Document title

SATURN COMMODITIES POSITIONS REPORTING – DETAILED FUNCTIONAL SPECIFICATIONS – EURONEXT DERIVATIVES MARKET

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PREFACE

ABOUT THIS DOCUMENT

This client specification document is related to the Euronext Saturn Web Services, part of the Euronext Global Reporting Solution dedicated to answer the MiFID II reporting and publication requirements.

Saturn offers a REST API which can be used to access the reporting services.

The purpose of this document is to describe the technology and the supported messages for Commodity Position Reporting requirements under MiFID II

TARGET AUDIENCE

This document is targeted to clients of the following Euronext Reporting Service:

- **MiFID II Commodity Positions Reporting**

Euronext Global Reporting solution through Saturn covers the additional services below:

- Transaction Reporting on Euronext Markets conducted directly by Euronext members.
- Transaction Reporting on Euronext Markets conducted by Euronext members not subject to MIFIR (non-MiFID members);
- Short Code Long Code Management (SLC);

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These services are described in separate documents.

ASSOCIATED DOCUMENTATION

The following lists the associated documents, which either should be read in conjunction with this document or which provide relevant information to user regarding the other services:

- Saturn User Guide

CONTACT

Please find below the contact details:

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TERMS AND ACRONYMS

Term/Acronym	Description
NCA	National Competent Authorities
Attribute & Element	Basic building blocks of XML Schemas: ■ An XML element is everything from (including) the element's start tag to (including) the element's end tag ■ Attributes are designed to contain data related to a specific element
Client	An application, i.e. a system that accesses the services in Saturn through the API gateway.
HTTPS	Hypertext Transfer Protocol Secure
Function	A specific action in the Saturn REST API gateway, for example, Logon, Logoff, Submit Trades etc.
REST	REST, or Representational State Transfer, relies on a stateless, client-server, cacheable communications protocol. REST is an architecture style for designing networked applications. Rather than using complex mechanisms such as CORBA, RPC or SOAP to connect between machines, simple HTTPS is used to make calls between machines. REST is a lightweight alternative
SSL	Secure Sockets Layer (cryptographic protocol)
STP	Straight-through processing
User	A person accessing the Saturn services the Web user interface
XML	Extensible Markup language
FIX protocol	**Financial Information Exchange** protocol (**FIX**) is an open specification designed to standardize and streamline electronic communications in the financial securities industry supporting multiple formats and types of communications between financial entities for trade allocation, order submissions, order changes, execution reporting and advertisements

WHAT'S NEW ?

The following lists only the most recent modification made to this revision/version. For the Document History table, please go to page 84

REVISION NO.	DATE	CHANGE DESCRIPTION
6.365.1	30/04/2026	The following changes have been made to this version of the document: ■ Updated section 5.1 Upload .CSV file description: - corrected capital letter 'Position holder ID format' Label.

IMPORTANT NOTE :

This document will be updated as required based on additional regulatory clarifications as well as additional features. Users must refer to the document history to get a precise description of updates.

CONTENTS

1. EURONEXT MIFID II APPROACH ON COMMODITY POSITIONS REPORTING

1.1 WHAT IS MIFID II COMMODITIES POSITIONS REPORTING?

Under Article 58(3) of MiFID II, members and participants of trading venues must report to the trading venue on a daily basis a complete breakdown of their positions in commodity derivatives, emission allowances, and derivatives of emission allowances, as well as those of their **clients** and the clients of those clients until the **'end client'** is reached.

The trading venue must then provide those reports to their NCAs.

Under Article 4(1)(9) MiFID II defines a 'client' as a natural or legal person to whom a MiFID-regulated investment firm provide investment or ancillary services.

1. If that 'client' is not an investment firm, then that client will also be considered as the "the end client" as it will not provide investment or ancillary services.
2. If the client is an investment firm, but does not provide investment or ancillary services to another person, then the client will also be the 'end client'.

Such an approach limits the reporting obligation down the chain of intermediaries.

- **Weekly Commitment of Traders (CoT) report**

As per Article 58, trading venues should also make public a weekly Commitment of Traders (CoT) report with the aggregate positions held by the categories of persons for the different commodity derivatives or emission allowances or derivatives therefore traded on their trading venue, specifying the number of long and short positions by such categories, changes since the last report; the percentage of total interest represented by each category as well as the number of persons holding a position in each category.

Euronext will generate a weekly Commitment of Traders (COT report) for all its commodity contracts.

1.2 WHICH INSTRUMENTS NEED TO BE REPORTED?

The instruments covered include both exchange-traded commodity derivatives and economically equivalent OTC commodity contracts, including:

- Energy derivatives, metal derivatives, agricultural derivatives and other food derivatives;
- Derivatives on intangibles such as climate derivatives;
- Derivatives with flow-based delivery e.g. electricity and gas;
- Both cash-settled and physically-settled derivatives;
- Derivatives on any of the other instruments covered e.g. baskets, indexes, swaps.

An OTC derivative shall be considered economically equivalent to a commodity derivative traded on a trading venue where it has identical contractual specifications, terms and conditions, excluding different lot size specifications, delivery dates diverging by less than one calendar day and different post trade risk management arrangements.

1.3 WHO NEEDS TO REPORT?

From Article 58(3), reporting obligations apply only to **members** of trading venues and **MiFID-regulated investment firms**.

As a standard regulatory approach, where General Clearing Members are also members of Euronext, they must report their own positions as well as the ones of their clients (NCMs).

In addition, the Euronext solution has been designed to allow a participant – even non-MiFID regulated – to report **directly to Euronext, without going through any intermediary,** its positions and the positions of its clients.

Although intermediaries (usually GCMs) will be made aware of list of their clients reporting directly, no filtering is required, i.e. GCMs must report the positions of all their clients with the level of information that they have for these clients.

1.3.1 Onboarding process for direct reporting clients

Clients willing to report directly must as an initial step inform their intermediary, member of Euronext. Direct Reporting entities are not required to fill any on-boarding document.

Access to Saturn will be granted to direct reporting clients upon declaration of the client's intermediary through the Position Holder form.

Direct Reporting clients must also fill a Position Holder file indicating the list of their own clients.

In order to access Saturn, user account(s) must be requested to market-access@euronext.com.

Direct reporting clients are required to fill an additional field in their daily reports, the "**Free Text4**" / "**FreeText 4**" (GUI/.CSV) field with the following string: 'REPORT_MYSELF'.

Brokers should also fill the "**Free Text4**" / "**FreeText 4**" (GUI/.CSV) field with 'REPORT_MYSELF' in case of direct reporting.

1.4 REPORTING DEADLINE

Clients must ensure to abide the defined timeline and report their positions for the previous day before 14:00 CET. In other words, on Day D clients must report their positions of the previous day before 14:00 CET.

Euronext submits Commodity Position Reporting once per day at 17:00 CET (Paris time) to the respective regulator.

1.5 HOW TO REPORT

Clients can report positions their positions in the following way:

- Saturn GUI (manually)
- File Upload (GUI or API)

Clients can refer to *Saturn - User Guide - Euronext Cash and Derivatives Markets - External* section 11 Commodity Reporting Services for explanation on how to use the GUI.

For .CSV File Upload via API refer to section 11 and onwards.

The kinematic is different between the French & Dutch Commodity markets

IMPORTANT:

Positions on French Commodities (XMAT) and on Freight Futures (XECO) should always be reported as **LOTS**.

Positions on Dutch Power Derivatives (XEUC) should always be reported in **megawatt hours (MHWO).**

1.5.1 Entering a New Position

French Commodities & Nordic Power Futures

- Enter a position through GUI or File Upload (GUI or API) with Report status=1.

1.5.2 Amending a Position

Amending a "Failed" position

3. French Commodity Contracts:
    - Cancel & then amending the position (using GUI or .CSV file upload with Report status=3 first, then amendment with Report status=2 using the same Report reference number).
      Or
    - Cancel & enter a new position (using GUI or .CSV file upload with Report status=3, then entering Report status=1 with a new report reference number).
4. Nordic Power Futures:
    - Amend position (using GUI or .CSV file upload with Report status=2).

Amending a "Checked & Ready" / "Sent" position

5. French Commodity Contracts:
    - Cancel & then amending the position (using GUI or .CSV file upload with Report status=3 first, then amendment with Report status=2 using the same Report reference number).
      Or
    - Cancel the position & enter a new position (using GUI or .CSV file upload with Report status=3, then entering Report status=1 with a new report reference number).
6. Nordic Power Futures:
    - Amend position (using GUI or .CSV file upload with Report status=2).
      Or
    - Cancel the position & enter a new position (using GUI or .CSV file upload with Report status=3, then entering Report status=1 with new report reference number).

1.5.3 Cancelling a Position

French Commodities & Nordic Power Futures

- Cancel a position through GUI or File Upload (GUI or API) with Report status=3.

1.5.4 How to properly report a position (NET)

Futures

When submitting/entering a position for a Future, the client should only populate **Long Position Quantity** field or the **Short Position Quantity** field (never both at the same time (as was expected for gross)).

	Field			
	LONG POSITION QUANTITY	LONG POSITION DELTA QUANTITY	SHORT POSITION QUANTITY	SHORT POSITION DELTA QUANTITY
LONG POSITION	100	N/A (futures)		N/A (futures)
SHORT POSITION		N/A (futures)	100	N/A (futures)

Options

When submitting/entering a position for an Option, the client should populate the combination of fields (depending on whether they are long or short on a call or put).

	Field			
	LONG POSITION QUANTITY	LONG POSITION DELTA QUANTITY	SHORT POSITION QUANTITY	SHORT POSITION DELTA QUANTITY
LONG CALL	50	20	0	0
SHORT CALL	0	0	50	20
LONG PUT	50	0	0	20
SHORT PUT	0	20	50	0

1.5.5 How to properly close a position

Futures

When submitting/entering a report **to close a position for a Future**, the client should only populate **Long Position Quantity** and **Short Position Quantity** fields with 0.

	Field			
	LONG POSITION QUANTITY	LONG POSITION DELTA QUANTITY	SHORT POSITION QUANTITY	SHORT POSITION DELTA QUANTITY
FUTURE POSITION CLOSURE	0	N/A (futures)	0	N/A (futures)

Options

When submitting/entering a report **to close a position for an Option**, the client should populate **Long Position Quantity**, **Short Position Quantity**, **Long Position Delta Quantity** and **Short Position Delta Quantity** fields with 0.

	Field			
	LONG POSITION QUANTITY	LONG POSITION DELTA QUANTITY	SHORT POSITION QUANTITY	SHORT POSITION DELTA QUANTITY
OPTION POSITION CLOSURE	0	0	0	0

1.5.6 Automatic Positions Reporting

1.5.6.1 Overview

Nordic Power Futures

Clients which subscribed to the **Automatic Positions Reporting** have the possibility to have their positions being prefilled by **Saturn** (Commodities Positions reconciliation).

The Position Reporting fields are sourced from:

1. Euronext Clearing;
2. System referential;
3. Positions Static Data;

While fields sourced from **Euronext Clearing** and system referential requires no additional action on clients side, *Positions Static Data* **must be completed by clients**. A dedicated dashboard has been created for that purpose.

Clients can refer to *Saturn - User Guide - Euronext Cash and Derivatives Markets - External* section 12 "**Commodity Static Data Manager**" for explanation on how to manage and correctly fill *Static Data*.

The fields retrieved are:

RTS21 Field Name	Field Source
Report reference number	Euronext Clearing
Security ID	
Holding Position Trading Day	
Trading Venue	
Long Position Quantity	
Short Position Quantity	
Reporting Entity ID	Positions Static Data
Position Holder ID	
Position Holder email	
Position Holder ID Type	
Ultimate Parent Entity ID	
Ultimate Parent Entity email	
Ultimate Parent Entity type	
Risk Reducing Indicator	
Investment Firm Indicator	
Position Type	System referential
Position Maturity	

1.5.6.2 Positions Static Data

The list of required *Positions Static Data* fields are:

<table>
<tr><th>Field Number</th><th>Field Name</th><th>Content</th><th>Format</th><th>Additional Information</th><th>Required</th><th>Check Type</th><th>Check Description</th></tr>
<tr><td>1</td><td>Reporting Entity ID</td><td colspan="6">The format controls applied are available here.</td></tr>
<tr><td>2</td><td>Trading Firm ID</td><td>ID of the Trading Firm.</td><td>{ALPHANUM-8}</td><td>Sourced from Euronext Clearing. Not amendable</td><td>Yes</td><td>/</td><td>/</td></tr>
<tr><td>3</td><td>Position Account ID</td><td>ID of the position account.</td><td>{ALPHANUM-20}</td><td>Sourced from Euronext Clearing. Not amendable</td><td>Yes</td><td>/</td><td>/</td></tr>
<tr><td>4</td><td>Position Holder ID</td><td colspan="6" rowspan="8">The format controls applied are available here</td></tr>
<tr><td>5</td><td>Position Holder ID type</td></tr>
<tr><td>6</td><td>Position Holder email</td></tr>
<tr><td>7</td><td>Ultimate Parent Entity ID</td></tr>
<tr><td>8</td><td>Ultimate Parent Entity type</td></tr>
<tr><td>9</td><td>Ultimate Parent Entity email</td></tr>
<tr><td>10</td><td>Investment Firm Indicator</td></tr>
<tr><td>11</td><td>Risk Reducing Indicator</td></tr>
<tr><td>12</td><td>Is Active</td><td>Indicate if the mapping is active or not.</td><td>0- Mapping Inactive
1- Mapping Active</td><td>/</td><td>Yes</td><td>Multiple Choice check</td><td>1- If Is Active not in (0, 1), Then
Raise Error: [1005] Invalid value</td></tr>
</table>

All *Positions Static Data* fields are **mandatory**.

The *Trading Firm ID* & *Position Account ID* are directly retrieved from **Euronext Clearing**: **they cannot be modified**.

Note

Clients must ensure that *"Positions Static Data"* are **validated** ("Checked & Ready" status). In case the "*Positions Static" Data* are **invalid or incomplete** ("**Failed**" or "**Enx to be completed**" status), **the positions will not be reported to the regulator(s)**.

1.5.6.3 Workflow

The **Automatic Positions Reporting** workflow is the following:

1) In the early morning, **Saturn** retrieves and imports the *previous business day's* positions from **Euronext Clearing**. The imported **positions** will have a "**Enx to be completed**" status.
2) **Saturn** checks if the "*Position Static Data"* exists based on the key *Trading Firm ID;Position Account ID*.
   - If the mapping does not exist, a new "*Position Static Data"* record is created with a status "**Enx to be completed**" in the "**Commodity Static Data Manager**" dashboard and must be completed by client*.

*Clients are reminded to **complete** and **validate** "*Position Static Data"* ("**Checked & Ready**" status) **between 09:00 CET and 14:00 CET**.

3) **Saturn** runs a check every three hours, for all positions, if **valid** "*Position Static Data"* exists based on the key *Trading Firm ID;Position Account ID*.
   a) If a **valid** "*Position Static Data"* exists, the **position** is completed and is checked against the commodities validation rules.
   b) If "*Position Static Data"* exists but is **invalid**, the **position** remains in "**Enx to be completed**" status and the error message **"[9000]Impossible to reconcile Position due to invalid or not completed Static Data. Please complete missing information before next reconciliation.**" is displayed at position level.
   Clients must ensure to complete/correct "Position Static Data" as soon as possible.
4) Once position is validated against commodities validation rules (in "**Checked & Ready**" status), it is sent to the regulator(s) in the Commodity Position Reporting file at **17:00 CET**.

Clients can request **Automatic Positions Reporting** subscription by contacting *Euronext Membership* team at euronextmembership@euronext.com.

1.6 THE CONTENT OF THE COMMODITY POSITIONS REPORT

The format of the Euronext daily commodity positions report follows as a general approach the specifications of ITS4.

Reporting entities should pay attention that positions have to be reported on a **net** basis. Such an approach is aimed at providing more transparency on the Commitment of Trader (COT) reports that will be issued each Wednesday at end of day.

Saturn GUI Field	.CSV File field	RTS21 Field #	RTS21 Field Name
N/A	**N/A**	1	Date and time of report submission
Report reference number	Report reference number	2	Report reference number
Holding Position Trading Day	Holding Position Trading Day	3	Date of the trading day of the reported position
N/A	Report status	4	Report Status
Reporting Entity ID	Reporting Entity ID	5	Reporting entity ID
Position holder ID	Position holder ID	6	Position holder ID
Position holder email	Position holder email	7	Email address of position holder
Ultimate Parent entity ID	Ultimate parent entity ID	8	Ultimate parent entity ID

Saturn GUI Field	.CSV File field	RTS21 Field #	RTS21 Field Name
Ultimate Parent entity email	Ultimate parent entity email	9	E-mail address of ultimate parent entity
Investment Firm Indicator	Investment Firm Indicator	10	Parent of collective investment scheme status
Security Id	SecurityId	11	Identification code of contract traded on trading venue
N/A	**N/A**	12	Venue product code
Trading Venue	Trading venue identifier	13	Trading venue identifier
Position Type	Position type	14	Position type
Position Maturity	Position maturity	15	Position maturity
Long Position Quantity & Short Position Quantity	Long Position quantity & Short Position quantity	16	Position quantity
N/A	**N/A**	17	Notation of the position quantity
Delta Equivalent Long Position & Delta Equivalent Short Position	Delta Equivalent Long Position Delta Equivalent Short Position	18	Delta equivalent position quantity
Risk Reducing Indicator	Risk reducing indicator	19	Indicator of whether the position is risk reducing in relation to commercial activity
N/A	**N/A**	20	not used
Position holder ID type	Position holder ID type	**N/A**	**N/A**
Free Text1	FreeText 1	**N/A**	**N/A**
Free Text2	FreeText 2	**N/A**	**N/A**
Free Text3	FreeText 3	**N/A**	**N/A**
Free Text4	FreeText 4	**N/A**	**N/A**
Free Text5	FreeText 5	**N/A**	**N/A**
N/A	Business Unit	**N/A**	**N/A**

- **Delta equivalent of options positions**

Positions on options should be converted into delta equivalent positions on futures.

As a reminder, daily reporting of Euronext listed commodities contracts applies also to the positions in options on commodity futures. For each option series, members have to report, following the same principles of net basis as in the futures contracts, both the quantity of option contracts and its equivalent quantity in futures as expressed by the delta of the position (please refer to question 9 of ESMA Q&A on commodity derivatives topics). As the individual delta of one option is always less than or equal to 100% in absolute value, members are expected to include in their checks that, for a given line of option series reporting, the delta equivalent position is therefore, in absolute amount, less than or equal to the option position.

Euronext intends to make delta on Commodity Options public for reporting purpose. Until the solution is in place post MIFID II go-live, reporting entities must use their own delta or delta available from their back *office system. More information about the solution for distributing the delta publicly will be provided in due course.*

- **The categories of market participants**

The different categories of persons should be classified in the Weekly CoT Report according to the nature of their main business:

- **Investment firms** (as defined in MIFID 2) or **credit institutions**;
- **Investment funds**, either undertaking for collective investments in transferable securities or alternative investment fund manager;
- **Other financial institutions** including insurance undertakings, reinsurance undertakings and institutions for occupational retirement provision;
- **Commercial undertakings** (commercial activities are defined in ESMA guidelines on key concepts of the AIFMD, Ref. 2013/611).
- **Operators with compliance obligations** under Directive 2003/87/EC

The category of participants is now considered as a new field provided by member and included in the Euronext specifications. It is included in the output files sent to the NCAs based on the value of the 'Position Holder type' provided in the Position Holder file.

Euronext reminds reporting entities when assigning category of participants to their Position Holders that only Position Holders of type ''Commercial Undertakings'' have the possibility to declare positions with the '' Risk Reducing '' indicator.

For further guidance, reporting entities can refer to:

- **MiFID II Level 1 - Article 57.1**: *"Position limits shall not apply to positions held by or on behalf of a non-financial entity and which are objectively measurable as reducing risks directly relating to the commercial activity of that non-financial entity"*
- **MiFID II Level 2 - Article 7 of RTS 21** that provides information on criteria and methods to determine whether a position can be considered as risk reducing. The article also limits the use of the risk reducing indicator to non-financial entities.

- **The Venue Product Code**

The Venue Product Code is not included in the Euronext specifications.

As per ITS 4, reporting entities must report their positions on a per instrument basis. The Venue Product Code is in place automatically determined par Euronext based on the ISIN code of the contract and included in the output file sent by Euronext to the NCAs. It corresponds to the Contract Code attached to the instrument, e.g. EBM for the Milling Wheat Future contract.

- **Reporting of OTC equivalent contracts**

MiFID II requires all Investment Firms trading in commodity derivatives outside a trading venue to provide NCAs with daily position reports on economically equivalent OTC contracts, including a breakdown of proprietary positions and any client positions.

A report on commodity OTC economically equivalent contracts is due by any investment firm, exchange member or not, and this report has to reach the authority in charge of monitoring the corresponding listed commodity contract positions.

The Euronext solution has been designed in accordance with ITS4 standards to accommodate, on an optional basis, reporting of EEOTC contracts and that all information contained in the position reporting files will be transmitted to the authority supervising our relevant listed commodity contracts.

1.7 SPOT MONTH / OTHER MONTHS

Positions must be segregated between positions in *Spot Month* vs positions in *All Other Months*.

- In relation to Euronext Power Derivatives instruments listed on the Euronext Nord Pool Power Futures market, Euronext confirms that the spot month, for the purposes of MiFID II daily reporting, is always **the current calendar month and**, for an instrument to be considered SPOT, its **entire delivery period** (Delivery Start Date and Delivery End Date) **must fall within said calendar month**:
    - *Example: If the current day is the 20th May, the current spot month is May AND:*
        - *Instruments with delivery entirely within May (e.g. 30 May, 19–25 May, 1–31 May) → they are considered as SPOT*
        - *Instruments with delivery starting or ending outside May (e.g. 2 June, 26 May–1 June, June, July, 2026) → they are considered as OTHR*
- In relation to Euronext Container Freight Futures listed on the Commodity Derivatives Market of Euronext Amsterdam, Euronext confirms that the spot month for the purposes of MiFID II daily reporting is **always the first maturity immediately available for trading**.
- In relation to Euronext agricultural commodity contracts listed on MATIF, Euronext confirms that the spot month for the purposes of MiFID II daily reporting is **always the first maturity immediately available for trading**.
    - *For example, on the rapeseed contract, February is the spot month for the whole period starting from the first day following the last trading day of the previous November maturity until the last trading day of that February maturity, i.e. from 1 November 2017 to 31 January 2018, inclusive.*

Reporting of options on futures contracts follows the same logic as for their equivalent futures: options that have the spot month future as their underlying will also be classified as spot month options. *(Note that this implies there is a period during which no option at all will classify as spot month options: since options on MATIF futures expire prior to the maturity of the future itself, over that specific period they will either have been converted into spot month futures or will have expired unexercised).*

As a reminder, there are only expiries of a monthly nature on MATIF contracts and the issue of infra maturities as mentioned in the ESMA Q&As does not arise.

For complete background about this choice of organization by the AMF as the national competent authority for the MATIF, one may observe that this arrangement has been reflected in the setting of position limits by the national competent authority, which introduces a specific increased limit for the other months in the transitional period when liquidity gradually shifts from the spot month to the other months. However, this does not change the fact that the spot month is always deemed to be the first month open for trading until its last trading day.

The Spot Month indicator is available through the Saturn Web Service in the Get Instruments function.

2. TECHNOLOGY

2.1 WEB SERVICE

The services in the Saturn API are exposed as Web Services:

- *Message format*: REST
- *Transport mechanism*: HTTPS

Saturn Rest API allows to upload only a CSV file format. The response of the upload request can be formatted in json or XML. *Please note that in order to use the Saturn API, systems must be capable of calling a REST Web service through HTTP over SSL, as well as being capable of generating and parsing XML documents.*

2.2 SECURITY

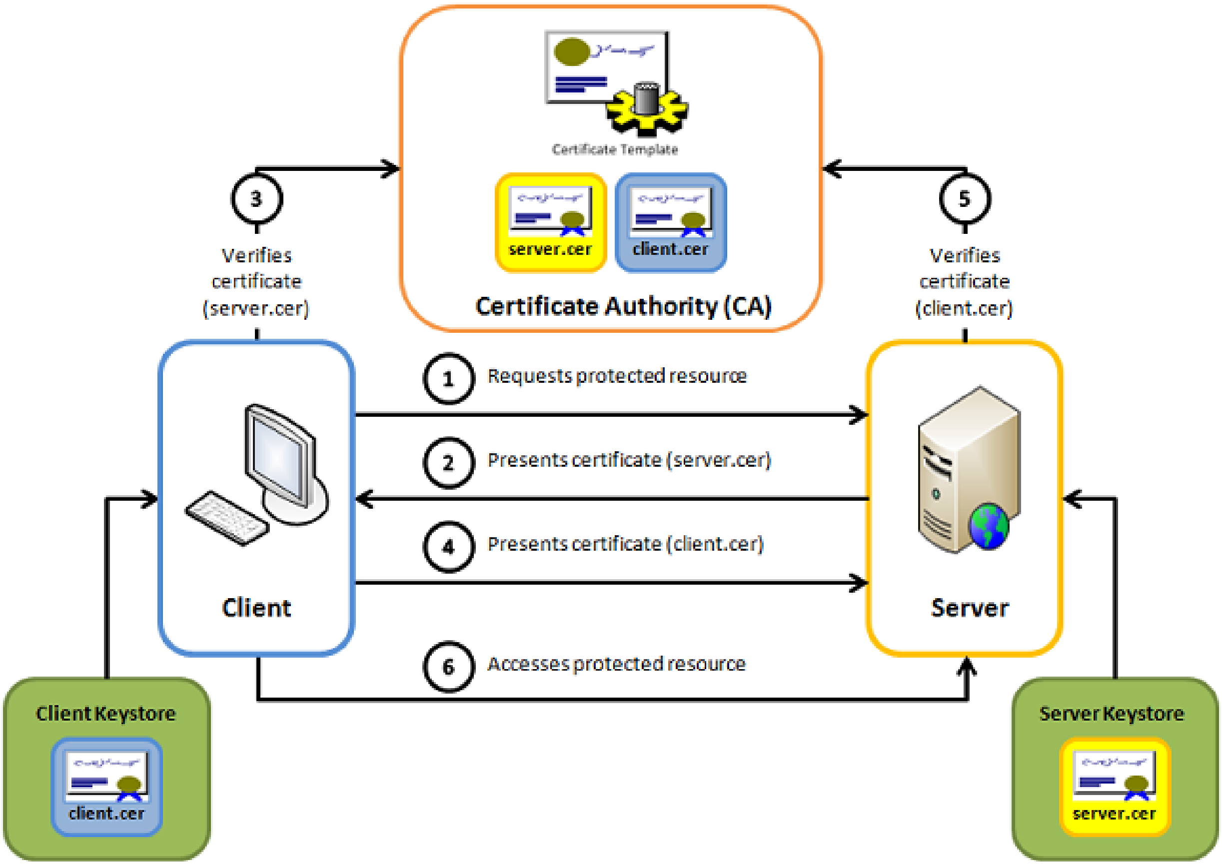
Services in Saturn are protected by authentication and authorization mechanisms. To access the services, a client is required to log on to the system.

The web services allow the customers to send commands and get reports to/from Saturn.
The web services agents and the passwords are managed by the Saturn application. The passwords are stored encrypted in the Saturn MySql Database.

The agent sends first a logon request in HTTPS with his name and password encrypted.
Then Saturn checks the credentials, assign a token and reply the token to the agent.
Then the agent is allowed to communicate with Saturn in Rest API by using this token in each message.
Tokens are valid for a defined period of time (parameter to be defined). If the agent sends a message with an expired token, then Saturn replies with an error message "Token expired".
Passwords and tokens are transmitted in the Authorization fields of the HTTP header.

In addition, Saturn will use certificate based mutual authentication that refers to two parties authenticating each other through verifying the provided digital certificate so that both parties are assured of the others' identity. In other terms, it refers to a client (web browser or client application) authenticating themselves to a server (website or server application) and that server also authenticating itself to the client through verifying the public key certificate/digital certificate issued by the trusted Certificate Authorities (CAs).
From a high-level point of view, the process of authenticating and establishing an encrypted channel using certificate-based mutual authentication involves the following steps.
A client requests access to a protected resource:

1. The server presents its certificate to the client;
2. The client verifies the server's certificate;
3. If successful, the client sends its certificate to the server;
4. The server verifies the client's credentials;
5. If successful, the server grants access to the protected resource requested by the client.



2.3 SESSION HANDLING

ALL	Euronext Members and Non-Members

To use some of the services provided by Saturn, the client must first logon to the system. After checking the credentials Saturn creates a token and assigns it to the client. The client then will be allowed to communicate with the Saturn REST API by using this token in each message. In addition, Saturn will memorise the client IP from the login request and will check that each message is sent by the same client IP.

Saturn, in each request, extracts the token from the authorization header and looks up the token / IP on its storage.

Tokens are valid for a defined period of time. If the client sends a message with an expired token, Saturn will reply with an error message “Token expired”

Note: A client is only allowed to have an active session at a time. The first session will be automatically invalidated, if a client logs on to the Saturn system already having an active session established.

2.4 AUTHENTICATION

ALL	Euronext Members and Non-Members

Username and password are used to authenticate a client logging on to the system. These client credentials are stored in the Saturn database.

Note: The password is stored encrypted into the database

After a successful logon, a token is created by Saturn and is returned to the client.

2.5 LOGOFF

ALL	Euronext Members and Non-Members

If a client is logged-on to the system for more than a configurable number of minutes without performing any operation, the system will automatically log-off the client and terminate the session.

If the client invokes an operation when logged off, a REST error will be returned to the client. In this case, the client needs to log on to the system again to be able to perform any further operations.

3. FUNCTIONS SUMMARY

ALL	Euronext Members and Non-Members

This section provides a summary of the functions available through the Saturn REST API.

For detailed information on each message, please refer to section 4: Function Details.

Function	Description
AuthenticateUser	Log-in function. This function should be used by client to access to the Saturn Web service
Upload	This function allows reporting entities to automatically upload their daily Positions report files to Saturn

4. FUNCTIONS DETAILS

4.1 AUTHENTICATE USER

ALL	Euronext Members and Non-Members

The client must perform this function before any other. If successful, the function creates a session on the server and returns a token that a client needs to pass along with all subsequent functions during the ongoing session.

The token is used for session handling. The server returns the token in the HTTPS response header.

The client sends that token in each request using the “Authorization” header. Tokens are valid for a defined period (parameter to be defined). If the client sends a message with an expired token, then Saturn replies with the error message “Token expired”. Passwords and tokens are transmitted in the Authorization fields of the HTTP header.

Function:

Function name: AuthenticateUser
Request EndPoint: /SaturnWebServices/rest/Authentication/ AuthenticateUser
Method: POST

Request Parameters:

Name	Value	Type	Data Type	Required	Description
Authorization	Basic <Username:Password>	Attribute	string	Yes	Concatenate Saturn username and password (MD5 encrypted) – Concatenation is encrypted in base 64

Response Parameters:

Name	Type	Data Type	Required	Description
Token	Attribute	string	Yes	Token generated by Saturn and assigned to the above account. Each following function undertaken by the user shall contain this token
StatusCode	Attribute	int	Yes	The status code of the logon function. See below for description

Possible returned **status** codes:

200 – Success

401 – Access denied ! Check your login/password

504 – Session expired

4.2 ENVIRONMENT

ALL	Euronext Members and Non-Members

The following table provides the links to connect to the Saturn Web / API application in the EUA and Productions environments.

Environment	URL Saturn GUI	URL Saturn Web Services
VEUA	https://saturn-v.euronext-net.com	https://saturn-api-v.euronext-net.com
PEUA	https://saturn-h.euronext.com	https://saturn-api-h.euronext.com
PRODUCTION	https://saturn-p.euronext.com	https://saturn-api-p.euronext.com

5. UPLOAD

ALL	Euronext Members and Non-Members

The Upload function must be used by client to upload a Commodity Position Reporting file in csv format.

Function:

Function name: upload
Request EndPoint: /SaturnWebServices/rest/files/upload
Method: POST

Request Body :

This endpoint accepts a request body in one of the following formats:

Name	Type	Description	Notes	Validations
Type	"FormData"			
FieldValues	List of FieldValue	A list of key/value pairs identifying the form data (field name / value)		

5.1 UPLOAD .CSV FILE DESCRIPTION

The file must be in csv format with ';' as separator.

The first line must contain the label of the fields in any order

The labels of the fields are listed below in the fire column of the tab; please note that the labels are case sensitive.

The file size is 10Mo. Files larger than 10Mo are to be uploaded separately.

Label	Description	Mandatory	Format	Validation Rules
Report reference number	Unique identifier of the report provided by the reporting entity	Yes	{ALPHANUM-52}	1 - The Report Reference Number must be unique per client when Report Status field is equal to 1 (NEW). **Error message: [7000] The Report Reference Number already exists** 2 - For a Report status field equal to 2 (AMEND), the Report Reference Number must exist and corresponds to the reference of the initial report.

Label	Description	Mandatory	Format	Validation Rules
				Error message: [7002] Incorrect Report Reference Number for Amend. Report 3 - For a Report status field equal to 3 (CANCEL), the Report Reference Number must exist and corresponds to the reference of the initial report (that must have been cancelled prior to the modification) **Error message: [7001] Unknown Report Reference Number for Canc. Report**
Holding Position Trading Day	Field to be populated with the date on which the reported position is held at the close of the trading day	Yes	Date and time in the following format: YYYY-MM-DD - **YYYY**: Year - **MM**: Month - **DD**: Day	Date format check YYYY-MM-DD. **Error message : [7003] Incorrect Holding Position Trading Day format.** Date in the future. **Error message : [7026] Report in the future is forbidden.** Date is a Closed Day. **Error message : [7024]Report on non-trading day is forbidden.** Reported instrument is expired at the reported date. **Error message : [7028]Reported instrument is expired at Holding Position Trading Day.** Report is done after 10 days. **Error message : [7029]Holding Position Trading Day is too far from Current Date.**

Label	Description	Mandatory	Format	Validation Rules
Report status	Indication as to whether the report is (1) new, (2) cancelled, or (3) amended. Where a previously submitted report is cancelled or amended, a report which contains all the details of the original report and using the original Report Reference Number should be sent and the 'Report status' should be flagged as 'CANC'. For amendments, a new report that contains all the details of the original and using the original Report Reference Number with all necessary details corrected should be sent and the 'Report status' should be flagged as 'AMND'	Yes	Numerical value **1**: New **2**: Amendment **3**: Cancellation	Must be equal to 1, 2 or 3. **Error message : [7004] Invalid value for Report Status**
Reporting Entity ID	LEI of the Reporting Entity. Direct clients must also populate this field with the LEI of their General Clearing Member (GCM)	Yes	{ALPHANUM-20}	This code must be previously declared in the Euronext participant referential and must be equal to participant's LEI. **Error message : [7005] Unknown Reporting Entity ID**

Label	Description	Mandatory	Format	Validation Rules
Position holder ID	Position Holder identifier. It can be either the Legal Entity Identifier (LEI) or the NATIONAL_ID for persons not having an LEI	Yes	{ALPHANUM-35}	If **Position Holder ID format = 1 (LEI)**, **Position Holder ID** code must be previously declared in the Euronext participant referential. **Error message : [7006] Unknown Position Holder ID** Only 1 position without **Freetext4 = "REPORT_MYSELF"** can be declared in Saturn per **Position Holder ID**, **Holding Position Day** and **Instrument**. **Error message : [7032]A position with the same Position Holder ID, Security ID & Holding Position Trading Day already exists.** Only 1 position with **Freetext4 = "REPORT_MYSELF"** can be declared in Saturn per **Position Holder ID**, **Holding Position Day** and **Instrument**. **Error message : [7033]A duplicated position was already declared for the same Position Holder ID, Security ID & Holding Position Trading Day.** If **Position Holder ID format != 1 (LEI)**, **Position Holder ID** code must respect National ID format. **Error message : [7036] Wrong Position Holder ID format.**

Label	Description	Mandatory	Format	Validation Rules
Position holder ID type	Identify the Type of the Position Holder.	Yes	Numerical value 1: Investment firms or credit institutions 2: Investment funds 3: Other financial institutions 4: Commercial undertakings5: Operators with compliance obligations under Directive 2003/87/EC	Must be equal to 1 or 2 or 3 or 4. **Error message : [7025] Invalid value for Position Holder Type**
Position holder email	Email address for notifications of position-related matters	Yes*	{ALPHANUM-256}	Mandatory for XEUC, XECO; Optional for XMAT. Email format check. **Error message: [7007] Incorrect Position Holder email format** When Position Holder ID = Ultimate parent entity ID, their email addresses must be equal. **Error Message: [7030] Position Holder email must be equal to Ultimate parent entity email**; the field is highlighted in red in the GUI.
Ultimate parent entity ID	Field to be populated with the Legal Entity Identifier code (LEI) for legal entities or {NATIONAL_ID} for natural persons not having an LEI.	Yes	{ALPHANUM-35}	If Ultimate parent entity ID type = 1 (LEI), then the LEI must be defined in the Global LEI Foundation (GLEIF). **Error message: [7008] Unknown Ultimate Parent Entity ID**
Ultimate parent entity ID type	Identify the type of Ultimate Parent Id	Yes	Numerical value **1**: LEI **2**: National ID **3**: CONCAT	Must be equal to 1 or 2 or 3. **Error message : [7009] Invalid Ultimate Parent Entity ID Type**

Label	Description	Mandatory	Format	Validation Rules
Ultimate parent entity email	Email address for correspondence in relation to aggregated positions	Yes*	{ALPHANUM-256}	Mandatory for XEUC, XECO; Optional for XMAT. Email format check. **Error message: [7010] Incorrect Ultimate Parent Entity email format** When Position Holder ID = Ultimate parent entity ID, their email addresses must be equal. **Error Message: [7030] Position Holder email must be equal to Ultimate parent entity email;** nothing is highlighted in the GUI
Investment Firm Indicator	Field to report on whether the position holder is a collective investment undertaking that makes investment decisions independently from its parent	Yes	Numerical **1**: True **0**: False	Must be equal to 0 or 1. **Error message : [7011] Invalid value for Investment Firm Indicator**
SecurityId	ISIN code of the commodity derivative, emission allowance or derivative thereof. For Euronext instruments, the ISIN code of the instrument as provided in the standing data files	Yes	{ISIN}	The ISIN provided must be part of Euronext Commodities instrument referential (CFI starts with *FC* or matches *OC*T** or OP*T***, or *OC*F** or -OP*F***). **Error message: [7012]Unknown ISIN code**

Label	Description	Mandatory	Format	Validation Rules
Trading venue identifier	Field to be populated with the ISO 10383 MIC code for positions reported on Euronext contracts. Where the segment MIC does not exist, use the operating MIC	Yes	{ALPHANUM-4} - **XMAT**: Euronext Paris contracts . **XEUC**: Euronext Amsterdam contracts . **XXXX**: off-venue positions in economically equivalent OTC contracts - **XOFF**: listed derivatives traded off-exchange -**XECO:** Freight Futures	1- Must be equal to 'XMAT', 'XEUC', 'XXXX', 'XOFF' or 'XECO' **Error message : [7013] Invalid Trading Venue Identifier** 2- Check MIC exists or is equal to 'XOFF'. **Error message : [7013] Invalid Trading Venue Identifier.** 3- If position type is OPTN or FUTR, consistency check between the MIC defined for the ISIN and the MIC provided in the position. **Error message : [7013] Invalid Trading Venue Identifier**
Position type	Field to report whether the position is in either futures, options, emission allowances, or derivatives.	Yes	Numerical value: **1**: Options **2**: Futures **3**: OTC equivalent	1- Must be equal to 1 or 2 or 3. **Error message : [7014] Invalid value for Position Type** 2- If position type is Options or Futures, consistency check between the Euronext ISIN and the Euronext Trading venue identifier. **Error message : [7015] Incorrect Euronext Trading Venue Identifier for ISIN** 3- If position type is OTC equivalent, check if the Trading venue identifier is '**XXXX**' or '**XOFF**'. **Error message : [7016] Incorrect Trading Venue Identifier for Position type**

Label	Description	Mandatory	Format	Validation Rules
Position maturity	Indication of whether the maturity of the contract comprising the reported position relates to the spot month or to all other months	Yes	Numerical value: **1**: Spot month **2**: All other months	Must be equal to 1 or 2. **Error message : [7017] Invalid value for Position Maturity**
Long Position quantity	This field should be populated with the **Long** position quantity held in the Euronext commodity derivatives contract expressed in number of lots or MHWO	Yes	Decimal value with 15 digits and 2 fraction digits separated by "."	If Position Type is Option, the field should contain the Long Position Quantity held in number of lots or MHWO. Must be filled and greater than or equal to 0. **Error : [14] A Position quantity not null must be provided** For **Futures** (Position type = 2 (FUTR)), either **Long Position Quantity** or **Short Position Quantity** can be filled. However, **closing a position** is possible only if **Long Position Quantity** and **Short Position Quantity** are **filled with 0**. **Error message : [7034]Only Long or Short Position Quantity can be filled. For Options, please check additional fields: Delta Equivalent Position.** For **Call Options** (Position type = 1 (OPTN) & Instrument's CFI = OC**** (Call)), either (**Long Position Quantity** and **Delta Equivalent Long Position**) OR (**Short Position Quantity** and **Delta Equivalent Short Position**) can be filled. However, **closing a position** is possible only if **Long Position Quantity**, **Short Position Quantity**, **Delta Equivalent Long Position** and **Delta Equivalent Short Position** are **filled with 0**.

Label	Description	Mandatory	Format	Validation Rules
				Error message : [7034]Only Long or Short Position Quantity can be filled. For Options, please check additional fields: Delta Equivalent Position. For **Put Options** (Position type = 1 (OPTN) & Instrument's CFI = OP**** (Put)), either (**Long Position Quantity** and **Delta Equivalent Short Position**) OR (**Short Position Quantity** and **Delta Equivalent Long Position**) can be filled. However, **closing a position** is possible only if **Long Position Quantity**, **Short Position Quantity**, **Delta Equivalent Long Position** and **Delta Equivalent Short Position** are **filled with 0**. **Error message : [7034]Only Long or Short Position Quantity can be filled. For Options, please check additional fields: Delta Equivalent Position.** When **Long Position Quantity** is filled for **Call Options** (Position type = 1 (OPTN) & Instrument's CFI = OC**** (Call)), the **ratio Delta Equivalent Long Position / Long Position Quantity <= 1** must be respected. **Error message : [7027]Position Quantity and Delta Equivalent Quantity are inconsistent.(ratio > 1)** When **Long Position Quantity** is filled for **Put Options** (Position type = 1 (OPTN) & Instrument's CFI = OP**** (Put)), the **ratio Delta Equivalent Short Position / Long Position Quantity <= 1** must be respected.

Label	Description	Mandatory	Format	Validation Rules
				Error message : [7027]Position Quantity and Delta Equivalent Quantity are inconsistent.(ratio > 1)
Delta Equivalent Long Position	If the Position Type is 'OPTN', then this field shall contain the delta-equivalent quantity of the position reported in the "Position Quantity" field.	No	Decimal value with 15 digits and 2 fraction digits separated by "."	Must be filled if Field 14 "Position type" = 1 (OPTN) with a value greater than or equal to 0. **Error message : [7018] Long Delta Equivalent Position Quantity must be provided** Must not be filled if Field 14 "Position type" = 2 (FUTR). **Error message : [7019]Long Delta Equivalent Position Quantity must not be provided for Futures** For **Call Options** (Position type = 1 (OPTN) & Instrument's CFI = OC**** (Call)), either (**Long Position Quantity** and **Delta Equivalent Long Position**) OR (**Short Position Quantity** and **Delta Equivalent Short Position**) can be filled. **Error message : [7034]Only Long or Short Position Quantity can be filled. For Options, please check additional fields: Delta Equivalent Position.** For **Put Options** (Position type = 1 (OPTN) & Instrument's CFI = OP**** (Put)), either (**Long Position Quantity** and **Delta Equivalent Short Position**) OR (**Short Position Quantity** and **Delta Equivalent Long Position**) can be filled. **Error message : [7034]Only Long or Short Position Quantity can be filled. For Options, please check additional fields: Delta Equivalent Position.**

Label	Description	Mandatory	Format	Validation Rules
Short Position quantity	This field should be populated with the **Short** position quantity held in the commodity derivatives expressed in number of lots or MHWO	Yes	Decimal value with 15 digits and 2 fraction digits separated by "."	If Position Type is Option, the field should contain the Long Position Quantity held in number of lots or MHWO. Must be filled and greater than or equal to 0. **Error : [14] A Position quantity not null must be provided** For **Futures** (Position type = 2 (FUTR)), either **Long Position Quantity** or **Short Position Quantity** can be filled. However, **closing a position** is possible only if **Long Position Quantity** and **Short Position Quantity** are **filled with 0**. **Error message : [7034]Only Long or Short Position Quantity can be filled. For Options, please check additional fields: Delta Equivalent Position.** For **Call Options** (Position type = 1 (OPTN) & Instrument's CFI = OC**** (Call)), either (**Long Position Quantity** and **Delta Equivalent Long Position**) OR (**Short Position Quantity** and **Delta Equivalent Short Position**) can be filled. However, **closing a position** is possible only if **Long Position Quantity**, **Short Position Quantity**, **Delta Equivalent Long Position** and **Delta Equivalent Short Position** are **filled with 0**. **Error message : [7034]Only Long or Short Position Quantity can be filled. For Options, please check additional fields: Delta Equivalent Position.** For **Put Options** (Position type = 1 (OPTN) & Instrument's CFI = OP**** (Put)), either (**Long Position Quantity** and **Delta**

Label	Description	Mandatory	Format	Validation Rules
				Equivalent Short Position) OR (**Short Position Quantity** and **Delta Equivalent Long Position**) can be filled. However, **closing a position** is possible only if **Long Position Quantity**, **Short Position Quantity**, **Delta Equivalent Long Position** and **Delta Equivalent Short Position** are **filled with 0**. **Error message : [7034]Only Long or Short Position Quantity can be filled. For Options, please check additional fields: Delta Equivalent Position.** When **Short Position Quantity** is filled for **Call Options** (Position type = 1 (OPTN) & Instrument's CFI = OC**** (Call)), the ratio **Delta Equivalent Short Position / Short Position Quantity <= 1** must be respected. **Error message : [7027]Position Quantity and Delta Equivalent Quantity are inconsistent.(ratio > 1)** When **Short Position Quantity** is filled for **Put Options** (Position type = 1 (OPTN) & Instrument's CFI = OP**** (Put)), the ratio **Delta Equivalent Long Position / Short Position Quantity <= 1** must be respected. **Error message : [7027]Position Quantity and Delta Equivalent Quantity are inconsistent.(ratio > 1)**

Label	Description	Mandatory	Format	Validation Rules
Delta Equivalent Short Position	If the Position Type is 'OPTN', then this field shall contain the delta-equivalent quantity of the position reported in the "Position Quantity" field.	No	Decimal value with 15 digits and 2 fraction digits separated by "."	Must be filled if Field 14 "Position type" = 1 (OPTN) with a value greater than or equal to 0. **Error message : [7020] Short Delta Equivalent Position Quantity must be provided.** **Must not be filled if Field 14 "Position type" = 2 (FUTR).** **Error message : [7021]Short Delta Equivalent Position Quantity must not be provided for Futures** For **Call Options** (Position type = 1 (OPTN) & Instrument's CFI = OC**** (Call)), either (**Long Position Quantity** and **Delta Equivalent Long Position**) OR (**Short Position Quantity** and **Delta Equivalent Short Position**) can be filled. **Error message : [7034]Only Long or Short Position Quantity can be filled. For Options, please check additional fields: Delta Equivalent Position.** For **Put Options** (Position type = 1 (OPTN) & Instrument's CFI = OP**** (Put)), either (**Long Position Quantity** and **Delta Equivalent Short Position**) OR (**Short Position Quantity** and **Delta Equivalent Long Position**) can be filled. **Error message : [7034]Only Long or Short Position Quantity can be filled. For Options, please check additional fields: Delta Equivalent Position.**

Label	Description	Mandatory	Format	Validation Rules
Risk reducing indicator	Field to report whether the position is risk reducing in accordance with Article 7 of RTS 21.	Yes	Numerical value: 1: True (the position is risk reducing) **0**: False (the position is not risk reducing)	Must be equal to 0 or 1. **Error message : [7022]Invalid value for Risk Reducing Indicator**
FreeText 1	User free text #1	No	{ALPHANUM-55}	
FreeText 2	User free text #2	No	{ALPHANUM-55}	
FreeText 3	User free text #3	No	{ALPHANUM-55}	
FreeText 4	User free text #4	No	{ALPHANUM-55}	For direct reporting clients, the field should be filled with 'REPORT_MYSELF'
FreeText 5	User free text #5	No	{ALPHANUM-55}	
Business Unit	The Saturn client can have several business units; this field is to specify to which business unit the user who sends the file belongs to.	No	{ALPHANUM-10}	Must only contain capital letters and numbers
Position holder ID format	Identifies the Format of the Position Holder.	No* * If Trading Venue Identifier is XEUC or XECO, **Position holder ID format** is Mandatory if the Position Holder ID is a National ID.	Numerical value: 1- LEI 2- CCPT 3- NIDN 4- CONCAT **Set by default to LEI**.	Must be equal to 1 or 2 or 3 or 4. **Error message : [7035] Invalid value for Position Holder ID format**

5.2 UPLOAD RESPONSE DATA

ALL	Euronext Members and Non-Members

This function returns the status of the file reception.

Response Data Parameters:

Name	Type	Data Type	Required	Description
Code	Attribute	Int	Yes	Status of the function. 202 – OK, 600- FAILED
Data	Element	Sequence of data	Yes	Detailed description below

Sequence of data

Name	Type	Data Type	Required	Description
Type	Attribute	String	Yes	Name of statistics: UploadedFileStatus
Filename	Attribute	String	Yes	Csv file name
Size	Attribute	Int	Yes	Csv file size
Status	Attribute	String	Yes	Flag W
Tid	Attribute	String	Yes	Treatment ID
UploadedDate	Attribute	Date	Yes	“YYYY-MM-DDTHH:MM:SS

Successful upload example

{
  "code":200,
  "data":[
    {
      "type":"uploadedFileStatus",
      "fileName":"commo_CTSG_5.csv",
      "size":6144,
      "status":"W",
      "tid":1022, *(please note that Tid is for Euronext internal usage)*
      "uploadedDate":"2017-09-12T12:54:25"
    }
  ],
  "msg":"OK",
  "recordCount":1
}

For more details, refer to the section Filter structure in the chapter Technical details & examples here

5.3 GETUPLOADED

ALL	Euronext Members and Non-Members

EXAMPLE OF THE GETUPLOADED FUNCTION:

Function name: GetUpload
Request EndPoint: /SaturnWebServices/rest/files/getuploaded
Method: GET

5.4 GETUPLOAD RESPONSE DATA

ALL	Euronext Members and Non-Members

RESPONSE DATA PARAMETERS:

Name	Type	Data Type	Required	Description
Code	Attribute	Int	Yes	Status of the function. 200 – OK
Data	Element	Sequence of data	Yes	Detailed description of uploaded data

SEQUENCE OF DATA:

Name	Type	Data Type	Required	Description
Type	Attribute	String	Yes	Name of statistics : UploadedFileStatus
Filename	Attribute	string	Yes	Csv file name
Msg	Attribute	Int	Yes	Detailed message by trade and column
Size	Attribute	String	Yes	Filename size
Status	Attribute	String	Yes	E
Tid	Attribute	int		Treatment ID sequential number
uploadedDate	Attribute	date	Yes	“YYYY-MM-DDTHH:MM:SS


```
{
  "code":200,
  "data":[
    {
      "type":"uploadedFileStatus",
      "fileName":"commo_CTSG_5.csv",
      "msg":[
        "line[3]ERROR: Data too long for column 'POSITIONHOLDEMAIL' at row 1",
        "line[7]ERROR: Data too long for column 'ULTIMATEPARENTENTITYEMAIL' at row 1",
        "line[8] Try to insert an existing transaction",
        "line[9] Try to insert an existing transaction"
      ],
      "size":6144,
      "status":"E",
```

"tid":1022, *(please note that Tid is for Euronext internal usage)*

"uploadedDate":"2017-09-12T12:54:25"
}
],
"msg":"OK",
"recordCount":1
}

Possible returned **status** codes:
200 – OK
600 – FAILED

6. RETRIEVE REFERENTIAL

ALL	Euronext Members and Non-Members

The functions below are used to retrieve referential data.

6.1 GET INSTRUMENTS

ALL	Euronext Members and Non-Members

The "Get Instruments" function is used to get instruments referential data.

Function:

Function name: Get
Request EndPoint: /SaturnWebServices/rest/referentials/instruments/get
Method: POST

It is recommended to set a "Limit" and "offset" value to avoid retrieve all instruments from the database. Please note that **limit** and **offset** are defined at request end Point level. The **limit** value is used to retrieve a maximum number of instruments and the **offset** value is used to retrieve instruments from a specific starting point.

Example : **/SaturnWebServices/rest/referentials/instruments/get?limit=100offset=0**

limit=100&offset=0, begin from the first instrument (offset) and take the 100 following instruments (limit)

Request Body:

This endpoint accepts a request body in one of the following formats:

1- application/json;
2- application/xml.

Request Parameters

Name	Type	Data Type	Required	Description
FilterList	Element	Sequence of FilterList	Yes	Detail of request (treatment ID, sort..)
Offset	Attribute	Int	Yes	Initial number = 0
Limit		Int	Yes	Number of retrieved instruments

Sequence of filterList

Name	Type	Data Type	Required	Description

Name	Type	Data Type	Required	Description
Name	Attribute	String	Yes	Name of the field used as filter. It can be any field listed in the sequence data tab, for example ISIN
Value	Attribute	String	Yes	Value to filter
Operator	Attribute	String	Yes	Operator for filtering
Sort	Attribute	string	Yes	DESC or ASC (descending or ascending)

Example of GetInstruments:

{
"filterList": [
  {
    "name": "isin",
     "value": "DEC%",
     "operator": "LK"
  },
 ]
}

For more details, refer to the section Filter structure in the chapter Technical details & examples here

Response Data Parameters:

Name	Type	Data Type	Required	Description
Code	Attribute	int	Yes	Status of the function. 200 – OK
Data	Element	Sequence of data	Yes	Detailed description below

Sequence of data

Name	Type	Data Type	Required	Description
mic	Attribute	String	Yes	MIC of the Instrument
isin	Attribute	String	Yes	ISIN of the Instrument
euronextcode	Attribute	String	Yes	Euronext code of the Instrument (only for Cash instruments)
currency	Attribute	String	Yes	Currency of the Instrument
amr	Attribute	String	Yes	Euronext code of the Instrument (only for Derivative instruments)
adt	Attribute	Int	Yes	Average Daily Turnover
Cfi	Attribute	String	Yes	CFI code of the Instrument
product_code	Attribute	string	Yes	Euronext code of the product (only for Derivative instruments)

Name	Type	Data Type	Required	Description
symbol_Index	Attribute	Int	Yes	Euronext Optiq symbol index
trading_group	Attribute	String	Yes	Euronext trading group of the Instrument (only for Cash instruments)
expiry_date_offset	Attribute	Int	Yes	Rank of the maturity: 0: Spot month 1,2 3…: Other maturities
Ideleted	Attribute	Int	Yes	0: Instrument not delisted 1: Instrument delisted
Illiquidity	Attribute	Int	Yes	0: illiquid instrument 1: liquid instrument
q_notation	Attribute	String	Yes	This field indicates whether the quantity is expressed in monetary value, in nominal value or in Units: - ‘UNIT - ‘MONE’ – Monetary value; - ‘NMNL’ – Nominal value;
tick_size_denominator	Attribute	Int	Yes	Denominator used for tick size calculation
tick_size_numerator	Attribute	Int	Yes	Numerator used for tick size calculation
lisspostrade	Attribute	Int	Yes	Number of lots representing the Large In Scale post trade transparency deferral threshold.
lispretrade	Attribute	Int	Yes	Number of lots representing the Large In Scale pre trade transparency deferral threshold.
sstiposttrade	Attribute	Int	Yes	Number of lots representing the Size Specific To Instruments post trade transparency deferral threshold.
sstipretrade	Attribute	Int	Yes	Number of lots representing the Size Specific To Instrument pre trade transparency deferral threshold.
underlying_name	Attribute	String	Yes	Euronext name of the underlying (only for Derivative instruments)
underlying_product_code	Attribute	String	Yes	Euronext code of the underlying (only for Derivative instruments)

{
"code": 200,
"data": [{
"type": "instrument",
"adt": "0.00000",
"amr": "YOOMA161117200P",
"cfi": "OPAFPS",

"currency": "EUR",
"expiry_date_offset": 4,
"ideleted": 0,
"iliquidity": 0,
"isin": "FRENX0146618",
"lispostrade": "0",
"lispretrade": "0",
"mic": "XMAT",
"product_code": "OMA",
"q_notation": "",
"sent_to_mdg": 0,
"sstiposttrade": "0",
"sstipretrade": "0",
"symbol_Index": "4225800688",
"tick_size_denominator": 100,
"tick_size_numerator": 10,
"trading_group": "",
"underlying_name": "Corn / Mais",
"underlying_product_code": "EMA"
}],
"msg": "success",
"recordCount": 560
}

Please note that some of the attributes of the GetInstrument function will not be systematically populated.

Specific notes for Commodity Reporting purpose:

- Reporting entities are encouraged to filter the results of the function using the MIC code of Euronext Commodity markets (i.e.XMAT for Paris Commodity instruments).
- All commodity instruments having an expiry_date_offset equal to ‘0’ correspond to instruments related to the ‘Spot Month’ (at the date the function is called).
- All Commodity instruments having an expiry_date_offset other than ‘0’ correspond to instruments related to ‘Other Months’ (at the date the function is called).

7. RETRIEVE COMMODITIES REPORT

The "Get Commodity Reports" function is used to get instruments referential data.

Function:

Function name: Get
Request EndPoint: /SaturnWebServices/rest/commodityReports/get
Method: POST

It is recommended to set a "Limit" and "offset" value to avoid retrieve all trades from the database. Please note that **limit** and **offset** are defined at request end Point level. The **limit** value is used to retrieve a maximum number of trades and the **offset** value is used to retrieve trades from a specific starting point.

Example: **/SaturnWebServices/rest/commodityReports/get?limit=15&offset=0**

limit=15&offset=0, begin from the first trade (offset) and take the 15 following trades (limit)

Request Body :

This endpoint accepts a request body in one of the following formats:

1- application/json;
2- application/xml.

Request Parameters

Name	Type	Data Type	Required	Description
FilterList	Element	Sequence of filterList	Yes	Detail of request
Offset	Attribute	Int	Yes	initial number = 0
Limit		Int	Yes	Number of retrieved trades

Sequence of filterList

Name	Type	Data Type	Required	Description
Name	Attribute	String	Yes	Type of request : tid (treatment ID), status
Value	Attribute	String	Yes	status of position
Operator	Attribute	String	Yes	EQ
Type	Attribute	String	Yes	Type of report (commodity report)
Sort	Attribute	string	Yes	DESC or ASC (descending or ascending)

Example of Get function:

{
"filterList": [
  {
    "name": "reportref",
     "value": "TRADEREFERENCE%",

  "operator": "LK"
 },
]
}

7.1 GET COMMODITIES REPORT

ALL	Euronext Members and Non-Members

Get ResponseData Parameters:

Name	Type	Data Type	Required	Description
code	Attribute	Int	Yes	Status of the function. 200 – success
data	Element	Sequence of data	Yes	Detailed description below
Msg	Attribute	Sequence of data	Yes	Status – Success or failed
Recordcount	Attribute	Sequence of data	Yes	Number of retrieved trades

Sequence of data

Name	Type	Data Type	Required	Description
Columns details	Attribute	List	Yes	block of positions with all columns filled in the database

{
  "code": 200,
  "data": [{
    "type": "commodityReport",
    "businessunit": {
      "ideleted": 0,
      "name": "BU001",
      "participanttid": 385,
      "tag": "BU001",
      "tid": 9 *(please note that Tid is for Euronext internal usage)*
    },

"errors": "[REPORTINGENTITY][11] Wrong ESMA code. Not referenced.;[POSITIONHOLDERID][11] Wrong ESMA code.Not referenced.;[SECURITYID][19] Instrument invalid value;[VENUE][13] Invalid Value; [VENUE][16] MIC incompatible with ISIN; [SHORTPOSITIONQUANTITYDELTA][18] The delta position quantity must no be provided for Futures; [LONGPOSITIONQUANTITYDELTA][18] The delta position quantity must no be provided for Futures ",

"freetext1 ": "Smith ",

"freetext2 ": "Roland ",

"freetext3 ": "Vert ",

"freetext4 ": "Audi ",

"freetext5": "Bruxelles",

"holdingpositionday": "2016-10-14T00:00:00",

"investmentfirmindicator": 0,

"longpositionquantity": 940736.00,

"longpositionquantitydelta": 265758.00,

"origin": "SATURN",

"participanttid": 385,

"positionholdemail": "holder1@client.com",

"positionholderid": "5493005GIOHA4VVQNV28",

"positionmaturity": 2,

"positiontype": 2,

"reportingentity": "549300KFCCJ1Y2M20965",

"reportref": "TRADEREFERENCECMQH7398852110",

"riskreducingid": 1,

"saturnuser": "CommoUser",

"securityid": "FRENX0717251",

"shortpositionquantity": 567772.00,

"shortpositionquantitydelta": 617137.00,

"status": 4,

"tid": 2751, *(please note that Tid is for Euronext internal usage)*

"tradereport": 1,

"tsreceive": "2017-08-24T13:31:06.15",

"ultimateparententityemail": "test2@demo2.com",

"ultimateparententityid": "549300HUWQH7YHZVHL75",

"ultimateparententityidtype": 1,

"venue": "XMAT",

"uniquereportref": "202507296FFF9"
}],
"msg": "success",
"recordCount": 560
}

For more details, refer to the section Filter structure in the chapter Technical details & examples here.

8. REJECTION CODES

The following table lists the error codes returned by Saturn as a result of the submission of the report. These error codes therefore do not correspond to the regulators' feedback.

Error Code	Description
7000	The Report Reference Number already exists
7001	Unknown Report Reference Number for Canc. Report
7002	Incorrect Report Reference Number for Amend. Report
7003	Incorrect Holding Position Trading Day format
7004	Invalid value for Report Status
7005	Unknown Reporting Entity ID
7006	Unknown Position Holder ID
7007	Incorrect Position Holder email format
7008	Unknown Ultimate Parent Entity ID
7009	Invalid Ultimate Parent Entity ID Type
7010	Incorrect Ultimate Parent Entity email format
7011	Invalid value for Investment Firm Indicator
7012	Unknown ISIN code
7013	Invalid Trading Venue Identifier
7014	Invalid value for Position Type
7015	Incorrect Euronext Trading Venue Identifier for ISIN
7016	Incorrect Trading Venue Identifier for Position type
7017	Invalid value for Position Maturity
7018	Long Delta Equivalent Position Quantity must be provided
7019	Long Delta Equivalent Position Quantity must not be provided for Futures
7020	Short Delta Equivalent Position Quantity must be provided
7021	Short Delta Equivalent Position Quantity must not be provided for Futures
7022	Invalid value for Risk Reducing Indicator
7023	Invalid Business Unit format
7024	Report on non trading day is forbidden
7025	Invalid value for Position Holder Type

Error Code	Description
7026	Report in the future is forbidden.
7028	Reported instrument is expired at Holding Position Trading Day.
7029	Holding Position Trading Day is too far from Current Date.
7030	Position Holder email must be equal to Ultimate parent entity email.
7032	A position with the same Position Holder ID, Security ID & Holding Position Trading Day already exists.
7033	A duplicated position was already declared for the same Position Holder ID, Security ID & Holding Position Trading Day.
7034	Only Long or Short Position Quantity can be filled. For Options, please check additional fields: Delta Equivalent Position.

9. REST API STANDARDS

9.1 DATA FORMAT STANDARDS

ALL	Euronext Members and Non-Members

Certain data in the messages needs to be formatted according to standards for the respective data types.

Data Type	Standard	Example
Date	date	YYYY-MM-DD
DateTime	UTCTimestamp	YYYY-MM-DDThh:mm:ss.ddddddZ
Decimal	decimal	3.1415927
Boolean	Boolean	True/ False
String	string	FUTURE
Long	long	234 (up to .. characters)
Integer	int	2 (up to 233 characters)
Account	account	Username : string Role : string ID : long Jean ; Admin ; 347
LEI	ISO 17442	969500HMVSZ0TCV65D58
MIC	ISO 10383	XMAT
Currency	ISO 4217	EUR
Country	ISO 3166	FR
CFI	ISO 10962	ESETFA

9.2 OPERATORS

ALL	Euronext Members and Non-Members

Operators	Description
EQ	Equal to
NEQ	Not Equal to
LK	Like
GT	Greater than
GE	Greater than or Equal to
LT	Less than
LE	Less than or Equal to
ISNULL	Is Null

Operators	Description
ISNOTNULL	Is Not Null

9.3 SPECIAL CHARACTERS <, & AND > IN XML

ALL	Euronext Members and Non-Members

The ampersand character (&) and the angle brackets (<) and (>) *MUST NOT* appear in their literal form, except when used as mark-up delimiters, or within a comment, a processing instruction, or a CDATA section. If they are needed elsewhere, they *MUST* be escaped using either numeric character references or the strings "&" for (&) and "<" for (<). The right angle bracket (>) *MAY* be represented using the string ">", and *MUST*, for compatibility, be escaped using either ">" or a character reference when it appears in the string "]]>" in content, when that string is not marking the end of a CDATA section.

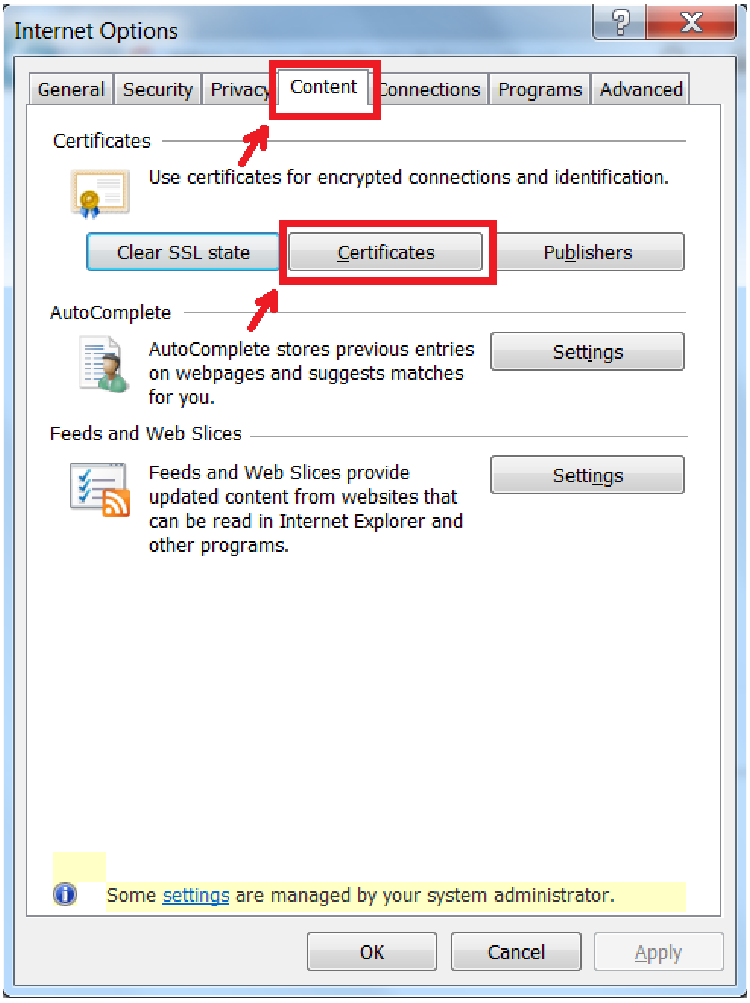
10. PRE REQUISITE BEFORE USING API

10.1 ENGLISH SCREENSHOTS

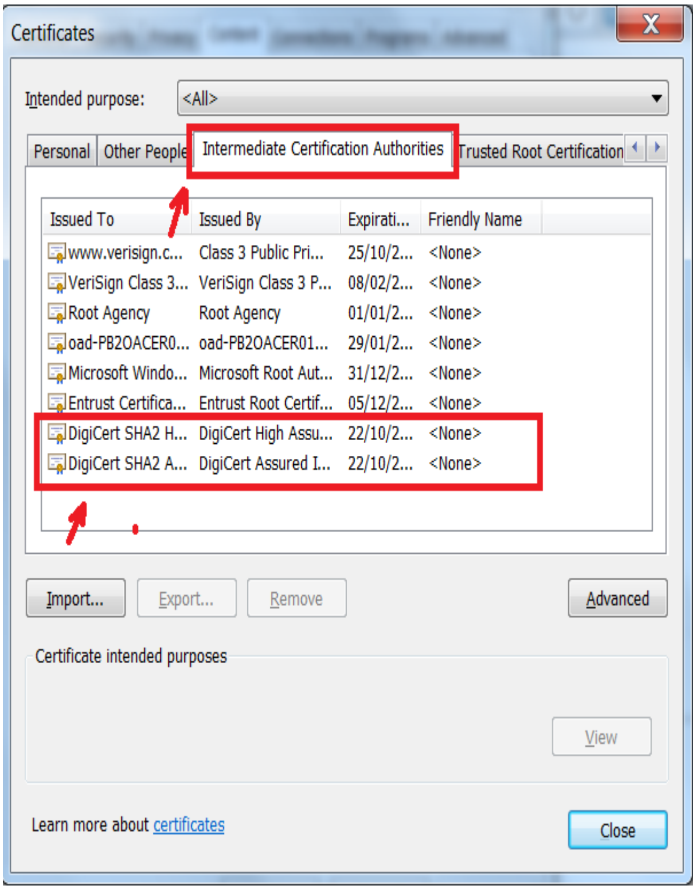
Before using SATURN API REST you have to check that your connection is made with a valid intermediate certificate.

Please follow the different steps below so that The connection is fully established.

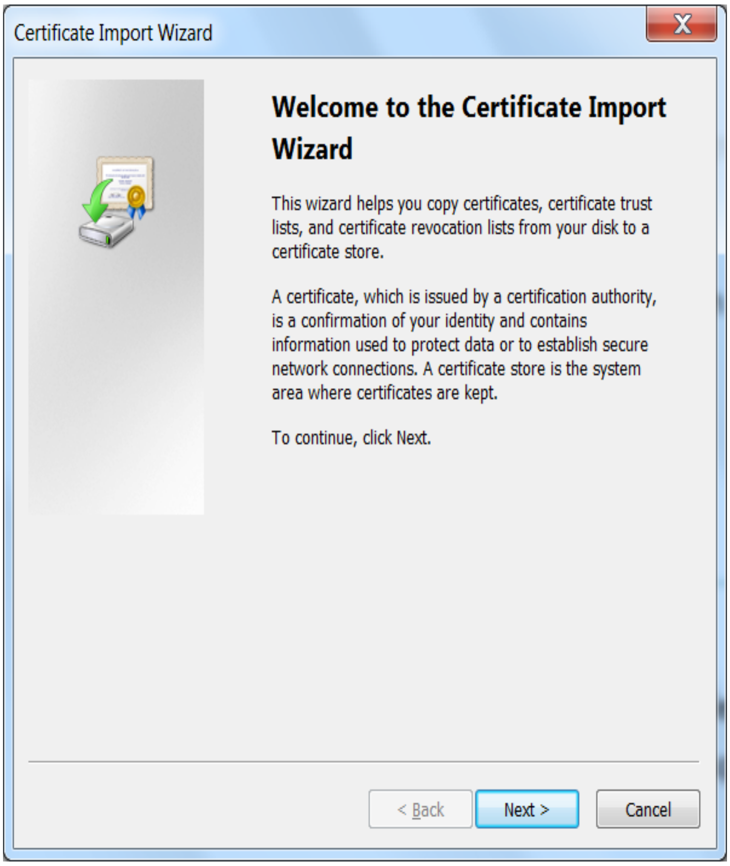
- Open your Internet Explorer navigator
- Go to Internet Options
- Click on 'Content' Tab
- Click on 'Certificates' button



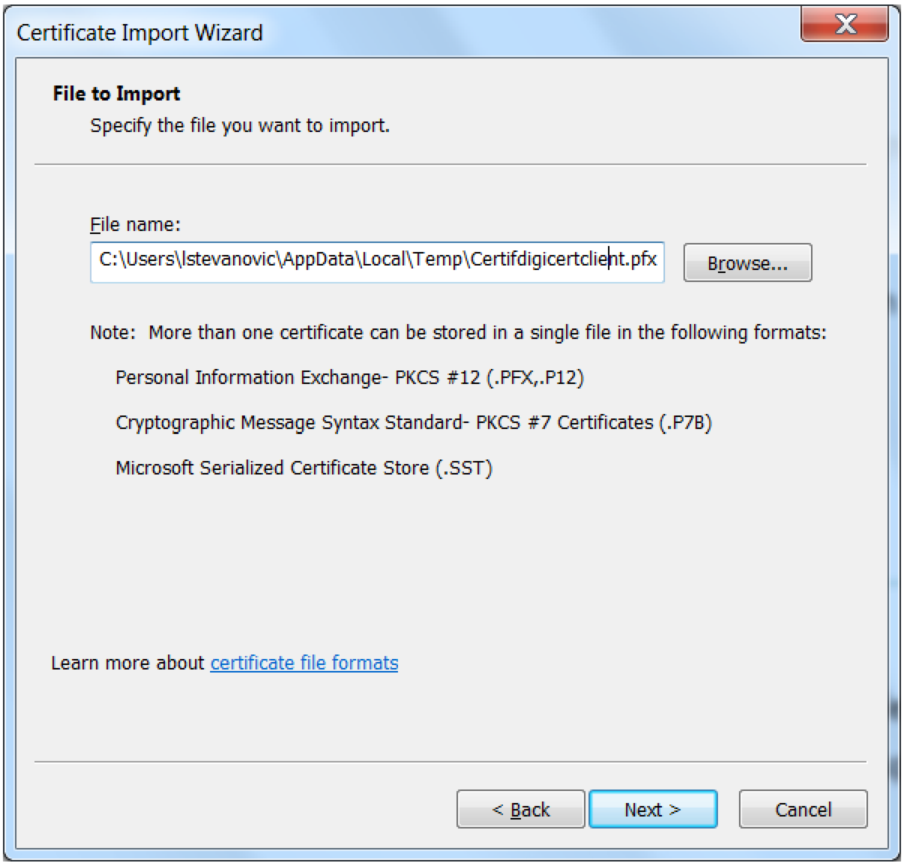
In the pop-in 'certificate' go to 'Intermediate Certification Authorities' and please check that you have the intermediate certificates Digicert



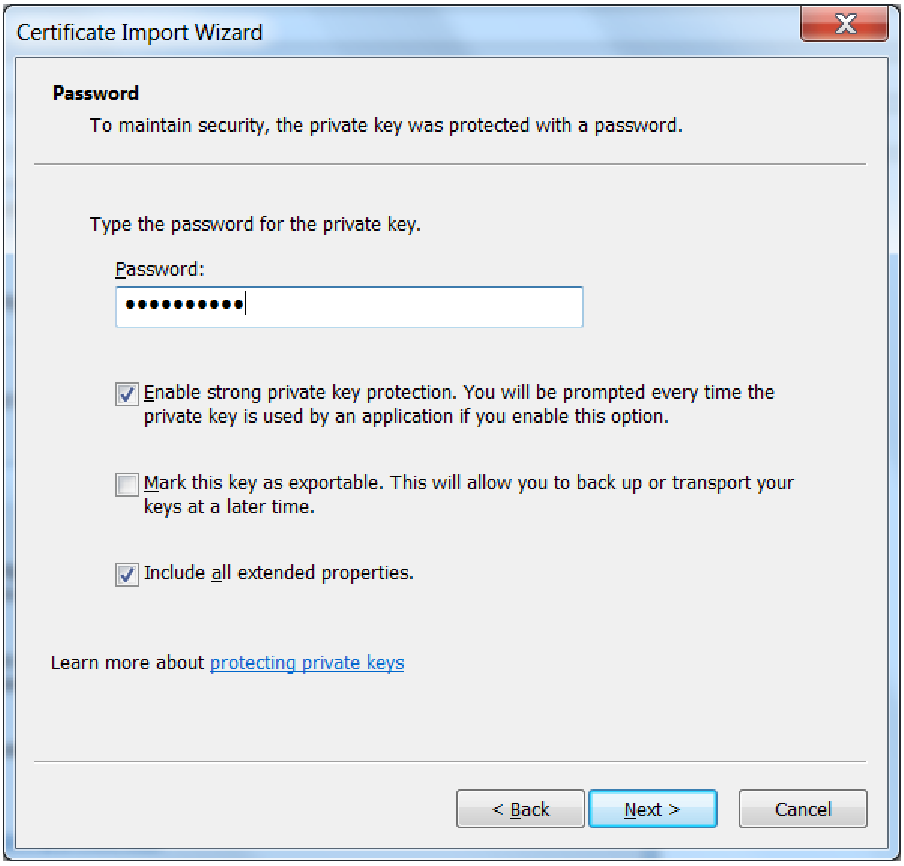
If any it is necessary to install them with executing the file attached “Certifdigicertclient.pfx” in this document, first click on ‘Next’.



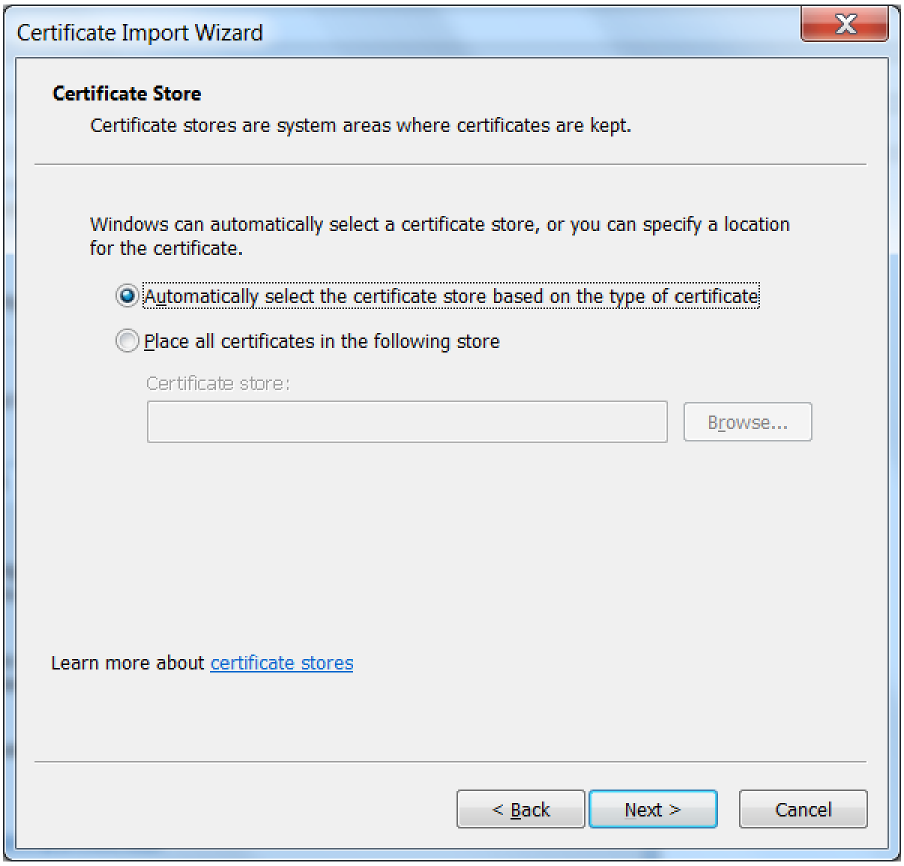
Browse the file on your desktop and click on ‘Next’



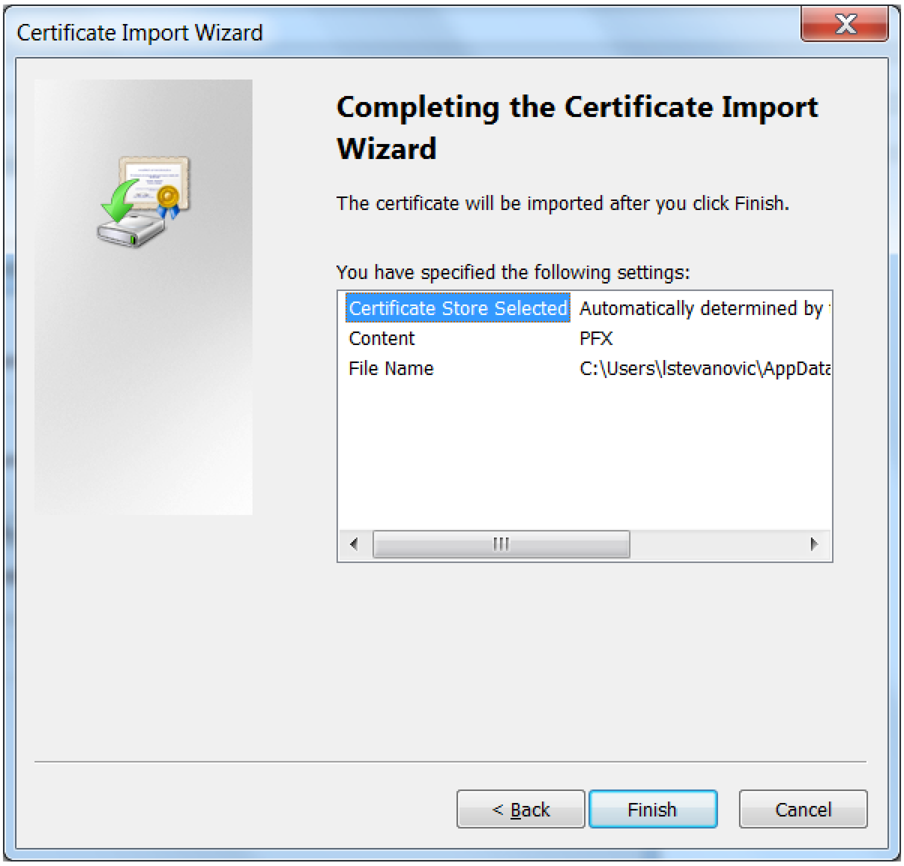
The password is Cer$!IF123 click on ‘Next’.



Tick on 'Automatically select the certificate store based on the types of certificate' and click on 'Next'.



When the installation is finished you get the window below, click on 'Finish'.

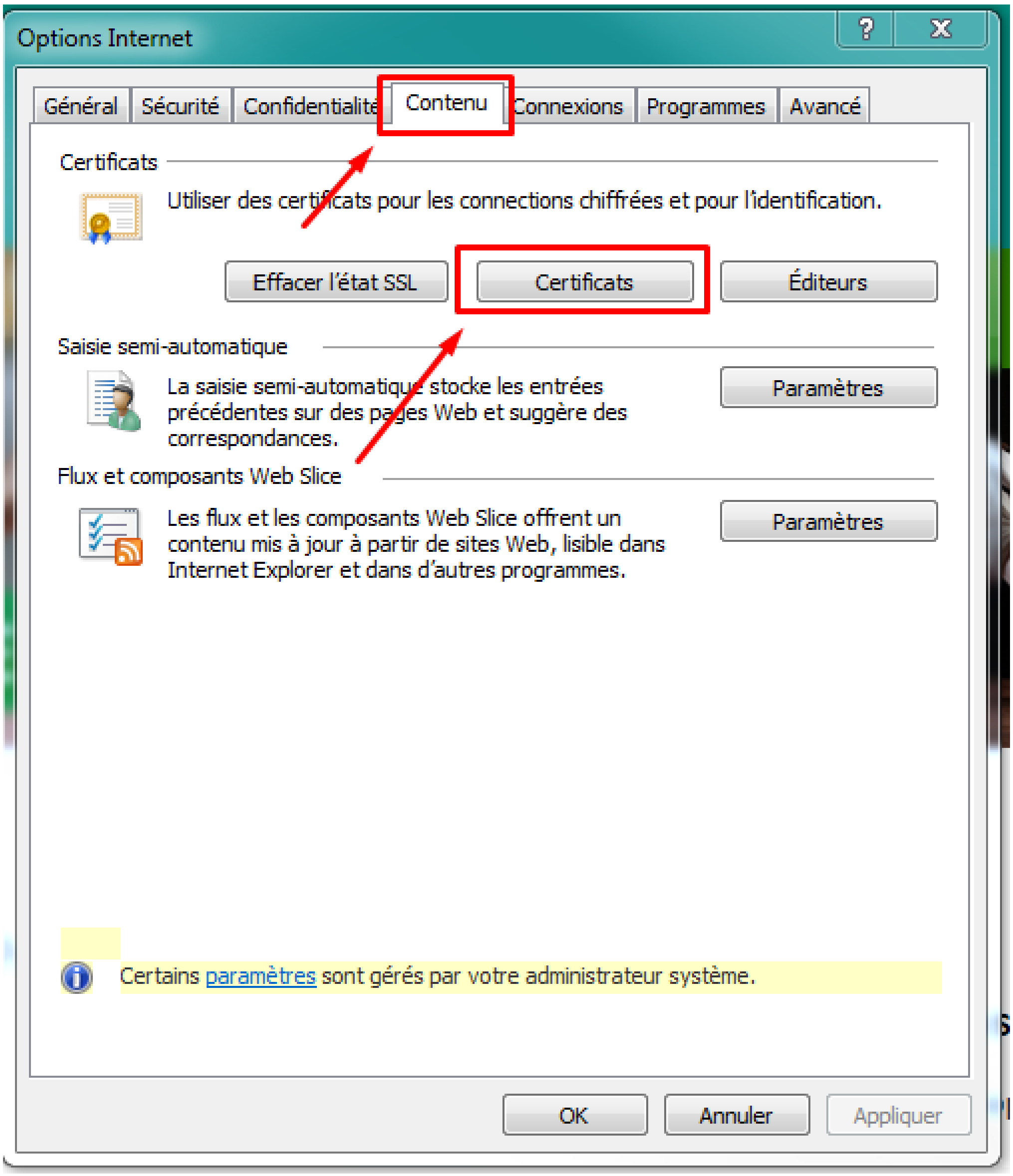


10.2 FRENCH SCREENSHOTS

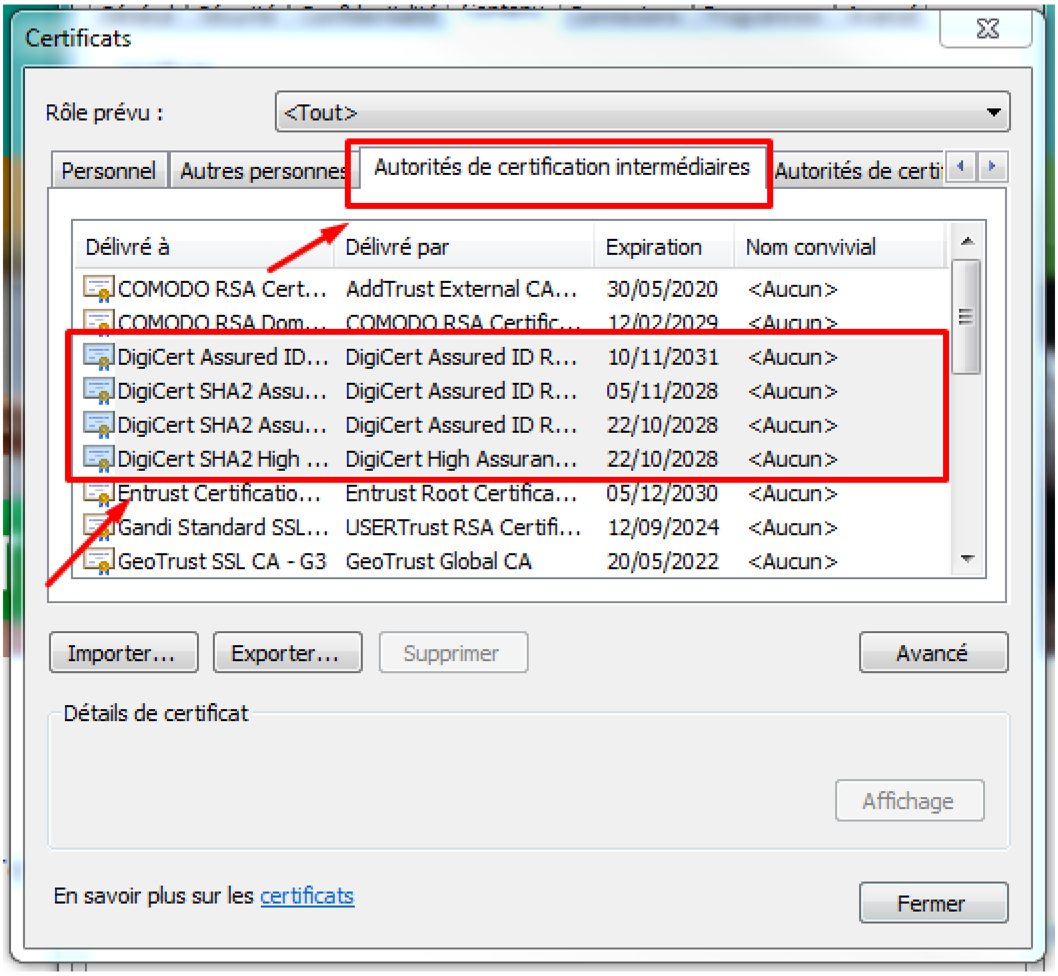
Before using SATURN API REST you have to check that your connection is made with a valid intermediate certificate.

Please follow the different steps below so that The connection is fully established.

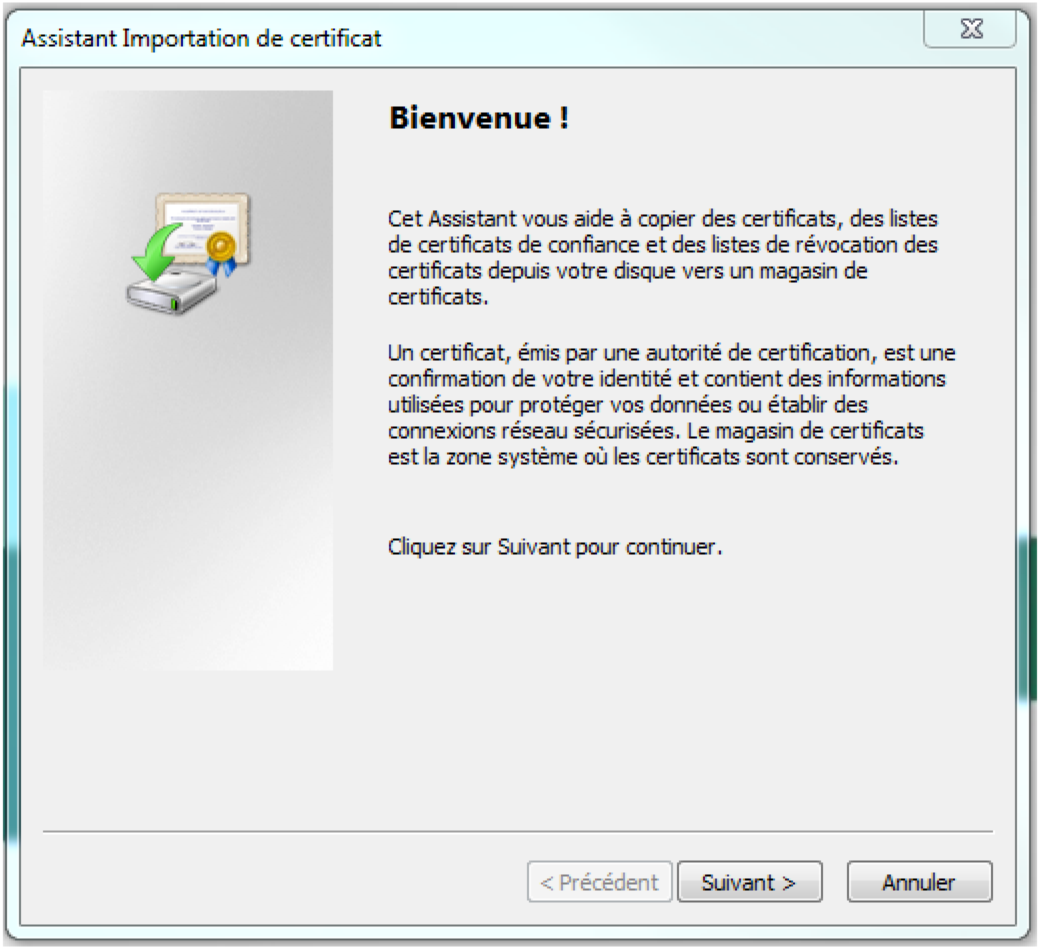
- Open your Internet Explorer navigator
- Go to Options Internet
- Click on 'Contenu' Tab
- Click on 'Certificats' button



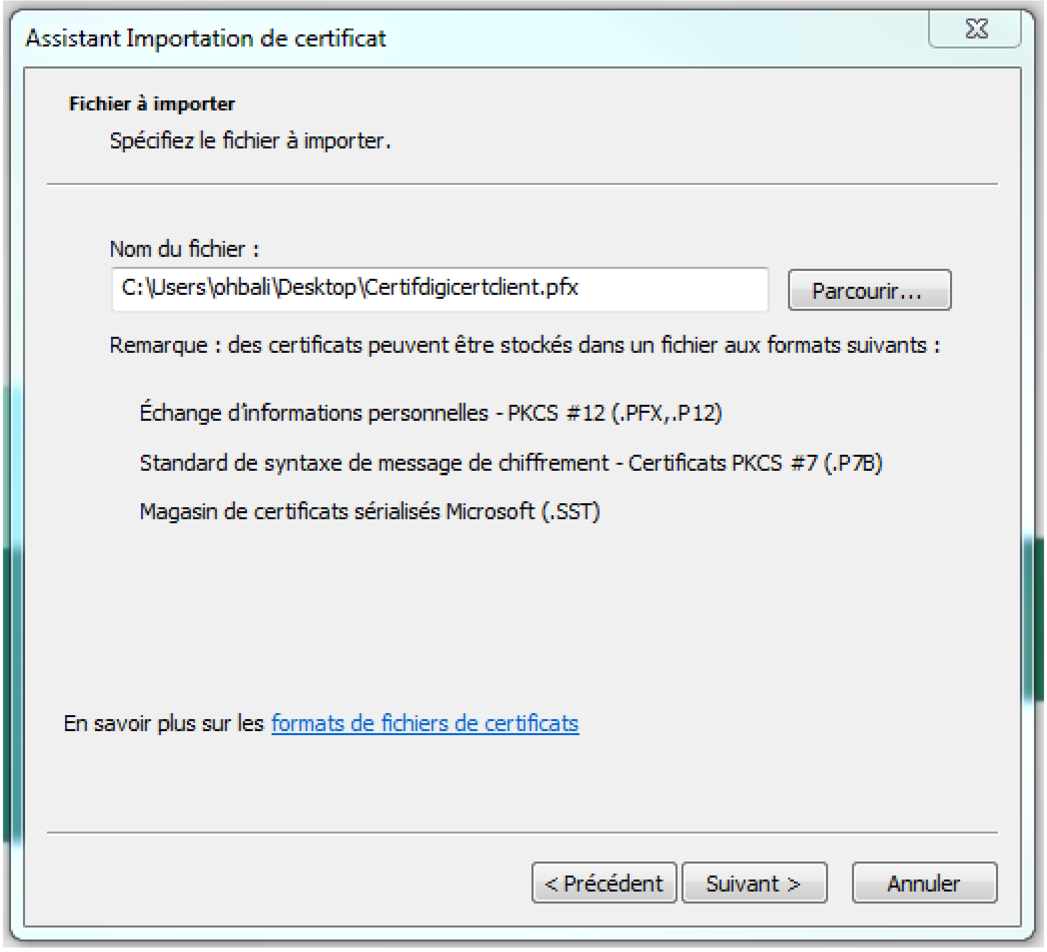
In the pop-in 'certificate' go to 'Autorités de certification intermédiaires' and please check that you have the intermediate certificates Digicert


Certificats
Rôle prévu :
<Tout>
Personnel
Autres personnes
Autorités de certification intermédiaires
Autorités de certi
Délivré à
Délivré par
Expiration
Nom convivial
COMODO RSA Cert… AddTrust External CA… 30/05/2020 <Aucun>
COMODO RSA Dom… COMODO RSA Certific… 12/02/2029 <Aucun>
DigiCert Assured ID… DigiCert Assured ID R… 10/11/2031 <Aucun>
DigiCert SHA2 Assu… DigiCert Assured ID R… 05/11/2028 <Aucun>
DigiCert SHA2 Assu… DigiCert Assured ID R… 22/10/2028 <Aucun>
DigiCert SHA2 High … DigiCert High Assuran… 22/10/2028 <Aucun>
Entrust Certificatio… Entrust Root Certifica… 05/12/2030 <Aucun>
Gandi Standard SSL… USERTrust RSA Certifi… 12/09/2024 <Aucun>
GeoTrust SSL CA - G3 GeoTrust Global CA 20/05/2022 <Aucun>
Importer…
Exporter…
Supprimer
Avancé
Détails de certificat
Affichage
En savoir plus sur les certificats
Fermer

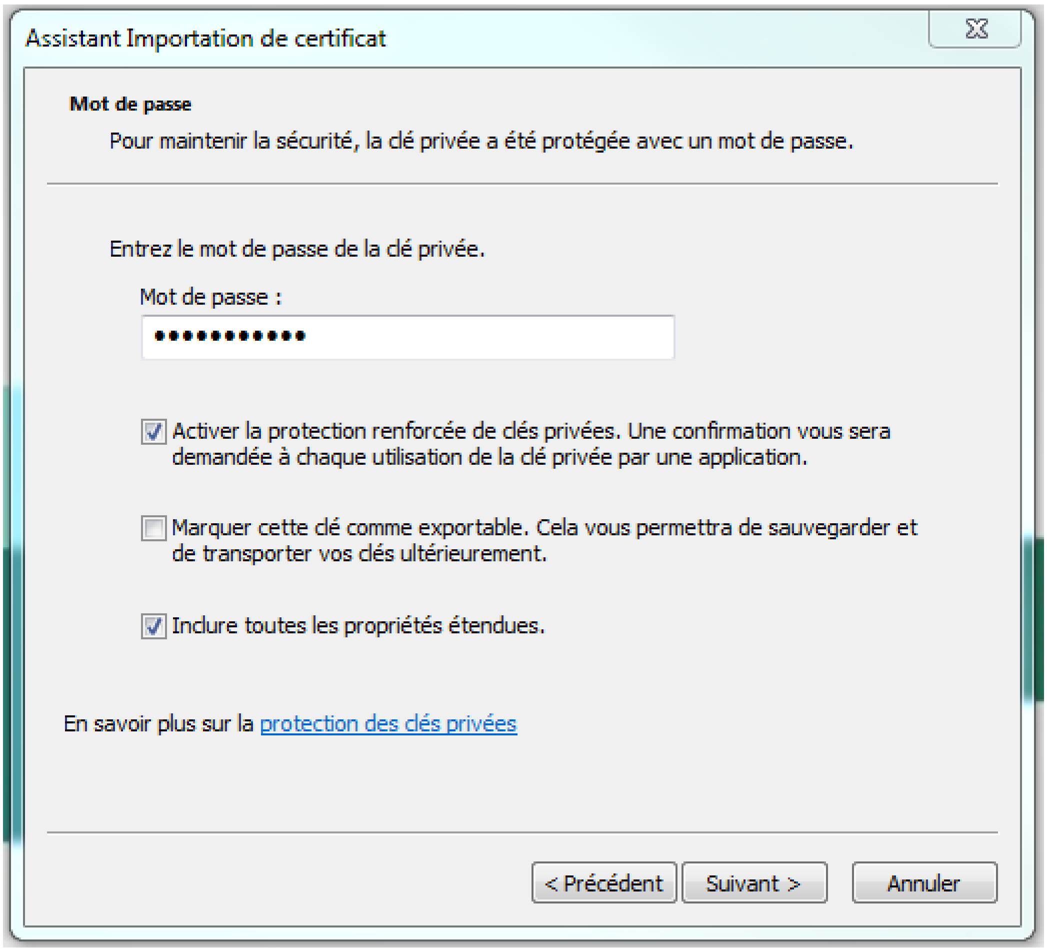
If any it is necessary to install them with executing the file attached “Certifdigicertclient”, first click on ‘suivant’.



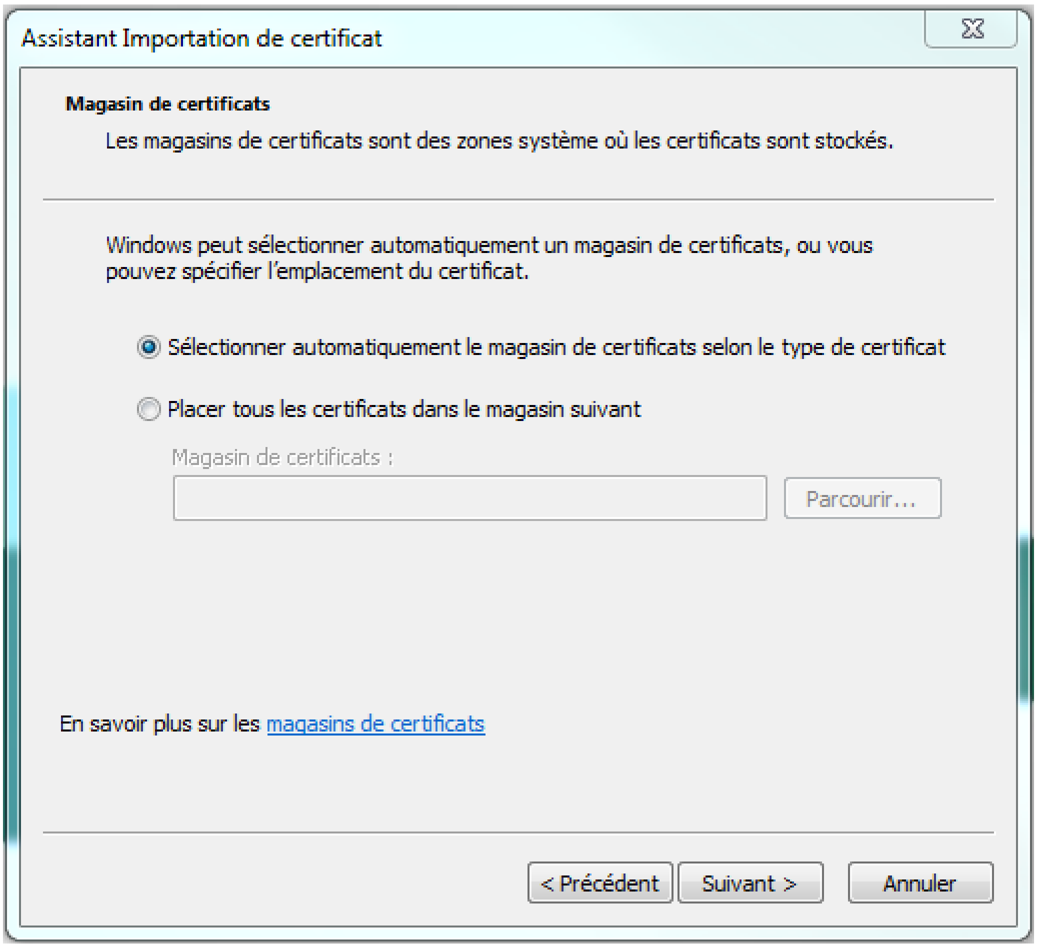
Browse the file on your desktop and click on 'Suivant'



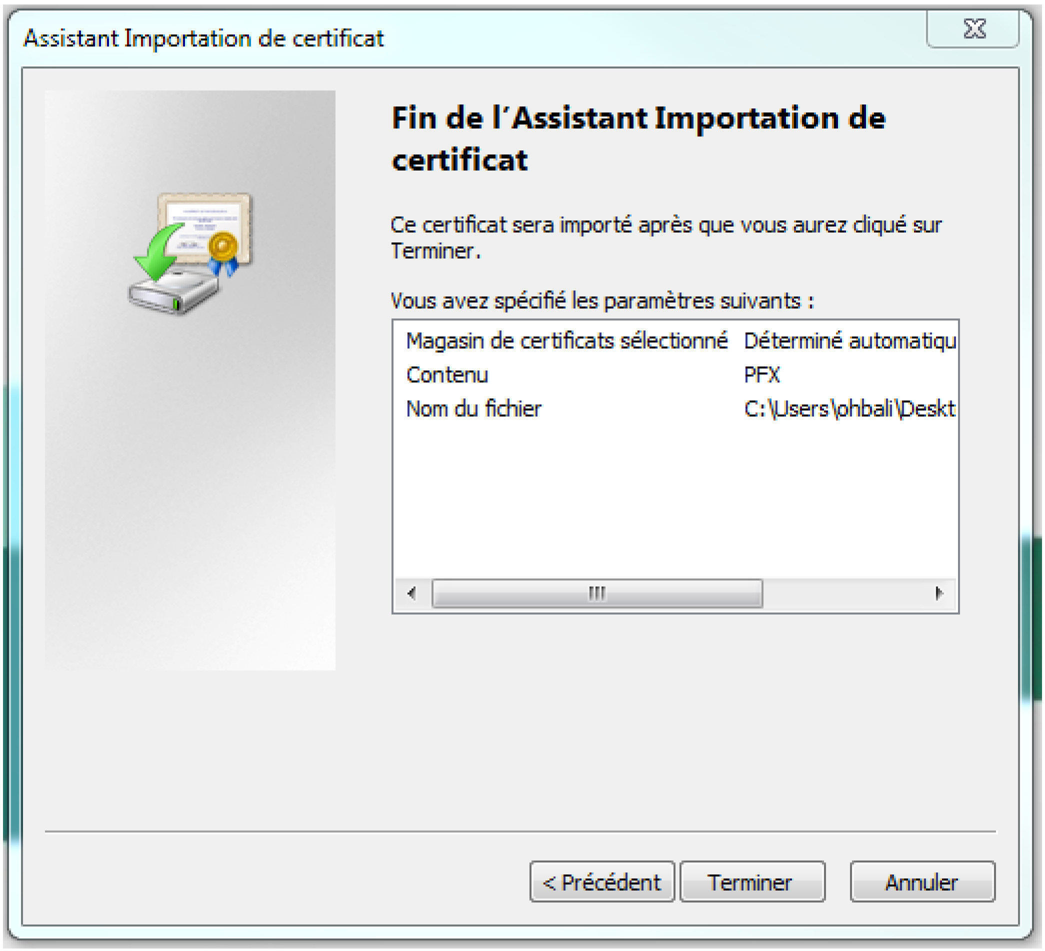
The password is Cer$!IF123 click on 'Suivant'



Tick ‘Sélectionner automatiquement le magasin de certificats selon le type de certificat’ and click on ‘suivant’



When the installation is finished you get the window below, click on ‘Terminer’



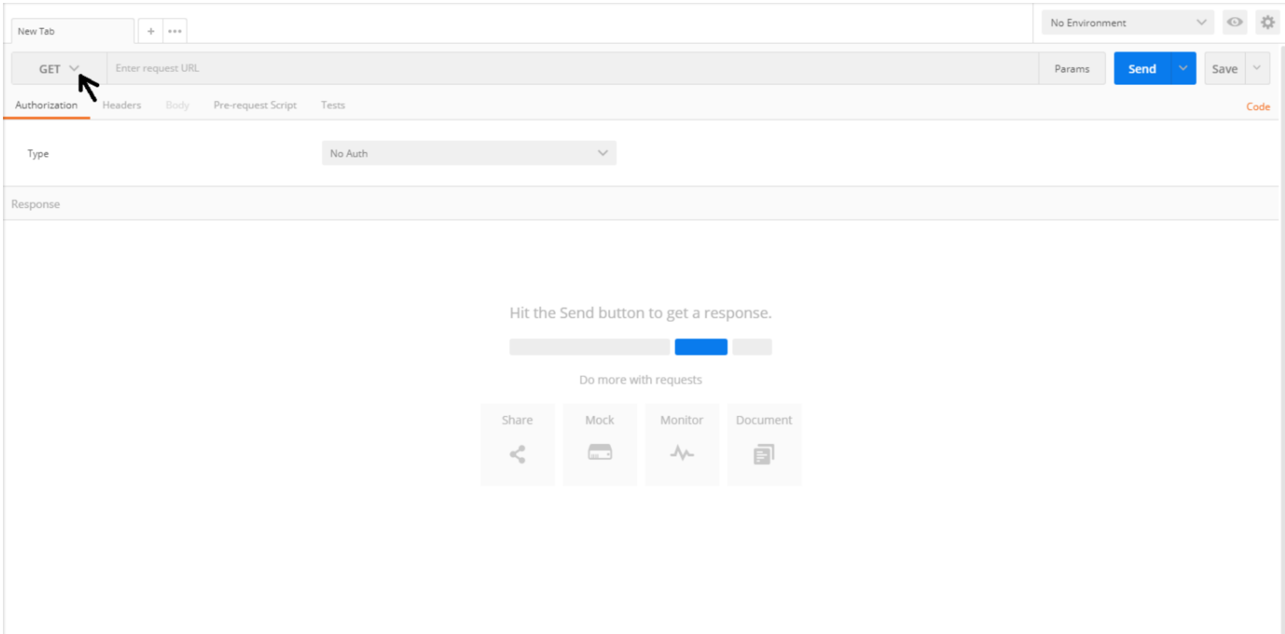
11. HOW TO SET UP A TEST

This section describes step by step how to test a function in Web service.

11.1 ACCESS TO API VIA POSTMAN

The function take in example hereafter is AuthenticateUser. It allows a user to connect to the API.
The screenshots are Software Postman examples

Select in the combo box below the function POST (showed by the arrow in the following screenshot)



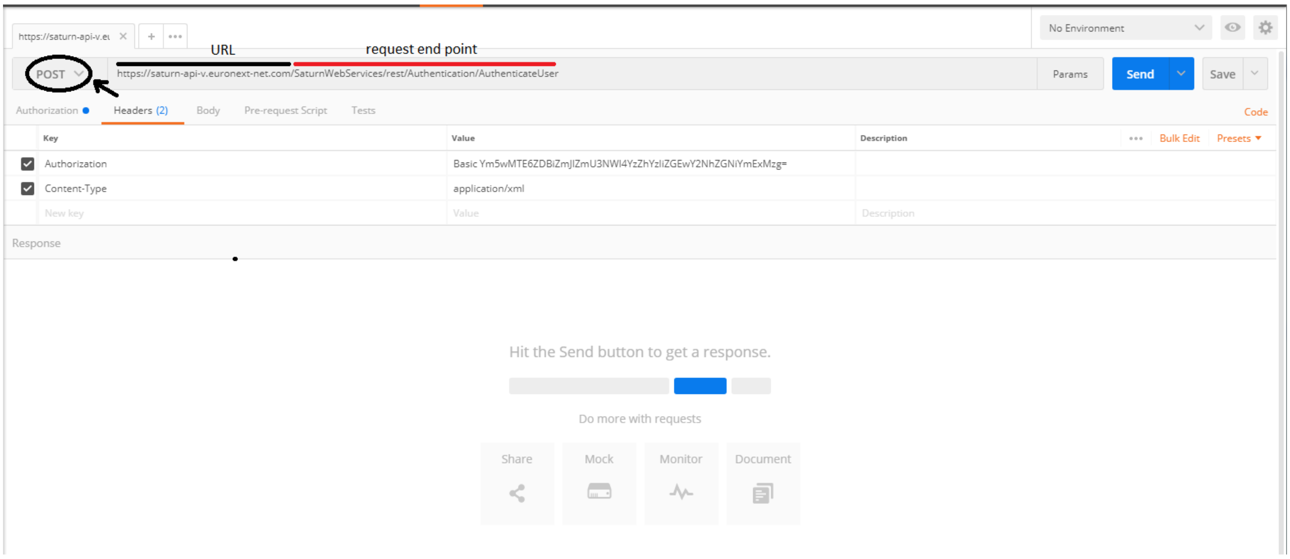
11.2 REQUEST ENDPOINT AND FUNCTION PARAMETER

All functions in this document have to be built as detailed below

Function:

Function name: AuthenticateUser
Request EndPoint: /SaturnWebServices/rest/Authentication/ AuthenticateUser
Method: POST

In Postman, select the method (POST) set up the URL followed by request end point.

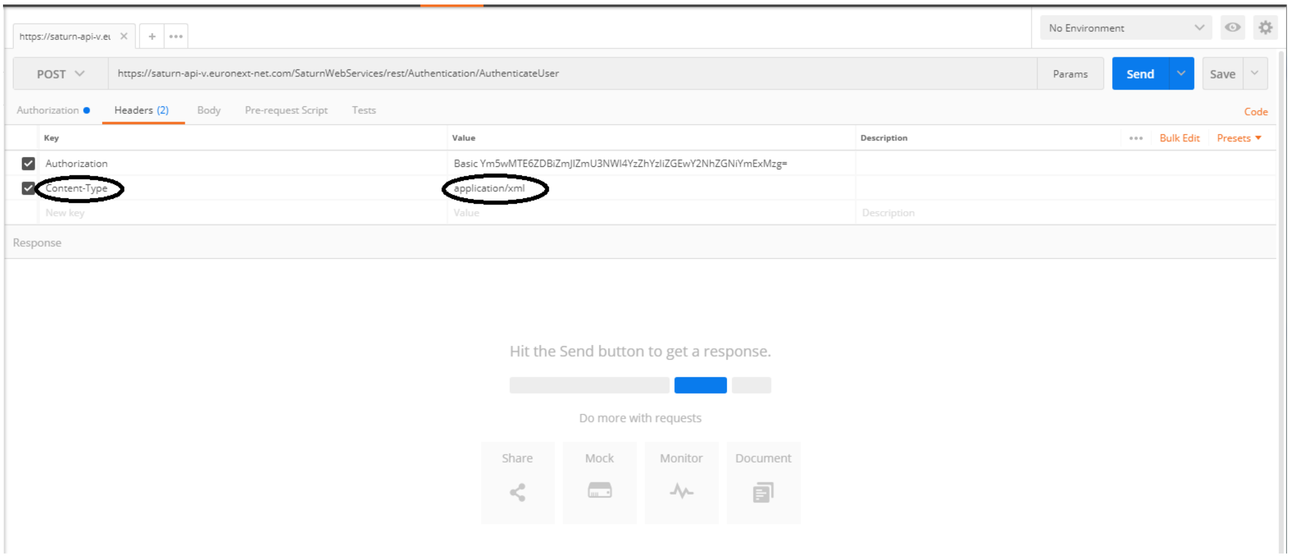


Request Body :

This endpoint accepts a request body in one of the following formats:

1. application/json;
2. application/xml.

In the screenshot below, xml is chosen as content type

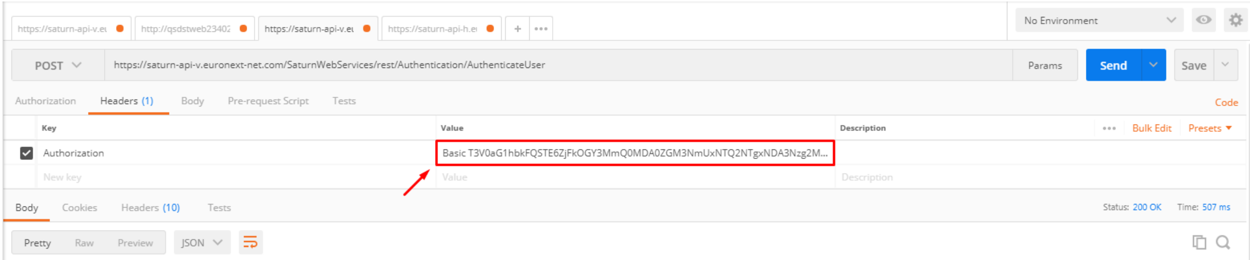


11.3 USERNAME AND PASSWORD ENCRYPTION

The last step is username and password encryption

You can take an encryption tool in the Internet of your choice to convert the character string Username:Password or use the following command to encrypt in base64 : `$ echo -n '<username>:<passwordEncrypted in md5>' | base64`

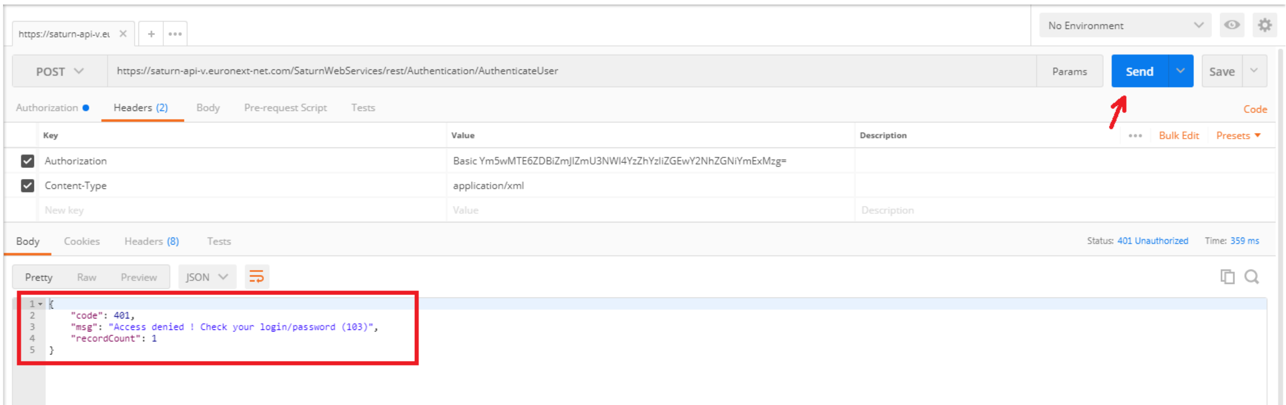
As a result we can paste it in the field 'value' of the parameter Authorization as follow : **Basic <Base64 parameter converted>**



11.4 RESULT

After clicking on SEND, you receive a response message :

- If the you have a problem with the certificate, you will get the Euronext web page.
- If the you have a problem in your credentials, you will get an error message :



- If your credentials are verified and are good, you get a token as return :

12. TECHNICAL DETAILS & EXAMPLES

12.1 OVERVIEW

ALL	Euronext Members and Non-Members

As part of the MIFID2-reporting trade (Saturn) we are developing the server web API rest.

The goal of this document is to describe the technical Rest API which will be used by the Saturn GUI, or by the external users who doesn't necessary use the Saturn GUI.

12.2 REQUIREMENTS

ALL	Euronext Members and Non-Members

For testing API rest we can use postman (https://www.getpostman.com/), curl command or Saturn GUI.

12.3 ACCESS

ALL	Euronext Members and Non-Members

The web server API Rest is accessed via a URL using the HTTPS protocol and is served from the SaturnWebServices/rest domain. Which will be defined later by Euronext' Infosec team.

12.4 REST API RETURN STATUS CODE

ALL	Euronext Members and Non-Members

Status Code	Description	Cause	Comments
200	OK	Success	
400	Bad Request	Unsupported or invalid parameters, or missing required parameters	
401	Unauthorized	User is not authorized	
403	Forbidden	User does not have access to this resource	
404	Not Found	No matching pattern for incoming URI	

Status Code	Description	Cause	Comments
405	Method Not Allowed	The service does not support the HTTP method used by the client	
408	Request Timeout		
412	Precondition Failed	A non-syntactic part of the request was rejected. For example, an empty POST or PUT body	
415	Unsupported Media Type	A PUT or POST payload cannot be accepted	
423	Locked	The resource that is being accessed is locked	Account, rights, etc locked.
500	Internal Server Error	A generic error message, given when an unexpected condition was encountered and no more specific message is suitable	
503	Service Unavailable	The server is currently unavailable (because it is overloaded or down for maintenance). Generally, this is a temporary state	If some services are blocked or the thread pools that handle each service is full.
600	KO	Failed	
601	Bad filter	Bad filter	
602	Check transaction with error		

12.5 SERVICES

12.5.1 Request

ALL	Euronext Members and Non-Members

	Description/Value	Mandatory
Method	POST	Yes
Service name (path)	Files/upload	Yes
Authorization	Login/pwd	Yes

	Description/Value	Mandatory
Header : **Content-Type**	The MIME type of the body of the request (used with POST and PUT requests). Value : multipart/form-data	Yes
Header : **Accept**	The **Accept** indicates which format the result will be returned :application/json or Accept: application/xml. If the **Accept** isn't sat up, the result is returned under the JSON Format	No

12.5.1.1 Filter structure

ALL	Function applying to all users

The filter allows user to refine his search (for example get trades for a specific instrument).

All Saturn REST API services provide the possibility to use the filters available.

The filter is the json/xml Object (structure) passed in the header of the POST request. Its definition is described as below:

```
{
"filterList":
 [
  {
    "name": "field1",
    "sort": "DESC",
    "subFilterOR":
    [
     {
    "value": "%durand%",
    "operator": "LK"
     },
     {
    "value": "%durand%",
    "operator": "LK"
     }
    ]
  },
  {
     "subFilterOR":
    [
     {
    "name": "field11",
    "value": "%durand%",
    "operator": "LK"
     },
     {
```


“name”: “field12”,
value”: “%durand%”,
“operator”: “LK”
}
]
}, ...
}]
}

The filter contains one (1) main section called filterList :

1. you can concatenate one or several filters, for example get transaction which the side=1, here is the filter json structure: **“filterList”: [{”name”: “side”,”value”: “1”, “operator”: “EQ”}]**
2. you can filter by the value domaine, for example get transactions which the status in(0,1), here is the filter json structure: “filterList”: [{”name”: “status”,”subFilterOR”: [{”value””0”,”operator”: “EQ”}, {”value”: “1”,”operator”: “EQ”}] }]}
3. you can search records which contain something : for example get transactions which the freetext1 like “%durand%” or freetext1 like”%alain%”, here is the filter json structure: “**filterList”: [{”subFilterOR”: [{”name”: “freetext1”, “value”: “%durand%”, “operator”: “LK”}, {”name”: “freetext2”, “value”:”%alain%”, “operator”: “LK”}] }]}**
4. you can sort the get result by using the sor word, for eamaple get transaction order by tradelegtid ascendant, here is the filter json structure **“filterList”: [{”name”: “tradelegtid “,”value”: “123645”, “operator”: “EQ”, “sort”: “ASC”}]**

Operator allowed are :

Operator	Description
EQ	Equal To
NEQ	Not Equal To
LK	Like to
GT	Greater Than
GE	Greater Than Or Equal To
LT	Less Than
LE	Less Than Or Equal To

12.5.1.2 Response

ALL	Euronext Members and Non-Members

The response of that command has the following format, by default the response is under the json.

Code	Status Code OK, KO, etc. refer to the Status code table above
Data	Contains the result of the service
Msg	Success or fail

RecordCount	The max record available in the data base

12.5.2 Upload service

ALL	Euronext Members and Non-Members

a) Request (POST)

Using curl command , input file name to upload is in green below

*curl -i -X **POST** -H "Authorization: Bearer [Token]==" -H "Content-Type: multipart/form-data" -F "data=@@uploadCommodities.csv" http://localhost:8080/SaturnWebServices/rest/files/**upload***

**[Token]* : you have to set the token that the server returns during the authentication phase.

b) Response JSON

```
{
 "code":200,
 "data":[
  {
  "type":"uploadedFileStatus",
  "fileName":"uploadCommodities.csv",
  "size":8770,
  "status":"W",
  "tid":940, (please note that Tid is for Euronext internal usage)

  "uploadedDate":"2017-07-05T13:44:07"
  }
 ],
 "msg":"OK",
 "recordCount":1
}
```

12.5.3 Instrument service

a) Request (POST):

Using curl command without filter

*curl -i -X **POST** -H "Authorization: Bearer [Token] http://localhost:8080/SaturnWebServices/rest/referentials/instrument/**get**?offset=0&limit=1*

Using curl command with filter (in green)

*curl -i -X **POST** -H "Authorization: Bearer [Token] -H "Content-Type: application/json" -d '{"filterList": [{"name": "isin","value": " DEC%", "operator": "LK"}]}' http:// localhost:8080/SaturnWebServices/rest/referentials/instrument/**get**?offset=0&limit=1*

*[Token] : you have to set the token that the server returns during the authentication phase.

b) Response JSON:


```
{
        "code": 200,
        "data": [{
                "cmic ": "XBRD ",
                  "isin ": "DECGA150902 ",
                "cdevnm ": "EUR ",
                "amr ": "DECGA1509024055 ",
                "tick_size_denominator ": "10000 ",
                "tick_size_numerator": "1",
                "cfi_code": "FFSCSX",
                "product_code": "CO6",
                "price_decimals": NULL,
                "quantity_decimals": NULL,
                "symbol_index": 4254400011,
                "cgrvalcot": NULL,
                "underlying_product_code": "COL",
                "expiry_date_offset": 2,
                "ideleted": 0,
                "underlying_medium_name": NULL,
        }],
        "msg": "success",
        "recordCount": 100
}
```


12.5.4 Commodity service

a) Request (POST):

Using curl command without filter

*curl -i -X **POST** -H "Authorization: Bearer [Token]*
*http://localhost:8080/SaturnWebServices/rest/CommodityReports/**get**?offset=0&limit=1*

Using curl command with filter (in green)

*curl -i -X **POST** -H "Authorization: Bearer [Token] -H "Content-Type: application/json" -d '{"filterList": [{"name": "*name*","value": "*BU001*", "operator": "EQ"}]}' http:// localhost:8080/SaturnWebServices/rest/CommodityReports/**get**?offset=0&limit=1*

*[Token] : you have to set the token that the server returns during the authentication phase.

b) Response JSON:

{
"code": 200,
"data": [{
"type": "commodityReport",
"businessunit": {
"ideleted": 0,
"name": "BU001",
"participanttid": 385,
"tag": "BU001",
"tid": 9 *(please note that Tid is for Euronext internal usage)*
},
"errors": "[REPORTINGENTITY][11] Wrong ESMA code. Not referenced.;[POSITIONHOLDERID][11] Wrong ESMA code.Not referenced.;[SECURITYID][19] Instrument invalid value;[VENUE][13] Invalid Value; [VENUE][16] MIC incompatible with ISIN; [SHORTPOSITIONQUANTITYDELTA][18] The delta position quantity must no be provided for Futures; [LONGPOSITIONQUANTITYDELTA][18] The delta position quantity must no be provided for Futures ",
"freetext1 ": "Smith ",
"freetext2 ": "Roland ",
"freetext3 ": "Vert ",
"freetext4 ": "Audi ",
"freetext5": "Bruxelles",
"holdingpositionday": "2016-10-14T00:00:00",
"investmentfirmindicator": 0,
"longpositionquantity": 940736.00,
"longpositionquantitydelta": 265758.00,
"origin": "SATURN",
"participanttid": 385,
"positionholdemail": "holder1@client.com",
"positionholderid": "5493005GIOHA4VVQNV28",
"positionmaturity": 2,
"positiontype": 2,
"reportingentity": "549300KFCCJ1Y2M20965",
"reportref": "TRADEREFERENCECMQH7398852110",
"riskreducingid": 1,
"saturnuser": "CommoUser",
"securityid": "FRENX0717251",
"shortpositionquantity": 567772.00,
"shortpositionquantitydelta": 617137.00,
"status": 4,
"tid": 2751, *(please note that Tid is for Euronext internal usage)*
"tradereport": 1,
"tsreceive": "2017-08-24T13:31:06.15",
"ultimateparententityemail": "test2@demo2.com",

```
            "ultimateparententityid": "549300HUWQH7YHZVHL75",
            "ultimateparententityidtype": 1,
            "venue": "XMAT"
        }],
        "msg": "success",
        "recordCount": 560
}
```

13. FIELDS DESCRIPTION

B

BUSINESS UNIT

Field Name	Business Unit
Description	Free form text manually entered by the client – Custom Field
Format	{ALPHANUM}
Length	10
Possible Values	Only capital letters and numbers
Conditions	Optional
Used In	COMMODITY POSITIONS

F

FREETEXT 1

Field Name	FreeText 1
Description	Free form text manually entered by the client – Custom Field
Format	{ALPHANUM}
Length	55
Possible Values	
Conditions	Optional
Used In	COMMODITY POSITIONS

FREETEXT 2

Field Name	FreeText 2
Description	Free form text manually entered by the client – Custom Field
Format	{ALPHANUM}
Length	55
Possible Values	
Conditions	Optional
Used In	COMMODITY POSITIONS

FREETEXT 3

Field Name	FreeText 3
Description	Free form text manually entered by the client – Custom Field
Format	{ALPHANUM}
Length	55
Possible Values	No restriction
Conditions	Optional
Used In	COMMODITY POSITIONS

FREETEXT 4

Field Name	FreeText 4
Description	Free form text manually entered by the client – Custom Field
Format	{ALPHANUM}
Length	55
Possible Values	No restriction
Conditions	Optional
Used In	COMMODITY POSITIONS

FREETEXT 5

Field Name	FreeText 5
Description	Free form text manually entered by the client – Custom Field
Format	{ALPHANUM}
Length	55
Possible Values	No restriction
Conditions	Optional
Used In	COMMODITY POSITIONS

I

INVESTMENT FIRM INDICATOR

Field Name	Investment Firm Indicator
Description	Field to report on whether the position holder is a collective investment undertaking that makes investment decisions independently from its parent.
Format	Numerical
Length	
Possible Values	0 - FALSE the position holder is not a collective investment undertaking that makes independent investment decisions 1 - TRUE – the position holder is a collective investment undertaking that makes independent investment decisions
Conditions	Mandatory
Used In	COMMODITY POSITIONS

L

Long Position Quantity

Field Name	Long Position Quantity
Description	This field shall be populated with the net position quantity held in the commodity derivatives expressed either in lots (when the position limits are expressed in lots) or units of the underlying. This field should be populated with the long positions. If the position is in commodity derivatives under point (c) of Directive 2014/65/EU (e.g. securitized derivatives) this field shall be populated with the number of units held
Format	{DECIMAL-15/2}
Length	15 +1
Possible Values	Decimal value with 15 digits and 2 fraction digits separated by "."
Conditions	Mandatory
Used In	COMMODITY POSITIONS

Long Position Delta Quantity

Field Name	Long Position Delta Quantity
Description	If the Position Type is 'OPTN', then this field shall contain the delta-equivalent quantity of the position reported in the "Position Quantity" field. This field should be populated with long calls and short puts.
Format	{DECIMAL-15/2}
Length	15+1
Possible Values	Decimal value with 15 digits and 2 fraction digits separated by "."
Conditions	Mandatory only if the Position Type is "OPTN", otherwise should be left empty.
Used In	COMMODITY POSITIONS

P

Position Reporter ID

Field Name	Position Reporter ID
Description	The identifier of the reporting investment firm. Field to be populated with the Legal Entity Identifier code (LEI) for legal entities or {NATIONAL_ID} for natural persons not having an LEI.
Format	{ALPHANUM}
Length	20 or 35
Possible Values	LEI or National ID of the GCM
Conditions	Mandatory
Used In	COMMODITY POSITIONS

Position Holder Email

Field Name	Position Holder Email
Description	Email address for notifications of position-related matters.
Format	{ALPHANUM}
Length	256
Possible Values	Email
Conditions	Mandatory
Used In	COMMODITY POSITIONS

Position Holder ID

Field Name	Position Holder ID
Description	Field to be populated with the Legal Entity Identifier code (LEI) for legal entities or {NATIONAL_ID} for natural persons not having an LEI
Format	{ALPHANUM}
Length	20 or 35
Possible Values	LEI or National ID
Conditions	Mandatory
Used In	COMMODITY POSITIONS

Position Holder ID format

Field Name	Position Holder ID format
Description	Identifies the Format of the Position Holder
Format	Numerical
Length	1
Possible Values	• 1: LEI • 2: CCPT • 3: NIDN • 4: CONCAT Set by default to LEI
Conditions	Must be equal to 1 or 2 or 3 or 4
Used In	COMMODITY POSITIONS

Position Holder Type

Field Name	Position Holder Type
Description	Field to be populated to identify the type of the Position Holder.
Format	Numerical
Length	1
Possible Values	• 1: Investment firms or credit institutions • 2: Investment funds • 3: Other financial institutions • 4: Commercial undertakings • 5: Operators with compliance obligations under Directive 2003/87/EC

Field Name	Position Holder Type
Conditions	Optional
Used In	COMMODITY POSITIONS

Position Type

Field Name	Position Type
Description	Field to report whether the position is in either futures, options, emission allowances, or derivatives thereof commodity derivatives defined under. point (c) of Article 4(1)(44) of Directive 2014/65/EU or any other contract type
Format	Numerical
Length	
Possible Values	1 – Options 2 - Futures 3 - OTC equivalent
Conditions	Mandatory
Used In	COMMODITY POSITIONS

Position Maturity

Field Name	Position Maturity
Description	Indication of whether the maturity of the contract comprising the reported position relates to the spot month or to all other months. No consistency check with ISIN
Format	Numerical
Length	
Possible Values	1 - spot month 2 - all other months
Conditions	Mandatory
Used In	COMMODITY POSITIONS

R

Report Reference Number

Field Name	Report Reference Number
Description	Field to be populated with the unique identifier given by the submitter unambiguously identifying the report to both, submitter and receiving competent authority
Format	{ALPHANUM}
Length	52
Possible Values	
Conditions	Mandatory
Used In	COMMODITY POSITIONS

REPORT STATUS

Field Name	Report Status
Description	Indication as to whether the report is new or a previously submitted report is cancelled or amended. Where a previously submitted report is cancelled or amended, a report which contains all the details of the original report and using the original Report Reference Number should be sent and the 'Report status' should be flagged as 'CANC'. For amendments, a new report that contains all the details of the original and using the original Report Reference Number with all necessary details corrected should be sent and the 'Report status' should be flagged as 'AMND'
Format	Numerical
Length	
Possible Values	1 - New 2 - Amend 3 – Cancel
Conditions	Mandatory
Used In	COMMODITY POSITIONS

RISK REDUCING INDICATOR

Field Name	Risk Reducing Indicator
Description	Field to report whether the position is risk reducing in accordance with Article 7 of RTS 21
Format	Numerical
Length	
Possible Values	0 - FALSE– the position is not risk reducing 1 - TRUE – the position is risk reducing
Conditions	Mandatory
Used In	COMMODITY POSITIONS

S

SECURITYID

Field Name	SecurityId
Description	Instrument identifier based on the value of the ISIN
Format	ISIN
Length	12
Possible Values	ISIN
Conditions	Mandatory
Used In	COMMODITY POSITIONS

SHORT POSITION QUANTITY

Field Name	Short Position Quantity
Description	This field shall be populated with the net position quantity held in the commodity derivatives expressed either in lots (when the position limits are expressed in lots) or units of the underlying. This field should be populated with the short positions. If the position is in commodity derivatives under point (c) of Directive 2014/65/EU (e.g. securitized derivatives) this field shall be populated with the number of units held
Format	{DECIMAL-15/2} Decimal value with 15 digits and 2 fraction digits separated by "."
Length	15 +1
Possible Values	
Conditions	Mandatory
Used In	COMMODITY POSITIONS

SHORT POSITION DELTA QUANTITY

Field Name	Short Position Delta Quantity
Description	If the Position Type is 'OPTN', then this field shall contain the delta-equivalent quantity of the position reported in the "Position Quantity" field. This field should be populated with short calls and long puts.
Format	{DECIMAL-15/2} Decimal value with 15 digits and 2 fraction digits separated by ".
Length	15 +1
Possible Values	
Conditions	Mandatory only if the Position Type is "OPTN", otherwise should be left empty.
Used In	COMMODITY POSITIONS

T

TRADING VENUE IDENTIFIER

Field Name	Trading venue identifier
Description	Field to be populated with the ISO 10383 segment MIC for positions reported in respect of on-venue contracts. Where the segment MIC does not exist, use the operating MIC: . 'XMAT' or 'XAMS' for Euronext Commodity Contracts; . 'XXXX' for off-venue positions in economically equivalent OTC contracts; . 'XOFF' for listed derivatives traded off-exchange. . 'XECO' for Euronext Other Commodity Derivatives (Freight Futures)
Format	{ALPHANUM}
Length	4
Possible Values	XEUC, XMAT, XXXX, XOFF, XECO
Conditions	Mandatory
Used In	COMMODITY POSITIONS

U

Ultimate Parent Entity ID

Field Name	Ultimate Parent Entity ID
Description	Field to be populated with the Legal Entity Identifier code (LEI) for legal entities or {NATIONAL_ID} for natural persons not having an LEI.
Format	{ALPHANUM}
Length	20 or 35
Possible Values	LEI or NATIONAL_ID
Conditions	Mandatory
Used In	COMMODITY POSITIONS

Ultimate Parent Entity ID Type

Field Name	Ultimate Parent Entity ID Type
Description	Identify the type of Ultimate Parent-ID
Format	{ALPHANUM}
Length	20 or 35
Possible Values	LEI or NATIONAL_ID or CONCAT
Conditions	Mandatory
Used In	COMMODITY POSITIONS

Ultimate Parent Entity Email

Field Name	Ultimate Parent Entity Email
Description	Email address for correspondence in relation to aggregated positions
Format	{ALPHANUM}
Length	256
Possible Values	
Conditions	Mandatory
Used In	COMMODITY POSITIONS

DOCUMENT HISTORY

VERSION NUMBER	DATE	CHANGE DESCRIPTION
1.0	03/08/2017	■ Initial version
1.06	25/11/2017	■ Adding service Get instrument ■ Change Amsterdam MIC ■ Add technical detail & examples section ■ Add some comments in the functional section
1.07	05/02/2018	■ cisin replaced isin has to be used in filterlist instead of cisin ■ expiry_date_offset lower case ■ All filter list fields must be lower case ■ Additional comments in the functional section
1.08	10/04/2018	■ Adding new value ''CONCAT'' in the ''Ultimate Parent ID Type'' field for $5.1 Upload CSV ■ Modified $6.1Get instruments resource name ■ Additional comments in the functional section on Spot Month and Risk Reducing
1.09	18/04/2018	■ Additional comments in section $1.4 Content of Commodity Position Report ■ Add new ''Position Holder Type'' field in section $5.1 Upload CSV ■ Add new ''Position Holder Type'' field for section $13 Fields description ■ Add new check 7024 for $8.Rejection codes
1.10	21/06/2018	■ Added new fields in section $6.1 Get Instruments ■ Example amended in section $6.1 Get Instruments ■ Added 2 operators in section $9.2 Operators
1.12	01/04/2020	■ the **freetext4** field updated into **freetext 4** ■ Added in section $1.3.1 Direct Reporting: Brokers should also fill the **freetext 4** field with **'REPORT_MYSELF'** in case of direct reporting.
1.13	09/03/2021	■ Typo correction for "**Position holder ID type**" file header in section $5.1 Upload for the csv file.
1.14	21/12/2022	■ Definitions Long Position Delta Quantity, Short Position Delta Quantity: Descriptions and conditions corrected.
1.15	15/01/2025	The following changes have been made to this version of the document: ■ Section 1.2 Which Instruments need to be reported -> updated to remove reference to Securitized Derivatives ■ Section 1.3.1 Onboarding process for direct reporting clients -> renamed from "The on-boarding" to "Onboarding", added additional explanation on how the user can request access to direct reporting ■ Section 1.4 Reporting Deadline -> added to explain the existing deadlines for position reporting ■ Section 1.5 How to Report -> added to explain how users can report their position. Subsection 1.5.1 Entering a New Position, 1.5.2 Amending a Position, 1.5.3 Cancelling a Position added to reflect the steps to be followed by the user ■ Section 1.6 The content of the commodity Positions Report – updated to add table with the mapping between SATURN fields RTS-21 obligatory fields, and clarification of reporting being done on a net basis.
5.354.0	05/03/2025	The following changes have been made to this version of the document: ■ Corrected title from "MIFID II Commodity Reporting" to "Saturn Commodities Positions Reporting - Detailed Functional Specification - Euronext Derivatives Markets"; ■ Adding new controls at the Commodity Position declaration to manage position declarations in Net within Saturn (fields Long/Short Position Quantity, Long/Short Position Delta Quantity); ■ In Field Description: updated Long/Short Position Quantity, to manage position declarations in Net.
5.356.0	28/05/2025	The following changes have been made to this version of the document: ■ Created a Document History section and moved all previous changes description to it. ■ Added clarification and error codes for the CSV file description's validation rules. ■ Added new validation rules on Position Holder ID field for duplicated positions check. ■ Added new validation rules on Delta Long Quantity Position and Delta Short Quantity Position fields for

VERSION NUMBER	DATE	CHANGE DESCRIPTION
		delta position consistency reporting. ■ Added new validation rules on Holding Position Trading Day field for expired maturities and holding position day dates checks. ■ Added new validation rules on Position holder email field for position holder email and ultimate parent entity email checks.
5.356.1	18/08/2025	The following changes have been made to this version of the document: Amended the presence rule for Position holder ID type field.
5.357.0	20/08/2025	The following changes have been made to this version of the document: ■ Added a new section How to properly close a position which explains how a position closure should be done; ■ Updated the CSV file description's validation rules for: the error code 7034 ; ■ Updated the Rejection Codes list; ■ Updated the Get instrument example, with a correction on the request endpoint.
5.358.0	24/09/2025	The following changes have been made to this version of the document: ■ Amended Get commodities report example to reflect the field **Unique Report Reference Number** addition in the response (Saturn internal field). ■ Amended Position Holder ID Type: value '5' deprecated
6.361.0	29/10/2025	The following changes have been made to this version of the document: ■ Added Section 1.5.6 Automatic Positions Reporting : explanation of how the Automatic Positions Reporting process is handled by Saturn for clients which subscribed to.
6.361.1	03/12/2025	The following changes have been made to this version of the document: ■ Updated section 1.7 Spot Month / Other Months: updated to indicate how to identify the SPOT maturity for Power Derivatives Futures and for Container Freight Futures
6.362.0	21/01/2026	The following changes have been made to this version of the document: ■ Added
6.363.0	21/01/2026	The following changes have been made to this version of the document: ■ Updated Section 5.1 Upload .CSV file description: removed the "Position Holder Email" field check that generates the 7031 error code. ■ Updated Section 8 Rejection Codes: removed the "7031" error code.
6.363.1	18/02/2026	The following changes have been made to this version of the document: ■ Section 5.1 Upload .CSV file description: clarified in the "Position Holder Email" and "Ultimate Parent Entity e-mai"l fields the checks that generate the 7030 error code.
6.363.2	12/03/2026	The following changes have been made to this version of the document: ■ Section 1.5 How to report: clarified that positions on Freight Futures (XECO) should always be reported as lots; ■ Section 5.1 Upload .CSV file description: Position holder email and Ultimate parent entity email are mandatory also for XECO; XECO added as valid Trading venue identifier In Field Description: added value 'XECO' to Trading Venue Identifier
6.365.0	01/04/2026	The following changes have been made to this version of the document: ■ Updated section 5.1 Upload .CSV file description: added new validations rules regarding the addition of Position Holder ID Format field; Restored value '5: Operators with compliance obligations under Directive 2003/87/EC ' in Position holder ID typ**e;** ■ In Field Description: added Position Holder ID Format.
6.365.1	30/04/2026	The following changes have been made to this version of the document: ■ Updated section 5.1 Upload .CSV file description: - corrected capital letter 'Position holder ID format' Label.