**Bootstrap**

**What is the Bootstrap**

Bootstrap is a free and open-source front-end framework for developing responsive, mobile-first websites and web applications. It is the most popular HTML, CSS, and JavaScript framework in the world.

Most Popular Frontend Framework

* For building responsive Site

Bootstrap = (Grid System +Classes +Component )

Grid System

**Bootstrap's grid system is a responsive layout system that makes it easy to create websites and web applications that look good on all devices, from smartphones to desktops.**

**Bootstrap's grid system is made up of containers, rows, and columns. Containers are used to center the content on the page. Rows are used to group columns together. Columns are used to layout the content within a row**

**Here is an example of a simple Bootstrap grid layout:**

**<div class="container">**

**<div class="row">**

**<div class="col-md-4">**

**</div>**

**<div class="col-md-8">**

**</div>**

**</div></div>**

Classes

Bootstrap classes are used to style and layout the content of a Bootstrap website or web application. There are many different Bootstrap classes, each with its own specific purpose.

Some of the most common Bootstrap classes include:

* **img-fluid: This class makes an image responsive, so that it will scale to fit its container**.
* **<img src =’’p**.jpg’’ class=”img-fluid”>

**Components**

**Bootstrap components are pre-built elements that can be used to build websites and web applications. Bootstrap components include things like buttons, navigation bars, forms, and tables. Bootstrap components are styled using Bootstrap's CSS, so they look good on all devices, from smartphones to desktops.**

**How Can import CDN Bootstrap**

**Using the Bootstrap Content Delivery Network (CDN)**

The Bootstrap CDN is a network of servers that deliver Bootstrap files to websites and web applications. To use the Bootstrap CDN, simply add the following link to the <head> section of your HTML document:

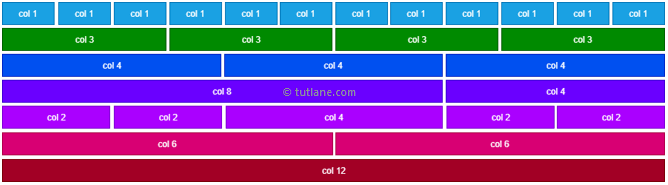
**Responsive Web**

Responsive web design (RWD) is an approach to web design that aims to make web pages render well on a variety of devices and window or screen sizes from minimum to maximum display size to ensure usability and satisfaction.

Bootstrap Grid System

The Bootstrap grid system is a responsive layout system that makes it easy to create websites and web applications that look good on all devices, from smartphones to desktops.

Bootstrap's grid system is made up of containers, rows, and columns. Containers are used to center the content on the page. Rows are used to group columns together. Columns are used to layout the content within a row.





The Bootstrap grid system is responsive, which means that the layout of the content will change depending on the size of the device. For example, on a small screen, the columns will stack on top of each other. On a large screen, the columns will be spread out side-by-side.

The image shows a grid with 12 columns. The columns are labeled col 1, col 2, col 3, and so on. The number next to the column label indicates how many columns wide the column is. For example, col 1 is one column wide, col 2 is two columns wide, and so on.

The image also shows how the grid system is responsive. On a small screen, the columns will stack on top of each other. On a large screen, the columns will be spread out side-by-side.

The Bootstrap grid system is a powerful tool that can be used to create responsive, mobile-first websites and web applications. By using the grid system, you can ensure that your website or web application will look good on all devices.

Bootstrap Grid System

1. **Breakpoint**
2. **Container**
3. **Row**
4. **Column**

**Breakpoint**

**A breakpoint is a point at which the layout of a website or web application changes. Bootstrap uses breakpoints to create responsive layouts that look good on all devices.**

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**Bootstrap has four breakpoints:**

* **Extra small (xs): Devices with a screen width of 768px or less.**
* **Small (sm): Devices with a screen width of 768px to 992px.**
* **Medium (md): Devices with a screen width of 992px to 1200px.**
* **Large (lg): Devices with a screen width of 1200px or more.**

**Container**

A container is a wrapper element that centres the content of a website or web application. Bootstrap containers are used to create a consistent layout across all devices.

**Row**

A row is a horizontal group of columns. Bootstrap rows are used to layout the content of a website or web application.

**Column**

A column is a vertical division of a row. Bootstrap columns are used to layout the content of a website or web application.

Bootstrap columns have a width of 1 to 12 columns. The width of a column determines how much space the column occupies in a row.

 <div class="container">

        <div class="row">

            <div class="col-md-4 box">

                1

            </div>

            <div class="col-md-4 box">

                2

            </div>

            <div class="col-md-4 box">3

            </div>

        </div>

    </div>

**Bootstrap Background Color Property**

the Bootstrap background color classes are as follows:

* .bg-primary - sets the background color to blue
* .bg-primary-subtle - sets the background color to a lighter shade of blue
* .bg-secondary - sets the background color to gray
* .bg-secondary-subtle - sets the background color to a lighter shade of gray
* .bg-success - sets the background color to green
* .bg-success-subtle - sets the background color to a lighter shade of green
* .bg-danger - sets the background color to red
* .bg-danger-subtle - sets the background color to a lighter shade of red
* .bg-warning - sets the background color to yellow
* .bg-warning-subtle - sets the background color to a lighter shade of yellow
* .bg-info - sets the background color to cyan
* .bg-info-subtle - sets the background color to a lighter shade of cyan
* .bg-light - sets the background color to light gray
* .bg-light-subtle - sets the background color to a lighter shade of light gray
* .bg-dark - sets the background color to dark gray
* .bg-dark-subtle - sets the background color to a lighter shade of dark gray
* .bg-body-secondary - sets the background color to a light gray that is slightly darker than the .bg-light color
* .bg-body-tertiary - sets the background color to a light gray that is slightly darker than the .bg-body-secondary color
* .bg-body - sets the background color to the body background color, which is typically white
* .bg-black - sets the background color to black
* .bg-white - sets the background color to white
* .bg-transparent - sets the background color to transparent

<div class="container-fluid">

    <div class="row">

        <div class="col-md-4  bg-danger text-white" id="box1">Lorem ipsum dolor sit amet consectetur adipisicing elit. Est, fugiat.</div>

        <div class="col-md-4 bg-warning text-white" id="box2">Lorem ipsum dolor sit amet consectetur adipisicing elit. Odit, veniam.</div>

    </div>

</div>

**Automatic Given Same Width : here No Breakpoint**

<div class="container-fluid">

    <div class="row">

        <div class="col  bg-warning" >1</div>

        <div class="col bg-primary">2</div>

        <div class="col bg-success">3</div>

    </div>

</div>

**How Can Divide COL: remaining col divide 12th comb : 1sth 4th 3rdth 4th**

<div class="container-fluid">

    <div class="row">

        <div class="col  bg-warning" >1</div>

        <div class="col-4 bg-primary">2</div>

        <div class="col bg-success">3</div>

    </div>

</div>

**How Can Div Customize a div content equal to the div width in Bootstrap.**

**The Bootstrap .col-auto class is a responsive layout class that allows you to create columns that automatically adjust their width based on the content they contain**

<div class="container-fluid">

    <div class="row">

      <div class="col-auto bg-success">This column is automatically sized to fit its content.</div>

    </div>

  </div>

**Bootstrap row: classes**

he row-cols-2 class in Bootstrap is a responsive layout class that allows you to create rows that automatically adjust their number of columns based on the size of the device. This class is especially useful for creating responsive grids, as it will ensure that your content is always displayed in a readable and accessible way.

To use the row-cols-2 class, simply add it to the row element that you want to make responsive. For example, the following code will create a row that will automatically display two columns on large devices and one column on small devices:

<div class="container-fluid">

    <div class="row row-cols-2">

        <div class="col  bg-warning" >1</div>

        <div class="col-4 bg-primary">2</div>

        <div class="col bg-success">3</div>

    </div>

</div>

**row-cols-auto**

The row-cols-auto class in Bootstrap is a responsive layout class that allows you to create rows that automatically adjust the number of columns based on the content of the columns. This class is especially useful for creating grids with variable-width content, as it will ensure that the content is always displayed in a readable and accessible way.

To use the row-cols-auto class, simply add it to the row element that you want to make responsive. For example, the following code will create a row that will automatically adjust the number of columns based on the width of the content in the columns:

HTML

<div class="container-fluid">

    <div class="row row-cols-auto">

        <div class="col  bg-warning" >lorem10</div>

        <div class="col bg-primary">Lorem, ipsum dolor</div>

        <div class="col bg-success">3 Lorem ipsum dolor sit amet.</div>

    </div>

</div>

The style="min-height: 400px;" CSS code tells the browser to make the element at least 400 pixels high. This is useful for creating containers that have a minimum height, even if the content inside the container is not tall enough

<div class="container-fluid">

    <div class="row row-cols-auto" style="min-height: 400px;">

        <div class="col  bg-warning" >lorem10</div>

        <div class="col bg-primary">Lorem, ipsum dolor</div>

        <div class="col bg-success">3 Lorem ipsum dolor sit amet.</div>

    </div>

</div>

**The align-items utility in Bootstrap is used to align the items in a flexbox container along the cross axis. The cross axis is the perpendicular axis to the main axis of the flexbox container. For example, if the main axis of the flexbox container is horizontal, then the cross axis is vertical.**

**The align-items utility has the following possible values:**

* **start - Aligns the items to the start of the cross axis.**
* **end - Aligns the items to the end of the cross axis.**
* **center - Aligns the items to the center of the cross axis.**
* **baseline - Aligns the items to the baseline of the cross axis.**
* **stretch - Stretches the items to fill the cross axis.**
* <div class="container-fluid">
* <div class="row align-items-start  bg-danger" style="min-height: 400px;">
* <div class="col  bg-warning" >1</div>
* <div class="col bg-primary">2</div>
* <div class="col bg-success">3</div>
* </div>
* </div>
* <br>
* <div class="container-fluid">
* <div class="row align-items-center  bg-warning" style="min-height: 400px;">
* <div class="col  bg-danger" >lorem55</div>
* <div class="col bg-primary">2</div>
* <div class="col bg-success">3</div>
* </div>
* </div>

align-self-center

he align-self-center class in Bootstrap is a responsive layout class that allows you to center the content of an individual column within a row. This class is especially useful for creating layouts with centered content, as it will ensure that the content is always centered, even if the size of the device changes.

**<div class="container-fluid">**

**<div  class="row   bg-warning" style="min-height: 400px;">**

**<div class="col align-self-start  bg-danger" >lorem55</div>**

**<div class="col align-self-center bg-primary">2</div>**

**<div class="col align-self-end bg-success">3</div>**

**</div>**

**</div>**

* align-self-start - Aligns the item to the start of the cross axis.
* align-self-end - Aligns the item to the end of the cross axis.
* align-self-center - Aligns the item to the center of the cross axis.
* align-self-baseline - Aligns the item to the baseline of the cross axis.
* align-self-stretch - Stretches the item to fill the cross axis.

The justify-content- Bootstrap property is used to align flex items along the main axis. It is one of the two main properties that control the alignment of flex items, the other being align-items-.

The justify-content- property can be used to align flex items in six different ways:

* start: Flex items are aligned at the start of the main axis.
* end: Flex items are aligned at the end of the main axis.
* center: Flex items are aligned at the center of the main axis.
* between: Flex items are aligned evenly spaced on the main axis, with equal space between each item.

**<div class="container-fluid  "  id="sp">**

**<div class="row justify-content-center">**

**<div class="col-md-4   box1">**

**column4**

**</div>**

**<div class="col-md-4  box2">**

**column4**

**</div>**

**</div>**

**</div>**

<div class="container-fluid">

  <div class="row bg-warning justify-content-start "  style="min-height: 250px;">

    <div class="col-md-4 bg-danger me-auto"></div>

    <div class="col-md-4 bg-success "></div>

  </div>

</div>