

Module 3: Bootstrap 5 (Classes 9–11)

Module Duration: 6 Hours (3 Classes × 2 Hours)

Software: Visual Studio Code, Google Chrome

Framework: Bootstrap 5

Module Learning Objectives

By the end of this module, students will be able to:

- Understand the Bootstrap framework and its advantages.
 - Build responsive websites using the Bootstrap Grid System.
 - Use Bootstrap components to create professional user interfaces.
 - Apply Bootstrap utility classes for spacing, typography, colors, and alignment.
 - Develop modern, mobile-friendly web pages efficiently.
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Class 9 (2 Hours)

Introduction to Bootstrap 5

Learning Outcomes

After completing this class, students will be able to:

- Understand what Bootstrap is.
 - Install and use Bootstrap in a project.
 - Create responsive layouts using the Grid System.
 - Build page structures with containers, rows, and columns.
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9.1 What is Bootstrap?

Bootstrap is a free, open-source CSS framework used to build responsive and mobile-first websites quickly.

Advantages of Bootstrap

- Mobile-first design
 - Responsive Grid System
 - Pre-designed UI components
 - Faster development
 - Cross-browser compatibility
 - Easy customization
 - Extensive documentation
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9.2 Bootstrap Features

- Responsive Grid System
 - Typography
 - Buttons
 - Forms
 - Navigation Bars
 - Cards
 - Tables
 - Alerts
 - Modals
 - Carousel
 - Utility Classes
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9.3 Adding Bootstrap to a Project

Method 1: CDN (Recommended)

Add the Bootstrap CSS and JavaScript CDN links inside your HTML file.

Method 2: Download Bootstrap

Download Bootstrap files and include them locally in your project.

9.4 Bootstrap Grid System

Bootstrap divides the page into **12 equal columns**.

Example:

- col-12 = Full width
 - col-6 = Half width
 - col-4 = One-third width
 - col-3 = One-fourth width
-

9.5 Containers

Fixed Container

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

Full-Width Container

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

9.6 Rows & Columns

```
<div class="container">
  <div class="row">
    <div class="col-md-6">Column 1</div>
    <div class="col-md-6">Column 2</div>
  </div>
</div>
```

9.7 Responsive Breakpoints

Device	Class Prefix
Extra Small	.col-
Small	.col-sm-
Medium	.col-md-
Large	.col-lg-
Extra Large	.col-xl-
Extra Extra Large	.col-xxl-

Practical Exercise

Create a responsive webpage containing:

- Header
 - Two-column layout
 - Three-column services section
 - Footer
-

Assignment

Design a responsive homepage using the Bootstrap Grid System.

Class 10 (2 Hours)

Bootstrap Components

Learning Outcomes

Students will be able to:

- Use Bootstrap's ready-made components.
 - Build navigation menus.
 - Create responsive forms and cards.
 - Design professional user interfaces quickly.
-

10.1 Buttons

Bootstrap button styles:

- Primary
- Secondary
- Success
- Danger
- Warning
- Info
- Light
- Dark

Example:

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

10.2 Navigation Bar

Features:

- Responsive menu
 - Brand logo
 - Navigation links
 - Collapsible menu
-

10.3 Cards

Cards can contain:

- Images
- Titles
- Text
- Buttons

Used for:

- Products
 - Services
 - Team Members
 - Blog Posts
-

10.4 Forms

Bootstrap form elements include:

- Text Input
- Email Input
- Password Input
- Select Box
- Radio Buttons
- Checkboxes
- Textarea

- Buttons
-

10.5 Tables

Bootstrap provides styled tables with options such as:

- Striped
 - Hover
 - Bordered
 - Responsive
-

10.6 Alerts

Alert styles:

- Success
 - Danger
 - Warning
 - Info
-

Practical Exercise

Build a business website homepage containing:

- Responsive Navigation Bar
 - Hero Section
 - Three Service Cards
 - Contact Form
 - Footer
-

Assignment

Create a responsive company landing page using Bootstrap components.

Class 11 (2 Hours)

Bootstrap Utilities & Advanced Components

Learning Outcomes

Students will be able to:

- Use Bootstrap utility classes effectively.
 - Build interactive web pages.
 - Create modern landing pages with advanced components.
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11.1 Utility Classes

Spacing

- Margin (m-*)
 - Padding (p-*)
-

Text

- Text Alignment
 - Font Weight
 - Text Colors
 - Text Transform
-

Background Colors

Examples:

- `bg-primary`
 - `bg-success`
 - `bg-warning`
 - `bg-dark`
-

Flex Utilities

- `d-flex`
 - `justify-content-*`
 - `align-items-*`
 - `flex-column`
 - `flex-row`
-

11.2 Bootstrap Icons

Use Bootstrap Icons to enhance user interfaces.

Common icons:

- Home
 - User
 - Phone
 - Email
 - Search
 - Cart
-

11.3 Carousel

A responsive image slider used for:

- Homepages
- Product Showcases
- Promotional Banners

Features:

- Previous/Next Controls
 - Indicators
 - Auto Slide
-

11.4 Modal

A popup dialog used for:

- Login Forms
 - Registration Forms
 - Notifications
 - Image Previews
-

11.5 Accordion

Used to display expandable content.

Common use cases:

- FAQs
 - Course Modules
 - Product Details
-

11.6 Footer Design

A professional footer typically includes:

- Company Information
 - Navigation Links
 - Social Media Icons
 - Contact Details
 - Copyright Notice
-

Practical Exercise

Develop a multi-section landing page that includes:

- Responsive Navbar
 - Carousel
 - About Section
 - Services Section
 - Accordion (FAQ)
 - Contact Form
 - Footer
-

Module Project

Students will create a **Responsive Business Website Homepage** featuring:

- Responsive Navigation Bar
- Hero Banner
- About Us Section
- Services Section
- Team Member Cards
- Pricing Section
- FAQ Accordion
- Contact Form
- Footer with Social Media Links

The project must be fully responsive and optimized for desktop, tablet, and mobile devices.

Module Assessment

Assessment	Marks
Bootstrap Fundamentals Quiz	10
Practical Exercises	20
Assignments	20
Responsive Homepage Project	40
Presentation & Viva	10
Total	100

Learning Outcomes

After completing **Module 3: Bootstrap 5**, students will be able to:

- Build responsive, mobile-first web pages using Bootstrap 5.
- Use the Grid System to create flexible layouts.
- Implement Bootstrap components such as navigation bars, cards, forms, tables, alerts, carousels, modals, and accordions.
- Apply utility classes for spacing, typography, alignment, and responsive behavior.
- Develop professional, responsive landing pages with minimal custom CSS.
- Prepare responsive website layouts that are ready for adding interactivity with JavaScript in the next module.

