
Bootstrap 5

Front-end Framework

What is Responsive Web Design?



- Responsive web design is about creating web sites which automatically adjust themselves to look good on all devices, from small phones to large desktops.
- Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first web sites.
- Bootstrap is completely free to download and use!



What is bootstrap



- Bootstrap is a free front-end framework for faster and easier web development
- Bootstrap includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plugins
- Bootstrap also gives you the ability to easily create responsive designs



Bootstrap History



- Bootstrap was developed by Mark Otto and Jacob Thornton at Twitter and released as an open-source product in August 2011 on GitHub.
- 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 3, mobile-first styles are part of the core framework
 - **Browser compatibility:** Bootstrap is compatible with all modern browsers (Chrome, Firefox, Internet Explorer, Safari, and Opera)



Where to Get Bootstrap?



- There are two ways to start using Bootstrap on your own web site.
 - Download Bootstrap from getbootstrap.com
 - If you want to download and host Bootstrap yourself, go to getbootstrap.com, and follow the instructions there.
 - Include Bootstrap from a CDN
 - If you don't want to download and host Bootstrap yourself, you can include it from a CDN (Content Delivery Network).
 - MaxCDN provides CDN support for Bootstrap's CSS and JavaScript. You must also include jQuery.



Bootstrap CDN



- You must include the following Bootstrap's CSS, JavaScript, and jQuery from MaxCDN into your web page.

```
<!-- Latest compiled and minified Bootstrap CSS -->
<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/5.0.0-alpha1/css/bootstrap.min.css" crossorigin="anonymous">
<script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
crossorigin="anonymous"></script>
<script src="https://stackpath.bootstrapcdn.com/bootstrap/5.0.0-alpha1/js/bootstrap.min.js"
crossorigin="anonymous"></script>
```

Advantage of using the Bootstrap CDN:

- 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. Also, most CDN's will make sure that once a user requests a file from it, it will be served from the server closest to them, which also leads to faster loading time.



Custom Elements



<https://getbootstrap.com/docs/5.3/>

- Typography
- Forms
- Tables
- Buttons
- Images

Bootstrap has classes and snippets to easily make your HTML elements look much cleaner and more stylish



CSS Components



- Glyphicons
- Dropdowns
- Button Groups
- Navbar
- Breadcrumbs
- Labels
- Badges
- Alerts
- Jumbotron
- Progress Bars
- Media Objects
- List Group
- Panels
- Wells
- Input Groups



JavaScript Widgets



- Modal
- Dropdown
- Tabs
- Tooltip
- Popover
- Alert
- Carousel / Slider

Bootstrap uses over a dozen custom JavaScript/JQuery plugins that can be used by simply including **JQuery** and the **bootstrap.js** file



Grids rules and uses



- Bootstrap's grid system allows up to 12 columns across the page.
- If you do not want to use all 12 columns individually, you can group the columns together to create wider columns:

```
<div class="col-md-12">Span 12 columns</div>
```

```
<div class="col-md-6">Span 6</div><div class="col-md-6">Span 6</div>
```

```
<div class="col-md-4">Span 4</div><div class="col-md-8">Span 8</div>
```

```
<div class="col-md-4">Span 4</div><div class="col-md-4">Span 4</div> <div class="col-md-4">Span 4</div>
```

- Bootstrap's grid system is responsive, and the columns will re-arrange automatically depending on the screen size.

.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1
.col-md-8								.col-md-4			
.col-md-4				.col-md-4				.col-md-4			
.col-md-6						.col-md-6					



Grid Classes



- The Bootstrap grid system has four classes:
 - xs (for phones)
 - sm (for tablets)
 - md (for desktops)
 - lg (for larger desktops)
- The classes above can be combined to create more dynamic and flexible layouts.



Create Web Page with Bootstrap (1)



- the HTML5 doctype
 - Bootstrap 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 character set:

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



Create Web Page with Bootstrap (2)



- Bootstrap 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.



Create Web Page with Bootstrap (3)



- Containers
 - Bootstrap also requires a containing element to wrap site contents.
 - There are two container classes to choose from:
 - The **.container** class provides a responsive **fixed width container**. ([See Sample](#))
 - The **.container-fluid** class provides a **full width container**, spanning the entire width of the viewport. ([See Sample](#))
- **Note:** Containers are not nestable (you cannot put a container inside another container).



Basic Structure of a Bootstrap Grid

+

```
<div class="row">
  <div class="col-*-*"></div>
</div>
<div class="row">
  <div class="col-*-*"></div>
  <div class="col-*-*"></div>
  <div class="col-*-*"></div>
</div>
<div class="row">
  ...
</div>
```

+

- First; create a row (<div class="row">). Then, add the desired number of columns (tags with appropriate .col-*-* classes). Note that numbers in .col-*-* should always add up to 12 for each row.

Tables

#	First	Last	Handle
1	Mark	Otto	@mdo
2	Jacob	Thornton	@fat
3	Larry the Bird		@twitter

- A **basic** Bootstrap table has a light padding and only horizontal dividers.
 - The **.table class** adds basic styling to a table:
- **Striped Rows**
 - The **.table-striped** class adds zebra-stripes to a table:
- **Bordered Table**
 - The **.table-bordered** class adds borders on all sides of the table and cells:
- **Hover Rows**
 - The **.table-hover** class enables a hover state on table rows:
- **Responsive Tables**
 - The **.table-responsive** class creates a responsive table. The table will then scroll horizontally on small devices (under 768px). When viewing on anything larger than 768px wide, there is no difference:

Button component



Button Styles

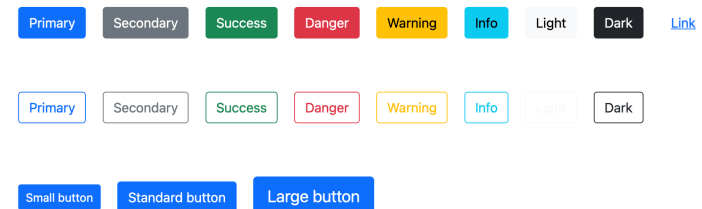
Bootstrap provides seven styles of buttons with the following **classes**:

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

The button classes can be used on the following elements:

`<a>` `<button>` `<input>`

- `<button class="btn btn-primary"></button>`
- ``
- `btn-outline-secondary`
- Disabled, active
- `data-bs-toggle="button"`
- `<div class="btn-group"> </div>`



Forms



class="form-control"

form-control form-color-picker

form-select

form-select-lg

form-check

form-check-input

form-check-label

class="Input-group"

class="form-floating" (floats label within the input)

Required (for validation)

Is-valid is-invalid

Valid-feedback, invalid-feedback

Email address

name@example.com

Example textarea



Alert component

+

```
<div class="alert alert-success alert-dismissible" role="alert">  
Alert  
<button type="button" class="btn-close" aria-label="close" data-bs-  
dismiss="alert"></button>  
</div>
```

A simple warning alert with [an example link](#). Give it a click if you like.

×

A simple info alert with [an example link](#). Give it a click if you like.

×

A simple light alert with [an example link](#). Give it a click if you like.

×

A simple dark alert with [an example link](#). Give it a click if you like.

×

+

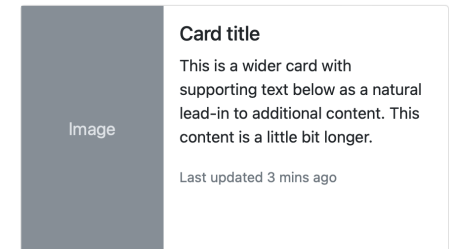
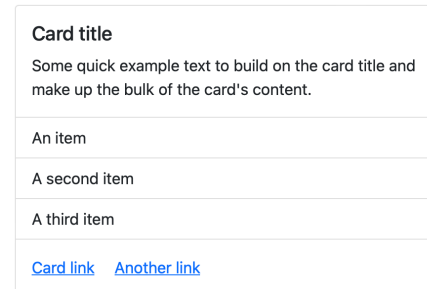
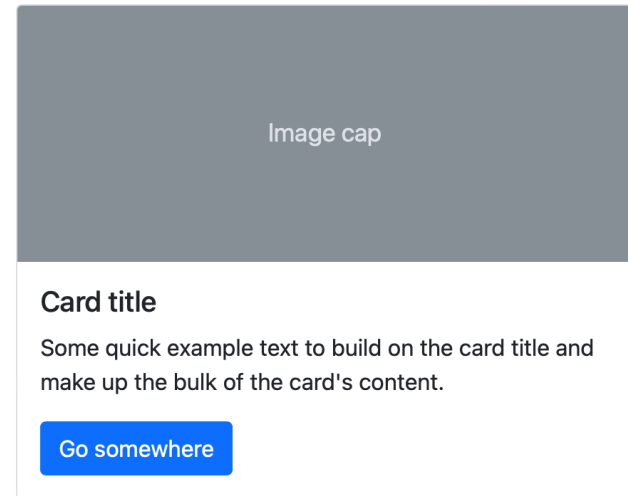
card component



- `<div class="card">`
- ``
- `<h2 class="card-header">`
- `<div class="card-body card-img-overlay">`
- `<div class="card-title">`
- `<div class="card-subtitle">`
- `<div class="card-text">`
- `<div class="card-footer">`

``

`<div class="card-group">` (combine multiple cards)



modal component



Modals are built with HTML, CSS, and JavaScript.

```
<button class="btn btn-primary" data-bs-toggle="modal" data-bs-  
target="#modal">open</div>  
  <div class="modal" fade id='modal' >  
    <div class="modal-dialog modal-dialog-scrollable modal-fullscreen">  
      <div class="modal-content">  
        <div class="modal-header">  
          <button btn-close data-bs-dismiss="modal"></button> (for the X sign)  
        <div class="modal-body">  
          <div class="modal-footer">
```



modal component



<!-- Button trigger collapse -->

```
<button class="btn btn-primary" type="button" data-bs-toggle="collapse" data-bs-target="#row" aria-expanded="false" aria-controls="row"> Toggle </button>
```

<!-- Collapsible content -->

```
<div class="collapse" id="row">
```

```
<div class="row">
```

```
<div class="col">
```

```
<div class="box"> <!-- Your content goes here --> </div>
```

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

```
</div>
```

