Phase 3

Day 1

20-11-2021

Node JS

Core

Console

Process

Fs module

http module

User-defined Module

External Module

Express JS Module

Create Web Application

Creating REST API

Socket IO networking programming

Mongo DB Database

All types of queries may basic and Adv query

Connecting mongo db database using

Mongo DB Module

Mongoose module

Developing Node JS Application using MVC Style

MEAN Stack

From Angular to Express JS Node JS Application and Connecting to Mongo DB Database.

Node JS

HTML, CSS and JavaScript

Read , Write and update DOM (Document Object Model).

Any html tag code

JavaScript library or Framework

jQuery : it is a library

Angular Framework :

React JS with Redux and Flux

Vue JS

Coffee JS

Backbone JS

Ext JS

Node JS : Node JS is not a framework and library. Node JS is run time environment for JavaScript library and Framework.

In Java JRE

In JavaScript Node JS

Before Node JS

Front end technologies backend technologies

HTML,CSS,JavaScript using ES5 style Java : JEE

Bootstrap and jQuery Spring boot

Asp.net

Php

Python

Node JS

Before Node JS JavaScript is known as Client Side scripting language But After node JS JavaScript also known as Client side as well as Server Side Scripting language.

Using JavaScript ie Node JS we can do file handling, we can create web application, we can create Rest web service, we can connect any database it mongo db or RDBMS, we can do networking programming .

Node JS provided lot of pre-defined modules to run those module we required run time environment ie node JS.

In node JS we can’t use BOM and DOM.

Browser Object Model and Document Object Model.

Client side JavaScript follow object hierarchy concept

Object

Property

Behaviour

Object

Property

Behaviour

Object

Property

Behaviour

Object

document.write(“Welcome”);

window.document.write(“Welcome”)

Client Side Scripting language : In this scripting language we can use BOM and DOM but we can’t do file handling program, can’t connect database or can’t create REST API.

Server Side Scripting language : We can’t use DOM and BOM.

REPL Terminal : Read Eval Print Loop

To display the output using Node JS

Node JS provide pre-defined global object ie

console.

Synchronous communication

Statement level

L1

L2

L3

Function call

dis1()

dis2()

dis3();

1 req

2 req

3 req

Client Server

Asynchronous communication

Statement level

L1

L2

L3

Function call

dis1()

dis2()

dis3();

1 req

2 req

3 req

Client Server

Ajax Asynchronous JavaScript and XML

XMLHttpRequest or ActiveXObject

Callback : passing the function name or function body or function itself to another function as a parameter is known as callback function. Callback function can be synchronous or asynchronous.

Node JS goal is to provide an easy way to build scalable network program.

JavaScript support asynchronous communication and callback back concept.

If we send the data through network environment using any language like Java, python, C or other programming language. Data can be lock or block.

We can send huge data in network environment without blocking. Node JS provide Non block IO Operation with the help of callback and asynchronous communication.

Node JS is open source, cross platform run time environment for server side and networking application.

It provide an event driven architecture and non blocking IO features.

Node JS internally use JavaScript V8 Engine to execute the Node JS Application.

Day 2

21-11-2021

Node JS Modules

Modules in Node JS are simple or complex functionality organized in a single or multiple JavaScript file which can be reuse throughout the application. Module is like a package or namespace.

Type of modules

Core modules ( by default available in node js mean no need to install )

Local module or user-defined module

Third party module ( we have install using npm command).

Syntax to use the module

ES5 style

var obj = require(“moduleName”) : can be core module or local module or third party module.

let obj = require(“module”);

once you load the module then using that reference we have to all function part of that module.

obj.functionName();

Global objects

console : it is a type of global object you can use directly without loading. This object provide few methods to display the object in console.

process : it is a type of global object which help to find the process details.

fs module : Node JS Provide pre-defined core module ie fs module which help to file handling program may be synchronously or asynchronously using JavaScript.

We work with objects.

JSON : Java Script Object Notation

Store and Retrieve JSON Data In File System.

In JavaScript we can create the user-defined object using

1. Function style
2. Class style
3. Literal style

To convert object to string format.

JSON.stringify