Front End
Software Development

Front End Technologies (weeks 7 - 12)
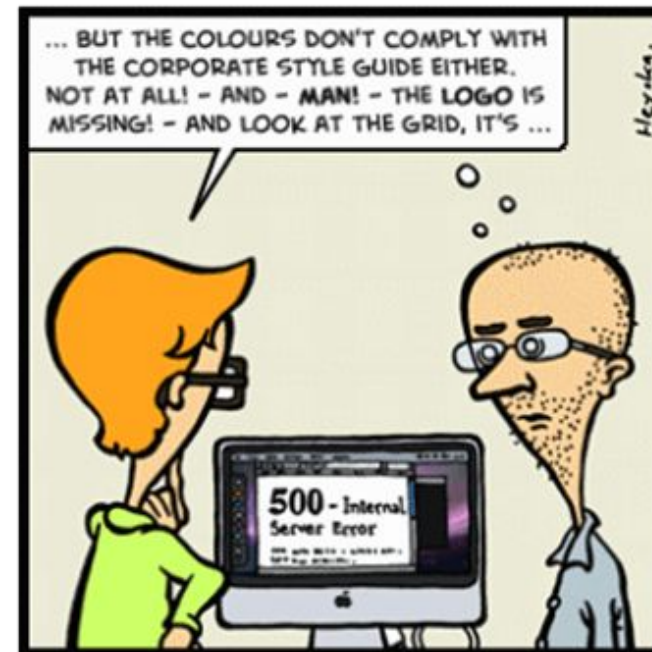
Week 03

Agenda

- Questions
- Web Servers
- Installing Bootstrap
- Bootstrap Grid
- Bootstrap Components
- Documentation
- Navbar

Questions

Web Servers

- Ports
  Specifies where clients
  can "talk" to each other.
  i.e., like a walkie-talkie.
  - HTTP: TCP Port 80
  - HTTPS: TCP Port 443
  - Port 8080; Commonly used as "alternate".
  - Port 3000; Default port used by Node.js
- Common / Dedicated Web Servers
  - Apache
  - NGINX
  - Microsoft Internet Information Server (IIS)
- Other
  - Apache Tomcat
  - Node.js

Web Servers
(Node.js)

- Node.js
  - Server-side JavaScript
  - https://nodejs.org/en/download/

- Node Package Manager
  - Install HTTP Server globally

```
npm -g install http-server
```

  Note: By default, npm downloads and installed packages locally in the current folder.

  - Running in current directory

```
http-server
```

Installing Bootstrap

- CSS Libraries
  - Don't start from scratch

- Installation
  - Use CDN
    (Content Delivery Network)
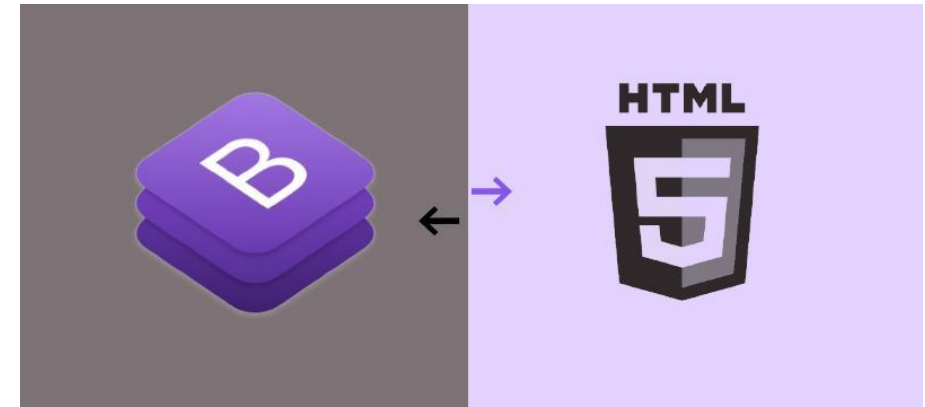 - Download / extract / host locally
    - Manual *(https://getbootstrap.com/)*
    - Use NPM

      ```
      npm init -y
      npm install bootstrap[@version] --save
      npm install jquery --save
      ```

    - Version – Optional
      https://www.npmjs.com/package/bootstrap

Installing Bootstrap
(continued)

- Adding to your Web page


```html
<!doctype html>
<html lang="en">
<head>
  <!-- Required for "Mobile First" -->
  <meta name="viewport"
        content="width=device-width, initial-scale=1">
  <link rel="stylesheet" crossorigin="anonymous"
        href="/node_modules/bootstrap/dist/css/bootstrap.css">
</head>
<body>
  <p class="alert alert-primary">Page content here.</p>

  <!-- Performance / Optimization -->
  <script src="/node_modules/jquery/dist/jquery.js">
  </script>
  <script src="/node_modules/bootstrap/dist/js/bootstrap.bundle.js">
  </script>
</body>
</html>
```
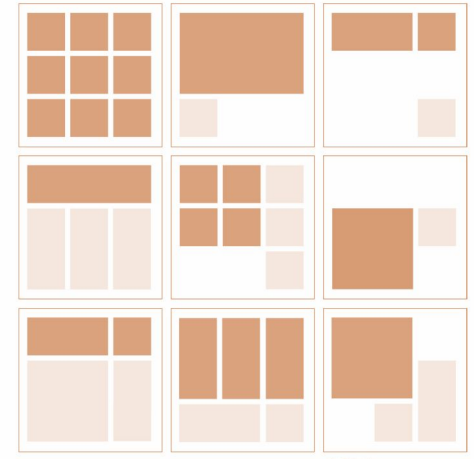
Bootstrap Grid

- Responsive Design
  - Rows
  - Columns
- Classes
  - Container
    - `container`
    - `container-fluid`
  - Rows
  - Columns
    - `col-sm`, `col-md`, `col-lg`, `col-xl`
    - Based on 12 columns (100%)
      - By default, equally distributed. Can optionally specify "size". i.e., `col-sm-3`, etc.
      - Size refers to screen size.

Before CSS, classic HTML tables were used for layout.
Tables are based on rows & columns!
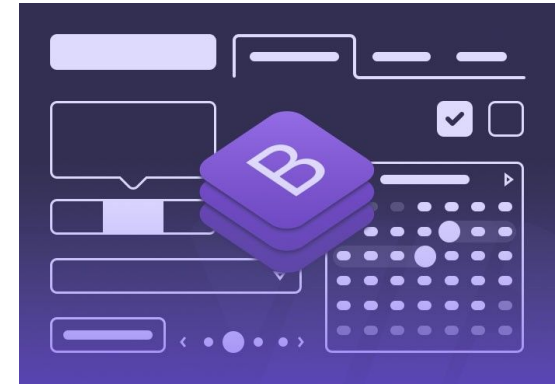
John P. Corrigan

Bootstrap Components

- Colors / Context
  Can be applied to most components to apply color or context. Creates consistency.
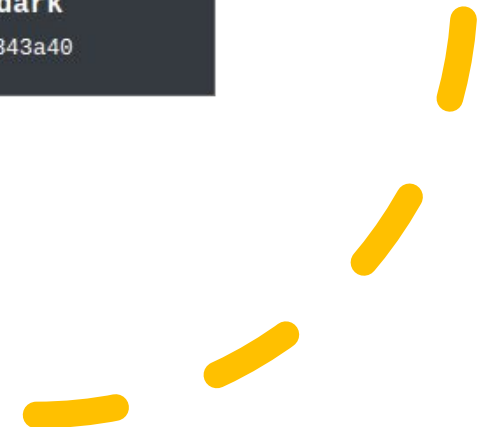 - primary
  - secondary
  - success
  - info
  - danger
  - warning

- Components
  - alert
  - badge
  - button
  - card
  - list-group
  - toast
  - modal
  - table

$primary
#007bff

$secondary
#868e96

$success
#28a745

$danger
#dc3545

$warning
#ffc107

$info
#17a2b8

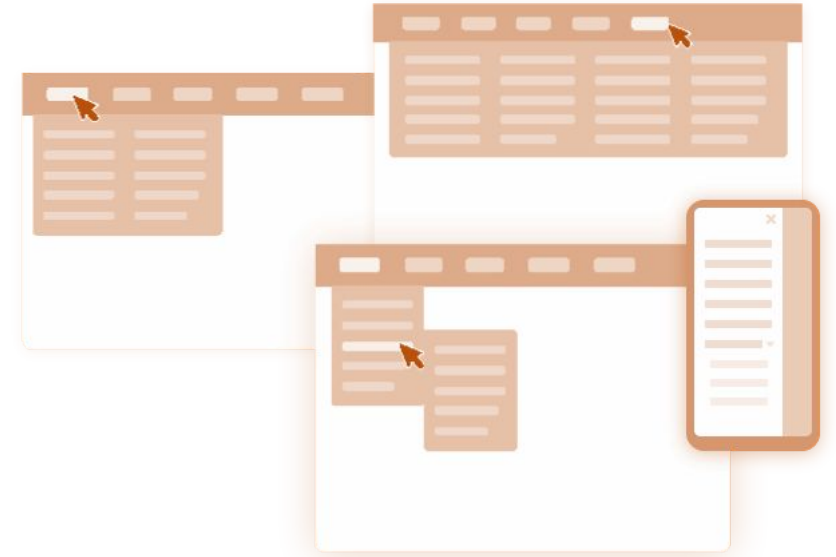$light
#f8f9fa

$dark
#343a40

Documentation
(bootstrap)

- http://getbootstrap.com/docs/
- Versioning
  - Not always backwards compatible
  - Make sure you're using correct version!

Navbar

Menu navigation

- `navbar`
  - `navbar-brand`
  - `navbar-toggler`
  - `navbar-nav`
  - `navbar-item`
  - `nav-link`
  - `dropdown`
  - `form`
  - `text`

- Actions / State
  - `navbar-collapse`
  - `navbar-expand`
  - `active`
  - `disabled`

Navbar

(continued)

• Example

```html
<nav class="navbar navbar-expand-md navbar-dark bg-dark">
  <a class="navbar-brand">Promineo Tech</a>
  <button class="navbar-toggler" type="button" data-toggle="collapse"
          data-target="#navbarNav" aria-controls="navbarNav"
          aria-expanded="false" aria-label="Toggle navigation">
    <span class="navbar-toggler-icon"></span>
  </button>
  <div class="collapse navbar-collapse" id="navbarNav">
    <div class="navbar-nav">
      <a class="nav-link disabled" href="#">JavaScript</a>
      <a class="nav-link active" href="#">HTML/CSS</a>
      <a class="nav-link" href="#">React</a>
    </div>
  </div>
  <form class="form-inline d-none d-md-block">
    <input class="form-control mr-sm-2" type="search"
           placeholder="Search" aria-label="Search">
    <button class="btn btn-outline-success my-2 my-sm-0"
            type="submit">Search</button>
  </form>
</nav>
```

Applies "toggle" JavaScript to element.

"Hamburger" icon

Menu items

Hides form on screen smaller than medium.

Inline input form

DEMO

Putting It All Together