

**MCA Department**

*A report for Workshop/Hands-on Session on*  
**“MERN STACK FRAMEWORK”**  
*held on 21/09/2024*



SARDAR VALLABHBHAI PATEL INSTITUTE OF  
TECHNOLOGY, VASAD  
MCA DEPARTMENT



A Workshop on  
**MERN STACK  
FRAMEWORK**

Date : 21st September, 2024

Time : 10:30 AM Onwards

**MR. HARJOT SAINI** (MCA ALUMNI BATCH 2017)

Manager & Dynamic Full Stack  
Developer,  
KMK Consulting Inc., Vadodara

## A Workshop on “MERN Stack Framework”

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MCA Department of SVIT had organized a workshop on “**MERN Stack Framework**” on **21<sup>st</sup> September, 2024**. This workshop was conducted by Mr. Harjot Saini (MCA Alumni Batch 2017), Manager and Dynamic Full Stack Developer, KMK Consulting Inc., Vadodara.

As a part of curriculum for Software Project-2 development, students have to develop a software project based on a three-tier architecture. Looking towards the latest trend in web development in IT industry, offering an efficient and powerful platform to create dynamic websites and web application using three-tier architecture, a workshop on MERN stack was arranged.

The expert had conducted whole day hands-on session based on building a Todo application using React, TypeScript, Node.js, and MongoDB as follows:

### Session 1: Introduction and Project Setup

- Overview: Introduction to full-stack development and the tech stack (React, Node.js, TypeScript, MongoDB).
- Setup: Installing Node.js, MongoDB, and setting up a project structure,
- Dependencies: Install required dependencies like Express, Mongoose, and React.
- Hands-on: Initialize a new project with npm or yarn. Create basic folder structure for both backend and frontend.

### Session 2: Backend Development

- Node.js + Express Setup: Set up a simple Express server.
- TypeScript Integration: Implement TypeScript for better type-checking and code maintainability.
- MongoDB Setup: Connect MongoDB to the backend using Mongoose.
- Hands-on: Create routes for creating, reading, updating, and deleting (CRUD) todos.
- Implement a simple RESTful API.

### Session 3: Frontend Development

- React Overview: Brief introduction to React components, hooks, and JSX.
- TypeScript in React: Integrating TypeScript for safer state management and props validation.
- Building Components: Create functional components for the Todo application (TodoList, TodoItem, AddTodo).
- Hands-on: Create a simple UI for listing todos. Use useState and useEffect hooks for state and lifecycle management. Fetch data from the backend API and display it.

### Session 4: CRUD Operations & Connecting Frontend to Backend

- Fetch API: Connect the React frontend to the Node.js backend.
- Implement CRUD: Implement CRUD functionalities on both frontend and backend (create, update, delete todos).
- Hands-on: Implement form handling for creating and editing todos. Ensure communication between frontend and backend via Axios or Fetch API.

### Session 5: Hands-on & Best Practices

- Q&A and Wrap-up (20 mins)
- Incorporating hands-on practice at each stage will ensure that participants engage with the material throughout the session, keeping them active and focused.













## Sardar Vallabhbhai Patel Institute of Technology, Vasad

## MCA Department

## A Hands-on Workshop on "MERN STACK FRAMEWORK"

Resource Person: Mr. Harjot Saini

Date: 21/09/2024

## Attendance sheet

Sr. No.	Enrollment No.	Student's Name	Signature
1	235300694009	Om Bhatt	
2	235300694057	Neel Shah	
3	235300694020	Vinay K. Kotil	vinay...
4	235300694052	Sumit Rathva	
5	235300694036	Pankar Vijay	V. J. Pankar
6	235300694027	Kamal Rajapuri	Kamal
7	235300694028	Prashant Karsadgud	
8	235300694029	Darsham Trali	
9	235300694001	Urvashi Rajguru	
<del>10</del>	<del>235300694002</del>	<del>Jaydevsinh Jadeja</del>	<del>J.K. Jadeja</del>
10	235300694022	Jaydevsinh Jadeja	J.K. Jadeja
11	235300694069	Shreya Vallraj	
12	235300694060	Karishma Kulkarni	
13	235300694023	Darsham Jain	
14	235300694063	Gurpreet Solemle	Gurpreet
15	235300694056	Manish Shah	M. R. S
16	235300694062	Shruti Raj	
17	235300694027	Yuvraj Singh Raj	
18	235300694049	Gargee Rao	G.A. Rao
19	235300694032	Parghudeer Ayushi	
20	235300694026	Jinger Tisha	
21	235300694038	Til Patel	
22	235300694030	Keval Mehta	Keval
23	235300694005	Bharadava Jaydip V.	Bharadava
24	235300694044	Pradip Yadav	
25	235300694019	Milan Gohil	
26	235300694043	Tushar Patel	
27	235300694061	Priyanshu Sheth	