Unit testing in Angular using Karma and Jasmine

**Karma**

[Karma](http://karma-runner.github.io/) is a JavaScript command line tool that can be used to spawn a web server which loads your application's source code and executes your tests. You can configure Karma to run against a number of browsers, which is useful for being confident that your application works on all browsers you need to support. Karma is executed on the command line and will display the results of your tests on the command line once they have run in the browser.

Karma is a NodeJS application, and should be installed through npm. Full installation instructions are available on [the Karma website](http://karma-runner.github.io/0.12/intro/installation.html).

**Jasmine**

[Jasmine](http://jasmine.github.io/1.3/introduction.html) is a behavior driven development framework for JavaScript that has become the most popular choice for testing Angular applications. Jasmine provides functions to help with structuring your tests and also making assertions. As your tests grow, keeping them well structured and documented is vital, and Jasmine helps achieve this.

**Steps1**: **Prerequisite Software’s required**

We need to install the **Node and GIT**

**Step2: Package Installation**

We need to download the required packages for unit testing using Karma and Jasmine. We need to create one package Json using command **npm init** it will ask few details give those details it will create package.json which will be used for saving dependencies.

Here are the steps for downloading required packages:

1. **npm install karma --save-dev** (there is a small difference between –save and --save-dev. –save will add in dependencies and --save-dev will add in dev dependencies in package.json respectfully. **"dependencies"**: these packages are required by your application in production **"devDependencies"**: these packages are only needed for development and testing)
2. **npm install karma-jasmine --save-dev**
3. **npm install karma-chrome-launcher --save-dev**

**Step3: Karma Configuration**

We need to configure karma by following command: **karma init.** It will ask few questions like the framework using for unit testing, capture a browser automatically, location of your source and test files. Once you have configured it will generate **karma.conf.js** file.

**Step4: Adding dependencies in Karma.conf.js**

Now we have set up everything now we need to add test dependencies like **angular.js** in **karma.conf.js** in **files array.**

**Reference links:**

1. [**http://jasmine.github.io/2.4/introduction.html**](http://jasmine.github.io/2.4/introduction.html)
2. **www.youtube.com/watch?v=YRzr27Bpx\_g&list=PLw5h0DiJ-9PDbh2i6knU4FybWA63PPbVi&index=1**