Black & White Series
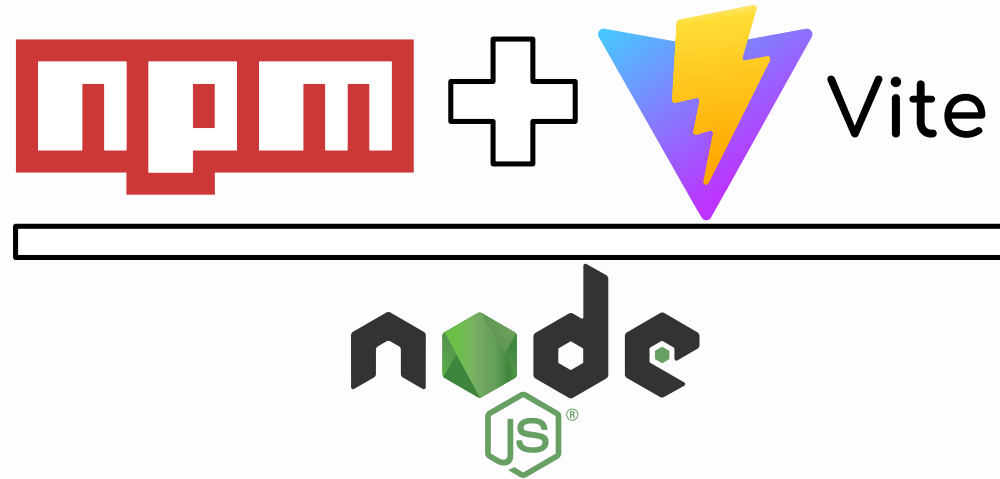
React Development Environment

Thinking in React

React Program in an Environment

Available at: frameworks/react/3-js-file

Development Environment

- **Registry**: download, update, and manage local libraries and coding tools:
  - libraries: React, Bootstrap, Chart, etc.
  - coding tools: transpiler, linter, resolver, etc.
- **Run** coding tools:
  - online for testing;
  - batch for deployment.
- **Bundler**: connect, pack, and deploy the package or application.

Development Environment

- Registry
- Run coding tools
- Bundler

`package.json` and Environment

- `package.json` - records libraries/development dependencies and development task scripts;
- `package-lock.json` - a picture of the current setup;

Library Dependencies

package.json

```
"dependencies": {
  "react": "^18.3.1",
  "react-dom": "^18.3.1"
},
```

Development Dependencies

`package.json`

```json
"devDependencies": {
  "@eslint/js": "^9.8.0",

  ...
  "@vitejs/plugin-react": "^4.3.1",
  "eslint": "^9.8.0",

  ...
  "globals": "^15.9.0",
  "vite": "^5.4.0"
}
```

Scripts

package.json

```json
"scripts": {
  "dev": "vite",
  "build": "vite build",
  "lint": "eslint .",
  "preview": "vite preview"
},
```
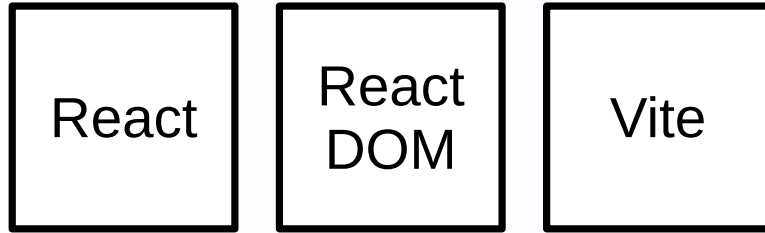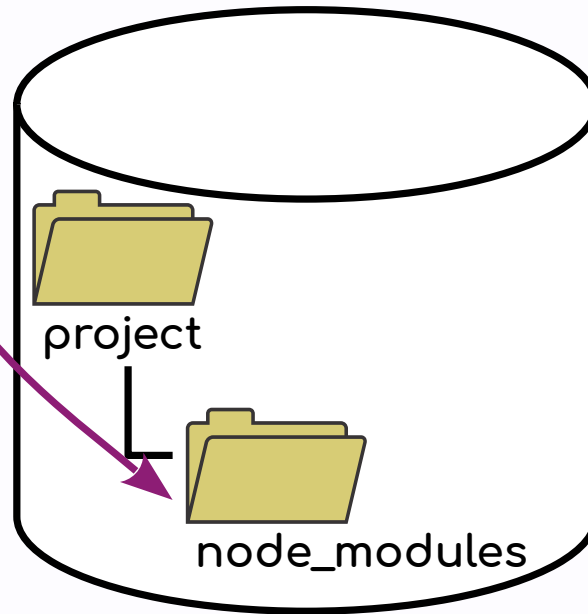
vite.config.js

Specific Vite configurations

```javascript
import { defineConfig } from 'vite'
import react from '@vitejs/plugin-react'

// https://vitejs.dev/config/
export default defineConfig({
  plugins: [react()],
})
```

npm Registry

React | React DOM | Vite

npm

npm install

project
└── node_modules

npm run build

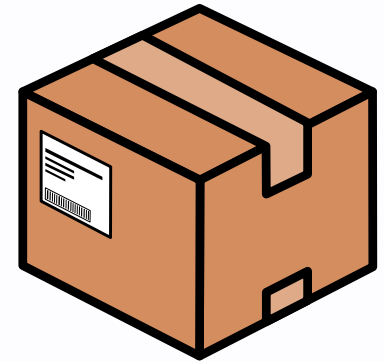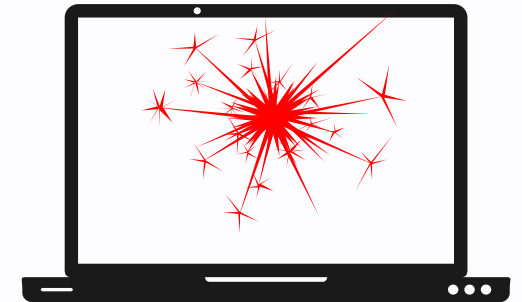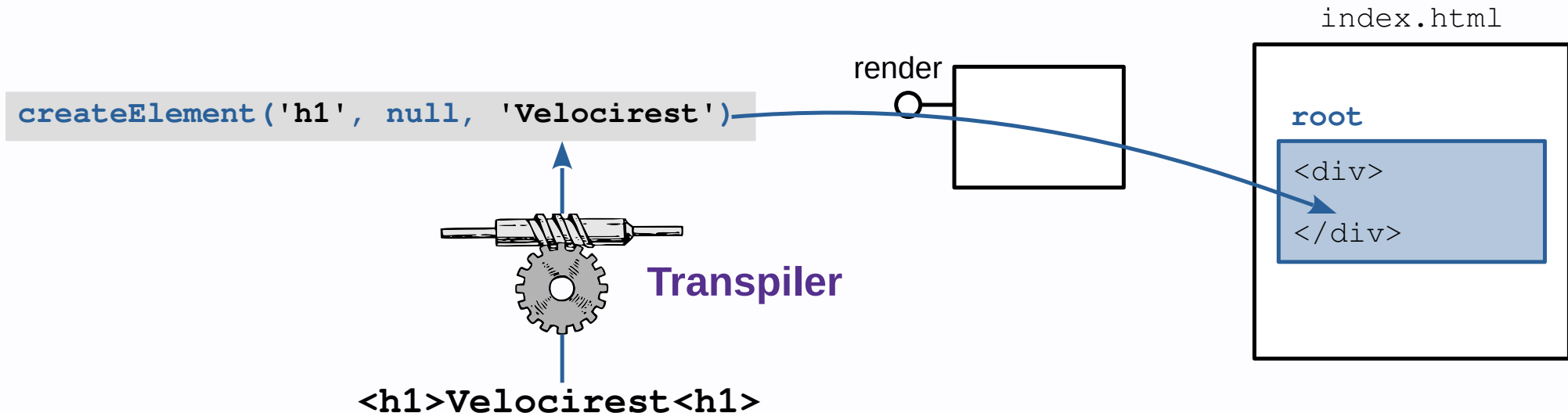npm run dev

JSX and Babel Transpiler

```
<script src="https://unpkg.com/@babel/standalone/babel.min.js"></script>

<script  type="text/babel">
  ...
</script>
```
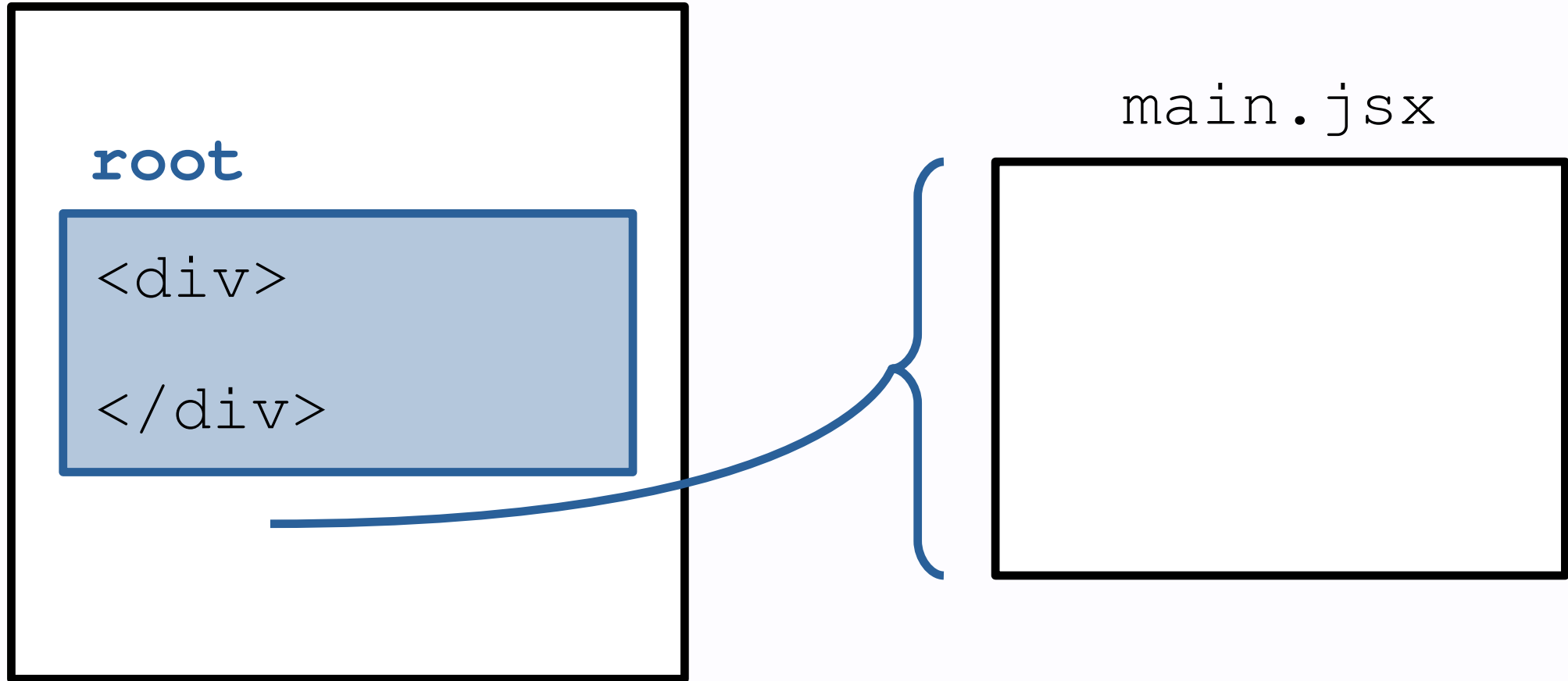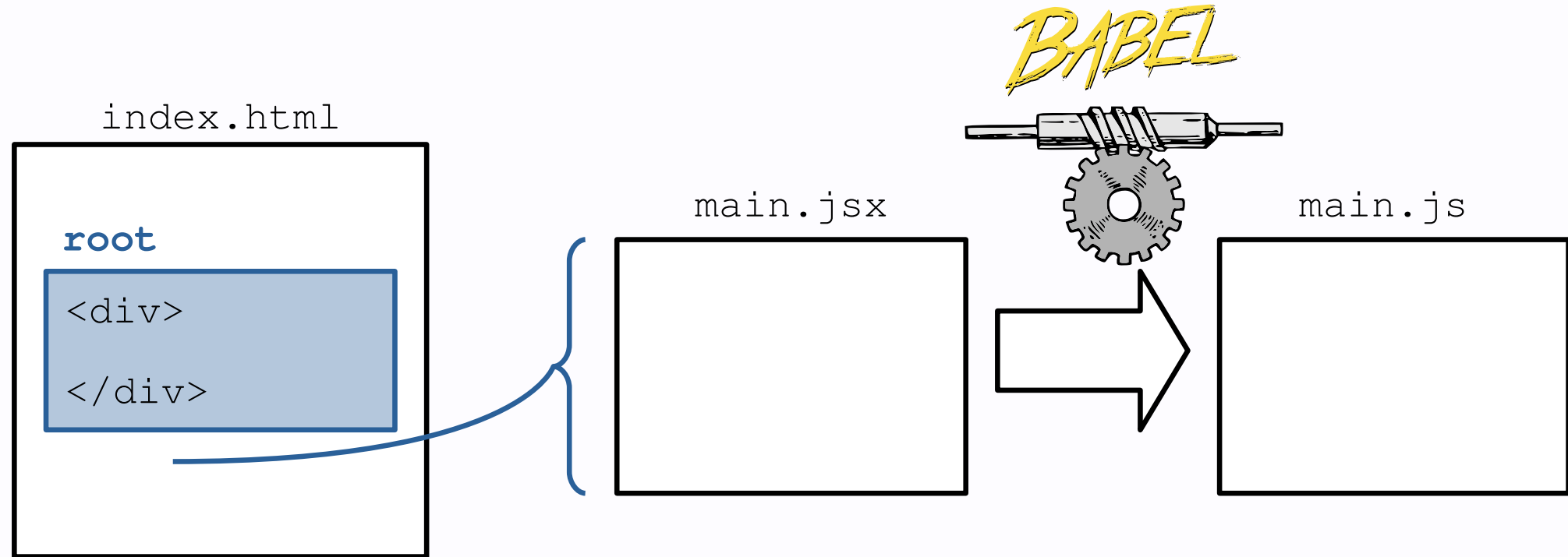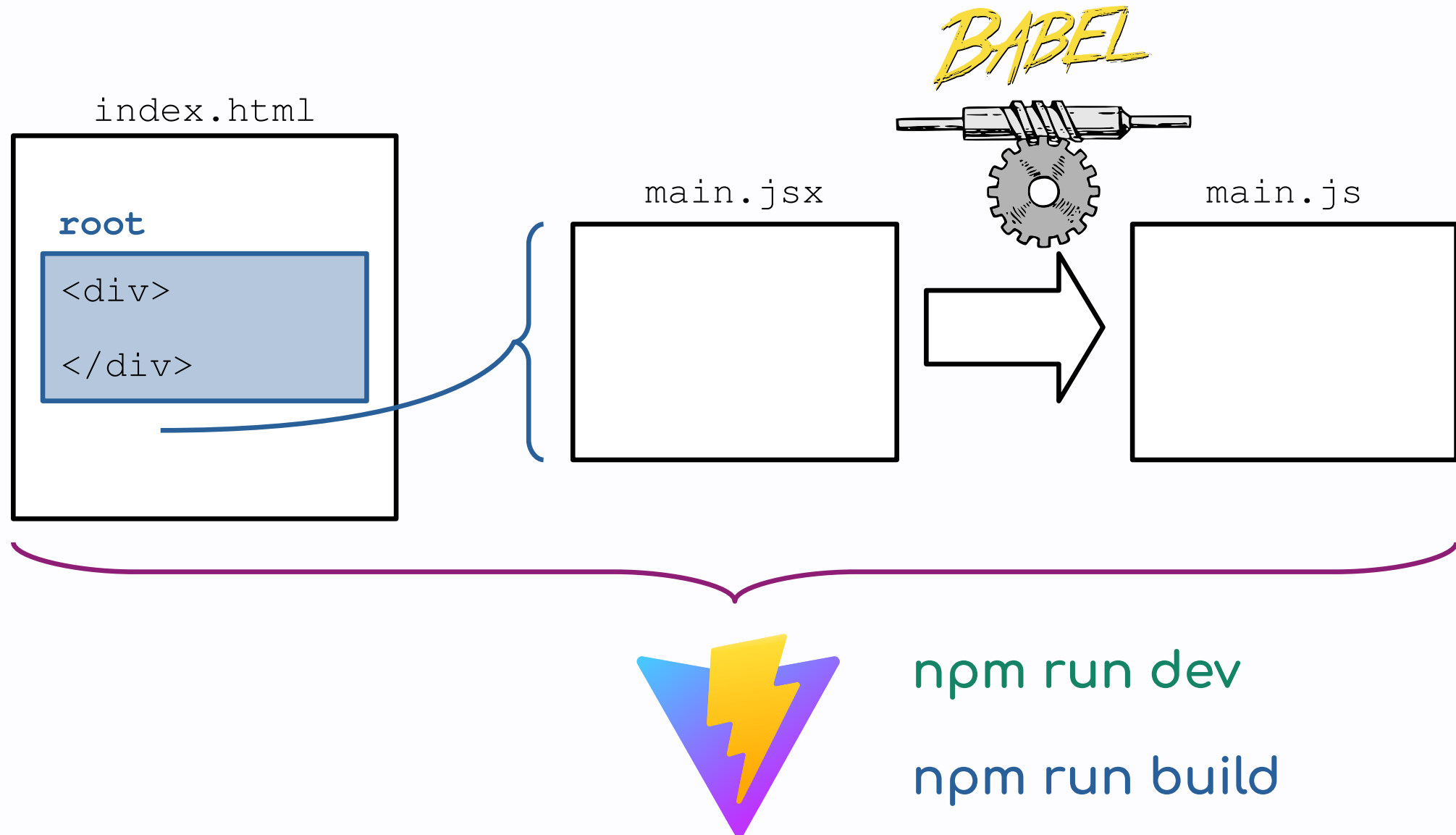

`createElement('h1', null, 'Velocirest')`

render

index.html

root

```
<div>

</div>
```

Transpiler

`<h1>Velocirest<h1>`

Independent JS File

index.html

root

<div>

</div>

main.jsx

Babel via Dev/Building

Babel via Dev/Building

index.html

root

```
<div>

</div>
```

main.jsx

BABEL

main.js

npm run dev

npm run build

References

- Writing Markup with JSX

André Santanchè

www.ic.unicamp.br/~santanch/

Web2Learn

santanche.github.io/web2learn/