PAYBITOPRO SYSTEM SPECIFICATION

PayBitoPro

ABOUT OUR COMPANY

PayBitoPro is a leading cryptocurrency asset trading platform operating globally. The platform is designed and operated by a team with rich experience in Banking security systems, Cryptocurrency trading and Blockchain technology. Available in iOS and Android stores, PayBitoPro offers some of the best rates and top-notch security on the planet.

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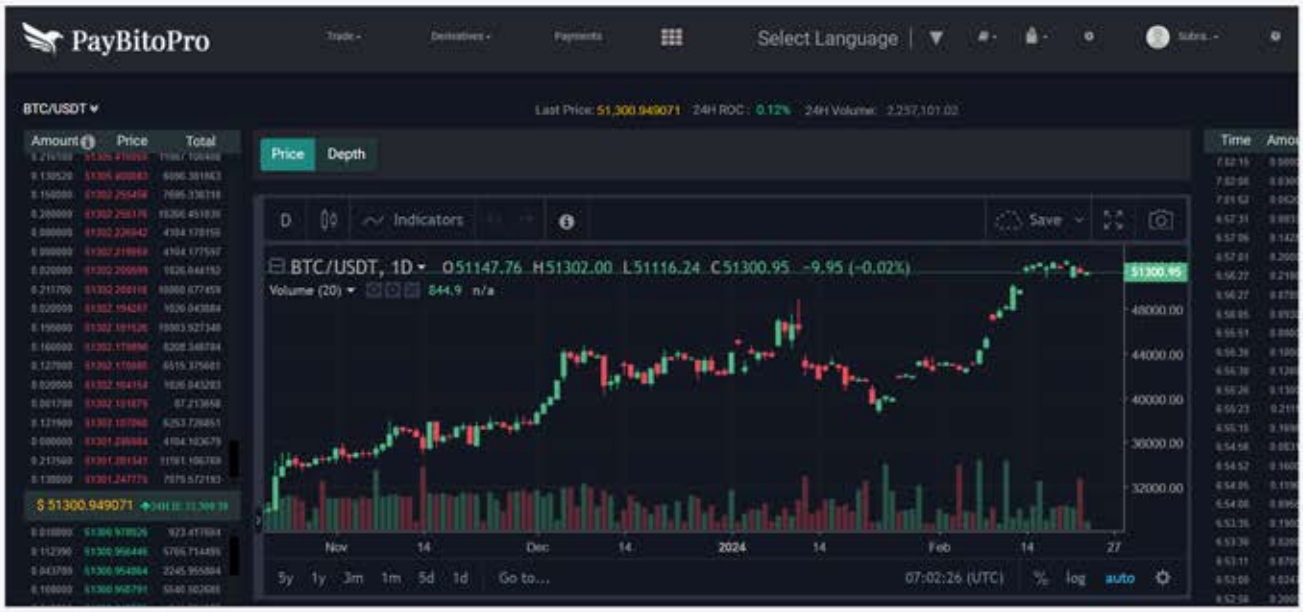
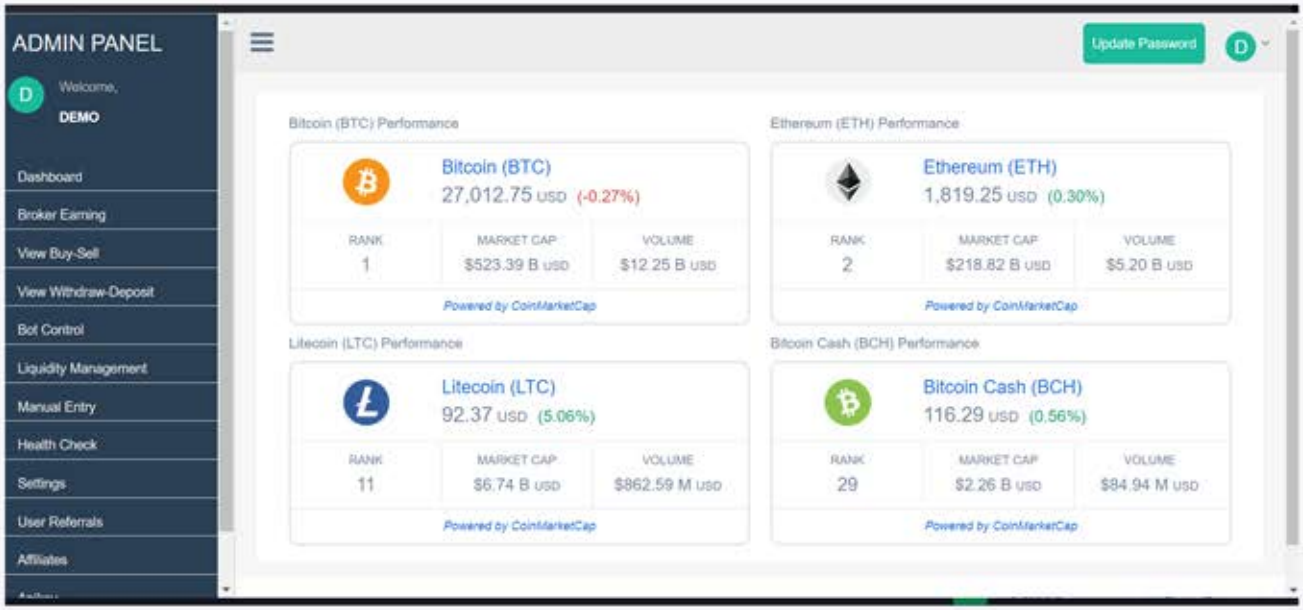
PAYBITOPRO CRYPTOCURRENCY EXCHANGE

Exchange Dashboard



Admin Dashboard



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INTRODUCTION

This is the easiest and the most trusted place for individuals and institutions to buy, sell and trade a variety of Cryptocurrencies such as Bitcoin, Bitcoin Cash, and more on a US based exchange. PaybitoPro is the quickest and easiest way of buying and selling of Cryptocurrencies. You'll never get better rate anywhere.

PaybitoPro uses the security standards used by the largest Banks and financial institutions to secure your digital assets, such as a 3-point architecture, a ultisignature cold wallet and an encrypted hot wallet among others.

APPLICATION DETAILS

Modules:

User Module

- Registration.
- Login (with Google 2FA and without Google 2FA).
- Device check.
- KYC submission and update.
- Bank a/c submission and update.
- Generate API keys.
- Forget password.
- Change password

Trade Module

- Existing offers cancellation.
- View asset pairs-wise trade details.
- Create stop loss offer.
- View asset pairs wise stop loss offers.
- Existing stop loss offers modification.
- Existing stop loss offers cancellation.
- View trade graph by different time frame like minute, hour, day etc.

Transaction Module

- View exchange spot wallet details.
- Generate payment order.
- Generate withdrawal request.
- Send crypto currency to same or outside the exchange through node.
- Receive crypto currency from same or outside the exchange through node.
- View all transaction details.

***All private rest APIs use the OAuth 2.0 authorization protocol for authentication and authorization. Technology Used:**

UI

- Angular 9
- Apache2 server.

Backend Application

- Java Version JDK 17
- Spring boot 3.0.6
- Maven.
- Application Server: Apache Tomcat 10.1.4.
- Oracle 11g as database.
- Redis in memory data structure.

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DATASHEET FOR MATCHING ENGINE

KeyFeature

- Designed for high scalability and pause less 24/7 operation under high-load conditions and providing low-latency responses.
- Risk control and accounting module.
- Orderbook represented by a symbol which is nothing but an integer number.
- less than 1ms worst wire-to-wire target latency for 1M+ operations per second throughput.
- 150ns per matching for large market orders.
- Single order book configuration is capable of processing 5M operations per second.

Product Highlights

Matching Engine is a lightweight software which consists of Eclipse Collections, Real Logic Agrona, OpenHFT Chronicle-Wire, LZ4, and Adaptive Radix Trees . Here Order book is very lightweight and it does not interact with the database all time to fulfill the order and keep the order. Matching process is done inside the in- memory. Asynchronously it keeps order and matching details inside the database. Here orders are stored by chronicle-Bytes. Chronicle Bytes contains all the low level memory access wrappers. It is built on Chronicle Core's direct memory and OS system call access.

The API supports

- 64-bit sizes
- UTF-8 and ISO-8859-1 encoded strings.
- thread safe off heap memory operations.
- deterministic release of resources via reference counting.
- compressed data types such as stop bit encoding.
- elastic ByteBuffer wrappers which resize as required.
- parsing text and writing text directly to off heap bytes.

Benefits

- HFT optimized. Priority is a limit-order-move operation mean latency (currently ~0.5µs). Cancel operation takes ~0.7µs, placing new order ~1.0µs; In-memory working state for accounting data and order books.
- Lock-free and contention-free orders matching and risk control algorithms.
- Matching engine and risk control operations are atomic and deterministic.
- Pipelined multi-core processing : each CPU core is responsible for a certain processing stage, user accounts shard, or symbol order books shard.

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DATASHEET FOR MATCHING ENGINE

Benefits

- Two different risk processing modes (specified per symbol): direct-exchange and margin-trade.
- Testing - unit-tests, integration tests, stress tests, integrity/consistency tests.
- Low GC pressure, objects pooling, single ring-buffer.
- Threads affinity (requires JNA).
- User suspend/resume operation (reduces memory consumption).
- Core reports API (user balances, open interest).

System Requirement

Ubuntu based OS and m4.large AWS instance is sufficient to implement a matching engine.

DATABASE SPECIFICATIONS

Oracle Database 19c Enterprise Edition Release

Version	**:**	**19.3.0.0.0 - 64bit Production**	**Version**	**:**	**19.3.0.0.0 - 64bit Production**
Architecture	**:**	**x86_64**	**Architecture**	**:**	**x86_64**
CPU op-mode(s)	**:**	**64-bit**	**CPU op-mode(s)**	**:**	**64-bit**
Byte Order	**:**	**Little Endian**	**Byte Order**	**:**	**Little Endian**

Server Name	Memory	vCPUs	Network Performance	IPv6 Support	Volume	Description
Bitcoin Node	4 GB	2	Up to 5 Gigabit	Yes	650GB	Bitcoin node
Ethereurn Node	16 GB	4	High	Yes	2TB (Attachment) & 100 GB Root	Ethereurn Node
BitcoinCash Node	8 GB	2	Moderate	Yes	300 GB	BitcoinCash node
Litecoin Node	8 GB	2	Moderate	Yes	150 GB	Litecoin node
XRP Node	4 GB	2	Low to Moderate	Yes	8 GB	XRP node
App	16 GB	4	High	Yes	100 GB	Application service
Bot Service	8 GB	2	Moderate	Yes	20 GB	Trading pair bot service
Streaming	16 GB	4	High	Yes	20 GB	Streaming api service
Matching Engine	8 GB	2	Low to Moderate	Yes	50 GB	Matching engine server
Web	8 GB	2	Low to Moderate	Yes	30 GB	Web server
Database	64 GB	16	High	Yes	500 GB	Database server
Tech Support	4 GB	2	Low to Moderate	Yes	50 GB	Tech Support server

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