

Testing Angular Applications

- Angular was built from the ground-up to facilitate testing
 - Modular implementation with components, services and providers etc.
 - Dependency injection

Test-Driven Development

- Write an automated test case defining the desired functionality
- Write application code to pass the test
- Refactor the code to meet coding standards

https://en.wikipedia.org/wiki/Test-driven_development

Unit Testing

- Testing individual units of code
 - Restricted to verifying if the component's logic is implemented correctly
- Isolating the unit under test from other dependencies is important
 - Dependency injection enables us to inject mock dependencies
 - Clear separation in Angular between the DOM and logic

Jasmine

- Behavior driven development framework for JavaScript
 - Adopted to test Angular applications
 - Use “describe” function to group our tests
 - Use “it” function to define individual tests

Karma

- JavaScript based command line tool (NodeJS application)
 - Spawns a web server to load your application's source code
 - Executes your tests in the browser

Angular Testing Utilities

- Create a test environment for the Angular application code under test
- Use them to condition and control parts of the application as they interact *within* the Angular environment
- TestBed creates an Angular testing Module (@NgModule) to enable testing of components
 - TestBed.createComponent creates an instance of the component under test
 - Gives access to **ComponentFixture**, a handle on the test environment surrounding the created component.
 - The fixture provides access to the component instance itself and to the **DebugElement**, which is a handle on the component's DOM element.