

# Web Frameworks

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# Overview

- Web frameworks are software frameworks for web development, which simplify common tasks
- **jQuery** is a Javascript library for Javascript programming
- **Bootstrap** is a HTML/CSS/Javascript framework for developing responsive, mobile first applications
  - Developed by Twitter and released to the public in 2011
- **AngularJS** is a Javascript framework that extends HTML and supports “data binding” in web pages.
  - Developed by Google

# jQuery

- Can be included by loading the Javascript library in the header of a page
- The basic syntax structure is to apply an action to all elements as follows:
  - `$(selector).action()`
    - `$` - specifies we are using jQuery
    - `selector` – a CSS style selector to apply the function to
    - `action()` – the function to apply to each selector
- Examples
  - `$("p").hide()` - hides all `<p>` elements.
  - `$(".test").hide()` - hides all elements with `class="test"`.
  - `$("#test").hide()` - hides the element with `id="test"`.
- Tutorial: <https://www.w3schools.com/jquery/default.asp>

# Bootstrap

- Can be included by loading the Javascript and CSS libraries in the header of a page
- Basic design concepts
  - Responsive to changes in screen size (e.g., desktop vs. mobile)
    - Grid system of 12 columns
    - Collapsible navbars and other elements
- Used by specifying existing *classes*, e.g.
  - col-sm-4 – element is 4 columns wide
  - btn and btn-primary for buttons
- Tutorial: <https://www.w3schools.com/bootstrap4/default.asp>

# Selected Bootstrap examples

- Grid: [https://www.w3schools.com/bootstrap4/bootstrap\\_grid\\_basic.asp](https://www.w3schools.com/bootstrap4/bootstrap_grid_basic.asp)
- Buttons: [https://www.w3schools.com/bootstrap4/bootstrap\\_buttons.asp](https://www.w3schools.com/bootstrap4/bootstrap_buttons.asp)
- Navbar: [https://www.w3schools.com/bootstrap/bootstrap\\_navbar.asp](https://www.w3schools.com/bootstrap/bootstrap_navbar.asp)