Phase 4 : Testing and Deployment

1. Testing : Plain javascript testing, angular testing and node js testing.
2. Grunt : JavaScript task runner
3. Docker : Docker, Docker compose, Docker Swarm and Overview of Kubernetes.
4. CI and CD tool using Jenkin
5. Overview of AWS : S3 and EC2

Debug the JavaScript Application

We can develop the application using JavaScript in MEAN stack

1. Client Side JavaScript and Server Side JavaScript.

Client Side JavaScript : HTML, CSS, Bootstrap, JavaScript, jQuery, Angular / React JS /Vue JS

We write set of code to do the task.

100

4 line code

We keep break point using console.log(“1”);

10 line code console.log(“2”);

15 line code console.log(“3 ”+res);

Testing : Testing is use to find the defects or error or bugs in the application.

If we run the program which develop in any language indirectly we are doing testing for that application.

Operation.js

function add(a,b){

var sum = a+b;

return 0;

}

Testing are divided into two types

1. Black box testing

Input Process Output

Post Man

SOAP UI

Selenium tool

1. White box testing

Input Process Output

Manual testing

Automation testing

Unit testing : unit testing is a type of software testing where individual component or code or function of application tested individually.

Unit testing is a type of white box testing.

Using unit testing we can check function functionality working or not.

jUnit

nUnit

Jasmine : Jasmine is a type of open source framework which help to do the unit testing for Client side as well as server side JavaScript code.

Jasmine is DOM less Simple JavaScript testing framework.

Plain Client Side JavaScript testing -🡪 Jasmine Framework

1. With browser plugin
2. With node js

Old version Jasmine we were depends upon karma plugin get the result.

But new Version of Jasmine provided runner features to display the result on browser or console.

Angular Framework : Angular framework internally provide all configuration details for Jasmine.

Angular jasmine framework to do testing for angular component, service, module, pipe etc.

Angular use Karma a test runner. Which help to provide the testing result with respective browser.

React JS use JEST testing framework to do the unit testing.

Backend node js or express js testing

Jasmine Testing framework to testing node js application

Mocha is a light weighted testing framework we do testing for node js application

Mocha with Chai (test library framework).

Jasmine, JEST, Mocha

Suite : JavaScript testing framework provided pre defined function ie describe() which is use to add more than one test function ie test spec. Suite is like a container which hold more than spec with the help of it() functions.

describe(“message”,callback)

Spec : Spec provided it() function which help to test the JavaScript function functionality.

it(“message”,callback)

assert : testing framework provided lot of pre defined function which help to match actual and expected output. Which come in the form of assertXXX

expect(true).toBe(true)

expect(true).not.toBe(true)

expect(a).toEqual(bar)

expect(message).toMatch(/bar/)

expect(message).toMatch('bar')

expect(a.foo).toBeDefined()

expect(a.foo).toBeUndefined()

expect(a.foo).toBeNull()

expect(a.foo).toBeTruthy()

expect(a.foo).toBeFalsy()

expect(message).toContain('hello')

expect(pi).toBeGreaterThan(3)

expect(pi).toBeLessThan(4)

expect(pi).toBeCloseTo(3.1415, 0.1)

expect(func).toThrow()

describe(“Operation Testing ”,()=> { : suite

it(“addition testing ”,()=> { :spec

})

it(“subtraction testing ”,()=> {

})

})