

## 5.2.5 BE - Webconnect Data-exchange Service

### Data Exchange API

The Data Exchange API has 2 types of processes, synchronous and asynchronous.

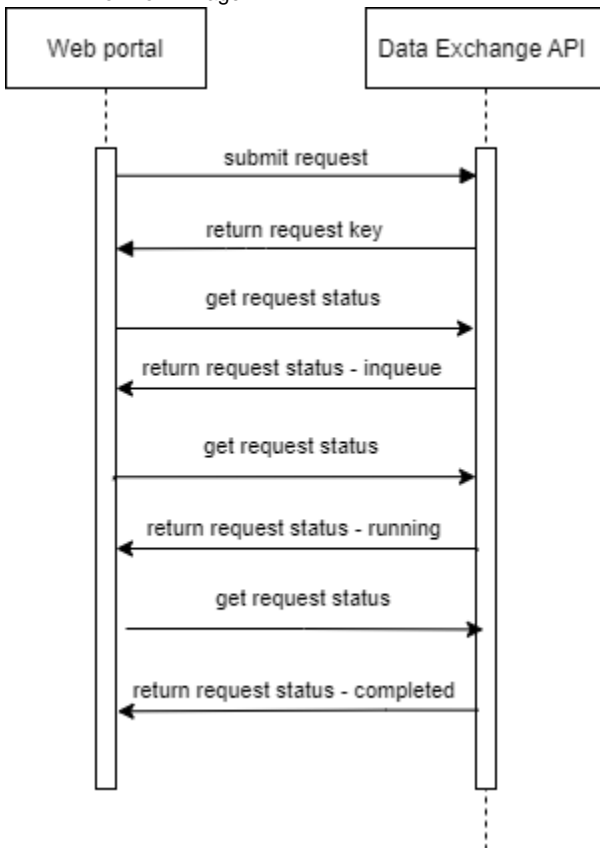
The asynchronous API is used for web UI while synchronous API is used for 3rd party.

This document will describe how the Data Exchange API work and how to use those API.

#### Data Exchange API for Web UI

The API endpoints are designed for Web UI with asynchronous processes.

##### 1. Workflow: Image



##### 1. API endpoints

###### a. Submit request

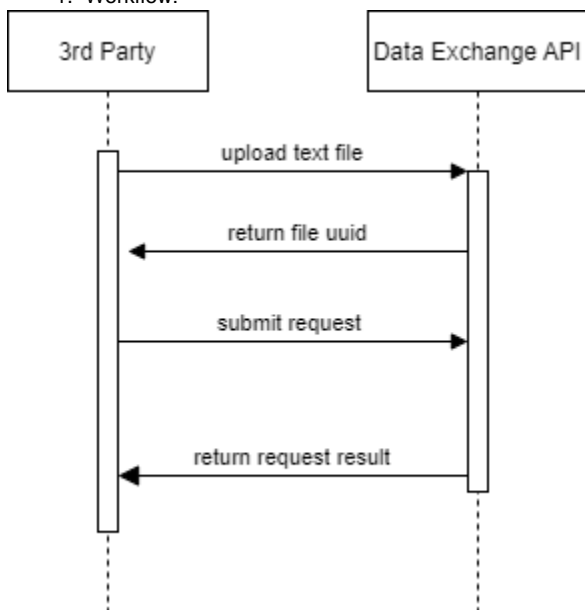
- Endpoint: /api/data-exchange/submit-request
- Method: Post
- Input: multipart/form-data
  - file
    - Mandatory: required
    - value is a plain text file.
  - search\_option
    - Mandatory: required
    - value: depend on **Feature**. See the full available value <https://redmine.uscdcb.com/attachments/download/17778/WCP-6.8.2DataExchangeAPI-Thirdpartytesting-310122-2027.pdf>
  - query\_list
    - Mandatory: required
    - Value: depend on **Feature**. See the full available queries <https://redmine.uscdcb.com/attachments/download/17778/WCP-6.8.2DataExchangeAPI-Thirdpartytesting-310122-2027.pdf>
  - request\_by
    - Mandatory: required
    - Value: **EXCHANGE UI**
  - preceding\_months
    - Mandatory: required for some queries

- value: 1-12
    - See the full available **Feature or Query** has value <https://uscddb.atlassian.net/wiki/spaces/WCP/pages/2134933505/5.2.5+BE+-+Webconnect+Data-exchange+Service#List-Feature-and-Queries>
  - duration
    - Mandatory: required for some queries
    - value: 1 year/All
      - See the full available **Feature or Query** has value <https://uscddb.atlassian.net/wiki/spaces/WCP/pages/2134933505/5.2.5+BE+-+Webconnect+Data-exchange+Service#List-Feature-and-Queries>
  - affiliate\_list
    - Mandatory: required for some queries
    - value:
      - See the full available value <https://redmine.uscddb.com/attachments/download/17776/WCP-5.2.5BE-WebconnectData-exchangeService-310122-2025.pdf> (page 7- scroll towards the bottom of the page)
      - depend on **Feature or Query**. See the full available **Feature or Query** has value <https://redmine.uscddb.com/attachments/download/17776/WCP-5.2.5BE-WebconnectData-exchangeService-310122-2025.pdf> (page 4 - scroll towards the bottom of the page)
  - sex\_code
    - Mandatory: required for some queries
    - value: Male/Female
      - depend on **Feature or Query**. See the full available **Feature or Query** has value <https://redmine.uscddb.com/attachments/download/17776/WCP-5.2.5BE-WebconnectData-exchangeService-310122-2025.pdf> (page 4 - scroll towards the bottom of the page)
  - Result: return request key
- b. Get request status
- Endpoint: api/data-exchange/get-request-status
  - Method: Get
  - Input: request\_key

### Data Exchange API for 3<sup>rd</sup> party

The API endpoints are designed for 3rd party with synchronous processing.

#### 1. Workflow:



#### 1. API endpoints:

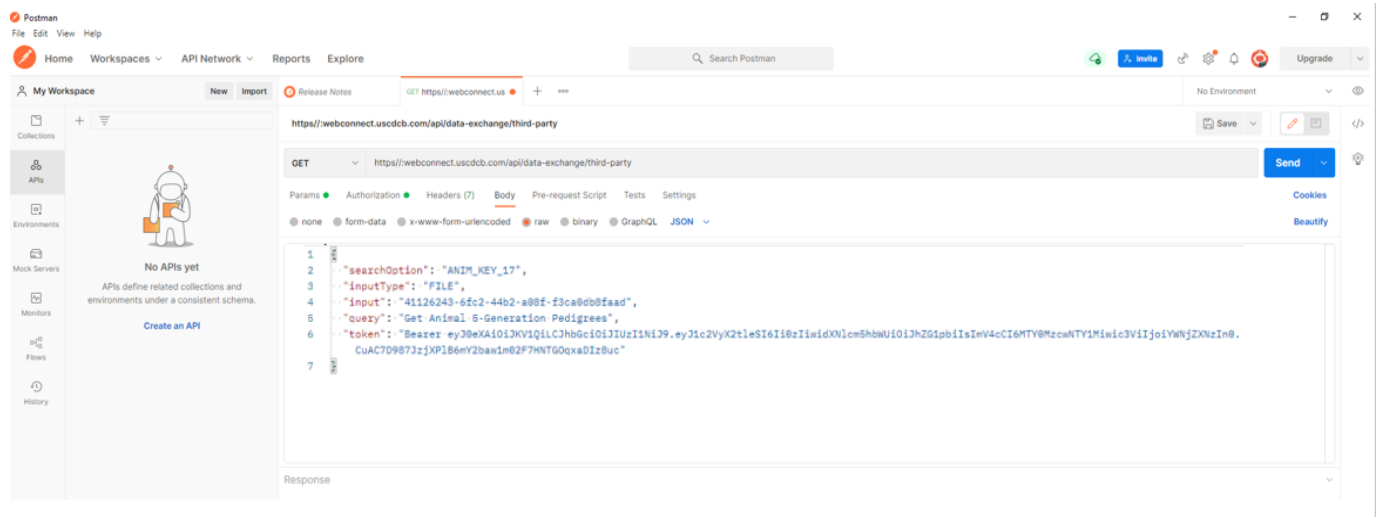
- Upload file
  - Endpoint: /api/data-exchange/upload-file
  - Method: Post
  - Input: Plain text file
  - Output:
- Submit request
  - Endpoint: / api/data-exchange/third-party
  - Method: Post
  - Input: Json object
    - searchOption:

- type: string
  - value: See full available searchOption <https://redmine.uscdcb.com/attachments/download/17778/WCP-6.8.2DataExchangeAPI-Thirdpartytesting-310122-2027.pdf>
- inputType: string FILE
  - type: string
  - Value: File/List
- input:
  - type: string
  - value: UUID of file
- query:
  - type: string
  - value: See the full available <https://redmine.uscdcb.com/attachments/download/17776/WCP-5.2.5BE-WebconnectData-exchangeService-310122-2025.pdf> (page 4 - scroll towards the bottom of the page)
- token:
  - type: string
  - value: See how to get token <https://redmine.uscdcb.com/attachments/download/17777/WCP-6.8.1ThirdPartyTestingApproach-310122-2027.pdf> Output: JSON file or zip file include JSON file and log file

### Submit a request by postman

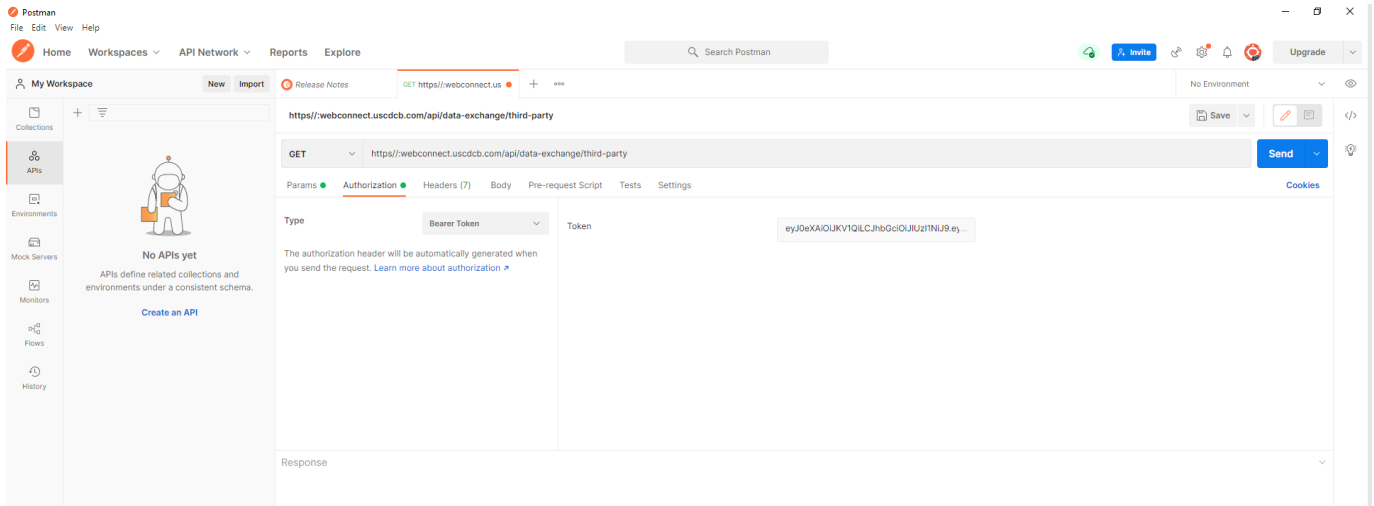
**Step 1:** Start the 3rd party client and create a new request

- request URL: <https://webconnect.uscdcb.com/api/data-exchange/>
- third-party method: POST
- Input: JSON object into the Body of the request



**Step 5:** ensure the request has the correct authorization setup:

- Type: Bearer Token
- Token: <the same value as the JSON input>



**Step 6:** Click Send the request

The system will trigger the query to run with selected inputs and the result will be returned

List Feature and Queries

- **ID/ Pedigree**
  - Animal ID (12 bytes)
    - Get Animal ID by 12 Character ID Number
    - Get Interbull IDs from Registration Number
  - Animal ID (17 bytes)
    - Get Animal 5-Generation Pedigrees
    - Get Animal Aliases
    - Get Animal Formatted-Pedigree Information
    - Get Bull-Owner Names and Addresses
    - Get Cow Herd and Cow Control Numbers from Keys or ID
    - List Members of a Clonal Family
    - Retrieve Parentage Validation Record
  - Animal ID + Sex Code (18 bytes)
    - Get Animal 5-Generation Pedigrees
    - Get Animal Aliases
    - Get Animal Formatted-Pedigree Information
    - Get Bull-Owner Names and Addresses
    - Get Cow Herd and Cow Control Numbers from Keys or ID
    - List Members of a Clonal Family
    - Retrieve Parentage Validation Record
  - Animal Interbull ID (19 bytes)
    - Get Interbull Aliases
    - Get Interbull Pedigree
  - NAAB Code
    - Get Bull ID Number from NAAB ID Code

- Partial Full Name
  - Get Animal ID by Name
- Herd + Cow Control Number
  - Get Cow ID's from Herd and Cow Control Numbers
- **Evaluation**
  - Animal ID (17 bytes)
    - Female:
      - Official Cow Evaluation
      - Cow Type Evaluations (colored breeds only)
      - Cow Type Composite Evaluation (for AY, BS, GU, and MS)
    - Male:
      - Official Bull Evaluation
      - Historical Official Bull Evaluation
      - Bull Type Evaluations (colored breeds only)
      - Bull Type Composite Evaluation (for AY, BS, GU, and MS)
      - Interbull Evaluation
      - Interbull Type Evaluation
  - Animal ID + Sex Code (18 bytes)
    - Male
      - Official Bull Evaluation
      - Historical Official Bull Evaluation
      - Bull Type Evaluations (colored breeds only)
      - Bull Type Composite Evaluation (for AY, BS, GU, and MS)
      - Interbull Evaluation
      - Interbull Type Evaluation
    - Female
      - Official Cow Evaluation
      - Cow Type Evaluations (colored breeds only)
      - Cow Type Composite Evaluation (for AY, BS, GU, and MS)
- **Genotype**
  - Animal ID (17 bytes)
    - Genotype Nomination Status
    - Genotype Query
  - Animal ID + Sex Code (18 bytes)
    - Genotype Nomination Status
    - Genotype Query
  - Sample ID (20 bytes max)
    - Genotype Query
- **Progeny**
  - Animal ID (17 bytes)
    - Get Animal Progeny List
    - Get Daughter List by Bull
    - Get Daughter Type Scores by Bull (Colored Breeds Only)
    - Get Recent Submission Dates and Numbers of Daughters for Type Records by Bull (Colored Breeds Only)
  - Animal ID + Sex Code (18 bytes)
    - Get Animal Progeny List
    - Get Daughter List by Bull
    - Get Daughter Type Scores by Bull (Colored Breeds Only)
    - Get Recent Submission Dates and Numbers of Daughters for Type Records by Bull (Colored Breeds Only)
  - Sire and Dam ID's (35 bytes)
    - Get List of Progeny by Sire and Dam ID's
- **Lactation**
  - Animal ID (17 bytes)
    - Get Cow Calving Information
    - Get Cow Lactation Records
    - Get Cow Test-Day Records
  - Animal ID + Sex Code (18 bytes)
    - Get Cow Calving Information
    - Get Cow Lactation Records
    - Get Cow Test-Day Records
  - Dam ID + Calf Birth Date
    - Compare Calf Birth Date To Cow Calving Date
  - Actual Lactation Record
    - Derive Standardized Lactation Records
- **Errors**
  - Male
    - Get Error records by Bull ID – **required: Number of preceding months**
  - Female
    - Get Pedigree/Nomination Error records (format-1) by Cow ID
    - Get Lactation Error records (format-4) by Cow ID
    - Get Reproduction Error records (format-5) by Cow ID
    - Get Health-event Error records (format-6) by Cow ID

- Animal ID + Sex Code (18 bytes)
  - Male
    - Get Error records by Bull ID – **required: Number of preceding months**
  - Female
    - Get Pedigree/Nomination Error records (format-1) by Cow ID
    - Get Lactation Error records (format-4) by Cow ID
    - Get Reproduction Error records (format-5) by Cow ID
    - Get Health-event Error records (format-6) by Cow ID
- Herd + Cow Control Number
  - Get Error records by Herd and Cow Control Number
- Herd ID
  - Get Error records by Herd – **required: Number of preceding months**
- **HERD**
  - Check Owner-sampler Herd and Get Testing Characteristics
  - Get Cow Lactation Records by Herd
  - Get Herd Data-collection Ratings (DCR's) and Testing Characteristics
  - Get Herd Test Days – **required: duration**
  - Get Herd Testing Characteristics
  - Get Herd-owner Names and Addresses
  - Get List Cows in A Herd
- **Special section**
  - Animal ID (17 bytes)
    - Get Herd Code and CDCB Fee for Specified Animal ID
    - History of Genotypes
    - Sample ID Lookup
    - Suggested Dam
  - Animal ID + Sex Code (18 bytes)
    - Get Herd Code and CDCB Fee for Specified Animal ID
    - History of Genotypes
    - Sample ID Lookup
    - Suggested Dam
  - Sample ID (20 bytes max)
    - History of Genotypes
    - Sample ID Lookup
  - Herd ID
    - Get CDCB Fee from Herdcode
  - ID Range
    - ID Range
  - FMT1 Record
    - Check - fmt1
  - Barcode & Position
    - History of Genotypes
- **Reports – required: Affiliate**
  - Lists Genotypes with Fee Code=N Loaded in the past 6 Months
  - Fee Codes for Genotypes Loaded Since the Last Invoice
  - Lists Parentage only Genotypes Since the Previous Genomic Run
  - Reports Missing Animal ID for a Requester
  - Conflicts for Genotypes Loaded in the Past 45 Days
  - Check for Missing Pedigree of Animals Nominated in the Past 75 Days
  - List Conflicting Genotypes within Animal (Negative Keys)
  - Animals with Genotypes that Conflict with Imputed Dam Genotypes
  - Animals with Unlikely Grandsire (and no Other Conflict) in the Past 6 Months
  - Parentage Verification records for Genotypes Loaded in the Past 45 Days
- **Calving ease**
  - Animal ID (17 bytes)
    - Display Calving Trait Evaluations
    - List All Calving Records for a Cow
    - List Calving Records for a Maternal Grandsire
    - List Calving Records for a Service Sire or Cow
    - List Parents and Birth Date of Calf
  - Animal ID + Sex Code (18 bytes)
    - Display Calving Trait Evaluations
    - List All Calving Records for a Cow
    - List Calving Records for a Maternal Grandsire
    - List Calving Records for a Service Sire or Cow
    - List Parents and Birth Date of Calf
  - Herd ID
    - Frequency of Calving Scores by Herd-Year
    - List All Calving Records for a Herd
- **Create Format**
  - Animal ID (17 bytes)
    - Male

- Make Animal format-1 records
- Make format-105 for Bull Daughter
- Female
  - Make Animal format-1 records
  - Make Cow format-105 records
  - Make Cow format-4 records
  - Make Cow format-4 records from Error records
  - Make Cow format-5 records
  - Make Cow format-5 records from Error records
- Animal ID + Sex Code (18 bytes)
  - Male
    - Make Animal format-1 records
    - Make format-105 for Bull Daughter
  - Female
    - Make Animal format-1 records
    - Make Cow format-105 records
    - Make Cow format-4 records
    - Make Cow format-4 records from Error records
    - Make Cow format-5 records
    - Make Cow format-5 records from Error records
- Herd ID
  - Make format-105 records for all Cows in a Herd
  - Make Herd format-14 records

### Affiliate List

- ABS
- ABSCOM
- Affy
- AIPL
- Alta
- FRA
- Androgenics
- AIPL
- ITA
- ANAFI
- AUS
- BioG
- BioGen
- BFGL
- BFGL
- BS
- CA-research
- CDDR-Yang
- CDN
- Chna
- CMBC
- CMBC
- Cogent
- COFA/INTERST
- CRI3K
- CRV
- CVDB
- DEU-LTR
- DEU-MAR
- DEU-OHG
- DEU-RA
- DEU-RBB
- DEU-RBW
- DEU-RSH
- DEU-RUW
- DEU-SRB
- DEU-VOS
- DEU-ZBH
- DNAL
- E.L.P.ZOO
- GBR
- EGENES
- BEL
- EFin
- EAna

- Feed\_Eff
- FlatnessInt
- FL-Yang
- Foundation
- Generations
- GSek
- GeneSeek
- GVis
- GenVis
- GIVF
- Genex
- FRA
- DEAB
- GIGA
- Guelph
- GU
- HapMap
- Hawkeye
- HO
- HOCAN
- HOCAN-Zoetis
- IA-research
- IA-Yang
- Illu
- Itb
- Interbull
- Interglobe
- INSEME
- INTERMIZOO
- JPN
- NLBC
- JE
- JetStream
- JLG
- LabG
- Labogena
- MS
- NAAB
- NAAB-AgLink
- NAAB-Evol
- NAAB-Viking
- NBS
- NewGen
- NLD
- NLD\_FE
- PA-Yang
- PEAK
- Pfizer
- PROZOO
- Qualitas
- CIZ
- CIZ
- Select
- Selectstar
- Semex
- SexTech
- SEENERGI
- DFS
- SELMOL
- SEMEN\_ITALY
- ESP
- Swis
- Swissgenetic
- ITS
- Synergy
- Taurus
- Test
- TestLab
- TransWorld
- UMN-Yang
- UAlb
- UoMO



- UoMO
- VHL
- VHL
- VIT
- VT-Yang
- Weab
- Weatherbys
- Zoet
- Zoetis