



# **DocHub**

Document Distribution Platform

## **Widget Implementation Guide**

**Date** : 12.03.2026  
Version 4.0

## Table of revision

Version	Date	Updates (new updates are market in blue)
1.0	01.03.2017	Initial Version
2.0	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. Now it is possible to configure the items in the selections to be used for the search.</p> <p>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. 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>
3.0	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. Example for search columns moved to the place where the configuration is described.</p>
3.1	05.02.2018	<p>Naming convention for customer specific CSS files and related subdirectories added. Restriction that only instruments with Publication type “public available can be accessed” has been removed. Description of Parameter resizable added. Parameters ETD ISIN, ETD Valorennumber and ETD All added</p>
3.2	22.03.2018	Additional link to display a document in the browser instead of downloading the document
3.3	07.12.2018	<p>Search has been extended to search for multiple values with a single invocation. See chapter “Multi Search Parameters” Encrypted URL with hidden credentials is now supported see chapter “Dynamic Encryption of the API-key” Version 2 of the widget is now available.</p>
3.4	27.08.2019	<p>Rename Document type 5 Swiss BIB to FINSA KID. Introduction of new Document Types</p> <ul style="list-style-type: none"> <li>121 Registration document</li> <li>122 Securities note</li> <li>123 Summary</li> <li>124 Base prospectus</li> <li>125 Final terms</li> <li>126 Supplements</li> </ul>
3.5	18.02.2020	<p>Extended search window and description updated, since supplier is not shown any more. Removed outdated descriptions of Test Data. Minor editorial changes.</p>
3.6	30.11.2020	<p>Document attribute “Publication classification type” can be considered in display when a distributor wants to show only unrestricted documents. See chapter 0 Parameter Ignore Publication Classification Type for more details List of Document types removed since they are specified in DocHub_Attributes documentation.</p>
3.7	20.04.2022	Amended description of JWT Token
4.0	26.11.2025	<p><b>Widget Version 3</b></p> <ul style="list-style-type: none"> <li>- Responsive Widget with Android support</li> <li>- Secure authentication method with JWT token</li> </ul>

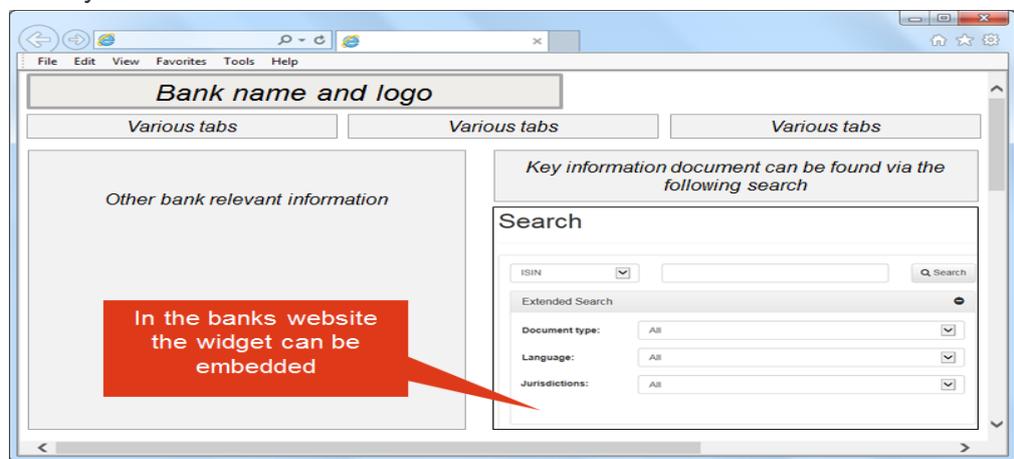
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## 1. Description of the DocHub Widget

SIX is offering the document distribution service DocHub to its customers to efficiently support their PRIIP-KID and document needs. DocHub 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

### Widget version 3 (New)

- single attribute search
- multi attribute search
- responsive design for mobile devices
- supporting downloads in Android App
- secure authentication method
- invoked by [https://www.six-dochub.com/en/widgets/v3/document\\_search?...](https://www.six-dochub.com/en/widgets/v3/document_search?...)
- [https://www.six-dochub.com/en/widgets/v3/document\\_multi\\_search?...](https://www.six-dochub.com/en/widgets/v3/document_multi_search?...)

**Important:** Previous versions 1 and 2 must be replaced with the new version 3 by end of **October 2026**

### Widget version 1

- single attribute search
- unsecure authentication method
- invoked by [https://www.six-dochub.com/en/widgets/document\\_search?...](https://www.six-dochub.com/en/widgets/document_search?...)

### Widget version 2

- multi search feature
- unsecure and encoded secure authentication method
- invoked by [https://www.six-dochub.com/en/widgets/document\\_search/v2?...](https://www.six-dochub.com/en/widgets/document_search/v2?...)

### 3. How to implement the Widget

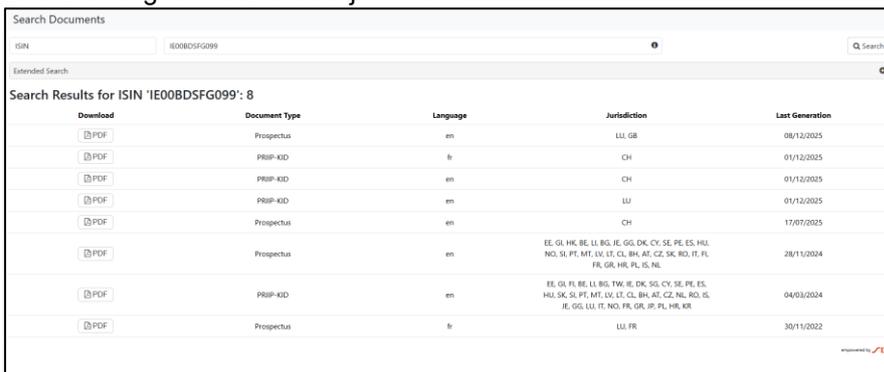
To embed a DocHub Widget in a customer's website use **JWT Token and encoded parameters**.

In the example below the Token and the parameters are encoded.  
See chapter 5 "Access method for user identification" for details.

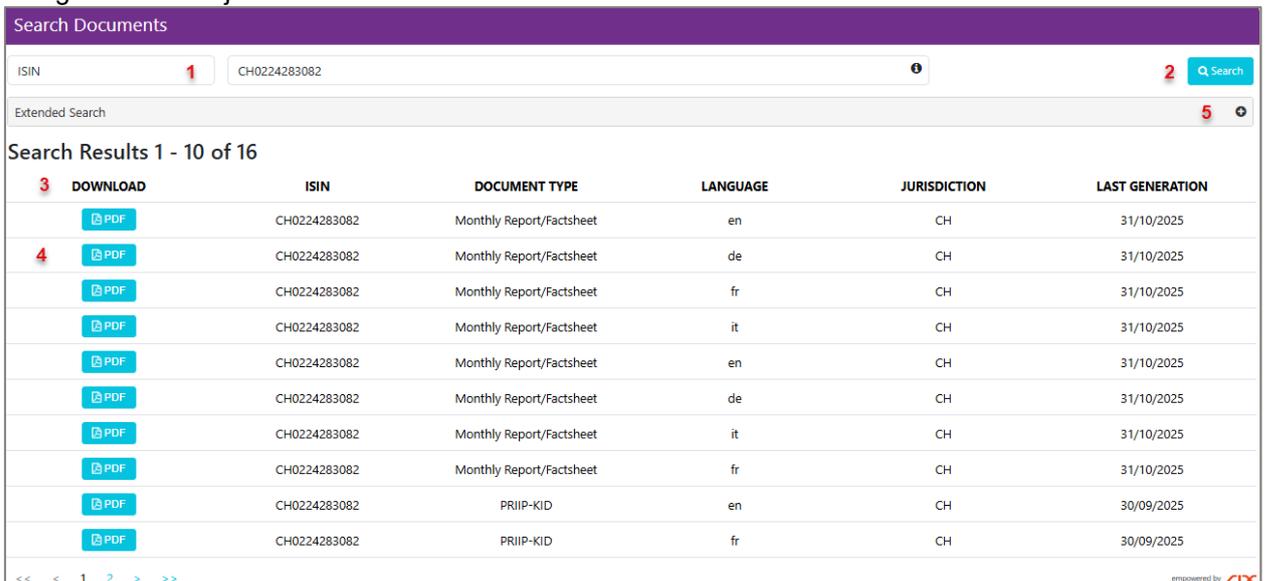
```
<iframe
  frameborder="0"
  id="dochub_widget"
  src=https://www.six-
dochub.com/en/widgets/v3/document_search?token=eyJ0eXAiOiJKV1QiLCJhbGciOiJIUz
I1NiJ9.eyJzdWIiOiIxMjcuMC4wLjEiLCJzZW50YyI6ImFsbHxERXxES3xVVCIsImVycyI6ImFyaXZhX3dpZGldfD9kaXN
fMDEiLCJpbnN0cnVtZW50X3R5cGUiOiJUU010Iiwic2VhcmNoX3R5cGVzIjoiaSVNJTnxXS058VkFM
T1IiLCJleHAiOiJlMzU2MzcwMjgsImIuc3RydWl1bnRfaWQiOiJERSIsImp0aSI6ImExZTlXOTc0L
WIxNmQtNGE5Yy04OTcwLWQwNDI2YjczMDYyOSIsInNlYXJjaF9kb2NfdHlwZXMiOiIxZDJDJmM3w0fD
ExMXwxMTN8MTE4In0.r6n9wSPdLo-5Uigc2v__wWUntQ9ykby-HQXuOsNqZg8
width="800"
  height="600"
/>
```

### 4. Description how to use the widget

Default design without css adjustments



Design with css adjustments



The widget web-site displays:

- a selection box to choose the type of instrument identifier (1):
  - ISIN
- an input field to input an instrument identifier (2).
- a search button with label <Search> to execute the search (2).
- a paginated list of matched documents with:
  - a title <Search Results>
  - columns from parameter **active\_cols** (3)
  - for each search result a button with label <PDF> to download the document (4)

### Extended Search (5)

In case of too many hits, the result can be filtered with the extended search. Be aware that these restrictions might result in not finding any document when the combined search fields do not match any document available.

- document type filter
- language filter
- jurisdiction filter



The extended search filters are shown or hidden when the user presses the left mouse button while pointing on the "Extended Search" title or clicking on  icon and hidden by clicking on  icon. 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 method for user identification

To identify the distributor requesting towards DocHub information about the user needs to be provided. The method to identify the requester is:

- Dynamic encoding of the link via token, where neither the parameter nor the token is readable

With dynamic encoding the token 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.

**Important:** Using the dynamic encoding is the only supported method in Widget version 3, since the token is not visible.

Be aware that these parameters are case sensitive.

### 5.1. Dynamic Encoding via token

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 Token (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 **0 Sample Implementation (Java 8)**.

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

`https://www.six-dochub.com/en/widgets/v3/document_search?token=TOKEN_HASH`

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

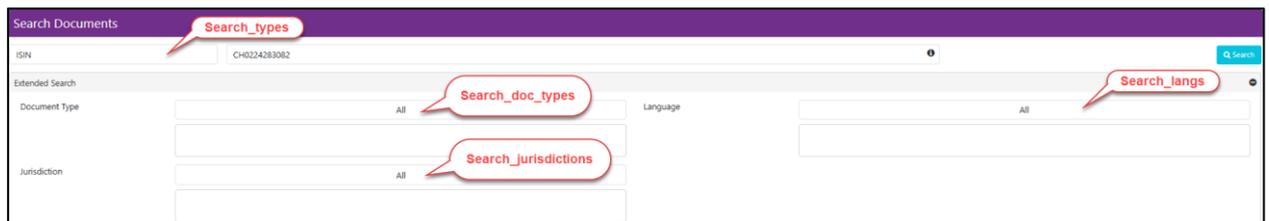
```
{
  "sub": "127.0.0.1",
  "search_langs": "all|es|en|de",
  "search_jurisdictions": "all|DE|DK|AT",
  "iss": "ariva_widget_dis_01",
  "instrument_type": "ISIN",
  "search_types": "ISIN|WKN|VALOR",
  "exp": 1535637128,
  "instrument_id": "DE",
  "jti": "a1e21974-b16d-4a9c-8970-d0426b730629",
  "search_doc_types":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



	<p>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.</p>	
<b>resizable</b>	<p>When this parameter is set resizable=1 iframeResizer.contentWindow.min.js is loaded. Otherwise the javascript is not loaded</p>	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
<b>search_types</b>	<p>The identification schemes to be displayed in the selection. The available types are listed in 9.3 Identification Schema to be displayed in selection</p>	ISIN VALOR WKN  Sicovam SEDOL Supplier specific 1 Supplier specific 2 CUSIP  ETD ISIN ETD Swiss Valorennumber ETD All
<b>search_doc_types</b>	<p>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</p>	All
<b>search_langs</b>	<p>The selection of languages to be offered in extended search.  Languages are the two letter ISO code according to ISO 639-1</p>	All
<b>search_jurisdictions</b>	<p>The selection of jurisdictions to be offered in extended search.</p>	All

	Jurisdictions are the two letter ISO codes according to ISO 3166	
--	--	--

### 6.3.1. Multi Search Parameters

The interface has been enhanced with a parameter 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.

Parameter	Description	Default
<b>multi_search_doc_types</b>	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
<b>multi_search_langs</b>	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
<b>multi_search_jurisdictions</b>	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/v3/document\\_multi\\_search?...](https://test.six-dochub.com/en/widgets/v3/document_multi_search?...)

- 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 pre-selection of "BE|NL"

#### 6.4. Parameter Table configuration search result area

Parameter	Description	Default
<b>active_cols</b>	<p>The columns to be shown in the search result. Valid entries for columns are in table <a href="#">9.2 Supported Columns</a> Only the delivered values are shown.</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>	download  ISIN  document_type  language  jurisdiction  last_generation
<b>page_size</b>	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
<b>instrument_type</b>	The type of instrument for which the search should be done. Possible values are listed in <a href="#">9.4 Identification types used for the interpretation of the identifier</a>	none
<b>instrument_id</b>	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 in public internet or just in closed user groups. Default setting to 1 ensures backward compatibility.

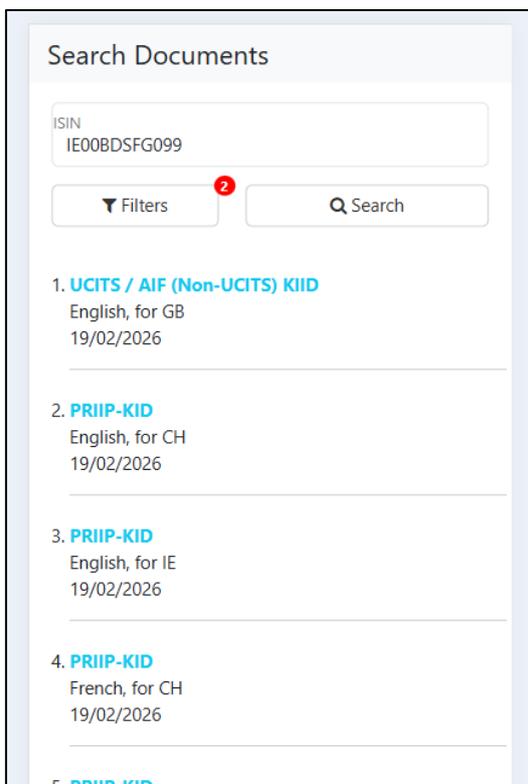
Parameter	Description	Default
<b>ignore_publication_classification</b>	Controls the inclusion of restricted instruments in the search result. Control values are : 0 = Only non-restricted documents are listed in search result 1 = All matching documents are listed in search result	1 display all documents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

Sample parameter setting to see only non-restricted documents: ignore\_publication\_classification=0

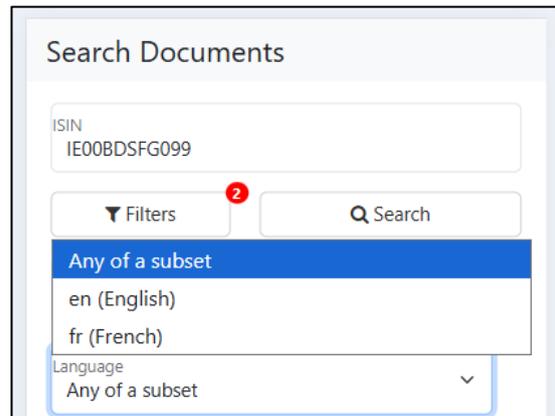
## 7. Responsive Widget

To support small screens in mobile applications the Widget is now responsive. If the screen is too small to present all results a new list view is offered.

### Result list view



### Extended search with filtering



### 7.1. Android download enabling

Using the Widget in an Android App requires the parameter **link\_type=direct** to enable the download.

## 7.2. Multi Search in Responsive Widget

The responsive widget requires a special parameter to search for multiple criteria's like document types or languages. This parameter is **any\_of**, all search parameters after this are valid.

Example: `&search_langs=any_of|en|fr&search_doc_types=any_of|1|3|1`

The URL must be with the parameter **document\_search**.and not `document_multi_search`

Example: [https://www.six-dochub.com/en/widgets/v3/document\\_search?](https://www.six-dochub.com/en/widgets/v3/document_search?)

## 8. Misc Functions

### 8.1. Display a document in the Browser instead of downloading

With the widget parameter **/display** it is possible to show a document in the browser instead of downloading the document.

## 9. Tables

### 9.1. 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	

### 9.2. 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 Valorennumber	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 International Securities Identification Number 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/v3/document\\_search?token= TOKEN\\_HASH \\_cols=download|ISIN|supplier|document\\_type|language|jurisdiction|last\\_generation](https://test.six-dochub.com/en/widgets/v3/document_search?token= TOKEN_HASH _cols=download|ISIN|supplier|document_type|language|jurisdiction|last_generation)

### 9.3. Identification Schema to be displayed in selection

Parameter values
VALOR
WKN

Sicovam
SEDOL
ISIN
Supplier specific 1
Supplier specific 2
CUSIP
ETD ISIN
ETD Swiss Valorennumber
ETD All

#### 9.4. Identification types used for the interpretation of the identifier

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

### 10. Adapting the Design

With a **css** it is possible to adjust the look & feel. The stile must be deposited on DocHub and must be requested in the link with the parameter **style=NAME**

Download	ISIN	Document Supplier	Document Type	Language	Jurisdiction
	LU1559925570	Fundinfo	Additional Information for Investors	it (Italian)	LU
	LU1559925570	Fundinfo	Legal Publication	en (English)	CH
	LU1559925570	Fundinfo	Legal Publication	en (English)	CH
	LU1559925570	Fundinfo	Legal Publication	en (English)	LU
	LU1448767342, LU1448767425, LU1559925570	SIX EDC Cash Payments	SIX EDC Cash Payments	en (English)	CH

#### 10.1. Content of CSS file style\_1.css

```
#navbar-logo {
    background: url (/widgets/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 !important;
}

.btn {
    color: #606060;
}

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

.card-title {
    color: #606060;
}

.widget-title {
    color: #606060;
}

.card {
    border-color: darkgray;
    background: lightgray;
}

.fa {
    color: darkgray;
}

.card-header {
    border-color: darkgray;
    background: #e0e0e0 none;
}

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

h3 {
    color: #404040;
```

```
}

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

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

.pagination > .page-item.active > .page-link:focus {
  outline: none !important;
  box-shadow: none !important;
}

.pagination > .page-item.disabled > a, .pagination > .page-item.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;
  color: gray;
}

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

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

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

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

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

```
}  
  
.table > thead > tr {  
    border-bottom: 2px solid #808080;  
}  
  
.form-control:focus {  
    outline: none !important;  
    border: 1px solid #e0e0e0 !important;  
    box-shadow: 0 0 10px #707070 !important;  
}  
  
.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;  
}  
  
.card-title {  
    color: #606060;  
}  
  
.widget-title {  
    color: #606060;  
}  
  
.card {  
    border-color: darkgray;  
    background: lightgray;  
}  
  
.fa {  
    color: darkgray;
```

```
}

.card-header {
  border-color: darkgray;
  background: #e0e0e0 none;
}

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

h3 {
  color: #404040;
}

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

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

.pagination > .page-item.disabled > a, .pagination > .page-item.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;
  color: gray;
}

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

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

```
.table > tbody > tr > td {  
    border-top: 0;  
}  
  
.table > tbody > tr {  
    border-top: 1px solid #909090;  
}  
  
.table > thead > tr > th {  
    border-bottom: 0;  
}  
  
.table > thead > tr {  
    border-bottom: 2px solid #808080;  
}
```

## 11. Additional Information for Dynamic Encoding of the token

### 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-4777-9c88-01878b17c86a";  
12     private static final int tokenExpirationTimeSeconds = 60;  
13  
14     public static void main(String[] args) throws JWTCreationException {  
15         // create Token  
16         Algorithm algorithm = Algorithm.HMAC256(apiKey);  
17         String widgetToken = JWT.create()  
18             .withIssuer(widgetDocHubUserName)  
19             .withJWTId(UUID.randomUUID().toString())  
20             .withExpiresAt(new Date(System.currentTimeMillis() +  
21 tokenExpirationTimeSeconds * ((int) Math.pow(10,3))))  
22             .withSubject("127.0.0.1")  
23             .withClaim("instrument_type", "ISIN")  
24             .withClaim("instrument_id", "DE")  
25             .withClaim("search_types", "ISIN|WKN|VALOR")  
26             .withClaim("search_langs", "all|es|en|de")  
27             .withClaim("search_jurisdictions", "all|DE|DK|AT")  
28             .withClaim("search_doc_types", "1|2|3|4|111|113|118")  
29             .sign(algorithm);  
30  
31         // create URL  
32         UriComponentsBuilder widgetURL = UriComponentsBuilder.newInstance()  
33             .scheme("https")
```

```

33     .host("www.six-dochub.com")
34     .path("/en/widgets/document_search")
35     .queryParams("token", widgetToken);
36
37     System.out.println(widgetURL.toUriString());
38 }
39 }

```

Prevention (in regard to the following Security-Issues)	New API Version required
<ul style="list-style-type: none"> <li>• <b>unauthorized usage</b> (widget user) <b>API-KEY is permanently public accessible and valid</b></li> </ul>	<p>YES (only new query parameter required)</p>

- 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/v3/document_search?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 no longer valid for processing (optional)- It is highly

recommended to set a short expiry to limit exposure risks. Example: a few hours or at maximum a day

- 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 Parameters** (see <https://tools.ietf.org/html/rfc7519#section-4.3>): represent the **query 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"
}
```