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1 Introduction

Have you decided on trustbox and would like to supply and maintain your product master data via an API interface connection?

Or would you like to retrieve and receive product master data from trustbox via an API interface?

This document describes the most important queries to the trustbox API interface.

1.1 Target audience

This document is aimed at people who want to implement interfaces and send data to trustbox or retrieve data from trustbox via an API interface.

1.2 Scope und delimitation

This document only describes the most important queries to the trustbox API interface.

The complete documentation of the interface with all transferable parameters and responses in can be found here <https://app.byrd.io/docs/#resources>

1.3 Format descriptions and data model

You can find comprehensive documentation on the data models of the respective platform on the trustbox website: <https://www.trustbox.swiss/>

Trustbox recognizes these data formats:

Format	Description	Inbound (Import)	Outbound (Export)	Query-parameter for receiving this format
trustbox XML	The proprietary legacy format of the trustbox	✓	✓	&format=application/xml;schema=trustbox_xml
Platform XML	The proprietary XML format of the software provider	✓	✓	&format=application/xml
JSON platform (recommended for data recipients)	The proprietary JSON format of the software provider	✓	✓	does not have to be specified (default)
GDSN CIN (recommended for data suppliers)	The XML format standardized by GS1	✓	✗	This format can only be used in the trustbox context for inbound (import of products).

2 Authorization und Base-URL

To connect to the data exchange platform, you need a user name and password as login data. The interface uses **Basic-Auth** as the authorization method. You must transfer the login data in the authorization header for each request.

You receive the login data for each basic URL when you register for trustbox.

2.1 Base-URLs

Platform	Value
trustbox	https://trustbox.firstbase.ch/api/v1
trustbox (Test)	https://trustbox-test.byrd.io/api/v1

2.2 Test accounts

If you do not want to test the API connection on the productive environment, you can use the test environment for this.

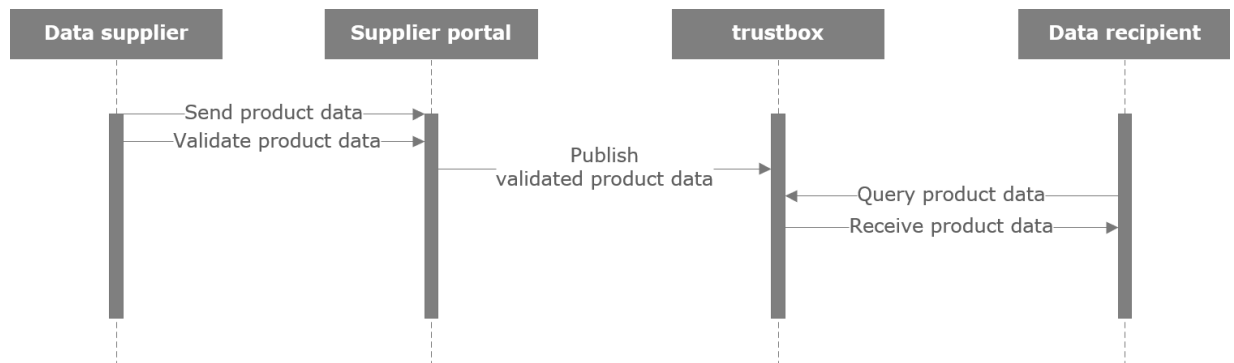
Please note that you will need separate login details for each environment.

Contact us via the [contact form](#).

3 General procedure for data delivery and data receipt

Data suppliers provide and maintain their product data in their own data supplier catalog. If they are published from there, the product data flows into the general catalog (trustbox).

Data recipients request product data from the general catalog (trustbox) and receive product data from the general catalog (trustbox).



4 Data recipient: retrieving and receiving data

4.1 Search and browse function via the web GUI

With the same login data as for the API interface, you can also access the graphical user interface (web GUI) of trustbox. There, you can filter for new products and suppliers, display the product data, compare products and download selected products as Excel, XML or JSON files.

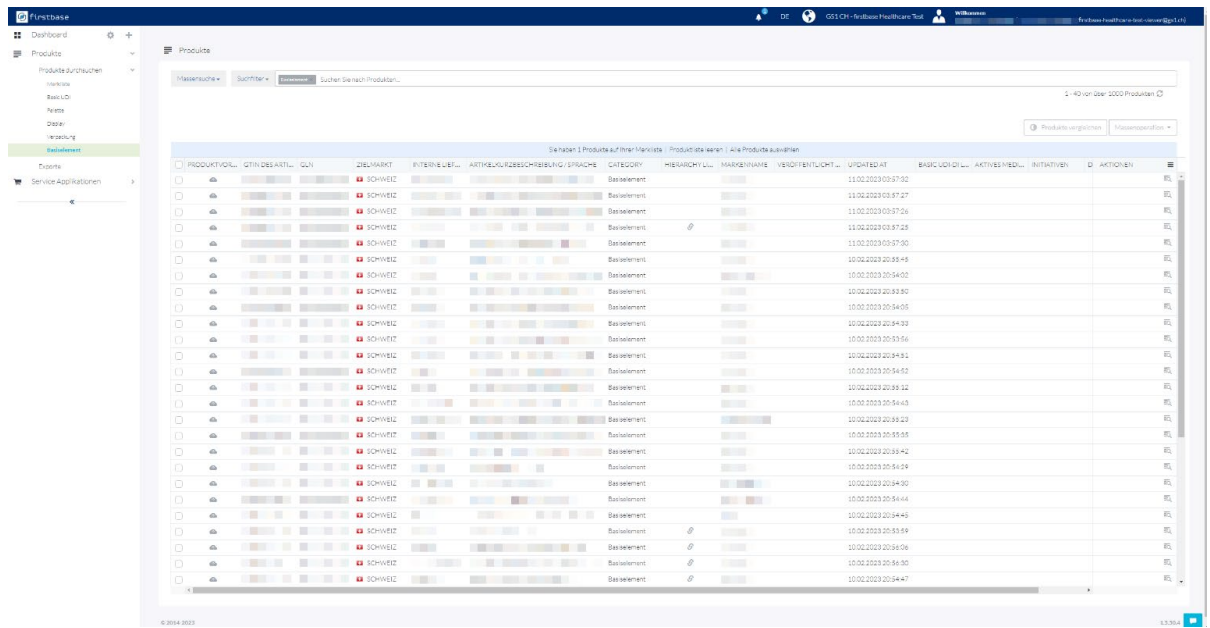


Figure 1: General catalog view

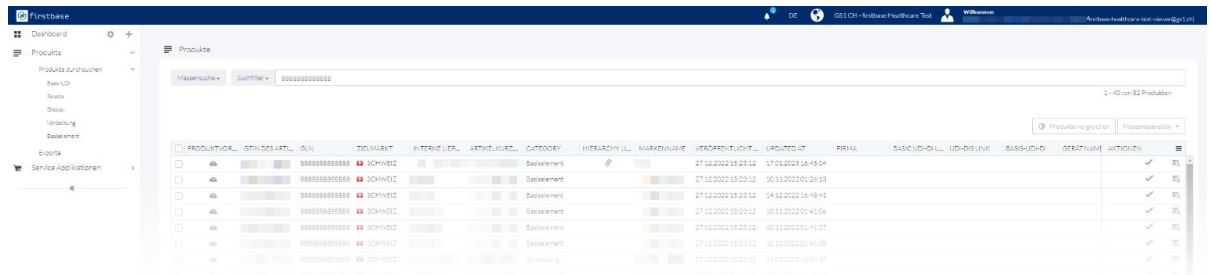


Figure 2: General catalog view with search results

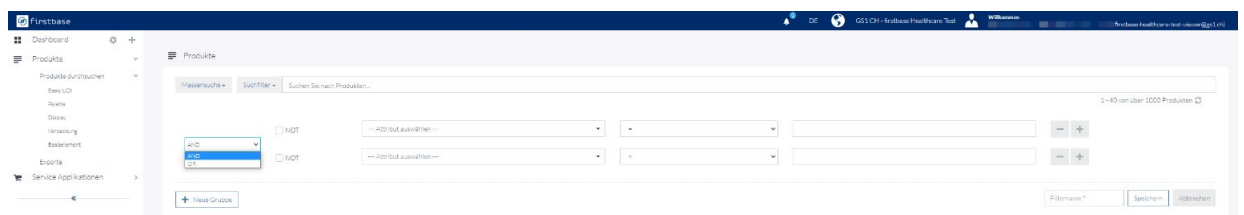


Figure 3: Advanced filter options

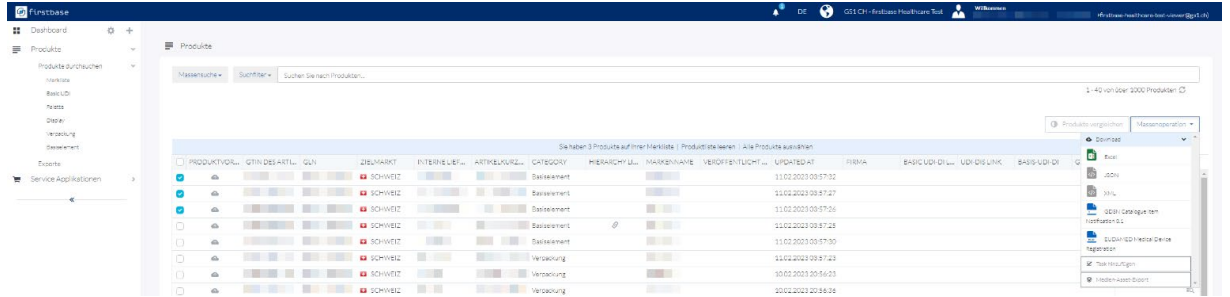


Figure 4: Export options. Applies to selected products.

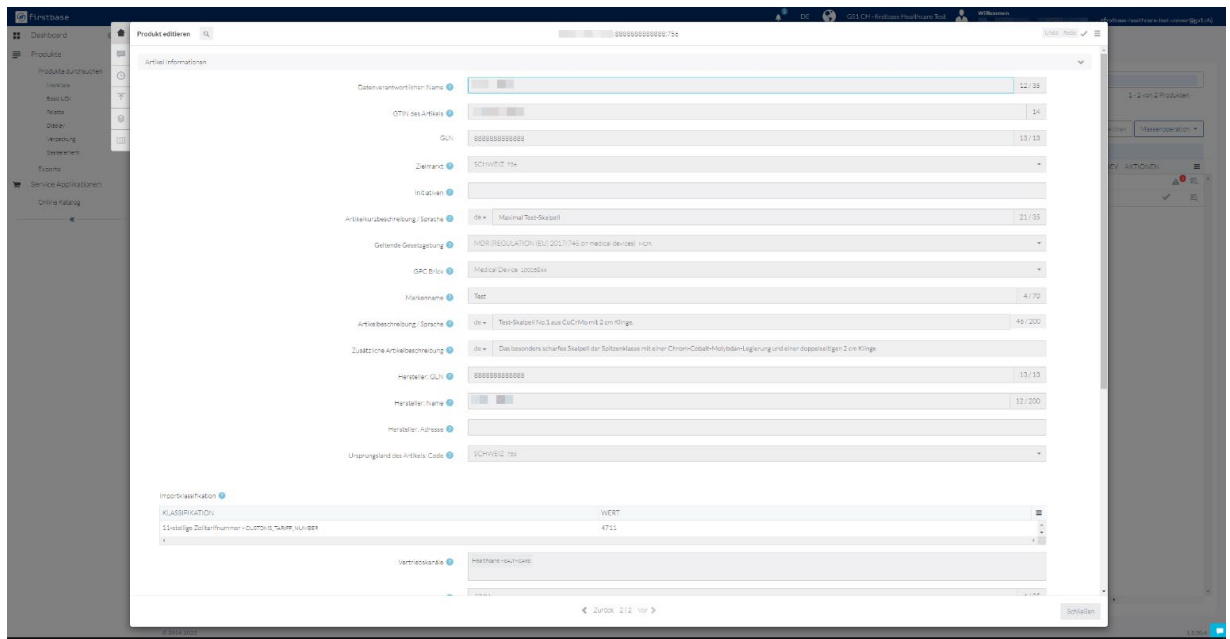


Figure 5: Product detail view

4.2 Interface functions for data recipients

4.2.1 Find an item by its primary key

- Reference: <https://app.byrd.io/docs/api/index.html#getitembykey>

- Request:

URL	/items/{{primaryKey}}	
Method	GET	
Path-Parameter	{{primaryKey}}	Primary key of the item to be retrieved. A primary key consists of a combination of GTIN, GLN and target market country code and is separated by a colon
Query-Parameter	-	
Request-Headers	-	
Request-Body	-	

- Request-Description:

The method expects the primary key of the product being searched for as the last path parameter. The searched product is returned as a JSON object.

- Expected Response (Successful):

Code	200	
Data	JSON object with the information about the requested product	

- Example Request:

<http://trustbox.firstbase.ch/api/v1/items/07612345001104:7612345002323:756>

4.2.2 Retrieve items with query

- Reference: <https://app.byrd.io/docs/api/index.html#getitems>

- Request:

URL	/items?keyword={{expression}}	
Method	GET	
Path-Parameter	-	
Query-Parameter	keyword={{expression}}	Structure for {{expression}} = attribute_name:search_value
Request-Headers	-	
Request-Body	-	

- Request Description:

The method expects an expression that serves as a filter for the call. Only products that match the filter are returned.

- Expected Response (Successful) :

Code	200	
Data	JSON object with the information about the products that match the filter	

- Example Request:

<https://trustbox.firstbase.ch/api/v1/items?keyword=brandName:myBrand>

4.2.3 Comparison and logic operators to retrieve products with query

- Filter for specific attribute:
 - The attribute 'brandName' should contain '*myBrand*' → brandName:myBrand
 - The attribute 'gpc' should contain '*10005844*' → gpc:10005844
 - The attribute 'gln' should contain '*8888888888888*' → gln:8888888888888

- Filter for specific attribute with comparison operators:
 - Permitted operators: <, <=, >, >=
 - Structure: attribute_name operator search_value
 - Example: The attribute 'updatedAt__' should be newer than 01.01.2023 → updatedAt__%3E2023-01-01

- Encoding of comparison operators:

As comparison operators are path parameters, they must be coded accordingly. The example above then becomes: updatedAt__%3E2023-01-01

<	%3C	Comparison operator "lower than "
=	%3D	Equal sign
>	%3E	Comparison operator "greater than "

- Use of logic operators:
 - The search expressions can be combined with each other using brackets and logic operators.
 - Structure: {{expression}} AND|OR {{expression}}
 - Example: The attribute 'gln' should have the value '8888888888888' and the attribute 'updatedAt__' should be newer than 01.01.2024 → (gln:8888888888888) AND (updatedAt__%3E2024-01-01)

4.2.4 Retrieve item hierarchies

- Reference: <https://app.byrd.io/docs/api/index.html#retrieveitemhierarchies>

- Request:

URL	/items/{primaryKey}/hierarchies	
Method	GET	
Path-Parameter	{primaryKey}	Primary key of the item to be retrieved. A primary key consists of a combination of GTIN, GLN and target market country code and is separated by a colon
Query-Parameter	-	
Request-Headers	-	
Request-Body	-	

- Request-Description:

The method expects a primary key and the /hierarchies addition in order to query the embedding of a product in its hierarchy. This allows the GTIN of the base article to be determined with a primary key of a packaging unit and vice versa.

- Expected Response (Successful):

Code	200	
Data	JSON object with the information about the requested product	

- Example Request:

<https://trustbox.firstbase.ch/api/v1/items/07612345001104:7612345002323:756/hierarchies>

4.2.5 Retrieve items in chunks

- Reference: <https://app.byrd.io/docs/api/index.html#getitems>

- Request:

URL	/items?count={{chunk-size}}	
Method	GET	
Path-Parameter	-	
Query-Parameter	count={{chunk-size}}	Number of desired products per query (optional). If not specified, the value is set to 20.
Request-Headers	x-item-cursor	The pointer around the next number of products specified in the count parameter The 'x-item-cursor' is used to identify a search query across requests.
Request-Body	-	

- Request-Description:

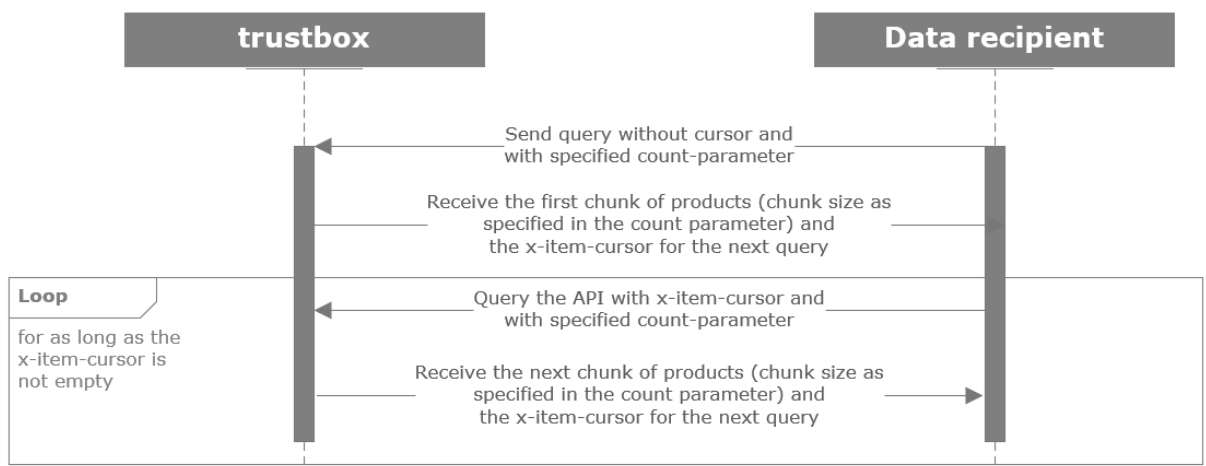
The REST interface uses chunks to divide responses into smaller pieces. The standard chunk size is 20 items (hits).

- Expected Response (Successful):

Code	200	
Data	In Body: JSON object with the information about the requested product	
	In Header: x-item-cursor: a Cursor used to identify a search query across requests.	

- Procedure:

Send the first request without 'x-item-cursor'. The response will contain the new 'x-item-cursor'. Send further requests with 'x-item-cursor'. After each response, check the 'x-item-cursor' received for existence. If the cursor exists, it replaces the previous one in the next request. If a response does not contain a cursor, the request is completed and no further data records are delivered.



5 Data sender: Upload and publish data

5.1 General procedure

5.1.1 Import data

Two steps are necessary when importing product data via API.

1. upload a file with product data
2. importing data based on uploaded files

A file must be uploaded first. The actual import process can be started with a reference to the file.

5.1.2 Validate data

Products with validation errors cannot be published. Products, which have warnings can be published.

The results of the data validation can be retrieved via the items interface.

5.1.3 Publish data

Two steps are necessary when publishing items via API.

1. create a selection containing the items to be published
2. publish the selection

The first step is to select items to be published. These are summarized in a selection. The actual publication process can be started with a reference to the selection.

5.2 Interface functions for data senders

5.2.1 Import data - step 1: Upload a file

- Reference: <https://app.byrd.io/docs/api/index.html#creategathering>

- Request:

URL	/gatherings	
Method	POST	
Path-Parameter	-	-
Query-Parameter	-	
Request-Headers	Content-Type = multipart/form-data	
Request-Body	file: <filename> <iostream>	

- Request-Description:

The method expects a file that is transferred via a form field in the body. The file must correspond to one of the import formats.

- Expected Response (Successful):

Code	201 (Created)	
Data	JSON object with a list of all uploaded files.	

- Example-Response:

```
[
  {
    "assetKey": "6fb672130c80a222e732d8e39439944aAA:/API Import Testfile.xlsx",
    "gatheringKey": "6fb672130c80a222e732d8e39439944aAA",
    "path": "/API Import Testfile.xlsx",
    "contentType": "application/vnd.openxmlformats-officedocument.spreadsheetml.sheet",
    "creationDate": 1703083782012,
    "sha1": "13bf1d6c48793680bb394f98734a403538d38dc2",
    "tags": [
      "upload",
      "upload:6fb672130c80a222e732d8e39439944aAA"
    ],
    "url":
    "https://trustbox.firstbase.ch/api/v1/gatherings/6fb672130c80a222e732d8e39439944aAA/API%20Import%20Testfile.xlsx",
    "assetUri": "6fb672130c80a222e732d8e39439944aAA:/path"
  }
]
```

5.2.2 Import data - step 1: Execute import

- Reference: <https://app.byrd.io/docs/api/index.html#executeimport>

- Request:

URL	/imports	
Method	POST	
Path-Parameter	-	
Query-Parameter	-	
Request-Headers	Content-Type = application/json	
Request-Body	gatheringKey	The key to the import process according to the response from step 1
	path	The path to the import process according to the response from step 1

- Request-Description:

The method expects the key for the import process, which was returned in the response when querying the /gathering endpoint. The query also expects the path to the file from the same source.

- Expected Response (Successful):

Code	200	
Data	The query does not return a response	

5.2.3 Validate items

- Reference: <https://app.byrd.io/docs/api/index.html#executeimport>

- Request:

URL	/items/{primaryKey}/validationResult	
Method	GET	
Path-Parameter	{primaryKey}	Primary key of the item to be retrieved. A primary key consists of a combination of GTIN, GLN and target market country code and is separated by a colon
Query-Parameter	-	
Request-Headers	-	
Request-Body	-	-

- Request Description:

The method expects a primary key and the addition /validationResults to query the results of the validation check.

- Expected Response (Successful):

Code	200	
Data	JSON object with the information about the requested product. The level attribute provides information on the error weighting. Errors at the "Error" level must be corrected before the product data can be published.	

- Example Request:

<https://trustbox.firstbase.ch/api/v1/items/07612345001203:7612345002323:756/validationResult>

5.2.4 Publishing data – Step 1: Create a selection

- Reference: <https://app.byrd.io/docs/api/index.html#createselection>

- Request:

URL	/selections	
Method	POST	
Path-Parameter	-	
Query-Parameter	-	
Request-Headers	Content-Type = application/json	
Request-Body	primaryKeys	An array of primary keys

- Request Description:

The query expects a list of primary keys, which are then combined into a selection in order to perform further actions.

- Expected Response (Successful):

Code	200	
Data	A JSON object with a selection ID (selectionID) and the number of products contained in the selection.	

5.2.5 Publish data Step 2: Publish items

- Reference: <https://app.byrd.io/docs/api/index.html#startpublication>

- Request:

URL	/publications	
Method	POST	
Path-Parameter	-	
Query-Parameter	-	
Request-Headers	Content-Type = application/json	
Request-Body	selectionId	The key to selection according to the response from step 1
	destinations	An array of publication targets.

- Request Description:

The query expects a selection ID and the list of all publication destinations.

The destinations array is filled as follows:

Platform	destinations[]
trustbox (Prod)	{ "destinationID": 4650312125120512, "destinationType": "IN_PLATFORM" }
trustbox (Test)	{ "destinationID": 5156932596793344, "destinationType": "IN_PLATFORM" }

- Expected Response (Successful):

Code	200	
Data	The query does not return a response	

5.2.6 Unpublish items

- Reference: <https://app.byrd.io/docs/api/index.html#byrd-rest-api-reference-publications>

- Request:

URL	/publications/delete	
Method	POST	
Path-Parameter	-	
Query-Parameter	-	
Request-Headers	Content-Type = application/json	
Request-Body	selectionId	A key to a selection
	destinations	An array of publication targets.

- Request Description:

The query expects a selection ID and the list of all publication destinations. See. Chapter 5.2.4 resp. chapter 5.2.5

- Expected Response (Successful):

Code	200	
Data	The query does not return a response	

5.3 Interface functions for asset upload (images and documents)

5.3.1 Upload an asset

- Reference: <https://app.byrd.io/docs/api/index.html#uploadfile>

- Request:

URL	/assetFolders/_uploadFile/{path}}	
Method	POST	
Path-Parameter	{path}}	Path to the folder to which the file is to be uploaded
Query-Parameter	-	
Request-Headers	Content-Type = multipart/form-data	
Request-Body	file: <filename> <iostream>	

- Request Description:

The method expects a file that is transferred via a form field in the body.

- Expected Response (Successful):

Code	200	
Data	JSON object with the information about the requested product	

- Example Request:

https://trustbox.firstbase.ch/api/v1/assetFolders/_uploadFile/Images

5.3.2 Create a public link to the asset

- Reference: <https://app.byrd.io/docs/api/index.html#converttopublicasset>

- Request:

URL	/assetFolders/_convertToPublicAsset/{path}/{filename}}	
Method	PUT	
Path-Parameter	{path}	Path and file name to the folder containing the file for which a public asset link is to be created
Query-Parameter	-	
Request-Headers	Content-Type = application/json	
Request-Body	-	

- Request Description:

The method expects the path and the file name of the file as the last path parameter.

- Erwartete Response:

Code	200	
Data	A JSON object with information about the file. The public asset link is located in the publicAssetUrl attribute.	

- Example Request:

https://trustbox.firstbase.ch/api/v1/assetFolders/_convertToPublicAsset/Web/07612345001104.png