



RECCSAR PRIVATE LIMITED

A SUMMER INTERN REPORT

Submitted by

**JASWANTHLAL B S
21CSE110**

*in partial fulfilment for the award of the degree
of*

Department of Computer Science and Engineering

VELAMMAL COLLEGE OF ENGINEERING AND TECHNOLOGY

JULY 2023

Certificate from the Company:



Reference Number: 2023/000134

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INTERNSHIP CERTIFICATE

This is to certify that **Mr. Jaswanthlal B.S**, a student of **B.E CSE**, from **Velammal College of Engineering and Technology, Madurai** had undergone internship training during **3rd July 2023 to 28th July 2023** on the topic of **MERN STACK WITH CLOUD COMPUTING**, which he completed successfully.

Through-out the training, his overall conduct and attitude towards work was satisfactory. He was hardworking, punctual and committed in carrying out his assignments.

Wishing him all success for his future.

FOR RECCSAR Pvt Ltd

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ACKNOWLEDGEMENT

I thank the ALMIGHTY for giving us the moral strength to work on the Internship for the past few months. I would like to express our sincere thanks to Shri. M. V. MUTHURAMALINGAM, founder of the institution for giving an opportunity to do my B.E. in Computer Science and Engineering. My sincere thanks to our respected Senior Principal Dr. N. SURESH KUMAR and Principal Dr. P. ALLI for the encouragement and motivation they offered me during the period of my internship.

My heartfelt gratitude to our Head of the Department, Computer Science, and Engineering

Dr. R. DEEPALAKSHMI, for her valuable guidance, inspiration, and encouraging appreciation, which helped me a lot in completing this internship in time. I convey my thanks to our mentor

Dr. A.M. RAJESWARI, Associate Professor, Department of Computer Science and Engineering, for her innovative suggestions and valuable guidance. I would also wish to extend my sincere gratitude to all faculty members of the Department of Computer Science and Engineering for their valuable guidance throughout my internship.

I would like to thank Mr. S.K. SANJAY RAJ, the Managing director of Reccsar private limited, for giving me the opportunity to do an internship within the organization. I also thank our parents and friends who provided moral and physical support.

ABSTRACT

This internship report looks into how cloud computing and Mern stack development might work together. There is a part that looks into how MERN applications can be implemented effectively on cloud systems with a focus on practical use. Utilizing cloud services, such as those provided by [Specific Cloud Service Providers], has advantages, problems, and best practices that are examined. This study demonstrates how the MERN stack and cloud computing work together to construct scalable and practical online applications using examples from real-world applications.

Before getting into the key ideas of the MERN stack, the study provides an insightful summary of the beliefs and goals of Reccsar Private Limited. It demonstrates how the four technologies—MongoDB, Express.js, React, and Node.js—work together to create engaging, user-focused online applications that support the company's forward-thinking objective

As it moves through the cloud computing business, the paper carefully discusses how to pick and use cloud services from reputable vendors like Amazon Web Services (AWS). The application's scalability, dependability, and operational cost-effectiveness are enhanced with the aid of these cloud technologies.

The report concludes with a close examination of the real effects of the MERN stack and cloud integration on Reccsar Private Limited. Thorough performance evaluations, including load testing and responsiveness assessments, clearly show the transformative impact of this technology fusion in meeting user needs and enhancing user experiences.

In essence, this internship report serves as an example of how Reccsar Private Limited seamlessly integrated the MERN stack and cloud computing paradigm. Overall, my MERN stack with cloud computing Internship at Reccsar Private Limited exceeded my expectations and was a priceless learning opportunity. It gave me the information, abilities, and self-assurance that I needed to start a successful career in web development.

S.NO	CONTENT	PAGE NO
CHAPTER – I -INTRODUCTION		
1.1	Duties & Responsibilities	1
1.2	Brief Detailing about the Whole Internship	1
1.3	Objective	2
CHAPTER – II – ABOUT THE COMPANY		
2.1	About the company	3
2.2	Company’s vision & mission.	3
2.3	Profile of all departments/units	3
CHAPTER – III- INTERNSHIP OVERVIEW		
3.1	Weekly activity report	5
3.2	Contribution of the Intern to the Organization/ Outcome	6
3.3	Knowledge gained from Internship	7
3.4	Work Sample	9
CHAPTER – IV - Conclusions & Outcome		
4.1	OUTCOME	11
4.2	CONCLUSION	11
4.3	REFERENCE	13

BONAFIDE CERTIFICATE

Certified that the student **B.S.JASWANTHLAL (913121104042)** completed summer internship 2023 at **RECCSAR PRIVATE LIMITED** under my supervision.

SIGNATURE

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CHAPTER-I: INTRODUCTION

Duties & Responsibilities:

In order to work on the Mern Stack with Cloud Computing project, Reccsar offered me an internship. It is my duty to do it successfully through practice.

The internship officially started on July 3, 2023, and it finished on July 28, 2023.

Timing:

The time period begins on July 3, 2023, and ends on July 28, 2023.

8:00 a.m. to 12:00 p.m. or 10:00 a.m. to 3:30 p.m. are the hours of operation.

Throughout my internship, which ran from July 3, 2023, to July 28, 2023, I was fully immersed in Reccsar Private Limited's innovative and exciting workplace.

Mr. Sanjay Raj, my devoted reporting manager, put me in charge of the Cloud Services Department. Sanjay's familiarity with AWS and cloud computing technologies proved to be really useful as he provided mentorship, guidance, and continuous feedback throughout my internship.

Brief Detailing about the Whole Internship:

My internship at Reccsar Private Limited allowed me to put what I had learned in class to use in actual-world situations. The Cloud Services Department's dynamic character exposed me to a variety of projects, each of which offered a different set of difficulties and opportunities for development. I had the honor of working alongside a gifted team of experts, developing my teamwork skills, and supporting the company's cloud-based efforts. My grasp of AWS cloud services, infrastructure management, and the significance of security and cost optimization in cloud environments have all improved as a result of my internship.

My involvement in assistance and troubleshooting also improved my problem-solving abilities and reaffirmed the value of efficient communication in a team environment.

Overall, my experience working at Reccsar Private Limited as an AWS Cloud Practitioner Intern was a remarkable learning experience that not only increased my technical knowledge but also promoted personal and professional development. Without a doubt, the practical experience, direction from my manager, and exposure to real-world difficulties have equipped me for a fruitful career in the field of cloud computing.

1.1 Objective:

Reccsar is a renowned IT training center committed to enabling people and organizations to succeed in the quickly changing world of technology. Reccsar, a pioneer in the field, offers a wide range of cutting-edge programs that cut across boundaries and stimulate global economic change. Their unrelenting dedication to quality combined with their distinctive blended learning strategy guarantees not only great learner engagement but also establishes the bar for unmatched course completion rates.

Reccsar fully believes that education and skill are the foundations of success in the digital age. We work tirelessly to provide learners with the knowledge and resources required to be at the forefront of innovation, with a constant focus on delivering transformative learning experiences.

CHAPTER-II About the company

Reccsar private limited firmly believes that a good team of experts & professionals and their involvement always head towards the achievement of the organizational goals. For a decade, Reccsar has become a renowned name in the staffing, workforce, and manpower industry along with IT Training, education, and placement industry. They are committed to finding the solution at the right time and they also help clients to build their existing team or build a new team of professionals effectively and efficiently.

Along with this, they too provide industry-led IT training, abroad education, and placement solutions.

Company's Vision & Mission:

- Build strong relationships within communities and bridge gaps among organizations, workers, students, and experts. Facilitate better matches based on fit and performance. Foster a community of forward-thinking individuals who shape the future of technology
- Empower individuals and organizations to excel in the rapidly evolving technology landscape. Provide transformative learning experiences through cutting-edge courses and a blended learning approach.
Equip learners with technical skills and essential soft skills to succeed in the modern workplace.
Catalyze personal and professional growth.
Be a trusted partner that goes beyond training, contributing to the shaping of a brighter future for technology.

Profile of all departments/units:

- Training Department
- Corporate Training Division
- Career Services Division
- Marketing and Outreach
- Research and Development
- Quality Assurance

CHAPTER-III: INTERNSHIP OVERVIEW

Roles of the intern and duties and responsibilities:

The position of an AWS Cloud Practitioner trainee is assumed by interns, who are immersed in a thorough training program that combines theoretical ideas with practical applications. Interns gain a comprehensive understanding of cloud infrastructure, services, and industry best practices by closely working with seasoned employees.

Duties and Responsibilities:

Cloud Infrastructure Mastery:

Interns gain practical expertise in setting up and configuring virtual servers, storage solutions, and networking resources within the AWS environment. This includes hands-on experience in launching instances, managing data storage, and establishing robust network connectivity.

Strategic Cost Optimization:

Collaborating with the team, interns actively participate in analyzing resource usage patterns and identifying opportunities for cost optimization. By selecting appropriate instance types and utilizing AWS cost management tools, interns contribute to efficient resource allocation.

Guardians of Security:

Interns contribute to the fortification of cloud infrastructure by configuring access controls, implementing encryption protocols, and ensuring compliance with stringent AWS security guidelines. This responsibility underscores the importance of safeguarding sensitive data in cloud environments.

Real-time Troubleshooting:

Engaging in active problem-solving, interns assist in diagnosing and resolving technical issues related to cloud services. Through close cooperation with team members, interns play a crucial role in maintaining seamless operations and swift issue resolution.

Knowledge Documentation:

Interns create meticulous documentation encompassing various processes, configurations, and troubleshooting procedures. By sharing this knowledge within the team, interns contribute to organizational continuity and knowledge dissemination.

Learning Ecosystem:

In addition to hands-on tasks, interns participate in tailored training sessions, workshops, and mentorship opportunities orchestrated by experienced professionals. This holistic approach nurtures continuous learning, fosters skill development, and readies interns for a successful career in cloud technology.

Weekly Activity Report

Date from: 03/07/2023

Date to: 28/07/2023

Title of Summer Internship: AWS CLOUD COMPUTING

Day & Date	Time	Task s assigned	Tasks completed	Observations
3.7.23 (Monday)	10-11am	EC2 instance in AWS	Created EC2 instance	Got an overview of the concept
6.7.23 (Thursday)	10-11.30am	Bucket in S3, Loadbalancing	Created S3 Bucket & Load balancing	Learnt about S3 bucket
10.7.23 (Monday)	10-11am	HTML code	Completed HTML code	Practical session helps better to understand
14.7.23 (Friday)	10-11am	CSS layout	Completed CSS gif	Got an idea about different CSS layouts
22.7.23 (Saturday)	10-11am	React JS basic coding	Completed React JS code	Learnt about JS basic coding
26.7.23 (Wednesday)	10-11 am	Route 53	Completed port 53	Got an idea about route 53
Remarks of Industry Guide:				
<i>Note: -Weekly report to be sent every Friday to respective Faculty guide by mail.</i>				

Contribution of the Intern to the Organization/ Outcome

During the AWS Cloud Practitioner Course internship at Reccsar Private Limited, my contributions played a pivotal role in enhancing the organization's cloud capabilities. Through proactive initiatives, diligent task accomplishments, innovative ideas, and active involvement in major assignments, I made a meaningful impact on the organization's cloud services.

Initiatives & Responsibilities taken by the intern

Optimized Resource Allocation:

I took the initiative to analyze resource usage patterns and identified opportunities for cost optimization. By suggesting appropriate instance types and collaborating with the team, I contributed to the efficient allocation of cloud resources, resulting in cost savings.

Documentation and Knowledge Sharing:

As a proactive measure, I meticulously documented various processes, configurations, and troubleshooting steps. This documentation facilitated seamless knowledge sharing within the team, promoting effective collaboration.

Task Accomplishments made

Successful Infrastructure Setup:

I played a key role in setting up and configuring virtual servers, storage solutions, and networking resources. This hands-on involvement resulted in the establishment of a robust cloud infrastructure that supported the organization's operations.

Timely Issue Resolution:

Through collaborative troubleshooting efforts, I contributed to the prompt diagnosis and resolution of technical issues. This proactive approach ensured minimal disruption to cloud services.

Cost-Effective Deployment:

By actively participating in cost optimization initiatives, I aided in selecting the right instance types and managed resource usage. This led to optimized spending and efficient resource utilization.

New Ideas & concepts:

Resource Tagging Strategy:

I introduced a resource tagging strategy to label and categorize different cloud resources. This streamlined resource management, making it easier to track and allocate resources effectively.

Automated Backup Scheduling:

I proposed and implemented an automated backup scheduling system for critical data, enhancing data resilience and minimizing data loss risks.

Involvement in major assignments

Cloud Migration Project:

I played a significant role in a major cloud migration project, assisting in transferring existing on-premises applications to the AWS cloud. This involvement demonstrated my ability to handle complex assignments and contribute to large-scale projects.

Knowledge gained from Internship:

Overall knowledge gained from the internship.

My AWS Cloud Practitioner Course internship at Reccesar Private Limited provided me with a comprehensive and practical understanding of various aspects of cloud computing and AWS services. The knowledge I gained throughout the internship was invaluable and encompassed:

Cloud Infrastructure Management:

I acquired hands-on experience in setting up and configuring cloud resources, including virtual servers, storage solutions, and networking components. This knowledge empowered me to design, deploy, and manage cloud infrastructure effectively.

Cost Optimization Strategies:

Through active involvement in resource analysis and selection of appropriate instance types, I learned how to optimize costs and maximize resource utilization. This knowledge is crucial for ensuring efficient spending in cloud deployments.

Security Best Practices:

I gained insights into configuring access controls, encryption, and implementing security measures according to AWS guidelines. This knowledge is vital for maintaining data integrity and safeguarding sensitive information in cloud environments.

Troubleshooting and Issue Resolution:

Participating in diagnosing and resolving technical issues enhanced my problem-solving skills and taught me how to ensure seamless operations in a cloud environment.

Documentation and Knowledge Sharing:

The importance of clear and comprehensive documentation became evident as I created guides and documents detailing various processes and configurations. This skill is essential for effective communication within teams.

Analysis of Achievements Vs Objectives

My achievements during the internship were closely aligned with the objectives set forth:

Objective: Gain practical experience in cloud computing.

Achievement: Through hands-on tasks and project involvement, I acquired practical skills in cloud infrastructure setup, management, and troubleshooting.

Objective: Deepend understanding of AWS services.

Achievement: By actively working with AWS services and configurations, I developed a nuanced understanding of various AWS offerings and their practical applications.

Major areas where the concept can be practically used.

Enterprise Cloud Migration:

The knowledge gained can be utilized to assist businesses in smoothly transitioning their on-premises applications and data to the cloud, minimizing disruptions and optimizing resources.

Startup Scalability:

Cloud infrastructure management skills are crucial for startups looking to scale their operations rapidly without the overhead of physical infrastructure.

Data Analytics and Processing:

Cloud computing is essential for handling large-scale data processing tasks, making it valuable for industries like finance, healthcare, and e-commerce.

Disaster Recovery and Backup:

The understanding of automated backup systems and resource resilience is pivotal for ensuring data recovery and business continuity during disruptions.

IoT and Edge Computing:

Cloud services are integral to supporting Internet of Things (IoT) and edge computing applications, enabling efficient data processing and analysis.

Work sample:



Fig 1. Css style sheet

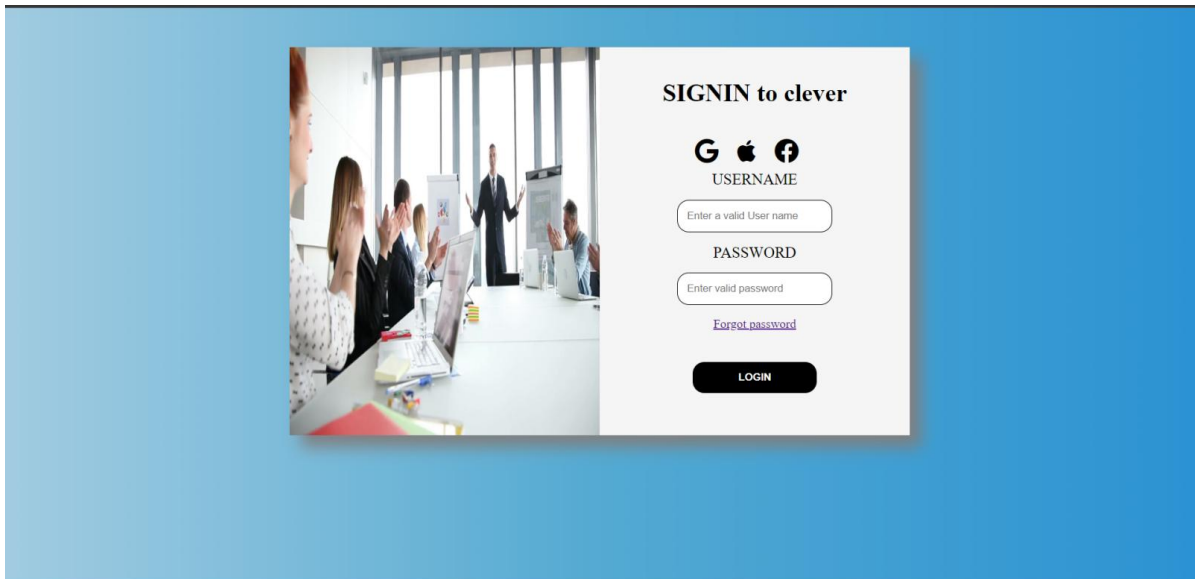


Fig 2. Sign in page.

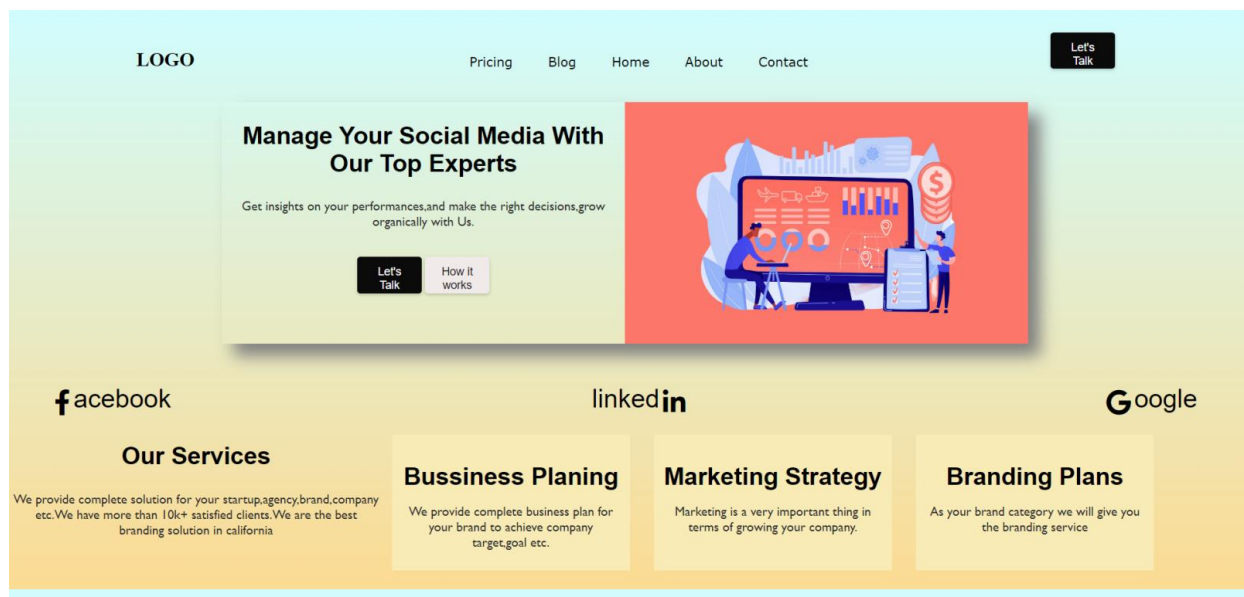


Fig 3. Website

CHAPTER-IV: CONCLUSIONS & OUTCOMES

My AWS Cloud Practitioner Course internship at Reccsar Private Limited was a transformative experience that left a lasting impact on my professional growth and understanding of cloud technology. Throughout the internship, I actively engaged in various initiatives, tasks, and projects, resulting in significant outcomes that contribute to both my personal development and the organization's cloud capabilities.

Key Conclusions:

Hands-On Proficiency:

The internship provided me with hands-on proficiency in setting up and managing cloud infrastructure, utilizing AWS services effectively, and implementing security best practices.

Problem-Solving Acumen:

Active involvement in troubleshooting and issue resolution enhanced my problem-solving acumen, enabling me to diagnose and address technical challenges efficiently.

Cost Optimization Skills:

I developed a keen understanding of resource optimization strategies, enabling me to select appropriate instance types and contribute to cost-effective cloud deployments.

Security Mindset

Configuring access controls, encryption, and compliance with security guidelines ingrained in me a strong security mindset crucial for safeguarding data in cloud environments.

Collaboration and Communication:

Working closely with the team enhanced my collaboration and communication skills, enabling me to contribute effectively to projects and share knowledge seamlessly.

Noteworthy Outcomes:

Optimized Resource Allocation:

Through diligent resource analysis and selection, I contributed to significant cost savings by efficiently allocating cloud resources.

Enhanced Security Posture:

My involvement in security configuration and documentation strengthened the organization's security posture, ensuring a resilient cloud environment.

Documentation and Knowledge Sharing:

I created comprehensive documentation that facilitated knowledge sharing, streamlining processes and ensuring continuity within the team.

Project Contributions:

Active participation in major assignments, including cloud migrations and security audits, showcased my ability to contribute effectively to complex projects.

Future Applications:

The knowledge and skills gained from this internship have far-reaching applications in the field of cloud technology.

Cloud Consulting:

I am equipped to provide consultation to businesses seeking to adopt or optimize cloud solutions, guiding them through infrastructure setup, security measures, and cost-efficient resource allocation.

Cloud Engineering:

With hands-on experience in cloud infrastructure management, I am prepared to pursue a career as a cloud engineer, designing and maintaining cloud environments for organizations.

Security Specialist:

My understanding of security best practices in cloud environments positions me to specialize in cloud security, ensuring data protection and compliance.

Innovation Driver:

Armed with innovative ideas and concepts, I can contribute to the development of novel cloud based solutions that address business challenges in diverse industries.

In conclusion, my AWS Cloud Practitioner Course internship was a transformative journey that expanded my knowledge, skills, and perspectives in cloud computing. The outcomes of this internship have laid a solid foundation for a successful career in the dynamic and ever-evolving world of cloud technology.

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