



Node.js: Revolutionizing Server-Side JavaScript

Powerful runtime for scalable network applications.

Built on Chrome's V8 engine.

Enables JavaScript beyond the browser.

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Key Features of Node.js

1

Asynchronous

Non-blocking I/O for efficient operations.

2

Event-Driven

Responds to events for scalable applications.

3

Cross-Platform

Run on various operating systems.

4

NPM Ecosystem

Access vast library of open-source packages.

Use Cases for Node.js



I/O-bound Apps

Efficient data handling and processing.



JSON APIs

Fast and lightweight API development.



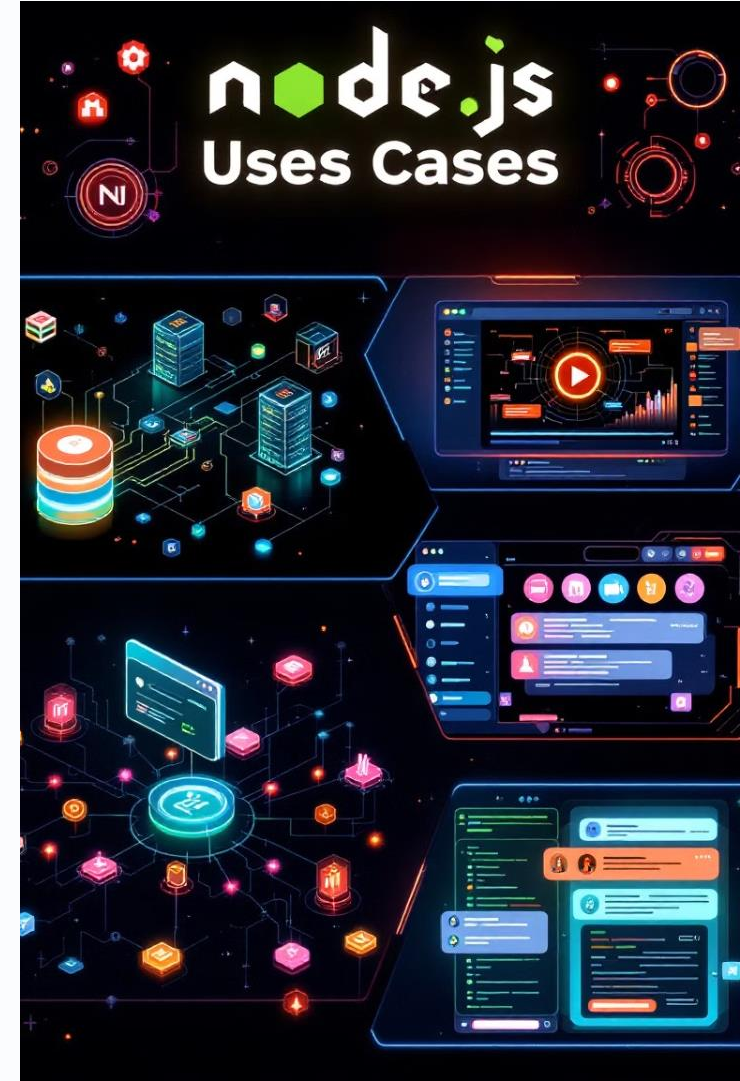
Data Streaming

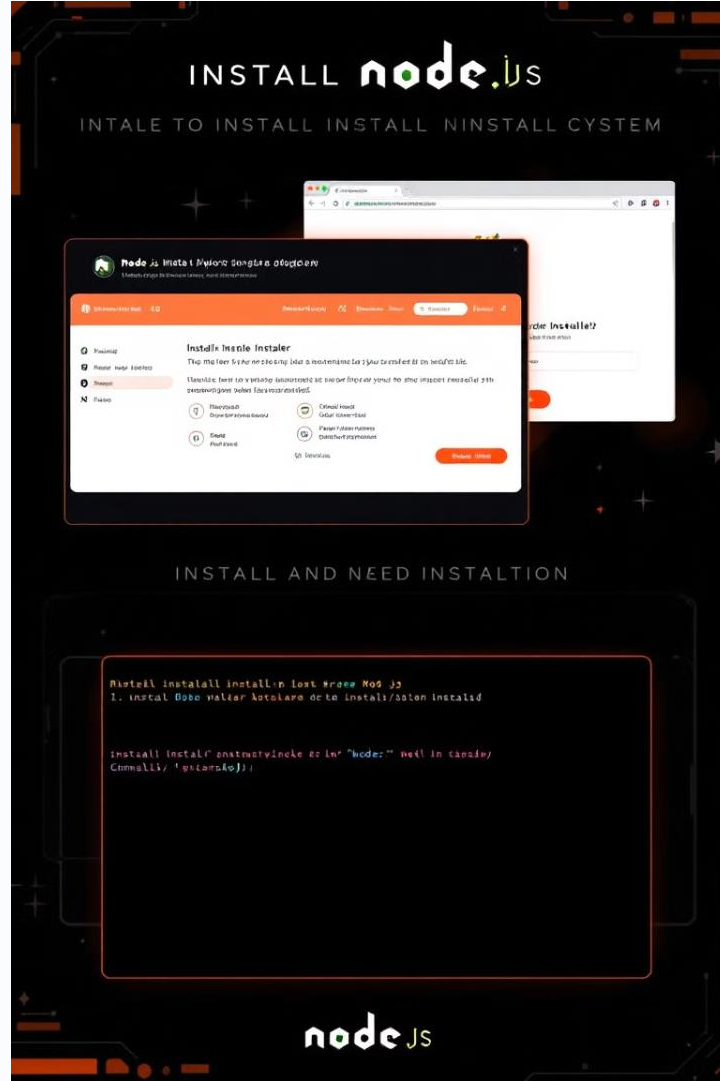
Real-time data transfer and processing.



Real-time Apps

Ideal for chat and gaming applications.





Installing Node.js

1

Download

Visit nodejs.org and select appropriate version.

2

Install

Run installer and follow prompts.

3

Verify

Open terminal, run 'node --version'.

4

Ready

Node.js and npm now available.

Hello World in Node.js

Create File

Name it 'app.js'.

Write Code

Use http module to create server.

Run Server

Execute 'node app.js' in terminal.

Test

Open browser, visit 'http://localhost:8081'.



Node Package Manager (NPM)

Package Installation

Use 'npm install package-name'.

Dependency Management

Automatically tracks project dependencies.

Version Control

Easily update or roll back packages.



Advantages of Node.js

1

High Performance

Non-blocking I/O for fast processing.

2

Scalability

Ideal for microservices architecture.

3

Full-Stack JavaScript

Use one language throughout your stack.

4

Active Community

Regular updates and extensive support.



Getting Started with Node.js

Step 1

Install Node.js

Step 2

Create project directory

Step 3

Initialize with 'npm init'

Step 4

Write your application code

Step 5

Run with 'node app.js'