16 How and When to Use APIs

OpenClinica has a highly capable RESTful web services API that enables you to interchange data programmatically with other systems, as well as carry out bulk actions such as importing data, scheduling events, or creating study participants.

The following pages are designed to help you understand how to use this API. We also provide an API toolset, called Swagger, that enables you to better understand and interact with various API endpoints.

To Access the Swagger Interface for your OpenClinica Domain:

1. Click the **User** menu.
2. Select **Administration**.
3. Select **Web Services Information**.

API users of OpenClinica will need an authentication token in order to access the API endpoints.

To Obtain an Authentication Token Call the Following Endpoint:

URL:

POST to https://**{subdomain}**.build.openclinica.io/user-service/api/oauth/token replacing the **{subdomain}** with your instance subdomain.

For example: https://xyz.build.openclinica.io/user-service/api/oauth/token

Request Header:

- Content-Type: application/json

Request Body:

```
{
        "username":" ",
        "password":" "
}
```

Response Body:

```
Response body will contain the authentication token.
```

Supply this Authentication Token in the Authorization Header as a Bearer Token When Accessing Other Endpoints:

Authorization: Bearer "*authentication token*";

Important Note:

The rate limit for authentication token retrieval is 2 calls per minute per IP address.

Authentication tokens are valid for 4 hours. To avoid unnecessary load on the system, tokens should be reused and not refreshed until the expiration is approaching. When tokens are needed for multiple processes, initial retrieval of the tokens should be staggered so that the rate limit is not exceeded when the process is started.

Excessive calls to the authentication API will be blocked with a 429 status code. If this occurs, your script should retry a short time later (for example, wait 30 seconds or 1 minute and then retry). The aforementioned guidelines will ensure that the rate limit on retrieving tokens is not exceeded.

For Information on APIs, See the Following Sections:

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16.1 CDISC ODM XML

The Clinical Data Interchange Standards Consortium (CDISC) is a clinical research standards body formed to encourage maximum sharing of information and minimum duplication of efforts. One of the standards CDISC has created and endorsed is the Operational Data Model (ODM), which facilitates the archive and interchange of the metadata and data for clinical research. ODM is represented in XML format and is designed to collect data from many different sources into one document.

Purpose of This Document

OpenClinica provides and/or consumes CDISC ODM XML representations in its Extract Data and Import Data modules and other parts of the software. This document describes how OpenClinica represents study metadata and data that is stored in its internal database as CDISC ODM XML documents. It assumes a working knowledge of CDISC ODM 1.3 and of OpenClinica, and attempts to describe how each OpenClinica field or element is represented in ODM, and under what conditions. The document is best read when accompanied by the CDISC ODM standard. It is geared towards developers, but is also intended for data managers who want to know more about the capabilities of ODM XML export in OpenClinica. Additionally, parts of this document will find its way into the online documentation, for all end users.

OpenClinica's ODM representation has changed iteratively from version to version of OpenClinica, and the appendix to this document charts these changes since version 2.5 and the addition of the custom extension to the ODM, introduced with OpenClinica 3.0.

Scope of This Document

This document provides a detailed specification of the OpenClinica **CDISC ODM XML version 1.3** with OpenClinica Extensions as implemented in the OpenClinica 3.1 and later releases.

Definitions and Acronyms

- CDISC **Clinical Data Interchange Standards Consortium**
- DOM Document Object Model
- ODM CDISC **Operational Data Model**
- XML Extensible Markup Language
- XSL Extensible Stylesheet Language, a language for displaying an XML file as a given type.

General Issues

CDISC defines its Operational Data Model, version 1.3, as a vendor neutral, platform independent format for interchange and archive of clinical trials data. The model includes the clinical data along with its associated metadata, administrative data, reference data and audit information. All of the information that needs to be shared among different software systems during the setup, operation, analysis, submission or for long term retention as part of an archive is included in the model.

An XML document must meet certain basic criteria to be considered conformant to the ODM standard. These are briefly discussed below:

Syntactic Constraints

The syntactic constraints defined by the ODM standard are:

1. The ODM file must be a well-formed XML file. See the **XML standard** for details.
2. The ODM file must conform to the XML Namespace standard. See the **XML Namespace standard** for details.
3. The ODM file must contain only elements and attributes defined in the ODM standard schema or in a valid vendor extension schema, and must satisfy the rules about element nesting and the formats of attribute values and element bodies.
4. The ODM file must contain a prolog and a single (top-level) ODM element.
5. The namespace for version 1.3 of the ODM is http://www.cdisc.org/ns/odm/v1.3.

Currently, the ODM study definition file (available from the View Study page at the URL /DownloadStudyMetadata?studyId=#) does not meet these requirements for the following reasons:

1. The file generated from the View Study page is only a fragment of XML, and does not contain the initial tag which defines the character set and version, i.e. <?xml version="1.0" encoding="UTF-8"?>.
2. The file generated does not contain references to any XML Namespaces, including the namespace for version 1.3 of the ODM itself.
3. The file generated does contain elements defined in the ODM standard schema, but lacks the single top-level ODM element.
4. The files suffix is txt instead of xml.

OpenClinica ODM Data Import meets the above constraints, but note that OpenClinica parses everything within the ClinicalData element only, and it does not read anything in the Study element, and, as such, cannot import Study metadata at this time.

Entities and Elements

Entities and elements in OpenClinica use the same names as their counterparts in ODM. For example, the ODM definitions for study event and Study Event Definition are valid for the entities of

the same name in OpenClinica (see Section 2.6, Entities and Elements, of the ODM specification):

- A *study event* is a reusable package of forms usually corresponding to a study data-collection event.
- A *Study Event Definition* describes a particular type of study event (mostly by listing the types of forms it can contain).
- The clinical data of a study will typically have many actual study events corresponding to each StudyEventDef,

Where the usage of these entity names in OpenClinica diverges from the ODM definition, it will be noted in this document.

Clinical Data Keys

The ODM standard uses the concept of Internal Clinical Data Keys to uniquely address clinical data entities within the model. The following table details the key, or combination of entity identifiers, that you would need to uniquely and specifically address a clinical data entity.

Kind of Entity	Identifying Keys (ODM)	Identifying Keys (OpenClinica ODM)
Study	StudyOID	Same as ODM
Subject	above plus SubjectKey	Same as ODM
Study Event	above plus StudyEventOID and StudyEventRepeatKey	Same as ODM
Form	above plus FormOID and FormRepeatKey	Same as ODM, however repeating forms are not supported so no FormRepeatKey is necessary
Item Group	above plus ItemGroupOID and ItemGroupRepeatKey	Same as ODM
Item	above plus ItemOID	Same as ODM
Annotation	keys for the annotated entity plus SeqNum	Not used in OpenClinica

For example, an XPath query to retrieve a specific item data value in an OpenClinica ODM Extract would be of the form:

/odm:ODM/odm:ClinicalData[@StudyOID='S_P12345_2818']/odm:SubjectData[@SubjectKey='SS_101']/odm:StudyEventData[@StudyEventOID='SE_INITIALT' and @StudyEventRepeatKey='1']/odm:FormData[@FormOID='F_AGEN_V10']/odm:ItemGroupData[@ItemGroupOID='IG_AGEN_DOSETABLE-F_AGEN_V10' and @ItemGroupRepeatKey='1']/odm:ItemData[@ItemOID='I_AGEN_AGENT_NAME']/@Value

In the image below you can see that the latter half of the XML file (the part contained in the <ClinicalData> tags) links to specific tables in the OpenClinica database. We then link back to the Study metadata through those OIDs. Internally we dont use OIDs in those tables, but instead the conventional methods of primary keys and foreign keys in the database is good enough.

Data Representations in ODM XML (Extract)

When OpenClinica outputs ODM XML, the five basic XML entities (gt, lt, quot, amp, apos) are escaped using XML Entity notation (For example: "bread" & "butter" => "bread" & "butter").

Whitespace is represented literally linebreaks and tabs in ItemData values and other fields will be

preserved. Note that, while tabs and carriage returns are limited in the data entry side of the application, (tabs will automatically shift focus from one Item to the next, for example) all spaces and linebreaks are saved to the database, and will export into ODM XML.

Items saved in the database with non-ASCII characters will be extracted to XML entities using their ASCII decimal value equivalents; please see the next section, "**OpenClinica Data Representations in ODM XML (Extract)**" for an example of this.

Item Data Types

OpenClinica supports a subset of the Item Data Types defined in ODM. The data type mapping is shown below, along with the allowed string pattern used to validate item values for a given data type. Note that a listing of no definition in the table below means that the data type is not supported in OpenClinica.

Item Data Types

CDISC Item Data Type	OpenClinica Data Type	Allowed Values (Data Import)	Representation of Values (Extract)
text	ST	Any sequence of characters up to the maximum allowed number of characters (currently 4000). If the value is greater than the width is specified in the items width_decimal property (or 255, whichever is less), a discrepancy note will be created but the data will be allowed.	
partialDate	PDATE	A date represented according to the XML schema date datatype, which is based on the ISO8601 standard (YYYY-MM-DD).	A date represented according to the XML schema date datatype, which is based on the ISO8601 standard (YYYY-MM-DD). Partial Dates can be YYYY-MM or YYYY and will be exported as YYYY-MM or YYYY.
text	FILE	Files cannot be imported into ODM at this time.	A string representing the file name of the stored file, up to the maximum allowed number of characters (currently 4000).
integer	INT	-?digit+ If the value is greater than the width specified in the items width_decimal property (or 255, whichever is less), a discrepancy note will be created but the data will be allowed.	
float	REAL	-?digit+(.digit+)? If the value is greater than the width is specified in the items width_decimal property (or 255, whichever is less), a discrepancy note will be created but the data will be allowed. Float values will only be rounded for calculations, based on the decimal specified in the items width_decimal property if it exists. If no width_decimal is provided it will round to the 4th decimal place. For example, if someone entered a value like 6.987398 into a field that is not a calculation, the number will not be rounded to the 4th decimal place.	
date	DATE	A date represented according to the XML schema date datatype, which is based on the ISO8601 standard (YYYY-MM-DD).	A date represented according to the XML schema date datatype, which is based on the ISO8601 standard (YYYY-MM-DD).

CDISC Item Data Types with no definition for OpenClinica Data Type: *time*, *timedate*, *string*, *boolean*, *double*, *hexBinary*, *base64Float*, *partialTime*, *partialDatetime*, *durationDatetime*, *intervalDatetime*, *incompleteDatetime*, and *URI*.

Mapping of OpenClinica Elements to ODM

Click the following link to download an excel file: **Mapping of OpenClinica Elements to ODM**

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16.2 Clinicaldata (Import and Retrieve Clinical Data)

The **Clinicaldata** endpoint allows you to import or retrieve clinical data in JSON or CDISC ODM XML format, including file attachments, using the OpenClinica API.

Prerequisites

Note:

- You must be authenticated before calling the service.
- Your ability to use the endpoint depends on your assigned role and study permissions.

Importing Clinical Data

The **Clinicaldata Import API** allows you to import participant clinical data into the OpenClinica system using a **CDISC ODM XML** file.
The XML structure follows **CDISC ODM v1.3.2**, with additional OpenClinica-specific tags.

Example Import XML Template

To use the template:

1. Copy the text into a new .xml file.
2. Update the OIDs and values as needed.

```
<?xml version="1.0" encoding="UTF-8"?>
<ODM xmlns="http://www.cdisc.org/ns/odm/v1.3"
xmlns:OpenClinica="http://www.openclinica.org/ns/odm_ext_v130/v3.1"
ODMVersion="1.3" FileOID="1D20080412202420" FileType="Snapshot"
Description="Demographics Import" CreationDateTime="2008-04-12T20:24:20" >

  <!-- StudyOID represents either the Study OID (if a study-level user is
importing data) or the Site OID (if a site-level user is importing data). -->
  <ClinicalData StudyOID="S_OID" MetaDataVersionOID="null">
    <!--SubjectKey (optional) is the Participant OID. If not used, remove the
entire text 'SubjectKey="SS_OID"'.
        OpenClinica:StudySubjectID (required) represents the Participant ID.
-->
    <SubjectData SubjectKey="SS_OID" OpenClinica:StudySubjectID="PID-001">
        <!--StudyEventOID (required): The OID for the event into which you
are importing data.
```

```
          StudyEventRepeatKey (optional): The ordinal for a repeating event.
          If removed, a new study event ordinal is automatically generated.
          For a visit-based event OpenClinica:StartDate is required.
          If the StudyEventRepeatKey value is provided and the specified
repeat is already in the database,
             then the system updates the form data for that study event
repeat on import.
          OpenClinica:EndDate (optional): If the event has a scheduled end
date, you can provide that here. Otherwise, delete it or leave it same as
start date.-->
        <StudyEventData StudyEventOID="SE_OID"
OpenClinica:StartDate="2017-09-29" OpenClinica:EndDate="2017-09-29"
StudyEventRepeatKey="1">
           <!--FormOID (required): The OID for the form into which you are
importing data.
               OpenClinica:FormLayoutOID (optional): If no value is provided
then the system assigns the default form version to the participant event
form.
               OpenClinica:Status (optional): Possible values for
OpenClinica:Status are: 'initial data entry' or 'complete'.
                  If no value is provided, then the system assigns the
status 'initial data entry' to the participant event form on import. -->
           <FormData FormOID="F_OID" OpenClinica:FormLayoutOID="1.1"
OpenClinica:Status="initial data entry">
                 <!--ItemGroupOID (required): The OID for the item group
into which you are importing data.
                     ItemGroupRepeatKey (optional): If not provided, a new
repeat key is auto-generated on import.
                     If a value is provided and the provided repeat key
already exists in the database,
                        then the associated item data is updated in that
item group repeat upon import. -->
                 <ItemGroupData ItemGroupOID="IG_OID"
ItemGroupRepeatKey="1">
                       <!--ItemOID and Value (required): The OID of the item
into which you are importing data and the data value to be imported into that
item.
                           Any issues with the value of the item will be
reported in the log file with an appropriate errorCode. -->
                       <ItemData ItemOID="I_OID" Value="2017-09-13"/>
                       <ItemData ItemOID="I_OID" Value="1"/>
                       <ItemData ItemOID="I_OID" Value="Headache"/>
                  </ItemGroupData>
           </FormData>
        </StudyEventData>
        <!--To import data for more than one Study event, repeat the
StudyEventData tag and everything within the opening and closing tags.
           For a visit-based event with multiple forms, all forms belonging
to one repeat of that event should be combined under the same StudyEventData
tag.
           For commom events, each FORM should be provided with a SEPARATE
```

```
pair of StudyEventData tags.-->
     </SubjectData>
     <!-- To import data for more than one Subject, copy and paste the
opening and closing SubjectData tags, and everything between those tags. Then
update OIDs and values as needed.-->
  </ClinicalData>

</ODM>
```

Including File Attachments

You can use the Clinical Data Import API to upload files into form items that support attachments.

To include attachments:

1. Create an XML import file that specifies the items.
2. Create a ZIP file containing all referenced attachments.
3. In the XML, set the item's **Value** to the file name. The API matches it to the corresponding file in the ZIP.

 Note:
File attachments can only be uploaded through the XML Import API. They are **not supported** using the Import screen in Study Runner or through the Tabular Import API.

ZIP File Requirements

- Must contain all files referenced in the XML.
- All standard file formats are supported.
- Maximum size: ~2 GB by default.

 Warning: OpenClinica does not validate that an uploaded file matches the item type (for example, an image for an Image item). Any file type can be uploaded, consistent with the UI behavior.

Audit Logging

Each import is logged separately in the **Audit Log**, even if you re-import the same XML and ZIP file.

Import Process

Importing data is a **two-step process**:

1. Create a job to import data using your CDISC ODM XML file.
2. Once the job completes, download the log file to review the results.

Create Import Job

Endpoint:
POST {serverName}/pages/auth/api/clinicaldata/import/xml Where {serverName} is your study URL. For example: https://**customerxyz**.openclinica.io/OpenClinica
Sample cURL Request 1 (without file attachments):

```
curl -X POST
  {{serverName}}/pages/auth/api/clinicaldata/
  -H 'Authorization: bearer {{authentication token}}'
  -H 'content-type: multipart/form-data; boundary=----
WebKitFormBoundary7MA4YWxkTrZu0gW'
  -F 'file=@{{fileName}}'
```

Sample cURL Request 2 (including file attachments for Image, Audio, Video, File items):

```
curl -X POST
{{serverName}}/pages/auth/api/clinicaldata/
-H 'Authorization: bearer {{authentication token}}'
-H 'content-type: multipart/form-data'
-F 'file=@{{fileName}}'
-F 'attachedFilesZip=@{{zipFilePath}}'
```

Parameter Definitions:

- **{{serverName}}** = your study URL (e.g. https://**customerxyz**.openclinica.io/OpenClinica).
- **{{authentication token}}** = your unique authentication token. For more information on how to get your authentication token, refer to **How and When to Use APIs.**
- **{{fileName}}** = full path of the XML file containing clinical data.
- **{{zipFilePath}}** = full path of the ZIP file containing file attachments.

Sample Response

On Success:

```
job uuid: 6c325687-c3c3-41f6-hj98-154ef3352cb1
```

On Failure: When there is a failure in starting the import job then an appropriate error code is returned:

```
errorCode.noRoleSetUp
```

Import Error Codes:

- **errorCode.fileFormatNotSupported**: File is not an XML file.
- **errorCode.invalidXMLFile**: CDISC ODM XML file is invalid or contains syntax issues.
- **errorCode.missingStudyOID**: No studyOID provided in the XML.
- **errorCode.studyOIDNotFound**: The specified Study OID was not found.
- **errorCode.studyOIDNotAvailable**: The specified Study OID is not in Available status.
- **errorCode.noRoleSetup**: The user has no role defined for the study or site
- **errorCode.noSufficientPrivileges**: The user does not have sufficient privileges to perform this operation.

- **errorCode.missingItemFile.[filename]**: There is a file name in the item value without a corresponding file in the ZIP file.
- **errorCode.multipleFiles**: Multiple ZIP files were submitted.

Downloading Import Logs

Endpoint:
GET {serverName}/pages/auth/api/jobs/{jobUuid}/downloadFile
Sample cURL request:

```
curl -X GET
{{serverName}}/pages/auth/api/jobs/{{jobUuid}}/downloadFile
  -H 'Authorization: bearer {{authentication token}}'
```

Parameters:

- **{serverName}** = your study URL (e.g. https://**customerxyz**.openclinica.io/OpenClinica).
- **{jobUuid}** = the job uuid included in the API response for the import job.
- **{authentication token}** = your unique authentication token. For more information on how to get your authentication token, refer to **How and When to Use APIs.**

Sample log file content:

```
SubjectKey,ParticipantID,StudyEventOID,StudyEventRepeatKey,FormOID,ItemGroupO
ID,ItemGroupRepeatKey,ItemOID,Status,Timestamp,Message
SS_LA6,LA-6,SE_STUDYDISCONTINUATION,1,F_TERMINATION,IG_TERMI_GROUP1,1,I_TERMI
_DSSTDAT,Inserted,2019-06-07T23:20:32.690Z,
SS_LA6,LA-6,SE_STUDYDISCONTINUATION,1,F_TERMINATION,IG_TERMI_GROUP1,1,I_TERMI
_DSAENO,Inserted,2019-06-07T23:20:32.708Z,
SS_LA6,LA-6,SE_BASELINE,1,F_TERMINATION,,,,Failed,,errorCode.formOIDNotFound
SS_LA6,LA-6,SE_CONMEDS,1,F_CONMEDS,IG_CONME_GROUP1,1,I_CONME_MED,Inserted,201
9-06-07T23:20:32.825Z,
```

If there is a failure in returning the job file, then an appropriate error code is returned:

- **errorCode.invalidUuid**: The Job Uuid specified in the request is not found.
- **errorCode.jobInProgress**: The Job represented by the specified job Uuid has not completed.

Retrieving Clinical Data

This endpoint retrieves participant clinical data in CDISC ODM XML file or in JSON file format from a given study. Asterisks and wild cards can be used in place of OIDs and Participant ID in the request parameters. This endpoint can also be used to retrieve ONLY the study metadata and/or clinical data including audit logs, discrepancy notes (queries), and the clinical data in the archived forms. The response from the endpoint will be as per the user's access level. For example, a user with ONLY site A access will receive metadata and clinical data only for site A study, users, and participants. **Access Behavior by Data Type** If a user does not have access to a form, visibility of data varies by type:

- **Metadata:** Users can still view metadata associated with the form, even if they do not have access to it.
- **Clinical Data:** Users cannot view any clinical data from forms they do not have access to.
- **Query Data:** Users cannot view query data related to clinical data items they do not have access to.
- **Contact Data in the Audit Log:** Contact data items appear in the audit log for the participant but are always masked, regardless of user access permissions.

Endpoint:

GET {serverName}/pages/auth/api/clinicaldata/{studyOID}/{participantOID}/{studyEventOID}/{formOID}

Sample cURL request:

```
curl -X GET
'{{serverName}}/pages/auth/api/clinicaldata/{{studyOID}}/{{participantOID}}/{{studyEventOID}}/{{formOID}}?clinicalData=y&includeMetadata=y&includeDN=n&includeAudits=n&showArchived=n'
  -H 'Accept: application/xml'
  -H 'Authorization: bearer {{authentication token}}'
```

Request Parameters:

- **{{serverName}}** = your study URL (e.g. https://**customerxyz**.openclinica.io/OpenClinica).
- **{{studyOID}}:** *(required)*: StudyOID or SiteOID, depending on whether the user is a study or site-level user.
- **{{participantOID}}:** *(required)*: ParticipantOID. Use * for all participants.
- **{{studyEventOID}}:** *(required)*: EventOID. Use * for all events for the given Participant.
- **{{formOID}}:** *(required)*: FormOID or formVersionOID. Use * for all forms for the given Study Event OID of the given Participant.
- **includeMetadata:** *(optional)*: Include study metadata (y/n) in the response. Default = n
  - **Note:** For a large study, including metadata can slow down performance.
- **includeAudits:** *(optional)*: Include audit trail information (y/n). Default = n.
- **includeDNs:** *(optional)*: Include discrepancy notes (queries) (y/n). Default = n
- **showArchived:** *(optional)*: Include the clinical data for archived forms and form versions (y/n). Default = n
- **{{authentication token}}** = your unique authentication token. For more information on how to get your authentication token, refer to **How and When to Use APIs.**
- **{{attachedFilesZip}}** = Name of the ZIP file you are importing.
- **{{zipFilePath}}** = Path of the ZIP file you are importing.

Note: For more information on how to find the object identifiers needed to for the Clinical Data API GET call, refer to **Locating Object Identifiers in a Study.**

Response Content Type:

- application/xml
- application/json

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16.3 Participants (Add or Update a Participant)

Use this endpoint to add a new Participant to a study site, update an existing Participant's contact information, or register a Participant for access to the OpenClinica Participate dashboard.

What You Can Do

You can use this endpoint to:

- Add a Participant to a specific site.
- Update Participant contact details such as first name, last name, email address, phone number, or Secondary ID.
- Register a Participant to access the OpenClinica Participate dashboard.

Important Rules and Limitations

 Warning: The OpenClinica Participate module must be active for the study to register Participants.

 Note:

- Study-level Participants cannot be registered for Participate or have contact data entered.
- CRCs and Investigators cannot see study-level Participants. Best practice is to always add Participants at the site level.
- Site-level Participants cannot be reassigned to the study level (only reassignment to another site is supported).
- This endpoint supports studies with Participant ID Method set to **Manual Entry** or **System-generated**.

Access Control

Authorized Roles

The following roles can call this endpoint:

- Data Manager
- Clinical Research Coordinator (CRC)
- Investigator
- Data Entry Person

- Data Specialist

Site-level users can perform this action only for Participants at their own site.

Unauthorized Roles

The following roles cannot call this endpoint:

- Monitors (study-level and site-level)
- Viewers (study-level and site-level)

API Endpoints

Use one of the following POST endpoints:

Site-level

POST {customerName}/pages/auth/api/clinicaldata/studies/{studyOID}/sites/{siteOID}/participants (Site-level)

Study-level POST {customerName}/pages/auth/api/clinicaldata/studies/{studyOID}/participants (Study-level)
Where `{customerName}` is your OpenClinica customer URL. For example: https://customerxyz.openclinica.io/OpenClinica

---

Sample cURL Request

```
curl -X POST \
'{{serverName}}/pages/auth/api/clinicaldata/studies/S_JUNO%28PROD%29/sites/S_
OHI0%28TEST%29/participants?register=y' \ -H 'Authorization: Bearer
{{authentication token}}' \ -H 'Content-Type: application/json' \ -d '{
"subjectKey": "OHIO-5", "firstName": "OHIO-5", "lastName": "OHIO",
"emailAddress": "OHIOS@openclinica.com", "phoneNumber": "+1 1234567890" }'
```

Participant Contact Fields

You can include the following optional fields when creating or updating a Participant:

- `firstName`
- `lastName`
- `middleName`
- `emailAddress`
- `phoneNumber`
- `secondaryId` (also referred to as `identifier`)
- `streetAddress1`
- `streetAddress2`
- `country`
- `city`
- `state`

- `postalCode`
- `fullDob`
- `hospitalNumber`

 Note: If `secondaryId` (identifier) is included, the Participant's Secondary ID is updated.
If it is not provided, the existing Secondary ID remains unchanged.

Request Parameters

register (Optional) Specifies whether to register the Participant for OpenClinica Participate.

- Possible values: `y` or `n`
- Default: `n`

Field Validation Rules

When you add or update Participant contact fields, strict validation rules are enforced. If any rule is violated, the API returns an error and rejects the request.

Name Fields

- `firstName`: Maximum length of 35 characters
- `lastName`: Maximum length of 35 characters
- `middleName`: Maximum length of 35 characters

Address Fields

- `streetAddress1`: Maximum length of 155 characters
- `streetAddress2`: Maximum length of 155 characters
- `city`: Maximum length of 155 characters
- `state`: Maximum length of 155 characters
- `country`: Maximum length of 155 characters
- `postalCode`: Maximum length of 35 characters

Contact and Identifier Fields

- `emailAddress`: Maximum length of 255 characters and must be a valid email format
- `phoneNumber`: Maximum length of 17 characters and must match the required phone number format
- `secondaryId`: Maximum length of 35 characters
- `hospitalNumber`: Maximum length of 35 characters

These constraints are strictly enforced when data is submitted via the API.

Response Body on Success:


```
{
    "subjectKey": "OHIO-6",
    "subjectOid": "SS_OHIO6",
    "status": "Available",
    "participateStatus": "Created"
}
```


Response Body on Failure:


```
{
    "message": [
        "errorCode.noRoleSetUp"
    ],
    "params": [
        "studyOID S_JUNO(TEST)",
        "siteOID S_OHIO(TEST)"
    ]
}
```

Error Codes

If the request fails, the response includes one of the following error codes: **Study and Site Errors**

- **errorCode.studyNotExist**: The study OID specified in the request is not found.
- **errorCode.studyNotAvailable:** The study OID specified in the request is not in 'Available' status.
- **errorCode.siteNotExist**: The site OID specified in the request is not found.
- **errorCode.siteNotAvailable:** The site OID specified in the request is not in 'Available' status.

Authorization Errors

- **errorCode.noRoleSetUp**: The user has no role assigned for the given study/site.
- **errorCode.noSufficientPrivileges**: The user does not have sufficient privileges to perform this operation.

Participate Errors

- **errorCode.participateNotEnabled:** OpenClinica Participate module is not active for the given Study and therefore, the operation is NOT allowed.

Participant ID Errors

- **errorCode.participantIDContainsUnsupportedHTMLCharacter**: The Participant ID contains unsupported HTML (<, >) characters.
- **errorCode.participantIDLongerThan30Characters**: The Participant ID exceeds the 30 character limit.
- **errorCode.participantsEnrollmentCapReached**: The pre-set Participant enrollment limit has reached. No new participants can be added to this study.

Field Validation Errors

- **errorCode.invalidPhoneNumber:** The phone number does not conform to the required format.
- **errorCode.invalidEmailAddress:** The email address does not conform to the required

format.
- **errorCode.emailAddressTooLong:** The email address exceeds the 255 character limit.
- **errorCode.firstNameTooLong:** The first name exceeds the 35 character limit.
- **errorCode.lastNameTooLong:** The last name exceeds the 35 character limit.
- **errorCode.middleNameTooLong:** The middle name exceeds the 35 character limit.
- **errorCode.streetAddress1TooLong:** Street Address 1 exceeds the 155 character limit.
- **errorCode.streetAddress2TooLong:** Street Address 2 exceeds the 155 character limit.
- **errorCode.cityTooLong:** The city exceeds the 155 character limit.
- **errorCode.stateTooLong:** The state exceeds the 155 character limit.
- **errorCode.countryTooLong:** The country exceeds the 155 character limit.
- **errorCode.postalCodeTooLong:** The postal code exceeds the 35 character limit.
- **errorCode.secondaryIdTooLong:** The secondary ID exceeds the 35 character limit.
- **errorCode.hospitalNumberTooLong:** The hospital number exceeds the 35 character limit.
- **errorCode.phoneNumberTooLong:** The phone number exceeds the 17 character limit.

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16.4 Participants/Bulk (Add or Update Bulk List of Participants)

Access the participant endpoint on a list of participant IDs in bulk. The functionality, stipulations, and the access control all apply as per the participants endpoint.

Functionality:

- Create/Update participants in bulk for a given site.
- Update participant contact information like first name, last name, email address, or mobile number.
- Register the participant to access OpenClinica Participate dashboard.

Stipulations:

- Participants can be registered for OpenClinica Participate ONLY when the Participate module is Active for the given study.
- This endpoint can be called either when the study has the Participant ID Method set to "Manual Entry" or "System-generated"

Access Control:

- User roles **authorized** to call this endpoint and perform the specified operations:
  - Data Managers
  - Clinical Research Coordinators
  - Investigators
- Site level roles can perform this operation only on their site's participants.
- User roles **NOT authorized** to call this endpoint:

    - Monitors (study level and site level)
    - Viewers (study level and site level)

Before calling the API, you will need to be authenticated and you will need to get access based on your user roles permissions.

Study-level participants can't be created in bulk via API. (Participants will need to be assigned to a site).

URL:

POST
{customerName}/pages/auth/api/clinicaldata/studies/{studyOID}/sites/{siteOID}/**participants/bulk**

where {customerName} is your customer URL. For example:
https://customerxyz.openclinica.io/OpenClinica

Sample cURL Request:

```
curl -X POST
'{{customerName}}/pages/auth/api/clinicaldata/studies/S_JUO%28TEST%29/sites/S
_BOSTON_7642%28TEST%29/participants/bulk?register=y'
  -H 'Authorization: bearer {{authentication token}}'
  -H 'content-type: multipart/form-data; boundary=----
WebKitFormBoundary7MA4YWxkTrZu0gW'
  -F 'file=@C:directoryfile.csv'
```

Request Parameters:

- register: Possible values: **y** or **n**.
    - When set to **n**, participants will NOT be registered for OpenClinica Participate Module
    - When set to **y**, the system generates an access code for each participant and registers them for OpenClinica Participate Module

This endpoint also requires a CSV file with list of participant IDs and their corresponding contact information, if desired.

Below Are the Requirements for the CSV File Content:

- File must have ONE column with header as 'ParticipantID'. This column must contain the Participant ID.
- File can have either of the following columns: (They are all optional)
    - firstName
    - lastName
    - emailAddress
    - mobileNumber
    - identifier
- File columns can be in any order.
- The following restrictions pertain to the values in these columns:
    - firstName and lastName -- Must be less than or equal to 35 characters in length

    - emailAddress -- Must be an email address and must be less than 255 characters in length
    - mobileNumber -- Must be in the format of +# ##########
        - Starts with +
        - Up to 3 digits after + for the country code
        - A space after the country code
        - Up to 14 digits after space for the area code and local code
        - No other characters permitted
        - Up to 17 characters total
    - identifier -- Must be less than or equal to **35** characters in length

participantList.csv should be replaced with a CSV file that contains the list of participant IDs that need to be added to the study.

Here's a sample CSV file for adding two participant IDs: **JUNO-005** and **JUNO-006**

Response Body on Success:

```
job uuid: d2dbdc07-c0f9-4e4d-9ae2-81f5bfaed1c9
```

Response Body on Failure:

```
errorCode.invalidSiteIdentifier
```

Below is the List of Error Codes with their Descriptions:

- **errorCode.studyNotExist**: The study OID specified in the request is not found.
- **errorCode.invalidSiteIdentifier**: The site OID specified in the request is not found.
- **errorCode.notSupportedFileFormat**: The file format is not supported. Only CSV files are accepted.
- **errorCode.noRoleSetUp**: The user has no role assigned for the given study/site.
- **errorCode.noSufficientPrivileges**: The user does not have sufficient privileges to perform this operation.
- **errorCode.participateInActive**: Participate module is not active for the given study and register flag is set as y in the request.

Once the job has completed, you can access job's log file in the OpenClinica UI via **Tasks** and **Bulk Actions Log**.

If the system encounters a problem processing any particular record in the file, an appropriate error code will be returned for that record and displayed within the log file.

Here are the Possible Error Codes and their Descriptions:

- **errorCode.participantIDContainsUnsupportedHTMLCharacter**: Participant ID contains unsupported HTML (<, >) characters.
- **errorCode.participantIDLongerThan30Characters**: Participant ID exceeds 30 characters limit.
- **errorCode.participantsEnrollmentCapReached**: Participant enrollment limit has reached. No new participants can be added.
- **errorCode.firstNameTooLong**: First name value supplied in the record exceeds 35 character limit.
- **errorCode.emailAddressTooLong**: Email address value supplied in the record exceeds 255

character limit.
- **errorCode.mobileNumberTooLong**: Mobile number value supplied in the record exceeds 17 character limit.
- **errorCode.invalidMobileNumber**: Mobile number value supplied in the record not a valid mobile number.
- **errorCode.invalidEmailAddress**: Email address value supplied in the record not a valid email address.

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16.5 Retrieve Participant Contact Information

Participant contact information comprises any participant contact details captured in the reserved fields within the study as well as the participant access code generated for accessing OpenClinica Participate.

The following endpoint is used to retrieve participant contact information. This may be helpful, for example, if you want to generate a mailing list of all participants, or integrating with a CTMS system, which may utilize this information.

Only users with site-level CRC and Investigator roles (or derivatives thereof) can call this endpoint to retrieve participant contact information. Removed participants are not included in the results.

Retrieving Contact Information is a Two Step Process:

1. An authorized user submits the request for retrieving participant information
2. Once the job completes, the same user calls the download file endpoint to get the file containing extracted participant information

Below are the Details About the Two Endpoints:

Submit the Request:

POST
{serverName}/pages/auth/api/clinicaldata/studies/{studyOID}/sites/{siteOID}/participants/extractParticipantsInfo

where {serverName} is your study URL. For example: https://**studyxyz**.eu.openclinica.io/OpenClinica

Request Parameters:

Register: (Optional)

- Possible values **y** or **n**. (The default is **n**.)

When the value y is passed, participant contact information includes the Participant's access code for OpenClinica Participate application as well as the Status of the participant on Participate application. However, when register is passed as n then the access code and participate status is excluded.

Sample cURL Request:

```
curl -X POST
'{{serverName}}/pages/auth/api/clinicaldata/studies/{{studyOID}}/sites/{{site
OID}}/participants/extractPartcipantsInfo?register=y'
  -H 'Authorization: bearer {{authentication token}}'
```

Response Body on Success:

The endpoint submits the job in the background and returns a unique job UUID. This job UUID can be used to download the file which contains the retrieved participant information.

Alternatively, the information can be accessed via the OpenClinica UI via **Tasks** and **Bulk Actions Log.**

```
job uuid: hi12345j-2b02-482f-3h7s-286d54555f25
```

Response Body on Operation Failure:

```
{
  "message": "errorCode.studyNotExist",
  "params": {
    "siteOid": "sdgsg",
    "studyOid": "sdgsd"
  }
}
```

Here are the Possible Error Codes with their Descriptions:

- **errorCode.studyNotExist**: The study OID specified in the request is not found.
- **errorCode.siteNotExist**: The site OID specified in the request is not found.
- **errorCode.noRoleSetUp**: The user has no role assigned for the given Study/Site.
- **errorCode.noSufficientPrivileges**: The user does not have sufficient privileges to perform this operation.
- **errorCode.participateInActive**: The study does not have an enabled Participate module.

Download the File:

GET {serverName}/pages/auth/api/jobs/{jobUuid}/downloadFile

where {serverName} is your study URL. For example: https://**studyxyz**.eu.openclinica.io/OpenClinica

Sample cURL Request:

```
curl -X GET
{{serverName}}/pages/auth/api/jobs/{{jobUuid}}/downloadFile
  -H 'Authorization: bearer {{authentication token}}'
```

Here are the possible error codes with their descriptions:

- **errorCode.invalidUuid**: The Job UUID specified in the request is not found.

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16.6 Events (Create and Update Single Study Event)

Study Event Endpoints are Used to:

- Create a new study event repeat for a given participant
- Update the properties of a given study event repeat

The user must be authenticated prior to calling this service. The operation is allowed based on the user's privileges.

Create New Study Event Repeat:

This endpoint creates a new repeat of a visit-based study event for a given participant. The Endpoint requires at a minimum: participant ID, study event OID, and a start date. Using these attributes, the system creates either a new study event repeat with the given start date or returns an error as outlined below:

POST {serverName}/pages/auth/api/clinicaldata/studies/{studyOID}/sites/{siteOID}/events

Where {serverName} is your study URL. For example: https: //**studyxyz**.eu.openclinica.io/OpenClinica

Sample cURL Request:

```
curl -X POST
'{{serverName}}/pages/auth/api/clinicaldata/studies/{studyOID}/sites/{siteOID
}/events'
  -H 'Authorization: bearer {{authentication token}}'
  -H 'content-type: application/json'
```

```
  -d '{
  "subjectKey": "MGH-001",
  "studyEventOID": "SE_DEMOGRAPHICS",
  "startDate": "2000-01-01",
  "endDate": "2000-01-01"
  }'
```

Sample Response Body When Success:

```
{
    "subjectKey": "MGH-001",
    "studyEventOID": "SE_DEMOGRAPHICS",
    "studyEventRepeatKey": "1",
    "startDate": "2000-01-01",
    "endDate": "2000-01-01",
    "eventStatus": "scheduled"
}
```

Sample Response Body When Failure:

When there is a failure to create new study event repeat then an errorCode is returned. Plan the follow-up steps based on the returned errorCode.

```
{
    "message": "errorCode.endDateBeforeStartDate",
    "params": {
        "siteOid": "S_OHIO(TEST)",
        "studyOid": "S_JUNO(TEST)"
    }
}
```

Here is a List of the Error Codes and their Descriptions:

- **errorCode.studyNotExist**: The Study OID specified in the request is not found.
- **errorCode.studyNotAvailable**: The Study OID specified in the request is in Design, Frozen or Locked status.
- **errorCode.siteNotExist**: The Site OID specified in the request is not found.
- **errorCode.siteNotAvailable**: The Study OID specified in the request is in Design, Frozen or Locked status.
- **errorCode.noRoleSetUp**: The authenticated user has no role defined for the given Study/Site.
- **errorCode.noSufficientPrivileges**: The user does not have sufficient privileges to perform this operation.
- **errorCode.missingParticipantID**: The Participant ID (SubjectKey) [participantID] is not present in the request body.
- **errorCode.participantNotFound**: The Participant ID (SubjectKey) [participantID] specified in the request is not found under the given Study and/or Site OID.
- **errorCode.missingStudyEventOID**: Study event OID is not present in the request body.
- **errorCode.invalidStudyEventOID**: Study event OID specified in the request is not valid and/or found in the given Study and/or Site OID.
- **errorCode.commonEventCannotBeScheduled**: Returned when the study event OID

specified in the request is a common event. This endpoint can be called only for visit based events.
- **errorCode.missingStartDate**: Start date is required in order to create a new visit based study event repeat. When start date is missing this error code is returned.
- **errorCode.invalidStartDate**: Start date specified in the request is not in valid format. Supported format: yyyy-MM-dd (or 'yyyy-MM-dd hh:mm' format if including time)
- **errorCode.invalidEndDate**: End date specified in the request is not in valid format. Supported format: yyyy-MM-dd (or 'yyyy-MM-dd hh:mm' format if including time)
- **errorCode.endDateBeforeStartDate**: End date of a visit based study event can be either same as start date or greater than start date. This error code is returned when end date value passed is less than start date.
- **errorCode.eventAlreadyExists**: Study event OID specified in the request is a non-repeating event and that repeat 1 is already when this endpoint is called.

Update Properties of a Study Event Repeat:

This endpoint updates the properties of a given study event for a given participant. For a visit-based event, properties are Start date, end date, and status. For a common event, properties include only the status of the event.

This endpoint requires participant ID, study event OID, and study event repeatKey in order to lookup the appropriate study event. When a match is found, the properties of that event repeat are updated with the values of start date, end date, and/or status passed in the request.

Note:

- *Status of an event follows a strict transition path.*
- *If no update is required for a given property, remove that property from the request body. An empty value will not be accepted.*

PUT {serverName}/pages/auth/api/clinicaldata/studies/{studyOID}/sites/{siteOID}/events

Where {serverName} is your study URL. For example: https://**studyxyz**.eu.openclinica.io/OpenClinica

Sample cURL Request:

```
curl -X POST
'{{serverName}}/pages/auth/api/clinicaldata/studies/{studyOID}/sites/{siteOID
}/events'
  -H 'Authorization: bearer {{authentication token}}'
  -H 'content-type: application/json'
  -d '{
  "subjectKey": "participantID",
  "studyEventOID": "studyEventOID",
  "studyEventRepeatKey": "1",
  "startDate": "YYYY-MM-DD",
  "endDate": "YYYY-MM-DD",
  "eventStatus": "data entry started"
  }'
```

Sample Response Body When Success:

```
{
    "subjectKey": "participantID",
    "studyEventOID": "studyEventOID",
    "studyEventRepeatKey": "1",
    "startDate": "2000-01-01",
    "endDate": "2000-01-01",
    "eventStatus": "scheduled"
}
```

Sample Response Body When Failure:

When there is a failure to update the study event repeat properties, an error code is returned.

```
{
    "message": "errorCode.endDateBeforeStartDate",
    "params": {
        "siteOid": "S_OHIO(TEST)",
        "studyOid": "S_JUNO(TEST)"
    }
}
```

Here is the List of the Error Codes and their Descriptions for this Endpoint:

- **errorCode.studyNotExist**: The Study OID specified in the request is not found.
- **errorCode.studyNotAvailable**: The Study OID specified in the request is in Design, Frozen or Locked status.
- **errorCode.siteNotExist**: The Site OID specified in the request is not found.
- **errorCode.siteNotAvailable**: The Study OID specified in the request is in Design, Frozen or Locked status.
- **errorCode.noRoleSetUp**: The authenticated user has no role defined for the given Study/Site.
- **errorCode.noSufficientPrivileges**: The user does not have sufficient privileges to perform this operation.
- **errorCode.missingParticipantID**: The Participant ID (SubjectKey) [participantID] is not present in the request body.
- **errorCode.participantNotFound**: The Participant ID (SubjectKey) [participantID] specified in the request is not found under the given Study and/or Site OID.
- **errorCode.missingStudyEventOID**: Study event OID is not present in the request body.
- **errorCode.invalidStudyEventOID**: Study event OID specified in the request is not valid and/or found in the given Study and/or Site OID.
- **errorCode.missingStudyEventRepeatKey**: Study event repeatKey is required for the lookup. When its not present in the request then this error code is returned.
- **errorCode.invalidStudyEventRepeatKey**: When repeatKey specified in the request is not a valid integer.
- **errorCode.studyEventRepeatNotFound**: When no results are found for the given participant ID, study event OID, and study event repeatKey.
- **errorCode.invalidStartDate**: Start date specified in the request is not in valid format. Supported format: yyyy-MM-dd (or 'yyyy-MM-dd hh:mm' format if including time)
- **errorCode.invalidEndDate**: End date specified in the request is not in valid format.

Supported format: yyyy-MM-dd (or 'yyyy-MM-dd hh:mm' format if including time)

- **errorCode.endDateBeforeStartDate**: The end date of a visit based study event can be either the same as start date or greater than start date. This error code is returned when end date value passed is less than start date.
- **errorCode.invalidStatus**: Status specified in the request body is not a valid status.
- **errorCode.eventStatusTransitionNotAllowed**: The status of the given study event repeat is not allowed to be moved to the status that's specified in the request body then this error code is returned.
- **errorCode.eventStatusTransitionNotAvailable**: The status of the given study event repeat cannot be moved to the status that's specified in the request body because there are other conditions that must be met before it is possible. When those conditions are not satisfied at the time of request then this error code is returned. For example: event status can move from data entry started to completed only when all the forms in that event are completed. In this case, if one of the forms is in initial data entry started when user made a request to update the study event status to be completed then this error code will be returned.

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16.7 Bulk Create and Update Study Events

The bulk study event endpoint allows you to create or update study events for multiple Participant IDs at once. The functionality, constraints, and access control for this endpoint are the same as those for the single create and update study event endpoint.

You must be authenticated before calling this service. The operation is allowed based on your assigned privileges for the specified study and site.

Endpoint Details

URL:

POST {serverName}/pages/auth/api/clinicaldata/studies/{studyOID}/sites/{siteOID}/events/bulk

Where:

{serverName} is your customer URL. For example: https: //customerxyz.openclinica.io/OpenClinica

---

Sample cURL Request

```
curl -X POST
'{{serverName}}/pages/auth/api/clinicaldata/studies/S_JUNO%28PROD%29/sites/S_
BOSTON_3152%28PROD/events/bulk'
  -H 'Authorization: bearer {{authentication token}}
  -H 'content-type: multipart/form-data; boundary=----
WebKitFormBoundary7MA4YWxkTrZu0gW'
  -F 'file=@C:directoryfile.csv'
```

Request Parameters

This endpoint requires a CSV file that contains a list of Participant IDs and study event–related information. The CSV file must meet the following requirements.

Required Columns

- **ParticipantID**
  - The file must include exactly one column with the header `ParticipantID`.
  - This column must contain the Participant ID.
- **StudyEventOID**
  - The file must include a column for the Study Event OID.

Additional Columns by Action

Create a New Study Event

- **StudyEventRepeatKey** must be empty.
- **StartDate** must be present (time is optional).
- **EndDate** is optional (time is optional).
- **StudyEventStatus** is not used.

Update an Existing Study Event

- **StudyEventRepeatKey** must be present and must be a valid integer.
  Note: When updating an existing event instance, set the **EventRepeatKey** to 2. This value indicates that the first occurrence of the event has already been completed.
- **StartDate** is optional (time is optional).
- **EndDate** is optional (time is optional).
- **StudyEventStatus** is optional.
  Note: `StudyEventStatus = Not Locked` unlocks the event (sets **Locked = No**) without modifying the workflow status. Supported for both individual and bulk study event updates.

Note: File columns can appear in any order.

Column Value Restrictions

The following restrictions apply to values in the CSV file:

- **ParticipantID** and **StudyEventOID** must be valid identifiers under the specified study and site.
- **StudyEventRepeatKey** must be an integer.
- **StartDate** and **EndDate** must use the format **yyyy-MM-dd** or **yyyy-MM-dd hh:mm** (if including time).
- **StudyEventStatus** may include the following values:
  data entry started, stopped, skipped, locked, not locked, completed.

Sample CSV File

Here's a **sample CSV file** for creating study event and modifying the study events for the given participants.

Response on Success

When the request is accepted, the endpoint submits the job to run in the background and returns a unique job UUID.

```
job uuid: ddbadff4-f015-4a2d-81e0-e3daf507bbfc
```

Response on Failure to Submit the Job

If the job cannot be submitted, the API returns an error response. Example:

```
{
  "message": "errorCode.siteNotExist",
  "params": {
    "siteOid": "S_OHIO(PRD)",
    "studyOid": "S_JUNO(PROD)"
  }
}
```

Submission-Level Error Codes

The following error codes may be returned if the job cannot be submitted:

- **errorCode.studyNotExist**: The Study OID specified in the request was not found.
- **errorCode.siteNotExist**: The Site OID specified in the request was not found.

- **errorCode.notSupportedFileFormat:** The file format is not supported. Only CSV files are accepted.
- **errorCode.noRoleSetUp**: You do not have a role assigned for the specified study or site.
- **errorCode.noSufficientPrivileges**: You do not have sufficient privileges to perform this operation.

Job Processing and Logs

After the job completes, you can access the job's log file in the OpenClinica user interface under **Tasks** and **Bulk Actions Log**.

If an error occurs while processing a specific record in the CSV file, an appropriate error code is returned for that record within the log file.

Record-Level Error Codes

The following error codes may appear in the job log for individual records:

- **errorCode.participantNotFound**: No participant record was found for the specified Participant ID.
- **errorCode.missingParticipantID**: The Participant ID value is missing.
- **errorCode.missingStudyEventOID**: The Study Event OID value is missing.
- **errorCode.invalidStudyEventOID**: The Study Event OID value is not valid.
- **errorCode.CommonEventCannotBeScheduled**: The Study Event OID refers to a common event and cannot be scheduled.
- **errorCode.missingStartDate**: The StartDate value is missing and the study event cannot be scheduled.
- **errorCode.invalidStartDate**: The StartDate value is invalid.
- **errorCode.endDateBeforeStartDate**: The EndDate occurs before the StartDate.
- **errorCode.invalidEndDate**: The EndDate value is invalid.
- **errorCode.studyEventRepeatNotFound**: The Study Event Repeat Key was not found for the specified participant.
- **errorCode.invalidEventStatus**: The StudyEventStatus value is not valid.
- **errorCode.invalidEventTransitionStatus**: The transition from the current study event status to the provided status is not allowed.

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16.8 Bulk Actions Log

OpenClinica Supports Following Bulk Actions Using the Web Services Interface:

1. Bulk add participants.
2. Bulk create study events for given participants.
3. Import using CDISC ODM XML file.
4. Retrieve participants contact information.

Each of the above bulk actions generate a logfile that can be viewed when you click the **Tasks** menu and select **Bulk Actions Log**.

Each Bulk Action Record on the Bulk Actions Log screen is Comprised of the Following Information:

- Source file name
  - Name of the file that was used to execute the bulk action
- Job type
  - Job type describes the bulk action that was executed on the given source file
- Site name
  - This column contains either the name of the site or the study for which the given bulk action was executed.
- Job status
  - Status of the bulk action job at the time of the page load
- Job progress
  - Progress of the Archival Casebook job at the time of the page load, which shows the number of participants processed vs. the total number of participants included in the job. The Job Progress column is only valid for Archival Casebook jobs.
- Start time
  - Date and time when the bulk action was submitted
- Submitted by
  - Username of the user who submitted the bulk action job
- Completion time
  - Date and time when the bulk action job completed
- Actions
  - No actions are available for the bulk action jobs that are in 'In Progress' status
  - Once the bulk action job completed, then following three actions are available:
    - View - User can view the results of the logfile within OpenClinica
    - Download - User can download the logfile on their local system for viewing in offline mode
    - Delete - User can delete the logfile from the system

Accessibility:

Bulk actions log page is accessible to all users. Bulk action jobs listed on the page are based on the user who submitted the job and the user's logged in study or site.

- Study level user, when logged in at the Study level, can view all the bulk action jobs that user submitted either at the Study level or at the Site level for the given study.
- Study level user, when logged in at the Site level, can view all the bulk action jobs that user

submitted at the given Site of the given study.
- Site level user can view all the bulk action jobs that user submitted at the logged in site of the given study.
- Data Manager users can view jobs from other users if those jobs do not include any clinical data in the output/logs.

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16.9 Participants (Get Participants at Study Level or Site Level)

Use these endpoints to retrieve a list of Participants at the study level or site level in OpenClinica. You must be authenticated before calling these endpoints. Access is determined by your assigned user role and privileges.

Study-Level: Get All Participants in a Study

Use this endpoint to retrieve all Participants across a study.

Roles and Permissions

User roles authorized to call this endpoint:

- Data Manager
- Investigators

User roles NOT authorized to call this endpoint:

- Clinical Research Coordinators (CRC)
- Monitors (study level and site level)

Endpoint

GET {serverName}/pages/auth/api/clinicaldata/studies/{studyOID}/participants **Where:**

- {serverName} is your study URL.

Example: https: //studyxyz.eu.openclinica.io/OpenClinica

Site-Level: Get Participants for a Specific Site

Use this endpoint to retrieve Participants associated with a specific site within a study.

Roles and Permissions

User roles authorized to call this endpoint:

- Data Manager
- Investigators
- Clinical Research Coordinators (CRC)

Note:
If you have a site-level role, you can retrieve Participants only for your assigned site.

User roles NOT authorized to call this endpoint:

- Monitors (study level and site level)

Endpoint

GET {serverName}/pages/auth/api/clinicaldata/studies/{studyOID}/sites/{siteOID}/participants
Where: {serverName} is your study URL. **Example:** https: //studyxyz.eu.openclinica.io/OpenClinica

---

Sample cURL Request to Site Level Participants:

```
curl -X GET \
'{(serverName/pages/auth/api/clinicaldata/studies/[studyID}/sites/(siteI})/pa
rticipants' \
  -H 'Authorization: bearer (authentication token))'
```

Response Body:


```
{
  "studyParticipants": [
    {
      "subjectKey": "LA-1",
      "subjectOid": "SS_LA1",
      "status":
      "Available",
      "createdBy": "testuser",
      "createdAt": "Apr 26, 2019 12:00:00 AM",
      "lastModified": "Apr 26, 2019 12:00:00 AM",
      "lastModifiedBy": "testuser"
    },
```

```
    {
      "subjectKey": "LA-2",
      "subjectOid": "SS_LA2",
      "status": "Available",
      "createdBy":
      "testuser",
      "createdAt": "Apr 26, 2019 12:00:00 AM",
      "lastModified":
      "Apr 26, 2019 12:00:00 AM",
      "lastModifiedBy": "testuser"
    }
  ]
}
```

If the operation fails to get the list of participant IDs, the system returns an appropriate error code.

Error Codes

If the request fails, the response includes one of the following error codes:

- **errorCode.studyNotExist**: The study OID specified in the request is not found.
- **errorCode.invalidSiteIdentifier**: The site OID specified in the request is not found.
- **errorCode.noRoleSetUp**: Authenticated user does not have a role assigned for the given Study/Site.
- **errorCode.noSufficientPrivileges**: The user does not have sufficient privileges to perform this operation.

Approved for publication by Kate Lambert. Signed on 2026-02-24 12:16PM

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