Full Stack Web Development Program

Day 12 - Bootstrap

Titles

- Introduction to Bootstrap
- Understanding Bootstrap
- How to Use Bootstrap
- Bootstrap Vs Media Queries
- Bootstrap Breakpoints

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Learning Objectives

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

- Equipped with the knowledge and techniques necessary to create responsive and user-friendly websites

- Adapting to the dynamic landscape of today's diverse devices and screen sizes

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Bootstrap: Building Beautiful Websites with Ease

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Introduction to Bootstrap

1 **A front-end framework** 🚀

Bootstrap is a free and open-source front-end framework that's used to design responsive websites and web applications.

2 **Built by Twitter** 💙

Bootstrap was originally developed by Twitter's Mark Otto and Jacob Thornton and was released in 2011 as an internal tool.

3 **Easy to use** 🔧

Bootstrap is designed to be both easy to use and customize, making it great for beginners and seasoned developers alike.

4 **Modular** ⚙️

You can pick and choose the Bootstrap components you want to use, making it easy to create a custom design.

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Introduction to Bootstrap (contd.)

5 **Maintenance** ⚙

On GitHub, it is being continuously maintained by a small team of software developers, and latest version is 5.3.1

6 **Integration**

Bootstrap is compatible with all popular server-side languages and editors, including ASP.NET, PHP, and Node.js.

7 **Compatibility**

It works with all of today's major web browsers, including Google Chrome, Mozilla Firefox, Apple Safari, and Opera.

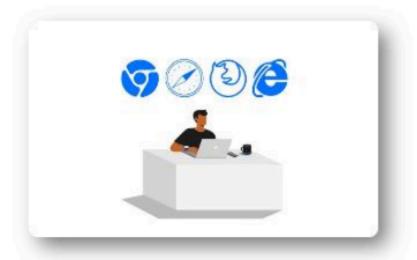**edureka!**

Why use Bootstrap?

Responsive Design

Bootstrap is designed to create responsive websites that look great on any device.

Development Speed

Bootstrap's pre-built components and CSS styles make it easy to create a professional-looking website in a fraction of the time.

Browser-compatibility

Bootstrap works with all modern browsers and provides fallbacks for older browsers, making your website seem amazing for everyone.

Accessibility

Bootstrap complies with accessibility guidelines, making it easier for everyone to access your website.

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Bootstrap Vs Media Queries

Parameters	Bootstrap	Media Queries
Purpose and Functionality	Bootstrap streamlines web development with pre-designed components, responsive principles, and classes for quick and attractive site creation.	Media queries in CSS adjust webpage styles based on device characteristics, allowing custom responsive designs for various screens and devices.
Flexibility and Customization	Bootstrap offers customizable styles and components via classes and variables, yet design uniqueness might have limitations within its framework.	Media queries enable precise responsive design customization, catering to unique layouts and styles for specific screens or devices.
Learning Curve	Mastering Bootstrap demands grasping its class names and components, with a learning curve despite its development acceleration benefits.	Media queries demand CSS proficiency, especially in structuring conditions for custom designs, requiring more experience but offering flexibility.
Scalability	Using Bootstrap requires adding the Bootstrap CSS and JavaScript files to your project. This adds some degree of dependency on the framework.	Media queries are part of the CSS standard and do not introduce any external dependencies. They can be used directly within your existing stylesheets.

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Bootstrap Breakpoints

Breakpoints define the width of the screens of different sizes to apply different style rules. Bootstrap uses a set of predefined breakpoints to determine how your website should look on different devices.

Extra Small	xs	0px
Small	sm	>=576px
Medium	md	>= 768px
Large	lg	>= 992px
Extra Large	xl	>= 1200px
Extra Large	xxl	>= 1400px

Bootstrap Breakpoints

Example:

```html
<div class="container">
  <div class="row">
    <div class="col-md-6 col-lg-4">Column 1</div>
    <div class="col-md-6 col-lg-4">Column 2</div>
    <div class="col-md-12 col-lg-4">Column 3</div>
  </div>
</div>
```

In this **example**, at the **medium breakpoint** (md), the first two columns will stack horizontally due to the **col-md-6** class, while at the large **breakpoint** (lg), all three columns will align side by side due to the **col-lg-4** class.

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