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CLIQ Web Manager Web Services Integration Manual

CLIQ

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Local Business Unit	
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Revision History

CWM Version	Date	Changed by	Description
CWM 9.0.2	25.11.2019	Tomasz Olchawa	Original version
CWM 9.0.2	25.11.2019	Tomasz Olchawa	Web Services Separation – description added
CWM 9.1	30.01.2020	Grzegorz Majchrzak	Release 9.1 Updated references Updeted Documentation
CWM 10.0	13.05.2020	Norbert Kocik	Update port used by web services
CWM 10.0	29.07.2020	Sandra Zielińska	Updated Use case and API overview with information about only available API in version 2
CWM 10.0	06.11.2020	Grzegorz Majchrzak	Release 10.0 Updated port number in examples
CWM 10.1	29.01.2021	Michał Jagoda	Revision change
CWM 11.0	05.07.2021	Dawid Bartkowski	Release 11.0 Revision change
CWM 11.1	24.03.2022	Przemysław Czajkowski	Revision change
CWM 11.2	05.10.2022	Grzegorz Majchrzak	Release 11.2 Revision change
CWM 11.3	02.02.2023	Grzegorz Majchrzak	Release 11.3 Revision change
CWM 11.4	21.06.2023	Przemysław Czajkowski	Relese 11.4 Revision change

1   Introduction

1.1   Purpose

The purpose of this document is to provide an overview of how to do integration with CLIQ Web Manager using the SOAP Web Services interface. Together with WSDL

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definitions and the API documentation a complete documentation bundle for integration is provided.

1.2   Definitions and abbreviations

Expression	Description
Key system	A CLIQ (master) key system imported to CLIQ Web Manager from Digital Content Server or installed by administrator manually.
Installation	A working installation of the CLIQ Web Manager server software, including remote parts if applicable. *Installation* can have one or more imported *key systems*.
Element	A key system part, including *Cylinder*, *Key, Remote Programming Device (PD).*
Plug	The part of a cylinder where a key is inserted and access is controlled. A *Cylinder* has one or two *Plug*s (a *Cylinder* with two *Plug*s is called a *Double Cylinder*). A plug can be purely mechanical or have support for CLIQ features.
Cylinder	The part installed in a door, containing one or two *Plug*s.
Key	Key element of a key system. CLIQ keys come in four basic variants: *C-key*, *Normal key*, *Quartz key* and *Dynamic key*. A key system can also have mechanical keys (i.e. an ordinary key without CLIQ features).
C-key	CLIQ key used as authentication token for accessing CLIQ Web Manager web GUI, but also used for carrying out programming tasks, including *Cylinder* programming.
Normal key	Normal CLIQ user key with support for setting validity (always active/inactive).
Quartz key	CLIQ user key with support for setting validity, schedules and keeping an audit trail.
Dynamic key	CLIQ user key with support for keeping a list of authorized cylinders in addition to the features provided by the *Quartz key*.
Mechanical key	An ordinary key, with no support for CLIQ features. Can only get access in mechanical *Plug*s (assuming correct mechanical fit).
Import file	Key system import file describing the key system. These files are delivered together with new key system elements from the factory and must be imported into CLIQ Web Manager using Digital Content Server or installed manually by administrator.

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Audit trail	Audit trail data that can be retrieved from CLIQ key and cylinder elements containing the elements tracking history.
Remote enabled element	A CLIQ element that has support for remote operations.
Service Tool	Stand-alone software that is used to perform various maintenance activities on CLIQ Web Manager.
[DELIVERY_PACKAGE]	The path to the unzipped delivery package, e.g. "C:\installation-11.4".

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2 Prerequisites

2.1 Web Services support

Web Services support is enabled per imported key system. By default Web Service support is disabled. The key system import file(s) must first be imported into the CLIQ Web Manager installation using Digital Content Server or installed by administrator manually (see separate document *D001033819 - CLIQ Web Manager and CLIQ Remote Operation and Maintenance*). An administrator must login to the system and enable Web Services support by editing *Administration -> System settings* and selecting *Web Services integration* in the Web Manager web GUI. This will enable a user account for Web Services access. Note that this has to be done for each imported key system where Web Services support is needed.

2.2 Remote System

Some Web Service features, including issuing key updates and retrieving key system element information, are only available for remote enabled installations and remote enabled key systems. See respective API documentation for further details.

3 Security

Connection to the Web Service is done using mutual HTTPS and all data is encrypted during transfer.

3.1 Access using client certificate

Web Service access to a key system is controlled by use of client certificates. The client certificate must be provided by the Web Service client and must match the Web Service account of the key system which client tries to access. A correct client certificate can be obtained from your ASSA ABLOY representative.

Note that if you have more than one key system imported into your CLIQ Web Manager installation, you will need to configure a client certificate for each key system which you would like to access using a Web Service client.

3.2 Roles and Accounts

The Web Service *account* created for each imported key system is associated with a Web Service *role*. This *role* defines which parts of the key system can be accessed. Do not change the default settings for the Web Service role without being explicitly instructed to do so by an ASSA ABLOY representative as it may stop the Web Service integration to work correctly and may also have security implications.

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4   Use case and API overview

There are currently three different services exposed: Import Service, Query Service, and Work Service. From CWM 10.0 only version 2 of Web Services is available (see web services API documentation).

The Web Service interfaces are published by default to:
`https://[hostname]:[port]/[application context]/ws/`

Example: `https://127.0.0.1:8989/CLIQWebManager/ws/work/v2/`

4.1   Import Service

The Import Service is used to import data into the CLIQ Web Manager and can be used independently of the other two services, e.g. for importing information about persons (potential key holders) from an external system such as an Active Directory, LDAP or other directory or HR system.

Importing persons is one-way. When using the Import Service to import person data the client is completely in charge of the data, including generation of identities as described in the API documentation. Information about persons should not be changed in CLIQ Web Manager web GUI as there is no service to propagate this data back to the client directory.

4.2   Query Service

The Query Service is used to query the CLIQ Web Manager for information about the imported key system. It provides queries for information about the individual elements that is expected to rarely change, such as information about keys and cylinders in the system. It also provides queries for more dynamic data such as audit trail and detailed CLIQ element information.

Many of the operations exposed in the Work Service require information that must first be retrieved by calling operations in the Query Service.

4.3   Work Service

The Work Service provides operations for working with the key system, including issuing validity and authorised cylinder updates for keys, handing in and out keys, and declaring keys as lost and found.

These operations require remote enabled elements.

Input parameters to Work Service operations typically references element information that can be retrieved using the Query Service. In some situations the identities of references are expected to be known by the integrator as the referenced data has been provided by the integrator.

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5 Example scenarios

5.1 Importing Persons

It is not uncommon that a directory of available persons already exists in an organisation when CLIQ Web Manager is introduced. In order to work with these persons in CLIQ Web Manager, for example to hand out keys to them, they must also be known to CLIQ Web Manager. Using the Import Service it is possible to import persons from an external directory system or other source. A typical scenario is to first do a one-time batch import and later regularly issue updates as the directory is changed.
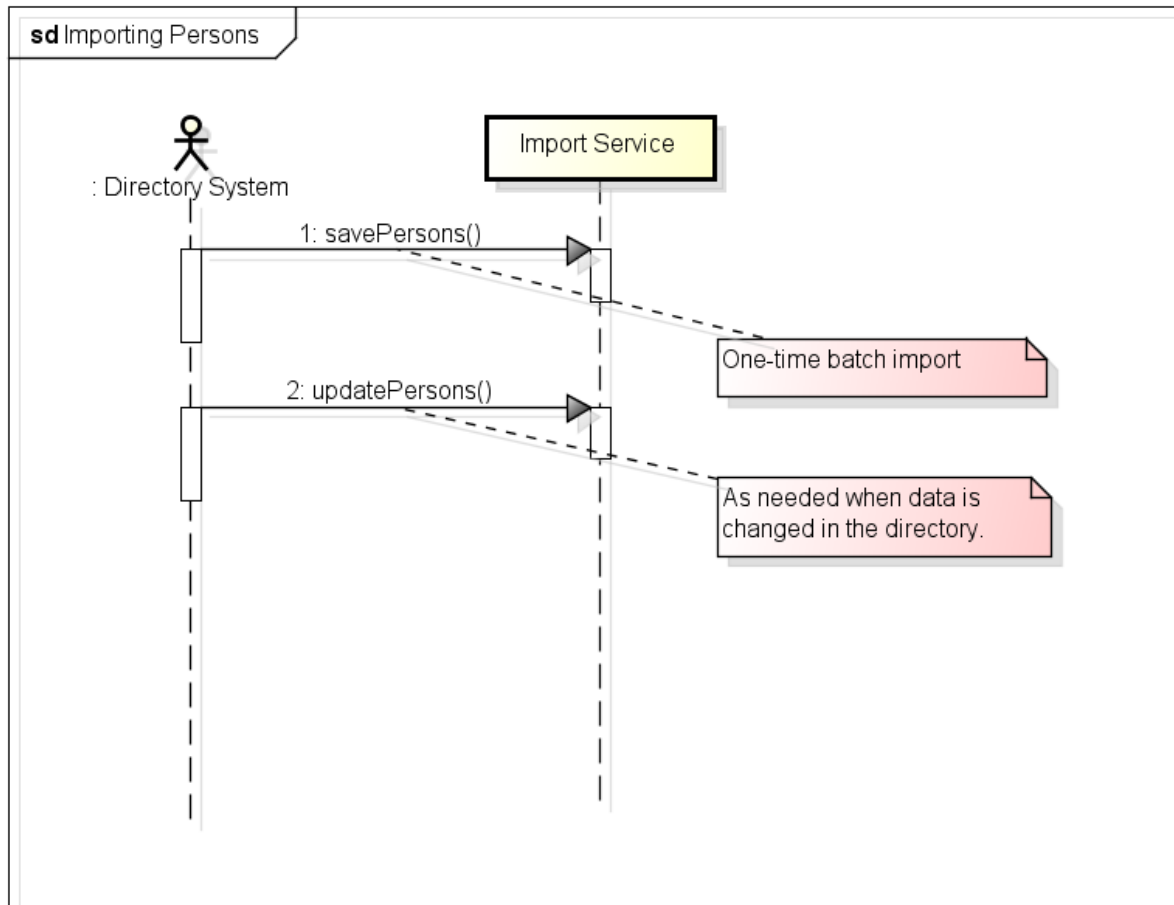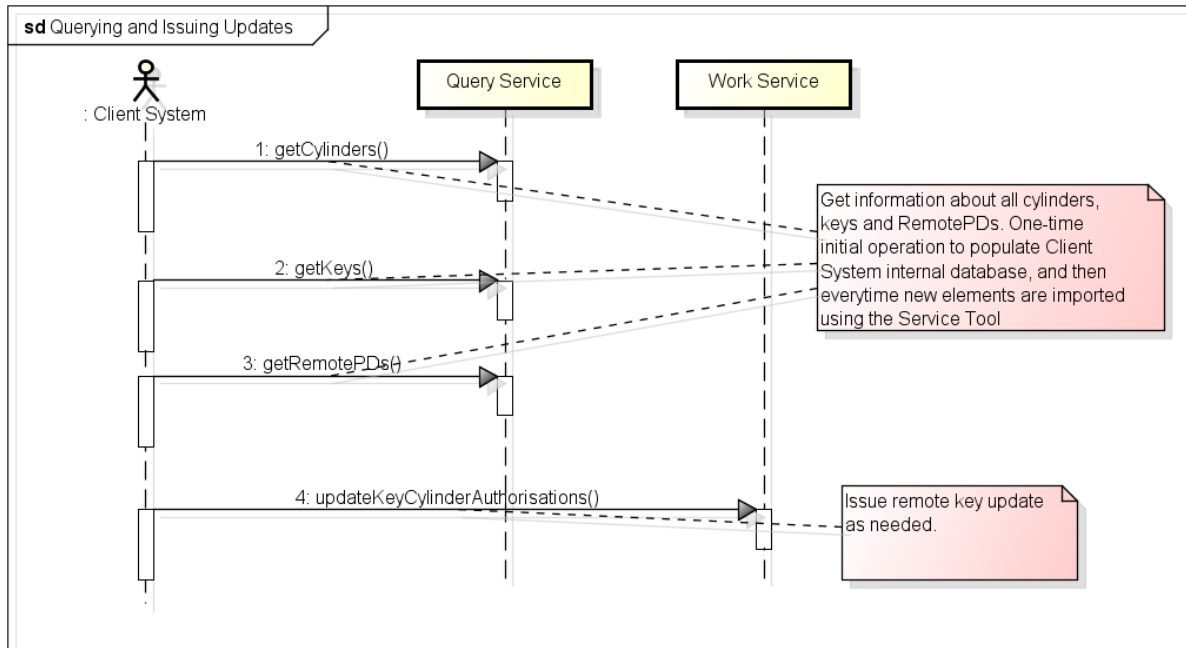

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5.2 Querying for elements and issuing authorisation updates

For low-level control over key systems elements it is possible to retrieve detailed information about all key system CLIQ elements using the Query Service. Information gathered this way can then be used to perform work on the key system using the Work Service, e.g. issuing cylinder updates for dynamic keys.

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Use the Query Service to do the initial population of the Client system's internal database, then issue new requests when new elements are imported using the Service Tool to get the newly imported elements from CLIQ Web Manager to the Client system.

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If the Client system already has knowledge of the elements (keys/cylinders) it is also possible to make filtered searches to find information about a specific element given an attribute like the marking of the element. The methods searchCylinders, searchCylinderGroups, searchKeys, searchPersons and searchAccessProfiles allow such filtered searches. If possible, filtered searches are always preferred over the methods which list all elements in order to reduce the data volumes transported over the Web Service interface.

6   Documentation

The following documentation exists to support Web Service integration:

- CLIQ Web Manager Web Services Integration Manual (this document)

- WSDL definitions, one per service: Import, Query, and Work. They are accessible from the service URLs

    Example: `https://127.0.0.1:8989/CLIQWebManager/ws/work/v2/?wsdl`

- Html-documentation. Found in [DELIVERY_PACKAGE]/documents/cliq-web-manager-*[VERSION]*-web-service-doc.zip

- D001033835 - CLIQ Web Manager Web Services Usage Guidelines

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7   Troubleshooting

Use the following steps to troubleshoot. If you still have problems please contact your ASSA ABLOY representative.

- Make sure that all items in the prerequisites section are covered.

- Install your web services certificate on your machine. In Windows 7 or higher you can do it by double clicking it and following the wizard. Make sure that you put the correct password. You should delete this certificate after successful testing of your service.

- Make sure that TLS 1.2 is supported and enabled for client application which you are using to access web service. In case of Java based clients the following argument has to be added to command line.

  `-Dhttps.protocols=TLSv1.2`

- Use Chrome/Firefox to navigate to your publicly accessible web service URL (with correct IP/hostname and port), e.g.

  `https://192.168.0.1:8989/CLIQWebManager/ws/work/v2/?wsdl`

  `https://example.com:8989/CLIQWebManager/ws/work/v2/?wsdl`

  8989 is the default port used for communication with web services

- View the source of the WSDL file which you obtain by going to the URL and make sure that the highlighted properties have addresses that would be accessible to the web services client

  `<xs:import namespace='http://cliq.shared.assaabloy.com/ws/data/v2/'`
  `schemaLocation``='https://192.168.0.112:8989/CLIQWebManager/ws/work/v2/?wsdl&resource=data_v2.xsd'/>`

  `<soap:address`
  `location``='https://192.168.0.112:8989/CLIQWebManager/ws/work/v2/'/>`
  8989 is the default port used for communication with web services