1. about the database I use:

I choose to use MongoDB Atlas

a. It is a cloud-based database. MongoDB Atlas is a fully-managed cloud database that handles all the complexity of deploying, managing, and healing your deployments on the cloud service provider of your choice (AWS , Azure, and GCP). MongoDB Atlas is the best way to deploy, run, and scale MongoDB in the cloud.

b. The project data does not have complex relations. It is easier to use the MongoDB because it is like the operation of json file

c. I create the cloud database for free

1. How to create the database:
2. Sign in page:

https://account.mongodb.com/account/login?nds=true&\_ga=2.148904374.1076191997.1673157179-341948187.1667526511

1. Click create to create a cluster. If you are invited to join an organization, you can leave that organization and so you can create your own.

Select MongoDB Atlass because it contains more services, and click on next

Graphical user interface, text, application

Description automatically generatedThen create organization as the owner, and you can add users later.

Create a new project

Create a database (owner has to do it)

Build a database: chose “shared” because it is free.

Graphical user interface, text, application, chat or text message

Description automatically generated

Create a shared cluster

Graphical user interface, text, application, email

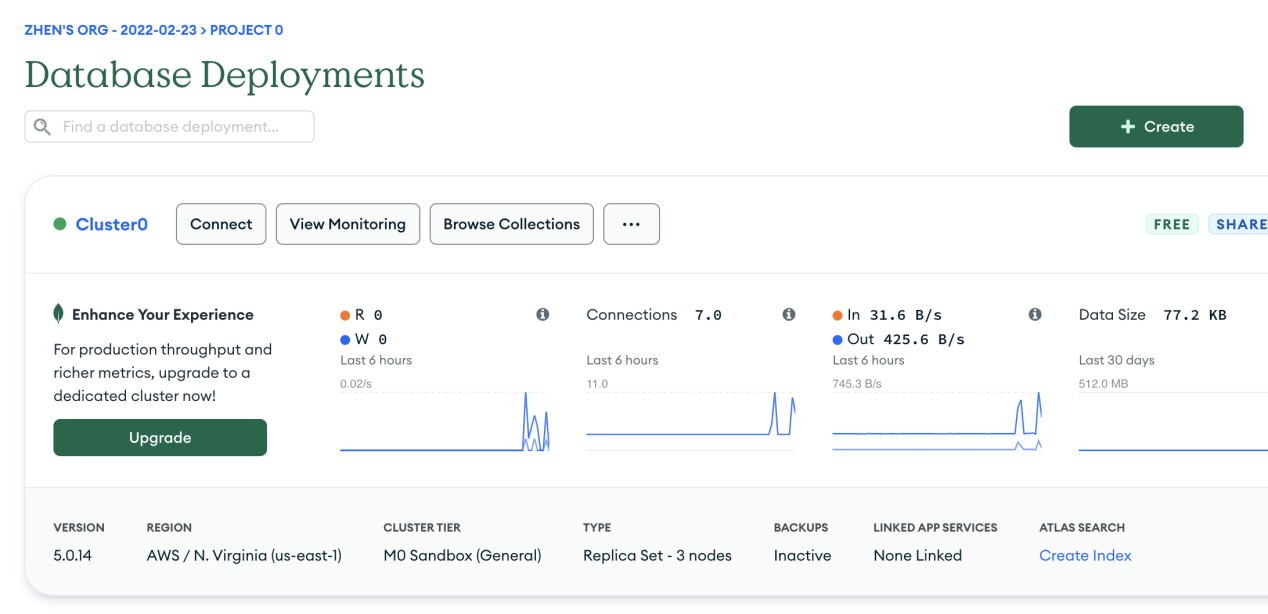
Description automatically generated

The page that contains password is deleted for the security purpose.

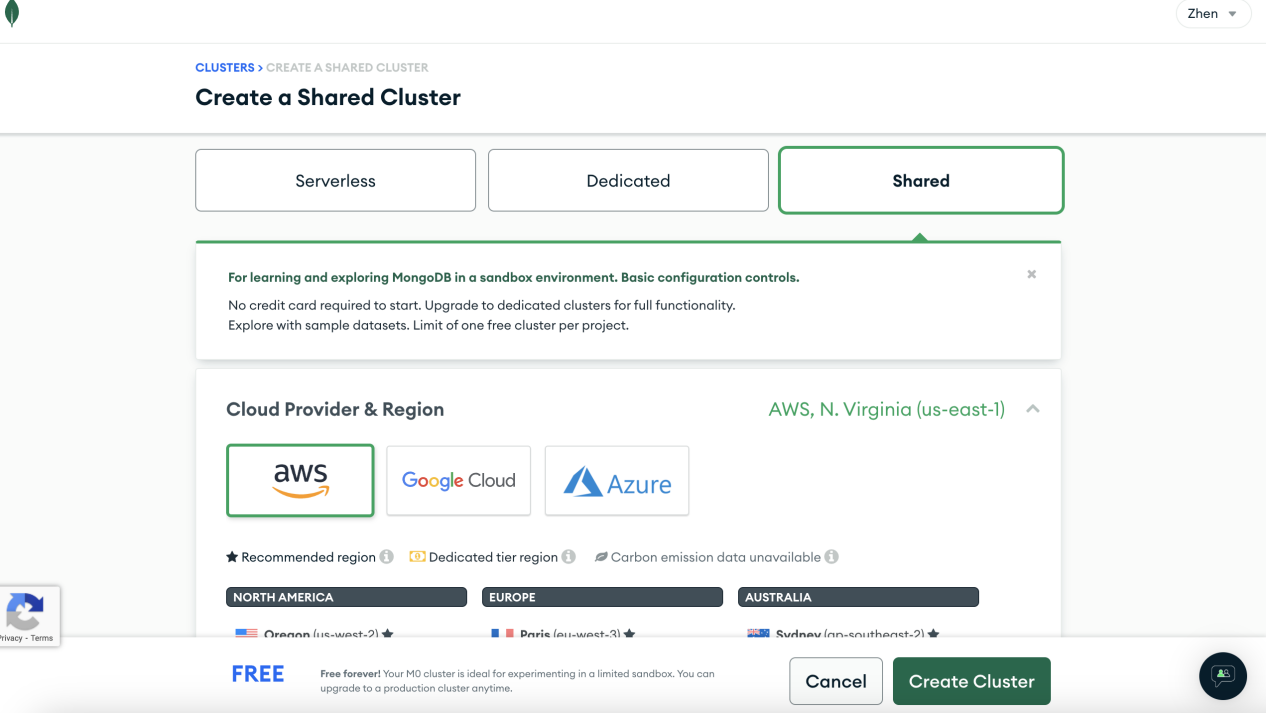
Graphical user interface, text, application

Description automatically generated

Useed a temp IP to move on to create a database.

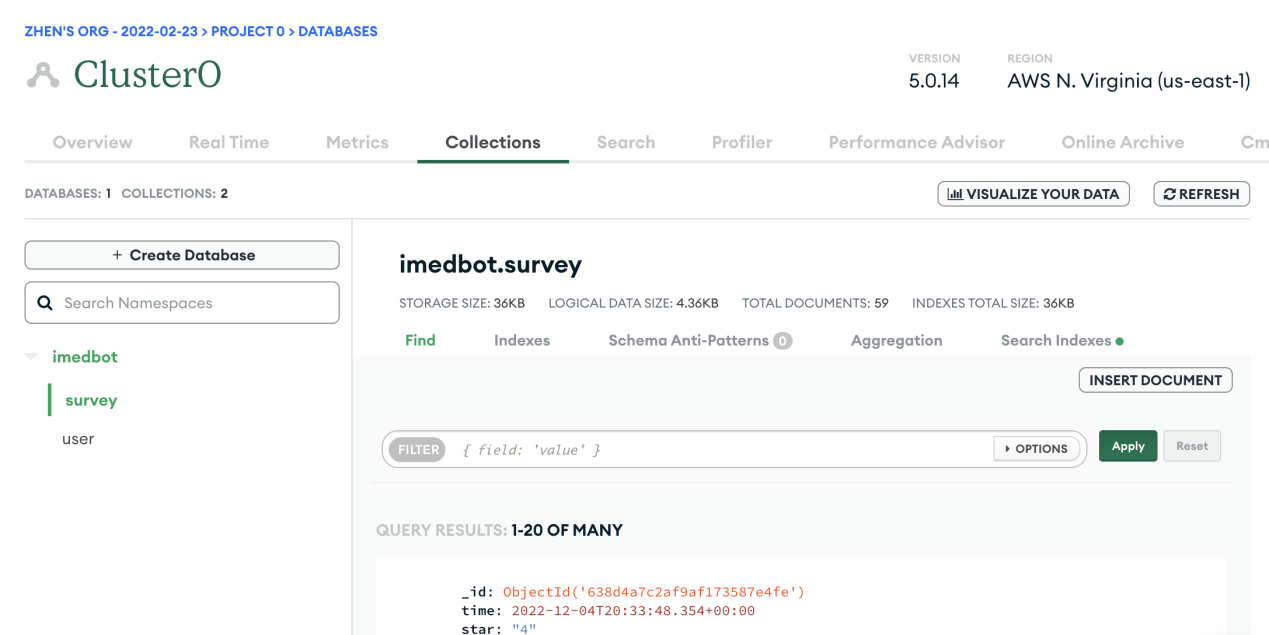
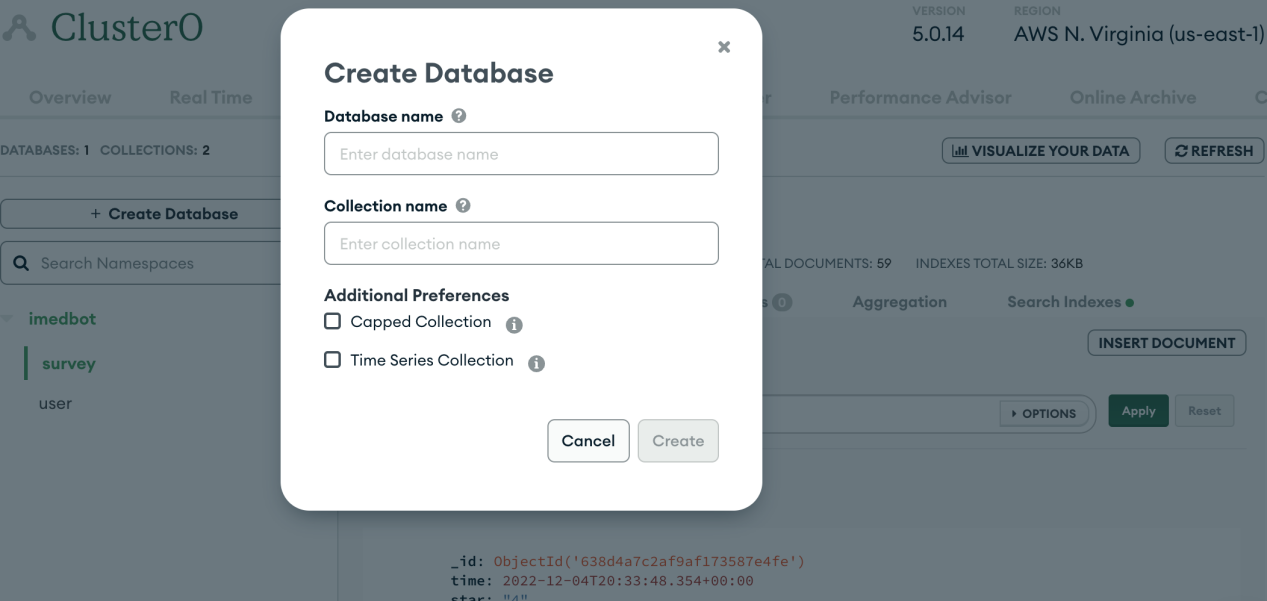


c. Choose the settings. Only shared is free. I just use the default settings and click create cluster.

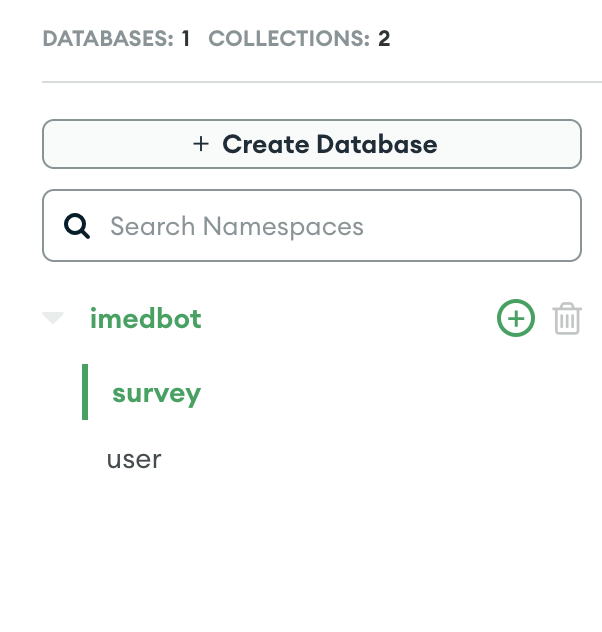


d. After creating the cluster, go into it and click collections

Create database and collections like this by click ‘create database’

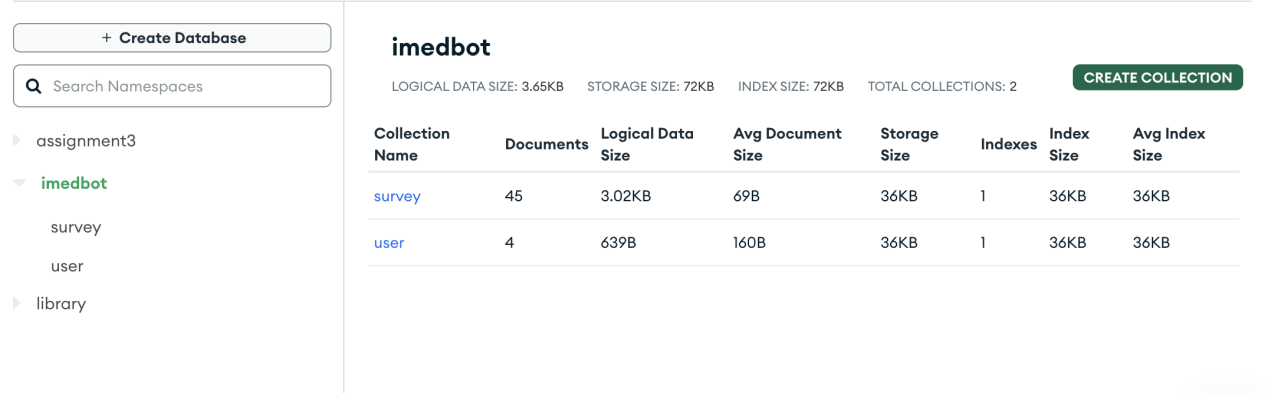


d. Create more collections by clicking ‘+’.



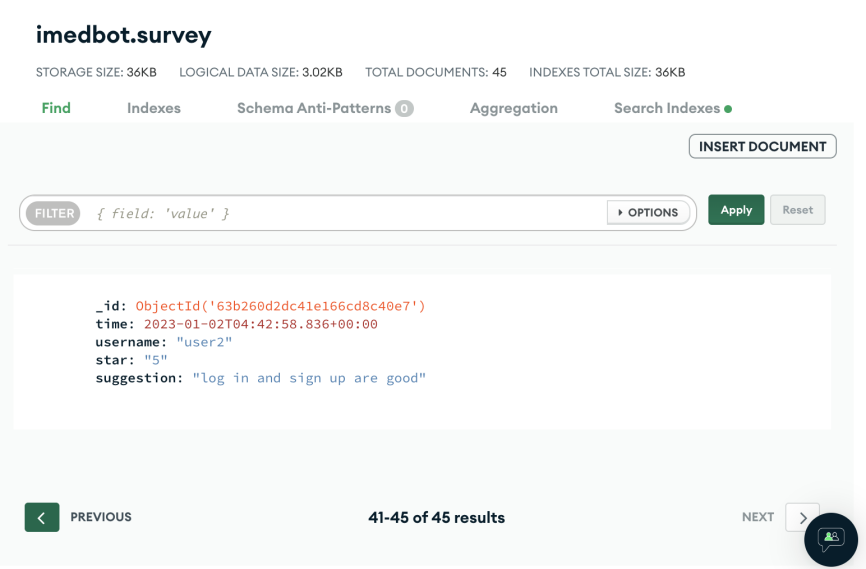
1. The structure of database:

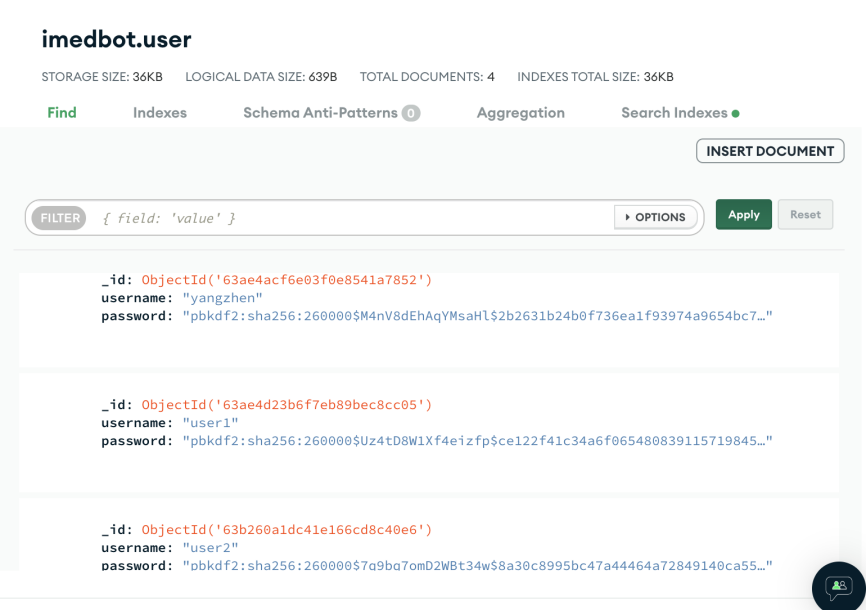
a.I create the database called imedbot. Multiple collections can be created in MongoDB database. “A collection is a grouping of MongoDB documents. Documents within a collection can have different fields. A collection is the equivalent of a table in a relational database system.”



b. I create two collections. One is used for storing users’ survey and the other is used for storing users’ username and password.

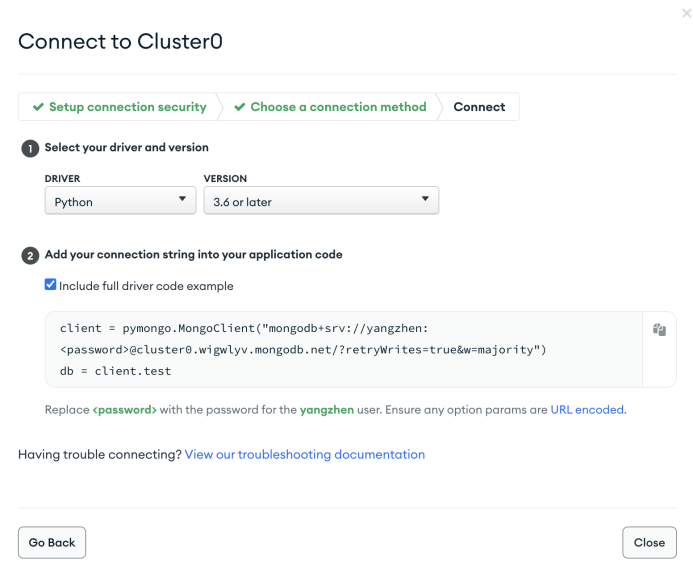
For security reasons, I store the password by using encryption and cannot see the plaintext of password.





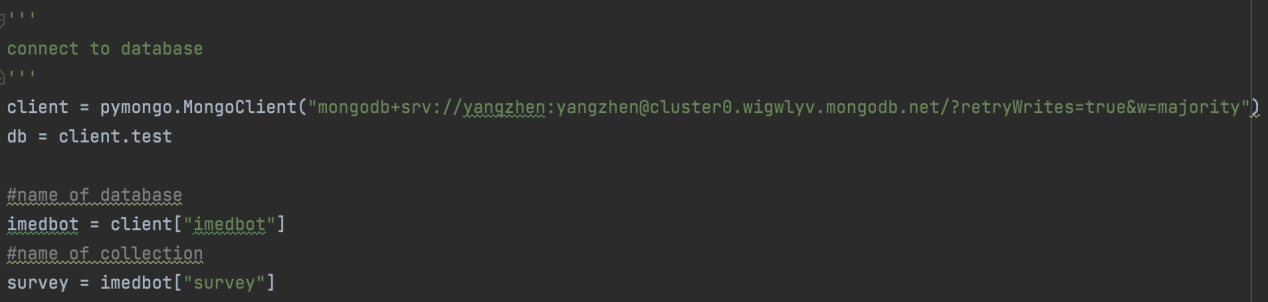
1. connecting to python project

The guide from MongoDB website:

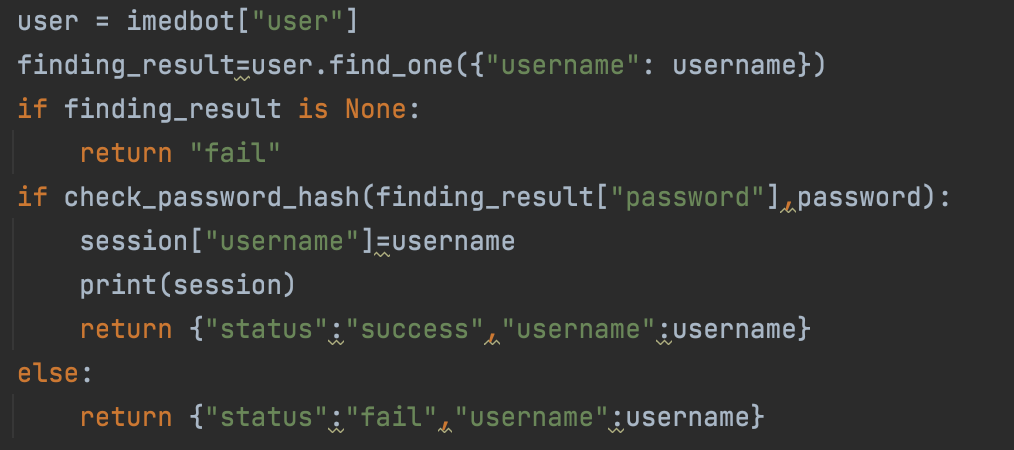


An entry of a MongoDB database is collected from the frontend of the iMedbot, and then it will be sent to the backend (application.py), which will place it into the database. The screenshot below is about how the application.py communicate with both the MongoDB and the AWS.

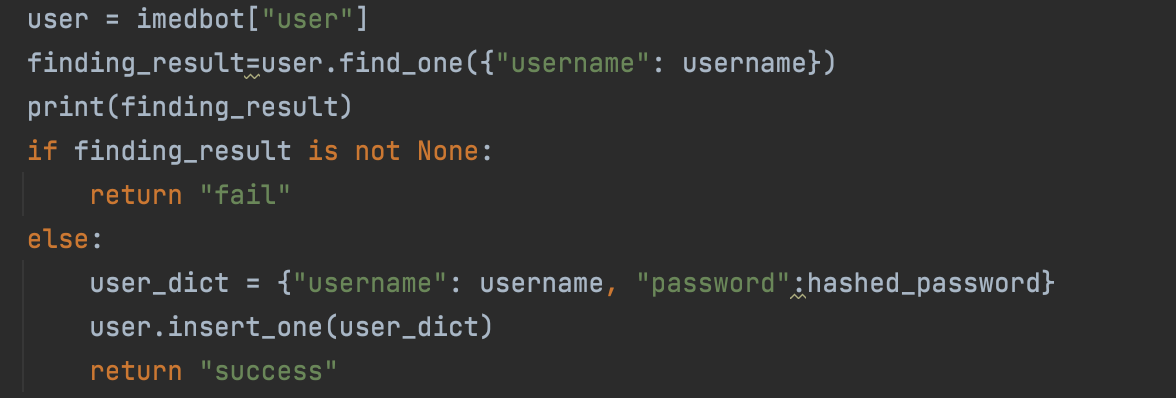
“imedbot” is the name of our current database, which contains three collections: “survey”, “user”, and “verification”



Finding:



Inserting:



See the files in our current iMedbot-dev folder: audio.py and chatbot.py were from previous attempt for voice bot, but not used currently. Other files such as trySpeak.py, tryShap and etc were created for testing purpose, and they are used in the main code. Trello\_wrapper.py is used and will be moved to the utility folder. Application.py is really the only application codes (backend). We have two folders concerns the front end: static and templates (HTML). In js folder (under static folder), we have a file called iMedbot.js, which communicates with a user and collect information from a user via the “conversation”. Could search for “post” or “get”, those two commands are designed for communication between the front and back end. “Post” is used to submit the information to the server, and “get” is used to retrieve information from the server.

More accurate definition of get and post:

In the context of web development and HTTP (Hypertext Transfer Protocol), GET and POST are two commonly used methods for requesting and submitting data between a client (such as a web browser) and a server. These methods determine how data is transmitted, processed, and retrieved.

GET Method:

The GET method is used to request data from a specified resource. It is a read-only method, meaning that it doesn't modify the server's state. GET requests are typically used to access or fetch data from a server, such as a webpage or an API. The request parameters are appended to the URL, and they are visible in the address bar. Since the data is exposed in the URL, GET should not be used for sensitive data transmission. The main characteristics of the GET method are:

Read-only and idempotent

Parameters are visible in the URL

Limited data size, as URLs have a maximum length

Can be cached, bookmarked, and easily shared

POST Method:

The POST method is used to submit data to a specified resource for processing. It is a write method, which means that it can modify the server's state. POST requests are commonly used to submit form data, upload files, or send data to an API. The request parameters are sent in the body of the HTTP request and are not visible in the address bar. POST is more secure than GET, as the data is not exposed in the URL. The main characteristics of the POST method are:

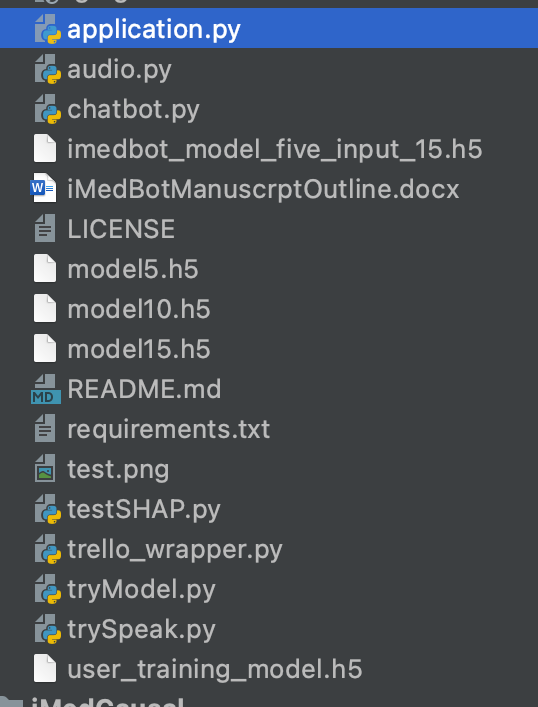
Write method, can modify server state

Parameters are sent in the request body

No size limitation on the data submitted

Cannot be cached, bookmarked, or easily shared

For example, when a user submit a survey from the website, the imedbot.js will be called.

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**When a user submits data through the form on the frontend, the data is sent to the backend and eventually stored in the database. Here's a simple explanation of the process:**

**1.The user fills out the form and clicks a button to submit their input. The form contains input fields for the rating (radio buttons) and the suggestion text (text area).**

**2.When the button is clicked, the displayRadioValue() JavaScript function is called. This function gathers the values of the checked radio button (rating) and the text from the text area (suggestion).**

**3.The function then sends the gathered data to the backend using an AJAX POST request. The URL of the request is "/submitsurvey", and the data sent includes the rating (checked\_star) and the suggestion text (text).**

**4.On the backend, the server receives the data through the get\_user\_survey() function. This function is associated with the "/submitsurvey" route and handles POST requests.**

**5.Inside get\_user\_survey(), the server retrieves the rating and suggestion text from the request by using request.form.get().**

**6.The server then creates a dictionary called survey\_dict, which includes the current time, username, rating, and suggestion text. This dictionary represents the user's survey submission.**

**Finally, the server stores the survey\_dict in the database by calling survey.insert\_one(survey\_dict).**

**(above is the example of how survey results is transmitted from user to database. It is the same for other modules in our system)**

**Migrating Database from a personal account to project account**

<https://account.mongodb.com/account/login>

User login:

[xij6@pitt.edu](mailto:xij6@pitt.edu)

ps: 12345aBc

My user name and password JiangLab (organization) of MongoDB

Graphical user interface

Description automatically generated

Password for database connection (in your codes): 12345aBc

Once log in, go to cluster 0, one user can only create one free cluster, but a user cancer create multiple databases in one cluster. We currently have one database and three collections (forms) in this database.

Click on collections to see the current database(s). We currently have one collection for the user survey, one for the user registration, and one for verification.

5.database migration (done)

To install the database tools, follow the website:

https://www.mongodb.com/docs/database-tools/installation/installation/

Graphical user interface, text, application, email

Description automatically generated

Official guide from website:

You can download and upload the data using command line.

Graphical user interface, text, application, email

Description automatically generated

Here the password is the one that is used for database access not that for website account.

The password used for connecting database is: 12345aBc