

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

## **1. What are the advantages of Bootstrap?**

- Easy initiation. Coding is a hurricane task for a person who is unbeknownst to web development. ...
- Responsiveness. ...
- Highly customizable. ...
- Extremely user-centric. ...
- Top-notch support. ...
- Cross-browser compatibility. ...
- JavaScript plugins to your rescue. ...
- Far-reaching popularity.

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

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

The table below illustrates how each container's `max-width` compares to the original `.container` and `.container-fluid` across each breakpoint.

See them in action and compare them in our [Grid example](#).

	<b>Extra small</b> <576px	<b>Small</b> ≥576px	<b>Medium</b> ≥768px	<b>Large</b> ≥992px	<b>X-Large</b> ≥1200px	<b>XX-Large</b> ≥1400px
<code>.container</code>	100%	540px	720px	960px	1140px	1320px
<code>.container-sm</code>	100%	540px	720px	960px	1140px	1320px
<code>.container-md</code>	100%	100%	720px	960px	1140px	1320px
<code>.container-lg</code>	100%	100%	100%	960px	1140px	1320px
<code>.container-xl</code>	100%	100%	100%	100%	1140px	1320px
<code>.container-xxl</code>	100%	100%	100%	100%	100%	1320px
<code>.container-fluid</code>	100%	100%	100%	100%	100%	100%

## Default container

Our default `.container` class is a responsive, fixed-width container, meaning its `max-width` changes at each breakpoint.

## Copy

```
<div class="container">
  <!-- Content here -->
</div>
```

## Responsive containers

Responsive containers allow you to specify a class that is 100% wide until the specified breakpoint is reached, after which we apply `max-widths` for each of the higher breakpoints. For example, `.container-`

**sm** is 100% wide to start until the **sm** breakpoint is reached, where it will scale up with **md**, **lg**, **xl**, and **xxl**.

Copy

```
<div class="container-sm">100% wide until small breakpoint</div>  
<div class="container-md">100% wide until medium breakpoint</div>  
<div class="container-lg">100% wide until large breakpoint</div>  
<div class="container-xl">100% wide until extra large  
breakpoint</div>  
<div class="container-xxl">100% wide until extra extra large  
breakpoint</div>
```

Fluid containers

Use **.container-fluid** for a full width container, spanning the entire width of the viewport.

Copy

```
<div class="container-fluid">  
...  
</div>
```

Sass

As shown above, Bootstrap generates a series of predefined container classes to help you build the layouts you desire. You may customize

these predefined container classes by modifying the Sass map (found in `_variables.scss`) that powers them:

Copy

```
$container-max-widths: (  
  sm: 540px,  
  md: 720px,  
  lg: 960px,  
  xl: 1140px,  
  xxl: 1320px  
);
```

In addition to customizing the Sass, you can also create your own containers with our Sass mixin.

Copy

```
// Source mixin  
@mixin make-container($padding-x: $container-padding-x) {  
  width: 100%;  
  padding-right: $padding-x;  
  padding-left: $padding-x;  
  margin-right: auto;  
  margin-left: auto;  
}  
  
// Usage  
.custom-container {
```

```
@include make-container();  
}
```

### 3. What are the default Bootstrap text settings?

Bootstrap 4 uses a default font-size of 16px, and its line-height is 1.5. The default font-family is "Helvetica Neue", Helvetica, Arial, sans-serif. 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?

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:

span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	s
span 4				span 4				span 4			
span 4				span 8							
span 6						span 6					
span 12											

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

The Bootstrap grid system has four 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)

The classes above can be combined to create more dynamic and flexible layouts.

**Tip:** Each class scales up, so if you wish to set the same widths for xs and sm, you only need to specify xs.

## Grid System Rules

Some Bootstrap 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

## 5. What is the difference between Bootstrap 4 and Bootstrap 5?

### Difference between Bootstrap 4 and Bootstrap 5

BASIS OF	BOOTSTRAP 4	BOOTSTRAP 5
<b>Grid System</b>	It has 5 tier (xs, sm, md, lg, xl).	It has 6 tier (xs, sm, md, lg, xl, xxl).
<b>Color</b>	It has limited colors.	Extra colors added with the looks, A card improved color palette. there are various shades available to choose.
<b>Jquery</b>	It has jquery and all related plugins.	Jquery is removed and switched to vanilla JS with some working plugins
<b>Internet Explorer</b>	Bootstrap 4 supports both IE 10 and 11.	Bootstrap 5 doesn't support IE 10 and 11.
<b>Form elements</b>	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.

<b>BASIS OF</b>	<b>BOOTSTRAP 4</b>	<b>BOOTSTRAP 5</b>
<b>Utilities API</b>	We cannot modify utilities in bootstrap 4	Bootstrap 5 gave freedom to modify and also create our own utility
<b>Gutter</b>	We use .glutter with fontsize in px	We use .g* with fontsize in rem
<b>Vertical Classes</b>	Columns can be positioned relative	Columns cannot be positioned relative
<b>Bootstrap Icons</b>	Bootstrap 4 doesn't have its own SVG icons, we have to use font-awesome for icons.	Bootstrap 5 have its own SVG icons
<b>Jumbotron</b>	It supports.	It doesn't support jumbotron.
<b>Card deck</b>	The card deck is used to create a set of cards with equal width and height.	Card deck class is removed in bootstrap
<b>Navbar</b>	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.
<b>Static Site Generator</b>	Bootstrap 4 uses Jekyll software.	Bootstrap 5 uses Hugo software as it is fast static site generator.
<b>flexbox grid</b>	this makes easier to implement vertical designs, and the columns and rows can easily be implemented. the classes justify-center-content can	advanced grid system is made available , also columns don't have relative positions.



BASIS OF	BOOTSTRAP 4	BOOTSTRAP 5
	directly be used to align according to the requirement.	
<b>RTL Support</b>	It does not enable RTL(Right to Left) switching.	It enables RTL(Right to Left) switching.
<b>Offcanvas Component</b>	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?

Bootstrap allows you to group a series of buttons together (on a single line) in a button group

Use a `<div>` element with class `.btn-group` to create a button group:

### Example

```
<div class="btn-group">
  <button type="button" class="btn btn-primary">Apple</button>
  <button type="button" class="btn btn-primary">Samsung</button>
  <button type="button" class="btn btn-primary">Sony</button>
</div>
```

## Vertical Button Groups

Use the class `.btn-group-vertical` to create a vertical button group:

## Example

```
<div class="btn-group-vertical">
  <button type="button" class="btn btn-primary">Apple</button>
  <button type="button" class="btn btn-primary">Samsung</button>
  <button type="button" class="btn btn-primary">Sony</button>
</div>
```

## Justified Button Groups

To span the entire width of the screen, use the `.btn-group-justified` class:

## Example

```
<div class="btn-group btn-group-justified">
  <a href="#" class="btn btn-primary">Apple</a>
  <a href="#" class="btn btn-primary">Samsung</a>
  <a href="#" class="btn btn-primary">Sony</a>
</div>
```

## Nesting Button Groups & Dropdown Menus

Apple Samsung Sony

Nest button groups to create dropdown menus:

## Example

```
<div class="btn-group">
  <button type="button" class="btn btn-primary">Apple</button>
  <button type="button" class="btn btn-primary">Samsung</button>
  <div class="btn-group">
    <button type="button" class="btn btn-primary dropdown-
toggle" data-toggle="dropdown">
      Sony <span class="caret"></span></button>
    <ul class="dropdown-menu" role="menu">
      <li><a href="#">Tablet</a></li>
      <li><a href="#">Smartphone</a></li>
    </ul>
  </div>
</div>
```

```
</div>  
</div>
```

# Split Button Dropdowns

Sony

## Example

```
<div class="btn-group">  
  <button type="button" class="btn btn-primary">Sony</button>  
  <button type="button" class="btn btn-primary dropdown-  
toggle" data-toggle="dropdown">  
    <span class="caret"></span>  
  </button>  
  <ul class="dropdown-menu" role="menu">  
    <li><a href="#">Tablet</a></li>  
    <li><a href="#">Smartphone</a></li>  
  </ul>  
</div>
```

## 7. How can you use Bootstrap to make thumbnails?

In addition to our [border-radius utilities](#), you can use `.img-thumbnail` to give an image a rounded 1px border appearance.

In Bootstrap 4, the image thumbnail is a border surrounded by the image.

To create this image thumbnail, you can use the `.img-thumbnail` class.

The `.img-thumbnail` class shapes the image to a thumbnail:

```
<div class="container">
```

```
<h2>Thumbnail</h2>
```

```
<p>The .img-thumbnail class creates a thumbnail of the  
image: </p>
```

```

```

```
</div>
```

**Output:**

## Thumbnail

The .img-thumbnail class creates a thumbnail of the image:



## 8. In Bootstrap 4, what is flexbox?

## Bootstrap 4 Flex

Use flex classes to control the layout of Bootstrap 4 components.

## 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.

To create a flexbox container and to transform direct children into flex items, use the `d-flex` class:

## Example

Flex item 1

Flex item 2

Flex item 3

### Example

```
<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?

### Alerts

Bootstrap provides an easy way to create predefined alert messages:

**xSuccess!** This alert box indicates a successful or positive action.

**xInfo!** This alert box indicates a neutral informative change or action.

**xWarning!** This alert box indicates a warning that might need attention.

**xDanger!** This alert box indicates a dangerous or potentially negative action.

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

## Example

```
<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?

### Using the Bootstrap Cards

Bootstrap 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. Card replaces panel, well, and thumbnail components in old Bootstrap 3 version.

In the following sections, you will see what you can do with the card component.

## Creating a Basic Card

The card markup is pretty straight forward. The outer wrapper require the base class `.card`, whereas content can be placed inside the `.card-body` element. The following example will show you how to create a card with a picture, mixed with some text content and a button.

### *Example*

#### **Try this code »**

```
<div class="card" style="width: 300px;">
  
  <div class="card-body text-center">
    <h5 class="card-title">Alice Liddel</h5>
    <p class="card-text">Alice is a freelance web designer
    and developer based in London. She is specialized in HTML5,
    CSS3, JavaScript, Bootstrap, etc.</p>
    <a href="#" class="btn btn-primary">View Profile</a>
  </div>
</div>
```

— The output of the above example will look something like this:



## Alice Liddel

Alice is a freelance web designer and developer based in London. She is specialized in HTML5, CSS3, JavaScript, Bootstrap, etc.

[View Profile](#)