

APIs

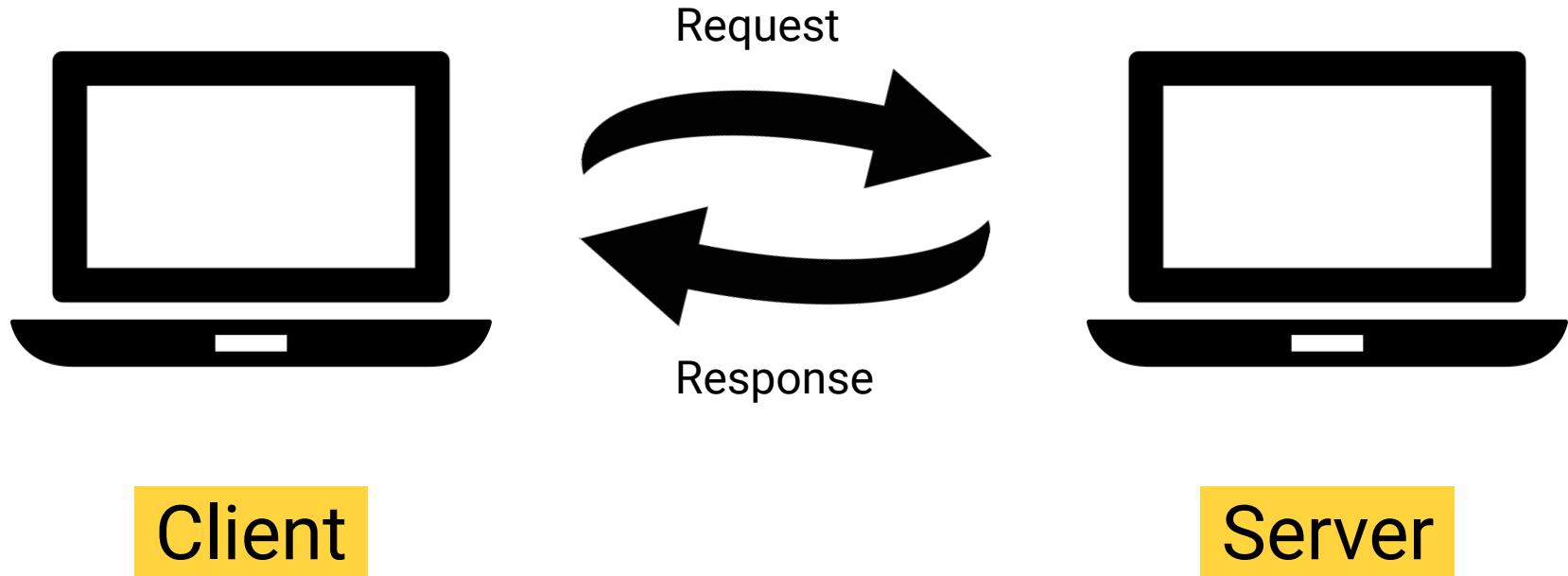


Agenda

1. Client-server model
2. HTTP protocol

1. *Client-server* model

Request-Response Cycle





Client

Makes the request and
waits for the response

Examples:

- Browser
- Python code
- Postman HTTP client

Waits for requests, and responds to them

Examples:

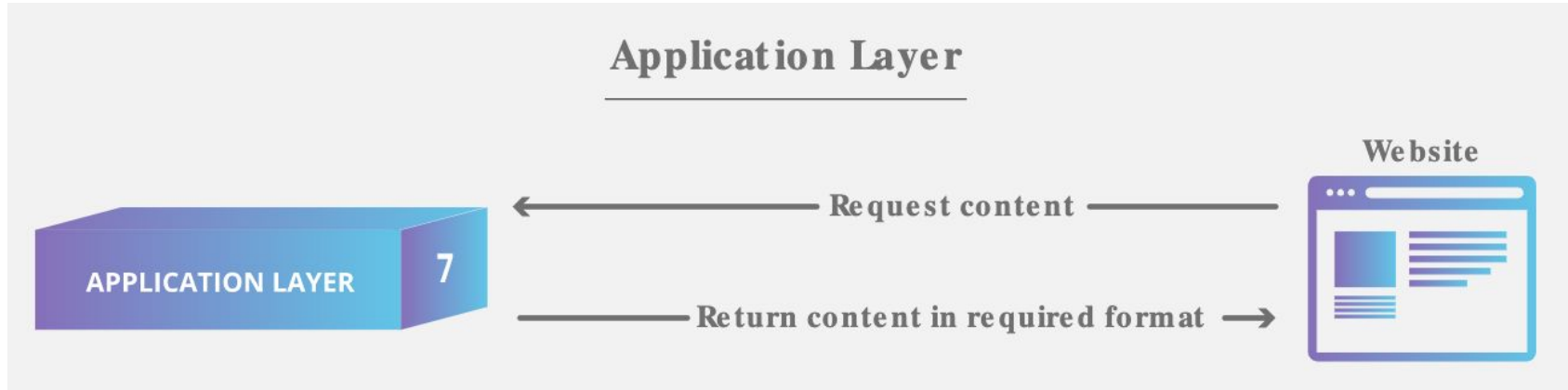
- Jupyter Notebook
- PostgreSQL
- Web server



Server

2. HTTP

HyperText Transfer Protocol (HTTP)



HTTP Request

Component	Example	Description
Method (AKA Verb)	'GET'	What type of request this is. Conventionally <code>GET</code> means you want to retrieve information, <code>POST</code> means you want to submit new information
Path (AKA URL)	'https://pokeapi.co/api/v2/pokemon/1/'	The address of the server, followed by the specific route, sometimes followed by params
Headers	'"Content-Type": "application/json"'	Gives the server more information about how to interpret the request. Sometimes this includes authentication.
Body	'{"trainer_id": 1}'	Used with a <code>POST</code> to submit data

Web Server Interface

A web server is:

- Running constantly waiting for requests
- Able to accept requests and serve responses with an HTTP protocol
 - The client and server can “speak” totally different languages, so long as they both know how to use this protocol
- Usually configured for human users or code clients, but not both
 - For human users, return HTML/CSS/JS that will render something in a browser
 - For code, return JSON to be used by another program