RECONSTRUCT-DB

A `SFTU   ! B  J` for storing the scientific data generated within the RECONSTRUCT project.

Use cases and RESTful endpoints

In the following the basic use cases are explained and a usage example given using the CLI curl instruction.

LOGIN

```
    ! . Y!  PTU! . I! #D       . U    ! b      b    0     #! . .  b  b! (  #   b   # !
#    /  b  A   .          /    #−! # b        # ! #    / b        # (! !
(     00   2 :   /    bc /      41110        (!
```

After having logged in you will see a bearer token, which has to be provided in all subsequent requests. Consider the following example to obtain all data of data model "sample :

```
    ! . I! ( B        b     ! C  b    !                        b      c            (!
     00   2 :   /    bc /      41110  b      !
```

Note: All API endpoints require a successful log-in and subsequent usage of a bearer token. This means, that you always have to supply the above header in all API calls listed below.

CREATE

Single instance

To create a single instance of a given data model (a row in the relation database) use the following command.

```
    ! . I! ( B        b     ! C  b    !                        b      c            (!
. .  b  b! # b   YZ '  b      b      b  #!
(     00   2 :   /    bc /      41110  b       (!
```

Bulk create

To create many model instances (rows in the relational database t! s‌f‌t q‌f‌d‌u‌j‌w‌f! u‌b‌c‌m‌f! v‌t‌f! u‌i‌f! upload Excel or upload CSV end-points.

CSV
```
    ! . I! ( B        b      ! C  b    !                        b      c            (!
. G! (          A/0 b       /    (!
(     00   2 :   /    bc /      41110  b     0      b        (!
```

Excel (XLSX)
```
    ! . I! ( B        b      ! C  b    !                        b      c            (!
. G! (          A/0 b       /    (!
(     00   2 :   /    bc /      41110  b     0      b        (!
```

READ

A single, a subset, or all instances of a given model can be read. Here, a single model is identified by its ID, while a subset can be obtained by pagination (`b`   and   `b`

parameters), and *or* or by searching (parameter) textual model-fields (textual
dpmvn ot!jo!ui f!sf t qf dujwf!sf hbupo!mebubcbt f t!ubcmfn /

SINGLE

Given an identifier of the desired model instance it can be retrieved as follows:

```
! (     00   2 :   /    bc /     41110 b    02(!
```

MULTIPLE

Search

To retrieve all samples that match D D1: in any of their textual fields (and
 b) use the following command:

```
! .I!  B        b    ! C b   !                    b    c            !!
(     00   2 :  /    bc /    41110 b     @        b (!
```

Subset / Paginate

To iterate through model instances the following command can be applied.

```
! .I!  B        b    ! C b   !                    b    c            !!
(     00   2 :  /    bc /    41110 b    @ b   21'     b   31 !
```

Subset of Search Results

To combine the above two methods, simply give all request parameters:

```
! .I!  B        b    ! C b   !                    b    c            !!
(     00   2 :  /    bc /    41110 b    @ b   21'     b   31'
    D1: (!
```

UPDATE

In order to change some of the fields of a given model instance, its ID is required as are the
new values of the fields in question. Given this, the following command updates a model
instance accordingly:

```
! .I!  B        b     ! C b   !                    b    c             !
.Y!  U! .. b b! ( b   O  Gb   Ob  (!
(     00   2 :  /    bc /    41110 b    02(!
```

DELETE

In order to delete an instance of a data model its ID is required. The following command
deletes the instance by removing it from the underlying relational dbubcbt f t!dpssf t qpoejoh!
table:

```
! .I!  B        b    ! C b   !                    b    c            !!
.Y! EFMFUF! (     00   2 :  /    bc /    41110 b    0 (!
```

Using the API within an analysis / Example in **R**

The following example code explains how to obtain data from Kodiaq-DB from within a R-
Script.

```
!
```

```
!
```

) !

!

$! M !

b / ! =.!) PTU)!

!! (00 2 : / bc / 41110 (–!

!! c ! !)(b (! !! (b / b bcA b / (–!

!!!!!!!!!!!!!!(b (! ! (b (!

!

!

$! Pc b ! TPO! b b! b ! ! ! !

b / ! =.!)HFU)!

!! (00 2 : / bc / 41110 b (–!

!! b b)(b b (! ! b)(c b (–! b / !

!