



What is Bootstrap?

Bootstrap is a library of CSS and JavaScript code that you can combine to quickly build visually appealing websites.





Key Features of Bootstrap

Responsive Design:

Bootstrap's grid system allows you to create complex layouts using a series of rows and columns that automatically adjust to different screen sizes.

Pre-styled Components:

Bootstrap comes with various pre-designed components such as buttons, forms, modals, navigation bars, alerts, etc. These components can be easily customized and integrated into your web pages.

Cross-browser Compatibility:

Bootstrap ensures that your web pages look and function well across all modern browsers and devices.



Customizable:

Bootstrap can be easily customized by overriding its default styles or using its built-in SASS variables and mixins to create a unique look and feel.

JavaScript Plugins:

Bootstrap includes a variety of JavaScript plugins for adding interactive elements like carousels, tooltips, popovers, and more, without the need for extensive coding.





Getting Started with Bootstrap

To start using Bootstrap, you need to include its CSS and JavaScript files in your HTML document. You can either download Bootstrap from its official website or use a Content Delivery Network (CDN) to include the files.

[Read more](#)





Including Bootstrap via CDN

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial
scale=1.0">
  <title>Bootstrap Example</title>

<!-- Bootstrap CSS -->
  <link
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstr
ap.min.css" rel="stylesheet">
</head>
<body>
<div class="container">
  <h1 class="text-center">Hello, Bootstrap!</h1>
  <p>This is a simple example of a Bootstrap web page.</p>
</div>
```



Including Bootstrap via CDN



```
<!-- Bootstrap JS, Popper.js, and jQuery -->  
<script src="https://code.jquery.com/jquery-3.5.1.slim.min.js">  
</script>  
<script  
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.3/dist/umd/popper.min.js"></script>  
<script  
src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>  
</body>  
</html>
```



Basic Components and Grid System

Grid System

Bootstrap's grid system uses a series of containers, rows, and columns to layout and align content. It's built with flexbox, providing a powerful and flexible way to create responsive layouts.

```
<div class="container">  
  <div class="row">  
    <div class="col-md-4">Column 1</div>  
    <div class="col-md-4">Column 2</div>  
    <div class="col-md-4">Column 3</div>  
  </div>  
</div>
```




Forms

Bootstrap provides a robust framework for creating and styling forms.

```
<form>
  <div class="form-group">
    <label for="exampleInputEmail1">Email address</label>
    <input type="email" class="form-control"
id="exampleInputEmail1" aria-describedby="emailHelp">
  </div>
  <div class="form-group">
    <label for="exampleInputPassword1">Password</label>
    <input type="password" class="form-control"
id="exampleInputPassword1">
  </div>
  <button type="submit" class="btn btn-
primary">Submit</button>
</form>
```




Buttons

Bootstrap includes several predefined button styles, each serving its own semantic purpose.

```
<button type="button" class="btn btn-primary">Primary  
Button</button>  
<button type="button" class="btn btn-  
secondary">Secondary Button</button>  
<button type="button" class="btn btn-success">Success  
Button</button>
```

Advanced Features of Bootstrap

Beyond the basics, Bootstrap offers advanced features and utilities that can enhance the development and functionality of your web projects. Here are some key advanced features:





Modals

Modals are dialog boxes or popups that are displayed on top of the current page. They are useful for displaying important information or interactive content without navigating away from the current page.

```
<!-- Button trigger modal -->  
<button type="button" class="btn btn-primary" data-toggle="modal" data-  
target="#exampleModal">  
  Launch demo modal  
</button>
```





```
<!-- Modal -->
<div class="modal fade" id="exampleModal" tabindex="-1" role="dialog" aria-
labelledby="exampleModalLabel" aria-hidden="true">
  <div class="modal-dialog" role="document">
    <div class="modal-content">
      <div class="modal-header">
        <h5 class="modal-title" id="exampleModalLabel">Modal title</h5>
        <button type="button" class="close" data-dismiss="modal" aria-label="Close">
          <span aria-hidden="true">&times;</span>
        </button>
      </div>
      <div class="modal-body">
        ...
      </div>
      <div class="modal-footer">
        <button type="button" class="btn btn-secondary" data-
dismiss="modal">Close</button>
        <button type="button" class="btn btn-primary">Save changes</button>
      </div>
    </div>
  </div>
</div>
```



Carousels

Carousels are used to create a slideshow of images or other content. They can be navigated through arrows or indicators.

```
<div id="carouselExampleIndicators" class="carousel slide" data-ride="carousel">
  <ol class="carousel-indicators">
    <li data-target="#carouselExampleIndicators" data-slide-to="0" class="active"></li>
    <li data-target="#carouselExampleIndicators" data-slide-to="1"></li>
    <li data-target="#carouselExampleIndicators" data-slide-to="2"></li>
  </ol>
```





```
<div class="carousel-inner">
  <div class="carousel-item active">
    
  </div>
  <div class="carousel-item">
    
  </div>
  <div class="carousel-item">
    
  </div>
</div>
<a class="carousel-control-prev" href="#carouselExampleIndicators"
role="button" data-slide="prev">
  <span class="carousel-control-prev-icon" aria-hidden="true"></span>
  <span class="sr-only">Previous</span>
</a>
<a class="carousel-control-next" href="#carouselExampleIndicators"
role="button" data-slide="next">
  <span class="carousel-control-next-icon" aria-hidden="true"></span>
  <span class="sr-only">Next</span>
</a>
</div>
```



Cards

Cards are flexible content containers that can include a variety of content types, such as images, text, links, and buttons.

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

Tooltips

Tooltips are small pop-up boxes that appear when the user hovers over an element. They are useful for providing additional information about an element.





```
<button type="button" class="btn btn-secondary" data-toggle="tooltip" data-  
placement="top" title="Tooltip on top">  
  Tooltip on top  
</button>
```

```
<script>  
  $(function () {  
    $('[data-toggle="tooltip"]').tooltip()  
  })  
</script>
```

Popovers

Popovers are similar to tooltips but can contain more content and are triggered by clicking rather than hovering.

```
<button type="button" class="btn btn-lg btn-danger" data-toggle="popover" title="Popover  
title" data-content="And here's some amazing content. It's very engaging. Right?">
```

```
  Click to toggle popover  
</button>  
<script>  
  $(function () {  
    $('[data-toggle="popover"]').popover()  
  })  
</script>
```




Utilities

Bootstrap provides a variety of utility classes that help with spacing, alignment, sizing, and more. These classes make it easy to apply common CSS properties without writing custom CSS.

Spacing

Bootstrap's spacing utilities allow you to control the padding and margin of elements.

```
<div class="mt-5">Margin top 5</div>  
<div class="p-3">Padding 3</div>
```





Text Alignment

You can align text using text alignment utilities.

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

Display

Control the display property of elements using display utilities.

```
<div class="d-none d-md-block">Hidden on all devices except medium and larger screens</div>
```





Customizing Bootstrap

Bootstrap can be customized by overriding its default styles in your own CSS file or by modifying its SASS variables. This allows you to tailor the look and feel of your website to match your brand's identity.





Customization with SASS

Bootstrap is built with SASS, a CSS preprocessor that allows you to customize Bootstrap by changing variables and using mixins. This gives you greater control over the look and feel of your website.

Install SASS: Make sure you have Node.js installed, then install SASS via npm:

```
bash
```

```
npm install sass
```

Customize Variables: Create a custom SASS file where you can override Bootstrap's default variables.

```
scss
```

```
// custom.scss  
$primary: #ff6347;  
@import "node_modules/bootstrap/scss/bootstrap";
```



Compile SASS: Compile your custom SASS file into CSS.

bash

```
sass custom.scss custom.css
```

Include Custom CSS: Use the compiled CSS in your HTML file.

html

```
<link rel="stylesheet" href="custom.css">
```





Thank You !

