

Bootstrap 4

The most popular HTML, CSS and JS framework for building responsive, mobile-first projects on the web

Agenda

- Introduction – Bootstrap & Getting Started
- Layout
- Content
- Components
- Q & A

Part 1: Introduction

In this section

- Introduction to Bootstrap & different versions
- Benefits of using Bootstrap
- Browser support & Limitations
- Installing and Getting Started with Bootstrap

About Bootstrap

- Developed by Mark Otto and Jacob Thornton at Twitter
- Originally named **Twitter Blueprint**
- First Public Release in Aug, 2011
- Two major rewrites:
 - V2: Added responsive functionality as an optional stylesheet
 - V3: Responsive by default with mobile first approach
 - V4: Now in beta

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New Features in V4

- Support for SASS preprocessor
- Improved Grid System and Flexbox
- Card component
- Deprecation of wells, thumbnails & panels
- Rebooting Normalize.css
- No more support for IE 8
- ES6 support

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Responsive Web Design



Content is like water

You put water into a cup, it becomes the cup

You put water into a teapot, it becomes the teapot

You put water into a bottle, it becomes the bottle

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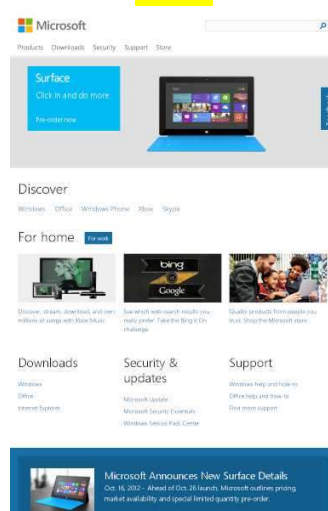
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Responsive Web Design

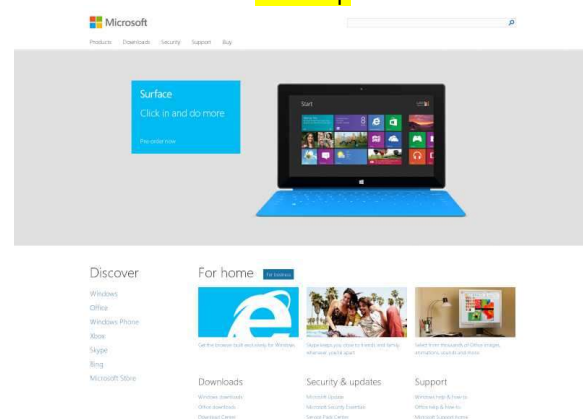
Smartphone



Tablet



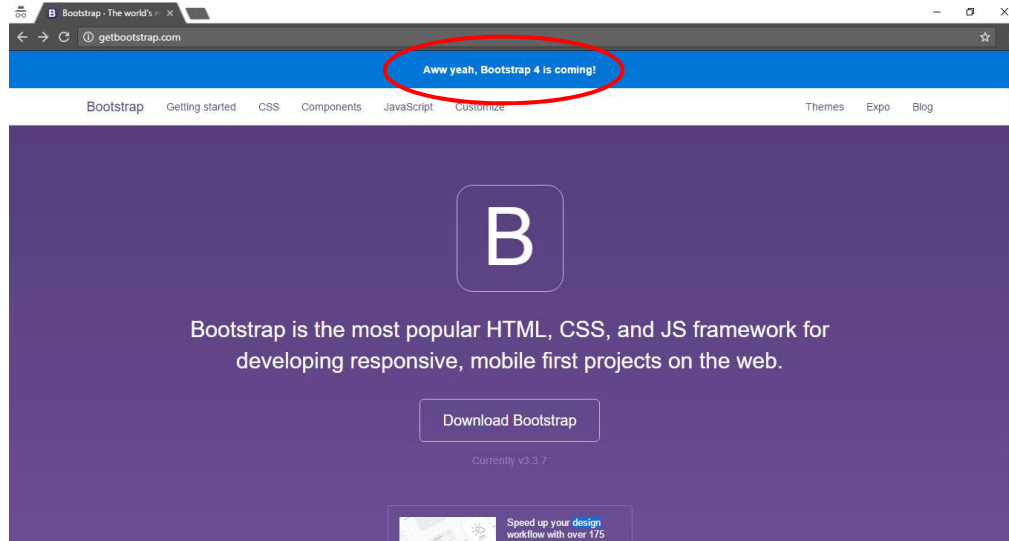
Desktop



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Install Bootstrap 4



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Browser Support

| Firefox | Chrome | IE | iPhone | Safari |
|-------------|-------------|-------|--------------|------------|
| 45 ✓ | 48 ✓ | 8 ✓ | 9.2 10.10 ✓ | 8 10.10 ✓ |
| 47 10.10 ✓ | 59 10.10 ✓ | 9 ✓ | | |
| 54 ✓ | 59 ✓ | 10 ✓ | | |
| | | 11 ✓ | | |

Please note : IE-8 is not supported from v4!

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Implementing framework files

- To implement bootstrap 4, we need one CSS file and two JS files.
- Can be served from a CDN
- Or installed locally using NPM, Nuget Package Manager, or alternative

Using the CDN

```
<link rel="stylesheet"
href=https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-alpha.6/css/bootstrap.min.css
integrity="sha384-rwoIResjU2yc3z8GV/NPeZWAv56rSmLldC3R/AZZGRnGxQQKnKkoFVhFQhNUwEyJ"
crossorigin="anonymous">
```

```
<script src="https://code.jquery.com/jquery-3.1.1.slim.min.js"
integrity="sha384-A7FZj7v+d/sdmMqp/nOQwliLvUsJfDHW+k90mg/a/EheAdgtzNs3hpfag6Ed950n"
crossorigin="anonymous">
</script>
```

```
<script src="https://cdnjs.cloudflare.com/ajax/libs/tether/1.4.0/js/tether.min.js"
integrity="sha384-DztdAPBWPRXSA/3eYEEUwrWCy7G5KFbe8fFjk5JAIxUYHKkDx6Qin1Dkwx51bBrb"
crossorigin="anonymous">
</script>
```

```
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-alpha.6/js/bootstrap.m
integrity="sha384-vBWWz1ZJ8ea9aCX4pEW3rVHjgjt7zpkNpZk+02D9phzyeVke+jo0ieGizqPLForn"
crossorigin="anonymous">
</script>
```

To install locally

Several quick start options are available:

- [Download the latest release.](#)
- Clone the repo: `git clone https://github.com/twbs/bootstrap.git`
- Install with [npm](#): `npm install bootstrap@4.0.0-alpha.4`
- Install with [Meteor](#): `meteor add twbs:bootstrap@4.0.0-alpha.4`
- Install with [Composer](#): `composer require twbs/bootstrap`
- Install with [Bower](#): `bower install bootstrap#v4.0.0-alpha.4`
- Install with [NuGet](#): CSS: `Install-Package bootstrap -Pre` Sass: `Install-Package bootstrap.sass -Pre` (`-Pre` is only required until Bootstrap v4 has a stable release).

Demo

Wrapping up ...

- We discussed
 - Bootstrap introduction
 - Benefits and Limitations
 - Installation
- And we developed our first application

Part 2: Layout

In this section ...

- Working with containers
- Adding columns to your layout
- Creating a simple three-column layout
- Coding our home page
- Using responsive utility classes

Containers

- Container-fluid:
 - to stretch the layout to fit the entire width of the browser window
 - left and right padding (15px) to avoid content touching browser-edge
- Container:
 - Fixed width, based on device viewport
 - Breakpoints defined for various sizes:
 - Extra small <576px
 - Small >576px
 - Medium >768px
 - Large >992px
 - Extra large >1200px

Demo

P01_Getting_Started

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Bootstrap Grid System

Bootstrap's grid system allows up to 12 columns across the page.

If you do not want to use all 12 columns 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 | | | | | | | | | | | |

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Bootstrap Grid Classes

- The Bootstrap grid system has four classes in v3 and one more in v4:
 - **xs** (for phones < 576 px)
 - **sm** (for tablets >= 576 px)
 - **md** (for desktops >= 768 px)
 - **lg** (for larger desktops >= 992 px)
 - **xl** (for very large monitors >= 1200 px) **[introduced in v4]**
- The classes above can be combined to create more dynamic and flexible layouts.

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**
- Column classes indicate the number of columns you'd like to use out of the possible 12 per row.. For example, three equal columns would use three **.col-sm-4**

| | Extra small <576px | Small ≥576px | Medium ≥768px | Large ≥992px | Extra large ≥1200px |
|---------------------|--------------------------------------|--|------------------|-----------------|------------------------|
| Grid behavior | Horizontal at all times | Collapsed to start, horizontal above breakpoints | | | |
| Max container width | None (auto) | 540px | 720px | 960px | 1140px |
| Class prefix | .col- | .col-sm- | .col-md- | .col-lg- | .col-xl- |
| # of columns | 12 | | | | |
| Gutter width | 30px (15px on each side of a column) | | | | |
| Nestable | Yes | | | | |
| Offsets | Yes | | | | |
| Column ordering | Yes | | | | |

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Demo

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Wrapping up:

- We discussed
 - Bootstrap layout grid
 - Container, Container-grid & row classes
 - Bootstrap column classes
 - Offsetting columns

Part 3: Flexbox

In this section ...

- Flexbox fundamentals
- Ordering row-wise & column-wise
- Changing the direction
- Creating equal height columns
- Aligning columns

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Flexbox Basics and Terminology

- Main purpose of Flexbox is dynamic resizing of child boxes within a parent container
- Allows easier layouts with lesser code
- Internet Explorer 9 does not support flexbox!

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Demo

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Wrapping up ...

- We discussed:
 - Flexbox fundamentals
 - Ordering row-wise & column-wise
 - Changing the direction
 - Creating equal height columns
 - Aligning columns

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Part 4: Working with Content

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In this section ...

- Typography
- Images
- Tables
- Figures
- Media Objects

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Typography

- Bootstrap's global default font-size is 14px, with a line-height of 1.428.
- This is applied to the <body> and all paragraphs.
- In addition, all <p> elements have a bottom margin that equals half their computed line-height (10px by default).

<http://v4-alpha.getbootstrap.com/content/typography/>

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Demos

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Images

Responsive images

Images in Bootstrap are made responsive with `.img-fluid`, `max-width: 100%`, and `height: auto`; are applied to the image so that it scales with the parent element.



```

```

[Copy](#)

<http://v4-alpha.getbootstrap.com/content/images/>

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Tables

- A basic Bootstrap table has a light padding and only horizontal dividers.
- The `.table` class adds basic styling to a table
- Other classes that can be used are
- `Table-hover`
- `Table-condensed`, etc

<http://v4-alpha.getbootstrap.com/content/tables/>

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Figures



<http://v4-alpha.getbootstrap.com/content/figures/>

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Media Object

The default media allow to float a media object (images, video, audio) to the left or right of a content block.



More: <http://v4-alpha.getbootstrap.com/layout/media-object/>

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Demos

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Wrapping up ...

- We discussed ...
 - Typography
 - Images
 - Tables
 - Figures
 - Media Objects

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Part 5: Components

<http://v4-alpha.getbootstrap.com/components/alerts/>

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In this section ...

- Button
- Cards
- Navbar
- Forms

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Button

- All buttons to have .btn class
- The .btn class may be attached to <button> <a><input> HTML tags
- A number of css classes are available for a button

Demo

Cards

- A card is a flexible and extensible content container.
- It includes options for headers and footers, a wide variety of content, contextual background colors, and powerful display options.
- Use card groups to render cards as a single, attached element with equal width and height columns.
- Use card decks to render cards which are not in same group

Demo

Navbar

- Navbar is a wrapper that positions branding, navigation and other elements in a concise header.
- Navbars require a wrapping `.navbar` with `.navbar-toggleable-*` for responsive collapsing and color scheme classes.
- Navbars and their contents are fluid by default. Use containers to limit width.
- Navbars and their contents are built with flexbox, providing easy alignment options via utility classes.
- Navbars are responsive by default, but you can easily modify them to change that. Responsive behavior depends on our Collapse JavaScript plugin.
- Ensure accessibility by using a `<nav>` element or, if using a more generic element such as a `<div>`, add a `role="navigation"` to every navbar to explicitly identify it as a landmark region for users of assistive technologies

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Demo

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Forms

- Basic form group is made up of label and an input
- Each form group is enclosed in a <fieldset>

Demos

Wrapping up ...

- We discussed:
 - Buttons and Button Groups
 - Cards
 - Navbar
 - Forms

Closing Remarks

About FontAwesome

- Bootstrap 4 dropped the Glyphicons icon font. If you need icons, some options are:
 - the upstream version of [Glyphicons](#)
 - [Octicons](#)
 - [Font Awesome](#)
- Font Awesome gives you scalable vector icons that can instantly be customized — size, color, drop shadow, and anything that can be done with the power of CSS. Check out: <http://fontawesome.io/>

Reference Links

- V4: <http://v4-alpha.getbootstrap.com/getting-started/introduction/>
- Archive:
- <https://bootstrapdocs.com/>

Related Tools

- Bootlint - <https://github.com/twbs/bootlint>
- Bootswatch - <https://bootswatch.com/>

Questions?



Thank you

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