

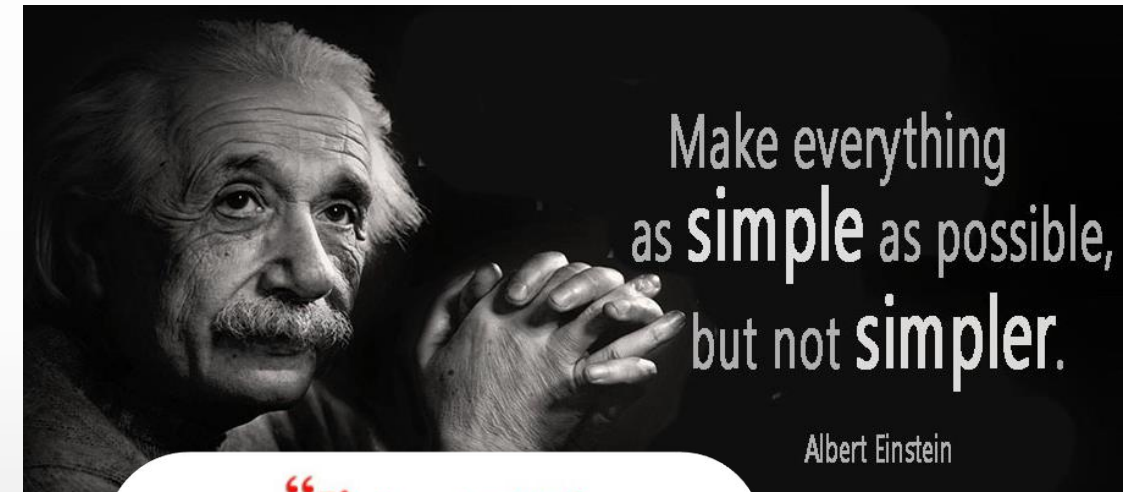


Responsive Web Design Bootstrap

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Agenda ...

- Responsive web design
- Bootstrap framework – introduction, history, usage, advantages
- Using bootstrap in html web page design
- Bootstrap elements – buttons, tables, etc.



*“If you cannot
explain it simply,
you don't
understand it
well enough.”*

Albert Einstein (1879-1955)

References

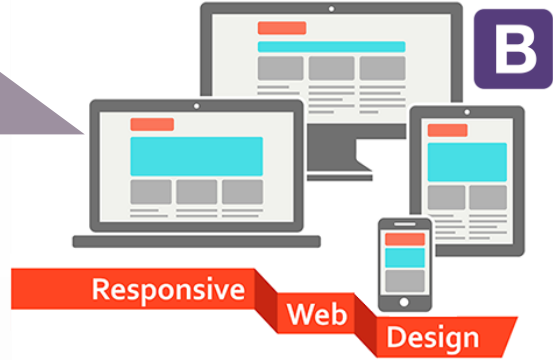
- Websites

- thecrazyprogrammer.com,
w3schools.com, medium.com ,
perl.apache.org, tutorialspoint.com,
tenforums.com, bmc.com,
ppcexpo.com, geeksforgeeks.com,
guru99.com, javatpoint.com,
Microsoft.com, Wikipedia.com,



What is Responsive Web Design?

- Responsive web design is about creating web sites which automatically adjust themselves to look good on all devices, from small phones to large desktops.
- Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first web sites.
- Bootstrap is completely free to download and use!



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



Bootstrap - About

- Bootstrap is a powerful front-end framework for faster and easier web development. It includes HTML and CSS based design templates for creating common user interface components like forms, buttons, navigations, dropdowns, alerts, modals, tabs, accordions, carousels, tooltips, and so on.
- Bootstrap gives you ability to create flexible and responsive web layouts with much less efforts.
- Bootstrap was originally created by a designer and a developer (by Mark Otto and Jacob Thornton) at Twitter in mid-2010. Before being an open-sourced framework, Bootstrap was known as Twitter Blueprint.
- It was released as an open source product in August 2011 on GitHub.
- **In June 2014 Bootstrap was the No.1 project on GitHub!**



Bootstrap is helpful for ...

- create responsive websites easily .
- quickly create multi-column layout with pre-defined classes.
- quickly create different types of form layouts.
- quickly create different variation of navigation bar.
- easily create components like accordions, modals, etc. without writing any JS code.
- easily create dynamic tabs to manage large amount of content.
- easily create tooltips and popovers to show hint text.
- easily create carousel or image slider to showcase your content.
- quickly create different types of alert boxes.



Advantage of Bootstrap

- **Save lots of time** — save lots of time and efforts using the Bootstrap predefined design templates and classes and concentrate on other development work.
- **Responsive features** — Using Bootstrap easily create responsive websites that appear more appropriately on different devices and screen resolutions without any change in markup.
- **Consistent design** — All Bootstrap components share the same design templates and styles through a central library, so the design and layout of your web pages will be consistent.
- **Easy to use** — Bootstrap is very easy to use. Anybody with the basic working knowledge of HTML, CSS and JavaScript can start development with Bootstrap.
- **Compatible with browsers** — Bootstrap is created with modern web browsers in mind and it is compatible with all modern browsers such as Chrome, Firefox, Safari, Internet Explorer, etc.
- **Open Source** — And the best part is, it is completely free to download and use.



Bootstrap History

- Bootstrap was developed by Mark Otto and Jacob Thornton at Twitter, and released as an open source product in August 2011 on GitHub.
- Advantages of 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 3, 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)



Where to Get Bootstrap?

There are two ways to start using Bootstrap on your own web site.

- Download Bootstrap from getbootstrap.com
 - If you want to download and host Bootstrap yourself, go to getbootstrap.com, and follow the instructions there.
- Include Bootstrap from a CDN
 - If you don't want to download and host Bootstrap yourself, include it from a CDN (Content Delivery Network).
 - MaxCDN provides CDN support for Bootstrap's CSS and JavaScript. You must also include jQuery.



Bootstrap CDN



- include the following Bootstrap's CSS, JavaScript, and jQuery from MaxCDN into web page.

`<!-- Latest compiled and minified Bootstrap CSS -->`

```
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
```

`<!-- Latest compiled Bootstrap JavaScript -->`

```
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>
```

`<!-- latest jQuery library -->`

```
<script src="https://code.jquery.com/jquery-latest.js"></script>
```

Advantage of using the Bootstrap CDN



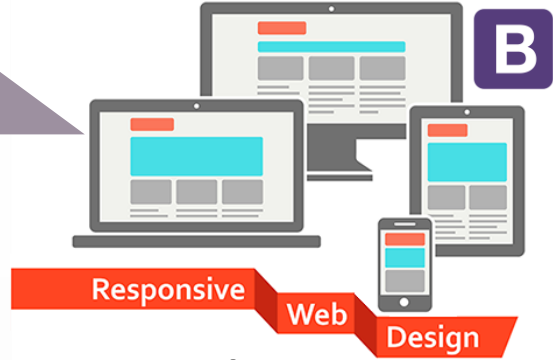
- Many users already have downloaded Bootstrap from MaxCDN when visiting another site.
- As a result, it will be loaded from cache when they visit your site, which leads to faster loading time.
- Also, most CDN's will make sure that once a user requests a file from it, it will be served from the server closest to them, which also leads to faster loading time.

Create Web Page with Bootstrap (1)

Add the HTML5 doctype

- Bootstrap uses HTML elements and CSS properties that require the HTML5 doctype.
- Always include the HTML5 doctype at the beginning of the page, along with the lang attribute and the correct character set:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
  </head>
</html>
```



Create Web Page with Bootstrap (2)



- **Bootstrap is mobile-first**

- Bootstrap 3 is designed to be responsive to mobile devices. Mobile-first styles are part of the core framework.
- To ensure proper rendering and touch zooming, add the following `<meta>` tag inside the `<head>` element:

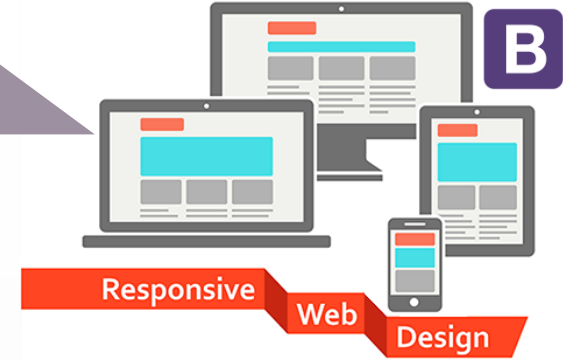
```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

- The `width=device-width` part sets the width of the page to follow the screen-width of the device (which will vary depending on the device).
- The `initial-scale=1` part sets the initial zoom level when the page is first loaded by the browser.

Create Web Page with Bootstrap (3)

Containers

- Bootstrap also requires a containing element to wrap site contents.
- There are two container classes to choose from:
 - The `.container` class provides a responsive **fixed width container**.
 - The `.container-fluid` class provides a **full width container**, spanning the entire width of the viewport.
- **Note:** Containers are not nestable (a container cannot be inside another container).
- [Demo pages](#)



Bootstrap Grids



- Bootstrap's grid system allows up to 12 columns across the page
- Columns can be grouped together to create wider columns:
 - `<div class="col-md-12">Span 12 columns</div>`
 - `<div class="col-md-6">Span 6</div><div class="col-md-6">Span 6</div>`
 - `<div class="col-md-4">Span 4</div><div class="col-md-8">Span 8</div>`
 - `<div class="col-md-4">Span 4</div><div class="col-md-4">Span 4</div>`
 - `<div class="col-md-4">Span 4</div>`
- Bootstrap's grid system is responsive, and the columns will re-arrange automatically depending on the screen size.

Bootstrap Grids

`<div class="col-md-1">Span 1</div>..... <div class="col-md-1">Span 1</div>`

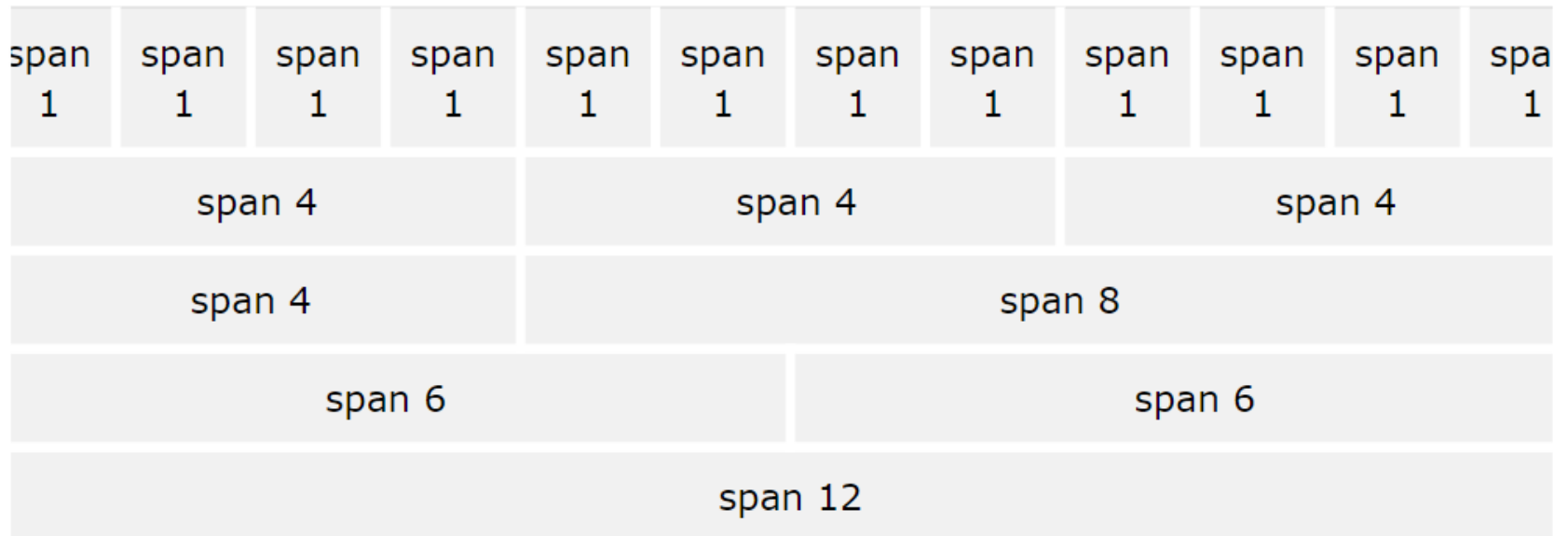
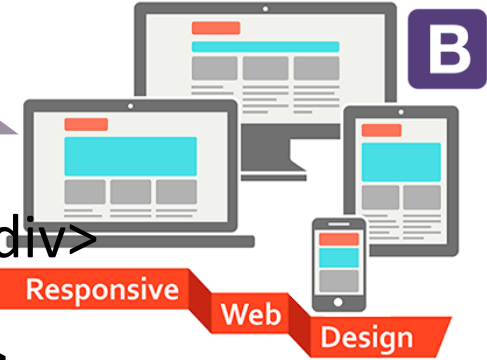
`<div class="col-md-4">Span 4</div><div class="col-md-4">Span 4</div>`

`<div class="col-md-4">Span 4</div>`

`<div class="col-md-4">Span 4</div><div class="col-md-8">Span 8</div>`

`<div class="col-md-6">Span 6</div><div class="col-md-6">Span 6</div>`

`<div class="col-md-12">Span 12 </div>`



Grid Classes

- The Bootstrap grid system has four classes:
 - xs (for phones)
 - sm (for tablets)
 - md (for desktops)
 - lg (for larger desktops)
- The classes above can be combined to create more dynamic and flexible layouts.



Basic Structure of a Bootstrap Grid



```
<div class="row">
  <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>
```

- First 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.

Three Equal Columns

- `<div class="row">`
 `<div class="col-sm-4">.col-sm-4</div>`
 `<div class="col-sm-4">.col-sm-4</div>`
 `<div class="col-sm-4">.col-sm-4</div>`
 `</div>`
- three equal-width columns starting at tablets and scaling to large desktops.
- On mobile phones or screens that are less than 768px wide, the columns will automatically stack

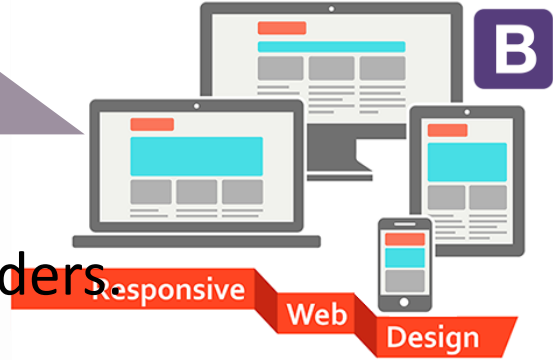


Two Unequal Columns

- Two unequal columns ([desktop version](#)):
- Two unequal columns ([tablet version](#)):
- Two unequal columns ([smart phone version](#)):



Bootstrap Tables



- A **basic** Bootstrap table has a light padding and only horizontal dividers
 - The `.table` class adds basic styling to a table:
- **Striped Rows**
 - The `.table-striped` class adds zebra-stripes to a table:
- **Bordered Table**
 - The `.table-bordered` class adds borders on all sides of the table and cells:
- **Hover Rows**
 - The `.table-hover` class enables a hover state on table rows:
- **Responsive Tables**
 - The `.table-responsive` class creates a responsive table. The table will then scroll horizontally on small devices (under 768px). When viewing on anything larger than 768px wide, there is no difference:

Bootstrap Images



- **Rounded Corners**
 - The `.img-rounded` class adds rounded corners to an image (IE8 does not support rounded corners):
- **Circle**
 - The `.img-circle` class shapes the image to a circle (IE8 does not support rounded corners):
- **Thumbnail**
 - The `.img-thumbnail` class shapes the image to a thumbnail:
- **Responsive Images**
 - Images comes in all sizes. So do screens. Responsive images automatically adjust to fit the size of the screen.
 - Create responsive images by adding an `.img-responsive` class to the `` tag. The image will then scale nicely to the parent element.
 - The `.img-responsive` class applies `display: block;` and `max-width: 100%;` and `height: auto;` to the image:

Bootstrap Buttons



- Button Styles

- Bootstrap provides seven styles of buttons with the following classes:

.btn-default

.btn-primary

.btn-success

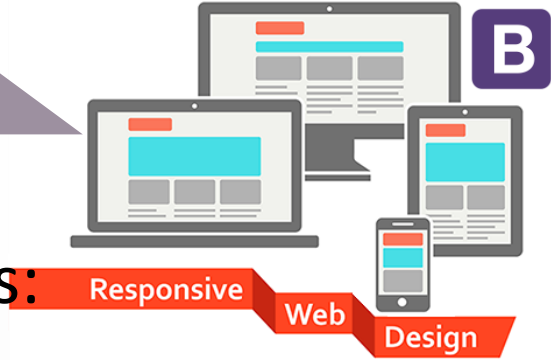
.btn-info

.btn-warning

.btn-danger

.btn-link

Bootstrap Button Elements



- The button classes can be used on the following elements:

- `<a>`
- `<button>`
- `<input>`

Button Sizes

- Bootstrap provides four button sizes with the following classes:

`.btn-lg`

`.btn-md`

`.btn-sm`

`.btn-xs`



Block Level Buttons

- A block level button spans the entire width of the parent element.
 - Add class `.btn-block` to create a block level button:



Active/Disabled Buttons

- A button can be set to an active (appear pressed) or a disabled (unclickable) state:
 - The class `.active` makes a button appear pressed, and the class `.disabled` makes a button unclickable:

