Web Scraping using Selenium - SGX Website

Objectives:

- How to use Selenium to extract HTML
- How to use Selenium to interact with website before extract HTML

We will use following website to demonstrate

- [https://www.sgx.com/securities/equities/D05 (https://www.sgx.com/securities/equities/D05)](https://www.sgx.com/securities/equities/D05)

Install Python library `selenium` and `webdriver_manager` using `pip`.

In [1]: ▶
```
1  !pip install selenium
2  !pip install webdriver_manager
```

Requirement already satisfied: selenium in c:\users\isszq\anaconda3\envs\py
dot36\lib\site-packages (3.141.0)
Requirement already satisfied: urllib3 in c:\users\isszq\anaconda3\envs\pyd
ot36\lib\site-packages (from selenium) (1.25.9)
Requirement already satisfied: webdriver_manager in c:\users\isszq\anaconda
3\envs\pydot36\lib\site-packages (3.2.1)
Requirement already satisfied: requests in c:\users\isszq\anaconda3\envs\py
dot36\lib\site-packages (from webdriver_manager) (2.24.0)
Requirement already satisfied: crayons in c:\users\isszq\anaconda3\envs\pyd
ot36\lib\site-packages (from webdriver_manager) (0.3.1)
Requirement already satisfied: configparser in c:\users\isszq\anaconda3\env
s\pydot36\lib\site-packages (from webdriver_manager) (5.0.0)
Requirement already satisfied: certifi>=2017.4.17 in c:\users\isszq\anacond
a3\envs\pydot36\lib\site-packages (from requests->webdriver_manager) (2020.
6.20)
Requirement already satisfied: urllib3!=1.25.0,!=1.25.1,<1.26,>=1.21.1 in
c:\users\isszq\anaconda3\envs\pydot36\lib\site-packages (from requests->web
driver_manager) (1.25.9)
Requirement already satisfied: idna<3,>=2.5 in c:\users\isszq\anaconda3\env
s\pydot36\lib\site-packages (from requests->webdriver_manager) (2.10)
Requirement already satisfied: chardet<4,>=3.0.2 in c:\users\isszq\anaconda
3\envs\pydot36\lib\site-packages (from requests->webdriver_manager) (3.0.4)
Requirement already satisfied: colorama in c:\users\isszq\anaconda3\envs\py
dot36\lib\site-packages (from crayons->webdriver_manager) (0.4.3)

Import libraries

```
In [2]:   ▶  1  from selenium import webdriver
             2  from selenium.webdriver.common.by import By
             3  from selenium.webdriver.common.keys import Keys
             4  from selenium.webdriver.support import expected_conditions as EC
             5  from selenium.webdriver.support.wait import WebDriverWait
             6
             7  from webdriver_manager.chrome import ChromeDriverManager
```

1. Extract Data without Interaction

We will demonstrate on how to extract company announcements and company news from SGX website.

Open Website and Get HTML

Get an instance of web browser.

- The `webdriver_manager` provides managers for different browsers. It will download the correct version of driver for your browser.

```
In [3]:   ▶  1  browser = webdriver.Chrome(ChromeDriverManager().install())
```

```
[WDM] - Current google-chrome version is 83.0.4103
[WDM] - Get LATEST driver version for 83.0.4103
[WDM] - Driver [C:\Users\isszq\.wdm\drivers\chromedriver\win32\83.0.4103.39
\chromedriver.exe] found in cache
```

Use the `browser` object to open a webpage.

```
In [4]:   ▶  1  symbol = 'D05'
             2  url = f'https://www.sgx.com/securities/equities/{symbol}'
             3  browser.get(url)
             4  # Wait for 10 seconds before timeout
             5  wait = WebDriverWait(browser, 10)
             6  # Wait until an element is present
             7  wait.until(EC.presence_of_element_located((By.TAG_NAME, 'widget-company-
             8  # Receive cookies and HTML
             9  cookies = browser.get_cookies()
            10  html = browser.page_source
```

```
In [5]:   ▶  1  browser.close()
```

To find multiple items, you can use following methods.

- find_elements_by_id()
- find_elements_by_name()

- find_elements_by_xpath()
- find_elements_by_link_text()
- find_elements_by_partial_link_text()
- find_elements_by_tag_name()
- find_elements_by_class_name()
- find_elements_by_css_selector()

Examine HTML Code and Make Soup

Save the HTML code to a file and examine it. Examine the file to make sure it contains the data which you are interested in.

In [6]:
```python
with open('_temp.html', 'w') as f:
    s = html.encode("utf-8")
    f.write(str(s))
```

Let's "make a soup" from the downloaded HTML code.

In [7]:
```python
from bs4 import BeautifulSoup

soup = BeautifulSoup(html)
```

2. Example: Extract Company Announcements

In Chrome, inspect the element of the Company Announcements. It uses a custom tag `widget-company-announcements` .

```html
<widget-company-announcements class="website-template-widget print-format-d-none" data-analytics-category="Company Announcements">
    ...
</widget-company-announcements>
```

Use `soup.find()` to find above element by its tag name.

In [8]:
```python
html_announcements = soup.find('widget-company-announcements')
# print(html_announcements)
```

Use `soup.find_all()` to find all items.

```
In [9]:  ▶    1  items = html_announcements.find_all('div', {'class':'article-list-result
              2  print(len(items), '\n')
              3  # print(items[0], '\n')
              4  # print(items[-1], '\n')
```

```
5
```

Experiment with One Annoucement

Let's use first item to experiment our code.

```
In [10]:  ▶    1  item = items[0]
```

Get timestamp from the item.

```
In [11]:  ▶    1  t = item.find('div', {'class':'text-caption timestamp'})
               2  t.text
```

Out[11]: '08 Jun 2020 05:03:40 PM'

Get news title and its link.

```
In [12]:  ▶    1  t =item.find('a')
               2  print(t.text)
               3  print(t.attrs['href'])
```

```
General Announcement::Minutes of the Adjourned 21st Annual General Meeting
of DBS Group Holdings Ltd
https://links.sgx.com/1.0.0/corporate-announcements/9N8PB8C1R6V1KICS/6577ac
9f479eb9ca8643102d03c0faea17758cccaa5f47ea5ad5ef8f604ee7fa (https://links.s
gx.com/1.0.0/corporate-announcements/9N8PB8C1R6V1KICS/6577ac9f479eb9ca86431
02d03c0faea17758cccaa5f47ea5ad5ef8f604ee7fa)
```

Get tag of the news

```
In [13]:  ▶    1  t = item.find('span', {'class':'website-tag'})
               2  t.text
```

Out[13]: 'General Announcement'

Package into Function

Package above code into a function.

```python
In [14]:  ▶|   1  def extract_an_announcement(item):
              2      try:
              3          # Get timestamp
              4          t = item.find('div', {'class':'text-caption timestamp'})
              5          timestamp = t.text
              6          # Get article title and link
              7          t = item.find('a')
              8          title = t.text
              9          link = t.attrs['href']
             10          # Get tag
             11          t = item.find('span', {'class':'website-tag'})
             12          tag = t.text
             13          return title, link, tag, timestamp
             14      except Exception as e:
             15          print(repr(e))
             16          return None
```

Test the function.

```python
In [15]:  ▶|   1  extract_an_announcement(item)
```

```
Out[15]: ('General Announcement::Minutes of the Adjourned 21st Annual General Meetin
         g of DBS Group Holdings Ltd ',
          'https://links.sgx.com/1.0.0/corporate-announcements/9N8PB8C1R6V1KICS/6577
         ac9f479eb9ca8643102d03c0faea17758cccaa5f47ea5ad5ef8f604ee7fa',
          'General Announcement',
          '08 Jun 2020 05:03:40 PM')
```

Process All Announcements

```python
In [16]:  ▶|   1  result = []
              2  for item in items:
              3      t = extract_an_announcement(item)
              4      if t:
              5          result.append(t)
```

In [17]: ▶| 1   `print(result)`

```
[('General Announcement::Minutes of the Adjourned 21st Annual General Meeti
ng of DBS Group Holdings Ltd ', 'https://links.sgx.com/1.0.0/corporate-anno
uncements/9N8PB8C1R6V1KICS/6577ac9f479eb9ca8643102d03c0faea17758cccaa5f47ea
5ad5ef8f604ee7fa', 'General Announcement', '08 Jun 2020 05:03:40 PM'), ('Ge
neral Announcement::ISSUE OF SORA-REFERENCED NOTES BY DBS BANK LTD.', 'http
s://links.sgx.com/1.0.0/corporate-announcements/NIJR5H55AGHM3EV2/74f55b0947
4d81f56e4b0a5cc2aa35e98c7a36691e8f8fa59f3a729d8b27e05e', 'General Announcem
ent', '06 May 2020 05:07:16 PM'), ("Disclosure of Interest/ Changes in Inte
rest of Director/ Chief Executive Officer::Disclosure of director's interes
t", 'https://links.sgx.com/1.0.0/corporate-announcements/EEXK0Y2V9KARQT25/7
e2de8d5208c1f192165f01ed4494f940b8b50f3da82a191d88364b11335e345', 'Disclosu
re of Interest/ Changes in Interest', '05 May 2020 06:15:42 PM'), ("Disclos
ure of Interest/ Changes in Interest of Director/ Chief Executive Officer::
Disclosure of director's interest", 'https://links.sgx.com/1.0.0/corporate-
announcements/W3NW79EH03KL6GHN/46000f23d197286e6c28f4d9c314aaa69f976e464a28
f76a386c33321b13e57e', 'Disclosure of Interest/ Changes in Interest', '05 M
ay 2020 06:11:37 PM'), ("Disclosure of Interest/ Changes in Interest of Dir
ector/ Chief Executive Officer::Disclosure of director's interest", 'http
s://links.sgx.com/1.0.0/corporate-announcements/AVKFKIYMIKQH1D6M/7ee3888dda
1a5292bb8816131e859e9d03ac672f1edfc4e3437cefe6316ea6d2', 'Disclosure of Int
erest/ Changes in Interest', '05 May 2020 06:09:32 PM')]
```

Close web browser after the task is completed.

3. Exercise: Extract Company News

Download HTML

Open web browser and go to website.

In [18]: ▶|
```
1  browser = webdriver.Chrome(ChromeDriverManager().install())
2
3  symbol = 'D05'
4  url = f'https://www.sgx.com/securities/equities/{symbol}'
5  browser.get(url)
```

```
[WDM] - Current google-chrome version is 83.0.4103
[WDM] - Get LATEST driver version for 83.0.4103
[WDM] - Driver [C:\Users\isszq\.wdm\drivers\chromedriver\win32\83.0.4103.39
\chromedriver.exe] found in cache
```

Wait for page is loaded and return HTML code.

In [19]: ▶|
```python
1  # Wait for 10 seconds before timeout
2  wait = WebDriverWait(browser, 10)
3  # Wait until an element is present
4  wait.until(EC.presence_of_element_located((By.TAG_NAME, 'widget-stocks-n
5  # Receive cookies and HTML
6  cookies = browser.get_cookies()
7  html = browser.page_source
```

Close web browser.

In [30]: ▶|
```python
1  browser.close()
```

Make Soup and Find Items

Make a soup from HTML code.

In [20]: ▶|
```python
1  soup = BeautifulSoup(html)
```

Inspect the News elements in Chrome. The news list is contained in a tag `<widget-stocks-news>`.

Use `soup.find()` to find the relevant HTML code using tag name.

In [21]: ▶|
```python
1  html_news = soup.find('widget-stocks-news')
2  # print(html_news)
```

Each news item are enclosed in a `div` with class name `article-list-result`.

Use `find_all()` method to extract all new items.

In [22]: ▶|
```python
1  items = html_news.find_all('div', {'class':'article-list-result'})
2  print(len(items), '\n')
3  print(items[0])
```

```
10

<div class="article-list-result">
<div class="text-caption timestamp">30 Apr 2020 03:57:37 AM</div>
<div class="widget-stocks-news-item-headline"><span class="text-strong webs
ite-link">Dbs CEO Says Majority Of Bank's Loans In Oil And Gas Sector Are T
o Oil Majors And State-Owned Companies</span></div>
<div class="widget-stocks-news-item-tags-container"><span class="website-ta
g">Other Pre-Announcement</span></div>
</div>
```

Extract One News

Use first news to experiment your code to extract data from a single news item.

In [23]:
```python
1  item = items[0]
```

Extract `timestamp` of the news.

In [24]:
```python
1  t = item.find('div', {'class':'text-caption timestamp'})
2  timestamp = t.text
3  print(timestamp)
```

30 Apr 2020 03:57:37 AM

Extract `title` of the news.

In [25]:
```python
1  t = item.find('div', {'class':'widget-stocks-news-item-headline'})
2  title = t.span.text
3  print(title)
```

Dbs CEO Says Majority Of Bank's Loans In Oil And Gas Sector Are To Oil Majo
rs And State-Owned Companies

Extract Tags of the news.

In [26]:
```python
1  t = item.find('div', {'class':'widget-stocks-news-item-tags-container'})
2  _tags = t.find_all('span', {'class':'website-tag'})
3  tags = [_tag.text for _tag in _tags]
4  print(tags)
```

['Other Pre-Announcement']

Create Function

Package above codes into a function.

In [27]:

```python
def extract_a_news(item):
    try:
        # Get timestamp
        t = item.find('div', {'class':'text-caption timestamp'})
        timestamp = t.text
        # Get article title
        t = item.find('div', {'class':'widget-stocks-news-item-headline'
        title = t.span.text
        # Get tag
        t = item.find('div', {'class':'widget-stocks-news-item-tags-conta
        _tags = t.find_all('span', {'class':'website-tag'})
        tags = [_tag.text for _tag in _tags]

        return title, tags, timestamp
    except Exception as e:
        print(repr(e))
        print(item)
        print(t)
        return None
```

Extract All News

Use function to extract all news items.

In [28]:

```python
result = []
for item in items:
    t = extract_a_news(item)
    if t:
        result.append(t)
```

In [29]:   ▶|

```python
1  print(result)
```

[("Dbs CEO Says Majority Of Bank's Loans In Oil And Gas Sector Are To Oil M
ajors And State-Owned Companies", ['Other Pre-Announcement'], '30 Apr 2020
03:57:37 AM'), ('Dbs Group Holdings Says FY Profit Before Allowances To Be
Around 2019 Levels', ['Other Pre-Announcement', 'Labor Issues'], '29 Apr 20
20 10:56:54 PM'), ('Dbs Group Holdings Qtrly Net Profit Declines', ['Earnin
gs Announcements'], '29 Apr 2020 10:56:53 PM'), ('DBS Group Says $1 Bln 3.
3% Perpetual Capital Securities First Callable In 2025 Will Be Listed And Q
uoted In Bond Market On 28 Feb', ['Debt Financing / Related', 'Exchange Cha
nges'], '27 Feb 2020 12:06:04 PM'), ('DBS Group Says Successfully Priced Is
sue Of $1 Bln 3.30 Pct Perpetual Capital Securities', ['Debt Financing / Re
lated', 'Other Pre-Announcement'], '21 Feb 2020 01:24:04 AM'), ('DBS CEO Sa
ys Current Market Conditions Offer Scope For Clients To Do Fixed Income And
Debt Capital Market deals', ['Other Pre-Announcement'], '13 Feb 2020 03:17:
25 AM'), ('DBS Group Holdings Says Pre-Virus, 2020 Outlook On Track To Prev
ious Guidance', ['Other Pre-Announcement'], '12 Feb 2020 10:48:37 PM'), ('D
BS Group Posts Qtrly Net Profit Of S$1,508 Million', ['Other Pre-Announceme
nt'], '12 Feb 2020 10:43:30 PM'), ("DBS Group Says DBS China Receives Bond
Settlement Agent Licence For China's Interbank Bond Market", ['Regulator
y'], '14 Jan 2020 04:48:18 AM'), ('DBS Group Holdings Says 2020 NIM Expecte
d To Decline By About 7 BPS', ['Other Pre-Announcement'], '11 Nov 2019 01:4
2:41 AM')]

4. Example: Extract Data after Interaction

Task: Extract details of all News items of a company from SGX Website.

For each news item on SGX Equity website, e.g. https://www.sgx.com/securities/equities/D05
(https://www.sgx.com/securities/equities/D05), user has to click on the item to view more details in
a pop-up window. We have to simulate click on the item before we can extract the data.

Open web browser and go to website `https://www.sgx.com/securities/equities/D05` .

In [38]: ▶|
```
 1  browser = webdriver.Chrome(ChromeDriverManager().install())
 2
 3  symbol = 'D05'
 4  url = f'https://www.sgx.com/securities/equities/{symbol}'
 5  browser.get(url)
 6
 7  # Wait for 10 seconds before timeout
 8  wait = WebDriverWait(browser, 10)
 9  # Wait until an element is present
10  wait.until(EC.presence_of_element_located((By.TAG_NAME, 'widget-stocks-n
11  wait.until(EC.element_to_be_clickable((By.XPATH, '//widget-stocks-news/d
```

```
[WDM] - Current google-chrome version is 83.0.4103
[WDM] - Get LATEST driver version for 83.0.4103
[WDM] - Driver [C:\Users\isszq\.wdm\drivers\chromedriver\win32\83.0.4103.39
\chromedriver.exe] found in cache
```

Out[38]: <selenium.webdriver.remote.webelement.WebElement (session="4b107e3ab04ce157
05c929f8468350e6", element="9d8acda1-427a-4872-b70d-79ec8663cdcb")>

Close Cookie Banner

Find the `Accept` button and click to accept the cookie agreement. This is so that the banner will be closed and wont block the clicks.

In [39]: ▶|
```
 1  browser.find_element_by_class_name('sgx-consent-banner-acceptance-button
```

Extract elements from browser using xpath.

In [40]: ▶|
```
 1  news_items = browser.find_elements_by_xpath('//widget-stocks-news/div/di
 2  len(news_items)
```

Out[40]: 10

Experiment with One News

Experiment with code to extract one news item from pop-up.

In [41]: ▶|
```
 1  news_one = news_items[1]
 2  news_one.text
```

Out[41]: '29 Apr 2020 10:56:54 PM\nDbs Group Holdings Says FY Profit Before Allowanc
es To Be Around 2019 Levels\nOther Pre-AnnouncementLabor Issues'

In [42]: ▶|

```
1  browser.find_element_by_tag_name('body').send_keys(Keys.ESCAPE)
2  span = news_one.find_element_by_tag_name('span')
3  print(span.text)
4  span.click()
```

```
Dbs Group Holdings Says FY Profit Before Allowances To Be Around 2019 Level
s
```

In [43]: ▶|

```
1  import time
2  time.sleep(.5)
3  target = browser.find_element_by_xpath('//sgx-dialog[@id="widget-stocks-
4  _header = target.find_element_by_xpath('.//div/header/h2')
5  _timestamp = target.find_element_by_xpath('.//div/div/div[@class="text-c
6  _tags = target.find_element_by_xpath('.//div/div/div[@class="widget-stoc
7  _body = target.find_element_by_xpath('.//div/div/div[not(@class)]')
8
9  header = _header.text
10 timestamp = _timestamp.text
11 tags = [t.text for t in _tags.find_elements_by_tag_name('span')]
12 body = _body.text
13
14 print(header)
15 print(timestamp)
16 print(tags)
17 print(body)
```

```
Dbs Group Holdings Says FY Profit Before Allowances To Be Around 2019 Level
s
29 Apr 2020 10:56:54 PM
['Other Pre-Announcement', 'Labor Issues']
April 30 (Reuters) - DBS Group Holdings Ltd <DBSM.SI>::FY PROFIT BEFORE ALL
OWANCES TO BE AROUND 2019 LEVELS AFTER FACTORING IN DECLINES FOR REST OF YE
AR.DBS GROUP SEES NO RETRENCHMENTS OR PAY CUTS, BUT HIRING JUDICIOUSLY IN F
Y; BONUSES ALIGNED TO EARNINGS.DBS GROUP SEES CREDIT COSTS TO RISE TO BETWE
EN S$3 BILLION-S$5 BILLION CUMULATIVELY OVER TWO YEARS.EARNINGS CURRENTLY E
XPECTED TO BE SUFFICIENT FOR MAINTAINING QTRLY DPS AT 33 CENTS.
```

Package them into Function

In [44]:

```python
def extract_one_news(browser, news_one):
    browser.find_element_by_tag_name('body').send_keys(Keys.ESCAPE)
    span = news_one.find_element_by_tag_name('span')
    span.click()

    import time
    time.sleep(.5)
    target = browser.find_element_by_xpath('//sgx-dialog[@id="widget-sto
    _header = target.find_element_by_xpath('.//div/header/h2')
    _timestamp = target.find_element_by_xpath('.//div/div/div[@class="te
    _tags = target.find_element_by_xpath('.//div/div/div[@class="widget-
    _body = target.find_element_by_xpath('.//div/div/div[not(@class)]')

    header = _header.text
    timestamp = _timestamp.text
    tags = [t.text for t in _tags.find_elements_by_tag_name('span')]
    body = _body.text

    return (header, timestamp,tags,body)
```

Use the function to extract all news items.

In [45]:

```python
result = []
for item in news_items:
    news = extract_one_news(browser, item)
    result.append(news)
```

In [46]: ▶| `1  result`

Out[46]: [("Dbs CEO Says Majority Of Bank's Loans In Oil And Gas Sector Are To Oil
          Majors And State-Owned Companies",
            '30 Apr 2020 03:57:37 AM',
            ['Other Pre-Announcement'],
            "April 30 (Reuters) - DBS Group Holdings Ltd <DBSM.SI>::CEO SAYS BANK I
          S NOT CUTTING BACK EXPOSURE TO OIL AND GAS SECTOR, GETTING MORE DISCIPLIN
          ED ON DOCUMENTATION AROUND TRADE FINANCE.CEO SAYS MAJORITY OF BANK'S LOAN
          S IN OIL AND GAS SECTOR ARE TO OIL MAJORS AND STATE-OWNED COMPANIES."),
           ('Dbs Group Holdings Says FY Profit Before Allowances To Be Around 2019
          Levels',
            '29 Apr 2020 10:56:54 PM',
            ['Other Pre-Announcement', 'Labor Issues'],
            'April 30 (Reuters) - DBS Group Holdings Ltd <DBSM.SI>::FY PROFIT BEFOR
          E ALLOWANCES TO BE AROUND 2019 LEVELS AFTER FACTORING IN DECLINES FOR RES
          T OF YEAR.DBS GROUP SEES NO RETRENCHMENTS OR PAY CUTS, BUT HIRING JUDICIO
          USLY IN FY; BONUSES ALIGNED TO EARNINGS.DBS GROUP SEES CREDIT COSTS TO RI
          SE TO BETWEEN S$3 BILLION-S$5 BILLION CUMULATIVELY OVER TWO YEARS.EARNING
          S CURRENTLY EXPECTED TO BE SUFFICIENT FOR MAINTAINING QTRLY DPS AT 33 CEN
          TS.'),
           ('Dbs Group Holdings Qtrly Net Profit Declines',
            '29 Apr 2020 10:56:53 PM',
            ['Earnings Announcements'],
            'April 30 (Reuters) - DBS Group Holdings Ltd <DBSM.SI>::FOR Q1, DECLARE
          D INTERIM ONE-TIER TAX-EXEMPT DIVIDEND OF 33 CENTS FOR EACH DBSH ORDINARY
          SHARE.QTRLY NET INTEREST INCOME S$2,482 MILLION VERSUS S$2,310 MILLION.QT
          RLY NET PROFIT S$1,165 MILLION VERSUS S$1,651 MILLION.NPL RATIO 1.6% AS A
          T MARCH 31.QTRLY RETURN ON EQUITY 9.2%.QTRLY NET INTEREST MARGIN 1.86% VE
          RSUS 1.88%.AS AT MARCH 31 2020, CET 1 CAPITAL ADEQUACY RATIO 13.9 %.Q1 NE
          T PROFIT DECLINED AS CO PRE-EMPTIVELY SET ASIDE FURTHER S$0.70 BILLION OF
          GENERAL ALLOWANCES FOR COVID-19 PANDEMIC RISKS.WILL MAINTAIN SOLID BALANC
          E SHEET WITH AMPLE CAPITAL, LIQUIDITY & LOSS ALLOWANCE RESERVES.'),
           ('DBS Group Says $1 Bln 3.3% Perpetual Capital Securities First Callable
          In 2025 Will Be Listed And Quoted In Bond Market On 28 Feb',
            '27 Feb 2020 12:06:04 PM',
            ['Debt Financing / Related', 'Exchange Changes'],
            'Feb 27 (Reuters) - DBS Group Holdings Ltd <DBSM.SI>::US$1 BILLION 3.3%
          PERPETUAL CAPITAL SECURITIES FIRST CALLABLE IN 2025 WILL BE LISTED AND QU
          OTED IN BOND MARKET ON 28 FEB.SECURITIES WILL BE IN DENOMINATIONS OF US$2
          00,000 AND INTEGRAL MULTIPLES OF US$1,000.'),
           ('DBS Group Says Successfully Priced Issue Of $1 Bln 3.30 Pct Perpetual
          Capital Securities',
            '21 Feb 2020 01:24:04 AM',
            ['Debt Financing / Related', 'Other Pre-Announcement'],
            'Feb 21 (Reuters) - DBS Group Holdings Ltd <DBSM.SI>::SUCCESSFULLY PRIC
          ED ISSUE OF U.S.$1 BILLION 3.30 PER CENT. PERPETUAL CAPITAL SECURITIES FI
          RST CALLABLE IN 2025.SECURITIES WILL CONFER A RIGHT TO RECEIVE DISTRIBUTI
          ON AT INITIAL RATE OF 3.30 PER CENT PER ANNUM.SECURITIES EXPECTED TO QUAL
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BY SUMMER, 2020 SP COULD RISE BY A FEW BASIS POINTS OF LOANS; GP PROVIDES
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QTRLY NET INTEREST INCOME S$2,426 MILLION VERSUS S$2,330 MILLION.QTRLY NE
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3Q LOAN GROWTH SLOW DUE TO GLOBAL AND COUNTRY-SPECIFIC FACTORS.THREE RATE
CUTS WILL LEAD TO FULL-YEAR NIM BELOW GUIDANCE.DBS HONG KONG PERFORMANCE
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Clean up by closing the web browser.

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In [47]:  ▶|    1  browser.close()
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