

## MEAN STACK Certificate Course

### Course Overview

The MEAN stack is a popular web development technology stack that consists of four main components: MongoDB, Express.js, Angular, and Node.js. Each component plays a specific role in the development process, and when combined, they provide a full-stack JavaScript framework for building dynamic web applications.

Here's an overview of each component in the MEAN stack:

- **MongoDB:** MongoDB is a NoSQL database that stores data in a JSON-like format called BSON (Binary JSON). It provides a flexible and scalable solution for handling large amounts of structured and unstructured data. MongoDB is the "M" in MEAN and serves as the backend database for storing and retrieving data.
- **Express.js:** Express.js is a fast and minimalist web application framework for Node.js. It provides a set of robust features and utilities for building web applications and APIs. Express.js acts as the web application framework in the MEAN stack and handles the server-side logic, routing, and middleware integration.
- **Angular:** Angular is a powerful JavaScript framework developed by Google for building dynamic and responsive single-page web applications (SPAs). It follows the Model-View-Controller (MVC) architectural pattern and provides a robust set of tools and features for creating complex front-end applications. Angular is responsible for the client-side rendering and user interface (UI) of the MEAN stack application.
- **Node.js:** Node.js is a JavaScript runtime environment that allows developers to run JavaScript code on the server-side. It provides a non-blocking and event-driven architecture, making it efficient for building scalable and high-performance applications. Node.js acts as the server-side runtime environment in the MEAN stack, handling server-side logic and communication with the database.
- The MEAN stack leverages the power of JavaScript throughout the entire development stack, allowing developers to use a unified language for both front-end and back-end development. This eliminates the need for context switching between different programming languages, resulting in increased productivity and code reusability.

## Pre-Requisites

- **JavaScript:** Since the MEAN stack is primarily based on JavaScript, having a good grasp of JavaScript is essential. Familiarize yourself with JavaScript fundamentals, including variables, data types, control structures, functions, objects, and arrays.
- **HTML and CSS:** Proficiency in HTML (Hypertext Markup Language) and CSS (Cascading Style Sheets) is necessary for creating the structure and styling of web pages. Understanding how to create and manipulate HTML elements and style them with CSS will be beneficial when working with Angular for the front-end development.
- **Node.js:** Familiarity with Node.js is crucial, as it is the server-side runtime environment used in the MEAN stack. Learn the basics of Node.js, including modules, file system operations, event handling, and asynchronous programming with callbacks or promises.
- **JSON (JavaScript Object Notation):** Understanding JSON is important as it is commonly used for data exchange between the front-end and back-end components in the MEAN stack. Learn how to parse and manipulate JSON data in JavaScript.
- **RESTful APIs:** MEAN stack applications often communicate with the server-side components using RESTful APIs (Representational State Transfer). Learn the concepts of REST, HTTP methods (GET, POST, PUT, DELETE), and how to design and consume RESTful APIs.
- **Database Concepts:** Acquire a basic understanding of databases and database concepts. Although no prior knowledge of specific database technologies is necessary, having a general understanding of data storage, querying, and CRUD (Create, Read, Update, Delete) operations will be helpful. Familiarity with NoSQL databases, such as MongoDB, which is a part of the MEAN stack, is an added advantage.

Once you have a solid foundation in these prerequisites, you can start diving into each component of the MEAN stack—MongoDB, Express.js, Angular, and Node.js—individually, and gradually learn how they work together to build full-stack web applications. There are numerous online tutorials, documentation, and courses available to help you get started with the MEAN stack.

## Benefits of Learning MEAN Stack

Learning the MEAN stack can provide several benefits for web developers. Here are some of the key advantages of learning and working with the MEAN stack:

- **Full-stack JavaScript:** One of the significant advantages of the MEAN stack is the ability to use JavaScript throughout the entire development stack, both on the front end and the back end. This allows developers to leverage their JavaScript skills and work with a consistent language across different layers of the application. It reduces the need for context switching between multiple programming languages, leading to increased productivity and code reusability.
- **Rapid Development:** The MEAN stack offers a set of powerful and integrated tools that streamline the development process. With Angular's robust front-end framework and Node.js' efficient server-side runtime environment, developers can build applications quickly. Additionally, the use of JSON for data interchange simplifies communication between the client and server, further speeding up development.
- **Scalability and Performance:** MEAN stack applications are known for their scalability and performance capabilities. MongoDB, the NoSQL database in the stack, provides flexibility and scalability to handle large amounts of structured and unstructured data. Node.js, with its event-driven and non-blocking I/O model, allows for highly scalable and efficient server-side code. Combined, these components enable the development of high-performing applications that can handle heavy traffic and scale as needed.

- **Code Reusability:** MEAN stack encourages code reusability through the use of modules and libraries. Angular, as a front-end framework, promotes component-based architecture, allowing developers to create reusable UI components. Additionally, Node.js offers a vast ecosystem of reusable packages through npm (Node Package Manager). Leveraging code reusability reduces development time and effort and enhances maintainability.
- **Flexibility and Cross-platform Development:** MEAN stack applications can be deployed across multiple platforms, including web browsers, mobile devices, and even desktops. Angular supports responsive design and progressive web app development, allowing applications to adapt to different screen sizes and devices. With Node.js, developers can build server-side applications, RESTful APIs, and even real-time applications, making the MEAN stack flexible and suitable for a wide range of projects.

By learning and mastering the MEAN stack, developers gain a versatile skill set that opens up opportunities to work on various web projects, ranging from small-scale applications to large-scale enterprise solutions.

### Related Job Roles

Learning the MEAN stack can prepare you for various job roles in web development and software engineering. Here are some related job roles that often require knowledge and experience with the MEAN stack:

- Full-Stack Developer
- JavaScript Developer
- Web Developer
- Application Developer
- Database Developer
- Back-End Developer

These are just a few examples of the job roles where MEAN stack knowledge is valuable. It's worth noting that the tech industry is constantly evolving, and new job titles and roles emerge regularly. Nonetheless, mastering the MEAN stack provides a solid foundation and versatile skill set for a range of web development and software engineering positions.

### Available Training Options

- Online/Offline
- Weekdays Batches
- Weekend Batches
- Course - Duration: 90 Days
- Mode of Training - Online - Live Online Classes
- Daily 1Hr (Need to have a laptop or Computer with Good Internet)

Dedicated Trainer, Practical sessions. One-on-One Live Training Session with Hands-on Practical Training. For fees details and discounts whatsapp on Phno: +91 8050123030

# MEAN STACK Training Syllabus

## HTML and CSS Basics:

- HTML tags and elements
- CSS selectors and properties
- Layout and positioning
- Responsive design principles

## JavaScript Fundamentals:

- Variables, data types, and operators
- Control structures (if statements, loops)
- Functions and scope
- Arrays and objects
- DOM manipulation (Document Object Model)

## Node.js:

- Introduction to Node.js and its features
- NPM (Node Package Manager)
- Modules and dependency management
- Asynchronous programming with callbacks and promises
- File system operations

## Express.js:

- Introduction to Express.js
- Routing and handling HTTP requests
- Middleware and request/response handling
- Template engines (e.g., EJS, Handlebars)
- Error handling and middleware integration

## MongoDB:

- Introduction to MongoDB and NoSQL databases
- CRUD operations (Create, Read, Update, Delete)
- Querying and filtering data
- Data modeling and schema design
- Indexing and performance optimization

## Angular:

- Introduction to Angular and its architecture
- Components, directives, and templates
- Data binding and interpolation
- Services and dependency injection
- Routing and navigation
- Reactive forms and validation
- HTTP module and API integration
- Angular CLI (Command Line Interface) and project setup

## MEAN Stack Integration:

- Connecting Angular with Express.js backend
- Implementing RESTful APIs using Express.js
- Handling data transfer between Angular and MongoDB
- User authentication and authorization
- Error handling and logging
- Deployment

### For Registration/ Customization of Course / Course Fees

|                       |                     |
|-----------------------|---------------------|
| Call / What's app on: | +91 8050123030      |
| Duration:             | 90 Days             |
| Mode of Training:     | Online              |
| Weekdays:             | Monday-Friday       |
| Weekends:             | Saturday and Sunday |



## Student Review

**Arvind Raju**

**From : Oman**

I've taken up the Advance Python & Arcpy classes from this institute with trainer Mrs. Roselynn is very knowledgeable and teaches the course topics with great detail. Everything was easy to understand and I was always helped with doubts until it was completely rectified. I would definitely recommend this Institute to anyone wanting to learn Python or any of the other courses they offer.

**Ullash Ghosh**

**From : Kolkatta**

Excellent teaching of Advance Python programming by experienced trainer. Flexible timings. It was an awesome experience.

**Jahir Hussain**

**From : Qatar**

Its Helped me to identify clear, be able next steps towards resolving my own workplace conflict and issues.

**Ayeesha H**

**From : Bangalore**

Great knowledge given by the mentor, Best training institution. Mam has explained all the topics very clearly.

## Student Review

### **Vishnu vg From Kerala**

My trainer, has a very good command over all the topics. She has explained each topic very clearly. We got a good understanding of all the concepts as she used to write programs daily for the real time scenarios. She make us practice during the classes. Overall I could say, you will be gaining good hands-on and understanding by end of the course

### **Eshawar Rao From Hubli Dharwad**

Excellent Faculty, Excellent Knowledge about subject, madam gives Attention towards every individual student, Madam is having enough Patience in clearing all individual doubts, Overall Excellent training centre to learn and to grow.

### **Siddhi Kanekar From Pune**

Best training institution. Mam has explained all the topics very clearly.  
Thank you so much mam for being part of your institution.

### **Aghil Dev From Orisa**

I happy to be a student of rose mam, as she was always present to help. My classes were good and helped me in understanding the concept. Thanks rose mam



**Gaurav Chauhan**

Position: GIS Analyst

Company:

Carifer Technologies Private Limited  
Chennai

Salary: 13 LPA

**Harisha**

Position: GIS Analyst

Company:

GVS Technosoft Pvt. Ltd  
Salary: 10 LPA

**Ankit Hemnani**

Position: Software Engineer .Net

Company:

Celtic System Pvt.Ltd  
Salary: 7.5 LPA

**Harish Vijayakumar**

Position: Project-Assosiate

Company:

Cognizant Technology Solutions India  
Private Limited  
Salary: 12 LPA

## KIRAN B

Qualification: MBA

Position: Business Head

Experience: 18 Years

His extensive experience in Operations Management, Client Acquisition, HR & Recruitment, and working with startups, he has demonstrated a track record of success across multiple industries and geographies. Starting from an executive level, he progressed to management positions, where he implemented process improvements to enhance efficiency, increase revenue, and drive growth. His vast network of colleges and training centers has significantly contributed to the development of robust recruitment and training pipelines. Moreover, he has successfully engaged with diverse clients.

## NIKHIL S D

Qualification: BE Civil

Position: CAD Trainer (Civil)

Experience: 10 Years

**Programing Skills:** C,C++

**2D And 3D Skills:** AutoCad, 3D Max, Staad pro, Solid Works, Revit, Google Sketchup and ArcGIS CityEngine

Highly experienced CAD Civil Trainer with a demonstrated track record of success in delivering comprehensive training and instruction, specifically tailored for civil engineering applications. Committed to empowering learners with the necessary skills and knowledge to excel in their civil design and drafting projects.

## RAMESH J

Qualification: BE Mech

Position: CAD CAM Trainer (Mech)

Experience: 6 Years

**Programing Skills:** C,C++,Python

**2D And 3D Skills:** AutoCad, Catia, Pro-e, Solid Edge, MatLab, Ansys, Solid Works,

Results-oriented CAD Mech Trainer with a decade of experience delivering exceptional training and instruction in 2D and 3D modeling software for mechanical engineering applications. Committed to equipping learners with the skills and knowledge needed to excel in mechanical design, simulation, and manufacturing.

## ROSELEN S B

Qualification: MCA

Position: Programmer And Corporate Trainer

Experience: 12 Years

**Programing Skills:** Java, Python, AI, Machine Learning, Php, SQL, Full Stack

**GIS Skill:** Arcpy, ArcGIS JS API, ArcGIS Python API, PostGIS, Web AppBuilder, WebGIS

Highly experienced programming mentor with a strong background in various programming languages. With over 12 years of training experience, has successfully mentored more than 3000 students, dedicated to helping aspiring programmers and professionals acquire the necessary skills and knowledge to excel in their programming careers.



## KAVITA H

Qualification: MSc.IT

Position: Programing Trainer

Experience: 10 Years

**Programing Skills:** C, C++, Java, MSSQL, MYSQL Server, C# and good knowledge in Servlets, JSP, EJB Worked on J2EE 1.4 Application Server

Kavita is a seasoned programming mentor and trainer with a decade of experience specializing in Java Servlets and MySQL. She has a strong passion for teaching and guiding individuals in mastering these technologies. kavita's in-depth knowledge and practical experience in Java Servlets and MySQL make her an ideal mentor for aspiring programmers looking to excel in web development

## ANKIT H

Qualification: MSc.Geoinformatics

Position: GIS Trainer

Experience: 6 Years

**GIS Skills:** Arc GIS, Arc GIS Pro, QGIS, IGIS, Fusion X, Auto CAD, MS Office, Google Earth, Bhuvan Portal, Geo-Server, Arcgis online, Microstation

**Programing Skills:** HTML, CSS, Java script, ArcGIS API for Java script, .Net, Python  
Ankit is a highly skilled GIS trainer. Has experience in ArcGIS, QGIS, PostGIS, remote sensing, and network analysis. His expertise lies in the field of spatial data analysis and geospatial technologies. He is passionate about sharing his knowledge and helping individuals develop proficiency in GIS applications for various industries.

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