FinTech Software Developer

Programmazione WEB - HTML | CSS | Javascript

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Bootstrap

Core

Shadi Lahham - Web development

Bootstrap

What is Bootstrap

- Layout and grid system
- Mobile first
- Responsive
- Consistent cross-browser style
- Several useful UI components
- Good defaults for many HTML elements

Why Bootstrap

- Great grid system
- Supports major browsers and adds CSS compatibility fixes
- Lightweight and customizable
- Many free and professional templates for UI elements
- Good documentation and community support
- Open-source and free to use
- Support for
  - JavaScript plugins
  - Usability and web accessibility

Why not Bootstrap

- Bootstrap sites look the same unless heavily customized
- Customizing Bootstrap
  - Requires lots of style overrides
  - Rewriting core classes
- Bootstrap core and utility classes verbose
  - Leads to long, illegible, difficult to manage HTML files
  - No separation of concerns: HTML used as a presentation layer
- Not perfectly compliant with standards
- v4 requires jQuery which is quite heavy

Why not Bootstrap

- Bootstrap makes developers lazy
- Creating custom non-Bootstrap components from zero
  - Difficult and requires a lot of skill and time
  - Complete control over the components
  - Easy to modify and add functionality
  - Makes sites and apps standout
  - Better developer with improved CSS and HTML skills
- When to use Bootstrap
  - Quick prototypes for client feedback
  - Basic front-end interface for back-end focused applications

Bootstrap 5

- Removed jQuery
- Removed IE10 and IE11 support
- Better grid system
- New and improved components
- Added [Bootstrap Icons](#)
- Support for [CSS custom properties](#)
- RTL support
- [Bootstrap 4 vs 5 differences](#)

Installing Bootstrap

Install Bootstrap - jsDelivr CDN

```html
<head>
  <!-- Bootstrap CSS -->
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.1/dist/css/bootstrap.min.css"
rel="stylesheet"
    integrity="sha384-F3w7mX95PdgyTmZZMECAngseQB83DfGTowi0iMjiWaeVhAn4FJkqJByhZMI3AhiU"
crossorigin="anonymous">
</head>

<body>
  <!-- end of body -->
  <!-- Bootstrap Bundle & Popper -->
  <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.1/dist/js/bootstrap.bundle.min.js"
    integrity="sha384-/bQdsTh/da6pkI1MST/rWKFNjaCP5gBSY4sEBT38Q/9RBh9AH40zEOg7Hlq2THRZ"
    crossorigin="anonymous"></script>
</body>
```

Install Bootstrap - Compiled CSS and JS

```html
<head>
  <!-- Bootstrap CSS -->
  <link href="./assets/dist/css/bootstrap.min.css" rel="stylesheet">
</head>

<body>
  <!-- end of body -->
  <!-- Bootstrap Bundle & Popper -->
  <script src="./assets/dist/js/bootstrap.bundle.min.js"></script>
</body>
```
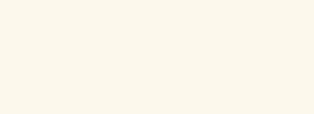
Note
Download compiled Bootstrap files to /assets/dist

Install Bootstrap - references

[Introduction](#)

[Download](#)

Bootstrap layout

Bootstrap grid

- Bootstrap uses a grid system [(example)](#)
- The Bootstrap grid is a 12 column system
- Bootstrap [breakpoints](#)
    - **xs** <576px
    - **sm** ≥576px
    - **md** ≥768px
    - **lg** ≥992px
    - **xl** ≥1200px
    - **xxl** ≥1400px

Bootstrap containers

- [Containers](#)
  - Center and horizontally pad content
  - Fully responsive
- Breakpoints determine container **max-width**
  - **xs** auto
  - **sm** 540px
  - **md** 720px
  - **lg** 960px
  - **xl** 1140px
  - **xxl** 1320px

Container, rows and columns

```html
<div class="container">
    <div class="row">
        <div class="col">
            Column
        </div>
        <div class="col">
            Column
        </div>
        <div class="col">
            Column
        </div>
    </div>
</div>
```

Bootstrap columns

Important column concepts

- [Equal-width columns](#)
  - `<div class="col">`
- [Fixed width columns](#)
  - `<div class="col-6">`
- [Variable width column](#)
  - `<div class="col-auto">`
- [Nesting](#)
- [Responsive columns](#)
  - `<div class="col-md-8">`
- [Row columns](#)
  - `<div class="row row-cols-3">`

Additional column concepts

- [Vertical](#) and [horizontal](#) alignment
- [Breaking](#) and [wrapping](#)
- Column [ordering](#)
- [Offset](#) and [margin](#) classes
- [Standalone columns](#)
- [Gutters](#)

Bootstrap content

Bootstrap reboot

Bootstrap reboots HTML element styles to create a consistent starting point
It is a similar concept to:

- [Reset CSS](#)
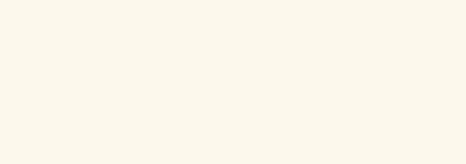- [Normalize.css](#)
- [Destyle.css](#)

It is important to understand what [Bootstrap reboot](#) does because it will affect all HTML elements of the website or application

Bootstrap content

Bootstrap provides utility classes for the following content
- [Typography](#)
- [Images](#)
- [Tables](#)
- [Figures](#)

In general, content containers are responsive by default and very customizable

Bootstrap utilities

Bootstrap utilities

Bootstrap has many utility classes, especially
- [Utilities for layout](#)
- [Spacing](#)
- [Colors](#)
- [Background](#)
- [Borders](#)
- [Text](#)

Bootstrap forms

Bootstrap forms

Bootstrap improves some form elements and provides consistent UI across browsers

- [Form controls](#)
- [Checks and radios](#)
- [Input group](#)
- [Complex grid based form layouts](#)
- [Select](#)
- [Range](#)
- [Floating labels](#)
- [Improve from validation](#)

Important form concepts

- Styled checkboxes and radios with consistent UI using **form-check**
- Indeterminate checkboxes
  - More details about :indeterminate
- Switches
  - Basically checkboxes, just styled differently
- Input groups
  - Which can also have buttons with dropdowns
- Grid based forms
  - vertical and horizontal
- Form validation
  - Custom styles and tooltips

Your turn

1.In formation

- Study all the external links in the presentation
- Create a complex bootstrap form that should
  - Contain at least 15 different input types
  - Use custom style validation or tooltips
  - Connected to and tested on [RequestBin](#)
  - Validation should include at least the following
    - Validation methods: Required, minlength and maxlength for text input, min and max for number input, pattern
    - Types: number, an email, date

- Include your **html, css** and **js** files in the delivery