LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(An Autonomous Institution since 2010)
Accredited by NAAC with 'A' Grade & NBA (Under Tier - I)
An ISO 21001:2018, 14001:2015, 50001:2018 Certified Institution
Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada
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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

"Report on MERN Full Stack Technologies"

Event Type	: Training Program
Date	: 1 th September – 13th September 2025
Venue	: SRK Hall, 2nd Floor Admin Block
Resource Person(s)	: **Mr. R. Abhishek**, Executive Director at Skelo & CEO/Co-founder at Leantech Labs
Name of the Convener	: **Dr. S. Nagarjuna Reddy,** Professor &Head Department of CSE
Name of the Co-ordinators(s)	: **Dr. D. Veeraiah,** Professor, Dept. of CSE **Dr. Y. Vijay Bhaskar Reddy,** Professor, Dept. of CSE
Name of the Co-Coordinators(s)	: **Dr. K. Devi Priya**, Professor, Dept of CSE **Dr. N. V. Mahalakshmi,** Assoc.Prof, Dept of CSE **Dr. B. Swanth**, Assoc.Professor, Dept of CSE **Mr. N. Srinivasa Rao,** Sr.Asst.Prof, Dept of CSE **Mr. N. Srikanth**, Sr.Asst.Prof, Dept of CSE **Ms. P. Sarala**, Sr.Asst.Prof, Dept of CSE **Mr. O. Venkata Siva**, Sr.Asst.Prof, Dept of CSE **Mr. Md. Amanatulla,** Asst.Prof, Dept of CSE
Targeted Audience	: B.Tech III Sem CSE Students
Total No. of Students	: 1 6 0 Students

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INVITATION

INAUGURATION

of

A Two-Week Training Program

on

"MERN Full Stack Technologies"

(01st September to 13th September 2025)

Date & Venue

**(1st September 2025, Monday – 09:15 A.M. & SRK Hall,
Admin Block-II floor)**

Chief Patrons

Sri L. Jaya Prakash Reddy, Honorary Chairman
Sri L.R.N.K. Prasad Reddy, Chairman

Patrons

Sri G. Srinivasa Reddy, President, LBRCT
Dr. K. Appa Rao, Principal
Dr. B. Ramesh Reddy, Vice-Principal
Dr. M. Srinivasa Rao, Dean of Academics

Training Expert

**Mr. R. Abhishek, Executive Director at Skelo
CEO/ Co-founder at Leantech Labs**

Convener

Dr. S. Nagarjuna Reddy, Professor & HoD, Dept. of CSE.

Co-Conveners

Dr. D. Veeraiah, Professor, Dept. of CSE.
Dr. Y. Vijay Bhaskar Reddy, Professor, Dept. of CSE.

Coordinators

Dr. K. Devi Priya, Professor	**Mr. N. Srikanth,** Sr. Asst. Prof, CSE
Dr. N. V. Mahalakshmi, Associate Professor	**Mr. MD. Amantulla,** Sr. Asst. Professor
Dr. B. Swanth, Sr. Asst. Professor	**Ms. P. Sarala,** Sr. Asst. Professor
Mr. N. Srinivasa Rao, Sr. Asst. Professor	**Mr. O. Venkata Siva,** Sr. Asst. Professor

Organized by

Department of Computer Science and Engineering

Objective of the Event :

The main objective of this event is to **provide hands-on training and skill development in MERN (MongoDB, Express.js, React.js, and Node.js) Full Stack Technologies**.
This program aims to:

- Enhance students' and participants' knowledge of modern web development frameworks.
- Equip participants with practical skills in building full-stack applications.
- Bridge the gap between academic learning and industry requirements.
- Enable participants to become industry-ready in full-stack development.

Day1: 01-09-2025

Inauguration Ceremony:

Co-Convener(s) Message:
Dr. D. Veeraiah & Dr. Y. Vijay Bhaskar Reddy, Professor, Dept. of CSE

This workshop provides a valuable platform for our students to gain hands-on knowledge in one of the most sought-after technologies. I encourage participants to actively engage and utilize this opportunity to strengthen their problem-solving and application development skills.

Convener Message:

Dr. S. Nagarjuna Reddy, Professor & HoD, Dept. of CSE

It gives me immense pleasure to convene this two-week workshop on *MERN Full Stack Technologies*. This program is designed to equip our students with industry-relevant skills in modern web development. I am confident that this training will enhance their technical competence and open new career opportunities.

Dean I&R Message:

Dr. V. Suryanarayana, Professor

The Department of CSE is taking a remarkable initiative by organizing this program on MERN Stack Technologies. Such training programs bridge the gap between academia and industry. I wish all participants a fruitful and enriching learning experience.

Principal's Message:

Dr. K. Appa Rao, Principal, LBRCE

Workshops like this play a vital role in shaping the future of our students. By learning MERN Full Stack Technologies, participants will be able to build scalable, efficient, and real-world web applications. I appreciate the efforts of the Department of CSE and wish the program great success.

Resource Person's Message:
Mr. R. Abhishek, Executive Director at Skelo & CEO/Co-founder at Leantech Labs

MERN Stack represents one of the most powerful ecosystems for building modern web applications. During this program, we will explore MongoDB, Express.js, React, and Node.js covering both frontend and backend development. My focus will be on practical learning, real-world project building, and instilling confidence in students to design full-stack solutions independently.

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Long 80.635412°
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- Resource Person **Mr. R. Abhishek** and his team handled hands-on sessions for basics and collections of Python.

The hands-on training focused on core **JavaScript concepts** essential for full-stack development. Participants explored and practiced the following topics:

1. **Higher-Order Functions** – Understanding functions that take other functions as arguments or return them.
2. **Callback Functions** – Implementing asynchronous behavior using callbacks.
3. **Arrow Functions** – Learning concise syntax and scope handling in ES6 functions.
4. **Closures** – Demonstrating lexical scope and persistent data across function executions.
5. **Type Conversions** – Performing implicit and explicit conversions between data types.
6. **DOM Manipulation** – Interacting with and modifying HTML elements dynamically using JavaScript.

This session provided participants with **practical exposure** to writing clean, efficient, and interactive JavaScript code, laying a strong foundation for upcoming topics in MERN stack development.

Day2: 02-09-2025

Hands-on Session Notes

1. **JavaScript – Synchronous and Asynchronous**
- *Synchronous*: Code is executed line by line, one task at a time. The next line waits until the current one finishes.
- *Asynchronous*: Code execution doesn't block. Tasks like API calls, timers, or file operations run in the background, allowing other code to execute without waiting.

2. Promise
- A Promise in JavaScript represents a value that may be available now, later, or never.
- States: *Pending → Fulfilled → Rejected*.
- Helps handle asynchronous operations more effectively than callbacks.

3. Node.js
- A runtime environment that allows JavaScript to run outside the browser.
- Built on Chrome's V8 engine.
- Useful for building scalable, fast, and server-side applications.

4. Express.js
- A lightweight web application framework for Node.js.
- Simplifies building APIs and web servers with features like routing, middleware, and request handling.

5. Postman (Installation & Usage)
- A tool for testing APIs.
- Allows sending HTTP requests (GET, POST, PUT, DELETE) to servers and viewing responses.
- Useful for developers to debug and verify backend services.

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Day3: 03-09-2025
Topics: Routing, Controller, Middleware & Postman Execution
1. Routing
- **Definition:** Routing defines how an application responds to client requests (e.g., GET, POST, PUT, DELETE) at specific endpoints (URLs).
- **In Express.js:** app.get('/users', callback) handles requests at /users.
- **Purpose:** Organizes API endpoints and directs requests to the correct logic.

2. Controller
- **Definition:** Controllers contain the actual logic for handling requests and responses.
- **Role:** Keeps routes clean by separating business logic from route definitions.

3. Middleware
- **Definition:** Middleware functions are functions that run **between request and response**.
- **Types of Middleware:**
  - **Built-in:** express.json() to parse JSON.
  - **Custom:** Logging requests, authentication checks.
- **Purpose:** Reusable logic such as validation, authentication, error handling.

4. Execution in Postman
- **Setup:** Use Postman to test APIs created in Express.
- **Steps:**
  1. Start the backend server (node index.js or npm run dev).
  2. Open Postman and enter the API URL (e.g., http://localhost:5000/users).
  3. Choose method (GET, POST, PUT, DELETE).
  4. For POST or PUT, provide request body in **JSON** format.
  5. Send request and verify response.

Day4: 04-19-2025

1. **REST API Model**
   o Understanding REST architecture.
   o HTTP methods: GET, POST, PUT, DELETE.
   o Building scalable and structured APIs.
2. **MongoDB**
   o Introduction to NoSQL database.
   o Collections, Documents, and BSON format.
   o Basic queries and schema design.
3. **Prisma**
   o ORM tool for database management.
   o Schema definition and migrations.
   o Querying MongoDB with Prisma Client.
4. **CRUD Operations**
   o Create, Read, Update, Delete with API + DB.
   o Practical implementation with MongoDB and Prisma.
   o Integrating CRUD in MERN applications.

Day 5: 06-09-2025
- Hands on Practice Session in Lab

Day 6: 08-09-2025

- **React (Vite):**
    - Introduction to Vite for faster React development.
    - Project setup using `npm create vite@latest`.
    - Benefits: lightweight, fast build, modern tooling.
- **Tailwind CSS (Introduction):**
    - Utility-first CSS framework.
    - Easy to style components with predefined classes.
    - Integrated Tailwind with Vite + React project.

Day 7: 09-09-2025

- Completed **frontend of index page** (Netflix UI clone).

- Implemented **React Hooks** for state and lifecycle management.

- Installed and configured **Axios** for API calls.

- Connected **frontend to backend** for data flow.

- Added **user validation** based on roles (e.g., admin/user).

Day 8: 10-09-2025

🔹 Continued learning about **React Hooks**

- Types of Hooks (Built-in & Custom)
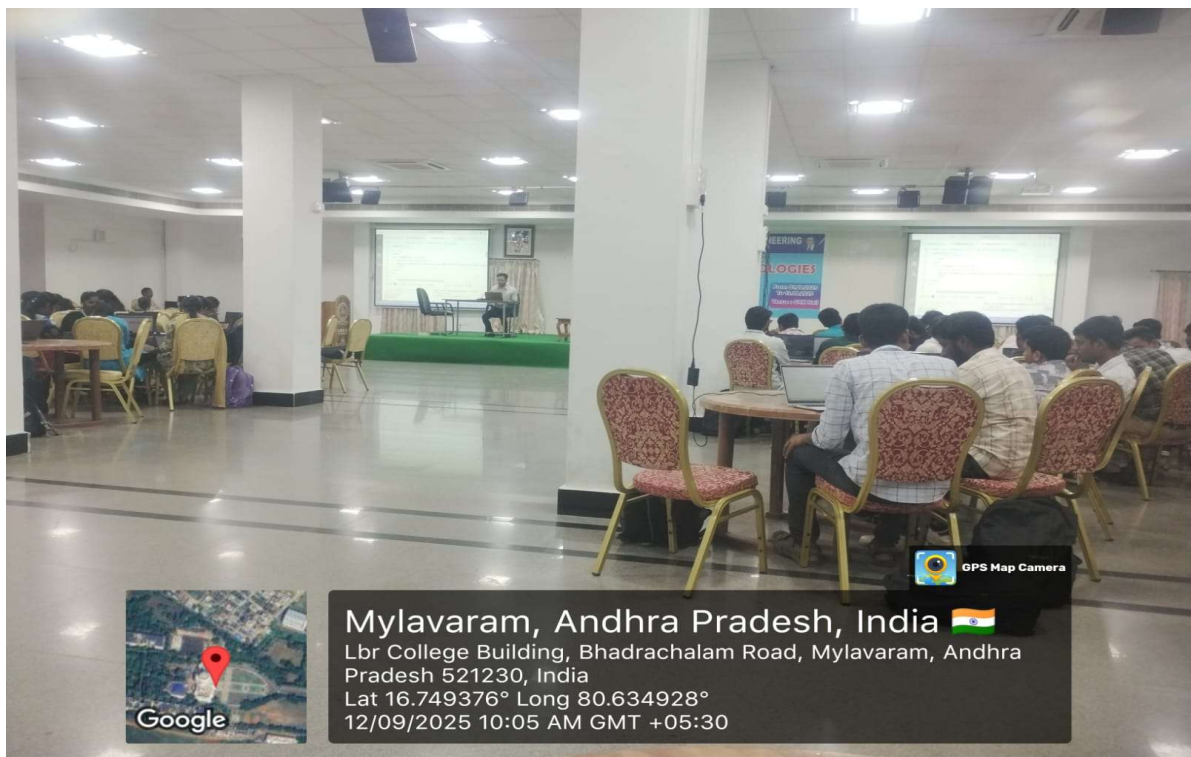
🔹 Authorization concepts in MERN applications

Day 9: 11-09-2025

Resource Person Mr. R. Abhishek explained hands-on session on adding a videos & movies in admin login

Day 10: 12-09-2025

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Day 11: 13-09-2025

08-hours Hackathon on MERN Full Stack Technologies on 13-09-2025 from 09:00AM to 04:00PM.

Impact Analysis   :
1. **Skill Development**
    - Gained **hands-on experience** in MERN stack (MongoDB, Express.js, React.js, Node.js).
    - Understood **modern web development practices** including APIs, hooks, and Authorization techniques.
    - Exposure to **real-world project workflows** improved technical confidence.
2. **Industry Readiness**
    - Training by an **industry expert** bridged the gap between academic learning and industry expectations.
    - Students are now better prepared for **internships, placements, and startup opportunities** in web development.
3. **Problem-Solving & Innovation**
    - Developed the ability to design **end-to-end applications**.
    - Encouraged **innovative thinking** through practical coding tasks and project building.
4. **Career Opportunities**
    - Equipped with **in-demand full stack skills**, making them more competitive in the job
       market.
    - Created awareness about roles such as **Full Stack Developer, Frontend Developer,**
   **Backend Developer**, and **Cloud Application Developer**.
5. **Collaboration & Confidence**
    - Improved teamwork and collaboration through group projects.
    - Boosted confidence to **present and deploy applications** on modern platforms.

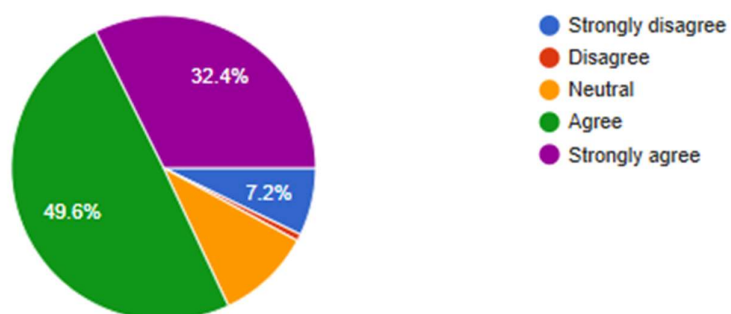# FEEDBACK RESPONSES FROM ALL THE PARTICIPANTS:

How would you rate the overall effectiveness of the training program on MERN
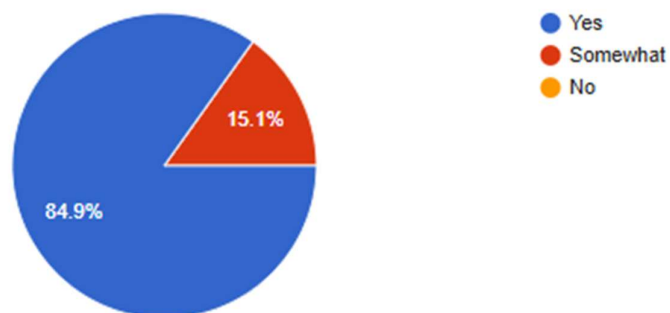Full Stack Technologies?

139 responses
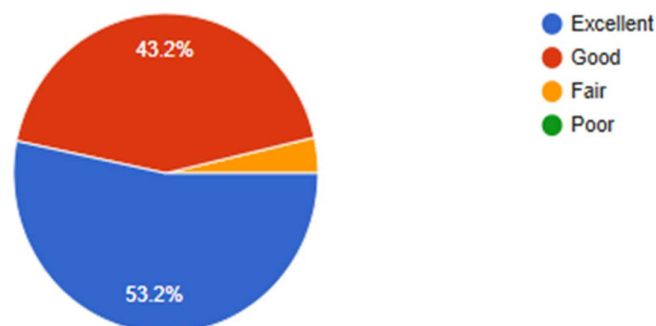
Were the training objectives and outcomes clearly defined and achieved?
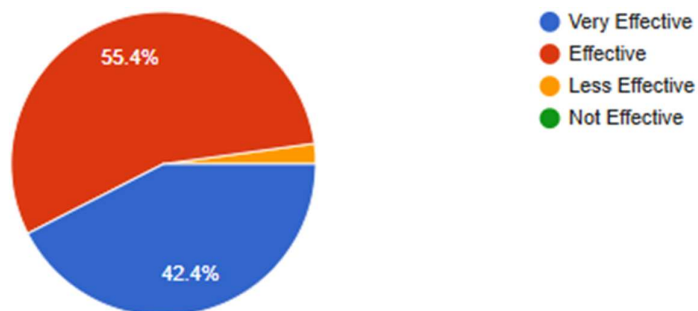
139 responses

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

32.4%
7.2%
49.6%

Was the training content relevant and useful for your academic/professional growth?

139 responses

- Yes
- Somewhat
- No

15.1%
84.9%

How effective were the hands-on sessions, coding exercises, and practical demonstrations?

139 responses

- Very Effective
- Effective
- Less Effective
- Not Effective

55.4%
42.4%

Was the duration (two weeks) sufficient to cover the MERN stack topics?

139 responses

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

46% — Agree
19.4% — Strongly agree
24.5% — Neutral
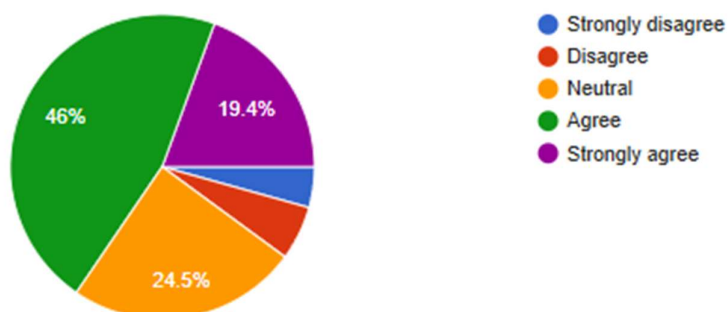
How would you rate the training facilities (venue, infrastructure, and technical support)?

139 responses

- Excellent
- Good
- Fair
- Poor

48.9% — Good
9.4% — Fair
40.3% — Excellent
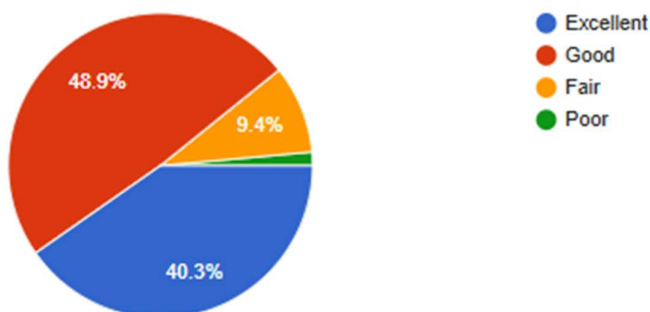
Which topic(s) in the MERN stack did you find most useful and applicable?

139 responses

Prisma, database clusters , integration of frontend and backend

Mern, express, nose, react js

React.js,node.js and express.js
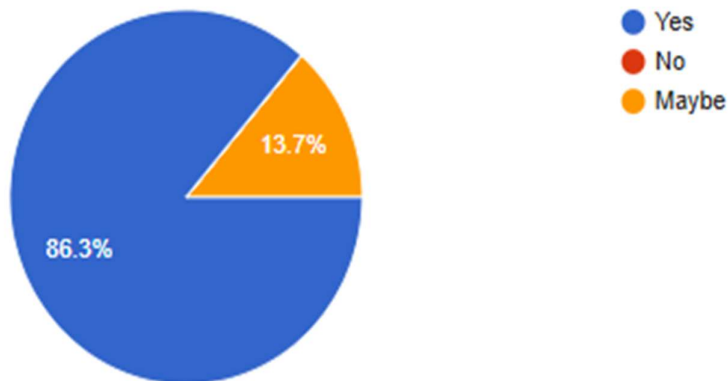
React FrontEnd Development

Prisma

for both the front end and back end of their applications

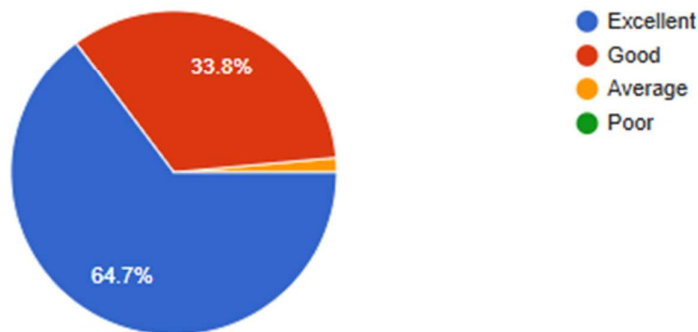Authentication and connecting thee backend with frontend

MERN Working

Would you recommend this training program to other students?

139 responses

- ● Yes
- ● No
- ● Maybe

86.3% 13.7%

How would you rate the resource person (R. Abhishek) in terms of knowledge, presentation, and delivery?

139 responses

- ● Excellent
- ● Good
- ● Average
- ● Poor

64.7% 33.8%

Feedback & Suggestions:

1. The workshop was very **informative and practical**, helping us clearly understand MERN technologies.
2. Hands-on sessions on **React Hooks, APIs, and Authorization** made learning more engaging.
3. The trainer explained concepts in a **simple and industry-oriented way**, which improved our confidence.
4. Working on **real-time examples and mini-projects** gave us a clear idea of how to build applications.
5. Extend the duration of **hands-on practice sessions** for better implementation.
6. Add a session on **deployment (cloud hosting, GitHub, etc.)** to make applications live.

HEAD
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