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**SRI RAMACHANDRA ENGINEERING AND TECHNOLOGY**

# CSE 150 WEB DESIGN – FRONTEND DEVELOPMENT

## MODULE 3



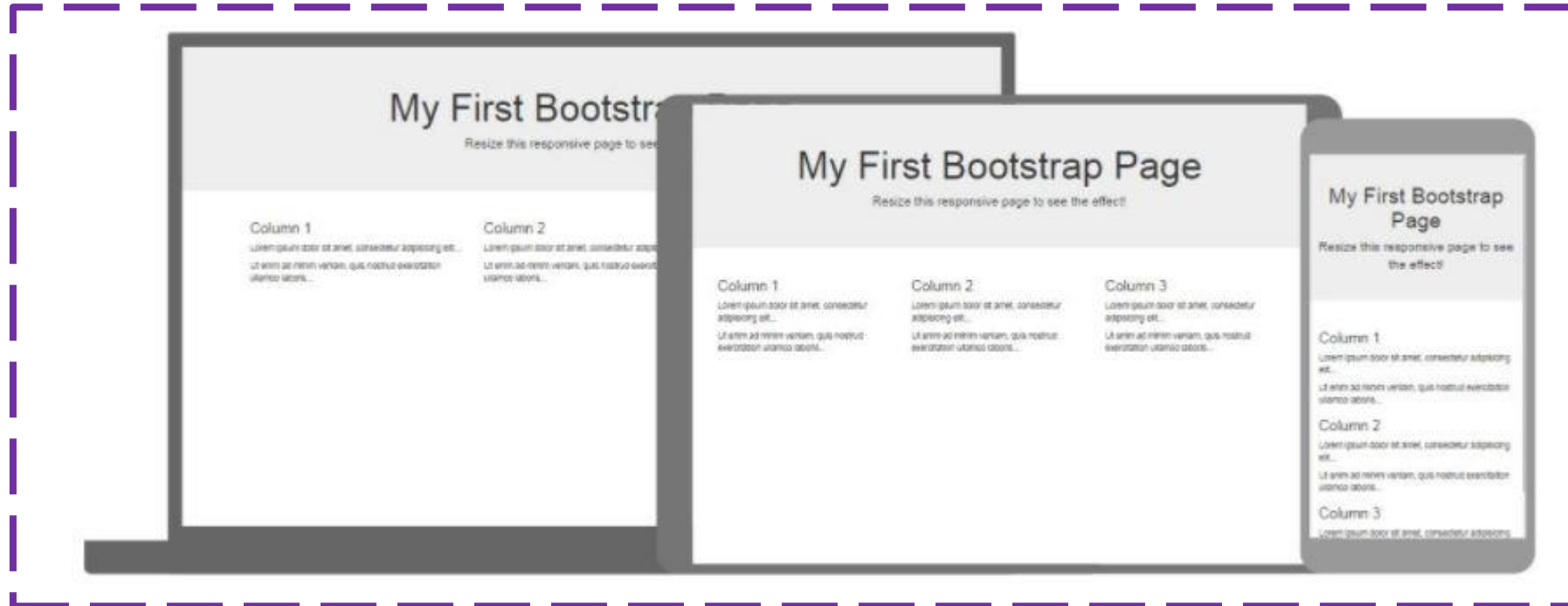
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# Bootstrap 5

Bootstrap 5 is the newest version of Bootstrap, which is the most popular HTML, CSS, and JavaScript framework for creating responsive, mobile-first websites.

Bootstrap 5 is completely free to download and use!

[Start learning Bootstrap 5 now »](#)



# 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

# 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.*

# Why Use Bootstrap ?

## 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, Internet Explorer 11, Edge, Safari, and Opera)

# Where to Get Bootstrap 5?

***There are two ways to start using Bootstrap 5 on your own web site.:***

***You can:***

- **Include Bootstrap 5 from a CDN**
- **Download Bootstrap 5 from [getbootstrap.com](https://getbootstrap.com)**

# Where to Get Bootstrap 5?

## Bootstrap 5 from a CDN

- ✓ If you don't want to download and host Bootstrap 5 yourself, you can include it from a **CDN (Content Delivery Network)**.
- ✓ jsDelivr provides CDN support for Bootstrap's CSS and JavaScript:

# Where to Get Bootstrap 4?

## Bootstrap 4 from a CDN

<!-- Latest compiled and minified CSS --> //Head section

<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">

<!-- jQuery library --> //Body

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<!-- Popper JS -->

<script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.16.0/umd/popper.min.js"></script>

<!-- Latest compiled JavaScript -->

<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>



# Where to Get Bootstrap 5?

## Bootstrap 5 from a CDN

<!-- Latest compiled and minified CSS --> //Head section

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet">
```

<!-- Latest compiled JavaScript --> //Before the closing </Body> tag

```
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js"></script>
```

# Where to Get Bootstrap 5?

## Downloading Bootstrap 5

- ✓ If you want to download and host Bootstrap 5 yourself, go to <https://getbootstrap.com/>, and follow the instructions there.

# Create First Web Page With Bootstrap 5?

## 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 character set

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

# Create First Web Page With Bootstrap 5?

## 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.

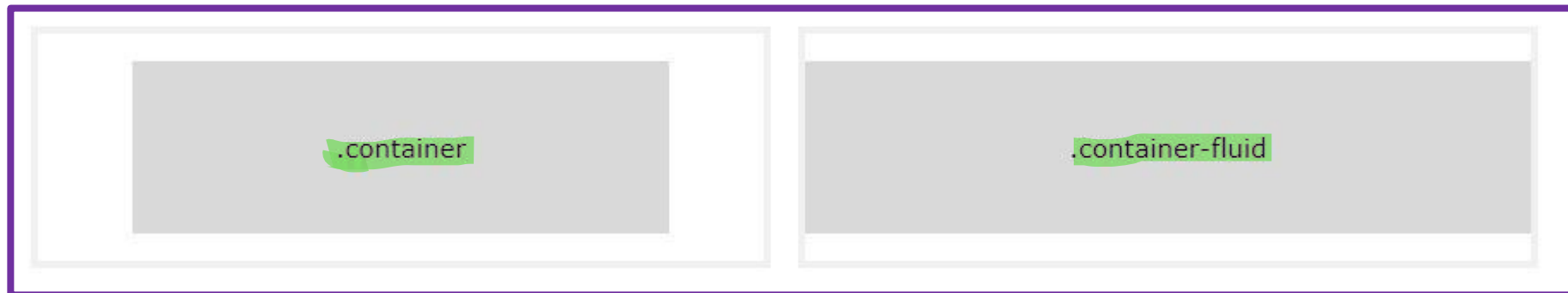
# Create First Web Page With Bootstrap 5?

## 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.



# Create First Web Page With Bootstrap 5?

	<b>Extra small</b> <576px	<b>Small</b> ≥576px	<b>Medium</b> ≥768px	<b>Large</b> ≥992px	<b>X-Large</b> ≥1200px	<b>XX-Large</b> ≥1400px
<code>.container</code>	100%	540px	720px	960px	1140px	1320px
<code>.container-sm</code>	100%	540px	720px	960px	1140px	1320px
<code>.container-md</code>	100%	100%	720px	960px	1140px	1320px
<code>.container-lg</code>	100%	100%	100%	960px	1140px	1320px
<code>.container-xl</code>	100%	100%	100%	100%	1140px	1320px
<code>.container-xxl</code>	100%	100%	100%	100%	100%	1320px
<code>.container-fluid</code>	100%	100%	100%	100%	100%	100%

# Bootstrap 5 Containers

```
<div class="container">
```

```
<h1>My First Bootstrap Page</h1>
```

```
<p>This part is inside a .container class.</p>
```

```
<p>The .container class provides a responsive fixed width container.</p>
```

```
<p>Resize the browser window to see that its width (max-width) will change at different breakpoints.</p>
```

```
</div>
```

Fixed container

## My First Bootstrap Page

This part is inside a .container class.

The .container class provides a responsive fixed width container.

Resize the browser window to see that its width (max-width) will change at different breakpoints.

# Bootstrap 5 Containers

```
<div class="container-fluid">
```

```
<h1>My First Bootstrap Page</h1>
```

```
<p>This is some text.</p>
```

```
</div>
```

Container-fluid

## My First Bootstrap Page

This part is inside a `.container-fluid` class.

The `.container-fluid` class provides a full width container, spanning the entire width of the viewport.



# Bootstrap 5 Container Padding

## Container Padding

By default, containers have left and right padding, with no top or bottom padding. Therefore, we often use **spacing utilities**, such as extra padding and margins to make them look even better. For example, `.pt-5` means "add a large **top padding**":

```
<div class="container pt-5"></div>
```

## My First Bootstrap Page

This container has an extra top padding.

Try to remove the `.pt-5` class to see the difference.

# Bootstrap 5 Container Borders and Colors

```
<div class="container p-5 my-5 border"></div>
```

```
<div class="container p-5 my-5 bg-dark text-white"></div>
```

```
<div class="container p-5 my-5 bg-primary text-white"></div>
```

## My First Bootstrap Page

This container has a border and some extra padding and margins.

## My First Bootstrap Page

This container has a dark background color and a white text, and some extra padding and margins.

## My First Bootstrap Page

This container has a blue background color and a white text, and some extra padding and margins.

# Responsive Containers

```
<div class="container-sm">.container-sm</div>  
<div class="container-md">.container-md</div>  
<div class="container-lg">.container-lg</div>  
<div class="container-xl">.container-xl</div>  
<div class="container-xxl">.container-xxl</div>
```

## Responsive Containers

Resize the browser window to see the effect.

.container-sm

.container-md

.container-lg

.container-xl

.container-xxl

# Bootstrap 5 Grids

If you do not want to use all 12 columns individually, you can group the columns together to create wider columns:

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 5 Grid Classes

*The Bootstrap 5 grid system has five classes:*

- .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)
- **Tip:** Each class scales up, so if you wish to set the same widths for **sm** and **md**, you only need to specify **sm**.

# Bootstrap 5 Grid Classes

```
<div class="container-fluid mt-3">
  <h1>Three equal width columns</h1>
  <p>Note: Try to add a new div with class="col" inside the row class - this will create
four equal-width columns.</p>
  <div class="row">
    <div class="col p-3 bg-primary text-white">Home</div>
    <div class="col p-3 bg-dark text-white">About Us</div>
    <div class="col p-3 bg-primary text-white">Contact Us</div>
  </div>
</div>
```

## Three equal width columns

Note: Try to add a new div with class="col" inside the row class - this will create four equal-width columns.

Home

About Us

Contact Us

# Responsive Equal Columns

```
<div class="row">  
  <div class="col-sm-3">.col-sm-3</div>  
  <div class="col-sm-3">.col-sm-3</div>  
  <div class="col-sm-3">.col-sm-3</div>  
  <div class="col-sm-3">.col-sm-3</div>  
</div>
```

## Responsive Columns

Resize the browser window to see the effect.

The columns will automatically stack on top of each other when the screen is less than 576px wide.

Home

About Us

Contact Us

Location

# Responsive Unequal Columns

```
<div class="container-fluid mt-3">
  <h1>Two Unequal Responsive Columns</h1>
  <p>Resize the browser window to see the effect.</p>
  <p>The columns will automatically stack on top of each other when the screen is less than 576px wide.</p>
  <div class="row">
    <div class="col-sm-4 p-3 bg-primary text-white">Home</div>
    <div class="col-sm-8 p-3 bg-dark text-white">Contact Us</div>
  </div>
</div>
```

## Two Unequal Responsive Columns

Resize the browser window to see the effect.

The columns will automatically stack on top of each other when the screen is less than 576px wide.

Home

Contact Us



# Responsive Columns

```
<!-- Two columns: 50% width on all screens, except for extra small (100% width) -->
<div class="row">
  <div class="col-sm">1 of 2</div>
  <div class="col-sm">2 of 2</div>
</div>

<!-- Four columns: 25% width on all screens, except for extra small (100% width)-->
<div class="row">
  <div class="col-sm">1 of 4</div>
  <div class="col-sm">2 of 4</div>
  <div class="col-sm">3 of 4</div>
  <div class="col-sm">4 of 4</div>
</div>
```

1 of 2

2 of 2

1 of 4

2 of 4

3 of 4

4 of 4

# Example

## Extra Small Grid Example

	XSmall	Small	Medium	Large	Extra Large	XXL
Class prefix	<b>.col-</b>	.col-sm-	.col-md-	.col-lg-	.col-xl-	.col-xxl-
Screen width	<576px	>=576px	>=768px	>=992px	>=1200px	>=1400px

# COLORS

```
<div class="container mt-3">
  <h2>Contextual Colors</h2>
  <p>Use the contextual classes to provide "meaning through
colors":</p>
  <p class="text-muted">This text is muted.</p>
  <p class="text-primary">This text is important.</p>
  <p class="text-success">This text indicates success.</p>
  <p class="text-info">This text represents some
information.</p>
  <p class="text-warning">This text represents a warning.</p>
  <p class="text-danger">This text represents danger.</p>
  <p class="text-secondary">Secondary text.</p>
  <p class="text-dark">This text is dark grey.</p>
  <p class="text-body">Default body color (often black).</p>
  <p class="text-light">This text is light grey (on white
background).</p>
  <p class="text-white">This text is white (on white
background).</p>
</div>
```

## Contextual Colors

Use the contextual classes to provide "meaning through colors":

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.

This text is dark grey.

Default body color (often black).

# Background Colors

```
<div class="container mt-3">
  <h2>Contextual Backgrounds</h2>
  <p>Use the contextual background classes to provide "meaning
through colors".</p>
  <p>Note that you can also add a .text-* class if you want a
different text color:</p>
  <p class="bg-primary text-white">This text is important.</p>
  <p class="bg-success text-white">This text indicates
success.</p>
  <p class="bg-info text-white">This text represents some
information.</p>
  <p class="bg-warning text-white">This text represents a
warning.</p>
  <p class="bg-danger text-white">This text represents
danger.</p>
  <p class="bg-secondary text-white">Secondary background
color.</p>
  <p class="bg-dark text-white">Dark grey background color.</p>
  <p class="bg-light text-dark">Light grey background color.</p>
</div>
```

## Contextual Backgrounds

Use the contextual background classes to provide "meaning through colors".

Note that you can also add a .text-\* class if you want a different text color:

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.

# Bootstrap 5 Tables

- A basic Bootstrap 5 table has a light padding and horizontal dividers.
- The `.table` class adds basic styling to a table:

```
<table class="table">
  <thead>
    <tr>
      <th>#</th>
      <th>First Name</th>
      <th>Last Name</th>
    </tr>
  </thead>
```

```
<tbody>
  <tr>
    <th scope="row">1</th>
    <td>Mark</td>
    <td>Otto</td>
  </tr>
  <tr>
    <th scope="row">2</th>
    <td>Jacob</td>
    <td>Thornton</td>
  </tr>
</tbody>
</table>
```

# Bootstrap 5 Tables

- A basic Bootstrap 5 table has a light padding and horizontal dividers.
- The `.table` class adds basic styling to a table:

#	First Name	Last Name
1	Mark	Otto
2	Jacob	Thornton

# Bootstrap 5 Alerts

- Bootstrap 5 provides an easy way to create predefined alert messages:

The image displays a vertical stack of eight Bootstrap 5 alert boxes, each with a distinct color and a close button (X) in the top right corner. The alerts are as follows:

- Success!** This alert box indicates a successful or positive action. (Green background)
- Info!** This alert box indicates a neutral informative change or action. (Light blue background)
- Warning!** This alert box indicates a warning that might need attention. (Yellow background)
- Danger!** This alert box indicates a dangerous or potentially negative action. (Pink background)
- Primary!** This alert box indicates an important action. (Blue background)
- Secondary!** This alert box indicates a less important action. (Light grey background)
- Dark!** Dark grey alert box. (Dark grey background)
- Light!** Light grey alert box. (Light grey background)

# Bootstrap 5 Alerts

```
<div class="alert alert-success">  
  <strong>Success!</strong> Indicates a successful or positive action.  
</div>
```

**Success!** This alert box indicates a successful or positive action.





# Bootstrap 5 Alerts Links

```
<div class="alert alert-success">  
  <strong>Success!</strong> You should <a href="#" class="alert-link">read this  
message</a>.  
</div>
```

## Alert Links

Add the alert-link class to any links inside the alert box to create "matching colored links".

**Success!** You should **read this message.**

# Bootstrap 5 Closing Alerts

Click on the "x" symbol to the right to close me.



```
div class="alert alert-success alert-dismissible">  
  <button type="button" class="close" data-dismiss="alert">&times;</button>  
  <strong>Success!</strong> This alert box could indicate a successful or positive action.  
</div>
```

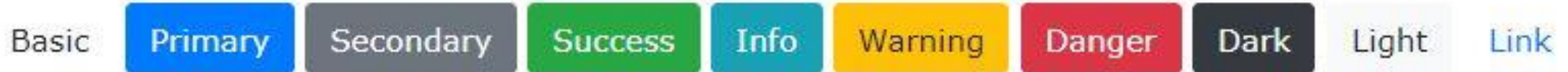
**Success!** This alert box could indicate a successful or  
positive action.



# Bootstrap 5 Buttons

## Button Styles

Bootstrap 4 provides different styles of buttons:



```
<button type="button" class="btn">Basic</button>
```

```
<button type="button" class="btn btn-primary">Primary</button>
```

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

```
<button type="button" class="btn btn-success">Success</button>
```

```
<button type="button" class="btn btn-info">Info</button>
```

# Bootstrap 5 Buttons

The button classes can be used on `<a>`, `<button>`, or `<input>` elements:

```
<a href="#" class="btn btn-info" role="button">Link Button</a>  
<button type="button" class="btn btn-info">Button</button>  
<input type="button" class="btn btn-info" value="Input Button">  
<input type="submit" class="btn btn-info" value="Submit Button">
```

## Button Elements



**Why do we put a # in the href attribute of the link?**

Since we do not have any page to link it to, and we do not want to get a "404" message, we put # as the link. In real life it should of course been a real URL to the "Search" page.

# Bootstrap 5 Button Outline

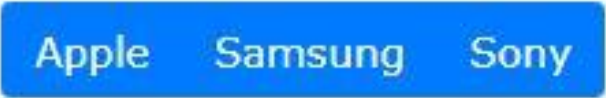
Bootstrap 4 provides eight outline/bordered buttons:



```
<button type="button" class="btn btn-outline-primary">Primary</button>  
<button type="button" class="btn btn-outline-secondary">Secondary</button>  
<button type="button" class="btn btn-outline-success">Success</button>  
<button type="button" class="btn btn-outline-info">Info</button>  
<button type="button" class="btn btn-outline-warning">Warning</button>  
<button type="button" class="btn btn-outline-danger">Danger</button>  
<button type="button" class="btn btn-outline-dark">Dark</button>  
<button type="button" class="btn btn-outline-light text-dark">Light</button>
```

# Bootstrap 5 Button Groups

Bootstrap 4 allows you to group a series of buttons together (on a single line) in a button group:



Use a `<div>` element with class `.btn-group` to create a button group:

```
<div class="btn-group">  
  <button type="button" class="btn btn-primary">Apple</button>  
  <button type="button" class="btn btn-primary">Samsung</button>  
  <button type="button" class="btn btn-primary">Sony</button>  
</div>
```

# Bootstrap 5 Forms

```
<form action="/action_page.php">
  <div class="form-group">
    <label for="email">Email address:</label>
    <input type="email" class="form-control" placeholder="Enter email" id="email">
  </div>
  <div class="form-group">
    <label for="pwd">Password:</label>
    <input type="password" class="form-control" placeholder="Enter password" id="pwd">
  </div>
  <div class="form-group form-check">
    <label class="form-check-label">
      <input class="form-check-input" type="checkbox"> Remember me
    </label>
  </div>
  <button type="submit" class="btn btn-primary">Submit</button>
</form>
```

# Bootstrap 5 Forms

Email:

Password:

☐ Remember me

Submit



# Bootstrap 5 Inputs

Bootstrap supports all the HTML5 input types: text, password, datetime, datetime-local, date, month, time, week, number, email, url, search, tel, and color.

**Note:** Inputs will NOT be fully styled if their type is not properly declared!

```
<div class="form-group">
  <label for="usr">Name:</label>
  <input type="text" class="form-control" id="usr">
</div>
<div class="form-group">
  <label for="pwd">Password:</label>
  <input type="password" class="form-control" id="pwd">
</div>
```

# Bootstrap 5 Accordion

- Bootstrap 5 Accordion component
- Responsive accordion built with the latest Bootstrap 5.
- Accordion is a vertically collapsing element to show and hide content via class changes.
- Build vertically collapsing accordions in combination with our Collapse JavaScript plugin.

## *How it works*

- ✓ The accordion uses [collapse](#) internally to make it collapsible. To render an accordion that's expanded, add the `.open` class on the `.accordion`.

# Bootstrap 5 Accordion

## Basic example

Click the accordions below to expand/collapse the accordion content.

Accordion Item #1

**This is the first item's accordion body.** It is hidden by default, until the collapse plugin adds the appropriate classes that we use to style each element. These classes control the overall appearance, as well as the showing and hiding via CSS transitions. You can modify any of this with custom CSS or overriding our default variables. It's also worth noting that just about any HTML can go within the `.accordion-body`, though the transition does limit overflow.

Accordion Item #2

Accordion Item #3

# Bootstrap 5 Tab

- Tabs are used to separate content into different panes where each pane is viewable one at a time.

<u><i>Class</i></u>	<u><i>Description</i></u>
.nav nav-tabs	Creates navigation tabs
.nav nav-pills	Creates navigation pills
.nav-item	Creates tab items
.nav-link	Styles links inside the navigation tab
.nav-justified	Makes navigation tabs/pills equal widths of their parent, at screens wider than 768px. On smaller screens, the nav tabs are stacked
.tab-content	Together with .tab-pane and data-toggle="tab", it makes the tab toggleable
.tab-pane	Together with .tab-content and data-toggle="tab", it makes the tab toggleable

# Bootstrap 5 Tab

## Togggleable Tabs

Home

Menu 1

Menu 2

### HOME

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

# Bootstrap 3 Glyph icons

Bootstrap provides 260 glyphicons from the Glyphicons Halflings set.

Glyphicons can be used in text, buttons, toolbars, navigation, forms, etc.

Here are some examples of glyphicons:

Envelope glyphicon: ✉

Print glyphicon: 🖨

Search glyphicon: 🔍

Download glyphicon: ⬇

# Bootstrap 3 Glyph icons - Syntax


A glyphicon is inserted with the following syntax:

```
<span class="glyphicon glyphicon-name"></span>
```


The *name* part in the syntax above must be replaced with the proper name of the glyphicon.

# Bootstrap 3 Glyph icons


<p>Envelope icon: <span class="glyphicon glyphicon-envelope"></span></p>

Envelope icon: 

<p>Search icon: <span class="glyphicon glyphicon-search"></span></p>

Search icon: 

<p>Print icon: <span class="glyphicon glyphicon-print"></span></p>

Print icon: 



# Bootstrap 5 Tooltip

The Tooltip component is small pop-up box that appears when the user moves the mouse pointer over an element:



- To create a tooltip, add the `data-toggle="tooltip"` attribute to an element.
- Use the `title` attribute to specify the text that should be displayed inside the tooltip

```
<a href="#" data-toggle="tooltip" title="Hooray!">Hover over me</a>
```

# How to create a Tooltip

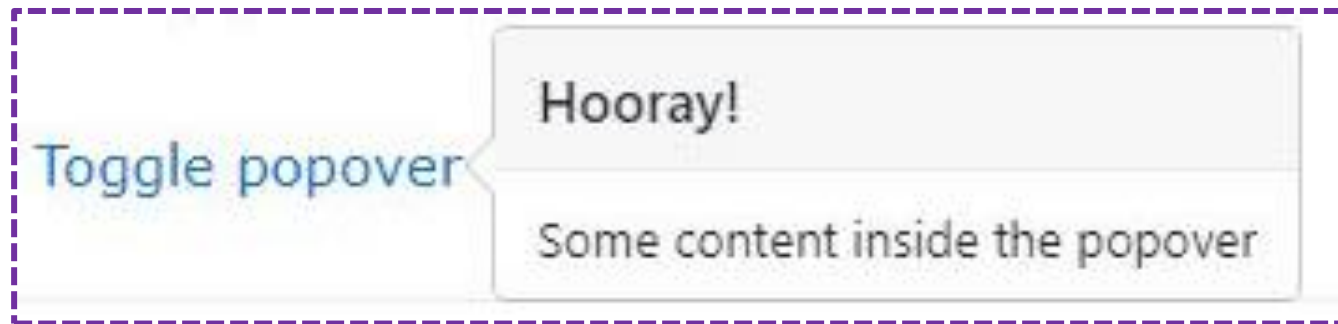
**Note:** Tooltips must be initialized with jQuery: select the specified element and call the `tooltip()` method.

The following code will enable all tooltips in the document:

```
<script>
// Initialize tooltips
var tooltipTriggerList = [].slice.call(document.querySelectorAll('[data-bs-
toggle="tooltip"]'))
var tooltipList = tooltipTriggerList.map(function (tooltipTriggerEl) {
  return new bootstrap.Tooltip(tooltipTriggerEl)
})
</script>
```

# Bootstrap 5 Popover

- The Popover component is similar to tooltips; it is a pop-up box that appears when the user clicks on an element. The difference is that the popover can contain much more content.



# How to create a Popover

- To create a popover, add the `data-toggle="popover"` attribute to an element.
- Use the `title` attribute to specify the header text of the popover, and use the `data-content` attribute to specify the text that should be displayed inside the popover's body:

# How to create a Popover

```
<div class="container">
  <h3>Popover Example</h3>
  <a href="#" data-toggle="popover"
    title="Popover Header" data-content="Some
    content inside the popover">Toggle
    popover</a>
</div>
```

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

Popover Example

Toggle popover

Popover Example

Toggle popover

Popover Header

Some content inside the popover

# Positioning Popover

```
<a href="#" title="Header" data-toggle="popover" data-placement="top" data-  
content="Content">Click</a>  
<a href="#" title="Header" data-toggle="popover" data-placement="bottom" data-  
content="Content">Click</a>  
<a href="#" title="Header" data-toggle="popover" data-placement="left" data-  
content="Content">Click</a>  
<a href="#" title="Header" data-toggle="popover" data-placement="right" data-  
content="Content">Click</a>
```

# Dismissible Popover

```
<div class="container">
  <h3>Popover Example</h3>
  <a href="#" title="Dismissible popover" data-toggle="popover" data-trigger="focus" data-
content="Click anywhere in the document to close this popover">Click me</a>
</div>

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

*Thank you*