

Introduction To Node.js

Understanding the Basics



What is Node.js?

- Node.js is a JavaScript runtime built on Chrome's V8 JavaScript engine.
- It allows you to run JavaScript on the server side.
- Created by Ryan Dahl in 2009.

Why Node.js?

- Non-blocking I/O: Uses an event-driven, non-blocking I/O model for efficient and scalable applications.
- Single Language: Enables full-stack development using JavaScript for both client and server sides.
- Large Ecosystem: Rich package ecosystem through npm (Node Package Manager).

Key Features of Node.js

- Asynchronous and Event-Driven: Handles many connections simultaneously.
- Fast Execution: Built on the V8 JavaScript engine for fast performance.
- Single-Threaded but Highly Scalable: Uses event looping for managing concurrent operations.
- No Buffering: Outputs data in chunks, making it efficient for data-intensive applications.

Summary

- Node.js enables server-side JavaScript, providing a fast, scalable environment for web applications.
- Its non-blocking I/O and single-threaded model make it efficient for handling multiple connections.
- npm provides a vast ecosystem of packages for extending Node.js functionality.