Angular application code can be unit tested using Jasmine framework.

While working on Angular applications using Angular CLI, you have seen that whenever you create a component or service or directive or a pipe, along with  \*.ts files, \*.spec.ts files also gets generated.

These files also called spec files consists of the unit tests written for the source file corresponding to which they are generated.

This section will help you explore how Jasmine testing framework is used by Angular for testing the application code.

In this section you will learn how to unit test an Angular:

1. Component
2. Pipe

**Note**: Each unit test is put in separate file and this file uses '**spec**' in the name to mark it as a spec file.

Example: If component is **app.component.ts** then its test spec would be **app.component.spec.ts**.

Now let's learn how the test an Angular component.

For testing angular components and its corresponding template angular provides a TestBed. **TestBed**helps in creating the required environment in order component being tested. Any component, pipe , service and route to be tested should be first configured in TestBed using **configureTestingModule**function.

After configuring all the components, you will compile them using **compileComponents**function.

Now that you have all the components compiled, in order to test a components first you need to create an instance of the component. For creating an instance you can use **createComponent**function, which will return you a **fixture**object using which you can create the instance of the component.

**fixture**is an object which provides access to components instance and the corresponding **DOM** associated with it.

In order to verify the component changes to HTML, **detectChanges**function fixture object is used.

Once you have the component instance, its attributes and methods can be tested by the combination of expect() and matchers from Jasmine framework.

Now let's learn how to test the component and its DOM with the help of a demo.