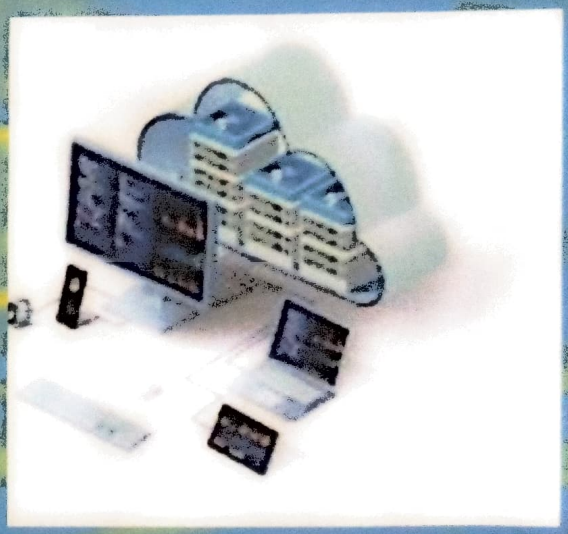
RAMAIAH
College of Arts, Science & Commerce

INSTITUTION'S INNOVATION COUNCIL

AICTE

Department of MCA Workshop

Cloud Computing concepts, Applications and Future Ready Skills



Mr. Abhishek Madeshia
Co-Founder & CTO, LYFAUX technology Private Limited,

Date: 14th to 16th July 2025 **Time: 9.30 AM to 5PM**

Venue: Computer Lab 410

Dr Prathiba V Kalburgi
HOD

Dr Pushpa H
Principal

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College of Arts, Science
& Commerce-Autonomous

M S Ramaiah College of Arts, Science and Commerce
Re-accredited 'A' by NAAC, Permanently Affiliated to Bengaluru Central University,
Approved by Government of Karnataka, Approved by AICTE, New Delhi,
Recognized by UGC under 2F & 12B of UGC act 1956

REF: MSRCASC/MCA/25-26/004

Date: 01/07/2025

CIRCULAR

DEPARTMENT OF MCA

The department has planned to organize a Three-day workshop on **"Cloud Computing Concepts, Applications and Future Ready Skills"** for the students of 2nd semester MCA from 14th to 16th July 2025. The resource person is Mr. **Abhishek Madeshia, Co-Founder & CTO, LYFAUX technology Private Limited**, Bangalore. The event coordinator for the worksop is Lt Lakshitha H S Murthy.

1/7/25

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Workshop Proposal For Cloud Computing

Proposed For:
Department of MCA
Ramaiah College of Arts, Science & Commerce (Autonomous), Bengaluru

Workshop Title

Cloud Computing: Concepts, Applications, and Future-Ready Skills

Workshop Duration

3 Days (Total 15 hours | 5 hours/day)

Target Audience

MCA Students – 2nd Semester (As per Subject Code: 24MCAEI2063)

Workshop Objectives

- To provide practical and theoretical knowledge on Cloud Computing concepts aligned with the curriculum and industry.
- To train students in service models (IaaS, PaaS, SaaS) and hands-on tools.
- To bridge the gap between Cloud and Artificial Intelligence through real-world applications.
- To provide industry-relevant exposure in AI tools and cloud platforms like AWS, GCP, and Azure.

🗓️ Day-wise Agenda

📍 Day 1: Fundamentals of Cloud Computing

Morning Session (3 Hours):

- Introduction to Cloud Computing
- How Cloud Computing Works
- Types of Cloud: Public, Private, Hybrid
- Goals and Challenges
- Leveraging Cloud Computing: Use Cases
- Cloud Economics & TCO (Total Cost of Ownership)

Afternoon Session (3 Hours):

- SaaS: Overview, Development Lifecycle, Use Cases
- Challenges & Advantages
- Cloud Migration Techniques
- IaaS: Virtual Machines, VM Migration
- Demo: Launching a VM on AWS / GCP

📍 Day 2: Cloud Platforms, Tools & Architecture

Morning Session (3 Hours):

- PaaS: Concepts, Evolution, and Applications with Live Examples
- Cloud Platform Integration: Private + Public
- MapReduce & Twister Introduction
- Programming Support: Hadoop, Google App Engine, AWS
- Demo: Deploying a web app on GCP/AWS/Cloud Systems

Afternoon Session (3 Hours):

- Cloud Security Overview:
  - Infrastructure Security
  - Network & Application-level Security
  - Data Privacy, Authentication, and Multi-Tenancy
- Public Cloud Architecture Explained
- Legal Issues & Aspects
- Activity: Identify & Design Secure Architecture for a Sample Cloud App

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📍 Day 3: AI Integration & Real-World Applications

Morning Session (3 Hours):
Topic: *AI with Cloud Computing*

- AI + Cloud Synergy: Introduction
- Cloud AI Tools:
  - Google Cloud AI
  - AWS AI/ML Suite
  - Azure Cognitive Services
- AutoML, ML APIs, Vision & NLP Services
- Hands-on Demo: Building an AI Model using Cloud Platform (Image Classification or Sentiment Analysis)

Afternoon Session (3 Hours):
Topic: *Core AI & Real World Applications*

- What is AI, ML, DL – Quick Recap
- AI Use Cases in Healthcare, Finance, Retail, Education
- LLMs (Large Language Models), AI Assistants, Prompt Engineering
- Build-a-Bot: Hands-on AI Chatbot Development with free tools
- Interactive Q&A and Career Opportunities in AI + Cloud

WorkshopReport

Title : "Cloud Computing Concepts, Applications and Future Ready Skills"

Organized for: MCA Students

Trainer: Mr. Abhishek Madeshia (Co- Founder & CTO, LYFAUX Technology Private Limited

Program Date: 14 to 16 July, 2025

The workshop was inaugurated by Mr. Abhishek Madeshia, CTO & Trainer, and Mr. Seshu Kumar G, Founder & CEO. HODDrPrathiba V Kalburgi, Faculty and students warmly greeted the guests, and their insightful introduction marked the start of the technical sessions.

Introduction

A cloud computing workshop explored the latest trends and innovations in cloud technology. Industry experts shared insights and experiences, providing hands-on training and practical knowledge. The workshop covered cloud infrastructure, migration strategies, security, and scalability. Participants gained a deeper understanding of cloud computing's potential through interactive sessions and discussions. The workshop fostered networking opportunities among professionals and academics in the field.

Main Objectives

Skill Development: To provide students with essential knowledge of cloud infrastructure. Practical Exposure: To offer hands-on training in using real-world cloud platforms. Industry Insight: To understand deployment models, service models, and current cloud trends.

Day 1 Report – Cloud Computing Workshop

The first day of the workshop introduced participants to the foundational concepts of cloud computing. Students gained an understanding of the cloud environment, essential terminology, and the relevance of these technologies in real-world applications.

Topics Covered

Meaning of Cloud Computing

Cloud computing refers to the delivery of computing services over the internet. It helps users access data, applications, and storage from anywhere, at any time.

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Servers

Servers are powerful computers that provide data and services to other devices. They are central to running websites, apps, and storing data in the cloud.

Local Area Network (LAN)

LAN is a network that connects computers within a limited area such as a home, school, or office building. It allows sharing of resources like files, printers, and internet connections among connected devices.

Metropolitan Area Network (MAN)

MAN covers a larger geographic area than a LAN, typically spanning a city or campus. It connects multiple LANs using high-speed connections and is commonly used by large organizations or governments.

Wide Area Network (WAN)

WAN spans broad geographical areas, such as cities, countries, or continents. The internet is the largest example of a WAN, connecting millions of devices worldwide.

VPN

A Virtual Private Network (VPN) securely connects users to the internet. It encrypts data and protects privacy by masking the user's IP address.

Software as a Service (SaaS)

SaaS delivers software applications over the internet, eliminating the need for local installation. Examples include Gmail, Microsoft Office 365, and Google Drive.

Infrastructure as a Service (IaaS)

IaaS provides virtualized computing resources over the internet such as servers, storage, and networking. It allows businesses to scale IT resources on demand. Examples include Amazon EC2 and Google Compute Engine.

Platform as a Service (PaaS)

PaaS offers a platform allowing customers to develop, run, and manage applications without dealing with infrastructure. Examples include Heroku, Google App Engine, and Microsoft Azure App Services.

Introduction to AWS

Amazon Web Services (AWS) is a leading cloud service provider offering various IT resources. It supports computing power, storage, databases, and AI tools.

Creating an Account on AWS

Students were guided on how to register and set up an account on AWS. This enabled them to explore and use AWS services for hands-on learning experience

Day 2 Report – Using Amazon Web Services (AWS)

Overview

On the second day of the Cloud Computing Workshop, we focused mainly on Amazon Web Services (AWS). The session was both theoretical and practical, and we got a hands-on introduction to the cloud platform, its services, pricing models, and how to launch our first cloud-based virtual machine.

Topics Covered

1. Creating an AWS Account

We started the session by learning how to create an AWS account. The instructor guided us through setting up account details, billing preferences, and enabling the free tier for practice purposes.

2. AWS Services Overview

We got an introduction to several AWS services like:

- EC2 (Elastic Compute Cloud) for virtual servers
- S3 for cloud storage
- RDS for databases
- IAM for managing users and permissions

3. Understanding Regions in AWS

We learned about AWS Global Infrastructure which includes:

- Regions (geographical areas)
- Availability Zones (data centers within regions)
- Edge Locations (used for caching and low-latency content delivery)

The importance of choosing the right region based on cost, speed, and data compliance was explained.

4. AWS Pricing Models

We discussed the different pricing options AWS offers:

- Free Tier: Limited free access (e.g., 750 hours/month for EC2)
- Paid Tier: Services billed monthly
- Pay-as-you-go: You only pay for what you use

Hands-on with EC2 (Elastic Compute Cloud)

In this part of the session, we learned how to create and launch a virtual machine using EC2. It was our first time working with cloud servers, and the step-by-step process was very informative.

We selected an Amazon Machine Image (AMI) and an instance type (like t2.micro). Then we

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configured the instance, added storage, created key pairs, and set up security groups. Once launched, we accessed the instance using SSH (Secure Shell) from our local machines.

We also discussed key EC2 terms:

- Instance – The virtual machine we create
- Key Pair – Used to securely log in
- Elastic IP – A fixed public IP
- Security Group – A virtual firewall for the instance
- Auto Scaling Group – Adjusts instance count automatically
- Load Balancer – Distributes traffic evenly
- Dedicated Hosts – Servers used by only one customer
- Shared Servers – Used by multiple users
- Capacity Reservation – Pre-booked computing resources
- SSH – For secure remote access

Key Takeaways

-Successfully created and connected to a cloud-based virtual machine.

-Understood the basics of AWS infrastructure and key services.

-Gained practical knowledge about EC2, SSH, and AWS pricing models.

-Learned the difference between servers and regular computers, and how cloud resources are selected based on usage needs.

Overview

On the third day of the Cloud Computing Workshop, we explored **Google Cloud Platform (GCP)**. The session included both **theoretical explanations** and **practical hands-on experience**. We learned about GCP's architecture, core services, and how it compares with other cloud providers.

The instructor walked us through the steps to **create a GCP account**, activate the **free trial**, and set up basic **billing preferences**. We then worked on launching our **first virtual machine (VM instance)** using the **Compute Engine** service. This involved selecting machine types, choosing an operating system, configuring firewall rules, and connecting via SSH.

Overall, it was an insightful session that helped us understand the **core functionalities of GCP**, including **pricing models**, **virtualization**, and **real-time deployment** on the Google Cloud infrastructure.

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Topics Covered

1. **What is Google Cloud Platform?**

- GCP is a suite of cloud computing services by Google.
- It offers services like computing, storage, databases, machine learning, and more.
- Main competitors : AWS (Amazon), Azure(Microsoft).

2. **How to Start with GCP?**

Steps :-

- Go to: https://cloud.google.com .
- Click on **Get Started for Free**.
- Sign in with a **Gmail account**.
- Start your **free trial** (usually $300 in free Credit).
- Set up **billing** (required to activate services, but not charged during free trial).

3. **Creating a Virtual Machine (VM Instance)?**

- Go to the **GCP Console**: https://console.cloud.google.com
- In the left menu, go to **Compute Engine > VM instances**.
- Click **Create Instance**.
- Fill in the details:
  - Name of the VM
  - Region (e.g., asia-south1 for Mumbai)
  - Machine type (e.g., e2-micro – free tier eligible)
  - Boot disk (choose OS: Ubuntu/Windows/CentOS)
- Allow HTTP/HTTPS if needed.
- Click Create to launch.

4. **Connecting to VM.**

- After creation, click **SSH** next to the instance to connect directly.

· Go to **VM Instances** from left menu.
· Click on **SSH** beside your instance.
· **Aterminal window (command prompt)** will open directly in browser.

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5. **Run These Commands:Explanation:**

- sudosu:- Gives you root access (superuser).
- apt update:- Fetches the latest list of available packages.

Conclusion :-

The three-day Cloud Computing workshop was highly informative and engaging.Students gained hands-on experience on both AWS and Google Cloud platforms.Practical sessions enhanced our understanding of cloud services and deployment.Motivational sessions inspired us to explore career opportunities in cloud technologies.The workshop bridged the gap between theoretical concepts and real-world applications.
It boosted our confidence to implement cloud solutions in future projects.Overall, the workshop was a great learning experience for all participants.

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Department of MCA

Workshop on - Cloud Computing Concepts, Applications and Future Ready Skills

Students Attendance -14th to 16th July 2025

Sl. No	Name	Student Name	14/7 FN	14/7 AN	15/7 FN	15/7 AN	16/7 FN	16/7 AN
1	P18MB24S126001	Chandana C S						
2	P18MB24S126002	M Sabah Farhath						
3	P18MB24S126003	Aishwarya H S						
4	P18MB24S126004	Annapurna J						
5	P18MB24S126005	SHREERAKSHA						
6	P18MB24S126006	Chandana R						
7	P18MB24S126007	Pramod M J						
8	P18MB24S126008	Vinay Narasimha Sangam						
9	P18MB24S126009	Prashanth E						
10	P18MB24S126010	Tarun R						
11	P18MB24S126011	Raghavendran A						
12	P18MB24S126012	Naveen B						
13	P18MB24S126013	Dhanush Gowda N						
14	P18MB24S126014	Rachana R						
15	P18MB24S126015	Lavender Nithisha M						
16	P18MB24S126016	Varsha S						
17	P18MB24S126017	Shreyash Bhardwaj						
18	P18MB24S126018	Goutham						
19	P18MB24S126019	Pavana D Y						
20	P18MB24S126020	Chandana G						
21	P18MB24S126021	Poojitha Shetty J						
22	P18MB24S126022	Hari Haran M						
23	P18MB24S126023	Shubhakar Gowda H S						
24	P18MB24S126024	Bhagavathi Sharma L S						
25	P18MB24S126025	Sanjana H Kurtakoti						
26	P18MB24S126026	Chandan S						
27	P18MB24S126027	Abdul Rahman						
28	P18MB24S126028	Sayid Ahemmed Mazin Maqbool						
29	P18MB24S126029	Goutham Shanubhogar						
30	P18MB24S126030	S M Hajiali						

Sl. No	Name	Student Name	14/7	14/7	15/7	15/7	16/7	16/7
31	P18MB24S126031	Gavimani R						
32	P18MB24S126032	AKASH DUTTA						
33	P18MB24S126033	Nikhil C M						
34	P18MB24S126034	Spoorthi Gopalakrishna						
35	P18MB24S126035	Mahesh Singh Garia						
36	P18MB24S126036	Harshitha B S						
37	P18MB24S126037	Harshitha S	—					
38	P18MB24S126038	Chaitanya V						
39	P18MB24S126039	Harsh Vardhan						
40	P18MB24S126040	Harshitha S						
41	P18MB24S126041	Sanjana S						
42	P18MB24S126042	Soujanya S P						
43	P18MB24S126043	Manoj N						
44	P18MB24S126044	C Sai Deepak						
45	P18MB24S126045	J Jaswanth						
46	P18MB24S126046	T Rudrateja						
47	P18MB24S126047	Adithya A						
48	P18MB24S126048	Shivaram Krishna						
49	P18MB24S126049	Syed Urbaaz						
50	P18MB24S126050	Keshav						
51	P18MB24S126051	Ananya K						
52	P18MB24S126052	Chandana K C						
53	P18MB24S126053	DEEKSHA						
54	P18MB24S126054	T Md Sohail						
55	P18MB24S126055	Nandani Kutare						
56	P18MB24S126056	Akash Kumar						
57	P18MB24S126057	Grishma C D						
58	P18MB24S126058	Muhammad Vazil V C						
59	P18MB24S126059	Suraj Umbrey R						
60	P18MB24S126060	Prajwal Shivasharanappa Biradar						

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