

Mastering Backend Development with MERN Stack

Overview:

Are you ready to dive into the world of Full-Stack Web Development? Our comprehensive course on Backend Development with MERN Stack is designed to equip you with the skills and knowledge needed to build robust and scalable web applications.



Discover
*What Our School
Has to Offer!*

Course Highlights and Objectives:

- MERN Stack Mastery:
- Gain proficiency in MongoDB, Express.js, React.js, and Node.js – the pillars of MERN Stack.
- Hands-on Projects:
- Apply your learning to real-world scenarios through hands-on projects, ensuring you're ready for the challenges of professional development.
- Database Management with MongoDB:
- Learn to work with MongoDB, a leading NoSQL database, and understand the intricacies of data management.
- Building RESTful APIs with Node.js and Express:
- Master the art of creating robust APIs using Node.js and Express, and ensure seamless communication between your frontend and backend.
- Dynamic Frontend with React.js:
- Elevate your user interface with React.js, building interactive and responsive components for a seamless user experience.
- Authentication and Authorization:
- Implement secure authentication and authorization systems, safeguarding your applications from potential threats.
- Deployment and Scaling:
- Understand the essentials of deploying MERN applications and explore strategies for scaling them as your user base grows.
- Version Control with Git:

Learn to collaborate effectively with version control using Git, a crucial skill for professional developers.



Why Choose Our Course:

- Expert Instructors:
 - Learn from industry experts with extensive experience in MERN Stack development.
- Practical Learning:
 - Apply your skills in real-world projects, ensuring you are job-ready upon completion.
- Career Support:
 - Benefit from our career guidance and placement assistance to kickstart your journey in the world of web development.
- Community Engagement:
 - Join a vibrant community of learners, fostering collaboration and continuous improvement.

Who Should Attend:

- Aspiring Web Developers
- Computer Science Students
- IT Professionals Seeking Skill Enhancement
- Entrepreneurs Building Their Own Tech Products



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DURATION

4-5 Months

Prerequisite

Laptop:

4GB RAM at least with Core 2 Duo/Core i3 and above is good for the program

Knowledge: Basic knowledge of how the web works, HTML, CSS and JavaScript

LEARNING MODEL



TUTOR-LED
PHYSICAL CLASSES



COLLABORATIVE & INTERACTIVE
LEARNING



INDIVIDUAL & GROUP
BASED PROJECTS



VIRTUAL CLASS



About Syllabus

This course is designed to provide students with a comprehensive understanding of backend development using the MERN (MongoDB, Express.js, React.js, Node.js) stack. Participants will gain hands-on experience building scalable and robust server-side applications, exploring the intricacies of each component of the MERN stack. By the end of the course, students will be equipped with the skills needed to develop and deploy modern, full-stack web applications.

Prerequisites

- Basic understanding of HTML, CSS, and JavaScript
- Familiarity with web development concepts

Course Duration

- 4-5 months



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SYLLABUS

Week 1-2: Introduction to MERN Stack

- Overview of the MERN stack architecture
- Setting up development environment (Node.js, npm, MongoDB)
- Introduction to Git and version control

Week 5-6: Building RESTful APIs with Node.js and Express.js

- Basics of Node.js and Express.js
- Creating and configuring a server
- Implementing RESTful routing
- Middleware and request handling

Week 3-4: MongoDB and Mongoose

- Understanding NoSQL databases
- Installation and setup of MongoDB
- CRUD operations with MongoDB
- Introduction to Mongoose ODM (Object Data Modeling)

Week 7-8: Authentication and Authorization

- Introduction to authentication and authorization
- Implementing user authentication using JWT (JSON Web Tokens)
- Role-based access control



SYLLABUS

Week 9-10: React.js Fundamentals

- Introduction to React.js
- Components and props
- State and lifecycle
- Handling user input and forms

Week 13-14: Deployment and Performance Optimization

- Deploying MERN applications to cloud platforms (e.g., Heroku, AWS)
- Performance optimization techniques
- Monitoring and debugging tools

Week 11-12: Connecting React.js with Express.js

- Setting up a React.js frontend
- Consuming APIs with React.js
- Building interactive user interfaces

Week 15: Final Project

- Capstone project where students apply knowledge gained throughout the course
- Peer review and feedback session

Assessment:

- Weekly assignments and coding exercises
- Midterm project: Building a RESTful API
- Final project: Developing a full-stack MERN application
- Participation in class discussions



SYLLABUS

Resources:

- Online documentation (MDN, MongoDB, Express.js, React.js, Node.js)
- Recommended readings and tutorials
- Code repositories for sample projects

NOTE: *This syllabus is subject to change at the discretion of the instructor. Any modifications will be communicated in advance to the students.*



ABOUT US

We are a school for individuals looking to gain technical skills and kickstart a career in Tech. Tech Zone Academy Offers Training, Consultancy, Advisory And All Related Services In All Areas Of Information Technology Including Computer Hardware And Software, Data Communication, Telecommunications. We deliver world-class software training, and tech infrastructure, to software engineers in rural and urban Africa, while deploying their skills to global technology needs. Take your skills from beginner to industry ready in 6 - 12 months. Neither a degree nor prior tech experience is required.





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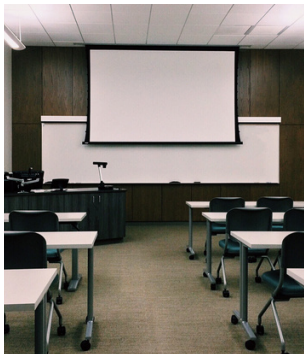
Why choose us?

Small Class
Sizes

Experienced
Teachers

Safe
Environment

Supportive
Peers



Open Enrollment

for students of all backgrounds and
abilities. Come visit us to learn more!