# Alpaca API – Key Concepts and Integration Overview

## Introduction

Alpaca is an API-first brokerage platform designed to let individuals and businesses build trading applications and brokerage services. It provides programmatic access to stock and crypto trading, real‑time and historical market data and tools for opening and managing customer accounts[[1]](https://docs.alpaca.markets/docs/getting-started). Alpaca exposes multiple APIs depending on your use case: a *Trading API* for placing orders, a *Broker API* for building a broker platform and managing customer accounts, and a *Market Data API* for retrieving historical and real‑time data.

## Trading API

* **Capabilities** – The trading API supports stock and crypto trading with up to **4× intraday** and **2× overnight** margin leverage and includes short selling and advanced order types[[1]](https://docs.alpaca.markets/docs/getting-started). Trades can be executed in a live environment or through paper trading for simulation.
* **Fractional shares** – Alpaca extends the standard trading API with a notional parameter, allowing orders to specify a **dollar amount** rather than share quantity; fractional orders must be day orders[[2]](https://docs.alpaca.markets/docs/use-cases). Assets indicate whether fractional trading is supported using the is\_fractional flag[[2]](https://docs.alpaca.markets/docs/use-cases).
* **Order tagging** – In an omnibus broker setup you can include a subtag in orders to identify individual end‑customers without exposing them to Alpaca[[2]](https://docs.alpaca.markets/docs/use-cases).

## Broker API

### Use Cases

Alpaca describes three primary integration models[[3]](https://docs.alpaca.markets/docs/use-cases):

1. **Fully‑disclosed broker** – Each end‑customer has their own Alpaca brokerage account. The broker collects customer information (CIP, KYC/AML) and passes it to Alpaca for account creation and regulatory compliance[[2]](https://docs.alpaca.markets/docs/use-cases).
2. **Omnibus broker** – One Alpaca account holds the combined positions of all customers. The broker manages sub‑customers off‑platform and attaches a subtag to each order for internal bookkeeping; Alpaca never sees individual customer data[[2]](https://docs.alpaca.markets/docs/use-cases).
3. **Registered Investment Advisor (RIA)** – A licensed advisor manages client accounts. Each client is introduced individually to Alpaca; account approval is handled by Alpaca, while the advisor provides the user experience and trading instructions[[3]](https://docs.alpaca.markets/docs/use-cases).

### Getting Started

* **Sandbox environment** – Alpaca provides a sandbox that mirrors production but does not execute real trades. You sign up for a broker dashboard (Brokerdash) to generate sandbox API keys, create test accounts, fund them, and place test orders[[4]](https://docs.alpaca.markets/docs/getting-started-with-broker-api). Alpaca offers a Postman collection for testing endpoints[[4]](https://docs.alpaca.markets/docs/getting-started-with-broker-api).
* **Testing workflows** – Typical sandbox tasks include opening accounts, funding via ACH deposits, journaling transfers between accounts, placing sample orders, and reading events via server‑sent events (SSE)[[4]](https://docs.alpaca.markets/docs/getting-started-with-broker-api).
* **Transition to live** – Once integration is complete, you undergo Alpaca’s onboarding and compliance review to enable live trading. Account approvals, funding, and journal requests involve manual or automated reviews in production[[5]](https://docs.alpaca.markets/docs/integration-setup-with-alpaca).

## Integration Setup

The broker dashboard allows toggling between sandbox and production, inviting team members and viewing activities[[5]](https://docs.alpaca.markets/docs/integration-setup-with-alpaca). Key integration points:

* **Account approval** – In sandbox, account creation is automatic; in production, customer accounts may undergo manual compliance reviews[[5]](https://docs.alpaca.markets/docs/integration-setup-with-alpaca).
* **Trading** – Trades placed in sandbox are simulated using the paper-trading engine, while production uses the live trading engine[[5]](https://docs.alpaca.markets/docs/integration-setup-with-alpaca).
* **Funding & journaling** – The sandbox Transfer API provides immediate funding and journaling; in production, large transfers are queued for operations team review[[5]](https://docs.alpaca.markets/docs/integration-setup-with-alpaca). Brokers receive separate firm accounts for deposits, sweeps (operational cash) and rewards[[5]](https://docs.alpaca.markets/docs/integration-setup-with-alpaca).

## Market Data API

* **Access** – Alpaca offers a separate Market Data API for historical and real‑time quotes, trades and bars. To use it you generate API keys from the dashboard, install a client SDK such as alpaca‑py, and instantiate data clients (e.g., StockHistoricalDataClient, CryptoHistoricalDataClient)[[6]](https://docs.alpaca.markets/docs/getting-started-with-alpaca-market-data).
* **Making requests** – Using the Python SDK, you create a request object (e.g., CryptoBarsRequest with a symbol and timeframe) and call get\_crypto\_bars or similar methods. Results can be converted to pandas DataFrames for analysis[[6]](https://docs.alpaca.markets/docs/getting-started-with-alpaca-market-data). API responses include an X‑Request‑ID header to help identify requests[[6]](https://docs.alpaca.markets/docs/getting-started-with-alpaca-market-data).

## Historical API & Data Sources

The historical API is a REST service for historical data; it is available at https://data.alpaca.markets/{version}, with a sandbox at https://data.sandbox.alpaca.markets/{version}. It covers stocks, crypto, options and news. For stocks, the feed parameter selects among multiple data sources[[7]](https://docs.alpaca.markets/docs/historical-stock-data-1):

* **IEX** – Free feed from Investors Exchange, covering ~2.5 % of U.S. volume; ideal for development[[7]](https://docs.alpaca.markets/docs/historical-stock-data-1).
* **SIP** – Consolidated feed from all U.S. exchanges (UTP and CTA) requiring a subscription, recommended for production[[7]](https://docs.alpaca.markets/docs/historical-stock-data-1).
* **BOATS / Blue Ocean** – An alternative trading system offering extended-hours data[[7]](https://docs.alpaca.markets/docs/historical-stock-data-1).
* **Overnight** – A less expensive derived overnight feed for off‑hours trading[[7]](https://docs.alpaca.markets/docs/historical-stock-data-1).

## Summary

Alpaca’s ecosystem consists of the Trading API (for order placement and position management), the Broker API (for building full brokerage services) and the Market Data API (for historical and real‑time market data). The Broker API supports multiple integration models—fully‑disclosed, omnibus and RIA—and provides a sandbox environment to develop against. Integration requires generating API keys, using Alpaca’s dashboard to manage environments and accounts, and understanding additional features like fractional orders, order tagging, and sub‑accounts[[3]](https://docs.alpaca.markets/docs/use-cases)[[4]](https://docs.alpaca.markets/docs/getting-started-with-broker-api). Market data is accessed via separate endpoints and multiple feeds depending on your needs[[7]](https://docs.alpaca.markets/docs/historical-stock-data-1). Once development is complete and compliance requirements are met, your application can migrate from the sandbox to live trading on Alpaca’s platform.

[[1]](https://docs.alpaca.markets/docs/getting-started) Welcome

<https://docs.alpaca.markets/docs/getting-started>

[[2]](https://docs.alpaca.markets/docs/use-cases) [[3]](https://docs.alpaca.markets/docs/use-cases) Use Cases

<https://docs.alpaca.markets/docs/use-cases>

[[4]](https://docs.alpaca.markets/docs/getting-started-with-broker-api) Getting Started with Broker API

<https://docs.alpaca.markets/docs/getting-started-with-broker-api>

[[5]](https://docs.alpaca.markets/docs/integration-setup-with-alpaca) Integration Setup with Alpaca

<https://docs.alpaca.markets/docs/integration-setup-with-alpaca>

[[6]](https://docs.alpaca.markets/docs/getting-started-with-alpaca-market-data) Getting Started with Market Data API

<https://docs.alpaca.markets/docs/getting-started-with-alpaca-market-data>

[[7]](https://docs.alpaca.markets/docs/historical-stock-data-1) Historical Stock Data

<https://docs.alpaca.markets/docs/historical-stock-data-1>