

Rice Data Query Skill - Setup Guide

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Rice Data Query Skill

This skill enables Claude Code to query the Rice Business Stock Market Data Portal.

Setup

1. Get Access Token

Visit <https://data-portal.rice-business.org> and confirm your Rice email address to receive an access token (JWT).

2. Create Skill Directory

In your course project folder, create this directory structure:

```
your-course-folder/  
  .claude/  
    skills/  
      rice-data-query/
```

On Windows:

```
mkdir .claude\skills\rice-data-query
```

On Mac/Linux:

```
mkdir -p .claude/skills/rice-data-query
```

3. Download SKILL.md

Download the SKILL.md file from:

<https://mgmt638.kerryback.com/SKILL.md>

Save it as:

```
.claude/skills/rice-data-query/SKILL.md
```

4. Create .env File

In your project directory (not inside `.claude/`), create a file named `.env` with your access token:

```
RICE_ACCESS_TOKEN=your_token_here
```

Replace `your_token_here` with the actual token from the Rice Data Portal.

Important: The `.env` file should be in your `.gitignore` so it won't be committed to git.

5. Install Required Packages

Make sure you have these Python packages installed in your virtual environment:

```
pip install requests pandas python-dotenv
```

Final Directory Structure

Your project should look like this:

```
your-course-folder/
  .env                      # Your access token (not committed)
  .claude/
    skills/
      rice-data-query/
        SKILL.md           # The skill file
  your-notebooks.ipynb     # Your work
```

Usage

Once set up, simply ask Claude Code to fetch data from the Rice stock database.

Example Prompts

- “Get the monthly prices for AAPL from 2020 to 2023”
- “Show me the 10 largest tech companies by market cap”
- “Fetch quarterly revenue data for Tesla over the last 5 years”
- “Get insider trading data for Microsoft in the past year”

What Claude Does Automatically

Claude will automatically:

1. Use the skill to generate the correct SQL query
2. Connect to the Rice Data Portal API using your token

3. Fetch the data and return it as a pandas DataFrame
4. **Ask you for a filename and save the data** as a .parquet file for future use

What This Skill Provides

- **Complete database schema** for all tables (TICKERS, SEP, DAILY, SF1, SF2)
- **SQL query rules** specific to the Rice Data Portal
- **Direct API connection** code (no separate client library needed)
- **Best practices** for avoiding timeouts and handling large datasets

Tables Available

- **TICKERS:** Company information (sector, industry, exchange, etc.)
- **SEP:** Daily stock prices (open, close, high, low, volume)
- **DAILY:** Daily metrics (PE ratio, market cap, EV, etc.)
- **SF1:** Fundamentals from 10-K/10-Q filings (revenue, earnings, ratios, etc.)
- **SF2:** Insider trading from Form 4 filings

Important Notes

1. **All date columns are VARCHAR type** - must cast to DATE in queries
2. **Market cap in DAILY table is in thousands** of dollars
3. **SF1 table has NO ‘date’ column** - use `reportperiod`, `datekey`, or `calendardate`
4. **For large datasets** (like monthly prices), use year-by-year queries to avoid timeouts

Troubleshooting

Skill not loading?

Make sure you’re running `claude` from your course project folder (the folder that contains `.claude/`).

“RICE_ACCESS_TOKEN not found” error?

1. Check that `.env` file exists in your project root (not inside `.claude/`)
2. Check that the file contains: `RICE_ACCESS_TOKEN=your_token`
3. Make sure there are no quotes around the token
4. Make sure there are no spaces around the `=` sign

Connection errors?

1. Verify your access token is still valid at <https://data-portal.rice-business.org>
2. Check your internet connection
3. Try the query again - sometimes the server is busy

Data not saving?

The skill will automatically prompt you for a filename after each query. If you don’t see the prompt, check that your `SKILL.md` file is the latest version from the course website.

More Information

For complete variable descriptions and documentation, visit:

- Database Guide: <https://portal-guide.rice-business.org>
- Rice Data Portal: <https://data-portal.rice-business.org>
- Course Website: <https://mgmt638.kerryback.com>