



**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
(ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)**

Academic Year 2026-27

EVENT: THE DEPLOYMENT LAB

ORGANISED BY:

AIML Student Association in collaboration with Coding Nexus, A.P. Shah Institute of Technology, Thane

DATE:

5th October 2026

Time:

12:30pm to 4:00pm

VENUE:

Room no. 406

OBJECTIVES:

The objective of THE DEPLOYMENT LAB was to provide students with a practical understanding of system design, scalability, traffic management, performance optimisation, data management, and deployment technologies. The session focused on how modern applications can be designed to handle increasing traffic and operate efficiently.

INTRODUCTION:

The AIML Student Association, in collaboration with Coding Nexus, successfully organised THE DEPLOYMENT LAB on 5th October 2026.

The event was led by Event Head Tanish and featured insightful technical sessions by Ashish Vishwakarma and Chetan Shinde, with support from the AIML SA Technical Team.

The session combined conceptual learning with real-world examples to help participants understand how applications can be designed, scaled, and deployed efficiently.

EVENT FLOW:

The event began with a welcome and keynote address by Event Head Tanish, introducing the topic and setting the agenda for the session.

The technical session was covered in four major parts:



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
(ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)
Academic Year 2026-27

1. System Design & Scaling

Participants were introduced to server fundamentals and the concepts of vertical and horizontal scaling, helping them understand how systems can handle growing workloads.

2. Traffic Control & Architecture

The session covered DNS, Load Balancing, API Gateway, and Microservices. A real-world request flow was explained through the sequence of Rider → API Gateway → Load Balancer, demonstrating how requests are routed through a modern system.

3. Real-World Application

The concepts discussed were connected with practical application scenarios, helping participants understand how different architectural components work together in real systems.

4. Performance & Data Management

The session introduced Caching, CDN Edge Nodes, BullMQ background jobs, Primary/Replica database replication, Token Bucket rate limiting, and Containerization, providing participants with an overview of techniques used to improve application performance, reliability, and scalability.

KEY HIGHLIGHTS :

- Understanding System Design and Server Fundamentals.
- Learning Vertical and Horizontal Scaling.
- Understanding DNS, API Gateway and Load Balancing.
- Introduction to Microservices Architecture.
- Understanding real-world request flow through Rider → API Gateway → Load Balancer.
- Introduction to Caching and CDN Edge Nodes.
- Understanding BullMQ and Background Jobs.
- Overview of Primary/Replica Database Replication.



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
(ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)
Academic Year 2026-27

- Introduction to Token Bucket Rate Limiting.
- Understanding Containerization and modern deployment practices.
- Practical insights from Ashish Vishwakarma and Chetan Shinde.

TAKEAWAYS:

Participants gained a better understanding of how modern applications are designed to handle traffic, scalability, performance, and reliability. The session helped connect system design concepts with real-world application architecture and provided valuable exposure to modern technologies used in scalable systems.

CONCLUSION :

The event concluded with a felicitation ceremony where Letters of Appreciation (LOA) were presented to both speakers, Ashish Vishwakarma and Chetan Shinde, by Shingi Sir and Prof. Darshana Bhandare as a token of appreciation for their valuable contribution and guidance.

Overall, THE DEPLOYMENT LAB was an informative and engaging technical session that gave students practical insights into system architecture, scalability, performance, and modern deployment practices.



Parshvanath Charitable Trust's
A. P. SHAH INSTITUTE OF TECHNOLOGY
(Approved by AICTE New Delhi & Govt. of Maharashtra, Affiliated to University of Mumbai)
(Religious Jain Minority)



**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
(ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)**
Academic Year 2026-27

GLIMPSES FROM THE EVENT:



Prof. Darshana Bhamare
AIML SA Coordinator
CSE-AIML

Dr. Jaya Gupta
Head of Department
CSE-AIML