Rizvi College of Engineering

Department of **Computer** Engineering

Cloud Computing Mini Project Report

on

English Dictionary Website

Submitted in partial fulfillment of the

requirements of the Mini-Project

Third Year of

Bachelor of Engineering

By

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Suchit. Sawant (38)

Mayur. Kyatham (23)

Asjad. Shaikh (51)

Guide:

Prof. Shiburaj Pappu

University of Mumbai(2022 – 2023)

Certificate

This is to certify that the project synopsis entitled "**English Dictionary website**" has been submitted by **Mayur. Kyatham, Suchit. Sawant, Utsav. Kuntalwad and Asjad. Shaikh** under the guidance of **Prof. Shiburaj Pappu** in partial fulfillment of the requirement for the award of the Degree of Bachelor of Engineering in **Computer** Engineering from University of Mumbai.

Certified By

Prof. Shiburaj Pappu

Project Guide

Prof. Shiburaj Pappu

Head of Department

Dr. Varsha Shah

Principal

Department of **Computer** Engineering
Rizvi College of Engineering,
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Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

(Signature)

(Name of student and Roll No.)

Date:

Abstract

"This project focuses on developing a web app or using an existing app, making use of atleast two cloud services and deploying it to the cloud. Here we are using "Joomla". Joomla is a free and open-source content management system (CMS) for publishing web content on websites. It helps you build powerful dynamic websites and applications. It has an intuitive interface that helps you use its features and functionality to the fullest. We have made a simple website on JOOMLA.

Cloud Services Used:

1. Elastic Beanstalk

2. RDS

3. EC2

We have used Elastic Beanstalk. With Elastic Beanstalk, you can quickly deploy, manage, and scale applications without the operational burden of managing infrastructure. Elastic Beanstalk reduces management complexity for web applications, making it a good choice for organizations that are new to AWS or wish to deploy a web application as quickly as possible.

RDS is a managed relational database service that provides you six familiar database engines to choose from, including Amazon Aurora, MySQL, MariaDB, Oracle, Microsoft SQL Server, and PostgreSQL. This means that the code, applications, and tools you already use today with your existing databases can be used with Amazon RDS. Amazon RDS handles routine database tasks such as provisioning, patching, backup, recovery, failure detection, and repair.

Amazon EC2 provides scalable computing capacity in the Amazon Web Services (AWS) Cloud. Using Amazon EC2 eliminates your need to invest in hardware up front, so you can develop and deploy applications faster. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. Amazon EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic. "

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Introduction

English Dictionary Website is a dictionary that is accessible via the Internet through a web browser. They can be made available in a number of ways: free, free with a paid subscription for extended or more professional content, or a paid-only service. Many dictionaries have been digitized from their print versions and are available at online libraries. Some online dictionaries are organized as lists of words, similar to a glossary, while others offer search features, reverse lookups, and additional language tools and content such as verb conjugations, grammar references, and discussion forums. The variety of online dictionaries for specialized topics is enormous, covering a wide range of fields such as computing, business and investing, along with almost any other class of trade, science, art, or common interest with its own terminology.

Steps to follow

1. Starting Learner Lab and Launching console.

a. On your Learner Lab interface click on Start Lab button.

b. Please wait for the Lab to start.

c. Once the Lab is started, click on AWS button to open the AWS Console.

d. Your AWS Console will now open in a new tab.

2. Creating an application in Elastic Beanstalk.

a. Go to Services -> Compute -> Elastic Beanstalk.

b. The page will load. Click on “Create a new environment”.

c. Select web server environment.

d. Fill in the required application and environment information.

e. Tags are optional and select Platform as PHP.

f. For now, select Sample Application.

g. Before creating the application, we need to do some settings in configure more options. So, select “Configure more options”. (If you are using Learner Lab)

h. Scroll down and go to security section and click on edit button.

i. Select Service Role as LabRole, EC2 key pair as vockey, IAM instance profile as LabInstanceProfile and save.

j. Now click on Create environment.

3. Creating a database in RDS

a. Launch RDS Service by going to Services -> Database -> RDS.

b. RDS Dashboard will open. Click on Create Database.

c. Choose the creation method a as Standard Create.

d. Select database an My SQL.

e. From the templates select the free tier option.

f. Give a name to DB instance, give a master username and choose a password.

g. Select DB instance class as Burstable classes and select t2 micro.

h. Select General Purpose SSD with 20 GB of storage and disable auto scaling.

i. Let the VPC settings be default and public access as No.

j. Select database authentication as Password Authentication.

k. Give database name as cloud and disable backup and enhanced monitoring and rest of the settings will be default.

l. Click on create database and your database will be created successfully in some time.

4. Deploying English dictionary website

a. Open the database and note down the Port, Endpoint (HostName), and db name from configuration.

b. In actions select set up EC2 connection.

c. Select Your EC2 instance.

d. Enter Database details in dp.php .

e. Then, select inbound rules and select RDS rules.

f. Now create S3 bucket.

g. Aelect ACLs enabled.

h. Block all public access is not selected.

i. then create s3 bucket and upload images

j. Then create public access and edit policy

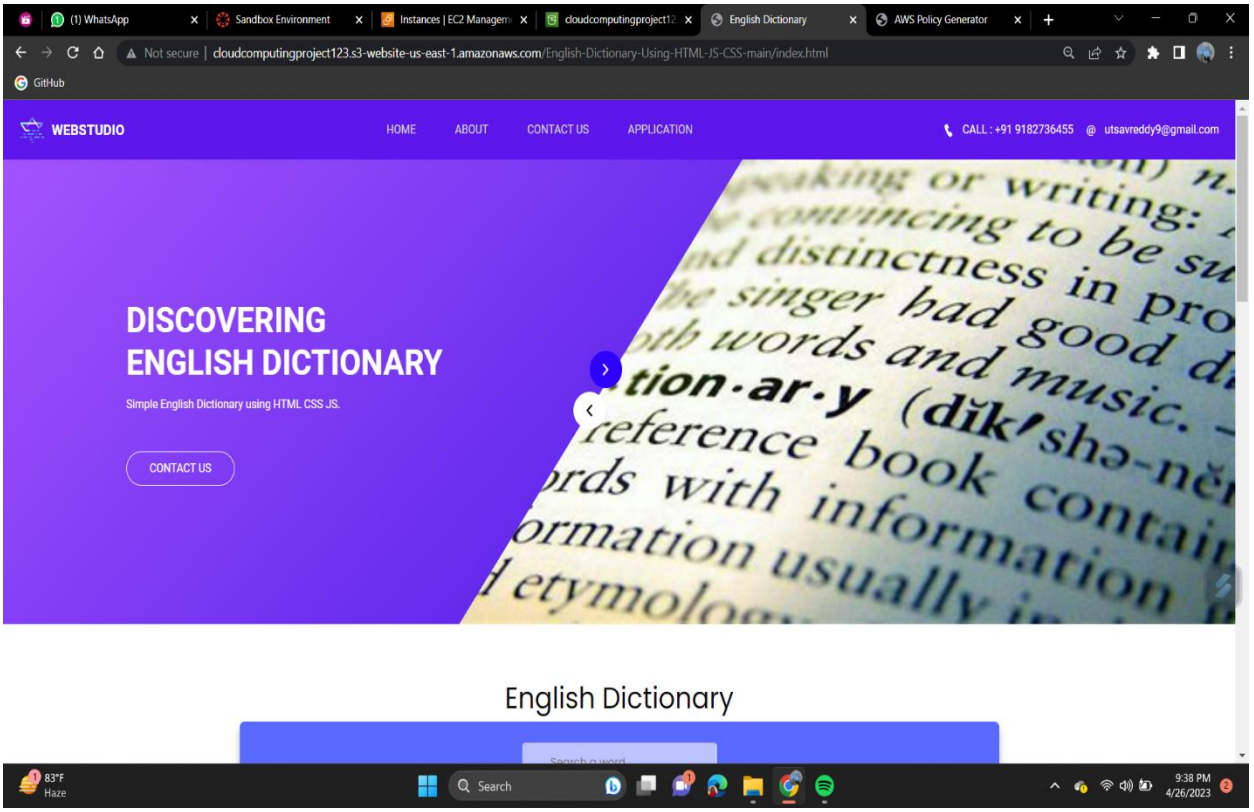
k. Copy images link and use in website code

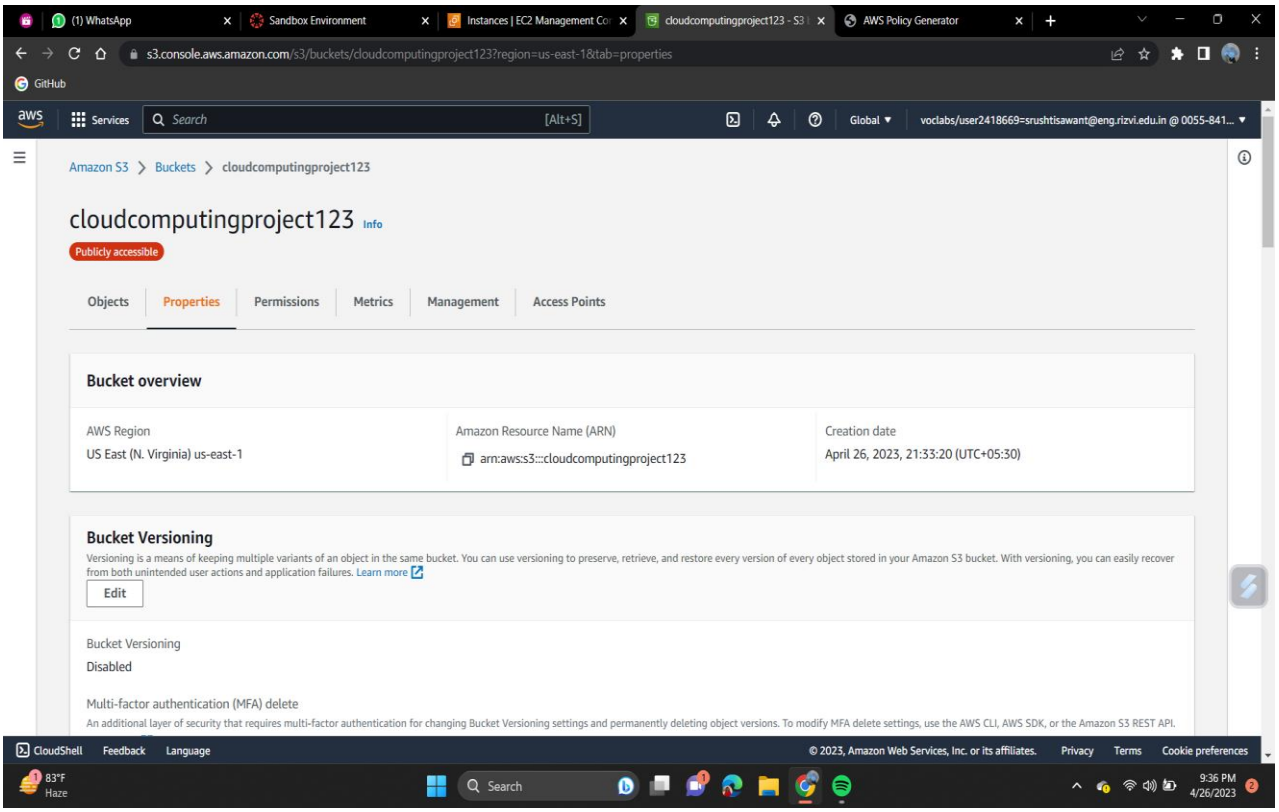
l. Finally, upload project zip file in elastic beanstalk

m. Project deployment is done.

Result and Output

By successfully completing the Project, we have understood aws services which includes deployment, creating database, storage,etc. We also understood the real-time application of cloud computing by deploying our website English Dictionary on the server. With the help of our Project, we have successfully achieved Program outcome [2] which states; Analyze various cloud computing service models and implement them to solve the given problems, we also have achieved Program outcome [3] which states; Design and develop real world web applications and deploy them on commercial cloud(s);by successfully developing and deploying our project on aws.

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Sandbox Environment
Instances | EC2 Management Co
cloudcomputingproject123 - S3
AWS Policy Generator
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Amazon S3 > Buckets > cloudcomputingproject123
cloudcomputingproject123 Info
Publicly accessible
Objects
Properties
Permissions
Metrics
Management
Access Points
Bucket overview
AWS Region
US East (N. Virginia) us-east-1
Amazon Resource Name (ARN)
arn:aws:s3:::cloudcomputingproject123
Creation date
April 26, 2023, 21:33:20 (UTC+05:30)
Bucket Versioning
Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. Learn more
Edit
Bucket Versioning
Disabled
Multi-factor authentication (MFA) delete
An additional layer of security that requires multi-factor authentication for changing Bucket Versioning settings and permanently deleting object versions. To modify MFA delete settings, use the AWS CLI, AWS SDK, or the Amazon S3 REST API.
CloudShell
Feedback
Language
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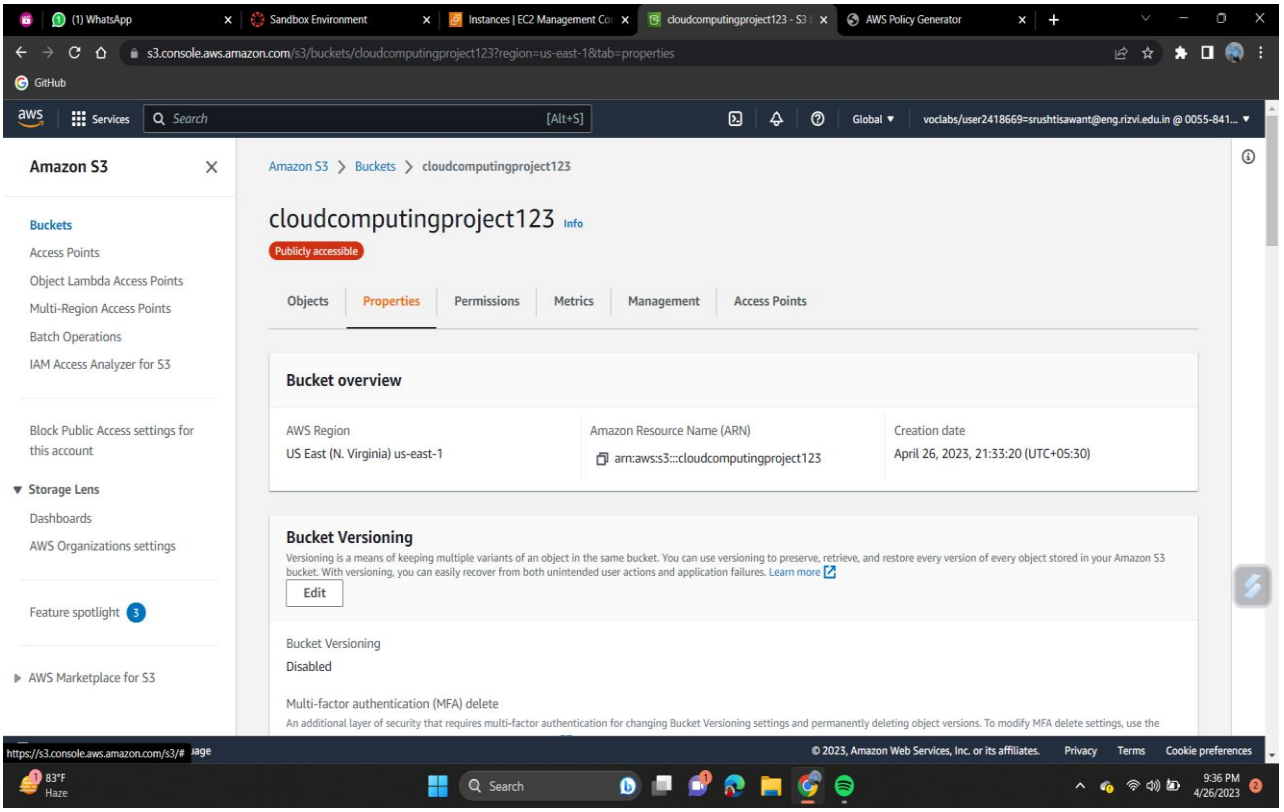
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voclabs/user2418669=srushtisawant@eng.rizvi.edu.in @ 0055-841...
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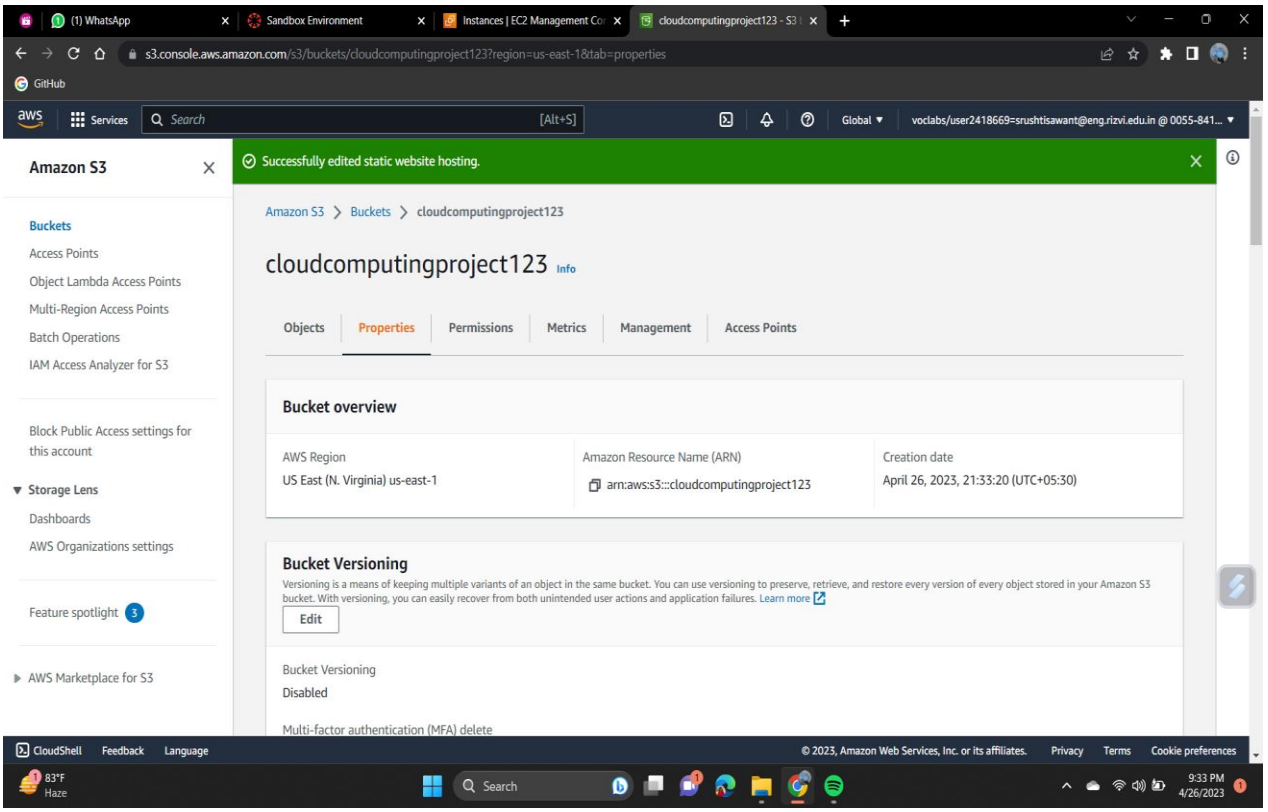
s3.console.aws.amazon.com/s3/buckets/cloudcomputingproject123?region=us-east-1&tab=properties
Amazon S3
Successfully edited static website hosting.
Amazon S3 > Buckets > cloudcomputingproject123
cloudcomputingproject123 Info
Objects
Properties
Permissions
Metrics
Management
Access Points
Bucket overview
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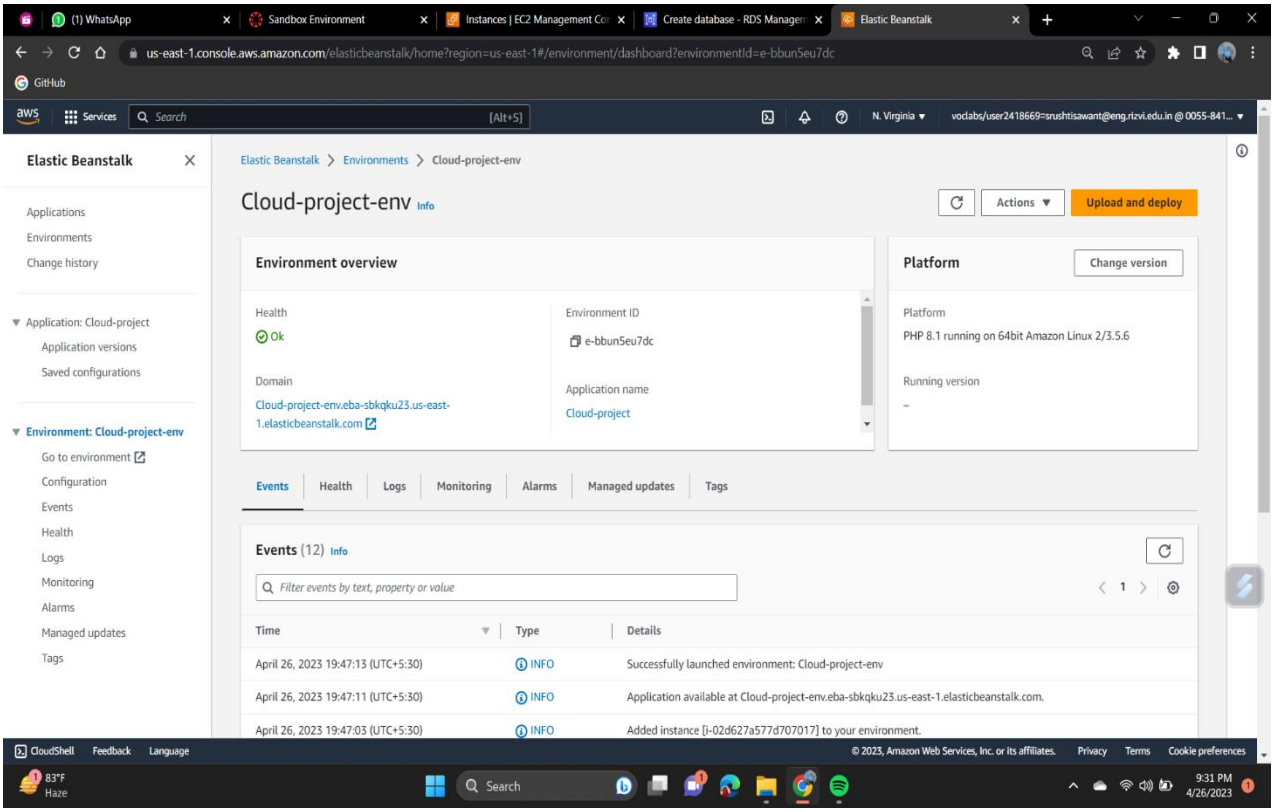
us-east-1.console.aws.amazon.com/elasticbeanstalk/home?region=us-east-1#/environment/dashboard?environmentId=e-bbun5eu7dc
Elastic Beanstalk
Elastic Beanstalk > Environments > Cloud-project-env
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e-bbun5eu7dc
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Events (12) Info
Filter events by text, property or value
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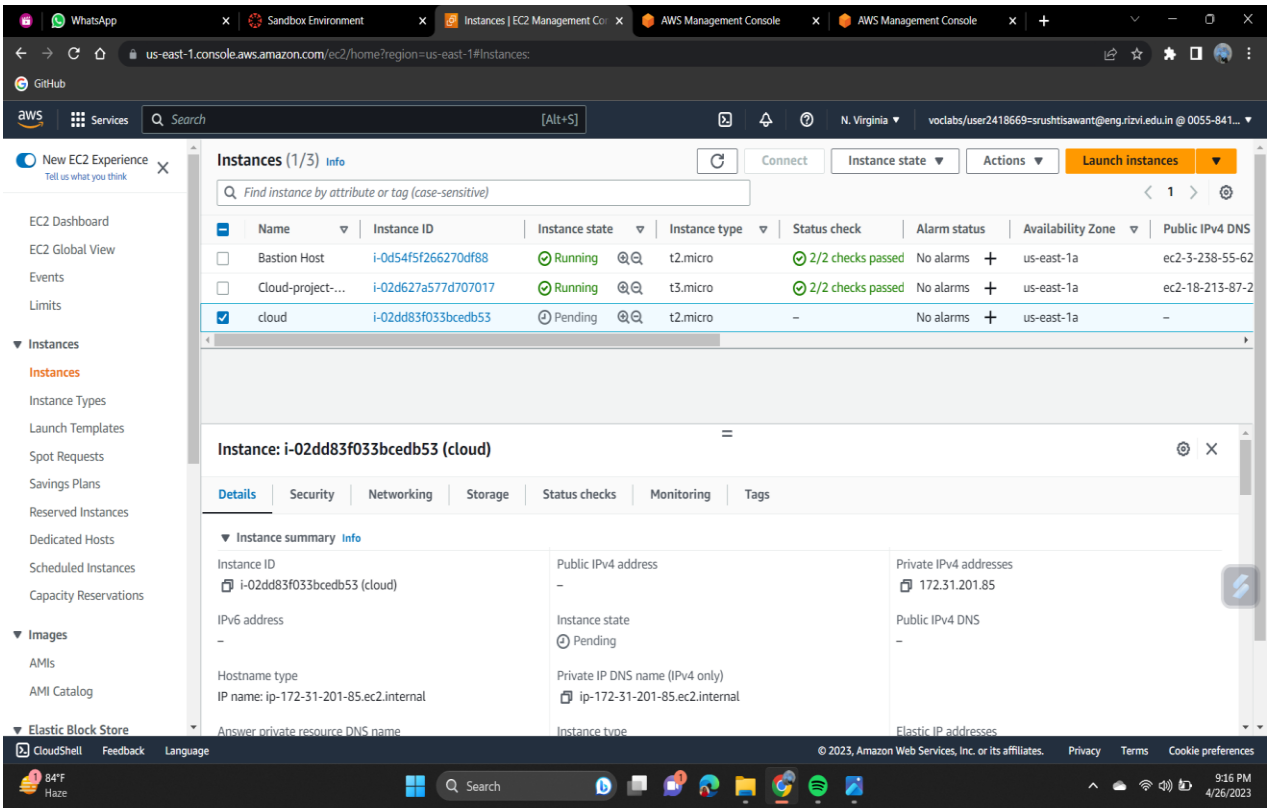
April 26, 2023 19:47:13 (UTC+5:30) INFO Successfully launched environment: Cloud-project-env
April 26, 2023 19:47:11 (UTC+5:30) INFO Application available at Cloud-project-env.eba-sbkqku23.us-east-1.elasticbeanstalk.com.
April 26, 2023 19:47:03 (UTC+5:30) INFO Added instance [i-02d627a577d707017] to your environment.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us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:
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voclabs/user2418669=srushtisawant@eng.rizvi.edu.in @ 0055-841...
New EC2 Experience
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172.31.201.85
IPv6 address
–
Instance state
Pending
Public IPv4 DNS
–
Hostname type
IP name: ip-172-31-201-85.ec2.internal
Private IP DNS name (IPv4 only)
ip-172-31-201-85.ec2.internal
Answer private resource DNS name
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CloudShell
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Conclusion

E-dictionaries search for word meanings quicker compared to printed dictionaries and according to the participants it is almost as reliable as the printed dictionaries. Besides that, it does not require the user to flip through the pages as it exists in digital format and user just need to type in few keywords on the search bar and the results will appear seconds later. Also Amazon AWS makes it easy for users to deploy English Dictionary website with database with its Elastic Beanstalk and RDS services at a marginal cost. Thus, the tedious task of website development and deployment is made convenient by AWS Services.

Reference

AWS RDS

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_GettingStarted.html

EC2

https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/concepts.html

Elastic Beanstalk

https://docs.aws.amazon.com/whitepapers/latest/overview-deployment-options/aws elastic-beanstalk.html

Acknowledgements

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~Utsav Kuntalwad

Suchit Sawant

Asjad Shaikh

Mayur Kyatham