`01-Intro/04-installation-setup.md`

💻 Installation & Setup

📥 Installing Node.js

Node.js Official Website

🔗 https://nodejs.org/en/

Download the **LTS (Long Term Support)** version for stability

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🖥️ Platform-Specific Installation

🪟 Windows

Direct Download:

`https://nodejs.org/dist/v24.13.0/node-v24.13.0-x64.msi`

Steps:

1. Download the `.msi` installer
2. Run the installer
3. Follow the installation wizard
4. Accept the license agreement
5. Choose installation directory (default is fine)
6. ✅ Complete installation

🍎 macOS

Option 1: Official Installer

For Intel & Apple Silicon (M1/M2/M3):

`https://nodejs.org/dist/v24.13.0/node-v24.13.0.pkg`

Option 2: Homebrew (Recommended)

```
brew install node
```

Advantages of Homebrew:

- ✅ Easy to update
- ✅ Manages dependencies
- ✅ Simple version management

🐧 Linux

Ubuntu/Debian

```
sudo apt update
sudo apt install nodejs npm
```

Direct Download

`https://nodejs.org/dist/v24.13.0/node-v24.13.0-linux-x64.tar.xz`

Extract and install:

```
tar -xf node-v22.12.0-linux-x64.tar.xz
sudo mv node-v22.12.0-linux-x64 /usr/local/node
export PATH=/usr/local/node/bin:$PATH
```

🐋 Docker

Official Node.js Docker Images:

```
# Pull the latest LTS version
docker pull node:lts

# Run a container
docker run -it node:lts
```

🔗 **Docker Hub:** https://hub.docker.com/_/node/

✅ Verify Installation

After installation, verify that Node.js is correctly installed:

```
# Check Node.js version
node --version
# Expected output: v23.5.0 (or similar)

# Check npm version (Node Package Manager)
npm --version
```

```
# Expected output: 10.x.x (or similar)
```

Example Output

```
~ ➤ brew install node
Running `brew update --preinstall`...
==> Downloading https://nodejs.org/dist/v23.5.0/node-v23.5.0.tar.gz
...
✅ Installation successful!

~ ➤ node --version
v23.5.0
```

🛠️ IDE Setup

Choosing Your IDE

You have **freedom of choice**! Popular options:

VS Code
⭐ Recommended

WebStorm
Professional

Atom
Lightweight

Sublime Text
Fast

IntelliJ IDEA
Full-featured

Brackets
Web-focused

🎨 Visual Studio Code (Recommended)

Why VS Code?

- ✅ Free and Open Source
- ✅ Excellent Node.js support
- ✅ Integrated terminal
- ✅ Rich extension ecosystem
- ✅ IntelliSense & debugging

🔗 **Download:** https://code.visualstudio.com/

🔌 Essential VS Code Extensions

Install these extensions for optimal Node.js development:

Must-Have Extensions

Extension	Purpose
📦 **npm intellisense**	Auto-complete npm modules
🔍 **ESLint**	Code quality and error detection
🎨 **Prettier**	Code formatting

🌐 **REST Client**	Test APIs directly in VS Code
📝 **Document This**	Generate JSDoc comments

How to Install

1. Open VS Code
2. Click Extensions icon (Ctrl+Shift+X)
3. Search for extension name
4. Click “Install”

⌨️ Essential VS Code Shortcuts

Terminal Management

```
Ctrl + `                → Open integrated terminal
Ctrl + Shift + `        → Create new terminal
```

Editing

```
Shift + Alt + ↓/↑       → Copy line above/below
Ctrl/Cmd + Shift + L    → Select all instances of selection
Alt + Shift + A         → Toggle block comment
Ctrl/Cmd + /            → Toggle line comment
```

General

```
Ctrl + Shift + P        → Command Palette (access all commands)
Ctrl + P                → Quick file open
F2                      → Rename symbol
```

📄 Full Shortcut Reference:

- Windows: keyboard-shortcuts-windows.pdf
- macOS: keyboard-shortcuts-macos.pdf

📚 Additional Resources

📽️ Video Tutorial

Beginners Series to Node.js - Episode 5
How to Setup VS Code for Node.js Development

🔗 Microsoft Docs Video Series

📖 Official Documentation

VS Code Node.js Tutorial

🔗 VS Code Node.js Docs

🔤 JavaScript, TypeScript, or JSDoc?

Understanding Your Options

JavaScript	TypeScript	JSDoc
What you know! • From web dev course • Dynamic typing • Standard ECMAScript	**Microsoft's Enhancement** • Static typing • Compile-time checks • Used in Angular • Own compiler	**Documentation + Types** • Markup language • Type checking via annotations • No compilation needed • 🔗 jsdoc.app

In this course: We'll primarily use **JavaScript** with optional **JSDoc** annotations for better IntelliSense!

✅ Installation Checklist

Before moving on, make sure you have:

- ▢ ✅ Node.js installed (`node --version` works)
- ▢ ✅ npm installed (`npm --version` works)
- ▢ ✅ VS Code (or your preferred IDE) installed
- ▢ ✅ Essential VS Code extensions installed
- ▢ ✅ Terminal accessible and working

🎉 Ready to Code!

Your Development Environment is Ready!

Time to create your first Node.js application! 🚀

🏠 Course Home | 📘 Chapter 1 Home

← Previous: Node.js Architecture | Next: First Application →