

BOOTSTRAP

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INTRODUCTION

- Bootstrap is a popular open-source front-end framework for developing responsive, mobile-first websites Developed by Mark Otto and Jacob Thornton at Twitter, Released in 2011
- It provides a collection of HTML, CSS, and JavaScript-based design templates
- Bootstrap aims to simplify the development process by providing a standardized set of tools and components that can be easily customized and integrated into web projects

Key Features

- Responsive grid system that adapts to different screen sizes
- Extensive collection of pre-built UI components, like Grid System, Containers, Breakpoints, Buttons, Cards, Etc. Bootstrap is designed to work seamlessly across various browsers, ensuring a consistent user experience.
- Active community and extensive documentation

Optimal Use Cases

- Need to create a basic website, Bootstrap's ready-made components help you get started fast.
- Your website will look good on all devices, from phones to computers, without extra work.
- Using Bootstrap ensures that all parts of your website have a uniform style.
- Bootstrap will work well on all major web browsers

Breakpoints

- Bootstrap provides a responsive design system using breakpoints to adapt to different screen sizes.
- Breakpoints are used to apply different styles based on the screen size.
- Bootstrap defines six breakpoints: xs, sm, md, lg, xl, and xxl.

Breakpoints

Breakpoint	Class infix	Dimensions
Extra small	xs	<576px
Small	sm	≥576px
Medium	md	≥768px
Large	lg	≥992px
Extra large	xl	≥1200px
Extra extra large	xxl	≥1400px

Container

- Containers are the most basic layout element in Bootstrap
- Required when using the default grid system
- Three types of containers:
 - **container**: sets a max-width at each responsive breakpoint
 - **container-fluid**: width: 100% at all breakpoints
 - **container-{breakpoint}**: width: 100% until the specified breakpoint

Container

	Extra small<576 px	Small≥576px	Medium≥768 px	Large≥992px	X- Large≥1200px	XX- Large≥1400px
.container	100%	540px	720px	960px	1140px	1320px
.container-sm	100%	540px	720px	960px	1140px	1320px
.container-md	100%	100%	720px	960px	1140px	1320px
.container-lg	100%	100%	100%	960px	1140px	1320px
.container-xl	100%	100%	100%	100%	1140px	1320px
.container-xxl	100%	100%	100%	100%	100%	1320px
.container-fluid	100%	100%	100%	100%	100%	100%

Grid

- Bootstrap's grid system is based on a 12-column layout.
- It consists of a container, rows, and columns.
- Each row contains columns, which are defined by the number of columns they span.

Basic Structure of Grid

- Container
 - The container is the outermost element that holds the grid structure.
 - It is defined by the .container class.
- Rows
 - Rows are the horizontal elements that hold columns.
 - They are defined by the .row class.
- Columns
 - Columns are the vertical elements that hold content.
 - They are defined by the .col-* classes, where * is the number of columns they span.

Rules of Grid

- Rows must be placed within a container to function correctly.
- Columns should add up to 12 for each row.
- Content should be placed within columns, and only columns can be immediate children of rows.
- The grid system is responsive, meaning that columns will re-arrange depending on the screen size.
- This allows for a single codebase to scale across different devices.

col 1	col 1	col 1	col 1	col 1	col 1	col 1	col 1	col 1	col 1	col 1	col 1			
col 3			col 3			col 3			col 3					
col 4				col 4				col 4						
col 8				© tutlane.com				col 4						
col 2	col 2		col 4		col 2		col 2		col 6		col 6			
col 12						col 12								

Examples

Column

Column

Column

1 of 2

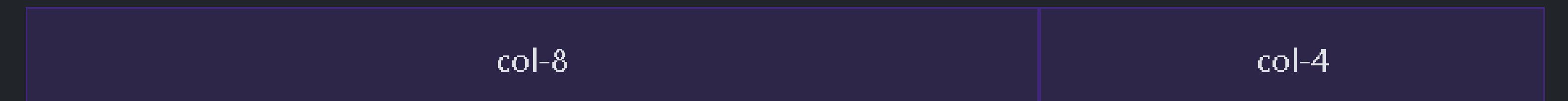
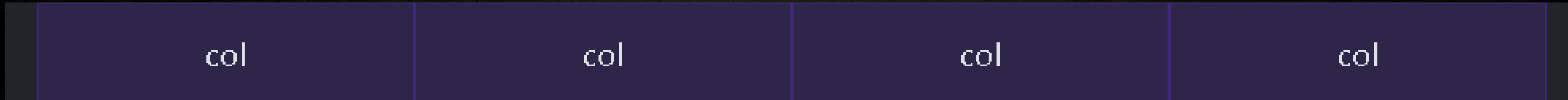
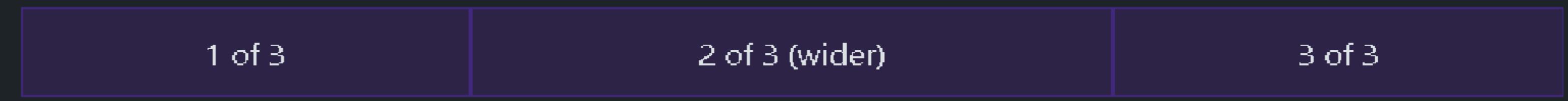
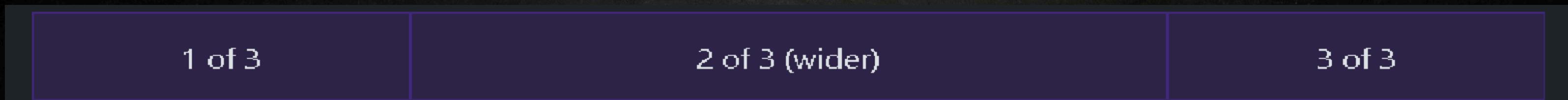
2 of 2

1 of 3

2 of 3

3 of 3

Examples



Examples

- Use the responsive .row-cols-* classes to quickly set the number of columns that best render your content and layout. Whereas normal .col-* classes apply to the individual columns (e.g., .col-md-4), the row columns classes are set on the parent .row as a shortcut. With .row-cols-auto you can give the columns their natural width.
- Use these row columns classes to quickly create basic grid layouts or to control your card layouts(Next Slides).

Examples

Column	Column	
Column	Column	
Column	Column	Column
Column	Column	Column

Buttons

- Bootstrap buttons come pre-styled with a consistent look and feel, ensuring uniformity across different parts of a web application.
- They save developers time by providing a wide range of styles, sizes, and states out of the box.
- Customizable using built-in classes for different colors, sizes, and functionalities, allowing for quick adjustments without extensive CSS coding.
- Designed to be responsive, Bootstrap buttons adapt to different screen sizes and resolutions, ensuring a consistent user experience across devices.

Cards

- Cards are flexible and extensible content containers that can be used to present related information in a visually appealing and organized manner.
- Cards can include various layout options, such as:
 - Card Groups: Cards can be rendered as a single, attached element with equal width and height columns using the `display: flex;` property.
 - Image Caps: Cards can include top and bottom "image caps"—images at the top or bottom of a card.
 - Image Overlays: Cards can have an image as the background, with the card's text overlaid on top.
 - Horizontal Cards: Cards can be made horizontal in a mobile-friendly and responsive way using a combination of grid and utility classes