Lesson End Project
Create a React Application with Redux Store

Objective: To develop a React application that that demonstrates Redux Store

Tools required: Node Terminal, React app, and Visual Studio Code

Prerequisites: Knowledge of creating a React app and understanding of the folder structure

Steps to be followed:

1. Create a new **React** app
2. Install **Redux** and **React Redux**
3. Create a new file called **index.js**
4. Import **Provider** from **react-redux** in **App.js**
5. Run the app and view it in the browser

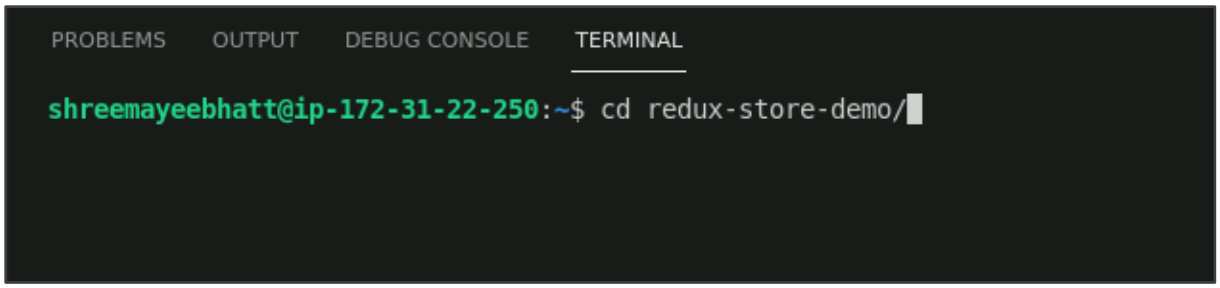
Step 1: Create a new React app

1.1 Open your terminal and run the **npx create-react-app redux-store-demo** command

```
shreemayeebhatt@ip-172-31-22-250:~$ "npx create-react-app redux-store-demo
```

this command will create a new **React** app with the name **redux-store-demo**

1.2 Move to the newly created directory by running the **cd redux-store-demo** command in the terminal



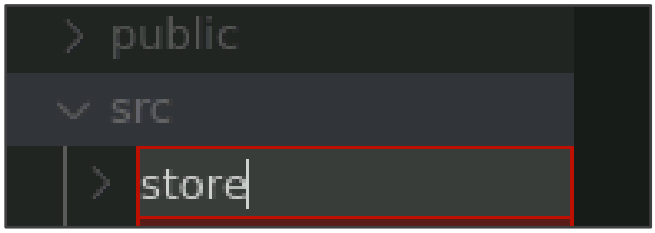
1.3 Open **VS Code** and navigate to the **redux-store-demo** project directory

Step 2: Install Redux and React Redux

2.1 In the terminal, make sure you are in the **redux-store-demo** directory

2.2 Run the command **npm install redux react-redux** to install the necessary dependencies

2.3 create a new folder named as **store** In the **src** folder



Step 3: Create a new file called index.js

3.1 create a new file named as **index.js**

3.2 Import the **createStore** function from **Redux**

3.3 Define the **initial state** for the **counter**

3.4 Create the **reducer** function that handles the **state** updates based on the **dispatched** actions

3.5 Use the **createStore** function to create the Redux store, passing the reducer function as an argument

3.6 Export **default** store

Then, create your **Redux store** in it. In this example, we will create a simple **counter** that can be incremented or decremented

```
import { createStore } from 'redux';
const initialState = {
count: 0
};

function reducer(state = initialState, action) {
switch (action.type) {
case 'INCREMENT':
return { count: state.count + 1 };
case 'DECREMENT':
return { count: state.count - 1 };
default:
return state;
}
}
const store = createStore(reducer);
export default store;
```

```
import { createStore } from 'redux';

const initialState = {
count: 0
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switch (action.type) {
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const store = createStore(reducer);

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```

Step 4: Import Provider from react-redux in App.js

4.1 Open the **App.js** file In the **src** folder

4.2 Import **React** and the necessary components from **React Redux: connect** and **Provider**

```
1   import React from 'react';
2   import { Provider } from 'react-redux';
3   import { connect } from 'react-redux';
```

4.3 Define the **App** component that receives the **count**, **increment**, and **decrement** props

```
const App = ({ count, increment, decrement }) => {
```

4.4 Render the **JSX markup** for the app's UI, displaying the count and buttons

4.5 Attach the **increment** and **decrement** functions to the respective button's **onClick** events

```
return (
  <div className="App">
    <h1>Redux Store Demo</h1>
    <p>Count: {count}</p>
    <button onClick={increment}>+</button>
    <button onClick={decrement}>-</button>
  </div>
);
```

4.6 Connect the **App** component to **Redux**

4.7 Wrap the connected component with the **Redux Provider**

4.8 Export the root component

```
//App.js
import React from 'react';
import { Provider } from 'react-redux';
import { connect } from 'react-redux';
import { createStore } from 'redux';

const initialState = {
count: 0
};

function reducer(state = initialState, action) {
switch (action.type) {
case 'INCREMENT':
return { count: state.count + 1 };
```

```
case 'DECREMENT':
return { count: state.count - 1 };

default:
return state;
}
}
const store = createStore(reducer);
const increment = () => {
return { type: 'INCREMENT' };
};
const decrement = () => {
return { type: 'DECREMENT' };
};

const App = ({ count, increment, decrement }) => {
return (
<div className="App">
<h1>Redux Store Demo</h1>
<p>Count: {count}</p>
<button onClick={increment}>+</button>
<button onClick={decrement}>-</button>
</div>

);
};

const mapStateToProps = (state) => {
return {
count: state.count,
};
};

const mapDispatchToProps = {
increment,
decrement
};
```

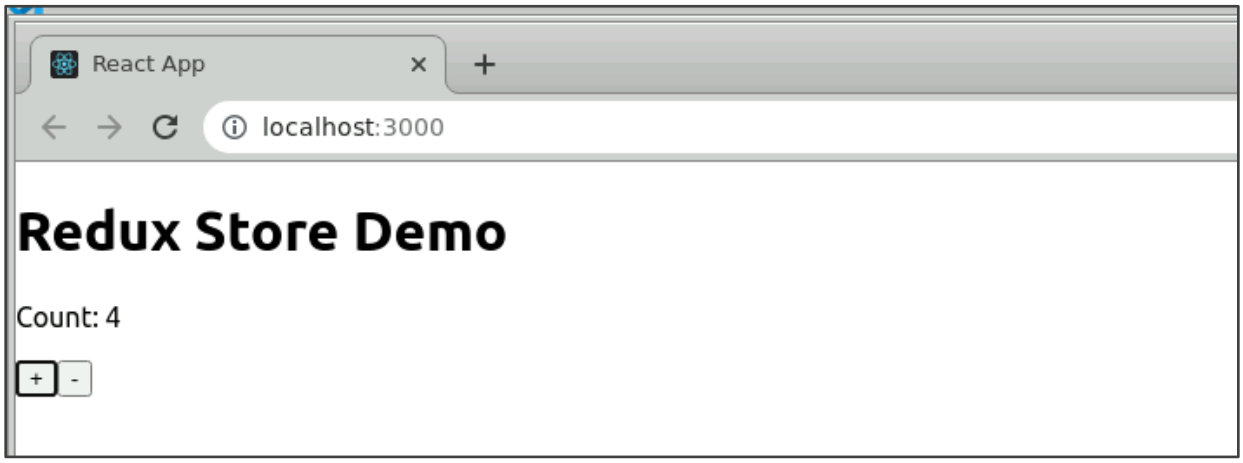
```
const ConnectedApp = connect(mapStateToProps, mapDispatchToProps)(App);
const RootApp = () => (

<Provider store={store}>
<ConnectedApp />
</Provider>
);

export default RootApp;
```

Step 5: Run the app and view it in the browser

5.1 In the terminal, navigate to the project directory

5.2 Run the **npm start** command to start the app

5.3 Open your browser and navigate to **http://localhost:3000**



The app should be running, and you should see a simple app with a counter that can be incremented or decremented by clicking the buttons

In conclusion, we successfully created a React application with a Redux store. We followed a step-by-step process that involved creating a new React app, installing Redux and React Redux dependencies, creating a store directory and an index.js file to define the initial state and reducer function, creating the App.js file to define the root component and connect it to Redux using the connect function, and finally wrapping the connected component with the Provider component to provide access to the Redux store.