

Bootstrap

Bootstrap:

- Bootstrap is most popular front-end framework for developing responsive and mobile-first websites.
- It includes HTML and CSS based design templates and JavaScript plugins to develop a website easily and quickly.

Features of Bootstrap

- **Easy to use:** Anybody with just basic knowledge of HTML and CSS can start using Bootstrap.
- **Responsive features:** Bootstrap's responsive CSS adjusts to phones, tablets, and desktops.
- **Mobile-first approach:** In Bootstrap, mobile-first styles are part of the core framework.
- **Browser compatibility:** Bootstrap 4 is compatible with all modern browsers (Chrome, Firefox, Internet Explorer 10+, Edge, Safari, and Opera)
- **Open Source :** Bootstrap is an open source framework which allows everyone to use it without paying any money.
- **Fater Loading Time :** Many users already have downloaded Bootstrap from MaxCDN when visiting another site. As a result, it will be loaded from cache when they visit your site, which leads to faster loading time.

Navbar

- Bootstrap navbar is used to add a responsive navigation header at the top of the page.
- The navbar includes support for branding, navigation, collapse plugin and more.
- A standard navigation bar is created with the `.navbar` class, followed by a responsive collapsing class: `.navbar-expand-xl` or `lg` or `md` or `sm`
- To add links inside the navbar, use a **ul** element with `class="navbar-nav"`. Then add **li** elements with a `.nav-item` class followed by an **a** element with a `.nav-link` class.
- Supported Sub-Components:
 - **.navbar-brand** for your company, product, or project name.
 - **.navbar-nav** for a full-height and lightweight navigation (including support for dropdowns).
 - **.navbar-toggler** for use with our collapse plugin and other navigation toggling behaviors.
 - **.form-inline** for any form controls and actions.
 - **.navbar-text** for adding vertically centered strings of text.
 - **.collapse .navbar-collapse** for grouping and hiding navbar contents by a parent breakpoint.

```
<nav class="navbar navbar-expand-sm bg-light navbar-light">
  <a class="navbar-brand" href="#">
    
  </a>
  <ul class="navbar-nav">
    <li class="nav-item active">
      <a class="nav-link" href="#">Active</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="#">Link</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="#">Link</a>
    </li>
  </ul>
</nav>
```

Button Group

- Button Group is used to create a series of buttons together on a single line either vertically or horizontally.
- A series of buttons with `.btn` in `.btn-group` are wrapped together to create a group of buttons.
- Classes to define button groups are:
 - **.btn-group** : Create a button group
 - **.btn-group-_{size}** (`_=md|lg`) : Create a button group with size
 - **.btn-group-vertical** : Create a vertical button group

```
<div class="btn-group" role="group" aria-label="Basic example">
  <button type="button" class="btn btn-secondary">Left</button>
  <button type="button" class="btn btn-secondary">Middle</button>
  <button type="button" class="btn btn-secondary">Right</button>
</div>
```

Media Objects:

- Media objects in bootstrap is used to align media objects (like images or videos) together with content.
- These are often used to display blog comments, tweets, likes and so on.
- To nest media objects, place a new **.media** container inside the **.media-body** container.

```
<div class="media">
  
  <div class="media-body">
    <h5 class="mt-0">Media heading</h5>
    Media texts related to media heading. Please Help!
  </div>
</div>
```

Cards

- A card in Bootstrap 4 is a bordered box with some padding around its content. It includes options for headers, footers, content, colors, etc.
- A basic card is created with the **.card** class, and content inside the card has a **.card-body**.
 - **.card-header**: Adds a heading to the card and
 - **.card-footer**: Adds a footer to the card.
 - **.card-title**: Add card titles to any heading element.
 - **.card-text** to add card titles to any heading element.
 - **.card-img-top or .card-img-bottom**: Place image at top or bottom.
 - **.card-columns**: Creates a masonry-like grid of cards.
 - **.card-deck**: Creates a grid of cards that are of equal height and width.
 - **.card-group**: Similar to .card-deck, difference is that it removes left and right margins between each card.
 - **Contextual classes**: .bg-primary, .bg-success, .bg-info, .bg-warning, .bg-danger, .bg-secondary, .bg-dark and .bg-light.

```
<div class="card" style="width:400px">
  
  <div class="card-body">
    <h4 class="card-title">John Doe</h4>
    <p class="card-text">Some example text.</p>
    <a href="#" class="btn btn-primary">See Profile</a>
  </div>
</div>
```

Forms

- Forms in bootstrap are used to create a more precise layout which groups html form inputs into one.
- Form controls automatically receive some global styling with Bootstrap.
- **.form-group** is used to wrap each form control, to ensure proper margins.
- **.form-control** is used to wrap individual form input elements.
- Bootstrap provides two types of form layouts:
 - Stacked (full-width) form by default
 - Inline form, Add **.form-inline** to the form element
- **.form-row, row, col**: Used to control width and alignment of form inputs.
- **.was-validated, .needs-validation, .valid-feedback, .invalid-feedback**: Used for form validation.

```
<form>
  <div class="form-group">
    <label for="emailadd">Email address</label>
    <input type="email" class="form-control" id="emailadd">
  </div>
  <div class="form-group">
    <label for="upassword">Password</label>
    <input type="password" class="form-control" id="upassword">
  </div>
  <button type="submit" class="btn btn-primary">Submit</button>
</form>
```

Layout in Bootstrap

- **Containers** are the most basic layout element in Bootstrap
- It is **required** when using the default grid system.
- Used to contain, pad, and (sometimes) center the content within them.
- 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
 - **breakpoints can be**: sm , md, lg, xl or fluid
- Inside containers the **grid** system is used to specify the placing of each html element.

Bootstrap Grid

- Bootstrap grid uses CSS flexbox to build layout of all shapes and sizes
- The grid system allows up to 12 columns across the page.
- The columns can be nested to create a specific layout.
- **container** are wrapper for **rows**
- **rows** are wrapper for **cols**
- Each grid system is wrapped inside a **container** wrapper, whose direct child has **.row** class to specify that it will contain elements that describe how the columns are partitioned and has **.col** class.
- The Bootstrap 4 grid system has five classes:
 - **.col-** : extra small devices
 - **.col-sm-** : small devices
 - **.col-md-** : medium devices
 - **.col-lg-** : large devices
 - **.col-xl-** : xlarge devices

```
<div class="container">
  <div class="row">
    <div class="col">
      1 of 2
    </div>
    <div class="col">
      2 of 2
    </div>
  </div>
  <div class="row">
    <div class="col">
      1 of 3
    </div>
    <div class="col">
      2 of 3
    </div>
    <div class="col">
      3 of 3
    </div>
  </div>
</div>
```

Contextual Panel Classes

- Contextual panel classes in bootstrap 3 are used "meaning through colors" to the panels.
- To color the panel, following contextual classes are used:
 - .panel-default
 - .panel-primary
 - .panel-success
 - .panel-info
 - .panel-warning
 - .panel-danger

Bootstrap Collapsing elements

- Bootstrap Collapsing are used when there is need of hiding the large content and to show when a user wants it to be shown.
- The **.collapse** class with an **id** attribute indicates a collapsible element.
- To control (show/hide) the collapsible content the following attributes are added to an **a** or a **button** element:
 - **data-toggle="collapse"**
 - **data-target="#id"**
- The **id** should be same for button as well as collapsible element

```
<button type="button" class="btn btn-primary" data-toggle="collapse" data-target="#demo">Simple collapsible</button>
<div id="demo" class="collapse">
  Large amount of data to be shown after clicking the button
</div>
```

List Group

- List groups are used to create flexible and powerful component for displaying a series of content.
- It can be used to support any content within but are generally used with **list** or **button**.
- To create a basic list group, wrapper element has class **.list-group**, and the elements within has class **.list-group-item**.
- Other Classes that can be used are:
 - **.active**: To highlight the current item.
 - **.list-group-item-action**: To add a grey background color on hover.
 - **.disabled**: To adds a lighter text color to the disabled item.
 - **.list-group-flush**: To remove some borders and rounded corners
 - **.list-group-horizontal**: To display horizontally instead of vertically
 - Contextual classes to add color: **list-group-item-{color}**, e.g: **.list-group-item-success**

```
<ul class="list-group">
  <li class="list-group-item">First item</li>
  <li class="list-group-item">Second item</li>
  <li class="list-group-item">Third item</li>
</ul>
```