**SGX Auto Downloader Run Guide**

**Introduction:**

DTL script will automatically download Historical Data Files (Time and Sales Historical Data) from the SGX website (<https://www2.sgx.com/research-education/derivatives>). Script will utilize a caching mechanism to store the sequence to specify the dates of each files.

In-order to download files of specific dates, correct URL should be used. Let’s say you need to download files from **20130405** (earliest date with available data), sequence **2755** should be used to access the data files. See examples below.

**20130405:** sequence is **2755**

https://links.sgx.com/1.0.0/derivatives-historical/**2755**/WEBPXTICK\_DT.zip

https://links.sgx.com/1.0.0/derivatives-historical/**2755**/TickData\_structure.dat

https://links.sgx.com/1.0.0/derivatives-historical/**2755**/TC\_structure.dat

https://links.sgx.com/1.0.0/derivatives-historical/**2755**/TC.txt

**20190523**: sequence is **4379**

https://links.sgx.com/1.0.0/derivatives-historical/**4379**/WEBPXTICK\_DT.zip

https://links.sgx.com/1.0.0/derivatives-historical/**4379**/TickData\_structure.dat

https://links.sgx.com/1.0.0/derivatives-historical/**4379**/TC\_structure.dat

https://links.sgx.com/1.0.0/derivatives-historical/**4379**/TC.txt

**Rebuilding Cache:**

Script will automatically build the cache if the file is missing. Note that it may take some time (30 minutes plus) since it will sequence check to retrieve the date will take 1 second each *(specified in the sleep\_time value of the config, can be change to 0 but may get flagged out by SGX website as a DoS attack).*

building the cache file:

loading config file [dtl\_downloader.cfg]

cache file is missing!

rebuilding cache...

may take some time to complete, grab a coffee first!

Log File: dtl\_downloader\_20190527.log

05/27/2019 11:09:35 AM [INFO] rebuilding cache file [C:\Users\jdizon\Documents\jdizon\dtl\_downloader/.cache] from 2755 to 4380

05/27/2019 11:09:35 AM [DEBUG] loading url: [https://links.sgx.com/1.0.0/derivatives-historical/2755/TC.txt]

05/27/2019 11:09:36 AM [DEBUG] filename: [TC\_20130405.txt]

05/27/2019 11:09:36 AM [INFO] 20130405 = 2755

05/27/2019 11:09:37 AM [DEBUG] loading url: [https://links.sgx.com/1.0.0/derivatives-historical/2756/TC.txt]

05/27/2019 11:09:38 AM [DEBUG] filename: [TC\_20130408.txt]

05/27/2019 11:09:38 AM [INFO] 20130408 = 2756

Script will write into the cache file with the following format which will contain <date> = <sequence> and for reverse lookup will also store <sequence> = <date>. See sample below.

**Cache Format:**

[DEFAULT]

20130405 = 2755

2755 = 20130405

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20190524 = 4380

4380 = 20190524

**Prerequisites:**

This script needs Python installed (preferably version 2.7.9, which includes [PEP-0476](https://www.python.org/dev/peps/pep-0476/)). This has been tested using my Personal Windows PC. For Linux, you might need to install the latest openssl 1.0.1 if you encounter any certificate issues when accessing https.

**Usage:** Script can accept optional parameters to change the script behavior.

usage: dtl\_downloader.py [-h] [--setStartSeq SETSTARTSEQ]

[--setEndSeq SETENDSEQ] [--setStartDate SETSTARTDATE]

[--setEndDate SETENDDATE] [--setAll SETALL]

config\_file

SGX Auto Downloader

positional arguments:

config\_file configuration file

optional arguments:

-h, --help show this help message and exit

--setStartSeq SETSTARTSEQ

set starting sequence [int]

--setEndSeq SETENDSEQ

set ending sequence [int]

--setStartDate SETSTARTDATE

set starting date [yyyymmdd]

--setEndDate SETENDDATE

set ending date [yyyymmdd]

--setAll SETALL set to download all available files [yes|no]

**Normal Run:** python.exe dtl\_downloader.py dtl\_downloader.cfg

loading config file [dtl\_downloader.cfg]

checking last downloaded date in cache

start date is empty!

using date 20190523 (4379)

checking latest available download date

found latest is: 20190524 = 4380

START: 20190523 (4379)

END: 20190524 (4380)

downloading data : 20190523 (4379)

file downloaded [TD\_20190523.zip]

file downloaded [TD\_structure\_20190523.dat]

file downloaded [TC\_20190523.txt]

file downloaded [TC\_structure\_20190523.dat]

downloading data : 20190524 (4380)

file downloaded [TD\_20190524.zip]

file downloaded [TD\_structure\_20190524.dat]

file downloaded [TC\_20190524.txt]

file downloaded [TC\_structure\_20190524.dat]

Script will check the last date in cache and will use that as the start date. Script will also search for the latest available date for download. (*Note: max\_days value in config is used to check how many days forward the script will search*)

**Specific Dates:** python.exe dtl\_downloader.py dtl\_downloader.cfg –setStartDate 20190518 –setEndDate 20190519

setting start date: 20190517

setting end date: 20190518

loading config file [dtl\_downloader.cfg]

invalid end date (20190518)

setting end date to (20190520)

START: 20190517 (4375)

END: 20190520 (4376)

downloading data : 20190517 (4375)

file downloaded [TD\_20190517.zip]

file downloaded [TD\_structure\_20190517.dat]

file downloaded [TC\_20190517.txt]

file downloaded [TC\_structure\_20190517.dat]

downloading data : 20190520 (4376)

file downloaded [TD\_20190520.zip]

file downloaded [TD\_structure\_20190520.dat]

file downloaded [TC\_20190520.txt]

file downloaded [TC\_structure\_20190520.dat]

Script will validate if date specified is correct or available. In this case both 20190519 and 20190519 doesn’t have any data available since no trading are done over the weekend. The script will automatically search the previous available date (20190517) and also the next available date (20190520).

Script does **NOT** require both starting and ending dates. User can specify just the starting date or just the ending date. It will automatically search the valid dates.

**Specific Sequences**: python.exe dtl\_downloader.py dtl\_downloader.cfg --setStartSeq 2771 --setEndSeq 2772

setting start sequence: 2771

setting end sequence: 2772

loading config file [dtl\_downloader.cfg]

invalid start sequence (2771)

checking sequence if available for download: 2771

getting prev sequence for 2771

sequence found (2770)

setting start sequence to (2770)

invalid end sequence (2772)

checking sequence if available for download: 2772

getting next sequence for 2772

sequence found (2773)

setting end sequence to (2773)

START: 20130426 (2770)

END: 20130429 (2773)

downloading data : 20130426 (2770)

file downloaded [TD\_20130426.zip]

file downloaded [TD\_structure\_20130426.dat]

file downloaded [TC\_20130426.txt]

file downloaded [TC\_structure\_20130426.dat]

downloading data : 20130429 (2773)

file downloaded [TD\_20130429.zip]

file downloaded [TD\_structure\_20130429.dat]

file downloaded [TC\_20130429.txt]

file downloaded [TC\_structure\_20130429.dat]

Script will validate if sequence is available (*ideally all sequences should have available data but this is not the case*). Sequence 2771 and 2772 doesn’t have available data, script will automatically search for the previous available sequence (2770) and also the next available sequence (2773).

Script does **NOT** require both starting and ending sequences. User can specify just the starting sequence or just the ending sequence. It will automatically search for the valid sequences.

**Download all available dates**: python.exe dtl\_downloader.py dtl\_downloader.cfg --setAll yes

setting to download all available files: yes

loading config file [dtl\_downloader.cfg]

checking last downloaded date in cache

checking latest available download date

found latest is: 20190524 = 4380

START: 20130405 (2755)

END: 20190524 (4380)

downloading data : 20130405 (2755)

file downloaded [TD\_20130405.zip]

file downloaded [TD\_structure\_20130405.dat]

file downloaded [TC\_20130405.txt]

file downloaded [TC\_structure\_20130405.dat]

downloading data : 20130408 (2756)

file downloaded [TD\_20130408.zip]

file downloaded [TD\_structure\_20130408.dat]

file downloaded [TC\_20130408.txt]

file downloaded [TC\_structure\_20130408.dat]

downloading data : 20130409 (2757)

file downloaded [TD\_20130409.zip]

file downloaded [TD\_structure\_20130409.dat]

file downloaded [TC\_20130409.txt]

file downloaded [TC\_structure\_20130409.dat]

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downloading data : 20190523 (4379)

file downloaded [TD\_20190523.zip]

file downloaded [TD\_structure\_20190523.dat]

file downloaded [TC\_20190523.txt]

file downloaded [TC\_structure\_20190523.dat]

downloading data : 20190524 (4380)

file downloaded [TD\_20190524.zip]

file downloaded [TD\_structure\_20190524.dat]

file downloaded [TC\_20190524.txt]

file downloaded [TC\_structure\_20190524.dat]

Script will download all available dates starting from min\_seq value specified in the config file. From testing, sequence **2755** with date **20130405** is the earliest date with available data for download.

User can also specify the ending sequence But, note that starting sequence from min\_seq will be overridden if start sequence option is specified.

**Configuration File:**

[DEFAULT]

script\_name = dtl\_downloader

base\_dir = <replace this with your directory>

data\_dir = %(BASE\_DIR)s/data

date\_str = <DATE>

[CONFIG]

log\_level = DEBUG

log\_file\_prefix = %(SCRIPT\_NAME)s

log\_date\_fmt = %m/%d/%Y %I:%M:%S %p

log\_dir = %(BASE\_DIR)s/log

cache\_file = %(BASE\_DIR)s/.cache

cache\_url = https://links.sgx.com/1.0.0/derivatives-historical/%(DATE\_STR)s/TC.txt

sleep\_time = 1

min\_seq = 2755

max\_seq = 4380

max\_days = 5

[DATA]

sections = TD, TD\_structure, TC, TC\_structure

[TD]

url = https://links.sgx.com/1.0.0/derivatives-historical/%(DATE\_STR)s/WEBPXTICK\_DT.zip

out\_file = TD\_%(DATE\_STR)s.zip

out\_dir = %(DATA\_DIR)s

[TD\_structure]

url = https://links.sgx.com/1.0.0/derivatives-historical/%(DATE\_STR)s/TickData\_structure.dat

out\_file = TD\_structure\_%(DATE\_STR)s.dat

out\_dir = %(DATA\_DIR)s

[TC]

url = https://links.sgx.com/1.0.0/derivatives-historical/%(DATE\_STR)s/TC.txt

out\_file = TC\_%(DATE\_STR)s.txt

out\_dir = %(DATA\_DIR)s

[TC\_structure]

url = https://links.sgx.com/1.0.0/derivatives-historical/%(DATE\_STR)s/TC\_structure.dat

out\_file = TC\_structure\_%(DATE\_STR)s.dat

out\_dir = %(DATA\_DIR)s

**Logging:** log files are automatically generated with the appropriate filename date.



05/27/2019 05:11:05 AM [DEBUG] logger has been initialized!

05/27/2019 05:11:05 AM [DEBUG] displaying config values!

05/27/2019 05:11:05 AM [DEBUG] [SECTION]: CONFIG

05/27/2019 05:11:05 AM [DEBUG] Options:['log\_level', 'log\_file\_prefix', 'log\_date\_fmt', 'log\_dir', 'cache\_file', 'cache\_url', 'sleep\_time', 'min\_seq', 'max\_seq', 'max\_days', 'script\_name', 'base\_dir', 'data\_dir', 'date\_str']

05/27/2019 05:11:05 AM [DEBUG] script\_name = dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] base\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] data\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader/data

05/27/2019 05:11:05 AM [DEBUG] date\_str = <DATE>

05/27/2019 05:11:05 AM [DEBUG] log\_level = DEBUG

05/27/2019 05:11:05 AM [DEBUG] log\_file\_prefix = dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] log\_date\_fmt = %m/%d/%Y %I:%M:%S %p

05/27/2019 05:11:05 AM [DEBUG] log\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader/log

05/27/2019 05:11:05 AM [DEBUG] cache\_file = C:\Users\JohnChristopher\Documents\dtl\_downloader/.cache

05/27/2019 05:11:05 AM [DEBUG] cache\_url = https://links.sgx.com/1.0.0/derivatives-historical/<DATE>/TC.txt

05/27/2019 05:11:05 AM [DEBUG] sleep\_time = 1

05/27/2019 05:11:05 AM [DEBUG] min\_seq = 2755

05/27/2019 05:11:05 AM [DEBUG] max\_seq = 4379

05/27/2019 05:11:05 AM [DEBUG] max\_days = 5

05/27/2019 05:11:05 AM [DEBUG] [SECTION]: DATA

05/27/2019 05:11:05 AM [DEBUG] Options:['sections', 'script\_name', 'base\_dir', 'data\_dir', 'date\_str']

05/27/2019 05:11:05 AM [DEBUG] script\_name = dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] base\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] data\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader/data

05/27/2019 05:11:05 AM [DEBUG] date\_str = <DATE>

05/27/2019 05:11:05 AM [DEBUG] sections = TD, TD\_structure, TC, TC\_structure

05/27/2019 05:11:05 AM [DEBUG] [SECTION]: TD

05/27/2019 05:11:05 AM [DEBUG] Options:['url', 'out\_file', 'out\_dir', 'script\_name', 'base\_dir', 'data\_dir', 'date\_str']

05/27/2019 05:11:05 AM [DEBUG] script\_name = dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] base\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] data\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader/data

05/27/2019 05:11:05 AM [DEBUG] date\_str = <DATE>

05/27/2019 05:11:05 AM [DEBUG] url = https://links.sgx.com/1.0.0/derivatives-historical/<DATE>/WEBPXTICK\_DT.zip

05/27/2019 05:11:05 AM [DEBUG] out\_file = TD\_<DATE>.zip

05/27/2019 05:11:05 AM [DEBUG] out\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader/data

05/27/2019 05:11:05 AM [DEBUG] [SECTION]: TD\_structure

05/27/2019 05:11:05 AM [DEBUG] Options:['url', 'out\_file', 'out\_dir', 'script\_name', 'base\_dir', 'data\_dir', 'date\_str']

05/27/2019 05:11:05 AM [DEBUG] script\_name = dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] base\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] data\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader/data

05/27/2019 05:11:05 AM [DEBUG] date\_str = <DATE>

05/27/2019 05:11:05 AM [DEBUG] url = https://links.sgx.com/1.0.0/derivatives-historical/<DATE>/TickData\_structure.dat

05/27/2019 05:11:05 AM [DEBUG] out\_file = TD\_structure\_<DATE>.dat

05/27/2019 05:11:05 AM [DEBUG] out\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader/data

05/27/2019 05:11:05 AM [DEBUG] [SECTION]: TC

05/27/2019 05:11:05 AM [DEBUG] Options:['url', 'out\_file', 'out\_dir', 'script\_name', 'base\_dir', 'data\_dir', 'date\_str']

05/27/2019 05:11:05 AM [DEBUG] script\_name = dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] base\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] data\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader/data

05/27/2019 05:11:05 AM [DEBUG] date\_str = <DATE>

05/27/2019 05:11:05 AM [DEBUG] url = https://links.sgx.com/1.0.0/derivatives-historical/<DATE>/TC.txt

05/27/2019 05:11:05 AM [DEBUG] out\_file = TC\_<DATE>.txt

05/27/2019 05:11:05 AM [DEBUG] out\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader/data

05/27/2019 05:11:05 AM [DEBUG] [SECTION]: TC\_structure

05/27/2019 05:11:05 AM [DEBUG] Options:['url', 'out\_file', 'out\_dir', 'script\_name', 'base\_dir', 'data\_dir', 'date\_str']

05/27/2019 05:11:05 AM [DEBUG] script\_name = dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] base\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader

05/27/2019 05:11:05 AM [DEBUG] data\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader/data

05/27/2019 05:11:05 AM [DEBUG] date\_str = <DATE>

05/27/2019 05:11:05 AM [DEBUG] url = https://links.sgx.com/1.0.0/derivatives-historical/<DATE>/TC\_structure.dat

05/27/2019 05:11:05 AM [DEBUG] out\_file = TC\_structure\_<DATE>.dat

05/27/2019 05:11:05 AM [DEBUG] out\_dir = C:\Users\JohnChristopher\Documents\dtl\_downloader/data

05/27/2019 05:11:05 AM [INFO] config file [dtl\_downloader.cfg] has been loaded!

05/27/2019 05:11:05 AM [INFO] loading cache file [C:\Users\JohnChristopher\Documents\dtl\_downloader/.cache]

05/27/2019 05:11:05 AM [DEBUG] displaying cache values!

05/27/2019 05:11:05 AM [DEBUG] 20130405 = 2755

05/27/2019 05:11:05 AM [DEBUG] 2755 = 20130405

05/27/2019 05:11:05 AM [DEBUG] 20130408 = 2756

05/27/2019 05:11:05 AM [DEBUG] 2756 = 20130408

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05/27/2019 05:11:05 AM [DEBUG] 20190523 = 4379

05/27/2019 05:11:05 AM [DEBUG] 4379 = 20190523

05/27/2019 05:11:05 AM [DEBUG] 20190521 = 4377

05/27/2019 05:11:05 AM [DEBUG] 4377 = 20190521

05/27/2019 05:11:05 AM [INFO] cache file [C:\Users\JohnChristopher\Documents\dtl\_downloader/.cache] has been loaded!

05/27/2019 05:11:05 AM [INFO] listing dates to download

05/27/2019 05:11:05 AM [INFO] checking last downloaded date in cache

05/27/2019 05:11:05 AM [DEBUG] checking date: [20190527]

05/27/2019 05:11:05 AM [DEBUG] checking date: [20190526]

05/27/2019 05:11:05 AM [DEBUG] checking date: [20190525]

05/27/2019 05:11:05 AM [DEBUG] checking date: [20190524]

05/27/2019 05:11:05 AM [DEBUG] checking date: [20190523]

05/27/2019 05:11:05 AM [DEBUG] found last downloaded date: [20190523] = [4379]

05/27/2019 05:11:05 AM [DEBUG] found last downloaded is : =

05/27/2019 05:11:05 AM [INFO] start date is empty: []

05/27/2019 05:11:05 AM [INFO] using date (4379)

05/27/2019 05:11:05 AM [INFO] checking latest available download date

05/27/2019 05:11:05 AM [DEBUG] loading url: [https://links.sgx.com/1.0.0/derivatives-historical/4379/TC.txt]

05/27/2019 05:11:06 AM [DEBUG] filename: [TC\_20190523.txt]

05/27/2019 05:11:06 AM [DEBUG] 20190523 = 4379

05/27/2019 05:11:07 AM [DEBUG] loading url: [https://links.sgx.com/1.0.0/derivatives-historical/4380/TC.txt]

05/27/2019 05:11:07 AM [DEBUG] filename: [CustomErrorPage.aspx]

05/27/2019 05:11:07 AM [DEBUG] YYYYMMDD = 4380

05/27/2019 05:11:08 AM [DEBUG] loading url: [https://links.sgx.com/1.0.0/derivatives-historical/4381/TC.txt]

05/27/2019 05:11:08 AM [DEBUG] filename: [CustomErrorPage.aspx]

05/27/2019 05:11:08 AM [DEBUG] YYYYMMDD = 4381

05/27/2019 05:11:09 AM [DEBUG] loading url: [https://links.sgx.com/1.0.0/derivatives-historical/4382/TC.txt]

05/27/2019 05:11:10 AM [DEBUG] filename: [CustomErrorPage.aspx]

05/27/2019 05:11:10 AM [DEBUG] YYYYMMDD = 4382

05/27/2019 05:11:11 AM [DEBUG] loading url: [https://links.sgx.com/1.0.0/derivatives-historical/4383/TC.txt]

05/27/2019 05:11:11 AM [DEBUG] filename: [CustomErrorPage.aspx]

05/27/2019 05:11:11 AM [DEBUG] YYYYMMDD = 4383

05/27/2019 05:11:12 AM [DEBUG] loading url: [https://links.sgx.com/1.0.0/derivatives-historical/4384/TC.txt]

05/27/2019 05:11:12 AM [DEBUG] filename: [CustomErrorPage.aspx]

05/27/2019 05:11:12 AM [DEBUG] YYYYMMDD = 4384

05/27/2019 05:11:13 AM [DEBUG] loading url: [https://links.sgx.com/1.0.0/derivatives-historical/4385/TC.txt]

05/27/2019 05:11:14 AM [DEBUG] filename: [CustomErrorPage.aspx]

05/27/2019 05:11:14 AM [DEBUG] YYYYMMDD = 4385

05/27/2019 05:11:15 AM [DEBUG] loading url: [https://links.sgx.com/1.0.0/derivatives-historical/4386/TC.txt]

05/27/2019 05:11:15 AM [DEBUG] filename: [CustomErrorPage.aspx]

05/27/2019 05:11:15 AM [DEBUG] YYYYMMDD = 4386

05/27/2019 05:11:16 AM [DEBUG] loading url: [https://links.sgx.com/1.0.0/derivatives-historical/4387/TC.txt]

05/27/2019 05:11:16 AM [DEBUG] filename: [CustomErrorPage.aspx]

05/27/2019 05:11:16 AM [DEBUG] YYYYMMDD = 4387

05/27/2019 05:11:17 AM [DEBUG] writing cache file [C:\Users\JohnChristopher\Documents\dtl\_downloader/.cache]

05/27/2019 05:11:17 AM [DEBUG] cache writen to file

05/27/2019 05:11:17 AM [DEBUG] updating config file [dtl\_downloader.cfg]

05/27/2019 05:11:17 AM [DEBUG] cache writen to file

05/27/2019 05:11:17 AM [INFO] found latest is : 20190523 = 4379

05/27/2019 05:11:17 AM [INFO] start seq: 4379

05/27/2019 05:11:17 AM [INFO] start date: 20190523

05/27/2019 05:11:17 AM [INFO] end seq: 4379

05/27/2019 05:11:17 AM [INFO] end date: 20190523

05/27/2019 05:11:17 AM [DEBUG] 4379 : 20190523

05/27/2019 05:11:17 AM [INFO] downloading data : 20190523 (4379)

05/27/2019 05:11:17 AM [DEBUG] downloading data for date: [20190523 : 4379]

05/27/2019 05:11:17 AM [DEBUG] [TD]

05/27/2019 05:11:17 AM [INFO] downloading file (TD\_20190523.zip) from url: [https://links.sgx.com/1.0.0/derivatives-historical/4379/WEBPXTICK\_DT.zip]

05/27/2019 05:11:17 AM [DEBUG] url: [https://links.sgx.com/1.0.0/derivatives-historical/4379/WEBPXTICK\_DT.zip]

05/27/2019 05:11:17 AM [DEBUG] dir: [C:\Users\JohnChristopher\Documents\dtl\_downloader/data]

05/27/2019 05:11:17 AM [DEBUG] file: [TD\_20190523.zip]

05/27/2019 05:11:36 AM [DEBUG] [TD\_structure]

05/27/2019 05:11:36 AM [INFO] downloading file (TD\_structure\_20190523.dat) from url: [https://links.sgx.com/1.0.0/derivatives-historical/4379/TickData\_structure.dat]

05/27/2019 05:11:36 AM [DEBUG] url: [https://links.sgx.com/1.0.0/derivatives-historical/4379/TickData\_structure.dat]

05/27/2019 05:11:36 AM [DEBUG] dir: [C:\Users\JohnChristopher\Documents\dtl\_downloader/data]

05/27/2019 05:11:36 AM [DEBUG] file: [TD\_structure\_20190523.dat]

05/27/2019 05:11:36 AM [DEBUG] [TC]

05/27/2019 05:11:36 AM [INFO] downloading file (TC\_20190523.txt) from url: [https://links.sgx.com/1.0.0/derivatives-historical/4379/TC.txt]

05/27/2019 05:11:36 AM [DEBUG] url: [https://links.sgx.com/1.0.0/derivatives-historical/4379/TC.txt]

05/27/2019 05:11:36 AM [DEBUG] dir: [C:\Users\JohnChristopher\Documents\dtl\_downloader/data]

05/27/2019 05:11:36 AM [DEBUG] file: [TC\_20190523.txt]

05/27/2019 05:11:36 AM [DEBUG] [TC\_structure]

05/27/2019 05:11:36 AM [INFO] downloading file (TC\_structure\_20190523.dat) from url: [https://links.sgx.com/1.0.0/derivatives-historical/4379/TC\_structure.dat]

05/27/2019 05:11:36 AM [DEBUG] url: [https://links.sgx.com/1.0.0/derivatives-historical/4379/TC\_structure.dat]

05/27/2019 05:11:36 AM [DEBUG] dir: [C:\Users\JohnChristopher\Documents\dtl\_downloader/data]

05/27/2019 05:11:36 AM [DEBUG] file: [TC\_structure\_20190523.dat]

**Output Directory:** Downloaded files are stored in the specified out\_dir in the configuration file.

