
**VITE + REACT COMPLETE STARTUP GUIDE **

1. What You Need Before Starting

Node.js

Needed to run React.

Check version:

```
node -v
```

Install from: <https://nodejs.org> (choose LTS)

✓ VS Code

Code editor used to write React apps.

Install from: <https://code.visualstudio.com>

✓ Basic Internet

To download packages and update dependencies.

2. Understanding NPM (VERY IMPORTANT)

What is NPM?

NPM = **Node Package Manager** It installs libraries/packages for your project.

When you create a project, you will get:

node_modules/	→ all installed packages
package.json	→ project details & dependencies
package-lock.json	→ manages versions

What are packages?

Packages = pre-built code by developers (React, Router, Animations etc.)

Example commands:

Install package:

```
npm install axios
```

Remove package:

```
npm uninstall axios
```

Run project:

```
npm run dev
```

Build project:

```
npm run build
```

3. Create Vite React App

✓ Method 1 — WITHOUT project name

✓ Method 2 — WITH project name

METHOD 1 — Create Vite App *Without* Project Name (Interactive Mode)

This method will **ask you step-by-step questions**.

Run:

```
npm create vite@latest
```

Step 1: Enter project name

```
✓ Project name: > myapp
```

Step 2: Select framework

```
✓ Select a framework: > React
```

Step 3: Select variant

```
✓ Select a variant: > JavaScript
```

Then move into the folder:

```
cd myapp
```

Install dependencies:

```
npm install
```

Run development server:

```
npm run dev
```

Your app runs at:

```
http://localhost:5173
```

METHOD 2 — Create Vite App *With Project Name (Direct Mode)*

This method creates the project directly without asking project name.

Run:

```
npm create vite@latest myapp
```

Select:

```
React  
JavaScript
```

Move into folder:

```
cd myapp
```

Install dependencies:

```
npm install
```

Run server:

```
npm run dev
```

Your app runs at:

```
http://localhost:5173
```

4. Vite React Folder Structure Explained

```
myapp/
├── index.html          → main HTML file
├── package.json         → lists dependencies
└── vite.config.js       → Vite config

└── src/
    ├── main.jsx          → React entry point
    ├── App.jsx            → main app component
    └── assets/
        └── styles.css      → main css file
```

5. Creating Components in React

Create file:

```
src/components/Header.jsx
```

```
function Header() {
  return <h1>Hello React</h1>;
```

```
}

export default Header;
```

Use in App.jsx:

```
import Header from "./components/Header";

function App() {
  return <Header />;
}
```

6. Common React Packages You Should Know

1. react-router-dom (Routing / Navigation)

Used to navigate between pages.

Install:

```
npm install react-router-dom
```

Basic setup:

```
import { BrowserRouter, Routes, Route } from "react-router-dom";

<BrowserRouter>
  <Routes>
    <Route path="/" element={<Home />} />
    <Route path="/about" element={<About />} />
  </Routes>
</BrowserRouter>
```

2. react-toastify (Notifications)

Used to show success/error messages.

Install:

```
npm install react-toastify
```

Usage:

```
import { ToastContainer, toast } from "react-toastify";
import 'react-toastify/dist/ReactToastify.css';

toast("Hello World!");

<ToastContainer />
```

3. **axios** (API Requests)

Alternative to fetch.

Install:

```
npm install axios
```

Usage:

```
import axios from "axios";

const res = await axios.get("https://api.example.com");
```

4. **UUID** (Generate Unique IDs)

Good for tasks, items, etc.

Install:

```
npm install uuid
```

Usage:

```
import { v4 as uuidv4 } from 'uuid';
```

```
uuidv4(); // generates unique id
```

5. Framer Motion (Simple animations)

Install:

```
npm install framer-motion
```

Usage:

```
import { motion } from "framer-motion";

<motion.div initial={{opacity:0}} animate={{opacity:1}}>
  Fade In
</motion.div>
```

7. Environment Variables in Vite

Create `.env` file:

```
VITE_API_KEY=123456
```

Use inside React:

```
const key = import.meta.env.VITE_API_KEY;
```

Environment variables **must start with**:

```
VITE_
```

8. Building Your App for Deployment

Build command:

```
npm run build
```

A folder called **dist** is created.

You will upload **dist** to hosting.

9. Hosting Options

✓ Netlify (Simple & Beginner Friendly)

Upload → **dist** folder OR deploy via GitHub.

✓ Vercel

Import repo → deploy automatically.

✓ Firebase Hosting

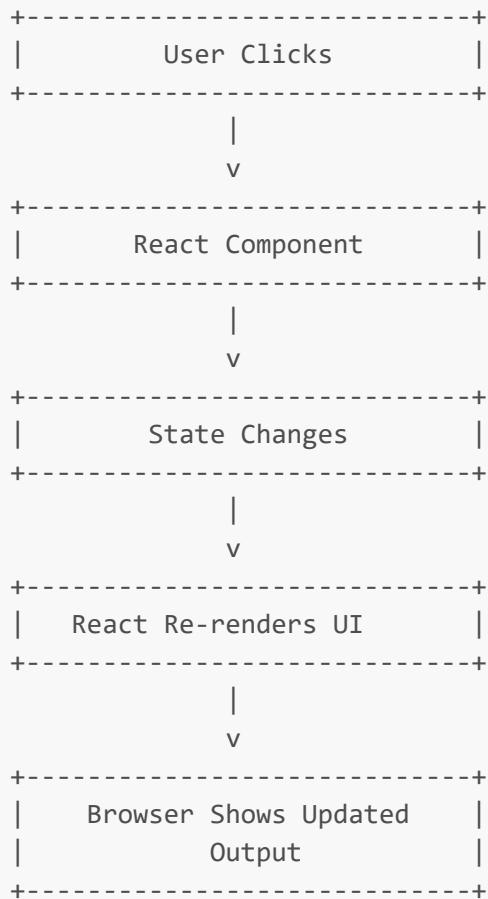
Commands:

```
firebase init  
firebase deploy
```

✓ GitHub Pages

Good for portfolio projects.

10. Markdown Diagram of React Flow (Simple & Clean)



11. FULL STARTUP CHECKLIST

- ✓ Install Node

- ✓ Install VS Code
 - ✓ Create Vite project
 - ✓ Run with `npm run dev`
 - ✓ Add components
 - ✓ Install common packages (router, toastify, axios)
 - ✓ Use state & effects
 - ✓ Create API calls
 - ✓ Build project (`npm run build`)
 - ✓ Host dist folder (Netlify/Vercel/Firebase)
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