Phase 3

Day 1

26-03-2022

Server Side Scripting language ie Node

What is node js

Node js module, core, external module and user-defined module

Fs module

Taking the value through keyboards in Node js

Http module

URL module

Develop the using http module

Express module

Develop the application using express module

Rest Web service using express module

CRUD Operation using Express with Fs module or array module

Calling this application from angular application

Mongo db database

Basic and adv query in mongo db

Connection mongo db using node js with the help of mongo db and mongoose module

Develop application using angular with mongo db with express in MVC style (MEAN Stack)

Socket io programming

Authentication and authorization

Before Node JS JavaScript is known as client side scripting language.

Using JavaScript we were creating front end technologies.

Frontend backend technologies

HTML, HTML5 Java Servlet,jsp or spring boot

CSS, CSS3 and Bootstrap Asp.net

JavaScript and jQuery php

Angular Python

Node JS

JavaScript library and framework

jQuery

backbone js

coffee js

angular js base upon JS 1.x

angular framework base up ts 2 to 13

react js

vue js

D3 js

Node JS : Node Js is not a library or framework it is a run time environment for JavaScript library or framework or application.

Before Node JS we can run the JavaScript program.

After Node JS. Node JS provided lot of pre-defined module with help of those module we can do file handling, creating web application, we can connect database ie mongo db or mysql database using JavaScript.

Before Node JS,JS is known as Client side scripting language. But After node Js JS can be client side a well as server side.

Open the command prompt and hit node

In Node Js program we can’t use document and window object.

Node JS doesn’t provide DOM and BOM

DOM : Document object model

BOM : Browser object model

Node js provided pre-defined global object is console.

REPL : Read Eval Print loop

Node JS Module

Node JS provide module concept. Module contains set of function and properties which help to do specific task. Module is like a container or other language package or namespace.

In node js modules are divided into three types.

1. Core module (by default available with node js software).
2. External module ( we have to install it)

npm install typescript : it is use to enable tsc

npm install –g @angular/cli : ng

1. User-defined module

Fs (File system).

FS is type of core module which provide set of function which help to do file handling program synchronously as well as asynchronously using JS.

If we want to use pre-defined or user-defined module in node js we have to load it

Syntax

let/var refeferenceName = require(“moduleName”);

let fs = require(“fs”);

let obj = require(“fs”);

fs or obj is consider as reference name which help to call pre-defined function available in fs module.

Variable name can be anything.

Core module

fs

net

http

url

path

external module

express : it help to create the web application

connect frontend to backend express using REST API.

mongodb : it is use to connect the mongo db database using node js program

mongoose

cors

Please separate folder fs module – file handling program

Open the vs code in fs module folder

JSON.stringify() : Convert object to string.

Day 2

27-03-2022

Taking the value through keyboard using node js

readline : it is type of core module which provide set of function which help to read the value asynchronously.

readline-sync it is a external module which help to take the value synchronously through keyboard.

npm install readline-sync –g

Or

npm install readline-sync

product , id name price

1: Add 2: Delete, 3: Update , 4: display using Id , 5: Display

do {

switch() {

add : pid must be unique

delete using pid

update product price using pid

display using product id

display all

}

}while()

http module : using node js with the help of http module we can create server as well as server side program which help to deal with request and response object.

if we want to create the server side technology like Java, Php , python or asp.net. we require sever.

IIS, Tomcat, Apache etc.

Node JS server is different than other server like IIS, Tomcat, Apache

Difference between Node JS server and Non node js server

Non Node Js server is thread base.

Thread is small execution of a code within a process.

Apache server can take 1000 request concurrently.

Server side using Java, python, C#

class Booking {

avl=1;

}

Booking b1 = new Booking(); avl=1

Booking b2 = new Booking(); avl=1

Booking b3 =new Booking(); avl=1

They create only one memory

Number of client equal to number of thread within same memory.

1st client send request

2nd client send request

3rd client send request

Non node js server like apache, tomcat, IIS. They can block or lock resource when their limit cross.

100 client

If 101 send request to server that sever cant take that request.

Node JS server use event loop concept to handle the request. Node JS is single thread but multi threading.

http module

url : node js provided pre-defined module ie url. Which provide set of function which help to extra the data from url

Day 3

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Using http module we if we create application in node js we have to write more code.

Node JS provide third party web framework modules which help to develop web application using node js.

Express JS is open source web framework provided node js which help to create the web application very easily.

Express JS module internally use http module to create the web application.

First the express js module

In node js project we have to create package.json file. This file hold configuration details about your project.

Syntax to create the package.json file

npm init

it will ask you package name : give some name but don’t give any node js keyword.

Then after that enter the key

Now we have to install the express module

npm install express

node js provided pre-defined global property \_\_dirname. This property provide you current path of folder.

If method is get (by default every form method consider as get). Then data will send through URL using query param concept.

URL?key=value if we are sending one information

URL?key=value&key=value if we are send more than one information.

If method is get. Data is not secure and we can send maximum 255 character data through URL.

If we want to make data secure we have to use method post.

If method post data send through body part of request. Data is secure and we can send huge data to server.

In Express JS we can’t receive value from request body. To receive the value we have to use middleware module (ie intermediate between client and server).

Middleware module name is body-parser. This module by default not available in express js 3.x version.

We were install this module separately using command as npm install body-parser

But from Express JS 4.x version onward this module by default install this express module.

Syntax to use middleware module

app.use(moduleName); app is express module reference which provided pre-defined method is use. Which help to use middleware module depending upon the requirements.

If we want to display alert message in node js application we have to download external module.

alert type of external module which help to display basic alert message in node js.

npm install alert