

# Petal + Coinbase real-time API

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|------------------|-------------|--------------|------------|
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**Futurewei Technologies, Inc**

## Revision History

| version | Date       | CR No. | Section No. | Change description | Author |
|---------|------------|--------|-------------|--------------------|--------|
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|         |            |        |             |                    |        |

# Contents

|   |                                     |
|---|-------------------------------------|
| <b>BACKGROUND .....</b>                     | <b>ERROR! BOOKMARK NOT DEFINED.</b> |
| <b>PROPOSED API INTEGRATION .....</b>       | <b>ERROR! BOOKMARK NOT DEFINED.</b> |
| <b>COINBASE REAL TIME PRICING APIS.....</b> | <b>7</b>                            |
| <b>REFERENCES .....</b>                     | <b>10</b>                           |

## Background

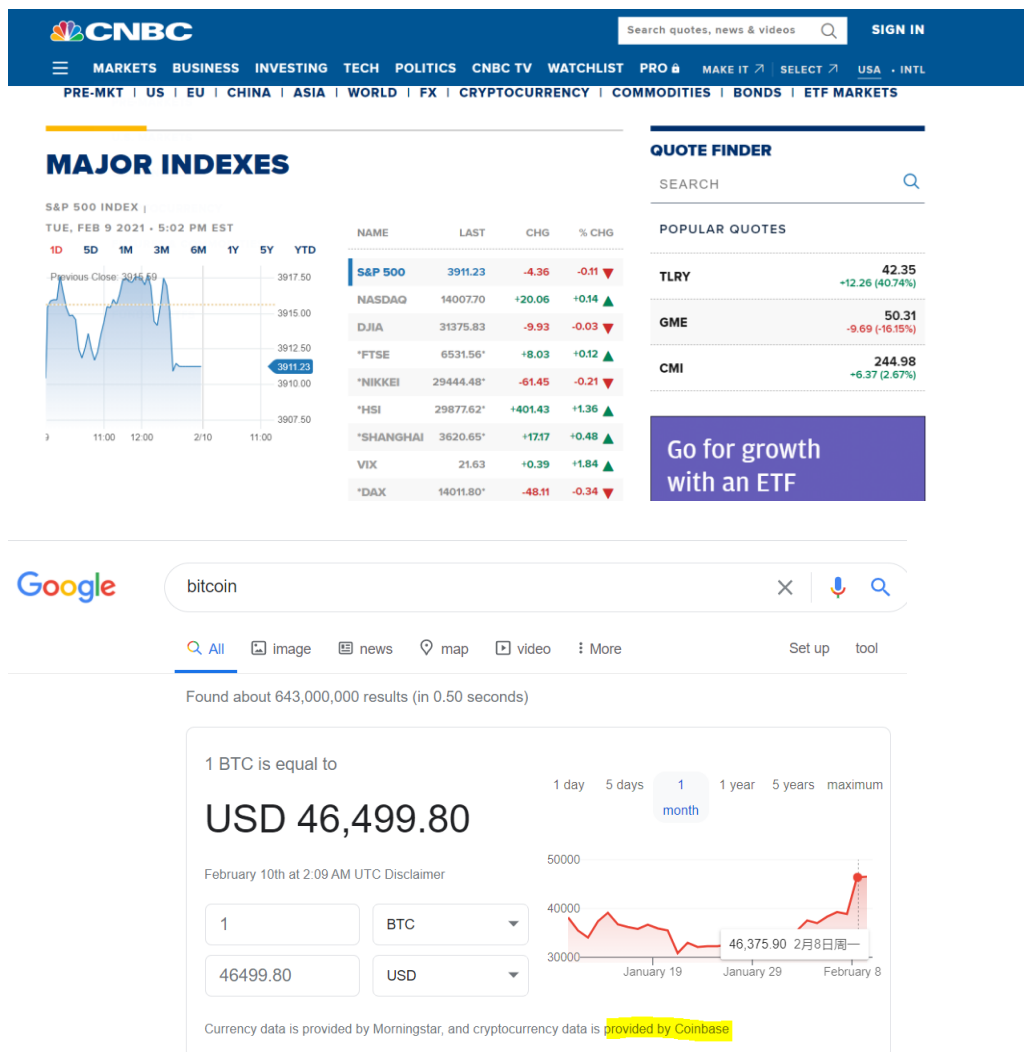
In today's global market, competitions from opponents are reaching record highs. Whether it is Samsung or Apple, all the technological competitors are outmaneuvering and outperforming each other to fight for the market share. To draw the most top tier Apps. and developers into our ecosystem, we need to extend our app. platforms in all dimensions to build up rich, flexible, customizable, and multi-channeled services to align with CPs' technical requirements and business needs. Even though Huawei's ecosystem is one of the best in the world, it still has missing pieces that are very much needed by our CPs.

A true partnership for technology must be a customer-specific one with the capabilities to bring your customers the most benefits that your competitors cannot offer. Herein this document, we would like to propose one missing piece of Huawei ecosystem - the integration of CP's APIs with Huawei's browsers (-1 Screen, Petal search, and Huawei default browser). With this integration, CP's product APIs will be used in Huawei Browsers and CP's brand name and products will be presented on browsers' UI for more product publicity. This is one of the highest demands from our CPs. To lay out all the technical details, we will use Coinbase's case as user scenario all through this proposal.

Coinbase is the largest cryptocurrency exchange companies in the world, with over 35 million users across 32 countries and bitcoin transactions and storage in 190 countries worldwide. Coinbase App. has over 10 million downloads in the Google Play Store. Coinbase's main function is for users to buy and sell cryptos such as bitcoin, bitcoin cash, Ethereum, Litecoin, and more. Coinbase.com is available in more than 100 countries. In Feb. 2021, Elon Musk, Tesla's CEO, brought \$1.5 Billion in Bitcoin through Coinbase. Coinbase's IPO paperwork was submitted in late Nov. 2020 and got over \$100 Billion Valuation from Nasdaq Private Market. Once it goes to public, it will draw a huge audience globally and the influence imposed on Huawei's image and reputation will be tremendously positive.

Currently, Coinbase has two Apps. in our Tier 1 App. list - [Coinbase](#) and [Coinbase Wallet](#). NA BD and DTSE team are working diligently with CP so to bring them in Huawei App Gallery.

Since Huawei cannot provide Coinbase CP with any funds to purchase Huawei ads or promote their HMS version in AppGallery. Coinbase CP do not want to continue the business discussion with us and might walk away. Coinbase CP is asking the possibility of integrating Coinbase real-time pricing API with Huawei's browser for Bitcoin, Ethereum, Litecoin etc., this brand name exposure might convince them to do the HMS integration and send their Apps in HW AG. Coinbase real-time pricing APIs have already been integrated with US mainstream news platform [CNBC](#) (US Consumer News and Business Channel) and Google etc.



## Proposed API integration

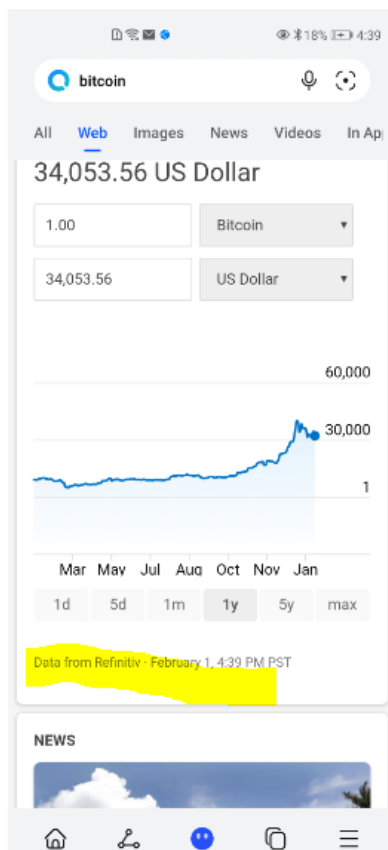
### Current Huawei Browser Search UI:

Huawei Petal search currently uses Microsoft Bing as default search engine. When device users type in, e.g. "Bitcoin" to do the search, the search result will return Bitcoin's real time price and show the data is provided by: Refinitiv API. This is the same situation in "-1 Screen".

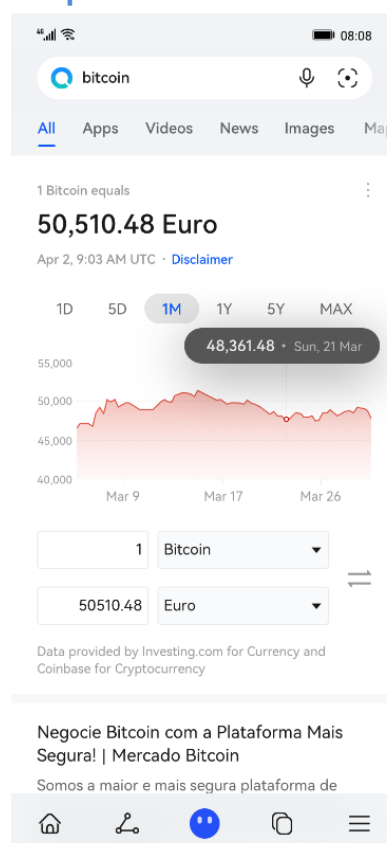
### Proposed Search Result UI for Coinbase:

Integrate Coinbase real-time pricing API with Huawei Petal Search: when device users type in, e.g., "Bitcoin" to do the search, use Coinbase real time API to retrieve Bitcoin price and present it on Petal search web UI. Also, we need to show that the data is powered by Coinbase.

#### Current Search Result

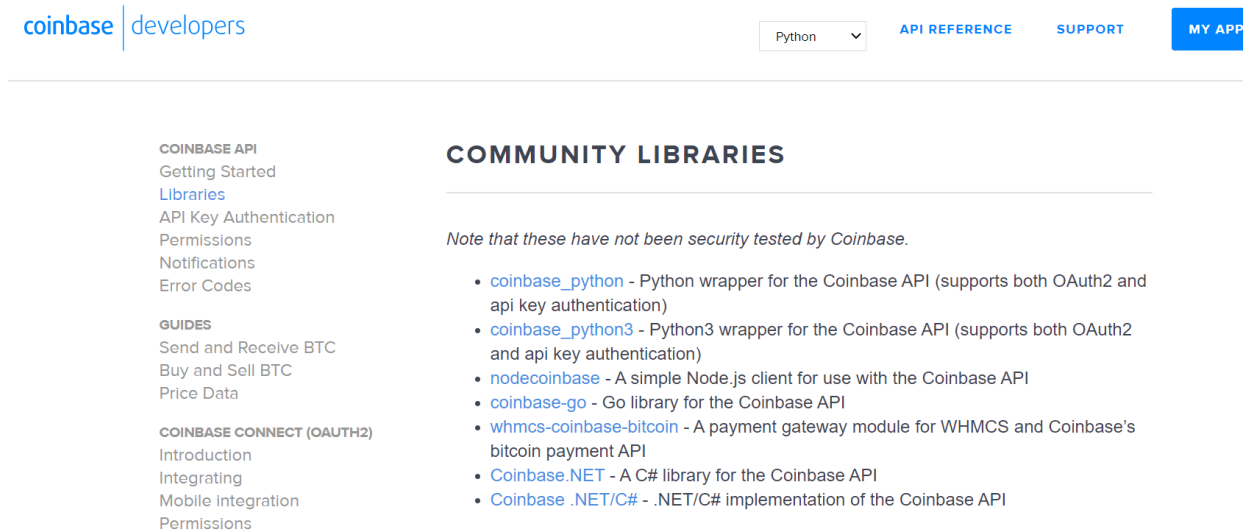


#### Proposed Search Result



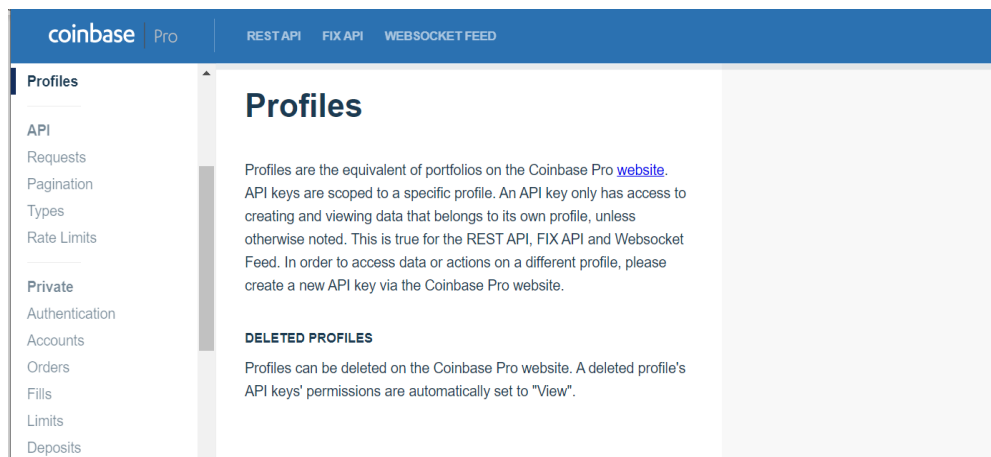
## Coinbase Real Time Pricing APIs

### ■ [Online Documentation on Coinbase API:](#)



The screenshot shows the Coinbase Developers API documentation page. The header includes the Coinbase logo, a 'developers' link, a language dropdown set to 'Python', and links for 'API REFERENCE', 'SUPPORT', and 'MY APP'. The main content area is divided into two columns. The left column contains a sidebar with links for 'COINBASE API' (Getting Started, Libraries, API Key Authentication, Permissions, Notifications, Error Codes), 'GUIDES' (Send and Receive BTC, Buy and Sell BTC, Price Data), and 'COINBASE CONNECT (OAUTH2)' (Introduction, Integrating, Mobile Integration, Permissions). The right column is titled 'COMMUNITY LIBRARIES' and includes a note: 'Note that these have not been security tested by Coinbase.' Below this note is a list of community libraries: [coinbase\\_python](#) (Python wrapper for the Coinbase API), [coinbase\\_python3](#) (Python3 wrapper for the Coinbase API), [nodecoinbase](#) (A simple Node.js client for use with the Coinbase API), [coinbase-go](#) (Go library for the Coinbase API), [whmcs-coinbase-bitcoin](#) (A payment gateway module for WHMCS and Coinbase's bitcoin payment API), [Coinbase.NET](#) (A C# library for the Coinbase API), and [Coinbase .NET/C#](#) (.NET/C# implementation of the Coinbase API).

### ■ [Coinbase Pro. APIs:](#)



The screenshot shows the Coinbase Pro API documentation page. The header includes the Coinbase logo, a 'Pro' link, and links for 'REST API', 'FIX API', and 'WEBSOCKET FEED'. The main content area is divided into two columns. The left column contains a sidebar with links for 'Profiles', 'API' (Requests, Pagination, Types, Rate Limits), 'Private' (Authentication, Accounts, Orders, Fills, Limits, Deposits), and 'DELETED PROFILES'. The right column is titled 'Profiles' and includes a paragraph: 'Profiles are the equivalent of portfolios on the Coinbase Pro [website](#). API keys are scoped to a specific profile. An API key only has access to creating and viewing data that belongs to its own profile, unless otherwise noted. This is true for the REST API, FIX API and Websocket Feed. In order to access data or actions on a different profile, please create a new API key via the Coinbase Pro website.' Below this paragraph is a section titled 'DELETED PROFILES' with a paragraph: 'Profiles can be deleted on the Coinbase Pro website. A deleted profile's API keys' permissions are automatically set to "View".'

- Approaches to get Bitcoin real time price in Coinbase:
  - Coinbase Price APIs:

coinbase | developers
 

API REFERENCE
 SUPPORT
 MY APPS

Wallet Endpoints
 Users
 Accounts
 Addresses
 Transactions
 Buys
 Sells
 Deposits
 Withdrawals
 Payment methods
 Data Endpoints
 Currencies
 Exchange rates
 Prices
 Time
 Exchange API

## Currencies

### Get currencies

List known currencies. Currency codes will conform to the ISO 4217 standard where possible. Currencies which have or had no representation in ISO 4217 may use a custom code (e.g. BTC ).

This endpoint doesn't require authentication.

HTTP REQUEST

curl Ruby Python Node

Example request

```
var Client = require('coinbase').Client;
var client = new Client({apiKey: 'API KEY',
  'apiSecret': 'API SECRET'});

client.getCurrencies(function(err, currencies) {
  console.log(currencies);
});
```

Example response

```
{
  "data": [
    {
      "id": "AED",
      "name": "United Arab Emirates Dirham",
      "min_size": "0.01000000"
    },
  ],
}
```

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API REFERENCE
 SUPPORT
 MY APPS

Wallet Endpoints
 Users
 Accounts
 Addresses
 Transactions
 Buys
 Sells
 Deposits
 Withdrawals
 Payment methods
 Data Endpoints
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 Exchange rates
 Prices
 Time
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## Prices

### Get buy price

Get the total price to buy one bitcoin or ether.

Note that exchange rates fluctuates so the price is only correct for seconds at the time. This buy price includes standard Coinbase fee (1%) but excludes any other fees including bank fees. If you need more accurate price estimate for a specific payment method or amount, see buy bitcoin endpoint and quote: true option.

curl Ruby Python Node

Example request

```
var Client = require('coinbase').Client;
var client = new Client({apiKey: 'API KEY',
  'apiSecret': 'API SECRET'});

client.getBuyPrice({currencyPair: 'BTC-USD'}, function(err, price) {
  console.log(price);
});
```

Example response

```
{
  "data": {
    "amount": "1020.25",
    "currency": "USD"
  }
}
```

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 SUPPORT
 MY APPS

Wallet Endpoints
 Users
 Accounts
 Addresses
 Transactions
 Buys
 Sells
 Deposits
 Withdrawals
 Payment methods
 Data Endpoints
 Currencies
 Exchange rates
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 Time
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## Get sell price

Get the total price to sell one bitcoin or ether.

Note that exchange rates fluctuates so the price is only correct for seconds at the time. This sell price includes standard Coinbase fee (1%) but excludes any other fees including bank fees. If you need more accurate price estimate for a specific payment method or amount, see sell bitcoin endpoint and quote: true option.

This endpoint doesn't require authentication.

curl Ruby Python Node

Example request

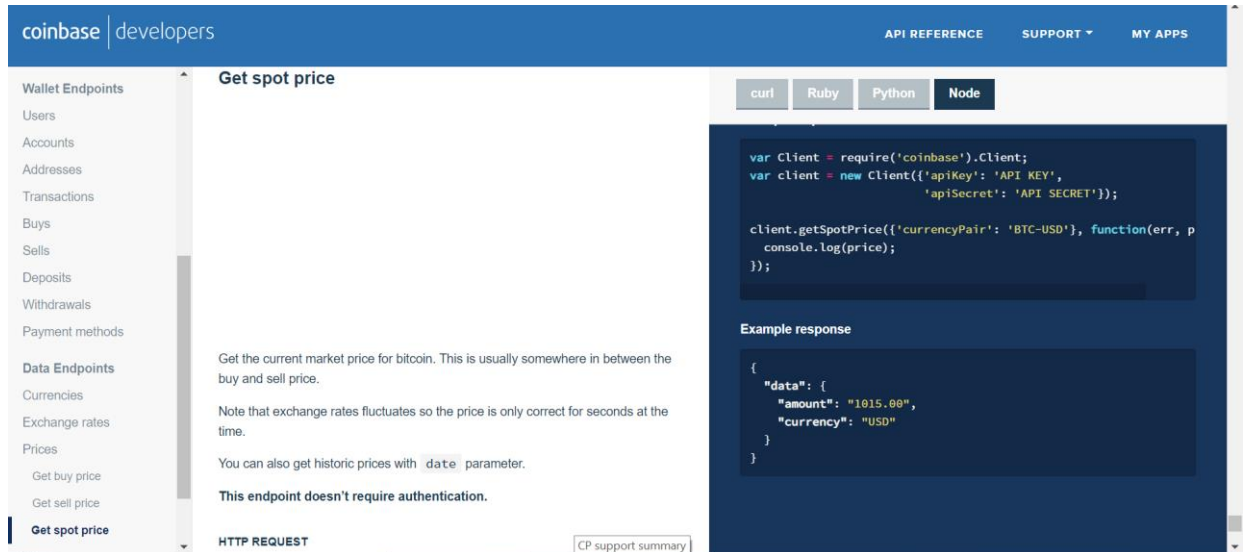
```
var Client = require('coinbase').Client;
var client = new Client({apiKey: 'API KEY',
  'apiSecret': 'API SECRET'});

client.getSellPrice({currencyPair: 'BTC-USD'}, function(err, price) {
  console.log(price);
});
```

Example response

```
{
  "data": {
    "amount": "1010.25",
    "currency": "USD"
  }
}
```





coinbase | developers

API REFERENCE SUPPORT MY APPS

Wallet Endpoints  
Users  
Accounts  
Addresses  
Transactions  
Buys  
Sells  
Deposits  
Withdrawals  
Payment methods

Data Endpoints  
Currencies  
Exchange rates  
Prices  
Get buy price  
Get sell price  
Get spot price

### Get spot price

Get the current market price for bitcoin. This is usually somewhere in between the buy and sell price.

Note that exchange rates fluctuates so the price is only correct for seconds at the time.

You can also get historic prices with `date` parameter.

This endpoint doesn't require authentication.

HTTP REQUEST

CP support summary

curl Ruby Python Node

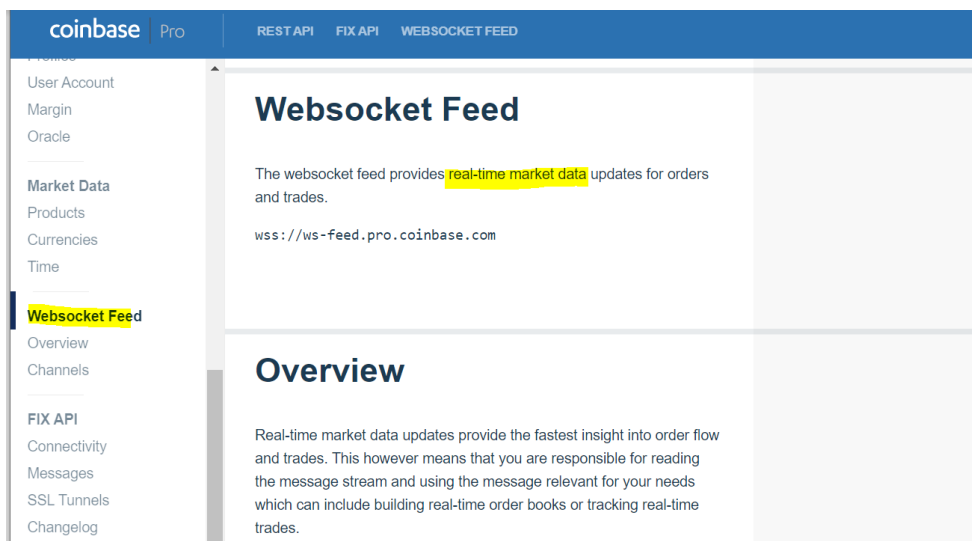
```
var Client = require('coinbase').Client;
var client = new Client({ 'apiKey': 'API KEY',
  'apiSecret': 'API SECRET' });

client.getSpotPrice({ 'currencyPair': 'BTC-USD' }, function(err, p) {
  console.log(price);
});
```

Example response

```
{
  "data": {
    "amount": "1015.00",
    "currency": "USD"
  }
}
```

- Use Websocket Feed: Get Bitcoin price from Coinbase web socket feed using the ticker channel. The URL needs to be used is: `wss://ws-feed.pro.coinbase.com` with your API key.



coinbase Pro REST API FIX API WEBSOCKET FEED

User Account  
Margin  
Oracle

Market Data  
Products  
Currencies  
Time

**Websocket Feed**  
Overview  
Channels

FIX API  
Connectivity  
Messages  
SSL Tunnels  
Changelog

## Websocket Feed

The websocket feed provides **real-time market data** updates for orders and trades.

`wss://ws-feed.pro.coinbase.com`

## Overview

Real-time market data updates provide the fastest insight into order flow and trades. This however means that you are responsible for reading the message stream and using the message relevant for your needs which can include building real-time order books or tracking real-time trades.

### Sample code:

```
const websocket = new CoinbasePro.WebsocketClient(
  ["BTC-EUR"],
  "wss://ws-feed.pro.coinbase.com",
  null, // <-- you need to put your API key in
  {
    channels: ['ticker']
  }
);
websocket.on('message', data => {
  if (data.type === 'ticker') {
    const price = data.price;
    console.log('Price:', price);
  }
});
```

// (only want to see ticker messages)  
 // you will receive heartbeat (keep-alive) and ticker messages  
 // asynchronous callback will send data when it is available  
 // you must wait for data to be available and act on it

## References:

- [Coinbase Will Be First Major Cryptocurrency Company To Go Public](#)
- [Coinbase Valued Above \\$100 Billion, ahead of direct listing](#)
- [Coinbase plans to go public through a direct listing, following Spotify, Slack and Palantir](#)
- [Largest U.S. cryptocurrency exchange Coinbase files for IPO as bitcoin soars past \\$23,000](#)
- **CNBC (Consumer News and Business Channel):** a joint venture between [NBC](#) and [Cablevision](#)
- <https://stackoverflow.com/questions/62302757/coinbase-pro-web-socket-get-the-current-price-for-a-currency>
- <https://stackoverflow.com/questions/48560144/get-live-exchange-rates-with-coinbase-api/48873524#48873524>