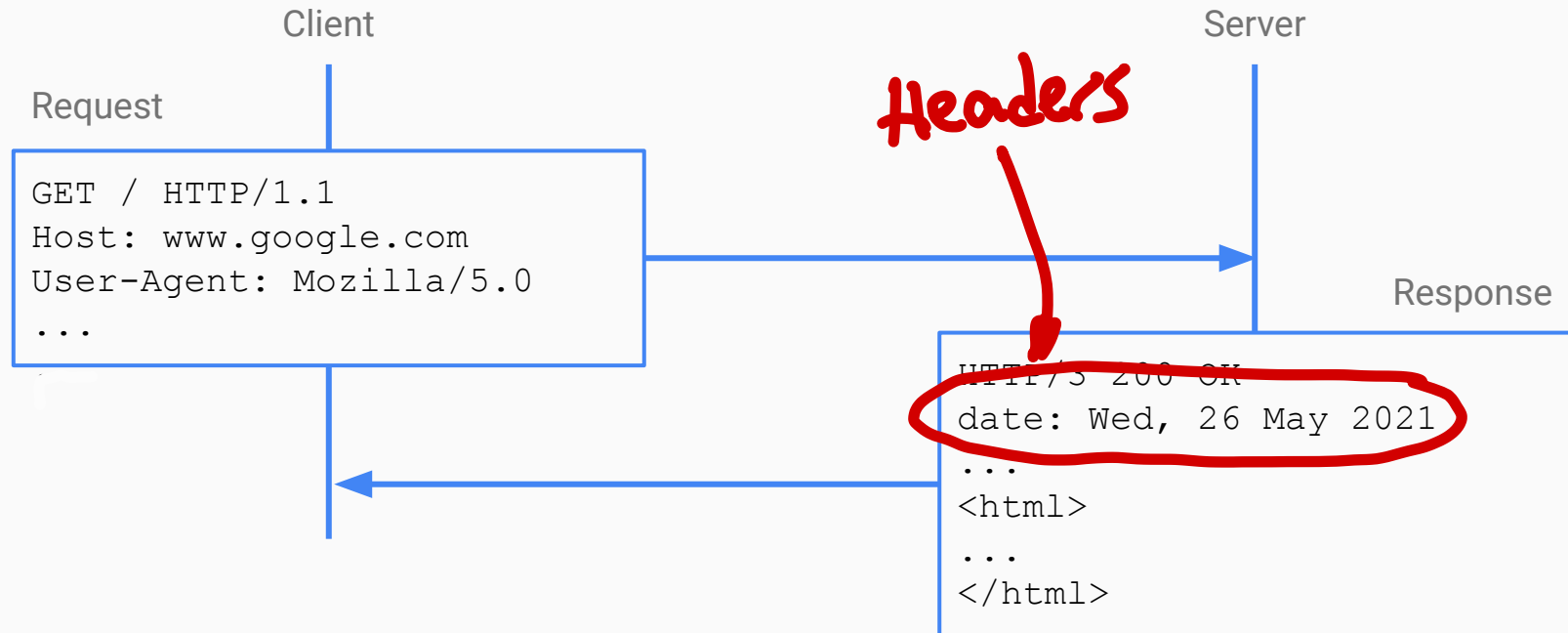
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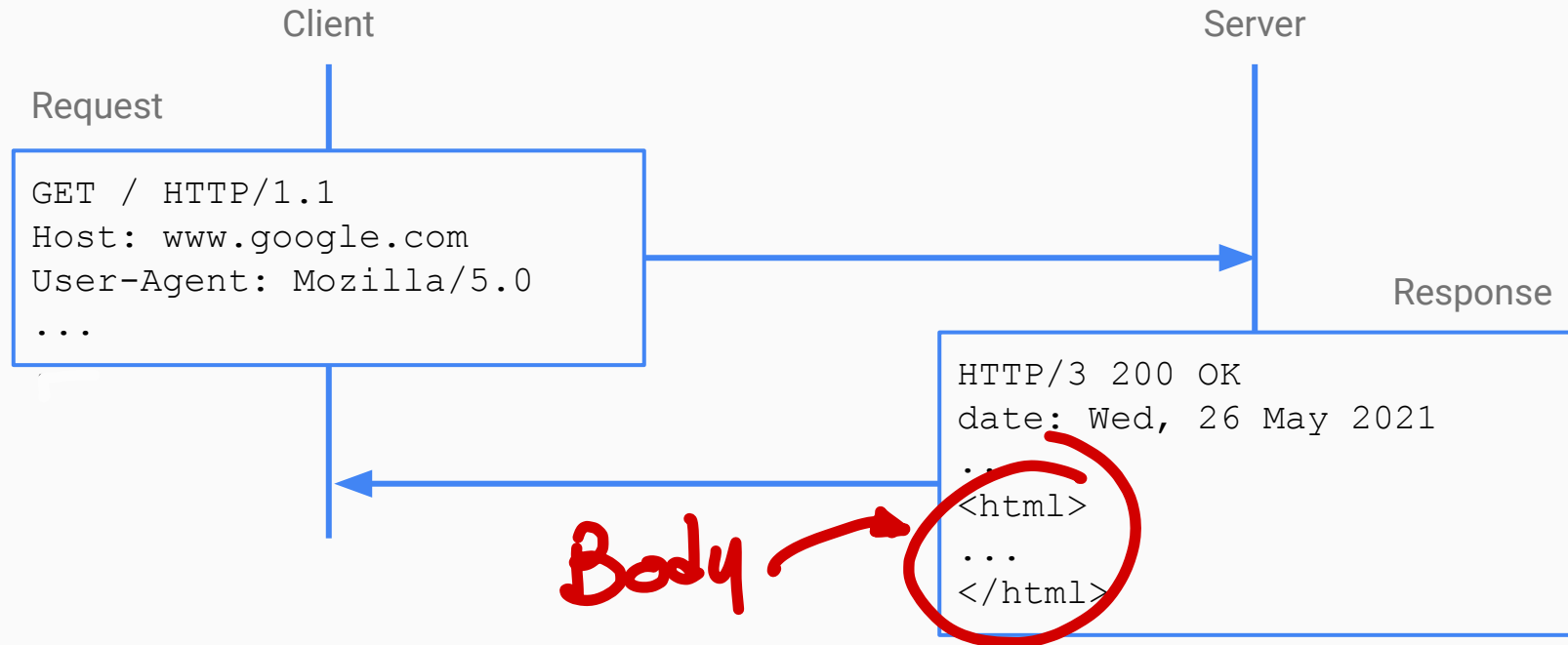
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Using BurpSuite

Proxy

Proxy:

- Application that sits between the client and the server.
- Might see and modify HTTP messages.

BurpSuite Proxy:

- Inspect and modify the content of HTTP requests before they are sent to the server.
- See the history of all the requests and its responses.
- Highlight requests in history.
- Send requests to other tools.

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+ Good for saving, modifying,
and sending requests

Decoder

- Encode and decode data into:
 - Base64
 - URL
 - Hex
 - Binary
- Hash data into:
 - MD2, MD4, MD5.
 - SHA1, SHA2, SHA3

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✦ Good for checking "hidden" data

Comparer

- Compare two different requests or two different responses.
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† Good for finding differences

Sequencer

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- Sends multiple requests and compare the randomness of the different responses.

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* Good for attacking session cookies

Intruder

- Send multiple modified requests.
- Modifications are based on rules set by the analyst.

Types of attacks:

- Sniper
- Bettering
- Pitchfork
- Cluster bomb

- CE does not include the full version.
 - Throttled
 - No payloads

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✦ Good for:

- ✦ Brute force attacks
- ✦ Dictionary attacks

Extender

- Install external extensions to Burp.
- Extensions are used to handle information, or to add specific attacks
- Some of the extensions are only available to BurpSuite Pro.
- Users can develop extensions for BurpSuite in Java and Python.
- Python extensions need Jython.

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✦ Good for customizing BurpSuite

Resources and References

Resources

Learn more about Web Security:

- Portswigger's Web Academy (Free)
 - Theory and exercises
 - <https://portswigger.net/web-security>

Practice Web Assessment:

- Hacker101(Free)
 - <https://www.hacker101.com/>
- Tryhackme (Freemium)
 - Guides and challenges
 - <https://tryhackme.com/>
- HackTheBox (Freemium)
 - <https://www.hackthebox.eu/>