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Introduction of bootstrap :

What is Bootstrap?

- Bootstrap is a free front-end framework for faster and easier web development

- Bootstrap includes HTML and CSS based design templates for forms, buttons, tables, navigation, image carousels and many other.

- Bootstrap also gives you the ability to easily create responsive designs.

Why Use Bootstrap?

- **Easy to use**: Anybody with just basic knowledge of HTML and CSS can start using Bootstrap

- **Responsive features**: Bootstrap's responsive CSS adjusts to phones, tablets, and desktops

- **Browser compatibility**: Bootstrap 4 is compatible with all modern browsers (Chrome, Firefox, Internet Explorer 10+, Edge, Safari, and Opera)

- **Large community**. Bootstrap has a large and active community of developers who are constantly creating new resources and extensions. This means that you'll always have help if you get stuck.

- **Performance**. Bootstrap is designed to be lightweight and efficient, so it won't slow down your website or web application.

- **Compatibility**. Bootstrap is compatible with all major browsers, so you can be sure that your website or web application will look good on any device.

- **Documentation**. Bootstrap's documentation is comprehensive and easy to follow, so you can learn how to use the framework quickly and easily.

Structure of bootstrap

Starter template

```
<!doctype html>
<html lang="en">
  <head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/css/bootstrap.min.css" integrity="sha384-Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgFAW/dAiS6JXm" crossorigin="anonymous">

    <title>Hello, world!</title>
  </head>
  <body>
    <h1>Hello, world!</h1>

    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.2.1.slim.min.js" integrity="sha384-KJ3o2DKtIkvYIK3UENzmM7KCkRr/rE9/Qpg6aAZGJwFDMVNA/GpGFF93hXpG5KkN" crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.12.9/dist/umd/popper.min.js" integrity="sha384-ApNbgh9B+Y1QKtv3Rn7W3mgPxhU9K/ScQsAP7hUibX39j7fakFPskvXusvfa0b4Q" crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/js/bootstrap.min.js" integrity="sha384-JZR6Spejh4U02d8jOt6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjUar5+76PVCmYl" crossorigin="anonymous"></script>
  </body>
</html>
```

Note : Bootstrap requires the use of the HTML5 doctype. Without it, you'll see some funky incomplete styling, but including it shouldn't cause any considerable hiccups.

Bootstrap file structure

```
bootstrap/
├── css/
│    ├── bootstrap.css
│    ├── bootstrap.css.map
│    ├── bootstrap.min.css
│    ├── bootstrap.min.css.map
│    ├── bootstrap-grid.css
│    ├── bootstrap-grid.css.map
│    ├── bootstrap-grid.min.css
│    ├── bootstrap-grid.min.css.map
│    ├── bootstrap-reboot.css
│    ├── bootstrap-reboot.css.map
│    ├── bootstrap-reboot.min.css
│    └── bootstrap-reboot.min.css.map
└── js/
     ├── bootstrap.bundle.js
     ├── bootstrap.bundle.min.js
     ├── bootstrap.js
     └── bootstrap.min.js
```

Most Useful Class

Grid system

Extra small (<576px) : .col-

Small (≥576px) : .col-sm-

Medium (≥768px) : .col-md-

Large (≥992px) : .col-lg-

Extra large (≥1200px) : .col-xl-

Margin and padding

- **m** - sets margin

- **p** - sets padding

Where sides is one of:

- t - sets **margin-top or padding-top**

- b - sets **margin-bottom or padding-bottom**

- l - sets **margin-left or padding-left**

- r - sets **margin-right or padding-right**

- x - sets both **padding-left and padding-right or margin-left and margin-right**

- y - sets both **padding-top and padding-bottom or margin-top and margin-bottom**

- blank - sets a **margin or padding on all 4 sides** of the element

Where size is one of:

- 0 - sets margin or padding to 0

- 1 - sets margin or padding to .25rem (4px if font-size is 16px)

- 2 - sets margin or padding to .5rem (8px if font-size is 16px)

- 3 - sets margin or padding to 1rem (16px if font-size is 16px)

- 4 - sets margin or padding to 1.5rem (24px if font-size is 16px)

- 5 - sets margin or padding to 3rem (48px if font-size is 16px)

- auto - sets margin to auto

Note: margins can also be negative, by adding an "n" in front of size:

- n1 - sets margin to -.25rem (-4px if font-size is 16px)

- n2 - sets margin to -.5rem (-8px if font-size is 16px)

- n3 - sets margin to -1rem (-16px if font-size is 16px)

- n4 - sets margin to -1.5rem (-24px if font-size is 16px)

- n5 - sets margin to -3rem (-48px if font-size is 16px)

Responsive images

Img-fluid this class used for make image responsive that gives max-width: 100%; and height: auto; are applied to the image so that it scales with the parent element.

Tables

- **.table** : class adds basic styling to a table

- **.table-striped** class adds zebra-stripes to a table

- **.table-bordered** class adds borders on all sides of the table and cells

- **.table-hover** class adds a hover effect (grey background color) on table rows

- **.table-dark** class adds a black background to the table

- **.table-borderless** class removes borders from the table

- **.table-primary** Blue: Indicates an important action

- **.table-success** Green: Indicates a successful or positive action

- **.table-danger** Red: Indicates a dangerous or potentially negative action

- **.table-info** Light blue: Indicates a neutral informative change or action

- **.table-warning** Orange: Indicates a warning that might need attention

- **.table-active** Grey: Applies the hover color to the table row or table cell

- **.table-secondary** Grey: Indicates a slightly less important action

- **.table-light** Light grey table or table row background

- **.table-dark** Dark grey table or table row background

- **.thead-dark** class adds a black background to table headers

- **.thead-light** class adds a grey background to table headers

- **.table-responsive** class adds a scrollbar to the table when needed (when it is too big horizontally)

Buttons

- btn
- btn-primary
- btn-secondary
- btn-success
- btn-info
- btn-warning
- btn-danger
- btn-dark
- btn-light
- btn-link
- btn-outline-(colortype)
- .btn-lg
- .btn-sm
- .btn-block
-

The button classes can be used on <a>, <button>, or <input> elements:

Example

Link Button
<button type="button" class="btn btn-info">Button</button>
<input type="button" class="btn btn-info" value="Input Button">
<input type="submit" class="btn btn-info" value="Submit Button">

Border

- border
- border-top
- border-right
- border-bottom
- border-left
- border-0
- border-top-0
- border-right-0
- border-bottom-0
- border-left-0
- border-(bs_color)

Color

- .text-primary
- .text-secondary
- .text-success
- .text-danger
- .text-warning
- .text-info
- .text-light
- .text-dark
- .text-muted
- .text-white

Background color

- .bg-primary
- .bg-secondary
- .bg-success
- .bg-danger
- .bg-warning
- .bg-info
- .bg-light
- .bg-dark
- .bg-white