# 3. Bootstrap

## 3.1 Introduction to Bootstrap

Bootstrap is highly opinionated CSS styling framework. It basically provides bunch of read to use components like buttons, cards etc. which we can directly use in our website.

## *3.1.1 Bootstrap 5*

It is latest version of bootstrap, which supports all the major browsers except Internet explorer 11 and down word are not supported.

What new it brings to the table compare to Bootstrap 4 is, this version switched from ‘JQuery’ to ‘JavaScript’ and because of that,

* It has better performance, as now the size of JavaScript code needed to load is reduced.
* Better DOM interaction due to use of native JavaScript methods which are more efficient compare to JQuery.
* Added new components and utility classes.

## 3.2 Ways to use Bootstrap

### 3.2.1 include from ‘CDN (Content Delivery Network)

CDN are very group of servers located all around the world. Whenever we try to load data from CDN it first finds nearest server location and then loads data from that server.

For CSS:

<link

      href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"

      rel="stylesheet"

      integrity="sha384-EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTwFspd3yD65VohhpuuCOmLASjC"

      crossorigin="anonymous"

/>

For JavaScript:

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/js/bootstrap.bundle.min.js"></script>

### 2.2.1 Download from Bootstrap website

Bootstrap have two versions

1. Compiled version

* Mostly used in production
* Use it if you not want any customization

1. Source code version

* Human readable format
* We can customize it

### 2.2.3 pull with package managers

Bootstrap allows to pull it from well-known package managers like NPM

## 2.3 Important features

Below are some of the important features provided by Bootstrap

### 2.3.1 Break-point

- Following are the break-points that we have in Bootstrap

        xs:  < 576px,

        sm:  >= 576px,

        md:  >= 768px,

        lg:  >= 992px,

        xl:  >= 1200px,

        xxl: >= 1400px

- This break-points are very Important in developing responsive layouts.

### 2.3.2 Containers

- This are used to pad contains.

- mainly 2 types of classes

    - .container which is fixed length container

    - .container-fluid which is full width container

### 2.3.3 Grid System

- Grid is built with the help of flex-box.

- It supports up-to 12 columns in single row.

- syntax for creating grid

    <div class="row">

    <div class="col">col1</div>

      <div class="col">col3</div>

       <div class="col">col2</div>

    </div>

    - It will create single row.

    - for multi row grid add multiple such div tags.

- conman classes used in Grid system are follows.

    - .row - It will create single row of grid system.

    - .col - to create columns of equal-size. (it will wrapped according to default settings for smaller   screen sizes)

    - .col-width - to define number of column will be span.

        - width can take values in range 1 to 12

    - .col-size - defined screen and above it will create equal size columns. But below that it will create stacked columns, means single column in each line.

        - size can take following values: sm | md | lg | xl | xxl ,

    - .col- size - width - Mixture of both of above properties.

    - .offset-size-width - to leave blank space (we may only use one from size and width, but use both for better responsiveness).

- Other important details are present in Basic`\_GUI/3\_bootstrap folder.