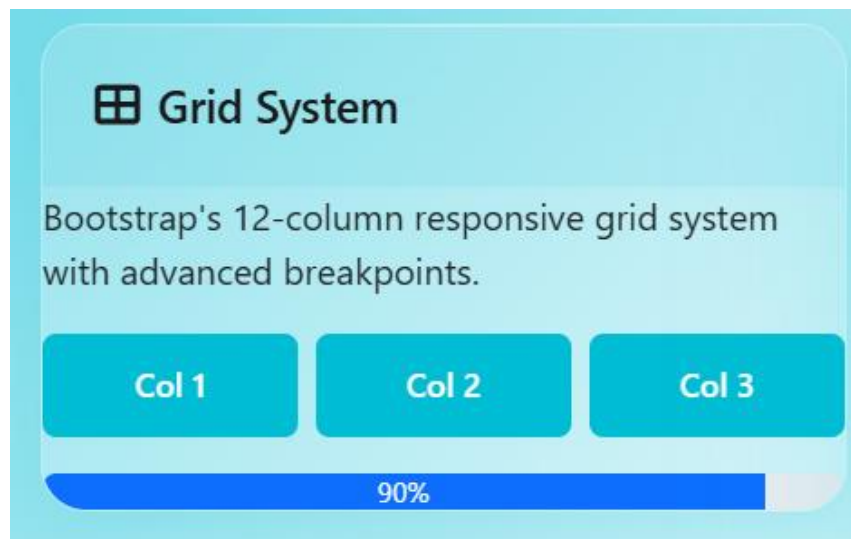


Bootstrap Framework

Bootstrap is a very popular **frontend framework** that acts as a toolkit for web developers. It provides a large collection of pre-built, ready-to-use components (like buttons, navigation bars, and modals), a powerful **responsive grid system** for creating layouts, and a wide array of **utility classes** for quick styling. The main advantage of using a framework like Bootstrap is that it significantly speeds up development and helps ensure consistency across a website.

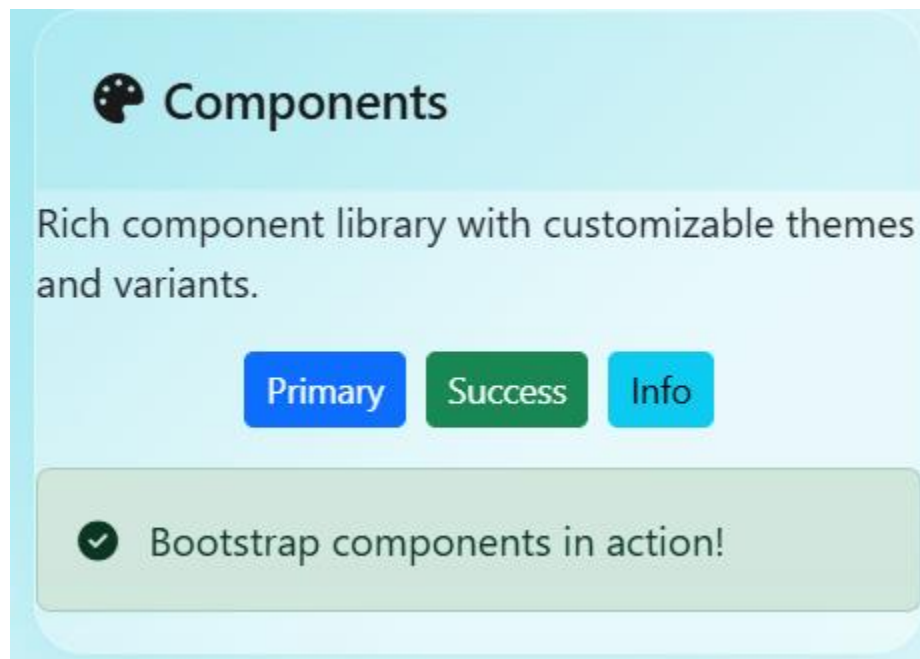
How the Demos Work: A Detailed Explanation

1. **Bootstrap Grid System:** The demo showcases Bootstrap's 12-column responsive grid.
 - **Implementation:** The structure is made in **index.html** with the usage of a div with a class row, which has a number of divs with classes such as col-lg-4. In this class, the browser is informed that on large screens (lg), this column must occupy 4 of the 12 units of the grid. This makes a three column layout since $12/4 = 3$. On smaller screens where this is not the rule, the columns automatically overlap to form a single column layout which suits perfectly with mobile devices.



2. **Bootstrap Components:** The demo displays several of Bootstrap's pre-styled components.
 - **Implementation:** These components are easy to create in index.html with only the addition of the appropriate Bootstrap classes to normal HTML elements. We can see how this is done by adding the classes btn and btn-primary to a <button>

element which immediately changes into a styled blue button. A more complicated component is the modal (a pop-up window). It is activated by a button with special data-bs- attributes informing the JavaScript of Bootstrap which modal to open. The full schema of the modal, with its header, body and footer is specified by the HTML, yet the functionality of displaying, concealing and animating it is automatically managed by the embedded JavaScript of Bootstrap.



3. **Bootstrap Utility Classes:** These are single-purpose classes that apply one specific CSS style.
 - **Implementation:** These classes are used by the portfolio all through the index.html file to give a fast and effective way of styling. To give an example, rather than a developer writing his/her own custom CSS to make a flexbox container, the developer can simply append the d-flex class. Other examples are p-3 to add padding, m-3 to add margin and text-center to center the text. They can achieve quick prototyping and fine-tuning of the design in the HTML itself.

Bootstrap Utilities & Advanced Features

Spacing Utilities

Padding

Margin

Custom

Color System

