

Academic Year: 2025-26

Year: Third Year

Term: I

PRN No.: 1012412022

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Subject: Web Technology

Assignment No.: 4

Date: 11/08/25

Lab Assignment: 04

Title: **Bootstrap-Based UI:** Create a website with Bootstrap components:

Application to consider (Any One):

1. Agriculture
2. Real Estate
- 3. Health and Fitness Website**
4. News Website
5. Social Media

Selected one – 3. Health and Fitness Website

Theory:

1. What is Bootstrap?

Bootstrap is a free, open-source front-end framework for creating responsive, mobile-first websites. It provides ready-to-use HTML, CSS, and JavaScript components such as navigation bars, buttons, forms, modals, and grids. Saves time because you don't have to code common UI elements from scratch.

- Created by: Mark Otto and Jacob Thornton at Twitter.
- Purpose: To make web development faster and easier.
- Current Version: Bootstrap 5 (no dependency on jQuery).

2. How to use Bootstrap? Stepwise Details

Bootstrap is a front-end CSS, JS, and component library that helps you quickly design responsive and modern-looking websites without writing much custom CSS.

Step 1 - Include Bootstrap in your project

There are two ways:

- **CDN (Content Delivery Network)** — fastest method (no download).

```
<link
```

```
  href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css" rel="stylesheet">
```

```
<script
```

```
  src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/js/bootstrap.bundle.min.js"></script>
```

- **Download** — install locally and link the CSS & JS files.

Step 2 - Set up HTML structure

Start with a basic HTML5 structure and add Bootstrap classes.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Bootstrap Example</title>
</head>
<body>
  <h1 class="text-center">Hello Bootstrap</h1>
</body>
</html>
```

Step 3 - Use Bootstrap classes for layout & styling

- **Layout:** Use Bootstrap's Grid System (container, row, col).

- **Components:** Use pre-designed buttons, alerts, modals, forms.

Example:

```
<div class="container">
  <div class="row">
    <div class="col-md-6 bg-primary text-white">Column 1</div>
    <div class="col-md-6 bg-success text-white">Column 2</div>
  </div>
</div>
```

Step 4 - Add interactivity with Bootstrap JavaScript

For dropdowns, modals, tooltips — Bootstrap uses JavaScript (already in the bundle file you linked).

Step 5 - Customize if needed

You can override Bootstrap styles with your own CSS or use Bootstrap's **utility classes**.

3. Key features of Bootstrap.

1. Responsive Design

- Websites adapt automatically to different screen sizes (mobile, tablet, desktop).
- Uses a 12-column fluid grid system to create flexible layouts.

2. Pre-styled Components

- Comes with ready-to-use UI elements like buttons, navbars, forms, modals, cards, alerts, etc.
- Saves time by avoiding the need to design from scratch.

3. Cross-browser Compatibility

- Works well on all major browsers like Chrome, Firefox, Safari, and Edge.

4. Customizable

- You can override styles with your own CSS.
- Supports Sass variables for deeper customization.

5. Mobile-first Approach

- Designed primarily for mobile devices and then scales up to larger screens.

6. Easy to Use

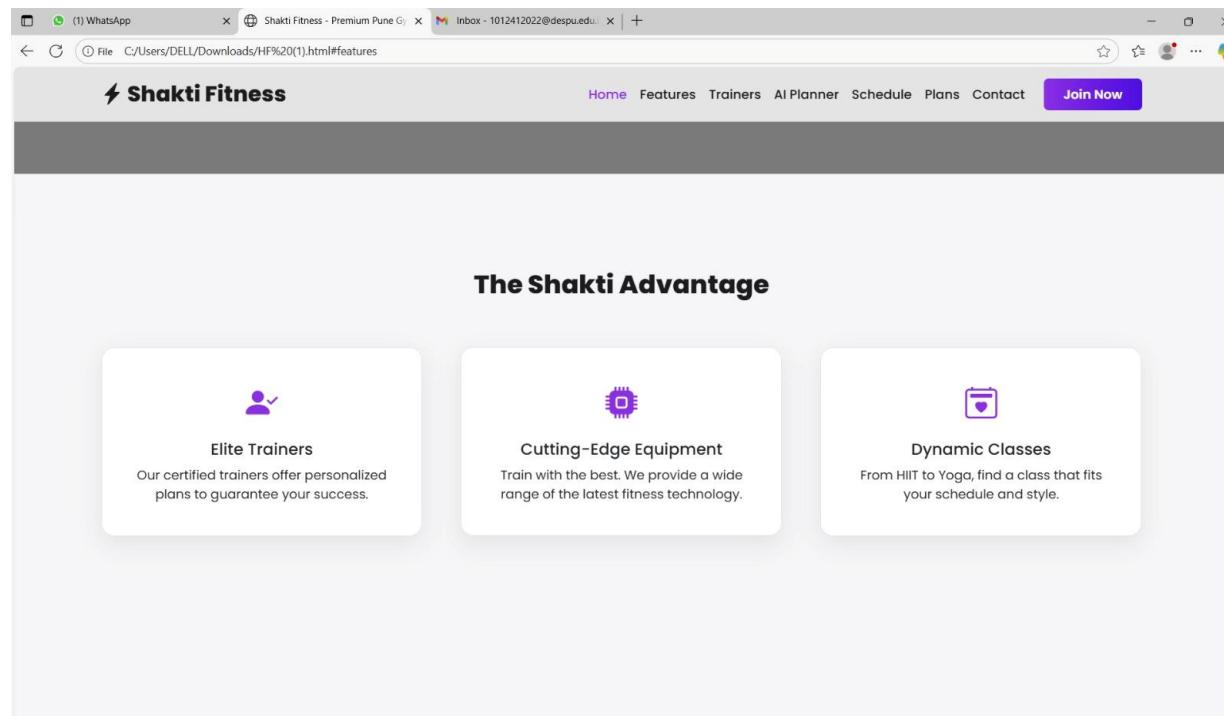
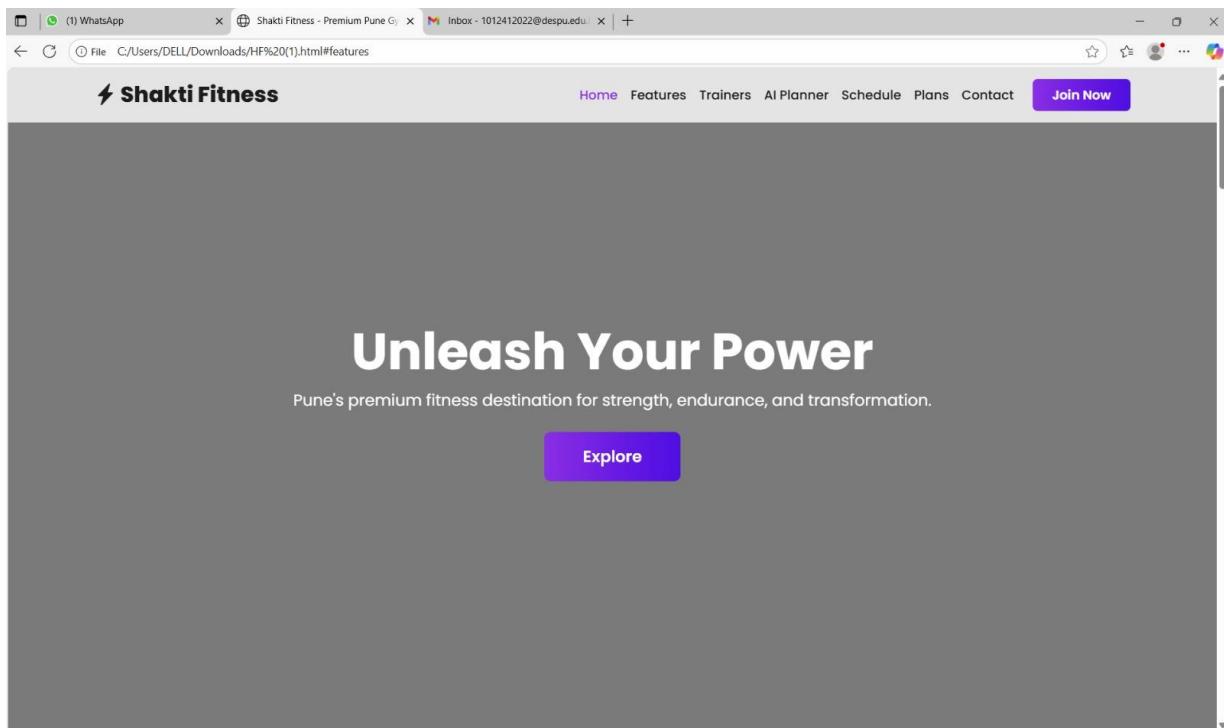
- You can add Bootstrap via CDN (just a link in HTML) or install via npm.
- Doesn't require deep design knowledge to create professional layouts.

7. Consistent Design

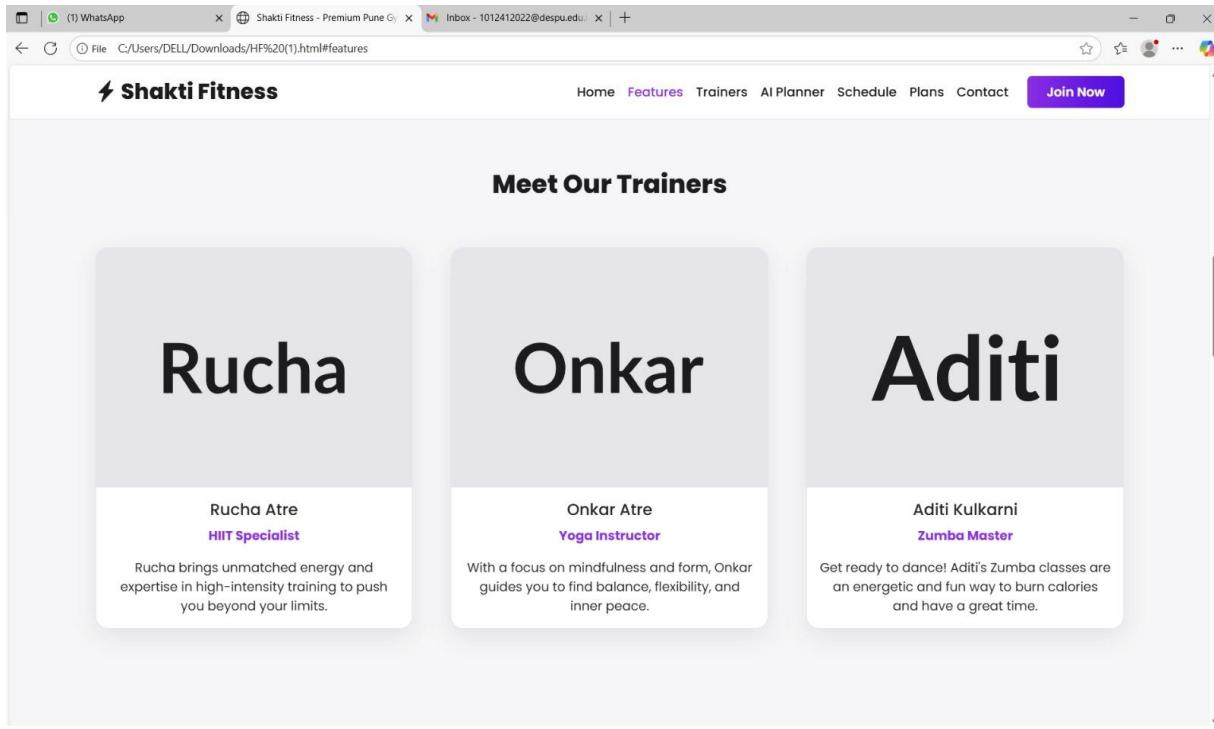
- Provides a unified look and feel across all browsers and devices.

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Screenshot of Webpage:

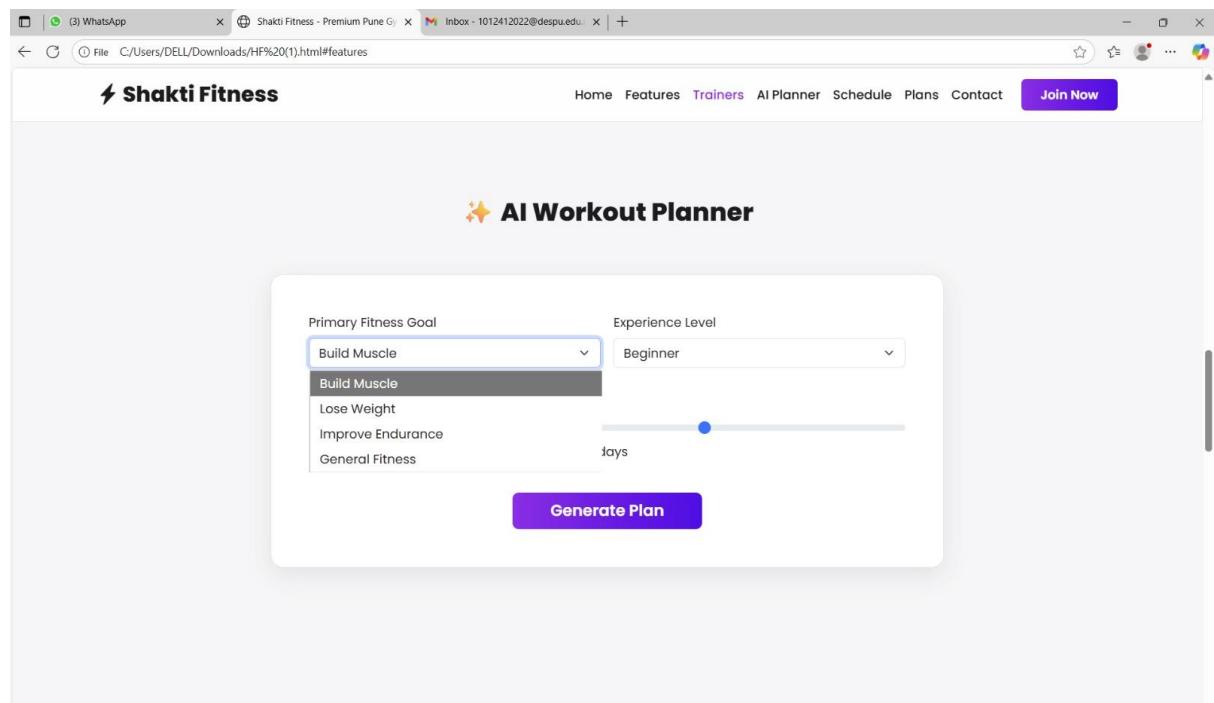


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The screenshot shows a web browser window with three tabs: WhatsApp, Shakti Fitness - Premium Pune G, and Inbox - 1012412022@despu.edu.in. The main content area displays the Shakti Fitness website. At the top, there is a navigation bar with links for Home, Features, Trainers, AI Planner, Schedule, Plans, Contact, and a prominent 'Join Now' button. Below the navigation bar, the heading 'Meet Our Trainers' is centered. Three trainer profiles are listed in a grid:

- Rucha** (HIIT Specialist): Rucha brings unmatched energy and expertise in high-intensity training to push you beyond your limits.
- Onkar** (Yoga Instructor): With a focus on mindfulness and form, Onkar guides you to find balance, flexibility, and inner peace.
- Aditi** (Zumba Master): Get ready to dance! Aditi's Zumba classes are an energetic and fun way to burn calories and have a great time.



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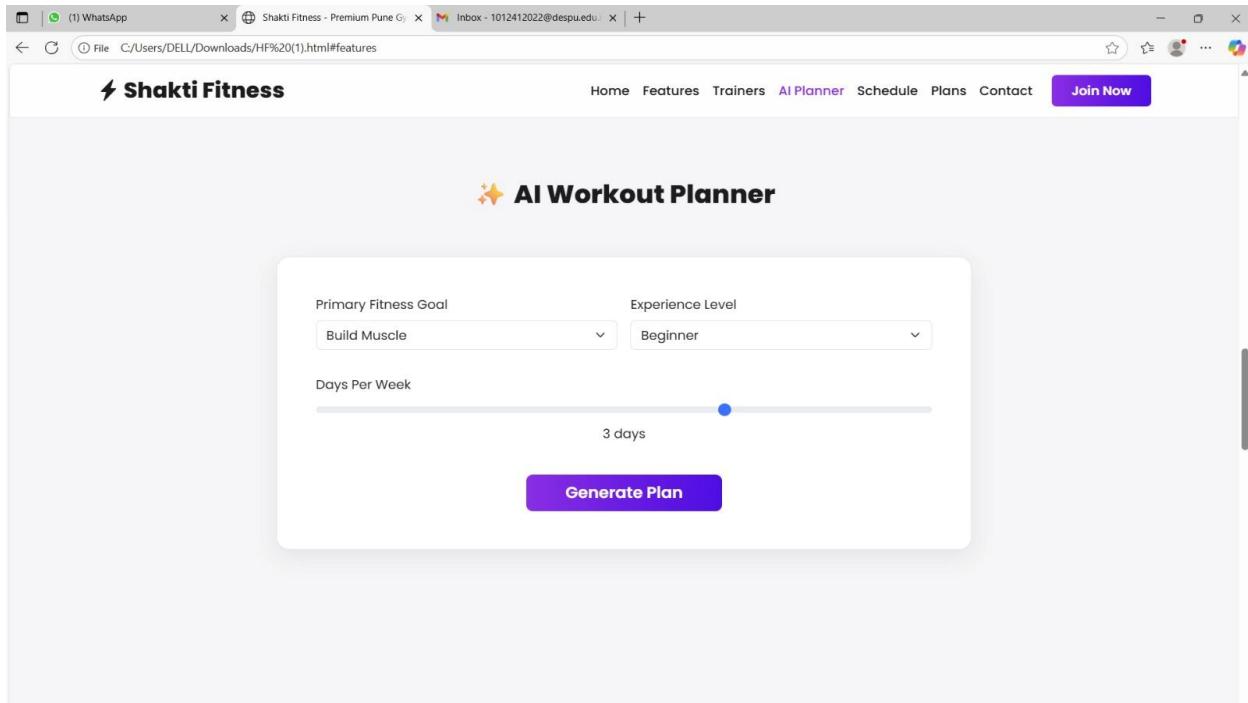
Primary Fitness Goal: Build Muscle (selected), Build Muscle, Lose Weight, Improve Endurance, General Fitness.

Experience Level: Beginner

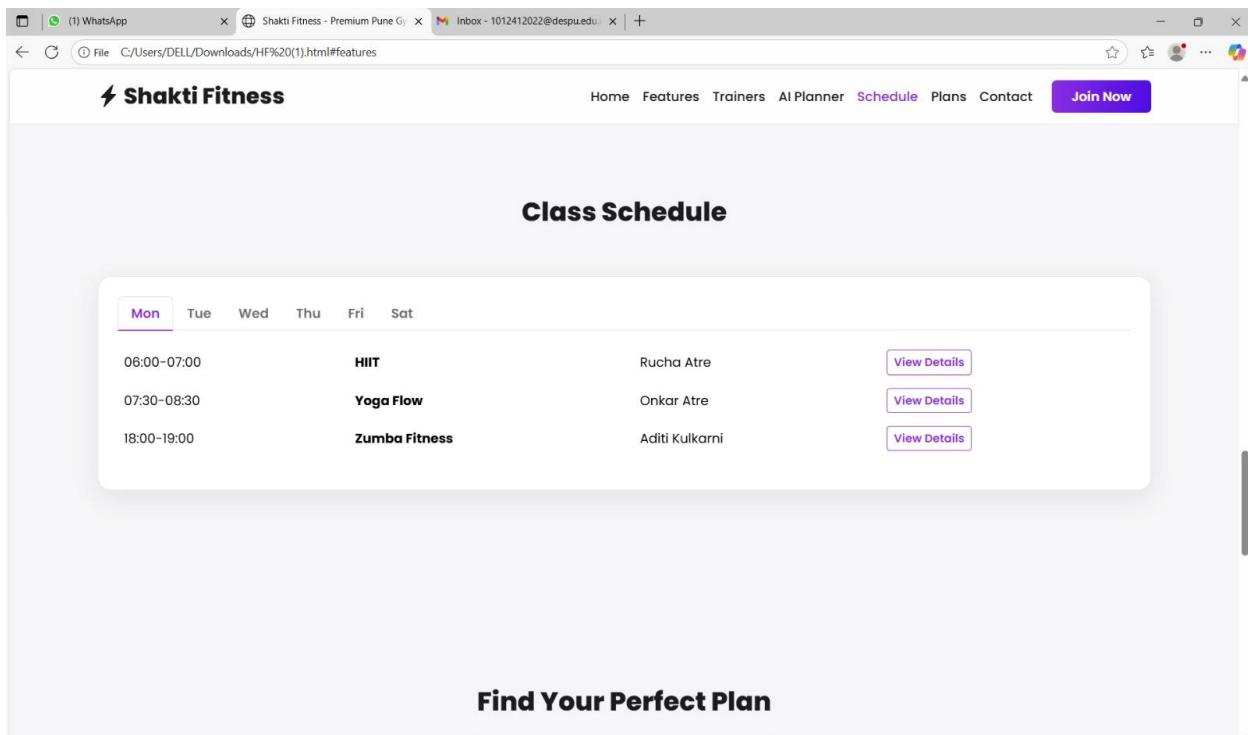
A slider indicates the number of days for the plan.

Generate Plan button

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The screenshot shows a web browser window for 'Shakti Fitness'. The main heading is 'AI Workout Planner'. Below it, there are dropdown menus for 'Primary Fitness Goal' (set to 'Build Muscle') and 'Experience Level' (set to 'Beginner'). A horizontal slider labeled 'Days Per Week' is set to '3 days'. At the bottom is a purple button labeled 'Generate Plan'.



The screenshot shows a web browser window for 'Shakti Fitness'. The main heading is 'Class Schedule'. Below it, there is a table showing three classes for Monday:

Time	Class	Instructor	Action
06:00-07:00	HIIT	Rucha Atre	View Details
07:30-08:30	Yoga Flow	Onkar Atre	View Details
18:00-19:00	Zumba Fitness	Aditi Kulkarni	View Details

At the bottom of the page is a call-to-action button: 'Find Your Perfect Plan'.

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- Basic**: ₹1500/mo. Includes Gym Access, Locker Room Access, Basic Fitness Assessment, and Group Classes. A 'Sign up' button is present.
- Pro**: ₹2500/mo. Includes Full Gym Access, Unlimited Group Classes, Advanced Fitness Assessment, and Towel Service. A 'Get started' button is present.
- VIP**: ₹5000/mo. Includes All Pro Benefits, 4 Personal Training Sessions/mo, Juice Bar Discount, and Guest Passes. A 'Contact us' button is present.

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Name: abc

Email: abc23@gmail.com

Message: (Empty text area)

Send Message button

At the bottom of the page, the copyright notice 'Copyright © Shakti Fitness 2025' is visible.

Conclusion:

Bootstrap is a powerful, mobile-first front-end framework that simplifies website development by providing a responsive grid system, ready-to-use components, and utility classes. It speeds up design, ensures consistent styling across devices and browsers, and allows easy customization, making it a preferred choice for modern web development.

FAQs :

1. How many different layouts does Bootstrap have?

Bootstrap has two main layout types:

1. Fixed-width layout → Uses .container (has a maximum width that changes based on screen size).
2. Fluid layout → Uses .container-fluid (takes 100% width of the viewport at all times).

2. Why is Bootstrap preferred for website development over any other platform?

Bootstrap is preferred because:

- **Responsive by default** (mobile-friendly design).
- **Ready-to-use components** save development time.
- **Consistent design** across all browsers.
- **Cross-browser compatible** and **open-source**.
- **Easy integration** via CDN or local files.

3. What are collapsing elements in Bootstrap?

Collapsing elements are **UI elements that expand and collapse** to hide or show content.

- Example: Accordions, collapsible navigation menus.
- Implemented using **Bootstrap's Collapse JavaScript plugin**.
- Triggered via a button or link with data-bs-toggle="collapse".

4. What is a Bootstrap Container?

A container is the main layout wrapper in Bootstrap.

- .container → Fixed-width layout (responsive max-width).
- .container-fluid → Full-width layout (100% of viewport).
- Containers provide padding and alignment for page content.

5. How is the tooltip different from the popover?

Feature	Tooltip	Popover
Purpose	Shows small text hints when hovering/focusing on an element.	Shows richer content (text, links, HTML) in a small popup.
Content	Short text only.	Can contain headings, paragraphs, HTML.
Trigger	Hover or focus.	Click or hover.
Size	Very small.	Larger, more detailed.