

Andhra Christian College, Guntur
Amazon Web Services Course by APSSDC
Syllabus for AWS

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME
Day – 1	Introduction to Cloud Computing	Cloud computing basics Benefits of cloud computing
Day – 2	Introduction to AWS	AWS global infrastructure AWS services overview Setting up an AWS Free Tier account Navigating the AWS Management Console
Day – 3	Core AWS Compute Services	Compute Services (EC2, Lambda, Elastic Beanstalk) Storage Services (S3, EBS, Glacier)
Day – 4	Core AWS Services	Database Services (RDS, DynamoDB, Redshift) Networking Services (VPC, Route 53, CloudFront)
Day – 5	Compute and Networking	EC2 Instances: Types, Pricing, and Launching Elastic Load Balancing (ELB) Auto Scaling
Day – 6	Compute and Networking	Virtual Private Cloud (VPC) basics Subnets, Route Tables, and Internet Gateways Hands-on Labs: Launching EC2 instances, configuring VPCs

Introduction to Cloud Computing

What is Cloud Computing?

Cloud computing is a technology that allows individuals and businesses to use computing resources (such as servers, storage, databases, networking, software, and more) over the internet, often referred to as "the cloud." This model enables users to access and store data and applications on remote servers instead of on local machines or physical hardware. Cloud computing offers various services that can be categorized into three main types: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS).

Key Characteristics of Cloud Computing

1. **On-Demand Self-Service:** Users can access computing resources as needed without requiring human intervention from the service provider.
2. **Broad Network Access:** Services are accessible over the internet from a variety of devices (e.g., laptops, smartphones, tablets).
3. **Resource Pooling:** Cloud providers pool computing resources to serve multiple customers, often in a multi-tenant model, with different physical and virtual resources dynamically assigned according to demand.
4. **Rapid Elasticity:** Resources can be quickly scaled up or down to meet the needs of the users.
5. **Measured Service:** Cloud systems automatically control and optimize resource use by leveraging a metering capability at some level of abstraction appropriate to the type of service (e.g., storage, processing, bandwidth).

Types of Cloud Services

1. **Infrastructure as a Service (IaaS):**
 - Provides virtualized computing resources over the internet.
 - Examples: Amazon Web Services (AWS) EC2, Google Compute Engine, Microsoft Azure VMs.
2. **Platform as a Service (PaaS):**
 - Offers hardware and software tools over the internet, usually for application development.
 - Examples: Google App Engine, Microsoft Azure App Services, Heroku.
3. **Software as a Service (SaaS):**
 - Delivers software applications over the internet, on a subscription basis.
 - Examples: Google Workspace (formerly G Suite), Microsoft Office 365, Salesforce.

Types of Cloud Deployment Models

1. **Public Cloud:**
 - Services are delivered over the public internet and shared across organizations.
 - Examples: AWS, Microsoft Azure, Google Cloud Platform.
2. **Private Cloud:**
 - Cloud infrastructure is operated solely for a single organization, whether managed internally or by a third party, and hosted either internally or externally.

3. **Hybrid Cloud:**
 - A combination of public and private clouds, bound together by technology that allows data and applications to be shared between them.
4. **Community Cloud:**
 - Cloud infrastructure is shared by several organizations and supports a specific community that has shared concerns (e.g., mission, security requirements, policy, and compliance considerations).

Benefits of Cloud Computing

1. **Cost Efficiency:** Reduces the capital expense of buying hardware and software, and setting up and running on-site data centres.
2. **Scalability:** Allows businesses to scale up or down their IT resources as needed.
3. **Performance:** Major cloud services run on a worldwide network of secure data centres, which are regularly upgraded to the latest generation of fast and efficient computing hardware.
4. **Speed and Agility:** Vast amounts of computing resources can be provisioned in minutes, typically with just a few mouse clicks.
5. **Security:** Many cloud providers offer a set of policies, technologies, and controls that strengthen your security posture overall, helping protect data, apps, and infrastructure from potential threats.

Challenges of Cloud Computing

1. **Security and Privacy:** Concerns about data security and privacy remain critical when moving to the cloud.
2. **Downtime:** Potential for service outages and downtime can affect business operations.
3. **Cost Management:** Managing and optimizing costs can be challenging due to the pay-as-you-go model.
4. **Compliance:** Ensuring compliance with various regulations and standards can be complex.

Future of Cloud Computing

The future of cloud computing looks promising with advancements in technologies such as artificial intelligence (AI), machine learning (ML), and the Internet of Things (IoT). These technologies are expected to further drive the adoption of cloud computing by enabling more sophisticated and efficient solutions, enhancing the ability to analyze and process large volumes of data, and offering innovative ways to improve business operations and customer experiences.

This overview provides a foundational understanding of cloud computing, its types, benefits, challenges, and future potential. Whether you are an individual or an organization, leveraging cloud computing can lead to significant improvements in flexibility, efficiency, and scalability.

ANDHRA CHRISTIAN COLLEGE, GUNTUR

Department of Physics

Skill development course

Amazon web service (AWS)

Organized by department of physics A.C. College Guntur

Date: 22/7/2022

Time: 4:00 pm

Venue: department of physics A.C. College Guntur

Resource person: M Mani Deep (Trainer, Apssdc)

Participant: All degree students

1. Introduction

The Department of Physics, Andhra Christian College, Guntur, organized a Training program for Skill Development on "Amazon Web Services (AWS)" on 22-07-2022. The Training program aimed to educate participants on the benefits and applications of AWS and provide hands-on training to develop skills in cloud computing. Mr M. Mani Deep, a trainer from APSSDC, was the resource person for this Training program. He is well-versed in cloud computing and its applications in industry and academia.

2. Objectives of the Training program

The Training program was organized with the following key objectives:

- 2.1 To introduce the concept of cloud computing and AWS: Explain the fundamental principles underlying cloud computing and AWS.
- 2.2 . To discuss the benefits and applications of AWS: Detail the advantages and uses of AWS in various industries and fields.
- 2.3 To provide hands-on training on AWS: Offer practical experience in using AWS services and tools.
- 2.4 To enhance the participants' understanding of cloud computing techniques: Provide insights into how AWS is utilized in various cloud computing techniques and the benefits these techniques offer in scientific research and industry.

3. Training program Proceedings

The Training program began at 4:00 pm with an introductory speech by the Head of the Department of Physics, Dr M Ratna Raju, who welcomed the participants and introduced the resource person, Mr M. Mani Deep.

4. Lecture by Mr M. Mani Deep

Mr. Mani Deep presented an in-depth lecture, covering the following topics:

- 4.1 Historical Background of Cloud Computing: Mr. Deep began by discussing the background of cloud computing, emphasizing its evolution and growth.
- 4.2 Principles of AWS: The Training program provided a detailed explanation of AWS, where Mr. Deep described how AWS offers a wide range of services for computing, storage, databases, analytics, machine learning, and more.
- 4.3 AWS Services and Tools: Mr. Deep elaborated on various AWS services and tools, explaining how they can be used for building, deploying, and managing applications and workloads.
- 4.4 Applications of AWS: The Training program highlighted the wide-ranging applications of AWS in various fields, including web development, data analytics, artificial intelligence, and more.

5. Hands-on Session

Following the lecture, a hands-on session was conducted, where participants worked on AWS services and tools under the guidance of Mr. Deep. The session provided practical experience in using AWS for building and deploying applications.

6. Outcomes of the Training program

The Training program achieved its objectives, resulting in the following outcomes:

- 6.1 Enhanced Understanding of Cloud Computing and AWS: Participants gained a deep understanding of cloud computing and AWS, including its principles, services, and applications.
- 6.2 Practical Experience in Using AWS: The hands-on session provided valuable experience in using AWS services and tools, equipping participants with skills to work on cloud computing projects.
- 6.3 Appreciation of Industry Applications: The Training program highlighted the applications of AWS in various industries, inspiring participants to explore career opportunities in cloud computing.
- 6.4 Increased Interest in Cloud Computing: The detailed discussion on AWS sparked interest among students and faculty to further explore and possibly specialize in cloud computing.

Conclusion

The Training program for Skill Development on “Amazon Web Services (AWS)” was a great success, fulfilling its objectives of educating and inspiring the participants. Mr. M. Mani Deep's expertise and engaging presentation style made the session informative and enjoyable.



7CXR+2QR, GGH Internal Rd, Sambasiva Pet, Guntur, Andhra Pradesh 522001, India

Latitude	Longitude
16.296692°	80.4430362°
Local 02:48:10 PM	Altitude 36 meters
GMT 09:18:10 AM	Friday, 22.07.2022



7CXR+2QR, GGH Internal Rd, Sambasiva Pet, Guntur, Andhra Pradesh 522001, India

Latitude	Longitude
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GMT 09:05:15 AM	Friday, 22.07.2022



7CXR+2QR, GGH Internal Rd, Sambasiva Pet, Guntur, Andhra Pradesh 522001, India

Latitude	Longitude
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Local 02:34:57 PM	Altitude 36 meters
GMT 09:04:57 AM	Friday, 22.07.2022



7CXR+2QR, GGH Internal Rd, Sambasiva Pet, Guntur, Andhra Pradesh 522001, India

Latitude	Longitude
16.296692°	80.4430362°
Local 02:47:49 PM	Altitude 36 meters
GMT 09:17:49 AM	Friday, 22.07.2022



Principal's Signature
PRINCIPAL
ANDHRA CHRISTIAN COLLEGE
 (Day, Evening & P.G)
 GUNTUR

Andhra Christian College, Guntur

Department of Physics

List of Students Attended for the Skill Development Course

Date: 22.07.22 to 30.09.2022

Class: All Degree Students



S. No.	Class No	Name of the Students	Class	Signature
1.	04	V. Bobby	II nd BA	V. Bobby
2.	07	T. Bhumika	"	T. Bhumika
3.	12	G. Krupa Rao	"	G. Krupa Rao
4.	167	A. Raj Kumar	"	A. Raj Kumar
5.	172	Y. Jeevan Raju	"	Y. Jeevan Raju
6.	416	K. Naveen	II nd B.Com	K. Naveen
7.	421	A. Priyanka	"	A. Priyanka
8.	423	E. Ramesh	"	E. Ramesh
9.	428	G. Prakash Rao	"	G. Prakash Rao
10.	476	G. Ravi Kumar	"	G. Ravi Kumar
11.	607	K. Madhu Kumar	II nd B.Sc	K. Madhu Kumar
12.	608	T. Jeeva Sarany	"	T. Jeeva Sarany
13.	614	K. Charan	"	K. Charan
14.	1405	B. Srikanth	"	B. Srikanth
15.	1406	J. Gowtham	"	J. Gowtham
16.	1410	K. Mani Kumar	"	K. Mani Kumar
17.	07	P. Vijay Kumar	III ^r B.A	P. Vijay Kumar
18.	14	S. Yedukondalu	"	S. Yedukondalu
19.	17	V. John Son Paul	"	V. John Son Paul
20.	134	K. Sai manoj	"	K. Sai manoj

S.NO	Class No	Name of the Student	Class	sign
21	606	N. Gopi naik	III rd B.Sc	N. Gopi naik
22	621	SK. Meeravali	"	SK. Meeravali
23	624	P. Raju	"	P. Raju
24	626	R. Sai Kumar	"	R. Sai Kumar
25	907	B. Gowtham Kumar	IV th B.Sc CBZ	B. Gowtham Kumar.
26	914	J. Gopi	"	J. Gopi
27	1410	D. Harshini	II nd B.Sc (Comp)	D. Harshini
28	1416	K. Devi Harshini	"	K. Devi Harshini
29	1419	V. Mahesh Babu	"	V. Mahesh Babu
30	1424	M. Gopi Chand	"	M. Gopi Chand

M. Patra
 Department of Physics
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