



Creating Bootstrap Responsive Layout

Session 5



Objectives

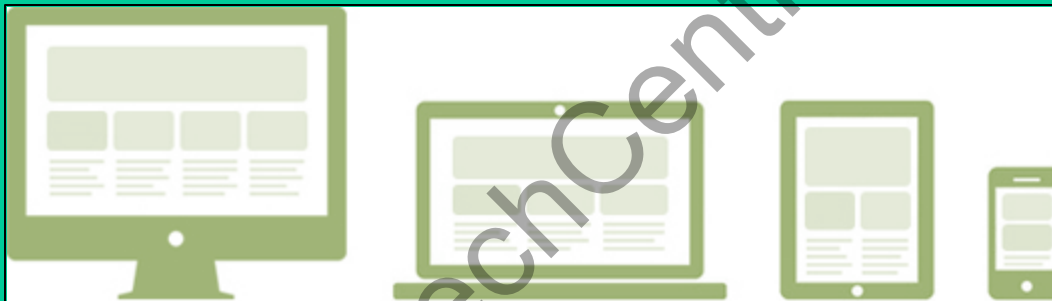
At the end of this session, you will be able to:

- Describe how bootstrap helps in achieving responsiveness
- Explain the grid system
- Outline the use of Jumbotron component
- Describe the use of various typography classes
- Describe creation of simple responsiveness pages with Bootstrap



Bootstrap Responsive Layout (1-2)

- A design process for easy access and smooth view
- Efficient way to display Website on different devices
- Responsive layout is adaptive to UI components
- Screen for devices – laptop, desktop, smartphone, or tablets



- Effortless navigation with minimal resizing, scrolling, and rotating



Bootstrap Responsive Layout (2-2)

- Responsive Website uses three elements:

- Fluid, proportion-based grids
- Flexible or fluid images
- CSS3 media queries

- Grids and multimedia should be fluid and flexible
- Fluid grid handles sizing of page elements in percentage (not in pixels)
- Bootstrap code focuses on small screens first and then it expands for larger screens
- Version 3 has four classes of grids



Working with Grids

- A collection of HTML/CSS components
- Robust mobile-first grid system
- Allows defining rows and columns having content in resulting boxes
- Create up to 12 columns and unlimited rows, known as 12-grid system or 12-column layout

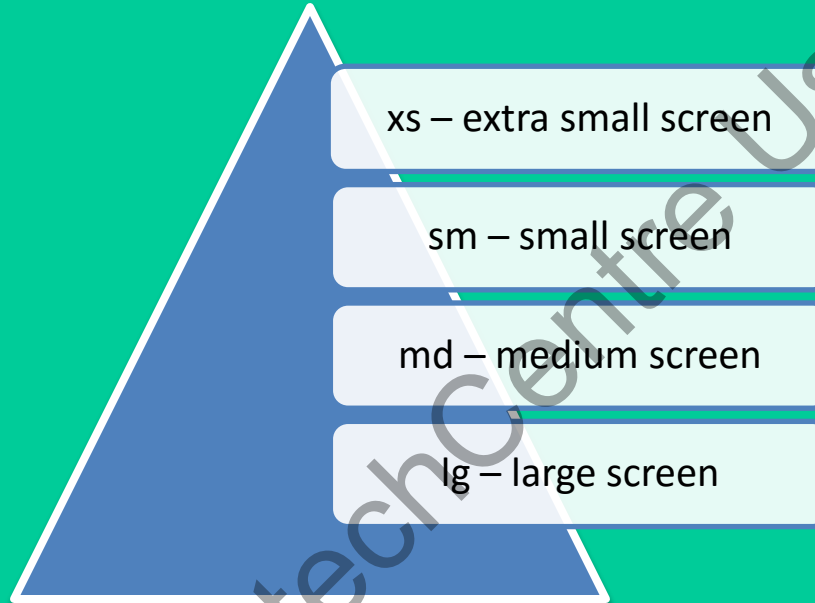
span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1
span 4				span 4				span 4			
span 4				span 8							
span 6						span 6					
span 12											

- Consists of series of containers, rows, and columns



Predefined Grid Classes (1-2)

- Four classes forming four tiers of grid system



- Use one or more classes for dynamic and fluid design layout



Predefined Grid Classes (2-2)

- Column specification for different browser sizes

Column Definition	Browser of Target Device	Browser Size
<code>.col-lg-*</code>	Large devices (desktops)	1200 pixels and up
<code>.col-md-*</code>	Medium devices (desktops)	992 pixels and up
<code>.col-sm-*</code>	Small devices (tablets)	768 pixels and up
<code>.col-xs-*</code>	Extra small (mobile phones)	< 768 pixels

- Symbol * denotes the number of columns a row should have
- For example, to define column as four out of 14 in one row, specification will be `.col-xs-4`



Rule of Grid System

- Contents of containers to be middle-aligned

- Place the rows within a container for proper aligning and padding

- Columns have gaps between its content, known as gutters

- Columns contain content and are only direct children of rows

- Grid tiers depend on minimum widths

- Predefined grid classes for rows and columns make quick grid layouts

- Predefined grid classes for column indicate type of device and number of columns



Basic Structure of Grid

- Grid structure has one or more containers, rows, and columns
- Define a container containing rows and columns
- First, define rows within container, using `.row` class
- Then, define columns within row, using `.col-xs-*`, `.col-sm-*`, `.col-md-*`, and `.col-lg-*` classes.
- Finally, these columns can contain content



Grids for Device

- Grid layout differs with devices
- Columns are divided in a row according to size of device
- Four types of grid:

Stacked

- Also known as horizontal grid
- Load as a stack first on small screen sized devices

Small Devices

- Screen width between 768 and 991 pixels
- Use `.col-sm-*` classes

Medium Devices

- Screen width between 992 and 1199 pixels
- Use `.col-md-*` classes

Large Devices

- Screen width is at least 1200 pixels
- Use `.col-lg-*` classes



Working with Headers (1-2)

- Page header layout adds header to a page
- Separates rest of the page by inserting a horizontal line under heading
- Jumbotron is a flexible and lightweight component
- Extends the whole viewport to highlight key informative content
- Use .jumbotron class in <div> element
- Two ways of using this component:

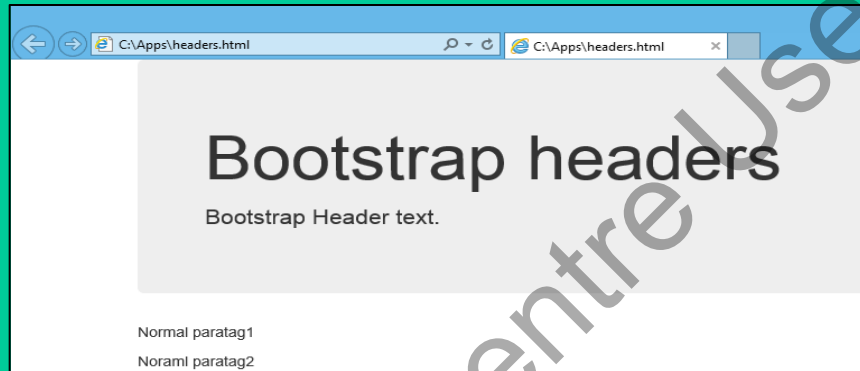
Insert it inside <div class="container"> to prevent from extending up to screen edges

Insert it outside <div class="container"> to extend it up to screen edges

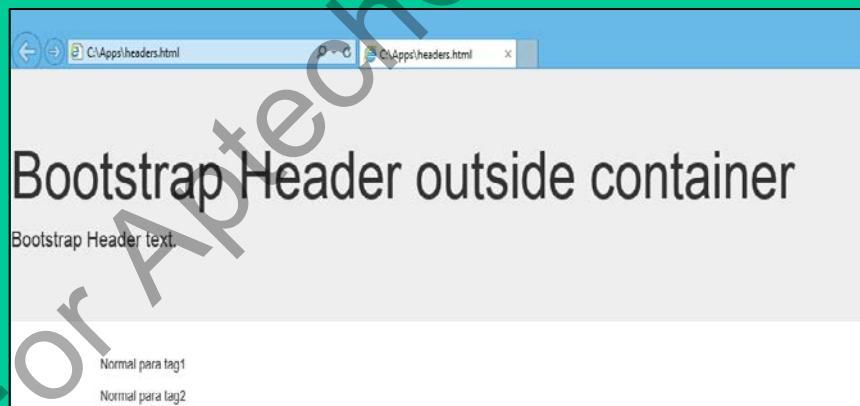


Working with Headers (2-2)

- Output of Jumbotron inside <div>

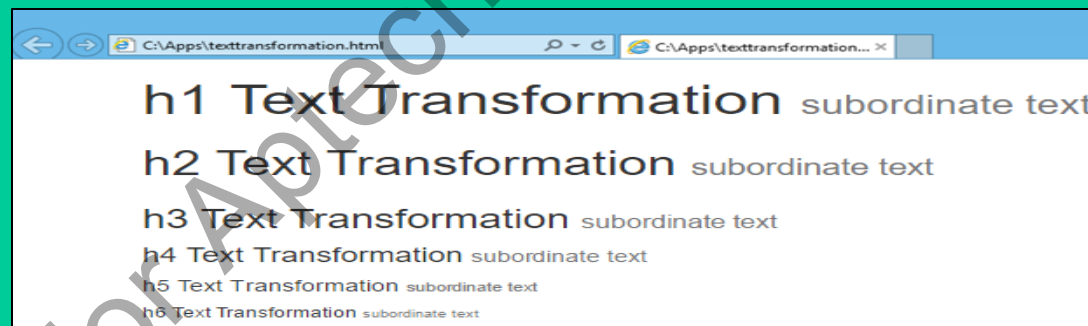


- Output of Jumbotron outside <div>



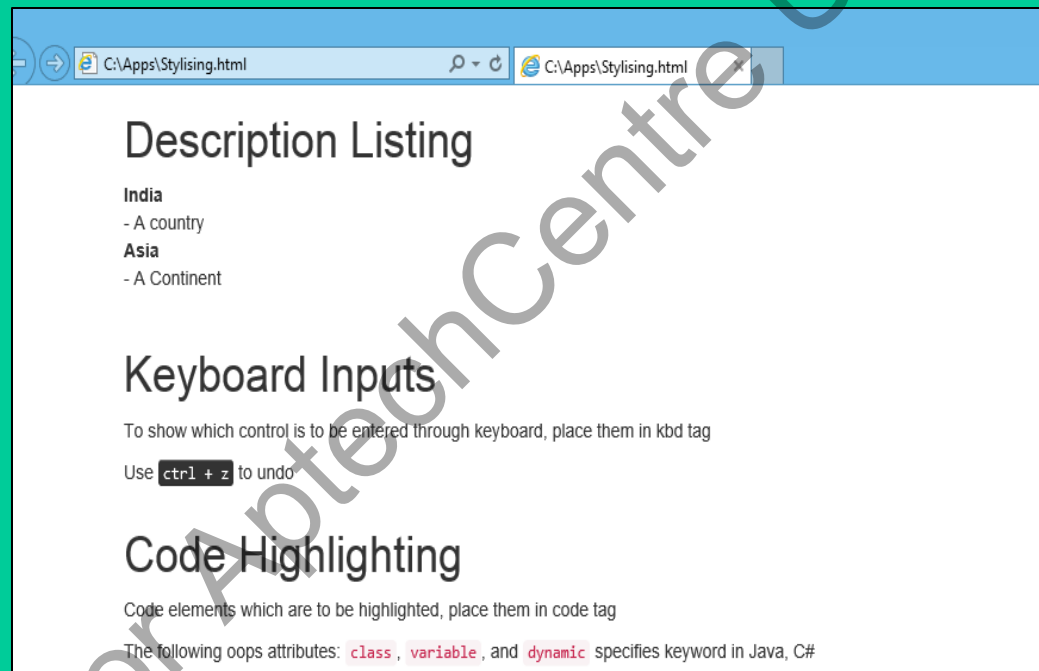
Typography (1-2)

- Typography classes and elements are used to style HTML elements on Webpages
- Typography classes can be applied to text in heading, body, and list
- HTML headings have .h1 to .h6 classes
- Used to match heading font's style and put inline text
- Use .small class for inline sub-heading to display secondary text in smaller size and light color
- Output:



Typography (2-2)

- Bootstrap offers styles for Description list <dl>, inline code snippet <code>, and keyboard input text <kbd>.
- Output:



Text Transformation Classes

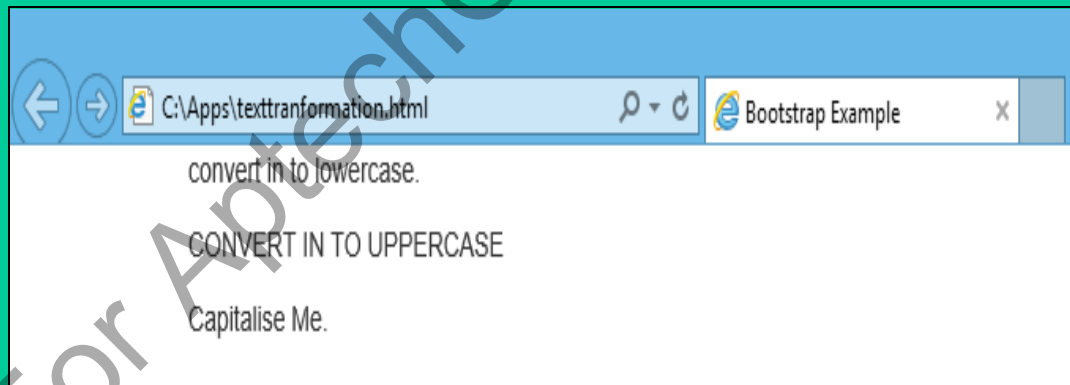
- Three text transformation classes to change the text case in component:

.text-uppercase

.text-lowercase

.text-capitalize

- Output:



Responsive Web Designing

- The `.clearfix` class is used to prevent uneven wrapping and organizes the content
- The `.visible-sm` class is a responsive utility to make content visible on small devices
- The `.visible-sm-block` class is used to show content through media queries
- Use one or more classes to toggle content across variety of viewport



breakpoints



Summary (1-3)

- A responsive layout adapts its user interface components and perhaps even functionality to any screen size on its own.
- A responsive Website adapts its layout to the viewing screen using three elements namely, fluid grids, flexible multimedia, and CSS3 media queries.
- Bootstrap 3 mobile first technology allows the code to focus first on smaller screens and then, expand for fitting on larger screens.
- A grid in Bootstrap is a collection of HTML/CSS components that enable a Web developer to structure a Website and insert its contents easily in the intended locations.



Summary (2-3)

- Bootstrap provides only up to 12 columns for a Webpage regardless of the viewport, but can have unlimited rows.
- The grid system consists of a series of containers, rows, and columns for designing a layout and aligning its content. The container element covers the content by setting the margins on the left and right.
- Bootstrap offers four predefined classes namely, xs, sm, md, and lg for designing responsive layouts quickly as per the targeted devices.
- The jumbotron component allows increasing the size of heading and other text for grabbing quick attention of visitors.



Summary (3-3)

- Inserting jumbotron inside a <div> tag prevents it to extend up to the edges of the screen, while placing it outside extends it up to the edges.
- Bootstrap offers .h1 to .h6 classes for styling heading text and accommodating inline text.
- Bootstrap provides .text-uppercase, .text-lowercase, and .text-capitalize classes for transforming the case of words in any piece of text.

