

MGMT 638

Session 12

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Agenda

- Automated Trading
- Alpaca Python API
- Risk Management

Automated Scheduled Trading

1. Download data at specified time of day (e.g., 30 minutes before market close)
2. Run model to generate trading signals
3. Run trading protocol to convert signals and current holdings to desired trades
4. Connect to broker API and submit trades
5. Receive execution confirmations

Real-Time Monitoring

- Stream live price data from broker
- Trigger alarms on extreme price movements
- Maybe trigger stop-loss orders

Introduction to Alpaca-py

- pip install alpaca-py
- Sign up for free account at alpaca.markets
- Create API key and secret key
- Crypto market data requires no authentication
- Stock market data and trading require API keys
- Sandbox/paper trading environment available for testing

Core Features and APIs

Three Main API Products:

1. Market Data API

- Live and historical data for 5,000+ stocks, 20+ cryptocurrencies, and options
- Stock and crypto bar data, quotes, trades, and news

2. Trading API

- Execute trades in stocks, crypto, and options
- Order management and position tracking

3. Broker API

- Build investment applications
- Platform for robo-advisors or brokerage services

Example Jupyter Notebooks

Official alpaca-py Examples:

- [All Examples Directory](#) – Stocks, crypto, options
- [Stock Trading Basics](#) – Notebook for stock trading
- [Crypto Trading Basics](#) – Notebook for crypto trading
- [Options Trading Basics](#) – Notebook for options trading

Additional Strategy Examples:

- [Alpaca Notebooks Repository](#) – Crypto arbitrage, pairs trading, momentum strategies, and more

Risk Management

- Suppose you're a small cap fund manager.
- You will be evaluated relative to your peers or relative to Russel 2000.
- How do you measure risk?
- How do you manage risk?