



DOCUMENT CHAT INSTALLATION

ABSTRACT

[Draw your reader in with an engaging abstract. It is typically a short summary of the document. When you're ready to add your content, just click here and start typing.]



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Introduction

The instructions you've provided offer a basic overview of the installation process for a document chat service software developed in Python, which adopts a mini microservice architecture comprising two distinct services: ingestion and chat service. These services operate as individual instances, utilizing HTTP for communication with JSON payloads.

Prerequisites:

- Ensure Python (version 3.8 or later) is installed on your system.
- Verify that your system has network access to accommodate HTTP communication.

Step 1: Setting Up Global Environment Variables

To properly configure the application, you must set up environment variables in a file named `environment`. This step is crucial for defining the operational parameters of the system. Below are the key environment variables required for the application, along with additional variables that might be needed:

GOVBOTIC_INGESTION_STORAGE:

This variable specifies the directory where ingested documents are stored. Ensure this location has read/write permissions.

```
export GOVBOTIC_INGESTION_STORAGE="/path/to/ingestion/storage"
```

GOVBOTIC_FILE_SANDBOX:

Defines a path for miscellaneous storage, such as temporary files or sandbox environments.

```
export GOVBOTIC_FILE_SANDBOX="/path/to/sandbox/storage"
```

DEEPINFRA_API_TOKEN:

The access token for DeepInfra, essential for backend operations. Keep this token secure.

```
export DEEPINFRA_API_TOKEN="your_deepinfra_api_token_here"
```

OPENAI_API_KEY:

The API key for accessing OpenAI services. This key should be safeguarded.

```
export OPENAI_API_KEY="your_openai_api_key_here"
```



Additional Variables:

GOVBOTIC_API_BASE_URL: DO NOT CHANGE

The base URL for the application's API, typically set to localhost for development.

`export GOVBOTIC_API_BASE_URL=http://127.0.0.1:8000`

GOVBOTIC_API_TOKEN: DO NOT CHANGE FUTURE USE

A secure token for API request authentication within the application.

`export GOVBOTIC_API_TOKEN="your_api_token_here"`

GOVBOTIC_ADMIN_SERVER: DO NOT CHANGE

The URL for the application's admin server.

`export GOVBOTIC_ADMIN_SERVER="http://127.0.0.1:8050"`

GOVBOTIC_LLM_DEEPINFRA: DO NOT CHANGE

Indicates whether to use DeepInfra with large language models (True/False).

`export GOVBOTIC_LLM_DEEPINFRA=True`

Note: The environment variables should be set in the .cshrc or .zshrc file.

Step 2: Setup Python Environment

After configuring the environment variables, the next step involves setting up a Python virtual environment and installing the necessary packages for the application. This process ensures that the application's dependencies are managed without affecting other Python projects on the same system.

Create the Python Virtual Environment:

To create a virtual environment, navigate to the directory where the chat service application is installed. Then, run the following command in your terminal or command prompt. Note that there's a small correction to the command you provided; it should start with `python` followed by ` -m venv .venv` without repeating `python` at the beginning.

This command creates a virtual environment named ` .venv` in the current directory. It's crucial to run this command in the root directory of the chat service to ensure that the virtual environment is correctly associated with the project.



Activate the Virtual Environment:

Before installing the required packages, you need to activate the virtual environment. The activation command differs slightly between operating systems.

On macOS/Linux:

```
source .venv/bin/activate
```

Once activated, your command prompt should indicate that you are now working within the `venv` virtual environment.

Install Required Python Packages:

With the virtual environment activated, install the necessary Python packages using the `pip` command and the `requirements.txt` file provided with the chat service application:

```
pip install -r requirements.txt
```



Installation Screen Shots

Tar Extract Code

```
(.venv) randolphhill@FrankLouis0922 chatservice % ls  
20240227_2147_devq.tar.gz  
(.venv) randolphhill@FrankLouis0922 chatservice % tar xvf ./20240227_2147_devq.tar.gz  
x devq/  
x devq/testscripts/  
x devq/frontend/  
x devq/requirements.txt  
x devq/util/  
x devq/fileops/  
x devq/ingest/  
x devq/admin/  
x devq/backend/  
x devq/runfifserver.sh  
x devq/envariables  
x devq/objmsg/  
x devq/chains/  
x devq/chains/__init__.py  
x devq/chains/_pycache__/  
x devq/chains/fchains.py  
x devq/chains/_pycache__/__init__.py  
x devq/chains/_pycache__/__init__.pyc  
x devq/chains/_pycache__/__init__.pyo  
x devq/chains/_pycache__/fchains.py  
x devq/chains/_pycache__/fchains.pyc  
x devq/chains/_pycache__/fchains.pyo
```

Create Virtual Environment

```
● ● ● devq -- zsh -- 128x44  
randolphhill@FrankLouis0922 devq % python3 -m venv .venv  
randolphhill@FrankLouis0922 devq % source .venv/bin/activate  
(.venv) randolphhill@FrankLouis0922 devq %
```

Activate Virtual Environment

```
● ● ● devq -- zsh -- 122x31  
randolphhill@FrankLouis0922 devq % source .venv/bin/activate  
(.venv) randolphhill@FrankLouis0922 devq % pip install -r requirements.txt  
Collecting aiohttp==3.9.3 (from -r requirements.txt (line 1))  
  Obtaining dependency information for aiohttp==3.9.3 from https://files.pythonhosted.org/packages/46/57/9959621366c272f05  
c95f6cf795ebde9edc22c718e61bae1f565a4832b86/aiohttp-3.9.3-cp311-cp311-macosx_10_9_x86_64.whl.metadata  
    Using cached aiohttp-3.9.3-cp311-cp311-macosx_10_9_x86_64.whl.metadata (7.4 kB)  
Collecting aiosignal==1.3.1 (from -r requirements.txt (line 2))  
  Obtaining dependency information for aiosignal==1.3.1 from https://files.pythonhosted.org/packages/76/ac/a7305707cb852b7  
e16ff80eaf5692309bde30e2b1100a1fcacdc8f731d97/aiosignal-1.3.1-py3-none-any.whl.metadata  
    Using cached aiosignal-1.3.1-py3-none-any.whl.metadata (4.0 kB)  
Collecting altair==5.2.0 (from -r requirements.txt (line 3))  
  Obtaining dependency information for altair==5.2.0 from https://files.pythonhosted.org/packages/c5/e4/7fcceef127badbb0d6
```



Setup .bashrc/.zshrc

```
devq -- zsh -- 122x31
(.venv) randolphhill@FrankLouis0922 devq % cat envariables
export GOVBOTIC_INGESTION_STORAGE="/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/DOCUMENTS"
export GOVBOTIC_FILE_SANDBOX="/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/sandbox"
export GOVBOTIC_FILE_SANDBOX="/tmp/TEMP"
export GOVBOTIC_API_BASE_URL="http://127.0.0.1:8000"
export GOVBOTIC_API_TOKEN="FIFTOKENFORMAT"
export GOVBOTIC_ADMIN_SERVER="http://127.0.0.1:8050"
export GOVBOTIC_LLM_DEEPINFRA="True"
export DEEPINFRA_API_TOKEN=bTKK2Wy68YydsDZalCDydUW6XFR7aVSi
export OPENAI_API_KEY=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
(.venv) randolphhill@FrankLouis0922 devq % vi ~/.zshrc
```

Run Chat Service

```
backend -- Python + runserver.sh -- 122x31
(.venv) randolphhill@FrankLouis0922 devq % cat envariables
export GOVBOTIC_INGESTION_STORAGE="/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/DOCUMENTS"
export GOVBOTIC_FILE_SANDBOX="/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/sandbox"
export GOVBOTIC_FILE_SANDBOX="/tmp/TEMP"
export GOVBOTIC_API_BASE_URL="http://127.0.0.1:8000"
export GOVBOTIC_API_TOKEN="FIFTOKENFORMAT"
export GOVBOTIC_ADMIN_SERVER="http://127.0.0.1:8050"
export GOVBOTIC_LLM_DEEPINFRA="True"
export DEEPINFRA_API_TOKEN=bTKK2Wy68YydsDZalCDydUW6XFR7aVSi
export OPENAI_API_KEY=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
(.venv) randolphhill@FrankLouis0922 devq % cd ./backend
(.venv) randolphhill@FrankLouis0922 backend % ./runserver.sh
Directory path '/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/DOCUMENTS' validated.
Directory path '/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/sandbox' validated.
Directory path '/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/sandbox/bottomDrawer' validated.
INFO:      Will watch for changes in these directories: ['/Users/randolphhill/govbotics/deepinfra/chatservice/devq/backend']
INFO:      Uvicorn running on http://0.0.0.0:8000 (Press CTRL+C to quit)
INFO:      Started reloader process [11599] using WatchFiles
INFO:      Started server process [11601]
INFO:      Waiting for application startup.
INFO:      Application startup complete.
```



Starting the Chat and Ingestion Service

Open a Terminal Window:

Access your command line or terminal.

Navigate to Installation Directory

cd /path/to/Installation director

Replace **/path/to/Installation director** ` with the actual path to your installation directory.

Activate the Python Virtual Environment:

source .venv/bin/activate

Navigate to the Backend Directory:

cd backend

To start the Chat Service: ***./runserver.sh***

If permission is denied, make it executable:

chmod +x runserver

./runserver

Screen Shot Chat Service

```
backend - Python - runserver.sh - 134x23
randolphhill@FrankLouis0922 devq % source .venv/bin/activate
(.venv) randolphhill@FrankLouis0922 devq % cd backend
(.venv) randolphhill@FrankLouis0922 backend % ./runserver.sh
Directory path '/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/DOCUMENTS' validated.
Directory path '/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/sandbox' validated.
Directory path '/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/sandbox/bottomDrawer' validated.
INFO: Will watch for changes in these directories: ['/Users/randolphhill/govbotics/deepinfra/devq/backend']
INFO: Uvicorn running on http://0.0.0.0:8000 (Press CTRL+C to quit)
INFO: Started reloader process [10311] using WatchFiles
INFO: Started server process [10313]
INFO: Waiting for application startup.
INFO: Application startup complete.
```



Starting Ingestion Service

To start the Ingestion Service following the template of instructions provided for the Chat Service, you would proceed as follows:

Open a second Terminal Window:

Access your command line or terminal.

Navigate to Installation Directory:

cd /path/to/Installation director

Activate the Python Virtual Environment:

source .venv/bin/activate

Navigate to the Ingest Directory:

cd /path/to/installation/director/ingest

To Start the Ingestion service type: **./runingestserver.sh**

If you encounter a permission denied error, you may need to grant executable permissions to the script:

chmod +x runingestserver.sh

./runingestserver.sh

Screen Shot Ingestion Service

```
randolphhill@FrankLouis0922 ingest % cd ..
randolphhill@FrankLouis0922 devq % source .venv/bin/activate
(.venv) randolphhill@FrankLouis0922 devq % cd ingest
(.venv) randolphhill@FrankLouis0922 ingest % ./runingestserver.sh
Directory path '/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/DOCUMENTS' validated.
Directory path '/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/sandbox' validated.
Directory path '/Users/randolphhill/govbotics/deepinfra/Pansolusi/fifserver/ingestion/sandbox/bottomDrawer' validated.
INFO: Will watch for changes in these directories: ['/Users/randolphhill/govbotics/deepinfra/devq/ingest']
INFO: Uvicorn running on http://0.0.0.0:8050 (Press CTRL+C to quit)
INFO: Started reloader process [8283] using WatchFiles
INFO: Started server process [8285]
INFO: Waiting for application startup.
INFO: Application startup complete.
INFO: 127.0.0.1:52215 - "GET / HTTP/1.1" 404 Not Found
UPLOADIN
Current Date & Time: 2024-02-27 20:19:22
```



Prototype GUI

The following are screen shots on how to run the prototype GUI for the ingestion server and the chat service.

Ingestion Service GUI Screen Shots

```
randolphhill@FrankLouis0922 devq % source .venv/bin/activate
(.venv) randolphhill@FrankLouis0922 devq % cd admin
(.venv) randolphhill@FrankLouis0922 admin % ./runadmingui.sh
Virtual environment activation script validated.
Ingestion Service is running on http://0.0.0.0:8050

  You can now view your Streamlit app in your browser.

  Local URL: http://localhost:8050
  Network URL: http://100.64.100.6:8050

  For better performance, install the Watchdog module:

$ xcode-select --install
$ pip install watchdog
```



The screenshot shows a web browser window with three tabs open, all titled "app - Streamlit". The address bar for the active tab shows "localhost:8050". The page content is titled "File Upload Interface". It features a "File Drawer Selection" dropdown menu set to "Accounting", which is also displayed in a "File Drawer" below it. A "File" input field is present, and a "Send" button is at the bottom right. The browser's toolbar includes standard controls like back, forward, and search, along with a "Deploy" button.



Chat Service GUI

```
frontend — Python < runfrontend.py — 1:1
randolphhill@FrankLouis0922 devq % source .venv/bin/activate
(.venv) randolphhill@FrankLouis0922 devq % cd frontend
(.venv) randolphhill@FrankLouis0922 frontend % ./runfrontend.py
Virtual environment activation script validated.
Backend Chat service is running on http://0.0.0.0:8000

You can now view your Streamlit app in your browser.

Local URL: http://localhost:8505
Network URL: http://100.64.100.6:8505

For better performance, install the Watchdog module:

$ xcode-select --install
$ pip install watchdog
```

localhost:8505

Deploy

Chat with Doc

Accounting SKELETONOFTHOURHT USAIDPOLICY GovBotic

Select an option... Select an option... Select an option... Select an option...

SINGLEFILE FatTree FIFDOCUMENT TESTLA

Select an option... Select an option... Select an option... Select an option...

AWS CHAINOFTHOUGHT Garlic OFTHOUGHTSK

Select an option... Select an option... Select an option... Select an option...

GovBotic MYDOCS

Select an option... Select an option...

Type your message here:

Send



Sample Code

The provided sample code, including Python, Bash scripts, and JavaScript, serves as a reference for interfacing with both the Chat Service and the Ingestion Service. You are encouraged to use this code as a template for developing your application's interaction with the backend service.

Chat Sample Code

```
(.venv) randolphhill@FrankLouis0922 testscripts % pwd
/Users/randolphhill/govbotics/deepinfra/chatservice/devq/testscripts
(.venv) randolphhill@FrankLouis0922 testscripts % ls -ltr */
-rw-r--r-- 1 randolphhill staff 1532 Feb 23 12:50 setchatfile/setchatfile.py
-rw-r--r-- 1 randolphhill staff 1742 Feb 23 12:50 setchatfile/setchatdoc1.py.old
-rwxr-xr-x 1 randolphhill staff 508 Feb 23 12:50 listfiles/loadtesting.sh
-rwxr-xr-x 1 randolphhill staff 487 Feb 23 12:50 listfiles/listfiles.sh
-rw-r--r--@ 1 randolphhill staff 194 Feb 23 12:50 listfiles/README_FIRST_IMPORTANT.txt
-rw-r--r-- 1 randolphhill staff 0 Feb 23 13:29 listfiles/ls
-rw-r--r-- 1 randolphhill staff 1486 Feb 23 13:31 listfiles/traverse.py
-rwxr-xr-x 1 randolphhill staff 1166 Feb 23 13:41 chat/sendtext.sh
-rw-r--r-- 1 randolphhill staff 1397 Feb 23 13:45 chat/sendmsg.py
-rw-r--r-- 1 randolphhill staff 1167 Feb 24 18:58 setchatfile/setchatfile.js
-rw-r--r-- 1 randolphhill staff 1397 Feb 25 17:00 listfiles/listfilesTest.py
-rw-r--r-- 1 randolphhill staff 867 Feb 26 19:27 listfiles/listfiles.js
-rwxr-xr-x 1 randolphhill staff 814 Feb 26 19:28 setchatfile/setchatfile.sh
-rw-r--r-- 1 randolphhill staff 1027 Feb 26 19:30 chat/chat.js
-rw-r--r-- 1 randolphhill staff 1522 Feb 27 12:39 listfiles/listfilesfunc.py
(.venv) randolphhill@FrankLouis0922 testscripts %
```



Sample Ingestion Code

```
testapps -- zsh -- 128x44
-rw-r--r-- 1 randolphhill staff 4551 Feb 26 09:45 Readme.md
-rw-r--r-- 1 randolphhill staff 1085 Feb 26 09:45 License

./node_modules/asynckit:
total 80
-rw-r--r-- 1 randolphhill staff 703 Feb 26 09:45 stream.js
-rw-r--r-- 1 randolphhill staff 1751 Feb 26 09:45 serialOrdered.js
-rw-r--r-- 1 randolphhill staff 501 Feb 26 09:45 serial.js
-rw-r--r-- 1 randolphhill staff 1017 Feb 26 09:45 parallel.js
-rw-r--r-- 1 randolphhill staff 1611 Feb 26 09:45 package.json
drwxr-xr-x 13 randolphhill staff 416 Feb 26 09:45 lib
-rw-r--r-- 1 randolphhill staff 156 Feb 26 09:45 index.js
-rw-r--r-- 1 randolphhill staff 1256 Feb 26 09:45 bench.js
-rw-r--r-- 1 randolphhill staff 7640 Feb 26 09:45 README.md
-rw-r--r--@ 1 randolphhill staff 1078 Feb 26 09:45 LICENSE

./node_modules/node-fetch:
total 72
-rw-r--r-- 1 randolphhill staff 2668 Feb 26 09:48 package.json
drwxr-xr-x 5 randolphhill staff 160 Feb 26 09:48 lib
-rw-r--r-- 1 randolphhill staff 781 Feb 26 09:48 browser.js
-rw-r--r-- 1 randolphhill staff 21332 Feb 26 09:48 README.md
-rw-r--r-- 1 randolphhill staff 1079 Feb 26 09:48 LICENSE.md

./node_modules/whatwg-url:
total 32
-rw-r--r-- 1 randolphhill staff 886 Feb 26 09:48 package.json
drwxr-xr-x 7 randolphhill staff 224 Feb 26 09:48 lib
-rw-r--r-- 1 randolphhill staff 5136 Feb 26 09:48 README.md
-rw-r--r--@ 1 randolphhill staff 1088 Feb 26 09:48 LICENSE.txt

./node_modules/webidl-conversions:
total 32
-rw-r--r-- 1 randolphhill staff 511 Feb 26 09:48 package.json
drwxr-xr-x 3 randolphhill staff 96 Feb 26 09:48 lib
-rw-r--r-- 1 randolphhill staff 5480 Feb 26 09:48 README.md
-rw-r--r-- 1 randolphhill staff 1323 Feb 26 09:48 LICENSE.md

./node_modules/tr46:
total 24
-rw-r--r-- 1 randolphhill staff 732 Feb 26 09:48 package.json
drwxr-xr-x 3 randolphhill staff 96 Feb 26 09:48 lib
-rw-r--r-- 1 randolphhill staff 7567 Feb 26 09:48 index.js
(.venv) randolphhill@FrankLouis0922 testapps %
```