

How to create a React frontend for your Spring Boot Java backend using Visual Studio Code on Windows:

1. Project Setup:

- **Install Node.js and npm:**
 - Download and install Node.js from <https://nodejs.org/>. This will also include npm, the Node Package Manager.
- **Create a new React project:**
 - Open a command prompt or terminal window.
 - Navigate to the desired directory where you want to create your project.
 - Run the following command:
Bash
`npx create-react-app my-react-app`
Replace my-react-app with your desired project name.

2. Open the Project in Visual Studio Code:

- **File > Open Folder:**
 - Navigate to the directory where you created your React project and select the folder.

3. Install Dependencies:

- **Open the Terminal:**
 - Go to **View > Terminal**.
- **Install necessary libraries:**
 - In the Terminal, run the following command:
Bash
`npm install axios`
axios is a popular HTTP client library for making requests to your backend.

4. Set up Backend Communication:

- **Create a service file:** Create a new file named BackendService.js in a suitable directory (e.g., src/services).
- **Define API endpoints:** Inside the service file, define functions that will make HTTP requests to your backend API endpoints. For example:
JavaScript

```
import axios from 'axios';

const baseURL = 'http://localhost:8080'; // Replace with your
backend URL

const getProducts = () => {
  return axios.get(`${baseURL}/products`);
};
```

```
export default {
  getProducts,
};
```

Replace `http://localhost:8080` with the actual URL of your backend.

5. Integrate with Components:

- **Import the service:** In your React components, import the service file:

JavaScript

```
import BackendService from './services/BackendService';
```

- **Make API calls:** Use the service functions to make API calls and handle the responses:

JavaScript

```
import React, { useState, useEffect } from 'react';
import BackendService from './services/BackendService';
```

```
function ProductsList() {
  const [products, setProducts] = useState([]);

  useEffect(() => {
    const fetchProducts = async () => {
      const response = await BackendService.getProducts();
      setProducts(response.data);
    };
    fetchProducts();
  }, []);

  return (
    <div>
      <h1>Products</h1>
      <ul>
        {products.map((product) => (
          <li key={product.id}>{product.name}</li>
        ))}
      </ul>
    </div>
  );
}
```

```
export default ProductsList;
```

This example fetches a list of products from the backend and displays

them in a list.

****6. Run the Frontend:****

- ****Open the Terminal:****
- Go to ****View > Terminal****.
- ****Start the development server:****
- In the Terminal, run the following command:
``bash
npm start
``
Your React app will be running at `http://localhost:3000`.

****Additional Tips:****

- Consider using a state management library like Redux or Context API for more complex applications.
- Implement error handling and loading indicators to provide a better user experience.
- Use a linter to ensure code quality and consistency.
- Explore tools like Storybook for component development and testing.

By following these steps and leveraging the power of Visual Studio Code and React, you can effectively create a robust and user-friendly frontend for your Spring Boot Java backend on Windows.

Sources

1. https://mithin.hashnode.dev/creating-a-nlp-app?source=tags_feed_article
2. <https://www.bairesdev.com/blog/server-side-rendering-react/>