

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 |

instrument

Tradable instrument (symbol)

| Field | Description | Type | Default | Other |
|----------------|---|----------|---------|--------|
| id | | int | | PK |
| symbol | Symbol, e.g. BTC | nvarchar | | UNIQUE |
| 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_blacklisted | True - if blacklisted, False - if not | bool | | |
| tick_size | Determines minimum price change of the instrument | decimal | | |

exchange

This table contains exchanges will be used for investing

| Field | Description | Type | Default | Other |
|-------|-------------|---------|---------|-------|
| id | | int | | PK |
| name | | varchar | | |

symbol_exchange_mapping

This table determines which instruments are available on which exchanges

| Field | Description | Type | Default | Other |
|------------------------|-------------|---------|---------|--------|
| instrument_id | | int | | PK, FK |
| exchange_id | | int | | PK, FK |
| external_instrument_id | | varchar | | |

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 |
| instrument_id | Instrument in which account 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 |
| instrument_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 | | |

market_history_detail

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 | | |
| instrument_id | Instrument for which the information was retrieved | int | | FK |
| price_usd | Price of the instrument in USD | decimal | | |
| market_cap_usd | Total market capitalization of the instrument in USD | decimal | | |

| Field | Description | Type | Default | Other |
|-----------------------|--|---------|---------|-------|
| daily_volume_usd | Total daily volume of the instrument in USD | decimal | | |
| market_cap_percentage | Market cap of the instrument as percentage of total capitalization of whole market | decimal | | |
| nvt_ratio | Network Value to Transactions ratio, measures the dollar value of cryptoasset transaction activity relative to network 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 |
| amount | Total amount invested in this run | decimal | | |
| instrument_id | Currency in which the investment was denominated | int | | |
| user_created_id | User which initiated the investment run | int | | FK |
| 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 | | |

recipe_run

| Field | Description | Type | Default | Other |
|-------------------|-------------|------|---------|-------|
| id | | int | | PK |
| investment_run_id | | int | | FK |

| Field | Description | Type | Default | Other |
|-------------------|--|-----------|---------|-------|
| created_user_id | User which initiated the recipe run | int | | FK |
| created_timestamp | Time when recipe run was initiated | timestamp | | |
| status | Status of the recipe run: New, Rejected, Approved | enum | | |
| comment | Comment that should be provided when rejecting the recipe run or the orders generated for it | nvarchar | | |

recipe_run_detail

| Field | Description | Type | Default | Other |
|--------------------------|---|---------|---------|-------|
| id | | int | | PK |
| recipe_run_id | | int | | FK |
| base_instrument_id | | int | | FK |
| target_instrument_id | | int | | FK |
| base_instrument_amount | The amount which will be converted from the base currency | decimal | | |
| target_instrument_amount | The amount which will be converted to the target currency | decimal | | |
| target_exchange_id | The trading exchange on which trading is suggested according the recipe run | int | | FK |
| target_instrument_price | Price of the target currency | | | |

order

| Field | Description | Type | Default | Other |
|--------------------------|---|---------|---------|-------|
| id | | int | | PK |
| recipe_run_id | | int | | FK |
| base_instrument_id | | int | | FK |
| target_instrument_id | | int | | FK |
| base_instrument_amount | The amount which will be converted from the base currency | decimal | | |
| target_instrument_amount | The amount which will be converted to the target currency | decimal | | |
| target_exchange_id | The trading exchange on which trading is suggested according the recipe run | int | | FK |
| target_instrument_price | Price of the target currency | | | |
| status | New, Rejected, Approved | enum | | |

| Field | Description | Type | Default | Other |
|------------------|---|-----------|---------|-------|
| approve_user_id | User who approved/rejected the order | int | | FK |
| comment | Comment that should be provided when rejecting orders | nvarchar | | |
| placed_timestamp | Time order has been placed | timestamp | | |

execution_order

| Field | Description | Type | Default | Other |
|---------------------|--|---------|---------|-------|
| id | | int | | PK |
| order_id | | int | | FK |
| instrument_id | | int | | FK |
| status | Pending, Placed, FullyFilled, PartiallyFilled, Cancelled, Failed | enum | | |
| type | Market, Limit, Stop | enum | | |
| total_quantity | Order size | decimal | | |
| placed_timestamp | Time the execution order has been placed | | | |
| completed_timestamp | Time the execution order was fully filled or cancelled | | | |

execution_order_fill

| Field | Description | Type | Default | Other |
|--------------------|------------------|---------|---------|-------|
| id | | int | | PK |
| execution_order_id | | int | | FK |
| filled_quantity | | decimal | | |
| fill_timestamp | Time of the fill | | | |

cold_storage_order

| Field | Description | Type | Default | Other |
|----------|--|------|---------|--------|
| id | | int | | PK |
| 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 - 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 | | |

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 | | |
| 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 | | |
| details | More detailed information about the action | nvarchar | | |