



# QUIK Server

**Installation manual**

**Version 10.4**



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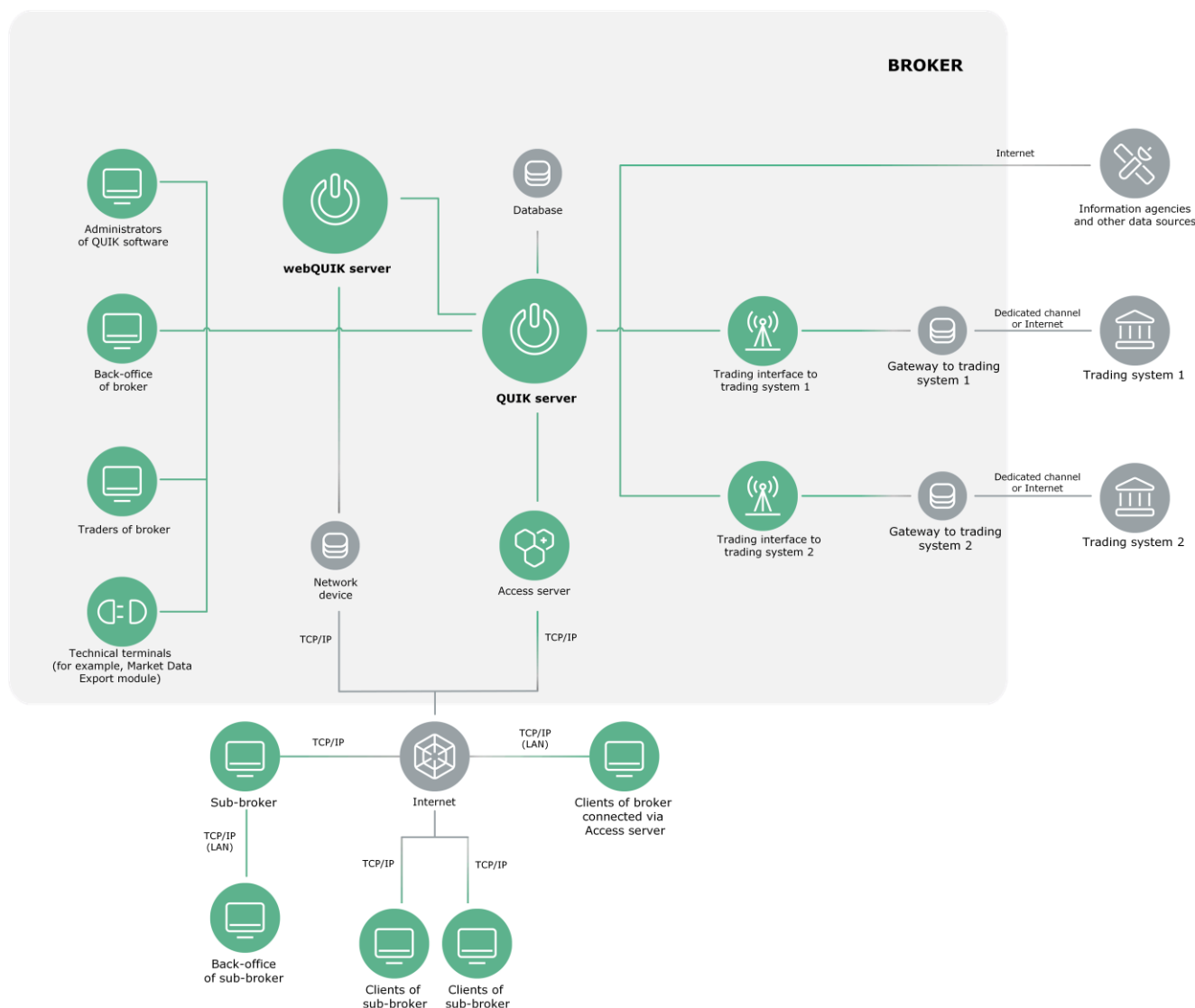
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# 1. General statements

## 1.1 Components of QUIK system

**QUIK software** is implemented on the basis of 'client-server' technology. Data exchange between the server and user terminals is carried out by means of the Internet and/or a local network. The server provides the connection of information sources (trading systems, news flows and other) and processing of client orders. Client applications are designed for displaying the information and entering of customers' orders.



The central part of QUIK software is **QUIK Server** having the logical core and **interfaces** to connected elements (exchange interfaces and other information sources, data storage). The modular concept of connection allows accumulating the system's capacities when necessary by equipping the basic configuration by new features.

The interaction with **database** is realized through a special interface to ease changing of the used type of **DBMS**. The database is used to store information with a storage period of more than one day - registration data of users and rights to work with the system, as well as logs of executed operations.

Information received from the exchange trading systems is processed in RAM and not entered to the database. For a quick recovery in situation of failure the received data the cached on the disk in form of binary file is used. All work with the database is carried out through the dedicated database server.

The **access server** is connected to the principal QUIK server, receives data and distributes it to users according to their rights. The **access server** is used to handle a large number of user connections as it allows reducing the load on the principal system server.

Administration of the complex is carried out from the **QUIK Administrator** program unifying all the settings used by the logic core of server. For monitoring over the current state of the server and client connections the terminal **QMonitor** is used.

## 1.2 Technical requirements

The system and software requirements table is available on [the official website of QUIK](#) for the following:

- QUIK Server;
- Trading interfaces;
- News and market data interfaces;
- Service modules;
- Workstation of the administrator QUIK Administrator;
- Monitoring workstation QMonitor;
- Other modules and gateways to other exchanges.

The minimum requirements are listed on the website. It is recommended to consult with the QUIK Technical Support on the technical requirements, for example, if you intend to:

- Serve a large number of users;
- Connect a large number of gateways;
- Use the QUIK server for the market maker tasks or high-frequency trading.

## 1.3 License management on QUIK servers

The licensing includes the right to connect one copy of the application (plugin, technologic or client module) to a QUIK server. Applications of one type are included in a license pool.

If the broker uses several QUIK servers, the total number of licenses within the license pool, which is distributed among them using the data synchronization service (the Replicator program), is controlled.



After the maximum number of available licenses is reached, a corresponding diagnostic is written to a server log file. If no licenses are available for the plugin, the message "Not enough licenses!" appears in a QUIK workstation.

The applications for which license management is supported:

- Q2Q adapter;
- FIX adapter program interface (accounts);
- FIX adapter program interface (transactions);
- FIX Drop Copy program interface;
- FIX Client Connector program interface;
- Market Data Export Module;
- Level 2 Quotes export module;
- QUIK workstation for mobile devices (PocketQUIK);
- CoLibri SM risk manager terminal module;
- CoLibri FM risk manager terminal module;
- CoLibri FX risk manager terminal module;
- Specialized multi-broker service workstation;
- FX Convertor;
- BasketTrading module;
- Option analytics module;
- Asset manager terminal module (TrustManager);
- webQUIK workstation;
- QORT2QUIK adapter;
- Position management program interface.



## 2. Installation and configuration

### 2.1 QUIK server installation and configuration

#### 2.1.1 DBMS configuration

1. Create a database on **SQL** server to be used by QUIK server.

**To obtain the actual scripts for creating database, contact QUIK technical support: [quiksupport@argatech.com](mailto:quiksupport@argatech.com), +7 (383) 219-16-06.**

2. Open to edit **quik.ini** file in **QUIK\Server\** catalog with QUIK Server settings.

**The configuration file must be in text format, without UTF8 encoding.**

In the [DB] section of this file configure the following parameters instead of the **file** parameter:

```
server=<name_of_SQL_server>,<port>
base=<DB_name_QUIK>
```

Example of the configured connection to SQL Server instance:

```
[DB]
server=SqlServerInstance,1234
base=QUIKDB
```

3. Configure the following parameters in section [DB]:

- **db\_connect\_timeout** – time of waiting for connection of QUIK Server to the DB server (in seconds). Range of valid values: from 1 to 600. Value by default: 60.
- **ANSI2OEM** – attribute of automatic conversion of all encoded character data transmitted to QUIK Server, from ANSI to OEM. Valid values:
  - 0 – data is sent in ANSI encoding;
  - 1 (by default) – data is encoded in OEM before being sent.
- **AuthMode** – used type of authentication on MS SQL server. Valid values:
  - login (by default) – use login and password specified in 'user' and 'password' parameters (the password can be [encrypted](#));
  - domain – use domain authentication.



**If AuthMode=domain, the 'user' and 'password' in section [DB] are ignored and may be not specified.**

- **Driver** – name of a driver which is used to connect to the QUIK server database.  
Valid values:
  - ODBC Driver 13 for SQL Server – used to operate MS SQL Server 2014, 2016 or a newer DBMS (from the list of supported ones). Link to download the driver installation file from the official Microsoft website:  
<https://go.microsoft.com/fwlink/?linkid=2223304>;
  - PostgreSQL ANSI(x64) — used to operate PostgreSQL. Link to download the driver installation file from the official PostgreSQL website:  
[https://ftp.postgresql.org/pub/odbc/versions/msi/psqlodbc\\_13\\_02\\_0000-x64.zip](https://ftp.postgresql.org/pub/odbc/versions/msi/psqlodbc_13_02_0000-x64.zip);
  - "" (empty, by default) – used to operate MS SQL Server 2012 or an older DBMS (from the list of supported ones), and when using the [MSOLEDBSQL](#) provider.

**When operating MS SQL Server, ODBC Driver 13 for SQL Server must be installed.  
When operating PostgreSQL, psqlODBC 13.2 driver must be installed.**

- **Provider** – name of provider which is used to connect to the QUIK server's database.  
Valid values:
  - SQLOLEDB – used to operate MS SQL Server 2014, 2016 or a newer DBMS (from the list of supported ones);
  - SQLNCLI10 (by default) – used to operate MS SQL Server 2012 or an older DBMS (from the list of supported ones);
  - MSDASQL — used to operate PostgreSQL;
  - MSOLEDBSQL \* – used to operate MS SQL cluster in conjunction with the MultiSubnetFailover setting. Link to download from the official Microsoft website: <https://go.microsoft.com/fwlink/?linkid=2220017>.  
Do not use this provider when the "Use Unicode (UTF-8) for worldwide language support" Windows setting is enabled.

**(\*) If MultiSubnetFailover=True, the MSOLEDBSQL value is required. The following parameters are to be set in the [DB] section:**

```
[DB]
server=<имя SQL-сервера без префикса «tcp:»>,<порт>
Provider=MSOLEDBSQL
AdditionalParameters=MultiSubnetFailover=True;Network Library=DBMSSOCN
db_connect_timeout=120
```

Example of using default driver and provider:



```
Driver=
Provider=SQLNCLI10
```

Example of using ODBC Driver 13 for SQL Server:

```
Driver=ODBC Driver 13 for SQL Server
Provider=SQLOLEDB
```

- **AdditionalParameters** – setting to specify additional parameters for connecting to the DBMS. Value by default: "" (empty).

**When connecting to the MS SQL cluster, set MultiSubnetFailover=True.**

**To connect to the PostgreSQL DBMS using a port other than a default one (5432), specify it in the AdditionalParameters parameter. For example:**

```
AdditionalParameters=port=5431
```

- **SSLMode** – secure connection mode. Supported only when configuring a connection to the PostgreSQL DBMS. Valid values:
  - "" (empty, by default) – connection without encryption;
  - require;
  - verify-ca;
  - verify-full;
  - disable;
  - allow;
  - prefer.For the description of secure connection modes, see the official website of PostgreSQL: [www.postgresql.org/docs/current/libpq-ssl.html](http://www.postgresql.org/docs/current/libpq-ssl.html).  
If the parameter is not set, the CertFileName, CertPKeyFileName, CertPass and CertCAFileName parameters are ignored.
- **CertCAFileName** – path to the file container of certificates of certification authorities. Value by default: "" (empty). Supported only when configuring a connection to the PostgreSQL DBMS.
- **CertFileName** – path and name of the secure connection certificate file. Value by default: "" (empty). Supported only when configuring a connection to the PostgreSQL DBMS.
- **CertPKeyFileName** – path and name of the secure private key file. Value by default: "" (empty). Supported only when configuring a connection to the PostgreSQL DBMS.





- **CertPass** – password for the private key file of the secure connection. Value by default: "" (empty). Supported only when configuring a connection to the PostgreSQL DBMS. The password must not start with \$ and #. The password can be [encrypted](#).
4. In section [DB], configure the possibility of receiving unread messages of the previous trading days:
- **messages\_delivery\_period** – number of days for which messages are loaded. Value by default: 0 (load only messages for the current trading day).
5. In section [db\_module], configure the database provider being used:
- **driver** — the name of the executable file of the database provider. Value by default:
    - \_ For MS SQL: quik\_db\_ms.exe;
    - \_ For PostgreSQL: quik\_db\_pg.exe.

Example of sections for MS SQL DBMS:

```
[DB]
server=MSSQL_SRV
base=QUIK_DB
user=sa
password=password
db_connect_timeout=30
ANSI2OEM=1
AuthMode=login
Driver=ODBC Driver 13 for SQL Server
Provider=SQLOLEDB
AdditionalParameters=MultiSubnetFailover=False;ApplicationIntent=ReadWrite

[db_module]
module=dstubrc.dll
driver=quik_db_ms.exe
```

Example of sections for PostgreSQL DBMS:

```
[DB]
server=PostgreSQL_SRV
base=QUIK_DB
user=sa
password=password
Driver=PostgreSQL ANSI(x64)
Provider=MSDASQL
SSLMode=verify-full
CertCAFileName=Certs/root.crt
CertFileName=Certs/user.crt
CertPKeyFileName=Certs/user.key
```



```
CertPass=secret

[db_module]
module=dstubrc.dll
Driver=quik_db_pg.exe
```

### 2.1.2 Copying files

1. Create the catalog for installation of QUIK system (hereinafter <quik\_dir>).
2. Copy there AstsGate, QuikAdministrator, Front, KeyGen, QUIKTools, Server catalogs from <inst\_dir>. If CD-ROM drive was a source, clear the 'Read only' checkbox in attributes of all copied files.

### 2.1.3 Creating a key for QUIK server

Using the **KeyGen** program create public and secret keys that will be later used by QUIK server (see KeyGen.pdf – User's manual for KeyGen.exe).

1. To configure the parameter 'Name of key holder' type the name of organization in format 'Name (identifier)', for example:

```
Test-Invest (testinvest)
```

2. The identifier in parentheses will be then used to configure the system, call it <name\_of\_QUIK\_server>.
3. Remember the password provided to protect the key. Call it <password\_of\_server\_key>.
4. Copy the secret key of server (program KeyGen.exe saves file a:\secreg.tsk by default) to catalog <quik\_dir>\Server. For convenience in further work rename it to secrserv.tsk.
5. Copy the public key of server (program KeyGen.exe creates file a:\pubreg.tsk by default) to catalog <quik\_dir>\KeyGen. For convenience in further work rename it to <name\_of\_QUIK\_server>.tsk. This key will be used by all users of the server with the software package KeyGen.
6. Open to edit file <quik\_dir>\KeyGen\qrypto.cfg and specify identifier of organization as value of parameter IMPORT:

```
IMPORT=<name_of_QUIK Server>
```

7. Using the **KeyGen** program create public and secret keys for manager of QUIK server (see KeyGen.pdf – User's manual for KeyGen.exe). In step 3, the program prompts you to select file with public key of the system – select <name\_of\_QUIK\_server>.tsk file. Select the public key of the server in the list of keys (in the example that is 'Test Invest (testinvest)'). Select



the checkbox 'Record and use skipping this step' to allow your users to avoid unnecessary operations subsequently when forming keys.

#### 2.1.4 Registration in Windows services

1. Install the QUIK Server and the gateway to trading system, for example, of the Moscow Exchange as services of [Windows 10 / Windows 11](#). For this, type the following in the command line:

```
<quik_dir>\Server\quik.exe -install  
<quik_dir>\AstsGate\AstsGate.exe -install
```

2. Open **ControlPanel\Services** and check if there are records identifying services of QUIK Server (identifier is "Quik Update Information Kit"), and gateway to trading system, for example, of the Moscow Exchange.
3. Create WindowsNT groups that are necessary to work in QUIK system:

| Name        | Group description                                                                                         |
|-------------|-----------------------------------------------------------------------------------------------------------|
| Quik        | Users of this group have access to start the QUIK server (<quik_dir>\Server\quik.exe)                     |
| Quik_source | Users of this group have access to start gateway to the trading system (<quik_dir>\AstsGate\AstsGate.exe) |
| Quik_ctl    | Users of this group manage the QUIK server                                                                |
| Quik_stat   | Users of this group can receive statistics on the QUIK server operation                                   |

4. Create a user-administrator giving him a name (for example <quikserv>) and password (for example <passwd>). Add this user to the groups created previously. Administrator of [Windows 10 / Windows 11 service](#) on which the QUIK Server will work is also recommended to be added to these groups.
5. Configure services with identifiers 'Quik Update Information Kit' and 'Quik Transaction Gate' specifying the name and password to work in [Windows 10 / Windows 11](#) in startup parameters of these services. For this select "Log on as:" and enter the administrator credentials of QUIK system – name <quikserv> and password <passwd>.
6. To use the domain authentication on MS SQL server, specify name of the domain user and password in startup parameters of the services.
7. Assign the users whose rights the services use with **Lock pages in memory** right. For this do the following:
  - Open the **Start / Settings / Control Panel / Administrative Tools / Local Security Policy** Windows menu item;
  - Open section **Local Policies / User Rights Assignment**.



- In settings of the **Lock pages in memory** attribute, click the **Add user or group** button and add users to the list.

### 2.1.5 Currency and cross rates configuration

1. Run QUIK Administrator, select **QUIK server / Security classes** and add a class to the dictionary:

| Parameter                   | Description          |
|-----------------------------|----------------------|
| <b>Currency cross rates</b> |                      |
| Code                        | CROSSRATE            |
| Description rus. / eng.     | Currency cross rates |
| Тер расчётов                |                      |
| Class type                  | Currency cross rates |

**Only listed attributes should be enabled. Other attributes should be disabled.**

2. On the computer where the QUIK server is installed, open the **quik.ini** file in the **QUIK\Server** directory and edit it as follows:

- add a string (if not present) to [natural\_level\_section] section:

```
module=cur_module
```

- add strings in the end of the **quik.ini** file:

```
[cur_module]
module=dwcurg.dll
class_cfg=crossrate.ini
```

3. Open the **crossrate.ini** file in the **QUIK\Server** directory and edit it as follows:

- specify for each currency code in [crossrate] section:
  - currency full name;
  - currency short name;
  - accuracy of cross rate value;
  - accuracy of cash position parameter values. Possible values are in the range [0, 8]. If the value is not explicitly specified, it is set as 2 by default.

Example:



```
[crossrate]
...
RUR=Rouble,Rouble,2
SUR=Rouble,Rouble,2
JPY=Japanese yen,Yen,6,0
```

## IMPORTANT!

If the accuracy of cash position parameter values for a currency differs from 2, all the interfaces, which are connected to the server, that transmit:

- this currency;
- instruments that are traded in this currency;
- currency pairs containing this currency;
- any monetary values expressed in this currency;

must support the transmission of monetary values with an accuracy that differs from 2, and an accuracy of a corresponding currency must be the same as se on the QUIK server. Otherwise, correct function of the system cannot be guaranteed.

For information about the transmission of monetary values with an accuracy that differs from 2 by a specific interface, contact QUIK technical support: [quiksupport@argatech.com](mailto:quiksupport@argatech.com).

- specify each currency conversion rate in [crossrate\_rate] section. As a rate value a free number can be used with the number of decimal places which does not exceed the **accuracy of cross rate value**, specified in the [crossrate] section (see as above).

For example:

```
[crossrate_rate]
RUR=1
SUR=1.00
JPY=0.627686
```

**If you use cross rate for currencies, which are not specified in the [crossrate\_rate] section, the corresponding error message will be displayed in the QMonitor program.**

- specify in [main\_currency] section:
  - currency code. Value by default: RUR;
  - currency symbol code in Unicode standard. Value by default: 0.



**Currency codes are available by link:**

[https://www.unicode.org/charts/nameslist/n\\_20A0.html](https://www.unicode.org/charts/nameslist/n_20A0.html)

- \_ string with HTML code of a currency symbol in the format <Unicode-currency code>. If the code is specified in the 16-ary system, then add symbol 'x' before it. Value by default: "" (empty).

Example:

```
[main_currency]
MAIN=RUR,20BD,8381
```

## 2.1.6 QUIK server parameters configuration

### crypto.cfg file

**For more information about the crypto.cfg file format, see the User's manual of the Software for creating and managing keys (KeyGen).**

Open **crypto.cfg** file in catalog <quik\_dir>\Server\ and edit it as follows:

1. In [CryptoProviders] section specify the encrypting methods that are used (0 – disabled, 1 – enabled), for example:

```
[CryptoProviders]
openssl=1
```

2. In section, which corresponds to the encrypting method, selected on the previous step, specify full or relative paths to the executable and configuration files, for example:

```
[openssl]
Module=OpenSSL_Pr.dll
IniFile=OpenSSL_Pr.ini
```

3. Specify the following settings in the [auth] section:

```
[auth]
sign=secprov.dll
sign_provider=openssl ; encryption method that is used for digital signature
```



## quik.ini file

Open **quik.ini** file in catalog <quik\_dir>\Server\ and edit it as follows:

1. In section [dealer-library], configure the following parameters:

```
<code_of_your_firm_in_trading_system>=<relative path to setting file>
```

Example:

```
[dealer-library]
TEST_FIRM=.\Dealer\TestFirm.ini
```

2. In section [DB], configure the following parameters to access the database:

- **Server** – name of a server. Value by default: QDB1.
- **Base** – name of a database. Value by default: QUIK\_DB.
- **User** – name of a database user.

**A user must be included in the quik\_server role in the QUIK server database.**

- **Password** – password of a database user. A password must not begin with \$ and #.  
The password can be [encrypted](#).

**Stop orders of users partially or completely blocked in QUIK Administrator (authorization is expired, the attribute 'Blocked' is selected, authorization for markets is expired) can be also loaded from the QUIK server database at startup. Checking for blocked users and setting a period are managed by the quik.ini file settings:**

- **stoporders.load\_when\_expired\_la** – indicates of loading of stop orders for users with a general authorization expired as well as expired authorization for markets.  
Valid values:
  - 0 (by default) – stop orders of the users with expired authorization are not loaded;
  - 1 – stop orders of the users with expired authorization are loaded.
- **stoporders.mark\_expired\_as\_foreign** – indicates of marking stop orders of the users with expired authorization by the "Foreign" attribute. The setting is used if stoporders.load\_when\_expired\_la=1. Valid values;
  - 0 – stop orders of the users with expired authorization are not marked by the "Foreign" attribute;
  - 1 (by default) – stop orders of the users with expired authorization are marked by the "Foreign" attribute.
- **stoporders.expired\_la\_period** – number of days for loading stop orders of blocked users. Value by default: 14.



3. In section [Files], configure the following parameters:

- **EventsLogFileName** \* – path and name of the main log file. Value by default: events.log.
- **ErrorsLogFileName** \* – path and name of the errors log file. Value by default: errors.log.
- **DeallibLogFileName** \* – path and name of the Limits calculation library log file. Value by default: Deallib.log.
- **DataFilesFolderName** – path to data files (.ik files). Value by default: .\.
- **LogFilesFolderName** – path to log files (events.log, errors.log, DB provider, deallib.log). Value by default: .\.

**(\*) If the parameter contains only log file name, the path specified in the LogFilesFolderName parameter is used.**

4. In section [usend\_module], configure the following parameters:

```
module=dwsend.dll
sysname=Information and Trading System QUIK 'TestInvest' ; name of system displayed
in the informational window when connecting to server
name=testinvest ; server key
password=secret ; password to access the server key
port=15100 ; port number for user terminals connection
crypto_provider_ini_file=OpenSSL_Pr.ini ; full or relative path to the encryption
settings file
connection_acceptance_tmo_ms ; timeout in milliseconds to wait for a new
connection. Valid values: from 0 to 60000. Value by default: 500
```

5. In section [ctl\_module], configure the following parameters:

```
module=dwwqctl.dll
port=15120 ; port number for QMonitor connection
name=testinvest ; server key
password=secret ; password to access the server key
```

6. In section [time-set], specify the **hourshift** parameter if the server time is different from the gateway time:

```
hourshift=3 ; difference between the QUIK server time and the time of data
transmitted by the gateway, in hours
```





7. In section [mail], configure the following parameters of access to SMTP server:

```
Server=smtp.quik.ru ; Name or IP address of SMTP server
Port=25000 ; Port of SMTP server. Value by default: 25
User=test_user ; User name for authentication on SMTP server
Password=secret ; Password for authentication on SMTP server. A password must not
begin with $ and #. A password can be encrypted
FromAddress ; Sender address of emails related to two-factor authentication (and
password recovery)
```

8. In section [limits\_module], configure the following parameters:

\_\_ for mail distribution:

```
loadlimits_FromAddress=test@post.ru ; Address of message sender
loadlimits_mail_to=test1@post.ru ; Addresses of message receivers separated by commas
sign_settings_file=.\\qloadlimitx.ini ; Path to the QLoadLimitsX program settings
file for setting up clients' positions that QUIK server uses to load the limits file
signed by Bicrypt electronic digital signature
```

\_\_ **calclimit\_old\_stoporders** – attribute of blocking funds under stop orders of previous days. Valid values:

- \_ 0 (by default) – do not block funds;
- \_ 1 – block funds.

For example:

```
calclimit_old_stoporders=0
```

**The setting must not be used simultaneously with the Do not reserve actives for stop-orders on all of classes setting of Limits calculation library (for the setting description, see the Administrator's manual of Limits calculation library settings).**

9. In section [trans\_module], configure the parameters:

- \_\_ **Change\_wrong\_single\_clientcode** – the algorithm of client code change.  
The parameter is responsible for algorithm of substitution if the user has the only active client code. Valid values:
  - \_ 0 – transaction is rejected with diagnostics 'Incorrect client code' if the client code does not match the user rights (Client specified the only code that does not match



- the rights. Or the client has two codes, one of them has an authorization expired and the client code in the submitted transaction does not match rights);
- \_ 1 (by default) – transaction is not rejected.

Example:

```
change_wrong_single_clientcode=1
```

- \_ **trans\_handling\_privileged\_users** – the list of users whose transactions are processed by the server regardless of the processing stage of these users' previous transactions.

**The setting is applied after saving the configuration file, the server reboot is not required.**

Format:

```
trans_handling_privileged_users=<list of UIDs, separated by commas>
```

Example:

```
trans_handling_privileged_users=100,200,300
```

**10.**In [data\_module] section, configure the parameter.

- \_ **inactive\_stops\_lifetime** – maximum possible time in days from the last activation of stop order after which the stop order is cancelled. Values in range 1 to 13 are rounded to the minimum possible value – 14 days.
  - \_ 0 – the setting is disabled;
  - \_ 14 (by default) – minimum possible number of days (setting enabled).

Example:

```
inactive_stops_lifetime=14
```

**If the replacement settings are enabled in the section (**firm\_substitute = 1**, **client\_codes\_substitute = 1**), and the **codes.ini** or **firms.ini** files are empty or missing, the server crashes with an error:**

**Error reason**

**Diagnostics**

codes.ini replacement file is missing

Configuration file "path-to-codes.ini" not found



| Error reason                          | Diagnostics                                      |
|---------------------------------------|--------------------------------------------------|
| firms.ini replacement file is missing | Configuration file "path-to-firms.ini" not found |
| codes.ini replacement file is empty   | Configuration file "path-to-codes.ini" is empty  |
| firms.ini replacement file is empty   | Configuration file "path-to-firms.ini" is empty  |

**11.**In section [Position], configure correspondence between alias of the firm (an alias used to replace a firm code with any other code to combine several firms into one within a unified cash position) from the Trading interface and firm code on the QUIK server with the unified cash position. The setting is relevant if the firm code of the trading interface and the unified cash position firm coincide. Alias is set by the trading interface when transmitting data on futures restrictions and positions of the unified cash position firm. Using the alias defines a type of account the data from the trading interface is intended for.

Format:

```
<alias firm with the unified cash position of Trading interface>=<code of firm with the unified cash position on QUIK server>
```

Example:

```
UNIFIED_FIRM=NC0038900000
```

**Additional alias configuration is also required in section [Position] of MOEX Derivatives trading interface. Alias length must not exceed 12 characters.**

**12.**In the [trade\_date] section set up the exception dates for the calendar of trading and non-trading days used on the QUIK server. By default, from Monday through Friday are considered by the QUIK Server as trading days, and Saturday and Sunday as non-trading days. A day is considered to be a trading day if on this day there are trades in this QUIK server on any of the trading venues:

- If trading is planned on a weekday at least on one venue available on the QUIK server, then this date does not need to be added to the [trade\_date] section.
- If on a weekday trading is not scheduled on any of the venue, then you need to add this date with the **holiday** attribute to the [trade\_date] section.
- If trading is planned on a weekend on at least one venue available on the QUIK server, then you need to add this date with the **workday** attribute to the [trade\_date] section

The following parameters are set in the section:



- **ClearingTime** – session change time on the QUIK server in <HHMMSS> format. This point in time must be within the period when the QUIK server is stopped. Default value: 000000.
- **no\_weekend** – attribute of the QUIK server operation in the **no days off** mode (Saturday and Sunday are considered working days). Possible values:
  - 0 (by default) – the QUIK server operation mode is determined by the standard calendar of working (weekdays) and non-working (weekends) days;
  - 1 – the QUIK server operates in the 7 days a week mode.
- exclusion dates from the standard calendar, according to which the QUIK server is launched in the working or non-working day mode, in the format:

```
<YYYYMMDD>=holiday
<YYYYMMDD>=workday
```

Where:

- **holiday** is non-working day;
- **workday** is working day.

See [note](#) for an example of how to fill in a section.

**When starting the QUIK server with the -holiday (see [3.1.4](#) sub-section) or -workday (see [3.1.5](#) sub-section) launch parameters, section values have a lower priority.**

**13.**In the [settlement\_date] section the exception dates are set for the calendar of settlement and non-settlement days used on the main trading venue (for example, on the Securities market of the Moscow Exchange). By default, from Monday through Friday are considered by the QUIK Server as settlement days, and Saturday and Sunday as non-settlement days.

If a weekday is considered a non-settlement day on the main trading venue, then it must be added to the [settlement\_date] section with the **holiday** attribute, and if a weekend is considered a settlement day, then it must be added with the **workday** attribute.

The exclusion dates specified in this section are considered when calculating positions when making Negotiated deal mode/REPO trades, as well as in other calculations where it is required to consider the transfer of settlement and non-settlement days.

**To set settlement and non-settlement days for classes, instruments and currency codes, calendars of exception dates set in the QUIK Administrator program can be used. These calendars have higher priority.**

Section format:

```
<YYYYMMDD>=holiday
```



```
<YYYYMMDD>=workday
```

Where:

- **holiday** is non-settlement day;
- **workday** is settlement day.

### Examples for the [trade\_date] and [settlement\_date] sections:

#### Example 1

There are two interfaces on the server: to the Securities market of the Moscow Exchange and the Foreign securities market of the SPB Exchange. November 4, 2022 is a holiday that is a non-settlement day on the Securities market of the Moscow Exchange, but trading on the Foreign securities market of the SPB Exchange.

You need to set the following settings:

```
[settlement_date]  
20221104=holiday
```

#### Example 2

There is one interface on the server to the Securities market of the Moscow Exchange. November 4, 2022 is a holiday that is a non-settlement day on the Securities market of the Moscow Exchange. Thus, there is not a single trading mode on the server, in which trading will take place on this day.

You need to set the following settings:

```
[settlement_date]  
20221104=holiday  
  
[trade_date]  
20221104=holiday
```

#### Example 3

There is one interface on the server to the Securities market of the Moscow Exchange. March 5, 2022 (Saturday) is a trading and settlement day.

You need to set the following settings:

Example:

```
[settlement_date]  
20220305=workday
```



```
[trade_date]
20220305=workday
```

**14.**Two-factor authentication with sending PIN code at the moment of connection to QUIK server is available to be configured for mobile devices. Operation system of mobile terminals must be specified in **System** setting of section [mobile\_terminals] of **quik.ini** file. Value by default: Android,iPhone.

Example:

```
system=Android,iPhone
```

When receiving the parameter value that includes one of strings of the setting, server identifies the mobile terminal and requests PIN only after whole checking the terminal's right to work.

**15.**In the [data\_pipe\_module] section, configure the inbound / outbound replication of the date / time of the last login using the following settings:

- **disable\_last\_login\_replication\_in** – accept / not receive information about the date / time of the last login from the replicator. Default value is 0 (accept).
- **disable\_last\_login\_replication\_out** — send / not send information about the date / time of the last login to the replicator. Default value is 0 (send).

**16.**Set up two-factor authentication according to the section 2 of the Administrator's manual for the QUIK two-factor authentication.

### 2.1.7 User distribution configuration

Catalogs <quik\_dir>\Front and <quik\_dir>\KeyGen are intended for distribution to customers, so they are recommended to be copied to a separate place.

Catalog <quik\_dir>\Front contains the files of QUIK Workstation configured for working with the specified server. Catalog <quik\_dir>\KeyGen is a software package for working with access keys.

The directory of the QUIK Workstation installation kit can be changed in the quik.ini file in the [areas] in the frontend parameter. The default setting value is areas\frontend.

A pair of access keys – public and secret ones must be generated for each new user registered in the system via the **KeyGen** program. Public key is registered via **QUIK Administrator**.

### 2.1.8 Block encryption configuration

Open to edit the file in catalog <quik\_dir>\Server\quik.ini and configure the following parameters in section [usend\_module]:

- **enable\_block\_crypt** – indicates of block encryption. Valid values:



- 0 (by default) – block encryption is not used;
- 1 – block encryption is used.
- **block\_crypt\_size** – size of encryption block. Valid values: from 100 to 8192 (inclusively). Value by default: 1024.

#### 2.1.9 Setting Limits calculation library asynchronous usage

**If the parallel pre-trade and post trade control of operations with different orders is required to be set up, contact QUIK technical support: [quiksupport@argatech.com](mailto:quiksupport@argatech.com) for further instructions.**

Firms to which asynchronous Limits calculation library usage is applied should be listed in the <quik\_directory>\Server\quik.ini file in the [dealer-library-async] section. For example:

```
[dealer-library-async]
NC0038900000
SPBFUT389
```

The following parameters can be set up in the [behavior] section:

- **numberofexecutors** – full number of queues of parallel processing of Limits calculation library algorithms for all the firms which use Limits calculation library asynchronously.
- **deallib.temppath** – file path to the directory for temporary storage of DLL copies for Limits calculation library.

For example:

```
[behavior]
deallib.temppath=.\Temp
numberofexecutors=3
```

#### 2.1.10 Exclusions for antivirus software

This section contains files and folders of the QUIK server that must be excluded from checking by antivirus software, as they are used during the server operation.

Files and folders to be excluded:

1. Folder with the QUIK server.
2. Folders and files specified in the server settings in quik.ini:



- paths to log files and .ik files that are specified in the [Files] section in the **LogFilesFolderName** and **DataFilesFolderName** parameters, for example:

```
LogFilesFolderName=.\Logs  
DataFilesFolderName=.\Data
```

- paths to the files of substitutions that are specified in the [data\_module] section in the **firm\_substitute\_file** and **client\_codes\_substitute\_file** parameters, for example:

```
firm_substitute_file=.\firms.ini  
client_codes_substitute_file=.\codes.ini
```

- paths to the archives that are specified in the [archive\_module] section in the **ttp\_dir** and **minutes\_dir** parameters, for example:

```
ttp_dir=.\archive\minutes_ttp  
minutes_dir=.\archive\minutes
```

- path to the cross-rate settings that is specified in the [cur\_module] section in the **class\_cfg** parameter, for example:

```
class_cfg=crossrate.ini
```

- path to the crypto provider settings that is specified in the [usend\_module] section in the **crypto\_provider\_ini\_file** parameter, for example:

```
crypto_provider_ini_file=.\MP_Pr.ini
```

- paths to the templates that are specified in the [quik\_auth] section in the **TemplateRuRetrievingNotSupportedFileName** and **TemplateRuUnknownErrorFileName** parameters, for example:

```
TemplateRuRetrievingNotSupportedFileName=Templates\ru\RetrievingNotSupported  
TemplateRuUnknownErrorFileName=Templates\ru\UnknownError
```

### 3. Folders with the settings of crypto providers in the qrypto.cfg file that are specified in the **IniFile** parameter, for example:

```
IniFile=MP_pr.ini
```





**The net ports that are specified in the settings of server and access servers in the quik.ini file in the port parameter must be added to the exclusions.**

#### 2.1.11 Configuration of message text about termination of attorney power

The text of the message that is displayed when connecting with the keys of a user whose power of attorney to use the system has expired can be changed.

By default, the following text is displayed: Your authorization to use the system has expired.

To change the message text, open the **Server/quik.ini** file, in the [usend\_module] section add the **license\_expired\_text\_25** key and set the message text as its value, for example:

```
[usend_module]
module=dwsend.dll
licence_expired_text_25=Истек срок действия доверенности
```

#### 2.1.12 Position rolling

The QUIK server can be launched in the mode of rolling clients' positions by money and instruments (stock market).

**Before configuring position rolling, contact QUIK technical support for additional instructions: [quiksupport@argatech.com](mailto:quiksupport@argatech.com).**

To roll positions, do the configuration:

**1.** In the **quik.ini** file located in the <quik\_dir>\Server\ directory configure the following parameters:

- [data\_module] section:
  - **rolling.rotation\_depth** – rotation depth of files with positions located in the Backup directory. The server stores no more than the number of files specified in the setting for each type of position by money and by instrument. When the maximum value of the setting is reached, old files are deleted. Default value: 7.
  - **rolling.CPLimitTag** – tags separated by commas, which are used by the QUIK REPO Module to maintain limits for counterparties when rolling money positions. Only positions with settlement term T0 with the specified tags are considered. Default value: "" (empty).
- [calc-limits] section:

- **UnifiedLeverageOnClient** – indicates that leverage of the same size is used in all cash positions of a client for whom **By discounts** or **MD+** margin lending scheme is used. Set the value 1. Default value is 0.

2. Start the server with the -rolling launch parameter (/ro) (see [3.1.12](#)).
3. Connect the interface that will activate the positions after rolling.

**The information of the transferred positions is updated only after the interfaces (trade interfaces or the Holiday Information interface) are connected.**

## 2.2 QUIK Administrator installation and configuration

### 2.2.1 Installation and configuration of QUIK Administrator server part

1. Copy all files from catalog <inst\_dir>\QUIKAdministrator\Server to an arbitrary directory. The given catalog provides **QAdminSrv.ini** file including the program settings.
2. Catalog <inst\_dir>\QUIKAdministrator\Client\ provides client application of the program.
3. To install the program log into the system as user having rights of administrator.
4. Assign name to the service in **QAdminSrv.ini** file. For that in section [Service] set the appropriate values in parameters name, displayname.
5. Install the server by executing the following command from the command line:

```
QAdminSrv.exe -install
```

6. Configure the following settings in the **QAdminSrv.ini** file:

- In section [Instances], specify configuration files of database connections in format:

```
<Port used for the given DB>=<Name of configuration file>
```

Example:

```
[Instances]
15301=cfg_broker1.ini
15302=cfg_broker2.ini
```

Parameters of connection with every database are described in a separate file.

- In section [Files], in the **Logs** parameter set the name of file for logging, if necessary.
- In section [General], edit the following settings, if necessary:



- \_ **MaxDeallibSize** – the maximum file size of the Limits calculation library settings to be saved to the Audit log. Value by default: 10485760 (it is 10 MB).
- \_ **MaxDeallibSize\_<Instance>** – the maximum file size of the Limits calculation library settings to be saved to the Audit log for the specified port (<Instance>). The value of the **MaxDeallibSize** setting is used as default.
- \_ **PathRelease** – path to the directory with update files of the QUIK Administrator client part. The path may be absolute or relative. Value by default: frontend\release\ (relative path from the QUIK Administrator server part directory).
- \_ **InactiveUserDisconnectTimeout** – indicates that a connection between the server and client parts of the QUIK Administrator program breaks when the user inactivity period in seconds, which is set in this setting, expires. If the value is 0, the setting is disabled. Default value: 900.
- \_ **DisconnectWhenSessionLock** – indicates that a connection between the server and client parts of the QUIK Administrator program breaks when a session is blocked or a remote session is disconnected. Возможные значения:
  - \_ 0 – a connection should not be broken;
  - \_ 1 (by default) – a connection should be broken.

**7. Configure the following settings in <Name of configuration file>.ini server configuration file:**

- \_ In section [DB] configure the parameters of access to the database:
  - \_ **Server** – name of server.
  - \_ **Base** – name of database.
  - \_ **User** – name of a database user.

**A user must be included in the quik\_rbo and quik\_auditor roles in the QUIK server database.**

- \_ **Password** – password of a database user. A password must not begin with \$ and #. The password can be [encrypted](#).
- \_ **UsePersonalLogin** – to use personal logins for connection to the database specify the value 1.
- \_ **AuthMode** – used type of authentication on MS SQL server. Valid values:
  - \_ login (by default) – use login and password specified in 'user' and 'password' parameters (the password can be [encrypted](#));
  - \_ domain – use domain authentication.

**If AuthMode=domain, the 'user' and 'password' in section [DB] are ignored and may be not specified.**



- **Driver** – name of ODBC driver which is used to connect to the QUIK server's database. Valid values:
  - ODBC Driver 13 for SQL Server – used when using MS SQL Server 2014, 2016 or a newer DBMS (from the list of supported ones);
  - PostgreSQL ANSI(x64) – used when using PostgreSQL;
  - "" (empty, by default) – used when using MS SQL Server 2012 or an older DBMS (from the list of supported ones).

**When operating MS SQL Server, ODBC Driver 13 for SQL Server must be installed.**  
**When operating PostgreSQL, psqLODBC 13.2 driver must be installed.**

- **Provider** – name of OLEDB provider which is used to connect to the QUIK server's database. Valid values:
  - SQLOLEDB (by default) – used when using MS SQL Server 2014, 2016 or a newer DBMS (from the list of supported ones);
  - MSOLEDBSQL – used when using MS SQL Server 2014, 2016 or a newer DBMS (from the list of supported ones);
  - MSDASQL – used when using PostgreSQL;
  - SQLNCLI10 – used when using MS SQL Server 2012 or an older DBMS (from the list of supported ones);
  - SQLNCLI11 – used when using MS SQL Server 2012 or an older DBMS (from the list of supported ones).
- Example of using the default driver and provider:

```
Driver=
Provider=SQLOLEDB
```

- Example of using the ODBC Driver 13 for SQL Server:

```
Driver=ODBC Driver 13 for SQL Server
Provider=SQLOLEDB
```

**For the correct functioning ODBC Driver 13 for SQL Server must be installed.**

- **Port** – port to connect to the PostgreSQL server. Value by default: 5432.
- **AdditionalParameters** – setting for specifying additional parameters of the DBMS connection. Value by default: "" (empty).
- **SSLMode** – secure connection mode. Supported only when configuring a connection to the PostgreSQL DBMS. Valid values:
  - "" (empty, by default) – connection without encryption;



- \_ require;
- \_ verify-ca;
- \_ verify-full;
- \_ disable;
- \_ allow;
- \_ prefer.

For the description of secure connection modes, see the official website of PostgreSQL: [www.postgresql.org/docs/current/libpq-ssl.html](http://www.postgresql.org/docs/current/libpq-ssl.html).

If the parameter is not set, the CertFileName, CertPKeyFileName, CertPass and CertCAFileName parameters are ignored.

- **CertCAFileName** – path to the file container of certificates of certification authorities. Value by default: "" (empty). Supported only when configuring a connection to the PostgreSQL DBMS.
- **CertFileName** – path and name of the secure connection certificate file. Value by default: "" (empty). Supported only when configuring a connection to the PostgreSQL DBMS.
- **CertPKeyFileName** – path and name of the secure private key file. Value by default: "" (empty). Supported only when configuring a connection to the PostgreSQL DBMS.
- **CertPass** – password for the private key file of the secure connection. Value by default: "" (empty). Supported only when configuring a connection to the PostgreSQL DBMS. The password must not start with \$ and #. The password can be [encrypted](#).

Example:

```
[DB]
Server=QSERV
Base=QBROKER
User=login
Password=secret
UsePersonalLogin=1
AuthMode=login
Driver=ODBC Driver 13 for SQL Server
Provider=SQLOLEDB
AdditionalParameters=MultiSubnetFailover=False;ApplicationIntent=ReadWrite
SSLMode=verify-full
CertCAFileName=Certs/root.crt
CertFileName=Certs/user.crt
CertPKeyFileName=Certs/user.key
CertPass=secret
```

- Set personal logins in section of [DataBaseLogin\_<random text>] view if parameter **UsePersonalLogin**=1. Any number of sections may be specified.
  - \_ **User** – login to work with database;
  - \_ **Password** – password to work with database. A password must not begin with \$ and #. The password can be [encrypted](#);



- **Users** – list of identifiers of users who can use the login. To establish a connection with server part of QUIK Administrator identifier must be also set in the configuration file of sub-broker access.

**To connect to the QUIK Administrator server, the identifier must also be specified in the subbroker\_template.tpl file intended for setting up the sub-broker mode in the QUIK Administrator program. For the subbroker\_template.tpl file description, see sub-section 1.2 of the Administrator’s manual for QUIK Administrator (for sub-broker).**

- In section [Connect] configure the parameters of authorization:
  - **Name** – key identifier;
  - **Password** – password for the key. A password must not begin with \$ and #. The password can be [encrypted](#);
  - **check\_tmo** – the parameters allows keeping active network connection to the server.

Example:

```
[Connect]
Name=KEY
Password=secret
Check_tmo=150
```

- In section [QuikOptions] specify the following parameters:
  - **RSAKeysInTransReport** – the mode of displaying RSA keys of user in report on transactions. Valid values:
    - 0 – RSA keys of user are not displayed in report on transactions;
    - 1 – all RSA keys of user are displayed in report on transactions;
    - 2 – only RSA keys not revoked for the moment of transaction registration are displayed in report on transactions.
  - **ClientCodeDelimiter** – delimiter used when setting up the “Code on the dealer’s side” list in the rights by classes in the user editing dialog. Value by default: “,” (comma).
  - **FirmId** – list of firms (separated by commas) available for selection in the Firm code field in the rights by classes in the user editing dialog.
  - **UserExpireCheckDays** – number of days before the user’s authorization expires, when the notification starts. Value by default: 5.
  - **ServiceUserExpireCheckDays** – number of days before the expiration of service user’s authorization, when the system notification starts. Value by default: current value of **UserExpireCheckDays**.



- **Title** – additional title of the QUIK Administrator program. Displayed after User UID.
- **PINCodesInTransReport** — feature of displaying PIN codes used for the Quik two-factor authentication type in the transaction report. Valid values:
  - 0 (by default) – PIN codes are not displayed in the transaction report;
  - 1 – PIN codes are displayed in the transaction report.
- **EnableMultiple2FaLogins** – attribute of using the same login for multiple users for the Active Directory two-factor authentication type. Logins are set in the Logins for another authorization system dictionary in QUIK Administrator. Valid values:
  - 0 (by default) – a login can only be used by one user;
  - 1 – the same login can be used for multiple users.
- **UsersCountThreshold** – the number of entries in the Users dictionary of the QUIK Administrator program at which the dictionary is split into pages containing the number of entries set in the **PageSize** parameter. Value by default: 10000.
- **PageSize** – the number of entries on a page in the Users dictionary of the QUIK Administrator program. This parameter is used, if the number of dictionary entries set in the **UsersCountThreshold** parameter is reached. Value by default: 100.

8. Configure the following settings of **crypto.cfg** file in first two strings without the section title:

- **PUBRING** – value: quik.dwq;
- **SECRING** – path to file with secret key.

Example:

```
PUBRING=quik.dwq
SECRING=secring.txk
```

9. To create a QUIK Administrator new account and assign a user with administrator's permissions, run QUIK Administrator server part using the key **-set-admin-right**. For details, see [2.3.3](#).

### 2.2.2 Authentication settings for QUIK Administrator

Configuring authentication in the QUIK Administrator program using the MP and OpenSSL cryptographic libraries.

1. In **QAdmin.ini** (for client) and **QAdminSrv.ini** (for server) specify settings of crypto providers to be used for authentication by login/password or for authentication in ActiveDirectory domain:

- In the [CryptoProviders] section specify available providers:
  - **openssl** – indicates that OpenSSL provider is used. Valid values:
    - 0 – provider is disabled;



- \_ 1 – provider is enabled;
  - \_ **mp** – indicates that MP provider is used. Valid values:
    - \_ 0 – provider is disabled;
    - \_ 1 – provider is enabled.
- \_ In the [CryptoProvidersSettings] section in the **CipherCryptoProvider** setting specify the default provider. Valid values:
  - \_ **openssl** – default provider – OpenSSL;
  - \_ **mp** – default provider – MP\_Pr.

If the key is absent the Qcrypto32 provider is used by default.

- \_ When the OpenSSL provider is used specify its settings in the [openssl] section:
  - \_ **Module** – path to the provider's module. Value by default: OpenSSL\_Pr.dll.
  - \_ **IniFile** – path to the provider's settings file. Value by default: OpenSSL\_Pr.ini.
- \_ When the MP provider is used specify its settings in the [mp] section:
  - \_ **Module** – path to the provider's module. Value by default: MP\_Pr.dll.
  - \_ **IniFile** – path to the provider's settings file. Value by default: MP\_Pr.ini.

**2.** Specify the setting of provider for client in OpenSSL\_pr.ini or MP\_Pr.ini depending on provider in use: in the [TLS Connection Settings] section in the **UsedHandShakeScheme** parameter set up the authentication scheme number. Valid values:

- \_ 1 – authentication by certificate;
- \_ 2 – authentication scheme by domain login and password through the Domain Controller;
- \_ 4 – authentication scheme by login and password;
- \_ 7 (by default) – all schemes are supported, except for 8 (password recovery);
- \_ 8 – password recovery;
- \_ 32 – authentication within the domain (by domain name of the user).

When multiple authentication schemes are supported, the setting value is set as a sum of values corresponding to the supported schemes.

**If you use OpenSSL the scheme specified for client must be the same as specified for server.**

**3.** Specify the settings of provider for server:

- \_ If you use OpenSSL in the OpenSSL\_pr.ini file in the [TLS Connection Settings] section in the **UsedHandShakeScheme** parameter set up the authentication scheme number. To select both schemes at once (2 and 4), specify 6.
- \_ If you use MP specify its settings in the MP\_pr.ini file:
  - \_ In the [Certificate Stores] section set up certificate storage. For details, see [5.3.2](#).





- In the [TLS Connection Settings] section set up the following settings:
  - **UsedHandShakeScheme** – authentication scheme number in correspondence with the rules of authentication schemes compatibility at server and client;
  - **CSPUseLocalMachineStore=0** – the key is located in the current user's storage;
  - **CheckRevocation=0** – the certificate check for revocation is not performed;
  - **CSPCertHash** – hash of the server's certificate.

For details about the settings see [5.3.5](#).

#### 4. In QUIK Administrator specify administrator's login:

- For authentication by login and password in domain – specify administrator's login in the **Logins for another authorization system** dictionary;

To sign in login can be specified with domain or without it. If domain is specified full correspondence of domain and login is checked. If domain is not specified login is checked for the default domain.

- For authentication by login and password – specify administrator's login in user editing dialog box on the **Security** tab.

### 2.2.3 QUIK Administrator account creation

To create a QUIK Administrator new account and assign a user with administrator's permissions, run QUIK Administrator server part using the **-set-admin-right** launch parameter.

The format:

```
QAdminSrv.exe -set-admin-right -instance=[<instance>] -UID=[<UID>] -QUIK-key-
filename=[<QUIK-key-filename>]
```

where:

- <instance> – database identifier. The database identifiers are listed in [Instances] section of the QAdminSrv.ini file. If the QUIK server uses a single DB, then the parameter is not required.
- <UID> – identifier of a user to assign an RSA key. If the parameter is not specified, a new user will be created.
- <QUIK-key-filename> – path and name of the file containing a public key RSA. The relative or absolute path can be specified. If the name and / or path contains spaces, then the value is quoted, for example, C:\Path\some file.txk. If the file contains more than one public key RSA, then the first key in the file is used. If the <UID> parameter is specified and there is an RSA key for a user, then this parameter is not required.

For example:



```
QAdminSrv.exe -set-admin-right -UID=350 -QUIK-key-filename="C:\Path\some file.txk"
```

## 2.2.4 QUIK system user registration

1. Run QUIK Administrator.
2. Select the menu item **QUIK server/Organizations**. Add your organization to the dictionary, please fill in all fields.
3. Select the menu item **Users / Users (full)**. Add the account of QUIK system administrator to user's dictionary.

For that select name of your organization in the dictionary, enter initials of the manager and establish authorization's validity period.

List of classes contains names of security classes specified in settings. Choose sequentially each of them and press the **Manager** button to set rights to work with the class.

4. Specify the identifier of the trading participant in trading system in the **Identifier in TS** field. The **Client code on the dealer's side** field may remain blank.
5. Register the user's public key generated during installation of QUIK Server (see [2.2.3](#), item 6), by pressing button **RSA keys**. In the opened window select the key file by pressing button **RSA file**. Load from these the key by pressing button **Add** and then close the window.
6. Similarly, add other users of your system installing the necessary parameters of access to the system using templates rights. Complete the field **Client code on the dealer's side** by the symbolic code that will be subsequently used by manager for setting limits and authentication of users when working with the system.

Detailed description of **QUIK Administrator** work is presented in the Administrator's manual.

### QUIK system is ready to work!

Run the QUIK Workstation using the access keys and credentials of your first user.

## 2.3 QUIK workstation banner configuration

In QUIK workstation, a banner may be displayed on the toolbar, clicking on which opens a website (for example, a broker's website).

### 2.3.1 Configuration of banner

To configure banner, follow the steps below:

1. Copy a banner image file to the directory **QUIK\Server\Areas\Banners**. The file requirements are:
  - file format – .bmp;
  - file extension – any. Recommended: 468\*60 pixels:



\_\_ color depth – 8 bit.

2. In the directory **QUIK\Server\Areas\Banners**, in the **banners.ini** file configure the settings in section [url\_set]:

- \_\_ **url** – URL address.
- \_\_ **image** – name of the banner image file.

Example:

```
[url_set]
url=http://www.broker-website-example.ru
image=broker.bmp
```

3. On the computer where a QUIK server is run, in the file **QUIK\Server\quik.ini** configure the following settings:

```
[natural_level_section]
module=banner_module
[banner_module]
module=dwbanner.dll
```

**The banner settings for the server and the access server are the same**

### 2.3.2 Deactivation of banner

To disable receiving banners from the access server, do the following:

1. Make sure that the following line is present in the [natural\_level\_section] section in the quik.ini access server settings file:

```
module=banner_module
```

2. Make sure quik.ini file of access server has the following section:

```
[banner_module]
module=dwbanner.dll
```

3. Add the following key to [banner\_module] section of quik.ini file of access server:

```
ignore_up_dwell=1
```



```
[banner_module]
module=dwbanner.dll
ignore_up_dwell=1
```

4. Make sure the dwbanner.dll module is present and then start the access server.

After applying such settings, the banner won't be sent from the server to the access server and users of the access server won't see it.

### 2.3.3 Replacement of banner

To replace the banner, configure the scheme as follows:

1. The .\Areas\Banners\ directory has to contain the .ini file with the settings as following:

```
[url_set]
url=c:\
image=test.bmp
```

where:

- Value of the url key — url, that opens in QUIK Workstation;
  - image — name of the file in .\Areas\Banners\ directory.
2. Change the old file to new one with the name that differs from the current banner name (for example test2.bmp) in .\Areas\Banners\ directory.
  3. Change the value of the image key to a new one in .ini file — test2.bmp.

URL can be changed without changing the image.

Also, without changing image and url, you can add another .ini file with a different url and image. In this case, the banner from the new .ini file is used.

## 2.4 File transfer settings

In the QUIK system, you can transfer files from the server to QUIK workstations (via personal file areas to the QUIK server). This makes possible to organize sending of reports to customers, also reports can be signed with digital signature.

To send files to clients that are not intended for updating the QUIK workstation, the files must be placed in the specified directory:

- Server\Areas\private\ — for sending to specific users.
- Server\Areas\public\ — for sending to all users.



After that, you need to use the **System / Receiving files** dialog box:

### 3. Running QUIK server

QUIK server is run as a service. Market data, as well as information about orders and trades, is loaded from the repository files and is available to all users connected to the QUIK server. It allows, for example, unloading information about trades executed on the previous trading day. The data for the previous trading session is cleared when the first trading interface connects to the QUIK server.

**The QUIK server can also be run using the [launch parameters](#).**

To upload positions to the QUIK server when it starts, copy the prepared .lim file to the computer where the QUIK server is installed. The QUIK server service is started from the command line with the parameters indicating the positions to be loaded from this file. For example:

```
QUIK\Server\q_start.exe -clean -loadlimits <file_with_positions>
```

When the gateways are connected to the QUIK server, the uploaded positions will be displayed in the QUIK Workstation.



If you have any questions, contact QUIK technical support:  
[quiksupport@argatech.com](mailto:quiksupport@argatech.com).

## 3.1 QUIK server launch parameters

If the configuration file of Limits calculation library is empty or is not available the QUIK server start is interrupted with conclusion of the relevant diagnostic to log file.

### 3.1.1 -new or /n

Start a QUIK server in the loading mode with new data loading mode in which:

- market data and orders and trades are requested from the trading system,
- client positions are calculated based on the received information considering trades of the current session and position adjustments,
- all files with .ik extension are cleared except the following:
  - news file (news.ik),
  - file of server QPILE portfolios (cstructp.ik),
  - cash positions file (mlimit.ik)
  - instruments positions file (dlimit.ik).

### 3.1.2 -clean or /c

Start a QUIK server in the loading mode with full cleaning of data as well as cleaning all files with .ik extension.

The key can be used in the combinations that include:

- -loadlimits (see [3.13](#));
- -rolling and -loadlimits (see [2.14](#)).

### 3.1.3 -old or /o

Start a QUIK Server in mode of loading with old data without cleaning storages.

### 3.1.4 -holiday or /h

Starting a QUIK server in holiday mode on a day that is a working day according to the standard calendar or according to the settings of the [\[trade date\]](#) section of the quik.ini file.



### 3.1.5 -workday or /w

Starting a QUIK server in working day mode on a day that is a day off according to the standard calendar or according to the settings of the [\[trade date\]](#) section of the quik.ini file.

### 3.1.6 -loadlimits or /l

Start a QUIK server with loading positions from a file. Name of file with positions and its path must be typed in the command line after the key. Field formats of positions to be loaded are given in Appendix (see [5.1](#)). The information of the positions loaded from the file is updated only after connecting the interfaces (trading interfaces or the Holiday Information interface).

The parameter can be used in the combination that includes **-clean** and **-rolling** parameters (see [3.14](#)).

### 3.1.7 -install or /i

Install a QUIK Server as a service of Windows.

### 3.1.8 -remove or /r

Delete a QUIK Server as a service of Windows.

### 3.1.9 -removestops or /rs

Start in mode of deleting stop orders from the current QUIK Server.

**After the start, users must make stop orders own on any other server so that these orders could trigger.**

The parameter **-removestops** can be used together with **-new** and **-clean** parameters.

### 3.1.10-text or /t

Exporting data of a particular type to a text file.

Format:

```
quik.exe -text [-ansi] [<FILE>] [<TYPE>] [tsv]
```

where:

- **-ansi** – launch parameter to convert data from OEM encoding (CP866) to ANSI encoding (Windows-1251);
- **<FILE>** – exported file with orders and trades.



- **<TYPE>** – data type. Valid values:
  - orders – export orders from file (order.ik);
  - trades – export trades from file (trade.ik).

**If names of files with orders and trades are different from order.ik and trade.ik, <TYPE> parameter is required.**

- tsv – convert file to tsv format.

For example:

```
quik_02.exe -text -ansi trade.ik trades tsv > trade.txt
```

### 3.1.11-removelimits or /rl

Start a QUIK server with cleaning data on client cash and securities positions, and restrictions of accounts at derivatives market. Other data (e.g., orders, trades, data from the Quotes table, etc.) are not deleted. The launch parameter can be used with the **-loadlimits** launch parameter.

### 3.1.12-rolling or /ro

Start a QUIK server with rolling positions. The information of the transferred positions is updated only after the interfaces (trade interfaces or the Holiday Information interface) are connected.

The launch parameter can be used in the combination that includes **-clean** and **-loadlimits** launch parameters (see [3.14](#)).

### 3.1.13-clean -loadlimits

Start a QUIK server in the loading mode with full cleaning of data as well as cleaning all files with .ik extension and loading positions from file. Positions are recalculated considering trades of the current session but not considering position adjustments during the trading day (adjustments must be made again).

### 3.1.14-clean -loadlimits -rolling

Start of a QUIK in the loading mode with full cleaning of data as well as cleaning all files with .ik extension. The file that contains positions on the moment of the previous day trading end is used as a source for rolling.

For the field formats of loaded positions, see Appendix (sub-section [5.1](#)).





## 4. Password encryption

Passwords specified in the Module settings can be encrypted. The password must not begin with "\$" and "#". If you use a password that begins with any of the above symbols, change it.

To activate password encrypting functionality, add "\$" before the password in the configuration file.

For example:

```
Password=$secret
```

When attempting to use a password, the server encrypts the password and saves it to the configuration file in an encrypted form. The encrypted password is marked by "#" symbol at the start of a string.

**When transferring the program to another computer or reinstalling the operational system, the encrypted passwords get unavailable for decryption. In this case, the appropriate passwords must be reset.**

## 5. Appendix

### 5.1 Format of positions

**Parameters obligatory for configuration are ticked by "\*".**

Format of instrument positions:

| Parameter     | Description                                      | Size, accuracy<br>(in symbols) |
|---------------|--------------------------------------------------|--------------------------------|
| * DEPO:       | Title of line with expressed instrument position |                                |
| * FIRM_ID     | Identifier of trading participant                | 12                             |
| * SECCODE     | Instrument code                                  | 12                             |
| * TRDACCID    | Trading account                                  | 12                             |
| * CLIENT_CODE | Client code                                      | 12                             |



| Parameter         | Description                                                                                                                                                                                                                                 | Size, accuracy<br>(in symbols) |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| * OPEN_LIMIT      | Opening limit                                                                                                                                                                                                                               | 30                             |
| * OPEN_BALANCE    | Client position                                                                                                                                                                                                                             | 30                             |
| CURRENT_LIMIT     | Current limit                                                                                                                                                                                                                               | 30                             |
| WA_POSITION_PRICE | WA position price                                                                                                                                                                                                                           | 30, 6                          |
| WA_PRICE_CURRCODE | WA position price currency                                                                                                                                                                                                                  | 4                              |
| LIMIT_KIND        | Settlement period. Valid values:<br><ul style="list-style-type: none"> <li>– 0 – for current limits;</li> <li>– &lt;N&gt; – for limits on positions with T+&lt;N&gt;;</li> <li>– value less than zero – for technological limits</li> </ul> | 32, 0                          |

Format of cash position:

| Parameter      | Description                                                                                                                                                                                                                                 | Size, accuracy (in symbols) |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| * MONEY:       | Title of line with expressed cash position                                                                                                                                                                                                  |                             |
| * FIRM_ID      | Identifier of trading participant                                                                                                                                                                                                           | 12                          |
| * CURR_CODE    | Currency code                                                                                                                                                                                                                               | 4                           |
| * TAG          | Settlement tag                                                                                                                                                                                                                              | 4                           |
| * CLIENT_CODE  | Client code                                                                                                                                                                                                                                 | 12                          |
| OPEN_LIMIT     | Opening limit                                                                                                                                                                                                                               | 30, 2                       |
| * OPEN_BALANCE | Client position                                                                                                                                                                                                                             | 30, 2                       |
| CURRENT_LIMIT  | Current limit                                                                                                                                                                                                                               | 30, 2                       |
| LIMIT_KIND     | Settlement period. Valid values:<br><ul style="list-style-type: none"> <li>– 0 – for current limits;</li> <li>– &lt;N&gt; – for limits on positions with T+&lt;N&gt;;</li> <li>– value less than zero – for technological limits</li> </ul> | 32, 0                       |
| * LEVERAGE     | Leverage                                                                                                                                                                                                                                    | 30, 2                       |

Leverage for cash position:



| Parameter     | Description                                                                                                                                                                                                                                 | Size, accuracy (in symbols) |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| * MONEY:      | Title of line with expressed cash position                                                                                                                                                                                                  |                             |
| * FIRM_ID     | Identifier of trading participant                                                                                                                                                                                                           | 12                          |
| * CURR_CODE   | Currency code                                                                                                                                                                                                                               | 4                           |
| * TAG         | Settlement tag                                                                                                                                                                                                                              | 4                           |
| * CLIENT_CODE | Client code                                                                                                                                                                                                                                 | 12                          |
| *             | Client position                                                                                                                                                                                                                             | 30, 2                       |
| OPEN_BALANCE  |                                                                                                                                                                                                                                             |                             |
| CURRENT_LIMIT | Current limit                                                                                                                                                                                                                               | 30, 2                       |
| LIMIT_KIND    | Settlement period. Valid values:<br><ul style="list-style-type: none"> <li>_ 0 – for current limits;</li> <li>_ &lt;N&gt; – for limits on positions with T+&lt;N&gt;;</li> <li>_ value less than zero – for technological limits</li> </ul> | 32, 0                       |
| * LEVERAGE    | Leverage                                                                                                                                                                                                                                    | 30, 2                       |

Example of records in positions file:

```

MONEY: FIRM_ID = NC0038900000; TAG = EQTS; CURR_CODE = SUR ; CLIENT_CODE = 004;
OPEN_BALANCE = -46.52; OPEN_LIMIT = 0.00;
MONEY: FIRM_ID = NC0038900000; TAG = EQTS; CURR_CODE = SUR ; CLIENT_CODE = 004;
OPEN_BALANCE = -46.52; LEVERAGE = -1;
MONEY: FIRM_ID = NC0038900000; TAG = EQTV; CURR_CODE = SUR ; CLIENT_CODE = 004;
OPEN_BALANCE = 1048.51; OPEN_LIMIT = 450000.00; LIMIT_KIND = 1;
DEPO: FIRM_ID = NC0038900000; SECCODE = HYDR; CLIENT_CODE =10004/10004; OPEN_BALANCE
= 113955; OPEN_LIMIT = 0; TRDACCID = L01-00000F00;
DEPO: FIRM_ID = NC0038900000; SECCODE = IRAO-004D; CLIENT_CODE =10006/10006;
OPEN_BALANCE = 738467; OPEN_LIMIT = 0; TRDACCID = L01-00000F00; LIMIT_KIND = 1;

```

## 5.2 OpenSSL encryption configuration file format

In the OpenSSL\_Pr.ini file the settings of encryption by OpenSSL cryptographic library is configured ([www.openssl.org](http://www.openssl.org)). OpenSSL application does not require saving certificates in OS



register on the platform with the QUIK server. It makes certificate installation and servicing easier.

### 5.2.1 [General] section

- **CertStoreFile** – certificate storage file name. Value by default: certs\store.pem.
- **ServerCertificateKey** – password of server's certificate key. The password can be encrypted (see [4](#)).
- **NewServerCertHash** – new server's certificate hash.
- **NewServerCertDomainName** – new server's certificate domain.

**NewServerCertHash and NewServerCertDomainName settings specify the parameters of a new certificate when planned certificate replacing at the server. After certificate replacement the values of NewServerCertHash and NewServerCertDomainName settings are recorded to ServerCertHash and ServerCertDomainName parameters of OpenSSL\_Pr.ini file in the QUIK Workstation.**

- **ClientCertificatesDir** – path to the directory that contains certificates for checking digital signature. Value by default: certs\client.

### 5.2.2 [TLS Connection Settings] section

The following connection parameters are specified in the section:

- **ServerHandShakeScheme** – the supported authentication scheme. Possible values:
  - \_\_ 1 – authentication by certificate;
  - \_\_ 2 – authentication in domain;
  - \_\_ 4 – authentication by login and password;
  - \_\_ 7 (by default) – all the schemes are supported besides 8 (password recovery);
  - \_\_ 8 – password recovery;
  - \_\_ 32 – authentication within the domain (by domain name of the user).

When a few authentication schemes are supported, the specified value of the field is the sum of values, corresponding to the supported schemes.

- **UsedHandShakeSchemePrefer** – the preferred authentication scheme. It must be selected if a client had chosen scheme 0 (is defined by server). Possible values:
  - \_\_ 1 – authentication by certificate;
  - \_\_ 2 – authentication in domain;
  - \_\_ 4 (by default) – authentication by login and password.



- **SSLProtocols** – the list of TLS protocol versions available for connection, separated by a comma. Possible values:
  - TLSv1.0;
  - TLSv1.1;
  - TLSv1.2.
- **CA** – path to the directory that contains root certificates. Value by default: certs\CA.
- **CRL** – path to the directory that contains certificate revocation lists. Value by default: certs\CRL.

## 5.3 MP encryption configuration file format

The file specifies the encryption settings using the MP cryptography library:

- on the QUIK server side – in the MP\_Pr\_server.ini file;
- on the client side — in the MP\_Pr\_client.ini file.

### 5.3.1 [Crypto Provider Settings] section

The section contains description of the cryptographic provider settings required for check of a digital signature.

To use the digital signature, specify a key container using any of the following methods:

#### 1. Specify parameters of the container:

- **CSPName** – name of a Cryptographic Service Provider (CSP) used by the certificate.
- **CSPContainerName** – name of the key container.
- **CSPTYPE** – CSP provider type.

**If CSPName parameter is not specified, the system provides a CSP provider, assigned by default for a specified type of cryptographic provider.**

#### 2. Specify a file of the certificate linked to the key container:

- **CSPCertFileName** – path to the certificate file.

#### 3. Specify a hash of the certificate linked to the key container:

- **CSPCertHash** – hash of the installed certificate.

To get a certificate hash:

- Open the certificate file;
- Switch to the **Details** tab;
- Copy the value of the **Thumbprint** field and remove the spaces.

Additional parameters to set up the digital signature (optional):



- **CSPUseInService** – indicates that cryptographic provider works in 'silent' mode. Possible values:

- \_\_ 0 – cryptographic provider works online;
- \_\_ 1 – cryptographic provider works in 'silent' mode.

**The cryptographic provider doesn't interact with the user in 'silent' mode. An error appears upon the occurrence of an event that requires interactive communication (for example, entry of the password to access the container).**

- **CachKeyAndCertificates** – indicates that keys and certificates are cached for quick access to them. Possible values:
  - \_\_ 0 – do not cache;
  - \_\_ 1 – cache.
- **CSPUseLocalMachineStore** – private key location. Possible values:
  - \_\_ 0 (by default) – the key is located in the current user's storage;
  - \_\_ 1 – the key is located in the local computer store.
- **CheckRevocation** – indicates that the certificate is checked for revocation. Possible values:
  - \_\_ 0 – the check is not performed;
  - \_\_ 1 – the check is performed.
- **UseLocalCA** – attribute for using the local certificate storage. Possible values:
  - \_\_ 0 – local storage is not used.
  - \_\_ 1 (default) – local storage is used.
- **CA** – path to the local CA certificate storage. Default value: Certs\CA.
- **CRL** – path to the local certificate revocation list (CRL) storage. Default value: Certs\CRL.

### 5.3.2 [Certificate Stores] section

The section contains description of the certificates store, where the certificates are searched to set up the encryption modes and digital signature:

**At least one certificate storage should be specified to ensure correct work of the cryptographic provider.**

- **MY** – attribute of standard personal storage of the user certificates. Possible values:
  - \_\_ 0 – not used;
  - \_\_ 1 – used.
- **CA** – attribute of standard storage of the Certification Authorities' certificates. Possible values:



- \_\_ 0 – not used;
  - \_\_ 1 – used.
- **ROOT** – attribute of standard root storage. Possible values:
  - \_\_ 0 – not used;
  - \_\_ 1 – used.
- **SPC** – attribute of standard storage of the software vendors' certificates. Possible values:
  - \_\_ 0 – not used;
  - \_\_ 1 – used.
- **CUSTOM\_STORE** – attribute of third-party external storage. Possible values:
  - \_\_ 0 – not used;
  - \_\_ 1 – used.
- **CUSTOM\_DIR** – attribute of directory for storing certificates. Possible values:
  - \_\_ 0 – not used;
  - \_\_ 1 – used.

Each store is described by the separate section of the [<storage>] view (see [5.3.3](#) sub-section).

### 5.3.3 [<storage>] section

- **HOST** – host where the store is located. Value: "." (full stop).
- **LOCATION** – physical store location.
- **TYPE** – store type. Possible values:
  - \_\_ 1 – system store;
  - \_\_ 2 – external storage located in a specific file;
  - \_\_ 3 – directory with certificate files.
- **UPDATABLE** – feature of an updatable store. Possible values:
  - \_\_ 0 – not allowed to be updated;
  - \_\_ 1 – allowed to be updated.
- **PRIORITY** – priority. Value: 1.

For example:

```
[CUSTOM_STORE]
HOST=.
LOCATION=D:\QUIK\Server\CPStorage\usercerts.sto
TYPE=2
UPDATABLE=1
```



### 5.3.4 [TLS Connection Settings] section

The section is used to configure a TLS connection.

- **SSLProtocols** – list of the protocols used (separated by commas). Possible values:
  - TLSv1;
  - TLSv1.1;
  - TLSv1.2 (by default).

To work in encryption mode, specify a private key. To do this, specify a certificate linked to a private key by using one of the following methods:

**1. Specify parameters of the container:**

- **CSPName** – name of a Cryptographic Service Provider (CSP) used by the certificate;
- **CSPContainerName** – name of the key container;
- **CSPTYPE** – CSP provider type.

**If CSPName parameter is not specified, the system provides a CSP provider, assigned by default for a specified type of cryptographic provider.**

**2. Specify a file of the certificate:**

- **CSPCertFileName** – path and name of the certificate file.

**3. Specify a hash of the certificate linked to the key container:**

- **CSPCertHash** – hash of the certificate.

Authentication parameters:

- **UsedHandShakeScheme** – authentication scheme used. Possible values:
  - 1 \* – authentication by certificate, i.e. the client is checked by certificate that he provided establishing an SSL/TLS connection;
  - 2 \* – authentication by domain login and password through the Domain Controller;

**The scheme 2 cannot be used, if in the QUIK Administrator's server configuration file in the [QuikOptions] section the EnableMultiple2FaLogins setting contains '1'.**

- 4 \* – authentication scheme by login and password;
- 7 (by default) — all schemes are supported, except for 8 (password recovery);





- 8 — password recovery.
- 32 \* — authentication within the domain (by domain name of the user).

When multiple authentication schemes are supported, the setting value is set as a sum of values corresponding to the supported schemes.

**(\*) Server's and client's authentication schemes compatibility:**

- 1. If the authentication scheme number 1 is configured on the server, the client can use the first and fourth schemes.**
- 2. If the authentication scheme number 2 is configured on the server, the client can use the second and fourth schemes.**
- 3. If the authentication scheme number 4 is configured on the server, the client can use only the fourth scheme.**
- 4. If the authentication scheme number 32 is configured on the server, the client can use only the scheme number 32.**

- **DomainController** – address of the Domain Controller being referenced when authenticating a client. This parameter is used if the authentication scheme number 2 is applied.

**If the DomainController setting is not specified, the current Domain Controller is used.**

- **DomainLogin** \* – user's domain login for the access server authentication. Value by default: "" (empty).
- **DomainPasswd** \* – user's domain password for the access server authentication. Value by default: "" (empty).

**(\*): These parameters are used only when connected via the access server where the authentication scheme number 2 is configured.**

Additional parameters to set up the encryption mode (optional):

- **CSPUseInService** – indicates that cryptographic provider works in 'silent' mode. Possible values:
  - 0 – cryptographic provider works online;
  - 1 – cryptographic provider works in 'silent' mode.

**The cryptographic provider doesn't interact with the user in 'silent' mode. An error appears upon the occurrence of an event that requires interactive communication (for example, entry of the password to access the container).**



- **CSPUseLocalMachineStore** – private key location. Possible values:
  - 0 (by default) – the key is located in the current user store;
  - 1 – the key is located in the local computer store.
- **CheckRevocation** – indicates that the certificate is checked on the revoked certificates list by the cryptographic provider. Possible values:
  - 0 – the check is not performed;
  - 1 – the check is performed.
- **IOBufferMaxSize** – buffer size (in bites) for input/output data in TLS connection handshake. Value by default: 65536.
- **CheckClientCert** – indicates that the client's certificate is verified using the additional tools of Windows operating system.
- **HashCalcCount** – number of iterations of the password hash function calculation on the server. Possible values: from 1 to 10037. Value by default: 4999.

When using authentication within a domain (**UsedHandShakeScheme**=32), the following settings are additionally specified in the MP\_Pr\_client.ini client file:

- **SecurityPackage** — authentication protocol within a domain. Possible values:
  - Kerberos (default);
  - NTLM.
- **ServerSPN** – Service Provider Name (SPN) identifier of the QUIK server in the Active Directory account. Used when **SecurityPackage** is set to **Kerberos**.

**To find out the SPN, run the "setspn -l <name of the domain account under which the server is running>" command from the command line or contact your administrator.**

### 5.3.5 [TLS Extra Parameters] section

The section contains the settings (optional) for the planned change of server's certificates.

**The settings of the planned change of certificate should be specified before the expiration date of the current certificate. The settings are deleted after the certificate change.**

- **NewServerCertHash** – possible values:
  - Hash of a new server's certificate – after the certificate change, this value is written to the **ServerCertHash** setting of the **MP\_Pr\_client.ini** client's file and then the value of the **NewServerCertHash** setting is deleted.
  - DELETE – cancellation of the certificate change procedure.



Value by default: "" (empty).

- **NewServerCertDomainName** – possible values:

- Domain name of a new certificate – after the certificate change, this value is written to the **ServerCertDomainName** setting of the **MP\_Pr\_client.ini** client's file and then the value of the **NewServerCertDomainName** setting is deleted.
- DELETE – cancellation of the certificate change procedure.

Value by default: "" (empty).

## 5.4 Daily maintenance of QUIK server

### 5.4.1 Service start and stop

**If you have any questions, please contact QUIK technical support:**  
[quiksupport@argatech.com](mailto:quiksupport@argatech.com).

A QUIK server and interfaces to trading systems must be restarted daily because the trading venues are restarted daily.

If there is no schedule of service restart, the current trading session date can be determined incorrectly thus resulting in connection problems of trading interfaces. Services should be stopped after trading in corresponding venues is over, and started in the morning before trading starts.

The service start schedule must be set according to the [ClearingTime](#) setting value in section [trade\_date] of the quik.ini configuration file, which must correspond to the time when a service is stopped. For example, if a QUIK server stops at 2:30 AM and starts at 5:30 AM, then the value can be set as follows:

```
[trade_date]
ClearingTime=040000
```

The **ClearingTime** setting can be also set in the settings of other services and modules of the QUIK system. For more information, see Administrator's manual of these modules.

A QUIK server can be started [with](#) or [without](#) keys.

#### Recommended schedule

| Time                                                  | Event                                                       |
|-------------------------------------------------------|-------------------------------------------------------------|
| Before 5:30 AM QUIK server start (QuikServer service) |                                                             |
| 5:35 AM                                               | Start the Cross currency rates forming module (CrossRateTW) |
| 5:40 AM                                               | Start the Replicator (ReplTW)                               |



| <b>Time</b> | <b>Event</b>                                                                                                                                                                                                                                                                                                             |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5:45 AM     | Start the Alert dispatch module (SMS)                                                                                                                                                                                                                                                                                    |
| 5:47 AM     | Start access servers and web2QUIK modules                                                                                                                                                                                                                                                                                |
| 5:50 AM     | Start the MOEX gateways AstsBridge or DFServer (Securities, FX, clearing system)                                                                                                                                                                                                                                         |
| 5:53 AM     | Start the SPECTRA trading system gateway of the MOEX Derivatives market (SpectraCGate)                                                                                                                                                                                                                                   |
| 5:55 AM     | Start the Moscow Exchange FX Market trading interface (AstsCurrGate) and Moscow Exchange Clearing System of the FX Market program interface (AstsCurrRiskGate)                                                                                                                                                           |
| 5:57 AM     | Start the Moscow Exchange Securities Market trading interface (AstsGate) and Moscow Exchange Clearing System of the Securities Market program interface (AstsRiskGate)                                                                                                                                                   |
| 6:00 AM     | Start the Moscow Exchange Derivatives Market trading interface (FortsGate)                                                                                                                                                                                                                                               |
| 6:10 AM     | Start the SPB Exchange trading interface (SpbExchangeGate)                                                                                                                                                                                                                                                               |
| 8:55 AM     | Start the MOEX gateways AstsBridge or DFServer (money market)                                                                                                                                                                                                                                                            |
| 9:05 AM     | Start the MOEX Money market trading interface (AstsGKO)                                                                                                                                                                                                                                                                  |
| 9:05 PM     | Stop the MOEX Money market trading interface (AstsGKO)                                                                                                                                                                                                                                                                   |
| 9:10 PM     | Stop the MOEX gateways AstsBridge, DFServer (money market)                                                                                                                                                                                                                                                               |
| 0:00 AM     | Stop the Moscow Exchange Securities Market trading interface (AstsGate), Moscow Exchange FX Market trading interface (AstsCurrGate), Moscow Exchange Clearing System of the Securities Market program interface (AstsRiskGate) and Moscow Exchange Clearing System of the FX Market program interface (AstsCurrRiskGate) |
| 0:00 AM     | Stop the Moscow Exchange Derivatives Market trading interface (FortsGate)                                                                                                                                                                                                                                                |
| 0:10 AM     | Stop the MOEX gateways AstsBridge, DFServer (Securities, FX, clearing system)                                                                                                                                                                                                                                            |
| 0:10 AM     | Stop the SPECTRA trading system gateway of the MOEX Derivatives market (SpectraCGate)                                                                                                                                                                                                                                    |
| 2:20 AM     | Stop the SPB Exchange trading interface (SpbExchangeGate)                                                                                                                                                                                                                                                                |
| 2:25 AM     | Stop the Cross currency rates forming module (CrossRateTW)                                                                                                                                                                                                                                                               |
| 2:25 AM     | Stop access servers and web2QUIK modules                                                                                                                                                                                                                                                                                 |
| 2:27 AM     | Stop the Alert dispatch module (SMS)                                                                                                                                                                                                                                                                                     |



| Time    | Event                                     |
|---------|-------------------------------------------|
| 2:27 AM | Stop the Replicator (ReplTW)              |
| 2:30 AM | Stop the QUIK server (QuikServer service) |

### Running QUIK server without keys

When running QUIK server without keys, it loads market data and orders and trades from storage files. This information is available to all users connected to a QUIK server thus allowing to load information about trades of the previous day in the morning. The previous trading session data is cleared at the moment when the first trading interface connects to a QUIK server.

#### 5.4.2 Client position loading

Client positions must be loaded to a QUIK server daily before the trading starts because positions are not moved to the next day, and all related information is deleted when restarting a QUIK server.

In most cases, positions are loaded using the \*.lim file in which each string contains information about one position of a client. This file can be obtained using one of the following ways:

- From a QUIK workstation with manager permissions after the previous trading day is over – select **Dealer / Save positions to file**.
- Using the Program of loading limits to QUIK Server FillLimits.
- From the accounting system of a brokerage company or a bank (recommended).

Positions can be loaded to a QUIK server using one of the following ways:

- [Starting a QUIK server](#) with the key -loadlimits.
- In the Program of loading limits to QUIK Server [FillLimits](#).
- In [QMonitor](#) program.
- Manually from [a QUIK workstation](#).
- Using the Position management program interface QuikLimit.
- Using [Holiday](#) Market Data interface.

#### Starting QUIK server using key -loadlimits

**This method is recommended as the fastest one.**

1. Copy previously prepared \*.lim file to the directory available to a QUIK server.
2. Start a QUIK server with parameters **-clean -loadlimits <path to positions file>**. For example:

```
sc start QuikServer -clean -loadlimits C:\QUIK\limits.lim
```



The key `-new` can be used instead of the key `-clean` except when incorrect cash and instrument positions were loaded to a server thus requiring loading a correct positions file.

For details, see [3.13](#).

### Program of loading limits to QUIK server FillLimits

The program connects to a QUIK server a user but start of the program can be automated using the files \*.bat or \*.cmd that can start it by schedule. The program must be started after trading interfaces are connected and all required instruments are loaded to a QUIK server.

### QMonitor program

This method is used if the positions file was not created in time and has to be loaded after starting a QUIK server.

1. Specify the path to the positions file in the server configuration file quik.ini:

```
[ctl_module]
loadlimits_file=C:\QUIK\Server\positions.lim
```

If this setting is not set, positions will be loaded from the file qmonitor.lim that must be located in the QUIK server directory.

2. In the QMonitor program, select **Actions / Load limits from file** to load positions.

### QUIK workstation

A positions file can be loaded from a QUIK workstation with manager permissions by selecting **Dealer / Save positions to file**.

The disadvantages of this method are:

- this operation is performed manually by a manager,
- positions can be loaded only after trading interfaces are connected the list of available instruments is received.

### Holiday Market Data interface

The interface can be used to load positions before the exchange gateways are started or to load positions in instruments that are not traded in a specific day. For example, if clients trade in Western markets via the QUIK system, such a need arises on days that are holidays in the Russian Federation but workdays in the West. The interface allows loading the following information to a QUIK server:

- description of instruments in a separate trading mode and prices to evaluate client positions value;
- information on derivatives instruments, positions, and limits by client accounts for clients who use the Unified cash position module.



### 5.4.3 Backup files creation

A QUIK server does not store files in system directories and neither write settings into the Windows registry. The files necessary the server functioning are stored in the directory where the QUIK server is installed.

To ensure that you do not lose important files it is recommended that:

- the QUIK server directory be backed up before updating to a newer version,
- the following files be packed up after the trading is over:

- QUIK\AstsGate\AstsGate.ini;
- QUIK\AstsGate\Desc\MoexSpot.data;
- QUIK\QAdmin\Server\MainBase.ini;
- QUIK\QAdmin\Server\QAdminSrv.ini;
- QUIK\QAdmin\Client\QAdmin.ini;
- QUIK\Server\\*.ini.

as well as other \*.ini configuration files of all installed trading and market data interfaces.

- log files of a QUIK server (events.log, deallib.log), interfaces, and modules for the last 10 days be stored. It is also advisable to save \*.ik files of a QUIK server.

Built-in log rotation functionality of a QUIK server and other modules can also be used.

It is also recommended to schedule backups for all used databases to run automatically after hours and initiate the reindex procedure on a weekly basis on weekends.

### 5.4.4 Local time synchronization

Synchronization of local time with the time server on the machines where QUIK server services are installed must be made at a time when all QUIK server services are stopped and no more than once a day.

### 5.4.5 Recovery after system failure

**If a system failure occurs during the trading, please contact QUIK technical support: [quiksupport@argatech.com](mailto:quiksupport@argatech.com).**

Failure of the system software or equipment where a QUIK server is installed may result in problems saving data to file storages and failure running a QUIK server.

### General order of service start and stop

1. Stop of interfaces/modules connected to a QUIK server.

The following services **must** be stopped:

- Asts\* interfaces (for example: Moscow Exchange Securities Market (Main Market Sector) trading interface (AstsGate), Moscow Exchange FX Market trading interface (AstsCurrGate), Moscow Exchange Clearing System of the Securities Market program



interface (AstsRiskGate), Moscow Exchange Clearing System of the FX Market program interface (AstsCurrRiskGate).

- Moscow Exchange Derivatives Market trading interface (FortsGate).
- Broker quotation system.
- Multi-broker service module (Multihub) (if included in a configuration).

The need to stop these services **depends on the conditions**:

- SPB Exchange trading interface (Foreign securities market) (SpbExchangeGate), SPB Exchange trading interface (Russian securities market) (SpbExchangeRuGate) – must be stopped **only in case of a failure** in the SPB Exchange trading system due to which incorrect information was loaded to a QUIK server.

**No stopping** is required for the following services:

- Client applications.
- Service applications (for example, an access server, the Market Data Export module, the FIX adapter program interface).
- Exception: Q2Q service (see [specifics](#)).

2. Stop of a QUIK server.

3. Start of a QUIK server with the key [-clean](#) (can be combined with [-loadlimits](#)) or [-new](#).

4. Start of interfaces/modules included into a configuration and used together with one of the stopped interfaces/modules).

**The recommended time interval between launch of trading interfaces is 1 to 3 minutes.**

Asts\* interfaces, SPB Exchange trading interface (Foreign securities market) and SPB Exchange trading interface (Russian securities market) are started **only using** the key [-clean](#).

The specifics of Moscow Exchange Derivatives Market trading interface (FortsGate) start see [below](#).

### Start with keys -new and -clean

A QUIK server can be started using the key **-new** or **-clean** in the following cases:

- when updating a QUIK server (**-new** or **-clean**);
- incorrect data was loaded to a server (for example, due to an exchange failure or violation of the QUIK services start procedure):
  - except positions or news (**-new**);
  - including positions in cash and instruments (**-clean**).
- a system failure (lack of disk space, a hardware problem, sudden power outages) resulted in file storage damage:
  - except storages of positions or news (**-new**);
  - including storages of positions or news (**-clean**).





In this case a server will not run, and the type of a corrupted storage will be saved to the events.log file of a QUIK server

**For the events.log file analysis, contact QUIK technical support:**  
[quiksupport@argatech.com](mailto:quiksupport@argatech.com).

### Q2Q service stop and start

The order of stopping and starting services when using the Q2Q service differs from the [General order](#) and looks as follows:

1. Stop a master server.
2. Start a master server with the key [-new](#) or [-clean](#).
3. Stop the Q2Q service and interfaces/modules (see Step 1 of the [General order](#)).
4. Stop a slave server.
5. Start a slave server with the key [-new](#) or [-clean](#).
6. Start the Q2Q service and interfaces/modules (see Step 4 of the [General order](#)).

### Start of Moscow Exchange Derivatives Market trading interface

During the day trading session clients submit orders that are moved to the evening session when the main clearing ends. Other orders are cancelled by the trading system. The Moscow Exchange Derivatives Market trading interface (FortsGate) analyses a session status and cancels orders with lifetime limited to the current session once the evening clearing starts.

If a failure occurs during the main trading session, and a QUIK server is started with the key **-new** or **-clean** after the start of the evening session on the Derivatives market (after 7 PM Moscow Time), then the Interface must be started using the key combination **-new -send\_esp** to load orders and trades of the main trading session as well as the incoming positions to a QUIK server for the correct operation of the Unified cash position module.

## 5.5 List of QUIK server error codes

### Decimal

| error code | Error text in the interface in English |
|------------|----------------------------------------|
|------------|----------------------------------------|

|         |                                                                       |
|---------|-----------------------------------------------------------------------|
| 8637216 | No right to trade in this instrument                                  |
| 8637217 | Order price should be positive                                        |
| 8637218 | Order price <Value3> is out of set interval from <Value1> to <Value2> |
| 8637219 | You have no position for this instrument                              |
| 8637220 | Position for the instrument is exceeded                               |
| 8637221 | Error in changing position for the instrument                         |



| <b>Decimal<br/>error code</b> | <b>Error text in the interface in English</b>                                                              |
|-------------------------------|------------------------------------------------------------------------------------------------------------|
| 8637222                       | Incorrect name of financial instrument                                                                     |
| 8637223                       | Market order for the client account is forbidden                                                           |
| 8637224                       | Money-position for the client is missed                                                                    |
| 8637225                       | No right for this trading account                                                                          |
| 8637226                       | Money-position is exceeded                                                                                 |
| 8637227                       | Error while changing money-position                                                                        |
| 8637231                       | Securities amount exceed tolerable one                                                                     |
| 8637232                       | Close period order is forbidden                                                                            |
| 8637233                       | Order depth should be positive                                                                             |
| 8637236                       | Orders for this trading account and financial instrument are prohibited                                    |
| 8637237                       | Common limit is exceeded                                                                                   |
| 8637238                       | Operations on this client code are prohibited                                                              |
| 8637239                       | Maximum limit is exceeded                                                                                  |
| 8637240                       | Security is restricted for short operation                                                                 |
| 8637242                       | Minimal level of client assets                                                                             |
| 8637243                       | Operations are not allowed for the specified counterparty                                                  |
| 8637244                       | Operations are not allowed for the specified settlement code                                               |
| 8637245                       | Initial margin of contract is undefined                                                                    |
| 8637247                       | The order value cannot be less than <Value1>                                                               |
| 8637248                       | Order volume is out of range                                                                               |
| 8637249                       | Total limit for collateral securities exceeded                                                             |
| 8637250                       | Low discount for the selected security must not be smaller than the initial discount by more than <Value1> |
| 8637251                       | High discount for the selected security must not exceed the initial discount by more than <Value1>         |
| 8637252                       | The order volume <Value1> exceeds the limit in <Value2> from the average daily turnover <Value3>.          |



| <b>Decimal error code</b> | <b>Error text in the interface in English</b>                                                                   |
|---------------------------|-----------------------------------------------------------------------------------------------------------------|
| 8637253                   | Operations in <Value1> class with the specified parameters are not allowed.                                     |
| 8637254                   | REPO transactions on <Value1> of the specified direction and/or REPO term are prohibited                        |
| 8637255                   | Operations with <Value1> instrument are prohibited                                                              |
| 8637256                   | Placing a market order to sell <Value1> in <Value2> class is prohibited                                         |
| 8637257                   | Placing a market short order to sell <Value1> in <Value2> class is prohibited                                   |
| 8637258                   | Maximum order value <Value1> exceeded                                                                           |
| 8637259                   | An order can lead to an unacceptable long position size <Value1> in <Value2> (max. position <Value3>)           |
| 8637260                   | An order can lead to an unacceptable short position size <Value1> in <Value2> (max. position <Value3>)          |
| 8637261                   | Maximum transactions quantity <Value1> on interval <Value2> exceeded                                            |
| 8637262                   | The order quantity must not exceed <Value1>                                                                     |
| 8637263                   | The order quantity cannot be less than <Value1>                                                                 |
| 8637264                   | The order price cannot be higher than <Value1>                                                                  |
| 8637265                   | The order price cannot be lower than <Value1>                                                                   |
| 8637266                   | The corrected RCS1 <Value1> is less than 0                                                                      |
| 8637267                   | The corrected RCS1 is less than 0. The short position in non-liquid instrument.                                 |
| 8637268                   | Security of settle currency is not found                                                                        |
| 8637269                   | The operation is not allowed. CFI code is not valid.                                                            |
| 8637270                   | Short position <Value1> in <Value2> less liabilities                                                            |
| 8637271                   | Operation is prohibited due to a short in the option <Value1>. Only position closing is allowed.                |
| 8637272                   | REPO trades with a term that includes the record date for coupon payment are not allowed for the class <Value1> |
| 8637319                   | The order price must be lower than <Value1>                                                                     |

| <b>Decimal error code</b> | <b>Error text in the interface in English</b>                                                                                                                                      |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8637320                   | The order price must be higher than <Value1>                                                                                                                                       |
| 8637326                   | The maximum size of liabilities was exceeded by <Value1> <Value2>                                                                                                                  |
| 8637336                   | Operations are prohibited                                                                                                                                                          |
| 8637337                   | Operations with <Value1> instruments are prohibited                                                                                                                                |
| 8637338                   | Operations with settlement date <Value1> or greater are prohibited                                                                                                                 |
| 8637339                   | Operations with settlement date <Value1> or greater are prohibited for <Value2> instruments                                                                                        |
| 8637340                   | You cannot enter an order for <Value1>. The instrument ISIN code is not allowed                                                                                                    |
| 8637341                   | You cannot enter an order for instrument <Value1>. Operations with <Value2> are available for unqualified investors successfully tested on complex financial product type <Value3> |
| 8637342                   | The limit is exceeded for the period <Value1> by <Value2> <Value3>                                                                                                                 |
| 8637343                   | Insufficient funds to deposit                                                                                                                                                      |
| 8637346                   | Buy operations are prohibited                                                                                                                                                      |
| 8637347                   | Sell operations are prohibited                                                                                                                                                     |
| 8637348                   | Buy operations are prohibited for <Value1> instruments                                                                                                                             |
| 8637349                   | Sell operations are prohibited for <Value1> instruments                                                                                                                            |
| 8637350                   | Buy operations with settlement date <Value1> or greater are prohibited                                                                                                             |
| 8637351                   | Sell operations with settlement date <Value1> or greater are prohibited                                                                                                            |
| 8637352                   | Buy operations with settlement date <Value1> or greater are prohibited for <Value2> instruments                                                                                    |
| 8637353                   | Sell operations with settlement date <Value1> or greater are prohibited for <Value2> instruments                                                                                   |
| 8637354                   | The available quantity of <Value1> is not sufficient to enter an order                                                                                                             |
| 8637355                   | Error while receiving a futures limit for securities.                                                                                                                              |
| 8637356                   | Error while receiving a futures limit for cash.                                                                                                                                    |

| <b>Decimal<br/>error code</b> | <b>Error text in the interface in English</b>                |
|-------------------------------|--------------------------------------------------------------|
| 8637357                       | Error while setting securities limit.                        |
| 8637358                       | Error while setting cash limit.                              |
| 8637359                       | Incorrect use of spot asset in the Portfolio initial margin. |