

- **What are the advantages of Bootstrap?**

- Bootstrap is an open-source CSS framework designed to come up with mobile-friendly, responsive front-end web development.
- It consists of enormous versatile and reusable pieces of code written in HTML, JavaScript, and CSS. As a framework, fundamentals are already placed for responsive web development, and developers simply need to position the code in a premeditated grid system.

- ❖ **Advantages**

- ✓ Easy initiation
- ✓ Responsiveness
- ✓ Highly customizable
- ✓ Extremely user-centric
- ✓ Top-notch support
- ✓ Cross-browser compatibility
- ✓ JavaScript plugins to your rescue
- ✓ Far-reaching popularity
- ✓ Ample documentation
- ✓ Updates at the doorstep

- **What is a Bootstrap Container, and how does it work?**

- Containers are a fundamental building block of Bootstrap that contain, pad, and align your content within a given device or viewport.
- Containers are the most basic layout element in Bootstrap and are required when using our default grid system. Containers are used to contain, pad, and (sometimes) center the content within them. While containers can be nested, most layouts do not require a nested container.
- Containers are used for many purposes such as –
 - ✓ It requires use with the default grid system.
 - ✓ To establish width for the layout to give web content.
 - ✓ To provide responsive fixed behavior of any web project.
 - ✓ To sets the content margin dealing with the responsive behavior of your layout.

- **What are the default Bootstrap text settings?**

- Use a native font stack that selects the best font-family for each OS and device.
- For a more inclusive and accessible type scale, we use the browser's default root font-size (typically 16px) so visitors can customize their browser defaults as needed.
- Use the \$font-family-base, \$font-size-base, and \$line-height-base attributes as our typographic base applied to the <body>.
- Set the global link color via \$link-color.
- Use \$body-bg to set a background-color on the <body> (#fff by default).

- **What do you know about the Bootstrap Grid System?**

- Bootstrap's grid system allows up to 12 columns across the page.
- If you do not want to use all 12 column individually, you can group the columns together to create wider columns
- Bootstrap's grid system is responsive, and the columns will re-arrange depending on the screen size: On a big screen it might look better with the content organized in three columns, but on a small screen it would be better if the content items were stacked on top of each other.

- ❖ **Grid Classes**

- **xs** (for phones - screens less than 768px wide)
- **sm** (for tablets - screens equal to or greater than 768px wide)
- **md** (for small laptops - screens equal to or greater than 992px wide)
- **lg** (for laptops and desktops - screens equal to or greater than 1200px wide)

- ❖ **Grid System Rules**

- Rows must be placed within a .container (fixed-width) or .container-fluid (full-width) for proper alignment and padding
- Use rows to create horizontal groups of columns
- Content should be placed within columns, and only columns may be immediate children of rows
- Predefined classes like .row and .col-sm-4 are available for quickly making grid layouts
- Columns create gutters (gaps between column content) via padding. That padding is offset in rows for the first and last column via negative margin on .rows
- Grid columns are created by specifying the number of 12 available columns you wish to span. For example, three equal columns would use three .col-sm-4
- Column widths are in percentage, so they are always fluid and sized relative to their parent element

- **What is the difference between Bootstrap 4 and Bootstrap 5?**

BASIS OF	BOOTSTRAP 4	BOOTSTRAP 5
Grid System	It has 5 tier (xs, sm, md, lg, xl).	It has 6 tier (xs, sm, md, lg, xl, xxl).
Color	It has limited colors.	Extra colors added with the looks, A card improved color palette. there are various shades available to choose.
Jquery	It has jquery and all related plugins.	Jquery is removed and switched to vanilla JS with some working plugins
Internet Explorer	Bootstrap 4 supports both IE 10 and 11.	Bootstrap 5 doesn't support IE 10 and 11.
Form elements	Radio buttons, checkboxes have different look in different OS and browsers. The form uses whatever default browsers provide	The look of form elements will not change, on different OS or browser. The forms can be customized and form controls can be added, they would not depend on browser.
Utilities API	We cannot modify utilities in bootstrap 4	Bootstrap 5 gave freedom to modify and also create our own utility
Gutter	We use .glutter with fontsize in px	We use .g* with fontsize in rem
Vertical Classes	Columns can be positioned relative	Columns cannot be positioned relative
Bootstrap Icons	Bootstrap 4 doesn't have its own SVG icons, we have to use font-awesome for icons.	Bootstrap 5 have its own SVG icons
Jumbotron	It supports.	It doesn't support jumbotron.
Card deck	The card deck is used to create a set of cards with equal width and height.	Card deck class is removed in bootstrap
Navbar	We have inline-block property and we will get white dropdown as default for dropdown-menu-dark class.	Inline-block property is removed and we will get black dropdown as default for dropdown-menu-dark class.

Static Site Generator	Bootstrap 4 uses Jekyll software.	Bootstrap 5 uses Hugo software as it is fast static site generator.
flexbox grid	this makes easier to implement vertical designs, and the columns and rows can easily be implemented. the classes justify-center-content can directly be used to align according to the requirement.	advanced grid system is made available , also columns don't have relative positions.
RTL Support	It does not enable RTL(Right to Left) switching.	It enables RTL(Right to Left) switching.
Offcanvas Component	It does not support Offcanvas Component.	It supports Offcanvas Component(that is it is available now).

- **What is a Button Group, and what is the class for a basic Button Group?**

- “Button Groups” in Bootstrap is a class of name “btn-group” which is used to create series of buttons in groups (without spaces) vertically or horizontally.
- This is the basic syntax of the button group class where each button has its own class of “btn”.

```
<div class="btn-group">  
  <button type="button" class="btn">Click</button>  
</div>
```

- Buttons have a default border-radius on the first and last buttons of the group.

- ❖ **Adding Styles on Buttons**

- Bootstrap allows you to add styles to your buttons using the following classes:
 - ✓ .btn-default
 - ✓ .btn-primary
 - ✓ .btn-success
 - ✓ .btn-info
 - ✓ .btn-warning
 - ✓ .btn-danger
 - ✓ .btn-link

- **How can you use Bootstrap to make thumbnails?**

- Bootstrap helps web developers to create thumbnails that are used to show linked images in grids with the pre-defined classes which help to reduce codes length. Thumbnails are created to provide a quick preview of images with small images.

- ❖ **Thumbnail Image:**

- A thumbnail is a small image that represents a larger image. Bootstrap has an easy way to do this with thumbnails. Bootstrap's .thumbnail class is used to show linked images in grids (grid system), a thumbnail is created using class .thumbnail within the element <a>. The class .col-sm-* and .col-md-* (where * represent number), it is used to create grids of the images.

- ❖ **Step by step guide for the implementation:**

- Step 1: Include Bootstrap and jQuery CDN into the <head> tag before all other stylesheets to load our CSS.
- Step 2: Add <div> tag in the HTML body with class row. In that <div> create four div sections to create four images.
- Step 3: Add “col-sm-6” and “col-md-3” to four div sections which creates webpage responsive.
- Step 4: Add <a> tag with class value thumbnail to define the link of the image in the next line.

- ❖ **Adding captions and buttons to the thumbnails :**

- Step 1: We created div with class value as thumbnail and inserted image, after that add div with class .caption to define the description of the images <p>.
- Step 2: Create buttons using <a> tag with class . btn .btn-success.

- **In Bootstrap 4, what is flexbox?**

- The biggest difference between Bootstrap 3 and Bootstrap 4 is that Bootstrap 4 now uses flexbox, instead of floats, to handle the layout.
- The Flexible Box Layout Module, makes it easier to design flexible responsive layout structure without using float or positioning.

- **What is a bootstrap card and how would you create one?**
 - A card is a flexible and extensible content container. It includes options for headers and footers, a wide variety of content, contextual background colors, and powerful display options. If you're familiar with Bootstrap 3, cards replace our old panels, wells, and thumbnails.