



Unit 4

Bootstrap

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Jumbotron, Button, Grid, Table, Form, Alert, Wells

Badge & Label, Panels, Pagination, Pager, Image, Glyphicon

Carousel, Progress Bar, List Group, Dropdown, Collapse

Tabs/Pills, Navbar, Input Types, Modals, Popover, Scrollspy

Introduction

- **Bootstrap is the 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 typography, forms, buttons, tables, navigation, modals, image carousels and many others.**
- **It can also use JavaScript plug-ins.**
- **It facilitates you to create responsive designs.**



History:

Bootstrap was developed by Mark Otto and Jacob Thornton at Twitter. It was released as an open source product in August 2011 on GitHub.

In June 2014 Bootstrap was the No.1 project on GitHub.

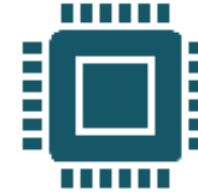


Why use Bootstrap(Advantages):

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



Responsive website:

A website is called responsive website which can automatically adjust itself to look good on all devices, from smart phones to desktops etc.

Bootstrap Package contains:

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

Bootstrap 4

- Bootstrap is the newest and latest version of Bootstrap. It is the most popular HTML, CSS, JavaScript framework for developing responsive, mobile first websites.
- Internet Explorer 9 and down is not supported by Bootstrap 4. Although Internet Explorer 8-9 supported Bootstrap 3. So, if you have Internet Explorer 8-9, you should use Bootstrap 3. Bootstrap 3 is the most stable version of Bootstrap, and it is still supported by the team for critical bugfixes and documentation changes.
- Bootstrap 4 has some new components, faster stylesheet, more buttons, effects and more responsiveness.
- Bootstrap 4 supports some the latest, stable releases of all major browsers and platforms.

Bootstrap 5

- Bootstrap 5 (released 2021) is the newest version of [Bootstrap](#) (released 2013); with new components, faster stylesheet and more responsiveness.
- Bootstrap 5 supports the latest, stable releases of all major browsers and platforms. However, Internet Explorer 11 and down is not supported.
- The main differences between Bootstrap 5 and Bootstrap 3 & 4, is that Bootstrap 5 has switched to vanilla JavaScript instead of jQuery.

Note: [Bootstrap 3](#) and [Bootstrap 4](#) is still supported by the team for critical bugfixes and documentation changes, and it is perfectly safe to continue to use them. However, new features will NOT be added to them.

Advantages 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 5 is compatible with all modern browsers (chrome, firefox, edge, safari, and opera). Note that if you need support for IE11 and down, you must use either BS4 or BS3.

First Bootstrap Example

Add the HTML 5 doctype: Bootstrap uses HTML elements and CSS properties, so you have to add the HTML 5 doctype at the beginning of the page with lang attribute and correct character set.

Bootstrap is mobile friendly: Bootstrap 3 is designed to be responsive to mobile devices.

Create Your First Web Page With Bootstrap

- **1. Add the HTML5 doctype**
- Bootstrap 5 uses HTML elements and CSS properties that require the HTML5 doctype.
- Always include the HTML5 doctype at the beginning of the page, along with the lang attribute and the correct title and character set:

```
<!DOCTYPE html>  
<html lang="en">  
  <head>  
    <title>Bootstrap 5 Example</title>  
    <meta charset="utf-8">  
  </head>  
</html>
```

2. Bootstrap 5 is mobile-first

Bootstrap 5 is designed to be responsive to mobile devices. Mobile-first styles are part of the core framework.

To ensure proper rendering and touch zooming, add the following `<meta>` tag inside the `<head>` element:

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

The `width=device-width` part sets the width of the page to follow the screen-width of the device (which will vary depending on the device).

The `initial-scale=1` part sets the initial zoom level when the page is first loaded by the browser.

- Mobile-first styles are part of the core framework of Bootstrap. You have to add the following `<meta>` tag inside the `<head>` element for proper rendering and touch zooming:

`<meta name="viewport" content="width=device-width, initial-scale=1">`

- Note: The "width=device-width" part is used to set the width of the page to follow the screen-width of the device (vary according to the devices).
- The initial-scale=1 part is used to set the initial zoom level when the page is first loaded by the browser.

3. Containers

Bootstrap 5 also requires a containing element to wrap site contents.

There are two container classes to choose from:

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



`.container`



`.container-fluid`

- Containers: container is used to wrap the site contents. There are two container classes.
 - The .container class provides a responsive fixed width container.
 - The .container-fluid class provides a full width container, spanning the entire width of the viewport.

```
<!doctype html>
```

```
<html lang="en">
```

```
<head>
```

```
<!-- Required meta tags -->
```

```
<meta charset="utf-8">
```

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

```
<!-- Bootstrap CSS -->
```

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/  
bootstrap.min.css" rel="stylesheet" integrity="sha384-EVSTQN3/  
azprG1Anm3QDgpnJLIm9Nao0Yz1ztcQTWfSpd3yD65VohhpuuCOmLASjC  
" crossorigin="anonymous">
```

```
<title>Hello, world!</title>
```

```
</head>
```

```
<body>
```

```
  <h1>Hello, world!</h1>
```

```
  <!-- Optional JavaScript; choose one of the two! -->
```

```
  <!-- Option 1: Bootstrap Bundle with Popper -->
```

```
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/  
bootstrap.bundle.min.js" integrity="sha384-  
MrcW6ZMFYIzcLA8NI+NtUVF0sA7MsXsP1UyJoMp4YLEuNSfAP+JcXn/  
tWtlaxVXM" crossorigin="anonymous"></script>
```

```
</body>
```

```
</html>
```


Line-by-Line Explanation

<!doctype html>: This tells the browser that the document is written in HTML5. It's the first thing a browser looks for.

<html lang="en">: This is the root element of the page. The lang="en" attribute specifies that the language of the page is English. This helps browsers and search engines handle the page correctly.

<head>: This section contains meta-information about the HTML document, which is not displayed directly on the page.

<!-- Required meta tags -->: This is a comment.

<meta charset="utf-8">: Specifies the character encoding for the document, in this case, UTF-8, which supports a wide range of characters.

<meta name="viewport" content="width=device-width, initial-scale=1">: This is crucial for responsive web design. It tells the browser how to control the page's dimensions and scaling, particularly on different devices (like phones and tablets).

width=device-width: Sets the width of the page to the width of the device's screen.

initial-scale=1: Sets the initial zoom level when the page is first loaded.

- `<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTWfSpd3yD65Vohhp uuCOmLASjC" crossorigin="anonymous">`: This line links the HTML document to the Bootstrap 5 CSS framework.
 - `href`: Specifies the URL of the CSS file. This is a CDN (Content Delivery Network) link, meaning the CSS is hosted on a remote server.
 - `rel="stylesheet"`: Indicates that the linked resource is a stylesheet.
 - `integrity`: Provides a cryptographic hash to verify the integrity of the CSS file. This ensures that the file hasn't been tampered with.
 - `crossorigin="anonymous"`: Specifies how the browser should handle cross-origin requests. `anonymous` means that no user credentials (cookies, HTTP authentication) are sent with the request.
- `<title>Hello, world!</title>`: Sets the title of the HTML document, which is displayed in the browser's title bar or tab.

Bootstrap Container

- In Bootstrap, container is used to set the content's margins dealing with the responsive behaviors of your layout. It contains the row elements and the row elements are the container of columns (known as grid system).
- The container class is used to create boxed content.
- There are two container classes in Bootstrap:
 - Container (which sets a **max-width** at each responsive breakpoint)
 - container-fluid (which is **width: 100%** at all breakpoints)
- **.container** class is a responsive, fixed-width container, meaning its **max-width** changes at each breakpoint.

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

See the basic layout of a container:

```
<html>
<body>
  <div class="container">
    <div class="row">
      <div class="col-md-xx"> </div>
      ...
    </div>
    <div class="row">
      <div class="col-md-xx"> </div>
      ...
    </div>
  </div>
</body>
</html>
```

Fluid containers

- Use `.container-fluid` for a full width container, spanning the entire width of the viewport.
- `<div class="container-fluid">`
 `...`
 `</div>`

Bootstrap Jumbotron

- A Bootstrap jumbotron specifies a big box for getting extra attention to some special content or information. It is displayed as a grey box with rounded corners. It can also enlarge the font sizes of the text inside it.
- You can put any valid HTML or other Bootstrap elements/ classes inside a jumbotron.
- The class .jumbotron within the <div> element is used to create a jumbotron.
- **Jumbotron Inside Container**
 - The Inside container is used in jumbotron, if you want the jumbotron to not extend to the edge of the screen.
 - Put the jumbotron inside the <div class="container">.

- **Jumbotron Outside Container**

- It is used when you want the jumbotron to extend to the screen edges.
- Put the jumbotron outside the `<div class="container">`.

- **Full-width Jumbotron**

- To get a jumbotron without rounded borders, you have to add the `.jumbotron-fluid` class and a `.container` or `.container-fluid` inside it.

Bootstrap Page Header

- A page header is like a section divider. It adds a horizontal line under the heading.
- The **.page-header** class is used to create a page header.

Bootstrap Buttons

There are seven styles to add a button in Bootstrap. Use the following classes to achieve the different button styles:

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

These 3 buttons are:

- **Secondary**
- **Dark**
- **Light**

The following classes are used to specify them respectively:

```
<button type="button" class="btn btn-secondary">Secondary</button>
```

```
<button type="button" class="btn btn-dark">Dark</button>
```

```
<button type="button" class="btn btn-light">Light</button>
```

- **Bootstrap Button Size**

- In Bootstrap, you can choose a button according to your requirement. It provides four button sizes.
- The following classes define the different sizes:
 - .btn-lg
 - .btn-md
 - .btn-sm
 - .btn-xs

- **Bootstrap Enable/Disable Buttons**

- You can set a button disable or unclickable state.
- The **.active class** is used to make a button appear pressed, and the **class .disabled** makes a button unclickable:

- Bootstrap Block level buttons
- The block level button covers the entire width of the parent element.
- The **.btn-block class** is used to create a block level button:

- **Bootstrap Enable/Disable Buttons**

- You can set a button disable or unclickable state.
- The **.active class** is used to make a button appear pressed, and the **class .disabled** makes a button unclickable: