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Regulatory Documents

Guideline - How to implement DocHub “Search Widget“

Table of revision

Version	Status	Name	Date	Description
1v0	Final	Gerhard Heß	01.03.2017	Initial Version
2v0	Final	Gerhard Heß	16.05.2017	<p>New configuration features implemented. Configuration for language is now done via the base URL. The old method via lang parameter is still supported but deprecated.</p> <p>Now it is possible to configure the items in the selections to be used for the search. It is now possible to control also the order of the columns in the result window with a new format to deliver the parameters for active_cols.</p> <p>The old style to deliver these parameters by sending the same parameter multiple times is still supported, but considered deprecated. In a future release the old style will be decommissioned.</p>
3v0	Final	Gerhard Heß	24.7.2017	<p>New parameters delivering an instrument identification added. When used the search result will be displayed for this identification directly when the widget is started.</p> <p>Example for search columns moved to the place where the configuration is described.</p>
3v1	Final	Gerhard Heß	05.02.2018	<p>Naming convention for customer specific CSS files and related subdirectories added.</p> <p>Restriction that only instruments with Publication type "public available can be accessed" has been removed.</p> <p>Description of Parameter resizable added.</p> <p>Parameters ETD ISIN, ETD Valorenumber and ETD All added</p>
3v2	Final	Gerhard Heß	22.03.2018	Additional link to display a document in the browser instead of downloading the document
3v3	Final	Gerhard Heß	07.12.2018	<p>Search has been extended to search for multiple values with a single invocation. See chapter "Multi Search Parameters"</p> <p>Encrypted URL with hidden credentials is now supported see chapter "Dynamic Encryption of the API-key"</p> <p>Version 2 of the widget is now available.</p>
3v4	Final	Gerhard Heß	27.08.2019	<p>Rename Document type 5 Swiss BIB to FINSA KID. Introduction of new Document Types</p> <p>121 Registration document</p> <p>122 Securities note</p> <p>123 Summary</p> <p>124 Base prospectus</p> <p>125 Final terms</p> <p>126 Supplements</p>
3v5	Final	Gerhard Heß	18.02.2020	<p>Extended search window and description updated, since supplier is not shown any more.</p> <p>Removed outdated descriptions of Test Data.</p> <p>Minor editorial changes.</p>
3v6	Final	Gerhard Heß	30.11.2020	<p>Document attribute "Publication classification type" can be considered in display when a distributor wants to show only unrestricted documents.</p> <p>See chapter 6.6 Parameter Ignore Publication Classification Type for more details</p> <p>List of Document types removed since they are specified in DocHub_Attributes documentation.</p>
3.7	Final	Gerhad Heß	20.04.2022	Amended description of JWT Token

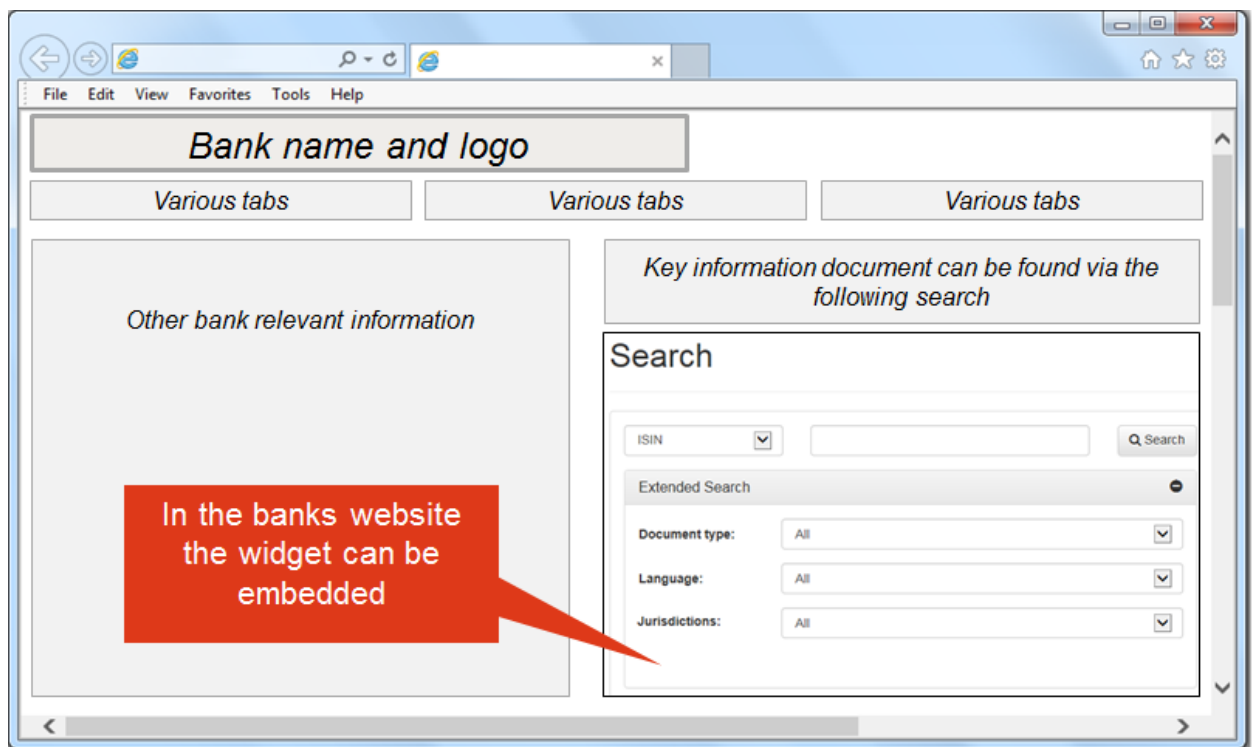
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1. Description of the "search" widget

SIX DFI is offering a service for its customers to efficiently support their PRIIP-KID needs. The PRIIP-KID service provides the required documents by requesting them with a GUI (on a manual basis) or via an API (fully automated). Beside this two methods, customer would like to integrate the DocHub service in additional digital channels and demands therefore a widget which can be easily integrated, e.g. in a Web Portal.

- This widget (iframe) allows to use an already programmed GUI (search for documents) to embed in their existing website with no effort (see the few lines of code below, to embed the widget)
- This should be understood as an additional functionality. It is not recommended to e.g. solve online-banking by just adding a webpage functionality as it will not include archiving functionality nor user identification.



2. Versions of the Widget

With the introduction of the Multi Search Feature the widget software has been overworked and is now fully available with Version 2.

Version 2 is active when the widget is invoked with `document_search/v2`

The existing version is still available, but will be deprecated when all customers have switched to the new version. A date is not yet set. There will be at least half a year after the announcement of end of life until the old version will not be supported any more. In case all customers have already switched to Version 2 the old version might be stopped earlier.

3. How to implement this

To embed a "DocHub Widget" in a customer's website use one of the following code snippets:

3.1. Option 1 : Via encoded parameters and API-key

In the example below the API-key and the parameters are encoded.

See 5 Access methods for user identification for details.

```
<iframe
  frameBorder="0"
  id="dochub_widget"
  src=https://www.six-
dochub.com/en/widgets/document_search/v2?token=eyJ0eXAiOiJKV1QiLCJhbGciOiJIUz
I1NiJ9.eyJzdWIiOiIxMjcuMC4wLjEiLCJzZWZyY2hfY2hfbGFuZ3MiOiJhbGx8ZXN8ZW58ZGUiLCJzZW
FyY2hfanVyaXNkaWN0aW9ucyI6ImFsbHxERXxES3xBVCIsImVycyI6ImFyaXZhX3dpZGdldF9kaXN
fmDEiLCJpbnN0cnVtZW50X3R5cGUiOiJUU0l0Iiwic2VhcmNoX3R5cGVzIjoiaSVNJTnxXS058VkFM
T1IiLCJleHAiOiJlMzU2MzcwMjgsImVycyI6ImVycyI6ImVycyI6ImVycyI6ImVycyI6ImVycyI6ImVycy
WlXNmQtNGE5Yy04OTcwLWQwNDI2YjczMDYyOSIsInN1YXJjaF9kb2NfdHlwZXMiOiIxZDJ8M3w0fD
ExMXwxMTN8MTE4In0.r6n9wSPdLo-5Uigc2v__wWUntQ9ykby-HQXuOsNqZg8
width="800"
  height="600"
/>
```

3.2. Option 2 : Via API-key in link

```
<iframe
  frameBorder="0"
  id="dochub_widget"
  src=https://test.six-
dochub.com/en/widgets/document_search/v2?api_key=d26eeddb-2114-464d-ab2d-
06059c6ff24d
width="800"
  height="600"
/>
```

4. Description how to use the widget

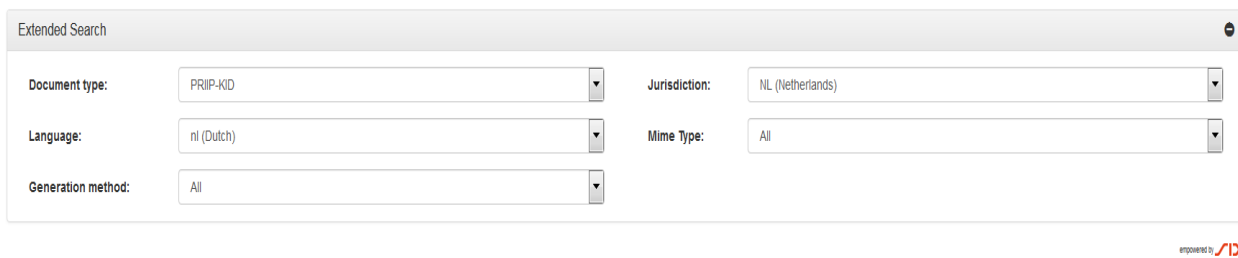
The screenshot shows a search widget interface. At the top, there is a search bar with a dropdown menu set to 'ISIN' (labeled 1), an input field, and a 'Search' button (labeled 2). Below the search bar is an 'Extended Search' button (labeled 5). The search results are displayed as 'Search results 1 - 3 of 3'. The results are in a table with columns: Download (labeled 3), VALOR, WKN, ISIN, Document type, and Language. Each row has a 'PDF' download button (labeled 4). The first row shows two ISINs: CH0038863350 and CH0214706357. The second row shows ISIN CH0214706357. The third row shows ISIN 275001. The table is paginated, showing page 1 of 1.

3 Download	VALOR	WKN	ISIN	Document type	Language
4 PDF	21470635, 3886335	-	CH0038863350, CH0214706357	KID für PRIIP nach PRIIPs-Verordnung	de
PDF	21470635	-	CH0214706357	KID für PRIIP nach PRIIPs-Verordnung	fr
PDF	275001	-	-	KID für PRIIP nach PRIIPs-Verordnung	en

The widget web-site displays

- a selection box to choose the type of instrument identifier (1):
 - ISIN
 - Valor
 - WKN
 - SEDOL
 - CUSIP
 - supplier specific 1
 - supplier specific 2
 - ETD ISIN
 - ETD Swiss Valorennumber
 - ETD All
- an input field to input an instrument identifier (1).
- a search button with label <search_btn> with magnifier icon to execute the search (2).
- a paginated list of matched documents with:
 - a title <search_results>
 - columns from parameter **active_cols** (3)
 - for each entry a button with label <PDF> to download the document (4)

Extended Search (5)





The screenshot shows a search widget titled "Extended Search" with a close button in the top right corner. It contains five filter fields, each with a dropdown arrow:

- Document type: PRIIP-KID
- Language: nl (Dutch)
- Generation method: All
- Jurisdiction: NL (Netherlands)
- Mime Type: All

In the bottom right corner, there is a small logo that says "empowered by IIX".

For more search possibilities an extended search is available which supports the following fields to further restrict the results. All of these fields are optional to use. Be aware that these restrictions might result in not finding any document when the combined search fields do not match any document available for this API-key.

- A document type selection to select the type of the document.
- A language selection to select the language.
- A generation method selection to select the generation
- A jurisdiction selection to select the jurisdiction.
- A selection for the mime type

The extended search fields are shown or hidden when the user presses the left mouse button while pointing on the "Extended Search" title. Extended search is also visible by clicking on  icon and hidden by clicking on  icon. After the search is executed the extended search fields are also hidden.

4.1. Start the widget and pass the identification as parameters

When identification parameters are supplied, the widget presents the search result for this identification after invocation. The identification needs to be supplied as a pair of parameters describing :

- the type of instrument identification (example: **instrument_type**=ISIN)
- the related instrument identification itself (example: **instrument_id**=LU0093746120)

The result screen is similar to a search result screen where a search for an instrument with the supplied identification type and value has been done. Potential default values for the extended search are also applied.

When an identifier is supplied as describe above and default values for the search are supplied via configuration, the search result will be restricted to the default values supplied.

For example: When the parameters are supplied to search for LU0093746120 and the default jurisdiction is set to "CH" , only documents matching ISIN LU0093746120 and jurisdiction "CH" will be displayed as search result.

Supplied default values are combined when performing the search. For example the result could be restricted to match

- jurisdiction "CH"
- language "en"
- document type 3 (3 = "UCITS-KIID")

by choosing the related default values for the search via the parameters supplied.

5. Access methods for user identification

To identify the distributor requesting towards DocHub information about the user needs to be provided. There are two distinct methods to identify the requester. It can be done either

- with a dynamic encoding of the link, where neither the parameter nor the api_key is readable or
- as readable text in the link using the api_key
 Using the api_key parameter the key and the parameters are all visible. Furthermore the key is also visible in the application and can be copied.

With dynamic encoding the api_key is used to verify that the encoding URL has not been modified. Supplied Widget parameters are encoded. The expiry time can be defined. After this time the link is not valid anymore and downloads links in the search results are not working any more. **Using the dynamic encoding is the preferred solution, since the api key is not visible.**

Be aware that these parameters are case sensitive.

5.1. Dynamic Encoding of the API-KEY

- This access method uses a token to access to DocHub. The method is based on [JSON Web Token \(JWT\) - RFC 7519](#) with following conventions:

Convention	method / name	Value	Required or optional	Source
Algorithm	HMAC SHA256	signed with the API-KEY (as private key) of the Widget-Customer	Required	SIX
Issuer-Claim	iss	User Name of DocHub User	Required	SIX
JWT-ID-Claim	jti	UUID Unique identifier	Required	Hoster
Expires-At-Claim	exp	Expiration time after which the token is no longer valid	Optional	Hoster
Subject-Claim	sub	IP address of the client	Optional	Hoster
Claims for Query Parameters	<u>Widget parameters as described below</u>	Related values to the parameters as described below	Optional	Hoster

With these information a Token Hash is calculated. You can find a sample encoding in chapter **11.1 Sample Implementation (Java 8)**

This hash contains the query parameters. The widget is invoked with following URL.

[https://www.six-dochub.com/en/widgets/document_search/v2?token= **TOKEN_HASH**](https://www.six-dochub.com/en/widgets/document_search/v2?token= TOKEN_HASH)

Below is an example for a **TOKEN hash** which has been calculated with following parameters:

```
{
  "sub": "127.0.0.1",
  "search_langs": "all|es|en|de",
  "search_jurisdictions": "all|DE|DK|AT",
  "iss": "ariva_widget_dis_01",
  "instrument_type": "ISIN",
  "search_types": "ISIN|WKN|VALOR",
  "exp": 1535637128,
  "instrument_id": "DE",
  "jti": "a1e21974-b16d-4a9c-8970-d0426b730629",
  "search_doc_types": "1|2|3|4|111|113|118"
}
```


[https://www.six-
dochub.com/en/widgets/document_search/v2?token=eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJzdWIiOiIxMjcuMC4wLjEiLCJzZWFiY2hfbGZ3MiOiJhbGx8ZXN8ZW58ZGUiLCJzZWFiY2hfanVyaXNkaWN0aW9ucyI6ImFsbHxERXxES3xBVCIsImFyaXZhX3dpZGdldF9kaXNfmDEiLCJpbnN0cnVtZW50X3R5cGUiOiJlYXN0Iiwic2VhcmNoX3R5cGVzIjoiaSVNJTnxXS058VkFMt1IiLCJleHAiOiJlMzU2MzcwMjgsImIuc3RydW1lbnRfaWQiOiJERSIsImp0aSI6ImExZTIxOTc0LWIxNmQtNGE5Yy04OTcwLWQwNDI2YjczMDYyOSIsInNlYXJjaF9kb2NfdHlwZXMiOiIxZDJ8M3w0fDEuExMXwxMTN8MTE4In0.r6n9wSPdLo-5Uigc2v wWUntQ9ykby-HQXuOsNqZg8](https://www.six-
dochub.com/en/widgets/document_search/v2?token=eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJzdWIiOiIxMjcuMC4wLjEiLCJzZWFiY2hfbGZ3MiOiJhbGx8ZXN8ZW58ZGUiLCJzZWFiY2hfanVyaXNkaWN0aW9ucyI6ImFsbHxERXxES3xBVCIsImFyaXZhX3dpZGdldF9kaXNfmDEiLCJpbnN0cnVtZW50X3R5cGUiOiJlYXN0Iiwic2VhcmNoX3R5cGVzIjoiaSVNJTnxXS058VkFMt1IiLCJleHAiOiJlMzU2MzcwMjgsImIuc3RydW1lbnRfaWQiOiJERSIsImp0aSI6ImExZTIxOTc0LWIxNmQtNGE5Yy04OTcwLWQwNDI2YjczMDYyOSIsInNlYXJjaF9kb2NfdHlwZXMiOiIxZDJ8M3w0fDEuExMXwxMTN8MTE4In0.r6n9wSPdLo-5Uigc2v wWUntQ9ykby-HQXuOsNqZg8)

5.2. Usage of the api_key as a readable parameter

Due to security requirements, this method is planned to be depreciated.

The parameter **api_key** is required when this method is used. The **api_key** is a part of the link and includes the access information. The api_key is valid until it is revoked, by a manual process with human procedures.

See below a link with an example for the access method via api_key. The api_key parameter is highlighted with yellow background. Further parameters as described below might be added:

https://test.six-dochub.com/de/widgets/document_search/v2?api_key=d26eeddb-2114-464d-ab2d-06059c6ff24d

6. How to configure this

The link used to embed the widget allows also to configure the appearance of the widget and the display of the search result.

Furthermore an identification of an instrument can be passed to show the search result for this identification after invocation.

The configuration is done via parameters. These **parameters** can be supplied either

- as readable text in the link when using the api_key
https://test.six-dochub.com/de/widgets/document_search/v2?api_key=d26eeddb-2114-464d-ab2d-06059c6ff24d&active_cols=download|ISIN|document_type&page_size=6&style=1
 or
- with a dynamic encoding of the link, where the parameter and the api_key are encoded.

All parameters described below are optional with a predefined default. Be aware that all parameters are case sensitive.

An example is the above mentioned link where the parameters are highlighted with cyan background:

6.1. Configuration of the interface language

The interface language of the GUI can be provided as a language code directly after the "/" behind the server address. Valid codes are in table [8.1 Supported Interface Languages](#)

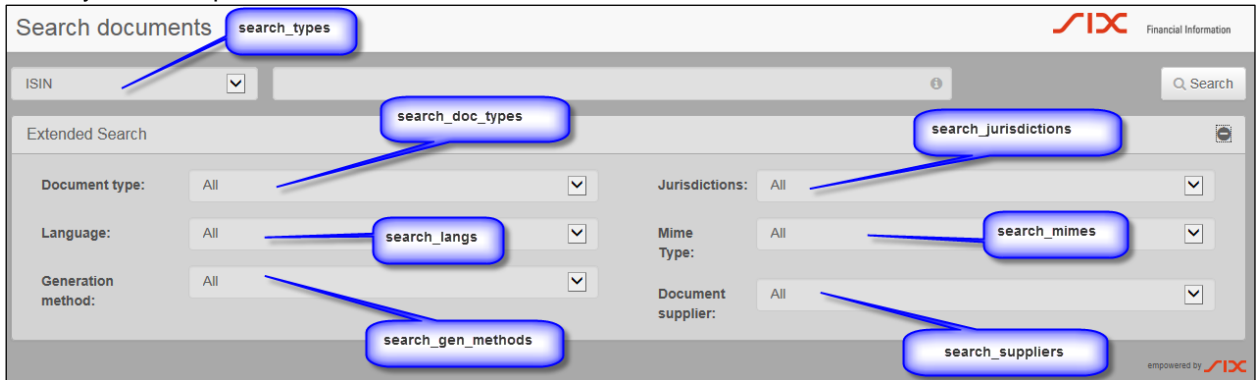
6.2. Parameter Table general appearance

The table below shows the available parameters. Be aware that all parameters and the related values like languages or columns to display are case sensitive.

Parameter	Description	Default
lang	This parameter is deprecated and will be decommissioned in a future release. It is recommended to provide the language as described in 6.1 Configuration of the interface language If this parameter is still used, Valid entries are in table 8.1 Supported Interface Languages	en (English)
style	Display the page with a predefined CSS file to modify the appearance. There are three demo styles available: 0,1 and 2 As an example the content of the css files for style 1 and 2 is added in the attachment. More styles can be added in collaboration with the user of the widget. Customer defined styles are available with a customer individual short name defined by SIX. Example parameter style=xxx If files (example images) are referenced they will be delivered in a subdirectory of /__images/ The name of the subdirectory is the same as the short name used for the style.	0
resizable	When this parameter is set resizable=1 iframeResizer.contentWindow.min.js is loaded. Otherwise the javascript is not loaded	0

6.3. Parameter Table configuration search items

This set of parameters controls what is listed in the search fields for selections. Multiple fields need to be separated by "|". The first item in the list is the preselected one. The value all matches all possible values, not only the ones provided in the list.



Parameter	Description	Default
search_types	The identification schemes to be displayed in the selection. The available types are listed in 8.3 Identification Schema to be displayed in selection	ISIN VALOR WKN DocGen OTC Sicovam SEDOL Supplier specific 1 Supplier specific 2 CUSIP ETD ISIN ETD Swiss Valorennumber ETD All
search_doc_type	The selection of document types which offered in extended search Items are the numeric values specified in DocHub_Attribute_Tables...pdf In chapter Document type of the actual version With this type search only one item can be selected	all
search_langs	The selection of languages to be offered in extended search. Languages are the two letter ISO code according to ISO 639-1	all
search_gen_methods	The selection of generation methods to be offered in extended search. Valid entries are listed in: 8.4 Generation Method to be displayed in extended search selection	all
search_jurisdictions	The selection of jurisdictions to be offered in extended search. Jurisdictions are the two letter ISO codes according to ISO 3166	all
search_mimes	The selection of mime types to be offered in extended search. Valid entries are listed in: 8.5 MimeType	all

6.3.1. Multi Search Parameters

The interface has been enhanced to be able to search for multiple document types, languages or jurisdictions using a single call. Using this feature it is possible to search for document type PRIIP KID or UCITS KIID, in language de,fr,it and for jurisdictions CH, IT just with one invocation of the widget.

Be aware that only those search items are available for selection which are available after the related search_doc_type, search_langs and search_jurisdictions parameters have been evaluated.

All parameters are only available in version 2 of the Widget.

Parameter	Description	Default
multi_search_doc_types	When this parameter is delivered, it is possible to select multiple items from the set of document types. Items are the numeric values specified in DocHub_Attribute_Tables...pdf In chapter Document type of the actual version The supplied items are preselected.	When supplied and no parameter is delivered no doc type is selected. Example: "1 3 5" searches for PRIIP KID UCITS KIID FIDLEG BIB
multi_search_langs	When this parameter is delivered, it is possible to select multiple items from the set of languages. Languages are the two letter ISO code according to ISO 639-1	When supplied and no parameter is delivered no language is selected. Example: "en fr" searches for English and French language
multi_search_jurisdictions	When this parameter is delivered, it is possible to select multiple items from the set of jurisdictions. Jurisdictions are the two letter ISO codes according to ISO 3166	When supplied and no parameter is delivered no language is selected. Example: "BE FR" searches for Belgium and French Jurisdiction

The following parameter set for https://test.six-dochub.com/en/widgets/document_search/v2 :

- multi_search_doc_types=1|3|5
- search_doc_types=1|3|5|101
- search_langs=en|fr
- multi_search_langs=en|fr
- multi_search_jurisdictions=BE|LU

Generates the below search screen. Pre selected values are **yellow** highlighted. Available document types are restricted to **1|3|5|101**, languages **en|fr**, jurisdiction all with a preselection of "BE|NL"

The screenshot shows a search widget titled "Search documents". It includes a search bar with "ISIN" and a search button. Below is an "Extended Search" section with several filters:

- Document type:** A dropdown menu set to "All of a subset". Below it, a list of tags includes "PRIIP-KID", "UCITS / AIF (Non-UCITS) KID", and "FNSA KID".
- Jurisdiction:** A dropdown menu set to "All". Below it, a list of tags includes "BE (Belgium)" and "LU (Luxembourg)".
- Language:** A dropdown menu set to "All of a subset". Below it, a list of tags includes "en (English)" and "fr (French)".
- Mime Type:** A dropdown menu set to "All".
- Generation method:** A dropdown menu set to "All".

6.4. Parameter Table configuration search result area

Parameter	Description	Default
active_cols	<p>The columns to be shown in the search result. Valid entries for columns are in table 8.2 Supported Columns. Only the delivered values are shown.</p> <p>There are two formats available to deliver the parameters. Format A with “ ” as separator between the values Format B with repeated parameter value sets. Format B is deprecated and will be decommissioned in a future release.</p> <p>6.4.1. Format A with “ ” as separator between the values</p> <p>The columns are delivered as a string separated by pipe “ ” character. The order of the columns is defined by the order of columns delivered in the string.</p> <p>6.4.1.1. Format B with repeated parameter value sets</p> <p>The parameter and value sets needs to be supplied multiple times to be displayed in the search result. The order of the columns is predefined by the system and not influenced by the order of parameters delivered.</p>	download ISIN WKN VALOR supplier document_type language jurisdiction
page_size	The number of rows to be displayed in the search results	10

6.5. Parameter Search identification

This parameter is used when the search result of the supplied identification should be displayed after invocation. Both parameters are required to show the related search result.

Parameter	Description	Default
instrument_type	The type of instrument for which the search should be done. Possible values are listed in 8.6 Identification types used for the interpretation of the identifier	none
instrument_id	The identification to be searched for when the widget is started.	none

Sample parameter set: instrument_type=ISIN&instrument_id=LU0093746120

6.6. Parameter Ignore Publication Classification Type

The "Publication Classification Type" is set by the supplier to inform the distributor about restrictions related to the distribution of the document.

Default setting to 1 ensures backward compatibility.

Parameter	Description	Default
ignore_publication_classification	Controls the inclusion of restricted instruments in the search result. Control values are : 0 = Only non restricted documents are listed in search result 1 = All matching documents are listed in search result	1 display all documents in search result.

Sample parameter setting to see only non restricted documents: ignore_publication_classification=0

7. Misc Functions

7.1. Display a document in the Browser instead of downloading

With the widget function `/widgets/document_search/v2/display.m` it is possible to show a document in the browser instead of downloading the document.

Parameters are:

Parameter	Description	Default
apikey	Identifies the requester. The accessible set of data defined via this apikey.	None. Required parameter
document_id	Document ID of the document to be displayed	None. Required parameter

8. Tables

8.1. Supported Interface Languages

The code should be supplied as parameter value.

Code	Description	Default
de	German	
en	English	X
es	Spanish	
fr	French	
it	Italian	
nl	Dutch	
pt	Portuguese	
ru	Russian	

8.2. Supported Columns in Search Result

The name should be supplied as parameter value.

Name	Description	Shown as default (position)
checksum	Checksum of the document	
CUSIP	The nine-character alphanumeric code that identifies a North American financial security for the purposes of facilitating clearing and settlement of trades	
document_id	The document ID of the document	
document_type	Type of document	Yes (6)
download	The button to download a document	Yes (1)
ETD ISIN	ISIN of a derivative instrument followed by -1 for long position -2 for short position	
ETD Swiss Valorenumber	Valor of a derivative instrument followed by -1 for long position -2 for short position	
ETD All	All of a derivative instrument followed by -1 for long position -2 for short position	
filesize	The size of the file containing the document	
generation_method	Method of document generation	
ISIN	The I nternational S ecurities I dentification N umber that uniquely identifies a security related to the document	Yes (2)
issuer_identifiers	Identifiers from the issuer	
jurisdiction	The jurisdiction related to the document	Yes (8)
language	The language of the document	Yes (7)

last_generation	The generation time of the document	
last_updated	The last modification time of the document	
mime_type	The content type of the document. (i. e. PDF)	
SEDOL	The security identifier used in the United Kingdom and Ireland for clearing purpose related to the document	
Sicovam	The security identifier to identify French securities listed on French stock exchange related to the document	
supplier	The supplier name of the document	Yes (5)
Supplier specific 1	Supplier specific identifier 1 related to the document	
Supplier specific 2	Supplier specific identifier 2 related to the document	
VALOR	The valoren Number related to the document. The valoren number is a code which uniquely identifies listed securities and financial instruments in Switzerland	Yes (4)
WKN	The German securities identification code (Wertpapierkennnummer) related to the document	Yes (3)

The following configuration is used to show **download**, **ISIN**, **WKN**, **supplier**, **document_type**, **language** and the search widget is shown in **English**

https://test.six-dochub.com/en/widgets/document_search?api_key=d26eaddb-2114-464d-ab2d-06059c6ff24d&active_cols=download|ISIN|WKN|supplier|document_type|language

8.3. Identification Schema to be displayed in selection

Parameter values
VALOR
WKN
DocGen OTC
Sicovam
SEDOL
ISIN
Supplier specific 1
Supplier specific 2
CUSIP
ETD ISIN
ETD Swiss Valorennumber
ETD All

8.4. Generation Method to be displayed in extended search selection

The name should be supplied as parameter value.

Id	name	description
All	all available generation methods (without restrictions, independent of the other values supplied)	
1	OTF	Generated on the fly
2	PGI	Pre-generated (intraday)
3	PG	Pre-generated with a frequency of one or more days
9999	UNKNOWN	Unknown

8.5. MimeType

The id should be supplied as parameter value.

id	code	name
all	all available mime types (without restrictions, independent of the other values supplied)	
1	application/pdf	application/pdf
2	application/vnd.openxmlformats-officedocument.wordprocessingml.document	application/vnd.openxmlformats-officedocument.wordprocessingml.document
3	application/vnd.ms-excel	Excel-97-Arbeitsmappe

8.6. Identification types used for the interpretation of the identifier

Parameter values
VALOR
WKN
DocGen OTC
Sicovam
SEDOL
ISIN
Supplier specific 1
Supplier specific 2
CUSIP
ETD ISIN
ETD Swiss Valorennumber
ETD All

9. Test data

Sample of widget (member test):

Widget with configuration of result area:

https://test.six-dochub.com/en/widgets/document_search?api_key=d26eaddb-2114-464d-ab2d-06059c6ff24d&active_cols=download|ISIN|WKN|supplier|document_type|language

Samples of ISIN made available:

- XD0029955933 (PRIIP, BRC pre-generated)
- DE0005493092 (PIB, share)

Sample of widget with search selection configuration (member test):

Widget with selection configuration for searches and configuration of result area:

https://test.six-dochub.com/en/widgets/document_search?api_key=d26eaddb-2114-464d-ab2d-06059c6ff24d&search_types=ISIN|WKN&search_doc_types=1|3&search_langs=de|en|fr&search_jurisdict_ions=DE|CH|FR|GB|all&active_cols=download|WKN|language|ISIN|supplier|document_type

10. Attachments

10.1. Content of CSS file style_1.css

```
#navbar-logo {
    background: url(/__images/logos/six_logo_sfi_80.png) no-repeat;
    width:182px;
    height:23px;
}

body {
    color:#505050;
    background-color: darkgray;
}

.form-control {
    color: #606060;
    background-color: #e0e0e0;
}

.btn {
    color: #606060;
}

.btn:hover {
    background-color: #d0d0d0;
    color: #303030;
}

.panel-title {
    color: #606060;
}

.widget-title {
    color: #606060;
}

.panel {
    border-color:darkgray;
}

.fa {
    color:darkgray;
}

.panel-default {
    background: lightgray;
}

.panel-default>.panel-heading {
    border-color:darkgray;
    background-image: none;
}
```

```
        background: #e0e0e0;
    }

    .navbar-default {
        background-image: none;
        border-color:a0a0a0;
    }

    h3 {
        color: #404040;
    }

    .page-header {
        border-bottom: 0px;
    }

    .pagination>.active>a:focus, .pagination>.active>a:hover, .pagination>.active>a {
        color: lightgray;
        background-color: gray;
        border-color: gray;
    }

    .pagination>.disabled>a, .pagination>.disabled>a:hover {
        color: gray;
        background-color: darkgray;
        border-color: gray;
    }

    .pagination>li>a:hover {
        color: #505050;
        border-color: gray;
    }

    .pagination>li>a {
        background-color: #e0e0e0;
        border-color: gray;
    }

    .pagination>li>a {
        color: gray;
    }

    .page-header {
        border-bottom: 0px;
    }

    .table-hover {
        background: lightgray;
        border-radius:4px;
        -moz-border-radius:4px;
    }

    table>tbody>tr:hover>td {
        background: #e0e0e0;
    }
```

```
}

.table>tbody>tr>td {
    border-top: 0px;
}

.table>tbody>tr {
    border-top: 1px solid #909090;
}

.table>thead>tr>th {
    border-bottom: 0px;
}

.table>thead>tr {
    border-bottom: 2px solid #808080;
}

.form-control:focus {
    outline: none !important;
    border:1px solid #e0e0e0;
    box-shadow: 0 0 10px #707070;
}

.btn:focus {
    outline: none !important;
    border:1px solid #e0e0e0;
    box-shadow: 0 0 10px #707070;
}
```

10.2. Content of CSS file style_2.css

```
body {
    color:#505050;
    background-color: darkgray;
}

.form-control {
    color: #606060;
    background-color: #e0e0e0;
}

.btn {
    color: #606060;
}

.btn:hover {
    background-color: #d0d0d0;
    color: #303030;
}

.panel-title {
    color: #606060;
}
```

```
.widget-title {
    color: #606060;
}

.panel {
    border-color:darkgray;
}

.fa {
    color:darkgray;
}

.panel-default {
    background: lightgray;
}

.panel-default>.panel-heading {
    border-color:darkgray;
    background-image: none;
    background: #e0e0e0;
}

.navbar-default {
    background-image: none;
    border-color:a0a0a0;
}

h3 {
    color: #404040;
}

.page-header {
    border-bottom: 0px;
}

.pagination>.active>a:focus, .pagination>.active>a:hover, .pagination>.active>a {
    color: lightgray;
    background-color: gray;
    border-color: gray;
}

.pagination>.disabled>a, .pagination>.disabled>a:hover {
    color: gray;
    background-color: darkgray;
    border-color: gray;
}

.pagination>li>a:hover {
    color: #505050;
    border-color: gray;
}

.pagination>li>a {
    background-color: #e0e0e0;
```



```
        border-color: gray;
    }

.pagination>li>a {
    color: gray;
}

.page-header {
    border-bottom: 0px;
}

.table-hover {
    background: lightgray;
    border-radius:4px;
    -moz-border-radius:4px;
}

table>tbody>tr: hover>td {
    background: #e0e0e0;
}

.table>tbody>tr>td {
    border-top: 0px;
}

.table>tbody>tr {
    border-top: 1px solid #909090;
}

.table>thead>tr>th {
    border-bottom: 0px;
}

.table>thead>tr {
    border-bottom: 2px solid #808080;
}
```

11. Additional Information for Dynamic Encoding of the API-KEY

11.1. Sample Implementation (Java 8)

```

1 import java.util.Date;
2 import java.util.UUID;
3 import com.auth0.jwt.JWT;
4 import com.auth0.jwt.algorithms.Algorithm;
5 import com.auth0.jwt.exceptions.JWTCreationException;
6 import org.springframework.web.util.UriComponentsBuilder;
7
8 public class WidgetCustomerToken {
9
10     private static final String widgetDocHubUserName = "ariva_widget_dis_01";
11     private static final String apiKey = "ff4da9d1-e35a-4777-9c88-
12 01878b17c86a";
13     private static final int tokenExpirationTimeSeconds = 60;
14
15     public static void main(String[] args) throws JWTCreationException {
16         // create Token
17         Algorithm algorithm = Algorithm.HMAC256(apiKey);
18         String widgetToken = JWT.create()
19             .withIssuer(widgetDocHubUserName)
20             .withJWTId(UUID.randomUUID().toString())
21             .withExpiresAt(new Date(System.currentTimeMillis() +
22 tokenExpirationTimeSeconds * ((int) Math.pow(10,3))))
23             .withSubject("127.0.0.1")
24             .withClaim("instrument_type", "ISIN")
25             .withClaim("instrument_id", "DE")
26             .withClaim("search_types", "ISIN|WKN|VALOR")
27             .withClaim("search_langs", "all|es|en|de")
28             .withClaim("search_jurisdictions", "all|DE|DK|AT")
29             .withClaim("search_doc_types", "1|2|3|4|111|113|118")
30             .sign(algorithm);
31
32         // create URL
33         UriComponentsBuilder widgetURL = UriComponentsBuilder.newInstance()
34             .scheme("https")
35             .host("www.six-dochub.com")
36             .path("/en/widgets/document_search")
37             .queryParams("token", widgetToken);
38
39         System.out.println(widgetURL.toUriString());
40     }
41 }

```

Prevention (in regard to the following Security-Issues)	New API Version required
•	YES

Prevention (in regard to the following Security-Issues)	New API Version required
unauthorized usage (widget user) API-KEY is permanently public accessible and valid	(only new query parameter required)

- Requirements
- Dynamic encoding of an API-KEY means, that the customer, who bind the DocHub-Widget on its website, creates dynamically a token containing widget parameters and additional information. The API-KEY is used for signature to verify that the request has been sent by the user provided within the JWT Token.
- The Widget-Customer and the DocHub-Widget-Service have to use the same standard (API) to create and verify an appropriate token.
- The used implementation must be based on JSON Web Token (JWT) - RFC 7519
- URL Scheme
- The widget relating to the described security feature will be provided to the existing widget implementation and has the following scheme:
URL Schemes for the Document-Search Widget (**TOKEN_HASH** contains the encoded query parameters)

```
https://www.six-dochub.com/en/widgets/document_search?token=TOKEN_HASH
https://www.six-dochub.com/en/widgets/PRIIP_checker?token=TOKEN_HASH
```

- Implementation (Widget-Customer)
- With regard to the creation of a dynamic encoded API-KEY, the customer have to use his API-KEY and FKIS-ID as well as all query parameters for the construction of the required token.
- **Conventions**
- **Algorithm: HMAC SHA256** signed with the **API-KEY** (as private key) of the Widget-Customer (**required**)
- Security Purpose: ensures the **encoding** of the request
- **Issuer-Claim "iss"** (see <https://tools.ietf.org/html/rfc7519#section-4.1.1>): identified by the **DocHub-User-Name** of the Widget-Customer (**required**)
- **JWT-ID-Claim "jti"** (see <https://tools.ietf.org/html/rfc7519#section-4.1.7>): represents a **unique identifier** for the JWT and must be based on a **UUID (required)**
- Security Purpose: ensures the **dynamic creation** of a **token**
- **Expires-At-Claim "exp"** (see <https://tools.ietf.org/html/rfc7519#section-4.1.4>): represents the **expiration time** after the token is not longer valid for processing (optional)
- Security Purpose: ensures the **authorized usage** of a token by a widget user for a **limited time frame**
- **Subject-Claim "sub"** (see <https://tools.ietf.org/html/rfc7519#section-4.1.2>): identified by the **IP address** of a Widget-User (optional)
- Security Purpose: ensures that the client of website relating to the Widget-Customer is also the client of the linked DocHub-Widget (this mechanism reduces the possibility to link the widget on an unauthorized third party website)

- **Claims for Query Paramters** (see <https://tools.ietf.org/html/rfc7519#section-4.3>): represent the **query parameters** (see [Concept: Document-Search Widget#parameters](#) or [Concept: PRIIP Checker Widget#Parameter](#)), which will be applied for the appropriate document search or PRIIP check (optional)

- **Example <iframe> (HTML)**

?

- **Example: Securely transmitting Information between the Widget-Customer and the DocHub-System (JSON)**

?

```
{
  "sub": "127.0.0.1",
  "search_langs": "all|es|en|de",
  "search_jurisdictions": "all|DE|DK|AT",
  "iss": "ariva_widget_dis_01",
  "instrument_type": "ISIN",
  "search_types": "ISIN|WKN|VALOR",
  "exp": 1535637128,
  "instrument_id": "DE",
  "jti": "a1e21974-b16d-4a9c-8970-d0426b730629",
  "search_doc_types": "1|2|3|4|111|113|118"
}
```