MODULE: 6 (Bootstrap Basic & Advance)

1. What are the advantages of Bootstrap?

→ **1. Easy initiation**

Coding is a hurricane task for a person who is unbeknownst to web development. But the greatest use of Bootstrap in web development is it makes coding hassle-free. Bootstrap handles everything for you. Despite having no extensive knowledge of coding, one can design an enticing landing page using Bootstrap. The only criterion is to have moderate experience of CSS and HTML. Alongside this, the integration process of Bootstrap is easy on existing and newer websites. In your current CSS, you can incorporate diverse platforms, frameworks, elements of Bootstrap without any hassles.

**2. Responsiveness**

[Statistics](https://www.oberlo.in/blog/mobile-usage-statistics) highlight over 6.4 billion smartphone users worldwide. This study infers smartphone penetration of over 80 percent. And the numbers do not stop here; in fact, they are rising rapidly. Due to this extensive demand, having a mobile-responsive website has become a prerequisite, and this task is a cakewalk with Bootstrap by your side. It has a fluid grid layout, which adapts as per the screen resolution.

**3. Highly customizable**

You can find an array of templates in Bootstrap. However, if you find them unappealing, you can concoct your customization using the CSS file. Besides, if you cannot spare time to start everything from scratch, you can blend the customization with the existing code and enhance the functionality. All this can be undertaken under the customization page.

**4. Extremely user-centric**

While creating landing pages, it is very important to design from the user’s point of view. If a landing page is engaging, only then does it appeal to the audience. One of the prominent advantages of Bootstrap is you can design landing pages complementing the audience’s requirements. It comes up with suggestions regarding elements like photos, Call-to-actions (CTA) that look best for your audience and enhance user experience. Moreover, it helps in making easy edits to the landing page elements for reaching out to more audiences.

**5. Top-notch support**

When using Bootstrap, the only requirement is basic knowledge of coding. However, as a newbie, you might come across an array of problems. It might lead to hesitancy when using Bootstrap. To overcome this problem, Bootstrap comes with a huge support community. Having a support community is a blessing in disguise when using any technology. You get answers to every query. You share the query, and the community will actively help in solving it.

Besides, the creators are always on their toes updating Bootstrap to offer a better experience to the users. With this, you can always avail the best assistance in every circumstance.

**6.Cross-browser compatibility**

Every user is different, and so is their device. Along with the device, they use varied browsers too. Bootstrap is compatible with the latest versions of all modern browsers and platforms. One of the biggest advantages of using Bootstrap is compatibility across browsers. With Bootstrap by your side, heave a sigh of relief when it comes to displaying your landing page across multiple browsers. Its compatibility with Google Chrome, Firefox, Safari, and Internet Explorer makes it more versatile.

**7. JavaScript plugins to your rescue**

To make the pages more interactive, one needs elements, like sliders, drop-down menus, tabs, etc. The hunt begins to find complementing plugins to include these elements. But with Bootstrap by your side, you can easily incorporate these components as numerous JavaScript plugins are bundled in the Bootstrap package. Also, adding these functionalities is easy as you just need to write a few lines of code and you are all set. Moreover, with the customization option, you have the liberty to choose particular plugins, helping to maintain minimize file size.

**8. Far-reaching popularity**

The most crucial advantage of using Bootstrap is its widespread presence. A multinational and global company like Apple utilizes Bootstrap for its Apple Maps and Apple Music web apps. Not just this, but Dropbox, Coursera, and Airbnb have acknowledged the prowess of Bootstrap and are using it to maintain robustness.

**9. Ample documentation**

When using a framework, the support from the community is priceless, but some prefer referring to written notes. Fortunately, Bootstrap satiates this requirement by providing easy-to-read and efficient documentation on the Bootstrap website. The framework is easy, and the documentation makes it easier to work on UI designing.

**10. Updates at the doorstep**

Staying updated is the core of any technology. The same thumb rule applies to Bootstrap, which is fully attuned. Its core developers constantly keep the framework updated. They keep a close eye on future web requirements and make changes accordingly. Whenever there is a new update, Bootstrap considers the users to get hold of the latest and most advanced technology available in the industry.

2. What is a Bootstrap Container, and how does it work?

→ Bootstrap Containers are the most basic layout element in Bootstrap. Bootstrap Containers are very essential and basic building blocks of bootstrap that wrap a page’s content. It’s responsible for setting and aligning content within it according to viewport or given device. Containers are defined within the container class (.container). In other words, we can say that containers are established the width for the layout to give the content. Elements and content are added within the container.

Containers are the most basic layout element in Bootstrap and are required when using our default grid system. Containers are used to contain, pad, and (sometimes) center the content within them. While containers can be nested, most layouts do not require a nested container.

**Bootstrap comes with three different containers:**

* **.container**- which sets a max-width at each responsive breakpoint
* **.container**-fluid, which is width: 100% at all breakpoints
* **.container-{breakpoint}**- which is width: 100% until the specified breakpoint

3. What are the default Bootstrap text settings?

→ Bootstrap 5 uses a default font-size of 1rem (16px by default), and its line-height is 1.5. In addition, all <p> elements have margin-top: 0 and margin-bottom: 1rem (16px by default).

4. What do you know about the Bootstrap Grid System?

→ Bootstrap's grid system allows up to 12 columns across the page. If you do not want to use all 12 column individually, you can group the columns together to create wider columns. Bootstrap's grid system is responsive, and the columns will re-arrange depending on the screen size: On a big screen it might look better with the content organized in three columns, but on a small screen it would be better if the content items were stacked on top of each other.

**Some Bootstrap grid system rules:**

* Rows must be placed within a .container (fixed-width) or .container-fluid (full-width) for proper alignment and padding.
* Use rows to create horizontal groups of columns.
* Content should be placed within columns, and only columns may be immediate children of rows.
* Predefined classes like .row and .col-sm-4 are available for quickly making grid layouts.
* Columns create gutters (gaps between column content) via padding. That padding is offset in rows for the first and last column via negative margin on .rows.
* Grid columns are created by specifying the number of 12 available columns you wish to span. For example, three equal columns would use three .col-sm-4.
* Column widths are in percentage, so they are always fluid and sized relative to their parent element.

5. What is the difference between Bootstrap 4 and Bootstrap 5 ?

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| **BASIS OF** | **BOOTSTRAP 4** | **BOOTSTRAP 5** |
| --- | --- | --- |
| **Grid System** | It has 5 tier (xs, sm, md, lg, xl). | It has 6 tier (xs, sm, md, lg, xl, xxl). |
| **Color** | It has limited colors. | Extra colors added with the looks, A card improved color palette. there are various shades available to choose. |
| **Jquery** | It has jquery and all related plugins. | Jquery is removed and switched to vanilla JS with some working plugins |
| **Internet Explorer** | Bootstrap 4 supports both IE 10 and 11. | Bootstrap 5 doesn’t support IE 10 and 11. |
| **Form elements** | Radio buttons, checkboxes have different look in different OS and browsers. The form uses whatever default browsers provide. | The look of form elements will not change, on different OS or browser. The forms can be customized and form controls can be added, they would not depend on browser. |
| **Utilities API** | We cannot modify utilities in bootstrap 4 | Bootstrap 5 gave freedom to modify and also create our own utility |
| **Gutter** | We use .glutter with fontsize in px | We use .g\* with fontsize in rem |
| **Vertical Classes** | Columns can be positioned relative | Columns cannot be positioned relative |
| **Bootstrap Icons** | Bootstrap 4 doesn’t have its own SVG icons, we have to use font-awesome for icons. | Bootstrap 5 have its own SVG icons |
| **Jumbotron** | It supports. | It doesn’t support jumbotron. |
| **Card deck** | The card deck is used to create a set of cards with equal width and height. | Card deck class in removed in bootstrap |
| **Navbar** | We have inline-block property and we will get white dropdown as default for dropdown-menu-dark class. | Inline-block property is removed and we will get black dropdown as default for dropdown-menu-dark class. |
| **Static Site Generator** | Bootstrap 4 uses Jekyll software. | Bootstrap 5 uses Hugo software as it is fast static site generator. |
| **flexbox grid** | this makes easier to implement vertical designs, and the columns and rows can easily be implemented. the classes justify-center-content can directly be used to align according to the requirement. | advanced grid system is made available , also columns don’t have relative positions. |
| **RTL Support** | It does not enable RTL(Right to Left) switching. | It enables RTL(Right to Left) switching. |
| **Offcanvas Component** | It does not support Offcanvas Component. | It supports Offcanvas Component(that is it is available now). |

6. What is a Button Group, and what is the class for a basic Button Group?

→ “Button Groups” in Bootstrap is a class of name “btn-group” which is used to create series of buttons in groups (without spaces) vertically or horizontally.

This is the basic **syntax** of the button group class where each button has its own class of “btn”.

<div class="btn-group">

<button type="button" class="btn">Click</button>

</div>

Buttons have a default border-radius on the first and last buttons of the group.

7. How can you use Bootstrap to make thumbnails?

→ [Bootstrap](https://www.geeksforgeeks.org/bootstrap-tutorials/)helps web developers to create thumbnails that are used to show linked images in grids with the pre-defined classes which help to reduce codes length. Thumbnails are created to provide a quick preview of images with small images.

**Thumbnail Image:**A thumbnail is a small image that represents a larger image. Bootstrap has an easy way to do this with thumbnails. Bootstrap’s .thumbnail class is used to show linked images in grids ([grid system](https://www.geeksforgeeks.org/bootstrap-4-grid-system/)), a thumbnail is created using class .thumbnail within the element [<a>](https://www.geeksforgeeks.org/html-a-tag/#:~:text=HTML%20Tag,-Difficulty%20Level%20%3A%20Basic&text=The%20tag%20(anchor,as%20its%20%E2%80%9Chref%E2%80%9D%20value.).  The class .col-sm-\* and .col-md-\* (where \* represent number ), it is used to create grids of the images.

**Step by step guide for the implementation:**

**Step 1:** Include Bootstrap and jQuery CDN into the <head> tag before all other stylesheets to load our CSS.

**Step 2:** Add [<div>](https://www.geeksforgeeks.org/div-tag-html/#:~:text=The%20div%20tag%20is%20used,%2C%20navigation%20bar%2C%20etc).&text=It%20is%20used%20to%20the,can%20be%20applied%20to%20them.) tag in the HTML body with class row. In that <div> create four div sections to create four images.

**Step 3:** Add “col-sm-6” and “col-md-3” to four div sections which creates webpage responsive.

**Step 4:** Add [<a>](https://www.geeksforgeeks.org/html-a-tag/) tag with class value thumbnail to define the link of the image in the next line. For Example:

<a href="#" class="thumbnail">

8. In Bootstrap 4, what is flexbox?

→ The Flexible Box Layout Module, makes it easier to design flexible responsive layout structure without using float or positioning. Quickly manage the layout, alignment, and sizing of grid columns, navigation, components, and more with a full suite of responsive flexbox utilities. To create a flexbox container and to transform direct children into flex items, use the d-flex class:

9. How can one create an alert in Bootstrap?

→ Bootstrap provides an easy way to create predefined alert messages.

Alerts are created with the .alert class, followed by one of the four contextual classes **.alert-success**, **.alert-info, .alert-warning** or **.alert-danger**.

We can add the alert-link class to any links inside the alert box to create "matching colored links".

**Example:**

<div class="alert alert-success">  
   <strong>Success!</strong> You should <a href="#" class="alert-link">read this message</a>.  
</div>

To close the alert message, add a **.alert-dismissible** class to the alert container. Then add **class="close"** and **data-dismiss="alert"** to a link or a button element (when you click on this the alert box will disappear).

**Example:**

<div class="alert alert-success alert-dismissible">  
   <a href="#" class="close" data-dismiss="alert" aria-label="close">&times;</a>  
   <strong>Success!</strong> Indicates a successful or positive action.  
</div>

10. What is a bootstrap card and how would you create one?

→ A card is a flexible and extensible content container. It includes options for headers and footers, a wide variety of content, contextual background colors, and powerful display options.

Cards are built with as little markup and styles as possible, but still manage to deliver a ton of control and customization. Built with flexbox, they offer easy alignment and mix well with other Bootstrap components. They have no margin by default, so use [spacing utilities](https://getbootstrap.com/docs/4.4/utilities/spacing/) as needed.

Below is an example of a basic card with mixed content and a fixed width. Cards have no fixed width to start, so they’ll naturally fill the full width of its parent element. This is easily customized with our various [sizing options](https://getbootstrap.com/docs/4.4/components/card/#sizing).

<div class="card" style="width: 18rem;">

<img src="..." class="card-img-top" alt="...">

<div class="card-body">

<h5 class="card-title">Card title</h5>

<p class="card-text">Some quick example text to build on the card title and make up the bulk of the card's content.</p>

<a href="#" class="btn btn-primary">Go somewhere</a>

</div>

</div>

**Output :**

