STOCK MARKET DATA PIPELINE

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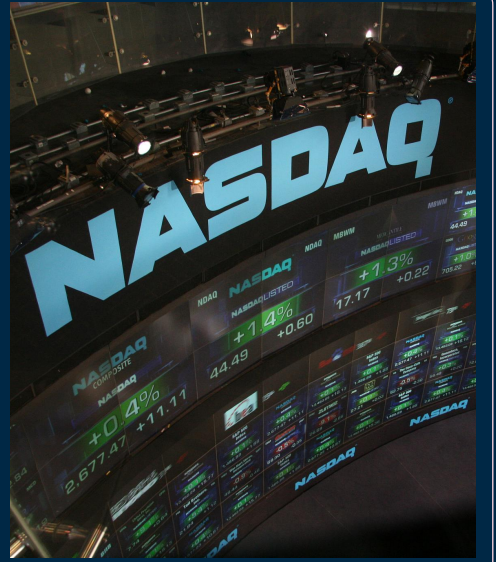
NEED

Establish a data pipeline which retrieves, cleans, and stores stock market data to be deployed in a web application.



DATA AND SCOPE

DATA

- Daily price at market close
- General company information (e.g. products, sector)
- Financial metrics (e.g. market cap, P/E)

SCOPE

- Companies traded on US stock market exchanges - NASDAQ, NYSE, AMEX
- Largest 2,000 companies by market cap
- 15 years of market data

5,512,745

total records

(...and counting...)

TOOLS

DATA ACQUISITION

- Yahoo Finance API (yfinance library)

DATA CLEANING

- Pandas
- NumPy

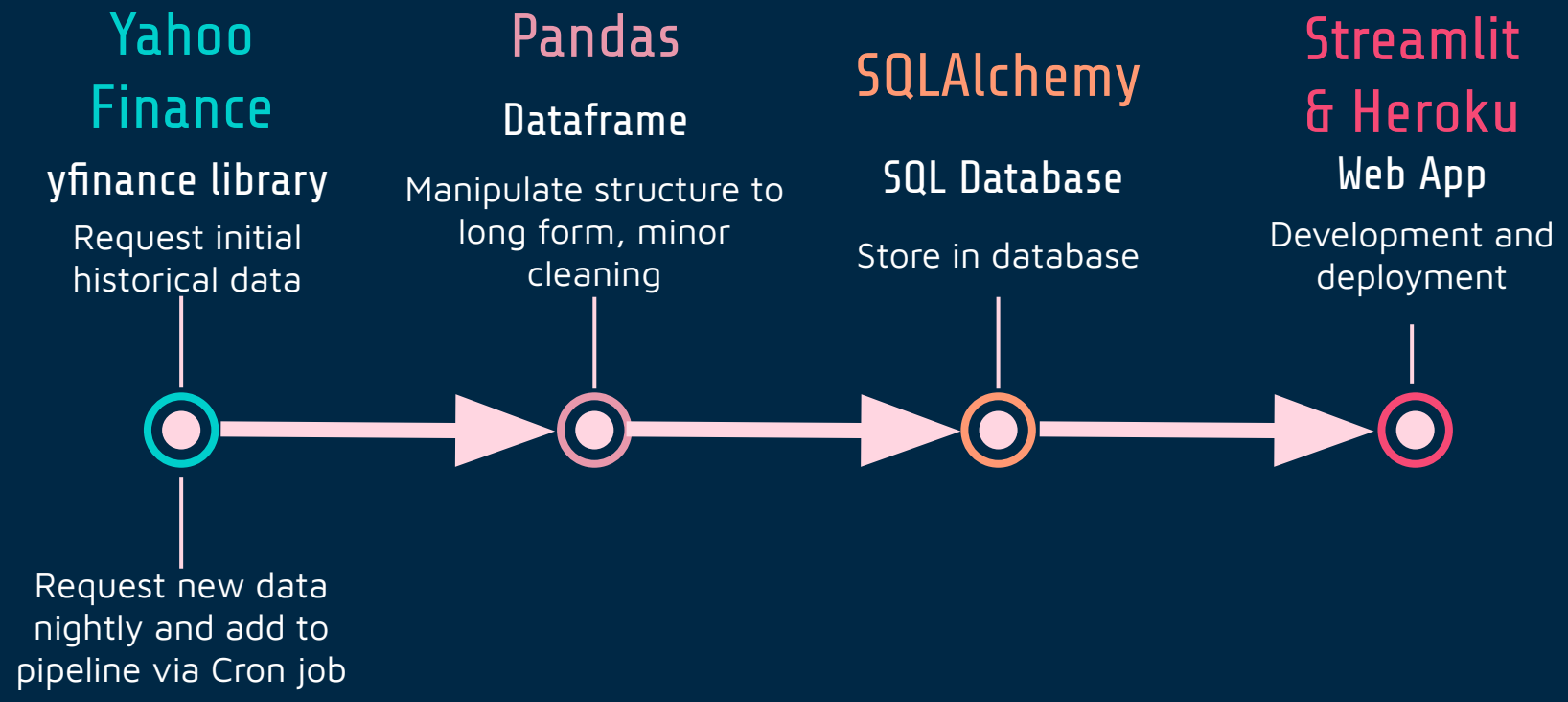
DATA STORAGE

- SQLAlchemy for SQL database connection
- Pandas to push to DB

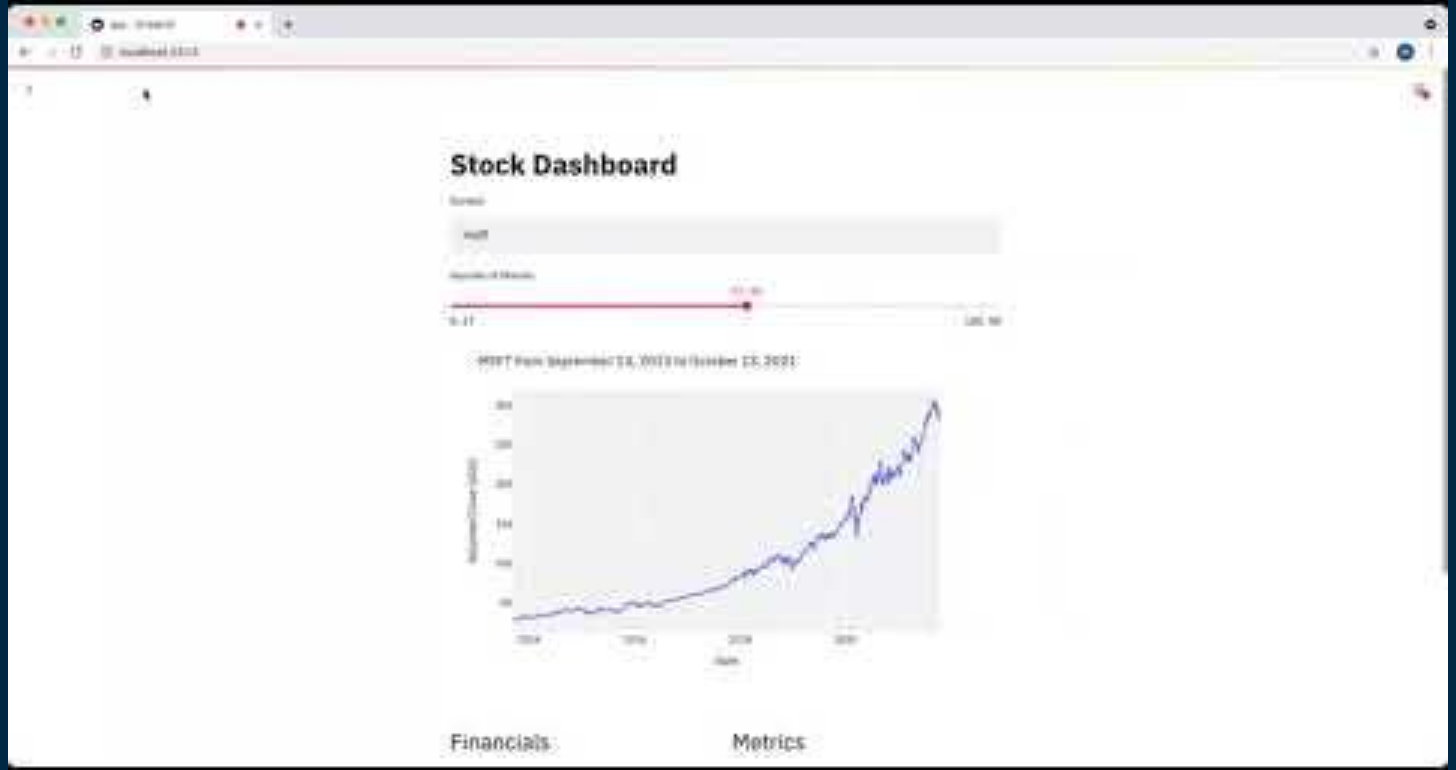
WEB APP DEPLOYMENT

- App developed with Streamlit
- Plotly for interactive chart
- Deployed via Heroku

PIPELINE OVERVIEW

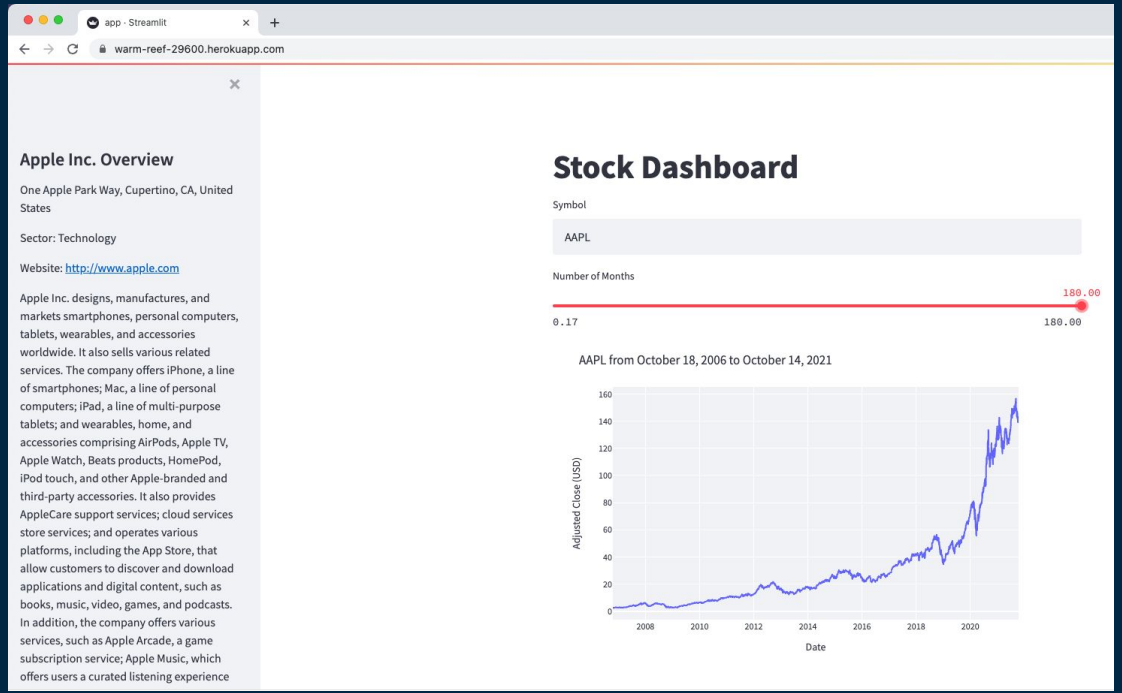


DEMO



HEROKU DEPLOYMENT

https://warm-reef-29600.herokuapp.com/



FURTHER WORK

- Additional data - market indices, cryptocurrency
- Functionality to allow user to build and track portfolio performance
- Data storage on a cloud platform
- Algorithmic analysis/modeling

APPENDIX

Crontab Example

Run update_db.py M-F at 11:00PM

Load new historical data, update metrics

Do you have any questions?

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THANKS

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