



Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)
Old Bombay Road, Gachi Bowli, Hyderabad – 500 032. Telangana, India



INFORMATION TECHNOLOGY DIVISION

CONTINUING PROFESSIONAL DEVELOPMENT PROGRAMME

Web Development using MERN STACK

22 – 26 July 2024
(Classroom Training)



Introduction

MERN stack is a popular JavaScript framework used for building web applications. It is an acronym for MongoDB, Express.js, React, and Node.js. Each component of the stack plays a specific role in the development process. MERN stack, known for its versatility and efficiency, allows developers to build robust and scalable applications using JavaScript.

Objectives

- To understand the Web Technologies
- This is to provide awareness about ReactJS and keep updated yourself with latest trends.
- The main objective of React Training is to create smaller components to build Interactive User interfaces
- Get hands-on experience of MERN's (MongoDB, Express, React, Node) Stack Development
- Working knowledge of Web Application Development
- To explore knowledge on Web Security & Secure Coding

Course Coverage

MongoDB

- Installation and configuring
- Basics of MongoDB
- CRUD Operations
- Indexes, ObjectIds, Aggregation
- Data Modeling, Relationships
- User/Role Management

JavaScript

- Basics of JavaScript.
- JavaScript in depth. • Creating classes
- Creating private/public/global fields
- Creating private/public/global functions
- Dynamic rendering with JavaScript , Events

React

- Introduction to React
- Original DOM vs Virtual DOM
- React Components
- React Components with JSX
- React Components with ES6
- Props and state

Node

- Introduction to Node.js
- The Node.js framework
- Installing Node.js
- Node Projects
- The Node Package Manager
- Working with asynchronous programming
- Building a HTTP Server with Node.JS using HTTP

- File System
- Buffers, Streams, and Events
- Multi-Processing in NodeJS

React with Node

- Creating an application using Create React App.
- Life Cycle , Debugging
- Default values, SetState in depth
- Creating Forms, Creating Table
- Handling Events , Applying Filters
- JSX in depth, Validations
- Applying Styles, Backend calls
- Stateful Components, Stateless Components
- Local Storage, Routing
- Basic Routing and Passing Params
- Hyperlinks, Master Pages
- Reconciliation
- Creating Reusable Components
- React.Component vs React.pure Component
- Composition vs Inheritance
- Code Reusability and Optimization
- Fragments, Bundling, Deploying

Express

- Express with MongoDB and Sqlite
- Socket.io, The Front-end, and A Chat App
- Introduction to Task Managers with unit testing

(An ISO 9001:2015 Certified, AICTE & CEA Recognized Institution)

Centre for Promotion of Professional Excellence

Methodology

Methodology of the programme includes class room sessions with Lecture / Discussion with Hands- on Practical, with tools, audio visual aid, bench marked video shows, Chalk & Talk sessions, group discussions, case studies, debates, sharing of experiences etc. All the sessions will be interactive demanding active participation from all the members

Target Participants

- Professionals working in the field of software development, Web Administrators, Programmers, Application Developers, Web developers in IT departments.
- IT Managers, Systems Managers, Scientists, Engineers and Consultants working in governmental, defense, public, private sector organizations.
- Professors, Faculty and Technical staff of Engineering and MCA colleges who would like to gain knowledge and expertise in web technologies.

Programme Dates & Timings

Venue: At ESCI Campus Hyderabad

Dates: 22 – 26 July 2024

Session timings will be from 10:00 – 17:00 hrs with 01 Hour Lunch break & 15 Minutes Tea break..

Course Director

Mr. Syed Azgar , MBA(IT), RHCE, MCSA

Sr Faculty & Head IT,

Information Technology Division,

Engineering Staff College of India, Hyderabad.

Course Fee for Offline Training

- ₹ 27,500/- (Residential Fee) per participant. Fee includes Single AC accommodation, course material, course kit, Breakfast. Lunch, Dinner, Tea / Coffee and Snacks during the actual days of the training program.

GST @18% is to be paid extra and above the training fee as training. PAN Card No. AAATT3439Q. GST No: 36AAATT3439Q1ZV, HS No.: 999293 (under commercial training or coaching services – clause 65(105) (ZCC) of Finance act – 1994).

Note: 18% GST Extra (GST Nil for All State & Central Govt. Departments like DRDO, DGQA & Other Govt. Departments).

Programme fee is to be paid in in favour of “THE INSTITUTION OF ENGINEERS (INDIA) – ENGINEERING STAFF COLLEGE OF INDIA” by **Electronic Fund Transfer (EFT)** to ESCI – Axis Bank A/c No. 912010049234564 with The Axis Bank Ltd, Old Mumbai Hwy, Cyberhills Colony, P Janardhan Reddy Nagar, GachiBowli Hyderabad-500032 by NEFT/ RTGS/ IFSC Code No. UTIB 0000733 – MICR No.500211020. **While using EFT method of payment, please ensure to communicate us your company name, our invoice reference and programme title.**

Registration

Online registration shall be available on ESCI web portal : <http://www.escihyd.org/index.php/it-upcoming-trainings>

To register manually please send your nominations giving details of name, designation, contact address, email address, mobile no, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to : it@escihyd.org

A Certificate of participation will be awarded to each participant on conclusion of the programme

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