TypeScript

* TypeScript is a super set of JavaScript
  + ANYTHING you can do in JavaScript you can do in TS
  + TS has additional features to JavaScript
* TypeScript gets its name from the ability to have types
  + Optional static typing for your JS
  + The main feature of TypeScript
* Additional features
  + Had classes before ES6 added classes to JS
  + Has encapsulation with access modifiers
* Background
  + Invented by Microsoft
  + Main vision A scalable version of JavaScript
* TypeScript is a transpiled Language
  + You cannot run a TypeScript file
  + To run a .ts file you must transpile it into a .js file
  + That .js file can then be executed like regular JS

Angular

* A front-end framework
  + A way to create large-scalable front end websites
* Framework vs Library
  + Library your code calls the library code
    - The architecture of the application is your own
  + Framework your coded is called by the framework
    - The architecture is the framework’s
      * You are conforming to Angular’s design to make an Angular application
    - You code is designed to fit into the framework
    - IoC Inversion of Control
* Background of Angular
  + Angular IS NOT AngularJS
    - Angular 2.0 and up is referred to as Angular
      * TypeScript
    - AngularJS is the older version of Angular1.0
      * JavaScript
    - They are very different frameworks
  + Google invented both Angulars
* SPA(Single Page Application)
  + One main index.html page
    - JS is used to dynamically pull in and out html
    - It is a faster and smoother user experience
      * There is less loading
* Component Based
  + The application is built on components
* Component
  + A logical chunk of HTML
    - A chunk of HTML with JS/TS
  + Components are nestable
    - Page component which has a table component in it
  + Resusable
* Angular Component
  + View (HTML), What an end user will see
  + Class (TS), logic and programming behind that view
  + Decorator, meta-information on the component, i.e. (the name of the component and how to reference it)
* Directives
  + **Custom HTML**
    - Custom html tags
    - Custom html attributes
    - Etc …
* Three types of directives
  + Component
    - Components HTML tag
  + Attribute
    - ngModel
  + Structural
    - \*ngIf and \*ngFor
* Data binding
  + Connecting html to your TS class
  + One way data binding
    - Interpolation ts => HTML {{variable}}
    - Events HTML=> TS (click) =”function()”
  + Two way databinding
    - [(ngModel)]