

# Report of COMP7940 Project

## 1. Chatbot ID

6174689459:AAHRukz1VafGXz25A\_1Dak9I7JUxe1grqbc

## 2. Name and Student ID

Name: Zhao Yangyi

Student ID: 22441514

## 3. Summary of app

The Telegram chatbot is a **study assistant chatbot**. It uses Python code to interact with users and a MongoDB database to store and retrieve data. The chatbot is hosted on the Azure cloud platform using Docker.

### a) Python code of app

The main Python code uses the telegram, openai, youtube and Google translate libraries to interact with the Telegram API and handle user inputs. It has various functions to handle different types of user requests and responses:

- Start command: Greet user and represent that user can interact with the chatbot.
- Chat function: This function uses openai API, and user can ask the chatbot questions about what they are learning and get answers from the chatbot.
- Search Video function: This function uses google-api-python-client API to search some videos related to the areas that users are learning and show 5 videos to users to watch.
- Translate function: This function uses Google translate API and users can use this function to translate the contents they get from the chatbot to Chinese, so that they can understand the knowledge better.

It also connects to the MongoDB database using the PyMongo library to store and retrieve data.

Another Python file named “command statistic.py” is used to count the number of different commands sent by different user ids in the database and display the data in bar charts to analyze which commands are used more frequently by users.

### b) Database

The chatbot uses a MongoDB database to store user data such as user id and command sent by users. The database is hosted on a remote MongoDB server, and the Python code connects to it using the PyMongo library.

### c) Docker and Cloud Platform

The chatbot is hosted on the Azure cloud platform using Docker. Docker is used to containerize the chatbot and its dependencies, making it easy to deploy and manage on the cloud. The chatbot runs on a virtual machine on Azure, which is configured to run Docker containers. Azure provides a reliable and scalable infrastructure for hosting the chatbot, ensuring that it is always

available and responsive to user requests.

d) Git

Different developers can pull the code and files from Github and develop and update the code.

For this project, I just work alone, so I just update my code and files by Github.

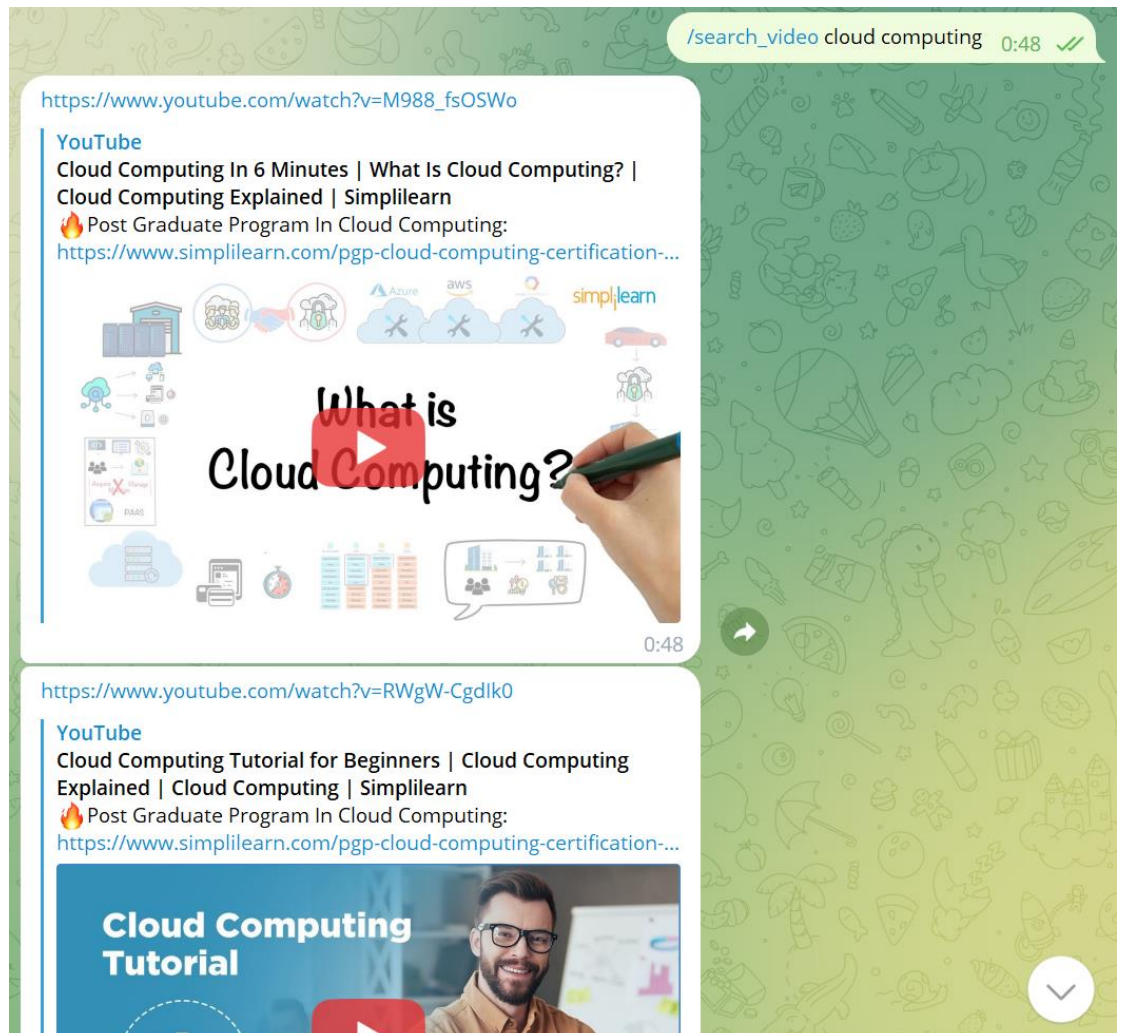
#### 4. Result

a) Chatbot Interact

➤ Start function:



➤ Search video function:



[https://www.youtube.com/watch?v=\\_a6us8kaq0g](https://www.youtube.com/watch?v=_a6us8kaq0g)
April 11

**YouTube**

**Cloud Computing Explained**

What is cloud computing? Cloud computing refers to data and applications being stored and run on the cloud rather than being on your local computer or on-premises equipment. AWS - Amaz...

0:48

<https://www.youtube.com/watch?v=mxT233EdY5c>

**YouTube**

**What is Cloud Computing? | Amazon Web Services**

Cloud computing is the on-demand delivery of IT resources such as compute, databases, and storage via the Internet with pay-as-you-go pricing. Learn more: <https://amzn.to/3r848QR...>

0:48

➤ Chat function:

/chat
What's the benefits of cloud computing
0:48
✓

Cloud computing offers numerous benefits, including:

1. Scalability: Cloud computing allows you to scale up or down your resources as per your requirement. As your business grows, you can easily add more resources without making significant investments.
2. Cost-effectiveness: Instead of investing in expensive hardware and infrastructure, cloud computing allows you to pay for what you use on a subscription-based model. This helps save the cost of buying and maintaining hardware.
3. Flexibility: Cloud computing allows you to access your applications

0:49
❤

➤ Translate function:

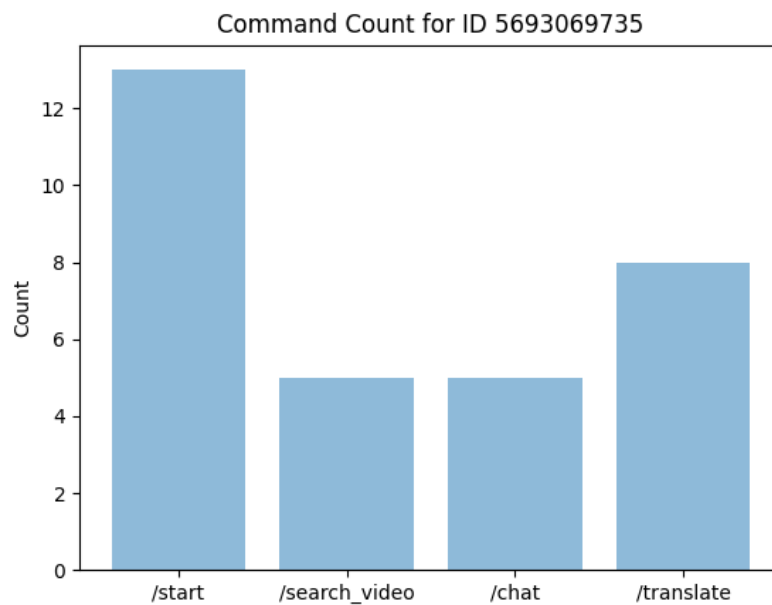
**/translate** Cost-effectiveness: Instead of investing in expensive hardware and infrastructure, cloud computing allows you to pay for what you use on a subscription-based model. This helps save the cost of buying and maintaining hardware. 0:49 ✓

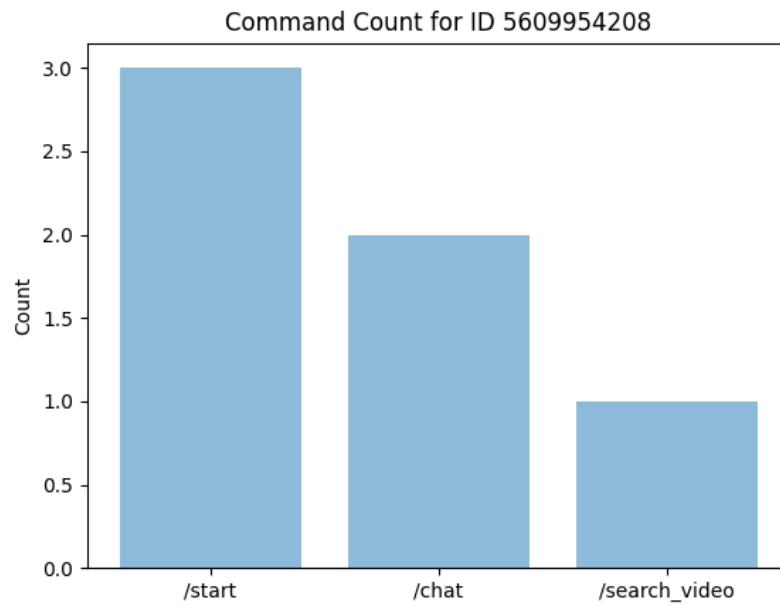
成本效益：云计算不是投资昂贵的硬件和基础设施，而是允许您在基于订阅的模型上使用的内容付费。这有助于节省购买和维护硬件的成本。 0:49

## b) Database

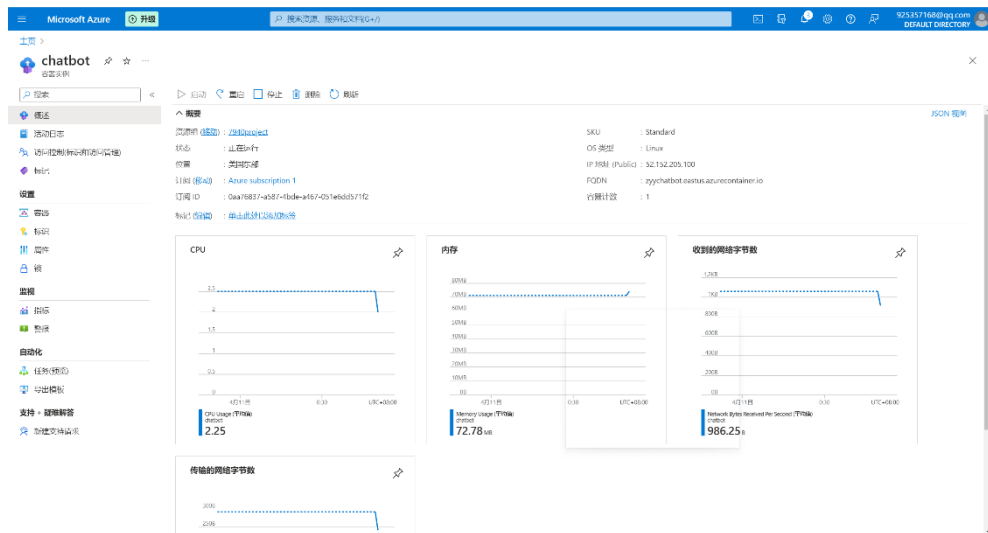
### ➤ Database:

### ➤ Command statistic:





### c) Cloud Platform



The screenshot displays the Microsoft Azure portal interface for the chatbot's activity log. The left sidebar contains navigation options such as Overview, Activity Log, Settings, and Monitoring. The main area shows the activity log with a table of events. The table has columns for Operation Name, Status, Time, Time Range, Subscription, and Event Details. The events are listed in descending order of time, showing the chatbot's activity over the last 6 hours.

Operation Name	Status	Time	Time Range	Subscription	Event Details
Start Container Group	Succeeded	11 分钟前	Tue Apr 11 ...	Azure subscription 1	925357168@qq.com
Start Container Group	Succeeded	12 分钟前	Tue Apr 11 ...	Azure subscription 1	925357168@qq.com
Stop Container Group	Succeeded	3 小时前	Mon Apr 10 ...	Azure subscription 1	925357168@qq.com
Start Container Group	Succeeded	3 小时前	Mon Apr 10 ...	Azure subscription 1	925357168@qq.com
Start Container Group	Succeeded	3 小时前	Mon Apr 10 ...	Azure subscription 1	925357168@qq.com

## Reference

- 1) Chatgpt  
<https://chat.openai.com/chat>
- 2) Azure support document  
<https://learn.microsoft.com/zh-cn/cli/azure/>
- 3) MongoDB support document  
<https://www.mongodb.com/docs/>
- 4) Docker documentation  
<https://learn.microsoft.com/en-us/dotnet/architecture/microservices/container-docker-introduction/docker-defined>