

第 7 周学习笔记

1. 新建一个 `environment.yml` 文件，指定安装 Python 3.12 和 `jupyterlab`，然后运行 `conda env create` 命令创建 Conda 环境

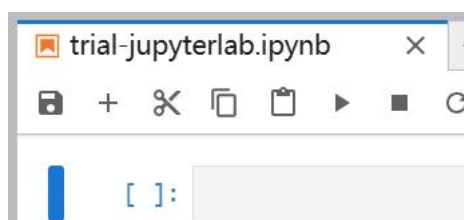
```
! environment.yml
1  name: week07
2  channels:
3    - conda-forge
4  dependencies:
5    - python=3.12
6    - wat-inspector
7    - jupyterlab
```

```
(base) Administrator@MIC
$ conda env create
C:\Users\Administrator\
```

2. 运行 `jupyter lab` 命令

```
(base) Administrator@MIC
$ cd repo/week07
(base) Administrator@MIC
$ conda activate week07
(week07) Administrator@MIC
$ jupyter lab
[I 2025-04-25 15:48:15.5
linked
```

3. 在 JupyterLab 页面里，新建一个 Notebook，改名为 `trial-jupyterlab.ipynb`



```
[ ]:
[2]: x = 5
      x = "a" * x
      print(x)
      aaaaaa
[5]: x = 5
      x = "a" * x
      print(x)
      x = 6
      x * 3
      aaaaaa
[5]: 18
[3]: x = 9
[4]: print(x)
      9
[ ]: [4,2,9]
```

4. 运用大模型生成代码运行

5. 修改 environment.yml 文件，添加 pip: tushare（注意，conda-forge 没有收录 tushare, 只能从 PyPI 安装, 参考）依赖项，运行 conda env update 更新 Conda 环境

```
! environment.yml
1  name: week07
2  channels:
3    - conda-forge
4  dependencies:
5    - python=3.12
6    - wat-inspector
7    - jupyterlab
8    - pip
9    - pip:
10     - tushare
```

运行 `ipython` 命令启动 IPython 交互界面

```
(week07) Administrator@MICROSOFT-WIN7:~$ ipython
Python 3.12.10 | packaged by conda-forge | (c) 2024
1943 64 bit (AMD64)]
Type 'copyright', 'credits' or 'license()' for more
IPython 9.1.0 -- An enhanced Interactive Python
Tip: You can use '%hist' to view history, see '%help' for more
In [1]: import tushare as ts
In [2]: quit()
```

运行下面的 Python 代码设置 Tushare Token

```
(week07) Administrator@MICROSOFT-WIN7:~$ python
Python 3.12.10 | packaged by conda-forge | (c) 2024
1943 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more
>>> import tushare as ts
>>> ts.set_token("my fake token")
>>> quit()
```

```
$ ipython
Python 3.12.10 | packaged by conda-forge | (c) 2024
1943 64 bit (AMD64)]
Type 'copyright', 'credits' or 'license()' for more
IPython 9.1.0 -- An enhanced Interactive Python
Tip: You can use '%hist' to view history, see '%help' for more
In [1]: import tushare as ts
In [2]: quit()
(week07) Administrator@MICROSOFT-WIN7:~$ python
Python 3.12.10 | packaged by conda-forge | (c) 2024
1943 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more
>>> quit()
(week07) Administrator@MICROSOFT-WIN7:~$ python
Python 3.12.10 | packaged by conda-forge | (c) 2024
1943 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more
>>> import tushare as ts
>>> ts.set_token("my fake token")
>>> quit()
```

向 Tushare 服务器请求 IPO 新股列表 数据，并保存在本地

```
In [1]: import tushare as ts
In [2]: pro = ts.pro_api()
In [3]: type(pro)
Out[3]: tushare.pro.client.DataApi
In [4]: id(pro)
Out[4]: 2431526296496
In [5]: pro
Out[5]: <tushare.pro.client.DataApi at 0x2362242dbb0>
In [6]: pro.new_share()
```

数据按照 `Parquet` 格式保存到磁盘。

```
In [1]: import tushare as ts
In [2]:
In [2]: pro = ts.pro_api()
In [3]: df = pro.new_share()
In [4]: df.to_parquet("new_share.parquet")
```

访问 `stock_basic` 接口，并将数据保存为 `stock_basic.parquet` 文件

```
In [1]: import tushare as ts
In [2]: pro = ts.pro_api()
In [3]: df = pro.new_share()
```

```
In [5]: df
Out[5]:
```

	ts_code	sub_code	name	ipo_date	...	pe	limit_amount	fund
0	603014.SH	732014	威高血净	20250508	...	0.00	1.10	
1	301595.SZ	301595	太力科技	20250508	...	0.00	0.65	
2	688755.SH	787755	汉邦科技	20250507	...	0.00	0.50	
3	301636.SZ	301636	泽润新能	20250428	...	17.57	0.45	
4	920068.BJ	920068	天工股份	20250428	...	14.98	255.00	
...
1995	300777.SZ	300777	中简科技	20190506	...	22.98	1.10	
1996	603267.SH	732267	鸿远电子	20190430	...	16.50	1.60	
1997	600989.SH	730989	宝丰能源	20190430	...	22.07	22.00	8

```
In [6]: df.to_parquet("new_share.parquet")
```

```
In [7]: pro.stock_basic()
```

```
Out[7]:
```

	ts_code	symbol	name	...	list_date
0	000001.SZ	000001	平安银行	...	19950101
1	000002.SZ	000002	万科A	...	19910801
2	000004.SZ	000004	国华网安	...	19950101
3	000006.SZ	000006	深振业A	...	19950101
4	000007.SZ	000007	全新好	...	19950101
...
5410	920111.BJ	920111	聚星科技	...	20250508
5411	920116.BJ	920116	星图测控	...	20250508
5412	920118.BJ	920118	太湖远大	...	20250508

```
In [10]: df.columns
Out[10]:
```

Index(['ts_code', 'symbol', 'name', 'list_date', 'act_name', 'area', 'pe', 'limit_amount', 'fund'], dtype='object')

```
In [11]: df = pro.stock_basic()
```

```
In [12]: df
Out[12]:
```

	ts_code	area
0	000001.SZ	深圳
1	000002.SZ	深圳
2	000004.SZ	深圳
3	000006.SZ	深圳
4	000007.SZ	深圳
...
5410	920111.BJ	None
5411	920116.BJ	None
5412	920118.BJ	None

6. 通过 perspective-python 软件包查看 polars.DataFrame 数据，
实践交互式可视化。

environment.yml

```
1 name: week07
2 channels:
3   - conda-forge
4 dependencies:
5   - python=3.12
6   - wat-inspector
7   - jupyterlab
8   - ipywidgets
9   - pyarrow
10  - polars
11  - pip
12  - pip:
13    - tushare
14    - perspective-python
```

环境

trial-perspective.ipynb

```
[6]: import polars as pl
     from perspective.widget import PerspectiveWidget

[7]: d1 = pl.read_parquet("new_share.parquet")

[8]: d2 = pl.read_parquet("stock_basic.parquet")

[9]: d1 = d1.with_columns(
     ipo_date=pl.col.ipo_date.str.to_date("%Y%m%d"),
     issue_date=pl.col.issue_date.str.to_date("%Y%m%d"),
     )

[10]: d2 = d2.with_columns(
     list_date=pl.col.list_date.str.to_date("%Y%m%d"),
     )

[11]: PerspectiveWidget(d1)
```

[11]: untitled 2,000 x 12

ts_code	sub_code	name	ipo_date	issue_date	amount
603014.SH	732014	威高血净	2025/5/7	-	4,114.6
301505.CN	301505	太力科技	2025/5/7	-	2,787.4

笔记.doc... environment.yml -... MINGW64:/c/User...

