

REPORT

on

Faculty Development Program

on

"AWS (CLOUD PRACTITIONER)"

(30th Jan 2023 to 3rd Feb 2023)



K.R. MANGALAM UNIVERSITY, GURUGRAM



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**REPORT ON FACULTY DEVELOPMENT PROGRAMME ON "AWS
(CLOUD PRACTITIONER)"**

Introduction

The 5 days Faculty Development Programme on AWS certified Cloud Practitioner was organized by the Department of CSE, SOET at KR Mangalam University in collaboration with ICT Academy from 30 Jan 2023 to 3 Feb 2023. The aim of the program was to provide faculty members with hands-on experience on the Amazon Web Services (AWS) platform, and to familiarize them with its various cloud computing services and solutions.

The objective of the program was to provide faculty members with a comprehensive understanding of Amazon Web Services (AWS) and its various cloud computing services and solutions. The session was conducted by Ms. Kamatchi Devi, a certified AWS Solutions Architect with extensive experience in cloud computing. The contents of this course are designed to support the course objectives. The following focus areas are included in this course:

1. Summarize the working definition of AWS
2. Differentiate between on-premises, hybrid-cloud, and all-in cloud models
3. Describe the basic global infrastructure of the AWS Cloud
4. Explain the six main benefits of the AWS Cloud
5. Describe and provide an example of the core AWS services, including compute, network, database, and storage services
6. Identify an appropriate solution using AWS Cloud services for various use cases
7. Describe the AWS Well-Architected Framework
8. Explain the AWS Shared Responsibility Model
9. Describe the core security services within the AWS Cloud
10. Describe the basics of AWS Cloud migration
11. Articulate the financial benefits of the AWS Cloud for your organization's cost management
12. Define the core billing, account management, and pricing models
13. Explain how to use pricing tools to make cost-effective choices for AWS services

Day-wise Report of the Sessions Conducted

❖ Monday 30 January 2023 (Day 1)

Inaugural Session:

Dr. Shweta Bansal, HOD, CSE welcome the participants and the resource person of this FDP Ms. Kamatchi Devi, lead Trainer ICT Academy. She mentioned about the importance of training the faculty with industry-oriented courses, so that it could be rendered to the students. She also stressed that such training programmes will enable the faculty to upgrade their skills and also impart them to the students to bridge the gap between industry and academia.



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Photo 1: Welcome Address by Dr Shweta Bansal

Day 1 Session started at 10:00 AM, at Computer Lab VI, B Block with an introduction of the resource persons Ms Kamatchi Devi, Lead Trainer, ICT Academy. The resource persons focused on the AWS Global Infrastructure, Category Overview, Examine the AWS Global Infrastructure, the followed by the difference between AWS Regions. The session was quiet informative and interactive. Participants interacted with the resource persons and cleared their doubts that they had during the session.

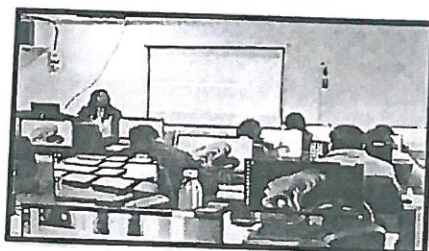


Photo 2. Glimpses of Day 1 session



❖ Tuesday 31st January 2023 (Day 2)

Day 2 Session started at 9:30 AM, at Lab VI. The program started with an overview of cloud computing and its benefits, including increased scalability, reliability, and cost-effectiveness. The participants were then introduced to AWS and its services, including EC2, S3, RDS, Lambda, and others. Ms. Kamatchi Devi provided a detailed demonstration of the AWS Management Console, showing how to set up and configure AWS services and solutions and also brief about the benefits of AWS. There are many benefits to using the Amazon Web Services (AWS) Cloud, but here are six of the main advantages:

1. **Scalability:** One of the most significant benefits of the AWS Cloud is that it provides businesses with the ability to quickly scale their infrastructure up or down as needed. This allows companies to respond to changes in demand, whether that means expanding during peak periods or contracting during quieter times.
2. **Flexibility:** AWS offers a wide range of services, including computing power, storage, networking, and databases, making it a flexible platform that can accommodate a variety of use cases. This flexibility also means that businesses can choose the services that best suit their needs and only pay for what they use.
3. **Cost-effectiveness:** By using AWS, businesses can avoid the upfront costs associated with purchasing and maintaining hardware and software. Additionally, because AWS offers a pay-as-you-go pricing model, businesses only pay for the resources they use, which can result in significant cost savings.
4. **Security:** AWS has a strong focus on security and compliance, providing customers with a wide range of security features and tools to help them meet their compliance requirements. Additionally, AWS provides robust monitoring and logging capabilities to help customers detect and respond to security incidents.
5. **Reliability:** AWS has a highly available infrastructure that is designed to deliver high levels of uptime and availability. This infrastructure is supported by a global network of data centers, which means that businesses can choose the locations that best suit their needs and benefit from geographic redundancy.
6. **Innovation:** AWS is constantly innovating and introducing new services and features to help customers solve their business challenges. By using AWS, businesses can take advantage of these new innovations without having to invest in expensive and time-consuming research and development themselves.

The participants got hands-on experience in setting up and deploying a sample application on AWS.

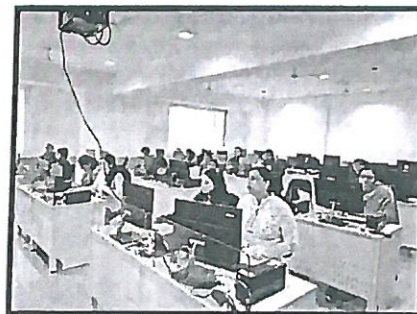


Photo 3: Training session at Day 2



❖ Wednesday 1st Feb 2023 (Day 3)

Day 3 Session started at 9:30 AM, at Lab VI. The program started with the lab session including the demonstration of the AWS Management Console, showing how to set up and configure AWS services and solutions. The participants got hands-on on **AWS Identity and Access Management (IAM)** which enables Amazon Web Services (AWS) customers to manage users and user permissions in AWS. With IAM, one can create and manage AWS users and groups, and grant permissions to access specific AWS resources. Here's an overview of some of the key concepts in IAM explained by the resource person:

1. **Users:** AWS IAM allows you to create and manage users, which are identities that can be used to access AWS resources. You can assign permissions to individual users, or group them together for easier management.
2. **Groups:** IAM groups are collections of users, and you can assign permissions to a group rather than to individual users. This makes it easier to manage access to resources for a set of users who need the same level of access.
3. **Roles:** IAM roles are similar to users, but they are intended to be assumed by other AWS services or applications. Roles allow you to delegate permissions to other services without having to expose your access key or secret access key.
4. **Policies:** IAM policies are documents that define the permissions that are granted to a user, group, or role. A policy can be attached to a user or group to grant specific permissions to AWS resources.
5. **Multi-factor authentication (MFA):** IAM supports the use of MFA devices, which provide an additional layer of security beyond a username and password. When MFA is enabled, users must provide a code from their MFA device in addition to their username and password to access AWS resources.
6. **Access Keys:** IAM provides access keys, which consist of an access key ID and secret access key. Access keys are used to authenticate programmatic access to AWS resources, such as using the AWS Command Line Interface (CLI) or AWS SDKs.

Overall, in this session participants got to know about the IAM tool which can help them to implement the principle of least privilege by providing fine-grained control over permissions.



Photo 4: Glimpses of Day 3 Session



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❖ Thursday 2nd Feb 2023 (Day 4)

Day 4 session started at 9:30 AM. On day 4, Ms Kamatchi Devi gave an overview of networking and content delivery followed by VPC wizard, VPC Networking and VPC security. The hands-on experience was provided to the participants on how to build their own VPC and launch the web server on the AWS management console. The brief overview of how to build your own VPC and launch a web server on the AWS management console by the resource person. Here are the steps:

1. Log in to your AWS management console.
 2. Create a new VPC by navigating to the VPC dashboard and clicking on "Create VPC."
 3. Fill in the VPC details such as VPC name, IPv4 CIDR block, and IPv6 CIDR block. You can leave the default values for the other settings.
 4. Create subnets for your VPC. Navigate to the "Subnets" section of the VPC dashboard and click on "Create subnet." Fill in the details such as subnet name, VPC, availability zone, and IPv4 CIDR block. Repeat this step to create multiple subnets in different availability zones.
 5. Create an internet gateway for your VPC. Navigate to the "Internet Gateways" section of the VPC dashboard and click on "Create internet gateway." Attach the internet gateway to your VPC.
 6. Create a route table for your VPC. Navigate to the "Route Tables" section of the VPC dashboard and click on "Create route table." Associate the route table with your subnets.
 7. Add a route to your route table to enable internet access. Navigate to the "Routes" tab of the route table and click on "Edit routes." Add a route with destination 0.0.0.0/0 and target as the internet gateway created in step 5.
 8. Launch an EC2 instance in one of the subnets created in step 4. Navigate to the EC2 dashboard and click on "Launch Instance." Choose an Amazon Machine Image (AMI) for your instance, and configure its instance type, networking, storage, and security group settings.
 9. Connect to your EC2 instance via SSH and install a web server such as Apache or Nginx on it.
 10. Once the web server is installed, navigate to the public IP address of your EC2 instance in a web browser to confirm that it is accessible.
- In this session by following the above mentioned steps, participants have built their own VPC and launched a web server.

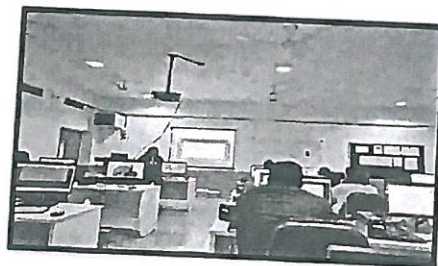


Photo 5: Trainer conducting the session



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❖ Friday 3rd Feb 2023 (Day 5)

Session on day 5 was commenced at 9:30 a.m followed by the valedictory session. On the last day of FDP , lab session was conducted by the trainer on the console of AWS . The faculty members get hands-on training on how to access and interact with Amazon RDS and Amazon DynamoDB by using the AWS Management Console. As one of the leading cloud computing platforms, Amazon Web Services (AWS) offers a wide range of security features and best practices to help users protect their data and applications. The program ended with a discussion on the various security measures and best practices to be followed while using AWS. In addition to the various measures and best practices, it is recommended by the resource person to regularly review and update security settings, follow AWS security recommendations and advisories, and use third-party tools and services to enhance security

Conclusion:

The Faculty Development Programme on Amazon AWS was a highly informative and engaging experience for the faculty members. The speaker, Ms. Kamatchi Devi, was an excellent instructor who provided clear and concise explanations of the various AWS services and solutions. The hands-on demonstration was particularly valuable and allowed the participants to put their learning into practice. The program was well-organized and the participants found the content and presentations to be relevant and up-to-date. Overall, the Faculty Development Programme on Amazon AWS was a valuable experience for the faculty members and will help them to integrate AWS into their curriculum and research work. This session concludes with closing remarks from the program coordinator Dr Shweta Bansal, who summarize the achievements of the program and express gratitude to the resource person participants, faculty members, and ICT Academy who made it possible.

At the end, Dr Shweta Bansal presented the memento to Ms Kamatchi Devi with vote of thanks and feedback link was circulated among the participants for their valuable suggestions and feedback.

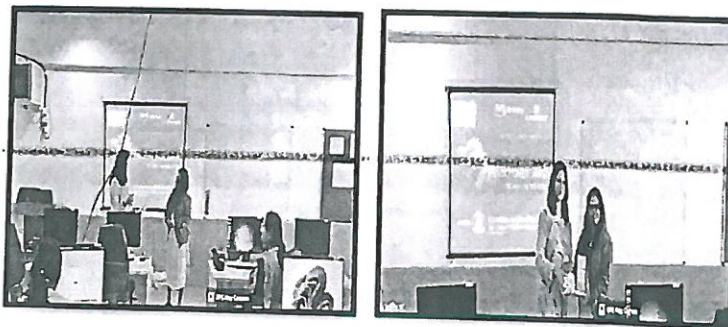
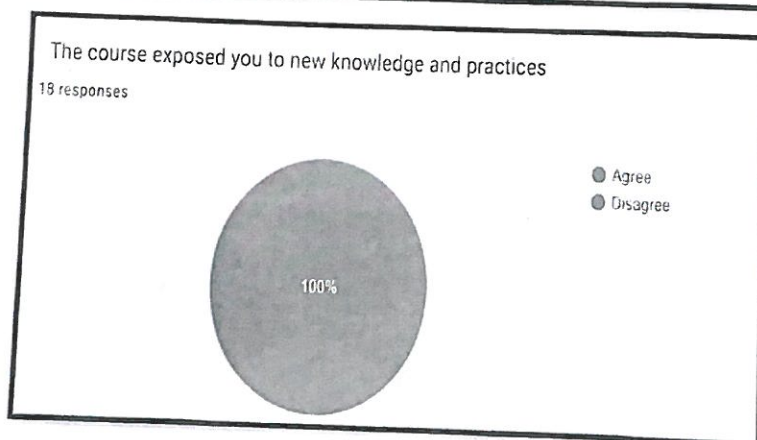
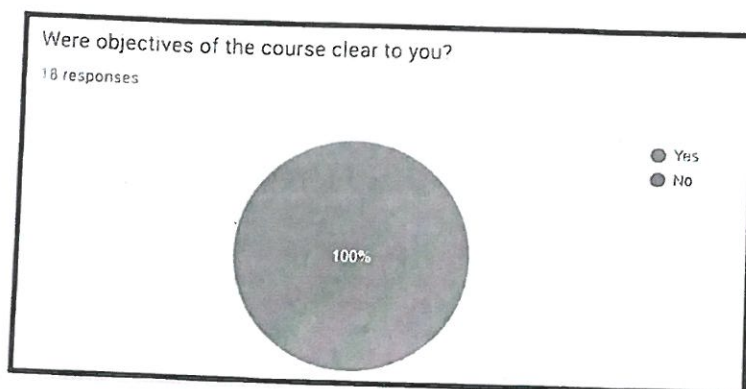


Photo 5: Program coordinator presented memento to the resource person



FACULTY FEEDBACK:

Participants - A total of 22 faculty from K R Mangalam University, SGT University, North Cap University, Shri Vaishnav Vishwavidyalaya Indore were participated in the survey conducted during the valedictory session.



All the participants agreed that the objectives were clear and the course helped in imparting them with new knowledge and practices about AWS.



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This course is very well up to expectations

100%

☒ Agree
☐ Strongly agree
☐ Disagree

Majority of the faculty believed this FDP was successful in meeting its objectives. Not even a single faculty has disagreed to it.

Report prepared by	Dr. Shweta Bansal	<i>Shweta Bansal</i>
Report verified by Dean	Dr. Pankaj Agarwal	<i>Pankaj</i>
Report verified by IQAC	Dr. Shikha Dutt	<i>Shikha</i>

IQAC
K.R. Mangalam University,
Sohna Road, Gurugram-122103





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ANNEXURE-I

FDP No
1,736




FACULTY DEVELOPMENT PROGRAM ON

CLOUD

PRACTITIONER (AWS)

30 JAN - 03 FEB 2023

HOSTED BY



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ANNEXURE – II RESOURCE PERSON

Kamatchi Devi D

Lead - Technical Trainer
Training and Development, ICT Academy



A Bachelor of Science in Information Technology from Manonmaniam Sundaranar University, Tirunelveli with 17 years of experience in IT Training, Development, and Administration. Worked as Senior Developer and Trainer in a reputed organization. Handled Faculty Development Program and Student Certification Program in nearly 270 plus programs.

S. No.	Resource Person Name & Organizers	Organization	Contact Details	Session Day	Topics Covered
1	Ms. Kamatchi Devi	ICT Academy	9354709157	30 th Jan 2023	Global infrastructure of the AWS Cloud Benefits of the AWS Cloud
2				31 st Jan 2023	Core AWS services AWS Well-Architected Framework
3				1 st Feb 2023	Shared Responsibility Model Core security services within the AWS Cloud
4				2 nd Feb 2023	AWS Cloud migration
5				3 rd Feb 2023	The core billing, account management, and pricing models The pricing tools to make cost-effective choices for AWS services



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ANNEXURE – III

SCHEDULE

Date	Time	Topics Covered
30 th Jan 2023	9:30 AM to 10:00 AM	Inaugural Session
	10:00 AM to 4:00 PM	Cloud Concepts Overview
		AWS Global Infrastructure Overview
31 st Jan 2023	9:30 AM to 4:00 PM	AWS Cloud Security + Lab
1 st Feb 2023	9:30 AM to 4:00 PM	Networking and Content Delivery + Lab
2 nd Feb 2023	9:30 AM to 4:00 PM	Working with EBS + Lab
3 rd Feb 2023	9:30 AM to 3:30 PM	Databases + Lab
	3:30 PM to 4:00 PM	Valedictory Session



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ANNEXURE – IV
REGISTRATION FORM

Faculty development Program on Cloud
Practitioner (AWS) from 30th Jan 2023 to
03rd Feb 2023.

Sign in to Google to save your progress. Sign in now

* Required

Name *

Please enter a valid name

Designation *

Please enter a valid designation

Organisation *

Please enter a valid organisation

Email id *

Please enter a valid email id

Mobile number *

Please enter a valid mobile number

Submit

Clear form



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ANNEXURE -V

LIST OF ATEENDEES

S. No.	Name of Faculty/Staff: Dr./ Ms./Mr. :	Department:	Designation:	Name of Institute:	Email Id:	Contact Number:
1	Yogita yashveer Raghav	CSE	Assistant professor	K R Mangalam University	yogita.raghav@krmangalam.edu.in	9718431431
2	Dr. Pallavi Pandey	CSE	Assistant Professor	K R Mangalam University	pallavi.pandey@krmangalam.edu.in	9711673119
3	Asha Sohal	CSE	Assistant Professor	K r Mangalam University Gurgaon	asha.sohal24@gmail.com	9971013700
4	Dr. Sarita	CSE	Assistant Professor	KR Mangalm University Gurgaon	sarita.ggn234@gmail.com	9999717838
5	Dr. Amar Saraswat	CSE	Assistant Professor	K. R. Mangalam University. Gurgaon	amar.saraswat@krmangalam.edu.in	9958984080
6	Dr. Meenu Vijarana	CSE	Associate professor	SOET	meenuhans.83@gmail.com	9910085418
7	Shamim Ahmad	CSE	Assistant Professor	K. R. Mangalam University	shamim.ahmad@krmangalam.edu.in	8826432174
8	Dr. Saneh Lata	CSE	Assistant Professor	SGT University	drsaneh_fet@sgtuniversity.org	07042555998
9	Abhishek Sharma	CSE	Assistant Professor	SVVV, Indore	abhisheksharma@svvv.edu.in	9926639780
10	Jyoti Kataria	CSE	Assistant Professor	KRMU	jyoti.kataria@krmangalam.edu.in	9582750617
11	Mr Pritesh Jain	CSE	Assistant Professor	Shri Vaishnav Vidyapeeth Vishwavidyala, Indore	priteshkjain@svvv.edu.in	7999265901
12	Monika Khatkar	CSE	Assistant Professor	KR Mangalam University Gurgaon	monika.khatkar@krmangalam.edu.in	9560719993
13	Dr. Srishti	CSE	Assistant Professor (Sel. Grade)	The NorthCap University	srish.060788@gmail.com	9953114311



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14	Ms. Tanu Gupta	CSE	Assistant professor	KR Mangalam University	tanu.gupta@krmangalam.edu.in	9971199251
15	Dr. Tanvi Chawla	CSE	Assistant Professor	SGT UNIVERSITY, GURUGRAM	tanvi_feat@sgtuniversity.org	7062002142
16	Dr. Poonam Chaudhary	CSE	assistant professor	The Northcap University, Gurugram	poonamchaudhary@ncuindia.edu	+917838549424
17	Ms. Kriti Sharma	CSE	Assistant Professor	KRMU	meetkritisharmahere@gmail.com	+918800512089
18	Dr Shweta Bansal	CSE	Associate Professor	KRMU	Shweta.bansal@krmangalam.edu.in	9354709157
19	Mohd Irfan	CSE	Teaching Assistant	KRMU	irfan@krmangalam.edu.in	9354709154
20	Ms Puja Acharya	ECE	Assistant Professor	KRMU	Puja.acharya@krmanglam.edu.in	8800512089
21	Dr Pankaj Agarwal	CSE	Professor	KRMU	Pankaj.agarwal@krmangalam.edu.in	9356784545
22	Mr Ritwik	SJMC	Associate Professor	KRMU	Ritwik.ghosh@krmangalam.edu.in	9876065785



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ANNEXURE -VI

