



S4A SDMT API v2.1 DOCUMENTATION

IITA DATA MANAGEMENT UNIT

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Changes from v2.0

1. Added the institution details to the user JSON Objects. The institution's details include the name, email address, physical address, phone number and website URL. The institution property is null for users who are not surveyors.

```
{
  {
    "id": 34,
    "email": "a[REDACTED]com",
    "first_name": "Phanuel",
    "last_name": "Ayuka",
    "date_joined": "2022-02-03T13:41:52.027602Z",
    "is_active": true,
    "role": "Region Coordinator, Surveyor",
    "institution": {
      "name": "IITA",
      "email": "a[REDACTED]gmail.com",
      "address": "egypt pyramids inn, Abou Al Hool Al Seiahi, Nazlet El-Semman, Al Haram, Egypt",
      "website": null,
      "phone_number": "[REDACTED] 341"
    }
  }
},
```

2. Bug fix: Primary Sampling Unit detail view by `psu_fid` now contains the children SSUs and TSUs that were missing in the endpoint response object.



API Root URL

The root URL for the APIs is: <https://sdmt.soils4africa-h2020.eu/api/v1>

Authentication

All endpoints are authenticated. The consuming applications are required to send the token in the request authorization header with the prefix **Token** as shown below alongside the data to be processed:

```
-- header 'Authorization: Token 78a*****cc7f61cb9481'
```

OR

```
headers = {  
  'Authorization': 'Token 78a*****cc7f61cb9481',  
  ....  
}
```

Requests without the token in the header or with an invalid token return a 403 (Forbidden) error with the following message:

```
{"detail": "Invalid token."}
```

Pagination

All endpoints that return an array of JSON objects are paginated.

The pagination format is:

```
{  
  "count": => total number of objects found in the database,  
  "next": => URL for the next page or null,  
  "previous": => URL for the previous page or null,  
  "data": => array of request objects in the current page  
}
```

An example of a paginated response is:



```
{
  "count": 211,
  "next": "http://api_root_url/countries/?page=4",
  "previous": "http://api_root_url/countries/?page=2",
  "data": [
    {"id": 105, ..., "name": "Dominica"},
    {"id": 106, ..., "name": "Tanzania"},
    { ... },
  ]
}
```

The default page to be fetched is page 1 unless the page number is provided in the request as a GET parameter “**page**” e.g. *api_root_url/countries/?page=100*.

The next JSON property is null if there are no objects in the immediate next page. If there are objects in the next page then it will contain the URL of the next page.

The previous JSON property is null if there are no objects in the immediate previous page. If there are objects in the previous page then it will contain the URL of the previous page.

Page size is the total number of objects returned in the data array. The default and the minimum page size are 50. The maximum page size is **100**. To override the default page size, provide the preferred page size in the request as a GET parameter as “**page_size**” e.g. *api_root_url/countries/?page_size=80*.

Regions

Region JSON Properties

Property	Data Type	Description
id	int	
name	str	

Region JSON object example:

```
{"id": 1, "name": "Northern Africa"}
```

a) List all regions



Returns a paginated array of regions JSON objects for all regions or an empty array if none is found.

Endpoint: </regions/>

Method: GET

Paginated: YES

b) Specific Region Details

Returns a region JSON object for the specific region or HTTP **404** error if the region is not found.

Endpoint: /regions/{region_id}/

Method: GET

Paginated: NO

Countries

Country JSON Properties

Property	Data Type	Description
id	int	
name	str	
code_iso	str	
code_iso3	str	
region_id	int	

Country JSON object example:

```
{"id": 12, "name": "Algeria", "code_iso": "DZ", "code_iso3": "DZA", "region_id": 1}
```

a) List all countries

Returns a paginated array of countries JSON objects for all countries or an empty array if none is found.

Endpoint: </countries/>

Method: GET

Paginated: YES



b) Specific Country Details

Returns a country JSON object for the specific country or HTTP **404** error if the country is not found.

Endpoint: [/countries/{country_id}/](#)

Method: GET

Paginated: NO

c) List Specific Region Countries

Returns a paginated array of countries JSON objects for the specified region or an empty array if none is found.

Endpoint: [/regions/{region_id}/countries/](#)

Method: GET

Paginated: YES

Users

They are central coordination officers, regional coordinators, country supervisors and surveyors.

User Object Properties:

Property	Data Type	Description
id	int	unique identifier to the user
email	str	user email address
first_name	str	user first name
last_name	str	user last names
date_joined	Str (datetime)	date and time when the object was created.
is_active	boolean	
role	str	
Institution	JSON Object	Insitution name,

User JSON object example:

```
{  
  "id": 37,  
  "email": "joedoe7000@gmail.com",  
  "first_name": "Joe",  
  "last_name": "Doe",  
}
```



```
"date_joined": "2022-05-30T05:55:32.602730Z",
"is_active": true,
"role": "Region Coordinator, Country Supervisor"
"institution": {
  "name": "Soil Research Institute",
  "email": "xyz@csir.com",
  "address": "London Post Office, Kwadaso - Kumasi",
  "website": "http://www.csir.com",
  "phone_number": "+20000000053"
}
}
```

A paginated array of User JSON objects example:

```
{
  "count": 17,
  "next": null,
  "previous": null,
  "data": [UserJSONObject, UserJSONObject, UserJSONObject, . . .]
}
```

a) List all users

Returns a paginated array of user JSON objects for all users in the system or an empty array if no user is found.

Endpoint: </users/>

Method: GET

Paginated: YES

b) Specific user details

Returns a user JSON object for the specific user or HTTP **404** error if the user is not found.

Endpoint: /users/{user_id}/

Method: GET

Paginated: NO



c) List all Central Coordination Officers

Returns a paginated array of user JSON objects for all central coordination officers or an empty array if none is found.

Endpoint: </users/central-coordinators/>

Method: GET

Paginated: YES

d) List all Region Coordinators

Returns a paginated array of user JSON objects for all region coordinators or an empty array if none is found.

Endpoint: </users/region-coordinators/>

Method: GET

Paginated: YES

e) List all Country Supervisors

Returns a paginated array of user JSON objects for all country supervisors or an empty array if none is found.

Endpoint: </users/country-supervisors/>

Method: GET

Paginated: YES

f) List all Surveyors

Returns a paginated array of user JSON objects for all surveyors or an empty array if none is found.

Endpoint: </users/surveyors/>

Method: GET

Paginated: YES

g) List Specific Region Coordinators



Returns a paginated array of user JSON objects for the specified region coordinators or an empty array if none is found.

Endpoint: [/regions/{region_id}/coordinators/](#)

Method: GET

Paginated: YES

h) List Specific Country Supervisors

Returns a paginated array of user JSON objects for the specified country supervisors or an empty array if none is found.

Endpoint: [/countries/{country_id}/supervisors/](#)

Method: GET

Paginated: YES

Primary Sampling Units

PSU JSON Object Properties

Property	Data Type	Description
id	int	
psu_id	int	
psu_fid	str	
psu_type	str	
coordinate	CoordinateJSONObject	
stratum_id	int	
stratum	str	
cross_stratum	str	
psu_order	int	
ag_count	int	
subdivision	str	
country_id	int	
validation_status	str	
validated_on	str (datetime)	
validated_by	UserJSONObject	
rejection_reason	str	
rejection_explanation	str	
replacement_for_psu_fid	str	



PSU JSON Object example:

```
{
  "id": 19498,
  "psu_id": 3222258,
  "psu_fid": "EG002",
  "psu_type": "planned",
  "coordinate": {
    "type": "Point",
    "coordinates": [
      29.1142244895197,
      25.535234232061
    ]
  },
  "stratum_id": 2,
  "stratum": "Arid pastoral oasis",
  "cross_stratum": "Arid pastoral oasis.1",
  "psu_order": 2, "ag_count": 305,
  "subdivision": "New Valley",
  "country": 13,
  "validation_status": "accepted",
  "validated_on": "2022-02-24T11:30:34.471526Z",
  "validated_by": {
    "id": 19,
    "email": "ajamalal@cgiar.org",
    "first_name": "Aaja",
    "last_name": "",
    "date_joined": "2021-12-13T08:44:49.135420Z",
    "is_active": true,
    "role": "Super User",
    "institution": null
  },
  "rejection_reason": null,
  "rejection_explanation": null,
  "replacement_for_psu_fid": null
}
```

a) List all PSUs



Returns a paginated array of PSU JSON objects for all PSUs or an empty array if no PSU is found.

Endpoint: </samplingunits/psus/>

Method: GET

Parameters: type= [planned | backup], validation= [accepted | rejected | pending]

Paginated: YES

b) Specific PSU details

Returns a PSU JSON object for the specific PSU or HTTP **404** error if the user is not found.

Endpoint: </samplingunits/psus/{id}/> **OR** /samplingunits/psus/fid/{psu_fid}/

Method: GET

Paginated: NO

This endpoint has an **additional** property: a list of the **SSUs** in the PSU. Each SSU also has a list of its children **TSUs**.

The example below shows the JSON response with the additional fields:

```
{
  "id": 19498,
  "psu_id": 3222258,
  "psu_fid": "EG002",
  "psu_type": "planned",
  "coordinate": {
    "type": "Point", "coordinates": [29.1142244895197, 25.535234232061]
  },
  "stratum_id": 2,
  "stratum": "Arid pastoral oasis",
  "cross_stratum": "Arid pastoral oasis.1",
  "psu_order": 2,
  "ag_count": 305,
  "subdivision": "New Valley",
  "country_id": 13,
  "validation_status": "accepted",
  "validated_on": "2022-02-24T11:30:34.471526Z",
  "validated_by": {
    "id": 19,
    "email": "1000@cgiar.org",
  }
}
```



```
"first_name": "KUIII",
"last_name": "",
"date_joined": "2021-12-13T08:44:49.135420Z",
"is_active": true,
"role": "Super User"
"institution": null
},
"rejection_reason": null,
"rejection_explanation": null,
"replacement_for_psu_fid": null,
"ssus": [
  {
    "id": 24539,
    "ssu_id": 3222258014010,
    "ssu_fid": "EG002-1",
    "ssu_type": "planned",
    "ssu_order": 1,
    "coordinate": {
      "type": "Point", "coordinates": [29.1137499409526, 25.5320901285666]
    },
    "subdivision": "New Valley",
    "land_cover": "Herbaceous vegetation",
    "elevation": 127,
    "slope": 1,
    "tsus": [
      {
        "id": 98092,
        "tsu_id": 3222258014010,
        "tsu_fid": "EG002-1-1",
        "tsu_type": "planned",
        "tsu_order": 1,
        "coordinate": {
          "type": "Point", "coordinates": [29.11353, 25.53202]
        },
        "subdivision": "New Valley",
        "land_cover": "Herbaceous vegetation",
        "elevation": 127,
        "slope": 1
      },
      { ... }
    ]
  }
]
```



```
    ]  
  },  
  { ..... },  
]  
}
```

c) List Specific Region PSUs

Returns a paginated array of PSU JSON objects for the specified region PSUs or an empty array if no PSU is found.

Endpoint: /regions/{region_id}/psus/

Method: GET

Parameters: type= [planned | backup], validation= [accepted | rejected | pending]

Paginated: YES

d) List Specific Country PSUs

Returns a paginated array of PSU JSON objects for the specified country PSUs or an empty array if no PSU is found.

Endpoint: /countries/{country_id}/psus/

Method: GET

Parameters: type= [planned | backup], validation= [accepted | rejected | pending]

Paginated: YES

e) List Specific Job PSUs

Returns a paginated array of PSU JSON objects for the specified job PSUs or an empty array if no PSU is found.

Endpoint: /jobs/{job_ref}/psus/

Method: GET

Parameters: **None**

Paginated: YES



Surveyor Applications & Onboarding

Application JSON Object Properties

Name	Data Type	Description
id	int	
first_name	str	
last_names	str	
email_address	str	
phone_number	str	
profile_picture	str	
institution_name	str	
institution_email	str	
institution_phone_number	str	
institution_address	str	
institution_website	str	
country_id	int	
qualifications	str	
previous_experience	str	
approved_or_declined_on	str (datetime)	
approved_or_declined_by	UserJSONObject	
created_on	str (datetime)	
status	str	

Application JSON Object example

```
{  
  "id": 19,  
  "first_name": "User",  
  "last_names": "Me",  
  "email_address": "userme_eqp@gmail.com",  
  "phone_number": "254710000457",  
  "profile_picture": "http://127.0.0.1:8000/media/profile_pictures/shelmith_sign_wAp1J5U.png",  
  "institution_name": "IITA",  
  "institution_email": "info@afra.com",  
  "institution_phone_number": "0715318341",  
  "institution_address": "egypt pyramids inn,Nazlet El-Semman ",  
  "institution_website": null,  
  "country_id": 13,  
  "qualifications": "here ... .. ",  
  "previous_experience": "here ... ..",  
}
```



```
"approved_or_declined_on": "2022-02-03T13:41:51.757200Z",
"approved_or_declined_by": {
  "id": 19,
  "email": "admin_minni@cgiar.org",
  "first_name": "Phanuel",
  "last_name": "",
  "date_joined": "2021-12-13T08:44:49.135420Z",
  "is_active": true,
  "role": "Super User"
  "institution": null
},
"created_on": "2022-02-03T13:41:15.335934Z",
"status": "approved"
}
```

a) List all Applications

Returns a paginated array of application JSON objects for all the applications or an empty array if no job is found.

Endpoint: </surveyor-applications/>

Method: GET

Paginated: YES

b) Specific Applications Details

Returns an application JSON object for the specific application or HTTP **404** error if the application is not found.

Endpoint: /surveyor-applications/{application_id}/

Method: GET

Paginated: NO

c) List Specific Region Applications

Returns a paginated array of applications JSON objects for the specified region or an empty array if none is found.

Endpoint: /regions/{region_id}/surveyor-applications/



Method: GET

Paginated: YES

d) List Specific Country Applications

Returns a paginated array of applications JSON objects for the specified country or an empty array if none is found.

Endpoint: /countries/{country_id}/surveyor-applications/

Method: GET

Paginated: YES

Jobs

Job JSON Object Properties

Property	Data Type	Description
job_ref	str	
country	CountryJSONObject	
surveyor	UserJSONObject	
start_date	str (datetime)	
end_date	str (datetime)	
started_on	str (datetime)	
completed_on	str (datetime)	
total_psu	int	
total_submissions	int	
created_on	str (datetime)	
created_by	UserJSONObject	

Job JSON Object example

```
{
  "job_ref": "SJ-AN-1",
  "country": {
    "id": 1,
    "name": "Angola",
    "code_iso": "AN",
    "code_iso3": "AGO",
    "region_id": 2
  },
}
```




```
"surveyor": {
  "id": 29,
  "email": "surveyor_005_su_ca@gmail.com",
  "first_name": "Surveyor",
  "last_name": "005",
  "date_joined": "2022-01-25T08:28:28.663435Z",
  "is_active": false,
  "role": "Surveyor",
  "institution": null
},
"start_date": "2022-02-09",
"end_date": "2022-02-09",
"started_on": null, "completed_on": null,
"total_psu": 15, "total_submissions": 0,
"created_on": "2022-01-19T13:44:14.126655Z",
"created_by": {
  "id": 19,
  "email": "admin009@cgiar.org",
  "first_name": "Phanuel",
  "last_name": "",
  "date_joined": "2021-12-13T08:44:49.135420Z",
  "is_active": true,
  "role": "Super User"
  "institution": null
}
}
```

a) List all Jobs

Returns a paginated array of Job JSON objects for all the jobs or an empty array if no job is found.

Endpoint: [/jobs/](#)

Method: GET

Paginated: YES

b) Specific Job Details

Returns a Job JSON object for the specific job or HTTP **404** error if the user is not found.

Endpoint: [/jobs/{job_ref}/](#)

Method: GET

Paginated: NO



c) List Specific Region Jobs

Returns a paginated array of Job JSON objects for the region or an empty array if none is found.

Endpoint: [/regions/{region_id}/jobs/](#)

Method: GET

Paginated: YES

d) List Specific Country Jobs

Returns a paginated array of Job JSON objects for the country or an empty array if none is found.

Endpoint: [/countries/{country_id}/jobs/](#)

Method: GET

Paginated: YES

ODK-ONA Submissions

Submission JSON Object Properties

[Download Excel File](#)

Submission JSON Object example

[Download JSON Example](#)

a) List all submissions

Returns a paginated array of submission JSON objects for all the submissions or an empty array if none is found.

Endpoint: [/submissions/](#)

Method: GET

Paginated: YES

b) Specific Submission Details



Returns an application JSON object for the specific submission or HTTP **404** error if the application is not found.

Endpoint: [/submissions/{submission_id}/](#)

Method: GET

Paginated: NO

c) List Specific Region Submissions

Returns a paginated array of submissions JSON objects for the specified region or an empty array if none is found.

Endpoint: [/regions/{region_id}/submissions/](#)

Method: GET

Paginated: YES

d) List Specific Country Submissions

Returns a paginated array of submissions JSON objects for the specified country or an empty array if none is found.

Endpoint: [/countries/{country_id}/submissions/](#)

Method: GET

Paginated: YES

e) List Specific PSU Submissions

Returns a paginated array of submissions JSON objects for the specified PSU or an empty array if none is found.

Endpoint: [/samplingunits/psus/{id}/submissions/](#)

Method: GET

Paginated: YES

f) List Specific Job Submissions

Returns a paginated array of submissions JSON objects for the specified job or an empty array if none is found.



Endpoint: `/jobs/{job_ref}/submissions/`

Method: GET

Paginated: YES

Quality Control

Quality Control Rejection Reasons

These are the justifications that the country supervisors select when rejecting a submission. They pick the main reason after which they are requested to pick a child-specific reason. One main reason has several specific reasons.

The country supervisors can pick more than one main reason. They can also give an open comment for each main reason picked.

Quality Control Rejection Reasons JSON Object Properties

Property	Data Type	Description
id	int	
error_code	str	
title	str	
specific_reasons	SpecificReasonJSONObjectsArray	Specific reason properties are id and title

Main Rejection Reason JSON Object example

```
{
  "id": 1,
  "error_code": "rejection_not_clear",
  "title": "Point rejection does not seem to be justified – reasons for rejection are not clear or credible",
  "specific_reasons": [
    {
      "id": 1,
      "title": "Distance to the sampling point location ... the point of observation"
    },
    {
      "id": 2,
      "title": "Not clear that access is or would have been denied. . . mples not given)"
    },
    {
      "id": 3,
```



```
        "title": "Security issues stated are not c . . . on whether Surveyor has taken the required security  
        measures."  
    }  
  ]  
}
```

Quality Control Entry

Quality Control Entry JSON Object Properties

Property	Data Type	Description
id	int	
submission_id	int	
done_by	UserJSONObject	
outcome	str	rejected or accepted
comment	str	Empty when outcome is rejected. Can have text if outcome is accepted and the user provided the comment.
reasons	JSONObjectsArray	Contains rejection reasons and an open comment. Each SpecificReasonJSONObject has the main reason JSON object

Quality Control Entry JSON Object example

```
{  
  "id": 13,  
  "submission_id": 37,  
  "outcome": "rejected",  
  "comment": null,  
  "done_by": {  
    "id": 19,  
    "email": "jdoe@cgiar.org",  
    "first_name": "Phaniel",  
    "last_name": "",  
    "date_joined": "2021-12-13T08:44:49.135420Z",  
    "is_active": true,  
    "role": "Super User",  
    "institution": null  
  },  
  "reasons": [  
    {  
      "id": 12,  
      "comment": "",  
      "specific_reason": {
```



```
    "id": 1,  
    "title": "Distance to the sampling point location ... n",  
    "main_reason": {  
      "id": 1,  
      "error_code": "rejection_not_clear",  
      "title": "Point rejection does not seem to be justified ... or credible"  
    }  
  }  
},  
"done_on": "2022-07-22T08:56:39.636143Z"  
}
```

a) List all Rejection Reasons

Returns an array of main rejection JSON objects. Each main reason contains an array of specific reasons.

Endpoint: </qualitycontrol/rejectionreasons/>

Method: GET

Paginated: NO

b) Specific Rejection Reason Details

Returns a main rejection reason JSON object for the specified reason or HTTP **404** error if the reason is not found.

Endpoint: /qualitycontrol/rejectionreasons/{reason_id}/

Method: GET

Paginated: NO

c) List Quality Controls Entries

Returns a paginated array of Quality Control Entries JSON Objects of all the quality control that has been done by the country supervisors.

Endpoint: </qualitycontrol/entries/>

Method: GET

Paginated: YES



d) Submission Quality Control Entry

Returns a Quality Control Entry JSON object for the submission or HTTP **404** error if the submission has not undergone quality control.

Endpoint: /submissions/{submission_id}/qualitycontrol/

Method: GET

Paginated: NO