Bootstrap

Bootstrap Basics

Lesson Objectives

➢ **Bootstrap Grid System**

➢ **Bootstrap Basic components**

Grid System in Bootstrap

Grid systems are used for creating page layouts through a series of rows and columns to wrap the site content.

Primarily grids are about providing structure. For web designers a grid defines the horizontal and vertical guidelines for arranging content and enforcing margins.

Grids also define an intuitive structure for viewers because it's easy to follow a left to right or a right to left flow of content moving down the page.

The grid won't be visible with border like table, but it exists behind the scenes to provide order alignment and consistency.

Bootstrap includes a grid system amongst its features.

Bootstrap 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.

Every row in Bootstrap consists of 12 columns.

Rows must be placed within a *.container* class 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 grid classes like *.row* and *.col-xx-4* are available for quickly making grid layouts.

Bootstrap grid system – Contd…

Grid columns are created by specifying the number of twelve available columns you wish to span. For example, three equal columns would use three .col-xx-4.

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 has 4 sizes

- **lg** : indicates that the large grid displaying. The grid stacks horizontally < 1200px.

- **md**   : indicates that the medium grid displaying. The grid stacks horizontally < 992px.

- **sm**   : indicates that the small grid displaying. The grid stacks horizontally < 768px.

- **xs** : indicates that the extra small grid displaying. This grid is always horizontal.

Grid Options

	Extra small devices Phones (<768px)	Small devices Tablets (≥768px)	Medium devices Desktops (≥992px)	Large devices Desktops (≥1200px)
Grid behavior	Horizontal at all times	Collapsed to start, horizontal above breakpoints	Collapsed to start, horizontal above breakpoints	Collapsed to start, horizontal above breakpoints
Max container width	None (auto)	750px	970px	1170px
Class prefix	.col-xs-	.col-sm-	.col-md-	.col-lg-
# of columns	12	12	12	12
Max column width	Auto	60px	78px	95px
Gutter width	30px (15px on each side of a column)	30px (15px on each side of a column)	30px (15px on each side of a column)	30px (15px on each side of a column)
Nestable	Yes	Yes	Yes	Yes
Offsets	Yes	Yes	Yes	Yes
Column ordering	Yes	Yes	Yes	Yes

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Bootstrap 4 grid system – Contd…

Grid columns are created by specifying the number of twelve available columns you wish to span. For example, three equal columns would use three .col-xx-4.

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 has 5 sizes

- `.col-` (extra small devices - screen width less than 576px)
- `.col-sm-` (small devices - screen width equal to or greater than 576px)
- `.col-md-` (medium devices - screen width equal to or greater than 768px)
- `.col-lg-` (large devices - screen width equal to or greater than 992px)
- `.col-xl-` (xlarge devices - screen width equal to or greater than 1200px)
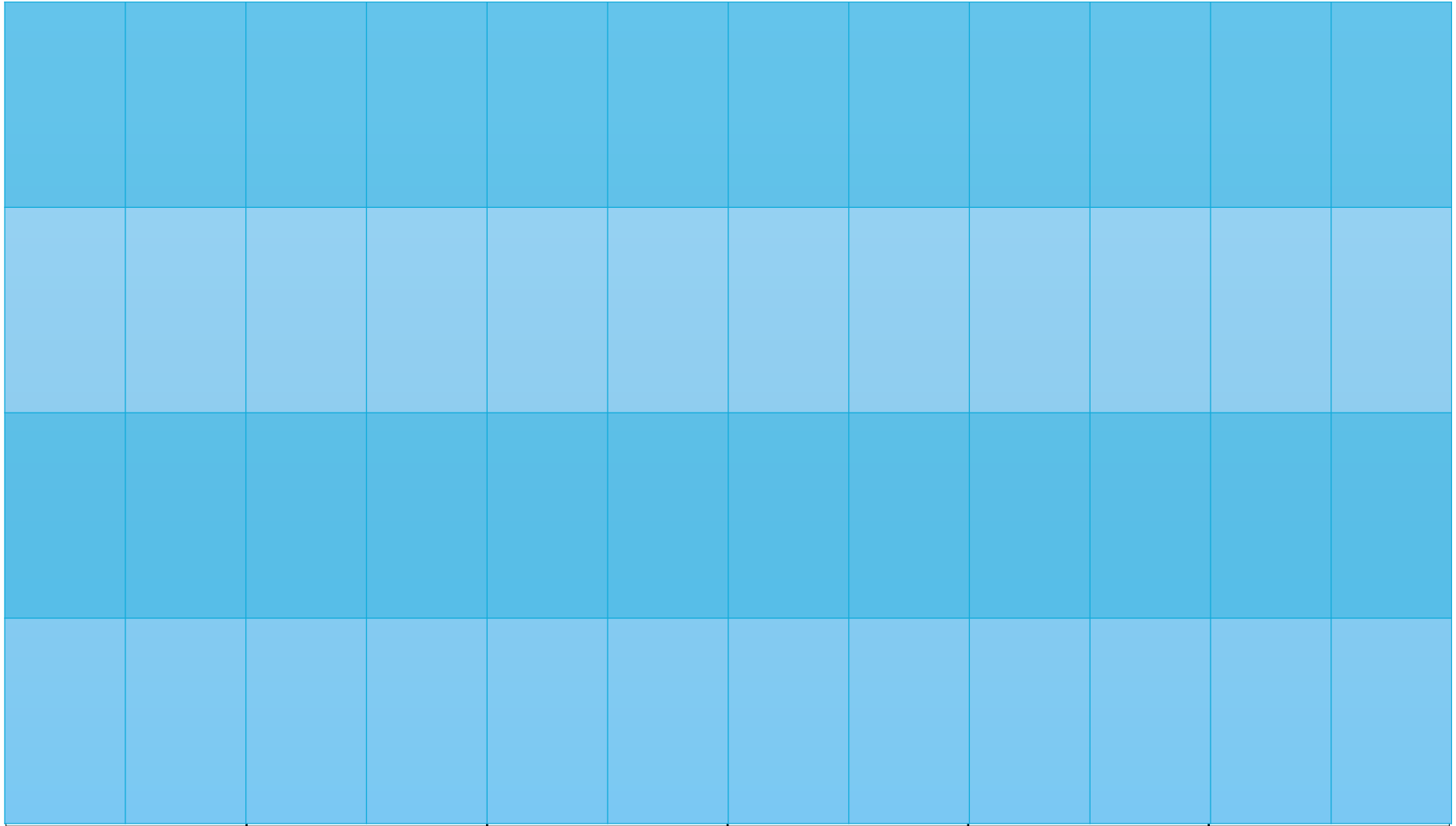
Grid Options

	Extra small (<576px)	Small (>=576px)	Medium (>=768px)	Large (>=992px)	Extra Large (>=1200px)
Class prefix	`.col-`	`.col-sm-`	`.col-md-`	`.col-lg-`	`.col-xl-`
Grid behaviour	Horizontal at all times	Collapsed to start, horizontal above breakpoints	Collapsed to start, horizontal above breakpoints	Collapsed to start, horizontal above breakpoints	Collapsed to start, horizontal above breakpoints
Container width	None (auto)	540px	720px	960px	1140px
Suitable for	Portrait phones	Landscape phones	Tablets	Laptops	Laptops and Desktops
# of columns	12	12	12	12	12
Gutter width	30px (15px on each side of a column)	30px (15px on each side of a column)	30px (15px on each side of a column)	30px (15px on each side of a column)	30px (15px on each side of a column)
Nestable	Yes	Yes	Yes	Yes	Yes
Offsets	Yes	Yes	Yes	Yes	Yes
Column ordering	Yes	Yes	Yes	Yes	Yes

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Basic Grid Structure

```html
<div class="container">
    <div class="row">
        <div class="col-*-*"></div>
        <div class="col-*-*"></div>
    </div>
    <div class="row">...</div>
</div>
```
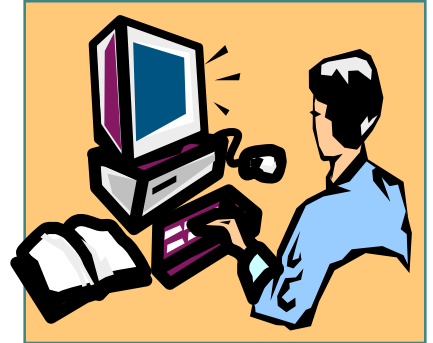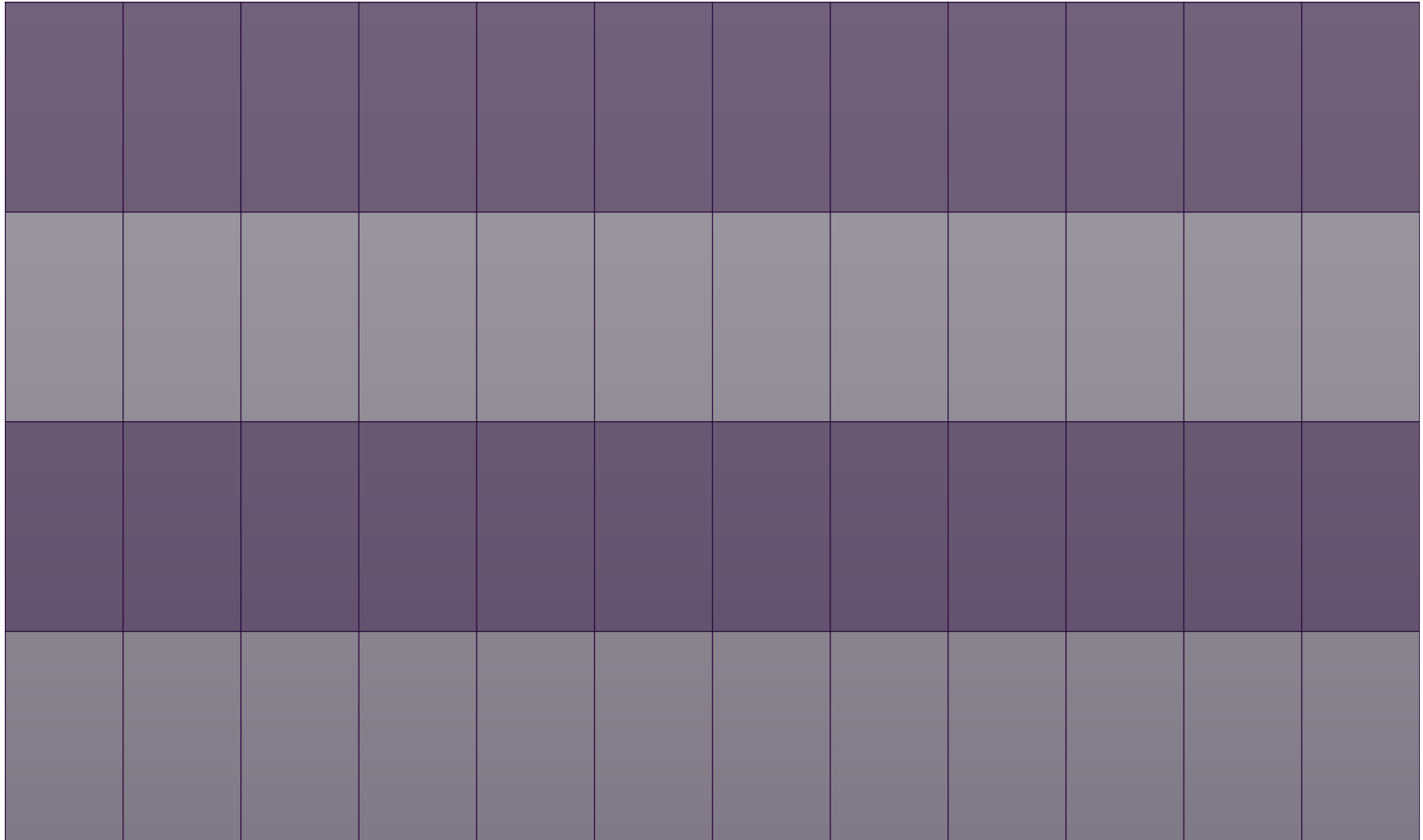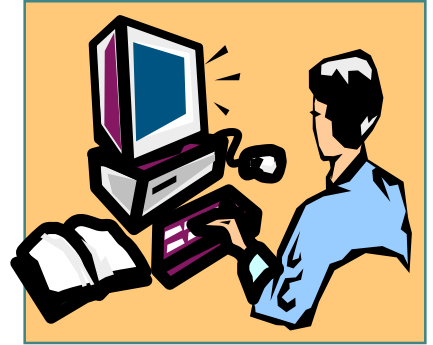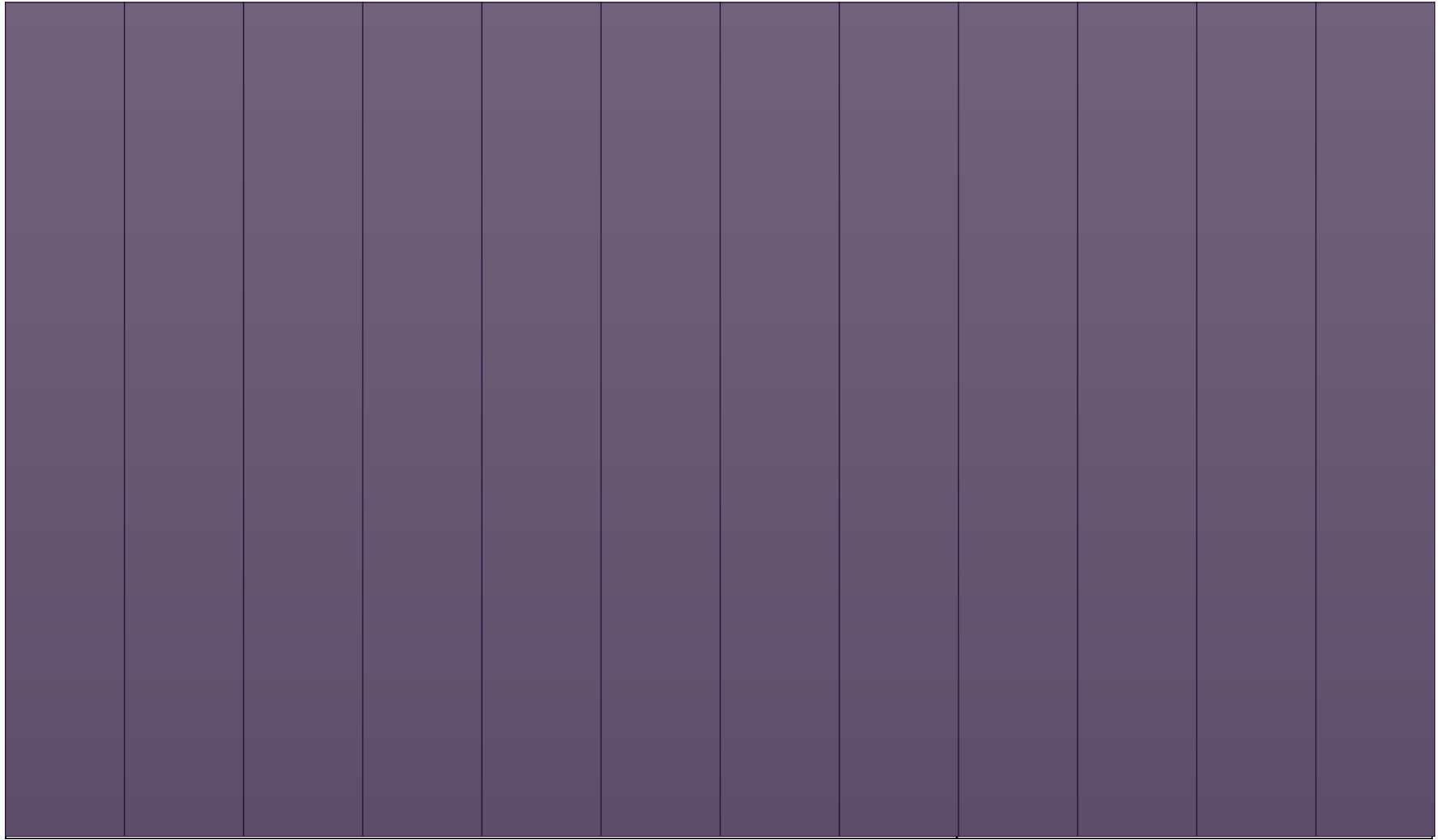
Bootstrap grid sizes

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GridSizes

Bootstrap grid sizes – using Offset

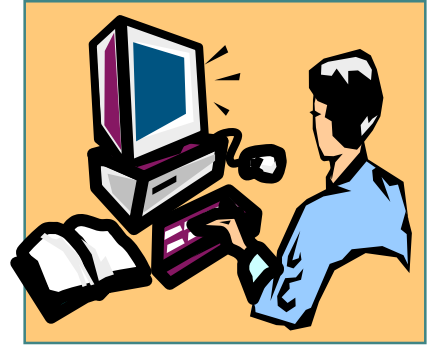**Note:** Offset will be added to the left

GridSizes-Offset

Multiple Grid

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MultipleGrid

Layout

Helper Classes & Responsive Utilities

Close Icon   : It is used to dismiss models and alerts

- <button type="button" class="close" aria-hidden="true">&times;</button>

Carets :   It is used to indicate dropdown functionality

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Quick floats : To float an element left or right with a class

- <div class="pull-right">Right Aligned</div>

- <div class="pull-left">Left Aligned</div>

Showing and hiding content

- <div class="show">Show</div>

- <div class="hidden">Hidden</div>

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BootStrap 4 Hiding Elements

Screen Size	Class
Hidden on all	.d-none
Hidden only on xs	.d-none .d-sm-block
Hidden only on sm	.d-sm-none .d-md-block
Hidden only on md	.d-md-none .d-lg-block
Hidden only on lg	.d-lg-none .d-xl-block
Hidden only on xl	.d-xl-none
Visible on all	.d-block
Visible only on xs	.d-block .d-sm-none
Visible only on sm	.d-none .d-sm-block .d-md-none
Visible only on md	.d-none .d-md-block .d-lg-none
Visible only on lg	.d-none .d-lg-block .d-xl-none
Visible only on xl	.d-none .d-xl-block

Helper Classes & Responsive Utilities

Work with Images : We can apply simple styles to images like rounded corners, circle images & padding with gray border which fits all sizes

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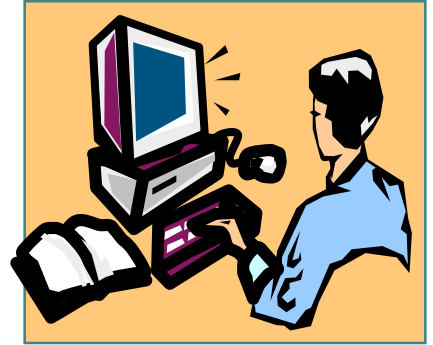-

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Center content blocks : To set an element to center

- <div class="center-block" style="width:150px;">Centered-Content</div>

Responsive utilities : It is used for showing and hiding content by device via media query combined with large, medium, small & extra small devices

- <div class="visible-md"><h1>Visible at Medium Mode</h1></div>

- <div class="hidden-md"><h1>hidden at Medium Mode</h1></div>

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HelperClasses-ResponsiveUtilities

Working with Buttons

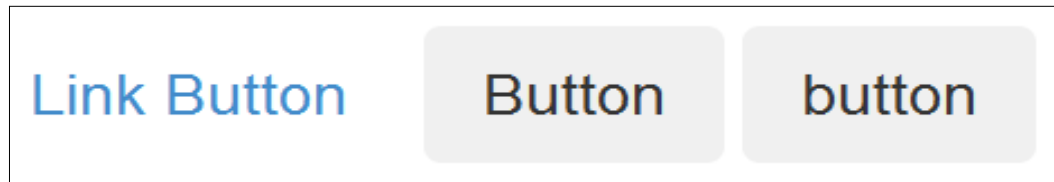We can use <a>, <button> or <input type="button"/> with 'btn' class to create a bootstrap button.

- Link Button

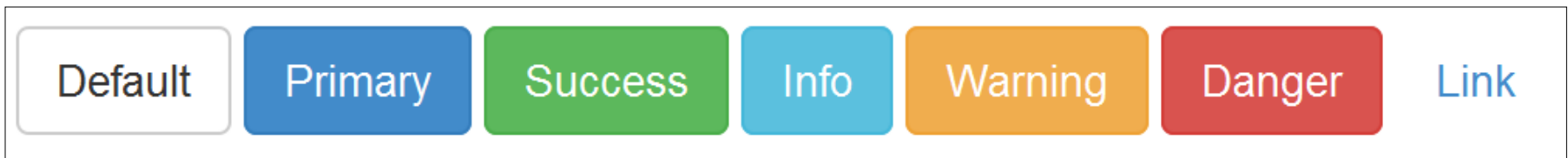- <button class="btn">Button</button> <!-- recommended for browser consistency -->

- <input type="button" class="btn" value="button"/>

Link Button   Button   button

Working with Buttons

Bootstrap provides following options to apply styles to the button

- `<button class="btn btn-default">Default</button>`

- `<button class="btn btn-primary">Primary</button>`

- `<button class="btn btn-success">Success</button>`

- `<button class="btn btn-info">Info</button>`

- `<button class="btn btn-warning">Warning</button>`

- `<button class="btn btn-danger">Danger</button>`

- `<button class="btn btn-link">Link</button>`

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Working with Buttons

Button has following sizes and states
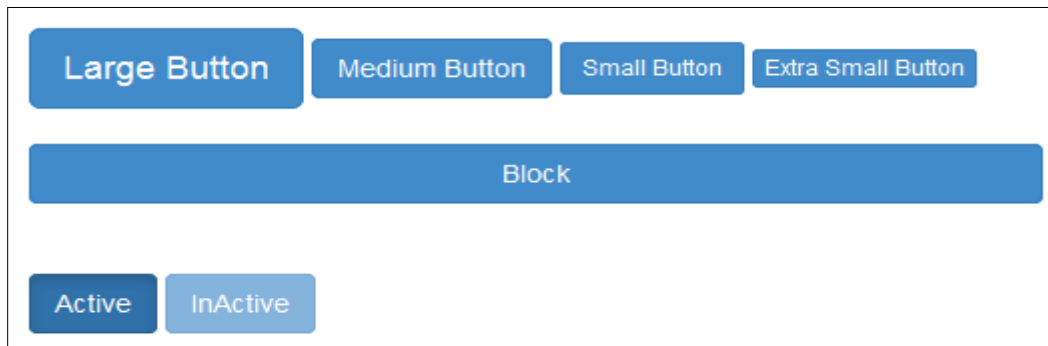
- `<button class="btn btn-primary btn-lg">Large Button</button>`

- `<button class="btn btn-primary btn-md">Medium Button</button>`
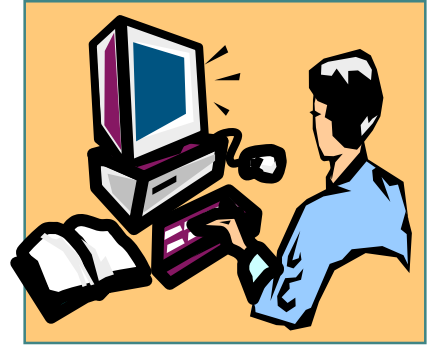
- `<button class="btn btn-primary btn-sm">Small Button</button>`

- `<button class="btn btn-primary btn-xs">Extra Small Button</button>`

- `<button class="btn btn-primary btn-block">Block</button>`

- `<button class="btn btn-primary btn-md active">Active</button>`

- `<button class="btn btn-primary btn-md disabled">InActive</button>`
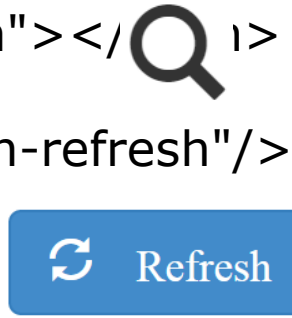

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Buttons

GLYPHICONS

GLYPHICONS is a library of precisely prepared monochromatic icons and symbols, created with an emphasis on simplicity and easy orientation.

It is nothing but icon fonts which can be found under *fonts* folder as *glyphicons-halflings-regular* with eot, svg, ttf & woff formats from Bootstrap 3.x version.

```
<div>
<span class="glyphicon glyphicon-search"></span>
<button class="btn btn-primary">
        <span class="glyphicon glyphicon-refresh"/>
Refresh
</button>
</div>
```
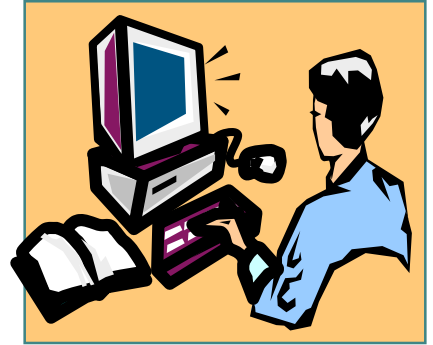
We have around 200 free bootstrap glyphicons which is listed under

getbootstrap.com/components/#glyphicons

Demo

Glyphicons

List

Bootstrap provides following options to apply styles to the List

- Use the class **.list-unstyled** to remove numbering / bullet in the <ol> or <ul> element

- Use the class **.list-inline** to place all the items on a single line

- To create a list group use the class **.list-group** to <ul> and **.list-group-item** element

- To add a badge component to any list group item which gets automatically position on the right by adding the **<span class="badge"> with in the <li> element**

- We can add custom content to the list group using the following code snippet

```
<div class='list-group'><a href='#' class='list-group-item active'>
<h4 class='list-group-item-heading'>IGATE Corporate University</h4>
<p class='list-group-item-text'/>IGATE Training Division</p></a></div>
```
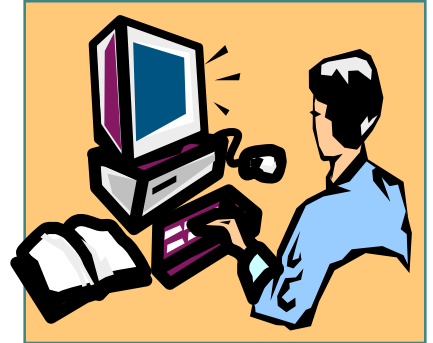
IGATE Corporate University
IGATE Training Division
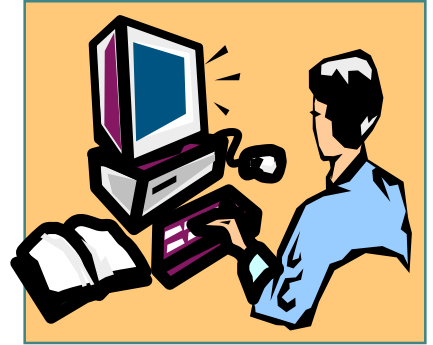
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Demo

List

Tables

Bootstrap provides a clean layout for building tables. Following classes can be used to apply styles over the table.

- **table** : To create a basic Bootstrap style table which takes 100% of the width of its container, and it also adds in some horizontal dividers.

- **table-striped** : Provides a striping effect for the alternate rows in a table.

- **table-bordered** : Provide a border to the table

- **table-hover :** To add a slight hover effect as the mouse moves over a table row.

- **table-condensed** : It removes most of the cell padding and make the table a little more streamlined.

- **table-responsive :** It makes the table scroll horizontally to view the contents in small devices

Contextual classes : active, success, warning and danger is used to apply background color for the table rows or individual cells.

Tables

Forms

Bootstrap provides 3 form layouts

- Vertical Form (default)

- Inline Form

- Horizontal Form

Vertical Form

- Add a role form to the parent <form> element

- Add the class **.form-control** to form elements and wrap labels and controls in a <div> with class **.form-group**

Inline Form

- Add the class **.form-inline** to the <form> elements

- Add the class **.form-control** to form elements and wrap labels and form elements in a <div> with class **.form-group**

- Add the class **.sr-only** to hide the labels of the inline forms

<div align="center">Company Internal</div>

Forms

Horizontal form
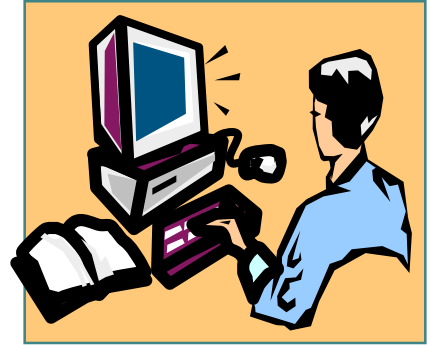
- Add the class **.form-horizontal** to the <form> elements

- Add the class **.form-control** to form elements and wrap labels and form elements in a <div> with class **.form-group**

- Add the class **. control-label** to the labels.

- Use Bootstrap's predefined grid classes to align label and groups of form controls in a horizontal layout.

Validation States : Bootstrap includes validation styles for error, warning and success message. To use add the classes *.has-error, .has-warning, .has-success* respectively.

Help Text : Use *.help-block* class to have block level help text for the form input controls.

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Forms

Typography

Using typography feature of Bootstrap we can create headings, paragraphs, lists and other inline elements.
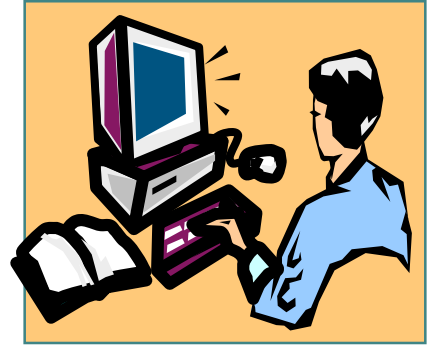
- All html headings(h1 to h6) are styled in bootstrap.

- By adding ***.lead*** class to the paragraph, we can have a larger font size, lighter weight, and a taller line height.

- ***<em>*** tag emphasizes a text in italics and **<strong>** tag makes the text bold

- ***<small>*** tag sets text at 85% the size of the parent

- ***<abbr>*** styles the element with a light border along the bottom and reveals the full text on hover

- ***<address>*** styles the contact information on web page. We need to use line breaks to break the lines because <address> default to display:block

- ***text-left, text-center, text-right, text-muted, text-primary, text-success, text-info,***

text-warning and ***text-danger*** class used to apply the styles to the text

Forms

Summary

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

Bootstrap provides 3 form layouts Vertical Form (default), Inline Form & Horizontal Form

Bootstrap provides a clean layout for building tables

Using typography feature of Bootstrap we can create headings, paragraphs, lists and other inline elements.