`01-Intro/02-what-is-nodejs.md`
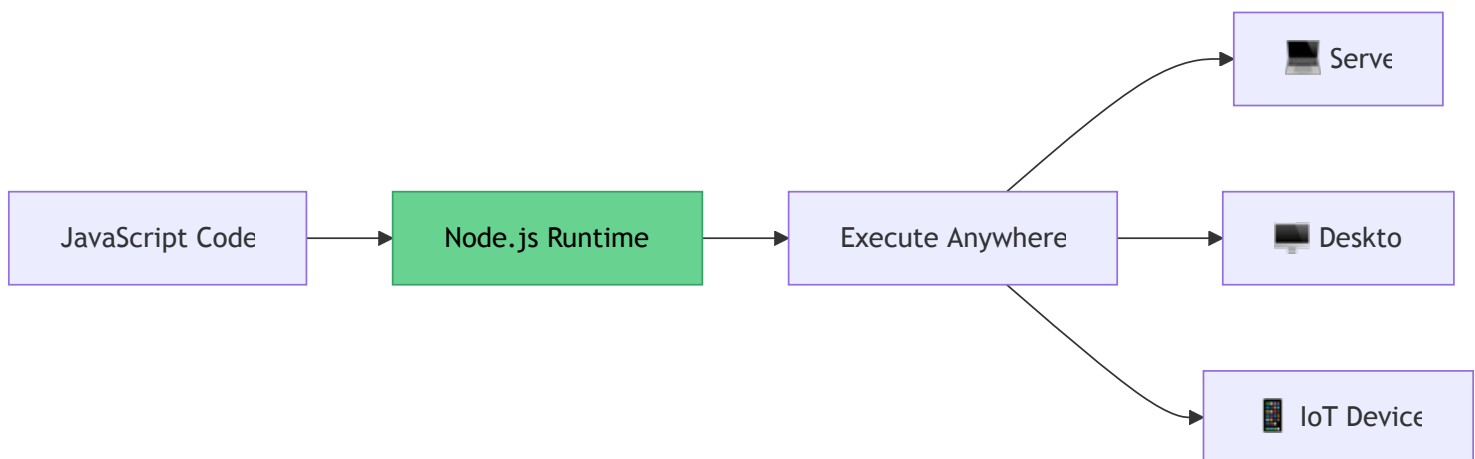
🟢 What is Node.js?

Node.js

A runtime environment for executing JavaScript code

✅ Open Source | 🌍 Cross-platform | ⚡ Runtime Environment

🎯 The Core Concept

Running JavaScript Outside the Browser

🔑 **Key Point:** Node.js allows you to run JavaScript (or TypeScript) **outside the browser**

🏗 What is it Used For?

Back-end Services & APIs

📱 **Web App**   ⚙️ **Back-end Service**   ↑
                            (API - Application Programming Interface)
        ↓   📲 **Mobile App**

⭐ Ideal For

🚀 Highly-scalable Applications

- Handle thousands of concurrent connections
- Efficient resource usage

📊 Data-intensive Applications

- Real-time data processing
- High I/O operations

⚡ Real-time Applications

- Chat applications
- Live notifications
- Collaborative tools

🏃 Agile Development

- Great for prototyping
- Rapid development cycles

🏢 Used in Production By

💳 **PayPal**

🎬 **Netflix**

🚗 **Uber**

💼 **LinkedIn**

🚀 **NASA**

🛒 **eBay**

And many more: Groupon, Mozilla, Aliexpress...

📚 **Sources:**

- trio.dev/blog/companies-use-node-js
- simform.com/blog/companies-using-nodejs

📊 StackOverflow Developer Survey 2025

Node.js consistently ranks as one of the **most popular technologies** among professional developers!

🔗 See the full survey.

💰 Case Study: PayPal

Java Spring Application → Node.js Migration

Results:

- ✅ Built in **less time** with **fewer developers**
- 🚀 **35% decrease** in average response time
- ⚡ **2x faster** page serving
- 📉 **Reduced codebase** - easier to maintain

  📖 **Source:** engineerbabu.com/blog/node-js-the-rising-technology-behind-paypal

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🎯 Key Points

```
✅ Great for prototyping and agile development
✅ Super fast and highly scalable
✅ JavaScript everywhere (front-end + back-end)
✅ Cleaner and more consistent codebase
✅ Large ecosystem of open-source libraries
```

🎨 JavaScript Everywhere

Use the **same language** for:

- 🎨 Front-end (React, Vue, Angular)
- ⚙️ Back-end (Node.js)
- 📱 Mobile (React Native)
- 🖥️ Desktop (Electron)

Result: More consistent code, easier team collaboration!

🤔 What's Next?

Now that you understand what Node.js is and why it's powerful, let's explore **how it actually works** under the hood!

[🏠 Course Home](#) | [📘 Chapter 1 Home](#)

[← Previous: Course Introduction](#) | [Next: Node.js Architecture →](#)