

**Upgrade Instruction**

**AlgoTrader 5.0 – Your Institutional-Grade  
Trading and Execution Platform**

02. July 2019

INSTITUTIONAL-GRADE  
**ALGORITHMIC**  
**TRADING SOFTWARE**  
FOR **TRADITIONAL**  
**SECURITIES** AND  
**CRYPTO ASSETS**

## Upgrade to AlgoTrader 5.0

Below are the instructions on how to upgrade your AlgoTrader 4.5.1 installation to the 5.0 release.

### Upgrade Info

AlgoTrader is now compatible with newer versions of third-party products, e.g. now also runs on MySQL 8. Please check the AlgoTrader [reference](#) documentation prerequisites section for limitations.

### Flyway migrate on startup

AlgoTrader can now perform a flyway version check & automatically upgrade the schema on start-up (property `misc.flywayMigrateOnStartup`, which is true by default). It is not recommended to manually execute flyway migrate anymore.

### Making AT MySQL 8 compatible

As we had to change some older Flyway scripts, the Flyway checksums of these flyway scripts changed. *Therefore please set* `misc.flywayRepairOnStartup=true` when starting the application for the first time.

### Order validation constraints

AlgoTrader now has an order validation feature in place, checking compliance with accepted quantities/prices on the exchanges prior to order placement. For further details please see: [http://doc.algotrader.ch/html\\_single/index.html#Crypto\\_Order\\_Constraints](http://doc.algotrader.ch/html_single/index.html#Crypto_Order_Constraints)

The checks are in place both for cryptos as well as traditional assets.

### Reorganization of Security & SecurityFamily

Some fields were moved from SecurityFamily to Security. The fields in SecurityFamily are now only used by reference data services. The fields in Security are used in all other parts of the system.

## Removed FutureFamily, OptionFamily, GenericFutureFamily, BondFamily

As a follow up to SecurityFamily reorganization, all SecurityFamily subclasses were removed to simplify design and remove deprecated code. If your strategy relied on the SecurityFamily subclass to group securities with additional type information (e.g. you were using FutureFamily to group futures) you can still do so by using SecurityFamily directly by using the optional field 'familyType'.

After the Flyway migration, all SecurityFamilies in the database will have their 'class' property overridden to 'SecurityFamily' and the type information will be filled with proper value where applicable.

## Security Migration

Due to the amount of changes in the security and security\_family tables,

- For cryptos, futures and options it is best to remove security data from the DB and to load them again via the reference data starters.

If you have added additional security level data to your server/strategy, we recommend you save the old Ids and reinstate them after the procedure above.

## Removed OrderProperties table

- The OrderProperties class was refactored. Properties are now kept in the properties column in the Order table as JSON Objects. You need to manually transfer the data from the OrderProperties table (here also our sample SQL data has examples).
- It's no longer possible to add properties using: `getOrderProperties().put(String name, OrderProperty orderProperty)`. The `getOrderProperties()` method returns an unmodifiable map, to add new properties you need to use the `addProperty(String name, OrderProperty orderProperty)` method.
- For further details please see [http://doc.algotrader.ch/quick-start-guide/html\\_single/index.html#Order\\_Properties](http://doc.algotrader.ch/quick-start-guide/html_single/index.html#Order_Properties)
- If you are using Toad as a DB tool, you will not be able to see/edit these JSON fields. Our [reference](#) documentation prerequisites section has a list of DB tools that can deal with them.

## FeedType has been replaced with AdapterType

As InfluxDB does not allow renaming fields existing data needs to be reloaded with the field "FeedType" renamed to "AdapterType".

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## **The IB adapter type was renamed to IB\_NATIVE/IB\_FIX**

If a strategy subscribes to market data with Interactive Brokers adapter using the call

```
subscribeMarketDataEvent(<strategyName>, <securityId>, <adapterType>)
```

you should now use adapterType parameter value of "IB\_NATIVE" or "IB\_FIX" instead of "IB".

Likewise, historical data in CSV files or InfluxDB will have to rename IB to IB\_NATIVE or IB\_FIX.

## **IB Reference Data Service changes - Stocks retrieval**

It is now possible to download Stock information required to trade on Interactive Brokers (CONID numbers) with ReferenceDataLoader by ISIN or Symbol (as opposed to Symbol only in the previous version).

The Security to be fetched needs to be added to DB with either Symbol or ISIN. It should be also linked with a SecurityFamily.

The interface for ReferenceDataService Stock retrieval has changed from

```
public void retrieveStocks(long securityFamilyId, String symbol);
```

to

```
public void retrieveStocks(long securityFamilyId, Security security);
```

## **Dates sent out as EpochTimestamp on all interfaces**

Any date leaving our system (via REST or AMQ) will be serialized as an epoch timestamp with millisecond precision.

This unified approach is replacing case-by-case formatted date strings that required specific local formatters in place on the client side.

The TimeZone of the server can still be determined via REST.

## **New internal representation of dates**

The representation of date and time was migrated to java 8 data/time (java.time.\* package) applicationwide.

Consequences:

- All dates on database are stored in the time zone of the database.
- The class `ch.algotrader.util.DateTimeUtils` provides methods to convert the old types (`java.util.Date`) to the new Java 8 date/time types (It is available in all ESPER-Modules as well).

## Field and Method renaming

- `SessionEventListener.onChange(SessionEventVO event)` event was renamed to `SessionEventListener.onSessionEvent(SessionEventVO event)`
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- We have updated Apache Commons dependencies. If you are using them in your strategies please adjust the following 2 Java package imports
- - `import org.apache.commons.lang.*` → `import org.apache.commons.lang3.*`
  - `import org.apache.commons.collections15.*` → `import org.apache.commons.collections4.*`

## Deprecations

- `FeedType` has been replaced with `AdapterType`
- The `BrokerParameters` entity was removed
- `PRICE_SCALE`, `QUANTITY_SCALE`, `TICK_SIZE_PATTERN` are not in `security_family` anymore. Instead we now have `MIN_QTY`, `MAX_QTY`, `QTY_INCR`, `MIN_PRICE`, `MAX_PRICE`, `PRICE_INCR` and `MIN_NOTIONAL` in `security`
- The IB `LookupService` method `getSecurityByConid` was deprecated and replaced by `getSecurityByConidAndExchange`, which returns a unique security or `getSecuritiesByConid`, which can potentially return a list of securities
- The `Simulator` class and the `getSimulator()` method of the `StrategyService` have been deprecated. You should use the simulation mode for back-testing instead.

## Logging

We have made changes to our logging setup, in particular there is a new logger for REST related messages and additional settings for logs concerning the reference and historical data managers.

Please review the changes in our `Log4j` configuration file and adjust your configuration accordingly.

## **About AlgoTrader**

Available on-premise or in the cloud, AlgoTrader is an institutional-grade algorithmic trading software solution for conducting quantitative research, trading strategy development, strategy back-testing and automated trading for both traditional securities and crypto assets. AlgoTrader provides everything a typical quantitative trading firm requires to run its research and trading operations. It is the very first and most advanced algorithmic trading software product to allow automated trading of Bitcoin and other crypto assets. Based in Zurich, New York, and Singapore, AlgoTrader operates globally.

For more information, please visit <https://www.algotrader.com>.

## **Contact**

E-Mail [info@algotrader.com](mailto:info@algotrader.com)

T +41 44 291 14 85

Follow AlgoTrader on [Twitter](#) and [LinkedIn](#).

## **For inquiries, please contact**

Support Team

T +41 44 291 14 85

[support@algotrader.com](mailto:support@algotrader.com)