**Module 8 :- Bootstrap Basic & Advanced**

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

**Ans - Easy to prevent repetitions among multiple projects**. Responsive design that can be used to adapt screen sizes and choose what shows and what doesn't on any given device. Maintaining consistency among projects when using multiple developer teams. Quick design of prototypes.

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

**Ans -** 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.

Bootstrap comes with three different containers:

* .container, which sets a max-width at each responsive breakpoint
* .container-fluid, which is width: 100% at all breakpoints
* .container-{breakpoint}, which is width: 100% until the specified breakpoint

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

**Ans -** Bootstrap 5 uses a default **font-size of 1rem (16px by default), and its line-height is 1.5**. In addition, all <p> elements have margin-top: 0 and margin-bottom: 1rem (16px by default)

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

**Ans -** Bootstrap’s grid system uses a series of containers, rows, and columns to layout and align content. It’s built with [flexbox](https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_Flexible_Box_Layout/Using_CSS_flexible_boxes) and is fully responsive. Below is an example and an in-depth look at how the grid comes together.

<div class="container">

<div class="row">

<div class="col-sm">

One of three columns

</div>

<div class="col-sm">

One of three columns

</div>

<div class="col-sm">

One of three columns

</div>

</div>

</div>

The above example creates three equal-width columns on small, medium, large, and extra large devices using our predefined grid classes. Those columns are centered in the page with the parent .container.

Breaking it down, here’s how it works:

* Containers provide a means to center and horizontally pad your site’s contents. Use .container for a responsive pixel width or .container-fluid for width: 100% across all viewport and device sizes.
* Rows are wrappers for columns. Each column has horizontal padding (called a gutter) for controlling the space between them. This padding is then counteracted on the rows with negative margins. This way, all the content in your columns is visually aligned down the left side.
* In a grid layout, content must be placed within columns and only columns may be immediate children of rows.
* Thanks to flexbox, grid columns without a specified width will automatically layout as equal width columns. For example, four instances of .col-sm will each automatically be 25% wide from the small breakpoint and up. See the [auto-layout columns](https://getbootstrap.com/docs/4.0/layout/grid/#auto-layout-columns) section for more examples.
* Column classes indicate the number of columns you’d like to use out of the possible 12 per row. So, if you want three equal-width columns across, you can use .col-4.
* Column widths are set in percentages, so they’re always fluid and sized relative to their parent element.
* Columns have horizontal padding to create the gutters between individual columns, however, you can remove the margin from rows and padding from columns with .no-gutters on the .row.
* To make the grid responsive, there are five grid breakpoints, one for each [responsive breakpoint](https://getbootstrap.com/docs/4.0/layout/overview/#responsive-breakpoints): all breakpoints (extra small), small, medium, large, and extra large.
* Grid breakpoints are based on minimum width media queries, meaning **they apply to that one breakpoint and all those above it** (e.g., .col-sm-4 applies to small, medium, large, and extra large devices, but not the first xs breakpoint).
* You can use predefined grid classes (like .col-4) or [Sass mixins](https://getbootstrap.com/docs/4.0/layout/grid/#sass-mixins) for more semantic markup.

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

**Ans –**

| 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 an isset of cards with equal width and height. | Card deck class in 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). |

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

**Ans -** “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

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

**Ans –**

**Step 1:** Include Bootstrap and jQuery CDN into the <head> tag before all other stylesheets to load our CSS.

*<link rel=”stylesheet” href=”http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css”>   
<script src=”https://ajax.googleapis.com/ajax/libs/jquery/1.12.0/jquery.min.js”></script>   
<script src=”http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js”></script>*

**Step 2:** Add [<div>](https://www.geeksforgeeks.org/div-tag-html/#:~:text=The%20div%20tag%20is%20used,%2C%20navigation%20bar%2C%20etc).&text=It%20is%20used%20to%20the,can%20be%20applied%20to%20them.) 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>](https://www.geeksforgeeks.org/html-a-tag/) tag with class value *thumbnail*to define the link of the image in the next line.

Example:

<!DOCTYPE html>

<html lang="en">

  <head>

    <title>Thumbnail images</title>

    <link

      rel="stylesheet"

      href=

"<http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css>"/>

    <script src=

"<https://ajax.googleapis.com/ajax/libs/jquery/1.12.0/jquery.min.js>">

    </script>

    <script src=

"<http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js>">

    </script>

  </head>

  <body>

    <h3 style="color: green">Bootstrap thumbnails</h3>

    <div class="row">

      <div class="col-sm-6 col-md-3">

        <a href="#" class="thumbnail">

          <img

            src=

"<https://media.geeksforgeeks.org/wp-content/cdn-uploads/20210310114057/web-development-image.png>"

            style="height: 100px; width: 100px"

          />

        </a>

      </div>

      <div class="col-sm-6 col-md-3">

        <a href="#" class="thumbnail">

          <img

            src=

"<https://media.geeksforgeeks.org/wp-content/cdn-uploads/machineLearning3.png>"

            style="height: 100px; width: 100px"

          />

        </a>

      </div>

      <div class="col-sm-6 col-md-3">

        <a href="#" class="thumbnail">

          <img

            src=

"<https://media.geeksforgeeks.org/wp-content/cdn-uploads/20210202223017/Competitive-Programming-%E2%80%93-A-Complete-Guide.png>"

            style="height: 100px; width: 100px"

          />

        </a>

      </div>

      <div class="col-sm-6 col-md-3">

        <a href="#" class="thumbnail">

          <img

            src=

"<https://www.geeksforgeeks.org/wp-content/uploads/Java-768x256.png>"

            style="height: 100px; width: 100px"

          />

        </a>

      </div>

    </div>

  </body>

</html>

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

**Ans –**

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.

<div class="d-flex p-3 bg-secondary text-white">  
  <div class="p-2 bg-info">Flex item 1</div>  
  <div class="p-2 bg-warning">Flex item 2</div>  
  <div class="p-2 bg-primary">Flex item 3</div>  
</div>

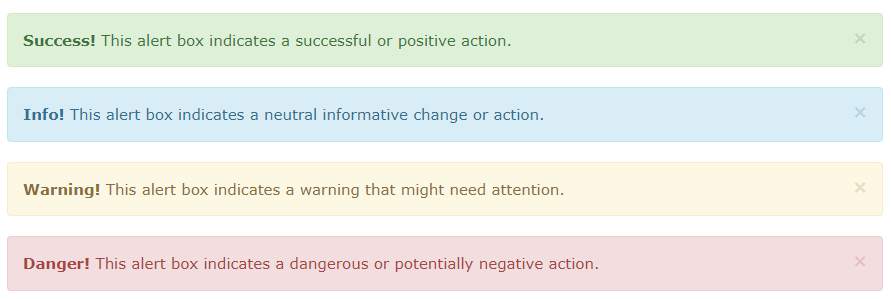


**9 - How can one create an alert in Bootstrap?**

**Ans –**

Alerts are created with the .alert class, followed by one of the four contextual classes .alert-success, .alert-info, .alert-warning or .alert-danger:

<div class="alert alert-success">  
  <strong>Success!</strong> Indicates a successful or positive action.  
</div>  
  
<div class="alert alert-info">  
  <strong>Info!</strong> Indicates a neutral informative change or action.  
</div>  
  
<div class="alert alert-warning">  
  <strong>Warning!</strong> Indicates a warning that might need attention.  
</div>  
  
<div class="alert alert-danger">  
  <strong>Danger!</strong> Indicates a dangerous or potentially negative action.  
</div>



**10 - What is a bootstrap card and how would you create one?**

**Ans –**

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.

Example

Cards are built with as little markup and styles as possible, but still manage to deliver a ton of control and customization. Built with flexbox, they offer easy alignment and mix well with other Bootstrap components. They have no margin by default, so use [spacing utilities](https://getbootstrap.com/docs/4.4/utilities/spacing/) as needed.

Below is an example of a basic card with mixed content and a fixed width. Cards have no fixed width to start, so they’ll naturally fill the full width of its parent element. This is easily customized with our various [sizing options](https://getbootstrap.com/docs/4.4/components/card/#sizing).

<div class="card" style="width: 18rem;">

<img src="..." class="card-img-top" alt="...">

<div class="card-body">

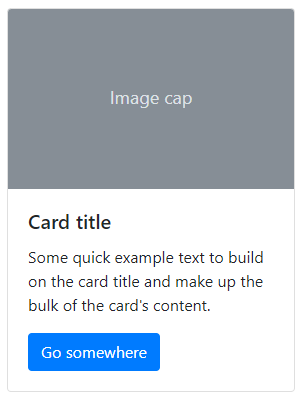
<h5 class="card-title">Card title</h5>

<p class="card-text">Some quick example text to build on the card title and make up the bulk of the card's content.</p>

<a href="#" class="btn btn-primary">Go somewhere</a>

</div>

</div>

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