



Parshvanath Charitable Trust's
A. P. SHAH INSTITUTE OF TECHNOLOGY
(Approved by AICTE New Delhi & Govt. of Maharashtra, Affiliated to University of Mumbai)
(Religious Jain Minority)

A MINI PROJECT REPORT

On

College Enquiry Chatbot on AWS

Submitted in partial fulfillment of the requirement of
University of Mumbai for the Course

In

Computer Engineering (VIII SEM)

Submitted By
Rohan Parkar (17102022)
Yash Payare (17102064)
Jitesh Nambiar (17102017)

Subject Incharge
Ms. Nahid Kausar Shaikh



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CERTIFICATE

This is to certify that the requirements for the project entitled “**College Enquiry Chatbot on AWS**” have been successfully completed by the following students:

Name	Roll No.
Rohan Parkar	(17102022)
Yash Payare	(17102064)
Jitesh Nambiar	(17102017)

in partial fulfillment of the course Cloud Computing Laboratory in Computer Engineering (VIII SEM) of Mumbai University in the Department of Computer Engineering, during the academic year 2020-21.

Name of Internal

Name of External



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PROJECT APPROVAL

This project is entitled “**College Enquiry Chatbot on AWS**” by **Rohan Parkar, Yash Payare, Jitesh Nambiar** are approved for the course Cloud Computing Laboratory in Computer Engineering (VIII sem) of Mumbai University in the Department of Computer Engineering.

Subject Incharge:

Date:

Place: Thane



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DECLARATION

We declare that this written submission for Cloud Computing Laboratory mini project entitled “College Enquiry Chatbot on AWS” represents our ideas in our own words and where other’s ideas or words have been included, we have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any ideas / data / fact / source in our submission. We understand that any violation of the above will cause disciplinary action by the institute and also evoke penal action from the sources which have not been properly cited or from whom prior permission has not been taken when needed.

Project Group Members:

Rohan Parkar

Yash Payare

Jitesh Nambiar

Date:

Place: Thane

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1.0 Abstract

A chatbot is a piece of software that allows a machine and a person to converse in natural language. Chatbots chat with the user in a conversation in place of a human and reply to the user. There are numerous applications that are consolidating a human appearance and proposing to reproduce human exchange, yet in the majority of the cases the information of the conversational bot is put away in a database made by a human specialist. The College Enquiry Chat bot on AWS application helps the students to access the university related information from anywhere with internet connection. This Chatbot will be hosted on cloud along with its database. All the information related to the college will be present in the cloud such as Admission desk, information related to events and activities, faculty, courses offered etc. This chatbot reduces the management effort, provides necessary details to the student and parents online. You can reach the college administration easily with minimal manual efforts. This application can be a way of Creating a situation of delight for parents and student with extra technical support.

2.0 List of Figures

Pointer	Topic
6.2	Flow of modules
7.0	Implementation Screenshots

2.0 List of Tables

Pointer	Topic
6.1	Services used.
6.3	Software requirements.

4.0 Problem Definition

The main objective was to develop an application that will be used to identify answers related to user submitted questions. To develop a database where all the related data will be stored and to develop a web interface. Thus, the College Enquiry Chatbot on AWS application has a database created, which stores all the information about questions, answers, keywords and logs. A usable system was designed, developed to the web server.

5.0 Introduction

Students are the important part of any organization. Many people will be having doubts related to the college when they want to join or if they have already joined. The College Enquiry Chatbot on AWS application is an application that will allow the user to query about the college related activities with great ease. Any doubts related to college can be easily solved using this application. Students can rely on this application with great ease and without any difficulty.

This application can be accessed at anytime and anywhere from the world easily. The user interface is quite simple and can be easily understood by the user. This system has a built artificial intelligence to answer the query of the student. The answers are appropriate to the user's queries. Since the chatbot is hosted on the cloud, it can be used by anyone at any time. Here, the database will be stored in Amazon AWS cloud which will form a connection between application and the cloud server via internet. This system helps the student not only to get their queries answered but also to be updated with the college activities.

6.0 Description

6.1 Services

The following services are used:

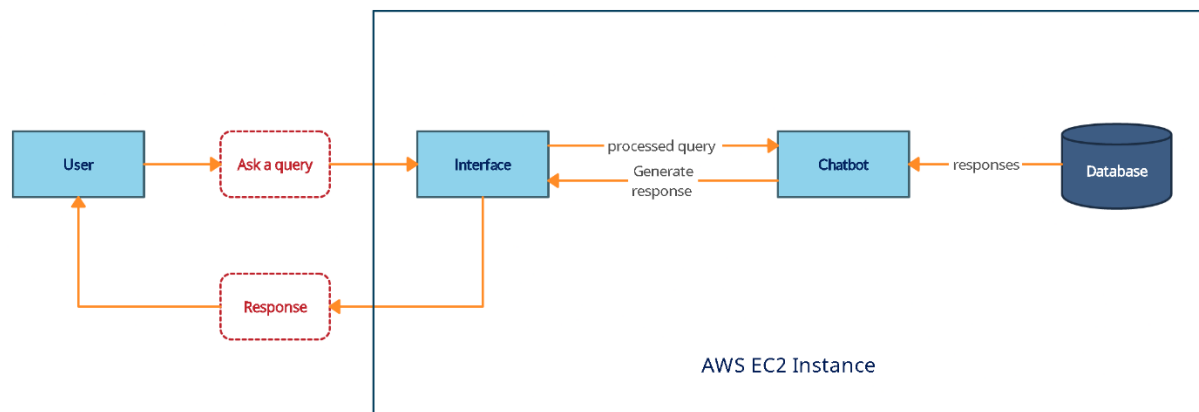
Name	Description
Amazon EC2	A Virtual Machine provided by AWS
Ubuntu OS	OS by choice.

6.2 Methodologies

We initialize the EC2 instance and run the Chatbot. Using public DNS and by adding the port number we can access the chatbot. Chatbot can answer students queries anytime.

We have used Free-tier AWS services to keep the project cost free. We create an EC2 Instance and choose Ubuntu OS for optimal performance on the amazon machine. Install all the required packages on the EC2 Instance. Edit the security group so that anyone can access Chatbot from anywhere.

Flow of modules



6.3 Software Requirements

Title	Description
Anaconda	Creating virtual Environment for python.
WinSCP	Transfer files to EC2 Instance.
PuttySSH	SSH service for windows users.

7.0 Implementation Details

Step 1:

Create an EC2 instance and select preferred OS.

The screenshot displays the AWS Management Console's 'Launch instance wizard' for an EC2 instance. The browser address bar shows the URL: `ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard`. The navigation bar includes the AWS logo, 'Services' dropdown, a search bar, and user information (YashPayare, Mumbai, Support). The wizard progress bar shows seven steps: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage, 5. Add Tags, 6. Configure Security Group, and 7. Review (highlighted).

Step 7: Review Instance Launch

AMI Details [Edit AMI](#)

Ubuntu Server 20.04 LTS (HVM), SSD Volume Type - ami-0c1a7f89451184c8b
Free tier eligible
Ubuntu Server 20.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com/cloud/services>).
Root Device Type: ebs Virtualization type: hvm

Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	-	1	1	EBS only	-	Low to Moderate

Security Groups [Edit security groups](#)

Security group name: launch-wizard-11
Description: launch-wizard-11 created 2021-05-15T10:35:40.429+05:30

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ	Description ⓘ
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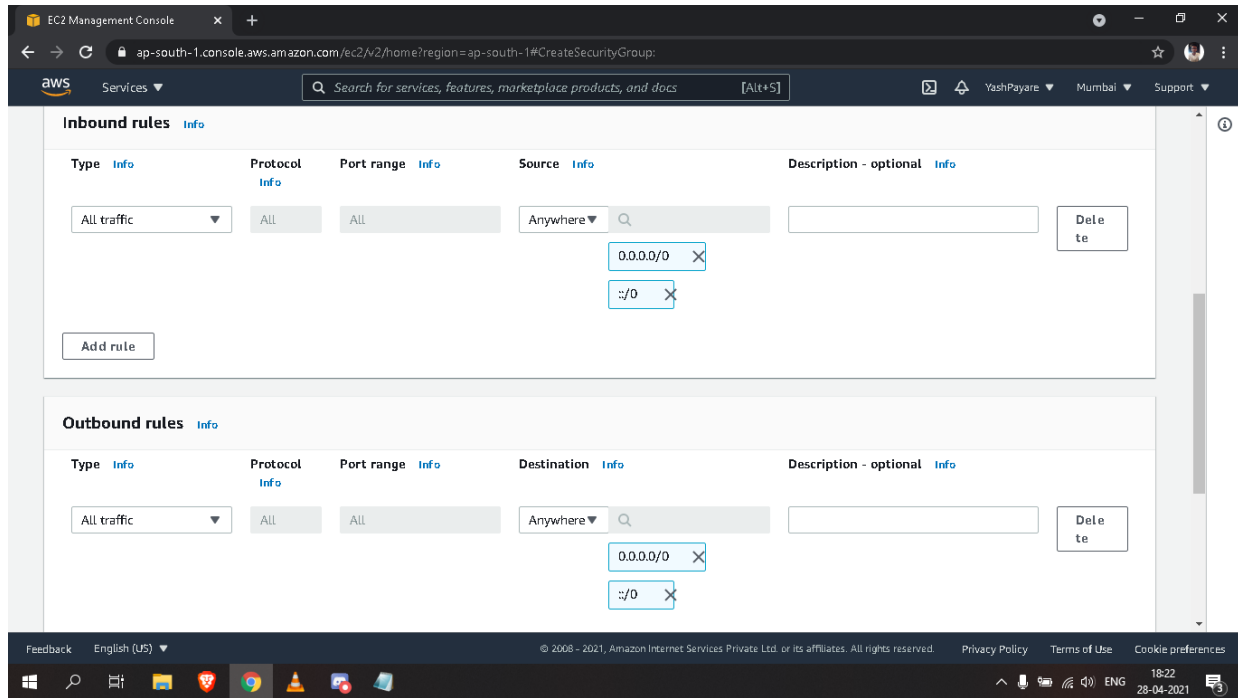
[Cancel](#) [Previous](#) [Launch](#)

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Windows taskbar at the bottom shows the Start button, search icon, task view icon, and several pinned applications (Chrome, File Explorer, etc.). The system tray shows network, volume, and power icons, along with the date and time: 10:36, 15-05-2021.

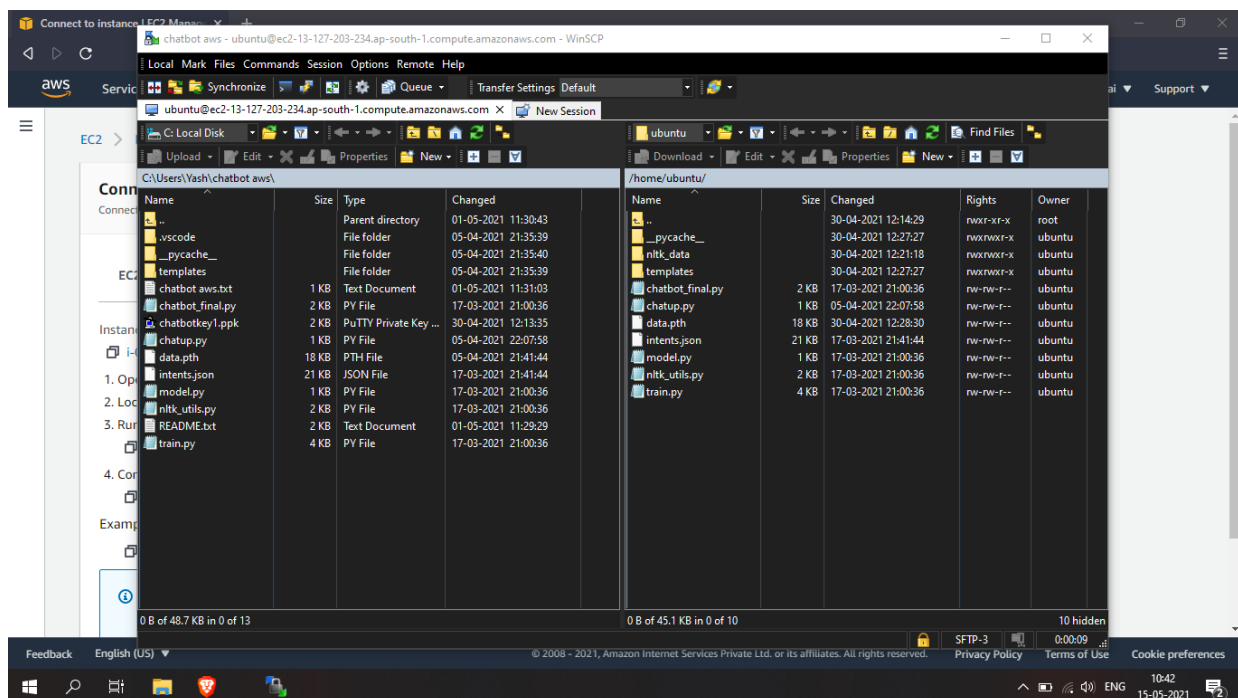
Step 2:

Create a Security group so the instance can be accessed from anywhere.



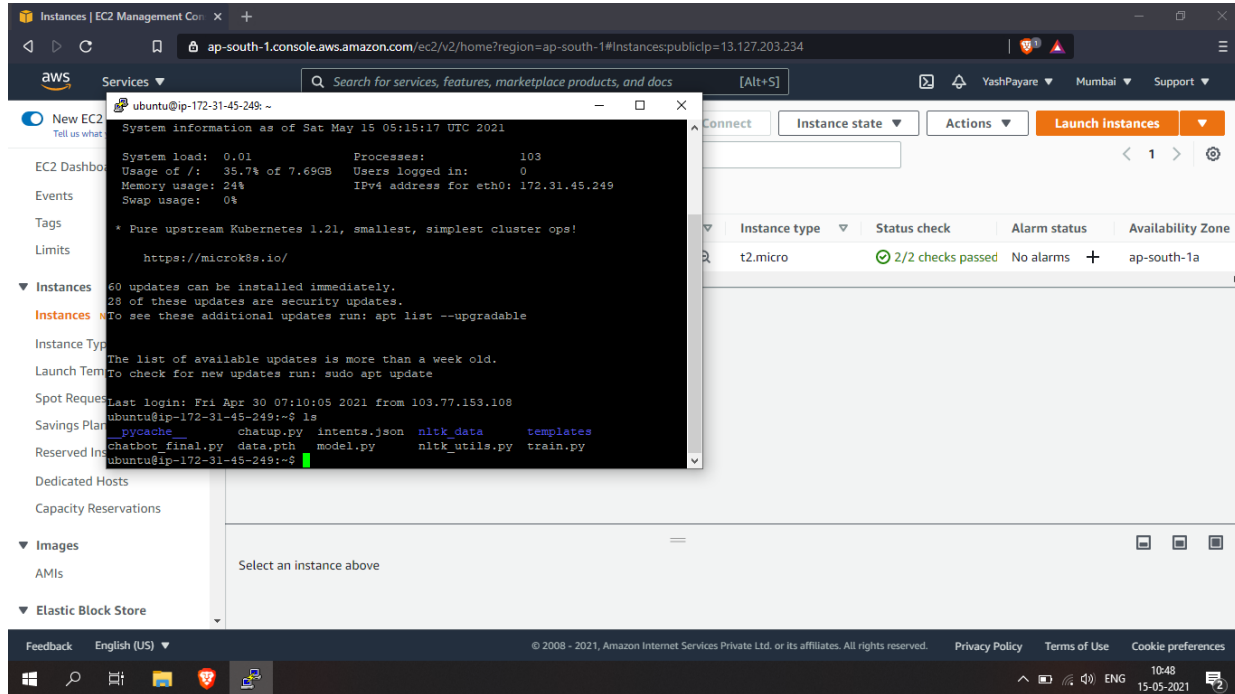
Step 3:

Use WinSCP to transfer chatbot files to the instance.



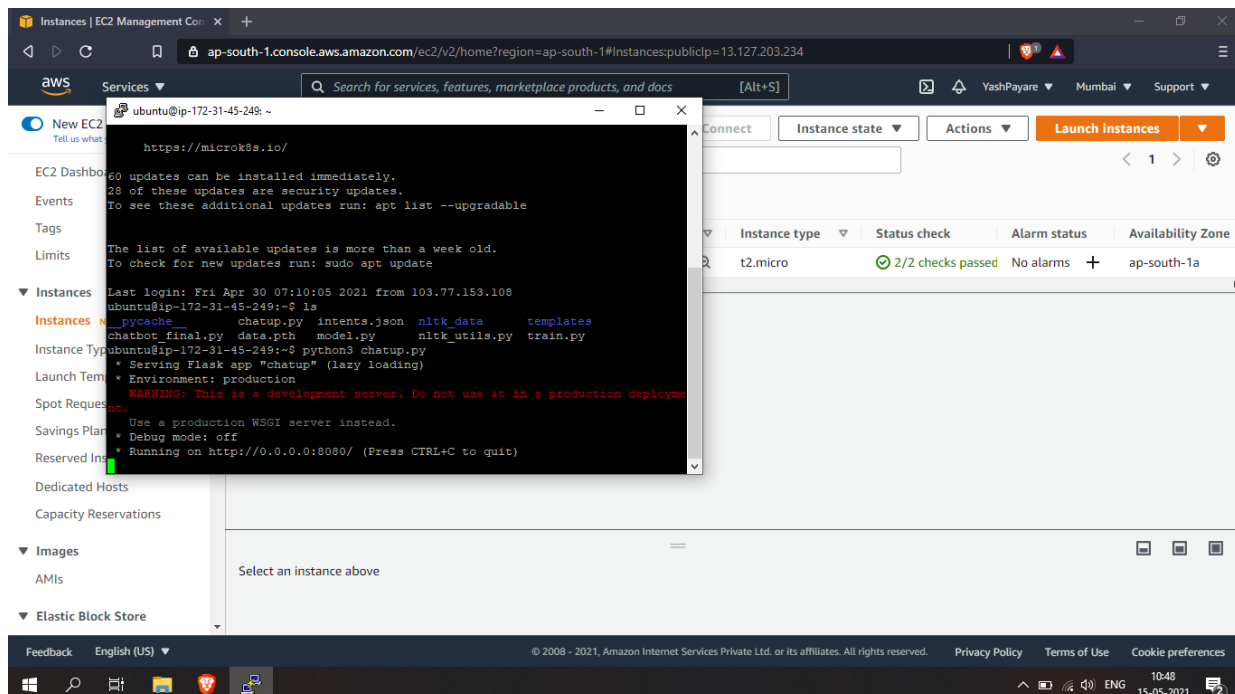
Step 4:

Connect to instance using private key with the help of putty and install all required packages.



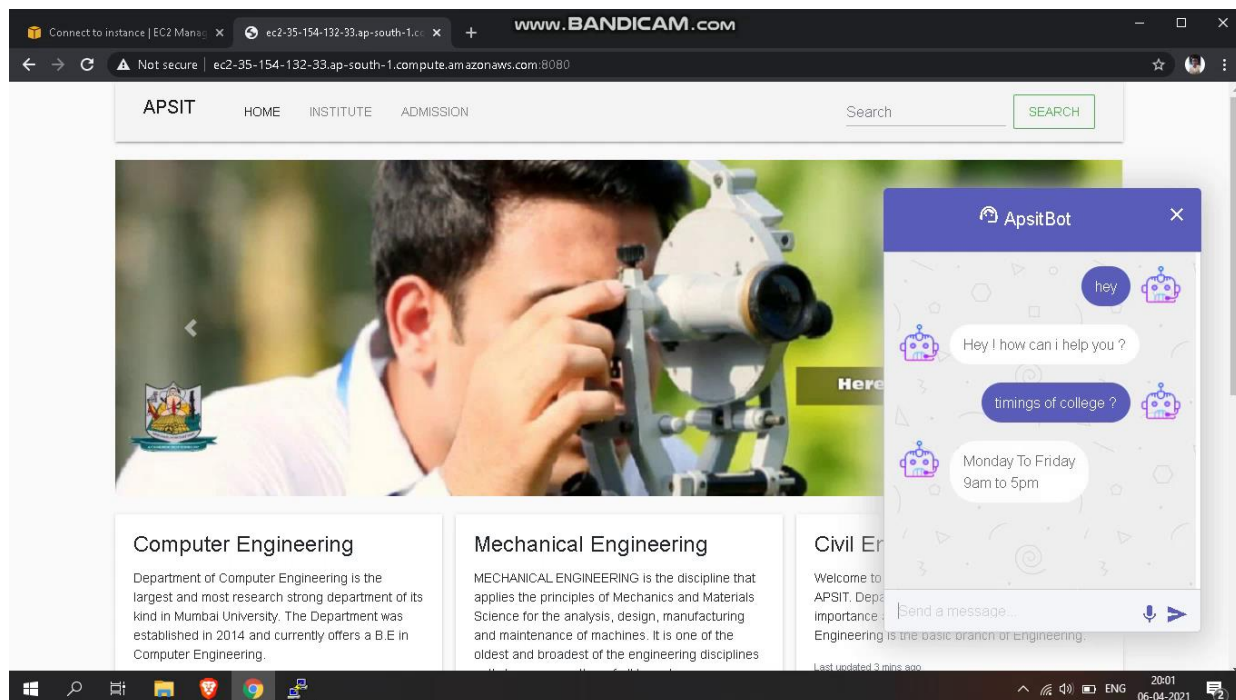
Step 5:

Deploy the Chatbot on running server application.



Step 6:

Open browser and use public DNS with port 8080 to open the Chatbot.



8.0 Summary

The application namely College Enquiry chatbot on AWS designed would be a stepping stone developed using cloud computing and AI. Even if not being familiar with the college website, the user can ask their queries to the bot and get desired answers. Thus, an intelligent question answering system has been developed, capable of answering the query of the student in an interactive way using the chat agent that is used.

8.1 Future Scope

In future we can include voice-based queries. The users will have to give voice input and the system will give the text output for better conversation systems. Accuracy can be increased by providing more data to the database and training the neural network model. We can implement the chatbot in other domains like medical, forensic, sports, etc.

FAQ system can be implemented in chatbot to make it more user-friendly. A portal can be made to add new data to the database.

9.0 Learning Outcomes

- What is an Amazon EC2 Instance.
- How an instance is created.
- To be able to connect to the instance from a local machine.
- Create a chatbot using natural language processing and artificial intelligence.
- Deploying a Machine Learning model on the running instance.

10 References

1. Getting started guide on how to setup a Ec2 Instance.
<https://docs.aws.amazon.com/quickstarts/latest/vmlaunch/welcome.html>
2. Deploying machine learning model on cloud.
<https://towardsdatascience.com/simple-way-to-deploy-machine-learning-models-to-cloud-fd58b771fdcf>

11. Acknowledgement

We would like to express our thanks of gratitude to our teacher “Ms. Nahid Kausar Shaikh” who gave us the golden opportunity to do this wonderful project on the topic “College Enquiry Chatbot on AWS”.

Any attempt at any level can't be satisfactorily completed without the support and guidance of our department and friends. I would like to thank them in guiding us to collect the relevant information from time to time in completing this project.

Thanking You.