CryptX Documentation

Link to schema: https://app.quickdatabasediagrams.com/#/schema/LwwYRwJHiEaMKofQYPaq7w
CryptX DB schema

user

User of the CryptX system

Field	Description	Type	Default	Other
id		int		PK
first_name		nvarchar		
last_name		nvarchar		
email		nvarchar		
password	Hashed and salted password	nvarchar		
created_timestamp		timestamp		
reset_password_token_hash	Hash of email confirmation token that was sent to user's email	nvarchar		NULLABLE
reset_password_token_expiry_	Timestamp when email confirmation token expires	timestamp		NULLABLE
is_active	True - user is active, False - user is disabled	bool		

user_session

User's session that is identified by an authentication token

Field	Description	Type	Default	Other
id		int		PK
user_id	User to whom the session belongs	int		FK
token	Bearer token which gives user access to the session	varchar		
expiry_timestamp	Time when session will expire	timestamp		
ip_address	IP address which was used to start the session	varchar		

permission

Table that contains all the permissions available in the system

Field	Description	Type	Default	Other
id	Identifier of the permission that maps it to the source code of the system	enum		FK, UNIQUE
name	User friendly name of the permission	varchar		

role

Table that contains all the roles available in the system

Field	Description	Type	Default	Other
id		int		PK
name	User friendly name of the role	varchar		

role_permission

Determines which permissions are available for users of a given role

Field	Description	Type	Default	Other
role_id		int		PK, FK
permission_id		enum		PK, FK

user_role

This table maps users to roles that are enabled for them

Field	Description	Type	Default	Other
user_id		int		FK
role_id		int		FK

asset

Tradable asset (symbol)

Field	Description	Type	Default	Other
id		int		PK
symbol	Symbol, e.g. BTC	nvarchar		
long_name	User friendly name of the symbol, e.g. Bitcoin	nvarchar		
is_base	True - if it is a base currency, False - if not	bool		
is_deposit	True - if it is a desposit currency	bool		

asset_blockchain

This mapping will exist for blockchain based instruments, e.g. Bitcoin

Field	Description	Type	Default	Other
id		int		PK
asset_id		int		FK
coinmarketcap_identifier	Identifier in coinmarketcap system	nvarchar		

instrument

Tradable instrument

Field	Description	Type	Default	Other
id		int		PK
base_asset_id	Base asset in a traded pair, e.g. "EUR" in instrument "EURUSD"	int		FK
target_asset_id	Second asset in a traded pair, e.g. "USD" in instrument "EURUSD"	int		FK
symbol		string		

instrument_liquidity_requirement

This table is used to define minimum liquidity requirements for exchanges

Field	Description	Type	Default	Other
id		int		PK
instrument_id		int		FK
minimum_volume	Minimum volume	decimal		
periodicity_in_days		int		

asset_status_change

Field	Description	Type	Default	Other
id		int		PK
timestamp	Time and date when the change was made	timestamp		
asset_id				FK
user_id	User who initiated this action. NULL if initated by the system	int		FK, NULLABLE
comment	Comment that can be provided by the user initiating the status change	nvarchart		
type	Type of change: Whitelisting, Blacklisting, Graylisting	enum		

exchange

This table contains exchanges will be used for investing

Field	Description	Type	Default	Other
id		int		PK
name		varchar		

instrument_exchange_mapping

This table determines which instruments are available on which exchanges

Field	Description	Type	Default	Other
instrument_id		int		PK, FK

Field	Description	Type	Default	Other
exchange_id		int		PK, FK
external_instrument_id		varchar		
tick_size	Determines minimum price change of the instrument on this exchange	decimal		

exchange_account

This table defines accounts available on each exchange

Field	Description	Type	Default	Other
id		int		PK
exchange_id	Exchange on which the account is based	int		FK
asset_id	Asset in which acount is denominated	int		FK
account_type		enum		
external_identifier	External identifier of the account, e.g. account's address	varchar		

cold_storage_account

This table defines accounts available for cold storage of cryptocurrencies

Field	Description	Type	Default	Other
id		int		PK
asset_id		int		FK
strategy_type	Strategy type for which this account is used. Possible values: Large Cap Index (LCI), Mid Cap Index (MCI)	enum		
address	Address that can be used to send the coins to this cold storage account	nvarchar		
custodian	Custodian of the cold storage account	string		

asset_market_capitalization

This table will contain market history retrieved from Coinmarketcap

Field	Description	Type	Default	Other
int		id		FK
timestamp	Timestamp when the information was retrieved	timestamp		
asset_id	Asset for which the infromation was retrieved	int		FK
capitalization_usd	Total market capitalization of the asset in USD	decimal		

Field	Description	Type	Default	Other
market_share_percentage	Market cap of the asset as percentage of total capitalization of whole market	decimal		

instrument_market_data

Field	Description	Type	Default	Other
id		int		FK
timestamp		timestamp		
instrument_id		int		FK
exchange_id		int		FK
ask_price		decimal		
bid_price		decimal		

market_history_calculation

Field	Description	Type	Default	Other
int		id		FK
timestamp	Timestamp when the information was calculated	timestamp		
asset_id	Asset for which the infromation was retrieved	int		FK
type	Type of the calculated property. Possible values: 0 - Network Value to Transactions ratio, measures the dollar value of cryptoasset transaction activity relative to network value	enum		
value		decimal		

investment_run

Investment workflow run

Field	Description	Type	Default	Other
id		int		PK
started_timestamp	Time when the run was initiated	timestamp		
updated_timestamp	Last time when the run was updated	timestamp		
completed_timestamp	Timestamp when the run was completed, e.g. reached its terminal state	timestamp		NULLABLE
user_created_id	User which initiated the investment run	int		FK

Field	Description	Type	Default	Other
strategy_type	Large Cap Index (LCI), Mid Cap Index (MCI)	enum		
is_simulated	True if investment run is simulated, e.g. will not place real orders	bool		
status	Status of the investment run: Initiated, RecipeRun, RecipeApproved, DepositsCompleted, OrdersGenerated, OrdersApproved, OrdersExecuting, OrdersFilled	enum		

investment_run_deposit

Funds deposited for investing during single investment run

Field	Description	Type	Default	Other
id		int		PK
investment_run_id		int		FK
asset_id	Currency in which the investment was denominated	int		FK
amount	Total amount invested for this asset	decimal		

recipe_run

Field	Description	Type	Default	Other
id		int		PK
created_timestamp	Time when recipe run was initiated	timestamp		
investment_run_id		int		FK
user_created_id	User which initiated the recipe run	int		FK
approval_status	Possible statuses are Pending, Approved, Rejected	enum		
approval_user_id	User who approved/rejected the recipe run	int		FK
approval_timestamp	Time and date when the user approved this recipe run	timestamp		
approval_comment	Comment that should be provided when approving the recipe run	nvarchar		

recipe_run_detail

Field	Description	Type	Default	Other
id		int		PK

Field	Description	Type	Default	Other
recipe_run_id		int		FK
base_asset_id		int		FK
target_asset_id		int		FK
target_exchange_id	The trading exchange on which trading is suggested acording the recipe run	int		FK
investment_percentage	Percentage that will be invested this way	decimal		

recipe_order_group

Field	Description	Type	Default	Other
id		int		PK
created_timestamp	Time when recipe order has been placed	timestamp		
recipe_run_id		int		FK
approval_status	Possible statuses are Pending, Approved, Rejected	enum		
approval_user_id	User who approved/rejected the recipe order group	int		FK
approval_timestamp	Time and date when the user approved this recipe order group	timestamp		
approval_comment	Comment that should be provided when approving the order group	nvarchar		

recipe_order

Field	Description	Type	Default	Other
id		int		PK
recipe_order_group_id		int		FK
instrument_id		int		FK
side	Buy = 0 / Sell = 1	enum		
price	Market price when the recipe order was placed	decimal		
status	Possible statuses are Pending, Executing, Completed, Rejected (by the user), Cancelled (manual intervention by user), Failed (due to technical issue which does not allow to continue)	enum		

execution_order

Field	Description	Type	Default	Other
id		int		PK
recipe_order_id		int		FK
instrument_id		int		FK
exchange_id		int		FK
external_identifier	Order ID given by the exchange	string		
side	Buy = 0 / Sell = 1	enum		
type	Market, Limit, Stop	enum		
price	order price	decimal		
total_quantity	Order size	decimal		
status	Pending, Placed, FullyFilled, PartiallyFilled, Cancelled, Failed	enum		
placed_timestamp	Time the execution order has been placed	timestamp		
completed_timestamp	Time the execution order was fully filled or cancelled	timestamp		
time_in_force	time till when order should be active on exchange. NULL if order is Good Till Cancelled	timestamp		NULLABLE

execution_order_fill

Field	Description	Type	Default	Other
id		int		PK
timestamp	Time of the fill	timestamp		
execution_order_id		int		FK
quantity		decimal		
price	fill price	decimal		

cold_storage_transfer

Field	Description	Type	Default	Other
id		int		PK
execution_order_id	ID of the order for fills of which cold storage is needed	int		PK, FK
status	Pending - order was generated internally, but not yet sent, Sent - recipe order was sent to exchange or blockchain (waiting confirmation), Completed - when order reaches its final successful state, Failed - system failed to execute the order	enum		

Field	Description	Type	Default	Other
placed_timestamp	Time when the order was generated	timestamp		
completed_timestamp	Time when the order reached its final state	timestamp		
cold_storage_account_id	ID of the cold storage account to which the transfer will be made	int		

action_log

Field	Description	Type	Default	Other
id	ID of the action	int		PK
timestamp	Timestamp when the action happened	timestamp		
performing_user_id	User who performed the action	int		
user_session_id	User session during which the action was performed	int		
user_id	Another user who was affected by the action	int		
permission_id	Permission which is related to the action	int		
role_id	Role which is related to the action	int		
asset_id	Asset which is related to the action	int		
instrument_id	Instrument which is related to the action	int		
exchange_id	Exchange which is related to the action	int		
exchange_account_id	Exchange account related to the action	int		
investment_run_id	Investment run related to the action	int		
recipe_run_id	Recipe run related to the action	int		
recipe_order_id	Recipe order related to the action	int		
execution_order_id	Execution order related to the action	int		
details	More detailed information about the action	nvarchar		

setting

Field	Description	Type	Default	Other
id		int		PK

Field	Description	Type	Default	Other
key	Key that identifies the setting	string		
vaue	Value of the setting	string		

instrument_liquidity_history

Field	Description	Type	Default	Other
id		int		PK
timestamp_from	Timestamp from which liquidity was measured	date		
timestamp_to	Timestamp till which liquidity was measured	date		
exchange_id		int		FK
instrument_id		int		FK
volume		decimal		