T STOCK V2.0

User Guide

Ming

2018

Content

History

Revision	Common	Date
V1.0	Initial release	2018/8/12

Abstract

This is my first python practice project, it base on MVC architecture with some simple OO & design pattern concept.

The project can fetch Taiwan stock exchange data and stored to RMDB (such as Maria DB, PostgreSQL), include the stock symbol and all exchange data.

System Requirement

- Windows/Linux/MAC platforms
- Python 3.x (not compatible with Python 2)
- GIT
- Internet access capability
- Requirement Packages of Python
  - colorama
  - lxml
  - pandas
  - mysqlclient(MySQLdb) or pymysql (optional)
  - psycopg2 (optional)

Special Thanks

- Brian Beck: switch class

System Features

- Command interactive mode
- Auto detected locale for language
- Auto detected which "RMDB" python packages installed
- Parallel take "LIST" & "OTC" stock symbols from TWSE website
- Fetch "stock data" by symbol from TWSE website
- Parallel calculate all technical analysis
- Extendable mechanism for "Language", "RMDB service" & "Stock Tech Analysis"
- Export tech analysis result to .CSV file

Install TW_STOCK_V2 from GitHub

Before install the "tw_stock_v2", please make sure your system already installed "git" program, and execute below command in command line.

- ```git clone https://github.com/minghsu/tw_stock_v2.git```

Install Requirement Packages

Before we run the "TW_STOCK_V2", please install below packages by PIP first.

- [colorama](#)
- [lxml](#)
- [pandas](#)
- [mysqlclient(MySQLdb)](#) or [pymysql](#) (for MariaDB or MySQL)
- [psycopg2](#) (optional)

Windows	C:\>python -m pip install colorama C:\>python -m pip install lxml C:\>python -m pip install pandas C:\>python -m pip install mysqlclient (or python –m pip install pymysql) C:\>python -m pip install psycopg2-binary
Unix Like	Linux#>pip install colorama Linux#>pip install lxml Linux#>pip install pandas Linux#>pip install mysqlclient (or pip install pymysql) Linux#>pip install psycopg2-binary

About the "mysqlclient" and "psycopg2-binary", those depend on which RMDB service was used.

If you are using "PostgreSQL" database, you just install "pyscopg2-binary" package.

For "MariaDB" (or MySQL), I suggest try to install "mysqlclient" first, if can't install due to some unknown reason, you can install "pymysql" to instead it.

In "TW_STOCK_V2", we can initial the schema of database by self, so we need to confirm the ID/PW have the "CREATE DATABASE" and "CREATE TABLE" permission.

Setup the connection info of database

After installed the request packages and configured the account for database for

TW_STOCK_V2, we can type below command in the console window, it will auto detect which packages installed for RMDB service, please follow step by step to provide the connection info for RMDB service

Windows	C:\>python tw_stock.py
Unix Like	Linux#>python tw_stock.py

```
C:\Users\Ming\Music\tw_stock_v2>python tw_stock.py

Welcome to use TW STOCK Version 2.0, (C)Copyright 2018, Hsu Chih-Ming
Type 'help' for help.

The database connection info is configurating.
Please follow the indicate to provide the HOST, ID & PW info.
Please confirm the ID have the CREATE DATABASE/TABLE permissions.
PS. The LOGIN info were stored to 'configuration.xml' file.

System detected below DB packages for Python:
1. MariaDB/MySQL
2. PostgreSQL
Pleass select which DB system will be use? 2
Please input the DB host address[localhost]:
Please input the ID: root
Please input the PW: 12345678

PostgreSQL database connected

Listed Company: Updating 100 % ...
OTC Company: Updating 100 % ...
The stock symbol already updated, there are 20291 stock symbols.

TW STOCK [None] > _
```

Download Stock Symbol

After connected to RMDB service, system will start download the stock symbol from TWSE side and provide the updating status.

In current design, we will auto download the stock symbol at each execution.

```
C:\Users\Ming\Music\tw_stock_v2>python tw_stock.py

Welcome to use TW STOCK Version 2.0, (C)Copyright 2018, Hsu Chih-Ming
Type 'help' for help.

PostgreSQL database connected

Listed Company: Updating   7 % ...
OTC Company: Updating  28 % ...
```

Supported commands

In this chapter, will explain all supported command on TW_STOCK_V2, and don't need to consider the upper and lower case

- **help**: Displayed the "HELP" message.

```
C:\Users\Ming\Music\tw_stock_v2>python tw_stock.py

Welcome to use TW STOCK Version 2.0, (C)Copyright 2018, Hsu Chih-Ming
Type 'help' for help.

PostgreSQL database connected

Listed Company: Updating 100 % ...
OTC Company: Updating 100 % ...
The stock symbol already updated, there are 20650 stock symbols.

TW STOCK [None] > help

The help information of TW STOCK in the interaction mode:
Type: help > Show this help information
      exit > Exit
      config > Re-configuration the database connection info.
      use [symbol] > Set to use withc stock symbol
      fetch > Fetch the historical closing information
      analyze ?> Display all supported technical analysis
      analyze > Start to execute the technical analysis.
      export > Export the analysis result to CSV format file.
```

- **exit**: Exit TW_STOCK_V2.
- **config**: Re-configure the connection info of RMDB service, when you finished that will download the stock symbol from TWSE site again.

```
TW STOCK [None] > config
The database connection info is configurating.
Please follow the indicate to provide the HOST, ID & PW info.
Please confirm the ID have the CREATE DATABASE/TABLE permissions.
PS. The LOGIN info were stored to 'configuration.xml' file.

System detected below DB packages for Python:
1. MariaDB/MySQL
2. PostgreSQL
Pleass select which DB system will be use? 2
Please input the DB host address[localhost]:
Please input the ID[root]:
Please input the PW[12345678]:

PostgreSQL database connected

Listed Company: Updating  2 % ...
OTC Company: Updating  11 % ...
```

- **use [symbol]**: Select "symbol" to operation, the argument as stock symbol, for below example, we choose "吉茂(1587)" for other operation
  - Symbol: The stock symbol
  - Name: The company name
  - Listed Date: Listed date of this company.
  - Last Update: To check this symbol is listed on TWSE website or not, if not listed, maybe this company already delist.
  - Total Trade Count: How many trade data in database
  - Last Trade Date: Last trade data in database.

```
TW STOCK [2330] > use 1587
>>> Symbol: 1587, Name: 吉茂, Listed Date: 2018/04/16, Last Update: 2018/08/07, Total Trade Count: 0, Last Trade Date: Not Available
```

- **fetch**: Fetch all stock data from TWSE website, to avoid the "IP BLOCK", the interval 20 seconds for crawl data per month.

```
TW STOCK [1587] > fetch

Preparing to fetch '1587' stock data from 2018/08 to 2018/08
1587: Updating 2018/08 data
>>> Symbol: 1587, Name: 吉茂, Listed Date: 2018/04/16, Last Update: 2018/08/12, Total Trade Count: 83, Last Trade Date: 2018/08/10
```

- **analyze ?**: Which "tech analysis" were supported? The "TW_STOCK_V2" default support "K/D/J", "MACD/OSC" & "RSI" analyze features.

```
TW STOCK [1587] > analyze ?

Supported stock analysis: K/D/J, MACD/OSC, RSI
```

- **analyze**: Parallel to analyze the "tech analysis".

```
TW STOCK [1587] > analyze
    K/D/J: Calculating ...
  MACD/OSC: Calculating ...
      RSI: Calculating ...
```

```
TW STOCK [1587] > analyze
    K/D/J: Calculated !
  MACD/OSC: Calculated !
      RSI: Calculated !
```

- **export**: Export analysis result to .CSV file, and located in "exportfile" folder.

```
TW STOCK [1587] > export
 >>> The 1587_20180812-223745.csv file export success.
```

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1		Date	Volumn	Money	Open	Max	Min	Close	Spread	Count	K	D	J	MACD	OSC	RSI
2	0	2018/4/16	3,680,369	86,460,520	23.75	24.2	22.6	23.9	X0.00	2,198	0	0	0	0	0	0
3	1	2018/4/17	1,299,890	29,840,564	23.9	23.9	22.45	22.55	-1.35	826	0	0	0	0	0	0
4	2	2018/4/18	887,856	19,236,982	22.8	22.8	20.8	21.6	-0.95	562	0	0	0	0	0	0
5	3	2018/4/19	354,000	7,556,450	21.05	21.6	21.05	21.3	-0.3	244	0	0	0	0	0	0
6	4	2018/4/20	276,709	5,911,513	21.3	21.75	20.9	21.15	-0.15	207	0	0	0	0	0	0
7	5	2018/4/23	346,497	7,222,210	21.5	21.55	20.6	20.6	-0.55	223	0	0	0	0	0	0
8	6	2018/4/24	536,875	10,730,337	20.8	20.8	19.7	19.85	-0.75	277	0	0	0	0	0	0
9	7	2018/4/25	301,100	6,001,710	19.95	20.1	19.65	20.1	0.25	151	0	0	0	0	0	8.16
10	8	2018/4/26	214,277	4,282,233	20.25	20.5	19.85	19.9	-0.2	115	50	50	50	0	0	10.81
11	9	2018/4/27	130,019	2,587,330	19.95	20	19.8	19.95	0.05	77	35.69	45.23	64.31	0	0	15.15
12	10	2018/4/30	75,149	1,512,009	19.95	20.25	19.95	20.25	0.3	50	30.14	40.2	60.32	0	0	28.57

Misc

About the "tech analysis" feature, I had compare with Yahoo Financial (TW) but got the difference result, I'm not sure which problem happened, but I think you can use the .CSV export file to calculate and verify that.

For the technical relate document, please refer "TW STOCK V2 Tech Note" document