

## Unit – II: Bootstrap Grid

### Describe the mechanism of bootstrap grid structure.

#### Bootstrap Grid

- Bootstrap's grid system allows up to 12 columns across the page.
- If you do not want to use all 12 column individually, you can group the columns together to create wider columns:

span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1
span 4				span 4				span 4			
span 4				span 8							
span 6						span 6					
span 12											

Bootstrap's grid system is responsive, and the columns will re-arrange depending on the screen size: On a big screen it might look better with the content organized in three columns, but on a small screen it would be better if the content items were stacked on top of each other.

#### Grid Classes

The Bootstrap grid system has four classes:

- xs (for phones - screens less than 768px wide)
- sm (for tablets - screens equal to or greater than 768px wide)
- md (for small laptops - screens equal to or greater than 992px wide)
- lg (for laptops and desktops - screens equal to or greater than 1200px wide)

The classes above can be combined to create more dynamic and flexible layouts.

Tip: Each class scales up, so if you wish to set the same widths for xs and sm, you only need to specify xs.

#### Grid System Rules

Some Bootstrap grid system rules:

- Rows must be placed within a .container (fixed-width) or .container-fluid (full-width) 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
- Predefined 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 12 available columns you wish to span. For example, three equal columns would use three `.col-sm-4`
- Column widths are in percentage, so they are always fluid and sized relative to their parent element

## Design the web pages using bootstrap grid and structure the content in rows and columns format.

### Basic Structure of a Bootstrap Grid

The following is a basic structure of a Bootstrap grid:

```
<div class="container">
  <div class="row">
    <div class="col-*-*"></div>
    <div class="col-*-*"></div>
  </div>
  <div class="row">
    <div class="col-*-*"></div>
    <div class="col-*-*"></div>
    <div class="col-*-*"></div>
  </div>
  <div class="row">
    ...
  </div>
</div>
```

So, to create the layout you want, create a container (`<div class="container">`). Next, create a row (`<div class="row">`). Then, add the desired number of columns (tags with appropriate `.col-*-*` classes). Note that numbers in `.col-*-*` should always add up to 12 for each row.

## Apply different form layout, buttons and text formatting while designing web pages.

Form controls automatically receive some global styling with Bootstrap:

All textual `<input>`, `<textarea>`, and `<select>` elements with class `.form-control` have a width of 100%.

## Bootstrap Form Layouts

Bootstrap provides three types of form layouts:

- Vertical form (this is default)
- Horizontal form
- Inline form

Standard rules for all three form layouts:

- Wrap labels and form controls in `<div class="form-group">` (needed for optimum spacing)
- Add class `.form-control` to all textual `<input>`, `<textarea>`, and `<select>` elements

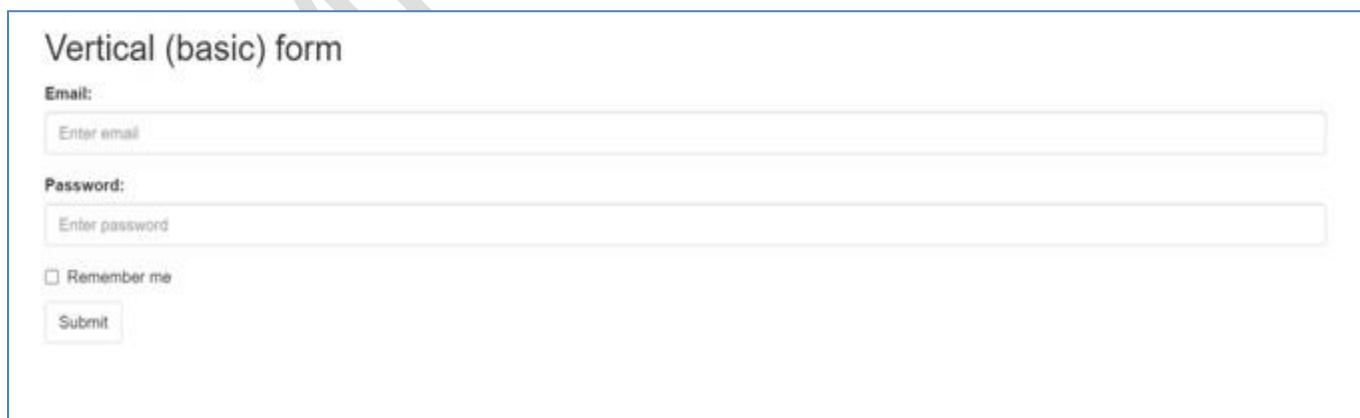
### Bootstrap Vertical Form (default)

The following example creates a vertical form with two input fields, one checkbox, and a submit button:

#### Example

```
<form action="/action_page.php">
  <div class="form-group">
    <label for="email">Email address:</label>
    <input type="email" class="form-control" id="email">
  </div>
  <div class="form-group">
    <label for="pwd">Password:</label>
    <input type="password" class="form-control" id="pwd">
  </div>
  <div class="checkbox">
    <label><input type="checkbox"> Remember me</label>
  </div>
  <button type="submit" class="btn btn-default">Submit</button>
</form>
```

#### Output:



Vertical (basic) form

Email:

Password:

☐ Remember me

## Bootstrap Inline Form

In an inline form, all of the elements are inline, left-aligned, and the labels are alongside.

**Note: This only applies to forms within viewports that are at least 768px wide!**

Additional rule for an inline form:

- Add class **.form-inline** to the `<form>` element

The following example creates an inline form with two input fields, one checkbox, and one submit button:

### Example

```
<form class="form-inline" action="/action_page.php">
  <div class="form-group">
    <label for="email">Email address:</label>
    <input type="email" class="form-control" id="email">
  </div>
  <div class="form-group">
    <label for="pwd">Password:</label>
    <input type="password" class="form-control" id="pwd">
  </div>
  <div class="checkbox">
    <label><input type="checkbox"> Remember me</label>
  </div>
  <button type="submit" class="btn btn-default">Submit</button>
</form>
```

### Output:

#### Inline form

Make the viewport larger than 768px wide to see that all of the form elements are inline, left aligned, and the labels are alongside.

Email:  Password:  ☐ Remember me

## Bootstrap Horizontal Form

A horizontal form means that the labels are aligned next to the input field (horizontal) on large and medium screens. On small screens (767px and below), it will transform to a vertical form (labels are placed on top of each input).

Additional rules for a horizontal form:

- Add class **.form-horizontal** to the **<form>** element
- Add class **.control-label** to all **<label>** elements

**Tip:** Use Bootstrap's predefined grid classes to align labels and groups of form controls in a horizontal layout.

The following example creates a horizontal form with two input fields, one checkbox, and one submit button.

### Example

```
<form class="form-horizontal" action="/action_page.php">
  <div class="form-group">
    <label class="control-label col-sm-2" for="email">Email:</label>
    <div class="col-sm-10">
      <input type="email" class="form-control" id="email" placeholder="Enter email">
    </div>
  </div>
  <div class="form-group">
    <label class="control-label col-sm-2" for="pwd">Password:</label>
    <div class="col-sm-10">
      <input type="password" class="form-control" id="pwd" placeholder="Enter password">
    </div>
  </div>
  <div class="form-group">
    <div class="col-sm-offset-2 col-sm-10">
      <div class="checkbox">
        <label><input type="checkbox"> Remember me</label>
      </div>
    </div>
  </div>
  <div class="form-group">
    <div class="col-sm-offset-2 col-sm-10">
      <button type="submit" class="btn btn-default">Submit</button>
    </div>
  </div>
</form>
```

**Output:**

Horizontal form

Email:

Password:

☐ Remember me

**Button Styles**

Bootstrap provides different styles of buttons:

To achieve the button styles above, Bootstrap has the following classes:

- `.btn`
- `.btn-default`
- `.btn-primary`
- `.btn-success`
- `.btn-info`
- `.btn-warning`
- `.btn-danger`
- `.btn-link`

The following example shows the code for the different button styles:

**Example**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.3/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</head>
<body>
  <div class="container">
    <h2>Button Styles</h2>
    <button type="button" class="btn">Basic</button>
    <button type="button" class="btn btn-default">Default</button>
    <button type="button" class="btn btn-primary">Primary</button>
    <button type="button" class="btn btn-success">Success</button>
    <button type="button" class="btn btn-info">Info</button>
```

```
<button type="button" class="btn btn-warning">Warning</button>
<button type="button" class="btn btn-danger">Danger</button>
<button type="button" class="btn btn-link">Link</button>
</div>
</body>
</html>
```

**Output:****Button Sizes**

Bootstrap provides four button sizes: Large, Normal, Small, XSmall

The classes that define the different sizes are:

- `.btn-lg`
- `.btn-sm`
- `.btn-xs`

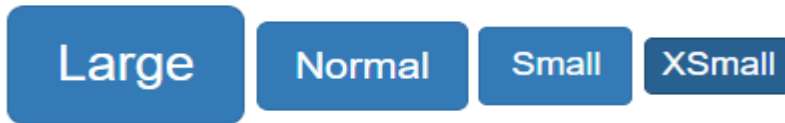
The following example shows the code for different button sizes:

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<html lang="en">
<head>
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  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.3/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</head>
<body>
<div class="container">
  <h2>Button Sizes</h2>
  <button type="button" class="btn btn-primary btn-lg">Large</button>
  <button type="button" class="btn btn-primary">Normal</button>
  <button type="button" class="btn btn-primary btn-sm">Small</button>
  <button type="button" class="btn btn-primary btn-xs">XSmall</button>
</div>
</body>
</html>
```

**Output:**

# Button Sizes



## Bootstrap Text/Typography

Bootstrap's Default Settings: Bootstrap's global default font-size is 14px, with a line-height of 1.428.

This is applied to the `<body>` element and all paragraphs (`<p>`).

In addition, all `<p>` elements have a bottom margin that equals half their computed line-height (10px by default).

### `<h1>` - `<h6>`

By default, Bootstrap will style the HTML headings (`<h1>` to `<h6>`) in the following way:

### Example

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.3/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</head>
<body>
  <div class="container">
    <h1>h1 Preeti Gajjar (36px)</h1>
    <h2>h2 Preeti Gajjar (30px)</h2>
    <h3>h3 Preeti Gajjar (24px)</h3>
    <h4>h4 Preeti Gajjar (18px)</h4>
    <h5>h5 Preeti Gajjar (14px)</h5>
    <h6>h6 Preeti Gajjar (12px)</h6>
  </div>
</body>
</html>
```



**Output:**

# h1 Preeti Gajjar (36px)

## h2 Preeti Gajjar (30px)

### h3 Preeti Gajjar (24px)

#### *h4 Preeti Gajjar (18px)*

##### **h5 Preeti Gajjar (14px)**

###### *h6 Preeti Gajjar (12px)*

`<small>`

In Bootstrap the HTML `<small>` element is used to create a lighter, secondary text in any heading:

`<mark>`

Bootstrap will style the HTML `<mark>` element in the following way:

`<abbr>`

Bootstrap will style the HTML `<abbr>` element in the following way:

`<blockquote>`

Bootstrap will style the HTML `<blockquote>` element in the following way:

`<dl>`

Bootstrap will style the HTML `<dl>` element in the following way:

## Example

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
<title>Bootstrap Example</title>
```

```
<meta charset="utf-8">
```

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

```
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
```

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.3/jquery.min.js"></script>
```

```
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
```

```
</head>
```

```
<body>
```

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

```
<b>Description Lists</b>
```

```
<p>The dl element indicates a description list:</p>
```

```
<dl>
```

```
<dt>Coffee</dt>
```

```
<dd>- black hot drink</dd>
```

```
</dl>
```

<b>Blockquotes</b>

<p>To show the quote on the right use the class .blockquote-reverse:</p>

<blockquote class="blockquote-reverse">

<p>For 50 years, WWF has been protecting the future of nature. The world's leading conservation organization, WWF works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million globally.</p>

<footer>From WWF's website</footer>

</blockquote>

<b>Abbreviations</b>

<p>The abbr element is used to mark up an abbreviation or acronym:</p>

<p>The <abbr title="World Health Organization">WHO</abbr> was founded in 1948.</p>

<b>Highlight Text</b>

<p>Use the mark element to <mark>highlight</mark> text.</p>

<b>Lighter, Secondary Text</b>

<p>The small element is used to create a lighter, secondary text in any heading:</p>

<h4>h4 heading <small>secondary text</small></h4></div>

</body>

</html>

## Output:

### Description Lists

The dl element indicates a description list:

#### Coffee

- black hot drink

### Blockquotes

To show the quote on the right use the class .blockquote-reverse:

For 50 years, WWF has been protecting the future of nature.

— From WWF's website

### Abbreviations

The abbr element is used to mark up an abbreviation or acronym:

The WHO was founded in 1948.

### Highlight Text

Use the mark element to highlight text.

### Lighter, Secondary Text

The small element is used to create a lighter, secondary text in any heading:

h4 heading secondary text