

Unit -5

Bootstrap Framework

- Introduction to Bootstrap
- Bootstrap Layout (Container, Row, Columns, Responsive classes, Offset Column, Reordering Columns)
- Bootstrap Content (Typography, Tables, Images, Forms)
- Bootstrap Components (Navbar, Navs and tabs, Dropdowns, Buttons, Button Groups, Breadcrumb, Pagination, Labels, Alerts, Progress Bars, Accordion, Card, Modal)
- Bootstrap Utilities (Colors, Background, Borders, Display, Overflow, Position, Spacing, Text, Vertical align)

Q:1 Introduction to Bootstrap

- Bootstrap is the most popular HTML, CSS and JavaScript framework for developing a responsive and mobile friendly website.
- It is absolutely free to download and use.
- It is a front-end framework used for easier and faster web development.
- It includes HTML and CSS based design templates for forms, buttons, tables, navigation, modals, image and many others.
- It can also use JavaScript plug-ins.
- It facilitates you to create responsive designs.

➤ Why use Bootstrap

- It is very easy to use. Anybody having basic knowledge of HTML and CSS can use Bootstrap.
- It facilitates users to develop a responsive website.
- It is compatible on most of browsers like Chrome, Firefox, Internet Explorer, Safari and Opera etc.

➤ What Bootstrap package contains

- **Scaffolding:** Bootstrap provides a basic structure with Grid System, link styles, and background.
- **CSS:** Bootstrap comes with the feature of global CSS settings, fundamental HTML elements style and an advanced grid system.
- **Components:** Bootstrap contains a lot of reusable components built to provide iconography, dropdowns, navigation, alerts, pop-overs, and much more.
- **JavaScript Plugins:** Bootstrap also contains a lot of custom jQuery plugins. You can easily include them all, or one by one.

- **Customize:** Bootstrap components are customizable and you can customize Bootstrap's components, LESS variables, and jQuery plugins to get your own style.

➤ What is Bootstrap 4?

- + it is the newest and latest version of Bootstrap.
- + it is the most popular HTML, CSS, JavaScript framework for developing responsive, mobile first websites.

Q.2 Bootstrap Layout

Layouts in Bootstrap 4

- + Containers are used to pad the content inside of them, and there are two container classes available:

1. The `.container` class provides a responsive **fixed width container**
2. The `.container-fluid` class provides a **full width container**, spanning the entire width of the viewport



➤ Bootstrap Grid

- The Bootstrap Grid System allows up to 12 columns across the page. You can use all 12 columns individually or you can group the columns together to create wider columns.
- Bootstrap Grid System is responsive and the columns are re-arranged automatically according to the screen size.

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

➤ Bootstrap 4 Grid Classes

There are 5 classes in Bootstrap 4 grid system.

- **.col-** (extra small devices - screen width less than 576px)
- **.col-sm-** (small devices - screen width equal to or greater than 576px)
- **.col-md-** (medium devices - screen width equal to or greater than 768px)
- **.col-lg-** (large devices - screen width equal to or greater than 992px)
- **.col-xl-** (xlarge devices - screen width equal to or greater than 1200px)

You can also combine the above classes to create more dynamic and flexible layouts.

➤ **Reordering Columns:**

- ✚ Column ordering classes in [Bootstrap](#) helps to change the order of our grid system based on different screen sizes eg: desktop, mobile, tablet, smartwatches.

We can easily change the order of built-in grid columns with **push** and **pull** column classes.

The Push and Pull Classes: The push class will move columns to the right while the pull class will move columns to the left.

Syntax:

.col-md-pull-#

or

.col-md-push-#

Note: # is a number ranging from 1 to 12 ([Grid system of bootstrap](#))

Q.3 Bootstrap Content (Typography, Tables, Images, Forms)

➤ **Typography**

Typography provides some utilities to add additional styles to texts.

These utilities are:

- Text alignment
- Text transform
- Font weight and italics

✚ **Text Alignment**

Text alignment is used to easily realign text to components with text alignment classes.

Align text left:

```
<p class="text-left">Left aligned text.</p>
```

Align text center:

`<p class="text-center">Center aligned text.</p>`

Align text right:

`<p class="text-right">Right aligned text.</p>`

Align text justify:

`<p class="text-justify">Justified text.</p>`

Align text no-wrap:

`<p class="text-nowrap">No wrap text.</p>`

You can align text on viewports according to their size also.

Text transform

The text capitalization classes are used to transform text in components.

➔ For lowercase text:

Use "text-lowercase" class to make the text appear in lowercase.

➔ For uppercase text:

Use "text-uppercase" class to make the text appear in uppercase.

➔ For capitalized text:

Use "text- capitalize" class to make the text's first letter appear in uppercase.

➔ For bold text:

Use "font-weight-bold" class to make the text weight bold.

→Font weight and italics

It is used to quickly change the weight (boldness) of text or italicize text.

➤ Tables:

The basic Bootstrap table has a light padding and only horizontal dividers. The **.table class** is used to add basic styling to a table.

Example:

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Job</title>
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css"/>
</head>
<body>

<div class="container">
<h1>Basic Table Example</h1>
<table class="table">
<tr><th>Id</th><th>Name</th><th>Age</th></tr>
<tr><td>101</td><td>Rahul</td><td>23</td></tr>
<tr><td>102</td><td>Umesh</td><td>22</td></tr>
<tr><td>103</td><td>Max</td><td>29</td></tr>
<tr><td>104</td><td>Ajeet</td><td>21</td></tr>
</table>
</div>
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.3/jquery.min.js">
</script>
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.5/js/bootstrap.min.js">
</script>
</body>
```

</html>

Responsive tables:

The **.table-responsive** class is used to create a responsive table. You can open the responsible table even on small devices (under 768px). Then the table will be scrolled horizontally. Displays larger than 768px wide, there is no difference.

Black/Dark Table

The **.table-dark** class is used to add a black background to the table:

Images:-

- Bootstrap supports for images.
- There are three classes in Bootstrap that can be used to apply some simple style to the images.

The following classes add style to the images:

Classes	Uses
.img-rounded	It adds border-radius:6px to give the image rounded corners.
.img-circle	It makes the entire image round by adding border-radius:500px.
.img-thumbnail	It adds a bit of padding and a gray border.

Rounded Corners:



Circle:



Thumbnail:



➤ Forms:

In Bootstrap, there are three types of form layouts:

- Vertical form (this is default)
- Horizontal form
- Inline form

Bootstrap Form Rules

There are three standard rules for these 3 form layouts:

- Always use `<form role="form">` (helps improve accessibility for people using screen readers)
- Wrap labels and form controls in `<div class="form-group">` (needed for optimum spacing)
- Add class `.form-control` to all textual `<input>`, `<textarea>`, and `<select>` elements

2). Bootstrap Inline Form

In Bootstrap Inline forms, all elements are inline, left-aligned, and the labels are alongside.

This example is only applied to forms within viewports that are at least 768px wide!

3).Bootstrap Horizontal Form

You have to add some additional rules if you want to create a horizontal form.

Additional rules for a horizontal form:

- Add class `.form-horizontal` to the `<form>` element
- Add class `.control-label` to all `<label>` elements

Q.4 Bootstrap Components.

➤ 1) Navbar

A navigation bar is a navigation header that is placed at the top of the page:

A standard navigation bar is created with `<nav class="navbar navbar-default">`.

Inverted Navigation Bar

If you don't like the style of the default navigation bar, Bootstrap provides an alternative, black navbar:

Just change the **.navbar-default** class into **.navbar-inverse**:

Navigation Bar With Dropdown

Navigation bars can also hold dropdown menus.

Right-Aligned Navigation Bar

The **.navbar-right** class is used to right-align navigation bar buttons.

Navbar Buttons

To add buttons inside the navbar, add the **.navbar-btn** class on a Bootstrap button:

➤ 2) Dropdowns:

A dropdown menu is a toggleable menu that allows the user to choose one value from a predefined list:

Dropdown Divider

The **.divider** class is used to separate links inside the dropdown menu with a thin horizontal border:

Example:`<li class="divider">`

Dropdown Header

The **.dropdown-header** class is used to add headers inside the dropdown menu:

Example:`<li class="dropdown-header">Dropdown header 1`

➤ 3) Buttons:

Button Styles

Bootstrap provides different styles of buttons:

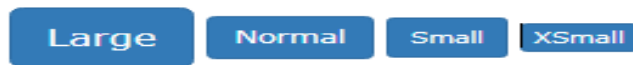


To achieve the button styles above, Bootstrap has the following classes:

- `.btn`
- `.btn-default`
- `.btn-primary`
- `.btn-success`
- `.btn-info`
- `.btn-warning`
- `.btn-danger`
- `.btn-link`

Button Sizes

Bootstrap provides four button sizes:



The classes that define the different sizes are:

- `.btn-lg`
- `.btn-sm`
- `.btn-xs`

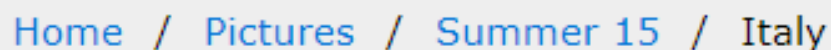
Active/Disabled Buttons

A button can be set to an active (appear pressed) or a disabled (unclickable) state:

The class **.active** makes a button appear pressed, and the class **.disabled** makes a button unclickable:

➤ 4) Breadcrumb:

A breadcrumb navigation provide links back to each previous page the user navigated through, and shows the user's current location in a website.

A horizontal breadcrumb navigation bar with a light gray background. It contains the text 'Home / Pictures / Summer 15 / Italy' in a blue, sans-serif font. The slashes are in a lighter blue color.

Pagination:

How To Create a Pagination

A pagination control showing a sequence of numbers from 1 to 6. The number 2 is highlighted with a blue background. To the left of 1 is a double left arrow («) and to the right of 6 is a double right arrow (»).

➤ 5) Alerts

Bootstrap provides an easy way to create predefined alert messages:

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



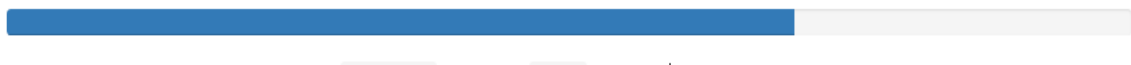
➤ 6) Progress Bars:

progress bar can be used to show a user how far along he/she is in a process.

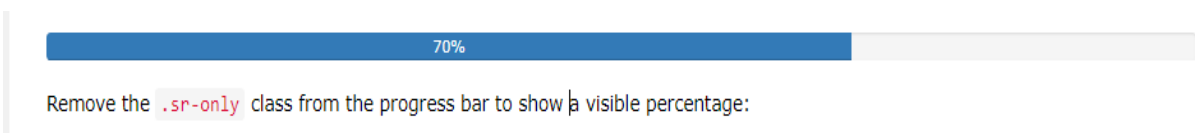
Bootstrap provides several types of progress bars.

A default progress bar in Bootstrap looks like this:

A default progress bar in Bootstrap looks like this:



A progress bar with a label looks like this:



Colored Progress Bars

Contextual classes are used to provide "meaning through colors".

The contextual classes that can be used with progress bars are:

- `.progress-bar-success`
- `.progress-bar-info`
- `.progress-bar-warning`
- `.progress-bar-danger`

Animated Progress Bar

Add class `.active` to animate the progress bar:



Create a stacked progress bar by placing multiple bars into the same `<div class="progress">`:

➤ 7) Accordion:

Accordions are useful when you want to toggle between hiding and showing large amount of content:

Section 1	+
Section 2	+
Section 3	+

➤ 8) Card:

A card in Bootstrap 4 is a bordered box with some padding around its content. It includes options for headers, footers, content, colors, etc.

Basic Card

A basic card is created with the **.card** class, and content inside the card has a **.card-body** class:

Header and Footer

Header
Content
Footer

The **.card-header** class adds a heading to the card and the **.card-footer** class adds a footer to the card:

➤ 9) Modal:

The Modal component is a dialog box/popup window that is displayed on top of the current page:

Modal Size

Change the size of the modal by adding the **.modal-sm** class for small modals, **.modal-lg** class for large modals, or **.modal-xl** for extra large modals.

Q.5 Bootstrap Utilities (Colors, Background, Borders, Display, Overflow, Position, Spacing, Text, Vertical align)

Bootstrap 4 has a lot of utility/helper classes to quickly style elements without using any CSS code.

➤ 1) Colors:

- here is a list of all text and background color classes:

The classes for text colors are: **.text-muted**, **.text-primary**, **.text-success**, **.text-info**, **.text-warning**, **.text-danger**, **.text-secondary**, **.text-white**, **.text-dark**, **.text-body** (default body color/often black) and **.text-light**:

This text is muted.

This text is important.

This text indicates success.

This text represents some information.

This text represents a warning.

This text represents danger.

Secondary text.

Dark grey text.

Body text.

➤ 2) Background:

the classes for background colors are: **.bg-primary**, **.bg-success**, **.bg-info**, **.bg-warning**, **.bg-danger**, **.bg-secondary**, **.bg-dark** and **.bg-light**.

Note that background colors do not set the text color, so in some cases you'll want to use them together with a **.text-*** class.



This text is important.

This text indicates success.

This text represents some information.

This text represents a warning.

This text represents danger.

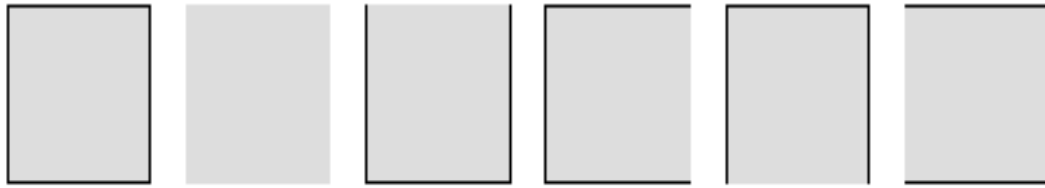
Secondary background color.

Dark grey background color.

Light grey background color.

➤ 3) Borders:

Use the **border** classes to add or remove borders from an element:



Border Color:

Add a color to the border with any of the contextual border color classes:

Example:

<code><span class="border</code>	<code>border-primary"></code>
<code><span class="border</code>	<code>border-secondary"></code>
<code><span class="border</code>	<code>border-success"></code>
<code><span class="border</code>	<code>border-danger"></code>
<code><span class="border</code>	<code>border-warning"></code>
<code><span class="border</code>	<code>border-info"></code>
<code><span class="border</code>	<code>border-light"></code>
<code><span class="border</code>	<code>border-dark"></code>
<code></code>	

➤ 4) Position:

- Use the **.fixed-top** class to make any element fixed/stay at the **top** of the page:

- Use the **.fixed-bottom** class to make any element fixed/stay at the **bottom** of the page:

➤ 5) Spacing:

- Bootstrap 4 has a wide range of responsive margin and padding utility classes.

- They work for all breakpoints: xs ($\leq 576\text{px}$), sm ($\geq 576\text{px}$), md ($\geq 768\text{px}$), lg ($\geq 992\text{px}$) or xl ($\geq 1200\text{px}$):

- The classes are used in the format: {property}{sides}-{size} for xs and {property}{sides}-{breakpoint}-{size} for sm, md, lg, and xl.

Where *property* is one of:

- m - sets margin
- p - sets padding

Where *sides* is one of:

- t - sets margin-top or padding-top
- b - sets margin-bottom or padding-bottom
- l - sets margin-left or padding-left
- r - sets margin-right or padding-right
- x - sets both padding-left and padding-right or margin-left and margin-right
- y - sets both padding-top and padding-bottom or margin-top and margin-bottom
- blank - sets a margin or padding on all 4 sides of the element

Where *size* is one of:

- 0 - sets margin or padding to 0
- 1 - sets margin or padding to .25rem (4px if font-size is 16px)
- 2 - sets margin or padding to .5rem (8px if font-size is 16px)
- 3 - sets margin or padding to 1rem (16px if font-size is 16px)
- 4 - sets margin or padding to 1.5rem (24px if font-size is 16px)
- 5 - sets margin or padding to 3rem (48px if font-size is 16px)
- auto - sets margin to auto

Note: margins can also be negative, by adding an "n" in front of *size*:

- n1 - sets margin to -.25rem (-4px if font-size is 16px)
- n2 - sets margin to -.5rem (-8px if font-size is 16px)
- n3 - sets margin to -1rem (-16px if font-size is 16px)
- n4 - sets margin to -1.5rem (-24px if font-size is 16px)
- n5 - sets margin to -3rem (-48px if font-size is 16px)

Example

I only have a top padding (1.5rem = 24px)

I have a padding on all sides (3rem = 48px)

I have a margin on all sides (3rem = 48px) and a bottom padding (3rem = 48px)

➤ 6) Text:

- here is a list of all typography/text classes:

Class	Description
<code>.display-*</code>	Display headings are used to stand out more than normal headings (larger font-size and lighter font-weight), and there are four classes to choose from <code>.display-1</code> , <code>.display-2</code> , <code>.display-3</code> , <code>.display-4</code>
<code>.font-weight-bold</code>	Bold text
<code>.font-weight-bolder</code>	Bolder bold text
<code>.font-weight-normal</code>	Normal text
<code>.font-weight-light</code>	Light weight text
<code>.font-weight-lighter</code>	Lighter weight text
<code>.font-italic</code>	Italic text
<code>.lead</code>	Makes a paragraph stand out
<code>.small</code>	Indicates smaller text (set to 85% of the size of the parent)
<code>.text-break</code>	Prevents long text from breaking layout
<code>.text-center</code>	Indicates center-aligned text
<code>.text-decoration-none</code>	Removes the underline from a link
<code>.text-left</code>	Indicates left-aligned text
<code>.text-justify</code>	Indicates justified text
<code>.text-monospace</code>	Monospaced text
<code>.text-nowrap</code>	Indicates no wrap text

<code>.text-lowercase</code>	Indicates lowercased text
<code>.text-reset</code>	Resets the color of a text or a link (inherits the color from its parent)
<code>.text-right</code>	Indicates right-aligned text
<code>.text-uppercase</code>	Indicates uppercased text
<code>.text-capitalize</code>	Indicates capitalized text
<code>.initialism</code>	Displays the text inside an <code><abbr></code> element in a slightly smaller font size
<code>.list-unstyled</code>	Removes the default list-style and left margin on list items (works on both <code></code> and <code></code>). This class only applies to immediate children list items (to remove the default list-style from any nested lists, apply this class to any nested lists as well)
<code>.list-inline</code>	Places all list items on a single line (used together with <code>.list-inline-item</code> on each <code></code> elements)
<code>.pre-scrollable</code>	Makes a <code><pre></code> element scrollable

➤ 7) Vertical align:

Use the **align-** classes to change the alignment of elements (only works on inline, inline-block, inline-table and table cell elements):

baseline top middle bottom text-top text-bottom