Brief: Web Application Backend

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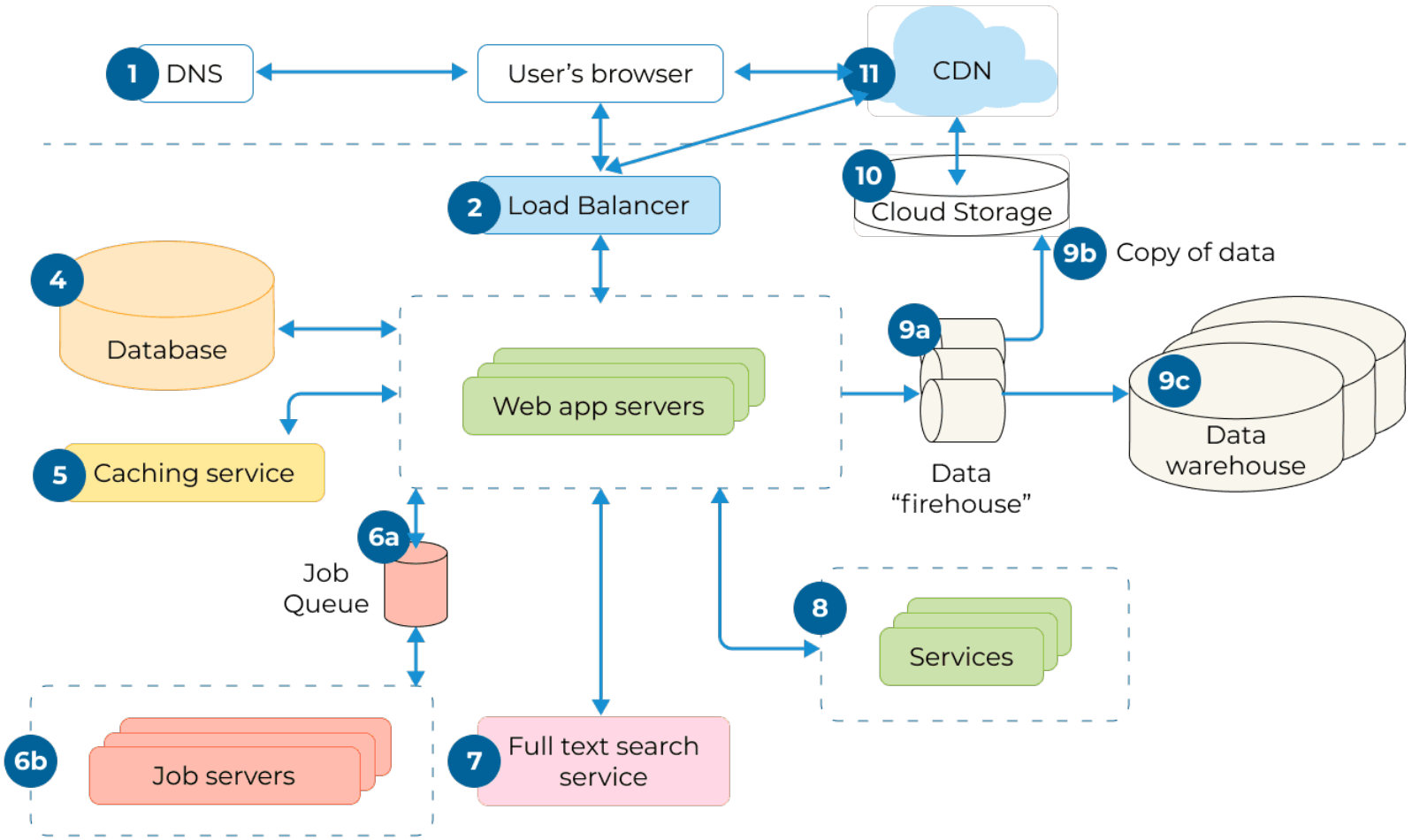
Real-Life Web Application Architecture



Source: https://litslink.com/blog/web-application-architecture

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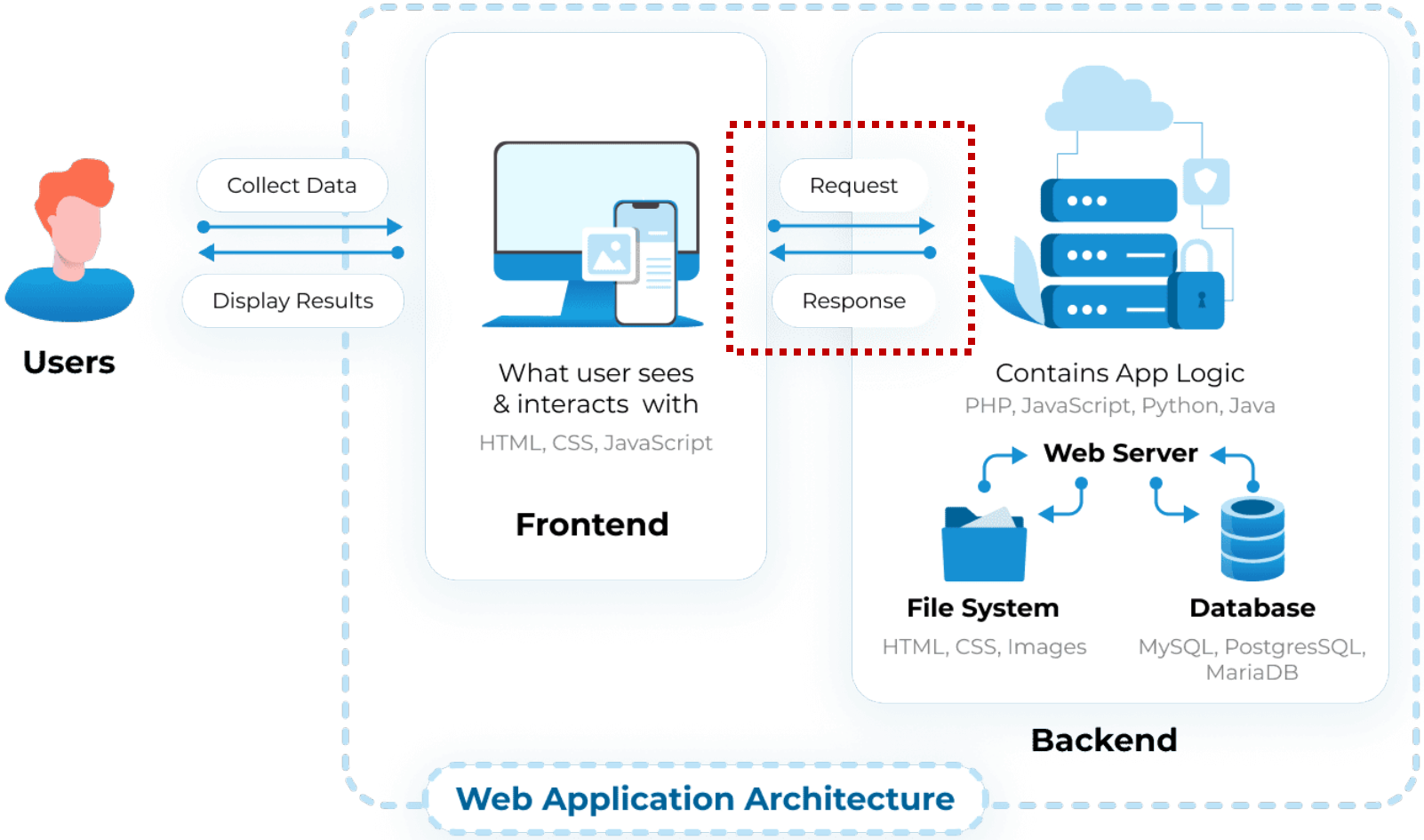
Basic Web Application Architecture



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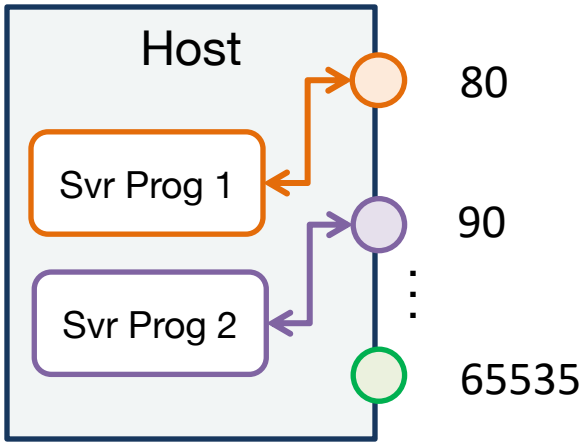
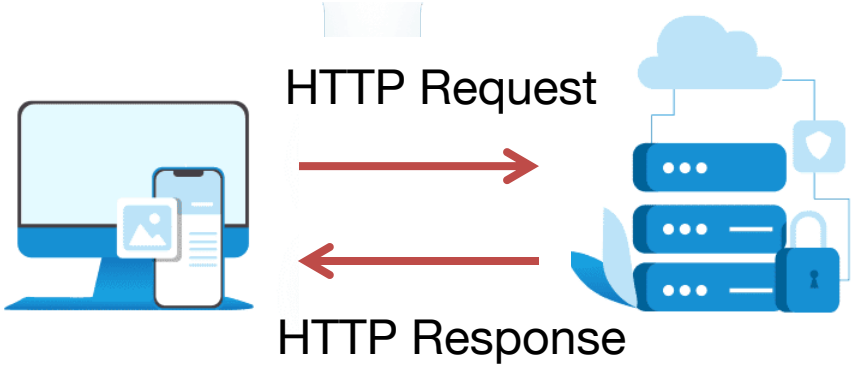
Server on the Internet



IP = 18.136.165.66
Name = lab.aimet.tech

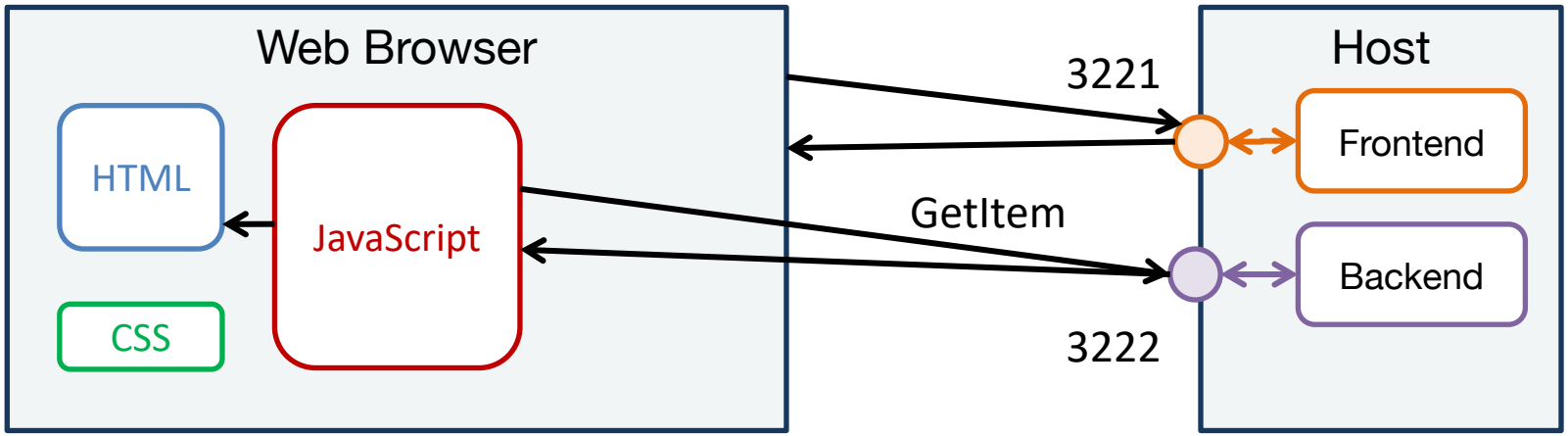
- **host** - a machine or server connecting to the Internet
- All hosts are assigned with at least one address called IP, some may have hostname
- **port** - program on a host communicates with other servers or clients via port, one host can have up to 65536 ports
- You can have a server program that provides services via port 80 and another server program via port 90.

HTTP Protocol



- Request-Reply Protocol for all browsers and web servers (even mobile apps)
- Client (browser) can request the server for web object with different methods (GET, POST, DELETE, PUT)
- Web objects can be static objects from files or can be generated on-the-fly
- Web objects can be ready-for-rendering e.g. HTML, CSS or can be data (rendered by client) e.g. JSON, XML, etc.

Server in our Activity



- **Frontend Server** – a server program (port 3221) that serves web static objects for frontend e.g. HTML, CSS, javascript
- **Backend server** – a server program (port 3222) that serves data to frontend via REST API
- First web browser get static objects from frontend server and run JavaScript
- Once web browser runs JavaScript, it will get data from backend server and render with HTML

Part 1: Understand how frontend communicates with backend

- 1-A: Frontend Server
  - Learn how browser talks to frontend server using curl –v command
- 1-B: Backend Server
  - Learn how javascript on web browser get and create data on backend server using postman program
- Capture all screenshots and upload your worksheet to part-1 assignment on mycourseville

Part 2: Understand how backend works internally

- Study source code and answer all questions
  - 2-A: Understand frontend source code
  - 2-B: Understand backend source code
  - 2-C: How frontend and backend execute
- You may use console.log inside functions, click/interact with the application, and study the results to determine sequence of the execution

Part 3: Implement a “delete” method in the endpoint

- With knowledge from part 1 and 2, implement a “delete” item method
- Hint: you will have to modify the code in “deleteItem” function in backend/src/controllers/itemController.js
- When you complete the implementation, demonstrate to the TA
  - Click “ลบ” button of the items in the basket
  - This should result to removing that item from the basket