Phase 4 : Testing and deployment

8 classes and each day 3 hour

Day 1 : 21-05-2022

Testing

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

Read a, b

Compute sum =a+b

Write b

Jasmine : Jasmine is type of open source web framework which provided lot of re-defined api which help to do the testing the JavaScript programs (it may be client side as well as server side(node js)).

Jasmine is use to do the unit testing.

In Testing

Test suite : it is like a container which contains more than one test cases. To make the function as a test suite all testing framework provided pre-defined function to make suite it

describe()

syntax

describe(“message”,callback);

describe(“message”,()=> {

})

Test case : test case help use to write the function which help to do the testing function functionality. To make the test case all testing framework provide pre-defined function ie

it()

syntax

it(“messag”,()=> {

})

describe(“message”,()=> {

it(“1st test case ”,()=> {

})

It(“2nd test case “ ()=> {

})

})

expect functions : Then jasmine provided lot of expect functions which help to check actual and expected output.

describe(“message”,()=> {

it(“1st test case ”,()=> {

coding…..

expect(expectedoutput).toXXX(actualOutput)

expect(expectedoutput).toXXX(actualOutput)

})

It(“2nd test case “ ()=> {

Coding….

expect(expectedoutput).toXXX(actualOutput)

expect(expectedoutput).toXXX(actualOutput)

})

})

Mocha

JEST

UI Testing

Plain Java Script Testing

Backend Testing

We can set the testing environment using sample testing template or using Node JS.

Please create the folder as testing , inside this folder create the as frontend and inside that folder create the folder as plain javascript testing

Life cycle function or hook of Jasmine

beforeEach(callback) : it is a life cycle hook it will call before each it function automatically.

beforeAll(callback) : it is a life cycle hook it will call before All it function automatically only once.

afterEach(callback) : it is a life cycle hook it will call after each it function automatically.

afterAll(callback) : it iwi life cycle hook it will call after all it function automatically only once.

Day 2 : 22-05-2022

UI Testing

Angular Testing : Angular framework use jasmine framework to do the angular api testing. Angular internally provided for us jasmine configuration.

Jasmine is testing framework which provide suite, spec and expect functions.

describe, it and more than one expect.

Karma: it is known as test runner for the Jasmine or any other testing framework.

But still angular internally use Karma as runner to run angular testing application.

Angular provide their api ie TestBed which help to do the testing for Angular component as well as service.

Please create new project

ng new angular-testing

routing -🡪 no

style 🡪 css

ng test to test the program

Resting backend technologies REST API

<https://fakestoreapi.com/products>

ng g s product service class

ng g class product model class

Day 3 :

28-05-2022

Mock object : we have to create the mock for the HttpClient. Fake or proxy or dummy data we have to provide.

To create the mock service we create the new service class

ng g s product-mock

Node JS (Server Side JavaScript testing)

We can use Server Side JavaScript testing using Jasmine or Mock with Chai also possible.

Inside testing folder

Create backend folder

Node js testing folder

Create the package.json file using npm init

Then install two modules

npm install jasmine -D

npm install jasmine-node -D

npm install jasmine --location=global

jasmine init (this command is use to create the spec folder in current project)

Testing using Node JS with Rest API

Create the folder as rest api testing

Create the package.json file using npm init

npm install jasmine -D

npm install jasmine-node -D

npm install supertest -D this will help to do the testing for http methods.

npm install express

jasmine init (this command is use to create the spec folder)

Day 4

29-05-2022

Docker is an advanced OS Virtualization software platform that makes it easy to create, deploy and run the application in a Docker container.

Virtualization: Virtualization is the means of employing software (such as Hypervisor) to create virtual version of resources such as server, tool, database or application.

Virtualization lets you divide a system into series of separate section, each one acting as a distinct individual system. The virtual environment is known as virtual machine.

VM ware software

Oracle VM

Base Machine contains 16 GB RAM

1 TB

Virtual Machine

1 to 10 VM

4 GM RAM

100 GM

Container : container is known as run time environment or engine which help to run the application.

The Docker container is a very light weighted package that allows the developer or programmer to package up an application and deploy it as one with help of in built libraries and other dependencies.

Virtualization Vs Containerization

Virtualization is an abstract version of physical machine.

Containerization is the abstract version of an application or app or program.

Docker Container : This is a running process or instance of images. Running the instance of Docker image it turn the actual application.

Docker image Docker images are the source code for our container or Docker image contains everything that we need to run our application.

Docker file : Docker file is a blue print or template which help to create the image or

Docker file contains set of instruction that defines how our images is built.

Docker registry : it is use to store the image or it is use to publish the image.

Docker hub : docker hub is like a git hub which is use to publish the image. In Docker hub we will the docker the registry. So anyone can publish the image the image as well as pull the image from docker hub and run in local machine.