Corporate autoclient. User manual

DBO Soft

(version 2.0.23.9127)

Content

Preface

This document is the manual of using an additional **Cotportae autoclient** module of the iBank 2 UA electronic banking system.

The **General description** section includes information about general capabilities and purpose of the module.

The **Installation and configuration** section is devoted a description of procedure of installing **Cotportae autoclient** module.

The **Current work** section contains a description of actions when importing and signing documents, as well as when exporting account statements.

The **Log of the module** section describes principles and settings of operation protocols of the module.

The **Addition. Assignment of module files** section shows the directory structure of the module as well as the assignment of all files.

Section 1

General description

The **Corporate autoclient** module iBank 2 UA system intended for maintenance corporate clients with very huge amount of documents flow. The main purpose of the module is completely exclude the client's participation in process of signing and sending documents to the bank or receiving account statements. The module allows for tight integration of the corporate client's accounting program with the iBank 2 UA bank server, taking into account all the individual features of the client's work.

The **Corporate autoclient** module is a separate application which client install by himself. The module does not contain graphic interface, runs from command line and interacts with the banking server of the iBank 2 UA system according to an individual script described in the BeanShell scripting language. Working with the module involves two main scenarios:

1. Import of hryvnia payment orders into the iBank 2 UA system and their sign by client's EDS keys. The module works in a single document space with other modules of the iBank 2 UA system. This means that documents which were imported and signed using the **Corporate autoclient** module are available for use in other modules of the iBank 2 UA system (for example, in **Web-Banking**).

2. Receipt of account statements from the bank for further uploading them to accounting programs.

The **Corporate autoclient** module supports to work several corporate clients using one installed copy of the module.

Section 2

Installation and configuration

> **Attention!**
>
> The **Corporate autoclient** module requires installed virtual Java-machine JRE not less than 1.8 version.

Module installation and configuration is carried out by performing the following actions:

Step 1. Receiving and unpacking distribution of the module

Client have to get a distibution of the module which is `auto-client.zip` file to install it. The distribution may be obtained from the website of the servicing bank. In absence of the module distribution, it is necessary to contact the technical support department of the servicing bank.

After receiving the distribution of the module it is necessary to crate a folder on a hard drive, in which will be unpack the module, for example `autoclient`. Unpack the `auto-client.zip` file to the newly created directory[1] using any of the available archiver programs. As a result, the following directory structure will be formed:

№	Directory	Content
1	bin	Command scripts for running a module or setting environment variables
2	conf	Configuration files of the module
3	doc	Documentation about working with the module
4	lib	Library files that are necessary for working module
5	src	Configuration scripts which containing a description of the various modes of operation of the module

Detailed description of these files in each directories is given in the **Addition. Assignment of module files** section.

Step 2. Setting up environment variables

To working module under Windows OS, it is necessary to configure environment variables by editing a `setEnvironment.bat` file in `%autoclient_home%\bin` directory:

- specify a **JAVA** parameter as full path to batch file of the installed Java virtual machine, for example:

  `JAVA=C:\Java\jre8\bin\java.exe`

- specify a **IBANK_HOME** parameter as full path to `%autoclient_home%` directory, for example:

  `IBANK_HOME=C:\autoclient`

- if necessary, a **LOG_CONF** parameter may be change a name of logging settings file. By default, no changes are required.

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[1]Later in this document a path to this directory will be indicated as `%autoclient_home%`.

To working module under Unix OS, it is necessary to configure environment variables by editing a setEnvironment.sh file in %autoclient_home%\bin directory:

- specify a **JRE_HOME** parameter as full path to directory of the installed Java virtual machine, for example:

  JRE_HOME=/usr/lib/java/jre

- specify a **JAVA** parameter as path to batch file of the installed Java virtual machine, for example:

  JAVA=$JRE_HOME/bin/java

- specify a **IBANK_HOME** parameter as full path to %autoclient_home% directory, for example:

  IBANK_HOME=/opt/local/autoclient

- changing the logging settings file doing by editing the **LOG_CONF** parameter in the import.sh (see **Importing and singing documents** for details) and export.sh (for more details see in subsection **Exporting client's accounts statements**) files.

Step 3. Creating cliens directories

In an arbitrary directory (for example, %autoclient_home% directory), you need to create a directory (for example, clients). In the newly created directory create a directory {name_client} for each corporate client of the iBank 2 UA system, which will work with the current instance of the module. As the name of the client, it is necessary to specify its name in the iBank 2 UA system.

Every client's directory has to contain following directories:

- **IN** — directory for client's files for import of documents;

- **OUT** — directory for exported statements of client's accounts;

- **KEYS** — directory with client's personal settings. Must include a client's EDS keystore files and a client.xml configuration file.

> ***Attention!***
>
> After unpacking the auto-client.zip module distribution, the configuration file client.xml locates in the conf directory of the module. When creating directories of registered clients of the iBank 2 UA system, it is necessary to move the client.xml file to the **KEYS** directory, and then make changes to it according to the given client (for more details, see subsection **Step 4. Editing client.xml configuration file**). In the same directory, you need to copy the files with the EDS keys of clients. This procedure is performed for each client of the iBank 2 UA system, which will work in the current instance of the **Corporate autoclient** module.

Step 4. Editing client.xml configuration file

For each client of the iBank 2 UA system, which will work in the module, it is necessary to configure the client.xml configuration file (located in the **KEYS** directory of the client directory).

In a keystore block configuration is performed as follows:

- specify the **file** parameter as the name of the client's EDS keystore file;

- specify the **clientKeyAlias** parameter as the name of the client's EDS key in the keystore file;

- if necessary, you can specify the **clientKeyPassword** parameter as a password for the client's EDS key. If this is not done, the password will need to be entered manually in console after starting module.

When using multiple EDS client's keys, in the client.xml file, you need to add a keystore block for each of them with the **file**, **clientKeyAlias** and **clientKeyPassword** parameters configured accordingly.

For example:

```
<client>
    <keystore
        file="director.dat"
        clientKeyAlias="Director"
        clientKeyPassword=
    />
    <keystore
        file="buhgalter.dat"
        clientKeyAlias="Accountant"
        clientKeyPassword=
    />
</client>
```

In blocks **ua_payment_import**, **pay_sheet_import**, **currency_payment_import**, **intrabank_currency_payment_import** are performed import settings according to documents of the type «Hryvnia payment order», «Payroll sheet», «Payment order in foreign currency» and «Payment within the Bank in foreign currency»:

- specify the **pathImportDirectory** parameter as path to an import directory with documents of the corresponding type. The directory can be located both on the local disk and on the local network.

  You can specify more than one directory. In this case, a serial number must be specified before name of the parameter.

- in the **signImportDocument** parameter, specify the need to sign documents of the corresponding type after import: true – documents are sign, false - documents are not sign.

- in the **archiveImportedDocument** parameter, specify the need to transfer successfully imported documents of the corresponding type to archive: true – transfer to the archive is performed, false – transfer to the archive is not performed.

- specify the **archivePath** parameter as path to the archive of documents of the corresponding type. The directory can be located both on the local disk and on the local network.

For example:
```
<client>
    <ua_payment_import
            pathImportDirectory="C:\import\ua_payment"
            signImportDocument="false"
            archiveImportedDocument="false"
            archivePath="C:\import\ua_payment\arch"
    />
    <pay_sheet_import
            1.pathImportDirectory="C:\import\pay_sheet"
            2.pathImportDirectory="\\192.168.10.10\share\import\pay_sheet"
            signImportDocument="false"
            archiveImportedDocument="false"
            archivePath="\\192.168.10.10\share\import\pay_sheet\arch"
    />
</client>
```

Step 5. Editing emulator.xml configuration file

In the `emulator.xml` configuration file from the `%autoclient_home%\conf` directory, the following changes must be made:

- if necessary, you can specify the **system** parameter as version of the used iBank 2 UA system. By default, there is no need to make changes;

- specify the parameter **host** as the IP address or domain name of the bank server of the iBank 2 UA system (for this information, you should contact the technical support department of the servicing bank);

- specify the **port** parameter as the port number through which client interacts with the banking server of the iBank 2 UA system (for this information, you should contact the technical support department of the servicing bank);

- if necessary, you can specify the **root** parameter as a relative path to the module. By default, there is no need to make changes;

- if necessary, you can specify the **key** parameter as the name of the file with the public key of the bank server of the iBank 2 UA system. By default, this file is located in the module distribution. When it is changed, the file is provided to client by bank and must be placed in the `%autoclient_home%\conf` directory. By default, there is no need to make changes;

- specify the **path** parameter as the path to the directory containing all client directories (for more details see **Step 3. Creating cliens directories**).

If the client uses a proxy server to connect to the Internet, the following parameters must be added to the `transport` block:

- **proxyHost** – address of the proxy-server;

- **proxyPort** – port number of the proxy-server;

- **proxyUser** – user name, if proxy-server required authentification;

- **proxyPassword** – user password, if proxy-server required authentification.

Section 3

Current work

To work in the **Corporate auto-client** module, all clients have to register in the iBank 2 UA system. Registration process is described in detail in documentation *iBank 2 UA system. Web-Banking for corporate clients. User manual*.

The **Corporate autoclient** module is implemented in two components: a component for importing and signing documents, as well as a component for exporting client's account statements.

Attention! ——————————————————————————

There are following actions have to performed for correct working in the module under the Unix OS:

1. Save in Windows-1251 encoding all files in %autoclient_home%\conf, %autoclient_home%\src directories, as well as in the directory containing all client's directories (for details see **Step 3. Creating cliens directories** subsection).

2. In the terminal settings, change locale to Windows-1251 (Select **Menu → Terminal → Set character encoding → Cyrillic (WINDOWS-1251)** main menu item).

Importing and singing documents

The **Corporate autoclient** module allows you to import documents of one or all clients whose catalogs have been created (for more details, see subsection **Step 3. Creating cliens directories**). Before starting the import procedure, it is necessary to prepare documents that will be imported into the iBank 2 UA system and place them in the directories specified in the client.xml file (for more details, see in the **Step 4. Editing client.xml configuration file** subsection). For documents of «Payroll», «Payment order in foreign currency» and «Internal bank payment order in foreign currency» types supported import in the iBank 2 format, and for documents of «Payment order» type – in iBank 2 and BM RS formats. A detailed description of document import files is provided in the documentation *Formats of import and export data in the iBank 2 UA system. Technical description*).

The import.bat command file (Windows OS) or import.sh (Unix OS) executes the component that performs document import and signing. These files are located in the %autoclient_home%\bin directory.

Before executing command file, you can specify client from which directory import will be performed. To do this, you need to specify value of the **NAME** parameter in the import.bat(sh) file.

Attention! ——————————————————————————

Correctly entered alias or client name containing spaces must be to specified in double quotes if you working with module under the Windows OS. For the above example, when importing documents of the «LLC Aelita» client, in the import.bat file you need to specify:

set NAME="LLC Aelita"

> ***Attention!***
>
> If documents are not imported with the alias specified in the import.bat file or the client name containing Cyrillic characters during working with the module under the Windows OS, then you need to edit the import.bat file as follows:
>
> - Add the **chcp 1251** line before the set NAME line.
>
> - Add the **chcp 866** line after the set NAME line
>
> For example:
> chcp 1251
> set NAME="ФОП Ігнашевич"
> chcp 866

If necessary, you can change logging settings file by changing the **LOG_CONF** parameter in the import.bat(sh) command file. By default, no changes need to be made.

Interaction with user is performed on the command line in text mode. Document processing is performed sequentially for each client. The procedure for processing documents for each client is as follows:

1. If the value of the clientKeyPassword parameter is not specified in the client.xml file (for more details, see subsection **Step 4. Editing client.xml configuration file**), then a password must be specified to access the client key store EDS.

2. Documents are being imported into the iBank 2 UA system. Following information is displayed for each document:

   - If the document is successfully imported, then:

     Сохранен документ ДД.ММ.ГГГГ №{номер_документа}, {сумма}, {получатель}

     As a result, successfully imported documents are saved in the iBank 2 UA system in the **New** status.

   - If errors occurred during import, then:

     Ошибка загрузки документа №{номер_документа}

     The reason for the error can be viewed in the log of the module (for more details see **Log of the module** subsection).

3. If the parameter value signImportDocument = «**false**» is specified in the client.xml file for this type of document (for more details, see subsection **Step 4. Editing client.xml configuration file**), then the signing of imported documents is not performed. If the parameter value is «**true**», following information is displayed after all documents are signed:

   Документы подписаны

   As a result, the imported documents change to the status **Signed** (if the documents are not signed by all required signatures) or **Sent** (if the documents are signed by all required groups of signatures). If the signature of the imported documents is not performed or the response to the request is negative (the **N** key is pressed), then the imported documents remain in the **New** status.

4. If the parameter value archiveImportedDocument = «**false**» is specified in the client.xml file for this type of document (for more details, see **Step 4. Editing client.xml configuration file**

subsection), then moving the import file with successfully imported the document to the archive is not executed. If the parameter value is «**true**», then after importing the document, the import file will be transferred to the archive specified in the client.xml file in the **archivePath** parameter. In this case, the import date and time will be added to the name of the import file.

Exporting client's accounts statements

The **Corporate autoclient** module allows you to export statements of one or all clients whose catalogs have been created (for more details, see **Step 3. Creating cliens directories** subsection).

Export of statements is supported in two formats:

- **Bank-Client** — is executed by export.bat (Windows OS) or export.sh (Unix OS) command file.

- **Comma-Separated Values file (.csv)** — is executed by export_csv.bat (Windows OS) or export_csv.sh (Unix OS) command file.

These files are located in the **%autoclient_home%\bin** directory.

Before running the export.bat(sh) or export_csv.bat(sh) command file it is necessary to specify the client for which statements will be exported. To do this, you need to specify the value of the **NAME** parameter in the command file.

> **Attention!** ──
> Correctly entered alias or client name containing spaces must be to specified in double quotes if you working with module under the Windows OS. For the above example, when exporting account statements of the «LLC Aelita» client, in the export.bat or export_csv .bat file you need to specify:
> set NAME="LLC Aelita"
> ──

> **Attention!** ──
> If, account statements are not exported with the alias specified in the export.bat file or the client's name containing Cyrillic characters during working with the module under the Windows OS, then you need to edit the export.bat or export_csv.bat file as follows:
>
> - Add the **chcp 1251** line before the set NAME line.
> - Add the **chcp 866** line after the set NAME line
>
> For the above example, when exporting account statements of the «ФОП Ігнашевич» client, in the export.bat or export_csv.bat file you need to specify:
> chcp 1251
> set NAME="ФОП Ігнашевич"
> chcp 866
> ──

If necessary, you can change logging settings file by changing the **LOG_CONF** parameter in the export.bat(sh) or export_csv.bat(sh) command file. By default, no changes need to be made.

The module exports client's account statements for the specified period of time, which can be specified explicitly (the specific start and end date of the exporting period is specified) or implicitly (the shift in days from the current date is specified). When a period is explicitly entered, the start date is a required argument. The exporting end date may not be indicated. In this case, the current date is taken as the end date. The period of receipt of account statements is indicated as input arguments when starting the export.bat(sh)or export_csv.bat(sh) command file and has following format:

export.bat(sh) [begin_date | disp_from_now [end_date | disp_from_now]]

export_csv.bat(sh) [begin_date | disp_from_now [end_date | disp_from_now]]

where:

- begin_date — the initial date of export of statements from the iBank 2 UA system (inclusive) in the «dd.mm.yyyy» format;

- disp_from_now — shift in days from the current date;

- end_date — the end date of export of statements from the iBank 2 UA system (inclusive) in the «dd.mm.yyyy» format;

Examples of using the input arguments of the export.bat(sh) or export_csv.bat(sh) command file:

- export.bat 0 — export of account statements for the current day;

- export.bat 04.03.2021 — export of account statements from 04.03.2021 to the current day inclusive;

- export_csv.bat 04.03.2021 06.03.2021 —export of account statements from 03.04.2021 to 06.03.2021 inclusive;

- export_csv.bat -7 -1 — export account statements from the current day minus seven days to the date of the current day minus one day.

  For example, if today is 19.03.2021, then this entry will be equivalent to the entry export.bat 12.03.2021 18.03.2021;

- export_csv.bat 12.03.2021 -4 — export of account statements from 12.03.2021 to the date of the current day minus four days.

Interaction with user is performed on the command line in text mode. Statements are exported sequentially for each client. If the value of the clientKeyPassword parameter is not specified in the client.xml file (for more details, see **Step 4. Editing client.xml configuration file** subsection), then a password must be entered to access the client's EDS key store.

Depending on the executed command file, as a result, statements in the «Bank-Client» format (export.bat(sh)) command files or «Comma-Separated Values file (.csv)» (export_csv.bat(sh) command files). A detailed description of the export files is given in the documentation ***Formats of import and export data in the iBank 2 UA system. Technical description***).

Section 4

Log of the module

During client's work in the module work protocols (logs) automatically recording. Logging is configured in the logback.xml file located in the %autoclient_home%\conf directory. The client can set the **logging level**, that is, how detailed information will be recorded in the work protocols of the module. For this, it is necessary to define the level parameter in the root block with one of the following values:

off — logging is disabled;

error — only errors are recorded in logs;

warn — errors and warnings are recorded in the logs;

info — errors, warnings and informational messages are recorded in the logs;

debug — errors, warnings, informational messages, and debugging information are recorded in the logs;

trace — all possible information is recorded in the logs.

Logs of the module are located in the %autoclient_home%\logs directory (the directory is automatically created when creating logs). The log of the import and signing of documents is in the import.log file, the log of the export of client account statements is in the export.log file.

Section 5

Addition. Assignment of module files

`%autoclient_home%\bin` Directory:

№	File	Description
1	import.bat	Command file for importing and signing documents under Windows OS
2	import.sh	Command file for importing and signing documents under Unix OS
3	export.bat	Command file for exporting statements in the «Bank-Client» format for client's accounts from the iBank 2 UA database under Windows OS
4	export.sh	Command file for exporting statements in the «Bank-Client» format for client's accounts from the iBank 2 UA database under Unix OS
5	export_csv.bat	Command file for exporting statements in the «Comma-Separated Values file (.csv)» format for client's accounts from the iBank 2 UA database under Windows OS
6	export_csv.sh	Command file for exporting statements in the «Comma-Separated Values file (.csv)» format for client's accounts from the iBank 2 UA database under Unix OS
7	setEnvironment.bat	Setting environment variables under Windows OS
8	setEnvironment.sh	Setting environment variables under Unix OS

`%autoclient_home%\conf` directory:

№	File	Description
1	client.xml	Configuration of client's EDS keys
2	emulator.xml	Configuration of the **Corporate autoclient** module
3	logback.xml	Configuration of logging of the module
4	public_gsl	Application Server encryption public key

`%autoclient_home%\doc` directory:

№	File	Description
1	autoclient.pdf	Instructions for working with the module

The `%autoclient_home%\lib` directory contains library files:

№	File	Description
1	asn1-1.9.3.jar	Utility package for working with EDS keystores
2	bsh-1.3.0.jar	Running scripts
3	cln_emulator.jar	Core of the module
4	gepard-2.9.0.jar	Cryptographic library
5	ibank_core.jar	iBank 2 UA core
6	logback-classic-1.0.11.jar	Logging helper package
7	logback-core-1.0.11.jar	Logging core

8	packages20.jar	Helper packages
9	pkix-1.35.0.jar	Helper package for working with EDS keystores
10	slf4j-api-1.7.5.jar	The facade that implements logging of the module

The `%autoclient_home%\logs` directory contains log files in which protocols of the module are recorded.

The `%autoclient_home%\src` directory contains configuration scripts in the BeanShell language that describe the various modes of operation of the module:

№	File	Description
1	export.bsh	Script responsible for exporting statements in «Bank-Client» format
2	export_csv.bsh	Script responsible for exporting statements in «Comma-Separated Values file (.csv)» format
3	include.bsh	Script of libraries
4	saveExtracts.bsh	Script that contains a method of saving a statement in «Bank-Client» format for one account
5	saveExtracts_csv.bsh	Script that contains a method of saving a statement in «Comma-Separated Values file (.csv)» format for one account
6	saveOverturn.bsh	Script that contains a method of saving turnovers in the «Bank-Client» format for one account
7	saveOverturn_csv.bsh	Script that contains a method of saving turnovers in the «Comma-Separated Values file (.csv)» format for one account

Section 6

Sources of additional information

Additional information on this subject can be found in the documents:

З додатковою інформацією з даної тематики можна ознайомитися у документах:

- **Raiffeisen Bank Aval. Web-Banking for business clients. User manual**

- **Formats of import and export data in the iBank 2 UA system. Technical description**

> **Attention!**
>
> With all offers and requests for documentation, please contact us by e-mail
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