

Web Development

# **Introduction to Bootstrap**

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## What is Bootstrap?

Bootstrap is a powerful frontend framework initially developed by **Twitter** to simplify and speed up responsive web development.

It includes:

- Predefined CSS classes for layout, typography, buttons, and more
- A responsive 12-column grid system
- Reusable JavaScript components like modals, carousels, and tooltips
- Easy integration with HTML and minimal custom CSS

## Why Bootstrap?

- Saves time writing custom CSS
- Ensures consistency across browsers and devices
- Mobile-first by default

## How to Use Bootstrap

- CDN (Fastest Way)

No installation required—simply copy-paste these links in your HTML <head> and before the </body> tag

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

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css" rel="stylesheet">
```

```
<!-- JS Bundle -->
```

```
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>
```

## Grid System

The 12-column grid system allows for building responsive layouts using rows and columns. It uses **flexbox** under the hood.

### Key Concepts:

- .container: fixed-width
- .container-fluid: full-width
- .row: wrapper for columns
- .col: equal column width (auto)
- .col-md-6: 6/12 columns for medium screens

### Tip:

col-xl-3 col-lg-5 col-md-5 col-sm-7 col-12

```
<div class="container">  
  <div class="row">  
    <div class="col-md-6 bg-primary text-white">Left Column</div>  
    <div class="col-md-6 bg-success text-white">Right Column</div>  
  </div>  
</div>
```

col 1	col 1	col 1	col 1	col 1	col 1	col 1	col 1	col 1	col 1	col 1	col 1
col 3			col 3			col 3			col 3		
col 4				col 4				col 4			
col 8								col 4			
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col 2		col 2		col 4				col 2		col 2	
col 6						col 6					
col 12											

## Typography Utilities

Bootstrap offers responsive and accessible typography classes:

- Headings (h1 to h6)
- .display-1 to .display-6
- .lead for larger paragraph
- .text-\* for alignment and color

```
<h1 class="display-1">Welcome</h1>
<p class="lead">This is a lead paragraph.</p>
<p class="text-end text-muted">Right aligned and muted</p>
```

## Color & Background Utilities

Customize text and background quickly using utility classes:

- text-primary, text-danger, bg-light, bg-success

Bootstrap uses a consistent color palette

```
<p class="">This is an error message</p>  
<div class="bg-warning text-dark p-3">Warning Section</div>
```

## Buttons & Alerts

- Buttons are customizable with classes like .btn, .btn-success, .btn-outline-danger, etc.
- Alerts are used for feedback messages.

```
<button class="btn btn-primary">Save</button>
```

### Alert:

```
<div class="alert alert-warning alert-dismissible fade show">  
  Please check your input!  
  <button class="btn-close" data-bs-dismiss="alert"></button>  
</div>
```



## Forms

Bootstrap form are styled out of the box and include:

- Inputs, textareas, checkboxes, radios
- Validation classes (is-valid, is-invalid)
- Label and input grouping

```
<form>
  <div class="mb-3">
    <label>Email address</label>
    <input type="email" class="form-control" required>
  </div>
</form>
```

## Cards

Cards are flexible containers for content—can include images, text, links, and footers. Combine with grid for layouts.

```
<div class="card" style="width: 18rem;">
  
  <div class="card-body">
    <h5 class="card-title">Project</h5>
    <p class="card-text">Short description.</p>
    <a href="#" class="btn btn-primary">View</a>
  </div>
</div>
```

## Navbar

A responsive navigation bar that collapses into a hamburger menu on mobile screens. You can add branding and links.

## Carousel

A slideshow component for images and content with navigation controls and indicators.

## Resources

### Videos:

- Traversy Media: Bootstrap 5 Crash Course
- freeCodeCamp Bootstrap Full Course

### Games:

- Flexbox Froggy
- Grid Garden

### Blogs:

- Bootstrap Blog
- Smashing Magazine on Bootstrap

### Websites:

- Bootstrap Official Docs
- Bootsniipp
- Codeply

# Web Development

## Submission Notes

### Capture Evidence:

- Take screenshots or record a short video for each task.
- Ensure your evidence clearly shows the completed task.

### Upload Tasks:

- Upload each task as a separate folder or file in your GitHub repository.

### LinkedIn Post:

- Create a short post summarizing what you learned and how you completed the tasks.
- Highlight your key takeaways.
- Mention the following account in your post:
- **Muhammad Munim**

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# Thank You

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