

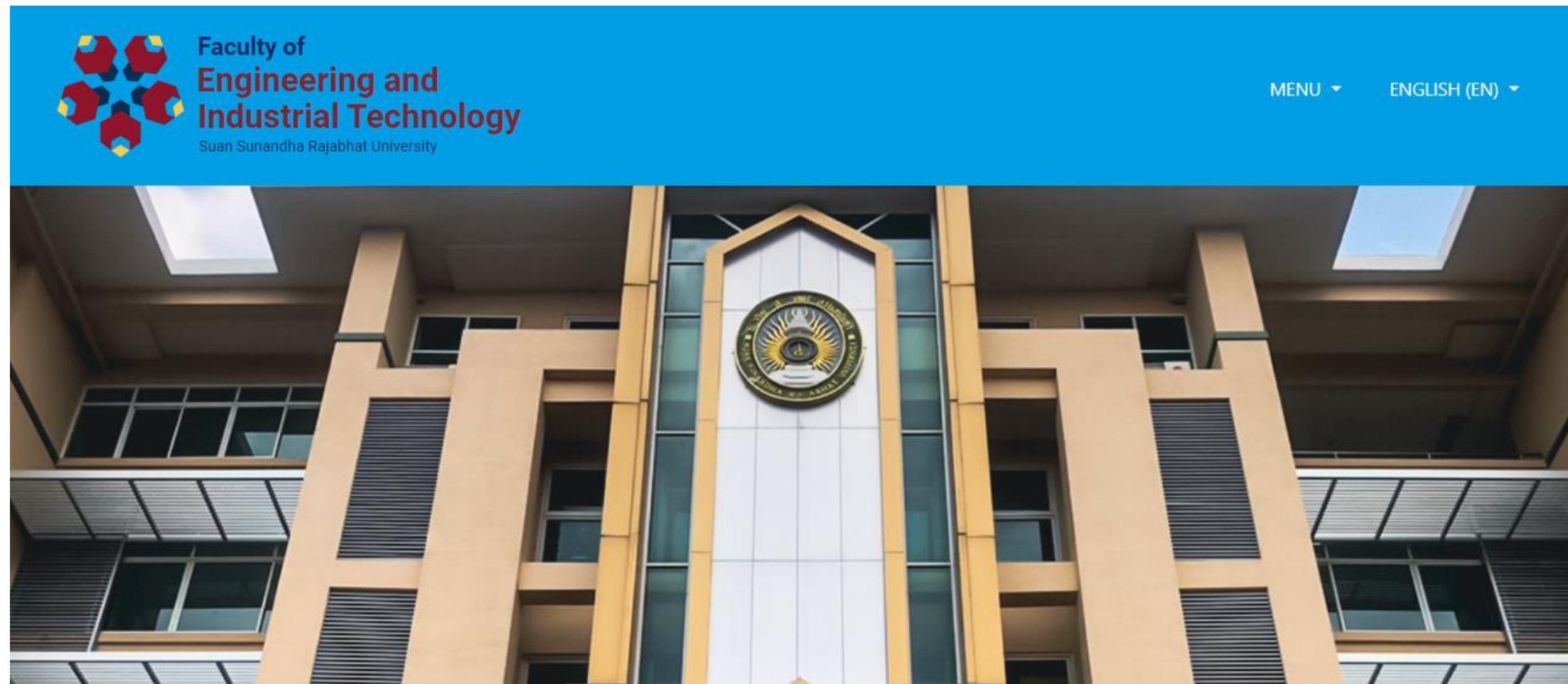
WEB DEVELOPMENT FUNDAMENTALS

CPE5012-5013 Web Development

Dr.Pongrapee Kaewsaiha



Course page



https://elchm.ssru.ac.th/pongrapee_ka/

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Student account

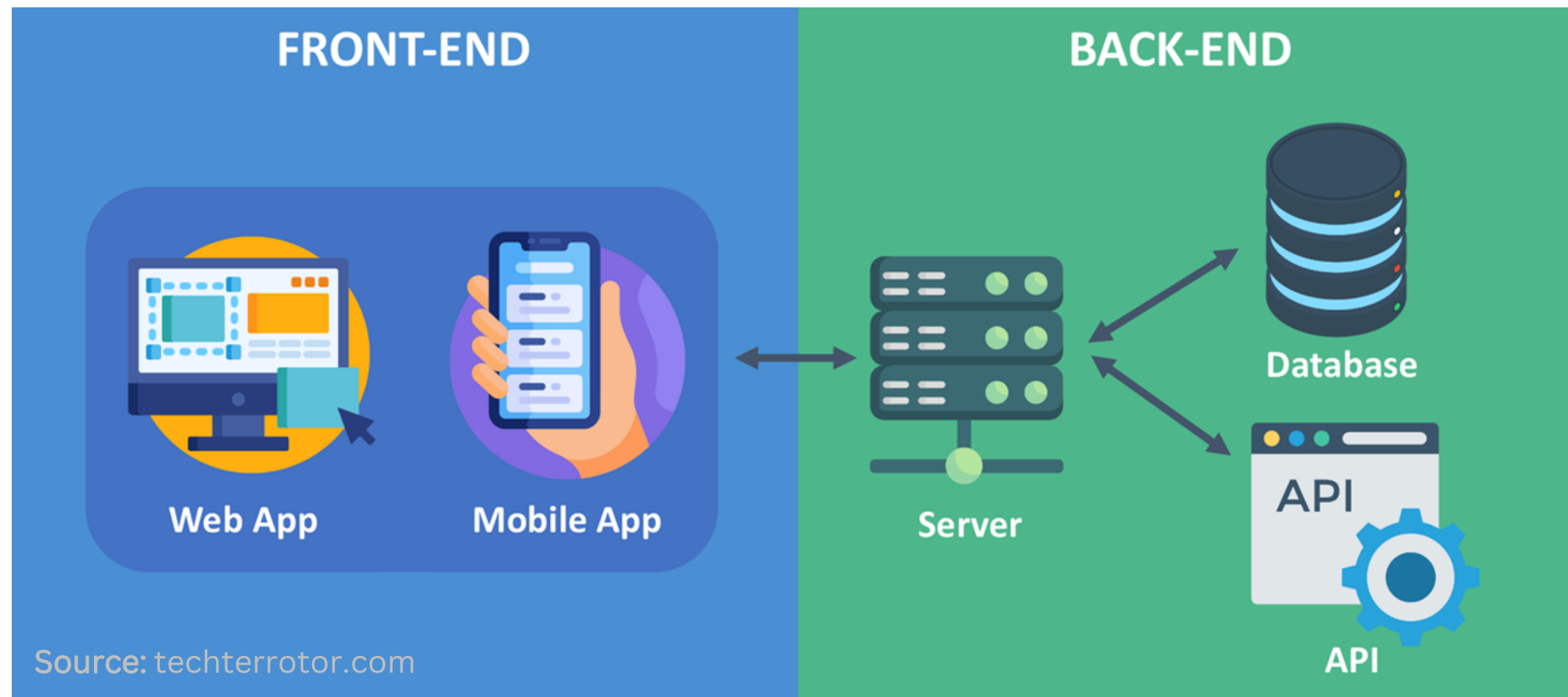
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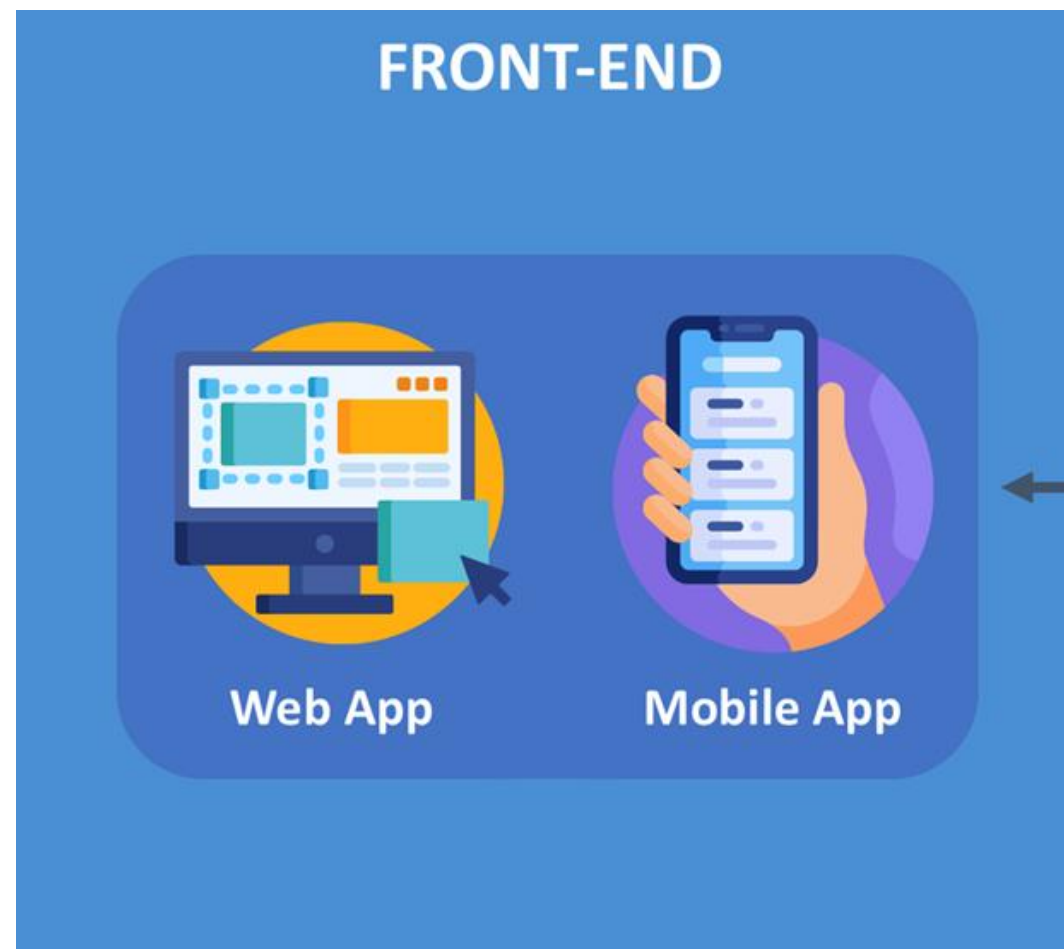
CPE5012-5013 Web
Development

- Log in with Google using your SSRU Mail account.
- **(Only 1st time)** Click the confirmation link sent to your email. Check the "Spam" or "Promotion" tab for missing email message.
- Click the "**Web development**" course on your dashboard.

Web development framework



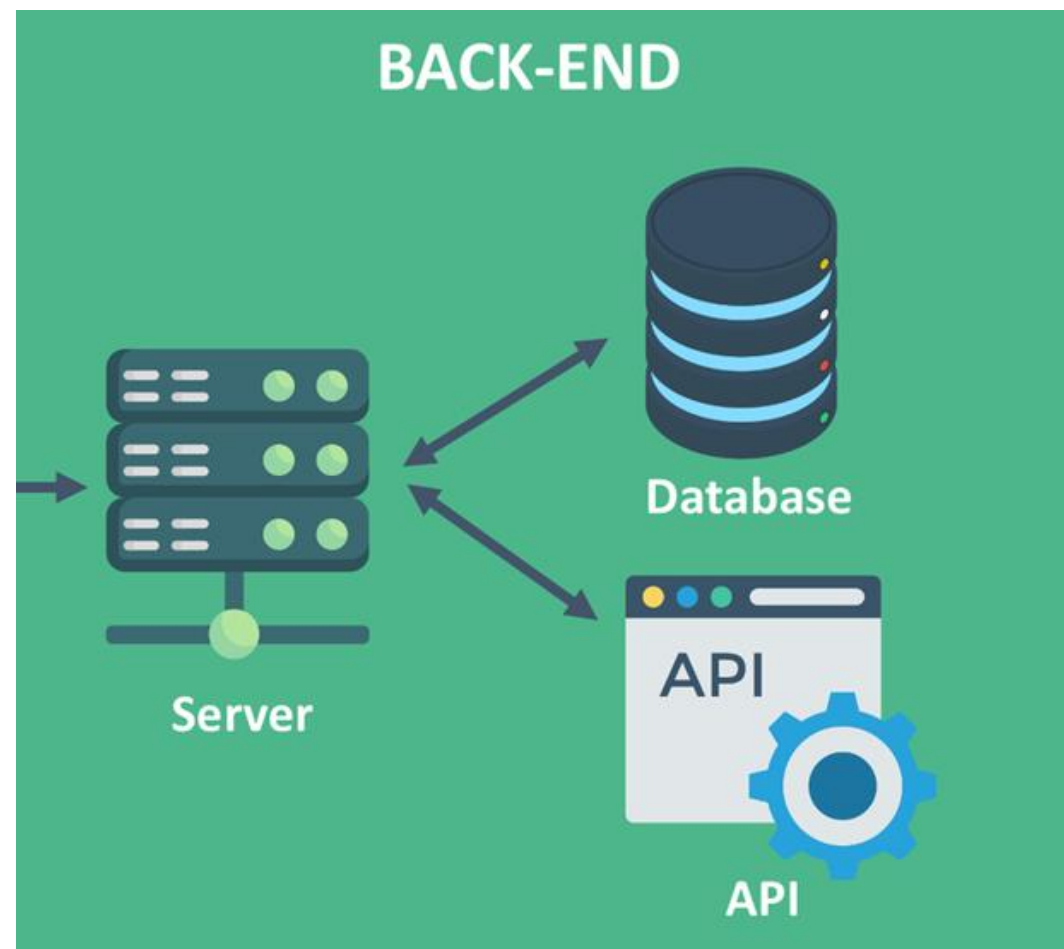
Web development framework



Front-end

- Display web content (HTML)
- Specify page layout (CSS)
- Manage navigation (HTML)
 - Within page
 - Across pages/sites
- Run front-end scripts (JavaScript)
 - Run on user devices
 - Source code visible to users
- Integrate with framework
 - E.g., React, Angular

Web development framework



Back-end

- Run back-end scripts (PHP, Node.js, Java, Python)
 - Run on the server
 - Source code hidden from users
- Connect with database (SQL)
- Connect with API
 - Allow apps to talk to each other
 - E.g., Authenticator, Messenger, Payment Gateway
- Integrate with framework
 - Python: Django, Flask

Web developer team



Front-end developers



Full stack developers



Back-end developers

HTML



The HyperText Markup Language or HTML is the standard markup language used to display content in a web browser

Web browsers receive HTML documents which include items like text, headings, images, and tables from a web server or a local storage and render them into multimedia web pages.

Example

```
<h1>Topic 1</h1>
```

```
<strong>bold</strong>
```

CSS



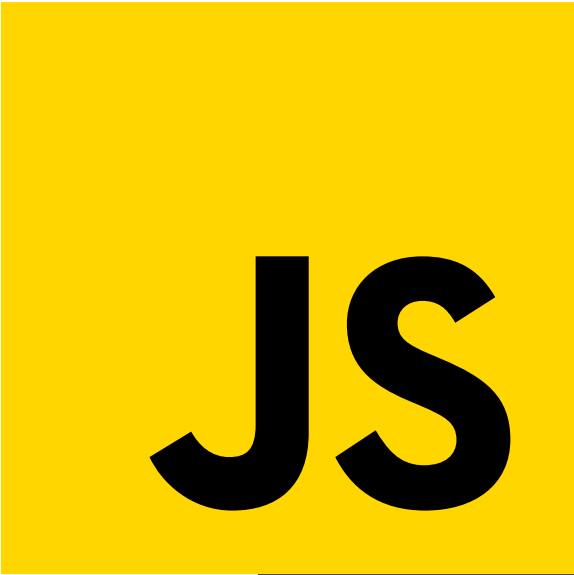
Cascading Style Sheets (CSS) is used for describing the presentation of a document written in a markup language, such as HTML.

CSS separates presentation (layout, colors, fonts, ...) from content (text, images, links, ...) to improve accessibility and allows the same page to be displayed in different styles.

Example

```
<style type="text/css">  
.custom {font-family: Courier; color: red; font-size:20px;}  
</style>
```

JavaScript

A yellow square containing the letters 'JS' in a bold, black, sans-serif font.

JavaScript (JS) is a scripting language that allows you to implement complex features on a web page, such as dynamically updating content, control multimedia, and animate images.

JavaScript codes run on the client side.

Example

```
<script>  
    document.getElementById("msg").innerHTML = Math.random( 1, 100 );  
</script>  
<p id="msg"></p>
```

PHP



PHP is a scripting language for web programming. PHP extends static web pages by adding server-side code to HTML. The output of the execution of the PHP code is merged into the HTML page.

Example

```
<?php  
echo "Today is ".date("l"). " ";  
?>
```

SQL



Structured Query Language (SQL) is a domain-specific language used to manage data held in a database. It is particularly useful in handling structured data and incorporating relations among variables.

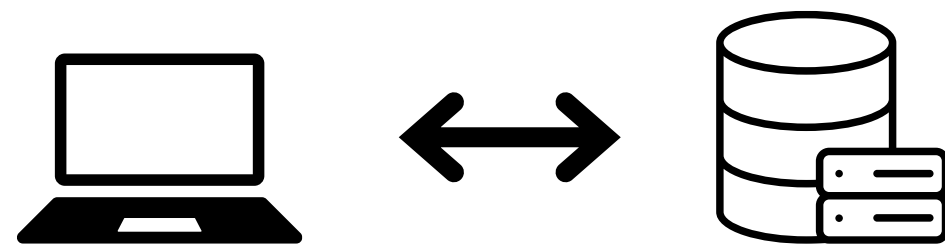
MySQL and MariaDB are compatible, but recent web apps prefer MariaDB for performance and without licensing issues.

Example

```
SELECT CustomerName, City FROM Customers;
```

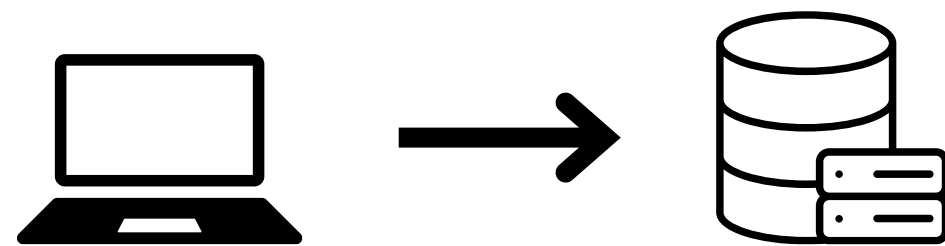
HTTP

Hypertext Transfer Protocol (HTTP) is a protocol to:

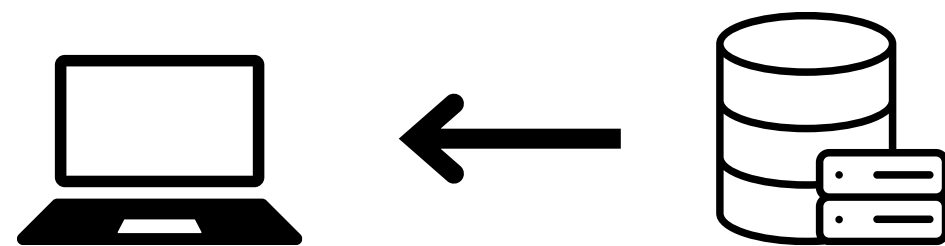


<https://ssru.ac.th>

Establish a connection between a client device and a web server.



Submit requests, including associated data, from the client device to the server.



`<html>`

Retrieve HTML, images, documents, etc. from the web server to be displayed on the client device.

Close the connection.

URL



A Uniform Resource Locator (URL) specifies web resource location on a computer network and a mechanism for retrieving it.

Example

<http://www.ssru.ac.th/index.htm>

↑ ↑ ↑
Protocol Host/Domain Document

<https://eit.ssru.ac.th/images/logo.png>

↗ ↑ ↖ ↖ ↖
Protocol Subdomain Domain Directory Document

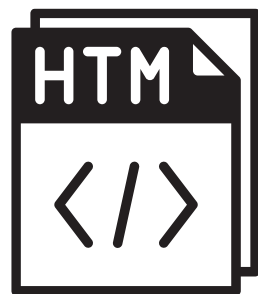
HTTP request/response cycle



The user enters the **URL** in the address bar and press Enter or clicks on a **hyperlink** with an **href** tag pointing to a document.



The browser makes a connection to the web server and issues a "**GET**" request to get the content of the specified page.



The server returns the HTML document to the browser, which formats and displays the document to the user.

logo_footer.png (PNG Image, 62 x 100)

มหาวิทยาลัยราชภัฏสวนสุนันทา

←

→

↻

🏠

🛡️🔒https://ssru.ac.th/img/logo_footer.png

★📑🔍⋮

🖱️

Inspector

📄

Console

🔧

Debugger

↕️

Network

{ }

Style Editor

🎧

Performance

📁

Memory

⏩

🚫1

📄⋮✕

🗑️

🔍

Filter URLs

⏏️

+

🔍

🚫

☑️

Disable Cache

No Throttling ⚡

⚙️

AllHTMLCSSJSXHRFontsImagesMediaWSOther

Stat...	Me...	Domain	File	Initiator	Type	Transferred	Size
200	GET	ssru.ac.th	logo_footer.png	document	png	4.89 kB	4.4...
404	GET	ssru.ac.th	favicon.ico	FaviconLoa...	html	455 B	209 B

📄

Headers

Cookies

Request

Response ▾

🔍

Filter Headers

Block

Resend

▶

GET

https://ssru.ac.th/img/logo_footer.png

Status

200 OK ⓘ

Version

HTTP/1.1

Transferred

4.89 kB (4.49 kB size)

Request Priority

Highest

▼

Response Headers (394 B)

Raw

🔍

ⓘ

Accept-Ranges:

bytes

ⓘ

Connection:

Keep-Alive

ⓘ

Content-Length:

4493

ⓘ

Content-Type:

image/png

ⓘ

Date:

Wed, 12 Jul 2023 07:14:55 GMT

ⓘ

ETag:

"118d-58fa87468349c"

ⓘ

Keep-Alive:

timeout=5, max=100

ⓘ

Last-Modified:

Fri, 09 Aug 2019 05:29:13 GMT

🕒

2 requests

4.70 kB / 5.34 kB transferred

Finish: 770 ms

DOMContentLoaded: 106 ms

load: 1