BOOTSTRAP 4

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 typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plugins.

- 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.

- **Mobile-first approach:** In Bootstrap 4, mobile-first styles are part of the core framework.

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

GETTING STARTED

- I have downloaded Bootstrap (version 4.0.0-beta.2) for you and it is available and used in all the examples.

- The download is composed of two subfolders:

  – css subfolder

  – js subfolder

- From the *css* subfolder, we will use *bootstrap.min.css.* . From the *js* subfolder, we will use *bootstrap.min.js and popper.min.js.*

- Because we are using a javascript file (*bootstrap.min.js*), we will require the **jQuery** library. For our examples, we will use *jquery-3.2.1.slim.min.js.*

GETTING STARTED

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Bootstrap Example Template</title>
    <meta charset="utf-8">
    <!-- Viewport Meta Tag -->
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
    <!-- Bootstrap CSS -->
    <link href="css/bootstrap.min.css" rel="stylesheet">
  </head>
  <body>
    <!-- YOUR CONTENT STARTS HERE -->

    <!-- YOUR CONTENT ENDS HERE -->
    <!-- JavaScript: placed at the end of the document so the pages load faster -->
    <!-- jQuery library -->
    <script src="js/jquery-3.2.1.slim.min.js"></script>

    <!-- Popper -->
    <script src="js/popper.min.js"></script>

    <!-- Latest compiled and minified Bootstrap JavaScript -->
    <script src="js/bootstrap.min.js"></script>
  </body>
</html>
```

Include these tags as normal

CSS file required

Need this tag for proper rendering

JS files required

GETTING STARTED

- The viewport is the user's visible area of a web page.

- The viewport varies with the device, and will be smaller on a mobile phone than on a computer screen.

<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

- A **<meta>** viewport element gives the browser instructions on how to control the page's dimensions and scaling.

- The mobile first strategy of Bootstrap means that the code is optimised for mobile devices first. CSS media queries are used to add more features for larger screen sizes.

CONTAINER

- Containers provide the foundation for page layout.

- Bootstrap requires a containing element to wrap elements and contain its grid system. Bootstrap's container classes were created specifically for this purpose.

- Bootstrap containers can be either fixed or fluid.

```
<div class="container">
  ...
</div>
```

THE GRID SYSTEM

- At the core of Bootstrap lies its grid system. The grid system basically allows you to create a structured template based on the grid.

- The grid scales up to 12 columns by default, which can be altered for five devices

  - Extra small devices (portrait phones, less than 576px)

  - Small devices (landscape phones, 576px and up

  - Medium devices (tablets, 768px and up)

  - Large devices (desktops, 992px and up)

  - Extra large devices (large desktops, 1200px and up)

THE GRID SYSTEM

- Bootstrap includes a responsive, mobile first fluid grid system that appropriately scales up to 12 columns as the device or viewport size increases.

.col-sm-1	.col-sm-1	.col-sm-1	.col-sm-1	.col-sm-1	.col-sm-1	.col-sm-1	.col-sm-1	.col-sm-1	.col-sm-1	.col-sm-1	.col-sm-1
.col-sm-2		.col-sm-3			.col-sm-7						
.col-sm-4				.col-sm-4				.col-sm-4			
.col-sm-5					.col-sm-7						
.col-sm-6						.col-sm-6					
.col-sm-12											

THE GRID SYSTEM

- Here's how the Bootstrap grid system works:
  - Rows must be placed within a *container* 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.

THE GRID SYSTEM

- Here's how the Bootstrap grid system works (continued):

  – Predefined grid 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 twelve available columns you wish to span. For example, four equal columns would use four *(.col-sm-3)* columns.

THE GRID SYSTEM

```html
<div class="row">
  <div class="col-md-4">
    <h2>Frontend</h2>
    <p>...</p>
  </div>
  <div class="col-md-4">
    <h2>Serverside</h2>
    <p>...</p>
  </div>
  <div class="col-md-4">
    <h2>Databases</h2>
    <p>...</p>
  </div>
</div>
```

- Here we have 1 row.

- The row is made up of 3 equally sized columns.

THE GRID SYSTEM

- Columns of content

Frontend

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Serverside

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Databases

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THE GRID SYSTEM

- Nested rows


```
<div class = "row">
 <div class="col-md">
 <h2>Frontend</h2>
 <div class = "row">
  <div class="col-md">
      <p>
         ...
      </p>
  </div>
  <div class="col-md">
      <p>
         ...
      </p>
  </div>
 </div>    <!-- End of Nested Row -->
</div>    <!-- End of First Column -->
<div class="col-md">
<h2>Serverside</h2>
 ...
```

THE GRID SYSTEM

- Justify-content

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```
<div class = "row justify-content-center">
 <div class="col-sm-8">
  <p>
   ...
  </p>
 </div>
</div>
```

Other options are:
- Start
- End
- Space-around
- Space-between

THE GRID SYSTEM

- You can order columns using **order-n**, where n is a positive number.
- The default value is 0.

Serverside	Frontend	Databases
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THE GRID SYSTEM

```
<div class="container">
<div class = "row">
<div class="col-md order-md-1 coloured">
          <h2>Frontend</h2>
               <p>
                 ...
               </p>
</div>
<div class="col-md order-md-0">

          <h2>Serverside</h2>
               <p>
                 ...
               </p>
</div>
<div class="col-md order-md-2">

          <h2>Databases</h2>
               <p>
                 ...
               </p>
</div>
</div>
```

- In this example, on medium and larger viewports Serverside is the first column, Frontend in the second, and Databases is the third.

- On small and extra small viewports, the layout is fluid and the order is per the markup.

THE GRID SYSTEM

Frontend

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Serverside

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Databases

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