

Bootstrap

- Bootstrap is an open source toolkit for developing Mobile and Web Applications with HTML, CSS and JavaScript.
- It provides a repository [library] that helps developers to build complex HTML, CSS and JavaScript page with less logic and markup.
- It provides pre-defined CSS classes and stylesheets, which you can use for any HTML page.
- Bootstrap even provides templates for web and mobile application.
- Bootstrap also provide premium features.

www.getbootstrap.com

- Latest version 4.5
- Bootstrap 5 is coming [not stable yet]

Setup Environment for Bootstrap

- Download “Node.js” on your computer.
- Node.js is required for Package Manager.
- Package Manager is a tool used to install and maintain packages [library] for project.
- There are several package managers
 - NPM
 - Yarn
 - Bower
 - RubyGems
 - NuGet
- Download Node.js for NPM
<https://nodejs.org/en/download/>
- Test Node.js version from command prompt

```
> node -v
```

```
> npm -v
```

Install Bootstrap for your project with NPM:

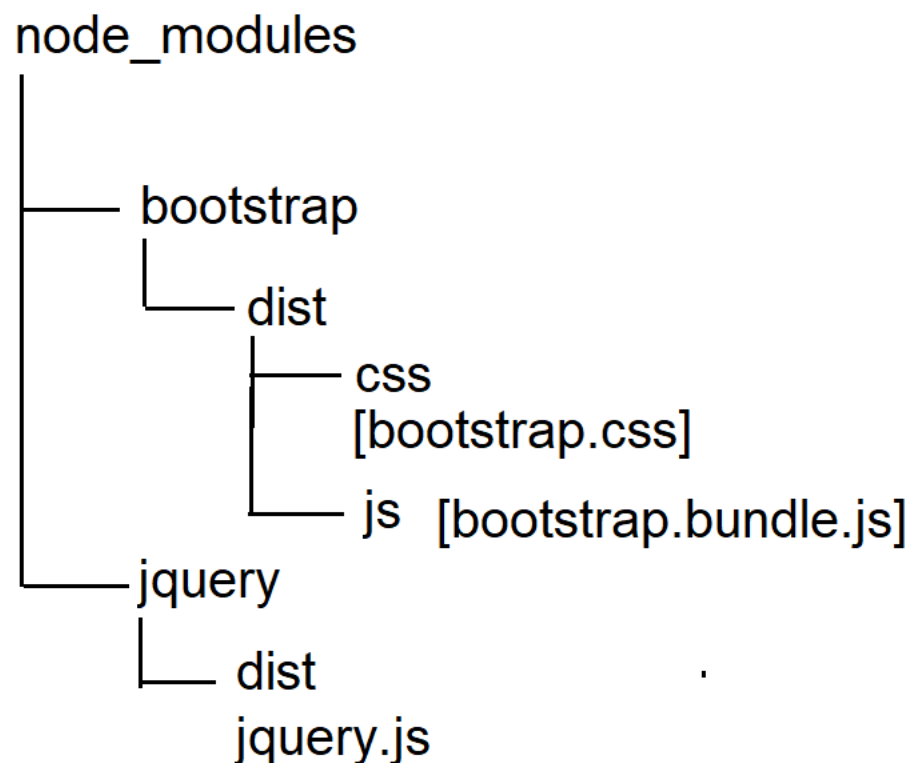
- Open your project in VS code
- Open Terminal [Ctrl + `]
- Type the following command
> npm install bootstrap
- Bootstrap library is added into a folder
“node_modules”

Install jQuery for your project with NPM:

- jQuery is a library used by bootstrap for creating complex interactions.
- To install jQuery type the following command
> npm install jquery

- jQuery library is added into
“node_modules”

The basic files required for bootstrap templates from “bootstrap and jQuery” are:



- bootstrap.css
- jquery.js
- bootstrap.bundle.js

Note: Any jQuery file of bootstrap must be defined only after “jquery.js”

- A developer has to know about different types of CSS classes provided by **bootstrap.css** and different types of attributes provided by **bootstrap.bundle.js**
- A developer can extend existing bootstrap classes and customize according to his requirements.

Ex:

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Demo</title>
```

```
<link rel="stylesheet"
href="../node_modules/bootstrap/dist/cs
s/bootstrap.css">
</head>
<body class="container">
  <h1 class="text-primary text-
center">Welcome to Bootstrap</h1>
  <button class="btn btn-outline-
primary">Submit</button>
</body>
</html>
```

Bootstrap Containers

- Containers are used for basic layout design.
- Containers are defined with margin and padding.

- Containers are controller with “@media()” feature, which can make your content responsive.
- Bootstrap provides 3 different container classes
 - .container
 - .container-fluid
 - .container-sizes[sm, md, lg, xl]

Container Class	Resolution
.container	Min 540px – Max 1200px - width
.container-sm	Min 540px – max 1140px [mobile]
.container-md	Min 100% - max 1140px [tab]
.container-lg	Min 100% - max 1140px [laptop]
.container-xl	Min 100% - max

	1140px [desktop]
.container-fluid	Min 100% - max 100% [responsive]

Ex:

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Demo</title>
```

```
    <link rel="stylesheet"
href="../node_modules/bootstrap/dist/cs
s/bootstrap.css">
```

```
    <style>
```

```
      div {
```

```
        border:2px solid darkcyan;
```

```
        margin-top: 10px;
```

```
      }
```



```
</style>
</head>
<body>
  <div class="container">
    Container
  </div>
  <div class="container-sm">
    Container-sm
  </div>
  <div class="container-fluid">
    Container Fluid
  </div>
</body>
</html>
```

Bootstrap Grid Classes

- Grid is designed by using the classes
 - .row
 - .col
- They provide responsive grid design.

Defining a row: You can define a row in grid system by using the following classes.

Class Name	Description
.row	Single row
.row-cols-number	The number of columns in row.
.row-cols-sm-number	For small screen
.row-cols-md-number	For medium screen

Note: Row number can be defined only from 1 to 6.

Defining a column: You can define a column in grid system by using the following classes.

Class	Description
.col	It specifies a column
.col-sm	540px [mobile]
.col-md	720px [tab]
.col-lg	960px [laptop]
.col-xl	1140px [desktop]

Note: In a grid system you can defined columns range from 1 to 12 only.

col-3 30% of browser

col-9 70% of browser

col-12 100% of browser

You can use responsive according to device.

Col-sm-3

Col-lg-3

Col-md-3

Ex:

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Demo</title>
```

```
    <link rel="stylesheet"
href="../node_modules/bootstrap/dist/cs
s/bootstrap.css">
```

```
    <style>
```

```
      .col-3 {
```

```
        border-right: 2px solid;
```

```
      }
```

```
      .col-2{
```

```
        border-right: 2px dotted;
```

```
    }
</style>
</head>
<body class="container-fluid">
    <h2>Product Details</h2>
    <dl class="row">
        <dt class="col-2">Name</dt>
        <dd class="col-10">Samsung
TV</dd>
        <dt class="col-2">Price</dt>
        <dd class="col-10">₹8377;
45600.44</dd>
        <dt class="col-2">Stock</dt>
        <dd class="col-10">Available</dd>
        <dt class="col-2">Shipped To</dt>
        <dd class="col-10">Delhi</dd>
    </dl>
```

<div class="row">

<div class="col-3">

<p class="text-

justify">Depending on how you obtained the Windows software, this is a license agreement between (i) you and the device manufacturer or software installer that distributes the software with your device; or (ii) you and Microsoft Corporation (or, based on where you live or, if a business, where your principal place of business is located, one of its affiliates) if you acquired the software from a retailer.</p>

</div>

<div class="col-9">

<p>Depending on how you obtained the Windows software, this is a license agreement between (i) you and the device manufacturer or software

installer that distributes the software with your device; or (ii) you and Microsoft Corporation (or, based on where you live or, if a business, where your principal place of business is located, one of its affiliates) if you acquired the software from a retailer.</p>

<p>Depending on how you obtained the Windows software, this is a license agreement between (i) you and the device manufacturer or software installer that distributes the software with your device; or (ii) you and Microsoft Corporation (or, based on where you live or, if a business, where your principal place of business is located, one of its affiliates) if you acquired the software from a retailer.</p>

<p>Depending on how you obtained the Windows software, this is a license agreement between (i) you and the device manufacturer or software installer that distributes the software with your device; or (ii) you and Microsoft Corporation (or, based on where you live or, if a business, where your principal place of business is located, one of its affiliates) if you acquired the software from a retailer.</p>

</div>

</div>

</body>

</html>

Ex: Layout with rows and cols

<!DOCTYPE html>

<html>


```
<head>
  <title>Layout</title>
  <link rel="stylesheet"
href="../node_modules/bootstrap/dist/cs
s/bootstrap.css">
  <link rel="stylesheet"
href="../Fonts/css/all.css">
  <style>
    .container-fluid {
      width: 90%;
    }
    #header, #footer {
      background-color: darkcyan;
      color:white;
      text-align: center;
    }
    #section {
```

```
        height: 500px;
    }
    .col-2{
        border-right: 3px solid darkcyan;
    }
</style>
</head>
<body class="container-fluid">
    <div class="row" id="header">
        <div class="col">
            <h1><span class="fa fa-shopping-
cart"></span> Amazon Shopping</h1>
        </div>
    </div>
    <div class="row" id="section">
        <div class="col-2">
```

```
<ul>
```

```
<li>Home</li>
```

```
<li>Electronics</li>
```

```
<li>Footwear</li>
```

```
</ul>
```

```
</div>
```

```
<div class="col-7">
```

```
<h2>Amazon Home</h2>
```

```

```

```

```

```

```

```
</div>
```

```
<div class="col-3">
```

<h2>Your Cart Summary</h2>

<dl class="row">

<dt class="col-sm-4">Total
Items</dt>

<dd class="col-sm-8">3</dd>

<dt class="col-sm-4">Total
Amount</dt>

<dd class="col-sm-8">₹
4500.00</dd>

</dl>

</div>

</div>

<div class="row" id="footer">

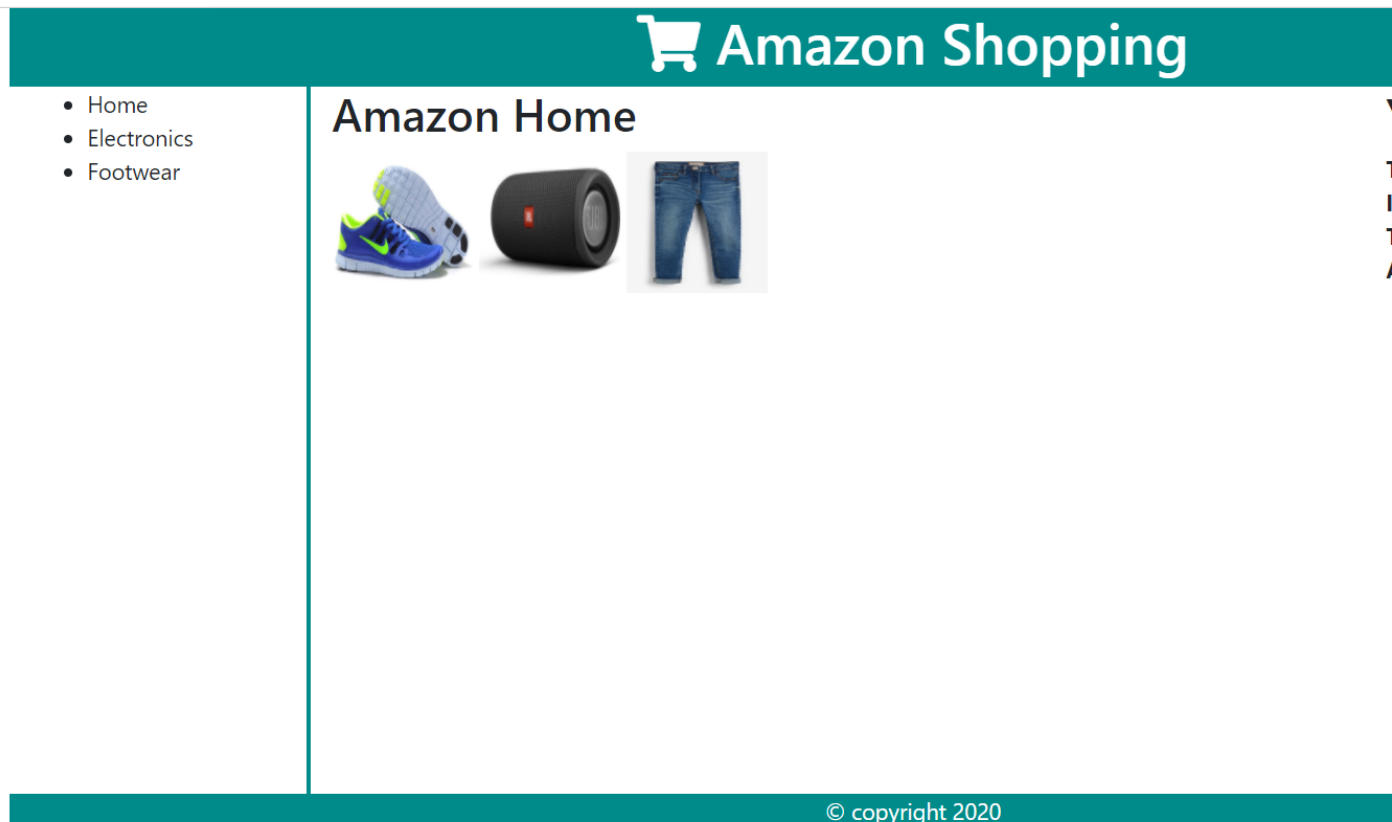
<div class="col">

<div class="text-center">

© copyright 2020

</div>

```
</div>
</div>
</body>
</html>
```



Bootstrap Colors

- Bootstrap provides pre-defined class for background, foreground, border.
- The bootstrap contextual colors:

- Primary
 - Secondary
 - Dark
 - Light
 - Success
 - Warning
 - Danger
 - Info etc.
- If you want color for text (foreground) you can use “text-contextual”
 - .text-primary
 - .text-secondary
 - .text-dark
 - .text-success etc.
 - If you want color for background you can use “bg-contextual”
 - .bg-primary
 - .bg-secondary
 - .bg-dark
 - .bg-danger etc.

- If you want color for border you can use “border-contextual”
 - .border-primary
 - .border-danger etc.

Syntax:

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Colors</title>
```

```
    <link rel="stylesheet"
href="../node_modules/bootstrap/dist/cs
s/bootstrap.css">
```

```
    <style>
```

```
      #box {
```

```
        margin-top: 10px;
```

```
      }
```

```
    </style>
```

```
</head>
```

```
<body class="container-fluid">
```

```
  <div class="text-  
primary">Primary</div>
```

```
  <div class="text-  
secondary">Secondary</div>
```

```
  <div class="text-dark">Dark</div>
```

```
  <div class="text-  
warning">Warning</div>
```

```
  <div class="text-  
danger">Danger</div>
```

```
  <h2>Backgrounds</h2>
```

```
  <div class="text-light">
```

```
    <div class="bg-  
primary">Primary</div>
```

```
    <div class="bg-  
secondary">Secondary</div>
```



```
<div class="bg-dark">Dark</div>
```

```
<div class="bg-  
warning">Warning</div>
```

```
<div class="bg-danger">Danger</div>  
</div>
```

```
<h2>Borders</h2>
```

```
<div class="text-primary">
```

```
  <div id="box" class="border border-  
primary">Primary</div>
```

```
  <div id="box" class="border border-  
secondary">Secondary</div>
```

```
  <div id="box" class="border border-  
dark">Dark</div>
```

```
  <div id="box" class="border border-  
warning">Warning</div>
```

```
  <div id="box" class="border border-  
danger">Danger</div>
```

```
    </div>
  </body>
</html>
```

Ex:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Layout</title>
    <link rel="stylesheet"
href=" ../node_modules/bootstrap/dist/cs
s/bootstrap.css">
    <link rel="stylesheet"
href=" ../Fonts/css/all.css">
    <style>
      .container-fluid {
        width: 90%;
      }
```

```
#section {
    height: 500px;
}

.col-2{
    border-right: 3px solid darkcyan;
}

</style>
</head>
<body class="container-fluid">
    <div class="row bg-info text-light text-
center border border-danger"
id="header">
        <div class="col">
            <h1><span class="fa fa-shopping-
cart"></span> Amazon Shopping</h1>
        </div>
    </div>
```

```
<div class="row" id="section">
  <div class="col-2">
    <ul>
      <li>Home</li>
      <li>Electronics</li>
      <li>Footwear</li>
    </ul>
  </div>
  <div class="col-7">
    <h2>Amazon Home</h2>
    
    
    
```

</div>

<div class="col-3">

<h2>Your Cart Summary</h2>

<dl class="row">

<dt class="col-sm-4">Total
Items</dt>

<dd class="col-sm-8">3</dd>

<dt class="col-sm-4">Total
Amount</dt>

<dd class="col-sm-8">₹
4500.00</dd>

</dl>

</div>

</div>

<div class="row" id="footer">

<div class="col">

```
<div class="bg-info text-light text-center">  
    &copy; copyright 2020  
</div>  
</div>  
</div>  
</body>  
</html>
```

Bootstrap Images

- Bootstrap provides following classes for Images
 - .img-fluid : Will keep responsive image height and width
 - .img-thumbnail : Shows a thumbnail style preview.

Ex:

```
<!DOCTYPE html>
```

```
<html>
  <head>
    <title>Images</title>
    <link rel="stylesheet"
href="../node_modules/bootstrap/dist/cs
s/bootstrap.css">
    <style>
      img {
        width: 100px;
        height: 100px;
      }
    </style>
  </head>
  <body class="container-fluid">
    <div>
      
```

```
</div>
<div>
    
</div>
</body>
</html>
```

Bootstrap Tables

- Bootstrap provides following classes to present tables in more easy and interactive manner.
 - .table (base class – you must configure table to define other effects)
 - .table-contextual [colors for table: primary, secondary..]
 - .thead-contextual [colors]

- .table-stripped
- .table-bordered
- .table-borderless
- .table-hove
- .table-sm, md, lg, xl (different size for tables)
- .table-responsive

Ex:

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Tables</title>
```

```
    <link rel="stylesheet"
href="../node_modules/bootstrap/dist/cs
s/bootstrap.css">
```

```
  </head>
```

```
  <body class="container-fluid">
```

```
<table class="table table-hover table-sm table-bordered table-success">
```

```
<thead class="thead-light">
```

```
<tr>
```

```
<th rowspan="3">Header  
Section</th>
```

```
</tr>
```

```
<tr>
```

```
<th colspan="2">Name</th>
```

```
<th colspan="3">Address</th>
```

```
</tr>
```

```
<tr>
```

```
<td>First Name</td>
```

```
<td>Last Name</td>
```

```
<td>City</td>
```

```
<td>State</td>
```

```
<td>Postal Code</td>
```

</tr>

</thead>

<tbody>

<tr>

<th rowspan="4">Body
Section</th>

</tr>

<tr>

<td> </td>

<td> </td>

<td> </td>

<td> </td>

<td> </td>

</tr>

<tr>

<td> </td>

<td> </td>

<td> </td>

<td> </td>

<td> </td>

</tr>

<tr>

<td> </td>

<td> </td>

<td> </td>

<td> </td>

<td> </td>

</tr>

</tbody>

<tfoot>

<tr>

```
        <th rowspan="3">Footer
Section</th>
    </tr>
    <tr>
        <td colspan="5"
align="center">&copy; copyright
2020</td>
    </tr>
</tfoot>
</table>
</body>
</html>
```

EX: Responsive

```
<!DOCTYPE html>
<html>
    <head>
```

```
<link rel="stylesheet"
href="../node_modules/bootstrap/dist/cs
s/bootstrap.css">
```

```
</head>
```

```
<body class="container-fluid">
```

```
<h2>Products Data</h2>
```

```
<table class="table table-responsive
table-hover">
```

```
<thead>
```

```
<tr>
```

```
<th>Col-1</th>
```

```
<th>Col-2</th>
```

```
<th>Col-3</th>
```

```
<th>Col-4</th>
```

```
<th>Col-5</th>
```

```
<th>Col-6</th>
```

```
<th>Col-7</th>
```

<th>Col-8</th>

<th>Col-9</th>

<th>Col-10</th>

<th>Col-11</th>

<th>Col-12</th>

<th>Col-13</th>

<th>Col-14</th>

<th>Col-15</th>

<th>Col-16</th>

</tr>

</thead>

<tbody>

<tr>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

</tr>

<tr>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

<td>cell-1</td>

</tr>

```
        </tbody>
    </table>
</body>
</html>
```

Margin and Padding in Bootstrap

- Bootstrap provides the following classes for margin and padding

- .m : margin
- .p : padding
- .t : top
- .b : bottom
- .l : left
- .r : right
- .x : left and right
- .y : top and bottom

Syntax:

ml : margin-left

pl : padding-left

Size for Margin and padding can be defined from 0 to 5 points or auto.

1 : no space or margin

2 : .25

3 : .5

4 : default

5 : 1.5

6 : 3 fractions

auto: sets margin and padding according to width and height

Ex:

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <link rel="stylesheet"
```

```
    href="../node_modules/bootstrap/dist/css/bootstrap.css">
```

```
</head>
<body class="container-fluid">
  <div class="border border-danger">
    
  </div>
</body>
</html>
```