CS 628: Full-Stack Development – Web App

City University of Seattle

School of Technology & Computing

Professor Sam Chung

## HOS06: React Router

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# PLEASE NOTE

Screenshots in this guide may differ from your environment (e.g., directory paths, version numbers, etc.). When choosing between a stable or most recent release, we advise you install the stable release rather than the best-testing version. Additionally, there may be subtle discrepancies along the steps, please use your best judgment to complete the tutorial. If you are unfamiliar with terminal, command line, and bash scripts, we recommend watching [this video](https://youtu.be/Dp7uw9c6QH8) prior to moving forward with this guide. Not all steps are fully explained. Lastly, we advise that you avoid copy-pasting code directly from the guide or GitHub repositories. Instead, type out the code yourself to improve familiarity.

More information on this guide can be found under the related module in [this repository](https://github.com/samchung0117/cs628-examples). Please save a screenshot of the app at the end of each section and save it in the current module folder with the relevant section number.

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# SECTION 1. ACCESSING GITHUB CODESPACES

GitHub Codespaces is an online cloud-based development environment that allows users to easily write, run and debug code. Codespaces is fully integrated with your GitHub repository and provides a seamless experience for developers. In order to access Codespaces, users only need a GitHub account and an active internet connection.

After downloading the current HOS assignment, in the top-right corner of the repo, click on the **<> Code** drop-down menu and select **Create codespace on main** as shown in the following image. The free and pro GitHub subscriptions include free use of GitHub Codespaces *up to a fixed amount of usage each month*. In order to avoid unexpected charges, please review the [billing information](https://docs.github.com/en/billing/managing-billing-for-github-codespaces/about-billing-for-github-codespaces).

**SECTION 2.** [**BROWSERROUTER**](https://reactrouter.com/en/main/router-components/browser-router#browserrouter)

React Router is a widely used library in the React ecosystem that facilitates efficient client-side routing for single-page applications (SPAs). React Router enables developers to create navigable user interfaces within a single HTML page, eliminating the need for full-page reloads. By defining routes and matching them to specific components, React Router dynamically renders the appropriate content based on Uniform Resource Locator (URL) changes, resulting in a seamless and fluid user experience. This library supports advanced features like nested routing, query parameter handling, and programmatic navigation, making it a powerful tool for managing client-side routing in React applications.

A **<BrowserRouter>** stores the current location in the browser's address bar using clean URLs and navigates using the browser's built-in history stack. The browser router is typically used as the top-level router component in the application and serves as the entry point for defining routes and mapping them to specific components.

1. Use the following terminal commands to start the project:

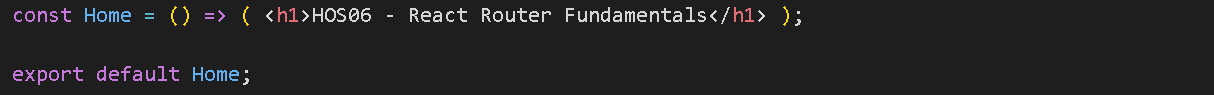
**>>>npx create-react-app ./myapp**

**>>>cd myapp**

**>>>npm install react-router-dom**

**>>>npm start**

1. Replace the code in **App.css** file with the [content found here](https://github.com/samchung0117/cs628-examples/blob/main/Module%2006/client-src-examples/section2/style.css).
2. Create a file named **home.js** and add the following code:



1. Create a file named **about.js** and add the following code:

A computer screen shot of text

Description automatically generated

1. Create a file named **details.js** and add the following code:

A computer screen with white text

Description automatically generated

1. Updated **App.js** to match the following:

A screen shot of a computer program

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1. Refresh the browser and test the changes by viewing the different routes.

A screenshot of a computer

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# SECTION 3. [MEMORYROUTER](https://reactrouter.com/en/main/router-components/memory-router#memoryrouter)

The **<MemoryRouter>** stores URL changes in memory instead of the user’s browser. This keeps a history of URLs internally, bypassing the address bar and disabling the back & forward buttons on the browser. This is most beneficial for testing and non-browser environments, such as React Native, where browser-specific navigation features are not needed. Additionally, the memory router allows developers to simulate URL changes and test routing behavior without affecting the actual browser history.

1. Update **App.js** to match the following:

A screen shot of a computer program

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1. Refresh the browser and test the changes by viewing the different routes.

A screenshot of a computer

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A screenshot of a computer

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