LABORATORY HANDOUT

CLOUD COMPUTING LAB (COM-611)

CSE-6TH SEMESTER

ACADEMIC YEAR (2024-25)

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Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Sessional	Final Exam	Total
COM-611	Cloud Computing lab	PCC	2	0	0	4	50		50

COURSE OUTCOMES

At the end of the course the student will be able to:	
CO1	Create and configure AWS resources, including accounts, VPCs, and IAM roles.
CO2	Launch and manage EC2 instances, S3 buckets, and DynamoDB tables.
CO3	Set up CloudWatch for monitoring and Lambda for serverless code execution.
CO4	Deploy static websites and relational databases on AWS services.
CO5	Analyze and evaluate the performance and efficiency of AWS deployments.

LIST OF EXPERIMENTS

S. No	Activities
1.	Setting Up an AWS Account Create and configure an AWS account to start using AWS services.
2.	Launching an EC2 Instance Deploy a virtual server using Amazon EC2.
3.	Creating an S3 Bucket Create an Amazon S3 bucket to store and retrieve data.
4.	Setting Up IAM Users and Roles Create and manage AWS Identity and Access Management (IAM) users and roles.
5.	Configuring a VPC Set up a Virtual Private Cloud (VPC) to manage network settings.
6.	Setting Up AWS CloudWatch for Monitoring Monitor AWS resources using Amazon CloudWatch.
7.	Using AWS Lambda to Run Code Create a Lambda function to run code without provisioning servers.
8.	Creating a DynamoDB Table Set up a NoSQL database using Amazon DynamoDB.

9.	Deploying a Static Website with S3 Host a static website using Amazon S3.
10.	Creating an RDS Database Instance Set up a relational database using Amazon RDS.

ADDITIONAL WEB RESOURCES

1.	**VLAB LINK:** AWS Cloud Computing by IIT Bombay, which gives hands-on experience to the students. https://aws.amazon.com/education/awseducate/
2.	**VLAB LINK:** AWS Cloud Computing by IIT Kharagpur, which gives hands-on experience to the students. https://aws.amazon.com/training/digital/aws-builder-labs/
3.	**VLAB LINK:** AWS Cloud Computing by Amrita University, which gives hands-on experience to the students: https://aws.amazon.com/education/awseducate/
4.	**VLAB LINK:** AWS Cloud Computing by NIT Kurukshetra, which gives hands-on experience to the students. https://nitkkr.ac.in/laboratories-2/

LAB REPORT INSTRUCTIONS

- Provide specific title of the lab experiment.
- Theory: Provide a concise abstract (typically 100-200 words) that summarizes the purpose, methods, key findings, and significance of the experiment.
- Materials/ Equipment: List all materials, components, and equipment used in the experiment. Include specifications when applicable.
- Software/Simulation Tools:
- Experimental Procedure: Describe the step-by-step procedure for conducting the experiment. Be detailed and clear in your instructions. Include diagrams or schematics to illustrate the setup, connections, and component placement. Explain any variations or adjustments made to the standard procedure.
- Observation & Calculations/Analysis: Detail the data you collected during the experiment. Include descriptions of measurements and any calculations made. Use tables, charts, or graphs to present data clearly. Discuss any trends, patterns, or significant observations. Interpret the data in the context of the experiment's objectives. Ensure that all figures, tables, and equations are correctly labeled.
- Results: Summarize the key findings of the experiment. Present results in a clear and organized manner using tables and graphs. Include units of measurement and labels for data points.
- Conclusion: Provide a concise summary of the experiment's key points and outcomes.

GRADING AND ASSESSMENT

- **Continuous Evaluation**: 30 marks
- **Final Demo & Viva**: 10 marks
- **Attendance**: 10 marks
- **Lab Overall Marks**: 50 marks

COURSE POLICIES

- **Attendance**: Minimum 75% attendance is mandatory to appear in the final examination of the course.
- **Late Submissions**: Manuals and projects must be submitted by the specified timelines.

FACULTY INFORMATION

- **Office Hours**

  Monday (12:05 PM - 12:55 PM)

  Friday (12:05 PM - 12:55 PM)

- **Contact Information**

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RUBRICS FOR LAB CONTINUOUS EVALUATION

Parameters	Performance			
	Low	**Medium**	**High**	**Marks**
Execution of the Experiment	Student was not able to setup and conduct the Experiment completely	Student was able to setup and conduct the experiment but measurement/results/observations were not correct	Students was able to set and conduct the experiment and the measurement/results/observations were not correct	10
	0-2 Marks	3-6 Marks	7-10 Marks	
Record	Student was not able to describe the detailed procedure and could not record the measurement.	Student was able to describe the detailed procedure partially or with some inaccuracy.	Student was able to describe the detailed procedure accurately and record all measurements correctly.	10
	0-2 Marks	3-6 Marks	7-10 Marks	
Viva Voice	Students could not demonstrate sufficient knowledge of foundation, functional or applied aspects related to the experiment during viva.	Students demonstrated sufficient knowledge of foundation, functional or applied aspects related to the experiment during viva.	Students demonstrate strong knowledge of foundation, functional or applied aspects related to the experiment during viva	10
	0-2 Marks	**3-6 Marks**	**7-10 Marks**	
Total Marks				**30**