

INSTALLING

& DEVELOPMENT TOOLS



INSTALL



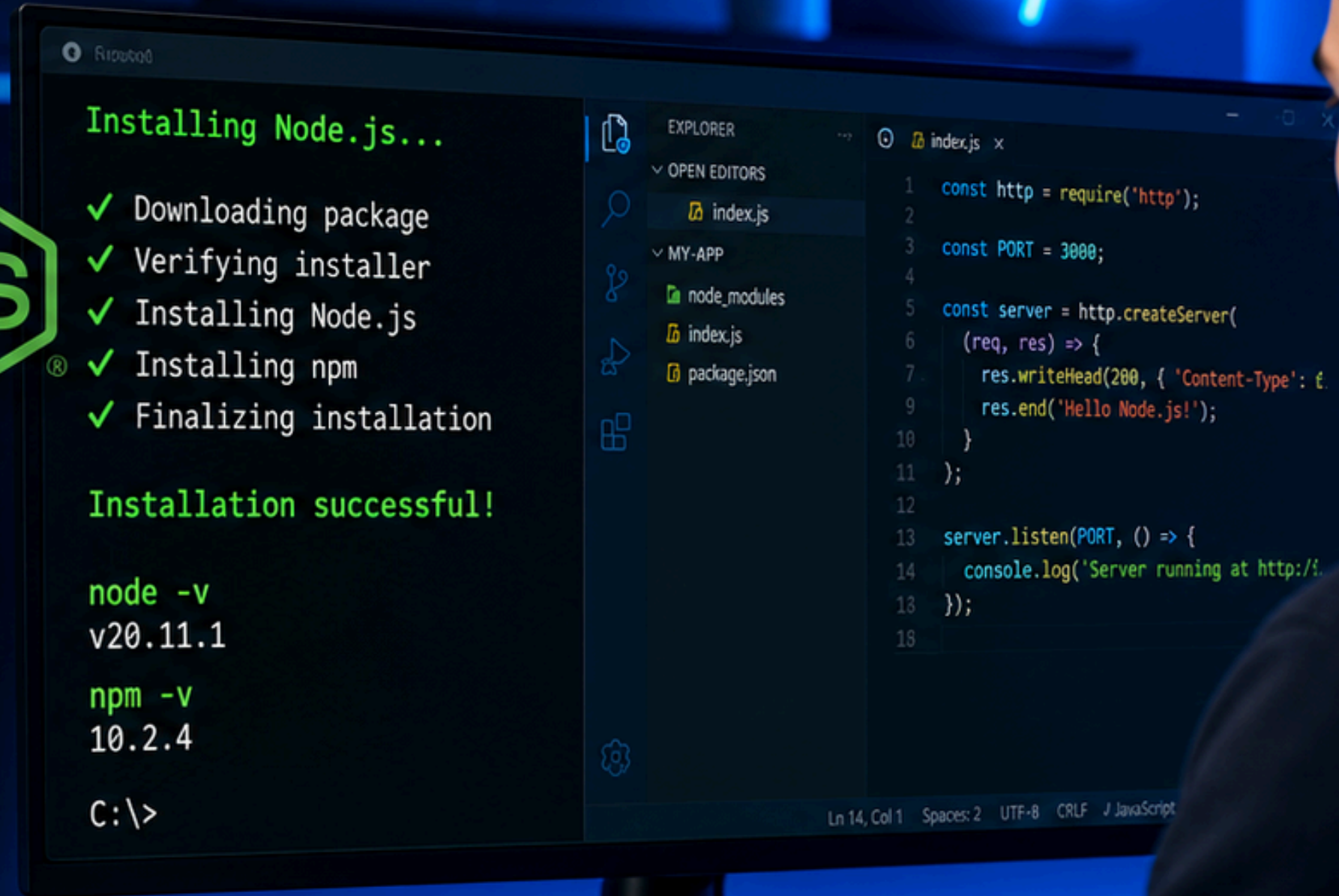
DEVELOP



BUILD



COMPLETE SETUP GUIDE



LEARNING OBJECTIVES

What You Will Learn



01 What is Node.js



02 Why React Native Needs Node.js



03 Install Node.js



04 Understand NPM & NPX



05 Install VS Code



06 Install Git



07 Configure Development Environment



08 Verify Installation



09 Solve Com



By the end of this module, you'll have a complete Node.js development environment ready for **React Native development.**



Let's build something great together!



```
JS app.js x
1  const http = require('http');
2  const app = http.createServer((req, res) => {
3      res.writeHead(200, { 'Content-Type': 'application/json' });
4      res.end(JSON.stringify({
5          message: 'Welcome to Node.js 🚀'
6      }));
7  });
8
9  const PORT = process.env.PORT || 3000;
10 app.listen(PORT, () => {
11     console.log('Server running on port ${PORT}');
12 });
```

TERMINAL

bash x

```
$ node -v
v20.11.1
$ npm -v
10.2.4
$ npx -v
10.2.4
$ |
```





What is Node.js?

Node.js is a JavaScript Runtime Environment that allows **JavaScript** to run outside the browser.



Built on Chrome V8 Engine

Uses the powerful V8 JavaScript engine



Fast Performance

Event-driven, non-blocking I/O model



Cross Platform

Runs on Windows, macOS, Linux & more



Open Source

Free to use with a large community



Used in Real World

Powering Netflix, LinkedIn, Uber & more



JS server.js X

```
1  const http = require('http');
2
3  const server = http.createServer((req, res) => {
4    res.writeHead(200, { 'Content-Type': 'application/json' });
5    res.end(JSON.stringify({
6      success: true,
7      message: 'Hello from Node.js!'
8    }));
9  });
10
11 server.listen(3000, () => {
12   console.log('Server running on port 3000');
13 });
```

TERMINAL

```
$ node server.js
Server running on port 3000
Environment: development
```



Used For:



Web Applications



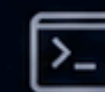
APIs & Backends



Real-time Applications



Microservices



DevOps Tools



Why React Native Needs Node.js

Node.js powers the core tooling and runtime environment that makes React Native development fast, seamless, and efficient.

Key Benefits

-  **Blazing Fast Refresh**
Instant updates with Metro Bundler
-  **Optimized Bundling**
Efficient asset & code bundling
-  **JavaScript Everywhere**
Same language, end to end
-  **Huge Ecosystem**
NPM packages power the tools

package.json

```
{
  "scripts": {
    "start": "react-native start",
    "android": "react-native run-android",
    "ios": "react-native run-ios"
  },
  "dependencies": {
    "react": "18.2.0",
    "react-native": "0.73.6"
  },
  "devDependencies": {
    "metro": "^0.80.0"
  }
}
```

```
metro
$ npx react-native start
info Starting Metro Bundler on port 8081.
info Metro waiting on exp://192.168.1.5:19000
info Launching emulator...
info Building JavaScript bundle: done.
info Successfully ran app on Android.
```

1



React Native App

You write your app using React Native.

2



Metro Bundler

Metro uses Node.js to bundle JavaScript files and assets.

3



Node.js Runtime

Node.js runs the bundler, handles file watching, HMR, and dev server.

4

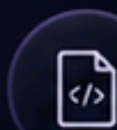


Mobile Application

The bundled code is delivered to your device and runs as a native app.



Developer Workflow



Code



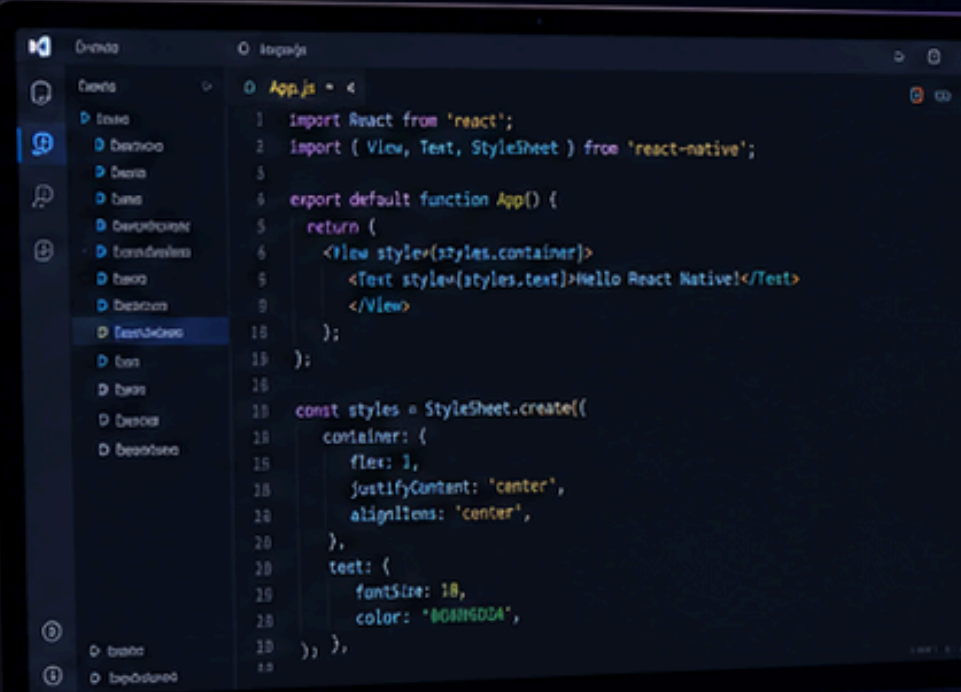
Bundle



Run



Deploy



KEEP CODING



Built on the Power of Node.js Ecosystem





Installing Node.js

Follow these simple steps to install Node.js on your machine and start building amazing applications.

```
bash
$ node -v
v20.12.2
$ npm -v
10.5.0
```

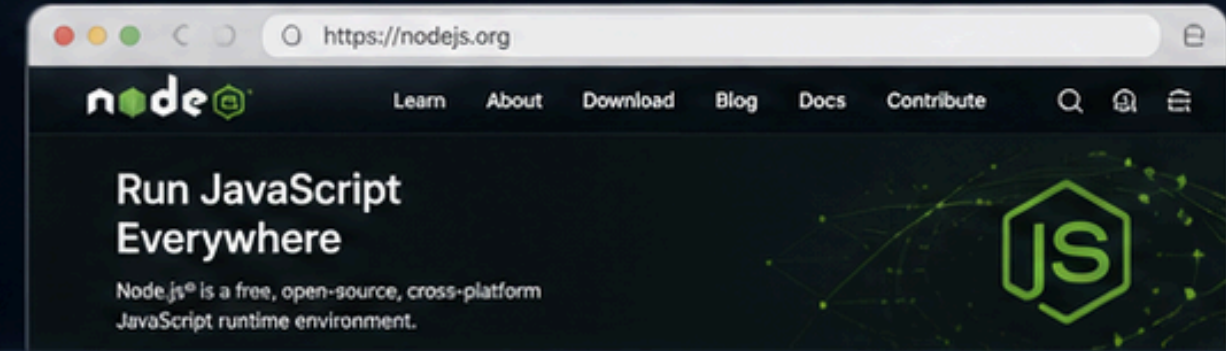
 **Tip:** Always download the LTS (Long Term Support) version for stability and security.

1



1. Visit nodejs.org

Open your browser and go to the official Node.js website.

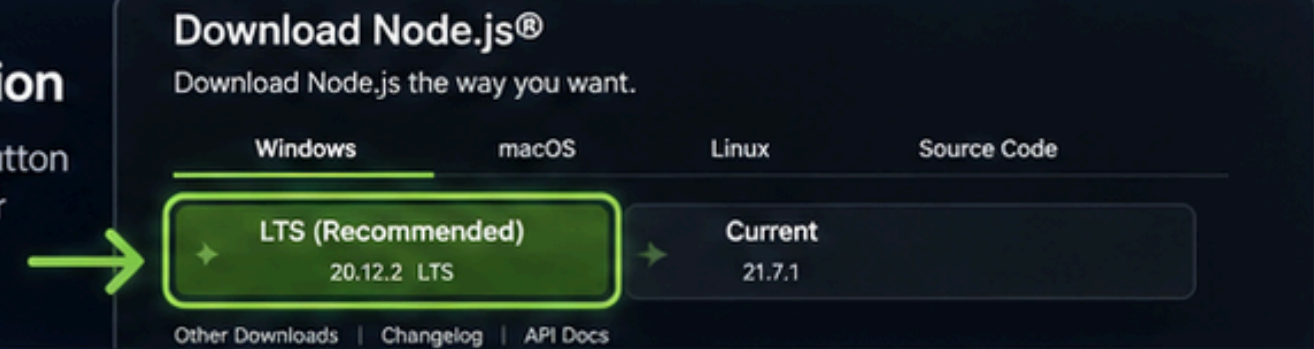


2



2. Download LTS Version

Click the LTS (Recommended) button to download the installer for your operating system.

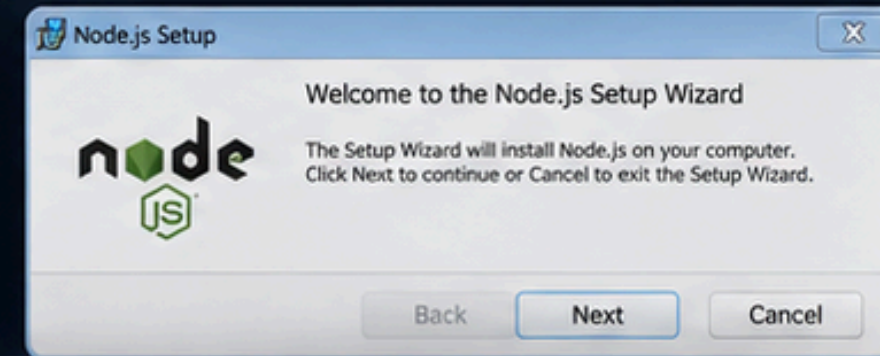


3



3. Run Installer

Open the downloaded installer file and follow the installation wizard prompts.

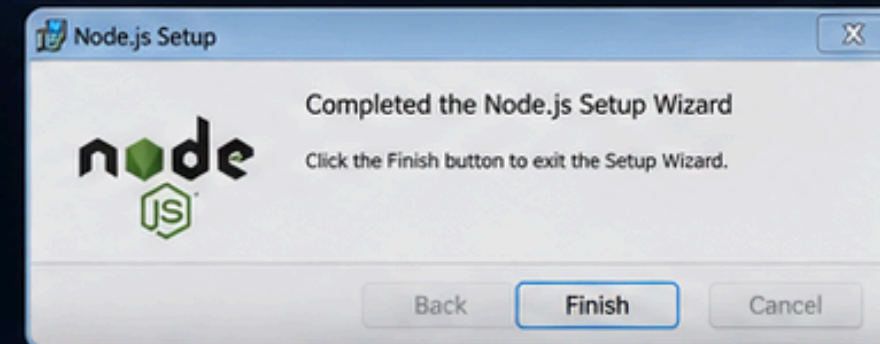


4



4. Complete Setup

Accept the license, choose the destination, and complete the installation.

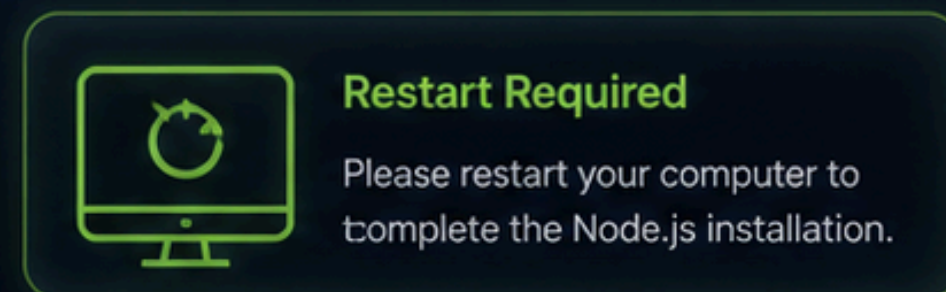


5



5. Restart Computer

Restart your computer to apply changes and ensure everything works correctly.





React Native



Node.js



Git



VS Code



Terminal



LTS vs Current Version

Understand the difference and choose the right version for your **React Native** projects.



LTS Version

Long Term Support

- ✓ Stable
- ✓ Recommended
- ✓ Production Ready

VS



Current Version

Latest Updates

- ⚠ New Features
- ⚠ Experimental Updates
- ⚠ Testing Purposes



Choose **LTS** for
React Native Development

- ✓ Better stability
- ✓ Fewer breaking changes
- ✓ Ideal for production apps
- ✓ Long term maintained & supported



terminal

```
$ npx react-native --version
12.6.7 (LTS)

$ npx react-native@latest --version
0.74.1 (Current)

$ node --version
v18.19.1

$ npm --version
10.5.0
```



```
$ npx react-native init MyAwesomeApp --version 0.72.14 # LTS Recommended
```





Verify Node.js Installation



Let's verify that Node.js is installed correctly by checking the installed version.

 COMMAND

node -v

 EXPECTED OUTPUT

v22.x.x



TIP

You should see a version number starting with 'v22.' followed by additional numbers.



Step 1 of 10

Terminal

```
developer@machine:~$ node -v  
v22.x.x  
developer@machine:~$
```



Node.js is installed
You're ready to build!

01

SETTING UP NODE.JS ENVIRONMENT

Verify NPM Installation

COMMAND

>_

`npm -v`

EXPECTED OUTPUT

`10.x.x`

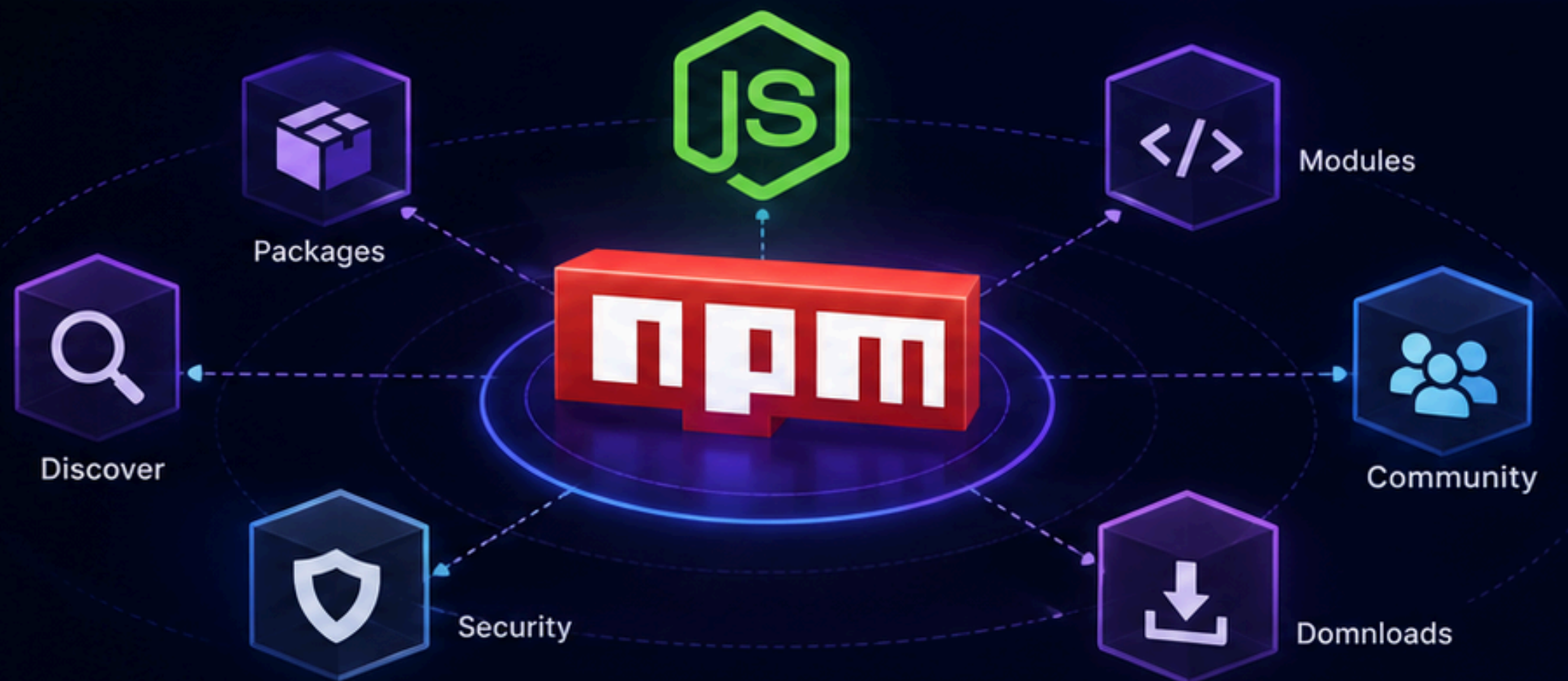
TIP

This command prints the installed NPM version. You should see version `10.x.x` or higher.

```
zsh

developer@dev-machine:~$ npm -v
10.5.0
developer@dev-machine:~$
```

npm



NODE.JS TOOLCHAIN



NPM comes pre-installed with Node.js.
Keep it updated for the best experience!



What is NPM?

NPM is the world's largest software registry and the default package manager for Node.js.



DEFINITION

Node Package Manager

NPM is the official package manager for Node.js. It helps developers discover, share, and reuse code.



FEATURES

- ✓ Install Packages
- ✓ Update Packages
- ✓ Manage Dependencies
- ✓ Publish Libraries

EXAMPLE

```
bash
$ npm install axios
added 23 packages, and audited 24 packages
found 0 vulnerabilities
$
```

TERMINAL

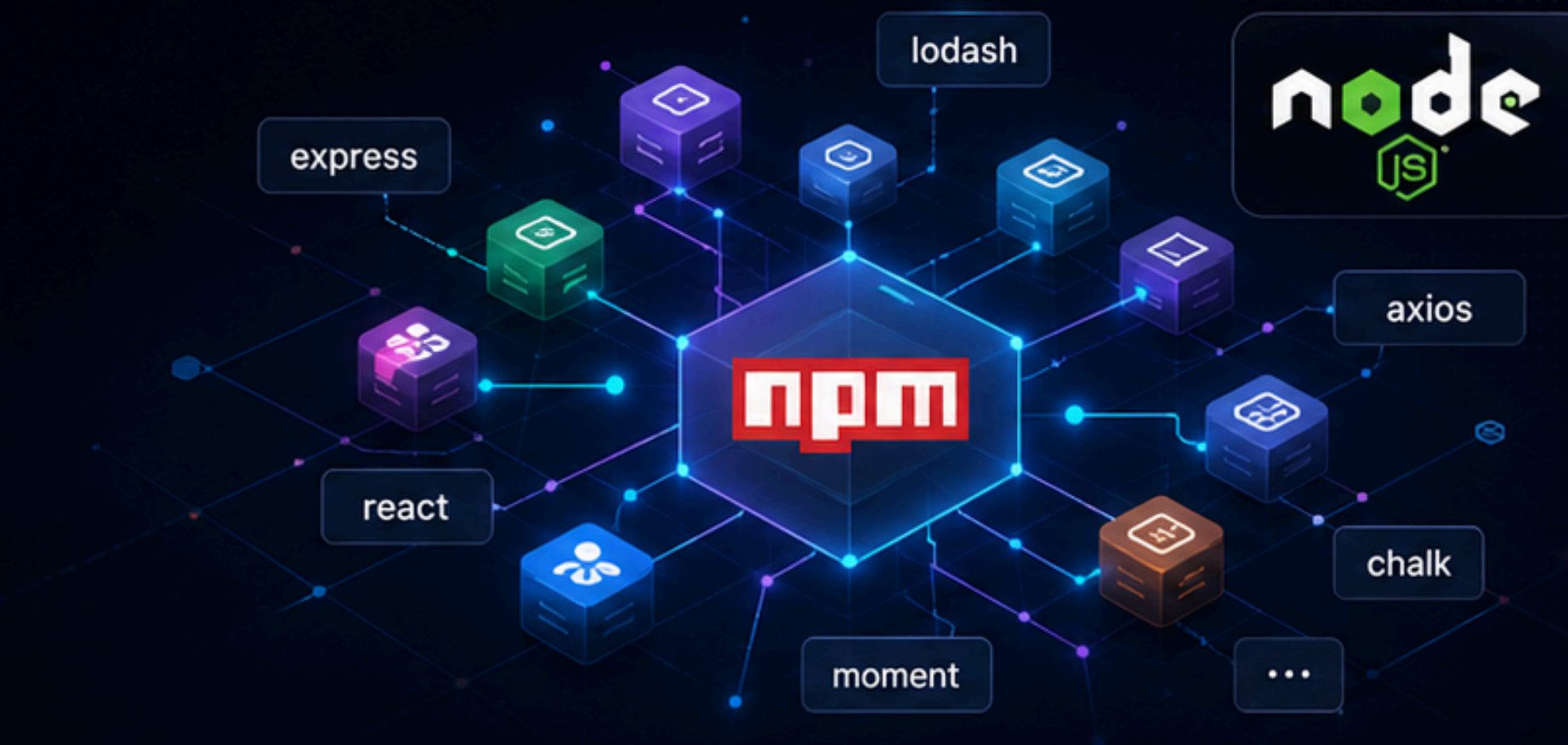
```
$ npm install express
added 50 packages, and audited 51 packages in 3s

7 packages are looking for funding
  run `npm fund` for details

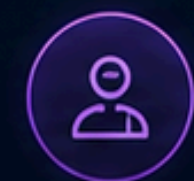
found 0 vulnerabilities
$ |
```

package.json

```
1 {
2   "name": "my-project",
3   "version": "1.0.0",
4   "dependencies": {
5     "axios": "^1.6.7",
6     "express": "^4.18.2"
7   }
8 }
```



THE NPM ECOSYSTEM



Developers



Packages



Registry



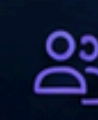
Downloads



Enterprises

 **2M+**
Packages

 **20B+**
Downloads / Week

 **16M+**
Developers



TIP

Use **package.json** to manage project dependencies.
Always commit it to version control!



Overview



NPM



Packages



Dependencies



Publish



Git



Settings

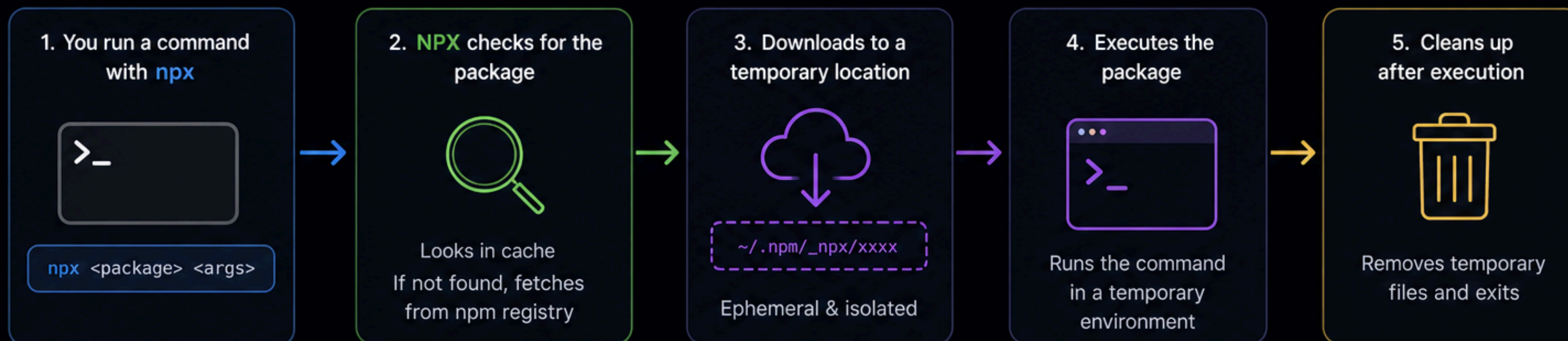


What is **NPX**?

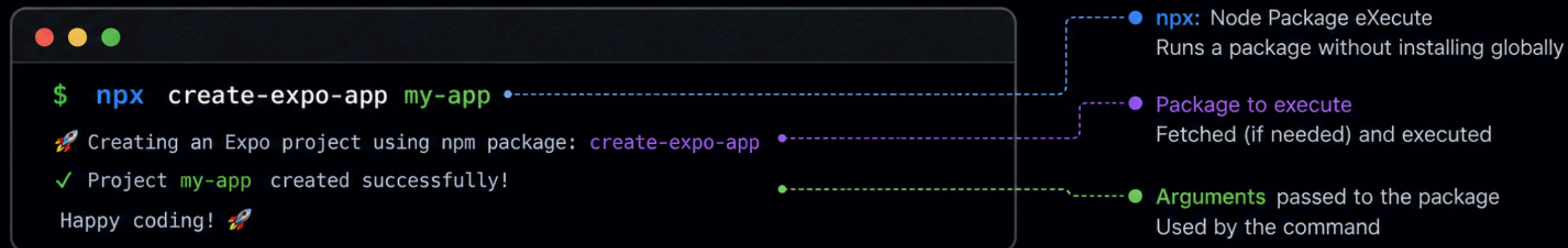
Execute packages **without** global installation.



PACKAGE EXECUTION WORKFLOW



EXAMPLE



NPX is included with **npm** (v5.2+) and **Node.js** (v8.2+)

Use **npx** to try tools, scaffold projects, and run one-off commands—without cluttering your system.



Installing Visual Studio Code

Powerful. Lightweight. Open Source.

1



Download VS Code

Download the latest installer for your operating system.

2



Install

Run the installer and follow the setup instructions.

3



Launch Editor

Open VS Code from your start menu or applications.

4



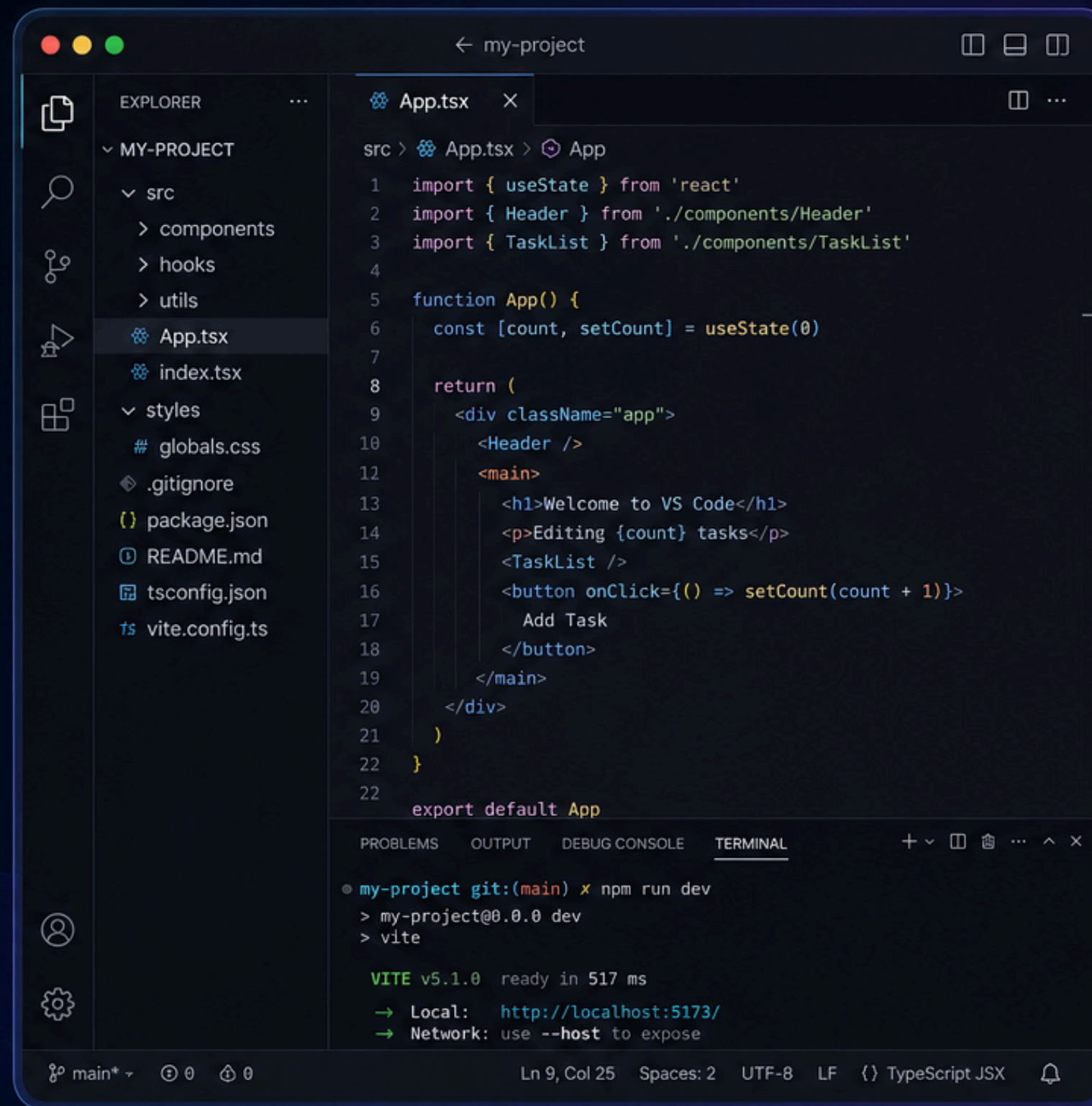
Configure Extensions

Enhance your workflow by installing recommended extensions.



You're ready to code!

Visual Studio Code is now installed and ready to supercharge your development experience.



Fast



Intelligent



Extensible



Open Source

Essential VS Code Extensions

Handpicked extensions to supercharge your development workflow.



ESLint

Microsoft

Integrates ESLint JavaScript into VS Code.

★ 4.5 21.6M

Linting



Prettier

Prettier

Code formatter with opinionated defaults.

★ 4.5 44.4M

Formatting



Error Lens

Alexander

Highlights errors and warnings directly in your code.

★ 4.5 3.7M

Diagnostics



GitLens

GitKraken

Supercharge Git within VS Code. Visualize code authorship.

★ 4.5 24.1M

Git



Tailwind CSS IntelliSense

Tailwind Labs

Intelligent Tailwind CSS tooling for VS Code.

★ 4.5 6M

CSS



React Native Tools

Microsoft

Debug and develop React Native applications.

★ 4.5 4.1M

React Native



Thunder Client

Ranga Vadhineni

Lightweight REST API Client for VS Code.

★ 4.7 2.3M

API



main

0

0

0

Go Live



Installing Git



Download Git from
git-scm.com

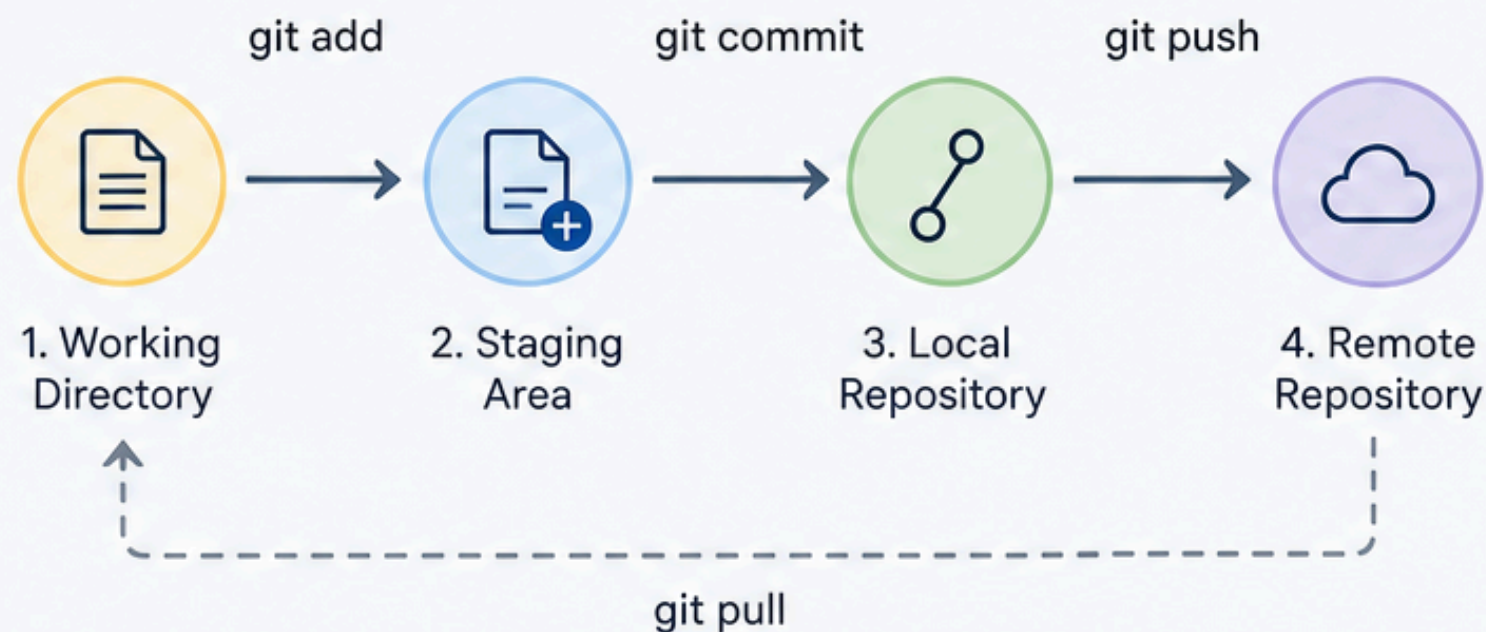
STEPS

- 1  Download
- 2  Install
- 3  Configure
- 4  Verify



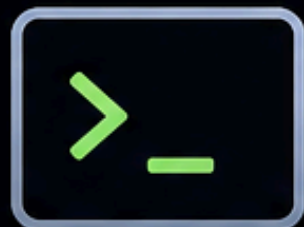
Git is a distributed version control system that helps you track changes in your code and collaborate with others.

GIT WORKFLOW



VERSION CONTROL





Verify Git Installation



Command:

```
$ git --version
```



Expected Output:



Terminal

```
$ git --version  
git version 2.x.x  
$ █
```



If you see the version number, **Git** is installed correctly on your system! 🎉

Git Configuration



>_ bash

```
$ git config --global user.name "Your Name"
```

```
$ git config --global user.email "you@example.com"
```

Set your Git identity

Your name and email will be attached to your commits.





Terminal Basics

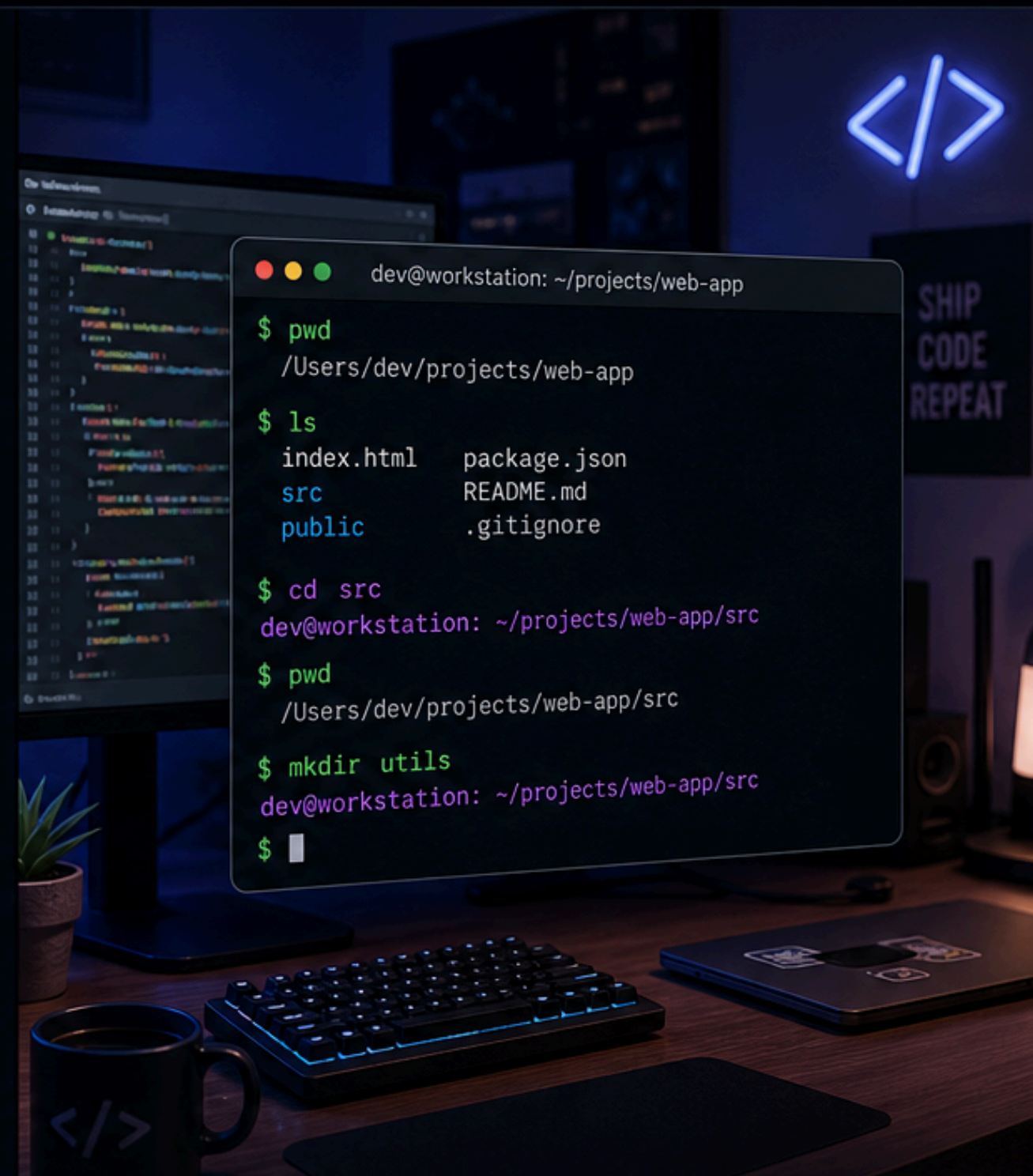
ESSENTIAL COMMANDS EVERY DEVELOPER USES

COMMAND	PURPOSE	EXAMPLE	OUTPUT
 pwd	Print the current working directory.	<code>\$ pwd</code>	<code>/Users/dev/projects/web-app</code>
 ls	List files and directories in the current directory.	<code>\$ ls</code>	<code>index.html package.json</code> <code>src README.md</code> <code>public .gitignore</code>
 cd	Change the current directory.	<code>\$ cd src</code>	<code>/Users/dev/projects/web-app/src</code>
 mkdir	Create a new directory.	<code>\$ mkdir utils</code>	(no output)



Remember

Most commands can use options. Try `<command> --help` to learn more.



★ PRO TIPS

- Use `Tab` to autocomplete commands and filenames.
- Use `↑` / `↓` to navigate command history.
- Use `clear` to clear your terminal screen.
- Combine commands with `&&` to run multiple commands.

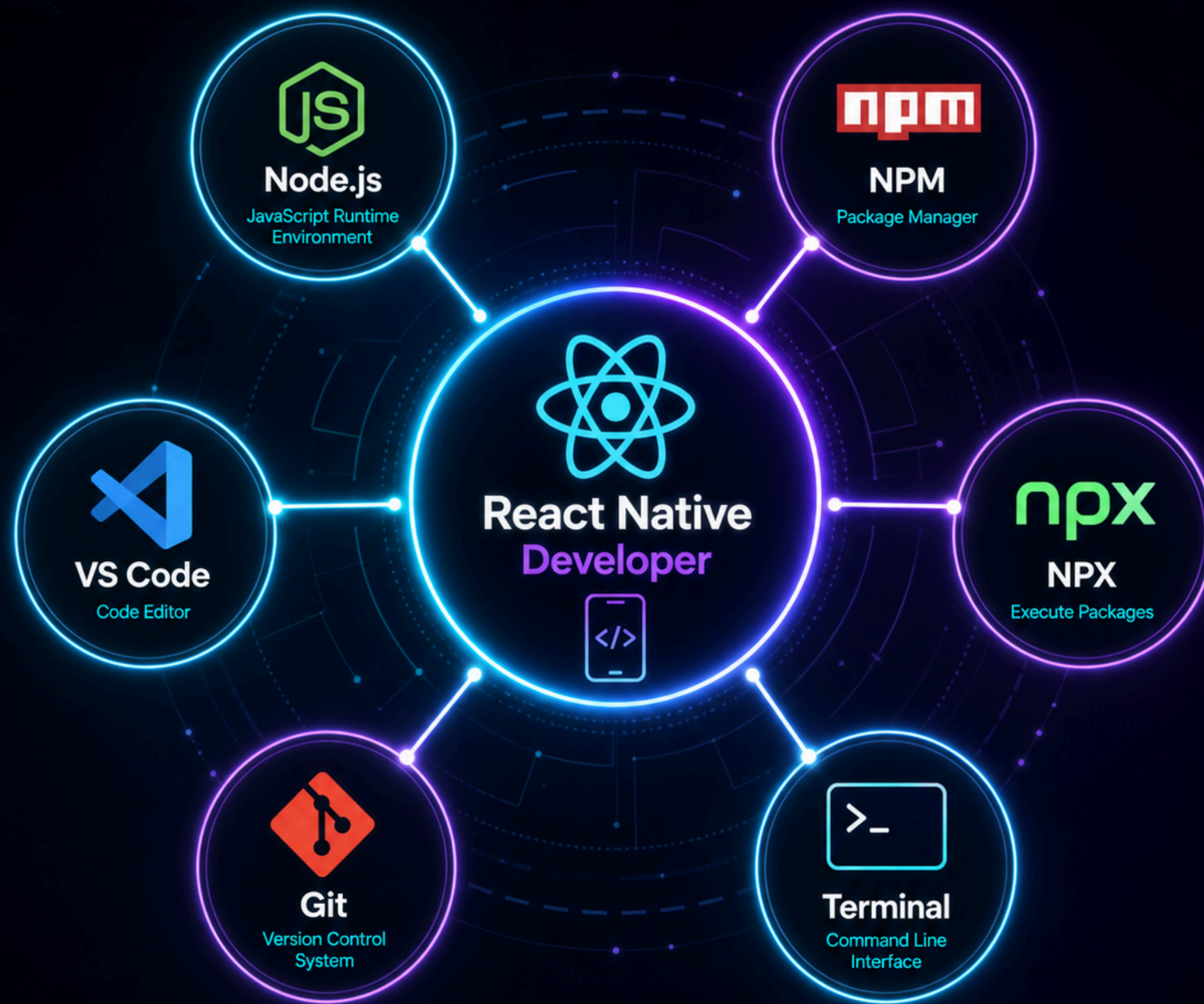


Practice these commands daily—they're the **foundation** of your developer toolkit.



Keep Learning. Keep Building.

Dewelopment Tools Stack





TROUBLESHOOTING

Common Installation Errors

These errors occur when the required tools are not installed or not added to your system PATH.



node is not recognized

```
Windows PowerShell
PS C:\Users\user> node -v
node : The term 'node' is not
recognized as the name of a cmdlet,
function, script file, or operable
program. Check the spelling of the
name, or if a path was included,
verify that the path is correct and
try again.
At line:1 char:1
+ node -v
+ ~~~~
+ CategoryInfo          : ObjectNotFound:
(node:String) [], CommandNotFound
Exception
+ FullyQualifiedErrorId :
CommandNotFoundException
```



Make sure Node.js is installed and added to your system PATH.



npm is not recognized

```
Windows PowerShell
PS C:\Users\user> npm -v
npm : The term 'npm' is not recognized
as the name of a cmdlet, function,
script file, or operable program.
Check the spelling of the name, or
if a path was included, verify that
the path is correct and try again.
At line:1 char:1
+ npm -v
+ ~~~
+ CategoryInfo          : ObjectNotFound:
(npm:String) [], CommandNotFound
Exception
+ FullyQualifiedErrorId :
CommandNotFoundException
```



npm comes with Node.js. Reinstall Node.js if needed.



git is not recognized

```
Windows PowerShell
PS C:\Users\user> git --version
git : The term 'git' is not recognized
as the name of a cmdlet, function,
script file, or operable program.
Check the spelling of the name, or
if a path was included, verify that
the path is correct and try again.
At line:1 char:1
+ git --version
+ ~~~
+ CategoryInfo          : ObjectNotFound:
(git:String) [], CommandNotFound
Exception
+ FullyQualifiedErrorId :
CommandNotFoundException
```



Install Git and add it to your system PATH.



QUICK TIP

After installation, restart your terminal or VS Code to apply PATH changes.



Overview



Setup



Installation



Configuration



Troubleshooting



Next Steps

Module Progress

75%

How to Fix Installation Problems

Follow this step-by-step process to identify and resolve installation issues quickly.

SOLUTIONS

- 

1

Restart Computer
Restart your system to apply changes and clear temporary issues.

✓
- 

2

Check PATH Variables
Ensure required paths are added to your system environment variables.

✓
- 

3

Reinstall Software
Reinstall the software to replace any corrupted or missing files.

✓
- 

4

Verify Commands
Check your commands and syntax for any errors or typos.

✓

⚠️ **Still having issues?**
Check logs, documentation, or seek help from the community.



Pro Tip
Always read the error messages carefully — they provide clues to solve the problem faster.

📄 TROUBLESHOOTING FLOWCHART



```
.bashrc
1 # Add Node.js to PATH
2 export PATH="$HOME/.npm/bin:$PATH"
3 export PATH="$HOME/.node/bin:$PATH"
4 export PATH="$HOME/.local/bin:$PATH"
5 export PATH="$PATH:/usr/local/bin"
```

```
Terminal
$ node -v
v18.17.0 ✓
$ npm -v
9.6.7 ✓
$ echo $PATH
/usr/local/bin:/usr/bin:/bin:... ✓
```



Read Docs



Check Logs



Community



Ask for Help

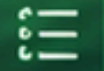


Module Summary

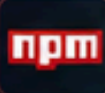
Great job! You've successfully **completed** all topics in this module.



Module Completed
Keep up the great work!



Completed Topics

- ✓ Node.js Introduction 
- ✓ Node.js Installation 
- ✓ NPM & NPX 
- ✓ VS Code Setup 
- ✓ Git Setup 
- ✓ Terminal Basics 
- ✓ Verification 
- ✓ Error Fixing 

100%
COMPLETE

Outstanding!

You have completed all the topics
in this module successfully.



8/8

Topics
Completed



100%

Progress
Achieved



Excellent

Performance



Module

Completed



Every expert was once a beginner.
Keep building. Keep learning. Keep growing! ❤️

```
server.js JS
1  const http = require('http');
2  const server = http.createServer((req, res) => {
3    res.writeHead(200, { 'Content-Type': 'text/plain' });
4    res.end('Node.js is running! \n');
5  });
6
7  const PORT = process.env.PORT || 3000;
8  server.listen(PORT, () => {
9    console.log(`Server running on port ${PORT}`);
10 });
```

```
bash
$ node server.js
Server running on port 3000
!
```



You're on the right path!

Next up: Build something amazing! 🚀



Resources

Documentation | Practice | Projects



Level Unlocked

You are now ready for **Advanced Topics!**