31-01-2022

Phase 4 :

Day 1

**Testing and Deploying an application**

**Testing**

**Testing with JavaScript that may be client side JavaScript and Server Side JavaScript.**

**Testing with Angular Application**

**GraphQL : self learning**

**Grunt : JavaScript test runner**

**Docker**

**CI and CD tools with Docker**

**Introduction to Cloud computing with AWS**

**S3, EC2 and EBS Volume**

Testing : finding defects or error or bugs in application is knows as testing.

Testing : are divided into two types

Black box : Input ---------------🡪 Process ----------------🡪 Output

Behaviour

White box : Input ---------------🡪 Process --------------------🡪Output

Structural

Functional testing : checking actual functionality of the application. Online shopping

1. View all product details
2. Add the product to cart
3. Place the order

Non functional testing

: it use to support to run the application.

Environment to run application or tool to run application or software to run the application.

01-02-2022

Day 2

Unit testing : It is a type of white box testing where developer is use to check the smallest testable module which written inside may be function or method or module or class. Which help to do achieve specific task.

To do the Unit testing in UI Technologies. We can use different type of framework.

Jasmine : Jasmine is open source DOM – Less simple Java Script testing framework which help to do the Testing for Client side as well as Server side JavaScript code.

Jasmine also known as BDD testing framework. Behaviour Driven Development Testing framework.

Create the Folder as Testing

Then create the sub folder as

**Client Side scripting testing**

Testing without Node JS

Jasmine provide lot of pre-defined function which help to do the testing.

Suite : Suite is use to write more than one spec as well as another suite.

To write the suite we have to pre-defined function it

describe(“Messsage”, ()=> {

});

Spec : spec is a type of function which help to do the testing for function functionality. To write the spec jasmine provided pre-defined function ie

It(“Message”,()=> {

})

expect : Jasmine provide lot of pre-defined expect function which help to check actual and expected output.

expect(result).toXXX(actualOutput);

Karma : Karma is known as Test runner which help to do the testing for JavaScript file using Jasmine framework.

Jasmine Old Version depends upon the Karma runner to do the testing.

But new version of jasmine provided own test runner to do the testing.

If we want to do the Angular testing. Angular Framework internally use Jasmine framework which provide pre-defined function which help to testing for angular application. Angular use Karma as test runner to do the testing.

Jasmine look or life cycle functions.

beforeEach() : this function call automatically before each it functions.

beforeAll() : this function call automatically only once before all it function.

afterEach() : this function call automatically after each it function.

afterAll() : this function call automatically only once after all it functions

if Employee object depends upon the project object. But project object task under process or need more than to complete.

Employee object create the fake or mock object of project.

Jasmine provided SpyOn function to do mock testing.

Mocha

JEST

Day 3

02-02-2022

Testing for Angular Application

Angular Framework internally use Jasmine Open source framework which provide set of function

describe, it and more than expect which help to do the testing.

Angular framework using Karma as a test runner to the run the jasmine testing with angular.

Angular provide own testing utilities API which is a part of @angular/core/testing module. Which contains TestBed is a class which provide set of method or function which help to do the testing for angular component, service, pipe and more.

Create one folder ie angular-testing-app

ng new angular-testing-app

package.json file : we can see devDependencies ie jasmine and karma.

karma-config.json file

To run the angular test we have to use the command as

ng test

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when we what to do the Testing for Rest API call using Angular we have make sure all REST API develop any language like Java Or python or Express JS must be ready.

Fake or mock rest API to test.

Create Server Side Scripting with Node JS

Create the package.json file using command as

npm init

testing dependencies must only in development mode not in production mode.

npm install jasmine -D

npm install jasmine –g

npm install jasmine-node –D

jasmine init : This command is use to create the spec folder which contains jasmine.json file.

in node js testing using jasmine

we have to use the command as

jasmine

connect the database using

mongo db

mongoose

node js use another library to check rest api call.

Supertest : Supertest is a external library which help to test express or rest api.

npm install supertest –D

npm install cors

npm install mongoose

npm install express