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## FRONT END DEVELOPMENT (WITH ANGULARJS)



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# Session 18 – AngularJS Testing





# Agenda – AngularJS Testing

1. **Automated Testing**
2. **List Of Frameworks Required For Testing Jasmine**
3. **Jasmine**
4. **Jasmine Spec**
5. **What Is A Suite?**
6. **Setup And Tear Down For Tests**
7. **Setting Up And Creating Tests**
8. **Setting Up Unit Testing For AngularJs**





# Automated Testing

- **Unit Testing:**
  - Unit testing is for testing the code.
  - It's similar to the way we test server side application..i.e. JUnit.
  - For unit testing JavaScript applications we can use **Jasmine**.
- **End to End testing:**
  - Sometimes unit testing is not enough.
  - Then we need to know how the application behaves to the user interactions in the browser.
  - For this we need to simulate user interactions at the browser.
  - For End to End testing we can use **Protractor**.
- **Note:** We will be using protractor testing framework built over Selenium and Jasmine.





# List Of Frameworks Required For Testing Jasmine

- **Karma:** Karma is a task runner for unit testing. It assist in running the test and provided a lot more features to make testing easier.
- **Protractor:** Protractor is the End to end testing framework. It is used to write and execute e2e tests for angular.





# Jasmine

- **Jasmine** is a behavior-driven development unit testing framework for testing JavaScript code.
- **Jasmine can be downloaded** from <http://jasmine.github.io>
- Jasmine can also be installed using npm(node package manager).
- Use the command in  
**npm install -g jasmine**
- Alternatively you can download the standalone version of Jasmine.





# Jasmine Spec

- An **expectation** in Jasmine is an assertion that is either true or false.
- A **spec** is a collection of exceptions
- A spec with all expectations as true is a **passing spec**.
- If a spec has one or more false expectations, it is a **failing spec**.

## Example of a spec:

```
it("and has a positive case", function() { var a = 5,b=5;  
expect(a).toBe(b); });
```





# What Is A Suite?

- A suite is a collection of specs.

- **Example of a suite:**

```
describe("A suite", function() {  
  it("and has a positive case", function() { var a = 5,b=5;  
    expect(a).toBe(b); }); });
```







# Setup And Tear Down For Tests

- Following are global functions:
- The **beforeEach** function is called once before each spec in the describe is run.
- The **afterEach** function is called once after each spec.
- The **beforeAll** function is called only once before all the specs in a describe are run.
- The **afterAll** function is called after all specs finish.





# Setting Up And Creating Tests

- Download the standalone version of jasmine.
- After downloading we have the following folders
  - **lib:** The lib folder contains the libraries for jasmine
  - **spec:** spec is the folder where will be keeping our tests
  - **src:** the folder where our code to be tested will be kept
- We also have a file called specrunner.html that we run within browser to run our tests.





# Setting Up Unit Testing For AngularJS

- To start with we need to install **karma** and **karma cli** on the system.
- This can be done either using npm(node package manager) or you just need to run **npm install -g karma** and **npm install -g karma-cli**.
- The above two commands install karma on the machine.
- Once done we can start setting up our environment.





# Lets Discuss Assignments