

# Full-stack dev setup of Spring Boot and React

---

## 1. Setup Your Environment:

- Make sure you have Node.js, Java (at least version 8), and an IDE (such as IntelliJ IDEA for Spring Boot and Visual Studio Code for React) installed on your system.

## 2. Create a Spring Boot Project:

- Go to Spring Initializer and create a new Spring Boot project. Add the “Web” dependency to your project.
- Set the groupId and artifactId according to your preference.
- Generate the project and unzip it into your project directory.

## 3. Create a React Frontend :

- In your project directory, create a new folder for your React frontend.
- Open a terminal and navigate to the frontend folder.
- Run the following command to create a new React app:

```
npx create-react-app my-app
```

- Replace my-app with your desired app name.
- Navigate into the newly created app folder:

```
cd my-app
```

## 4. Configure Proxy for Development

- In your React app’s package.json, add the following line to set up a proxy to your Spring Boot backend (assuming it runs on port 8080):

```
"proxy": "http://localhost:8080"
```

- This allows your React app to communicate with the backend during development.

## 5. Build Your React App:

- In the same terminal, run:

```
npm start
```

#### 6. Create Backend APIs with Spring Boot:

- Create your Spring Boot controllers, services, and repositories to define your backend APIs.
- Use annotations like `@RestController` and `@RequestMapping` to map endpoints
- Implement your business logic and connect to your data source (e.g., a database).

#### 7. Integrate React with Spring Boot:

- In your React app, make API requests to your Spring Boot backend using libraries like `Axios` or `Fetch`.
- For example, if you have an endpoint `/api/posts` in your Spring Boot app, you can fetch data from it in your React components.

#### 8. Build and Package Your Application:

- When you're ready to deploy, build your React app:

```
npm run build
```

- This generates optimized production-ready files in the build folder.
- Now, package your Spring Boot app and include the React build output:
  - You can use tools like `Maven` or `Gradle` to create a single JAR file containing both the backend and frontend.
  - Refer to resources like [this guide](#) for packaging them together