deerwalk
training center

DIPLOMA IN MERN

Nature of the Course: Theory + Practical

Total Hours per Day: 2 Hours

Course Duration: 2.5 Months + 1.5 Months (Internship)

Course Summary

The Diploma in MERN (MongoDB, Express.js, React.js, and Node.js) is a comprehensive curriculum that covers both front-end and back-end development, providing students with a strong foundation in JavaScript and related technologies.The program is designed to equip students with practical skills that are in high demand by employers in the software development industry.Throughout the program, students will have the opportunity to work on real-world projects and develop hands-on experience in using the MERN stack to build web applications.

Completion Criteria

After fulfilling all of the following criteria, the student will be deemed to have finished the Module:

- Has attended 90% of all classes held.
- Has received an average grade of 80% on all assignments
- Has received an average of 60% in assessments.
- The tutor believes the student has grasped all of the concepts and is ready to go on to the next module.

Required Textbooks

- "Learning MERN Stack", Harmeet Singh, Paperback, 1st Edition.
- "MERN Essentials: Build universal apps with React" by Sasan Seydnejad, Paperback, 1st Edition.

Prerequisites

- Fundamental understanding of programming, bits/bytes, procedures, classes, and computer architecture. It's absolutely acceptable if you only have a theoretical understanding of programming, but you should be certain about what programming is and what you intend to gain from this session.
- If you are only interested in theory and have no interest/patience in spending at least 10

hours every week throughout the duration of the course, then this course might not be for you.

- If you have absolutely no idea about programming or do not see yourself doing programming in the next six -odd months, then this class may not be for you.

Course Details

Section 1: Basics(20 Hours)

Module 1: Fundamental Programming Concepts In Js

- The web development ecosystem.
- Advantages of API based development
- What is MEAN stack and nest JS
- Request and response
- HTML and CSS practice

Module 2: Js Basics

- Variable and Data Types
- Casting & Type Casting
- String formatting and Parsing
- String Literals
- Operators
- If Statement
- If-Else Statement
- If-Else-IF ladder and Nested If Statements
- Switch
- Handling repetitive tasks with loops
- For Loop
- While and Do-While Loop
- Continue and Break
- Functions

Module 3: Advanced Js Concepts

- Filter
- Maps
- Reduce
- Request and Response

- Object Destructure
- NEST JS setup and framework

Section 2: Mongo Db (20 Hours)

Module 1: Mongodb Basics

- MongoDB Overview
- MongoDB Connection

Module 2: Mongoose

- Setting up mongoose
- Designing Schema
- Mongo Queries
- CRUD operation

Module 3: Advance Mongoose

- Mongoose Populate
- Mongoose Relations

Section 3: Nest Js (30 Hours) Module 1: Nest Basics

- Setting up Nest Project
- Module, Services and Controller
- Post and Get Request

Module 2: Input Using Dto

- Data Transfer Objects
- Error Interceptors
- Response Interceptors

Module 3: Nest Authentication

- Using Passport for Authentication
- Custom Decorators

- Custom Interceptors

Module 4: Nest Advanced

- Connecting database
- API Creation
- Main Integration

Section 4: Angular (40 Hours)

Module 1: Angular Basics

- What is Angular JS?
- Why Angular JS?
- Why MVC matters
- MVC-The Angular JS way
- Features of Angular JS,Model-View-Controller
- My First Angular JS app

Module 2: Angular Expressions, Filters And Directives

- All about Angular Expressions
- How to use expressions, Angular vs JavaScript
- All about Angular Expressions
- How to use expressions, Angular vs JavaScript
- All about Angular Expressions
- How to use expressions, Angular vs JavaScript

Module 3: Controllers, Modules And Forms

- Role of a Controller, Controllers & Modules
- Attaching Properties and functions to scope
- Nested Controllers, Using Filters in Controllers
- Controllers in External Files
- Custom Decorators
- Custom Interceptors
- Introduction to Angular JS Modules
- Bootstrapping Angular JS
- Working with Angular Forms, Model Binding
- Forms Events, Updating Models with a Twist

- Form Controller, Validating Angular Forms
- $error object

Module 4: Scope And Services

- What is scope, Scope Lifecycle
- Scope Inheritance, Scope & Controllers
- Root scope, Scope Broadcasting
- Two-way data binding, Scope Inheritance
- Scope & Directives, $apply and $watch
- Scope Events
- What is Dependency Injection
- Creating Services, Factory, Service & Provider
- Using Dependency Injection, What are services
- Using Angular JS built in services

Section 4 : Project Development (10 Hours)

Project: Create Project

Labs

Lab assignments will focus on the practice and mastery of contents covered in the lectures; and introduce critical and fundamental problem-solving techniques to the students.

Learning Outcomes

- Understand how to build complex UIs using Spring Boot.
- Learn how to build a simple MVC application using Spring Boot.
- Learn to build RESTful web applications using Spring.