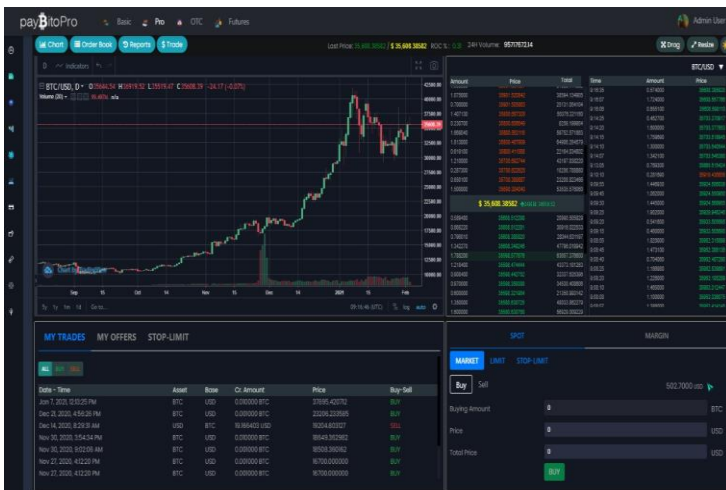
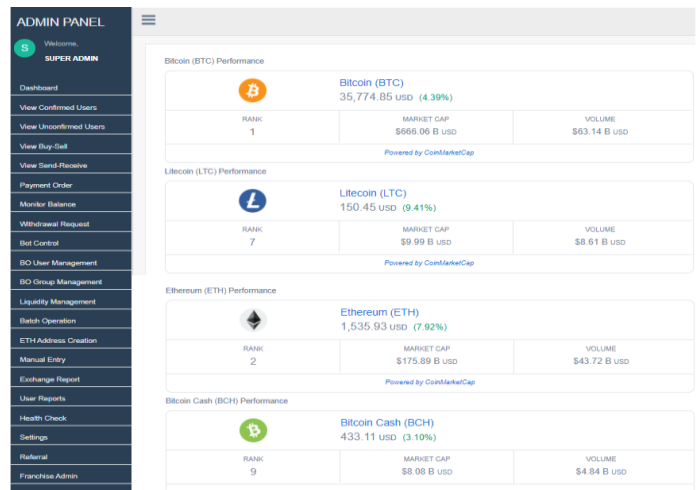


PAYBITO CRYPTOCURRENCY EXCHANGE



Exchange Dashboard



Admin Panel

INTRODUCTION

PayBito 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. Paybito is the quickest and easiest way of buying and selling of Cryptocurrencies. You'll never get better rate anywhere. Paybito uses the security standards used by the largest Banks and financial institutions to secure your digital assets, such as a 3-point architecture, a multisignature cold wallet and an encrypted hot wallet among others.

PAYBITO 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**
 - Create new offer.
 - View asset pairs wise open offers.
 - Existing offers modification.

- 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 8
 - Apache server.
- **Backend Application**
 - Java 1.8.
 - Spring boot 2.0.
 - Maven.
 - Apache Tomcat as application server.
 - Oracle 11g as database.
 - Redis in memory data structure.

DATASHEET FOR MATCHING ENGINE

Key Features: -

- Designed for high scalability and pauseless 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 $\sim 0.5\mu\text{s}$). Cancel operation takes $\sim 0.7\mu\text{s}$, placing new order $\sim 1.0\mu\text{s}$;
- 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.
- 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 11g Enterprise Edition Release

version : 11.2.0.1.0 - 64bit Production

Architecture : x86_64

CPU op-mode(s) : 32-bit, 64-bit

Byte Order : Little Endian

CPU(s) : 2

Model name : Intel(R) Xeon(R) CPU E5-2676 v3 @ 2.40GHz

CPU MHz : 2400.020

INFRA SPECIFICATIONS

Required Instances For Paybito Pro						
Server Name	Memory	vCPUs	Network Performance	IPv6 Support	Volume	Description
1 PaybitoPro Bitcoin Node	4 GB	2	Up to 5 Gigabit	Yes	500 GB	Bitcoin node
2 PaybitoPro Ethereum Node	16 GB	4	High	Yes	1000 GB	Ethereum node
3 PaybitoPro BitcoinCash Node	8 GB	2	Moderate	Yes	300 GB	Bitcoincash node
4 PaybitoPro Litecoin Node	8 GB	2	Moderate	Yes	100 GB	Litecoin node
5 PaybitoPro XRP Node	1 GB	1	Low to Moderate	Yes	8 GB	XRP node
6 PaybitoPro App	16 GB	4	High	Yes	100 GB	Application service
7 PaybitoPro BotService	8 GB	2	Moderate	Yes	20 GB	Trading pair bot service
8 PaybitoPro Streaming	16 GB	4	High	Yes	20 GB	Streaming api service
9 PaybitoPro Matching Engine	8 GB	2	Low to Moderate	Yes	50 GB	Matching engine server
10 PaybitoPro Web	8 GB	2	Low to Moderate	Yes	30 GB	Web server
11 PaybitoPro Database	16 GB	4	High	Yes	500 GB	Database server
12 PaybitoPro TechSupport	1 GB	1	Low to Moderate	Yes	8 GB	Technical support server

TAKE THE NEXT STEP

Contact your sales representative or authorized reseller to learn more about how Paybito crypto exchange can benefit your organization. Also, reach us at partners@hashcashconsultants.com for more information.