

What is java script?

JavaScript (JS) is a powerful scripting language used to make web pages interactive and dynamic. It works alongside HTML, which defines the structure of a webpage, and CSS, which handles its design and layout. With JavaScript, developers can add features like animations, form validations, sliders, pop-up messages, and real-time updates without reloading the page. It runs directly in the user's browser, making web pages more responsive and engaging. Today, JavaScript is not limited to the front end—it is also used on the server side with technologies like Node.js, making it one of the most important languages in modern web development.

Why we use java script?

We use JavaScript to make websites more interactive, dynamic, and user-friendly. While HTML provides the structure and CSS handles the styling, JavaScript adds functionality and behaviour to web pages. It allows developers to create interactive elements like sliders, pop-ups, form validations, and animations. JavaScript can also update content in real-time without reloading the page, making the user experience smoother. In addition, with technologies like Node.js, JavaScript can be used on the server side to build full web applications. Overall, JavaScript is essential for creating modern, responsive, and engaging websites.

When we use java script?

We use JavaScript whenever we need to add interactivity, logic, or dynamic behaviour to a website or web application. For example, it is used when we want buttons to respond to clicks, forms to validate user input before submission, or content to change without reloading the page. JavaScript is also used for animations, slideshows, dropdown menus, and real-time features like chat or live updates. Besides web browsers, JavaScript is used on the server side with tools like Node.js to handle data and build full-stack applications. In short, we use JavaScript whenever we want a web page to do something rather than just display something.

where we use java script?

We use JavaScript mainly in web development to make websites interactive and dynamic. It is used on the client side (in web browsers) to control how a webpage behaves, such as creating animations, validating forms, showing pop-up messages, or updating content without reloading the page. JavaScript is also used on the server side with platforms like Node.js to handle data, manage databases, and build complete web applications. Beyond websites, JavaScript is used in mobile app development, game development, and even desktop applications. In short, JavaScript is used wherever interactive, responsive, and dynamic behaviour is needed in digital applications.

Type of using java script

JavaScript can be used in three main ways in a webpage: inline, internal, and external. Inline JavaScript is written directly inside an HTML tag, usually to perform small actions like displaying an alert when a button is clicked. Internal JavaScript is written within the `<script>` tag inside the same HTML file, often used when the script is specific to that page. External JavaScript is written in a separate file with a .js extension and linked to the HTML page using the `<script src="filename.js"></script>` tag. This method is preferred for larger projects because it keeps the code organized, reusable, and easier to maintain.

Three main types:

- ➡ Inline
- ➡ Internal
- ➡ External

If using JS what is the happening on the webpage

When we use JavaScript on a webpage, it makes the page interactive, dynamic, and responsive to user actions. Instead of just displaying static content, JavaScript allows the webpage to react when users click buttons, fill out forms, move the mouse, or type something. It can change text, images, or styles instantly without reloading the entire page. For example, JavaScript can show pop-up messages, validate form inputs, create animations, and update live data like time or notifications. In short, JavaScript brings life to a webpage by turning it from a simple, static document into an engaging and functional web application.

Any other frontend programming languages other than JS.

TypeScript:

- A **superset of JavaScript** that adds static typing.
- Compiles down to plain JavaScript for browsers.
- Helps in writing more structured and error-free code.

Dart (with Flutter Web):

- Used with the **Flutter framework** to build frontend web apps.
- Allows creating interactive UI components similar to mobile app development.

Web Assembly (Wasm):

- Let's you run code written in languages like **C, C++, or Rust** in the browser.
- Used for performance-intensive tasks like games or video editing apps.

CoffeeScript / Elm / ReasonML / Kotlin JS:

- These are compiled-to-JavaScript languages that help write frontend code in a cleaner or more structured way.