Bootstrap
What is Bootstrap?

- Bootstrap is a front end framework for developing responsive, mobile-first projects on the Web.
- It contains HTML and CSS design templates as well as optional JavaScript extensions.
- Originally developed as an internal toolkit for Twitter, the project was released as open-source code in 2010. It has since become one of the most popular front end Web frameworks and is used by many different kinds of sites.
Front End

- “Front end” Web development refers to the elements of a website that a person sees and interacts with.
- The languages most often employed in front end web development are HTML, CSS, and JavaScript:
  - HTML describes content
  - CSS defines appearance
  - JavaScript facilitates interaction

All of the above happen directly in the Web browser.
Back End

- “Back end” Web development refers to the functionality of a website that is not visible to a person
- If you buy something online, you interact with the front end of the store; the transaction takes place on the back end of a database on a Web server
- The back end usually consists of a server, an application, and a database
- The languages most often employed in back end web development are PHP, Ruby, and Python
Frontend Code (HTML, CSS, JavaScript)
- Clicked on my photo album
- Renders the photos

Backend Code (PHP, Java, C#, Python, Ruby)
- Generates query
- Returns photos that belong to the user
- Query for photos that belong to the user
- Returns photos that belong to the user

Database
Bootstrap - Layout and Design

- The Bootstrap framework is responsive with a mobile-first approach
- It starts with a baseline of shared styles and introduces more advanced layout rules when screen size permits
  - Media queries are used to determine screen size and apply different styles accordingly
- Bootstrap also offers a grid layout system which organizes page content into a series of rows and columns
Bootstrap - Layout and Design

.col-xs-* = Mobile
.col-sm-* = Tablet
.col-md-* = Desktop
.col-lg-* = Larger Desktop
Bootstrap - Interactivity

- Additional interactive components, or “widgets,” can extend the behavioral aspect of Bootstrap Web pages.
- Such interactivity would normally require an understanding of JavaScript to add to a website.
- Bootstrap simplifies this process by providing several common widgets including tabs, carousels, and tooltips.