COM7940 Cloud Computing project

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ID of chatbot on telegram: @seeworddrinkwaterbot

Github directory: https://github.com/greenleafhub/cloudbotproject

Summary of the app:

The purpose of the app is for individual telegram users to record their daily water drinking amount. The app assumes the user is in Hong Kong time zone (GMT+8)

The chatbot have the following commands available:

- /help
  - Show instruction of commands /add and /check
- /add
  - Allow user to add the water amount they drunk.
  - Only allows integers.
  - Accepts minus sign for deducting water amount drunk.
- /check
  - Returns the amount of water drunk recorded by user on that day, the approximate amount in cups (240ml per cup), and gives the percentage of amount drunk is compared to the recommendation (8 cups a day)
- /checkpast
  - Allow user to specify the number of past records they want to check.
  - Only allows integers.
- /today
  - command for checking if the date is correct.
  - Returns username (not user id) and date.

The app use MongoDB for recording

- Telegram user id (obtained via telegram.Chat.id)
- Date of the input (obtained via date.today)

- Amount of water drink (entered by user, can be modified when user uses /add command)

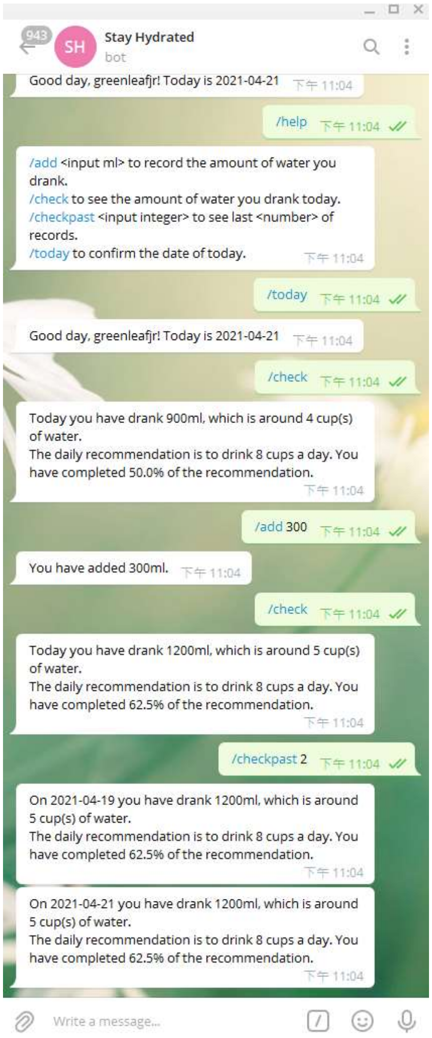
As MongoDB is a NoSQL database, it can be horizontally scalable with more users and data inputs.

The app uses a Dockerfile to create a container with Linux OS in Hong Kong timezone. The container is then deployed on Azure as a container instance.

The secrets, such as access token for telegram and MongoDB, are stored in Azure account. This is to allow developers outside the manager to test their code without having to give out the secrets to the developers.

Technical Requirement Evidences

The chatbot must be on telegram



Good day, greenleafjr! Today is 2021-04-21 下午 11:04

/help 下午 11:04

/add <input ml> to record the amount of water you drank.
/check to see the amount of water you drank today.
/checkpast <input integer> to see last <number> of records.
/today to confirm the date of today. 下午 11:04

/today 下午 11:04

Good day, greenleafjr! Today is 2021-04-21 下午 11:04

/check 下午 11:04

Today you have drank 900ml, which is around 4 cup(s) of water.
The daily recommendation is to drink 8 cups a day. You have completed 50.0% of the recommendation. 下午 11:04

/add 300 下午 11:04

You have added 300ml. 下午 11:04

/check 下午 11:04

Today you have drank 1200ml, which is around 5 cup(s) of water.
The daily recommendation is to drink 8 cups a day. You have completed 62.5% of the recommendation. 下午 11:04

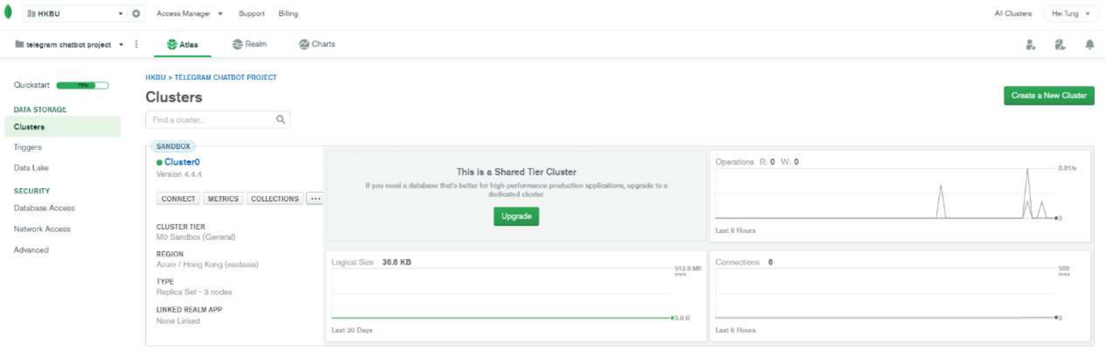
/checkpast 2 下午 11:04

On 2021-04-19 you have drank 1200ml, which is around 5 cup(s) of water.
The daily recommendation is to drink 8 cups a day. You have completed 62.5% of the recommendation. 下午 11:04

On 2021-04-21 you have drank 1200ml, which is around 5 cup(s) of water.
The daily recommendation is to drink 8 cups a day. You have completed 62.5% of the recommendation. 下午 11:04

The app must consume an external service other than redis

- The app use MongoDB as an external service to host a NoSQL database, which allows scalability:



HKBU > TELEGRAM CHATBOT PROJECT

Clusters

Cluster0
Version 4.4.4

CLUSTER TIER
M0 Sandbox (General)

REGION
Azure / Hong Kong (eastasia)

TYPE
Replica Set - 3 nodes

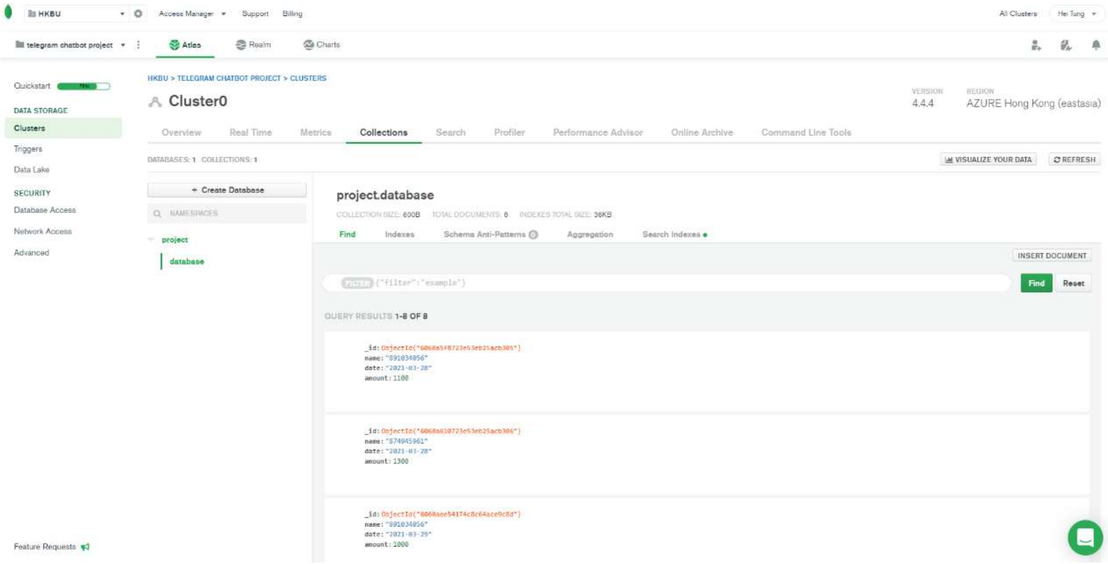
LINKED REALM APP
None Linked

This is a Shared Tier Cluster
If you need a database that's better for high-performance production applications, upgrade to a dedicated cluster.

Operations R: 0 W: 0

Logical Size 36.6 KB

Connections 6



HKBU > TELEGRAM CHATBOT PROJECT > CLUSTERS

Cluster0

VERSION 4.4.4
REGION AZURE Hong Kong (eastasia)

DATABASES: 1 COLLECTIONS: 1

project.database

COLLECTION SIZE: 600B TOTAL DOCUMENTS: 8 INDEXES TOTAL SIZE: 36KB

{"filter":"example"}

QUERY RESULTS 1-8 OF 8

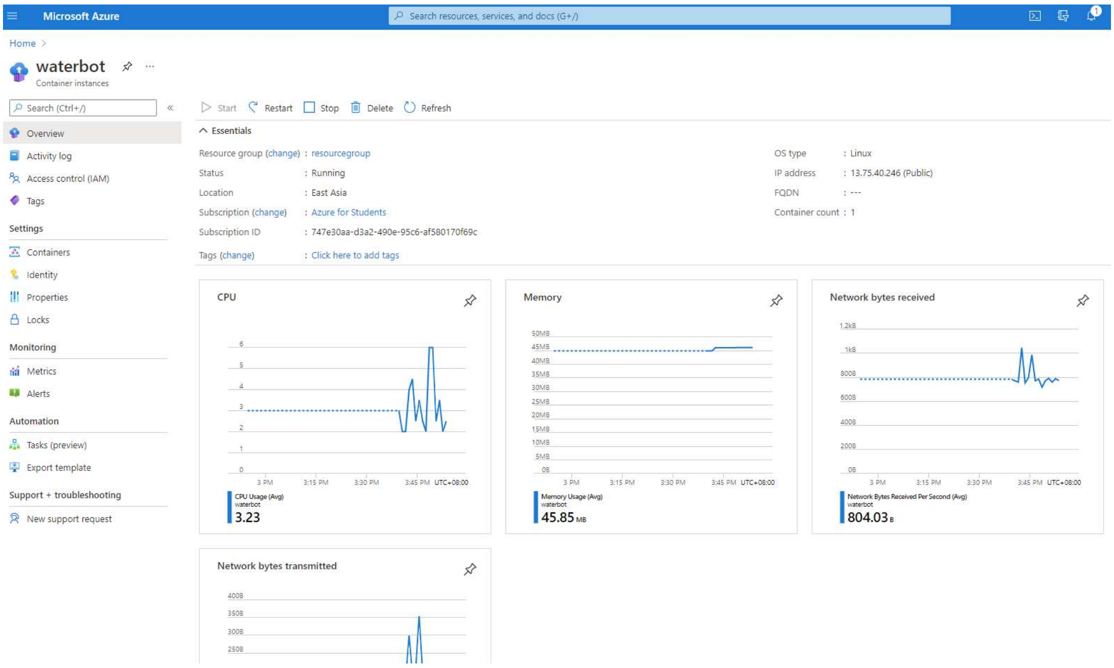
```
_id:ObjectId("6060a5f8723e53eb25acb305")
name:"891034056"
date:"2021-03-28"
amount:1100

_id:ObjectId("6060a610723e53eb25acb306")
name:"874945961"
date:"2021-03-28"
amount:1300

_id:ObjectId("6060aee54174c8c64ace9c8d")
name:"891034056"
date:"2021-03-29"
amount:1000
```

The app must be host on a cloud platform other than Heroku
Container technologies must be used

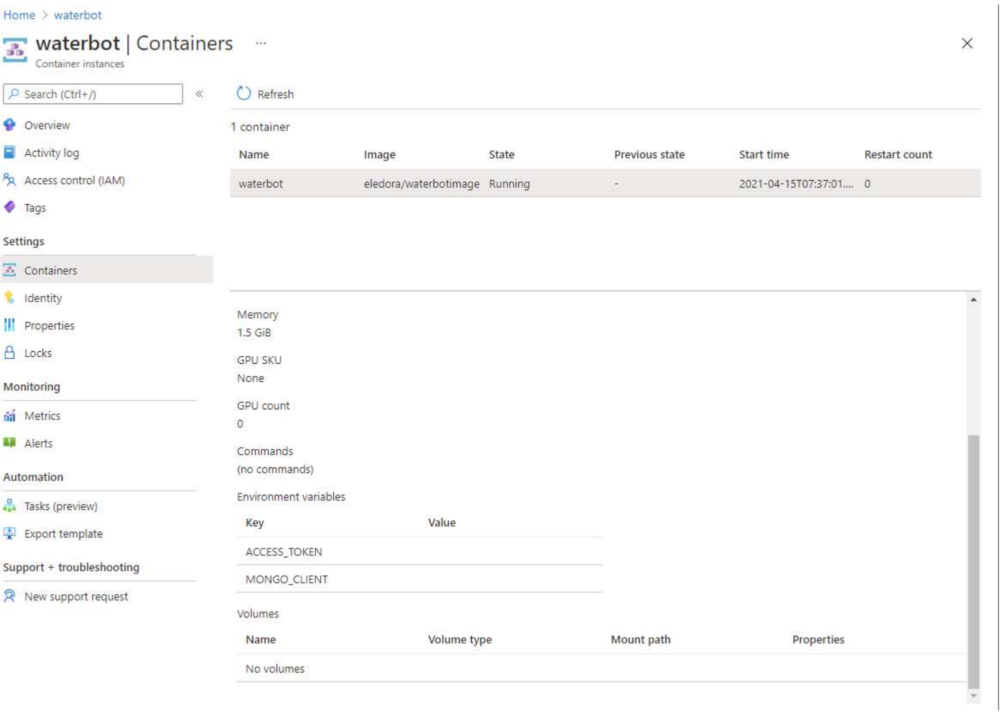
- The app is hosted on Azure, a cloud platform, and hosted as a container:



Resource group (change) : resourcegroup
Status : Running
Location : East Asia
Subscription (change) : Azure for Students
Subscription ID : 747e30aa-d3a2-490e-95c6-af580170f69c
Tags (change) : Click here to add tags

OS type : Linux
IP address : 13.75.40.246 (Public)
FQDN : ---
Container count : 1

- The secrets are stored on Azure service to enhance security measurements:



1 container

Name	Image	State	Previous state	Start time	Restart count
waterbot	eledora/waterbotimage	Running	-	2021-04-15T07:37:01....	0

Memory
1.5 GiB

GPU SKU
None

GPU count
0

Commands
(no commands)

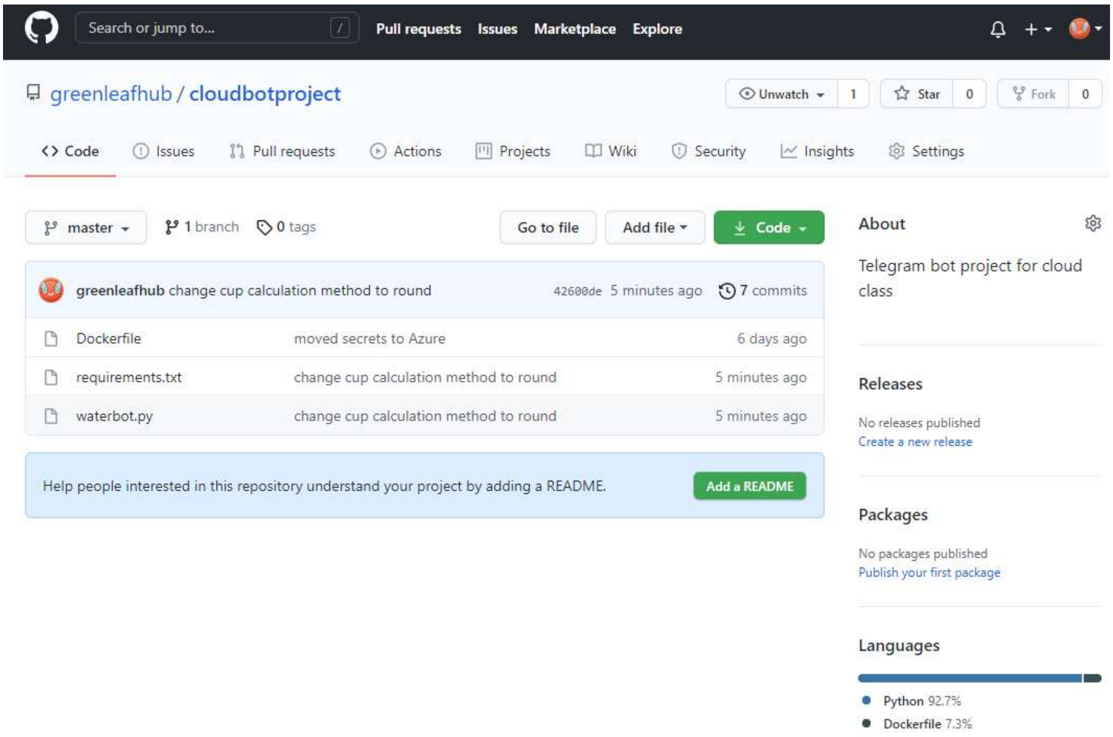
Environment variables

Key	Value
ACCESS_TOKEN	
MONGO_CLIENT	

Volumes

Name	Volume type	Mount path	Properties
No volumes			

The app must be managed by git:



greenleafhub / cloudbotproject

greenleafhub change cup calculation method to round 42600de 5 minutes ago 7 commits

Dockerfile	moved secrets to Azure	6 days ago
requirements.txt	change cup calculation method to round	5 minutes ago
waterbot.py	change cup calculation method to round	5 minutes ago

Help people interested in this repository understand your project by adding a README.

About

Telegram bot project for cloud class

Releases

No releases published
Create a new release

Packages

No packages published
Publish your first package

Languages

● Python 92.7%
● Dockerfile 7.3%

References used

Python MongoDB | w3schools
https://www.w3schools.com/python/python_mongodb_getstarted.asp

使用 Dockerfile 設定 Container 時區 | 辛西亞的技能樹
https://cynthiachuang.github.io/Change-Timezone-in-Dockerfile/

Set environment variables in container instance - Azure Container Instances | Microsoft Docs
https://docs.microsoft.com/en-us/azure/container-instances/container-instances-environment-variables

Base code obtained from com7940 cloud computing lab sections.