

Data Extraction from WRDS with Python Programming

A Course-Integrated Instruction for
QF624 Machine Learning & Financial Application | MQF | LKCSB
AY2022-23 T3/APR | 17 Apr 2023 (Mon) | 8:20pm – 8:40pm

TEE Lip Hwe
Research Librarian, Business (Finance) and Accounting

Learning Objective

Learn how to extract data from WRDS with Python programming.



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WRDS provides access to over 350 terabytes of data across multiple disciplines including Accounting, Banking, Economics, ESG, Finance, Healthcare, Insurance, Marketing, and Statistics. Data delivery options include a web query method, the WRDS Cloud for executing research and strategy development, and the WRDS client server using PCSAS, Matlab, and R.

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• LOGIN REGISTER PASSWORD RESET ACCOUNT TRANSFER CONTACT



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Username

 Username

Please choose a username.

Required. Usernames must be 4 to 15 characters long; begin with a letter; contain only lowercase ASCII letters, numbers, and/or underscores; and must not begin with pg_.

Password

 Password

Please choose a password.

- Your password must contain at least 12 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.
- Passwords may contain only ASCII letters, numbers, spaces, and punctuation characters: `~!@#\$%^&*()=+_{}|;:,./<>?

Password confirmation

 Password confirmation

Please choose a password.

Enter the same password as before, for verification.

First name

 First name

Last name



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WRDS provides access to over 350 terabytes of data across multiple disciplines including Accounting, Banking, Economics, ESG, Finance, Healthcare, Insurance, Marketing, and Statistics. Data delivery options include a web query method, the WRDS Cloud for executing research and strategy development, and the WRDS client server using PCSAS, Matlab, and R.

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Data Deep Dive
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| 06
JUL | Research examines
patterns across 4,000+
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tokens

July 6th, 2022 |

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Compustat Fundamentals provides standardized North American and global financial statement and market data for over 80,000 active and inactive publicly traded companies that financial professionals have relied on for over 50 years

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A Standard & Poor's business, Capital IQ delivers comprehensive fundamental and quantitative research and analysis solutions to over 4,200 investment management firms, investment banks, private equity funds, advisory firms, corporations, and universities worldwide

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U.S. and Canadian fundamental and market information on active and inactive publicly held companies

Compustat North America is a database of U.S. and Canadian fundamental and market information on active and inactive publicly held companies. It provides more than 300 annual and 100 quarterly Income Statement, Balance Sheet, Statement of Cash Flows, and supplemental data items. For most companies, annual history is available back to 1950 and quarterly history back to 1962 with monthly market history back to 1962.

Compustat North America files also contain information on aggregates, industry segments, banks, market prices, dividends, and earnings.

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» Security Daily

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» Segments (Non-Historical) - Customer

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» Supplemental Short Interest File

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Web:

Compustat > **North America** > **Fundamentals Quarterly [Query Form]** > Data Item

Compustat > **Product** > **Table/File** > Data Item

Compustat North America - daily updates (current + historical data)'s **Fundamentals Quarterly**

Python:

Compustat > **Library** > **Table** > Data Item
comp_na_daily_all.fundq

Step-by-Step Guide to Query Form

North America's Fundamental Quarterly

Compustat North America - daily updates (current + historical data)'s Fundamentals Quarterly

- AMAZON.COM INC
- IBM CORP

TIC

+ Selective Data Items

+ 2010-JAN – 2020-DEC

- ✓ Company Name (CONM)
- ✓ Ticker Symbol (TIC)
- ✓ CUSIP (CUSIP)
- ✓ ATQ -- Assets - Total (ATQ)
- ✓ LTQ -- Liabilities - Total (LTQ)
- ✓ NIQ -- Net Income (Loss) (NIQ)
- ✓ TEQQ -- Stockholders Equity - Total (TEQQ)



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Compustat Daily Updates - Fundamentals Quarterly

Step 1: Choose your date range.

Date Variable:

to

Step 2: Apply your company codes.

What format are your company codes?

 TIC GVKEY CUSIP SIC CIK NAICS GIC Sub-Industry

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Code Lookup @ Step 2

SMU Classification: Restricted

.8|CIK# - Google Chrome

- □ X

 Starts With Is Exactly Contains

The **WRDS Attribute Search** helps you find attributes (such as company identifiers and names, incorporation information, and addresses) about entities (such as companies, indexes, and funds).

1. Start by entering a search term.
2. After the results are displayed, click on identifiers to add them to your list.
3. Last, choose whether to insert your selections into your web query or to download them as a text file.

If you need more help, take a moment to [read the full step-by-step instructions](#) to using this tool, including a complete list of identifiers available.

Your search returned 17 results.

Copy CSV Excel

CIK	CUSIP FULL	ENTITY NAME	FIRST DATE	GVKEY	LAST DATE	SIC	TICKER
	46435U283	ISHARES IBONDS DEC 2027 ETF	2019	035072	2021	6722	IBMP
	464289339	ISHARES IBDS SEP 2015 AMT-FR	2010	184124	2014	6722	IBMD
	464289313	ISHARES IBDS SEP 2016 MUNI	2010	184125	2015	6722	IBME
	464289271	ISHARES IBDS SEP 2017 MUNI	2010	184126	2016	6722	IBMF
0000051143	459200101	INTL BUSINESS MACHINES CORP	1950	006066	2021	7370	IBM
0000353524	449220003	IBM CREDIT CORP	1982	005822	2001	6159	IBM1

Showing 1 to 16 of 16 entries

Here are your codes. Use the ~~x~~ next to any item to remove it from your list.

~~x~~ AMZN ~~x~~ IBM

[Download as Text](#)

[Clear List](#)

[Add Attribute Codes to Query](#)

Screening Variables (Select at least one per line)

Several screening variables are pre-selected to produce one record per GVKEY-DATADATE pair, while keeping the vast majority of records. Examples of excluded rows include those with restated data, different views of the same data (pro forma, pre-FASB).

You can click on the choices to view additional help for each selection.

Consolidation Level

- C
- N
- R
- P
- D

Industry Format

- INDL
- FS

Data Format

- STD
- SUMM_STD
- PRE_AMENDS
- PRE_AMENDSS

Population Source

- D
- I

Quarter Type

- Fiscal View
- Calendar

Currency

- USD
- CAD

Company Status

- Active
- Inactive



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Screening Variables

Several screening variables are available for filtering results, keeping the vast majority of results relevant. This allows you to quickly see different views of the same data.

You can click on the choices to learn more about each variable.

Consolidation Level

Industry Format

Data Format

Population Source

Currency

Company Status

Step 3: Choose Screening Variables

Level of Consolidation (CONSOL)

This item identifies whether a company's financial statements represent consolidated or nonconsolidated information.

The Level of Consolidation (CONSOL) key describes whether parent and subsidiary accounts are combined or reported separately in the company's financial reports or whether the company reports all of the company's financial statements in a company record. **The majority of companies report consolidated financial statements (CONSOL = C), which include both parent and subsidiaries accounts.** Companies from outside the U.S. may not be required to report consolidated financial statements. S&P Global Market Intelligence collects and reports data from financial statements as it is reported, whether consolidated or unconsolidated.

The following table lists the codes and levels of consolidation:

C

Consolidated

Parent and Subsidiary accounts combined

I

Issue Level Fundamentals

N

Non-Consolidated

Parent and Subsidiary accounts reported separately. Used mainly for international companies (e.g., Japanese firms)

P

Pre-FASB

Screening Variables

Several screening variables are available for use in keeping the vast majority of the data from appearing in different views of the same company.

You can click on the choices below to see what they do.

Consolidation Level

Industry Format

Population Source (POPSRC)



This code indicates the source of the data. This item is a key field which allows you to retrieve data for a specific record.

D - Domestic (USA, Canada and ADRs)

I - International (Non-USA, non-Canadian, non-ADRs)

Close

Data Format

- INDE
- FS
- STD
- SUMM_STD
- PRE_AMENDS
- PRE_AMENDSS

Population Source

- D
- I

Currency

- USD
- CAD

Company Status

- Active (A)
- Inactive (I)

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Step 3: Choose variable types.

Step 3: Choose variable types.

Select Variable Types

- Data Items
- Footnotes
- Data Codes

How does this work?

Search All 0/674 Identifying Information 0/7 Identifying Information, cont. 0/34 Com

Select All Selected Clear All (0)

Search All

- Company Name (CONM) ? edit
- Ticker Symbol (TIC) ?
- CUSIP (CUSIP) ?
- CIK Number (CIK) ?
- Stock Exchange Code (EXCHG) ?
- Fiscal Year-End (FYR) ?
- Foreign Incorporation Code (FIC) ?
- ADD1 -- Address Line 1 (ADD1) ?
- ADD2 -- Address Line 2 (ADD2) ?
- ADD3 -- Address Line 3 (ADD3) ?

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Step 3: Choose variable types.

Select Variable Types

- Data Items
- Footnotes
- Data Codes

How does this work?

Search All 3/674

Identifying Information 3/7

Identifying Information, cont. 0/34

Com

Select All

total assets

- ACOQ -- Current Assets - Other - Total (ACOQ)
- ACTQ -- Current Assets - Total (ACTQ)
- ANCQ -- Non-Current Assets - Total (ANCQ)
- AOQ -- Assets - Other - Total (AOQ)
- ATQ -- Assets - Total (ATQ)
- FINACOQ -- Finance Division Other Current Assets, Total (FINACOQ)
- FINAOQ -- Finance Division Other Long-Term Assets, Total (FINAOQ)
- INTANQ -- Intangible Assets - Total (INTANQ)

Selected Clear All (3)

- Company Name (CONM)
- Ticker Symbol (TIC)
- CUSIP (CUSIP)

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Step 3: Choose variable types.

Select Variable Types

- Data Items
- Footnotes
- Data Codes

[How does this work?](#)

Search All 7/674 Identifying Information 3/7 Identifying Information, cont. 0/34 Com

Select All

Selected Clear All (7)

Search All

- CIK Number (CIK) ?
- Stock Exchange Code (EXCHG) ?
- Fiscal Year-End (FYR) ?
- Foreign Incorporation Code (FIC) ?
- ADD1 -- Address Line 1 (ADD1) ?
- ADD2 -- Address Line 2 (ADD2) ?
- ADD3 -- Address Line 3 (ADD3) ?
- ADD4 -- Address Line 4 (ADD4) ?
- ADDZIP -- Postal Code (ADDZIP) ?
- BUSDESC -- S&P Business Description (BUSDESC) ?

- Company Name (CONM)
- Ticker Symbol (TIC)
- CUSIP (CUSIP)
- ATQ -- Assets - Total (ATQ)
- LTQ -- Liabilities - Total (LTQ)
- NIQ -- Net Income (Loss) (NIQ)
- TEQQ -- Stockholders Equity - Total (TEQQ)

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Step 4: Select query output.

How does this work?

Select the desired format of the output file. For large data requests, select a compression type to expedite downloads. If you enter your email address, you will receive an email that contains a URL to the output file when the data request is finished processing.

Output Format	Compression Type	Date Format
<input type="radio"/> fixed-width text (*.txt)	<input checked="" type="radio"/> Uncompressed	<input checked="" type="radio"/> YYMMDDn8. (e.g. 19840725)
<input type="radio"/> comma-delimited text (*.csv)	<input type="radio"/> zip (*.zip)	<input type="radio"/> DATE9. (e.g. 25JUL1984)
<input type="radio"/> Excel spreadsheet (*.xlsx)	<input type="radio"/> gzip (*.gz)	<input type="radio"/> DDMMYY6. (e.g. 250784)
<input type="radio"/> tab-delimited text (*.txt)		<input type="radio"/> MMDDYY10. (e.g. 07/25/1984)
<input checked="" type="radio"/> HTML table (*.htm)		<input type="radio"/> DDMMYY10. (e.g. 25/07/1984)
<input type="radio"/> SAS Windows_32 dataset (*.sas7bdat)		<input type="radio"/> YYMMDDs10. (e.g. 1984/07/25)
<input type="radio"/> SAS Windows_64 dataset (*.sas7bdat)		
<input type="radio"/> SAS Solaris_64 dataset (*.sas7bdat)		
<input type="radio"/> dBase file (*.dbf)		
<input type="radio"/> STATA file (*.dta)		
<input type="radio"/> SPSS file (*.sav)		

E-Mail Address (*Optional*)

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Save This Query *(Optional)*

Saved Query Name 

Submit Form

Custom Field (*Optional*)

Custom Field

Notes on this Query (Optional)

Saved Query Notes

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Query 6151200 successfully submitted.



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Date Variable:

to

Step 2: Apply your company codes.

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Query 6151200, for comp_na_daily_all

Status:	Success	
Product:	comp_na_daily_all	
Results:	<p>Result Size: 90 KiB Result Count: 88 Rows</p> <p>Output Files:</p> <ul style="list-style-type: none">~/wrds_query_output/vp1vtmuavb0wjccu.htm <p>Results are also in your home directory at: ~/wrds_query_output/. See WRDS Cloud: Access Web Query Output for more details.</p>	
Timing:	Elapsed Time: 11 seconds	Submitted: 2022-09-21 06:19
	Work Begun: 2022-09-21 06:19	Work Finished: 2022-09-21 06:19

Data Retention

Results data will be accessible for 2 days, until 2022-09-23, 06:19

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There may be additional usage restrictions that are governed by your institution's licensing of specific databases. If you have any questions about data licensing and appropriate usage, please contact WRDS using the [Support form](#).

Compustat Quarterly

Global Company Key	Data Date	Fiscal Year	Fiscal Quarter	Company Name	Ticker Symbol	CUSIP	Assets - Total	Liabilities - Total	Net Income (Loss)	Stockholders Equity - Total	Level of Consolidation - Company Interim Descriptor	Industry Format	Data Format	Population Source	Fiscal Data Year and Quarter	Calendar Data Year and Quarter	ISO Currency Code	Active Inactive Status Marker
006066	20100331	2010	1	INTL BUSINESS MACHINES CORP	IBM	459200101	105208.0000	83059.0000	2601.0000	22149.0000	C	INDL	STD	D	2010Q1	2010Q1	USD	A
006066	20100630	2010	2	INTL BUSINESS MACHINES CORP	IBM	459200101	103420.0000	82244.0000	3386.0000	21176.0000	C	INDL	STD	D	2010Q2	2010Q2	USD	A
006066	20100930	2010	3	INTL BUSINESS MACHINES CORP	IBM	459200101	107174.0000	84815.0000	3589.0000	22359.0000	C	INDL	STD	D	2010Q3	2010Q3	USD	A
006066	20101231	2010	4	INTL BUSINESS MACHINES CORP	IBM	459200101	113452.0000	90280.0000	5257.0000	23172.0000	C	INDL	STD	D	2010Q4	2010Q4	USD	A
006066	20110331	2011	1	INTL BUSINESS MACHINES CORP	IBM	459200101	112960.0000	90184.0000	2863.0000	22776.0000	C	INDL	STD	D	2011Q1	2011Q1	USD	A
006066	20110630	2011	2	INTL BUSINESS MACHINES CORP	IBM	459200101	113474.0000	90264.0000	3663.0000	23210.0000	C	INDL	STD	D	2011Q2	2011Q2	USD	A
006066	20110930	2011	3	INTL BUSINESS MACHINES CORP	IBM	459200101	110158.0000	87780.0000	3839.0000	22378.0000	C	INDL	STD	D	2011Q3	2011Q3	USD	A
006066	20111231	2011	4	INTL BUSINESS MACHINES CORP	IBM	459200101	116433.0000	96197.0000	5490.0000	20236.0000	C	INDL	STD	D	2011Q4	2011Q4	USD	A
006066	20120331	2012	1	INTL BUSINESS MACHINES CORP	IBM	459200101	115346.0000	94563.0000	3066.0000	20783.0000	C	INDL	STD	D	2012Q1	2012Q1	USD	A
006066	20120630	2012	2	INTL BUSINESS MACHINES CORP	IBM	459200101	113832.0000	93269.0000	3882.0000	20563.0000	C	INDL	STD	D	2012Q2	2012Q2	USD	A
006066	20120930	2012	3	INTL BUSINESS	IBM	459200101	115778.0000	94112.0000	3823.0000	21666.0000	C	INDL	STD	D	2012Q3	2012Q3	USD	A

← → C 🔍 wrds-www.wharton.upenn.edu/query-manager/query-document/8422258

006066	20190331	2019	1	INTL BUSINESS MACHINES CORP	IBM	459200101	130926.0000	114320.0000	1591.0000	16606.0000	C	INDL	STD	D	2019Q1	2019Q1	USD	A
006066	20190630	2019	2	INTL BUSINESS MACHINES CORP	IBM	459200101	154652.0000	136876.0000	2498.0000	17776.0000	C	INDL	STD	D	2019Q2	2019Q2	USD	A
006066	20190930	2019	3	INTL BUSINESS MACHINES CORP	IBM	459200101	149620.0000	131524.0000	1672.0000	18096.0000	C	INDL	STD	D	2019Q3	2019Q3	USD	A
006066	20191231	2019	4	INTL BUSINESS MACHINES CORP	IBM	459200101	152186.0000	131201.0000	3670.0000	20985.0000	C	INDL	STD	D	2019Q4	2019Q4	USD	A
006066	20200331	2020	1	INTL BUSINESS MACHINES CORP	IBM	459200101	153403.0000	133275.0000	1175.0000	20128.0000	C	INDL	STD	D	2020Q1	2020Q1	USD	A
006066	20200630	2020	2	INTL BUSINESS MACHINES CORP	IBM	459200101	154200.0000	133512.0000	1361.0000	20688.0000	C	INDL	STD	D	2020Q2	2020Q2	USD	A
006066	20200930	2020	3	INTL BUSINESS MACHINES CORP	IBM	459200101	154128.0000	132794.0000	1698.0000	21334.0000	C	INDL	STD	D	2020Q3	2020Q3	USD	A
006066	20201231	2020	4	INTL BUSINESS MACHINES CORP	IBM	459200101	155971.0000	135244.0000	1356.0000	20727.0000	C	INDL	STD	D	2020Q4	2020Q4	USD	A
064768	20100331	2010	1	AMAZON.COM INC	AMZN	023135106	12042.0000	6424.0000	299.0000	5618.0000	C	INDL	STD	D	2010Q1	2010Q1	USD	A
064768	20100630	2010	2	AMAZON.COM INC	AMZN	023135106	12397.0000	6540.0000	206.0000	5857.0000	C	INDL	STD	D	2010Q2	2010Q2	USD	A
064768	20100930	2010	3	AMAZON.COM INC	AMZN	023135106	14162.0000	7765.0000	231.0000	6397.0000	C	INDL	STD	D	2010Q3	2010Q3	USD	A
064768	20101231	2010	4	AMAZON.COM INC	AMZN	023135106	18797.0000	11933.0000	416.0000	6864.0000	C	INDL	STD	D	2010Q4	2010Q4	USD	A
064768	20110331	2011	1	AMAZON.COM INC	AMZN	023135106	16882.0000	9535.0000	201.0000	7347.0000	C	INDL	STD	D	2011Q1	2011Q1	USD	A
064768	20110630	2011	2	AMAZON.COM INC	AMZN	023135106	17941.0000	10176.0000	190.0000	7765.0000	C	INDL	STD	D	2011Q2	2011Q2	USD	A
064768	20110930	2011	3	AMAZON.COM INC	AMZN	023135106	19054.0000	11288.0000	63.0000	7766.0000	C	INDL	STD	D	2011Q3	2011Q3	USD	A

064768	20160930	2016	3	AMAZON.COM INC	AMZN	023135106	70897.0000	53115.0000	252.0000	17782.0000	C	INDL	STD	D	2016Q3	2016Q3	USD	A		
064768	20161231	2016	4	AMAZON.COM INC	AMZN	023135106	83402.0000	64117.0000	749.0000	19285.0000	C	INDL	STD	D	2016Q4	2016Q4	USD	A		
064768	20170331	2017	1	AMAZON.COM INC	AMZN	023135106	80969.0000	59295.0000	724.0000	21674.0000	C	INDL	STD	D	2017Q1	2017Q1	USD	A		
064768	20170630	2017	2	AMAZON.COM INC	AMZN	023135106	87781.0000	64567.0000	197.0000	23214.0000	C	INDL	STD	D	2017Q2	2017Q2	USD	A		
064768	20170930	2017	3	AMAZON.COM INC	AMZN	023135106	115267.0000	90609.0000	255.0000	24658.0000	C	INDL	STD	D	2017Q3	2017Q3	USD	A		
064768	20171231	2017	4	AMAZON.COM INC	AMZN	023135106	131310.0000	103601.0000	1857.0000	27709.0000	C	INDL	STD	D	2017Q4	2017Q4	USD	A		
064768	20180331	2018	1	AMAZON.COM INC	AMZN	023135106	126362.0000	94899.0000	1629.0000	31463.0000	C	INDL	STD	D	2018Q1	2018Q1	USD	A		
064768	20180630	2018	2	AMAZON.COM INC	AMZN	023135106	134100.0000	99105.0000	2534.0000	34995.0000	C	INDL	STD	D	2018Q2	2018Q2	USD	A		
064768	20180930	2018	3	AMAZON.COM INC	AMZN	023135106	143695.0000	104570.0000	2883.0000	39125.0000	C	INDL	STD	D	2018Q3	2018Q3	USD	A		
064768	20181231	2018	4	AMAZON.COM INC	AMZN	023135106	162648.0000	119099.0000	3027.0000	43549.0000	C	INDL	STD	D	2018Q4	2018Q4	USD	A		
064768	20190331	2019	1	AMAZON.COM INC	AMZN	023135106	178102.0000	129692.0000	3561.0000	48410.0000	C	INDL	STD	D	2019Q1	2019Q1	USD	A		
064768	20190630	2019	2	AMAZON.COM INC	AMZN	023135106	191351.0000	138290.0000	2625.0000	53061.0000	C	INDL	STD	D	2019Q2	2019Q2	USD	A		
064768	20190930	2019	3	AMAZON.COM INC	AMZN	023135106	199099.0000	142591.0000	2134.0000	56508.0000	C	INDL	STD	D	2019Q3	2019Q3	USD	A		
064768	20191231	2019	4	AMAZON.COM INC	AMZN	023135106	225248.0000	163188.0000	3268.0000	62060.0000	C	INDL	STD	D	2019Q4	2019Q4	USD	A		
064768	20200331	2020	1	AMAZON.COM INC	AMZN	023135106	221238.0000	155966.0000	2535.0000	65272.0000	C	INDL	STD	D	2020Q1	2020Q1	USD	A		
064768	20200630	2020	2	AMAZON.COM INC	AMZN	023135106	258314.0000	184586.0000	5243.0000	73728.0000	C	INDL	STD	D	2020Q2	2020Q2	USD	A		
064768	20200930	2020	3	AMAZON.COM INC	AMZN	023135106	282179.0000	199404.0000	6331.0000	82775.0000	C	INDL	STD	D	2020Q3	2020Q3	USD	A		
064768	20201231	2020	4	AMAZON.COM INC	AMZN	023135106	321195.0000	227791.0000	7222.0000	93404.0000	C	INDL	STD	D	2020Q4	2020Q4	USD	A		

Step 3: Choose variable types.

Select Variable Types

- Data Items
- Footnotes
- Data Codes

How does this work?

Search All 0/674 Identifying Information 0/7

Select All

stockholders

- LSEQ -- Liabilities and Stockholders Equity - Total (LSEQ) ?
- SEQQQ -- Other Stockholders- Equity Adjustments (SEQQQ) ?
- SEQQ -- Stockholders Equity > Parent > Index Fundamental > Quarterly (SEQQ) ?
- TEQQ -- Stockholders Equity - Total (TEQQ) ?

How does this work?

No variables are currently selected. To set conditions on this query, click the Query Variables step.

Stockholders Equity - Total

Mnemonic	Periodicity	Format	Units
----------	-------------	--------	-------

TEQ	Annual	Number	Millions
-----	--------	--------	----------

TEQQ	Quarterly	Number	Millions
------	-----------	--------	----------

This item represents the common equity, preferred equity and nonredeemable noncontrolling interest of a company.

This item includes:

1. Capital surplus
2. Common/Oldinary Stock (Capital)
3. Nonredeemable preferred stock
4. Redeemable preferred stock
5. Retained earnings
6. Treasury Stock - Total Dollar Amount (reduces Stockholders Equity)
7. Nonredeemable noncontrolling interest

This item is the sum of:

1. Common/Oldinary Equity - Total (CEQ)
2. Preferred/Preference Stock (Capital) - Total (PSTK)
3. Nonredeemable Noncontrolling Interest (MIBN)



Compustat

Compustat Manuals and Overviews

North America - Global - Bank

[» Compustat Data Guide](#)

[» Overview of Compustat North America - G...](#)

[Understanding the Data](#)

[Using the Data](#)

[More North America - Global - Bank resources](#)



Segments

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[Segment Info](#)

[» WRDS Overview of Compustat Segments ...](#)

[Xpressfeed Segment Data Definitions](#)

Execucomp

[ExecuComp Data Definitions](#)

[» ExecuComp Table Descriptions](#)

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Global

[» Calculating the Market Value of a Firm](#)[» Identifying a Stock Split Occurrence](#)[» Merging Compustat Global with SDC Plat...](#)[» NI \(Net Income Variable\)](#)[More Global resources](#) ↗

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Now, more than ever, access to data, analytics, research and technology is critical to your mission. From the classroom, boardroom, or home, for 25+ years WRDS has supported users with targeted solutions that underpin research, reinforce learning, and enable discovery.

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 Video	 Video	 Video	 Video	 Video
Introduction to Compustat Part 1 View the scope of data, extensive use-cases and breadth support documentation for Compustat on WRDS.	Introduction to Compustat Part 2 Expand your knowledge of the benefits of Compustat data on WRDS through this guided video overview.	Compustat Global: The Basics Explore the basics of Compustat Global, including: <ul style="list-style-type: none">• Coverage and frequency of updates• Variables and identifiers• Types of data• How to filter by country	Compustat Execucomp: The Basics Explore the Compustat Execucomp database, with topics including: <ul style="list-style-type: none">• Overview of the data• Compensation items• How to track executives	Accessing WRDS Support This video tour will guide you through the extensive support services offered by WRDS.
More »	More »	More »	More »	More »

comp_na_daily_all	Compustat North America - daily updates (current + historical data)
comp_global_daily	Compustat Global - daily updates
comp_bank_daily	Compustat Bank - daily updates
comp_segments_hist_daily	Compustat Historical Segments - daily updates
comp_execucomp	S&P Compustat Executive Compensation

Universe	Product (Library)	Product [naming convention]	Query Form	Query Form [short description]	Query Form (Table)
Compustat	Compustat North America - daily updates (current + historical data) (comp_na_daily_all)	North America	Fundamentals Annual	Merged Fundamental Annual File	funda
			Fundamentals Quarterly	Merged Fundamental Quarterly File	fundq
			Index Fundamentals	Index Annual	idx_ann
			Index Prices	Index Monthly	idx_mth
			Industry Specific Annual	Industry-Specific Annual Item	aco_indsta
			Industry Specific Quarterly	Industry-Specific Quarterly Item	aco_indstq
			Pension Annual	Pension Annual Item	aco_pnfnda
			Pension Quarterly	Pension Quarterly Item	aco_pnfndq
			Security Daily	Merged Security Daily File	secd
			Security Monthly	Merged Security Monthly File	secm
			Segments (Non-Historical)	—	wrds_segmerged
			Segments (Non-Historical) - Customer	—	wrds_seg_customer
			Simplified Financial Statement Extract	Merged Fundamental Annual File	funda
			Supplemental Short Interest File	Security Short Interest	sec_shortint
Compustat	Compustat Global - daily updates (comp_global_daily)	Global	Fundamentals Annual	Merged Global Fundamental Annual File	g_funda
			Fundamentals Quarterly	Merged Fundamental Quarterly File	g_fundq
			Index Constituents	Index Monthly	g_idx_cst_his
			Index Prices	Index Monthly	g_idx_mth
			Security Daily	Merged Global Security Daily File	g_secd
Compustat	Compustat Bank - daily updates (comp_bank_daily)	Bank	Bank Fundamentals Annual	Bank Annual File	bank_funda
			Bank Fundamentals Quarterly	Bank Interim Quarterly File	bank_fundq
Compustat	Compustat Historical Segments - daily updates (comp_segments_hist_daily)	Historical Segments	Customer Segments	—	wrds_seg_customer
			Historical Segments	—	wrds_seg_customer
S&P Compustat Executive Compensation [monthly updates] (comp_execucomp)	Execucomp		Annual Compensation	Merged aggregate level Execucomp data	anncomp
			Company Financial & Director Compensation for 2005 & prior	Company Financial & Director Compensation for 2005 & prior	codirfin
			Deferred Compensation	Deferred Compensation	deferredcomp
			Director Compensation	Director Compensation	directorcomp
			Long Term Incentive Awards - 1992 Format	Long Term Incentive Awards - 1992 format	ltawdtab
			Outstanding Equity Awards	Outstanding Equity Awards	outstandingawards
			Pension Benefits	Pension Benefits	pension
			Plan Based Awards	Plan Based Awards	planbasedawards
			Stock Option Grants - 1992 Format	Stock Option Grants - 1992 format	stgrttab

Querying WRDS using Python



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Python

How to access WRDS data through Python: from your computer or on the WRDS Cloud

[» Python: From the Web \(JupyterHub\)](#)[» PYTHON: From Your Computer
\(Jupyter/Spyder\)](#)[» PYTHON: On the WRDS Cloud](#)[» Reducing Memory Usage](#)



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Python: From the Web (JupyterHub)

Learn how to access WRDS data from JupyterHub with Python from the WRDS website

JupyterHub at WRDS

- » Open JupyterHub
 - » Example Research Applications in JupyterHub

Top of Section

Introduction to JupyterHub Python

Jupyter is a vibrant, active open source project with lots of information online. See the JupyterLab site for getting started and how to use it: [Jupyter documentation](#)

This documentation uses several related but different terms

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- » JupyterHub at WRDS
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PYTHON: From Your Computer (Jupyter/Spyder)

Learn how to access WRDS data from Python on your computer

Introduction to Python at WRDS

Python is a widely-used high-level programming language that is both powerful and easy to use, and is proving to a major player in large-scale data analytics applications.

WRDS provides a direct interface for Python access, allowing native querying of WRDS data right within your Python program. All WRDS data is stored in a PostgreSQL database, and is available through Python through our in-house Python module, **wrds**, which is freely available on PyPI via a [pip install](#).

Here is an example of a simple query against the Dow Jones Averages & Total Return Indexes using the **wrds** Python module:

```
1 import wrds
2 db = wrds.Connection(wrds_username='joe')
3 db.raw_sql('SELECT date, dji FROM djones.djdaily')
```

Full usage and many examples are given throughout this section for using Python to access WRDS data

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[» Introduction to Python at WRDS](#)[» Initial Setup - Installing Python and Jupyter / Spyder](#)[» Initial Setup - Installing the WRDS Python Module](#)[» Initial Setup - The pgpass File](#)[» Verifying your Setup](#)[» Next Steps](#)



Querying WRDS Data using Python

Learn how to use Python to view dataset metadata and query WRDS data

Introduction

Now that you've learned how to connect to WRDS using the Python `wrds` module, you're ready to begin querying WRDS data. This document will begin by examining the `wrds` module, presenting its included methods and covering the basics of its use. Afterwards, it will cover how to explore WRDS metadata to find the particular WRDS data that you're looking for, and then how to use that information to perform actual research queries against that data.

Additional Resources:

- ## • OLS Regression in Python

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Using the wrds Module

All Python programs intending to access WRDS data must include the following two lines at the top:

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 - » Using the wrds Module
 - » Querying the Dataset Structure (Metadata)
 - » Querying WRDS Data
 - » Joining Data from Separate Datasets
 - » Managing your Connections
 - » Passing Parameters to SQL



```
1 | data = db.get_table('djones', 'djdaily', columns=['date', 'dji'], obs=10)
2 | data
```

Using raw_sql()

The method `raw_sql()` accepts the following parameters:

- `sql` - the SQL string to query
- `date_cols` - a list or dict of column names to parse as date (optional)
- `index_col` - a string or list of column(s) to set as index(es) (optional)

For additional parameters, and further explanation of each, use the built-in help: `help(db.raw_sql)`

Here's an example that does the same thing as `get_table()` example above, but uses SQL to select the data instead:

```
1 | data = db.raw_sql('SELECT date, dji FROM djones.djdaily LIMIT 10', date_cols=
2 | data
```

The `raw_sql()` method is by far the most useful and popular of the `wrds` module's methods, allowing powerful and granular control over your data processing. Writing SQL for use with this method is fairly straightforward. All data queries are constructed in SQL the following generic manner:

```
select columns from library.dataset where column1 = value
```

Notice the *dot notation* for the library and dataset. Unlike the other `wrds` methods, where *library* and *table* are specified separately, SQL queries instead use the two together to identify the data location. So, for example, a data query for the *dataset msf* within the *library crsp* would use the syntax `crsp.msf`, and the same goes for `djones.djdaily`.

You'll likely be doing most of your work using the `raw_sql()` method.

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» Using the wrds Module

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» Querying WRDS Data

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» PYTHON: On the WRDS Cloud

» Graphing Data

» Example Workflow

Passing Parameters to SQL

The `raw_sql()` method now also supports parameterized SQL, allowing you to pass variables or lists from elsewhere in your Python code to your SQL statement. This is great for large lists of company codes or identifiers, or an array of specific trading days. Here is an example where a dictionary of tickers is passed through to a `raw_sql()` SQL statement:

```
1 params = {"tickers": ("0015B", "0030B", "0032A", "0033A", "0038A")}\n2 data = db.raw_sql(\n3     "SELECT datadate, gvkey, cusip FROM comp.funda WHERE tic IN %(tickers)s"\n4     params=params,\n5 )
```

This allows for a great deal of flexibility in terms of your SQL queries. Common use cases might include building out a list of tickers, CUSIPs, etc programmatically or from an external file; re-using the same code list over multiple queries that adjust other parameters, such as date range; or matching based on specified trading days.

This functionality uses Panda's native SQL capabilities, and thus requires SQL that conforms to a slightly different standard than the generalized SQL you otherwise use with `raw_sql()`. Specifically, it uses the Python DB-API 2.0 specification, which conforms to PEP 249.

For more information, please see one of the following links:

Psycopg: Passing Parameters to SQL Queries

Pandas: read_sql_query()

Python · PEP 249

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Example Python Data Workflow

See how to combine a series of Python data queries into a useful workflow

Example Data Research Workflow using Python

The following series of stand-alone queries represents a basic example Python workflow using WRDS data. The commands in this workflow could be run interactively or submitted via a batch job using Python in the WRDS Cloud, or run locally from your computer using a Jupyter notebook. For this example, we'll use the CRSP Daily Stock File (**crsp.dsf**) data library

In real-world Python programming, you would probably use the results of these queries to perform additional statistical analysis in your program. This document is meant as an introductory walkthrough.

First, as with every Python program that intends to connect to WRDS, we must import the **wrds** module and make our connection:

```
1 import wrds  
2 db = wrds.Connection()
```

We must also have set up our **pgpass** file as described earlier in the documentation.

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Using Python on WRDS Platform



Learn how to use Python on the WRDS platform, including:

- Establishing a connection to the WRDS server
- Using the basic functions provided by the WRDS API

[Sample Code](#)

Using Python on WRDS Platform

-- Connection and Basic Function

- Qingyi (Freda) Song Drechsler, Ph.D.
- August 2020

0. Setup WRDS Python API

- To be done before running this notebook
- <https://pypi.org/project/wrds/>
- run "pip install wrds"
 - Mac: in terminal
 - PC: in Anaconda prompt
- Spyder or Jupyter

1. Import pre installed WRDS package

In []: `import wrds`

2. Establish connection with WRDS server

- log in using your WRDS username and password
- set up a pgpass file to store the info

In []: `conn = wrds.Connection()`

Jupyter (from your computer)



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<input type="checkbox"/>	Untitled.ipynb					Running 4 minutes ago	10.9 kB
<input type="checkbox"/>	Downloads					12 minutes ago	
<input type="checkbox"/>	apple.csv					12 minutes ago	865 B
<input type="checkbox"/>	Creative Cloud Files					2 days ago	
<input type="checkbox"/>	OneDrive - Singapore Management University					3 days ago	
<input type="checkbox"/>	Pictures					3 months ago	
<input type="checkbox"/>	Anaconda3					3 months ago	
<input type="checkbox"/>	Zotero					6 months ago	
<input type="checkbox"/>	VIA					8 months ago	
<input type="checkbox"/>	Favorites					9 months ago	
<input type="checkbox"/>	Documents					9 months ago	
<input type="checkbox"/>	OneDrive					9 months ago	
<input type="checkbox"/>	Syncplicity					9 months ago	

 jupyter Untitled1 Last Checkpoint: 35 minutes ago (autosaved)

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Trusted  Kernel 

In []:

jupyter Untitled Last Checkpoint: 5 minutes ago (autosaved)



Logout

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Not Trusted

Python 3 (ipykernel)



In [2]: pip install wrds

```
Requirement already satisfied: wrds in c:\users\lhtee\anaconda3\lib\site-packages (3.1.2)
Requirement already satisfied: mock in c:\users\lhtee\anaconda3\lib\site-packages (from wrds) (4.0.3)
Requirement already satisfied: numpy in c:\users\lhtee\anaconda3\lib\site-packages (from wrds) (1.21.5)
Requirement already satisfied: psycopg2-binary in c:\users\lhtee\anaconda3\lib\site-packages (from wrds) (2.9.5)
Requirement already satisfied: pandas in c:\users\lhtee\anaconda3\lib\site-packages (from wrds) (1.4.2)
Requirement already satisfied: sqlalchemy in c:\users\lhtee\anaconda3\lib\site-packages (from wrds) (1.4.32)
Requirement already satisfied: python-dateutil>=2.8.1 in c:\users\lhtee\anaconda3\lib\site-packages (from pandas->wrds) (2.8.2)
Requirement already satisfied: pytz>=2020.1 in c:\users\lhtee\anaconda3\lib\site-packages (from pandas->wrds) (2021.3)
Requirement already satisfied: six>=1.5 in c:\users\lhtee\anaconda3\lib\site-packages (from python-dateutil>=2.8.1->pandas->wrds) (1.16.0)
Requirement already satisfied: greenlet!=0.4.17 in c:\users\lhtee\anaconda3\lib\site-packages (from sqlalchemy->wrds) (1.1.1)
Note: you may need to restart the kernel to use updated packages.
```

In [1]:

```
import wrds
db = wrds.Connection()
lib = db.list_libraries()
crsp = [x for x in lib if 'crsp' in x]
crsp
```

```
Enter your WRDS username [lhtee]:ltee11
Enter your password:.....
WRDS recommends setting up a .pgpass file.
Create .pgpass file now [y/n]? y
Created .pgpass file successfully.
Loading library list
```

WRDS JupyterHub

MQF.ipynb (auto-G) - JupyterLab + wrds-jupyter.wharton.upenn.edu/

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/ web_query_output /

Name	Last Modified
mstrxxciefzki6zc_csv.zip	an hour ago

MQF.ipynb +

File + X Code Python 3 (ipykernel) O

[129]:

```
import wrds
db = wrds.Connection()
lib = db.list_libraries()
lib
#sorted(lib)
```

Loading library list...
Done

[129]:

```
['aha_sample',
'ahsamp',
'audit',
'audit_audit_comp',
'audit_common',
'auditsmp',
'auditsmp_all',
'block',
'block_all',
'boardex_trial',
'boardsmp',
'bvd',
'bvd_orbis_large',
'bvd_orbis_medium',
'bvd_orbis_small',
```

MQF.ipynb (auto-G) - JupyterLab + wrds-jupyter.wharton.upenn.edu/ /user/ltee11/lab/workspaces/auto-G/tree/MQF.ipynb

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/

Name	Last Modified
wrds-code-samples	3 months ago
sasuser.v94	3 months ago
web_query_output	7 months ago
MQF.ipynb	a minute ago
Untitled7.ipynb	2 hours ago
Untitled6.ipynb	2 hours ago
tables_OF_taqmsec.txt	6 hours ago
Untitled9.ipynb	7 hours ago
Untitled8.ipynb	9 hours ago
Untitled4.ipynb	a day ago
Untitled1.ipynb	a day ago
MQF-Copy1.ipynb	2 days ago
apple.csv	2 days ago
tables7.txt	2 days ago

MQF.ipynb +

Code Python 3 (ipykernel)

```
[ ]: import wrds  
db = wrds.Connection()  
apple = db.raw_sql("""select permno, date, prc, ret, shrout  
from crsp_a_stock.msf  
where permno = 14593  
and date>='01/01/2021'  
and date<='12/31/2021""",  
date_cols=['date'])  
  
apple
```

```
[68]: apple.to_csv('/home/smusg/ltee11/apple.csv')
```

```
[73]: import pandas as pd  
df = pd.read_csv('apple.csv')  
print(df.to_string())
```

Unnamed: 0	permno	date	prc	ret	shrout
0	14593.0	2021-01-29	131.960007	-0.005502	16788096.0
1	14593.0	2021-02-26	121.260002	-0.079532	16788096.0
2	14593.0	2021-03-31	122.150002	0.007340	16686305.0
3	14593.0	2021-04-30	131.460007	0.076218	16687631.0
4	14593.0	2021-05-28	124.610001	-0.050434	16687631.0
5	14593.0	2021-06-30	136.960007	0.099109	16556942.0

Web Query vs Python

OptionMetrics - Index Dividend Yield

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OptionMetrics - Index Dividend Yield

[Query Form](#)[Variable Descriptions](#)[Manuals and Overviews](#)[Knowledge Base](#)[Data Preview](#)**OptionMetrics**

OptionMetrics - Index Dividend Yield

[More About This Vendor »](#)

Step 1: Choose your date range.

Date Variable:

2020-01-01

2021-12-31

Step 2: Apply your company codes.

What format are your company codes?

 TICKER SECID CUSIP

Select an option for entering your company codes:

 SPX Code List Name

Save this code list to Saved Codes

[OptionMetrics](#)[Ivy DB US](#)[Market](#)

(hide)

[» Index Dividend Yield](#)[» Zero Coupon Yield Curve](#)[Knowledge Base](#)[» Computing Returns in OptionMetrics](#)

Step 3: Choose query variables.

[How does this work?](#)

Search All 0/9 Security Information/Codes 0/8 Index Dividend Information 0/1

Select All Selected Clear All (0)

Search All

- CUSIP (cusip)
- Ticker (ticker)
- SIC (sic)
- Index Flag (index_flag)
- Exchange Designator (exchange_d)
- Class Designator (class)
- Issue Type (issue_type)
- Industry Group (industry_group)
- Dividend yield (rate)

[How does this work?](#)

No variables are currently selected. To set conditions on this query, please select at least one variable in the Query Variables step.

[Activate Conditional Statement Builder](#)



OptionMetrics

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» [Computing Returns in OptionMetrics](#)

» [Linking OptionMetrics with CRSP](#)

[Manuals and Overviews »](#)

» [WRDS Overview of OptionMetrics](#)



OptionMetrics

Step 4: Select query output

How does this work?

Select the desired format of the output file. For large data requests, select a compression type to expedite downloads. If you enter your email address, you will receive an email that contains a URL to the output file when the data request is finished processing.

Output Format	Compression Type	Date Format
<input type="radio"/> fixed-width text (*.txt) <input type="radio"/> comma-delimited text (*.csv) <input type="radio"/> Excel spreadsheet (*.xlsx) <input checked="" type="radio"/> tab-delimited text (*.txt) <input checked="" type="radio"/> HTML table (*.htm) <input type="radio"/> SAS Windows_32 dataset (*.sas7bdat) <input type="radio"/> SAS Windows_64 dataset (*.sas7bdat) <input type="radio"/> SAS Solaris_64 dataset (*.sas7bdat) <input type="radio"/> dBase file (*.dbf) <input type="radio"/> STATA file (*.dta) <input type="radio"/> SPSS file (*.sav)	<input checked="" type="radio"/> Uncompressed <input type="radio"/> zip (*.zip) <input type="radio"/> gzip (*.gz)	<input checked="" type="radio"/> YYMMDDn8. (e.g. 19840725) <input type="radio"/> DATE9. (e.g. 25JUL1984) <input type="radio"/> DDMMYY6. (e.g. 250784) <input type="radio"/> MMDDYY10. (e.g. 07/25/1984) <input type="radio"/> DDMMYY10. (e.g. 25/07/1984) <input type="radio"/> YYMMDDs10. (e.g. 1984/07/25)

E-Mail Address (*Optional*)

E-mail

Edit Preferences

Save This Query (Optional)

□

Saved Query Name

Custom Field (*Optional*)

Custom Field

Notes on this Query (Optional)

Saved Query Notes

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[Home](#) / [Your Account](#) / [Queries](#) / Query 6427785, for optionm_all

Query 6427785, for optionm_all

Status:	Success	
Product:	optionm_all	
Results:	<p>Result Size: 179 KiB</p> <p>Result Count: 505 Rows</p> <p>Output Files: <ul style="list-style-type: none">~wrds_query_output/svq1z27cylk8iw5g.htm</p> <p>Results are also in your home directory at: ~wrds_query_output/. See WRDS Cloud: Access Web Query Output for more details.</p>	
Timing:	Elapsed Time: 12 seconds	Submitted: 2022-11-25 07:07
	Work Begun: 2022-11-25 07:07	Work Finished: 2022-11-25 07:07

Data Retention

Results data will be accessible for 2 days, until 2022-11-27, 07:07

Notice

Your use of WRDS and this data extract must comply with the [WRDS Terms of Use](#).

There may be additional usage restrictions that are governed by your institution's licensing of specific databases. If you have any questions about data licensing and appropriate usage, please contact WRDS using the [Support form](#).

OPTIONM

Security ID	Date of the Dividend Yield	CUSIP Number	Ticker Symbol	SIC Code	Index Flag	Exchange Designator	Class Designator	The Type of Security	Industry Group	Dividend Yield
108105	20200102	64881510	SPX	9999	1	32768		A	.	1.777138
108105	20200103	64881510	SPX	9999	1	32768		A	.	1.78377
108105	20200106	64881510	SPX	9999	1	32768		A	.	1.804811
108105	20200107	64881510	SPX	9999	1	32768		A	.	1.809661
108105	20200108	64881510	SPX	9999	1	32768		A	.	1.7979
108105	20200109	64881510	SPX	9999	1	32768		A	.	1.798852
108105	20200110	64881510	SPX	9999	1	32768		A	.	1.802418
108105	20200113	64881510	SPX	9999	1	32768		A	.	1.799066
108105	20200114	64881510	SPX	9999	1	32768		A	.	1.80384
108105	20200115	64881510	SPX	9999	1	32768		A	.	1.81248
108105	20200116	64881510	SPX	9999	1	32768		A	.	1.809332
108105	20200117	64881510	SPX	9999	1	32768		A	.	1.818453
108105	20200121	64881510	SPX	9999	1	32768		A	.	1.800634
108105	20200122	64881510	SPX	9999	1	32768		A	.	1.799731
108105	20200123	64881510	SPX	9999	1	32768		A	.	1.796807
108105	20200124	64881510	SPX	9999	1	32768		A	.	1.804008
108105	20200127	64881510	SPX	9999	1	32768		A	.	1.805183
108105	20200128	64881510	SPX	9999	1	32768		A	.	1.805485
108105	20200129	64881510	SPX	9999	1	32768		A	.	1.808029
108105	20200130	64881510	SPX	9999	1	32768		A	.	1.815291
108105	20200131	64881510	SPX	9999	1	32768		A	.	1.8248
108105	20200203	64881510	SPX	9999	1	32768		A	.	1.839633
108105	20200204	64881510	SPX	9999	1	32768		A	.	1.839229
108105	20200205	64881510	SPX	9999	1	32768		A	.	1.84065
108105	20200206	64881510	SPX	9999	1	32768		A	.	1.847855
108105	20200207	64881510	SPX	9999	1	32768		A	.	1.857658
108105	20200210	64881510	SPX	9999	1	32768		A	.	1.872237
108105	20200211	64881510	SPX	9999	1	32768		A	.	1.87508
108105	20200212	64881510	SPX	9999	1	32768		A	.	1.879901
108105	20200213	64881510	SPX	9999	1	32768		A	.	1.883068

Index Flag

This flag indicates whether the security is an index. It is set to '1' if the security is an index and to '0' otherwise.

Exchange Flags

The sum of all exchange flags indicating the US exchanges where the security is currently listed. This field can be set

File Formats

to any of the below or the sum of any combination of the below exchange flags:

- 00000 – Currently delisted
- 00001 – NYSE/ARCA
- 00002 – AMEX
- 00004 – NASDAQ National Markets System
- 00008 – NASDAQ Small Cap
- 00016 – OTC Bulletin Board
- 00032 – BATS Global Markets
- 00064 – Investors Exchange
- 32768 – The security is an index

Class

The class designator, if any, of the security on the effective date

Issue Type

The type of security:

- 0 – Common Stock
- A – Market index
- / – Mutual or investment trust fund
- F – ADR/ADS
- G – Foreign Security

```
import wrds
db = wrds.Connection()
db.describe_table(library='optionm_all', table='idxdvd')
```

Loading library list...

Done

Approximately 352241 rows in optionm_all.idxdvd.

	name	nullable	type	comment
0	secid	True	DOUBLE_PRECISION	Security ID
1	date	True	DATE	Date of the Dividend Yield
2	rate	True	DOUBLE_PRECISION	Dividend Yield

```
import wrds
db = wrds.Connection()
db.describe_table(library='optionm_all', table='securd')
```

Loading library list...

Done

Approximately 115902 rows in optionm_all.securd.

	name	nullable		type	comment
0	secid	True	DOUBLE_PRECISION		Security ID
1	cusip	True	VARCHAR(8)		CUSIP Number
2	ticker	True	VARCHAR(6)		Ticker Symbol
3	sic	True	VARCHAR(4)		SIC Code
4	index_flag	True	VARCHAR(1)		Index Flag
5	exchange_d	True	DOUBLE_PRECISION	Exchange Designator	
6	class	True	VARCHAR(1)	Class Designator	
7	issue_type	True	VARCHAR(1)	The Type of Security	
8	industry_group	True	DOUBLE_PRECISION		Industry Group

```
import wrds
db = wrds.Connection()
index_div_yield = db.raw_sql("""
    select *
    from optionm_all.idxdvd a, optionm_all.securd b
    where a.secid = b.secid
    and b.ticker = 'SPX'
    and a.date >= '01/01/2020'
    and a.date <= '12/31/2021'
    order by a.date
""",
    date_cols=['a.date'])
index_div_yield.shape
```

Loading library list...

Done

(505, 12)

index_div_yield

	secid	date	rate	secid	cusip	ticker	sic	index_flag	exchange_d	class	issue_type	industry_group
0	108105.0	2020-01-02	1.777138	108105.0	64881510	SPX	9999	1	32768.0	None	A	None
1	108105.0	2020-01-03	1.783770	108105.0	64881510	SPX	9999	1	32768.0	None	A	None
2	108105.0	2020-01-06	1.804811	108105.0	64881510	SPX	9999	1	32768.0	None	A	None
3	108105.0	2020-01-07	1.809661	108105.0	64881510	SPX	9999	1	32768.0	None	A	None
4	108105.0	2020-01-08	1.797900	108105.0	64881510	SPX	9999	1	32768.0	None	A	None
...
500	108105.0	2021-12-27	1.245086	108105.0	64881510	SPX	9999	1	32768.0	None	A	None
501	108105.0	2021-12-28	1.248356	108105.0	64881510	SPX	9999	1	32768.0	None	A	None
502	108105.0	2021-12-29	1.252619	108105.0	64881510	SPX	9999	1	32768.0	None	A	None
503	108105.0	2021-12-30	1.246516	108105.0	64881510	SPX	9999	1	32768.0	None	A	None
504	108105.0	2021-12-31	1.243227	108105.0	64881510	SPX	9999	1	32768.0	None	A	None

505 rows × 12 columns

```
import wrds
db = wrds.Connection()
index_div_yield = db.raw_sql("""
    select b.issue_type,
           b.index_flag,
           b.exchange_d,
           b.sic,
           b.secid,
           b.ticker,
           b.cusip,
           a.date,
           a.rate
      from optionm_all.idxdvd a, optionm_all.securd b
     where a.secid = b.secid
       and b.ticker = 'SPX'
       and a.date >= '01/01/2020'
       and a.date <= '12/31/2021'
       order by a.date
    """,
    date_cols=['a.date'])
index_div_yield.shape
```

Loading library list...

Done

(505, 9)

index_div_yield									
	issue_type	index_flag	exchange_d	sic	secid	ticker	cusip	date	rate
0	A	1	32768.0	9999	108105.0	SPX	64881510	2020-01-02	1.777138
1	A	1	32768.0	9999	108105.0	SPX	64881510	2020-01-03	1.783770
2	A	1	32768.0	9999	108105.0	SPX	64881510	2020-01-06	1.804811
3	A	1	32768.0	9999	108105.0	SPX	64881510	2020-01-07	1.809661
4	A	1	32768.0	9999	108105.0	SPX	64881510	2020-01-08	1.797900
...
500	A	1	32768.0	9999	108105.0	SPX	64881510	2021-12-27	1.245086
501	A	1	32768.0	9999	108105.0	SPX	64881510	2021-12-28	1.248356
502	A	1	32768.0	9999	108105.0	SPX	64881510	2021-12-29	1.252619
503	A	1	32768.0	9999	108105.0	SPX	64881510	2021-12-30	1.246516
504	A	1	32768.0	9999	108105.0	SPX	64881510	2021-12-31	1.243227

505 rows × 9 columns

Querying WRDS using Python

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wrds · PyPI x + pypi.org/project/wrds/ Help Sponsors Log in Register

The screenshot shows the Python Package Index (PyPI) page for the 'wrds' package. The title 'wrds 3.1.2' is displayed prominently. Below it, a red box highlights the 'pip install wrds' command and its copy icon. To the right, a green button indicates this is the 'Latest version'. The release date 'Jul 12, 2022' is also visible.

Python access to WRDS Data

Navigation

Project description

Release history

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Project description

WRDS-Py is a library for extracting data from WRDS data sources and getting it into Pandas. The library allows users to access data from WRDS and extract data using SQL statements. The data that is returned is read into a Pandas data frame.

Installation

For detailed information on installation of the module, please see [PYTHON: From Your Computer \(Jupyter/Spyder\)](#)

Using pip

The easiest way to install WRDS-Py on any supported platform is to use [pip](#), the Python package manager, to install from the Python package index ([pypi](#)).

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

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+ Code + Text Copy to Drive

Connect

Editing



Getting started

Data science

Machine learning

More Resources

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Welcome to Colab!

If you're already familiar with Colab, check out this video to learn about interactive tables, the executed code history view, and the command palette.



What is Colab?

Colab, or "Colaboratory", allows you to write and execute Python in your browser, with

- Zero configuration required
- Access to GPUs free of charge
- Easy sharing

Whether you're a **student**, a **data scientist** or an **AI researcher**, Colab can make your work easier. Watch [Introduction to Colab](#) to learn more, or just get started below!

▼ Getting started



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- Getting started
- Data science
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+ Code + Text

GitHub

Enter a GitHub URL or search by organization or user

Include private repos

liphwe

Repository: Branch:

liphwe/smu-wrds.python

main

Path

MQF-crsp.taq.ipynb

MQF-optionmetrics.ipynb

WRDS+Python_23_0412.ipynb

WRDS+Python_23_0417.ipynb

Cancel

Getting started

liphwe/smwrds.python x +

github.com/liphwe/smwrds.python

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main 1 branch 0 tags Go to file Add file Code

liphwe Add files via upload e6566ae 5 days ago 13 commits

BSW-computstat--23-0203.ipynb	Add files via upload	2 months ago
Data_Extraction_from_WRDS - AT.ipynb...	Created using Colaboratory	5 months ago
MQF-crsp.taq.ipynb	Add files via upload	5 months ago
MQF-optionmetrics.ipynb	Add files via upload	5 months ago
WRDS+Python_23_0412.ipynb	Add files via upload	2 weeks ago
WRDS+Python_23_0417.ipynb	Add files via upload	5 days ago

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» CBOE Indexes	1	» FTSE/Russell	3	» Prequin	11
» Compustat - Capital IQ	173	» Historical SPDJI	2	» Public Data	14
» Comscore	54	» IBES	113	» Research Quotient	1
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	225		2		1

[Coding Tool Kit](#)

WRDS News

21 NOV WRDS featured in AMBA's AMBITION magazine

November 21st, 2022

14 NOV Chinese Finance Annual Meeting (CFAM) awards WRDS Best Paper ...

November 14th, 2022

Events

23 NOV AACSB EMEA Annual Conference

Submit a request

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Subject*

I am a...*

Student (Graduate Student, MBA, Undergrad)

What type of issue are you having?*

I have an issue with a dataset

Dataset*

TAQ Millisecond

Data options

-
Data not updated

Finding a variable

Variable details

Understanding the Data

Data Integrity

Thank you & Help Us Improve



TEE, Lip Hwe
Research Librarian
for Business (Finance) and Accountancy
Ihtee@smu.edu.sg

<https://smu.sg/zxoz>

Appendix

CRSP Delisting Code

CRSP Data Definitions



► Subscription Information

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Delisting Codes

Active

Code	Description
100	Issue still trading NYSE/NYSE MKT, NASDAQ, Arca or Bats.
150*	Issue still active, but no prices in this version of file.
160*	Issue stopped trading, but no prices in file after 840831.
170*	Issue stopped trading, but not delisted from current exchange (suspended or inactive).

Mergers

Code	Description
200	Issue acquired in merger, payment details unknown.
201	Merged into or in order to form an issue trading on NYSE.
202	Merged into or in order to form an issue trading on NYSE MKT.
203	Merged into or in order to form an issue trading on NASDAQ.
205	When merged, shareholders primarily receive shares of mutual funds.

CRSP in Action

Immigration and the Stock Market: How Immigration Policy Affects the Stock Prices of Firms that Employ Low-Skilled Workers

*The Center for Growth and
Opportunity at Utah State
University*

This study examines the stock prices of firms most likely to be affected by immigration immediately surrounding the signing of the Immigration Act of 1990 and the implementation of the 1999 Temporary Protected Status.

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The Democratization of Investment Research: Implications for Retail Investor Profitability and

Delisting Code

Delisting Code is a 3-digit integer code. It either (1) indicates that a security is still trading or (2) provides a specific reason for delisting. All coded delistings are categorized by the first digit of the delisting code.

Primary First Digit of Code	Category
1	still trading or halted but not yet delisted
2	mergers
3	exchanges
4	liquidations
5	delisted by NYSE, NYSE American, NASDAQ, or Arca
7	delisted by the Securities and Exchange Commission
8	trading simultaneously on more than one exchange

The second and third digits of the delisting codes provide further detail of delisting events. Additional delisting codes, specific to various delisting categories, have been created to indicate when an issue is closed to further research, or if the issue is pending further research. for details of delisting coding schemes.

Delisting Return

Delisting Return is the return of a security after it has delisted from NYSE, NYSE American, NASDAQ, or Arca. The Delisting Return is calculated by comparing the security's [Amount After Delisting](#) with its price on the last day of trading. The [Amount After Delisting](#) can be either an off-exchange price, an off-exchange price quote, or the sum of a series of distribution payments. The effective date of the delisting return is specified in the [Delisting Payment Date](#).

The return for any issue that has been closed to further research is calculated as follows:

- If a price within 10 periods of the delist date is available, then the delisting return is calculated using that price.
- If a final distribution is available, then the delisting return is calculated using all known distribution information occurring after the date of last price.
- If distributions occurring after the date of last price are available, but no final distribution has been found, then the delisting return is calculated as if a final distribution were found. (This applies only to issues closed to further research.)
- If there is evidence that no distributions will ever be paid to shareholders, then the stock is considered worthless. The delisting return is set to -1 (i.e. a 100% loss).
- If there is evidence that the stock has been declared worthless, then the delisting return is set to -1 (i.e. a 100% loss).

For any issue that is closed to further research and none of the above criteria are met, the delisting return is given a missing return code. For any issue that is pending further research, the delisting return is given a missing return code of -55.0.