

The background of the slide is a light beige color. In the top left corner, there is a corkboard with a few papers pinned to it. In the center, there is a large, stylized illustration of a laptop. The laptop screen displays a website layout with a blue header, a red bar, and a chart with several colorful triangles (red, yellow, green, blue, purple). To the left of the laptop, there is a red control panel with two gauges and a red button. Above the laptop, there are several colorful circles containing text: a blue circle with 'www', a red circle with 'HTML5', a red circle with 'js', an orange circle with 'XML', a green circle with 'PHP', and a grey circle with 'Cloud'. Dotted lines connect some of these circles. The overall theme is web technologies and engineering.

**ECAP472**

# WEB TECHNOLOGIES

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# Learning Outcomes



After this lecture, you will be able to

- understand JavaScript Development Environment
- understand basics of javascript.

# What is Javascript?

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A lightweight programming language ("scripting language")

- used to make web pages interactive
- insert dynamic text into HTML (ex: user name)
- react to events (ex: page load user click)

# What is Javascript?

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A lightweight programming language ("scripting language")

- get information about a user's computer (ex: browser type)
- perform calculations on user's computer (ex: form validation)

# Why to Learn Javascript

- Javascript is everywhere, it comes installed on every modern web browser and so to learn Javascript you really do not need any special environment setup.
- For example Chrome, Mozilla Firefox , Safari and every browser you know as of today, supports Javascript.

# Advantages of JavaScript

- **Speed.** Client-side JavaScript is very fast because it can be run immediately within the client-side browser. Unless outside resources are required, JavaScript is unhindered by network calls to a backend server.
- **Simplicity.** JavaScript is relatively simple to learn and implement.
- **Popularity.** JavaScript is used everywhere on the web.

# Advantages of JavaScript

- **Interoperability.** JavaScript plays nicely with other languages and can be used in a huge variety of applications.
- **Server Load.** Being client-side reduces the demand on the website server.
- Gives the ability to create rich interfaces.

# Setup JavaScript Development Environment

- To use JavaScript in developing a web application you must have at least two things,
- a browser, and
- an editor to write the JavaScript code.



# Browser

You can also install the following browser as per your preference:

Microsoft Edge

Google Chrome

Mozilla FireFox

Safari

Opera

A blurred background image showing lines of code on a screen, likely from a JavaScript IDE. The code includes variable assignments, conditional logic, and function calls, with some lines highlighted in yellow. The text is out of focus, emphasizing the overall theme of code development.

# IDEs for JavaScript Application Development

You can write JavaScript code using a simple editor like Notepad.

However, you can install any open-sourced or licensed IDE (**Integrated Development Environment**) to get the advantage of IntelliSense support for JavaScript and syntax error/warning highlighter for rapid development.

# JavaScript Editors:

The followings are some of the well-known JavaScript editors:

- Visual Studio Code (Free, cross-platform)
- Eclipse (Free, cross-platform)
- Atom (Free, cross-platform)
- Notepad++ (Free, Windows)
- Code Lobster (Free, cross-platform)
- WebStorm (Paid, cross-platform)

# Where can I download JavaScript?

- You don't have to get or download JavaScript.
- JavaScript is already running in your browser on your computer, on your tablet, and on your smart-phone.
- JavaScript is free to use for everyone.

# JavaScript importance

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JavaScript is one of the 3 languages all web developers must learn:

1. HTML to define the content of web pages
2. CSS to specify the layout of web pages
3. JavaScript to program the behavior of web pages

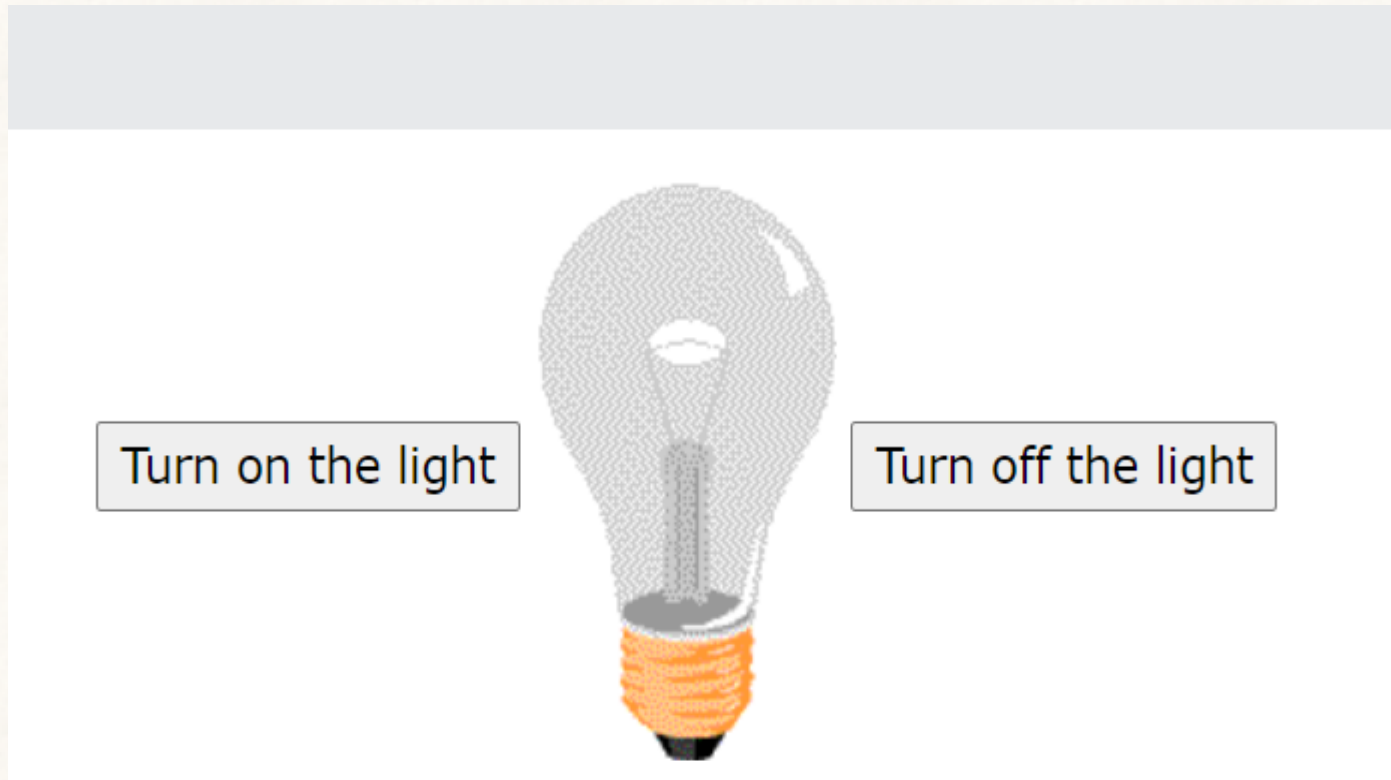
# JavaScript Can Change HTML Content

- One of many JavaScript HTML methods is `getElementById()`.
- The example below **"finds"** an HTML element **(with `id="demo"`)**, and changes the element content (**`innerHTML`**) to **"Hello JavaScript"**:
- Example
- **`document.getElementById("demo").innerHTML = "Hello JavaScript";`**



# JavaScript Can Change HTML Attribute Values

JavaScript changes the value of the src (source)  
attribute of an `<img>` tag



# JavaScript Can Change HTML Attribute Values

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# JavaScript Can Change HTML Styles (CSS)

- Changing the style of an HTML element, is a variant of changing an HTML attribute:

## Example

- `document.getElementById("demo").style.fontSize = "35px";`

# JavaScript Can Hide HTML Elements

- Hiding HTML elements can be done by changing the display style:

## Example

- `document.getElementById("demo").style.display = "none";`



# Practical

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That's all for now...