INFM 603: Information Technology and Organizational Context
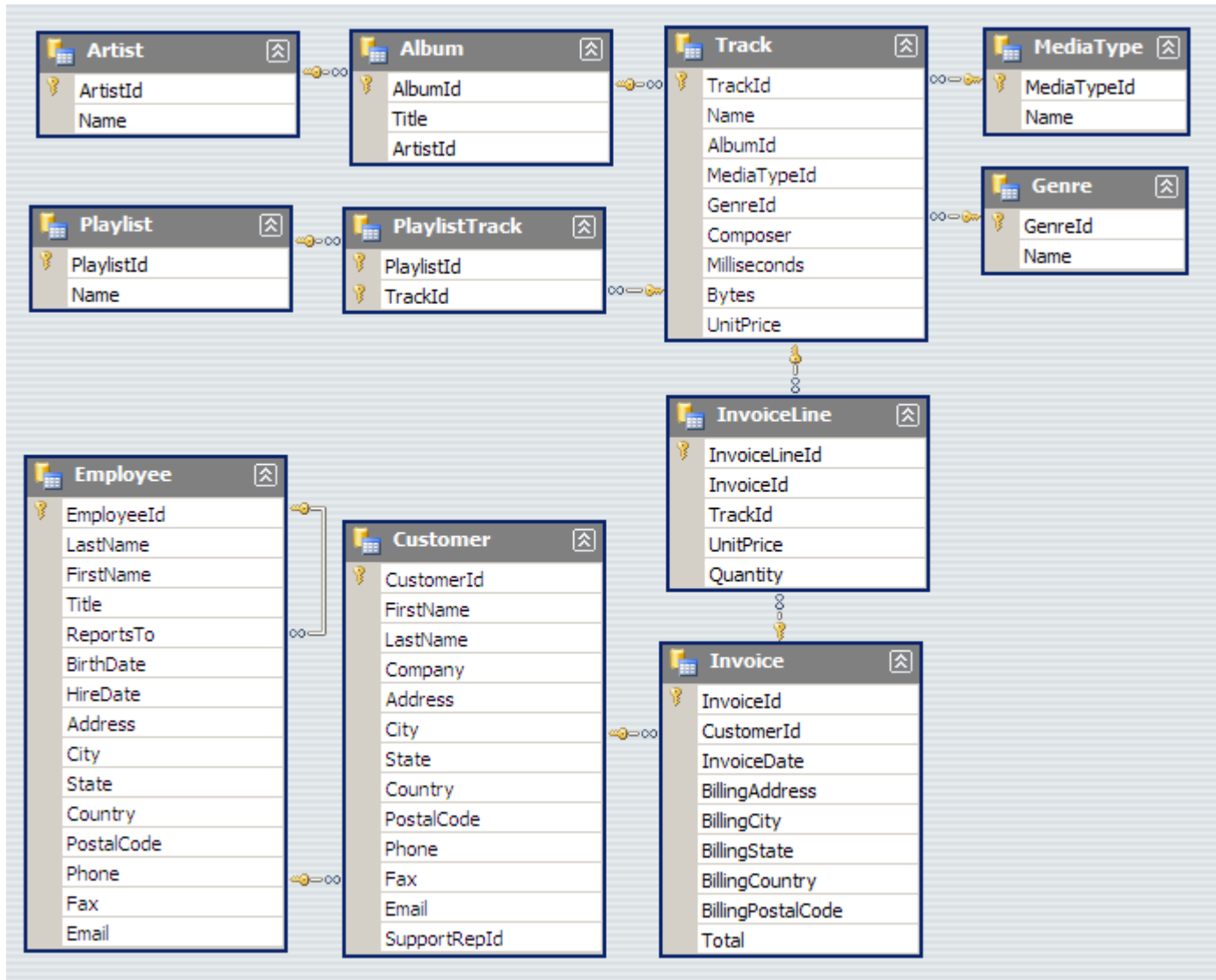
Session 8: PHP and Asynchronous Programming
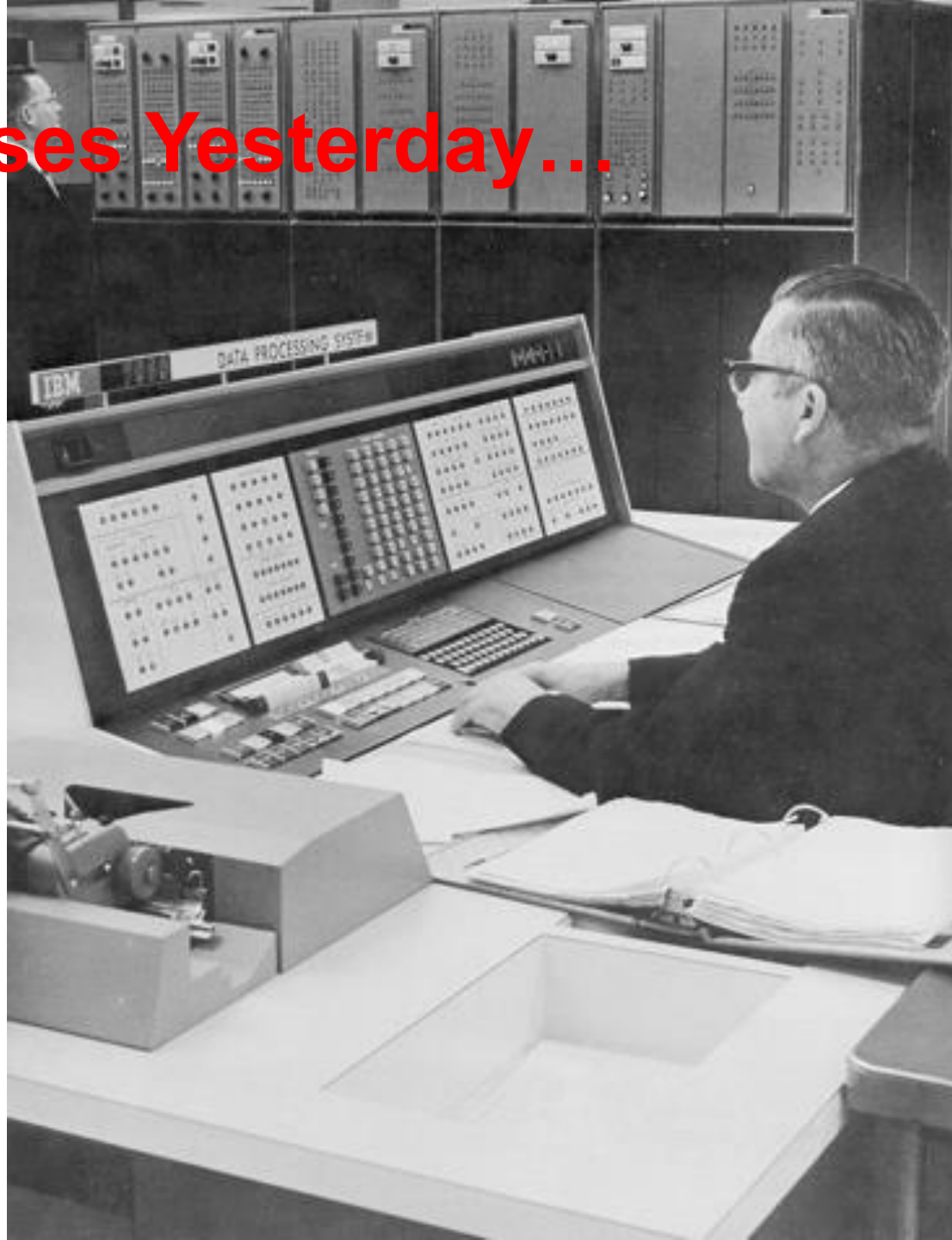

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Warmup Exercises

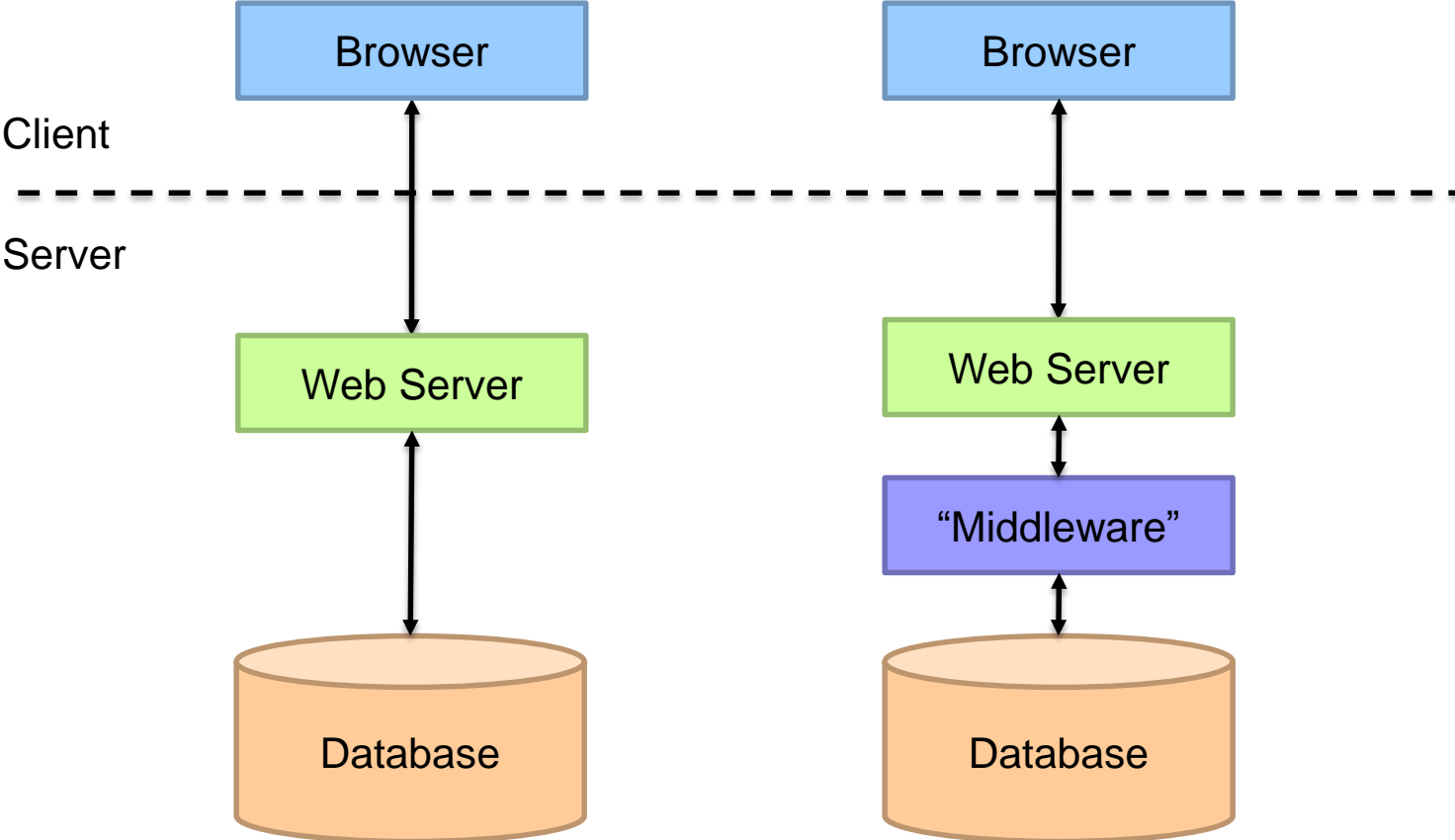**Databases Yesterday…**

Databases today…
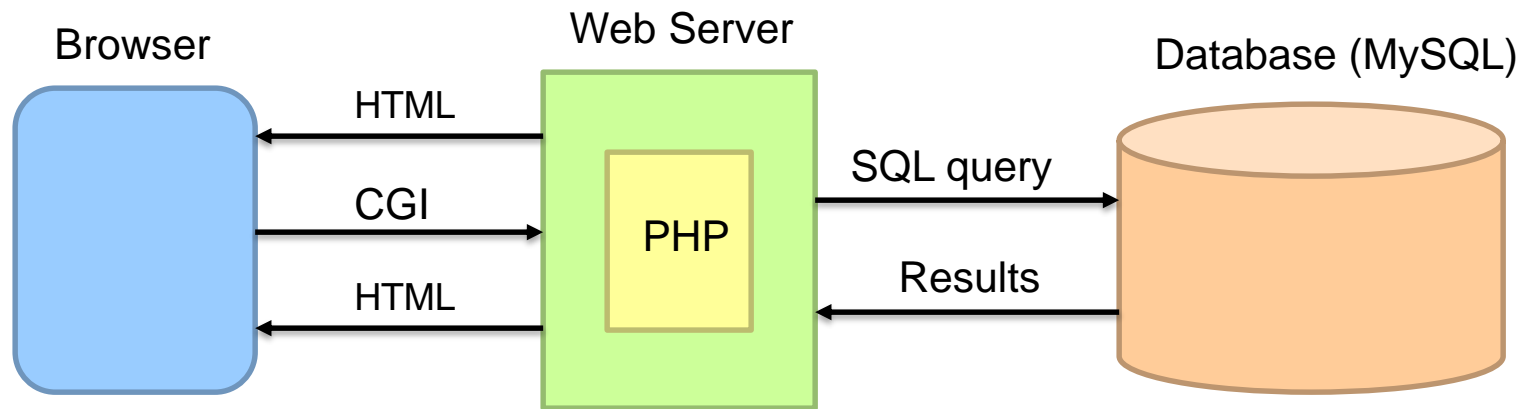

Wait, but these are websites?

Websites that are really databases

- Most of the content is in a database

- Web pages are dynamically constructed from results of database queries

Multi-Tiered Architectures

Putting the Pieces Together…

What is PHP?

- PHP is a server-side scripting language
  - **Must** run on a server (*not* in the browser)
  - More specifically, runs inside the web server

- Typical PHP script:
  - Fetches input from user forms
  - Executes SQL queries
  - Constructs an HTML page containing results

- Part of the "LAMP" stack
  - Linux, Apache, MySQL, PHP

PHP Scripts

- Are just like normal HTML pages

- With the exception of code between <?php … ?>

- Variables begin with dollar signs
  - E.g., $a, $b

- Use "echo" to output HTML
  - Just like document.writeln(…) in JavaScript

- Use "." to concatenate string
  - E.g., "here is" . " some text"
  - Just like "here is" + " some text" in JavaScript

Sample PHP Script

1. Get input from user from

2. Connect to the database

3. Execute SQL query

4. Process results to generate HTML

Synchronous vs. Asynchronous

○ What's different about the web today from 15 years ago?

Ajax

What's Ajax?

- Asynchronous JavaScript and XML

- The only thing you need to learn:

Get this URL

```
var url = "...";
var request = new XMLHttpRequest();
request.open("GET", url);
request.onload = function() {
  if (request.status == 200) {
    // Your code here
  }
};
request.send(null);
```

Callback function

What's at the URL?

○ A static file (e.g., JSON)


```
{
   name: "Fido",
   weight: 40,
   breed: "Mixed",
   loves: ["walks", "fetching balls"]
}
```

○ How is JSON the same or different from XML?

What's at the URL?

- An application programming interface (API)

  http://download.finance.yahoo.com/d/quotes.csv?s=GOOG&f=nsl1op

  Think of this as a function call!

  argument1=value&argument2=value...

- How do we write APIs?

Got it?

Muddiest Point