

## **6007 : Sixth Semester Internship**

### **SYNNEFO SOLUTIONS Pvt Ltd Industrial Training Report**

**NANDANA CS**  
**Reg No:2201130742**  
**S6CT(2022-2025)**



**DEPARTMENT of COMPUTER ENGINEERING**  
**MAHARAJAS TECHNOLOGICAL INSTITUTE**  
**CHEMBUKAV,THRISSUR -680020**

**Department of Computer Engineering**  
**MAHARAJAS TECHNOLOGICAL INSTITUTE**  
**CHEMBUKAV, THRISSUR -680020**



## CERTIFICATE

This is to certify that the report titled SYNNEFO SOLUTIONS Pvt Ltd Industrial Training Report is a bona-fide record of the work related to 6007 : Sixth Semester Internship done by NANDANA CS (Reg. No.2201130742) of S6 CT (2022-2025) of MAHARAJAS TECHNOLOGICAL INSTITUTE ,Thiruvananthapuram- 680020 in partial fulfillment of the requirement for the award of the Diploma in Engineering of State Board of Technical Education.

Internship Coordinator

Head of Department

Name:

Signature : .....

Date :

Name: HARESH MV

Signature : .....

Date :

## INTERNSHIP CERTIFICATE

## 4. Acknowledgement

I am grateful to have had the opportunity to complete my internship at **Synnefo Solutions, Ernakulam**, an experience that has significantly contributed to both my professional and personal growth. This report would not have been possible without the support and guidance of several individuals and organizations.

First and foremost, I would like to express my sincere gratitude to **Sri. Sreejith M.S.**, my supervisor at Synnefo Solutions. His constant support, insightful guidance, and constructive feedback were instrumental throughout the course of my internship.

I extend my heartfelt thanks to the entire team at the **Software Department** for their warm welcome and for fostering a collaborative and inspiring work environment. Their willingness to share their expertise and knowledge greatly enhanced my learning experience.

I am also thankful to **[Principal's Name]**, our respected Principal, for providing all the necessary facilities and support. My sincere appreciation goes to **[Head of Department's Name]**, Head of the Department of Computer Engineering, for her encouragement and support throughout my academic journey.

A special word of thanks to **Mr. Haresh M.V.**, my Internship Coordinator from the Department of Computer Engineering, for his valuable suggestions, guidance, and critical inputs in the preparation of this report.

This internship provided me with an opportunity to apply theoretical knowledge to real-world projects, improve my technical skills as a MERN Stack Developer, and develop essential soft skills such as communication, problem-solving, and teamwork.

Finally, I express my deepest gratitude to my **parents** for their unconditional love, encouragement, and constant support throughout this journey.

Nandana CS  
Regno:201130742  
S6CT(2022-25)  
MTI THRISSUR

## 5.Executive Summary

This report summarizes my internship experience at **Synnefo Solutions, Ernakulam**, where I served as a **MERN Stack Developer Intern**. The internship was an essential part of my academic curriculum and provided a platform to apply the theoretical knowledge I had gained in the classroom to practical, real-world scenarios. Over the course of the internship, I was exposed to a professional work environment and collaborated with experienced professionals in the field of software development.

During my time at Synnefo Solutions, I gained hands-on experience in the **MERN stack** — MongoDB, Express.js, React.js, and Node.js. I started by strengthening my foundational skills in **HTML, CSS, and JavaScript**, and then progressed to building full-stack applications. I worked on multiple projects including a **To-Do List App**, a **Movie Booking System (BookMyTicket)**, and an **Instagram Clone**, each designed to improve my skills in backend development, API creation, database handling, frontend integration, and user authentication using JWT.

Apart from technical development, I learned how to work within a team, manage time effectively, and adapt to industry workflows including **Git version control, branching**, and collaborative coding practices. Under the mentorship of **Sri. Sreejith M.S.**, and with the support of the entire Software Department team, I was able to resolve challenges, implement solutions, and contribute meaningfully to the projects.

This internship helped bridge the gap between academic learning and industry practices. It sharpened my problem-solving abilities, boosted my confidence in software development, and gave me a clear perspective on pursuing a career in full-stack web development. The experience also enhanced my communication and presentation skills, taught me the importance of professional ethics, and instilled a deeper appreciation for collaborative work environments.

Overall, my internship at Synnefo Solutions was an enriching and transformative journey that laid a strong foundation for my future in the tech industry.

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## 9. Abbreviations / Notations / Nomenclature

- **HTML** – HyperText Markup Language
- **CSS** – Cascading Style Sheets
- **JS** – JavaScript
- **API** – Application Programming Interface
- **CRUD** – Create, Read, Update, Delete
- **MERN** – MongoDB, Express, React, Node.js
- **JWT** – JSON Web Token

## 10. Text of the Report

### Chapter 1: Company Profile

#### 1.1 INTRODUCTION

Synnefo Solutions, Best Networking | python | Flutter | DevOps | Cyber security | Digital Marketing Training center in kochi is a company that ensure the highest quality training, we have established affiliations with reputable organizations in systems administration and development. The companies training infrastructure is designed in accordance with the latest corporate sector requirements.empowers aspiring professionals to excel in high-demand fields. Our accelerated programs merge hands-on projects, real-world simulations, and expert mentorship to turn foundational skills into job-ready expertise. Designed for career starters and advancing professionals, we prioritize practical mastery of cutting-edge tools and adaptability to industry evolution. Join a driven community where ambition meets opportunity.

#### 1.2 OVERVIEW OF THE ORGANIZATION

Synnefo Solutions is a top training center in Kochi, specializing in network training, Python, cybersecurity, cloud computing, digital marketing, and DevOps. We offer 100% job-oriented courses designed to equip students with practical, industry-ready skills. Our certified expert trainers deliver high-quality professional training, ensuring students gain real-world experience. At Synnefo Solutions, we focus on providing personalized attention to each student, ensuring their success. Our passion and commitment have made us the leading technical institute in Kochi. For the best training in cloud computing, Python, network, cybersecurity, and digital marketing, Synnefo Solutions is your ideal choice.



fig.1.1

### 1.3 Manufacturing Capabilities

Synnefo Solutions, headquartered in Ernakulam, Kerala, is a dynamic IT services and training organization specializing in software development, cloud engineering, DevOps, cybersecurity, and digital marketing. While the company does not engage in traditional manufacturing, it excels in delivering comprehensive IT solutions and professional training programs.

#### Key Capabilities of Synnefo Solutions:

- **Software Development:** Expertise in building scalable web applications using technologies like the MERN stack (MongoDB, Express.js, React.js, Node.js), Python, and PostgreSQL. [synnefo.in](https://synnefo.in)
- **Cloud Engineering:** Proficiency in designing, deploying, and maintaining secure cloud-based systems using platforms such as AWS, Azure, and Google Cloud Platform (GCP). [synnefo.in](https://synnefo.in)
- **DevOps Engineering:** Skilled in implementing CI/CD pipelines, containerization with Docker and Kubernetes, and infrastructure automation using tools like Jenkins and Terraform. [synnefo.in](https://synnefo.in)
- **Cybersecurity and Networks:** Focused on securing systems and networks through ethical hacking, threat analysis, incident response, and risk management strategies. [synnefo.in](https://synnefo.in)
- **Digital Marketing:** Offers training in SEO, social media strategies, analytics, and content creation to enhance online visibility and business growth. [synnefo.in](https://synnefo.in)

In addition to these services, Synnefo Solutions provides IT consulting, staffing, and support services, helping clients manage their technology initiatives effectively. [synnefosol.com](https://synnefosol.com)

If you require further details or assistance in incorporating this information into your internship report, feel free to ask!

## 1.4 KEY CUSTOMERS

as of now, Synnefo Solutions has not publicly disclosed a comprehensive list of its clients or customer base. However, the company has engaged in partnerships and developed solutions that indicate its clientele includes Internet Service Providers (ISPs), Managed Service Operators (MSOs), and businesses seeking IT system training and support.

### Notable Collaborations and Client Engagements

- **Partnership with Aprecomm:** Synnefo Solutions partnered with Aprecomm to launch a customer experience management "super-stack" aimed at enhancing operational efficiency for ISPs and MSOs. This collaboration suggests that Synnefo's services are tailored to meet the needs of network service providers seeking advanced OSS/BSS solutions.
- **Client Application for ISPs:** The company introduced a user-friendly Android and iOS application designed to improve customer engagement for ISPs. Features of the app include real-time notifications, effortless billing, swift complaint management, and instant usage insights, indicating a focus on enhancing the end-user experience for ISP customers.

## Chapter 2

# Intern's Role and Responsibilities

### Role:

#### **MERN Stack Developer Intern at Synnefo Solutions, Ernakulam**

During my internship, I was assigned the role of a MERN Stack Developer Intern. This role offered me the opportunity to gain hands-on experience in full-stack web development, understand software development best practices, and work on live projects that involved real-world problem-solving.

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### Technologies Learned & Used:

- **Git & GitHub:**  
Learned version control using Git and collaborated on projects using GitHub. Practiced branching, merging, pull requests, and repository management.

- **HTML, CSS, JavaScript:**  
Strengthened core frontend skills by creating responsive and interactive web interfaces, focusing on semantic structure, styling, and scripting logic.
- **Node.js & Express.js:**  
Developed server-side logic using Node.js and built RESTful APIs using Express.js, understanding middleware, routing, and request-response cycle.
- **MongoDB (without Mongoose schemas):**  
Worked with MongoDB for data storage and retrieval directly through native drivers, enabling a deeper understanding of document-based database interactions.
- **API Development:**  
Created and consumed REST APIs for full-stack communication between frontend and backend.
- **Image Uploads without Multer:**  
Implemented image uploading features using basic file handling and FormData techniques, bypassing the use of third-party libraries like Multer.
- **Frontend-Backend Integration:**  
Integrated client-side interfaces with backend services to create dynamic and data-driven web applications.
- **JWT-based Authentication:**  
Applied JSON Web Tokens for secure user authentication and session management in full-stack applications.

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## Projects Worked On:

1. **Hotel Management System:**
  - Contributed to the **frontend design and UI implementation**.
  - Participated in preparing **documentation, reports, and presentations**.
  - Learned how to manage user flow, design forms, and organize content effectively.
2. **Apple Website Clone:**
  - Built a clone of Apple's official website using **HTML, CSS, and JavaScript**.
  - Focused on responsiveness, modern layouts, and pixel-perfect design.

- Gained insights into professional website structures and UI design practices.

### 3. To-Do List Project:

- Developed a functional To-Do List application with **MongoDB** as the backend database.
- Implemented features to **add, delete, and manage tasks**, storing data persistently.
- Focused on clean API design and client-server integration.

### 4. BookMyTicket:

- Created a **movie booking system** with **CRUD operations** and **JWT-based authentication**.
- Worked on **movie listing, booking logic**, and admin features.
- Learned modular design, protected routes, and API structuring.

### 5. Instagram Clone:

- Developed core features such as **login, signup, home feed, profile page, post uploads**, and **navbar navigation**.
- Focused on **user interface design, session handling**, and **client-server data flow**.
- Implemented dropdown menus, image previews, and basic post interactions.

### Value Added to the Organization:

- Enhanced **frontend responsiveness** across all projects to improve user experience on various screen sizes.
- Wrote **clean, modular, and reusable code** to promote maintainability and scalability.
- Gained a strong understanding of **client-server communication** and REST architecture.
- Actively **participated in daily team discussions, code reviews**, and collaborative development sessions.
- Demonstrated a proactive attitude towards learning and took initiative in solving bugs and suggesting UI/UX improvements.

## Chapter 3: Demonstration of Work

During my internship at **Synnefo Solutions**, I worked on several full-stack web development projects that enhanced both my technical knowledge and practical skills. Each project helped me understand the real-time application of the MERN stack and the importance of efficient, clean coding practices. Below are detailed demonstrations of the key projects I developed and contributed to:

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### 1. To-Do List App

- **Overview:**  
This project focused on mastering CRUD (Create, Read, Update, Delete) operations using **Node.js**, **Express.js**, and **MongoDB** without Mongoose schemas. The goal was to build a simple yet functional task management application.
  - **Frontend:**  
Implemented using **vanilla JavaScript**, **HTML**, and **CSS**. The user interface was designed to be clean and user-friendly, allowing users to interact with tasks seamlessly.
  - **Backend:**  
Built with **Express.js**, providing RESTful endpoints to handle task operations. The database interactions were done using MongoDB's native driver.
  - **Key Features:**
    - Add, view, edit, and delete tasks.
    - Persistent data storage in MongoDB.
    - Responsive design for usability across devices.
  - **Learning Outcome:**  
Understood how to set up backend routes, connect to MongoDB without Mongoose, and link frontend interactions with backend logic effectively.
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### 2. BookMyTicket

- **Overview:**  
A movie ticket booking platform developed to implement full **CRUD functionality** and **user authentication** using **JWT tokens**.

- **Backend:**  
Focused on managing movie data (add, update, delete) and user login/logout features using **Node.js** and **Express.js**.
  - **Authentication:**  
Implemented secure login and protected routes using **JWT (JSON Web Tokens)**.
  - **Key Features:**
    - Movie listing and management.
    - Admin and user roles.
    - Authenticated routes for adding and editing movie details.
  - **Learning Outcome:**  
Learned user access control, how to structure a backend for role-based operations, and integrated multiple features into a single cohesive system.
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### 3. Instagram Clone

- **Overview:**  
A full-stack clone of Instagram, aimed at replicating the core features and layout of the original platform.
- **Frontend:**  
Styled to closely match Instagram's look and feel using **HTML**, **CSS**, and **JavaScript**. Implemented pages like Login, Signup, Home, Profile, and Post Upload.
- **Backend:**  
Handled registration, login, and media posting functionality with proper validations and JWT-based authentication.
- **Hosting & Feedback:**
  - Successfully **hosted the application** online to make it publicly accessible.
  - **Gathered feedback** from friends and peers to evaluate the app's UI/UX, performance, and functionality.
- **Key Features:**
  - User authentication and session management.



- File/image upload functionality (without using Multer).
    - Dynamic post rendering on home and profile pages.
  - **Learning Outcome:**  
Strengthened full-stack integration skills and gained confidence in building real-world social media applications from scratch.
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## 4. Portfolio Website

- **Overview:**  
Designed and built a personal portfolio to showcase my projects, skills, and contact information.
- **Frontend:**  
Developed with **responsive design principles** to ensure a clean appearance on all devices. Included sections like About, Projects, Contact, and Skills.
- **Key Features:**
  - Navigation bar linking to all sections.
  - Project cards with short descriptions.
  - Contact section with LinkedIn and email links.

# 11. Student Profile / Resume

## Personal Details

**Name**      **Nandana**

**Email**      csnandana95@gmail.com

**Phone**      9539601548

**LinkedIn**   linkedin.com/in/nandana-cs

**GitHub**      github.com/NANDANA-CS

**Location**   Thrissur,Kerala

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## Career Objective

To secure a responsible position as a **Full Stack Web Developer**, where I can effectively contribute my skills in the **MERN stack**, continue learning new technologies, and work towards developing impactful and scalable software solutions.

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## Technical Skills

- **Frontend Technologies:** HTML5, CSS3, JavaScript,React
- **Backend Technologies:** Node.js, Express.js
- **Database:** MongoDB
- **Version Control:** Git, GitHub
- **Authentication:** JSON Web Tokens (JWT)
- **Additional Skills:**
  - API Development
  - Frontend-backend Integration
  - Image Upload Handling
  - Responsive UI Design
  - Clean Code Practices and Reusable Component Design

## Projects Undertaken

- **To-Do List Application**  
Developed a CRUD-based task management app using Express.js ,MongoDB and React.js with a clean and responsive frontend.
- **BookMyTicket**  
Designed and implemented a full-featured movie ticket booking platform. Integrated secure user authentication, movie listing, and booking functionality.
- **Instagram Clone**  
Developed a social media clone with user registration, login, post uploads, and a responsive UI closely resembling Instagram. Successfully hosted and received user feedback.
- **E-Commerce Website**  
Built a functional e-commerce platform enabling product listings, user authentication,shopping cart functionality, and dynamic pricing. Focused on full-stack implementation using the MERN stack.
- **Portfolio Website**  
Created a responsive personal portfolio site to showcase technical skills, projects, and contact details.
- **Apple Website Clone**  
Designed a static replica of Apple's official website using only HTML and CSS for layout, visuals, and responsiveness.

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## Internship Experience

- **Company:** Synnefo Solutions, Ernakulam
- **Designation:** MERN Stack Developer Intern
- **Duration:**6 months
- **Responsibilities:**
  - Participated in full-stack development tasks
  - Implemented backend services and user interfaces

- Engaged in daily team discussions and feedback sessions
- Contributed to production-ready code and live hosting

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## Educational Background

Qualification	Institution	Board/University	Year of Passing
Diploma in Computer Engineering	MTI Thrissur	SBTE	2025

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## Core Strengths

- Excellent problem-solving and analytical skills
- Strong foundation in web development principles
- Fast learner with a passion for clean, maintainable code
- Effective team player with good communication skills also have leadership qualities

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## Languages Known

- English
- Malayalam

## 12. Photo Gallery

## 13. Appendices