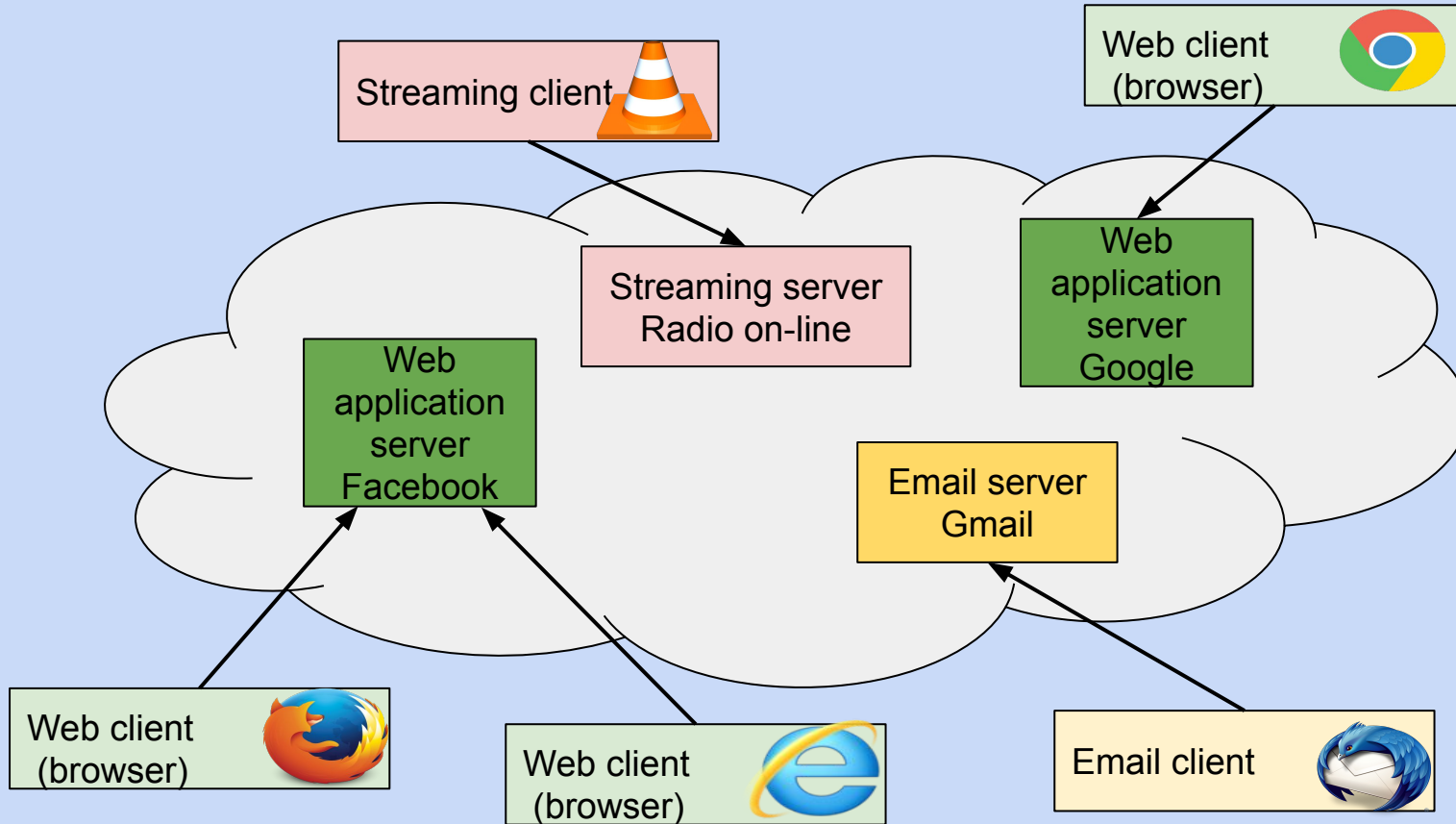


# Python training - lab 18

# Internet, WWW (world wide web)



# 3-tier architecture

## Front-end

**Presentation tire**

Web technologies: HTML, CSS, JavaScript

## Back-end

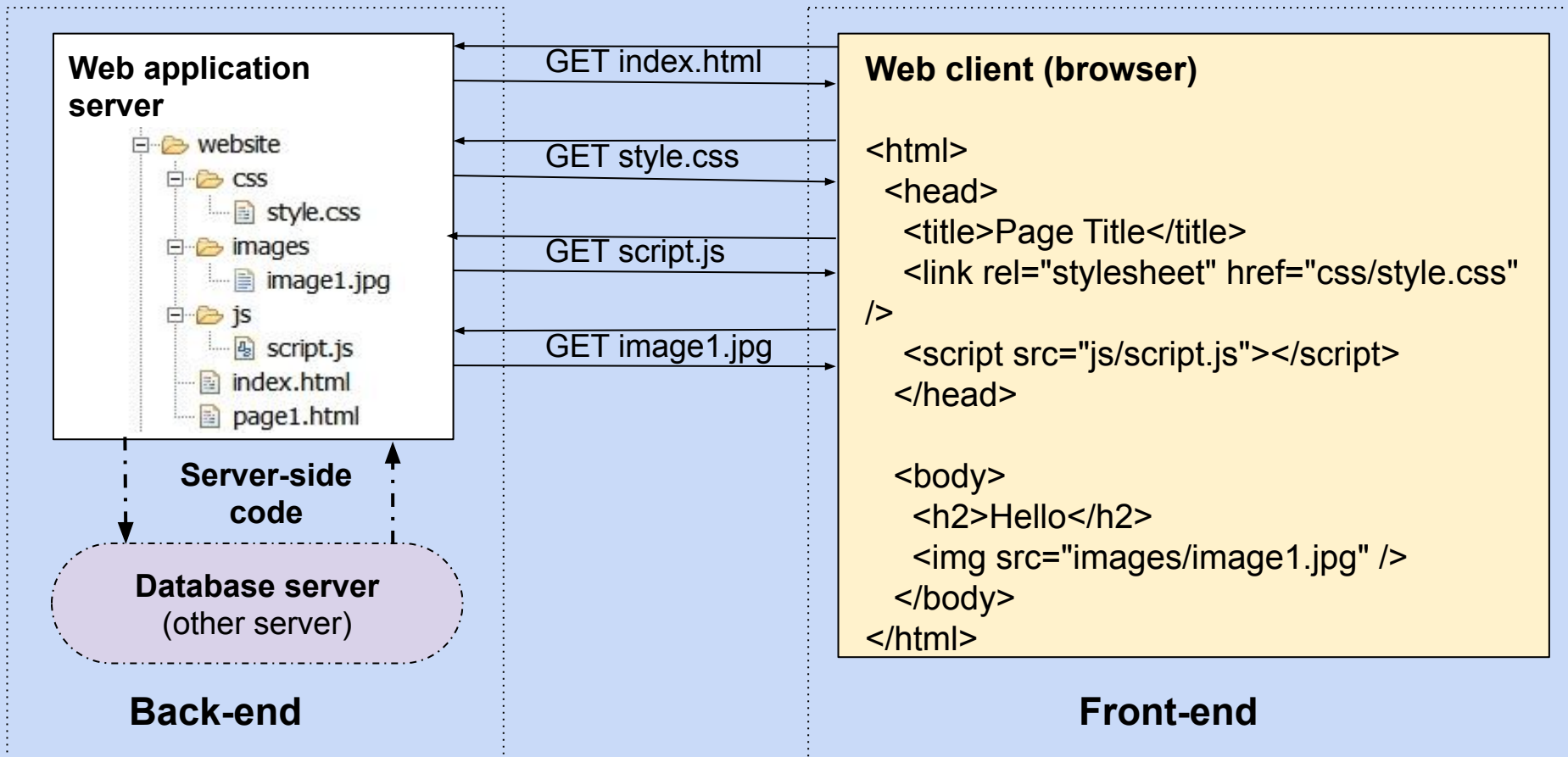
**Application tire**

Business logic: Python, Java, C#, PHP

**Data tire**

Database system: PostgreSQL, MySQL/MariaDB, Oracle, MongoDB

# Client-Server architecture



# HTML basics

- HTML – Hypertext Markup Language
- HTTP(S) – (Secure) Hypertext Transfer Protocol

```
<html>  
  <head>  
    <title>My first page</title>  
  </head>  
  <body>  
    <h1>Hello world!</h1>  
  </body>  
</html>
```

# HTML generalities

- `<tag>...</tag>`  
Example : `<p>some paragraph</p>`
- `<tag />`  
Example : `<img src='image.jpg' /><hr />`
- `<tag attribute='value'>...</tag>`
- `<tag1>..<tag2>..</tag2></tag1>`
- HTML is not case-sensitive
- HTML editor types:
  - WYSIWYG : TinyMCE, CKEditor, Dreamweaver
  - WYSIWYM : PyCharm, VS Code, Notepad

# HTML elements - head

- `<head></head>`
- Contains meta-data (data about data)
- Not displayed in browser
- `<title>Page title</title>`
- `<meta name="description" content="Page description">`
- `<meta name="keywords" content="HTML, CSS, JavaScript">`
- `<script src="js/script.js"></script>`

# HTML elements - body

- `<br /><hr />`
- `<p></p>` `<div></div>` `<b></b>` `<i></i>`
- `<h1></h1>` `<h5></h5>`
- `<sub></sub>` `<sup></sup>`
- `<img src='media/some-image.gif' width='300' />`

## Escape

- `>` - `&gt;`;
- `<` - `&lt;`;
- `&` - `&amp;`;
- Space - `&nbsp;`;



## Ordered lists

```
<ol>  
  <li>aa</li>  
  <li>bb</li>  
</ol>
```

## Unordered lists

```
<ul>  
  <li>aa</li>  
  <li>bb</li>  
</ul>
```

## HTML comments

```
<!-- this is a comment -->  
  
<!--  
  One more  
  multiline  
  comment  
-->
```

# Tables

```
<table>
  <tr>
    <th>Surname</th><th>Name</th>
  </tr>
  <tr>
    <td>Maria</td><td>Ionescu</td>
  </tr>
  <tr>
    <td>Ion</td><td>Popescu</td>
  </tr>
</table>
```

# Tables

```
<table  
  cellspacing='10' cellpadding='4' border='1'>  
  <tr>  
    <td rowspan='2'>aa</td><td>bb</td>  
  </tr>  
  <tr>  
    <td>cc</td>  
  </tr>  
  <tr>  
    <td colspan='2'>dd</td>  
  </tr>  
</table>
```

# Links

```
<a href='some-page.html'>Some other page</a>
```

```
<a href='some-new-page.html'  
  target='_new'>Opens in new tab</a>
```

```
<a href='#someid'>jumps to id</a>
```

```
<h1 id='someid'>Title</h1>
```

```
<a href='page.html#someid'>jumps to id</a>
```

```
<a href='https://google.com'>Google</a>
```

# HTML style-guide

- use lowercase element names
- close all html elements
- use lowercase attribute names
- quote attribute values
- always specify alt, width and height for images
- no space near equal sign for attributes
- indent the code
- break long lines