

IUCLID API Workflow at the German Federal Institute for Risk Assessment (BfR)

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IUCLID at BfR

Systems in BfR were built around CADDY

- IUCLID was and will always be seen as a data container
- Data extraction and pouring those data in existing in-house workflows is the main objective
- Therefore, reliable data extraction is crucial for BfR

Benefit of Using IUCLID API

- REST-API can provide
 - Reliable and automated data extraction for integration in existing in-house assessment workflows
 - Higher efficiency and lower traffic (Cherry-picking data via API is less bandwidth consuming)

Learnings from testing IUCLID API

- The documentation can be frustrating
- Documentation in PDF format is not state-of-the-art
 - This should be shifted to OpenAPI (former Swagger)
- State-of-the-art-documentation can kickstart development of new data tools and wide spread use
 - BfR started its own documentation for the most often used calls using OpenAPI standards (v3.0.4)

Documentation Example

IUCLID REST API BfR beta OAS 3.0

<http://openapi-preview.example/>

Servers

<http://localhost:8080/>

base_url This is the main URL for REST API calls.

GET

</iuclid6-ext/api/ext/v1/> This is a small example on how the REST API is used.

authentification How authentification is used in IUCLID6 REST API calls.

POST

</iuclid6-web/idp/user/token/issue>

POST

</iuclid6-web/idp/user/token/redeem>

Example on how to redeem a `refresh\_token` and obtain a new set of `access\_token` and `refresh\_token`.

GET

</iuclid6-ext/api/ext/v1/query/iuclid6/byName>

Example on how to use generated the authentication token. This example will return a list of 5 dossiers in the current IUCLID6 instance.

raw_data Raw Data Interactions with IUCLID6 REST API calls.
[IUCLID6 v9 documentation](#) section 4.3.1. Raw data

GET

/iuclid6-ext/api/ext/v1/raw/{entity_type}/{uuid}

In IUCLID6 v9 documentation: 4.3.1.1 Raw data - Entities

Documentation Example II

authentication

How authentication is used in IUCLID6 REST API calls.

POST

/iuclid6-web/idp/user/token/issue

With this, one can request the service for an authentication token for authenticating during the API calls without putting the IUCLID6-USER and IUCLID6-PASS in the request header.

Parameters

Cancel

No parameters

Request body

application/x-www-form-urlencoded

username * required

string

SuperUser

password * required

string

root

Execute

Responses

Code	Description	Links
200	Successful request.	No links
400	Invalid request.	No links

Documentation Example III

Execute

Clear

Responses

Curl

```
curl -X 'POST' \
'http://localhost:8080/iuclid6-web/idp/user/token/issue' \
-H 'accept: */*' \
-H 'Content-Type: application/x-www-form-urlencoded' \
-d 'username=SuperUser&password=root'
```

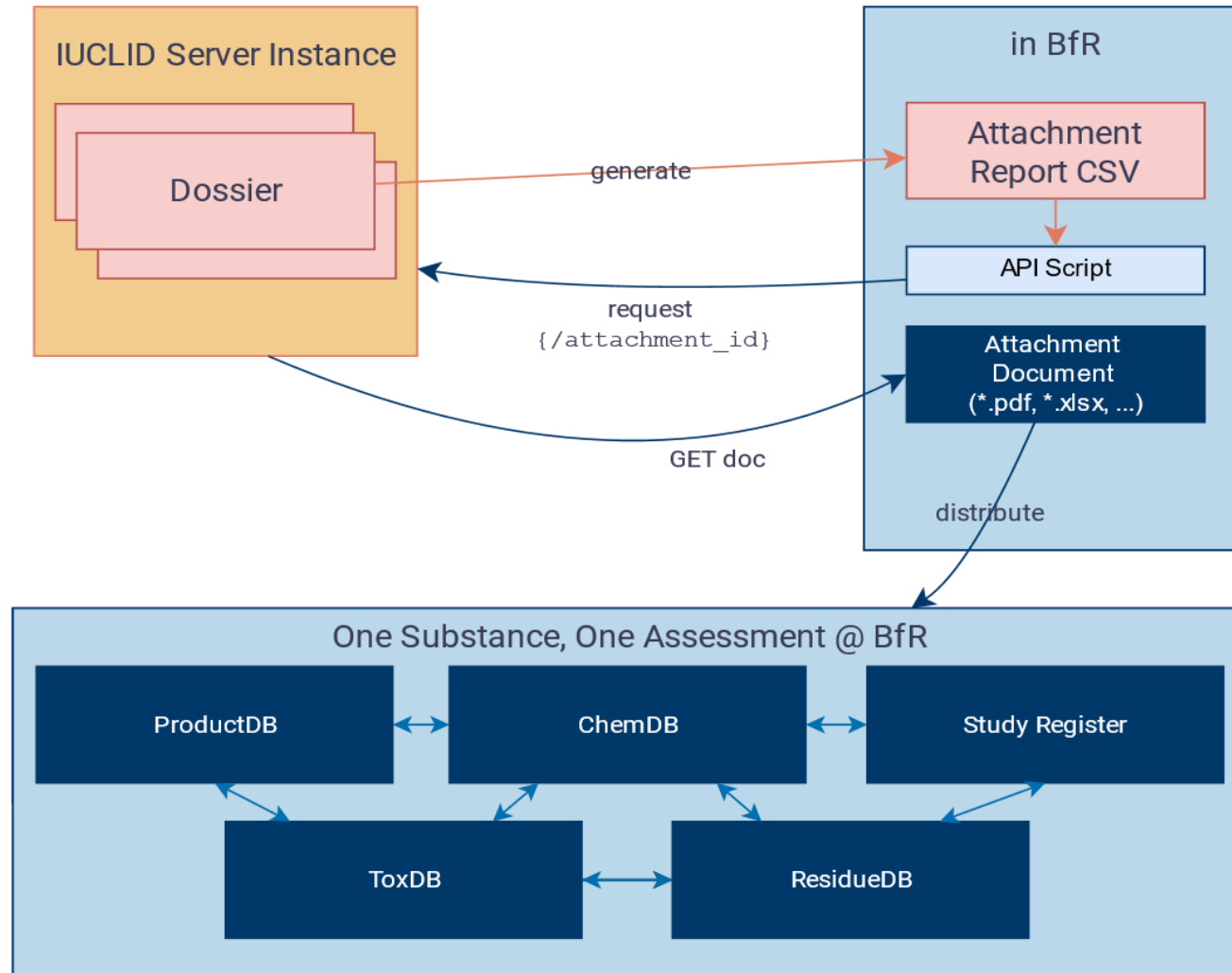
Request URL

```
http://localhost:8080/iuclid6-web/idp/user/token/issue
```

How to go further?

- Interactive documentation helps finetuning calls
- Call statements are precisely documented with examples = less confusion on how to use
- Additional software (like Insomnia) helps create programming language specific call statements (in e.g. Python, R, ..) on the fly
- Easier implementation in automation scripts

IUCLID API Workflow at BfR (preliminary stage) to keep „One Substance - One assessment“ alive



Working with the EFSA IUCLID instance

- Extraction still relies on Report Generator “Attachment Report CSV”
- adding “wait”-statements to the script to prevent triggering DDoS defence mechanisms on server side
 - This slows down document acquisition
 - E.g.: document extraction for “**Bacillus thuringiensis subsp. tenebrionis strain NB176_April2025**” (UUID: 3f124e65-41cf-4c10-92c5-a5b549cf9929) took ~1h (144 Documents)

Summary

- **API functionality is very useful in the BfR universe ←Thank you!**
- For the time being, this is the only way for us to maintain our “One Substance – One Assessment” workflow
- Improvements on the documentation would eliminate the hindrances to create even more useful data tools for IUCLID (as shown)
- API also works for data input (see CropLife’s Information Integration Platform)

***Base elements are already available, in collaboration with someone who really knows the API the documentation could be updated quickly**

Thank you

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