DEPARTMENT OF INFORMATION TECHNOLOGY

A
INTERNSHIP REPORT

ON

DATA ANALYTICS VIRTUAL INTERNSHIP

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF

THIRD YEAR ENGINEERING

IN

INFORMATION TECHNOLOGY

BY

Sagar Jadhav (T190258532)

UNDER THE GUIDANCE OF

MR. V. J. Desai
2022-23

AISSMS
INSTITUTE OF INFORMATION TECHNOLOGY (IOIT)
ADDING VALUE TO ENGINEERING

An Autonomous Institute Affiliated to Savitribai Phule Pune University
Approved by AICTE, New Delhi and Recognised by Govt. of Maharashtra
Accredited by NAAC with "A+" Grade | NBA - 5 UG Programmes

DEPARTMENT OF INFORMATION TECHNOLOGY

Certificate

This is to certify that **Sagar Jadhav (T190258532)** from Third Year of Information Technology has successfully completed her internship entitled

DATA ANALYTICS VIRTUAL INTERNSHIP

At Edu-skills Foundation in the partial fulfilment of the bachelor's degree in Information Technology.

Mr. V. J. Desai	Sahirabijaylaksmi Satapathy	Dr. Meenakshi A. Thalor
Faculty Mentor	Industry Supervisor	Head of Department

Date: 17/03/2023
Place: Pune

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CHAPTER 1

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Internal Quality Assurance Cell (IQAC)

Academic Year: 2022-23
Department: IT

PERMISSION FOR INDUSTRIAL INTERNSHIP/TRAINING

Roll No.	Name of Student	Year (Semester)	Branch	Duration of Internship
28	SAGAR INDRAJIT JADHAV	3rd Year 6th semester	Information Technology	20/12/2022 to 15/02/2023

Name of Industry: Eduskills foundation

Address: Delhi

Type of industry ☐ Proprietary ☐ Start up ☐ Pvt. Ltd. ☑ Ltd.   Government Sector

Type of industry ☐ Multinational ☑ National ☐ Local

Listed in ☐ NSE (National Stock Exchange) ☐ BSE (Bombay Stock Exchange) ☑ Not Applicable

No of Employees: ☐ 1 - 5 ☐ 6 - 50 ☐ 51- 100   101 - 1000 ☐ > 1001

Does Company has multiple branches/plants: ☐ Yes ☑ No

If Yes, mention locations: 1.   2.   3.

Address of headquarter: Delhi

Name of CEO: Dr. Satya Ranjan Biswa

Name of Owner: Government of India

Products/Services Offered: provides internships in all domain with the help of all industry leading companies.

Turnover of industry: NA

Brief summary of knowledge you will gain or skills acquired during internship/Training:
I will be getting knowledge of AWS Cloud Foundations . Also Data Analytics and its tools provided by AWS will be taught and hands-on.

Sagar

Signature of Student   Signature of H.O.D.

CHAPTER 2

OFFER LETTER

M Gmail

sagar jadhav <sagar.jadhav@aissmsioit.org>

Congratulations-Shortlisted for AICTE- EduSkills Virtual Internship Cohort-4
3 messages

EduSkills Foundation <noreply@eduskillsfoundation.org>   Mon, Dec 19, 2022 at 6:54 PM
To: Sagar Jadhav <Sagar.jadhav@aissmsioit.org>

Dear Sagar,

EduSkills is pleased to inform you that you have been shortlisted for AICTE-EduSkills Virtual Internship Cohort-4.

Student Name= Sagar Jadhav

Domain Name= DATA ANALYTICS VIRTUAL

INTERNSHIP College Name=AISSMS Institute of

Information Technology

Please follow the AWS Data Analytics Internship process document to complete the AICTE- EduSkills Virtual Internship

Process document link for CF: https://tinyurl.com/5n6hth6n

Please complete the following courses and upload both course completion certificates to get the AICTE-EduSkills Internship Certificate by **15th
January,2022**

1. AWS Academy Cloud Foundations

2. AWS Academy Data Analytics

Course completion Certificate Upload Link: https://eduskillsfoundation.org/aicte-internship-certificate/

You are advised to contact your institution SPoC/HoD/Concerned Faculty Member immediately for all your queries.

Please Click on - **https://t.me/+g6_9EzO7hTFhNTFl** and join the Telegram group to get all updates about EduSkills Programs.

Please Click on https://t.me/+e_HhAFIUCQQwNmRl and join the Telegram group to get all updates from EduSkills Team related to **AICTE EduSkills Data Analytics Virtual Internship.**

Congratulations and All the Best for your Internship!

 Best Regards

EduSkills Team

---

sagar jadhav <sagar.jadhav@aissmsioit.org>   Tue, Dec 20, 2022 at 3:26 PM
To: sagar21202@gmail.com

[Quoted text hidden]

CHAPTER 3

ATTACH PROOF OF ANY OTHER DOCUMENTS SUCH AS APPRECIATION/ STIPEND ETC. RCEIVED FROM INDUSTRY

NOT APPLICABLE

CHAPTER 4

INTERNSHIP PLACE DETAILS

4.1 Company background-organization and activities

The Company name is Edu skills foundation , Delhi . This is associated with AICTE internships portal governed by Edu skills foundation, initiative by government of India.

4.2. Scope and object of the study

The scope of internship is in cloud and data analytics domain which opens paths to the careers in these fields.
Primary requirements for Android Developers are:

- Strong knowledge of Cloud different versions of cloud, and how to deal with different screen sizes
- Familiarity with CLI to connect to remote VPC
- Ability to create affordable solutions for company requirement.
- Familiarity with the use of Linux commands and bash script
- Knowledge of the cloud computing
- Ability to understand business requirements and translate them into technical requirements
- Familiarity with cloud message APIs and push notifications
- A knack for benchmarking and optimization

4.3. Personal observations
- The knowledge in the field of Cloud Computing and Data analytics has been increased tremendously.

CHAPTER 5

INTRODUCTION

5.1 Title: DATA ANALYTICS VIRTUAL INTERNSHIP

5.2 Problem statement:

Learning cloud technologies and data analytics tools.

5.3 Objectives/ Motivation:

To learn all the cloud concepts in the AWS cloud .Implementing cloud solutions in the form of labs in the course structure. Using data analytics tools provided by AWS efficiently.

The motivation for applying to this internship was the Cloud Computing and data analytics course which I wanted to do. Because In todays IT world , both cloud and data analytics are the most trending and on demand fields to work on.

5.4 Scope and rationale of the study Methodological details:

We were provide a aws academy canvas login. There we were enrolled with the courses related to our internship domain. There , after learning , we had performed tasks like cloud deployment and data visualiation with those tools through the labs.

As an intern, we had to study the concepts in cloud computing and data analytics and to perform labs that is tasks given to us by AWS academy and submit them.

5.5 Results

I gained knowledge in cloud computing and data alanytics. This knowledge helping me in my academic career. A we have cloud computing and big data and data analytics subjects in our next semester , ther

5.6 Analysis

This intership is must to do because this provides well training before tasks and labs. Which helps you to learn and implement all the things in cloud and data analytics domain.

5.7 Inferences and conclusion

I got to know about the technologies like cloud computing , specially AWS cloud and the tools provide by AWS for data analytics.

5.8 Recommendations for improvement to industry

As per my suggestion , there are no any suggestions for changing anything.

CHAPTER 6

INTERNSHIP DIARY (DAILY)

Student Name: Sagar Jadhav

Roll No.: 28

Company Name: Edu skills Foundation

Domain: Data analytics and cloud

Duration: 8 weeks
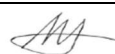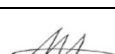
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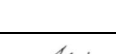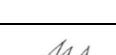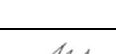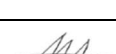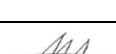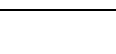
(Mr. V. J. Desai)   (Sahirabijaylaksmi Satapathy)

Internship Day wise Report

Sr. No.	Date	Day	Content Covered	Signature of Industry Supervisor	Signature of Faculty Mentor
1	23/12/2022	Friday	Cloud Concepts Overview		
2	24/12/2022	Saturday	Advantages of the Cloud		
3	26/12/2022	Monday	Moving to the AWS Cloud		
4	28/12/2022	Wednesday	Cloud Economics and Billing		
5	30/12/2022	Friday	AWS Global Infrastructure Overview		
6	02/01/2023	Monday	AWS Services & Service Categories		
7	04/01/2023	Wednesday	AWS Shared Responsibility Model		
8	06/01/2023	Friday	AWS IAM		
9	09/01/2023	Monday	Securing a New AWS Account		
10	11/01/2023	Wednesday	Working to Ensure Compliance		
11	13/01/2023	Friday	Networking and Content Delivery		
12	16/01/2023	Monday	Amazon VPC		
13	18/01/2023	Wednesday	VPC Wizard		
14	23/01/2023	Monday	VPC Networking		

15	25/01/2023	Wednesday	VPC Security		
16	27/01/2023	Friday	CloudFront, Route 53		
17	28/01/2023	Saturday	Build your VPC and Launch a Web Server		
18	30/01/2023	Monday	Databases		
19	30/01/2023	Monday	Cloud Architecture		
20	01/02/2023	Wednesday	AWS Trusted Advisor		
21	02/02/2023	Thursday	Scale & Load Balance your Architecture		
22	03/02/2023	Friday	Big Data , Big Data Collection, Big Data Pipeline		
23	04/02/2023	Saturday	Big Data Processing and Analysis		
24	06/02/2023	Monday	Big Data Visualization		
25	07/02/2023	Tuesday	Lab 1 Store data in Amazon S3		
26	08/02/2023	Wednesday	Lab 2 Query Data in Amazon Athena		
27	09/02/2023	Thursday	Lab 3 Query data in Amazon S3 with Amazon Athena and AWS Glue		
28	10/02/2023	Friday	Lab 4 Analyze Data with Amazon Redshift		
29	11/02/2023	Saturday	Lab 5 Analyze Data with Amazon Sagemaker, Jupyter Notebooks and Bokeh		
30	12/02/2023	Sunday	Lab 6 Automate Loading Data with the AWS Data Pipeline		

31	13/02/2023	Monday	Lab 7 Analyze Streaming Data with Amazon Kinesis Firehose		
32	14/02/2023	Tuesday	Lab 8 Analyze IoT Data with AWS IoT Analytics		
33	15/02/2023	Wedensday	Worked on Personal trainers' website		

CHAPTER 7

LIST OF REFERENCES

BOOKS

1. AWS Cloud – documentation provided by AWS
2. Deep dive to cloud and data analytics -Book

WEBSITES

1. https://docs.aws.amazon.com/cloudformation/index.html
2. https://awsacademy.instructure.com/login/canvas

CHAPTER 8

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Internal Quality Assurance Cell (IQAC)	Academic Year: 2022-2023 Department: IT

Feedback from Industry on Student's Performance
(After completion of Training/Internship/Project)

Name of Industry :   EduSkills Foundation

Address: At Delhi

Roll No.	Name of Student	Year (Semester)	Branch
28	**SAGAR INDRAJIT JADHAV**	3rdYEAR (6th sem)	I.T.

The student was associated with industry through:

1. Internship ☐

2. Training ☐ on AWS Data Analytics

3. Project ☐ Title

Number of days (or duration) for which the student was associated with industry 8 Weeks

S. N.	Please rate the student on 5 point scale (Tick whichever is applicable)	5 Excellent	4 Very Good	3 Good	2 Satisfactory	1 Poor	Not Applicable
1.	Technical knowledge		✓				
2.	Ability to use technical skills		✓				
3.	Ability to learn and use modern tools		✓				
4.	Professional ethics		✓				
5.	Ability to work in team		✓				
6.	Leadership quality	✓					
7.	Communication skills	✓					
8.	Project management	✓					
9.	Attendance and Punctuality						
10.	Sincerity of student towards his/her work		✓				
11.	Ability to cope up with the stressful situations	✓					

Specify any other area in which your industry/organisation can interact/collaborate with AISSMS's IOIT:

This government company works to provide the internships to college students for the benefit of them.

Name of Industry Person: Sahirabijaylaksmi Satapathy	**Mobile No.: 7020939651**
Designation: Coordinator	**Email ID:** eduskills@aicte.com
Signature:	**Date:** 20/02/2023

CHAPTER 9

GEOTAG

CHAPTER 10

INTERNSHIP COMPLETION CERTIFICATE

CHAPTER 11

PRESENTATION PPT HANDOUTS
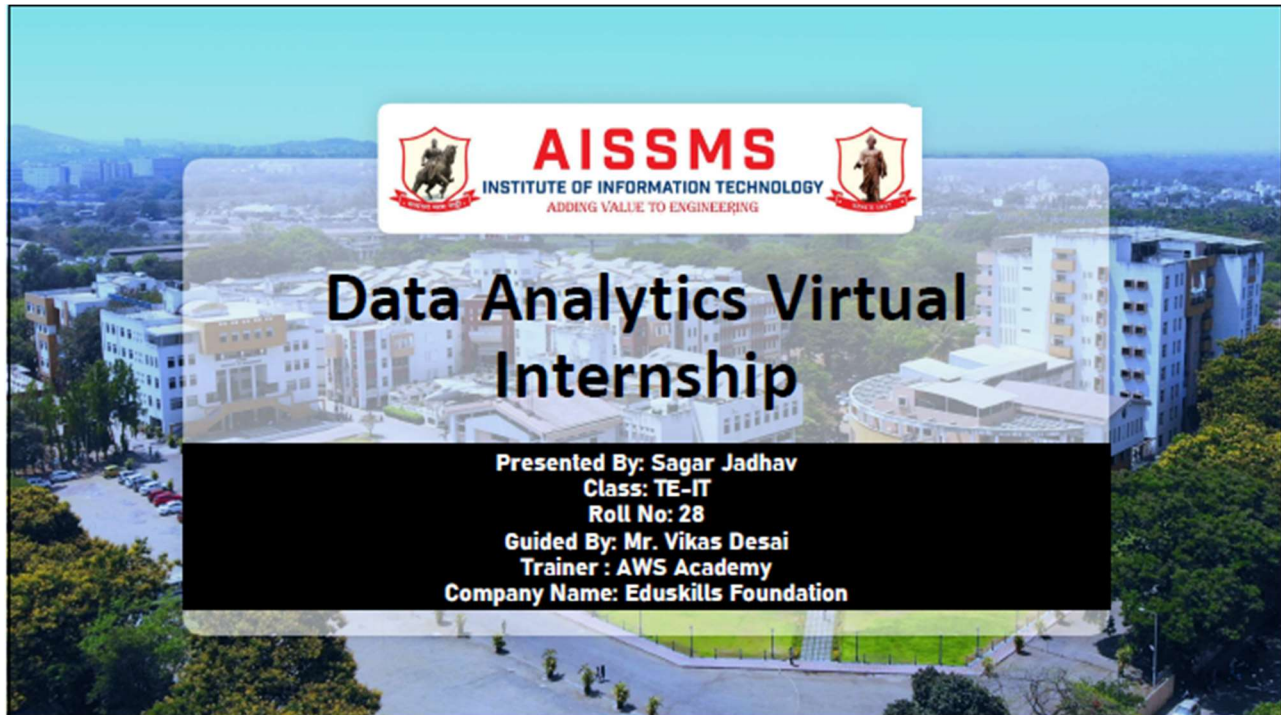
Introduction to Cloud Concepts, Economics and Billing

Here we learnt about the advantages that cloud computing provides over a traditional, on-premises computing model.

In economics section, we got to know the business advantages of moving to the cloud by AWS prices, TCO and various support plans.

In Billing, learnt how a demonstration of how customers can use the dashboard to understand and manage their costs.

AWS Global Infrastructure, Cloud Security

- Here, we were introduced to the major parts of the AWS Global Infrastructure, including Regions, Availability Zones, the network infrastructure, and Points of Presence.
- After that, we ware provided with a listing of each of the services that this course will discuss. The module ends with an AWS Management Console.

- In cloud security, AWS has shared responsibility model which specifies which responsibilities belong to the customer and which responsibilities belong to AWS.
- AWS Identity and Access Management (IAM), including users, groups, policies, and roles.
- MFA, Shield, Amazon Cognito, AWS KMS.

CDN, Compute, Storage and Databases

- In **CDN**, we got to know about AWS networking and content delivery services: Amazon Virtual Private Cloud (Amazon VPC), Amazon Route 53, and Amazon CloudFront.

- Learnt things like network, subnet, IPv4 and IPv6 addresses, and CIDR, NAT gateway, VPC endpoints, VPC sharing, VPC peering, AWS Site-to-Site VPN, AWS Direct Connect, and AWS Transit Gateway.

- In **Compute,** concepts of EC2, including AMIs, instance types, network settings, user data scripts, storage options, security groups, key pairs, instance lifecycle phases, Elastic IP addresses, instance metadata, and the benefits of using Amazon CloudWatch for monitoring.

- In **Storage**, we learnt and performed labs on Amazon EBS, S3, EFS, S3 , Glacier.

- In **Databases**, Amazon RDS, Dynamodb, Redshift and Aurora are the database services provided by AWS.

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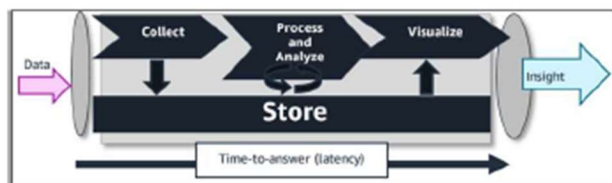
5

Introduction to Big Data, Pipelines, Tools, Storage

Here i learnt about the Big Data , its Pipelines, Tools and Storage services.

Tools Like AWS Glue, Amazon Kinesis for batch Ingest , S3, RDS for storage, Redshift for processing, Amazon QuickSight for visualization are available.

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Labs performed under Data Analytics

- Store data in Amazon S3
- Query Data in Amazon Athena
- Analyze Data with Amazon Redshift
- Automate Loading Data with the AWS Data Pipeline
- Analyze IoT Data with AWS IoT Analytics

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Outcomes

- In this internship I got to know about various cloud services offered by AWS.
- Performed labs to work with various tools provided by AWS for Data Analytics.
- We learnt services like EC2, simple storage service,CIDR, NAT gateway, VPC,, AWS vpn, AWS Direct Connect, policies, roles, MFA, Shield, Amazon Cognito, AWS KMS.

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CONCLUSION

In those 8 weeks, I learned cloud computing and got to know about various data analytics tools. This knowledge is helping me in our college curriculum and various another technologies and projects.

CHAPTER 12

ACKNOWLEDGEMENT

There is always a sense of gratitude that people express towards others for their help and supervision in achieving the goals. This formal piece of acknowledgment is an attempt to express the feeling of gratitude to wards people who helped me in completing my presentation.

I would like to express my deep and sincere gratitude to my internship guide,Mr.V. J. Desai for allowing me to do this work and providing invaluable guidance.

I would like to express my deep gratitude to Dr. P. B. Mane, Principal, Dr. Meenakshi A. Thalor, Head of Department. They were always there with competent guidance and valuable suggestions throughout the pursuance of this presentation.

ss

I would also like to appreciate all the respondents and group members whose responses and coordination were of utmost importance for the presentation and who helped me a lot in collecting necessary information. Above all, no words can express my feelings to my parents, friends, and all those people who supported me during my internship.