Bootstrap Training Module

A Comprehensive Guide for Beginners

Prepared by xAI Training Team May 07, 2025

Downloadable PDF version available for training purposes.

**Contents**

1. [Introduction to Bootstrap](#_bookmark0) 2
   1. [Why Use Bootstrap?](#_bookmark1) 2
   2. [Setting Up Bootstrap](#_bookmark2) 2
2. [Grid System](#_bookmark3) 2
   1. [Basic Grid Example](#_bookmark4) 2
3. [Typography and Utilities](#_bookmark5) 3
   1. [Text Styling Example](#_bookmark6) 3
4. [Components: Buttons and Cards](#_bookmark7) 3
   1. [Button and Card Example](#_bookmark8) 4
5. [Navigation Bars](#_bookmark9) 4
   1. [Navbar Example](#_bookmark10) 4
6. [Forms](#_bookmark11) 5
   1. [Form Example](#_bookmark12) 5
7. [Modals](#_bookmark13) 6
   1. [Modal Example](#_bookmark14) 6
8. [Customization](#_bookmark15) 7
   1. [Custom CSS Example](#_bookmark16) 7
9. [Conclusion](#_bookmark17) 7
10. [References](#_bookmark18) 8

1

# Introduction to Bootstrap

Bootstrap is an open-source front-end framework for building responsive, mobile- first websites. It provides pre-styled components and a grid system to streamline web development. This module introduces Bootstrap fundamentals with practi- cal HTML examples.

## Why Use Bootstrap?

* + - **Responsiveness**: Adapts layouts to different screen sizes.
    - **Consistency**: Provides uniform styling across browsers.
    - **Efficiency**: Speeds up development with reusable components.

## Setting Up Bootstrap

Include Bootstrap via CDN or download it from [https://getbootstrap.com](https://getbootstrap.com/). Use the following CDN links in your HTML:

<**link href**=”[https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/](https://cdn.jsdelivr.net/npm/bootstrap%405.3.3/dist/css/) bootstrap.min.css” **rel**=”stylesheet”>

<**script src**=”[https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/](https://cdn.jsdelivr.net/npm/bootstrap%405.3.3/dist/js/) bootstrap.bundle.min.js”></**script**>

1

2

# Grid System

Bootstrap’s grid system uses rows and columns for responsive layouts.

## Basic Grid Example

Create a responsive layout with three columns.

<!**DOCTYPE html**>

<**html lang**=”en”>

<**head**>

<**meta charset**=”UTF-8”>

<**meta name**=”viewport” **content**=”width=device-width, initial-scale

=1.0”>

<**link href**=”[https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/](https://cdn.jsdelivr.net/npm/bootstrap%405.3.3/dist/) css/bootstrap.min.css” **rel**=”stylesheet”>

<**title**>Grid Example</**title**>

</**head**>

<**body**>

<**div class**=”container”>

<**div class**=”row”>

<**div class**=”col-md-4 bg-light p-3”>Column 1</**div**>

<**div class**=”col-md-4 bg-light p-3”>Column 2</**div**>

<**div class**=”col-md-4 bg-light p-3”>Column 3</**div**>

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

</**div**>

</**div**>

</**body**>

</**html**>

16

17

18

**Explanation**:

* container: Centers and pads content.
* row: Defines a row in the grid.
* col-md-4: Columns that span 4 units on medium screens.

# Typography and Utilities

Bootstrap provides classes for styling text and spacing.

## Text Styling Example

Apply typography and utility classes.

<!**DOCTYPE html**>

<**html lang**=”en”>

<**head**>

<**meta charset**=”UTF-8”>

<**meta name**=”viewport” **content**=”width=device-width, initial-scale

=1.0”>

<**link href**=”[https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/](https://cdn.jsdelivr.net/npm/bootstrap%405.3.3/dist/) css/bootstrap.min.css” **rel**=”stylesheet”>

<**title**>Typography Example</**title**>

</**head**>

<**body**>

<**div class**=”container”>

<**h1 class**=”display-4”>Welcome to Bootstrap</**h1**>

<**p class**=”lead”>This is a lead paragraph.</**p**>

<**p class**=”text-muted”>Muted text example.</**p**>

<**div class**=”mt-4 p-3 bg-primary text-white”>Primary background</**div**>

</**div**>

</**body**>

</**html**>

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

# Components: Buttons and Cards

Bootstrap offers pre-styled components like buttons and cards.

## Button and Card Example

Create a card with buttons.

1 <!**DOCTYPE html**>

2 <**html lang**=”en”>

3 <**head**>

4 <**meta charset**=”UTF-8”>

5 <**meta name**=”viewport” **content**=”width=device-width, initial-scale

=1.0”>

6 <**link href**=”[https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/](https://cdn.jsdelivr.net/npm/bootstrap%405.3.3/dist/) css/bootstrap.min.css” **rel**=”stylesheet”>

7 <**title**>Card Example</**title**>

8 </**head**>

9 <**body**>

10 <**div class**=”container”>

11 <**div class**=”card” **style**=”width: 18rem;”>

12 <**div class**=”card-body”>

13 <**h5 class**=”card-title”>Sample Card</**h5**>

14 <**p class**=”card-text”>This is a Bootstrap card component.</**p**>

15 <**a href**=”#” **class**=”btn btn-primary”>Primary Button</

**a**>

16 <**a href**=”#” **class**=”btn btn-secondary”>Secondary Button</**a**>

17 </**div**>

18 </**div**>

19 </**div**>

20 </**body**>

21 </**html**>

# Navigation Bars

Bootstrap’s navbar component creates responsive menus.

## Navbar Example

Build a responsive navigation bar.

<!**DOCTYPE html**>

<**html lang**=”en”>

<**head**>

<**meta charset**=”UTF-8”>

<**meta name**=”viewport” **content**=”width=device-width, initial-scale

=1.0”>

<**link href**=”[https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/](https://cdn.jsdelivr.net/npm/bootstrap%405.3.3/dist/) css/bootstrap.min.css” **rel**=”stylesheet”>

<**script src**=”[https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/](https://cdn.jsdelivr.net/npm/bootstrap%405.3.3/dist/) js/bootstrap.bundle.min.js”></**script**>

<**title**>Navbar Example</**title**>

1

2

3

4

5

6

7

8

9

</**head**>

<**body**>

<nav **class**=”navbar navbar-expand-lg navbar-dark bg-dark”>

<**div class**=”container-fluid”>

<**a class**=”navbar-brand” **href**=”#”>MySite</**a**>

<**button class**=”navbar-toggler” **type**=”button” **data**-bs- toggle=”collapse” **data**-bs-target=”#navbarNav”>

<**span class**=”navbar-toggler-icon”></**span**>

</**button**>

<**div class**=”collapse navbar-collapse” **id**=”navbarNav”>

<**ul class**=”navbar-nav”>

<**li class**=”nav-item”>

<**a class**=”nav-link” **href**=”#”>Home</**a**>

</**li**>

<**li class**=”nav-item”>

<**a class**=”nav-link” **href**=”#”>About</**a**>

</**li**>

</**ul**>

</**div**>

</**div**>

</nav>

</**body**>

</**html**>

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

# Forms

Bootstrap styles forms for consistency and responsiveness.

## Form Example

Create a styled form.

<!**DOCTYPE html**>

<**html lang**=”en”>

<**head**>

<**meta charset**=”UTF-8”>

<**meta name**=”viewport” **content**=”width=device-width, initial-scale

=1.0”>

<**link href**=”[https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/](https://cdn.jsdelivr.net/npm/bootstrap%405.3.3/dist/) css/bootstrap.min.css” **rel**=”stylesheet”>

<**title**>Form Example</**title**>

</**head**>

<**body**>

<**div class**=”container”>

<**form**>

<**div class**=”mb-3”>

<**label for**=”name” **class**=”form-label”>Name</**label**>

<**input type**=”text” **class**=”form-control” **id**=”name” placeholder=”Enter name”>

</**div**>

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

<**div class**=”mb-3”>

<**label for**=”email” **class**=”form-label”>Email</**label**>

<**input type**=”email” **class**=”form-control” **id**=”email” placeholder=”Enter email”>

</**div**>

<**button type**=”submit” **class**=”btn btn-primary”>Submit</

**button**>

</**form**>

</**div**>

</**body**>

</**html**>

17

18

19

20

21

22

23

24

# Modals

Modals create pop-up dialogs for user interaction.

## Modal Example

Add a modal triggered by a button.

1 <!**DOCTYPE html**>

2 <**html lang**=”en”>

3 <**head**>

4 <**meta charset**=”UTF-8”>

5 <**meta name**=”viewport” **content**=”width=device-width, initial-scale

=1.0”>

6 <**link href**=”[https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/](https://cdn.jsdelivr.net/npm/bootstrap%405.3.3/dist/) css/bootstrap.min.css” **rel**=”stylesheet”>

7 <**script src**=”[https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/](https://cdn.jsdelivr.net/npm/bootstrap%405.3.3/dist/) js/bootstrap.bundle.min.js”></**script**>

8 <**title**>Modal Example</**title**>

9 </**head**>

10 <**body**>

11 <**div class**=”container”>

12 <**button type**=”button” **class**=”btn btn-primary” **data**-bs-toggle

=”modal” **data**-bs-target=”#myModal”>

13 Open Modal

14 </**button**>

15 <**div class**=”modal fade” **id**=”myModal”>

16 <**div class**=”modal-dialog”>

17 <**div class**=”modal-content”>

18 <**div class**=”modal-header”>

19 <**h5 class**=”modal-title”>Sample Modal</**h5**>

20 <**button type**=”button” **class**=”btn-close” **data**

-bs-dismiss=”modal”></**button**>

21 </**div**>

22 <**div class**=”modal-body”>

23 This is a Bootstrap modal.

24 </**div**>

25 <**div class**=”modal-footer”>

26

<**button type**=”button” **class**=”btn btn- secondary” **data**-bs-dismiss=”modal”>Close<

/**button**>

</**div**>

</**div**>

</**div**>

</**div**>

</**div**>

</**body**>

</**html**>

27

28

29

30

31

32

33

# Customization

Customize Bootstrap with CSS or Sass.

## Custom CSS Example

Override Bootstrap styles.

<!**DOCTYPE html**>

<**html lang**=”en”>

<**head**>

<**meta charset**=”UTF-8”>

<**meta name**=”viewport” **content**=”width=device-width, initial-scale

=1.0”>

<**link href**=”[https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/](https://cdn.jsdelivr.net/npm/bootstrap%405.3.3/dist/) css/bootstrap.min.css” **rel**=”stylesheet”>

<**style**>

.btn-primary {

background-color: #28a745; border-color: #28a745;

}

</**style**>

<**title**>Custom CSS Example</**title**>

</**head**>

<**body**>

<**div class**=”container”>

<**button class**=”btn btn-primary”>Custom Button</**button**>

</**div**>

</**body**>

</**html**>

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

# Conclusion

This module covers Bootstrap fundamentals—grid system, typography, compo- nents, navigation, forms, modals, and customization. Practice these examples and explore advanced features like Bootstrap’s JavaScript plugins and theming.

# References

* Bootstrap Documentation: <https://getbootstrap.com/docs>
* W3Schools Bootstrap Tutorial: <https://www.w3schools.com/bootstrap>