

JavaScript (JS)

Definition: A dynamic scripting language used to create and control dynamic website content.

Advantages and Disadvantages of JavaScript:

Advantages:

- Easy to learn and use.
- Highly flexible.
- Supported by all web browsers.

Disadvantages:

- Higher chance to runtime errors due to its loose typing (more flexible and no type declarations needed).
- Code can become messy, difficult to read and maintain, especially in complex applications.

When to use JavaScript:

- When quick scripting is needed for websites.
- Rapid development when time is more important than strict error checking.

TypeScript (TS):

Definition: A subset of JavaScript that adds static typing and other features to help manage larger code bases.

Advantages and Disadvantages of TypeScript:

Advantages:

- Enabling programmers to define variables and data types which enhances code predictability

- Makes code easier to understand, modify and manage in large applications.

Disadvantages:

- Requires learning additional syntax and concepts.
- Slightly slower to write due to type-checking.

When to use TypeScript:

- For developing large-scale applications where code reliability is crucial.
- When working in teams to ensure code consistency and prevent errors.

Reference

Monesi, D. (2022). *TypeScript vs. JavaScript: Your Go-to Guide*. Toptal Engineering Blog.

<https://www.toptal.com/typescript/typescript-vs-javascript-guide>

Sidra. (2023, December 8). *TypeScript vs. JavaScript — Choosing the Right Language for Your Project*. Sencha.com. <https://www.sencha.com/blog/typescript-vs-javascript-choosing-the-right-language-for-your-project/>