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## 1 Overview

### 1.1 Purpose

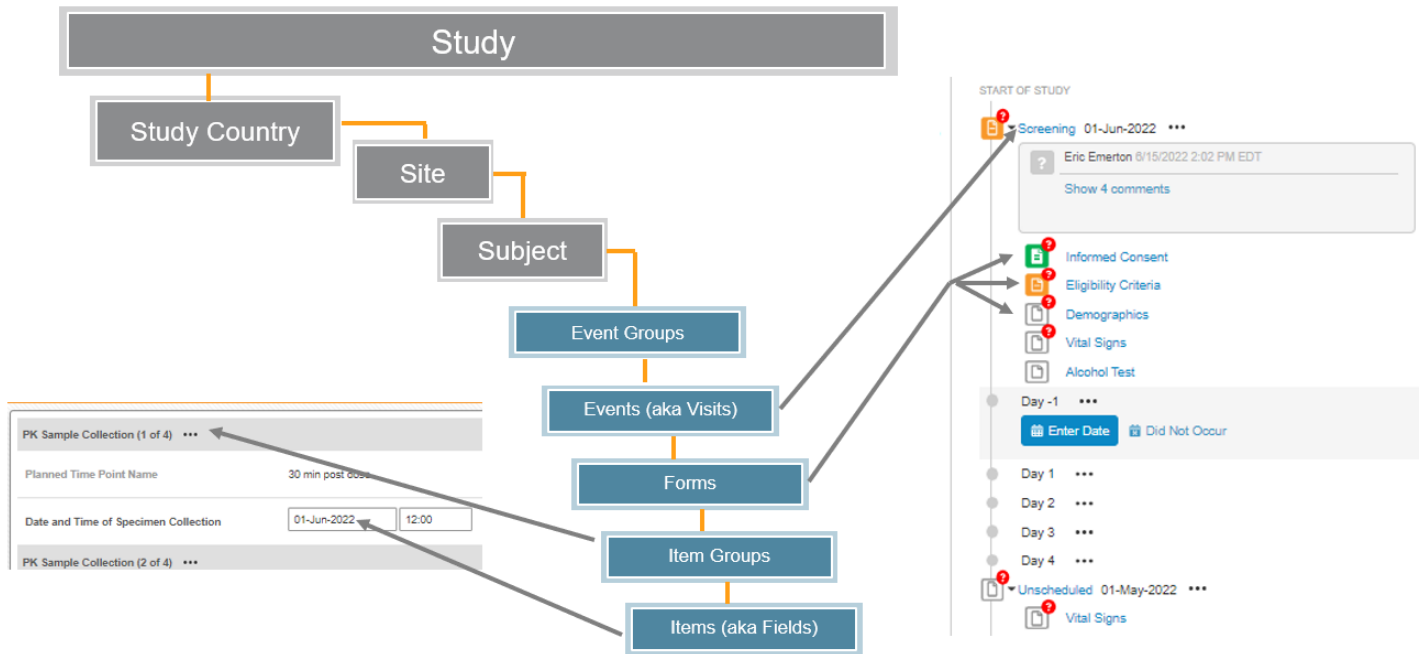
This document serves as an extended guide, supplemental to the API developer website for Veeva Vault CDMS API. Best practices, cause/effect examples are given here, whereas the online help is quicker reference with typically few/one example(s). Refer to the **Best Practices** chapter at the end of this document, and **TIP** entries are also given in line with the examples.

### 1.2 Reference URLs

<a href="https://developer-cdms.veevavault.com/api/23.3/">https://developer-cdms.veevavault.com/api/23.3/</a>	<p>As of Veeva Vault release 23.3, this is the main CDMS API reference (subjects, events, forms, etc.)</p> <p><b>NOTE:</b> As new major Vault CDMS releases occur (April, August, December each year), the documentation link for newer API version is the same, but with new XX.Y ( year.release number)</p>
<a href="https://developer.veevavault.com/">https://developer.veevavault.com/</a>	<p>General home page for Veeva Vault developers</p>
<a href="https://developer.veevavault.com/docs/#rest-api">https://developer.veevavault.com/docs/#rest-api</a>	<p>Quick start guide for general Veeva Vault API</p>
<a href="https://developer.veevavault.com/api/23.3/">https://developer.veevavault.com/api/23.3/</a>	<p>Platform Vault API reference as of this release. General Vault concepts used by any vault application (logs, FTP, documents, etc.) are outlined.</p>

### 1.3 CDMS Hierarchy

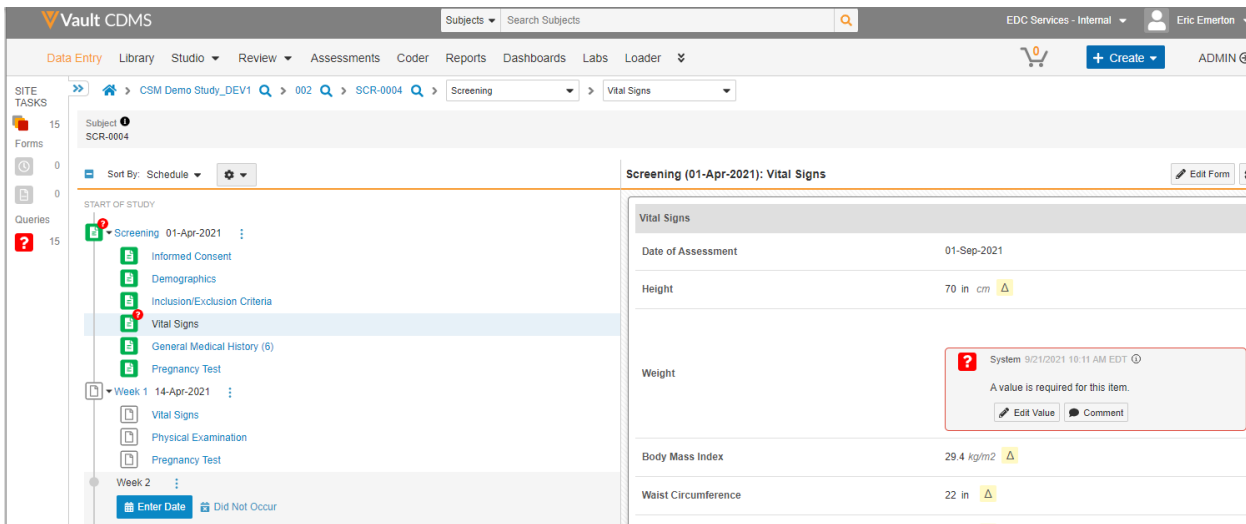
The CDMS data hierarchy / terminology is summarized by:



- Access within a study follows the **Study Country -> Site** hierarchy, i.e. which **sites** a user can see. A Data Manager might have access to all, a regional CRA some countries but not all, and site users just their specific site
- Once in a subject, the components of data follow largely an ODM CDISC model (Visits/Forms/Item Groups/Items), where 'Event' = 'Visit'. There is an additional layer for Event Groups to cover repeating cycles of events/visits as one unit.

Referring to the below UI example...

- Study = **CSM Demo Study\_DEV1**
- Study Country = (not pictured, **United States**, a relationship to the site)
- Site = **002**
- Subject = **SCR-0004**
- Event Group = (not pictured). A group of events (aka visits) are organized into an event group to better facilitate repeating cycles, unscheduled events.
- Event = **Screening**
- Form = **Vital Signs** (details, right side of screen)
- Item Group = **Vital Signs** (group of fields on a CRF, used for repeating when necessary)
- Items = **Date of Assessment** (date field), **Weight** (unit codelist field), etc.



- **WARNING:** The pictured elements in the EDC UI are **LABELS**, not the parameters necessary to interact through the API. The CDMS API operates with design **NAMES** for push of data in, and has a few (albeit) rare cases where labels are returned.
- Depending on the API endpoint these components are usually required to identify the subject, then the location in the casebook / CRFs of the subject. Some endpoints allow a 'by ID' update, the internal Vault ID, instead of a Study Country / Site / Subject / Event Group / Event... combination. (but not all)
- How does one get the proper parameters for these design elements? The team that built the study should relay this information via **Study Design Specifications (SDS)** document generated from the Vault CDMS **Studio** module. At later API releases, there will be a design level API to get this information of names <-> labels, plus supporting properties at all design levels, and for each casebook definition.
- Continuing with the example pictured above, the **SDS (workbook)** -> **Schedule – Tree** tab of the SDS:

A	B	C	D	E	F	G	H	I
Casebook	Event Group	Event Group Name	Event	Event Name	Form	Form Name	Restrict	Repeat
1	Screening	eg_SCREENING						No
1	Screening	eg_SCREENING	Screening	ev_SCREENING				No
1	Screening	eg_SCREENING	Screening	ev_SCREENING	Informed Consent	IC	No	No
1	Screening	eg_SCREENING	Screening	ev_SCREENING	Demographics	DM	No	No
1	Screening	eg_SCREENING	Screening	ev_SCREENING	Inclusion/Exclusion Criteria	IE	No	No
1	Screening	eg_SCREENING	Screening	ev_SCREENING	Vital Signs	VS	No	No
1	Screening	eg_SCREENING	Screening	ev_SCREENING	General Medical History	MH	No	Yes
1	Screening	eg_SCREENING	Screening	ev_SCREENING	Pregnancy Test	LB_PREG	No	No
1	Treatment	eg_TREATMENT						No
1	Treatment	eg_TREATMENT	Week 1	ev_WEEK1				No
1	Treatment	eg_TREATMENT	Week 1	ev_WEEK1	Vital Signs	VS2	No	No
1	Treatment	eg_TREATMENT	Week 1	ev_WEEK1	Physical Examination	PE	No	No

...tells us the Event Group, Event, Form design names for the example given.

- Event Group = **eg\_SCREENING**
- Event = **ev\_SCREENING**
- Form = **VS**
- Item group design names, item design names are then found on the Form Definitions tab:

F	G	H	I	J	K	L	M	N	O	P	Q
Item Group	Item Group Label	IG Re	Header Visible	Visual	RM	IG	Item Name	External ID	Label	Data Type	Require
VS	Vital Signs	No	Yes	Yes				VS			
VS	Vital Signs						VSDAT_2	VSDAT	Date of Assessment	Date	Yes
VS	Vital Signs						HEIGHT	HEIGHT	Height	Unit	Yes
VS	Vital Signs						WEIGHT	PL_WEIGHT	Weight	Unit	Yes
VS	Vital Signs						BMI	BMI	Body Mass Index	Number	Yes
VS	Vital Signs						WSTCIR	WSTCIR	Waist Circumference	Unit	Yes
VS	Vital Signs						VSPOS	VSPOS	Position	Codelist	Yes
VS	Vital Signs						SYSBP	SYSBP	Systolic Blood Pressure	Number	Yes
VS	Vital Signs						DIABP	DIABP	Diastolic Blood Pressure	Number	Yes
VS	Vital Signs						HR	HR	Heart Rate	Number	Yes
VS	Vital Signs						RESP	RESP	Respiratory Rate	Number	Yes
VS	Vital Signs						TEMP	TEMP	Body Temperature	Unit	Yes
MH	General Medical History	No	Yes	Yes				MH			

...which indicates:

- Item Group = **VS**
- Items = **VSDAT\_2, HEIGHT, WEIGHT, BMI...**

## 1.4 CDMS API Summary

- The Vault API is REST based. The vast majority of the API endpoints use URL parameters or JSON request bodies, return JSON response bodies (unless a file or log download)
- General vault API includes a JSON return structure like:

```
1 {
2   "responseStatus": "SUCCESS",
3   "responseDetails": {
4     "pagesize": 1000,
5     "pageoffset": 0,
6     "size": 131,
7     "total": 131
8   },
9   "data": [
```

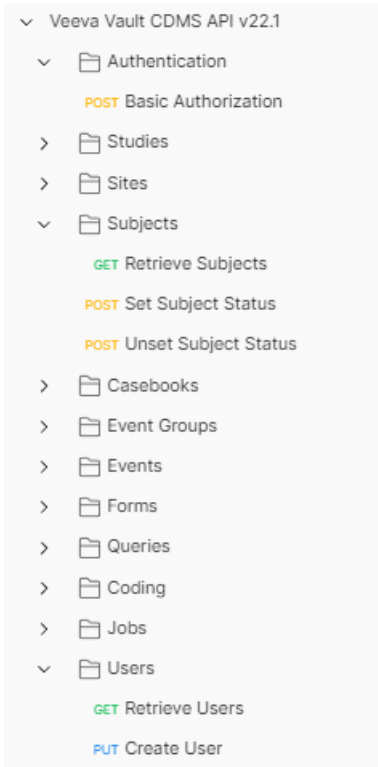
.. with **responseStatus** returning the overall request status. Most Vault APIs have paging, with total, limit, offset, and URLs to the 'next' / 'previous' page of data (of a query/request).

- CDMS API endpoint are very 1 to 1 with the actions / buttons seen in the UI. As example, if the intent is to add a subject, plus data to some forms in a screening visit, then APIs must be called for each of (potentially) - (a) Add subject (b) Set subject status (c) Set event date (first event for subject) (d) Set of data on form (with add item groups on the form if/when necessary (e ), Finally the submit of the form. The sequencing of these calls is vitally important. Currently, many actions are not rolled into fewer API calls, via parameters. (e.g., set data on a form, plus submit it, as one call). Consolidated API calls to accomplish multiple actions are in consideration for future releases all the time.
- CDMS specific errors – most examples are here: <https://developer-cdms.veevavault.com/api/23.3/#errors-cdms>

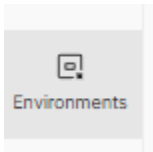


## 1.5 Postman Collection

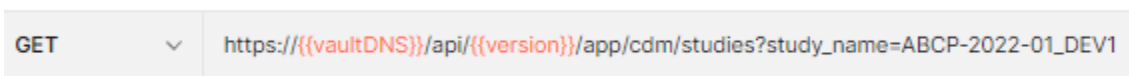
Any REST endpoint tool can be used for experimenting as part of API development. This guide will show examples using Postman. Each API release includes a Postman collection, downloadable from the developer API website. As example of a postman collection:



The use of a postman collection requires setting of an environment profile:



... to change between variables with in the collection, e.g. `{{vaultDNS}}` below (the URL for your vault), `{{version}}` (e.g. **v23.3** for this release):



If your vault URL is, as example, **https://edc-services-internal.veevavault.com/...** , then the portion **edc-services-internal.veevavault.com** is what is used for the vaultDNS variable above.

Further, your username / password to the vault are environment variables used in the Authentication endpoint:

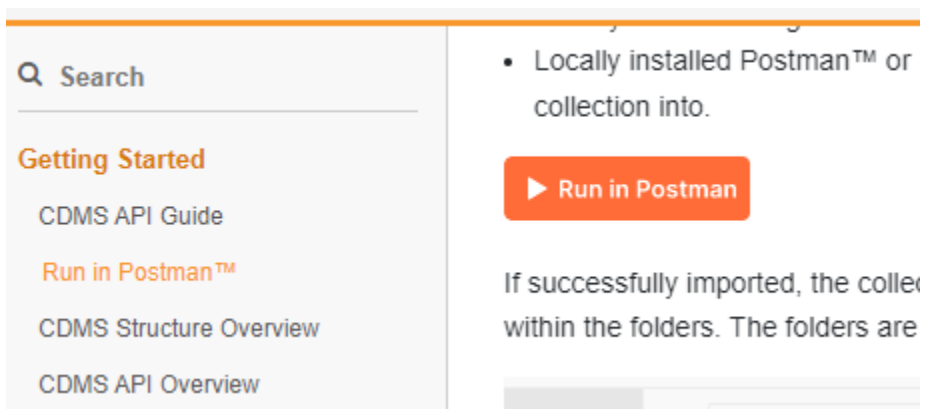
POST ▼ <https://{{vaultDNS}}/api/{{version}}/auth>

Params Authorization Headers (11) **Body** ● Pre-request Script Tests ● Settings

none
  form-data
  x-www-form-urlencoded
  raw
  binary
  GraphQL

KEY	VALUE
<input checked="" type="checkbox"/> username	{{username}}
<input checked="" type="checkbox"/> password	{{password}}

The postman collection can be imported from the help website, **Run in Postman** section:



Search

**Getting Started**

- CDMS API Guide
- Run in Postman™**
- CDMS Structure Overview
- CDMS API Overview

- Locally installed Postman™ or collection into.

**▶ Run in Postman**

If successfully imported, the collection will be added within the folders. The folders are

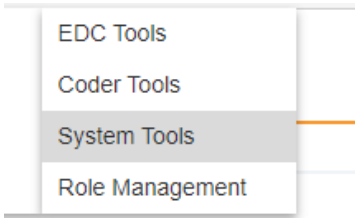
The **Run in Postman** button will lead you through getting the collection imported to your local Postman workspace, or Postman for Web workspace (if you have one).

## 1.6 Rate Limits / Caveats

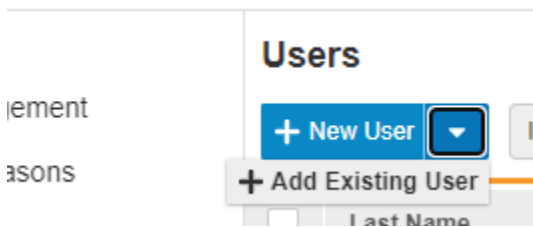
- **WARNING:** There are API limits vault wide, as well as by user, to protect the vault. These are general vault platform specific, not necessarily applicable because of Vault CDMS. Earlier releases (< 21R1 ) have hard limits for each 5-minute window, plus a 24-hour daily limit for all users of the vault. For later versions, vault will slow down response times as the rate limits are hit. There is **also** a limit on the number of API logins in any single calendar minute (20). Do not re-authenticate with each API call. More information at <https://developer-cdms.veevavault.com/api/23.3/#api-rate-limits>
- **WARNING:** Many API returns will include a '**SUCCESS**' at the top level, that is the to/from the server was OK. But the body of the return must be parsed / inspected to see if there are any errors on the attempt. Do not assume top level success for pushing data to CDMS means it was fully successful! Most API actions into the system (update/insert data) are done in batch API requests, so each section should be inspected for its success/failure (not just the overall request status)
- **WARNING:** The CDMS API is built on top of the vault API, which allows raw VQL'ing to any object, fields that the user has rights to read. It is strongly **discouraged** to use raw object retrievals for reverse engineering of the data. Doing so will likely result in a job / code being tripped up at some later release when that data model changes. All attempts should be made to use the formal endpoints for data retrieval / updates into a study.

## 1.7 API Roles / Access

A user with Security Profile **Vault Owner** can use the API, the entire system in fact, in all ways. Other users are given access just like any other study user, with a specific role in that study. Users with rights to administer study users navigate to the **System Tools** area:



.. from which, one then creates a user (or add/apply an existing user on the Vault domain):



The access granted for a study on new user / apply existing user has multiple options for **Study Access** (2<sup>nd</sup> part of pictured):

[← Back to Users](#)

## New User

### Details

Last Name

First Name

User Name  @edc-services.com

Email

Federated ID

Security Policy

Add as Principal Investigator  Yes  No

### Study Access

Grant Access to All Studies  Yes  No

Accessible Studies

---

No accessible studies

Select a study to configure access

**Option A:** Access to all studies now, **AND** in the future: (less common)

Study Access

Grant Access to All Studies  Yes  No

Environment	Grant Access	Role
All Studies	✓	CDMS API Read Write

**Option B:** Specific study / environment (note the **Access to All Sites = checked**, otherwise specific sites/countries):

Study Access

Grant Access to All Studies  Yes  No

Accessible Studies [+ Add Studies](#)

Search

CSM Demo Study [Remove Study Access](#)

Grant Access to All Environments and Sites  Yes  No

Environment	Grant Access	Role	Access to All Sites
CSM Demo Study_DEV1	✓	CDMS API Read Write	<input checked="" type="checkbox"/>

**Option C:** Use **Grant Access to All Environments and Sites = Yes**. This is equivalent to **Access to All Sites**, but for all instances in the vault for the study. This is most applicable in a UAT vault where there are UAT1, UAT2, UAT3, etc. under one study umbrella. In a production or dev vault it has the same effect as Option B.

CSM Demo Study [Remove Study Access](#)

Grant Access to All Environments and Sites  Yes  No

Environment	Grant Access	Role	LMS Training Status
All Environments			

**TIP:** Consider only ever granting an API user the access / studies it needs, when needed for Production. In a UAT / Dev vault, access to all studies, or all instances of a study might be appropriate, unless the API user is for a partner / vendor company (e.g., IRT developing integrations)

**WARNING:** An API user is no different from any other study user. Typically, users must go through / pass a training before their study access is truly enabled. For an API / system user, ensure to check the Ignore LMS Status, Assume Trained attribute, otherwise the API user won't find the study (or studies) intended

	LMS Training Status	Ignore LMS Status, Assume Trained
		<input checked="" type="checkbox"/>

## 1.8 Vault Permission Sets / Roles

Vault CDMS resides on the Vault Platform and uses Vault Application Roles and Permission Sets for the basis of what a user can / cannot do. Should a custom role be setup (example: to also access a custom object / area), then the role needs to be setup with the API access permission, usually attainable with Vault CDMS's **Tools -> System Tools -> Role Management** grid, simply ensuring the API Access line checked for the new custom role:

Role Management Show:  All Roles  Active Roles

[+ New Role](#)

	Administration				Clinical			Coding			Data Management				Other							
	CDMS Deployment Administrator	CDMS Safety Administrator	CDMS Super User	CDMS User Administrator	CDMS CRA with Manage Jobs	CDMS Clinical Research Associate	CDMS Clinical Coder	CDMS Clinical Coder Administrator	CDMS Clinical Coder Manager	CDMS Auditor Read Only	CDMS Data Manager	CDMS Data and Definition Export	CDMS Lab Data Manager	CDMS Lead Data Manager	CDMS Medical Assessment Editor	CDMS Medical Assessment Reader	CDMS AP Read Only	CDMS AP Read Write	CDMS Librarian	CDMS Randomization Manager	CDMS Study Designer	CDMS
Number of Users	0	0	1	0	1	4	1	0	0	0	0	0	2	0	0	0	0	1	0	0	0	6
Manage Role	▼	▼	▼	▼	⚙️	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
View Protocol Deviations			✓		✓	✓				✓	✓			✓							✓	
Edit Protocol Deviations			✓		✓	✓				✓			✓								✓	
API Access			✓	✓						✓			✓		✓	✓	✓					

What follows in the rest of this section is the details on Vault level roles/permission sets. The key to a user being able to use the API on a study (or studies) is a permission set in their study role:

Name	Status	Source	Description
API Access	Active	Standard ▼	CDMS Permission Set for API access

.. is necessary for using the API. This permission set is standard to CDMS and will either be included in a standard CDMS role, or custom CDMS role. The API user then is granted the role, with a study (or studies) as necessary

Should custom permission sets be setup in a vault, the key for API'ing is / are these settings:



Permission Sets >  
API Access

Vault Actions									
	All Vault Actions								
Vault Actions									
	All	Read Dashboards and Reports	Create Dashboards	Delete Dashboards	Share Dashboards	Schedule Reports	Administer Dashboards	Display Public Key Dashboards	Read Group Membership
Dashboards and Reports									
	All Workflow	Start	Participate	Read and Understand	eSignature	Query			
Workflow									
	All Workflow Admin	Cancel	View Active	Reassign	Update Participants	Email Participants	Update Workflow Dates	Replace Workflow Owner	
Workflow Administration									
	All API	Access API	Events API	Metadata API					
API		✓		✓					
	Manage Tags	Merge Anchors	Remove Annotations	Manage Anchors					

As well as:

Audit Trail	
	Access
File Staging	✓
	Edit Document Matches
EDL Matching	

Together with base Vault settings for using its API (CDMS or any other Vault application), the other permission sets are CDMS specific. As example, a role **CDMS API Read Write** (custom), has the **API Access** permission set, plus relevant CDMS role

S & GROUPS

Users

Profiles

Permission Sets

Application Roles

Security Profiles > CDMS API Read Write

Details Users

Details

Status Active

Name CDMS API Read Write

Description Security profile for the standard application role CDMS API Read Write

Source Custom

Created By System

Created Date 6/4/2021 11:09 PM EDT

Last Modified By System

Last Modified Date 6/25/2021 10:07 PM EDT

Permission Sets

Name	Description
API Access	CDMS Permission Set for API access
CDMS All Objects Read Only	CDMS Permission Set for Read access to all objects
CDMS Definition Objects Full Access	CDMS Permission Set for full access to Definition objects
CDMS Execution Objects Full Access	CDMS Permission Set for full access to Execution objects
Coder Tab Access	CDMS Permission Set for Coder Tab
Coder Tools Tab Access	CDMS Permission Set for Coder Tools Tab
Data Entry Tab Access	CDMS Permission Set for Data Entry Tab
EDC Tools Tab Access	CDMS Permission Set for EDC Tools Tab

**TIP:** Consider using the built in API roles (**Standard**) for API users. Custom roles are usually made as clones of a standard role, with additive permissions to other areas, usually custom objects / tabs.

**TIP:** Consider using a Security Policy in the vault with no password expiration, so that API accounts do not suddenly run into password expiration during their use/runs. Below is a security policy named 'No Password Expiration', with the specific '**No Expiration**' property set.

Security Policies > No Password Expiration

Details

Policy Name No Password Expiration

Description For system accounts

Security Settings

Authentication Type Password

Password Requirements

- Passwords require a number
- Passwords require an upper-case letter
- Passwords require a non-alphanumeric character

Minimum Password Length 7

Password Expiration No Expiration

Password History Reuse No password history tracking

- Require security question on password reset
- Allow browser to save and autofill password field on the login form

## 2 Authentication / API Login

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#authentication">https://developer-cdms.veevavault.com/api/23.3/#authentication</a>
Style	<b>POST</b>
Endpoint	<your Vault URL>/api/v23.3/app/cdm/studies
Parameters	<ul style="list-style-type: none"> <li>• username</li> <li>• password</li> </ul> <p>(these parameters are part of form-data post style)</p>
Notes	<ul style="list-style-type: none"> <li>• For login to the vault, get an API session.</li> <li>• For Basic authorization (e.g. username / password passed)</li> <li>• Other style login, using non-Basic authentication, see: <a href="https://developer.veevavault.com/api/23.3/#oauth-2-0-openid-connect">https://developer.veevavault.com/api/23.3/#oauth-2-0-openid-connect</a></li> <li>• Some older vault versions allowed a GET style with username / password. This has been disallowed in later versions (must use a <b>POST</b>). Even with older versions, it's strongly recommended <b>NOT</b> to use a GET style.</li> <li>• An account to Veeva Vault is on a <b>domain</b>, which is one or more <b>vaults</b>. The above example, the user is on the <b>eke.com</b> domain with the Veeva Vault infrastructure and has access to two vaults on that domain.</li> <li>• Above, the vaults the user has access to are returned, with parameters for id, name, URL of those vault locations. A <b>vault</b> is one to one with a URL – each of the two vaults above will have their own studies. (multiple studies reside in one vault)</li> <li>• Note the <b>vaultid</b> return of the JSON at <b>top</b> level, this refers to the active vault on login. (vault ID = 31762).</li> <li>• Accounts to vault(s) follow: <ul style="list-style-type: none"> <li>○ Non-production <b>domain</b>: UAT, Training, Dev vaults. □ one account</li> <li>○ Production domain where production study vaults reside. □ 2<sup>nd</sup>, different account</li> </ul> </li> </ul>

## Examples

Description / Request	Response
<b>Successful Login</b>	
<p>.../api/v23.3/auth</p> <p>(with post parameters for username / password, in this case user name: eric.emerton@eke.com)</p>	<pre>{   "responseStatus": "SUCCESS",   "sessionId":   "32735BDA5964E3F43C4F73F6109EFB1E2DCA8A2C1AAEB6B56C44822ADF36EE5C037A5DB751ED8AE924BC4A38EDE92CCB652F136A4AD59C7BB8490F170E514A44",   "userId": 92677,   "vaultIds": [     {       "id": 1004329,       "name": "EDC-QA-FAST-EKE",       "url": "https://eke-vvqa1-10.vaultdev.com/api"     },     {       "id": 1004330,       "name": "EDC-QA-SLOW-EKE",       "url": "https://eke-vvqa1-9.vaultdev.com/api"     }   ],   "vaultId": 1004330 }</pre>
<b>Bad User and/or password</b>	
<p>.../api/v23.3/auth</p>	<pre>{   "responseStatus": "FAILURE",   "responseMessage": "Authentication failed for user [eric.emerton@eke.com]",   "errors": [     {       "type": "USERNAME_OR_PASSWORD_INCORRECT",       "message": "Authentication failed for user: eric.emerton@eke.com."     }   ],   "errorType": "AUTHENTICATION_FAILED" }</pre>
<b>Session timed out</b>	
	<pre>{   "responseStatus": "FAILURE",   "errors": [     {       "type": "INVALID_SESSION_ID",</pre>

Description / Request	Response
	<pre>                     "message": "Invalid or expired session ID."                 }             ]         }     } </pre>

- The key portion of a successful authentication return is the **sessionId** parameter:

```

    "responseStatus": "SUCCESS",
    "sessionId":
"32735BDA5964E3F43C4F73F6109EFB1E2DCA8A2C1AAEB6B56C44822ADF36EE5C037A5DB751ED8AE924
BC4A38EDE92CCB652F136A4AD59C7BB8490F170E514A44",
    "userId": 92677,

```

.. as it must be passed in the header of all subsequent requests of the API session.

### 3 Studies

#### 3.1 Retrieve Studies

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-studies">https://developer-cdms.veevavault.com/api/23.3/#retrieve-studies</a>									
Style	<b>GET</b>									
Endpoint	<your Vault URL>/api/v23.3/app/cdm/studies									
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
Name	Req/Opt	Notes								
limit	Optional	Pagination API - different limit from the default 1000 can be used								
offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd								
Notes	<ul style="list-style-type: none"> <li>Used to retrieve the list of studies in the vault.</li> <li>The casebook versions JSON array within each study entry enumerates all current casebook versions of the study. The casebook versions are assigned at add subject/casebook, per an active version at the subject's site. Later, during amendments, a subject / site / entire study can transition from one version to the next.</li> <li><b>ONLY</b> the studies the user has rights to are returned</li> <li><b>WARNING:</b> If a user requires training (their role) in the vault, the study will not exist in API returns. Ensure API roles are configured to not be blocked by LMS restrictions</li> <li><b>WARNING:</b> At the <b>24R1 release (April 2024)</b>, the naming for a CDMS study throughout the endpoints (request body and response details) will change to: <ul style="list-style-type: none"> <li><code>"study": "..."</code></li> <li>...vs. older API versions using: <ul style="list-style-type: none"> <li><code>"study_name": "..."</code></li> </ul> </li> </ul> </li> </ul> <p>URL parameters for Retrieve endpoints will <b>also</b> change to <b>study</b>. The matching for this value will be the study <b>*LABEL*</b> in the vault, no longer the vault object 'name' (name__v) field.</p> <ul style="list-style-type: none"> <li>For clarity on this change, the Retrieve Studies endpoint (at 23R3) includes all <b>4 values</b>: study_name, study_label, study_external_id (true fields ), + new <b>study</b> (it always the same as study_label)</li> <li>At 23R3 - the Study Phase and Study Status were changed to picklist <b>name</b> where it used to be picklist <b>label</b>. This is to bring the return inline with other Vault API patterns (picklist name is the standard)</li> </ul>									

## Examples

Description / Request (URL)	Response
<p data-bbox="138 331 300 359"><a href="#">Get All Studies</a></p> <p data-bbox="138 426 483 453">.../api/v23.3/app/cdm/studies</p> <p data-bbox="138 537 440 564">(no parameters on the URL)</p>	<pre data-bbox="625 384 1393 1858"> {   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 2,     "total": 2   },   "studies": [     {       "id": "OOZ000000002001",       "study": "Labrinone_DEV1",       "study_name": "Labrinone_DEV1",       "study_label": "Labrinone_DEV1",       "external_id": "Labrinone",       "study_phase": "phase_iii_v",       "study_status": "execution_v",       "locked": false,       "last_locked_date": null,       "connected_to_vault_ctms": false,       "organization": "ABC Pharma",       "environment_type": "development_v",       "build_number": 1,       "casebook_versions": [         {           "study_name": "Labrinone_DEV1",           "casebook_version": 1,           "version_name": "Initial Version",           "external_id": "1",           "previous_version_name": null,           "description": null,           "change_reason": null,           "casebook_status": "in_progress_v",           "created_by": "Eric Emerton",           "created_date": "2018-02-12T22:32:21Z",           "last_modified_date": "2020-03-04T14:16:20Z"         }       ]     },     {       "id": "OOZ000000002001",       "study": "ABCP-2022-01_DEV1",       "study_name": "ABCP-2022-01_DEV1",       "study_label": "ABCP-2022-01_DEV1",     }   ] } </pre>

Description / Request (URL)	Response
	<pre> "external_id": "ABCP-2022-01", "study_phase": "phase_i_v", "study_status": "execution_v", "locked": true, "last_locked_date": "2023-09-15T18:12:21Z", "connected_to_vault_ctms": false, "organization": "ABC Pharma", "environment_type": "development_v", "build_number": 1, "casebook_versions": [   {     "study_name": "ABCP-2022-01_DEV1",     "casebook_version": 2,     "version_name": "2",     "external_id": "2",     "previous_version_name": null,     "description": null,     "change_reason": "For amendment to study",     "casebook_status": "published_v",     "created_by": "Eric Emerton",     "created_date": "2023-02-21T22:32:21Z",     "last_modified_date": "2023-02-21T14:16:20Z"   },   {     "study_name": "ABCP-2022-01_DEV1",     "casebook_version": 1,     "version_name": "Initial Version",     "external_id": "1",     "previous_version_name": null,     "description": null,     "change_reason": null,     "casebook_status": "published_v",     "created_by": "Eric Emerton",     "created_date": "2023-01-13T22:32:21Z",     "last_modified_date": "2023-01-13T14:16:20Z"   } ] } </pre>



## 4 Countries

### 4.1 Retrieve Countries

Help Main	<b>WARNING: No CDMS formal endpoint for this yet, instead use of base Vault VQL is shown.</b>
Style	<b>GET</b>
Endpoint	<your Vault URL>/api/v23.3/query?q=SELECT id,abbreviation__v,abbreviation_2__v,name__v from country__v order by name__v
Parameters	<ul style="list-style-type: none"> <li>q (the query, as shown above)</li> </ul>
Notes	<ul style="list-style-type: none"> <li><b>Informational only</b>, do not necessarily actively use. The CDMS concept of ‘Study Country’ is a reference / copy of a base Vault country. This VQL gets that master country list. Study Country is more relevant, being countries ‘in use’ for a study. This query would only be needed if there is a need to detect what other countries are available to the vault, but not activated into a specific study.</li> <li>The 3-character and 2-character ISO codes are returned</li> </ul>

### Examples

Description / Request (URL)	Response
<a href="#">Get All Countries (Vault Level)</a>  <pre>.../api/v23.3/query?q=SELECT id,abbreviation__v,abbreviation_2__v,na me__v from country__v order by name__v</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "pagesize": 1000,     "pageoffset": 0,     "size": 131,     "total": 131   },   "data": [     {       "id": "OOV000000000401",       "abbreviation__v": "AFG",       "abbreviation_2__v": "AF",       "name__v": "Afghanistan"     },     {       "id": "OOV000000000402",       "abbreviation__v": "ALB",       "abbreviation_2__v": "AL",       "name__v": "Albania"     }   ] }</pre>

Description / Request (URL)	Response
	<pre>{   "id": "OOV000000000403",   "abbreviation_v": "DZA",   "abbreviation_2_v": "DZ",   "name__v": "Algeria" }, {   "id": "OOV000000000404",   "abbreviation_v": "ARG",   "abbreviation_2_v": "AR",   "name__v": "Argentina" } : : (etc) : ] }</pre>

## 4.2 Retrieve Study Countries

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-study-countries">https://developer-cdms.veevavault.com/api/23.3/#retrieve-study-countries</a>												
Style	<b>GET</b>												
Endpoint	<your Vault URL>/api/v23.3/app/cdm/studycountries												
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study_name	Required	Name of the study	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
Name	Req/Opt	Notes											
study_name	Required	Name of the study											
limit	Optional	Pagination API - different limit from the default 1000 can be used											
offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd											
Notes	<ul style="list-style-type: none"> <li>Used to get the countries of a study. These are activated from the vault's main countries list (previous section) and are then available for selection on a new site.</li> <li>The 3-character country code is returned. The 2 character ISO code will be available in a later release of the API. The workaround is to get 2 character country code from the main Vault countries list - see previous section.</li> <li>It is not necessary to run this in most sessions as the get of sites / subjects will include study countries</li> </ul>												

## Examples

Description / Request (URL)	Response
<a href="#">Get All Study Countries</a>	
<pre>.../api/v23.3/app/cdm/studycountries?study_name=ABCP-2022-01_DEV1</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 3,     "total": 3   },   "study_countries": [     {       "study_country": "United States",       "country": "United States",       "country_abbreviation": "USA",       "created_by": "Eric Emerton",       "created_date": "2022-05-23T17:17:24Z",       "last_modified_date": "2022-05-23T17:17:24Z"     }   ], }</pre>

Description / Request (URL)	Response
	<pre>{   "study_country": "Austria",   "country": "Austria",   "country_abbreviation": "AUT",   "created_by": "Eric Emerton",   "created_date": "2022-05-23T17:22:45Z",   "last_modified_date": "2022-05-23T17:22:45Z" }, {   "study_country": "Canada",   "country": "Canada",   "country_abbreviation": "CAN",   "created_by": "Eric Emerton",   "created_date": "2022-05-23T17:22:53Z",   "last_modified_date": "2022-05-23T17:22:53Z" } ]</pre>

## 5 Sites

### 5.1 Retrieve Sites

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-sites">https://developer-cdms.veevavault.com/api/23.3/#retrieve-sites</a>															
Style	<b>GET</b>															
Endpoint	<your Vault URL>/api/v23.3/app/cdm/sites															
Parameters (URL)	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>Optional</td> <td>Name of the study country, i.e. just the sites of that country</td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study_name	Required	Name of the study	study_country	Optional	Name of the study country, i.e. just the sites of that country	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
Name	Req/Opt	Notes														
study_name	Required	Name of the study														
study_country	Optional	Name of the study country, i.e. just the sites of that country														
limit	Optional	Pagination API - different limit from the default 1000 can be used														
offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd														
Notes	<ul style="list-style-type: none"> <li>Used to get the sites of a study.</li> <li>Optionally, get the sites only of one country</li> <li>Casebook version (i.e. what new subjects added to the site will receive) is returned with other attributes</li> </ul>															

### Examples

Description / Request (URL)	Response
<a href="#">Get All Sites of a Study</a>	
<pre>.../api/v23.3/app/cdm/sites?study_name=ABC P-2022-01_DEV1</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 3,     "total": 3   },   "sites": [     {       "site": "101",       "site_name": "Cary Hospital",       "site_status": "active_v",       "site_closeout_status": "",       "study_country": "United States",       "principal_investigator": "Linda Johnson",     }   ] }</pre>

Description / Request (URL)	Response
	<pre> "casebook_version": 1, "timezone": "(GMT-05:00) Eastern Standard Time (America/New_York)" }, { "site": "102", "site_name": "Raleigh Hospital", "site_status": "active_v", "site_closeout_status": "", "study_country": "United States", "principal_investigator": "Mary Peters", "casebook_version": 1, "timezone": "(GMT-05:00) Eastern Standard Time (America/New_York)" }, { "site": "201", "site_name": "Montreal General", "site_status": "active_v", "site_closeout_status": "", "study_country": "Canada", "principal_investigator": "Jim Jones", "casebook_version": 1, "timezone": "(GMT-05:00) Eastern Standard Time (America/New_York)" } ] } </pre>
<p><a href="#">Get All Sites of a Country</a></p>	
<pre> .../api/v23.3/app/cdm/sites?study_name=ABC P-2022-01_DEV1&amp;study_country=Canada </pre>	<pre> { "responseStatus": "SUCCESS", "responseDetails": { "limit": 1000, "offset": 0, "size": 1, "total": 1 }, "sites": [ { "site": "201", "site_name": "Montreal General", "site_status": "active_v", "site_closeout_status": "", "study_country": "Canada", "principal_investigator": "Jim Jones", "casebook_version": 1, "timezone": "(GMT-05:00) Eastern Standard Time </pre>

Description / Request (URL)	Response
	<pre>(America/New_York)"   } ] } }</pre>

## 6 Subjects / Casebooks

### 6.1 Retrieve Subjects

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-subjects">https://developer-cdms.veevavault.com/api/23.3/#retrieve-subjects</a>																											
Style	<b>GET</b>																											
Endpoint	<your Vault URL>/api/v23.3/app/cdm/subjects																											
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>Optional</td> <td>Name of the study country, i.e. just the sites of that country</td> </tr> <tr> <td>site</td> <td>Optional</td> <td>Name/number of the site, i.e. just subjects of that site</td> </tr> <tr> <td>subject</td> <td>Optional</td> <td>Name/Number of the specific subject to filter to.</td> </tr> <tr> <td>last_modified_date</td> <td>Optional</td> <td>Filter to subject's modified since a certain date. Format: <b>yyyy-MM-ddTHH:mm:ssZ</b></td> </tr> <tr> <td>id</td> <td>Optional</td> <td>The specific vault ID of the subject, or IDs of several (comma separated) <b>NOTE:</b> One can use the ID filter, but with no other filters (site, study_country, last_modified_date).</td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study_name	Required	Name of the study	study_country	Optional	Name of the study country, i.e. just the sites of that country	site	Optional	Name/number of the site, i.e. just subjects of that site	subject	Optional	Name/Number of the specific subject to filter to.	last_modified_date	Optional	Filter to subject's modified since a certain date. Format: <b>yyyy-MM-ddTHH:mm:ssZ</b>	id	Optional	The specific vault ID of the subject, or IDs of several (comma separated) <b>NOTE:</b> One can use the ID filter, but with no other filters (site, study_country, last_modified_date).	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
Name	Req/Opt	Notes																										
study_name	Required	Name of the study																										
study_country	Optional	Name of the study country, i.e. just the sites of that country																										
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offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd																										
Notes	<ul style="list-style-type: none"> <li>• Used to get the subjects of a study</li> <li>• The response returned includes additional dates for milestones for the subject. These <b>only</b> appear when there is a date value, omitted from response if not set. Milestone dates are set by either study design configuration, <b>or</b> specific set of values by the API (<a href="#">Set Subject Status</a>, later section). The Help Main link above details the names of those potential return values.</li> <li>• See the table below for filtering styles.</li> </ul>																											



## Subject Filtering Styles / Examples

Style	Example	Result / Notes
Study Context	<code>.../subjects?study_name={..}</code>	All subjects
Study Context	<code>.../subjects?study_name={..}&amp;study_country=Canada&amp;site=101</code>	Site 101 subjects
Study Context	<code>.../subjects?study_name={..}&amp;site=101</code>	Site 101 subjects (with/without country, same)
Study Context	<code>../cdm/subjects?study_name={..}&amp;site=101,102</code>	Site 101 and Site 102 subjects
Study Context	<code>../cdm/subjects?study_name={..}&amp;site=101,102,501</code>	Assuming 501 does not exist, Site 101 / 102, same
Study Context	<code>../cdm/subjects?study_name={..}&amp;site=501,502</code>	<b>ERROR</b> - If neither exists, error return (not empty array), that is, no valid sites
Study Context	<code>.../subjects?study_name={..}&amp;study_country=Canada&amp;site=101,102</code>	<b>ERROR</b> - Multi site search is not allowed when including a study country, even if both reside at that country
Study Context	<code>../cdm/subjects?study_name={..}&amp;last_modified_date=2022-07-01T12:00:00Z</code>	Subjects modified since July 1st, 12:00 UTC
By ID	<code>../cdm/subjects?study_name={..}&amp;id=OPP0000001V002</code>	Just the subject with that matching ID, assuming valid Vault ID
By ID	<code>../cdm/subjects?study_name={..}&amp;id=OPP0000001V002,OPP0000001V003</code>	The two subjects, assuming both are valid Vault IDs
By ID	<code>../cdm/subjects?study_name={..}&amp;id=OPP0000001V077,OPP0000001V088</code>	Assuming neither exists, the return is empty JSON array (not an error), e.g.  : subjects [ ] : :

## Examples

Description / Request (URL)	Response
<p><a href="#">Get All Subjects of a Study (includes IXRS ID)</a></p> <pre>.../api/v23.3/app/cdm/subjects?study_name=ABCP-2022-01_DEV1</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 12,     "total": 12   },   "subjects": [     {       "id": "OPP00000001P001",       "study_name": "ABCP-2022-01_DEV1",       "study_country": "United States",       "site": "101",       "site_name": "Cary General",       "subject": "SCR-0009",       "status": "pre_screen_v",       "created_date": "2022-06-20T20:28:37Z",       "created_by": "Eric Emerton",       "last_modified_date": "2022-06-20T20:28:39Z",       "casebook_version": 1,       "ixrs_id": "ABC123-083434",       "cdms_url": "/ui/#app/page/object-redirect?object_type=subject_v&amp;.... (etc)"     },     {       "id": "OPP00000001O001",       "study_name": "ABCP-2022-01_DEV1",       "study_country": "United States",       "site": "101",       "site_name": "Cary General",       "subject": "SCR-0008",       "status": "pre_screen_v",       "created_date": "2022-06-20T20:14:34Z",       "created_by": "Eric Emerton",       "last_modified_date": "2022-06-20T20:14:36Z",       "casebook_version": 1,       "ixrs_id": "ABC123-0834445",       "cdms_url": "/ui/#app/page/object-redirect?object_type=subject_v&amp;.... (etc)"     }   ],   :   etc..   :</pre>

Description / Request (URL)	Response
	<pre> ] } </pre>
<p><a href="#">Get All Subjects of a Country (context filter)</a></p>	
<pre> .../api/v23.3/app/cdm/subjects?study_name=ABCP-2022-01_DEV1&amp;study_country=Canada </pre>	<p>(as above.. but to filter of Canada sites only)</p>
<p><a href="#">Get Subjects of a Site (context filter), where milestone dates are set/present (all shown)</a></p>	
<pre> .../api/v23.3/app/cdm/subjects?study_name=ABCP-2022-01_DEV1&amp;study_country=United States&amp;site=101 </pre>	<pre> : : }, "subjects": [   {     "id": "OPP0000001H001",     "study_name": "ABCP-2022-01_DEV1",     "site": "101",     "study_country": "United States",     "site_name": "Cary General",     "subject": "101-001",     "status": "complete_v",     "created_date": "2022-06-22T20:53:42Z",     "created_by": "Eric Emerton",     "initial_consent_date": "2022-06-01",     "screened_date": "2022-06-01",     "screen_failed_date": "2022-06-02",     "enrolled_date": "2022-06-04",     "randomized_date": "2022-06-04",     "start_treatment_date": "2022-06-21",     "end_treatment_date": "2022-06-28",     "withdrawn_date": "2022-07-01",     "started_follow_up_date": "2022-07-02",     "lost_to_follow_up_date": "2022-08-01",     "end_study_date": "2022-08-15",     "last_modified_date": "2022-09-23T17:18:15Z",     "casebook_version": 1,     "cdms_url": "/ui/#app/page/object-redirect?object_type=subject_v&amp;.... (etc) "   }, : : </pre>

Description / Request (URL)	Response
<b>Get Subjects of a Site (context filter, with country included)</b>	
<pre>.../api/v23.3/app/cdm/subjects?study_name=ABCP-2022-01_DEV1&amp;study_country=United States&amp;site=101</pre>	(as above.. but to filter of site 101 only)
<b>Get Subjects of a Site (context filter, no country included, works either way)</b>	
<pre>.../api/v23.3/app/cdm/subjects?study_name=ABCP-2022-01_DEV1&amp;site=101</pre>	(as above.. but to filter of site 101 only)
<b>Get Subjects of Several Sites (context filter, no country needed)</b>	
<pre>.../api/v23.3/app/cdm/subjects?study_name=ABCP-2022-01_DEV1site=101,102</pre>	(as above.. but to filter of site 101 and site 102 only)
<b>Get Subjects of Several Sites (context filter, no country needed)</b>	
<pre>.../api/v23.3/app/cdm/subjects?study_name=ABCP-2022-01_DEV1site=101,102</pre>	(as above.. but to filter of site 101 and site 102 only)
<b>Get Specific Subject (ID style filter)</b>	
<pre>.../api/v23.3/app/cdm/subjects?study_name=ABCPharma_DEV1&amp;id=OPP00000000501</pre>	(as above.. but the one subject returned only)
<b>Get Two Specific Subjects (ID style filter)</b>	
<pre>.../api/v23.3/app/cdm/subjects?study_name=ABCPharm</pre>	(as above.. but the two subjects returned only)

Description / Request (URL)	Response
a_DEV1&id=OPP000000000501,OPP000000000502	
<b>Get Subjects of Several Sites, WITH country included (ERROR returned, multi site search is only with just site parameter)</b>	
<pre>.../app/cdm/subjects?study_name=ABCP-2022-01_DEV1&amp;study_country=United States&amp;site=101,102</pre>	<pre>{   "responseStatus": "FAILURE",   "errorMessage": "Search of multiple sites is not allowed when a country is provided" }</pre>

## 6.2 Create Subjects (Casebooks)

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#create-subjects">https://developer-cdms.veevavault.com/api/23.3/#create-subjects</a>																										
Style	<b>POST</b>																										
Endpoint	<your Vault URL>/api/v23.3/app/cdm/casebooks																										
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array/Section</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>subjects</td> <td>Required</td> <td>Name of the study country (for the new subject/casebook)</td> </tr> <tr> <td>site</td> <td>subjects</td> <td>Required</td> <td>Name/number of the site (for the new subject/casebook)</td> </tr> <tr> <td>subject</td> <td>subjects</td> <td>Optional</td> <td>The specific subject number to set. When setting, this must be unique study wide. Auto generated numbers - depending on study configuration - can repeat what are pre screening numbers at different sites, but the formal subject number / value must be unique study wide.</td> </tr> <tr> <td>ixrs_id</td> <td>subjects</td> <td>Optional</td> <td>String value, the IRT/IXRS value that identifies the subject in that other system (i.e. an integration involved)</td> </tr> </tbody> </table>			Name	Array/Section	Req/Opt	Notes	study_name		Required	Name of the study	study_country	subjects	Required	Name of the study country (for the new subject/casebook)	site	subjects	Required	Name/number of the site (for the new subject/casebook)	subject	subjects	Optional	The specific subject number to set. When setting, this must be unique study wide. Auto generated numbers - depending on study configuration - can repeat what are pre screening numbers at different sites, but the formal subject number / value must be unique study wide.	ixrs_id	subjects	Optional	String value, the IRT/IXRS value that identifies the subject in that other system (i.e. an integration involved)
Name	Array/Section	Req/Opt	Notes																								
study_name		Required	Name of the study																								
study_country	subjects	Required	Name of the study country (for the new subject/casebook)																								
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ixrs_id	subjects	Optional	String value, the IRT/IXRS value that identifies the subject in that other system (i.e. an integration involved)																								
Notes	<ul style="list-style-type: none"> <li>• Used to add a subject/casebook into the study</li> <li>• For the purposes of add, subject = casebook (synonyms in this context)</li> <li>• The <b>subject</b> parameter is optional. When omitted, the next auto screening number is assigned. Those follow the pattern SCR-0001, SCR-0002, SCR-0003.. within each site, although that is configurable in the target study.</li> <li>• Multiple subjects/casebooks can be added with one API call. (entry in JSON array per attempt)</li> <li>• The limit for actions in one request is <b>100</b>.</li> <li>• <b>WARNING:</b> Only a study design with subject ID generation of <b>Manual</b> or <b>External</b> allows the creation of a subject/casebook. Other generation modes involve auto numbering at different times during the subject data progression, and as such, would conflict with the one being set by the API.</li> </ul>																										

## Examples

Description / Request (URL)	Response
Add Subject - setting a specific subject number	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "study_country": "United States",       "site": "101",       "subject": "101002"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "subjects": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101002",       "id": "OPP00000001X001",       "ixrs_id": "",       "cdms_url": "/ui/#app/page/object-redirect?.(etc)"     }   ] }</pre>
Adding Many Subjects, with IXRS IDs	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "study_country": "United States",       "site": "101",       "subject": "101002",       "ixrs_id": "ABC-12323-4567",     },     {       "study_country": "United States",       "site": "101",       "subject": "101003",       "ixrs_id": "ABC-12323-4569"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "subjects": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101002",       "id": "OPP00000001X001",       "ixrs_id": "ABC-12323-4567",       "cdms_url": "/ui/#app/page/object-redirect?.(etc)"     },     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101003",       "id": "OPP00000001X002",       "ixrs_id": "ABC-12323-4569",       "cdms_url": "/ui/#app/page/object-redirect?.(etc)"     }   ] }</pre>
Add Subject using 'Next' Style Pre Screen Numbering	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "subjects": [</pre>	<pre>{   "responseStatus": "SUCCESS",   "subjects": [</pre>

Description / Request (URL)	Response
<pre> {   "study_country": "United States",   "site": "101" } ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "study_country": "United States",   "site": "101",   "subject": "SCR-0008",   "id": "OPP00000001X001",   "ixrs_id": "",   "cdms_url": "/ui/#app/page/object-redirect?.(etc)" } ] } </pre>
<p><b>Add Many Subjects - Some work, some fail</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "study_country": "United States",       "site": "101"     },     {       "study_country": "Germany",       "site": "201"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "subjects": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0012",       "id": "OPP00000001X001",       "ixrs_id": "",       "cdms_url": "/ui/#app/page/object-redirect?.(etc)"     },     {       "responseStatus": "FAILURE",       "errorMessage": "[Study Country] with name [Germany] cannot be found",       "study_country": "Germany",       "site": "201"     }   ] } </pre>

**IMPORTANT:** The end result of the add subject/casebook is the same as the UI Create Casebook button/action. The subject is left with only the first event leading, with no date yet. Further actions are performed with additional endpoint calls. (e.g., set event date, then setting of form data, set of subject status)



>> [Home](#) > [ABCP-2022-01\\_DEV1](#) > [101](#) > [SCR-0009](#) >

Subject ⓘ  
SCR-0009

Sort By: Schedule ▾

---

START OF STUDY

● Screening ...

### 6.3 Set Subject Status

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#set-subject-status">https://developer-cdms.veevavault.com/api/23.3/#set-subject-status</a>																														
Style	<b>POST</b>																														
Endpoint	<your Vault URL>/api/v23.3/app/cdm/subjects/actions/setstatus																														
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array/Section</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>subjects</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>subjects</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>subjects</td> <td>Required</td> <td>Subject to set status</td> </tr> <tr> <td>subject_status</td> <td>subjects</td> <td>Required</td> <td>The status to set, using the API name</td> </tr> <tr> <td>date</td> <td>subjects</td> <td>Required</td> <td>Date to set for milestone value of that status. Format: yy-MM-dd</td> </tr> </tbody> </table>			Name	Array/Section	Req/Opt	Notes	study_name		Required	Name of the study	study_country	subjects	Required	Name of the study country (of the subject's site)	site	subjects	Required	Name/number of the site	subject	subjects	Required	Subject to set status	subject_status	subjects	Required	The status to set, using the API name	date	subjects	Required	Date to set for milestone value of that status. Format: yy-MM-dd
Name	Array/Section	Req/Opt	Notes																												
study_name		Required	Name of the study																												
study_country	subjects	Required	Name of the study country (of the subject's site)																												
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subject_status	subjects	Required	The status to set, using the API name																												
date	subjects	Required	Date to set for milestone value of that status. Format: yy-MM-dd																												
Notes	<ul style="list-style-type: none"> <li>• Used to set the status of a subject</li> <li>• Often done as a 2<sup>nd</sup> step, right after adding of a new subject (e.g., advance past Pre-Screening default status to Screening, Enrolled, or other)</li> <li>• That <b>subject_status</b> value must be the <b>API name</b>, not the label (e.g. <b>enrolled__v</b>, including the Veeva suffix). See the table below for out of the box statuses, although there can be additional statuses in the vault (custom)</li> <li>• The set of a milestone date, i.e., the date the subject took on that status is required. 'Now' is not specifically used, as this might/could be a date in the past being set. This is the equivalent of a studio design rule, which when some condition is true from submit of form data, a date is set + status changed for the subject.</li> <li>• Refer to the table below / next page for order of precedence of subject statuses, when setting or unset.</li> <li>• A future release of the API will decouple these concepts, so the move of status and/or the set of milestone dates can be done separately, i.e. not using milestone dates, or correcting status dates without having to unset / redo status calls.</li> <li>• <b>WARNING:</b> Currently, the set of multiple subjects, or multiple statuses for one subject (in one API call) is not allowed. The format of request is still with the format of a subjects array, for future state of this endpoint.</li> </ul>																														

## Status Order / Precedence

Subject statuses follow an order of precedence, with general rule of thumb that to rollback a status, one must call the **Unset Subject Status** (next section) in reverse order of the precedence:

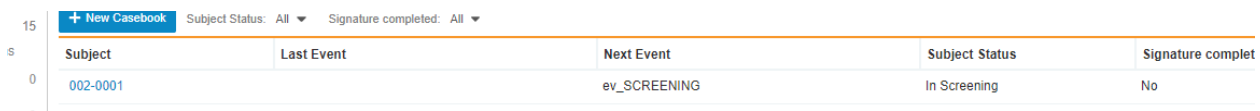
Order	Subject Status	API Value to Set	Field Return in Retrieve Subjects
1	Pre Screen	pre_screen__v	<i>N/A, not a milestone date</i>
2	Consented	consented__v	initial_consent_date
3	In Screening	in_screening__v	screened_date
4	Screen Failure	screen_failure__v	screen_failed_date
5	Enrolled	enrolled__v	enrolled_date
6	Randomized	randomized__v	randomized_date
7	Started Treatment	started_treatment__v	started_treatment_date
8	End Of Treatment	end_of_treatment__v	end_of_treatment_date
9	Withdrawn	withdrawn__v	withdrawn_date
10	Started Follow Up	started_follow_up__v	started_follow_up_date
11	Lost to Follow Up	lost_to_follow_up__v	lost_to_follow_up_date
12	Complete	complete__v	end_of_study_date

## Examples

Description / Request (URL)	Response
<b>Set Enrolled Status to Subject</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "study_country": "United States",       "site": "101",       "subject": "101001",       "subject_status": "enrolled_v",       "date": "2022-01-15"     }   ] }</pre>	<pre>{   "responseStatus": "ABCP-2022-01_DEV1",   "subjects": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101001",       "subject_status": "enrolled_v"     }   ] }</pre>
<b>Attempt that fails</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "study_country": "United States",       "site": "101",       "subject": "101002",       "subject_status": "enrolled_v",       "date": "2022-01-16"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "subjects": [     {       "responseStatus": "FAILURE",       "errorMessage": "[Study Country] with name [United States] not found",       "site": "101",       "study_country": "United States",       "subject": "101002",       "subject_status": "enrolled_v"     }   ] }</pre>
<b>Failing Attempt (Batch)</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "study_country": "United States",       "site": "101",       "subject": "101002",       "subject_status": "in_screening_v",       "date": "2022-01-15"     },     {       "study_country": "United States",</pre>	<pre>{   "responseStatus": "FAILURE",   "errors": [     {       "type": "SDK_ERROR",       "subtype": "INVALID_DATA",       "message": "Status can only be set for one subject at a time"     }   ] }</pre>

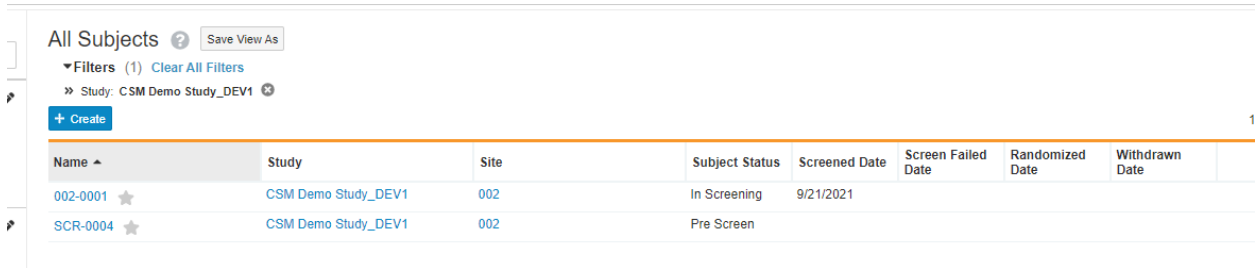
Description / Request (URL)	Response
<pre> "site": "101", "subject": "101003", "subject_status": "enrolled_v", "date": "2022-01-16" } ] } </pre>	

Once set, example of status in the EDC UI:



Subject	Last Event	Next Event	Subject Status	Signature complet
002-0001		ev_SCREENING	In Screening	No

Milestone dates set are not present in the main entry UI, but available in reports / exports:



All Subjects Save View As

Filters (1) Clear All Filters

Study: CSM Demo Study\_DEV1 +

+ Create 1

Name ^	Study	Site	Subject Status	Screened Date	Screen Failed Date	Randomized Date	Withdrawn Date
002-0001 ★	CSM Demo Study_DEV1	002	In Screening	9/21/2021			
SCR-0004 ★	CSM Demo Study_DEV1	002	Pre Screen				

## 6.4 Unset Subject Status

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#unset-subject-status">https://developer-cdms.veevavault.com/api/23.3/#unset-subject-status</a>																										
Style	<b>POST</b>																										
Endpoint	<your Vault URL>/api/v23.3/app/cdm/subjects/actions/unsetStatus																										
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array/Section</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>subjects</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>subjects</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>subjects</td> <td>Required</td> <td>Subject to unset status</td> </tr> <tr> <td>subject_status</td> <td>subjects</td> <td>Required</td> <td>The status to unset, using the API name</td> </tr> </tbody> </table>			Name	Array/Section	Req/Opt	Notes	study_name		Required	Name of the study	study_country	subjects	Required	Name of the study country (of the subject's site)	site	subjects	Required	Name/number of the site	subject	subjects	Required	Subject to unset status	subject_status	subjects	Required	The status to unset, using the API name
Name	Array/Section	Req/Opt	Notes																								
study_name		Required	Name of the study																								
study_country	subjects	Required	Name of the study country (of the subject's site)																								
site	subjects	Required	Name/number of the site																								
subject	subjects	Required	Subject to unset status																								
subject_status	subjects	Required	The status to unset, using the API name																								
Notes	<ul style="list-style-type: none"> <li>• Used to <b>unset</b> the status of a subject</li> <li>• See the table of statuses in the previous section for precedence / order. There can be also be additional statuses in the vault (custom)</li> <li>• The unset of the subject status will also rollback /remove the milestone date previously set. There is order of precedence so if a subject has moved In Screening -&gt; Enrolled -&gt; Randomized, and an unset of Enrolled takes place, <b>BOTH</b> the enrolled and randomized dates are <b>removed</b>. See the previous section for an order of precedence of subject statuses</li> <li>• <b>WARNING:</b> Currently, the unset of multiple subjects, or multiple for one subject (in one API call) is not allowed. The format of request is still with format of a subjects array, for future state</li> </ul>																										

## Examples

Description / Request (URL)	Response
<b>Unset Enrolled Status</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "study_country": "United States",       "site": "101",       "subject": "101001",       "subject_status": "enrolled_v"     }   ] }</pre>	<pre>{   "responseStatus": "ABCP-2022-01_DEV1",   "subjects": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101001",       "subject_status": "enrolled_v"     }   ] }</pre>

## Flow Based Example

For a UI based cause effect, starting with a subject at Enrolled:

Subject	Last Event	Next Event	Subject Status	Signal
002-0001		Screening	Enrolled	No
SCR-0004	Week 1 (14-Apr-2021)	Week 2	Pre Screen	No

.. and with milestone of Sept 24<sup>th</sup> for Enrolled:

All Subjects Save View As

Filters (1) [Clear All Filters](#)

Study: CSM Demo Study\_DEV1 ✕

[+ Create](#)

Name	Study	Site	Subject Status	Screened Date	Screen Failed Date	Enrolled Date	Randomized Date
002-0001 <span>★</span>	CSM Demo Study_DEV1	002	Enrolled	9/21/2021		9/24/2021	
SCR-0004 <span>⬇</span>	CSM Demo Study_DEV1	002	Pre Screen				

**Example / Return:** (success, removes the milestone date as part of status rollback):

EDC Services / Set Unset Subject Status

POST <https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/subjects/actions/unsetstatus>

Params Authorization Headers (12) **Body** Pre-request Script Tests Settings

● none ● form-data ● x-www-form-urlencoded ● **raw** ● binary ● GraphQL **JSON** ▾

```

1 {
2   "study_name": "CSM Demo Study_DEV1",
3   "subjects": [
4     {
5       "site": "002",
6       "study_country": "United States",
7       "subject": "002-0001",
8       "subject_status": "enrolled_v"
9     }
10  ]
11 }

```

Body Cookies Headers (16) Test Results Status: 200 OK

Pretty Raw Preview Visualize **JSON** ▾

```

1 {
2   "responseStatus": "SUCCESS",
3   "subjects": [
4     {
5       "responseStatus": "SUCCESS",
6       "site": "002",
7       "study_country": "United States",
8       "subject": "002-0001",
9       "subject_status": "enrolled_v"
10    }
11  ]

```

**Result In EDC UI:** (status listing, enrolled date is removed, then main subject list, back to In Screening status)

All Subjects [Save View As](#)

▼ Filters (1) [Clear All Filters](#)

» Study: CSM Demo Study\_DEV1

[+ Create](#)

Name	Study	Site	Subject Status	Screened Date	Screen Failed Date	Enrolled Date	Randomized Date	With Date
002-0001	CSM Demo Study_DEV1	002	In Screening	9/21/2021				
SCR-0004	CSM Demo Study_DEV1	002	Pre Screen					

---

[+ New Casebook](#) Subject Status: All ▼ Signature completed: All ▼

Subject	Last Event	Next Event	Subject Status
002-0001		Screening	In Screening
SCR-0004	Week 1 (14-Apr-2021)	Week 2	Pre Screen



## 6.5 Update Subject - By Study Context

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#update-subject">https://developer-cdms.veevavault.com/api/23.3/#update-subject</a>																												
Style	<b>POST</b>																												
Endpoint	<your Vault URL>/api/v23.3/app/cdm/subjects/actions/updatesubject																												
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array/Section</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>subjects</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>subjects</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>subjects</td> <td>Required</td> <td>Subject to make changes</td> </tr> <tr> <td>new_subject</td> <td>subjects</td> <td>Optional</td> <td>The new value for subject</td> </tr> <tr> <td>ixrs_id</td> <td>subjects</td> <td>Optional</td> <td>The new value for ixrs_id</td> </tr> </tbody> </table>	Name	Array/Section	Req/Opt	Notes	study_name		Required	Name of the study	study_country	subjects	Required	Name of the study country (of the subject's site)	site	subjects	Required	Name/number of the site	subject	subjects	Required	Subject to make changes	new_subject	subjects	Optional	The new value for subject	ixrs_id	subjects	Optional	The new value for ixrs_id
Name	Array/Section	Req/Opt	Notes																										
study_name		Required	Name of the study																										
study_country	subjects	Required	Name of the study country (of the subject's site)																										
site	subjects	Required	Name/number of the site																										
subject	subjects	Required	Subject to make changes																										
new_subject	subjects	Optional	The new value for subject																										
ixrs_id	subjects	Optional	The new value for ixrs_id																										
Notes	<ul style="list-style-type: none"> <li>• Used to update the subject number and/or IXRS id value</li> <li>• This endpoint used with the full Study Country / Site / Subject identification of the subject</li> </ul>																												

## Examples

Description / Request (URL)	Response
<b>Update subject, but not IXRS id</b>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "study_country": "United States",       "site": "101",       "subject": "101-002",       "subject_new": "101-005"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "subjects": [     {       "responseStatus": "SUCCESS",       "id": "OPP000000000501",       "study_country": "United States",       "site": "101",       "subject": "101-002",       "subject_new": "101-005",       "ixrs_id": "234-23_ABC",       "cdms_url": "/ui/#app/page/object-redirect?object_type=subject__v&amp;object_id=114107_OPP000000000501&amp;tab_name=data_entry__v"     }   ] } </pre>
<b>Update IXRS id only</b>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "study_country": "United States",       "site": "101",       "subject": "101-002",       "ixrs_id": "234-23_ABC_v2"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "subjects": [     {       "responseStatus": "SUCCESS",       "id": "OPP000000000501",       "study_country": "United States",       "site": "101",       "subject": "101-002",       "subject_new": null,       "ixrs_id": "234-23_ABC_v2",       "cdms_url": "/ui/#app/page/object-redirect?object_type=subject__v&amp;object_id=114107_OPP000000000501&amp;tab_name=data_entry__v"     }   ] } </pre>

## 6.6 Update Subject - By ID

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#update-subject-by-id">https://developer-cdms.veevavault.com/api/23.3/#update-subject-by-id</a>																				
Style	<b>POST</b>																				
Endpoint	<your Vault URL>/api/v23.3/app/cdm/subjects/actions/updatesubjectbyid																				
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array/Section</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>id</td> <td>subjects</td> <td>Required</td> <td>Internal ID of the subject</td> </tr> <tr> <td>new_subject</td> <td>subjects</td> <td>Optional</td> <td>The new value for subject</td> </tr> <tr> <td>ixrs_id</td> <td>subjects</td> <td>Optional</td> <td>The new value for ixrs_id</td> </tr> </tbody> </table>	Name	Array/Section	Req/Opt	Notes	study_name		Required	Name of the study	id	subjects	Required	Internal ID of the subject	new_subject	subjects	Optional	The new value for subject	ixrs_id	subjects	Optional	The new value for ixrs_id
Name	Array/Section	Req/Opt	Notes																		
study_name		Required	Name of the study																		
id	subjects	Required	Internal ID of the subject																		
new_subject	subjects	Optional	The new value for subject																		
ixrs_id	subjects	Optional	The new value for ixrs_id																		
Notes	<ul style="list-style-type: none"> <li>• Used to update the subject number and/or IXRS id value</li> <li>• This endpoint is used with just the known internal ID of the subject. Retrieve Subjects and other APIs about Subjects return this value.</li> </ul>																				

## Examples

Description / Request (URL)	Response
Update subject, but not IXRS id	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "id": "OPP000000000501",       "subject_new": "101-005"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "subjects": [     {       "responseStatus": "SUCCESS",       "id": "OPP000000000501",       "subject_new": "101-005",       "ixrs_id": "234-23_ABC",       "cdms_url": "/ui/#app/page/object-redirect?object_type=subject__v&amp;object_id=114107_OPP000000000501&amp;tab_name=data_entry__v"     }   ] } </pre>
Update IXRS id only	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "id": "OPP000000000501",       "ixrs_id": "234-23_ABC_v2"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "subjects": [     {       "responseStatus": "SUCCESS",       "id": "OPP000000000501",       "subject_new": null,       "ixrs_id": "234-23_ABC_v2",       "cdms_url": "/ui/#app/page/object-redirect?object_type=subject__v&amp;object_id=114107_OPP000000000501&amp;tab_name=data_entry__v"     }   ] } </pre>

## 7 Event Groups

### 7.1 Create Event Groups

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#create-event-groups">https://developer-cdms.veevavault.com/api/23.3/#create-event-groups</a>																												
Style	<b>POST</b>																												
Endpoint	<your Vault URL>/api/v23.3/app/cdm/eventgroups																												
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array/Section</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>eventgroups</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>eventgroups</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>eventgroups</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>eventgroups</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group to add/upsert</td> </tr> <tr> <td>date</td> <td>eventgroups</td> <td>Optional*</td> <td>Only applicable to <b>Unscheduled</b> type event groups. Format: yyyy-MM-dd  The date will be marked as externally owned as part of the action.</td> </tr> </tbody> </table>	Name	Array/Section	Req/Opt	Notes	study_name		Required	Name of the study	study_country	eventgroups	Required	Name of the study country (of the subject's site)	site	eventgroups	Required	Name/number of the site	subject	eventgroups	Required	Subject to act on	eventgroup_name	eventgroups	Required	Design <b>name</b> in the study of the event group to add/upsert	date	eventgroups	Optional*	Only applicable to <b>Unscheduled</b> type event groups. Format: yyyy-MM-dd  The date will be marked as externally owned as part of the action.
Name	Array/Section	Req/Opt	Notes																										
study_name		Required	Name of the study																										
study_country	eventgroups	Required	Name of the study country (of the subject's site)																										
site	eventgroups	Required	Name/number of the site																										
subject	eventgroups	Required	Subject to act on																										
eventgroup_name	eventgroups	Required	Design <b>name</b> in the study of the event group to add/upsert																										
date	eventgroups	Optional*	Only applicable to <b>Unscheduled</b> type event groups. Format: yyyy-MM-dd  The date will be marked as externally owned as part of the action.																										
Notes	<ul style="list-style-type: none"> <li>Used to add an Event Group</li> <li>The limit for actions in one request is <b>100</b>.</li> <li>This action will add the <b>'next'</b> event group, in sequence if the event group repeats. Example: Unscheduled event group currently has 2 existing, the action would add one with event group <b>sequence = 3</b>.</li> <li>Use the upsert (PUT), next section, for conditional add at a specific sequence. Example: 3 unscheduled event groups exist, and attempt to add sequence = 3 is essentially a skip. (i.e. 'add if not there, otherwise do nothing).</li> <li>For the <b>Unscheduled</b> type event group, the API call <b>must</b> include an event date (format: <b>yyyy-MM-dd</b>). For other event group types, the date is not set in this API call, instead the Set Event Date (see the <a href="#">Set Event Date</a> section)</li> <li>At <b>23R1</b>, the addition of an <b>Unscheduled</b> type event group sets the date with externally owned property. On retrieval of the events, and return from successful use, <b>externally_owned_date = true</b>.</li> </ul>																												

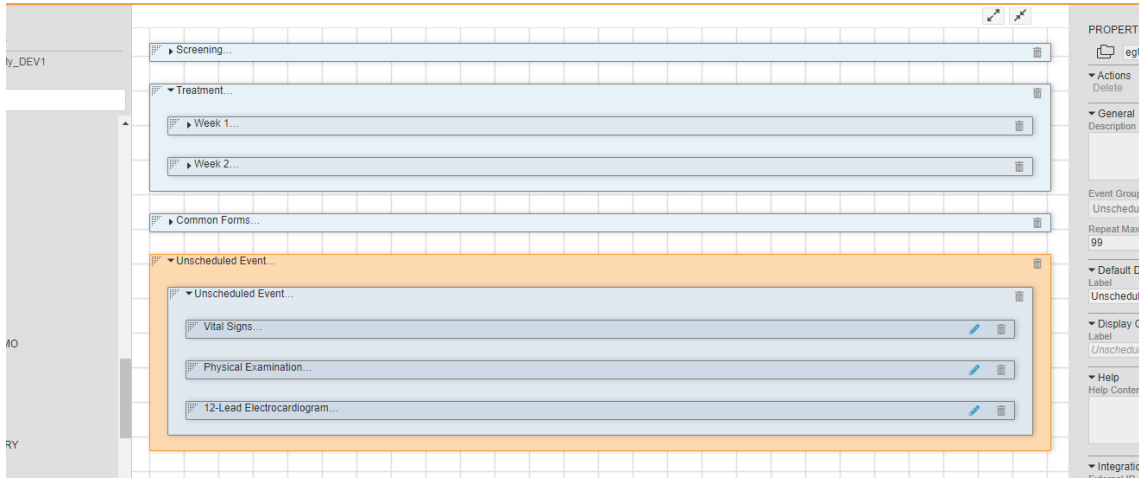
### Examples

Description / Request (URL)	Response
<a href="#">Add New Event Groups (multiple subjects in one call)</a>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",</pre>	<pre>{   "responseStatus": "SUCCESS",</pre>

Description / Request (URL)	Response
<pre> "eventgroups": [   {     "study_country": "United States",     "site": "101",     "subject": "101-001",     "eventgroup_name": "egSCREENING"   },   {     "study_country": "United States",     "site": "101",     "subject": "101-002",     "eventgroup_name": "egIRT_INFO"   } ] </pre>	<pre> "eventgroups": [   {     "responseStatus": "SUCCESS",     "study_country": "United States",     "site": "101",     "subject": "101-001",     "eventgroup_name": "egSCREENING",     "eventgroup_sequence": 1   },   {     "responseStatus": "SUCCESS",     "study_country": "United States",     "site": "101",     "subject": "101-001",     "eventgroup_name": "egIRT_INFO",     "eventgroup_sequence": 1   } ] </pre>

### Flow Based Example

For the study design: (event groups are eg\_SCREENING, eg\_TREATMENT, eg\_COMMONFORMS, eg\_UNNS, in design name):



The event group (highlighted above) is of Type = **Unscheduled** and has name **egUNNS**. The POST (add) example returns the newly added event group sequence since it repeats:

POST <https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/eventgroups>

Params Authorization Headers (12) **Body** Pre-request Script Tests Settings

● none ● form-data ● x-www-form-urlencoded ● **raw** ● binary ● GraphQL **JSON** ▾

```

1 {
2   ... "study_name": "CSM Demo Study_DEV1",
3   ... "eventgroups": [
4     {
5       ... "study_country": "United States",
6       ... "site": "002",
7       ... "subject": "002-0001",
8       ... "eventgroup_name": "egUNS",
9       ... "date": "2021-09-01"
10    }
11  ]
12 }

```

Body Cookies Headers (16) Test Results Stat

Pretty Raw Preview Visualize **JSON** ▾

```

1 {
2   "responseStatus": "SUCCESS",
3   "eventgroups": [
4     {
5       "responseStatus": "SUCCESS",
6       "site": "002",
7       "study_country": "United States",
8       "subject": "002-0001",
9       "eventgroup_name": "egUNS",
10      "eventgroup_sequence": 1
11    }
12  ]

```

**Result in EDC:**

CSM Demo Study\_DEV1 > 002 > 002

Subject 002-0001

Sort By: Schedule + New Event

START OF STUDY

Screening   
 Enter Date Did Not Occur

Unscheduled Event 01-Sep-2021   
 Vital Signs   
 Physical Examination   
 12-Lead Electrocardiogram

END OF STUDY

**WARNING:** The blind call of this endpoint will continue to add more event groups if it repeats, e.g.:

EDC Services / Add Event Group

POST `https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/eventgroups`

Params Authorization Headers (12) **Body** Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```

1 {
2   "study_name": "CSM Demo Study_DEV1",
3   "eventgroups": [
4     {
5       "study_country": "United States",
6       "site": "002",
7       "subject": "002-0001",
8       "eventgroup_name": "egUNS",
9       "date": "2021-09-01"
10    }
11  ]
12 }

```

Body Cookies Headers (16) Test Results Status: 200 OK

Pretty Raw Preview Visualize JSON

```

1 {
2   "responseStatus": "SUCCESS",
3   "eventgroups": [
4     {
5       "responseStatus": "SUCCESS",
6       "site": "002",
7       "study_country": "United States",
8       "subject": "002-0001",
9       "eventgroup_name": "egUNS",
10      "eventgroup_sequence": 2
11    }
12  ]
13 }

```

... a 2<sup>nd</sup> event group is added, same Sept 1<sup>st</sup> date, with Event Group Sequence 2 (Not pictured in the UI):

15

Screening

Enter Date Did Not Occur

Unscheduled Event 01-Sep-2021

- Vital Signs
- Physical Examination
- 12-Lead Electrocardiogram

Unscheduled Event 01-Sep-2021

- Vital Signs
- Physical Examination
- 12-Lead Electrocardiogram

END OF STUDY

**TIP:** Good practice is to inspect the existing forms / events before attempting the action. Or use the Upsert (**PUT**) for a very specific sequence of the event group, see the next section.



## 7.2 Upsert Event Groups

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#upsert-event-groups">https://developer-cdms.veevavault.com/api/23.3/#upsert-event-groups</a>																																		
Style	<b>PUT</b>																																		
Endpoint	<your Vault URL>/api/v23.3/app/cdm/eventgroups																																		
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>eventgroups</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>eventgroups</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>eventgroups</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>eventgroups</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group to add/upsert</td> </tr> <tr> <td>eventgroup_sequence</td> <td>eventgroups</td> <td>Required</td> <td></td> </tr> <tr> <td>date</td> <td>eventgroups</td> <td>Optional*</td> <td>Only applicable to <b>Unscheduled</b> type event groups. Format: yyyy-MM-dd  The date will be marked as externally owned as part of the action.</td> </tr> </tbody> </table>			Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	eventgroups	Required	Name of the study country (of the subject's site)	site	eventgroups	Required	Name/number of the site	subject	eventgroups	Required	Subject to act on	eventgroup_name	eventgroups	Required	Design <b>name</b> in the study of the event group to add/upsert	eventgroup_sequence	eventgroups	Required		date	eventgroups	Optional*	Only applicable to <b>Unscheduled</b> type event groups. Format: yyyy-MM-dd  The date will be marked as externally owned as part of the action.
Name	Array	Req/Opt	Notes																																
study_name		Required	Name of the study																																
study_country	eventgroups	Required	Name of the study country (of the subject's site)																																
site	eventgroups	Required	Name/number of the site																																
subject	eventgroups	Required	Subject to act on																																
eventgroup_name	eventgroups	Required	Design <b>name</b> in the study of the event group to add/upsert																																
eventgroup_sequence	eventgroups	Required																																	
date	eventgroups	Optional*	Only applicable to <b>Unscheduled</b> type event groups. Format: yyyy-MM-dd  The date will be marked as externally owned as part of the action.																																
Notes	<ul style="list-style-type: none"> <li>Used to add (if doesn't exist yet at that specific sequence), or skip if exists</li> <li>The limit for actions in one request is <b>100</b>.</li> <li>For an <b>Unscheduled</b> type event group, the API call <b>must</b> include an event date (format: <b>yyyy-MM-dd</b>) for the event inside the group. All other event group types, the date is not set in this API call, instead using <a href="#">Set Event Date</a> (next section)</li> <li><b>WARNING:</b> The sequences of event groups should be added in order. Leaving a 'hole' (e.g. Event Group Sequence = 2, where Event Group Sequence = 1 entry does not exist) should not be attempted, and will be enforced as an error.</li> <li>At <b>23R1</b>, the addition of an <b>Unscheduled</b> type event group sets the date with externally owned property. On retrieval of the events, and return from successful use, <b>externally_owned_date = true</b>.</li> </ul>																																		

### Examples

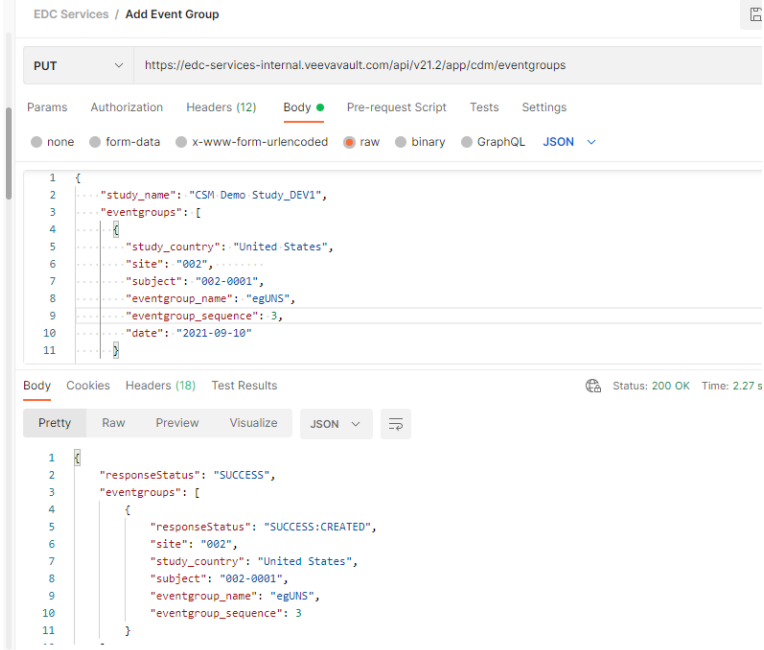
Description / Request (URL)	Response
<a href="#">Multiple upserts at the same time</a>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "eventgroups": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egSCREENING", </pre>	<pre>{   "responseStatus": "SUCCESS",   "eventgroups": [     {       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",       "subject": "101-001", </pre>

Description / Request (URL)	Response
<pre>                 "eventgroup_sequence": 1             },             {                 "study_country": "United States",                 "site": "101",                 "subject": "101-002",                 "eventgroup_name": "egMAIN_VISITS",                 "eventgroup_sequence": 1             }         ]     }         </pre>	<pre>                 "eventgroup_name": "egSCREENING",                 "eventgroup_sequence": 1             },             {                 "responseStatus": "SUCCESS:CREATED",                 "study_country": "United States",                 "site": "101",                 "subject": "101-002",                 "eventgroup_name": "egMAIN_VISITS",                 "eventgroup_sequence": 1             }         ]     }         </pre>
<p><b>New unscheduled type event group, added</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "eventgroups": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egUNSCHEDULED",       "eventgroup_sequence": 2,       "date": "2022-04-01"     }   ] }         </pre>	<pre> {   "responseStatus": "SUCCESS",   "eventgroups": [     {       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egUNSCHEDULED",       "eventgroup_sequence": 2,       "date": "2022-04-01",       "externally_owned_date": true     }   ] }         </pre>
<p><b>Add of two, first exists (skipped), 2nd added</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "eventgroups": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egUNSCHEDULED",       "eventgroup_sequence": 1,       "date": "2022-04-01"     },     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egUNSCHEDULED",       "eventgroup_sequence": 2,     }   ] }         </pre>	<pre> {   "responseStatus": "SUCCESS",   "eventgroups": [     {       "responseStatus": "SUCCESS:UPDATED",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egUNSCHEDULED",       "eventgroup_sequence": 1,       "date": "2022-04-01",       "externally_owned_date": true     },     {       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",     }   ] }         </pre>

Description / Request (URL)	Response
<pre> "date": "2022-05-01"     }   ] }           </pre>	<pre> "subject": "101-001", "eventgroup_name": "egUNSCHEDULED", "eventgroup_sequence": 2, "date": "2022-05-01", "externally_owned_date": true     }   ] }           </pre>

### Flow Based Examples

With two unscheduled event groups already existing, a specific target of adding the 3<sup>rd</sup> unscheduled event:



The screenshot shows an API client interface for 'EDC Services / Add Event Group'. The request is a PUT to `https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/eventgroups`. The request body is a JSON object with the following structure:

```

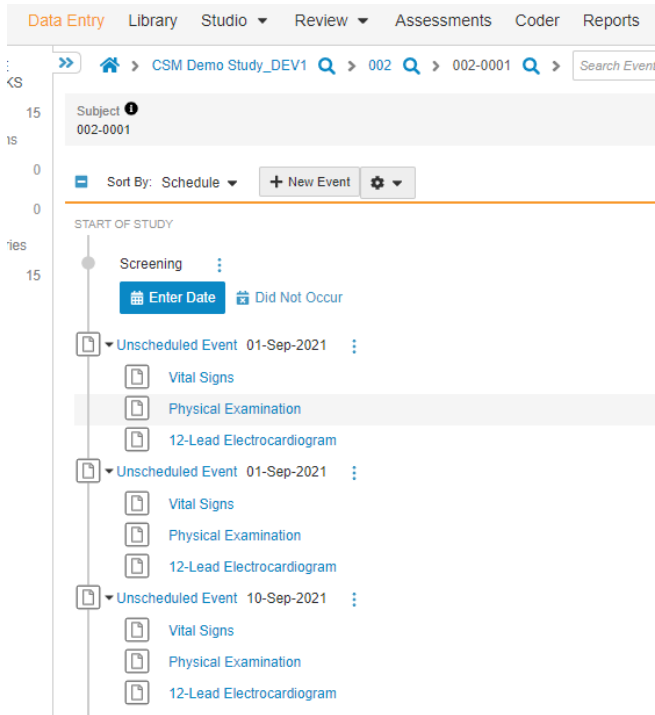
{
  "study_name": "CSM Demo Study_DEV1",
  "eventgroups": [
    {
      "study_country": "United States",
      "site": "002",
      "subject": "002-0001",
      "eventgroup_name": "egUNS",
      "eventgroup_sequence": 3,
      "date": "2021-09-10"
    }
  ]
}
          
```

The response is a 200 OK status with the following JSON body:

```

{
  "responseStatus": "SUCCESS",
  "eventgroups": [
    {
      "responseStatus": "SUCCESS:CREATED",
      "site": "002",
      "study_country": "United States",
      "subject": "002-0001",
      "eventgroup_name": "egUNS",
      "eventgroup_sequence": 3
    }
  ]
}
          
```

...yields, in EDC:



**WARNING:** The **Upsert** of an event group is **not** used to update an existing event group, its first event's date. To update the event date, use / see the [Set Event Date](#) API (next section). The use of upsert, when the event group already exists, is merely a 'skip, do nothing' safe call. That is, create/add if not there, otherwise, no changes. This becomes a safer way to add specific event groups, as [Create Event Group](#) is always a brand new event group, next in sequence.

The event date is required for an event group of type = **Unscheduled**, with failed attempt:

```

Body Cookies Headers (18) Test Results
Pretty Raw Preview Visualize JSON
1
2   "responseStatus": "SUCCESS",
3   "eventgroups": [
4     {
5       "responseStatus": "FAILURE",
6       "errorMessage": "Date is required for Unscheduled events",
7       "site": "002",
8       "study_country": "United States",
9       "subject": "002-0001",
10      "eventgroup_name": "egUNS",
11      "eventgroup_sequence": 4

```

Contrast this to the add of a scheduled event group that only integration (e.g. IRT system) should control / add. For the example study, the **Common Forms** is just such an event group of events/forms. The add is successful:

```
POST https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/eventgroups

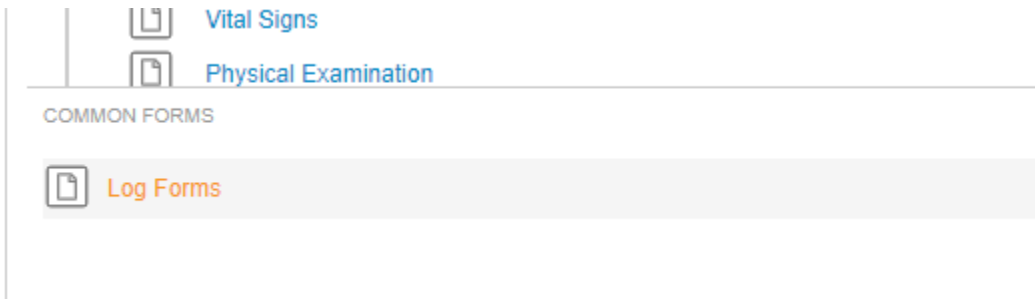
Params Authorization Headers (12) Body Pre-request Script Tests Settings
● none ● form-data ● x-www-form-urlencoded ● raw ● binary ● GraphQL JSON

1 {
2   ... "study_name": "CSM Demo Study_DEV1",
3   ... "eventgroups": [
4     ... {
5       ... "study_country": "United States",
6       ... "site": "002",
7       ... "subject": "002-0001",
8       ... "eventgroup_name": "eg_COMMONFORMS"
9     }
10  ]
11 }
```

Body Cookies Headers (16) Test Results Status: 200 OK Time: 1308 ms

```
Pretty Raw Preview Visualize JSON
1 {
2   "responseStatus": "SUCCESS",
3   "eventgroups": [
4     {
5       "responseStatus": "SUCCESS",
6       "site": "002",
7       "study_country": "United States",
8       "subject": "002-0001",
9       "eventgroup_name": "eg_COMMONFORMS",
10      "eventgroup_sequence": 1
11    }
12  ]
13 }
```

With result an EDC event group with no date set, but awaiting entry into the forms of it:



Lastly, there are occasions to have an API call add an event group, scheduled (like a Common / Logs area) but that will require a date. In the example study the eg\_TREATMENT is the main event group of the study (Events Week 1, Week 2, etc.). The add of it can be done through API:

```
POST https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/eventgroups

{
  "study_name": "CSM-Demo-Study_DEV1",
  "eventgroups": [
    {
      "study_country": "United-States",
      "site": "002",
      "subject": "002-0001",
      "eventgroup_name": "eg_TREATMENT"
    }
  ]
}
```

```
{
  "responseStatus": "SUCCESS",
  "eventgroups": [
    {
      "study_name": "CSM-Demo-Study_DEV1",
      "eventgroups": [
        {
          "study_country": "United-States",
          "site": "002",
          "subject": "002-0001",
          "eventgroup_name": "eg_TREATMENT"
        }
      ]
    }
  ]
}
```

**But**, the date is not set – i.e., for the first event of the event group (like unscheduled types are). To set that, one must follow on with a [Set Event Date](#) API call (next section)

Subject 002-0001

Sort By: Schedule + New Event

START OF STUDY

- Screening [Enter Date] [Did Not Occur]
- Week 1
- Week 2
- Unscheduled Event 01-Sep-2021

## 8 Events

### 8.1 Retrieve Events / Forms

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-events">https://developer-cdms.veevavault.com/api/23.3/#retrieve-events</a>																														
Style	<b>GET</b>																														
Endpoint	<your Vault URL>/api/v23.3/app/cdm/events																														
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>Optional</td> <td>Design <b>name</b> in the study of the event group to filter to</td> </tr> <tr> <td>eventgroup_sequence</td> <td>Optional</td> <td>The specific sequence of an event group</td> </tr> <tr> <td>event_name</td> <td>Optional</td> <td>Design <b>name</b> in the study of the event to filter to</td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study_name	Required	Name of the study	study_country	Required	Name of the study country (of the subject's site)	site	Required	Name/number of the site	subject	Required	Subject to act on	eventgroup_name	Optional	Design <b>name</b> in the study of the event group to filter to	eventgroup_sequence	Optional	The specific sequence of an event group	event_name	Optional	Design <b>name</b> in the study of the event to filter to	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
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Notes	<ul style="list-style-type: none"> <li>• Use this API to retrieve existing events / forms (of the events) for at most, one subject</li> <li>• The largest scope of the retrieval is one subject</li> </ul>																														

### Examples

Description / Request (URL)	Response
<a href="#">Get of specific event (1)</a> <pre>../app/cdm/events?study_name=ABCP-2022-01_DEV1&amp;study_country=United States&amp;site=101&amp;subject=SCR-0001&amp;eventgroup_name=egSCR&amp;eventgroup_sequence=1&amp;event_name=evSCR</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 1,     "total": 1   },   "events": [     {       "id": "OPS00000001M006",</pre>

Description / Request (URL)	Response
	<pre> "study_country": "United States", "site": "101", "subject": "SCR-0001", "eventgroup_name": "egSCR", "eventgroup_sequence": 1, "event_name": "evSCR", "event_sequence": 1, "locked": false, "frozen": false, "externally_owned_date": true, "frozen": false, "event_did_not_occur": false, "forms": [   {     "id": "OPT00000001M002",     "form_name": "Informed-Consent",     "form_sequence": 1,     "form_status": "blank_v",     "first_submit_date": null,     "last_submit_date": null,     "locked": true,     "frozen": true,     "intentionally_left_blank": false   },   {     "id": "OPT00000001M003",     "form_name": "Eligibility-Criteria",     "form_sequence": 1,     "form_status": "submitted_v",     "locked": false,     "frozen": true,     "first_submit_date": "2023-07-11T17:38:15Z",     "last_submit_date": "2023-07-11T17:38:15Z",     "intentionally_left_blank": false   },   {     "id": "OPT00000001M003",     "form_name": "Demographics",     "form_sequence": 1,     "form_status": "blank_v",     "locked": false,     "frozen": true,     "first_submit_date": null,     "last_submit_date": null,     "intentionally_left_blank": false   },   {     "id": "OPT00000001M004", </pre>



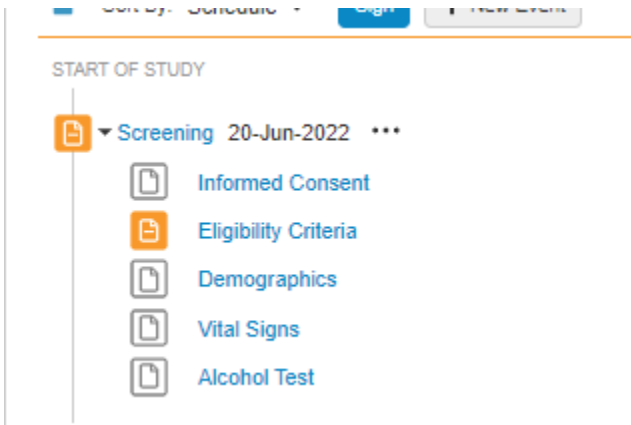
Description / Request (URL)	Response
	<pre> "form_name": "Vital-Signs", "form_sequence": 1, "form_status": "blank_v", "locked": false, "frozen": true, "first_submit_date": null, "last_submit_date": null, "intentionally_left_blank": false }, {   "id": "OPT00000001M005",   "form_name": "PK",   "form_sequence": 1,   "form_status": "submitted_v",   "locked": false,   "frozen": true,   "first_submit_date": "2023-07-11T17:38:15Z",   "last_submit_date": "2023-07-29T20:23:45Z",   "intentionally_left_blank": true,   "intentionally_left_blank_reason": "Form not done" } ] } </pre>

**Get of an event that is in planned or did not occur status (no forms yet)**

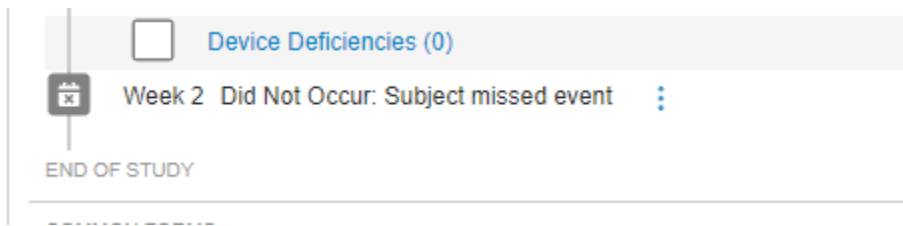
<pre> .../app/cdm/events?study_name=ABCP-2022-01_DEV1&amp;study_country=United States&amp;site=101&amp;subject=SCR-0001&amp;eventgroup_name=egMAIN </pre>	<pre> {   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 1,     "total": 1   },   "events": [     {       "study_country": "United States",       "site": "102",       "subject": "SCR-0001",       "eventgroup_name": "egMAIN",       "eventgroup_sequence": 1,       "event_name": "evVISIT1",       "event_sequence": 1,       "locked": false,       "frozen": false,       "event_date": null,     }   ] } </pre>
---	---

Description / Request (URL)	Response
	<pre>"externally_owned_date": false, "event_did_not_occur": true, "event_did_not_occur_reason": "Early termination of subject", "forms": [] } ] }</pre>

The event date originates from the level above all forms of that event (June 20th, 2022 for example):



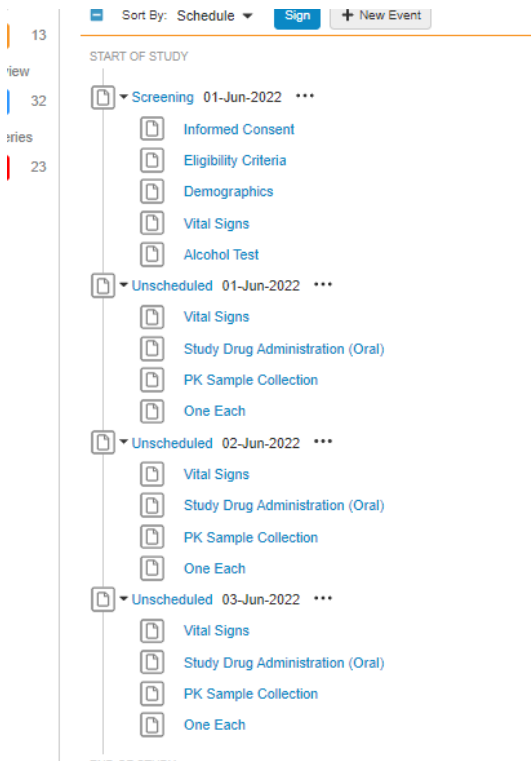
The **Example 2** above includes no forms returned. This can happen when the event status is Planned (no event date yet), or Did Not Occur (specifically marked by site as missed or other reason)



### Form Statuses

Label	API Return	When / Notes
Blank	blank__v	The form is not yet visited (no data points / items), or is visited but all fields are their initial blank status. The form can also take on this status after a reset action
In Progress	in_progress__v	At least one data point (item) has its first value in the form
Submitted	submitted__v	The form is in submitted/completed state. No updates (UI or API) can occur until the form is opened for edit  <b>NOTE:</b> A form can be in submitted status, and be additionally marked Intentionally Left Blank. (i.e. reasons for not having the data)
In Progress Post Submit	in_progress_post_submit__v	Like submitted, but the form has been submitted (then reopened) at least once.

Consider repeating event groups / events, the eventgroup\_sequence is key for identification, as well as the event date.  
 Below 3 events – Unscheduled – repeat:



.. with applicable section in the return, noting **eventgroup\_sequence: 3** : ( June 3rd, 2022)

```

Pretty Raw Preview Visualize JSON
109   },
110   {
111     "study_country": "United States",
112     "site": "101",
113     "subject": "SCR-0005",
114     "eventgroup_name": "egUNS",
115     "eventgroup_sequence": 3,
116     "event_name": "evUNS",
117     "event_sequence": 1,
118     "locked": false,
119     "frozen": false,
120     "event_date": "2022-06-03",
121     "forms": [
122       {
123         "form_name": "VS",
124         "form_sequence": 1,
125         "form_status": "blank_v",
126         "locked": false,
127         "frozen": false,
128         "intentionally_left_blank": false,
129         "intentionally_left_blank_reason": null
130       },
131       {
132         "form_name": "EX",

```

## 8.2 Create Events

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#create-events">https://developer-cdms.veevavault.com/api/23.3/#create-events</a>																																
Style	<b>POST</b>																																
Endpoint	<your Vault URL>/api/v23.3/app/cdm/events																																
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>events</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>events</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>events</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>events</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group where the event resides</td> </tr> <tr> <td>eventgroup_sequence</td> <td>events</td> <td>Optional</td> <td>The specific sequence of an event group, 1 if omitted</td> </tr> <tr> <td>event_name</td> <td>events</td> <td>Required</td> <td>Design <b>name</b> in the study of the event to add</td> </tr> </tbody> </table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	events	Required	Name of the study country (of the subject's site)	site	events	Required	Name/number of the site	subject	events	Required	Subject to act on	eventgroup_name	events	Required	Design <b>name</b> in the study of the event group where the event resides	eventgroup_sequence	events	Optional	The specific sequence of an event group, 1 if omitted	event_name	events	Required	Design <b>name</b> in the study of the event to add
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event_name	events	Required	Design <b>name</b> in the study of the event to add																														
Notes	<ul style="list-style-type: none"> <li>● <b>Only</b> used for the addition of an event to an existing event group. It does not also add a non-existent event group. See Add/Upsert Event Group sections for event groups</li> <li>● The limit for actions in one request is <b>100</b>.</li> <li>● Does not set the event date, instead one would use <a href="#">Set Event Date</a> (next section)</li> <li>● The endpoint is used for a dynamic (or 'integration only') event.</li> <li>● <b>TIP:</b> Although the example above is from a non-repeating event group, and <b>eventgroup_sequence</b> is not strictly required, it is good practice to always include this value. Repeating event groups, later forms will need specific values.</li> </ul>																																

### Examples

Description / Request (URL)	Response
<a href="#">Non-repeating event group where event resides</a>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",       "event_name": "evV6"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "events": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",       "eventgroup_sequence": 1,       "event_name": "evV6",       "event_sequence": 1     }   ] }</pre>

Description / Request (URL)	Response
	}
<p>Add of event inside a repeating event group, the 2nd sequence</p>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egCYCLE",       "eventgroup_sequence": 2,       "event_name": "evDYNAMIC_ASSESS"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "events": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egCYCLE",       "eventgroup_sequence": 2,       "event_name": "evDYNAMIC_ASSESS",       "event_sequence": 1     }   ] }</pre>
<p>Multiple attempted, one fails due to already existed</p>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "United States",       "site": "201",       "subject": "201-001",       "eventgroup_name": "egCYCLE",       "eventgroup_sequence": 2,       "event_name": "evDYNAMIC_ASSESS"     },     {       "study_country": "United States",       "site": "201",       "subject": "201-002",       "eventgroup_name": "egCYCLE",       "eventgroup_sequence": 2,       "event_name": "evDYNAMIC_ASSESS"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "events": [     {       "responseStatus": "FAILURE",       "errorMessage": "Cannot create event because it already exists",       "study_country": "Canada",       "site": "201",       "subject": "201-001",       "eventgroup_name": "Days-6-14",       "eventgroup_sequence": 2,       "event_name": "evDYNAMIC_ASSESS"     },     {       "responseStatus": "SUCCESS",       "study_country": "Canada",       "site": "201",       "subject": "201-002",       "eventgroup_name": "Days-6-14",       "eventgroup_sequence": 2,       "event_name": "evDYNAMIC_ASSESS",       "event_sequence": 1     }   ] }</pre>

### 8.3 Set Event Date

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#set-event-date">https://developer-cdms.veevavault.com/api/23.3/#set-event-date</a>																																																		
Style	<b>POST</b>																																																		
Endpoint	<your Vault URL>/api/v23.3/app/cdm/events/actions/setdate																																																		
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>events</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>events</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>events</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>events</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group where the event resides</td> </tr> <tr> <td>eventgroup_sequence</td> <td>events</td> <td>Optional</td> <td>The specific sequence of an event group, <b>1</b> if omitted</td> </tr> <tr> <td>event_name</td> <td>events</td> <td>Required</td> <td>Design <b>name</b> in the study of the event</td> </tr> <tr> <td>date</td> <td>events</td> <td>Required</td> <td>The date to set, yyyy-MM-dd format</td> </tr> <tr> <td>change_reason</td> <td>events</td> <td>Optional</td> <td>At the 23R3 release, <b>all</b> API versions now have optional change reasons. When omitted, a default reason (when/if needed) is used: <b>"Action performed via the API"</b></td> </tr> <tr> <td>allow_planned_override</td> <td>events</td> <td>Optional</td> <td>Default is false. When passing true, a date can be set that is out of the planned window. If false, such a date is returned as an error</td> </tr> <tr> <td>externally_owned_date</td> <td>events</td> <td>Optional</td> <td>Default is <b>true</b>. When true, the date cannot be edited by the end user. If a mistake is made in setting a date through the API, and re-enable for the end user is necessary, call the endpoint with a <b>false</b>.</td> </tr> </tbody> </table>			Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	events	Required	Name of the study country (of the subject's site)	site	events	Required	Name/number of the site	subject	events	Required	Subject to act on	eventgroup_name	events	Required	Design <b>name</b> in the study of the event group where the event resides	eventgroup_sequence	events	Optional	The specific sequence of an event group, <b>1</b> if omitted	event_name	events	Required	Design <b>name</b> in the study of the event	date	events	Required	The date to set, yyyy-MM-dd format	change_reason	events	Optional	At the 23R3 release, <b>all</b> API versions now have optional change reasons. When omitted, a default reason (when/if needed) is used: <b>"Action performed via the API"</b>	allow_planned_override	events	Optional	Default is false. When passing true, a date can be set that is out of the planned window. If false, such a date is returned as an error	externally_owned_date	events	Optional	Default is <b>true</b> . When true, the date cannot be edited by the end user. If a mistake is made in setting a date through the API, and re-enable for the end user is necessary, call the endpoint with a <b>false</b> .
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Notes	<ul style="list-style-type: none"> <li>Used to <b>set</b> an event date to an <b>existing</b> event. (does <b>not</b> add the event or event group the event resides, that is done in other API calls first)</li> <li>The limit for actions in one request is <b>100</b>.</li> <li>Date format is <b>yyyy-MM-dd</b></li> <li>The endpoint call (as <b>POST</b>) is used for both setting a date when none exists, plus updating an event that has an existing date value. (<b>PUT</b> is not used for update)</li> <li><b>TIP:</b> Although the example above is from a non-repeating event group, and <b>eventgroup_sequence</b> is not strictly required, it is good practice to always include this value. Repeating event groups, later forms will need specific values.</li> </ul>																																																		

## Examples

Description / Request (URL)	Response
<p><a href="#">Non-repeating event group (where event resides)</a></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",       "event_name": "evV6",       "date": "2022-06-01"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "events": [     {       "responseStatus": "SUCCESS",       "id": "OPS00000001M006",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",       "eventgroup_sequence": 1,       "event_name": "evV6",       "event_sequence": 1,       "date": "2022-06-01",       "change_reason": "Action performed via the API",       "externally_owned_date": true,       "allowplanneddate_override": false     }   ] } </pre>
<p><a href="#">Two attempted, one succeeds, one fails</a></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "Canada",       "site": "201",       "subject": "201-001",       "eventgroup_name": "egTREATMENT",       "event_name": "evDay1",       "date": "2022-06-01"     },     {       "study_country": "Canada",       "site": "201",       "subject": "201-005",       "eventgroup_name": "egTREATMENT",       "event_name": "evDay1",       "date": "2022-06-05"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "events": [     {       "responseStatus": "SUCCESS",       "id": "OPS00000001M006",       "study_country": "Canada",       "site": "201",       "subject": "201-001",       "eventgroup_name": "egTREATMENT",       "eventgroup_sequence": 1,       "event_name": "evDay1",       "event_sequence": 1,       "date": "2022-06-01",       "change_reason": "Action performed via the API",       "externally_owned_date": true,       "allowplanneddate_override": false     },     {       "responseStatus": "FAILURE",       "errorMessage": "[Subject] with name [201-005] not found", </pre>



Description / Request (URL)	Response
	<pre> "study_country": "Canada", "site": "201", "subject": "201-005", "eventgroup_name": "egTREATMENT", "eventgroup_sequence": 1, "event_name": "evDay1", "event_sequence": 1, "date": "2022-06-05" } ] } </pre>

**Setting a specific sequence for repeating event group (events within)**

<pre> {   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egCYCLE",       "eventgroup_sequence": 2,       "event_name": "evDYNAMIC_ASSESS",       "date": "2022-06-01"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "events": [     {       "responseStatus": "SUCCESS",       "id": "OPS00000001M006",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egCYCLE",       "eventgroup_sequence": 2,       "event_name": "evDYNAMIC_ASSESS",       "event_sequence": 1,       "date": "2022-06-01",       "change_reason": "Action performed via the API",       "externally_owned_date": true,       "allowplanneddate_override": false     }   ] } </pre>
---	--

**Override where the event date would otherwise be out of window**

<pre> {   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",       "event_name": "evV6",       "date": "2022-06-01",       "allow_planneddate_override": true     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "events": [     {       "responseStatus": "SUCCESS",       "id": "OPS00000001M006",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",       "eventgroup_sequence": 1,       "event_name": "evV6",     }   ] } </pre>
---	--

Description / Request (URL)	Response
<pre> ] } </pre>	<pre> "event_sequence": 1, "date": "2022-06-01", "change_reason": "Action performed via the API", "externally_owned_date": true, "allowplanneddate_override": true } ] } </pre>
<p><b>Change of date (with reason, i.e. do not use the default system reason)</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",       "event_name": "evV6" ,       "date": "2022-06-02",       "change_reason": "Change by IRT system"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "events": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",       "eventgroup_sequence": 1,       "event_name": "evV6",       "event_sequence": 1,       "date": "2022-06-01",       "externally_owned_date": true,       "allowplanneddate_override": false,       "change_reason": "Change by IRT system"     }   ] } </pre>

## Flow Based Example

For this subject in the EDC UI, there is no **Screening** date yet:

Performing the API call to set **Sept 1, 2021**, as **Screening** event date:

```

1  {
2  ... "study_name": "CSM Demo Study_DEV1",
3  ... "events": [
4  ... {
5  ...   "study_country": "United States",
6  ...   "site": "002",
7  ...   "subject": "002-0001",
8  ...   "eventgroup_name": "eg_SCREENING",
9  ...   "event_name": "ev_SCREENING",
10 ...   "date": "2021-09-01"

```

---

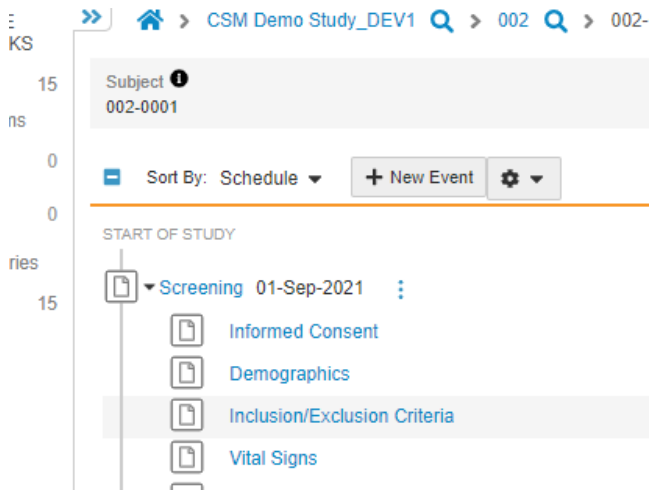
Body Cookies Headers (16) Test Results Status: 200

```

1  {
2  "responseStatus": "SUCCESS",
3  "events": [
4  {
5  "responseStatus": "SUCCESS",
6  "study_country": "United States",
7  "site": "002",
8  "subject": "002-0001",
9  "eventgroup_name": "eg_SCREENING",
10 "eventgroup_sequence": 1,
11 "event_name": "ev_SCREENING",

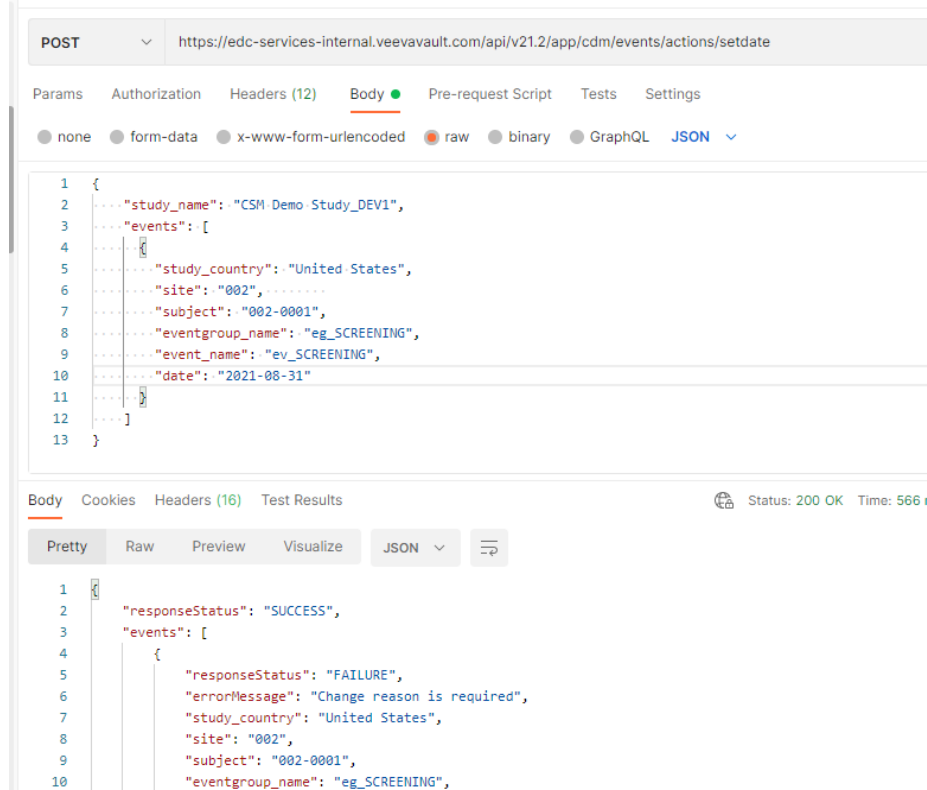
```

...which yields – in the EDC UI – the event now built out with the forms the study scheduled prescribes:



**IMPORTANT:** This step is key to then being able to set data to forms of an event. If the event does not have a date yet, then no forms will exist (for scheduled, non-log events).

For changing the date of an existing event, the same call can be used:



... **note (!)** the inner **FAILURE**. Data points changed (after initial entry) require change reasons. Adding the parameter **change\_reason**, with any custom reason:

POST https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/events/actions/setdate

Params Authorization Headers (12) Body Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```

1 {
2   "study_name": "CSM Demo Study_DEV1",
3   "events": [
4     {
5       "study_country": "United States",
6       "site": "002",
7       "subject": "002-0001",
8       "eventgroup_name": "eg_SCREENING",
9       "event_name": "ev_SCREENING",
10      "change_reason": "Hi, this is my reason for change of event!",
11      "date": "2021-08-31"
12    }
13  ]
14 }

```

Body Cookies Headers (16) Test Results Status: 200 OK Time: 806 ms

Pretty Raw Preview Visualize JSON

```

1 {
2   "responseStatus": "SUCCESS",
3   "events": [
4     {
5       "responseStatus": "SUCCESS",
6       "study_country": "United States",
7       "site": "002",
8       "subject": "002-0001",
9       "eventgroup_name": "eg_SCREENING",
10      "eventgroup_sequence": 1,
11      "event_name": "ev_SCREENING",
12      "event_sequence": 1
13    }
14  ]
15 }

```

.. yielding – in the EDC UI - the change to Aug 31<sup>st</sup>, with reason passed via API noted in audit trail:

SITE TASKS >> CSM Demo Study\_DEV1 > 002 > 002-0001 > Search Event > Search Form

Subject 002-0001

Sort By: Schedule + New Event

START OF STUDY

- Screening 31-Aug-2021
  - Informed Consent
  - Demographics
  - Inclusion/Exclusion Criteria
  - Vital Signs
  - General Medical History (0)
  - Pregnancy Test

Week 1

### Event Audit Trail

Timestamp (M/d/yyyy h:mm:ss a z)	User Name	Event Description
9/23/2021 3:23:30 PM EDT	Eric Emerton (eric.emerton@edc-services.com)	"Event Datetime" changed from "2021-09-01T04:00:00.000Z" to "2021-08-31T04:00:00.000Z"
9/23/2021 3:23:30 PM EDT	Eric Emerton (eric.emerton@edc-services.com)	"Event Date" changed from "2021-09-01" to "2021-08-31"
9/23/2021 3:23:30 PM EDT	Eric Emerton (eric.emerton@edc-services.com)	"Change Reason" set to "Hi, this is my reason for change of event!"
9/23/2021 3:17:08 PM EDT	Eric Emerton (eric.emerton@edc-services.com)	"Event Datetime" set to "2021-09-01T04:00:00.000Z"

## 8.4 Set Event as Did Not Occur

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#set-event-as-did-not-occur">https://developer-cdms.veevavault.com/api/23.3/#set-event-as-did-not-occur</a>																																				
Style	<b>POST</b>																																				
Endpoint	<your Vault URL>/api/v23.3/app/cdm/events/actions/didnotoccur																																				
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>events</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>events</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>events</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>events</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group where the event resides</td> </tr> <tr> <td>eventgroup_sequence</td> <td>events</td> <td>Optional</td> <td>The specific sequence of an event group, <b>1</b> if omitted</td> </tr> <tr> <td>event_name</td> <td>events</td> <td>Required</td> <td>Design <b>name</b> in the study of the event</td> </tr> <tr> <td>change_reason</td> <td>events</td> <td>Optional</td> <td>At the 23R3 release, <b>all</b> API versions now have optional change reasons. When omitted, a default reason (when/if needed) is used: <b>"Action performed via the API"</b></td> </tr> </tbody> </table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	events	Required	Name of the study country (of the subject's site)	site	events	Required	Name/number of the site	subject	events	Required	Subject to act on	eventgroup_name	events	Required	Design <b>name</b> in the study of the event group where the event resides	eventgroup_sequence	events	Optional	The specific sequence of an event group, <b>1</b> if omitted	event_name	events	Required	Design <b>name</b> in the study of the event	change_reason	events	Optional	At the 23R3 release, <b>all</b> API versions now have optional change reasons. When omitted, a default reason (when/if needed) is used: <b>"Action performed via the API"</b>
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Notes	<ul style="list-style-type: none"> <li>Used to mark an entire event with status = <b>Did Not Occur</b>, which then allows for visits after to be worked with, dates set.</li> <li>The limit for actions in one request is <b>100</b>.</li> <li>Change of reason can be any text, although certainly consider being consistent with the text usage.</li> <li><b>TIP:</b> Although the example above is from a non-repeating event group, and <b>eventgroup_sequence</b> is not strictly required, it is good practice to always include this value. Repeating event groups, later forms will need specific values.</li> </ul>																																				

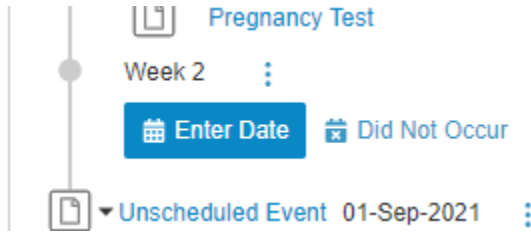
## Examples

Description / Request (URL)	Response
One and successful	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",       "event_name": "evV6" ,     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "events": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",     }   ] }</pre>

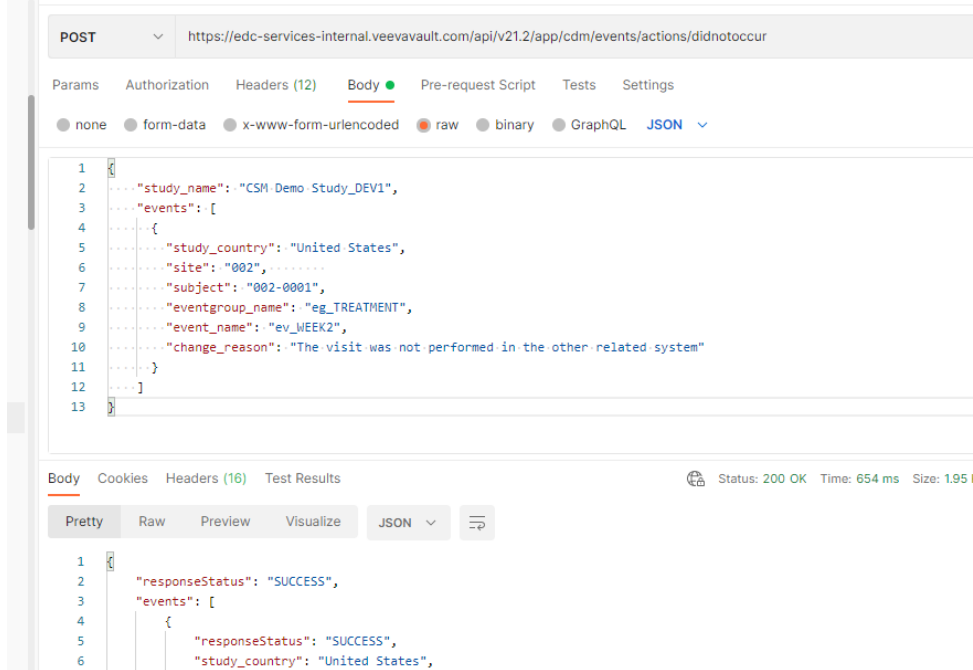
Description / Request (URL)	Response
<pre>                 "change_reason": "Missed visit"             }         ]     }         </pre>	<pre>                 "eventgroup_sequence": 1,                 "event_name": "evV6",                 "event_sequence": 1             }         ]     }         </pre>
<p><b>Multiple, one succeeds, one fails</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "Canada",       "site": "201",       "subject": "201-001",       "eventgroup_name": "egTREATMENT",       "event_name": "evV6",       "change_reason": "Missed visit"     },     {       "study_country": "Canada",       "site": "201",       "subject": "201-001",       "eventgroup_name": "egTREATMENT",       "event_name": "evV6",       "change_reason": "Missed visit"     }   ] }         </pre>	<pre> {   "responseStatus": "SUCCESS",   "events": [     {       "responseStatus": "SUCCESS",       "study_country": "Canada",       "site": "201",       "subject": "201-001",       "eventgroup_name": "egTREATMENT",       "eventgroup_sequence": 1,       "event_name": "evV6",       "event_sequence": 1     },     {       "responseStatus": "FAILURE",       "errorMessage": "[Subject] with name [201-005] not found",       "study_country": "Canada",       "site": "201",       "subject": "201-005",       "eventgroup_name": "egTREATMENT",       "eventgroup_sequence": 1,       "event_name": "evV6",       "event_sequence": 1     }   ] }         </pre>

## Flow Based Examples

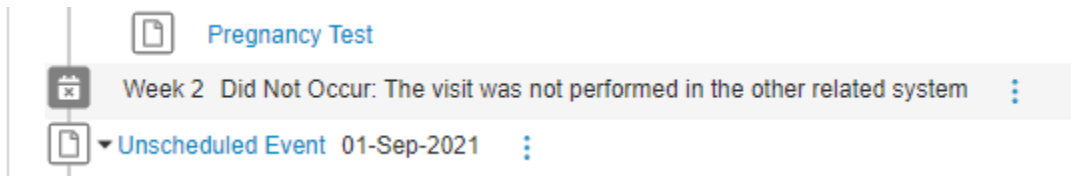
For the EDC visit without a date: (Week 2)



The setting of **Did Not Occur** status + reason:



...resulting in the EDC UI showing status + reason:





## 9 Forms

**NOTE:** At the v23R1 release of the CDMS API, Veeva recommends targeted updates to a form (specific subject/form) using the **Combination Form Data API**. This API comprises the concepts of Upsert Forms, Upsert Item Group, Upsert Items, plus the conditional reopen of a form (should it be in submitted state), plus ability to submit the form after update. The key here is that **ONE** API call can handle all of the conditional singular APIs, done in an appropriate order. Additionally, the API will place a default change reason where one is omitted from the request, or take the one indicated in the request. Previously, based on unknown actions performed by sites in certain study designs to target forms of APIs, you might suddenly need a change reason + reopen of the form due to the site user inadvertently submitting the form as blank (before the API could push its data in appropriately).

### 9.1 Retrieve Forms / Item Data

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-forms">https://developer-cdms.veevavault.com/api/23.3/#retrieve-forms</a>																																				
Style	<b>GET</b>																																				
Endpoint	<your Vault URL>/api/v23.3/app/cdm/forms																																				
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Notes	<ul style="list-style-type: none"> <li>● Use this API to retrieve existing forms – their data (items, itemgroups) of one subject's event/visit.</li> <li>● The details of the form's status, frozen/locked/ILB are also returned, in addition to the data on the form.</li> <li>● The largest scope of the retrieval is one subject, and one event of the subject (the forms/data in that event)</li> <li>● At present, there is no ability for a subset of form data, i.e., just certain fields from the filter. Forms of the event can be filtered, but all data of the form(s) is returned.</li> <li>● The externally_owned property for each item will return <b>true</b> when the item was set via the API. This prevents updates of the field by the site user. A field can be 100% read only - via design</li> </ul>																																				

	property - or left as editable, with a read only nature applied only when the API sets a value to the field.
--	--

## Examples

Description / Request (URL)	Response
<p><a href="#">Return a Demography form (some singular items are marked ILB, but not the whole form)</a></p> <pre> ...app/cdm/forms?study_name=ABCP-2022-01_DEV1&amp;study_country=Canada&amp;site=201&amp;subject=SCR-0001&amp;eventgroup_name=egSCR&amp;eventgroup_sequence=1&amp;event_name=evSCR&amp;form_name=Demographics                     </pre>	<pre> {   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 1,     "total": 1   },   "forms": [     {       "id": "OPT00000001M002",       "study_country": "Canada",       "site": "201",       "subject": "SCR-0001",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "event_external_id": null,       "form_name": "Demographics",       "form_sequence": 1,       "form_status": "submitted_v",       "locked": false,       "frozen": false,       "first_submit_date": "2023-07-11T17:38:15Z",       "last_submit_date": "2023-07-11T17:38:15Z",       "intentionally_left_blank": false,       "itemgroups": [         {           "id": "V5C0000000T001",           "itemgroup_name": "ig-DM",           "itemgroup_sequence": 1,           "itemgroup_external_id": "ig.DM",           "items": [             {               "id": "V5D0000000T013",               "item_name": "CHILDPSP",               "value": null,               "intentionally_left_blank": false,               "externally_owned": false,               "frozen": false,               "locked": false             }           ]         }       ]     }   ] }                     </pre>

Description / Request (URL)	Response
	<pre>       "id": "V5D00000000T014",       "item_name": "RACE_OTHER",       "value": "true",       "intentionally_left_blank": false,       "externally_owned": false,       "frozen": false,       "locked": false     },     {       "id": "V5D00000000T015",       "item_name": "RACE_NHORPI",       "value": "false",       "intentionally_left_blank": false,       "externally_owned": false,       "frozen": false,       "locked": false     },     {       "id": "V5D00000000T015",       "item_name": "RACE_AIORAN",       "value": null,       "intentionally_left_blank": false,       "externally_owned": false,       "frozen": false,       "locked": false     },     :     :     :     {       "id": "V5D00000000T045",       "item_name": "CHILDSE",       "value": "",       "intentionally_left_blank": true,       "intentionally_left_blank_reason": "Data unknown",       "externally_owned": false,       "frozen": false,       "locked": false     }   ] } ] } ] } } </pre>

**Return data from a form with one of every type of item**

<pre>....app/cdm/forms?study_name</pre>	<pre>{</pre>
---	--------------

Description / Request (URL)	Response
<pre>=ABCP-2022-01_DEV1&amp;study_country=Canada&amp;site=201&amp;subject=SCR-0001&amp;eventgroup_name=egUNS&amp;eventgroup_sequence=1&amp;event_name=evUNS&amp;form_name=OE</pre>	<pre>"responseStatus": "SUCCESS", "responseDetails": {   "limit": 1000,   "offset": 0,   "size": 1,   "total": 1 }, "forms": [   {     "id": "OPT00000002F004",     "study_country": "Canada",     "site": "201",     "subject": "SCR-0001",     "eventgroup_name": "egUNS",     "eventgroup_sequence": 1,     "event_name": "evUNS",     "event_sequence": 1,     "event_external_id": null,     "form_name": "OE",     "form_sequence": 1,     "form_status": "submitted_v",     "locked": false,     "frozen": false,     "first_submit_date": "2023-07-11T17:38:15Z",     "last_submit_date": "2023-07-15T20:23:33Z",     "intentionally_left_blank": false,     "itemgroups": [       {         "id": "V5C0000000T001",         "itemgroup_name": "igOE",         "itemgroup_sequence": 1,         "itemgroup_external_id": "igOE",         "items": [           {             "id": "V5D0000000T001",             "item_name": "URL_FIELD",             "value": "https://google.com",             "intentionally_left_blank": false,             "externally_owned": false,             "frozen": false,             "locked": false           },           {             "id": "V5D0000000T002",             "item_name": "LONGTXT",             "value": "Here is some long text with a line return, etc\nand more\nand more\nand so on.. the end",             "intentionally_left_blank": false,</pre>

Description / Request (URL)	Response
	<pre> "externally_owned": false, "frozen": false, "locked": false }, {   "id": "V5D00000000T003",   "item_name": "DATEONLY_UNKS",   "value": "UN-Jun-2022",   "intentionally_left_blank": false,   "externally_owned": false,   "frozen": false,   "locked": false }, {   "id": "V5D00000000T004",   "item_name": "INTFIELD",   "value": "23",   "intentionally_left_blank": false,   "externally_owned": false,   "frozen": false,   "locked": false }, {   "id": "V5D00000000T005",   "item_name": "DT_WITH_UNKS",   "value": "UN-UNK-2022 UN:UN",   "intentionally_left_blank": false,   "externally_owned": false,   "frozen": false,   "locked": false }, {   "id": "V5D00000000T006",   "item_name": "DATEONLY",   "value": "07-Jun-2022",   "intentionally_left_blank": false,   "externally_owned": false,   "frozen": false,   "locked": false }, {   "id": "V5D00000000T007",   "item_name": "SHORTTXT",   "value": "Some text here",   "intentionally_left_blank": false,   "externally_owned": false,   "frozen": false,   "locked": false </pre>

Description / Request (URL)	Response
	<pre> }, {   "id": "V5D0000000T008",   "item_name": "DATEANDTIME",   "value": "06-Jun-2022 13:30",   "intentionally_left_blank": false,   "externally_owned": false,   "frozen": false,   "locked": false }, {   "id": "V5D0000000T009",   "item_name": "CL",   "value": "Y",   "intentionally_left_blank": false,   "externally_owned": false,   "frozen": false,   "locked": false }, {   "id": "V5D0000000T010",   "item_name": "DECIMAL",   "value": "3.2",   "intentionally_left_blank": false,   "externally_owned": false,   "frozen": false,   "locked": false }, {   "id": "V5D0000000T011",   "item_name": "FORM_LINK_FIELD",   "value": "OPT000000021003",   "intentionally_left_blank": false,   "externally_owned": false,   "frozen": false,   "locked": false }, {   "id": "V5D0000000T012",   "item_name": "UCLFIELD",   "value": "0.45",   "unit_value": "mg",   "translated_value": "0.00045",   "translated_unit_value": "g",   "intentionally_left_blank": false,   "externally_owned": false,   "frozen": false,   "locked": false </pre>

Description / Request (URL)	Response
	<pre> }, {   "id": "V5D00000000T013",   "item_name": "UCLFIELD_W_LAB_MODIFIER",   "value": "1",   "unit_value": "mg",   "translated_value": "0.01",   "translated_unit_value": "g",   "lab_modifier": "LT",   "intentionally_left_blank": false,   "externally_owned": false,   "frozen": false,   "locked": false }, {   "id": "V5D00000000T015",   "item_name": "CB",   "value": "true",   "intentionally_left_blank": false,   "externally_owned": false,   "frozen": false,   "locked": false } ] } ] } } } </pre>

### Items Array Response Properties

Property	Item Type(s)	Other Notes
id	All	
item_name	All	
value	All	
unit_value	Unit Codelist Only	
translated_value	Unit Codelist Only	
translated_unit_value	Unit Codelist Only	
lab_modifier	Unit Codelist (Local Lab Module)	When a local lab unit codelist is involved, <b>AND</b> the end user has set a value, otherwise omitted. The return is the codelist code of the selection (e.g. <, >, LT, GT, etc)
intentionally_left_blank	All	true/false
intentionally_left_blank_reason	All *	* Only appears when its parent intentionally_left_blank = true



externally_owned	All	Value set by the API ( <b>true</b> )
frozen	All	Whether the item is frozen or not
locked	All	Whether the item is locked or not

## 9.2 Combination Form Data Update

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#combo-form-data">https://developer-cdms.veevavault.com/api/23.3/#combo-form-data</a>																																																																						
Style(s)	<b>POST</b> (runs as upsert)																																																																						
Endpoint	<b>&lt;your Vault URL&gt;/api/v23.3/app/cdm/forms/actions/setdata</b>																																																																						
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>reopen</td> <td></td> <td>Optional</td> <td>Boolean - when omitted the default is <b>true</b>. That is, if the form is currently in submitted status, it will be first re-opened for edit. A pass of false to this parameter with a form currently in submitted status will be an immediate abort/fail.</td> </tr> <tr> <td>submit</td> <td></td> <td>Optional</td> <td>Boolean - when omitted the default is <b>true</b>. That is, at the close of a successful update of data on the form, the form will be also submitted.</td> </tr> <tr> <td>change_reason</td> <td></td> <td>Optional</td> <td>If the form needs to be re-opened for edit (i.e. currently submitted), this is the reason applied. If omitted, and form is re-opened, "<b>Action performed via the API</b>" is used. This applies to <b>both</b> the change reason for open of a form (if necessary), and all items changed</td> </tr> <tr> <td>externally_owned</td> <td></td> <td>Optional</td> <td>Boolean - when omitted, true is assumed. When set to true, the fields that are updated are flagged as owned by the API. That is, site user actions like form reset / ILB cannot remove the data.</td> </tr> <tr> <td>form</td> <td></td> <td>Required</td> <td>(JSON section - i.e. <b>ONE</b> form in each submission)</td> </tr> <tr> <td>study_country</td> <td></td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td></td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td></td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td></td> <td>Required</td> <td>Design <b>name</b> in the study of the event group</td> </tr> <tr> <td>eventgroup_sequence</td> <td></td> <td>Optional</td> <td>The specific sequence of an event group. 1 assumed if omitted</td> </tr> <tr> <td>event_name</td> <td></td> <td>Required</td> <td>Design <b>name</b> in the study of the event</td> </tr> <tr> <td>form_name</td> <td></td> <td>Required</td> <td>Design <b>name</b> in the study of the form</td> </tr> <tr> <td>form_sequence</td> <td></td> <td>Optional</td> <td>The specific sequence of the form. 1 assumed if omitted</td> </tr> <tr> <td>itemgroup_name</td> <td>itemgroups</td> <td>Required</td> <td>Design <b>name</b> in the study of the item group location</td> </tr> <tr> <td>itemgroup_sequence</td> <td>itemgroups</td> <td>Optional</td> <td>The specific item group sequence where the item resides. 1 assumed if omitted</td> </tr> </tbody> </table>			Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	reopen		Optional	Boolean - when omitted the default is <b>true</b> . That is, if the form is currently in submitted status, it will be first re-opened for edit. A pass of false to this parameter with a form currently in submitted status will be an immediate abort/fail.	submit		Optional	Boolean - when omitted the default is <b>true</b> . That is, at the close of a successful update of data on the form, the form will be also submitted.	change_reason		Optional	If the form needs to be re-opened for edit (i.e. currently submitted), this is the reason applied. If omitted, and form is re-opened, " <b>Action performed via the API</b> " is used. This applies to <b>both</b> the change reason for open of a form (if necessary), and all items changed	externally_owned		Optional	Boolean - when omitted, true is assumed. When set to true, the fields that are updated are flagged as owned by the API. That is, site user actions like form reset / ILB cannot remove the data.	form		Required	(JSON section - i.e. <b>ONE</b> form in each submission)	study_country		Required	Name of the study country (of the subject's site)	site		Required	Name/number of the site	subject		Required	Subject to act on	eventgroup_name		Required	Design <b>name</b> in the study of the event group	eventgroup_sequence		Optional	The specific sequence of an event group. 1 assumed if omitted	event_name		Required	Design <b>name</b> in the study of the event	form_name		Required	Design <b>name</b> in the study of the form	form_sequence		Optional	The specific sequence of the form. 1 assumed if omitted	itemgroup_name	itemgroups	Required	Design <b>name</b> in the study of the item group location	itemgroup_sequence	itemgroups	Optional	The specific item group sequence where the item resides. 1 assumed if omitted
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	item_name	itemgroups/items	Required	Design <b>name</b> in the study of the item to set with value
	value	itemgroups/items	Optional	Required - the node - but can use an empty value. That is, remove the currently set value from the field
	unit_value	itemgroups/items	Optional	Required when its a unit codelist item being updated

Notes	<ul style="list-style-type: none"> <li>● The action is for setting data on fields of a form, primarily</li> <li>● It will conditionally also perform a series of actions as part of the singular API call.</li> <li>● These auto performed actions include: <ul style="list-style-type: none"> <li>○ If the form is currently submitted -&gt; the form is automatically reopened for edit (default it to always do this, when/if necessary)</li> <li>○ If it's a form from a repeating form section of the study's design, and does not yet exist, it will add that form. NOTE: 'Skipped' sequences are still invalid, e.g. if 3 forms existed and sequence = 5 was used -&gt; this is an error path (because the form at sequence 4 can't be skipped)</li> <li>○ All necessary repeating item groups, for the intended item updates are automatically added</li> <li>○ Change reasons are automatically applies if/when necessary, and one does not otherwise specify a reason in the API request body</li> <li>○ Optionally, the final step can be to submit the form, once all data is applied (default here is to <b>not</b> submit the form, unless specifically requested)</li> </ul> </li> <li>● What this API does <b>not</b> perform: <ul style="list-style-type: none"> <li>○ Any level above 'Form' is not automatically dealt with, when not present. For example, the form lives in an event which does not yet exist, i.e. the study design dictates dynamic add, user manual add, or other. The API attempt will fail in this case, the combination actions are only from 'form down'</li> <li>○ If a form is locked, frozen, or part of locked subject, locked site, locked study → the form is not reopened. The first step is a failure. These actions were / are specific human decisions, not to be circumvented via an API attempt.</li> <li>○ IMPORTANT: This API does not 'rollback' when a step of many fails. That is, if the actual performed actions are Reopen form, Add new item groups, Set Item Data, and Submit Form (4 in total), and the Set Item Data fails → the end state is a reopened form, with new item groups added, i.e. partial success. A re-attempt of a corrected API would normally</li> </ul> </li> </ul>
-------	--

## Setting Data by Item Type

Item Type	Example	Notes
<b>Checkbox</b>		
	"value": "true"	i.e. checked
	"value": "false"	i.e. unchecked
	"value": ""	Has the same effect as false - Suggestion is to use true / false always in payload.
	(any other value)	<b>Error returned</b>
<b>Codelist</b>		
	"value": "Y"	i.e. assuming that codelist has a <b>code</b> value of "Y" in its
	"value": ""	Empty / unset the selection

Item Type	Example	Notes
	(any other value, i.e. not a codelist code)	<b>Error returned</b>
<b>URL</b>		
	"value": "https://www.google.com"	Set the value to a URL, on screen user can click to navigate to the URL, in another tab
	"value": ""	Empty / unset the value
	(any value that does not start http or ftp)	<b>Error returned</b>
<b>Text Field</b>		
	"value": "Here is my text in the field"	Set a value
	"value": ""	Empty / unset the value
	(value over max length)	<b>Error returned</b>
<b>Numeric (Integer or Decimal)</b>		
	"value": "3"	E.g. a field with precision = 0 (no decimal portion)
	"value": "13.4"	E.g. a decimal portion allowed field (precision > 0)
	"value": ""	Empty / unset the value
	(not numeric or violates length or precision)	<b>Error returned</b>
<b>Date Field</b>		
	"value": "2022-06-01"	E.g. to set June 1st, 2022
	"value": ""	Empty / unset the value
	"value": "2022-UN-UN"	E.g. when the field allows unknowns in month and/or day. <b>UN</b> must be used in the appropriate portion
	(bad date, not of proper format, YYYY-MM-DD)	<b>Error returned</b>
<b>Date Time Field</b>		
	"value": "2022-06-01T12:30:00Z"	Set the datetime in full, this will take on the 'on screen' value (not the normalized)
	"value": ""	Empty / unset the value
	(bad date, not of proper format, yyyy-MM-ddTHH:mmZ)	<b>Error returned</b>
<b>Time Field</b>		
	"value": "12:30"	Set the time value
	"value": ""	Empty / unset the value
	(bad date, not of proper format, HH:mm)	<b>Error returned</b>
<b>Unit Codelist</b>		
	"value": "62.2" "unit_value": "in"	E.g. 'in' is a valid <b>code</b> in the unit codelist definition.
	"value": "" "unit_value": ""	Empty / unset the value
	"value": "62.2"	<b>Error returned (must have both)</b>
	(any violation of length, precision, or invalid unit code)	<b>Error returned</b>



## Examples

Description / Request (URL)	Response
Set of data on a form, simple case, reopen if necessary, also submit when finished	
<pre> {   "study_name": "ABC-XYZ-001_DEV1",   "reopen": true,   "submit": true,   "change_reason": "Integration Update",   "form": {     "study_country": "United States",     "site": "001",     "subject": "101-103",     "eventgroup_name": "egSCR",     "eventgroup_sequence": 1,     "event_name": "evSCR",     "form_name": "DM",     "form_sequence": 1,     "itemgroups": [       {         "itemgroup_name": "igBASE_DM",         "itemgroup_sequence": 1,         "items": [           {             "item_name": "BIRTHYR",             "value": "1976"           },           {             "item_name": "SEX",             "value": "M"           }         ]       }     ]   } } </pre>	<pre> {   "responseStatus": "SUCCESS",   "reopen": true,   "submit": true,   "change_reason": "Integration Update",   "externally_owned": true,   "form": {     "id": "OPT000000000507",     "form_status": "submitted_v",     "study_country": "United States",     "site": "001",     "subject": "101-103",     "eventgroup_name": "egSCR",     "eventgroup_sequence": 1,     "event_name": "evSCR",     "event_sequence": 1,     "form_name": "DM",     "form_sequence": 1,     "itemgroups": [       {         "responseStatus": "SUCCESS",         "id": "V5400000006002",         "itemgroup_name": "igBASE_DM",         "itemgroup_sequence": 1,         "items": [           {             "responseStatus": "SUCCESS",             "id": "V5500000006005",             "item_name": "BIRTHYR",             "value": "1976"           },           {             "responseStatus": "SUCCESS",             "id": "V5500000006006",             "item_name": "SEX",             "value": "M"           }         ]       }     ]   } } </pre>

Description / Request (URL)	Response
<p>Form already open, so submit skipped (or false passed or omitted), and success but defaults used (i.e. no sequences, no change reason)</p>	
<pre> {   "study_name": "ABC-XYZ-001_DEV1",   "reopen": true,   "submit": true,   "form": {     "study_country": "United States",     "site": "001",     "subject": "101-103",     "eventgroup_name": "egSCR",     "event_name": "evSCR",     "form_name": "DM",     "itemgroups": [       {         "itemgroup_name": "igBASE_DM",         "items": [           {             "item_name": "BIRTHYR",             "value": "1976"           },           {             "item_name": "SEX",             "value": "M"           }         ]       }     ]   } } </pre>	<pre> {   "responseStatus": "SUCCESS",   "reopen": true,   "submit": true,   "change_reason": "Action performed via the API",   "externally_owned": true,   "form": {     "id": "OPT000000000507",     "form_status": "submitted_v",     "study_country": "United States",     "site": "001",     "subject": "101-103",     "eventgroup_name": "egSCR",     "eventgroup_sequence": 1,     "event_name": "evSCR",     "event_sequence": 1,     "form_name": "DM",     "form_sequence": 1,     "itemgroups": [       {         "responseStatus": "SUCCESS",         "id": "v5400000006002",         "itemgroup_name": "igBASE_DM",         "itemgroup_sequence": 1,         "items": [           {             "responseStatus": "SUCCESS",             "id": "v5500000006005",             "item_name": "BIRTHYR",             "value": "1976"           },           {             "responseStatus": "SUCCESS",             "id": "v5500000006006",             "item_name": "SEX",             "value": "M"           }         ]       }     ]   } } </pre>
<p>Failure - Reopen fails (first step) since form is currently frozen</p>	

Description / Request (URL)	Response
<pre> {   "study_name": "ABC-XYZ-001_DEV1",   "reopen": true,   "submit": true,   "form": {     "study_country": "United States",     "site": "001",     "subject": "101-103",     "eventgroup_name": "egSCR",     "event_name": "evSCR",     "form_name": "DM",     "itemgroups": [       {         "itemgroup_name": "igBASE_DM",         "items": [           {             "item_name": "BIRTHYR",             "value": "1976"           },           {             "item_name": "SEX",             "value": "M"           }         ]       }     ]   } } </pre>	<pre> {   "responseStatus": "FAILURE",   "errorMessage": "Form is frozen" } </pre>

**Failure - Form gets reopened, BUT (!) an item group issue, i.e. stops at that stage**

<pre> {   "study_name": "ABC-XYZ-001_DEV1",   "reopen": true,   "submit": true,   "form": {     "study_country": "United States",     "site": "001",     "subject": "101-103",     "eventgroup_name": "egSCR",     "event_name": "evSCR",     "form_name": "DM",     "itemgroups": [       {         "itemgroup_name": "igBASE_DM",         "itemgroup_sequence": 2,         "items": [           { </pre>	<pre> {   "responseStatus": "FAILURE",   "errorMessage": "One or more [Item Group] updates failed",   "reopen": true,   "submit": true,   "change_reason": "Action performed via the API",   "externally_owned": true,   "form": {     "id": "OPT000000000507",     "form_status": "in_progress_post_submit_v",     "study_country": "United States",     "site": "001",     "subject": "101-103",     "eventgroup_name": "egSCR",     "eventgroup_sequence": 1,     "event_name": "evSCR",     "event_sequence": 1, </pre>
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Description / Request (URL)	Response
<pre>                 "item_name": "BIRTHYR",                 "value": "1976"             },             {                 "item_name": "SEX",                 "value": "M"             }         ]     } } </pre>	<pre> "form_name": "DM", "form_sequence": 1, "itemgroups": [     {         "responseStatus": "FAILURE",         "errorMessage": "Non-repeating [Item Group Definition] with name [igBASE_DM] cannot have a sequence greater than 1",         "itemgroup_name": "igBASE_DM",         "itemgroup_sequence": 2,         "items": [             {                 "responseStatus": "FAILURE",                 "errorMessage": "Update not attempted due to another error",                 "item_name": "BIRTHYR",                 "value": "1976"             },             {                 "responseStatus": "FAILURE",                 "errorMessage": "Update not attempted due to another error",                 "item_name": "SEX",                 "value": "M"             }         ]     } ] } </pre>

**Failure - Item issues, so rollup message to IG and top**

<pre> {   "study_name": "ABC-XYZ-001_DEV1",   "reopen": true,   "submit": true,   "form": {     "study_country": "United States",     "site": "001",     "subject": "101-103",     "eventgroup_name": "egSCR",     "event_name": "evSCR",     "form_name": "DM",     "itemgroups": [       {         "itemgroup_name": "igBASE_DM",         "items": [ </pre>	<pre> "responseStatus": "FAILURE", "errorMessage": "One or more [Item] updates failed", "reopen": true, "submit": true, "change_reason": "Action performed via the API", "externally_owned": true, "form": {   "id": "OPT000000000507",   "form_status": "in_progress_post_submit_v",   "study_country": "United States",   "site": "001",   "subject": "101-103",   "eventgroup_name": "egSCR",   "eventgroup_sequence": 1, </pre>
---	---



Description / Request (URL)	Response
<pre> {   {     "item_name": "BIRTHYR",     "value": "1976"   },   {     "item_name": "SEX",     "value": "MM"   } ] } } } </pre>	<pre> "event_name": "evSCR", "event_sequence": 1, "form_name": "DM", "form_sequence": 1, "itemgroups": [   {     "responseStatus": "FAILURE",     "errorMessage": "One or more [Item] updates failed",     "itemgroup_name": "igBASE_DM",     "itemgroup_sequence": 1,     "items": [       {         "responseStatus": "SUCCESS",         "id": "V55000000006005",         "item_name": "BIRTHYR",         "value": "1976"       },       {         "responseStatus": "FAILURE",         "errorMessage": "[Codelist Item Definition] with name [MM] not found",         "item_name": "SEX",         "value": "MM"       }     ]   } ] } } } </pre>

### 9.3 Create Forms

Help Main	<p><a href="https://developer-cdms.veevavault.com/api/23.3/#create-forms">https://developer-cdms.veevavault.com/api/23.3/#create-forms</a></p> <p><b>NOTE:</b> If using this endpoint as part of a sequence to get form data updated, consider using the combination API (new at 23r1) - <a href="#">9.9 Combination API - Upsert Form Data</a>. The single endpoint will handle several in one call, and conditionally do any necessary actions without having to first inspect the existing state to perform the 'next' of the sequence of API calls. It includes add of repeating form (if not present), opening of the form (if submitted), adding of any necessary item groups (not already there), set of the item data, and optional submit of the form when finished.</p>																																				
Style	<b>POST</b>																																				
Endpoint	<your Vault URL>/api/v23.3/app/cdm/forms																																				
Parameters	<table border="1" data-bbox="354 726 1498 1115"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>forms</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>forms</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>forms</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>forms</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group</td> </tr> <tr> <td>eventgroup_sequence</td> <td>forms</td> <td>Optional</td> <td>The specific sequence of an event group. 1 assumed if omitted</td> </tr> <tr> <td>event_name</td> <td>forms</td> <td>Required</td> <td>Design <b>name</b> in the study of the event</td> </tr> <tr> <td>form_name</td> <td>forms</td> <td>Required</td> <td>Design <b>name</b> in the study of the form to add</td> </tr> </tbody> </table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	forms	Required	Name of the study country (of the subject's site)	site	forms	Required	Name/number of the site	subject	forms	Required	Subject to act on	eventgroup_name	forms	Required	Design <b>name</b> in the study of the event group	eventgroup_sequence	forms	Optional	The specific sequence of an event group. 1 assumed if omitted	event_name	forms	Required	Design <b>name</b> in the study of the event	form_name	forms	Required	Design <b>name</b> in the study of the form to add
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event_name	forms	Required	Design <b>name</b> in the study of the event																																		
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Notes	<ul style="list-style-type: none"> <li>● The action is for repeating form area of the study schedule, to add new ones as necessary</li> <li>● The limit for actions in one request is <b>100</b>.</li> <li>● It can also be used for a specific dynamic form area of the study design, to an event that <b>already</b> exists. (event non repeating)</li> <li>● When the form does not yet exist, this action <b>MUST</b> be performed first, prior to setting data on the form. (Combination API(s) are part of coming release)</li> <li>● Like many other API calls, batch add of many is allowed in one call. (Just more entries in the JSON array for <b>forms</b>)</li> <li>● Like event groups, the POST / create will blindly add the 'next', in sequence. It's good practice to inspect what forms exist already as part of a sequence of API calls. Or one can use the <b>PUT</b> / upsert instead, passing a specific <b>form_sequence</b> – which will create if not present or skip/do nothing when the sequence does exist. (see next section <a href="#">Upsert Forms</a>)</li> <li>● <b>TIP:</b> For a non-repeating event group, and <b>eventgroup_sequence</b> not strictly required, it is good practice to always include this value. Repeating event groups, later forms will need specific values.</li> </ul>																																				

## Examples

Description / Request (URL)	Response
<p><a href="#">Add of one form</a></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "forms": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 1     }   ] } </pre>
<p><a href="#">Add of two more forms, N+1 and N+2 are added (when current N exist)</a></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE"     },     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "forms": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 2     },     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",     }   ] } </pre>

Description / Request (URL)	Response
	<pre> "form_sequence": 3     }   ] } </pre>
<p><b>Attempt to add two, but the last violates the maximum repeats of that design location in the study</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE"     },     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "forms": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 4     },     {       "responseStatus": "FAILURE",       "errorMessage": "Maximum number of repeating records reached",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE"     }   ] } </pre>

## Flow Based Examples

Consider this EDC form area, **General Medical History**, a repeating section:

The location, design name wise (use SDS or other to get mappings) is Event Group = **eg\_SCREENING**, Event = **ev\_SCREENING**, Form = **MH**. The attempt to add a new form:

```

POST https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/forms

Params Authorization Headers (12) Body Pre-request Script Tests Settings
● none ● form-data ● x-www-form-urlencoded ● raw ● binary ● GraphQL JSON

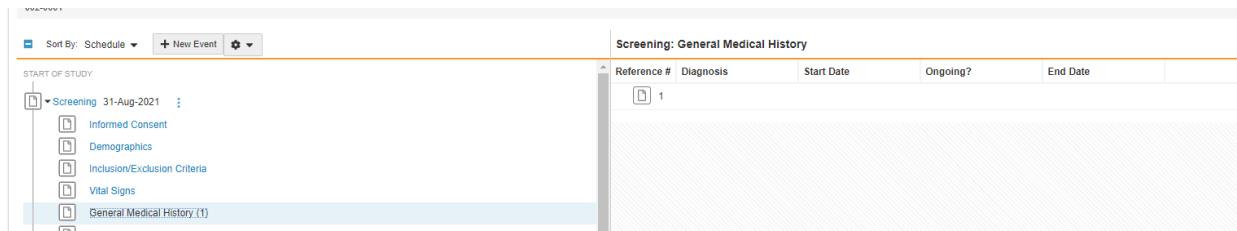
1 {
2   .... "study_name": "CSM-Demo-Study_DEV1",
3   .... "forms": [
4     {
5       .... "study_country": "United States",
6       .... "site": "002",
7       .... "subject": "002-0001",
8       .... "eventgroup_name": "eg_SCREENING",
9       .... "event_name": "ev_SCREENING",
10      .... "form_name": "MH"
11    }
12  ]
13 }

Body Cookies Headers (16) Test Results Status: 200 OK Tim
Pretty Raw Preview Visualize JSON

1 {
2   "responseStatus": "SUCCESS",
3   "forms": [
4     {
5       "responseStatus": "SUCCESS",
6       "study_country": "United States",
7       "site": "002",
8       "subject": "002-0001",
9       "eventgroup_name": "eg_SCREENING",
10      "eventgroup_sequence": 1,
11      "event_name": "ev_SCREENING",
12      "event_sequence": 1,
13      "form_name": "MH",
14      "form_sequence": 1

```

...which yields the new form in the EDC UI (blank):



The visual '**Reference #**' in the EDC UI is the API **form\_sequence**.

Calling the API again (blindly):

```

Body Cookies Headers (16) Test Results
Pretty Raw Preview Visualize JSON
1
2   "responseStatus": "SUCCESS",
3   "forms": [
4     {
5       "responseStatus": "SUCCESS",
6       "study_country": "United States",
7       "site": "002",
8       "subject": "002-0001",
9       "eventgroup_name": "eg_SCREENING",
10      "eventgroup_sequence": 1,
11      "event_name": "ev_SCREENING",
12      "event_sequence": 1,
13      "form_name": "MH",
14      "form_sequence": 2

```

.. note the **form\_sequence: 2** – i.e., a 2<sup>nd</sup> form is/was added. This can be dangerous in sequences where data is being updated, so inspecting existing forms is always recommended.

## 9.4 Upsert Forms

Help Main	<p><a href="https://developer-cdms.veevavault.com/api/23.3/#upsert-forms">https://developer-cdms.veevavault.com/api/23.3/#upsert-forms</a></p> <p><b>NOTE:</b> If using this endpoint as part of a sequence to get form data updated, consider using the combination API (new at 23r1) - <a href="#">9.9 Combination API - Upsert Form Data</a>. The single endpoint will handle several in one call, and conditionally do any necessary actions without having to first inspect the existing state to perform the 'next' of the sequence of API calls. It includes add of repeating form (if not present), opening of the form (if submitted), adding of any necessary item groups (not already there), set of the item data, and optional submit of the form when finished.</p>																																								
Style	<b>PUT</b>																																								
Endpoint	<your Vault URL>/api/v23.3/app/cdm/forms																																								
Parameters	<table border="1" data-bbox="354 726 1498 1161"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>forms</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>forms</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>forms</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>forms</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group</td> </tr> <tr> <td>eventgroup_sequence</td> <td>forms</td> <td>Optional</td> <td>The specific sequence of an event group. 1 assumed if omitted</td> </tr> <tr> <td>event_name</td> <td>forms</td> <td>Required</td> <td>Design <b>name</b> in the study of the event</td> </tr> <tr> <td>form_name</td> <td>forms</td> <td>Required</td> <td>Design <b>name</b> in the study of the form to add</td> </tr> <tr> <td>form_sequence</td> <td>forms</td> <td>Required</td> <td>The specific sequence to add (or skip, if already exists)</td> </tr> </tbody> </table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	forms	Required	Name of the study country (of the subject's site)	site	forms	Required	Name/number of the site	subject	forms	Required	Subject to act on	eventgroup_name	forms	Required	Design <b>name</b> in the study of the event group	eventgroup_sequence	forms	Optional	The specific sequence of an event group. 1 assumed if omitted	event_name	forms	Required	Design <b>name</b> in the study of the event	form_name	forms	Required	Design <b>name</b> in the study of the form to add	form_sequence	forms	Required	The specific sequence to add (or skip, if already exists)
Name	Array	Req/Opt	Notes																																						
study_name		Required	Name of the study																																						
study_country	forms	Required	Name of the study country (of the subject's site)																																						
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form_sequence	forms	Required	The specific sequence to add (or skip, if already exists)																																						
Notes	<ul style="list-style-type: none"> <li>• The action is for repeating form area of the study schedule, to add new ones as necessary</li> <li>• The limit for actions in one request is <b>100</b>.</li> <li>• It can also be used for a specific dynamic form area of the study design, to an event that <b>already</b> exists. (event non repeating)</li> <li>• When the form does not yet exist, this action <b>MUST</b> be performed first, prior to setting data on the form. (Combination API(s) are part of coming release)</li> <li>• Like many other API calls, batch add of many is allowed in one call. (Just more entries in the JSON array for <b>forms</b>)</li> <li>• The <b>Add Forms</b> (previous section) is the equivalent of clicking <b>Add</b> in the EDC UI, receiving the 'next' in sequence. This endpoint differs in that one is asking for a very specific sequence to be added (or skipped in add, if existing).</li> <li>• <b>TIP:</b> For a non-repeating event group, and <b>eventgroup_sequence</b> not strictly required, it is good practice to always include this value. Repeating event groups, later forms will need specific values.</li> <li>• <b>WARNING:</b> The sequences of forms should be added in order. Leaving a 'hole' (e.g. Form Sequence = 2, where Form Sequence = 1 entry does not exist) should be avoided, and will be enforced as an error at this or later release.</li> </ul>																																								

## Examples

Description / Request (URL)	Response
Add of one (doesn't currently exist)	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE",       "form_sequence": 1     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "forms": [     {       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 1     }   ] } </pre>
Attempt Upsert at location where form exists already (Essentially SKIPPED)	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE",       "form_sequence": 1     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "forms": [     {       "responseStatus": "SUCCESS:UPDATED",       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 1     }   ] } </pre>
Add of many, with the last hitting the maximum repeats of study design at that location	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "study_country": "United States", </pre>	<pre> {   "responseStatus": "SUCCESS",   "forms": [     { </pre>



Description / Request (URL)	Response
<pre>       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE".       "form_sequence": 4     },     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE".       "form_sequence": 5     },     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE".       "form_sequence": 6     }   ] } </pre>	<pre>       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 4     },     {       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 5     },     {       "responseStatus": "FAILURE",       "errorMessage": "Maximum number of repeating records reached",       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 6     }   ] } </pre>

## 9.5 Create Item Groups

Help Main	<p><a href="https://developer-cdms.veevavault.com/api/23.3/#create-item-groups">https://developer-cdms.veevavault.com/api/23.3/#create-item-groups</a></p> <p><b>NOTE:</b> If using this endpoint as part of a sequence to get form data updated, consider using the combination API (new at 23r1) - <a href="#">9.9 Combination API - Upsert Form Data</a>. The single endpoint will handle several in one call, and conditionally do any necessary actions without having to first inspect the existing state to perform the 'next' of the sequence of API calls. It includes add of repeating form (if not present), opening of the form (if submitted), adding of any necessary item groups (not already there), set of the item data, and optional submit of the form when finished.</p>																																												
Style	<b>POST</b>																																												
Endpoint	<your Vault URL>/api/v23.3/app/cdm/itemgroups																																												
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>itemgroups</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>itemgroups</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>itemgroups</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>itemgroups</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group</td> </tr> <tr> <td>eventgroup_sequence</td> <td>itemgroups</td> <td>Optional</td> <td>The specific sequence of an event group. 1 assumed if omitted</td> </tr> <tr> <td>event_name</td> <td>itemgroups</td> <td>Required</td> <td>Design <b>name</b> in the study of the event</td> </tr> <tr> <td>form_name</td> <td>itemgroups</td> <td>Required</td> <td>Design <b>name</b> in the study of the form</td> </tr> <tr> <td>form_sequence</td> <td>itemgroups</td> <td>Optional</td> <td>The specific sequence of the form where add will occur. 1 assumed if omitted</td> </tr> <tr> <td>itemgroup_name</td> <td>itemgroups</td> <td>Required</td> <td>Design <b>name</b> in the study of the item group to add</td> </tr> </tbody> </table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	itemgroups	Required	Name of the study country (of the subject's site)	site	itemgroups	Required	Name/number of the site	subject	itemgroups	Required	Subject to act on	eventgroup_name	itemgroups	Required	Design <b>name</b> in the study of the event group	eventgroup_sequence	itemgroups	Optional	The specific sequence of an event group. 1 assumed if omitted	event_name	itemgroups	Required	Design <b>name</b> in the study of the event	form_name	itemgroups	Required	Design <b>name</b> in the study of the form	form_sequence	itemgroups	Optional	The specific sequence of the form where add will occur. 1 assumed if omitted	itemgroup_name	itemgroups	Required	Design <b>name</b> in the study of the item group to add
Name	Array	Req/Opt	Notes																																										
study_name		Required	Name of the study																																										
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itemgroup_name	itemgroups	Required	Design <b>name</b> in the study of the item group to add																																										
Notes	<ul style="list-style-type: none"> <li>• The action is for repeating item groups, within a form that are repeating in nature (only).</li> <li>• The limit for actions in one request is <b>100</b>.</li> <li>• The endpoint is the equivalent of the EDC UI <b>Add Section</b> button, i.e. adds the 'next' in sequence</li> <li>• The <b>Maximum Repeats</b> value of the study design will be enforced when attempting to add more than allowed by study design.</li> <li>• When later setting data, the <a href="#">Upsert Form Data</a> (later section) will automatically add any item groups that do not exist (and are repeating).</li> <li>• Like many other API calls, batch add of many is allowed in one call. (Just more entries in the JSON array for <b>itemgroups</b>)</li> <li>• Like event groups, forms that repeat, the <b>POST</b> / create will blindly add the 'next', in sequence. It's good practice to inspect what forms exist already as part of a sequence of API calls. Or one can use the <b>PUT</b> / Upsert instead (next section), passing a specific <b>itemgroup_sequence</b> – which will create if not present or skip/do nothing when the sequence does exist.</li> </ul>																																												

## Examples

Description / Request (URL)	Response
<p><b>Add of one (next)</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "itemgroups": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "event_name": "evSCR",       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "itemgroups": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2",       "itemgroup_sequence": 1     }   ] } </pre>
<p><b>Add of three, but maximum repeats is 2 at that location</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "itemgroups": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "event_name": "evSCR",       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2"     },     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "event_name": "evSCR",       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2"     },     {       "study_country": "United States", </pre>	<pre> {   "responseStatus": "SUCCESS",   "itemgroups": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2",       "itemgroup_sequence": 1     },     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR", </pre>

Description / Request (URL)	Response
<pre> "site": "101", "subject": "SCR-0002", "eventgroup_name": "egSCR", "event_name": "evSCR", "form_name": "IE", "form_sequence": 1, "itemgroup_name": "ig-IE2" } ] } </pre>	<pre> "event_sequence": 1, "form_name": "IE", "form_sequence": 1, "itemgroup_name": "ig-IE2", "itemgroup_sequence": 2 }, { "responseStatus": "FAILURE", "errorMessage": "Maximum number of repeating records reached", "study_country": "United States", "site": "101", "subject": "SCR-0002", "eventgroup_name": "egSCR", "eventgroup_sequence": 1, "event_name": "evSCR", "event_sequence": 1, "form_name": "IE", "form_sequence": 1, "itemgroup_name": "ig-IE2" } ] } </pre>

## Flow Based Example

The location, design name wise (use SDS or other to get mappings) is Event Group = **eg\_SCREENING**, Event = **ev\_SCREENING**, Form = **IE**, Item Group = **IECAT**. The first item group add:

The screenshot shows a REST client interface with a POST request to `https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/itemgroups`. The request body is a JSON object with the following fields:

```

1 {
2   "study_name": "CSM Demo Study_DEV1",
3   "itemgroups": [
4     {
5       "study_country": "United States",
6       "site": "002",
7       "subject": "002-0001",
8       "eventgroup_name": "eg_SCREENING",
9       "eventgroup_sequence": 1,
10      "event_name": "ev_SCREENING",
11      "form_name": "IE",
12      "form_sequence": 1,
13      "itemgroup_name": "IECAT"
14    }
15  ]

```

The response body is a JSON object with the following fields:

```

1 {
2   "responseStatus": "SUCCESS",
3   "itemgroups": [
4     {
5       "responseStatus": "SUCCESS",
6       "study_country": "United States",
7       "site": "002",
8       "subject": "002-0001",
9       "eventgroup_name": "eg_SCREENING",
10      "eventgroup_sequence": 1,
11      "event_name": "ev_SCREENING",
12      "event_sequence": 1,
13      "form_name": "IE",
14      "form_sequence": 1,
15      "itemgroup_name": "IECAT",
16      "itemgroup_sequence": 1
17    }
18  ]

```

The status bar indicates a 200 OK response.

... resulting in the EDC UI view:

The screenshot shows the EDC UI interface for a subject (002-0001). The left sidebar shows a tree view of events, with "Screening 31-Aug-2021" selected. The main content area displays the "Screening (31-Aug-2021): Inclusion/Exclusion Criteria" section. The "Eligibility Criteria" section includes the following questions and options:

- Did the subject meet all inclusion and exclusion criteria?  No  Yes
- What ARM was the subject assigned?  Arm 1  Arm 2

The "Inclusion Criteria Not Met and Exclusion Criteria Met (1 of 1)" section shows a dropdown menu for "Inclusion/Exclusion criteria not met".

Calling the **POST** again, a 2<sup>nd</sup> will be blindly added. Always consider inspecting what is currently on the form during an update sequence.

```
1 {
2   "study_name": "CSM Demo Study_DEV1",
3   "itemgroups": [
4     {
5       "study_country": "United States",
6       "site": "002",
7       "subject": "002-0001",
8       "eventgroup_name": "eg_SCREENING",
9       "eventgroup_sequence": 1,
10      "event_name": "ev_SCREENING",
11      "form_name": "IE",
12      "form_sequence": 1,
13      "itemgroup_name": "IECAT"
14    }
15  ]

```

Body Cookies Headers (16) Test Results

Pretty Raw Preview Visualize JSON

```
1 {
2   "responseStatus": "SUCCESS",
3   "itemgroups": [
4     {
5       "responseStatus": "SUCCESS",
6       "study_country": "United States",
7       "site": "002",
8       "subject": "002-0001",
9       "eventgroup_name": "eg_SCREENING",
10      "eventgroup_sequence": 1,
11      "event_name": "ev_SCREENING",
12      "event_sequence": 1,
13      "form_name": "IE",
14      "form_sequence": 1,
15      "itemgroup_name": "IECAT",
16      "itemgroup_sequence": 2

```

... with result a 2<sup>nd</sup> item group / area on the form:

Inclusion Criteria Not Met and Exclusion Criteria Met (1 of 2)

Inclusion/Exclusion criteria not met

Inclusion Criteria Not Met and Exclusion Criteria Met (2 of 2)

Inclusion/Exclusion criteria not met

+ New Section

## 9.6 Upsert Item Groups

Help Main	<p><a href="https://developer-cdms.veevavault.com/api/23.3/#upsert-item-groups">https://developer-cdms.veevavault.com/api/23.3/#upsert-item-groups</a></p> <p><b>NOTE:</b> If using this endpoint as part of a sequence to get form data updated, consider using the combination API (new at 23r1) - <a href="#">9.9 Combination API - Upsert Form Data</a>. The single endpoint will handle several in one call, and conditionally do any necessary actions without having to first inspect the existing state to perform the 'next' of the sequence of API calls. It includes add of repeating form (if not present), opening of the form (if submitted), adding of any necessary item groups (not already there), set of the item data, and optional submit of the form when finished.</p>																																																
Style	<b>PUT</b>																																																
Endpoint	<your Vault URL>/api/v23.3/app/cdm/itemgroups																																																
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>itemgroups</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>itemgroups</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>itemgroups</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>itemgroups</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group</td> </tr> <tr> <td>eventgroup_sequence</td> <td>itemgroups</td> <td>Optional</td> <td>The specific sequence of an event group. 1 assumed if omitted</td> </tr> <tr> <td>event_name</td> <td>itemgroups</td> <td>Required</td> <td>Design <b>name</b> in the study of the event</td> </tr> <tr> <td>form_name</td> <td>itemgroups</td> <td>Required</td> <td>Design <b>name</b> in the study of the form</td> </tr> <tr> <td>form_sequence</td> <td>itemgroups</td> <td>Optional</td> <td>The specific sequence of the form where add will occur. 1 assumed if omitted</td> </tr> <tr> <td>itemgroup_name</td> <td>itemgroups</td> <td>Required</td> <td>Design <b>name</b> in the study of the item group to add</td> </tr> <tr> <td>itemgroup_sequence</td> <td>itemgroups</td> <td>Required</td> <td>The specific sequence to add, or skip if it does not exist yet</td> </tr> </tbody> </table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	itemgroups	Required	Name of the study country (of the subject's site)	site	itemgroups	Required	Name/number of the site	subject	itemgroups	Required	Subject to act on	eventgroup_name	itemgroups	Required	Design <b>name</b> in the study of the event group	eventgroup_sequence	itemgroups	Optional	The specific sequence of an event group. 1 assumed if omitted	event_name	itemgroups	Required	Design <b>name</b> in the study of the event	form_name	itemgroups	Required	Design <b>name</b> in the study of the form	form_sequence	itemgroups	Optional	The specific sequence of the form where add will occur. 1 assumed if omitted	itemgroup_name	itemgroups	Required	Design <b>name</b> in the study of the item group to add	itemgroup_sequence	itemgroups	Required	The specific sequence to add, or skip if it does not exist yet
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Notes	<ul style="list-style-type: none"> <li>• The action is for repeating item groups, within a form that are repeating in nature (only).</li> <li>• The limit for actions in one request is <b>100</b>.</li> <li>• The endpoint is the equivalent of the EDC UI <b>Add Section</b> button, but for a specific sequence. The action will add the item group if it does not exist, or skip the action if it already exists.</li> <li>• The <b>Maximum Repeats</b> value of the study design will be enforced when attempting to add more than allowed by study design.</li> <li>• <b>Unlike</b> the upsert for event groups and forms, the attempt to upsert at a sequence where it would otherwise leave 'gaps' in the sequences, the attempt for itemgroups will instead add all necessary. Example: No item groups exist currently, and attempt uses itemgroup_sequence=3, the result will be the addition of 3 item groups, sequence 1, 2, and 3.</li> <li>• <b>TIP:</b> When later setting data, the <a href="#">Upsert Form Data</a> (later section) will automatically add any item groups that do not exist (and are repeating). This alleviates the need to inspect and add item groups before setting specific data (i.e. need to do both)</li> <li>• Like many other API calls, batch add of many is allowed in one call. (Just more entries in the JSON array for <b>itemgroups</b>)</li> </ul>																																																

### Examples

Description / Request (URL)	Response
<p><b>Two adds, successful</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "itemgroups": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0006",       "eventgroup_name": "egSCR",       "event_name": "evSCR",       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2",       "itemgroup_sequence": 1     },     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0006",       "eventgroup_name": "egSCR",       "event_name": "evSCR",       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2",       "itemgroup_sequence": 2     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "itemgroups": [     {       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",       "subject": "SCR-0006",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2",       "itemgroup_sequence": 1     },     {       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",       "subject": "SCR-0006",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2",       "itemgroup_sequence": 2     }   ] } </pre>
<p><b>Add attempt, but the item group already exists (essentially SKIPPED)</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "itemgroups": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0006",       "eventgroup_name": "egSCR",       "event_name": "evSCR",       "form_name": "IE", </pre>	<pre> {   "responseStatus": "SUCCESS",   "itemgroups": [     {       "responseStatus": "SUCCESS:UPDATED",       "study_country": "United States",       "site": "101",       "subject": "SCR-0006",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1, </pre>



Description / Request (URL)	Response
<pre> "form_sequence": 1, "itemgroup_name": "ig-IE2", "itemgroup_sequence": 1 } ] } </pre>	<pre> "event_name": "evSCR", "event_sequence": 1, "form_name": "IE", "form_sequence": 1, "itemgroup_name": "ig-IE2", "itemgroup_sequence": 1 } ] } </pre>

Add of a later sequence - the result is add of all 'up to', i.e. gaps filled

<pre> {   "study_name": "ABCP-2022-01_DEV1",   "itemgroups": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0007",       "eventgroup_name": "egSCR",       "event_name": "evSCR",       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2",       "itemgroup_sequence": 2     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "itemgroups": [     {       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",       "subject": "SCR-0006",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2",       "itemgroup_sequence": 1     },     {       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",       "subject": "SCR-0006",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2",       "itemgroup_sequence": 2     }   ] } </pre>
---	--

Add of a later sequence - the result is add of all 'up to', i.e. gaps filled

<pre> {   "study_name": "ABCP-2022-01_DEV1", </pre>	<pre> {   "responseStatus": "SUCCESS", </pre>
---	---

Description / Request (URL)	Response
<pre> "itemgroups": [   {     "study_country": "United States",     "site": "101",     "subject": "SCR-0006",     "eventgroup_name": "egSCR",     "event_name": "evSCR",     "form_name": "IE",     "form_sequence": 1,     "itemgroup_name": "ig-IE2",     "itemgroup_sequence": 5   },   {     "study_country": "United States",     "site": "101",     "subject": "SCR-0006",     "eventgroup_name": "egSCR",     "event_name": "evSCR",     "form_name": "IE",     "form_sequence": 1,     "itemgroup_name": "ig-IE2",     "itemgroup_sequence": 6   } ] </pre>	<pre> "itemgroups": [   {     "responseStatus": "SUCCESS:CREATED",     "study_country": "United States",     "site": "101",     "subject": "SCR-0006",     "eventgroup_name": "egSCR",     "eventgroup_sequence": 1,     "event_name": "evSCR",     "event_sequence": 1,     "form_name": "IE",     "form_sequence": 1,     "itemgroup_name": "ig-IE2",     "itemgroup_sequence": 5   },   {     "responseStatus": "FAILURE",     "errorMessage": "Maximum number of repeating records reached",     "study_country": "United States",     "site": "101",     "subject": "SCR-0006",     "eventgroup_name": "egSCR",     "eventgroup_sequence": 1,     "event_name": "evSCR",     "event_sequence": 1,     "form_name": "IE",     "form_sequence": 1,     "itemgroup_name": "ig-IE2",   } ] </pre>

## 9.7 Set/Upsert Form Data (Items)

Help Main	<p><a href="https://developer-cdms.veevavault.com/api/23.3/#set-form-data">https://developer-cdms.veevavault.com/api/23.3/#set-form-data</a> (POST)  <a href="https://developer-cdms.veevavault.com/api/23.3/#upsert-form-data">https://developer-cdms.veevavault.com/api/23.3/#upsert-form-data</a> (PUT, to same endpoint)</p> <p><b>NOTE:</b> If using this endpoint as part of a sequence to get form data updated, consider using the combination API (new at 23r1) - <a href="#">9.9 Combination API - Upsert Form Data</a>. The single endpoint will handle several in one call, and conditionally do any necessary actions without having to first inspect the existing state to perform the 'next' of the sequence of API calls. It includes add of repeating form (if not present), opening of the form (if submitted), adding of any necessary item groups (not already there), set of the item data, and optional submit of the form when finished.</p>																																																																				
Style(s)	<p><b>POST</b> (runs as add / update)  <b>PUT</b> (runs as upsert)</p>																																																																				
Endpoint	<p>&lt;your Vault URL&gt;/api/v23.3/app/cdm/items</p>																																																																				
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Notes	<ul style="list-style-type: none"> <li>• The action is for setting data on fields of a form</li> <li>• The limit for actions in one request is <b>25</b> forms total, and no one form with items more than <b>100</b>.</li> <li>• The differences between <b>POST</b> and <b>PUT</b> style:             <ul style="list-style-type: none"> <li>○ <b>POST</b> style requires that all item groups (i.e. if repeating) must exist first.</li> </ul> </li> </ul>																																																																				

	<ul style="list-style-type: none"> <li>○ <b>PUT</b> style does not require the specific upsert of any necessary item groups on the form. They are automatically added where needed</li> <li>○ The 'inner' status on the PUT style includes the secondary status of 'CREATED' (item group of the item was created) or 'UPDATED' (item already existed)</li> <li>○ <b>TIP:</b> Consider always using the PUT / upsert.</li> </ul> <ul style="list-style-type: none"> <li>● Note the array at top level is the <b>forms</b> (json array) to direct data to, multiple forms can be targeted in one API call. The 2<sup>nd</sup> level items, which are the items on that form, each of which requires itemgroup_name, item_name, value, and other parameters, based on the field type.</li> <li>● See the table below for guidelines based on EDC field type</li> <li>● <b>WARNING:</b> If a form is submitted state, it must first be opened for edit via a different API endpoint, Edit Form (later section), before proceeding with the update of data. Currently there is no parameter to allow for conditional open for edit, during the call to update data on a form, not a parameter to additionally submit the form once data is updated/added.</li> <li>● <b>TIP:</b> Although the example above is from a Screening event, in a non-repeating event group, and <b>eventgroup_sequence</b> is not strictly required it is good practice to always include this value. The same is true for the sequence of form, and of course itemgroup (of the items being updated)</li> <li>● <b>WARNING:</b> As of the 22R2 release - item groups on forms that are used in the Local Labs module are disallowed from updates through the API.</li> </ul>
--	---

### Setting Data by Item Type

Item Type	Example	Notes
<b>Checkbox</b>		
	"value": "true"	i.e. checked
	"value": "false"	i.e. unchecked
	"value": ""	Has the same effect as false - Suggestion is to use true / false always in payload.
	(any other value)	<b>Error returned</b>
<b>Codelist</b>		
	"value": "Y"	i.e. assuming that codelist has a <b>code</b> value of "Y" in its
	"value": ""	Empty / unset the selection
	(any other value, i.e. not a codelist code)	<b>Error returned</b>
<b>URL</b>		
	"value": "https://www.google.com"	Set the value to a URL, on screen user can click to navigate to the URL, in another tab
	"value": ""	Empty / unset the value
	(any value that does not start http or ftp)	<b>Error returned</b>
<b>Text Field</b>		
	"value": "Here is my text in the field"	Set a value
	"value": ""	Empty / unset the value
	(value over max length)	<b>Error returned</b>
<b>Numeric (Integer or Decimal)</b>		
	"value": "3"	E.g. a field with precision = 0 (no decimal portion)

Item Type	Example	Notes
	"value": "13.4"	E.g. a decimal portion allowed field (precision > 0)
	"value": ""	Empty / unset the value
	(not numeric or violates length or precision)	<b>Error returned</b>
<b>Date Field</b>		
	"value": "2022-06-01"	E.g. to set June 1st, 2022
	"value": ""	Empty / unset the value
	"value": "2022-UN-UN"	E.g. when the field allows unknowns in month and/or day. <b>UN</b> must be used in the appropriate portion
	(bad date, not of proper format, YYYY-MM-DD)	<b>Error returned</b>
<b>Date Time Field</b>		
	"value": "2022-06-01T12:30:00Z"	Set the datetime in full, this will take on the 'on screen' value (not the normalized)
	"value": ""	Empty / unset the value
	(bad date, not of proper format, yyyy-MM-ddTHH:mmZ)	<b>Error returned</b>
<b>Time Field</b>		
	"value": "12:30"	Set the time value
	"value": ""	Empty / unset the value
	(bad date, not of proper format, HH:mm)	<b>Error returned</b>
<b>Unit Codelist</b>		
	"value": "62.2" "unit_value": "in"	E.g. 'in' is a valid <b>code</b> in the unit codelist definition.
	"value": "" "unit_value": ""	Empty / unset the value
	"value": "62.2"	<b>Error returned (must have both)</b>
	(any violation of length, precision, or invalid unit code)	<b>Error returned</b>

## Examples

Description / Request (URL)	Response
Set of data on a form with one of each field/item type	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "site": "101",       "study_country": "United States",       "subject": "SCR-0001",     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "items": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",     }   ] }</pre>

Description / Request (URL)	Response
<pre> "eventgroup_name": "egUNS", "eventgroup_sequence": 3, "event_name": "evUNS", "form_name": "OE", "form_sequence": 1, "items": [   {     "itemgroup_name": "igOE",     "itemgroup_sequence": 1,     "item_name": "CB",     "value": "true"   },   {     "itemgroup_name": "igOE",     "itemgroup_sequence": 1,     "item_name": "CL",     "value": "Y"   },   {     "itemgroup_name": "igOE",     "itemgroup_sequence": 1,     "item_name": "DATEONLY",     "value": "2022-06-01"   },   {     "itemgroup_name": "igOE",     "itemgroup_sequence": 1,     "item_name": "DATEONLY_UNKS",     "value": "2022-UN-UN"   },   {     "itemgroup_name": "igOE",     "itemgroup_sequence": 1,     "item_name": "DATEANDTIME",     "value": "2022-06-01T12:30Z"   },   {     "itemgroup_name": "igOE",     "itemgroup_sequence": 1,     "item_name": "DT_WITH_UNKS",     "value": "2022-06-UNTUN:UNZ"   },   {     "itemgroup_name": "igOE",     "itemgroup_sequence": 1,     "item_name": "INTFIELD",     "value": "3"   } ], </pre>	<pre> "subject": "SCR-0001", "eventgroup_name": "egUNS", "eventgroup_sequence": 3, "event_name": "evUNS", "event_sequence": 1, "form_name": "OE", "form_sequence": 1, "itemgroup_name": "igOE", "itemgroup_sequence": 1, "item_name": "CB", "value": "true", "change_reason": "Action performed via the API", "externally_owned": true }, {   "responseStatus": "SUCCESS",   "study_country": "United States",   "site": "101",   "subject": "SCR-0001",   "eventgroup_name": "egUNS",   "eventgroup_sequence": 3,   "event_name": "evUNS",   "event_sequence": 1,   "form_name": "OE",   "form_sequence": 1,   "itemgroup_name": "igOE",   "itemgroup_sequence": 1,   "item_name": "CL",   "value": "Y",   "change_reason": "Action performed via the API",   "externally_owned": true }, {   "responseStatus": "SUCCESS",   "study_country": "United States",   "site": "101",   "subject": "SCR-0001",   "eventgroup_name": "egUNS",   "eventgroup_sequence": 3,   "event_name": "evUNS",   "event_sequence": 1,   "form_name": "OE",   "form_sequence": 1,   "itemgroup_name": "igOE",   "itemgroup_sequence": 1,   "item_name": "DATEONLY",   "value": "2022-06-01",   "change_reason": "Action performed via the API", </pre>

Description / Request (URL)	Response
<pre> {   "itemgroup_name": "igOE",   "itemgroup_sequence": 1,   "item_name": "DECIMAL",   "value": "5.2" }, {   "itemgroup_name": "igOE",   "itemgroup_sequence": 1,   "item_name": "UCLFIELD",   "value": "2.1",   "unit_value": "double_std" }, {   "itemgroup_name": "igOE",   "itemgroup_sequence": 1,   "item_name": "URL_FIELD",   "value": "https://www.google.com" }, {   "itemgroup_name": "igOE",   "itemgroup_sequence": 1,   "item_name": "SHORTTXT",   "value": "Some text short" }, {   "itemgroup_name": "igOE",   "itemgroup_sequence": 1,   "item_name": "LONGTXT",   "value": "Some text in a long text field \n with a line break in the payload" } ] } </pre>	<pre> "externally_owned": true }, {   "responseStatus": "SUCCESS",   "study_country": "United States",   "site": "101",   "subject": "SCR-0001",   "eventgroup_name": "egUNS",   "eventgroup_sequence": 3,   "event_name": "evUNS",   "event_sequence": 1,   "form_name": "OE",   "form_sequence": 1,   "itemgroup_name": "igOE",   "itemgroup_sequence": 1,   "item_name": "DATEONLY_UNKS",   "value": "2022-UN-UN",   "change_reason": "Action performed via the API",   "externally_owned": true }, {   "responseStatus": "SUCCESS",   "study_country": "United States",   "site": "101",   "subject": "SCR-0001",   "eventgroup_name": "egUNS",   "eventgroup_sequence": 3,   "event_name": "evUNS",   "event_sequence": 1,   "form_name": "OE",   "form_sequence": 1,   "itemgroup_name": "igOE",   "itemgroup_sequence": 1,   "item_name": "DATEANDTIME",   "value": "2022-06-01T12:30Z",   "change_reason": "Action performed via the API",   "externally_owned": true }, {   "responseStatus": "SUCCESS",   "study_country": "United States",   "site": "101",   "subject": "SCR-0001",   "eventgroup_name": "egUNS",   "eventgroup_sequence": 3,   "event_name": "evUNS",   "event_sequence": 1,   "form_name": "OE", </pre>

Description / Request (URL)	Response
	<pre> "form_sequence": 1, "itemgroup_name": "igOE", "itemgroup_sequence": 1, "item_name": "DT_WITH_UNKS", "value": "2022-06-UNTUN:UNZ", "change_reason": "Action performed via the API", "externally_owned": true }, { "responseStatus": "SUCCESS", "study_country": "United States", "site": "101", "subject": "SCR-0001", "eventgroup_name": "egUNS", "eventgroup_sequence": 3, "event_name": "evUNS", "event_sequence": 1, "form_name": "OE", "form_sequence": 1, "itemgroup_name": "igOE", "itemgroup_sequence": 1, "item_name": "INTFIELD", "value": "3", "change_reason": "Action performed via the API", "externally_owned": true }, { "responseStatus": "SUCCESS", "study_country": "United States", "site": "101", "subject": "SCR-0001", "eventgroup_name": "egUNS", "eventgroup_sequence": 3, "event_name": "evUNS", "event_sequence": 1, "form_name": "OE", "form_sequence": 1, "itemgroup_name": "igOE", "itemgroup_sequence": 1, "item_name": "DECIMAL", "value": "5.2", "change_reason": "Action performed via the API", "externally_owned": true }, { "responseStatus": "SUCCESS", "study_country": "United States", "site": "101", </pre>



Description / Request (URL)	Response
	<pre> "subject": "SCR-0001", "eventgroup_name": "egUNS", "eventgroup_sequence": 3, "event_name": "evUNS", "event_sequence": 1, "form_name": "OE", "form_sequence": 1, "itemgroup_name": "igOE", "itemgroup_sequence": 1, "item_name": "UCLFIELD", "value": "2.1", "unit_value": "double_std", "change_reason": "Action performed via the API", "externally_owned": true }, { "responseStatus": "SUCCESS", "study_country": "United States", "site": "101", "subject": "SCR-0001", "eventgroup_name": "egUNS", "eventgroup_sequence": 3, "event_name": "evUNS", "event_sequence": 1, "form_name": "OE", "form_sequence": 1, "itemgroup_name": "igOE", "itemgroup_sequence": 1, "item_name": "URL_FIELD", "value": "https://www.google.com" , "change_reason": "Action performed via the API", "externally_owned": true }, { "responseStatus": "SUCCESS", "study_country": "United States", "site": "101", "subject": "SCR-0001", "eventgroup_name": "egUNS", "eventgroup_sequence": 3, "event_name": "evUNS", "event_sequence": 1, "form_name": "OE", "form_sequence": 1, "itemgroup_name": "igOE", "itemgroup_sequence": 1, "item_name": "SHORTTXT", "value": "Some text short", </pre>

Description / Request (URL)	Response
	<pre> "change_reason": "Action performed via the API", "externally_owned": true     },     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0001",       "eventgroup_name": "egUNS",       "eventgroup_sequence": 3,       "event_name": "evUNS",       "event_sequence": 1,       "form_name": "OE",       "form_sequence": 1,       "itemgroup_name": "igOE",       "itemgroup_sequence": 1,       "item_name": "LONGTXT",       "value": "Some text in a long text field \n with a line break in the payload" ,       "change_reason": "Action performed via the API",       "externally_owned": true     }   ] } </pre>

**Change of an item (i.e. reopened form, then update)**

<pre> {   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "site": "101",       "study_country": "United States",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "form_name": "DM",       "form_sequence": 1,       "items": [         {           "itemgroup_name": "ig-DM",           "itemgroup_sequence": 1,           "item_name": "BRTHDAT",           "value": "1981-03-03",           "change_reason": "Updated by integration"         }       ]     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "items": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "DM",       "form_sequence": 1,       "itemgroup_name": "ig-DM",       "itemgroup_sequence": 1,       "item_name": "BRTHDAT",       "value": "1981-03-03",       "change_reason": "Updated by integration",       "externally_owned": true     }   ] } </pre>
--	---

Description / Request (URL)	Response
<pre> } ] } </pre>	<pre> } </pre>
<p><a href="#">PUT style (upsert)</a></p>	
<p>Other examples apply, except the response status indicates if the item was created (in an item group that was also created, or updated if it already exists). 'SUCCESS:UPDATED' is also returned if no changes were made.</p>	<pre> {   "responseStatus": "SUCCESS",   "items": [     {       "responseStatus": "SUCCESS:CREATED",       :       :     }   ] } OR {   "responseStatus": "SUCCESS",   "items": [     {       "responseStatus": "SUCCESS:UPDATED",       :       :     }   ] } </pre>

## Flow Based Examples

Consider the **General Medical History** form of **Screening** visit of the example study:

The screenshot shows a web-based form titled "General Medical History" for a "Screening (31-Aug-2021)" visit. The form is part of a sequence of 3 items. The "Diagnosis" field is a text input with a character count of 0/100. The "Start Date" field is a date picker. The "Ongoing?" field has radio buttons for "No" and "Yes".

... it has 3 items on it. It is a repeating form, so **form\_sequence** value in the API call is vital. There are no repeating item groups on the form, so **itemgroup\_sequence** for each of the items is '1' (or can be omitted from the request)

The API body setting 2 of the 3 items:

**POST** <https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/items>

Params Authorization Headers (12) **Body** Pre-request Script Tests Settings

● none ● form-data ● x-www-form-urlencoded ● **raw** ● binary ● GraphQL **JSON** ▾

```

1  {
2  ... "study_name": "CSM Demo Study_DEV1",
3  ... "forms": [
4  ... |
5  ... |   "study_country": "United States",
6  ... |   "site": "002",
7  ... |   "subject": "002-0001",
8  ... |   "eventgroup_name": "eg_SCREENING",
9  ... |   "eventgroup_sequence": 1,
10 ... |   "event_name": "ev_SCREENING",
11 ... |   "form_name": "MH",
12 ... |   "form_sequence": 1,
13 ... |   "items": [
14 ... |     {
15 ... |       "itemgroup_name": "MH",
16 ... |       "itemgroup_sequence": 1,
17 ... |       "item_name": "MHTERM",
18 ... |       "value": "This is the diagnosis"
19 ... |     },
20 ... |     {
21 ... |       "itemgroup_name": "MH",
22 ... |       "itemgroup_sequence": 1,
23 ... |       "item_name": "MHSTDAT",
24 ... |       "value": "2019-03-01"

```

Yields, in EDC UI:

Screening (31-Aug-2021): **General Medical History** : Reference # 1 (1 of 3) Complete

**General Medical History**

Diagnosis: This is the diagnosis (21 / 100)

Start Date: 01-Mar-2019

Ongoing?  No  Yes

The form is still in edit mode, to submit a form the Submit Form (next section) is called afterwards. There is not currently a parameter on the set items endpoint to also submit the form, although combination APIs are part of coming releases.

A 2<sup>nd</sup> API submit to the form, to set **Ongoing = No**, uses this additional section of the items JSON array:

```

24 | ..... | "value": "2019-03-01"
25 | ..... | },
26 | ..... | {
27 | ..... | "itemgroup_name": "MH",
28 | ..... | "itemgroup_sequence": 1,
29 | ..... | "item_name": "MHONGO",
30 | ..... | "value": "N"
31 | ..... | }

```

Importantly, the **N** value is from a codelist code of a study design, which can be found in the study SDS, or from Studio:

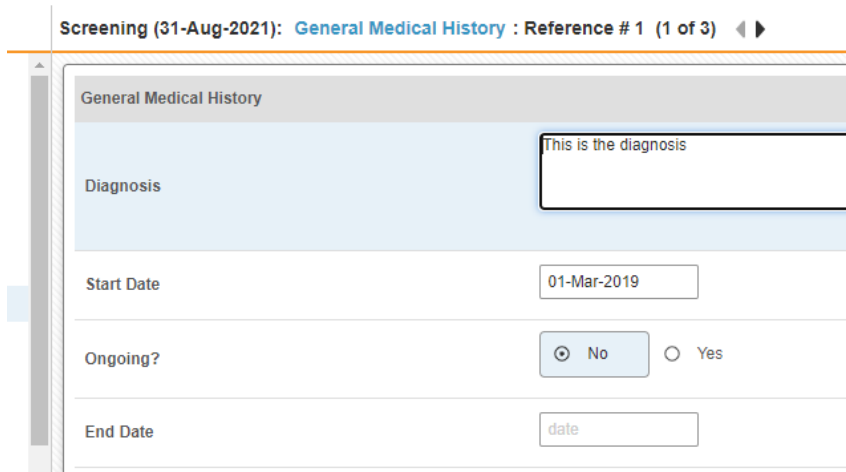
Edit Codelist

Name: NY External ID: NY

Description:

Code	Label	Description
N	No	
Y	Yes	

Dynamic fields are often part of form design, in this case, the set of Ongoing = **No**, unhides in the EDC UI a 4<sup>th</sup> field, **End Date**:



Although this form has been set with multiple API endpoint calls, it can be set – all 4 fields – in one endpoint call, even for fields that are hidden from view:

```

1 ..... form_sequence": 1,
2 ..... "items": [
3 .....   {
4 .....     "itemgroup_name": "MH",
5 .....     "itemgroup_sequence": 1,
6 .....     "item_name": "MHTERM",
7 .....     "value": "This is the diagnosis"
8 .....   },
9 .....   {
10 .....     "itemgroup_name": "MH",
11 .....     "itemgroup_sequence": 1,
12 .....     "item_name": "MHSTDAT",
13 .....     "value": "2019-03-01"
14 .....   },
15 .....   {
16 .....     "itemgroup_name": "MH",
17 .....     "itemgroup_sequence": 1,
18 .....     "item_name": "MHONGO",
19 .....     "value": "N"
20 .....   }
21 ..... ],
22 ..... {
23 .....   "itemgroup_name": "MH",
24 .....   "itemgroup_sequence": 1,
25 .....   "item_name": "MHENDAT",
26 .....   "value": "2020-01-31"
27 ..... }
28 ..... ]
29 ..... }

```

**IMPORTANT:** Always be reticent of any dynamic fields on the form. The set of Ongoing = **Y** (Yes) would be allowed, with an end date via the API endpoint, even though the data would not make sense per the form’s dynamic rules. For submitted forms (different API, next section), like:

Screening: General medical history

Reference #	Diagnosis	Start Date	Ongoing?	End Date
1	This is the diagnosis	01-Mar-2019	No	31-Jan-2020

... a reason for change will be required for any field update, after the first submit of the form. Additionally, the form won't allow edits when in submitted state. So, this attempt to update the **Diagnosis** field:

```

1 {
2   ...."study_name": "CSH Demo Study_DEV1",
3   ...."forms": [
4     .....
5     ...."study_country": "United States",
6     ...."site": "002",
7     ...."subject": "002-0001",
8     ...."eventgroup_name": "eg_SCREENING",
9     ...."eventgroup_sequence": 1,
10    ...."event_name": "ev_SCREENING",
11    ...."form_name": "MH",
12    ...."form_sequence": 1,
13    ...."items": [
14      .....{
15        ...."itemgroup_name": "MH",
16        ...."itemgroup_sequence": 1,
17        ...."item_name": "MHTERM",
18        ...."value": "Headaches",
19        ...."change_reason": "This is a custom reason for field value"
20      .....}
21    .....]
22  .....]
23 }

```

Is met with:

```

1 {
2   "responseStatus": "SUCCESS",
3   "items": [
4     {
5       "responseStatus": "FAILURE",
6       "errorMessage": "Items on submitted forms cannot be edited",
7       "study_country": "United States",
8       "site": "002",
9       "subject": "002-0001",
10      "eventgroup_name": "eg_SCREENING",
11      "eventgroup_sequence": 1,
12      "event_name": "ev_SCREENING",
13      "event_sequence": 1,
14      "form_name": "MH",
15      "form_sequence": 1,
16      "itemgroup_name": "MH",
17      "item_name": "MHTERM",
18      "value": "Headaches",
19      "change_reason": "This is a custom reason for field value"
20    }
21  ]
22 }

```

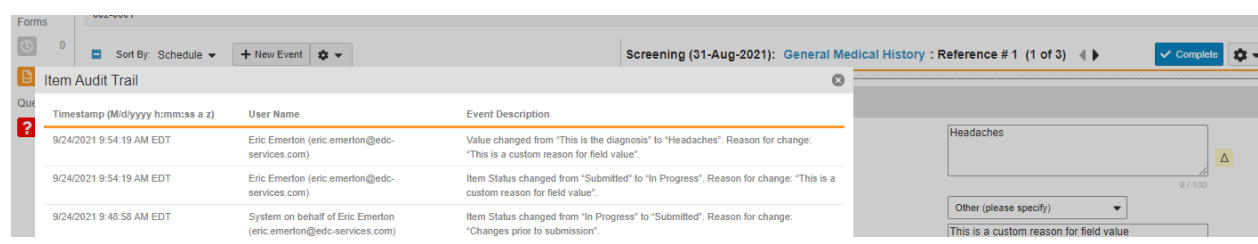
With the form opened for edit (its API endpoint is later section), notice the **change\_reason** parameter, which can be any text necessary to the update:

```

16     "itemgroup_sequence": 1,
17     "item_name": "MHTERM",
18     "value": "Headaches",
19     "change_reason": "This is a custom reason for field value"
20   }
21 }

```

.. is shown in the UI reason in the audit trail:



The screenshot shows the 'Item Audit Trail' section of the Vault CDMS interface. It features a table with the following data:

Timestamp (M/d/yyyy h:mm:ss a z)	User Name	Event Description
9/24/2021 9:54:19 AM EDT	Eric Emerton (eric.emerton@edc-services.com)	Value changed from "This is the diagnosis" to "Headaches". Reason for change: "This is a custom reason for field value".
9/24/2021 9:54:19 AM EDT	Eric Emerton (eric.emerton@edc-services.com)	Item Status changed from "Submitted" to "In Progress". Reason for change: "This is a custom reason for field value".
9/24/2021 9:48:58 AM EDT	System on behalf of Eric Emerton (eric.emerton@edc-services.com)	Item Status changed from "In Progress" to "Submitted". Reason for change: "Changes prior to submission".

To the right of the table, a portion of a form is visible, showing a text input field containing 'Headaches', a dropdown menu labeled 'Other (please specify)', and a text area containing 'This is a custom reason for field value'.



Next, consider the Vitals form, with unit codelist fields for Height, Weight, others:

The Height field definition:

.. with unit codelist HEIGHTU definition prescribing codes of only **CM** and **IN**:

**Edit Unit**

Name:  External ID:

Unit Type:

Label:

Description:

	Standard	Name	Label	Abbreviation	Unit Conversion
<input checked="" type="radio"/>	<input checked="" type="radio"/>	CM	cm	cm	
<input type="radio"/>	<input type="radio"/>	IN	in	in	\$value__v *2.54

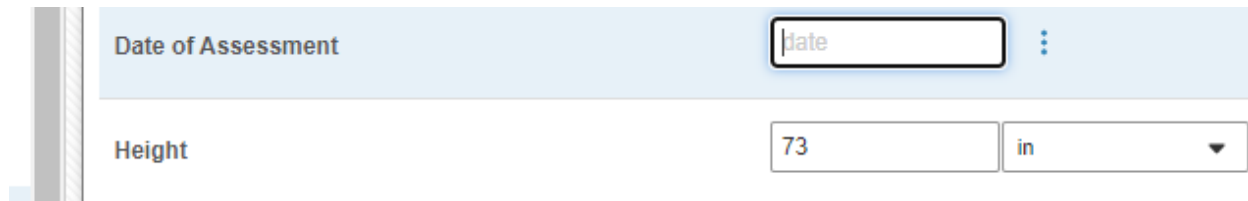
The API body to update the Height field, then, to set 73 Inches is:

```

1  {
2  ..... "study_name": "CSM Demo Study_DEV1",
3  ..... "forms": [
4  ..... {
5  ..... "study_country": "United States",
6  ..... "site": "002",
7  ..... "subject": "002-0001",
8  ..... "eventgroup_name": "eg_SCREENING",
9  ..... "eventgroup_sequence": 1,
10 ..... "event_name": "ev_SCREENING",
11 ..... "form_name": "VS",
12 ..... "form_sequence": 1,
13 ..... "items": [
14 ..... {
15 ..... "itemgroup_name": "VS",
16 ..... "itemgroup_sequence": 1,
17 ..... "item_name": "HEIGHT",
18 ..... "value": "73",
19 ..... "unit_value": "IN"
20 ..... }
21 ..... ]
22 ..... }

```

Yielding the EDC UI set as:



The screenshot shows two input fields. The first is 'Date of Assessment' with a text input containing 'Date' and a dropdown menu icon. The second is 'Height' with a text input containing '73' and a dropdown menu showing 'in'.

Although the definition of the field is 3 places for the whole number portion, and 1 for decimal, it is not required to enter '73.0' through the API. Attempting 73.12, though, violates the design of this field, and is met with this on attempt:

```

1  {
2  ..... "responseStatus": "SUCCESS",
3  ..... "items": [
4  ..... {
5  ..... "responseStatus": "FAILURE",
6  ..... "errorMessage": "This field only accepts 3 digit(s) before the decimal and 1 digit(s) after the decimal.",
7  ..... "study_country": "United States",
8  ..... "site": "002",
9  ..... "subject": "002-0001"

```

Next in consideration is fields that allow for unknown parts (dates / datetimes). The Date of Birth field is set with the property for both month and day:

The API body to set an unknown value for both Month and Day: (**UN** is used in each of the portions)

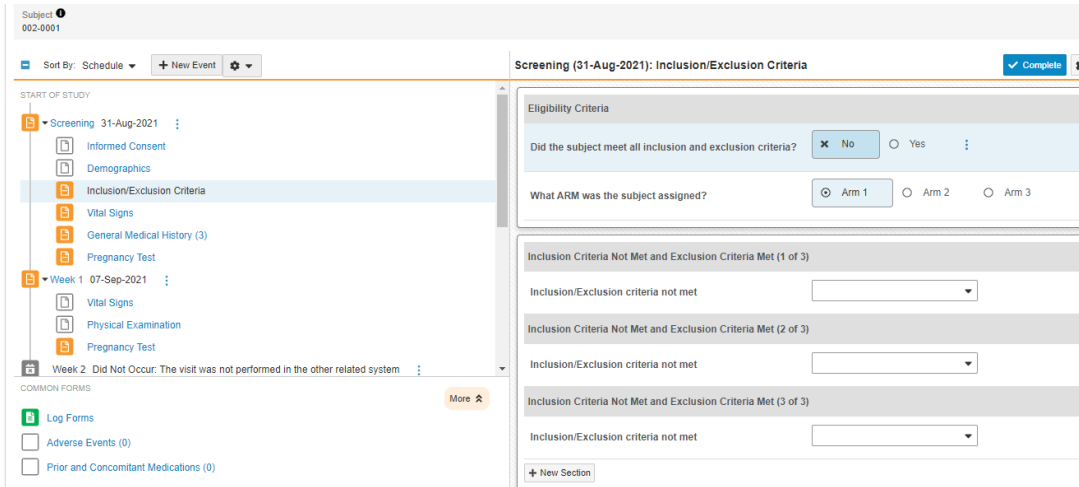
```

1  none  ● form-data  ● x-www-form-urlencoded  ● raw  ● binary  ● Graph
2  ...
3  ...
4  ...
5  ... "study_country": "United States",
6  ... "site": "002",
7  ... "subject": "002-0001",
8  ... "eventgroup_name": "eg_SCREENING",
9  ... "eventgroup_sequence": 1,
10 ... "event_name": "ev_SCREENING",
11 ... "form_name": "DM",
12 ... "form_sequence": 1,
13 ... "items": [
14 ... {
15 ...   "itemgroup_name": "DM",
16 ...   "itemgroup_sequence": 1,
17 ...   "item_name": "BRTHDAT",
18 ...   "value": "1980-UN-UN"
19 ... }
20 ... ]
21 ...

```

.. which yields in EDC the UI formatted value of ? in the unknown parts. (? Is NOT used in the API call)

Next in consideration is forms with repeating item groups. This form in the example study has a non-repeating item group of summary information, then a repeating item group for criteria not met:



The pictured form has 3 item groups added, which can be done in separate API calls (see Add Item Groups or Upsert Item Groups sections). **Alternatively**, the Upsert Form Data (**PUT** used) will **automatically** run the upsert of item groups, adding any that are necessary for the data update.

This API body uses codelist codes for values, and identifies the item group by sequence for each value:

```

4 ..... {
5 .....   "study_country": "United States",
6 .....   "site": "002",
7 .....   "subject": "002-0001",
8 .....   "eventgroup_name": "eg_SCREENING",
9 .....   "eventgroup_sequence": 1,
10 .....  "event_name": "ev_SCREENING",
11 .....  "form_name": "IE",
12 .....  "form_sequence": 1,
13 .....  "items": [
14 .....    {
15 .....      "itemgroup_name": "IECAT",
16 .....      "itemgroup_sequence": 1,
17 .....      "item_name": "IETESTCD1",
18 .....      "value": "INC1"
19 .....    },
20 .....    {
21 .....      "itemgroup_name": "IECAT",
22 .....      "itemgroup_sequence": 2,
23 .....      "item_name": "IETESTCD1",
24 .....      "value": "INC14"
25 .....    },
26 .....    {
27 .....      "itemgroup_name": "IECAT",
28 .....      "itemgroup_sequence": 3,
29 .....      "item_name": "IETESTCD1",
30 .....      "value": "EXC2"
31 .....    }
32 .....  ]
33 ..... }
34 ..... ]

```

.. which yields the EDC UI result:

**Eligibility Criteria**

Did the subject meet all inclusion and exclusion criteria?  No  Yes ⋮

What ARM was the subject assigned?  Arm 1  Arm 2  Arm 3

---

**Inclusion Criteria Not Met and Exclusion Criteria Met (1 of 3)**

Inclusion/Exclusion criteria not met

**Inclusion Criteria Not Met and Exclusion Criteria Met (2 of 3)**

Inclusion/Exclusion criteria not met

**Inclusion Criteria Not Met and Exclusion Criteria Met (3 of 3)**

Inclusion/Exclusion criteria not met

## 9.8 Submit Forms

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#submit-forms">https://developer-cdms.veevavault.com/api/23.3/#submit-forms</a>  <b>NOTE:</b> If using this endpoint as part of a sequence to get form data updated, consider using the combination API (new at 23r1) - <a href="#">9.9 Combination API - Upsert Form Data</a> . The single endpoint will handle several in one call, and conditionally do any necessary actions without having to first inspect the existing state to perform the 'next' of the sequence of API calls. It includes add of repeating form (if not present), opening of the form (if submitted), adding of any necessary item groups (not already there), set of the item data, and optional submit of the form when finished.																																								
Style	<b>POST</b>																																								
Endpoint	<your Vault URL>/api/v23.3/app/cdm/forms/actions/submit																																								
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>forms</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>forms</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>forms</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>forms</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group</td> </tr> <tr> <td>eventgroup_sequence</td> <td>forms</td> <td>Optional</td> <td>The specific sequence of an event group. 1 assumed if omitted</td> </tr> <tr> <td>event_name</td> <td>forms</td> <td>Required</td> <td>Design <b>name</b> in the study of the event</td> </tr> <tr> <td>form_name</td> <td>forms</td> <td>Required</td> <td>Design <b>name</b> in the study of the form to add</td> </tr> <tr> <td>form_sequence</td> <td>forms</td> <td>Required</td> <td>The specific sequence to submit</td> </tr> </tbody> </table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	forms	Required	Name of the study country (of the subject's site)	site	forms	Required	Name/number of the site	subject	forms	Required	Subject to act on	eventgroup_name	forms	Required	Design <b>name</b> in the study of the event group	eventgroup_sequence	forms	Optional	The specific sequence of an event group. 1 assumed if omitted	event_name	forms	Required	Design <b>name</b> in the study of the event	form_name	forms	Required	Design <b>name</b> in the study of the form to add	form_sequence	forms	Required	The specific sequence to submit
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Notes	<ul style="list-style-type: none"> <li>• The action is for submitting a form, the equal of clicking Complete in the UI</li> <li>• The limit for actions in one request is <b>100</b>.</li> <li>• This action is important in that it will run all study design rules of that form, which can/might include dynamic add of other events/forms in the study.</li> </ul>																																								

### Examples

Description / Request (URL)	Response
Submit of one form	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "site": "101",       "study_country": "United States",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "forms": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",     }   ] }</pre>

Description / Request (URL)	Response
<pre>                 "event_name": "evSCR",                 "form_name": "IE"             }         ]     } </pre>	<pre>                 "eventgroup_name": "egSCR",                 "eventgroup_sequence": 1,                 "event_name": "evSCR",                 "event_sequence": 1,                 "form_name": "IE",                 "form_sequence": 1             }         ]     } </pre>
<p><b>Submit of specific repeating form</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "site": "101",       "study_country": "United States",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE",       "form_sequence": 3     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "forms": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 3     }   ] } </pre>
<p><b>Multiple attempted, one succeeds, one fails</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "site": "101",       "study_country": "United States",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE",       "form_sequence": 3     },     {       "site": "101",       "study_country": "United States",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "event_name": "LOGS",     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "forms": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 3     },     {       "responseStatus": "FAILURE",       "errorMessage": "Form is submitted",     }   ] } </pre>

Description / Request (URL)	Response
<pre>                 "form_name": "AE",                 "form_sequence": 4             }         ]     } </pre>	<pre>                 "study_country": "United States",                 "site": "101",                 "subject": "SCR-0002",                 "eventgroup_name": "LOGS",                 "eventgroup_sequence": 1,                 "event_name": "LOGS",                 "event_sequence": 1,                 "form_name": "AE",                 "form_sequence": 4             }         ]     } </pre>



## Flow Based Examples

For an unsubmitted form the EDC UI:






The post to submit the form will run study design rules (potentially adding dynamic events/forms elsewhere in the study). The Inclusion / Exclusion is submitted with:

```

1  {
2  ..... "study_name": "CSM Demo Study_DEV1",
3  ..... "forms": [
4  ..... {
5  .....   "study_country": "United States",
6  .....   "site": "002",
7  .....   "subject": "002-0001",
8  .....   "eventgroup_name": "eg_SCREENING",
9  .....   "eventgroup_sequence": 1,
10 .....   "event_name": "ev_SCREENING",
11 .....   "form_name": "IE",
12 .....   "form_sequence": 1
13 ..... }
14 ..... ]
15 }

```

Body Cookies Headers (16) Test Results  Status: 200 OK Ti

Pretty Raw Preview Visualize JSON  

```

1  {
2  "responseStatus": "SUCCESS",
3  "forms": [
4  {
5  "responseStatus": "SUCCESS",
6  "study_country": "United States",
7  "site": "002",
8  "subject": "002-0001",
9  "eventgroup_name": "eg_SCREENING",
10 "eventgroup_sequence": 1,
11 "event_name": "ev_SCREENING",
12 "event_sequence": 1,
13 "form_name": "IE",
14 "form_sequence": 1

```

.. yielding the form in EDC UI:

Subject 002-0001

Sort By: Schedule + New Event

Screening (31-Aug-2021): Inclusion/Exclusion Criteria Edit Form

START OF STUDY

- Screening 31-Aug-2021
  - Informed Consent
  - Demographics
  - Inclusion/Exclusion Criteria
  - Vital Signs
  - General Medical History (3)
  - Pregnancy Test
- Week 1 07-Sep-2021
  - Pregnancy Test
- Unscheduled Event 01-Sep-2021

END OF STUDY

COMMON FORMS More

- Log Forms

Eligibility Criteria

Did the subject meet all inclusion and exclusion criteria? No

What ARM was the subject assigned? Arm 1

Inclusion Criteria Not Met and Exclusion Criteria Met (1 of 3)

Inclusion/Exclusion criteria not met Inclusion Criteria 1

Inclusion Criteria Not Met and Exclusion Criteria Met (2 of 3)

Inclusion/Exclusion criteria not met Inclusion Criteria 14

**IMPORTANT:** When forms appear dynamically, based on answers of other forms, those forms must be submitted to run the rules that drive the appearance of the form. This example in EDC:

Sort By: Schedule + New Event

Screening 01-Sep-2021

START OF STUDY

- Screening 01-Sep-2021
  - Informed Consent
  - Demographics
  - Inclusion/Exclusion Criteria
  - Vital Signs
  - General Medical History (0)
  - Pregnancy Test

END OF STUDY

COMMON FORMS More

- Log Forms

Log Forms: Log Forms

Adverse Events

Has the patient experienced any Adverse Events during the trial?

Concomitant Medications

Is the patient taking any Concomitant Medications?

.. means the Adverse Events or Prior and Concomitant Medication forms (of this study design) are not available for Add Form (repeating form) or Set Form Data **yet**. Only on using the endpoint to set data to the Log Forms questions above, then submit of that form will yield the AE and CM form areas:

Sort By: Schedule + New Event

Screening 01-Sep-2021

START OF STUDY

- Screening 01-Sep-2021
  - Informed Consent
  - Demographics
  - Inclusion/Exclusion Criteria
  - Vital Signs
  - General Medical History (0)
  - Pregnancy Test

END OF STUDY

COMMON FORMS More

- Log Forms
- Adverse Events (0)
- Prior and Concomitant Medications (0)

Log Forms: Log Forms

Adverse Events

Has the patient experienced any Adverse Events during the trial? Yes

Concomitant Medications

Is the patient taking any Concomitant Medications? Yes

## 9.9 Reopen Submitted Forms

Help Main	<p><a href="https://developer-cdms.veevavault.com/api/23.3/#reopen-submitted-forms">https://developer-cdms.veevavault.com/api/23.3/#reopen-submitted-forms</a></p> <p><b>NOTE:</b> If using this endpoint as part of a sequence to get form data updated, consider using the combination API (new at 23r1) - <a href="#">9.9 Combination API - Upsert Form Data</a>. The single endpoint will handle several in one call, and conditionally do any necessary actions without having to first inspect the existing state to perform the 'next' of the sequence of API calls. It includes add of repeating form (if not present), opening of the form (if submitted), adding of any necessary item groups (not already there), set of the item data, and optional submit of the form when finished.</p>																																												
Style	<b>POST</b>																																												
Endpoint	<your Vault URL>/api/v23.3/app/cdm/forms/actions/edit																																												
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Notes	<ul style="list-style-type: none"> <li>• The action is for opening a form back up, i.e., to further edit data on the form.</li> <li>• The limit for actions in one request is <b>100</b>.</li> <li>• Currently there is no parameter on the set items (updating a form) to also open the form conditionally for edit (should it be in submitted state). Inspection of the current state of the form is suggested. A coming release will include combination API(s) that do multiple actions, i.e. open a form (if it needs opening), setting data, submitting, as one API call.</li> <li>• <b>WARNING:</b> Any form in <b>frozen</b> or <b>locked</b> status <b>cannot</b> be opened for edit via the API. There is no current API to unfreeze or unlock. These actions were human based decisions, and CDMS stance is that one should not be able to override that via an API call</li> </ul>																																												

## Examples

Description / Request (URL)	Response
<a href="#">Open one form for edit</a>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "site": "101",       "study_country": "United States",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE",       "form_sequence": 3,       "change_reason": "my reason for open form"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "forms": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 3     }   ] } </pre>
<b>Example 2</b>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE",       "form_sequence": 3,       "change_reason": "my reason for open form"     },     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "event_name": "LOGS",       "form_name": "AE",       "form_sequence": 4,       "change_reason": "my reason for open form"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "forms": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 3     },     {       "responseStatus": "FAILURE",       "errorMessage": "Form is not submitted",       "site": "101",       "study_country": "United States",       "subject": "SCR-0002",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,     }   ] } </pre>

Description / Request (URL)	Response
	<pre data-bbox="787 252 1144 420">    "form_name": "AE",     "form_sequence": 4   } ] }</pre>

## Flow Based Example

For the currently submitted form in EDC:

The screenshot shows the EDC interface for Subject 002-0001. The left sidebar lists the study events: Screening (31-Aug-2021), Week 1 (07-Sep-2021), and Week 2 (14-Sep-2021). The 'Screening' event is expanded, showing sub-events: Informed Consent, Demographics, Inclusion/Exclusion Criteria (selected), Vital Signs, General Medical History (3), and Pregnancy Test. The main panel displays the 'Screening (31-Aug-2021): Inclusion/Exclusion Criteria' form. The form contains the following data:

Eligibility Criteria	
Did the subject meet all inclusion and exclusion criteria?	No
What ARM was the subject assigned?	Arm 1
Inclusion Criteria Not Met and Exclusion Criteria Met (1 of 3)	
Inclusion/Exclusion criteria not met	Inclusion Criteria 1
Inclusion Criteria Not Met and Exclusion Criteria Met (2 of 3)	

The API post:

The screenshot shows a REST client interface for the endpoint `https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/forms/actions/edit`. The request is a POST with the following JSON body:

```

1 {
2   "study_name": "CSM Demo Study_DEV1",
3   "forms": [
4     {
5       "study_country": "United States",
6       "site": "002",
7       "subject": "002-0001",
8       "eventgroup_name": "eg_SCREENING",
9       "eventgroup_sequence": 1,
10      "event_name": "ev_SCREENING",
11      "form_name": "IE",
12      "form_sequence": 1,
13      "change_reason": "The integration reason for open of the form is..."
14    }
15  ]
16 }

```

The response is a 200 OK with the following JSON body:

```

1 {
2   "responseStatus": "SUCCESS",
3   "forms": [
4     {
5       "responseStatus": "SUCCESS",
6       "study_country": "United States",
7       "site": "002",
8       "subject": "002-0001",
9       "eventgroup_name": "eg_SCREENING",
10      "eventgroup_sequence": 1,
11      "event_name": "ev_SCREENING",
12      "event_sequence": 1,

```

.. opens the form in the EDC UI, with the reason provided in the audit trail at the form level:

002-0001

Sort By: Schedule + New Event ⚙

START OF STUDY

- Screening 31-Aug-2021
  - Informed Consent
  - Demographics
  - Inclusion/Exclusion Criteria**
  - Vital Signs
  - General Medical History (3)
  - Pregnancy Test
- Week 1 07-Sep-2021
  - Pregnancy Test

**Screening (31-Aug-2021): Inclusion/Exclusion Criteria** ✓ Complete

**Eligibility Criteria**

Did the subject meet all inclusion and exclusion criteria?  No  Yes ⋮

What ARM was the subject assigned?  Arm 1  Arm 2  Arm 3

---

**Inclusion Criteria Not Met and Exclusion Criteria Met (1 of 3)**

Inclusion/Exclusion criteria not met

### Form Audit Trail

Timestamp (M/d/yyyy h:mm:ss a z)	User Name	Event Description
9/24/2021 11:55:03 AM EDT	Eric Emerton (eric.emerton@edc-services.com)	"Form Status" changed from "Submitted" to "In Progress Post Submit"
9/24/2021 11:55:03 AM EDT	Eric Emerton (eric.emerton@edc-services.com)	"Change Reason" set to "The integration reason for open of the form is..."

## 10 Queries

### 10.1 Retrieve Queries - By Filters

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-queries">https://developer-cdms.veevavault.com/api/23.3/#retrieve-queries</a>																																	
Style	GET																																	
Endpoint	<your Vault URL>/api/v23.3/app/cdm/queries																																	
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>form_name</td> <td>Optional</td> <td>Design <b>name</b> in the study of form to filter return of queries, i.e. queries that reside on that form only</td> </tr> <tr> <td>query_status</td> <td>Optional</td> <td>Filter for the current status of the queries. The vault picklist <b>name</b> is used - one of: <b>open__v</b> <b>answered__v</b> <b>reopened__v</b> <b>closed__v</b></td> </tr> <tr> <td>event_name</td> <td>Optional</td> <td>Design <b>name</b> in the study of the event to filter to</td> </tr> <tr> <td>last_modified_date</td> <td></td> <td>Filter to subject's modified since a certain date. Format: <b>yyyy-MM-ddTHH:mm:ssZ</b></td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study_name	Required	Name of the study	study_country	Required	Name of the study country (of the subject's site)	site	Required	Name/number of the site	subject	Required	Subject to act on	form_name	Optional	Design <b>name</b> in the study of form to filter return of queries, i.e. queries that reside on that form only	query_status	Optional	Filter for the current status of the queries. The vault picklist <b>name</b> is used - one of: <b>open__v</b> <b>answered__v</b> <b>reopened__v</b> <b>closed__v</b>	event_name	Optional	Design <b>name</b> in the study of the event to filter to	last_modified_date		Filter to subject's modified since a certain date. Format: <b>yyyy-MM-ddTHH:mm:ssZ</b>	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
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Notes	<ul style="list-style-type: none"> <li>● Use this API to retrieve the existing queries of a study</li> <li>● Return specific subsets based on various filtering options. If filtered by site / subject, the 'level above' must also be included. Example: if filtering by a site, it's study country must also be included</li> <li>● The return value <b>manual</b> is such that <b>false</b> = added by the system.</li> <li>● When the query was added via a specific design rule, the <b>rule_definition</b> indicates the name of the rule that originated the query.</li> <li>● Queries are added at the item or event level. For event level, the form 'down' does not apply.</li> <li>● The return includes a messages array with each comment/message appended to the query. Reading top down in that array also reveals the progression of query status, and by whom</li> <li>● With known query ID(s) - perhaps stored as the API added queries - use of the <a href="#">Retrieve Queries - By ID</a> endpoint is more straightforward.</li> </ul>																																	

### Examples



Description / Request (URL)	Response
<p><a href="#">Get of all queries in a study</a></p>	
<pre>.../app/cdm/queries?study_name=ABCP-2022-01_DEV1</pre> <p>Return includes any status, those fired by system (with rule_definition), or added manual, query on an item, query on an event date, etc.</p>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 5,     "total": 5   },   "queries": [     {       "id": "OPW0000000T001",       "query_name": "VV-000230",       "manual": false,       "query_status": "open_v",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IC",       "form_sequence": 1,       "itemgroup_name": "ig-IC2",       "itemgroup_sequence": 1,       "item_name": "RFICDAT",       "rule_definition": "IC_001",       "created_date": "2022-05-23T17:38:15Z",       "created_by": "System",       "messages": [         {           "id": "OPY0000000U001",           "activity": "open_v",           "message": "Informed consent date is not equal to screening visit date. Please review.",           "message_date": "2022-05-23T17:38:15Z",           "message_by": "System"         }       ]     },     {       "id": "OPW0000000U001",       "query_name": "VV-000231",       "manual": true,       "query_status": "closed_v",       "study_country": "United States",</pre>

Description / Request (URL)	Response
	<pre> "site": "101", "subject": "SCR-0006", "eventgroup_name": "egSCR", "eventgroup_sequence": 1, "event_name": "evSCR", "event_sequence": 1, "created_date": "2022-06-08T20:05:21Z", "created_by": "Eric Emerton" "messages": [   {     "id": "OPY0000000V001",     "activity": "open_v",     "message": "Here is query at the event level",     "message_date": "2022-06-08T20:05:22Z",     "message_by": "Eric Emerton"   },   {     "id": "OPY0000000V004",     "activity": "closed_v",     "message": null,     "message_date": "2022-06-08T21:22:34Z",     "message_by": "Eric Emerton"   } ] }, {   "id": "OPW0000000U002",   "query_name": "VV-000232",   "manual": true,   "query_status": "closed_v",   "study_country": "United States",   "site": "101",   "subject": "SCR-0006",   "eventgroup_name": "egSCR",   "eventgroup_sequence": 1,   "event_name": "evSCR",   "event_sequence": 1,   "form_name": "Vital-Signs",   "form_sequence": 1,   "itemgroup_name": "ig-VS",   "itemgroup_sequence": 1,   "item_name": "VSDAT",   "created_date": "2022-06-08T20:05:39Z",   "created_by": "Eric Emerton"   "messages": [     {       "id": "OPY0000000V002",       "activity": "open_v", </pre>

Description / Request (URL)	Response
<pre>blank",</pre>	<pre>                 "message": "This is my query on a form not visited yet, blank",                 "message_date": "2022-06-08T20:05:39Z",                 "message_by": "Eric Emerton"             },             {                 "id": "OPY0000000V003",                 "activity": "closed_v",                 "message": "This is my reason for closing this query",                 "message_date": "2022-06-08T20:06:30Z",                 "message_by": "Eric Emerton"             }         ]     },     {         "id": "OPW0000000V001",         "query_name": "VV-000233",         "manual": true,         "query_status": "open_v",         "study_country": "United States",         "site": "101",         "subject": "SCR-0001",         "eventgroup_name": "LOGS",         "eventgroup_sequence": 1,         "event_name": "LOGS",         "event_sequence": 1,         "form_name": "AE",         "form_sequence": 2,         "itemgroup_name": "ig-AE",         "itemgroup_sequence": 1,         "item_name": "AETERM",         "created_date": "2022-06-08T20:09:48Z",         "created_by": "Eric Emerton"         "messages": [             {                 "id": "OPY0000000W001",                 "activity": "open_v",                 "message": "Please check this value, this is a query from coding add via API",                 "message_date": "2022-06-08T20:09:48Z",                 "message_by": "Eric Emerton"             },             {                 "id": "OPY0000000X001",                 "activity": "open_v",                 "message": "Please check this value, this is a query from coding add via API (2nd add)",                 "message_date": "2022-06-08T20:54:33Z",             }         ]     } </pre>

Description / Request (URL)	Response
	<pre>                 "message_by": "Eric Emerton"             }         ]     },     {         "id": "OPW0000000W001",         "query_name": "VV-000234",         "manual": true,         "query_status": "open_v",         "study_country": "United States",         "site": "101",         "subject": "SCR-0001",         "eventgroup_name": "LOGS",         "eventgroup_sequence": 1,         "event_name": "LOGS",         "event_sequence": 1,         "form_name": "Concomitant-Medication",         "form_sequence": 1,         "itemgroup_name": "ig-CM",         "itemgroup_sequence": 1,         "item_name": "CMTRT",         "created_date": "2022-06-08T20:57:31Z",         "created_by": "Eric Emerton"         "messages": [             {                 "id": "OPY0000000X002",                 "activity": "open_v",                 "message": "Please check this value, this is a query from coding add via API (3rd add to CM)",                 "message_date": "2022-06-08T20:57:31Z",                 "message_by": "Eric Emerton"             }         ]     } ] } </pre>
<p><b>Filter to just those in Open status</b></p>	
<p>.../app/cdm/queries?study_name=ABCP-2022-01_DEV1&amp;query_status=open_v</p>	<p>(Like above, but to the queries where a touch of the query.. OR message exists, &gt;= the parameter passed)</p>
<p><b>Filter to a specific point in time</b></p>	
<p>.../app/cdm/queries?study_name=ABCP-2022-01_DEV1&amp;last_modified_date=2022-06-01T12:30:00Z</p>	<p>(Like above, but to the queries where a touch of the query.. OR message exists, &gt;= the parameter passed)</p>
<p><b>Filter to queries from a specific form design name</b></p>	

Description / Request (URL)	Response
<pre>.../app/cdm/queries?study_name=ABCP-2022-01_DEV1&amp;form_name=AE</pre>	(Like above, but to the filter)
<b>Filter to a specific subject</b>	
<pre>.../app/cdm/queries?study_name=ABCP-2022-01_DEV1&amp;study_country=United States&amp;site=101&amp;subject=SCR-0002</pre>	(Like above, but to the filter)
<b>Filter to a specific country</b>	
<pre>.../app/cdm/queries?study_name=ABCP-2022-01_DEV1&amp;study_country=United States</pre>	(Like above, but to the filter)

## 10.2 Retrieve Queries - By ID(s)

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-queries-by-id">https://developer-cdms.veevavault.com/api/23.3/#retrieve-queries-by-id</a>															
Style	<b>GET</b>															
Endpoint	<your Vault URL>/api/v23.3/app/cdm/queries															
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>id</td> <td>Required</td> <td>The vault ID(s) of the queries to return. Multiple can be delimited by a comma</td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table> <p><b>NOTE:</b> Additional filtering / retrieval of queries is discussed in other sections (By Filters or By Medical Coding Definition)</p>	Name	Req/Opt	Notes	study_name	Required	Name of the study	id	Required	The vault ID(s) of the queries to return. Multiple can be delimited by a comma	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
Name	Req/Opt	Notes														
study_name	Required	Name of the study														
id	Required	The vault ID(s) of the queries to return. Multiple can be delimited by a comma														
limit	Optional	Pagination API - different limit from the default 1000 can be used														
offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd														
Notes	<ul style="list-style-type: none"> <li>● Use this API to retrieve the existing queries of a specific ID (or IDs). The ID of the query is returned on add via the API, or from previous usage of <a href="#">Retrieve Queries - By Filters</a> endpoint.</li> <li>● The return value <b>manual</b> is such that <b>false</b> = added by the system.</li> <li>● When the query was added via a specific design rule, the <b>rule_definition</b> indicates the name of the rule that originated the query.</li> <li>● Queries are added at the item or event level. For event level, the form 'down' information is of course omitted</li> <li>● The return includes a messages array with each comment/message appended to the query. Reading top down in that array also reveals the progression of query status, and by whom</li> </ul>															

## Examples

Description / Request (URL)	Response
<p><a href="#">Single Query (where found)</a></p> <pre>.../app/cdm/queries?study_name=ABCP-2022-01_DEV1&amp;id=OPW0000000T001</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 1,     "total": 1   },   "queries": [     {       "id": "OPW0000000T001",       "query_name": "VV-000230",       "manual": false,       "query_status": "open_v",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IC",       "form_sequence": 1,       "itemgroup_name": "ig-IC2",       "itemgroup_sequence": 1,       "item_name": "RFICDAT",       "rule_definition": "IC_001",       "created_date": "2022-05-23T17:38:15Z",       "created_by": "System"       "messages": [         {           "id": "OPY0000000U001",           "activity": "open_v",           "message": "Informed consent date is not equal to screening visit date. Please review.",           "message_date": "2022-05-23T17:38:15Z",           "message_by": "System"         }       ]     }   ] }</pre>

Description / Request (URL)	Response
<h3>Attempt where ID not found</h3>	
<pre>.../app/cdm/queries?study_name=ABCP-2022-01_DEV1&amp;id=OPW00000000T011</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 0,     "total": 0   },   "queries": [] }</pre>
<h3>Multiple Queries</h3>	
<pre>.../app/cdm/queries?study_name=ABCP-2022-01_DEV1&amp;id=OPW00000000T001,OPW00000000T002</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 2,     "total": 2   },   "queries": [     {       "id": "OPW00000000T001",       "query_name": "VV-000230",       "manual": false,       "query_status": "open_v",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IC",       "form_sequence": 1,       "itemgroup_name": "ig-IC2",       "itemgroup_sequence": 1,       "item_name": "RFICDAT",       "rule_definition": "IC_001",       "created_date": "2022-05-23T17:38:15Z",       "created_by": "System"     },     {       "id": "OPY00000000U001",       "activity": "open_v",       "message": "Informed consent date is not equal to screening"     }   ] }</pre>



Description / Request (URL)	Response
	<pre> visit date. Please review.",       "message_date": "2022-05-23T17:38:15Z",       "message_by": "System"     }   ] }, {   "id": "OPW00000000U001",   "query_name": "VV-000231",   "manual": true,   "query_status": "closed_v",   "study_country": "United States",   "site": "101",   "subject": "SCR-0006",   "eventgroup_name": "egSCR",   "eventgroup_sequence": 1,   "event_name": "evSCR",   "event_sequence": 1,   "created_date": "2022-06-08T20:05:21Z",   "created_by": "Eric Emerton"   "messages": [     {       "id": "OPY00000000V001",       "activity": "open_v",       "message": "Here is query at the event level",       "message_date": "2022-06-08T20:05:22Z",       "message_by": "Eric Emerton"     },     {       "id": "OPY00000000V004",       "activity": "closed_v",       "message": null,       "message_date": "2022-06-08T21:22:34Z",       "message_by": "Eric Emerton"     }   ] } ] } </pre>

### 10.3 Retrieve Queries - By Medical Coding Definition

This section is grouped into the [Medical Coding](#) chapter, specifically the [Retrieve Coding Queries](#) section, later in the document.



## 10.4 Open Queries - By Study Context

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#open-query">https://developer-cdms.veevavault.com/api/23.3/#open-query</a>																																																								
Style	<b>POST</b>																																																								
Endpoint	<your Vault URL>/api/v23.3/app/cdm/queries																																																								
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>queries</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>queries</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>queries</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>queries</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group</td> </tr> <tr> <td>eventgroup_sequence</td> <td>queries</td> <td>Optional</td> <td>The specific sequence of an event group. 1 assumed if omitted</td> </tr> <tr> <td>event_name</td> <td>queries</td> <td>Required</td> <td>Design <b>name</b> in the study of the event</td> </tr> <tr> <td>form_name</td> <td>queries</td> <td>Optional *</td> <td>Design <b>name</b> in the study of the form. <b>Required</b> when adding query to an item on a form</td> </tr> <tr> <td>form_sequence</td> <td>queries</td> <td>Optional *</td> <td>The specific sequence of the form. (if a query on an item of a form) 1 assumed if omitted.</td> </tr> <tr> <td>itemgroup_name</td> <td>queries</td> <td>Optional *</td> <td>Design <b>name</b> in the study of the item group location. <b>Required</b> when adding query to an item on a form</td> </tr> <tr> <td>itemgroup_sequence</td> <td>queries</td> <td>Optional *</td> <td>The specific item group sequence where the item resides (if adding query to an item. 1 assumed if omitted)</td> </tr> <tr> <td>item_name</td> <td>queries</td> <td>Optional *</td> <td>Design <b>name</b> in the study of the item to have query set to (if an item level query)</td> </tr> <tr> <td>message</td> <td>queries</td> <td>Required</td> <td>The message of the query on add (255 character limit)</td> </tr> </tbody> </table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	queries	Required	Name of the study country (of the subject's site)	site	queries	Required	Name/number of the site	subject	queries	Required	Subject to act on	eventgroup_name	queries	Required	Design <b>name</b> in the study of the event group	eventgroup_sequence	queries	Optional	The specific sequence of an event group. 1 assumed if omitted	event_name	queries	Required	Design <b>name</b> in the study of the event	form_name	queries	Optional *	Design <b>name</b> in the study of the form. <b>Required</b> when adding query to an item on a form	form_sequence	queries	Optional *	The specific sequence of the form. (if a query on an item of a form) 1 assumed if omitted.	itemgroup_name	queries	Optional *	Design <b>name</b> in the study of the item group location. <b>Required</b> when adding query to an item on a form	itemgroup_sequence	queries	Optional *	The specific item group sequence where the item resides (if adding query to an item. 1 assumed if omitted)	item_name	queries	Optional *	Design <b>name</b> in the study of the item to have query set to (if an item level query)	message	queries	Required	The message of the query on add (255 character limit)
Name	Array	Req/Opt	Notes																																																						
study_name		Required	Name of the study																																																						
study_country	queries	Required	Name of the study country (of the subject's site)																																																						
site	queries	Required	Name/number of the site																																																						
subject	queries	Required	Subject to act on																																																						
eventgroup_name	queries	Required	Design <b>name</b> in the study of the event group																																																						
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item_name	queries	Optional *	Design <b>name</b> in the study of the item to have query set to (if an item level query)																																																						
message	queries	Required	The message of the query on add (255 character limit)																																																						
Notes	<ul style="list-style-type: none"> <li>• The action is used to add a <b>new</b> query to an item on a form, or event, of a subject</li> <li>• The limit for actions in one request is <b>100</b>.</li> <li>• <b>WARNING:</b> A locked form will not allow the add a new query, just at the EDC UI would disallow. Frozen forms will accept new queries added via the API.</li> <li>• For further manipulation of queries (answer, close, re-open), it's good practice to inspect the return on query API actions, for the <b>id</b> value. Later actions are simpler, API wise, by using the Query ID.</li> <li>• The API user's role must have permission to add queries.</li> <li>• Additional abilities to open queries are available at:             <ul style="list-style-type: none"> <li>○ <a href="#">Open Queries - By Item ID</a> (different style of response)</li> <li>○ <a href="#">Open Queries - By Event ID</a> (different style of response)</li> <li>○ <a href="#">Open Coding Queries</a></li> </ul> </li> </ul>																																																								

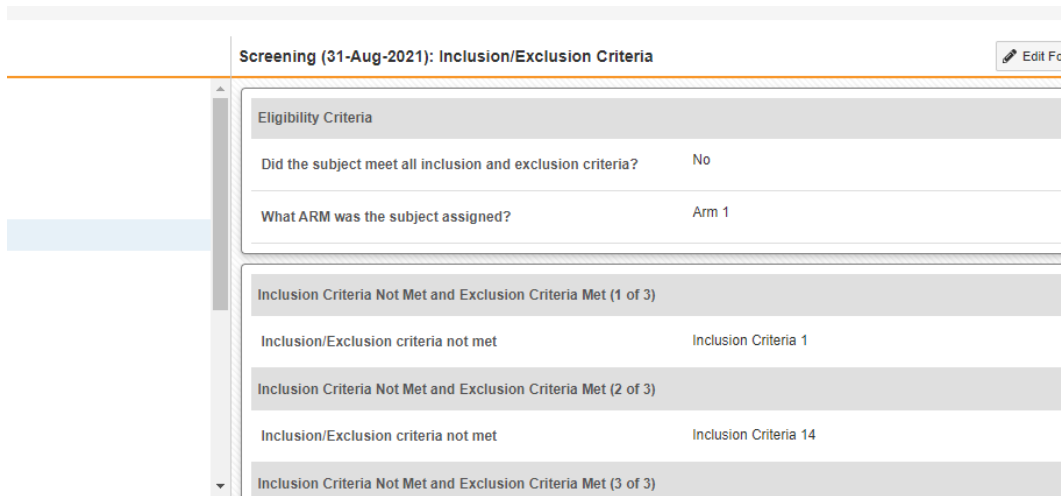
## Examples

Description / Request (URL)	Response
<b>Add one query, to an item inside a repeating event group</b>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "egUNS",       "eventgroup_sequence": 2,       "event_name": "evUNS",       "form_name": "VS",       "form_sequence": 1,       "itemgroup_name": "ig-VS",       "itemgroup_sequence": 1,       "item_name": "VSDAT",       "message": "This is my query from API on an item"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW00000000X003",       "query_name": "VV-000237",       "query_status": "open_v",       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "egUNS",       "eventgroup_sequence": 2,       "event_name": "evUNS",       "event_sequence": 1,       "form_name": "VS",       "form_sequence": 1,       "itemgroup_name": "ig-VS",       "itemgroup_sequence": 1,       "item_name": "VSDAT"     }   ] } </pre>
<b>Add multiple, non-repeating areas (omit sequences)</b>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "egSCR",       "event_name": "evSCR",       "form_name": "DM",       "itemgroup_name": "ig-DM",       "item_name": "BRTHDAT",       "message": "This is my query from API on an item - on DOB of Demography"     },     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0003", </pre>	<pre> {   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW00000000Y001",       "query_name": "VV-000238",       "query_status": "open_v",       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "DM",       "form_sequence": 1,       "itemgroup_name": "ig-DM",       "itemgroup_sequence": 1, </pre>

Description / Request (URL)	Response
<pre>                 "eventgroup_name": "egSCR",                 "event_name": "evSCR",                 "form_name": "VS",                 "itemgroup_name": "ig-VS",                 "item_name": "HEIGHT",                 "message": "This is my query from API on an item - on Height of Vitals"             }         ]     } </pre>	<pre>                 "item_name": "BRTHDAT"             },         {             "responseStatus": "SUCCESS",             "id": "OPW00000000Y002",             "query_name": "VV-000239",             "query_status": "open_v",             "study_country": "United States",             "site": "101",             "subject": "SCR-0003",             "eventgroup_name": "egSCR",             "eventgroup_sequence": 1,             "event_name": "evSCR",             "event_sequence": 1,             "form_name": "VS",             "form_sequence": 1,             "itemgroup_name": "ig-VS",             "itemgroup_sequence": 1,             "item_name": "HEIGHT"         }     ] } </pre>
<p><b>Query add to an event</b></p>	
<pre> {     "study_name": "ABCP-2022-01_DEV1",     "queries": [         {             "study_country": "United States",             "site": "101",             "subject": "SCR-0003",             "eventgroup_name": "egSCR",             "event_name": "evSCR",             "message": "This is my query on the screening event"         }     ] } </pre>	<pre> {     "responseStatus": "SUCCESS",     "queries": [         {             "responseStatus": "SUCCESS",             "id": "OPW00000000Y004",             "query_name": "VV-000241",             "query_status": "open_v",             "study_country": "United States",             "site": "101",             "subject": "SCR-0003",             "eventgroup_name": "egSCR",             "eventgroup_sequence": 1,             "event_name": "evSCR",             "event_sequence": 1         }     ] } </pre>

## Flow Based Examples

For the EDC form Inclusion/Exclusion of the example study:



The post of a new query on the first field of the form is below. Note the full path from **event\_group\_name** through the **item\_name**, including **all** sequences at each level.

```

1  {
2  ... "study_name": "CSM Demo Study DEV1",
3  ... "queries": [
4  ... {
5  ... "study_country": "United States",
6  ... "site": "002",
7  ... "subject": "002-0001",
8  ... "eventgroup_name": "eg_SCREENING",
9  ... "eventgroup_sequence": 1,
10 ... "event_name": "ev_SCREENING",
11 ... "form_name": "IE",
12 ... "form_sequence": 1,
13 ... "itemgroup_name": "IEEL",
14 ... "itemgroup_sequence": 1,
15 ... "item_name": "IEYN1",
16 ... "message": "This is the text of my query..."
17 ... }
18 ... ]

```

.. yields the return with **id** and **query\_name** values, plus **query\_status**:

```
1 {  
2   "responseStatus": "SUCCESS",  
3   "queries": [  
4     {  
5       "responseStatus": "SUCCESS",  
6       "id": "OPW00000042001",  
7       "query_name": "VV-002811",  
8       "query_status": "open_v",  
9       "study_country": "United States",  
10      "site": "002",  
11      "..."
```

The result in the EDC UI:

Screening (31-Aug-2021): Inclusion/Exclusion Criteria	
Eligibility Criteria	No
Did the subject meet all inclusion and exclusion criteria?	<div style="border: 1px solid red; padding: 5px;"><p> Eric Emerton 9/24/2021 12:14 PM EDT This is the text of my query...</p><p> Edit Value</p></div>
What ARM was the subject assigned?	Arm 1

For adding a query at the event level, the post only needs go through the event name:

Params Authorization Headers (12) **Body** Pre-request Script Tests Settings

● none ● form-data ● x-www-form-urlencoded ● **raw** ● binary ● GraphQL **JSON** ▾

```

2 ..... "study_name": "CSM-Demo_Study_DEV1",
3 ..... "queries": [
4 ..... {
5 .....   "study_country": "United States",
6 .....   "site": "002",
7 .....   "subject": "002-0001",
8 .....   "eventgroup_name": "eg_SCREENING",
9 .....   "eventgroup_sequence": 1,
10 .....  "event_name": "ev_SCREENING",
11 .....  "message": "This is the text of my query... posted at event level"
12 ..... }
13 ..... ]
14 ..... ]
  
```

Body Cookies Headers (16) Test Results Status: 200 OK Time: 1111 ms

Pretty Raw Preview Visualize **JSON** ▾

```

1 ..... {
2 .....   "responseStatus": "SUCCESS",
3 .....   "queries": [
4 .....     {
5 .....       "responseStatus": "SUCCESS",
6 .....       "id": "OPW000000041002",
7 .....       "query_name": "WV-002812",
8 .....       "query_status": "open_v",
9 .....       "study_country": "United States",
10 .....      "site": "002",
11 .....      "subject": "002-0001",
12 .....      "eventgroup_name": "eg_SCREENING",
13 .....      "eventgroup_sequence": 1,
14 .....      "event_name": "ev_SCREENING",
15 .....      "event sequence": 1
  
```

**Data Entry** Library Studio ▾ Review ▾ Assessments Coder Reports Dashboards

SITE TASKS >> [Home](#) > [CSM Demo Study\\_DEV1](#) > [002](#) > [002-0001](#)

23 Subject 002-0001

0 Sort By: Schedule ▾ [+ New Event](#) ⚙ ▾

---

START OF STUDY

16 **Screening** 31-Aug-2021

**?** Eric Emerton 9/24/2021 12:20 PM EDT

This is the text of my query... posted at event level

[Informed Consent](#)

[Demographics](#)



## 10.5 Open Queries - By Item ID

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#open-query-by-item-id">https://developer-cdms.veevavault.com/api/23.3/#open-query-by-item-id</a>																						
Style	<b>POST</b>																						
Endpoint	<your Vault URL>/api/v23.3/app/cdm/items/actions/openquery																						
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>manual</td> <td></td> <td>Optional</td> <td>Boolean - use only true/false. When omitted, <b>true</b> is used. In this context, manual = <b>false</b>, or 'System' classified would imply not added by an end user in the UI, instead 'a system' (even though not the CDMS system, the way study rules are added by 'system'). All queries in the body are given the same manual property value on add.</td> </tr> <tr> <td>id</td> <td>queries</td> <td>Required</td> <td>The ID of the item where the query is to be added.</td> </tr> <tr> <td>message</td> <td>queries</td> <td>Required</td> <td>The message of the query on add (255 character limit)</td> </tr> </tbody> </table>			Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	manual		Optional	Boolean - use only true/false. When omitted, <b>true</b> is used. In this context, manual = <b>false</b> , or 'System' classified would imply not added by an end user in the UI, instead 'a system' (even though not the CDMS system, the way study rules are added by 'system'). All queries in the body are given the same manual property value on add.	id	queries	Required	The ID of the item where the query is to be added.	message	queries	Required	The message of the query on add (255 character limit)
Name	Array	Req/Opt	Notes																				
study_name		Required	Name of the study																				
manual		Optional	Boolean - use only true/false. When omitted, <b>true</b> is used. In this context, manual = <b>false</b> , or 'System' classified would imply not added by an end user in the UI, instead 'a system' (even though not the CDMS system, the way study rules are added by 'system'). All queries in the body are given the same manual property value on add.																				
id	queries	Required	The ID of the item where the query is to be added.																				
message	queries	Required	The message of the query on add (255 character limit)																				
Notes	<ul style="list-style-type: none"> <li>• The action is used to add a <b>new</b> query to an item, but using the Vault ID for the item where the query is added. This endpoint is only know if the Item's ID is known (obtained through exports, other endpoints that expose the ID)</li> <li>• The limit for actions in one request is <b>500</b>.</li> <li>• This endpoint returns slightly different response information from the <a href="#">Open Queries - By Study Context</a> endpoint. It does not include the event / form level design information, i.e. presuming the caller of the endpoint already knows all that. It does, though, return messages (the first one, with its own message ID) and other information similar to the return of <a href="#">Retrieve Queries - By Filters</a></li> <li>• <b>WARNING:</b> A locked form will not allow the add a new query, just at the EDC UI would disallow. Frozen forms will accept new queries added via the API.</li> <li>• Additional abilities to open queries are available at:             <ul style="list-style-type: none"> <li>○ <a href="#">Open Queries - By Study Context</a> (different style of response)</li> <li>○ <a href="#">Open Queries - By Event ID</a></li> <li>○ <a href="#">Open Coding Queries</a> (different style of response)</li> </ul> </li> </ul>																						

## Examples

Description / Request (URL)	Response
<p>Attempt add of two, one fails, one succeeds</p> <pre> {   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "id": "V5D00000000K011",       "message": ""     },     {       "id": "V5D00000000K012",       "message": "Open query on item from open by item ID"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "FAILURE",       "errorMessage": "Message is required",       "item_id": "V5D00000000K011"     },     {       "responseStatus": "SUCCESS",       "id": "OPW000000011001",       "query_status": "open_v",       "item_id": "V5D00000000K012",       "query_name": "VV-000246",       "created_date": "2022-06-16T14:52:03Z",       "created_by": "Eric Emerton"       "messages": [         {           "id": "OPY000000012001",           "activity": "open_v",           "message": "Open query on item from open by item ID",           "message_date": "2022-06-16T14:52:04Z",           "message_by": "Eric Emerton"         }       ]     }   ] } </pre>

## 10.6 Open Queries - By Event ID

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#open-query-by-event-id">https://developer-cdms.veevavault.com/api/23.3/#open-query-by-event-id</a>																						
Style	POST																						
Endpoint	<your Vault URL>/api/v23.3/app/cdm/events/actions/openquery																						
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>manual</td> <td></td> <td>Optional</td> <td>Boolean - use only true/false. When omitted, <b>true</b> is used. In this context, manual = <b>false</b>, or 'System' classified would imply not added by an end user in the UI, instead 'a system' (even though not the CDMS system, the way study rules are added by 'system'). All queries in the body are given the same manual property value on add.</td> </tr> <tr> <td>id</td> <td>queries</td> <td>Required</td> <td>The ID of the event where the query is to be added.</td> </tr> <tr> <td>message</td> <td>queries</td> <td>Required</td> <td>The message of the query on add (255 character limit)</td> </tr> </tbody> </table>			Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	manual		Optional	Boolean - use only true/false. When omitted, <b>true</b> is used. In this context, manual = <b>false</b> , or 'System' classified would imply not added by an end user in the UI, instead 'a system' (even though not the CDMS system, the way study rules are added by 'system'). All queries in the body are given the same manual property value on add.	id	queries	Required	The ID of the event where the query is to be added.	message	queries	Required	The message of the query on add (255 character limit)
Name	Array	Req/Opt	Notes																				
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## Examples

Description / Request (URL)	Response
<p><a href="#">Attempt add of two, one fails, one succeeds</a></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "id": "OPS00000001X002",       "message": "Open query on Event from open by event ID - 1st"     },     {       "id": "OPS00000001X001",       "message": "Open query on Event from open by event ID - 2nd"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "FAILURE",       "errorMessage": "[Event] with id [OPS00000001X002] not found",       "event_id": "OPS00000001X002"     },     {       "responseStatus": "SUCCESS",       "id": "OPW000000011001",       "query_status": "open_v",       "event_id": "OPS00000001X001",       "query_name": "VV-000248",       "created_date": "2022-06-16T15:52:03Z",       "created_by": "Eric Emerton",       "messages": [         {           "id": "OPY000000012001",           "activity": "open_v",           "message": "Open query on Event from open by event ID - 2nd",           "message_date": "2022-06-16T15:52:04Z",           "message_by": "Eric Emerton"         }       ]     }   ] } </pre>

## 10.7 Answer Queries - By Study Context

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#answer-query">https://developer-cdms.veevavault.com/api/23.3/#answer-query</a>																																																								
Style	<b>POST</b>																																																								
Endpoint	<your Vault URL>/api/v23.3/app/cdm/queries/actions/answer																																																								
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>queries</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>queries</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>queries</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>queries</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group</td> </tr> <tr> <td>eventgroup_sequence</td> <td>queries</td> <td>Optional</td> <td>The specific sequence of an event group. 1 assumed if omitted</td> </tr> <tr> <td>event_name</td> <td>queries</td> <td>Required</td> <td>Design <b>name</b> in the study of the event</td> </tr> <tr> <td>form_name</td> <td>queries</td> <td>Optional *</td> <td>Design <b>name</b> in the study of the form. <b>Required</b> when query is on an item on a form</td> </tr> <tr> <td>form_sequence</td> <td>queries</td> <td>Optional *</td> <td>The specific sequence of the form. (if a query on an item of a form) 1 assumed if omitted.</td> </tr> <tr> <td>itemgroup_name</td> <td>queries</td> <td>Optional *</td> <td>Design <b>name</b> in the study of the item group location. <b>Required</b> when query is an item on a form</td> </tr> <tr> <td>itemgroup_sequence</td> <td>queries</td> <td>Optional *</td> <td>The specific item group sequence where the item resides (if a query on an item). 1 assumed if omitted</td> </tr> <tr> <td>item_name</td> <td>queries</td> <td>Optional *</td> <td>Design <b>name</b> in the study of the item (if a query on an item)</td> </tr> <tr> <td>message</td> <td>queries</td> <td>Required</td> <td>The message of the query on answer(255 character limit)</td> </tr> </tbody> </table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	queries	Required	Name of the study country (of the subject's site)	site	queries	Required	Name/number of the site	subject	queries	Required	Subject to act on	eventgroup_name	queries	Required	Design <b>name</b> in the study of the event group	eventgroup_sequence	queries	Optional	The specific sequence of an event group. 1 assumed if omitted	event_name	queries	Required	Design <b>name</b> in the study of the event	form_name	queries	Optional *	Design <b>name</b> in the study of the form. <b>Required</b> when query is on an item on a form	form_sequence	queries	Optional *	The specific sequence of the form. (if a query on an item of a form) 1 assumed if omitted.	itemgroup_name	queries	Optional *	Design <b>name</b> in the study of the item group location. <b>Required</b> when query is an item on a form	itemgroup_sequence	queries	Optional *	The specific item group sequence where the item resides (if a query on an item). 1 assumed if omitted	item_name	queries	Optional *	Design <b>name</b> in the study of the item (if a query on an item)	message	queries	Required	The message of the query on answer(255 character limit)
Name	Array	Req/Opt	Notes																																																						
study_name		Required	Name of the study																																																						
study_country	queries	Required	Name of the study country (of the subject's site)																																																						
site	queries	Required	Name/number of the site																																																						
subject	queries	Required	Subject to act on																																																						
eventgroup_name	queries	Required	Design <b>name</b> in the study of the event group																																																						
eventgroup_sequence	queries	Optional	The specific sequence of an event group. 1 assumed if omitted																																																						
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message	queries	Required	The message of the query on answer(255 character limit)																																																						
Notes	<ul style="list-style-type: none"> <li>• The action is used to answer an <b>existing</b> query, via the subject information, and study design location.</li> <li>• The limit for actions in one request is <b>100</b>.</li> <li>• The action applies whether the query is against an item (on a form), or an event.</li> <li>• The query must be in <b>Open</b> status to perform this action</li> <li>• <b>WARNING:</b> In some cases, the answer action will only post a new message/comment to the query, i.e. not move the status to answered. Those that can move to answered status are typically site users only, who lack open query permission, but instead have answer query permission.</li> <li>• <b>WARNING:</b> If multiple queries exist at the item (or event), an error will be returned.</li> <li>• <b>WARNING:</b> A locked form will not allow the editing of a query, just at the EDC UI would disallow. Frozen forms will accept the edit added via the API.</li> <li>• One can also answer a query by query ID - see the next section <a href="#">Answer Queries - By Query ID</a></li> <li>• <b>TIP:</b> If query IDs are known (returned in <a href="#">Retrieve Queries</a>), then use of this option By ID is preferred.</li> </ul>																																																								

## Examples

Description / Request (URL)	Response
Answer of one query	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IC",       "form_sequence": 1,       "itemgroup_name": "ig-IC2",       "itemgroup_sequence": 1,       "item_name": "RFICDAT",       "message": "This is the text on answer query"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW0000000T001",       "query_name": "VV-000230",       "query_status": "answered_v",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IC",       "form_sequence": 1,       "itemgroup_name": "ig-IC2",       "itemgroup_sequence": 1,       "item_name": "RFICDAT"     }   ] } </pre>

## 10.8 Answer Queries - By Query ID

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#answer-query">https://developer-cdms.veevavault.com/api/23.3/#answer-query</a>																		
Style	<b>POST</b>																		
Endpoint	<your Vault URL>/api/v23.3/app/cdm/queries/actions/answer																		
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>id</td> <td>queries</td> <td>Required</td> <td>The Vault ID of the query. This value is returned on add (if added by API), and also on <b>Get Queries</b> endpoint return of the query.</td> </tr> <tr> <td>message</td> <td>queries</td> <td>Required</td> <td>The message of the query on answer(255 character limit)</td> </tr> </tbody> </table>			Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	id	queries	Required	The Vault ID of the query. This value is returned on add (if added by API), and also on <b>Get Queries</b> endpoint return of the query.	message	queries	Required	The message of the query on answer(255 character limit)
Name	Array	Req/Opt	Notes																
study_name		Required	Name of the study																
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message	queries	Required	The message of the query on answer(255 character limit)																
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## Examples

Description / Request (URL)	Response
<a href="#">Answer of one query</a>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "id": "OPW000000014003",       "message": "Answered Query via API"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW000000014003",       "query_name": "VV-000255",       "query_status": "answered_v",       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "DM",       "form_sequence": 1,       "itemgroup_name": "ig-DM",       "itemgroup_sequence": 1,       "item_name": "SEX"     }   ] } </pre>



## 10.9 Close Queries - By Study Context

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#close-query">https://developer-cdms.veevavault.com/api/23.3/#close-query</a>																																																								
Style	<b>POST</b>																																																								
Endpoint	<your Vault URL>/api/v23.3/app/cdm/queries/actions/close																																																								
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>queries</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>queries</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>queries</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>queries</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group</td> </tr> <tr> <td>eventgroup_sequence</td> <td>queries</td> <td>Optional</td> <td>The specific sequence of an event group. 1 assumed if omitted</td> </tr> <tr> <td>event_name</td> <td>queries</td> <td>Required</td> <td>Design <b>name</b> in the study of the event</td> </tr> <tr> <td>form_name</td> <td>queries</td> <td>Optional *</td> <td>Design <b>name</b> in the study of the form. <b>Required</b> when query is on an item on a form</td> </tr> <tr> <td>form_sequence</td> <td>queries</td> <td>Optional *</td> <td>The specific sequence of the form. (if a query on an item of a form) 1 assumed if omitted.</td> </tr> <tr> <td>itemgroup_name</td> <td>queries</td> <td>Optional *</td> <td>Design <b>name</b> in the study of the item group location. <b>Required</b> when query is an item on a form</td> </tr> <tr> <td>itemgroup_sequence</td> <td>queries</td> <td>Optional *</td> <td>The specific item group sequence where the item resides (if a query on an item). 1 assumed if omitted</td> </tr> <tr> <td>item_name</td> <td>queries</td> <td>Optional *</td> <td>Design <b>name</b> in the study of the item (if a query on an item)</td> </tr> <tr> <td>message</td> <td>queries</td> <td>Optional</td> <td>The message of the query on close, optional (255 character limit)</td> </tr> </tbody> </table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	queries	Required	Name of the study country (of the subject's site)	site	queries	Required	Name/number of the site	subject	queries	Required	Subject to act on	eventgroup_name	queries	Required	Design <b>name</b> in the study of the event group	eventgroup_sequence	queries	Optional	The specific sequence of an event group. 1 assumed if omitted	event_name	queries	Required	Design <b>name</b> in the study of the event	form_name	queries	Optional *	Design <b>name</b> in the study of the form. <b>Required</b> when query is on an item on a form	form_sequence	queries	Optional *	The specific sequence of the form. (if a query on an item of a form) 1 assumed if omitted.	itemgroup_name	queries	Optional *	Design <b>name</b> in the study of the item group location. <b>Required</b> when query is an item on a form	itemgroup_sequence	queries	Optional *	The specific item group sequence where the item resides (if a query on an item). 1 assumed if omitted	item_name	queries	Optional *	Design <b>name</b> in the study of the item (if a query on an item)	message	queries	Optional	The message of the query on close, optional (255 character limit)
Name	Array	Req/Opt	Notes																																																						
study_name		Required	Name of the study																																																						
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message	queries	Optional	The message of the query on close, optional (255 character limit)																																																						
Notes	<ul style="list-style-type: none"> <li>• The action is used to close an <b>existing</b> query, via the subject information, and study design location.</li> <li>• The limit for actions in one request is <b>100</b>.</li> <li>• The action applies whether the query is against an item (on a form), or an event</li> <li>• The query must be in <b>Answered</b> status to perform this action</li> <li>• <b>WARNING:</b> If multiple queries exist at the item (or event), an error will be returned.</li> <li>• <b>WARNING:</b> A locked form will not allow the editing of a query, just at the EDC UI would disallow. Frozen forms will accept the edit added via the API.</li> <li>• One can also close a query by query ID - see the next section <a href="#">Close Queries - By Query ID</a></li> <li>• <b>TIP:</b> If query IDs are known (returned in <a href="#">Retrieve Queries</a>), then use of this option By ID is preferred.</li> </ul>																																																								

## Examples

Description / Request (URL)	Response
<p data-bbox="71 331 451 363">Close one query (with message)</p> <pre data-bbox="71 394 743 1056"> {   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE1",       "itemgroup_sequence": 1,       "item_name": "IEYN",       "message": "This is the text on close query"     }   ] } </pre>	<pre data-bbox="782 394 1318 1161"> {   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW00000012005",       "query_name": "VV-000256",       "query_status": "closed_v",       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE1",       "itemgroup_sequence": 1,       "item_name": "IEYN"     }   ] } </pre>

## 10.10 Close Queries - By Query ID

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#close-query-batch">https://developer-cdms.veevavault.com/api/23.3/#close-query-batch</a>																		
Style	<b>POST</b>																		
Endpoint	<your Vault URL>/api/v23.3/app/cdm/queries/actions/closebyid																		
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>id</td> <td>queries</td> <td>Required</td> <td>The Vault ID of the query. This value is returned on add (if added by API), and also on <b>Get Queries</b> endpoint return of the query.</td> </tr> <tr> <td>message</td> <td>queries</td> <td>Optional</td> <td>The message of the query on close, optional (255 character limit)</td> </tr> </tbody> </table>			Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	id	queries	Required	The Vault ID of the query. This value is returned on add (if added by API), and also on <b>Get Queries</b> endpoint return of the query.	message	queries	Optional	The message of the query on close, optional (255 character limit)
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id	queries	Required	The Vault ID of the query. This value is returned on add (if added by API), and also on <b>Get Queries</b> endpoint return of the query.																
message	queries	Optional	The message of the query on close, optional (255 character limit)																
Notes	<ul style="list-style-type: none"> <li>● The action is used to answer an <b>existing</b> query, via known query ID(s).</li> <li>● The limit for actions in one request is <b>500</b>.</li> <li>● The action applies whether the query is against an item (on a form), or an event</li> <li>● The query must be in <b>Answered</b> status to perform this action</li> <li>● <b>WARNING:</b> A locked form will not allow the editing of a query, just at the EDC UI would disallow. Frozen forms will accept the edit added via the API.</li> <li>● One can also answer a query by subject information / study design also - see the previous section <a href="#">Close Queries - By Study Design Context</a>. The endpoint for study context originally included a 'By ID' style, but that is to be deprecated in favor of this endpoint (../actions/closebyid)</li> <li>● <b>TIP:</b> If query IDs are known (returned in <a href="#">Retrieve Queries</a>), then use of this option By ID is preferred.</li> </ul>																		

## Examples

Description / Request (URL)	Response
Close of one query (with message)	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "id": "OPW000000014003",       "message": "Closed Query via API - by ID"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW000000014003",       "message": "Closed Query via API - by ID",       "query_status": "closed_v"     }   ] } </pre>

## 10.11 Reopen Queries - By Study Context

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#reopen-query">https://developer-cdms.veevavault.com/api/23.3/#reopen-query</a>																																																								
Style	<b>POST</b>																																																								
Endpoint	<your Vault URL>/api/v23.3/app/cdm/queries/actions/reopen																																																								
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>study_country</td> <td>queries</td> <td>Required</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>queries</td> <td>Required</td> <td>Name/number of the site</td> </tr> <tr> <td>subject</td> <td>queries</td> <td>Required</td> <td>Subject to act on</td> </tr> <tr> <td>eventgroup_name</td> <td>queries</td> <td>Required</td> <td>Design <b>name</b> in the study of the event group</td> </tr> <tr> <td>eventgroup_sequence</td> <td>queries</td> <td>Optional</td> <td>The specific sequence of an event group. 1 assumed if omitted</td> </tr> <tr> <td>event_name</td> <td>queries</td> <td>Required</td> <td>Design <b>name</b> in the study of the event</td> </tr> <tr> <td>form_name</td> <td>queries</td> <td>Optional *</td> <td>Design <b>name</b> in the study of the form. <b>Required</b> when query is on an item on a form</td> </tr> <tr> <td>form_sequence</td> <td>queries</td> <td>Optional *</td> <td>The specific sequence of the form. (if a query on an item of a form) 1 assumed if omitted.</td> </tr> <tr> <td>itemgroup_name</td> <td>queries</td> <td>Optional *</td> <td>Design <b>name</b> in the study of the item group location. <b>Required</b> when query is an item on a form</td> </tr> <tr> <td>itemgroup_sequence</td> <td>queries</td> <td>Optional *</td> <td>The specific item group sequence where the item resides (if a query on an item). 1 assumed if omitted</td> </tr> <tr> <td>item_name</td> <td>queries</td> <td>Optional *</td> <td>Design <b>name</b> in the study of the item (if a query on an item)</td> </tr> <tr> <td>message</td> <td>queries</td> <td>Required</td> <td>The message of the query on answer(255 character limit)</td> </tr> </tbody> </table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	study_country	queries	Required	Name of the study country (of the subject's site)	site	queries	Required	Name/number of the site	subject	queries	Required	Subject to act on	eventgroup_name	queries	Required	Design <b>name</b> in the study of the event group	eventgroup_sequence	queries	Optional	The specific sequence of an event group. 1 assumed if omitted	event_name	queries	Required	Design <b>name</b> in the study of the event	form_name	queries	Optional *	Design <b>name</b> in the study of the form. <b>Required</b> when query is on an item on a form	form_sequence	queries	Optional *	The specific sequence of the form. (if a query on an item of a form) 1 assumed if omitted.	itemgroup_name	queries	Optional *	Design <b>name</b> in the study of the item group location. <b>Required</b> when query is an item on a form	itemgroup_sequence	queries	Optional *	The specific item group sequence where the item resides (if a query on an item). 1 assumed if omitted	item_name	queries	Optional *	Design <b>name</b> in the study of the item (if a query on an item)	message	queries	Required	The message of the query on answer(255 character limit)
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site	queries	Required	Name/number of the site																																																						
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message	queries	Required	The message of the query on answer(255 character limit)																																																						
Notes	<ul style="list-style-type: none"> <li>• The action is used to reopen an <b>existing</b> query, via the subject information, and study design location.</li> <li>• The limit for actions in one request is <b>100</b>.</li> <li>• The action applies whether the query is against an item (on a form), or an event</li> <li>• The query must be in <b>Closed</b> status to perform this action</li> <li>• <b>WARNING:</b> If multiple queries exist at the item (or event), an error will be returned.</li> <li>• <b>WARNING:</b> A locked form will not allow the editing of a query, just at the EDC UI would disallow. Frozen forms will accept the edit added via the API.</li> <li>• One can also reopen a query by query ID - see the next section <a href="#">Reopen Queries - By Query ID</a></li> <li>• <b>TIP:</b> If query IDs are known (returned in <a href="#">Retrieve Queries</a>), then use of this option By ID is preferred.</li> </ul>																																																								

## Examples

Description / Request (URL)	Response
Reopen of one query	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE1",       "itemgroup_sequence": 1,       "item_name": "IEYN",       "message": "This is the text on reopen query"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW00000012005",       "query_name": "VV-000256",       "query_status": "open_v",       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE1",       "itemgroup_sequence": 1,       "item_name": "IEYN"     }   ] } </pre>

## 10.12 Reopen Queries - By Query ID

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#reopen-query">https://developer-cdms.veevavault.com/api/23.3/#reopen-query</a>																		
Style	<b>POST</b>																		
Endpoint	<your Vault URL>/api/v23.3/app/cdm/queries/actions/reopen																		
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>id</td> <td>queries</td> <td>Required</td> <td>The Vault ID of the query. This value is returned on add (if added by API), and also on <b>Get Queries</b> endpoint return of the query.</td> </tr> <tr> <td>message</td> <td>queries</td> <td>Required</td> <td>The message of the query on reopen (255 character limit)</td> </tr> </tbody> </table>			Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	id	queries	Required	The Vault ID of the query. This value is returned on add (if added by API), and also on <b>Get Queries</b> endpoint return of the query.	message	queries	Required	The message of the query on reopen (255 character limit)
Name	Array	Req/Opt	Notes																
study_name		Required	Name of the study																
id	queries	Required	The Vault ID of the query. This value is returned on add (if added by API), and also on <b>Get Queries</b> endpoint return of the query.																
message	queries	Required	The message of the query on reopen (255 character limit)																
Notes	<ul style="list-style-type: none"> <li>• The action is used to reopen an <b>existing</b> query, via the subject information, and known query ID.</li> <li>• The action applies whether the query is against an item (on a form), or an event</li> <li>• The limit for actions in one request is <b>100</b>.</li> <li>• The query must be in <b>Closed</b> status to perform this action</li> <li>• <b>WARNING:</b> A locked form will not allow the editing of a query, just at the EDC UI would disallow. Frozen forms will accept the edit added via the API.</li> <li>• One can also reopen a query by subject information / study design also - see the previous section <a href="#">Reopen Queries - By Study Context</a></li> <li>• <b>TIP:</b> If query IDs are known (returned in <a href="#">Retrieve Queries</a>), then use of this option By ID is preferred.</li> </ul>																		

## Examples

Description / Request (URL)	Response
Answer of one query	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "id": "OPW000000012006",       "message": "Reopened query via API by ID."     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW000000012006",       "query_name": "VV-000257",       "query_status": "open_v",       "study_country": "United States",       "site": "101",       "subject": "SCR-0003",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "form_name": "IC",       "form_sequence": 1,       "itemgroup_name": "ig-IC2",       "itemgroup_sequence": 1,       "item_name": "RFICDAT"     }   ] } </pre>



## 11 Medical Coding

### 11.1 Retrieve Coding Requests

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-coding-requests">https://developer-cdms.veevavault.com/api/23.3/#retrieve-coding-requests</a>																																				
Style	GET																																				
Endpoint	<your Vault URL>/api/v23.3/app/cdm/coder/codingrequests																																				
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>coding_item_definition_id</td> <td>Required</td> <td>See the <b>Study Design</b> -&gt; <a href="#">Retrieve Coding Form Definitions</a> for retrieving these values. There, the <code>coding_item_definition_id</code> is the value to use into this endpoint.</td> </tr> <tr> <td>study_country</td> <td>Optional</td> <td>Name of the study country (of the subject's site)</td> </tr> <tr> <td>site</td> <td>Optional</td> <td>Name/number of the site, requires study country (of the site) if using</td> </tr> <tr> <td>subject</td> <td>Optional</td> <td>Subject number, requires country and site if using</td> </tr> <tr> <td>last_modified_date</td> <td>Optional</td> <td>Filter to coding requests modified since a certain date. Format: <code>yyyy-MM-ddTHH:mm:ssZ</code></td> </tr> <tr> <td>coding_status</td> <td>Optional</td> <td>Retrieve only those requests of certain status (or statuses, if multiple, use comma separated value). Valid status values are - <code>open__v</code>, <code>autocoded__v</code>, <code>uncoded__v</code>, <code>noncurrent__v</code>, <code>coded__v</code>, <code>rejected__v</code>, <code>pending_approval__v</code>, <code>not_to_be_coded__v</code>, <code>better_code_found__v</code>, or <code>updated__v</code></td> </tr> <tr> <td>include_external_suggestions</td> <td>Optional</td> <td>Boolean value, whether or not to include any external suggestions to the requests. Default when omitted is 'false'. Also note that the study must also be configured with an external suggestion definition to return this information in the response.</td> </tr> <tr> <td>has_external_suggestions</td> <td>Optional</td> <td>Boolean value, when included, will filter the return to just those requests with external suggestions (true) in place, or not (false). When omitted, there is no filter one way or the other.</td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study_name	Required	Name of the study	coding_item_definition_id	Required	See the <b>Study Design</b> -> <a href="#">Retrieve Coding Form Definitions</a> for retrieving these values. There, the <code>coding_item_definition_id</code> is the value to use into this endpoint.	study_country	Optional	Name of the study country (of the subject's site)	site	Optional	Name/number of the site, requires study country (of the site) if using	subject	Optional	Subject number, requires country and site if using	last_modified_date	Optional	Filter to coding requests modified since a certain date. Format: <code>yyyy-MM-ddTHH:mm:ssZ</code>	coding_status	Optional	Retrieve only those requests of certain status (or statuses, if multiple, use comma separated value). Valid status values are - <code>open__v</code> , <code>autocoded__v</code> , <code>uncoded__v</code> , <code>noncurrent__v</code> , <code>coded__v</code> , <code>rejected__v</code> , <code>pending_approval__v</code> , <code>not_to_be_coded__v</code> , <code>better_code_found__v</code> , or <code>updated__v</code>	include_external_suggestions	Optional	Boolean value, whether or not to include any external suggestions to the requests. Default when omitted is 'false'. Also note that the study must also be configured with an external suggestion definition to return this information in the response.	has_external_suggestions	Optional	Boolean value, when included, will filter the return to just those requests with external suggestions (true) in place, or not (false). When omitted, there is no filter one way or the other.	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
Name	Req/Opt	Notes																																			
study_name	Required	Name of the study																																			
coding_item_definition_id	Required	See the <b>Study Design</b> -> <a href="#">Retrieve Coding Form Definitions</a> for retrieving these values. There, the <code>coding_item_definition_id</code> is the value to use into this endpoint.																																			
study_country	Optional	Name of the study country (of the subject's site)																																			
site	Optional	Name/number of the site, requires study country (of the site) if using																																			
subject	Optional	Subject number, requires country and site if using																																			
last_modified_date	Optional	Filter to coding requests modified since a certain date. Format: <code>yyyy-MM-ddTHH:mm:ssZ</code>																																			
coding_status	Optional	Retrieve only those requests of certain status (or statuses, if multiple, use comma separated value). Valid status values are - <code>open__v</code> , <code>autocoded__v</code> , <code>uncoded__v</code> , <code>noncurrent__v</code> , <code>coded__v</code> , <code>rejected__v</code> , <code>pending_approval__v</code> , <code>not_to_be_coded__v</code> , <code>better_code_found__v</code> , or <code>updated__v</code>																																			
include_external_suggestions	Optional	Boolean value, whether or not to include any external suggestions to the requests. Default when omitted is 'false'. Also note that the study must also be configured with an external suggestion definition to return this information in the response.																																			
has_external_suggestions	Optional	Boolean value, when included, will filter the return to just those requests with external suggestions (true) in place, or not (false). When omitted, there is no filter one way or the other.																																			
limit	Optional	Pagination API - different limit from the default 1000 can be used																																			
offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd																																			
Notes	<ul style="list-style-type: none"> <li>• Use this API to retrieve the medical coding requests</li> <li>• Required is the <code>coding_item_definition_id</code>. Only one coding form (its requests) can be returned at once. To get the appropriate value for the study / coding item definition, use the endpoint <b>Study Design</b> -&gt; <a href="#">Retrieve Coding Form Definitions</a>. Specifically the response parameter: <code>coding_item_definition_id</code></li> <li>• Filter for requests modified since a point is done is done with the <code>last_modified_date</code> parameter. The format is: <code>yyyy-MM-ddTHH:mm:ssZ</code></li> </ul>																																				

## Examples

Description / Request (URL)	Response
<p><a href="#">All requests of specific definition (MedDRA)</a></p> <pre> .../app/cdm/coder/codingrequests?study_name=ABCPharma_DEV1&amp;coding_item_definition_id=V0T0000002001                     </pre>	<pre> {   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 2,     "total": 2   },   "codingrequests": [     {       "coding_item_definition_id": "V0T00000002001",       "form_coding_status": "active_v",       "form_type": "ae_v",       "dictionary_definition": "MedDRA",       "requests": [         {           "id": "V0V00000003001",           "study_country": "United States",           "site": "101",           "subject": "SCR-0001",           "verbatim": "My Term 1",           "start_date": "",           "stop_date": "",           "eventgroup_name": "LOGS",           "eventgroup_sequence": 1,           "event_name": "LOGS",           "event_sequence": 1,           "form_name": "AE",           "form_sequence": 1,           "itemgroup_name": "ig-AE",           "itemgroup_sequence": 1,           "item_name": "AETERM",           "coding_status": "open_v",           "last_modified_date": "2022-05-23T17:34:46Z",           "created_date": "2022-05-23T17:34:46Z",           "created_by": "System",           "other_properties": {             "My Label for SAE Form Uploaded": null           },           "seriousness": "Yes",           "severity": "",           "llt_code": "",           "llt": "",           "pt_code": ""         }       ]     }   ] }                     </pre>

Description / Request (URL)	Response
	<pre> "pt": "", "hlt_code": "", "hlt": "", "hlgt_code": "", "hlgt": "", "soc": "", "soc_code": "", "primary_path": "" }, {   "id": "V0V00000003002",   "study_country": "United States",   "site": "101",   "subject": "SCR-0001",   "verbatim": "My AE 2",   "start_date": "2022-05-01T00:00:00Z",   "stop_date": "",   "eventgroup_name": "LOGS",   "eventgroup_sequence": 1,   "event_name": "LOGS",   "event_sequence": 1,   "form_name": "AE",   "form_sequence": 2,   "itemgroup_name": "ig-AE",   "itemgroup_sequence": 1,   "item_name": "AETERM",   "coding_status": "coded_v",   "last_coded_date": "2022-06-02T18:35:03Z",   "last_modified_date": "2022-06-02T18:35:03Z",   "created_date": "2022-05-23T17:35:27Z",   "created_by": "System",   "other_properties": {     "My Label for SAE Form Uploaded": "true"   },   "seriousness": "No",   "severity": "",   "llt_code": "10027599",   "llt": "Migraine",   "pt_code": "10027599",   "pt": "Migraine",   "hlt_code": "10027603",   "hlt": "Migraine headaches",   "hlgt_code": "10019231",   "hlgt": "Headaches",   "soc": "Nervous system disorders",   "soc_code": "10029205",   "primary_path": "Y" } </pre>

Description / Request (URL)	Response
	<pre> ] } ] } </pre>

**All requests of specific definition (WHODrug)**

<pre> .../app/coder/codingrequests?s tudy_name=ABCPharma_DEV1&amp;codin g_item_definition_id=V0T000000 004001 </pre>	<pre> {   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 2,     "total": 2   },   "codingrequests": [     {       "coding_item_definition_id": "V0T000000004001",       "form_coding_status": "active_v",       "form_type": "cm_v",       "dictionary_definition": "WHODrug C3",       "requests": [         {           "id": "V0V000000004001",           "study_country": "United States",           "site": "101",           "subject": "SCR-0001",           "verbatim": "Aspirin",           "start_date": "",           "stop_date": "",           "eventgroup_name": "LOGS",           "eventgroup_sequence": 1,           "event_name": "LOGS",           "event_sequence": 1,           "form_name": "CM",           "form_sequence": 1,           "itemgroup_name": "ig-CM",           "itemgroup_sequence": 1,           "item_name": "CMTRT",           "coding_status": "coded_v",           "last_coded_date": "2022-06-02T20:02:26Z",           "last_modified_date": "2022-06-02T20:02:26Z",           "created_date": "2022-06-02T20:00:44Z",           "created_by": "System",           "other_properties": {},           "indication": "Headache",           "route": "Oral",           "drug_name": "Aspirin", </pre>
--	---

Description / Request (URL)	Response
	<pre> "drug_code": "00002701004", "preferred_code": "00002701001", "preferred_name": "Acetylsalicylic acid", "atc4_code": "N02BA", "atc4": "Salicylic acid and derivatives", "atc3_code": "N02B", "atc3": "OTHER ANALGESICS AND ANTIPYRETICS", "atc2_code": "N02", "atc2": "ANALGESICS", "atc1_code": "N", "atc1": "NERVOUS SYSTEM" }, {   "id": "V0V000000004002",   "site": "101",   "subject": "SCR-0001",   "verbatim": "Ibuprofen",   "start_date": "",   "stop_date": "",   "eventgroup_name": "LOGS",   "eventgroup_sequence": 1,   "event_name": "LOGS",   "event_sequence": 1,   "form_name": "CM",   "form_sequence": 2,   "itemgroup_name": "ig-CM",   "itemgroup_sequence": 1,   "item_name": "CMTRT",   "coding_status": "open_v",   "last_coded_date": "",   "last_modified_date": "2022-06-02T20:01:47Z",   "created_date": "2022-06-02T20:01:47Z",   "created_by": "System",   "other_properties": {},   "indication": "My indication",   "route": "Nasal",   "drug_name": "",   "drug_code": "",   "preferred_code": "",   "preferred_name": "",   "atc4_code": "",   "atc4": "",   "atc3_code": "",   "atc3": "",   "atc2_code": "",   "atc2": "",   "atc1_code": "",   "atc1": "" </pre>

Description / Request (URL)	Response
	<pre> } ] } ] } </pre>
<p><b>Filter to a specific subject</b></p>	
<p>.../app/cdm/coder/codingrequests?study_name=ABCPharma_DEV1&amp;coding_item_definition_id=V0T00000004001&amp;study_country=United States&amp;site=101&amp;subject=101-001</p>	<p>(Like above, but to the filter)</p>
<p><b>Include Suggestions - MedDRA Request, one with suggestions (2), other without any</b></p>	
<p>.../app/cdm/coder/codingrequests?study_name=ABCPharma_DEV1&amp;coding_item_definition_id=V0T00000004001&amp;include_external_suggestions=true</p>	<pre> {   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 2,     "total": 2   },   "codingrequests": [     {       "coding_item_definition_id": "V0R00000003K001",       "form_coding_status": "active_v",       "form_type": "ae_v",       "dictionary_definition": "MedDRA",       "dictionary_release": "MedDRA_25_1",       "requests": [         {           "id": "V0T000000027001",           "study_country": "United States",           "site": "101",           "subject": "SCR-0001",           "verbatim": "Stroke",           "start_date": "",           "stop_date": "",           "eventgroup_name": "egMain",           "eventgroup_sequence": 1,           "event_name": "evMIN",           "event_sequence": 1,           "form_name": "AE",           "form_sequence": 1,           "itemgroup_name": "igAE",           "itemgroup_sequence": 1, </pre>

Description / Request (URL)	Response
	<pre> "item_name": "AETERM", "coding_status": "autocoded_v", "last_coded_date": "2023-04-24T18:40:48Z", "last_modified_date": "2023-04-24T18:40:48Z", "created_date": "2023-04-24T18:40:46Z", "created_by": "System", "other_properties": {}, "seriousness": "", "severity": "", "soc_code": "10029205", "soc": "Nervous system disorders", "hlgt_code": "10007963", "hlgt": "Central nervous system vascular disorders", "hlt_code": "10007948", "hlt": "Central nervous system haemorrhages and cerebrovascular accidents",  "pt_code": "10008190", "pt": "Cerebrovascular accident", "llt_code": "10042244", "llt": "Stroke", "primary_path": "Y", "external_suggestions": [   {     "external_definition_name": "my_medcdr_company",     "external_id": "123456-ABC",     "relevance_score": 5,     "external_version": "APR-2023v1.1",     "soc_code": "10029205",     "soc": "Nervous system disorders",     "hlgt_code": "10019231",     "hlgt": "Headaches",     "hlt_code": "10027603",     "hlt": "Migraine headaches",     "pt_code": "10027599",     "pt": "Migraine",     "llt_code": "10027599",     "llt": "Migraine",     "primary_path": "Y"   },   {     "external_definition_name": "my_medcdr_company",     "external_id": "123457-ABC",     "relevance_score": 10,     "external_version": "APR-2023v1.1",     "soc_code": "10029205",     "soc": "Nervous system disorders",     "hlgt_code": "10007963",     "hlgt": "Central nervous system vascular disorders", </pre>

Description / Request (URL)	Response
	<pre>                 "hlt_code": "10007948",                 "hlt": "Central nervous system haemorrhages and cerebrovascular accidents",                  "pt_code": "10008190",                 "pt": "Cerebrovascular accident",                 "llt_code": "10042244",                 "llt": "Stroke",                 "primary_path": "Y"             }         ]     },     {         "id": "V0T000000027002",         "study_country": "United States",         "site": "101",         "subject": "SCR-0001",         "verbatim": "Stroke",         "start_date": "",         "stop_date": "",         "eventgroup_name": "egMain",         "eventgroup_sequence": 1,         "event_name": "evMIN",         "event_sequence": 1,         "form_name": "AE",         "form_sequence": 3,         "itemgroup_name": "igAE",         "itemgroup_sequence": 1,         "item_name": "AETERM",         "coding_status": "open_v",         "last_coded_date": null,         "last_modified_date": "2023-04-24T18:40:48Z",         "created_date": "2023-04-24T18:40:46Z",         "created_by": "System",         "other_properties": {},         "seriousness": "",         "severity": "",         "soc_code": "",         "soc": "",         "hlt_code": "",         "hlt": "",         "hlt_code": "",         "hlt": "",         "pt_code": "",         "pt": "",         "llt_code": "",         "llt": "",         "primary_path": "",         "external_suggestions": []     } </pre>



Description / Request (URL)	Response
	<pre>                 }             ]         }     ] } </pre>
<p><a href="#">Filter to those requests without any external suggestions (assuming study activated for external suggestions)</a></p>	
<pre> .../app/cdm/coder/codingrequests?study_name=ABCPharma_DEV1&amp;coding_item_definition_id=V0T00000004001&amp;has_external_suggestions=false&amp;include_external_suggestions=true </pre>	<p>(Like above examples, but only those requests where zero external suggestions are in place)</p>

## Flow Based Examples

These medical coding requests in the Coder UI

The screenshot shows the Coder UI interface. At the top, there are navigation tabs: Data Entry, Library, Studio, Review, Assessments, Coder, Reports, Dashboards, Labs, Loader, and Randomization. The current view is for 'Oriol\_Test2\_DEV1 - AE'. Below this, there are filters for Coding Status (All), Query Status (All), Site (All), and Subject (All). A table lists coding requests with columns: Verbatim, Seriousness, Coding Status, Assigned Code, Site, Subject, Query Status, and Query Age (D). Three requests are shown: Cough (OPEN), Headache (OPEN), and Headache (AUTOCODED). The AUTOCODED request is highlighted. To the right, a sidebar shows 'HEADACHE' with 'ASSIGNED CODE' and 'QUERIES (0)'. Below the table, there is a 'Dictionary' section with search filters and a table of code options (LLT, PT, HLT, HLGT, SOC, Primary F) for 'Headache'.

Are retrieved with this API GET:

The screenshot shows a REST client interface with the following details:

- Method:** GET
- URL:** `https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/coder/codingrequests?study_name=Oriol_Test2_DEV1&coding_item_definition=VV-000010`
- Params:** Authorization, Headers (8), Body, Pre-request Script, Tests, Settings
- Query Params:**

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> study_name	Oriol_Test2_DEV1	
<input checked="" type="checkbox"/> coding_item_definition	VV-000010	
Key	Value	Description
- Body:** Status: 200 OK, Time: 518 ms, Size: 4.76 KB
- Response Format:** Pretty (JSON)
- Response Content:**

```

1  {
2    "responseStatus": "SUCCESS",
3    "codingrequests": [
4      {
5        "coding_item_definition": "V0V000000009001",
6        "form_status": "Active",
7        "form_type": "AE",
8        "dictionary_definition": "MedDRA",
9        "requests": [
10       {
11         "id": "V1000000006001",
12         "site": "100",
13         "subject": "SCR-0002",
14         "verbatim": "Headache",
15         "start_date": "2021-05-01T00:00:00Z",
16         "stop_date": "",
17         "event": "Screening",
18         "event_sequence": 1,
19         "form": "Adverse Events",
20         "form_sequence": 1,
21         "item_group": null,
22         "item_group_sequence": 1,
23         "item": null,
24         "coding_status": "Autocoded",
25         "last_coded_by_third_party": "",
26         "last_coded_date": "2021-05-14T10:06:25Z",
27         "assigned_to_third_party": ""

```

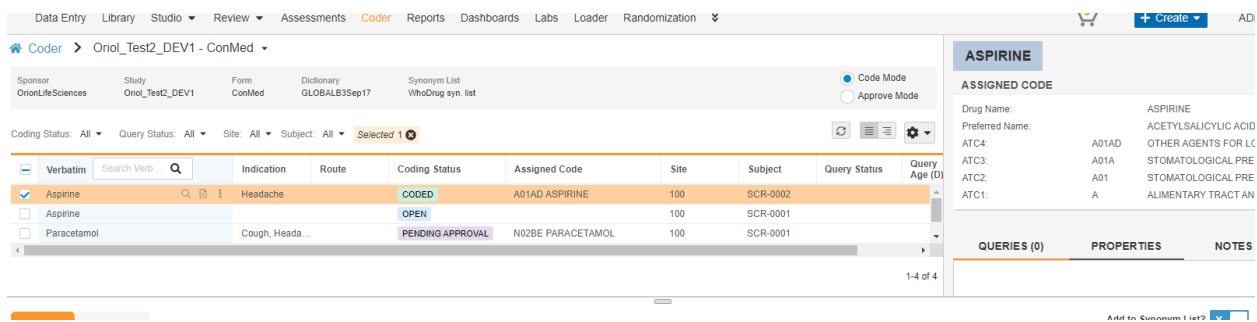
Further down the return is the coding for the AE:

```

30     "created_by": "System",
31     "other_properties": {
32       "Other Action Taken": null
33     },
34     "seriousness": "",
35     "severity": "",
36     "llt_code": "10019211",
37     "llt": "Headache",
38     "pt_code": "10019211",
39     "pt": "Headache",
40     "hlt_code": "10019233",
41     "hlt": "Headaches NEC",
42     "higt_code": "10019231",
43     "higt": "Headaches",
44     "soc": "Nervous system disorders",
45     "soc_code": "10029205",
46     "primary_path": "Y"
47   },
48 }

```

For WHODrug requests (ConMeds, etc.), in EDC we see coding:



Verbatim	Search Verb...	Indication	Route	Coding Status	Assigned Code	Site	Subject	Query Status	Query Age (D)
<input checked="" type="checkbox"/> Aspirine		Headache		CODED	A01AD ASPIRINE	100	SCR-0002		
<input type="checkbox"/> Aspirine				OPEN		100	SCR-0001		
<input type="checkbox"/> Paracetamol		Cough, Head...		PENDING APPROVAL	N02BE PARACETAMOL	100	SCR-0001		

Returned in API for detail of coding as:

```

24     "coding_status": "Coded",
25     "last_coded_by_third_party": "",
26     "last_coded_date": "2021-05-14T10:19:24Z",
27     "assigned_to_third_party": "",
28     "last_modified_date": "2021-05-14T11:51:16Z",
29     "created_date": "2021-05-14T10:18:59Z",
30     "created_by": "System",
31     "other_properties": {},
32     "indication": "Headache",
33     "route": "",
34     "drug_name": "ASPIRINE",
35     "drug_code": "00002701014",
36     "preferred_code": "00002701001",
37     "preferred_name": "ACETYLSALICYLIC ACID",
38     "atc4_code": "A01AD",
39     "atc4": "OTHER AGENTS FOR LOCAL ORAL TREATMENT",
40     "atc3_code": "A01A",
41     "atc3": "STOMATOLOGICAL PREPARATIONS",
42     "atc2_code": "A01",
43     "atc2": "STOMATOLOGICAL PREPARATIONS",
44     "atc1_code": "A",
45     "atc1": "ALIMENTARY TRACT AND METABOLISM"
46   },

```

## 11.2 Retrieve Coding Queries

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-coding-queries">https://developer-cdms.veevavault.com/api/23.3/#retrieve-coding-queries</a>															
Style	<b>GET</b>															
Endpoint	<your Vault URL>/api/v23.3/app/cdm/queries															
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>coding_item_definition</td> <td>Required</td> <td>See the <b>Study Design</b> -&gt; <a href="#">Retrieve Coding Form Definitions</a> for retrieving these values. There, the <b>coding_item_definition_id</b> is the value to use into this endpoint.</td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study_name	Required	Name of the study	coding_item_definition	Required	See the <b>Study Design</b> -> <a href="#">Retrieve Coding Form Definitions</a> for retrieving these values. There, the <b>coding_item_definition_id</b> is the value to use into this endpoint.	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
Name	Req/Opt	Notes														
study_name	Required	Name of the study														
coding_item_definition	Required	See the <b>Study Design</b> -> <a href="#">Retrieve Coding Form Definitions</a> for retrieving these values. There, the <b>coding_item_definition_id</b> is the value to use into this endpoint.														
limit	Optional	Pagination API - different limit from the default 1000 can be used														
offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd														
Notes	<ul style="list-style-type: none"> <li>● Use this API to retrieve the existing queries of a specific ID (or IDs). The ID of the query is returned on add via the API, or from <b>Retrieve Queries</b> endpoint.</li> <li>● The return value <b>manual</b> is such that <b>false</b> = added by the system.</li> <li>● When the query was added via a specific design rule, the <b>rule_definition</b> indicates the name of the rule that originated the query.</li> <li>● Queries are added at the item or event level. For event level, the form 'down' information is of course omitted</li> <li>● For the <b>coding_item_definition</b> parameter, the appropriate value for the study / coding item definition, use the endpoint <b>Study Design</b> -&gt; <a href="#">Retrieve Coding Form Definitions</a>. Specifically the response parameter: <b>coding_item_definition_id</b></li> <li>● The return includes a messages array with each comment/message appended to the query. Reading top down in that array also reveals the progression of query status, and by whom</li> <li>● Additional filtering / retrieval of queries is discussed in other sections (By Filters or By Medical Coding Definition, see <a href="#">Queries</a> chapter)</li> </ul>															

## Examples

Description / Request (URL)	Response
<p><a href="#">By specific coding definition ID</a></p> <pre>.../app/cdm/queries?coding_item_definition=V0T000000002001&amp;study_name=ABCP-2022-01_DEV1</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 1,     "total": 1   },   "queries": [     {       "id": "OPW00000000V001",       "query_name": "VV-000233",       "manual": true,       "query_status": "open_v",       "study_country": "United States",       "site": "101",       "subject": "SCR-0001",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 2,       "itemgroup_name": "ig-AE",       "itemgroup_sequence": 1,       "item_name": "AETERM",       "coding_item_definition": "V0T000000002001",       "created_date": "2022-06-08T20:09:48Z",       "created_by": "Eric Emerton"       "messages": [         {           "id": "OPY00000000W001",           "activity": "open_v",           "message": "Please check this value, this is a query from coding add via API",           "message_date": "2022-06-08T20:09:48Z",           "message_by": "Eric Emerton"         }       ]     }   ] }</pre>
<p><a href="#">Queries across two coding definitions</a></p>	

Description / Request (URL)	Response
<pre>.../app/cdm/queries?coding_item_definition=V0T000000002001,V0T00000004001&amp;study_name=ABCP-2022-01_DEV1</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 2,     "total": 2   },   "queries": [     {       "id": "OPW00000000V001",       "query_name": "VV-000233",       "manual": true,       "query_status": "open_v",       "study_country": "United States",       "site": "101",       "subject": "SCR-0001",       "eventgroup_name": "LOGS",       "eventgroup_sequence": 1,       "event_name": "LOGS",       "event_sequence": 1,       "form_name": "AE",       "form_sequence": 2,       "itemgroup_name": "ig-AE",       "itemgroup_sequence": 1,       "item_name": "AETERM",       "coding_item_definition": "V0T000000002001",       "created_date": "2022-06-08T20:09:48Z",       "created_by": "Eric Emerton"       "messages": [         {           "id": "OPY00000000W001",           "activity": "open_v",           "message": "Please check this value, this is a query from coding add via API",           "message_date": "2022-06-08T20:09:48Z",           "message_by": "Eric Emerton"         }       ]     }   ],   {     "id": "OPW00000000W001",     "query_name": "VV-000234",     "manual": true,     "query_status": "open_v",     "study_country": "United States",     "site": "101",     "subject": "SCR-0001",</pre>

Description / Request (URL)	Response
	<pre> "eventgroup_name": "LOGS", "eventgroup_sequence": 1, "event_name": "LOGS", "event_sequence": 1, "form_name": "Concomitant-Medication", "form_sequence": 1, "itemgroup_name": "ig-CM", "itemgroup_sequence": 1, "item_name": "CMTRT", "coding_item_definition": "V0T000000004001", "created_date": "2022-06-08T20:57:31Z", "created_by": "Eric Emerton" "messages": [   {     "id": "OPY00000000X002",     "activity": "open_v",     "message": "Please check this value, this is a query from coding add via API (3rd add to CM)",     "message_date": "2022-06-08T20:57:31Z",     "message_by": "Eric Emerton"   } ] ] } </pre>

### 11.3 Open Coding Queries

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#open-coding-query">https://developer-cdms.veevavault.com/api/23.3/#open-coding-query</a>																		
Style	POST																		
Endpoint	<your Vault URL>/api/v23.3/app/cdm/coder/actions/openquery																		
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>coding_request</td> <td>queries</td> <td>Required</td> <td>The ID of the medical coding request. The query will be added against the item that the coding request applies to</td> </tr> <tr> <td>message</td> <td>queries</td> <td>Required</td> <td>The message of the query on add (255 character limit)</td> </tr> </tbody> </table>			Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	coding_request	queries	Required	The ID of the medical coding request. The query will be added against the item that the coding request applies to	message	queries	Required	The message of the query on add (255 character limit)
Name	Array	Req/Opt	Notes																
study_name		Required	Name of the study																
coding_request	queries	Required	The ID of the medical coding request. The query will be added against the item that the coding request applies to																
message	queries	Required	The message of the query on add (255 character limit)																
Notes	<ul style="list-style-type: none"> <li>The action is used to add a <b>new</b> query to an item, specifically the item that is attached / referenced by a specific medical coding request. (e.g. AE verbatim or CM verbatim)</li> <li>The limit for actions in one request is <b>100</b>.</li> <li><b>WARNING:</b> A locked form will not allow the add a new query, just at the EDC UI would disallow. Frozen forms will accept new queries added via the API.</li> <li>Additional abilities to open queries are available at: <ul style="list-style-type: none"> <li><a href="#">Open Queries - By Study Context</a></li> <li><a href="#">Open Queries - By Item ID</a> (different style of response)</li> <li><a href="#">Open Queries - By Event ID</a> (different style of response)</li> </ul> </li> </ul>																		

### Examples

Description / Request (URL)	Response
<p><b>Multiple queries added</b></p> <pre>{   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "coding_request": "V0V000000004001",       "message": "This is a query from coding add via API"     },     {       "coding_request": "V0V000000003002",       "message": "This is a query from coding add via API"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW00000000W001",       "query_name": "VV-000234",       "query_status": "open_v",       "coding_request": "V0V000000004001"     },     {       "responseStatus": "SUCCESS",       "id": "OPW00000000V001",       "query_name": "VV-000233",       "query_status": "open_v",       "coding_request": "V0V000000003002"     }   ] }</pre>



Description / Request (URL)	Response
	<pre> ] } </pre>
<p><b>Multiple queries attempted, one succeeds, one fails</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "coding_request": "V0V000000004001",       "message": "This is a query from coding add via API"     },     {       "coding_request": "V0V00000000300233",       "message": "This is a query from coding add via API"     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW00000000W001",       "query_name": "VV-000234",       "query_status": "open_v",       "coding_request": "V0V000000004001"     },     {       "responseStatus": "FAILURE",       "errorMessage": "[Coding Request] with id [V0V00000000300233] not found",       "coding_request": "V0V00000000300233"     }   ] } </pre>

## 11.4 Set Coding Suggestions

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#set-coding-suggestions">https://developer-cdms.veevavault.com/api/23.3/#set-coding-suggestions</a>																																										
Style	<b>POST</b>																																										
Endpoint	<your Vault URL>/api/v23.3/app/cdm/coder/actions/setcodingsuggestions																																										
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td></td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>external_definition_name</td> <td></td> <td>Required</td> <td>The <b>API name</b> (case sensitive) of the external system. This is setup once per vault, <b>AND</b> applied to each study</td> </tr> <tr> <td>id</td> <td>requests</td> <td>Required</td> <td>The id value for the Medical Coding Request. These values can be found in the responses from <b>Retrieve Coding Requests</b></td> </tr> <tr> <td>dictionary_release</td> <td>requests</td> <td>Required</td> <td>The dictionary release value for the Medical Coding Request. These values can be found in the responses from <b>Retrieve Coding Requests</b>. When this is not a match to current dictionary version, the suggestion(s) are rejected.</td> </tr> <tr> <td>verbatim</td> <td>requests</td> <td>Optional</td> <td>This value must match the current dictionary version (name__v value) of that coding form in the study. The current value can be found both at <b>Retrieve Coding Form Definitions</b> and with each response entry returned in <b>Retrieve Coding Requests</b>. If passed in the attempt, and it does not match the current value in CDMS, the attempt on the coding request is rejected.</td> </tr> <tr> <td>indication</td> <td>requests</td> <td>Optional</td> <td><b>(WHODrug only)</b> When passed with the attempt, the current value of the value is checked in the study. This is helpful in ensuring the value used in the external coding algorithm is still the same in the study, at the time of posting the suggestions. Later changes to this in the system will appropriately remove suggestions since they no longer apply. If the value is <b>not</b> passed, the extra check is not performed. <b>WARNING:</b> A study must be configured for the coding form to use this property.</td> </tr> <tr> <td>route</td> <td>requests</td> <td>Optional</td> <td><b>(WHODrug only)</b> When passed with the attempt, the current value of the value is checked in the study. This is helpful in ensuring the value used in the external coding algorithm is still the same in the study, at the time of posting the suggestions. Later changes to this in the system will appropriately remove suggestions since they no longer apply. If the value is <b>not</b> passed, the extra check is not performed. <b>WARNING:</b> A study must be configured for the coding form to use this property.</td> </tr> <tr> <td>external_id</td> <td>../external_suggestions</td> <td>Optional</td> <td>Use this field to set a value meaningful to the remote system / algorithm, e.g. an ID from a database storing these suggestion combinations.</td> </tr> <tr> <td>relevance_score</td> <td>../external_suggestions</td> <td>Required</td> <td>This is the value for the suggestion that ranks it amongst other suggestions of the same request. The higher the number, the better the ranking, i.e. appearing at the top in</td> </tr> </tbody> </table>			Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	external_definition_name		Required	The <b>API name</b> (case sensitive) of the external system. This is setup once per vault, <b>AND</b> applied to each study	id	requests	Required	The id value for the Medical Coding Request. These values can be found in the responses from <b>Retrieve Coding Requests</b>	dictionary_release	requests	Required	The dictionary release value for the Medical Coding Request. These values can be found in the responses from <b>Retrieve Coding Requests</b> . When this is not a match to current dictionary version, the suggestion(s) are rejected.	verbatim	requests	Optional	This value must match the current dictionary version (name__v value) of that coding form in the study. The current value can be found both at <b>Retrieve Coding Form Definitions</b> and with each response entry returned in <b>Retrieve Coding Requests</b> . If passed in the attempt, and it does not match the current value in CDMS, the attempt on the coding request is rejected.	indication	requests	Optional	<b>(WHODrug only)</b> When passed with the attempt, the current value of the value is checked in the study. 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If the value is <b>not</b> passed, the extra check is not performed. <b>WARNING:</b> A study must be configured for the coding form to use this property.	external_id	../external_suggestions	Optional	Use this field to set a value meaningful to the remote system / algorithm, e.g. an ID from a database storing these suggestion combinations.	relevance_score	../external_suggestions	Required	This is the value for the suggestion that ranks it amongst other suggestions of the same request. The higher the number, the better the ranking, i.e. appearing at the top in
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external_id	../external_suggestions	Optional	Use this field to set a value meaningful to the remote system / algorithm, e.g. an ID from a database storing these suggestion combinations.																																								
relevance_score	../external_suggestions	Required	This is the value for the suggestion that ranks it amongst other suggestions of the same request. The higher the number, the better the ranking, i.e. appearing at the top in																																								

			the user interface. For example, suggestions with relevance score of 10, 70, 40, 95, 20 in the post of five suggestions would be ordering in the Coder user interface (reading down) in order 95,70,40,20,10
external_version	../external_suggestions	Optional	Use this field to set a value meaningful to the remote system / algorithm, e.g. its version when the suggestion was generated.
soc_code	../external_suggestions	Required	<b>(MedDRA only)</b> The soc_code value for the suggestion
soc	../external_suggestions	Required	<b>(MedDRA only)</b> The soc value for the suggestion
hlgt_code	../external_suggestions	Required	<b>(MedDRA only)</b> The hlgt_code value for the suggestion
hlgt	../external_suggestions	Required	<b>(MedDRA only)</b> The hlgt value for the suggestion
hlt_code	../external_suggestions	Required	<b>(MedDRA only)</b> The hlt_code value for the suggestion
hlt	../external_suggestions	Required	<b>(MedDRA only)</b> The hlt value for the suggestion
pt_code	../external_suggestions	Required	<b>(MedDRA only)</b> The pt_code value for the suggestion
pt	../external_suggestions	Required	<b>(MedDRA only)</b> The pt value for the suggestion
llt_code	../external_suggestions	Required	<b>(MedDRA only)</b> The llt_code value for the suggestion
llt	../external_suggestions	Required	<b>(MedDRA only)</b> The llt value for the suggestion
primary_path	../external_suggestions	Optional	<b>(MedDRA only)</b> The primary path value for the suggestion - only values of <b>Y</b> (Yes) or <b>N</b> (No) allowed.
drug_code	../external_suggestions	Required	<b>(WHODrug only)</b> The drug_code value for the suggestion
drug_name	../external_suggestions	Required	<b>(WHODrug only)</b> The drug_name value for the suggestion
preferred_code	../external_suggestions	Required	<b>(WHODrug only)</b> The preferred_code value for the suggestion
preferred_name	../external_suggestions	Required	<b>(WHODrug only)</b> The preferred_name value for the suggestion
atc1_code	../external_suggestions	Depends	<b>(WHODrug only) WARNING:</b> Can be <b>Required</b> , depending on study configuration. The atc1_code value for the suggestion
atc1	../external_suggestions	Depends	<b>(WHODrug only) WARNING:</b> Can be <b>Required</b> , depending on study configuration. The atc1 value for the suggestion
atc2_code	../external_suggestions	Optional	<b>(WHODrug only)</b> The atc2_code value for the suggestion
atc2	../external_suggestions	Optional	<b>(WHODrug only)</b> The atc2 value for the suggestion
atc3_code	../external_suggestions	Optional	<b>(WHODrug only)</b> The atc3_code value for the suggestion
atc3	../external_suggestions	Optional	<b>(WHODrug only)</b> The atc3 value for the suggestion
atc4_code	../external_suggestions	Optional	<b>(WHODrug only)</b> The atc4_code value for the suggestion
atc4	../external_suggestions	Optional	<b>(WHODrug only)</b> The atc4 value for the suggestion
Notes	<ul style="list-style-type: none"> <li>• The action is used to set external coding suggestions to specific Medical Coding requests.</li> <li>• The action will <b>DELETE</b> existing suggestions (for a request that has them currently), and replace with the new set posted (no upsert)</li> <li>• To unset a request that has suggestions to have none, simply use <b>"external_suggestions": []</b> (empty array of suggestions)</li> <li>• Each suggestion (of request) is validated against a match of dictionary version (current on the Med Coding Request) and vendor/company name</li> </ul>		

- Each study must be activated in its study settings to use external suggestions. The company/vendor on the post then also must match the **API Name** as set up in the Vault for that company/vendor.
- Optionally include verbatim / route / indication values with the post of suggestions to have the state of the request checked that there have been no changes since the external suggestion engine created its suggestions.
- Suggestions posted to one coding request is limited to **5**
- The limit for actions in one API post is **100**. (coding requests)
- As with other Vault/CDMS APIs, batch actions are allowed. But, with this ability, the top level SUCCESS is **not** an indicator that each of the coding requests (their suggestions) were successful. Always (this or any Vault API) inspect the entry level SUCCESS/FAILURE properly.
- Perform searches of existing coding requests, optionally including suggestions currently attached to them, or just for those that lack suggestions (i.e. to then set suggestions to)

## Examples

Description / Request (URL)	Response
<p>Set of MedDRA request suggestions</p> <pre> {   "study_name": "ABCP-2022-01_DEV1",   "external_definition_name": "API_company_name_here",   "requests": [     {       "id": "V0V000000003002",       "dictionary_release": "MedDRA_25_1",       "verbatim": "Severe Headache",       "external_suggestions": [         {           "external_id": "123456-ABC",           "relevance_score": 5,           "external_version": "JAN-2022v1.1",           "soc": "Nervous system disorders",           "soc_code": "10029205",           "hlgt_code": "10019231",           "hlgt": "Headaches",           "hlt_code": "10027603",           "hlt": "Migraine headaches",           "pt_code": "10027599",           "pt": "Migraine",           "llt_code": "10027599",           "llt": "Migraine",           "primary_path": "Y"         },         {           "external_id": "123457-ABC",           "relevance_score": 4,           "external_version": "JAN-2022v1.1",           :           ... etc...           :         }       ],       :       : etc.. 5 suggestions this one       :     ]   },   {     "id": "V0V000000003003",     "dictionary_release": "MedDRA_25_1",     "verbatim": "Back pain", </pre>	<pre> {   "responseStatus": "SUCCESS",   "study_name": "ABCP-2022-01_DEV1",   "external_definition_name": "API_company_name_here",   "requests": [     {       "responseStatus": "SUCCESS",       "id": "V0V000000003002",       "dictionary_release": "MedDRA_25_1",       "verbatim": "Severe Headache",       "external_suggestions": 5     },     {       "responseStatus": "SUCCESS",       "id": "V0V000000003003",       "dictionary_release": "MedDRA_25_1",       "verbatim": "Back pain",       "external_suggestions": 3     }   ] } </pre>

Description / Request (URL)	Response
<pre> "external_suggestions": [ : : etc.. 3 suggestions this one : ] } ] } </pre>	
<b>Set of WHODrug request suggestions</b>	
<pre> { "study_name": "ABCP-2022-01_DEV1", "external_definition_name": "API_company_name_here", "requests": [ { "id": "V0V000000003002", "dictionary_release": "GLOBALC3Mar19", "verbatim": "Aspirin", "indication": "Headache", "route": "Oral", "external_suggestions": [ { "external_id": "1234345-XYZ", "relevance_score": 100, "external_version": "JAN-2022v1.1", "drug_name": "Aspirin", "drug_code": "00002701004", "preferred_code": "00002701001", "preferred_name": "Acetylsalicylic acid", "atc1_code": "N", "atc1": "NERVOUS SYSTEM" "atc2_code": "N02", "atc2": "ANALGESICS", "atc3_code": "N02B", "atc3": "OTHER ANALGESICS AND ANTIPYRETICS", "atc4_code": "N02BA", "atc4": "Salicylic acid and derivatives", } { "external_id": "1234345-XYZ", "relevance_score": 95, "external_version": "JAN-2022v1.1", ... etc... } }, : : etc.. 5 suggestions for this coding request : </pre>	<pre> { "responseStatus": "SUCCESS", "study_name": "ABCP-2022-01_DEV1", "external_definition_name": "API_company_name_here", "requests": [ { "responseStatus": "SUCCESS", "id": "V0V000000003002", "verbatim": "Aspirin", "indication": "Headache", "route": "Oral", "dictionary_release": "GLOBALC3Mar19", "external_suggestions": 5 }, { "responseStatus": "SUCCESS", "id": "V0V000000003003", "verbatim": "Ibuprofen", "indication": "Joint Pain", "route": "Oral", "dictionary_release": "GLOBALC3Mar19", "external_suggestions": 3 } } </pre>

Description / Request (URL)	Response
<pre> ] }, {   "id": "V0V000000003003",   "dictionary_release": "GLOBALC3Mar19",   "verbatim": "Ibuprofen",   "indication": "Joint Pain",   "route": "Oral",   "external_suggestions": [     :     : etc.. 3 suggestions for this coding request here...     :   ] } ] } </pre>	
<p><b>Remove suggestions from a coding request</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "external_definition_name": "API_company_name_here",   "requests": [     {       "id": "V0V000000003002",       "dictionary_release": "GLOBALC3Mar19",       "external_suggestions": []     }   ] } </pre>	<pre> {   "responseStatus": "SUCCESS",   "study_name": "ABCP-2022-01_DEV1",   "external_definition_name": "API_company_name_here",   "requests": [     {       "responseStatus": "SUCCESS",       "id": "V0V000000003002",       "verbatim": "Aspirin",       "indication": "Headache",       "route": "Oral",       "dictionary_release": "GLOBALC3Mar19",       "external_suggestions": 0     }   ] } </pre>
<p><b>Top level failure (study not configured)</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "external_definition_name": "API_company_name_here_bad_name",   "requests": [     {       "id": "V0V000000003002",       "dictionary_release": "GLOBALC3Mar19",       "external_suggestions": [         :         ...etc..         :       ]     }   ], } </pre>	<pre> {   "responseStatus": "FAILURE",   "errorMessage": "[External Definition Name] with name [API_company_name_here_bad_name] not found in study configuration for external suggestions" } </pre>

Description / Request (URL)	Response
<pre> : etc.. more requests and suggestions : ] } </pre>	
<p><b>Entry level failure (one succeeds, one fails)</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "external_definition_name": "API_company_name_here",   "requests": [     {       "id": "V0V000000003002",       "dictionary_release": "MedDRA_25_1",       "verbatim": "Severe Headache",       "external_suggestions": [         {           "external_id": "123456-ABC",           "relevance_score": 5,           "external_version": "JAN-2022v1.1",           "soc": "Nervous system disorders",           "soc_code": "10029205",           "hlgt_code": "10019231",           "hlgt": "Headaches",           "hlt_code": "10027603",           "hlt": "Migraine headaches",           "pt_code": "10027599",           "pt": "Migraine",           "llt_code": "10027599",           "llt": "Migraine",           "primary_path": "Y"         }       ],       {         "external_id": "123457-ABC",         "relevance_score": 4,         "external_version": "JAN-2022v1.1",         ... etc...       },       {         ... etc... other suggestions       }     ]   },   {     "id": "V0V000000003002",     "dictionary_release": "MedDRA_25_1",     "verbatim": "Back pain", </pre>	<pre> {   "responseStatus": "SUCCESS",   "study_name": "ABCP-2022-01_DEV1",   "external_definition_name": "My Company Name",   "requests": [     {       "responseStatus": "SUCCESS",       "id": "V0V000000003002",       "dictionary_release": "MedDRA_25_1",       "verbatim": "Severe Headache",       "external_suggestions": 5     },     {       "responseStatus": "FAILURE",       "errorMessage": "The verbatim submitted with the suggestions is no longer the verbatim in the system. Suggestions were not updated for the coding request.",       "id": "V0V000000003003",       "dictionary_release": "MedDRA_25_1",       "verbatim": "Severe back pain"     }   ] } </pre>



Description / Request (URL)	Response
<pre>      "external_suggestions": [         :         : etc.. 3 suggestions for this coding request here... but verbatim is stale / out of date       :       ]     }   ] }</pre>	

## 12 Jobs

### 12.1 Jobs / Data Extracts Overview

Currently the main full extract of the CDMS system (a study) is the **Study Data Extract**, itself a job inside the CDMS **EDC Tools** area -> **Jobs** tab. The job run yields a zip file that is cumulative of the entire study. This section will discuss the start / retrieve status / get file of this type of job, primarily, but also catalog other data export job types. There are additionally targeted data retrieval endpoints discussed in early sections of this document ([Retrieve Events / Forms](#) and [Retrieve Forms / Item Data](#)), but these are not meant for the retrieval of large amounts of data, i.e. across the entire study. Their purpose is for 'inspect before update' needs. Attempts to get wide slices of study data should work through the jobs, and their resulting zip files.

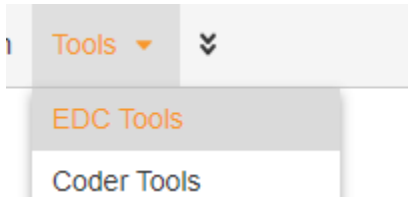
**NOTE:** There is no current incremental based export, it is a planned feature of CDMS, accompanied by API endpoints to drive.

The current CDMS study job types for extracting data:

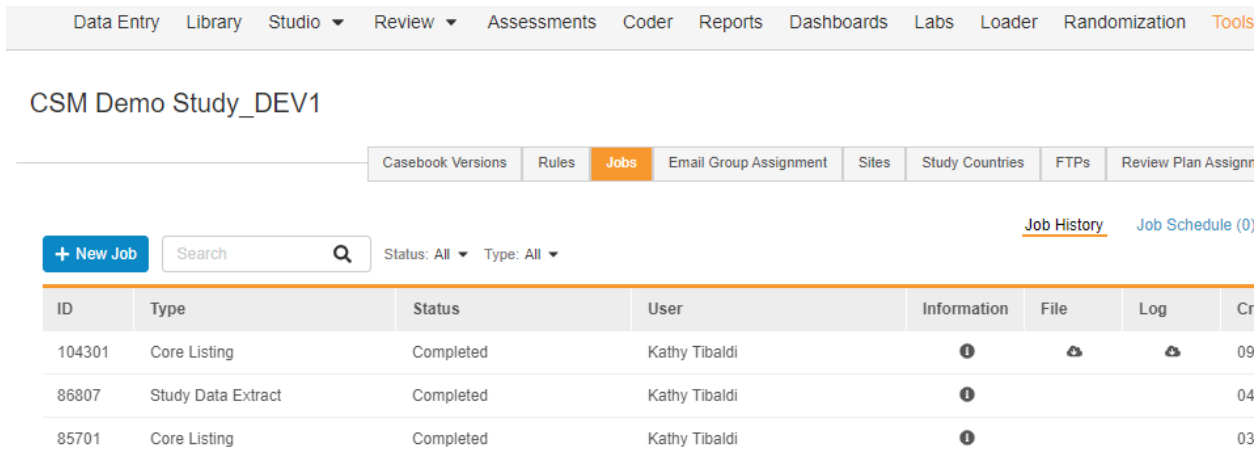
Job Type	API Value	Notes
Study Data Export (SDE)	study_data_export__v	The full data export for a study. Includes the form data (e.g., AE, CM, DM) however that is configured, as well as operational datasets (SYS_* in name). The job <b>can</b> be run on a subset of datasets. Full details at: <a href="#">CDMS Help</a>
Subject Progress Listing	subject_progress_listing__v	Operational listing of the study. Each row is a subject, with counts of progress of the subject. The job <b>cannot</b> be run in subsets.
Event Progress Listing	event_progress_listing__v	Operational listing of the study. Each row is an event, detailing that event status, date, and other information. The job <b>cannot</b> be run in subsets.
Form Progress Listing	form_progress_listing__v	Operational listing of the study. Each row is a form, detailing that form status, form properties, and other information. The job <b>cannot</b> be run in subsets.
Query Detail Listing	query_detail_listing__v	Operational listing of the study. Each row is a query in the study, detailing that status, cycle times, and other information. The job <b>cannot</b> be run in subsets.
Core Listings	core_listing__v	A predecessor of the SDE, only the form data listings, and of a different format than the SDE. The job <b>can</b> be run on a subset of data.
Data and Definitions	data_and_definition_export__v	A predecessor of the SDE, the data and definition file formats are different from the SDE. The job <b>cannot</b> be run in subsets. <b>WARNING: This job type is slated for deprecation at the 24R1 release of CDMS</b>
Audit Trail by Study	audit_trail_export__v	Job that produces audit trail reporting, with specified start to end date ranges and/or specific users. The result of the job is a zip file containing CSVs, by Subject. The range of start to end can be no more than 30 days when starting this job from the API. Wider ranges are started from the EDC Tools user interface.
Audit Trail by Site	audit_trail_export_by_site__v	Job that produces audit trail reporting, with specified start to end date ranges, specific users, and/or specific sites. The result of the job is a zip file containing CSVs, by _Subject_. The range of start to end can be no more than

Job Type	API Value	Notes
		30 days when starting this job from the API. Wider ranges are started from the EDC Tools user interface.
Audit Trail by Subject	audit_trail_export_by_subject__v	Job that produces audit trail reporting, with specified start to end date ranges, specific users, and/or specific subjects. The result of the job is a zip file containing CSVs, by _Subject_. The range of start to end can be no more than 30 days when starting this job from the API. Wider ranges are started from the EDC Tools user interface.

As background to study jobs, and in the context of the **Study Data Extract (SDE)**, the tab for **EDC Tools** (for roles that have rights):



.. then selecting a study:



The screenshot shows the 'Tools' menu at the top right, with 'EDC Tools' selected. Below it, the 'CSM Demo Study\_DEV1' page is visible, with the 'Jobs' tab highlighted in the sub-menu. The 'Jobs' tab contains a table with the following data:

ID	Type	Status	User	Information	File	Log	Cr
104301	Core Listing	Completed	Kathy Tibaldi				09
86807	Study Data Extract	Completed	Kathy Tibaldi				04
85701	Core Listing	Completed	Kathy Tibaldi				03

The Jobs tab of this section is where the Study Data Extract (SDE) and other export jobs can be run.

The job create screen:

✕

**Type**

Study Data Extract ▼

Include Restricted Data

**SDE Version** ⓘ

Version 21R3 ▼

---

**Clinical Data Options**

Use Item External ID instead of Item Name for column headers

Include separate Date and Time columns for Datetime items

Include forms intentionally left blank

Exclude blank forms

---

**Export Options**

**Zip File Name** ⓘ

.zip

**Export File Type**

**External Connection**

No values available.

**Frequency**

Run Now ▼

Cancel
Run Now

... includes various options, each of which can be set if driving from the API start job endpoint. The **External Connection** - choices are a Vault FTP folder location, specifically set up at the sub tab (same screen):

CSM Demo Study\_DEV1

Casebook Versions
Rules
Jobs
Email Group Assignment
Sites
Study Countries
FTPs
Review Plan

+ Add FTP

FTP Name	FTP Type	Host	Destination Directory	User
No data four				

See this online help area for setup of the FTP connection: <https://cdmshelp.veeva.com/gr/study-administrators/connections/>

A running job is shown as:

ID	Type	Status	User	Information	File	Log	Created
104572	Study Data Extract	In Progress	Eric Emerton				09/27/2021 10:56 AM EDT
104301	Core Listing	Completed	Kathv Tihaldi				09/24/2021 12:51 PM EDT

... and when finished:

ID	Type	Status	User	Information	File	Log	Created
104572	Study Data Extract	Completed	Eric Emerton				09/27/2021 10:56 AM EDT
104301	Core Listing	Completed	Kathv Tihaldi				09/24/2021 12:51 PM EDT

The File icon will download the resulting file:

ds > CSM\_Demo\_Study\_DEV1\_Study\_Data\_Extract\_2021\_09\_27\_10\_56\_EDT.zip

Name	Type	Compressed size	Password ...	Size	Ratio
AE.csv	Microsoft Excel Comma S...	1 KB	No	2 KB	62%
CATH.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	42%
CM.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	52%
CSM Demo Study_DEV1-Definition...	Microsoft Excel Comma S...	14 KB	No	77 KB	83%
DCID.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	50%
DD.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	67%
DM.csv	Microsoft Excel Comma S...	1 KB	No	2 KB	60%
DSES.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	37%
DSET.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	37%
DSIC.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	34%
DSSF.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	35%
ECOG.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	36%
EG.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	66%
EX.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	55%
FT_6MW.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	37%
HGT.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	45%
IC.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	65%
IE.csv	Microsoft Excel Comma S...	1 KB	No	2 KB	74%
INTL.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	44%
INTLS.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	47%
IRECI1_1.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	53%
ITL.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	42%
LB_BCLSC.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	39%
LB_BDISC.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	39%
LB_BDOSC.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	39%
LB_CTDNA.csv	Microsoft Excel Comma S...	1 KB	No	1 KB	40%

The above zip file contains CSV, and often .sas7bdat files, as well as a definition file set to describe the export. It's the means of full export of all data in a study, not specific API calls. It does include various SYS\_\* named datasets, operational study data, that does not change per study design:

JOBID.csv	Microsoft Excel Comma S...	1 KB	No
SYS_EVT.csv	Microsoft Excel Comma S...	1 KB	No
SYS_FORM.csv	Microsoft Excel Comma S...	2 KB	No
SYS_ILB.csv	Microsoft Excel Comma S...	1 KB	No
SYS_LINKS.csv	Microsoft Excel Comma S...	1 KB	No
SYS_PD.csv	Microsoft Excel Comma S...	1 KB	No
SYS_Q.csv	Microsoft Excel Comma S...	2 KB	No
SYS_QT.csv	Microsoft Excel Comma S...	1 KB	No
SYS_SITE.csv	Microsoft Excel Comma S...	1 KB	No
SYS_SUB.csv	Microsoft Excel Comma S...	1 KB	No
TL.csv	Microsoft Excel Comma S...	1 KB	No

More specific information on the format / files can be found at: <https://cdmshelp.veeva.com/gr/study-administrators/study-data-extracts/>

Retrieval options for the SDE zip file:

**Option A:** Vault FTP folder, through general FTPS connection. (Port 21, FTPS client software or other automation). The requires the setup of the FTP connector in EDC Tools, and selection at time of running the job (ad-hoc or scheduled)

**Option B:** Use of the Vault API for working with FTP folder, see also the next section of this document.

**Option C:** Use of the Get Job Output File endpoint, through the CDMS API endpoint.

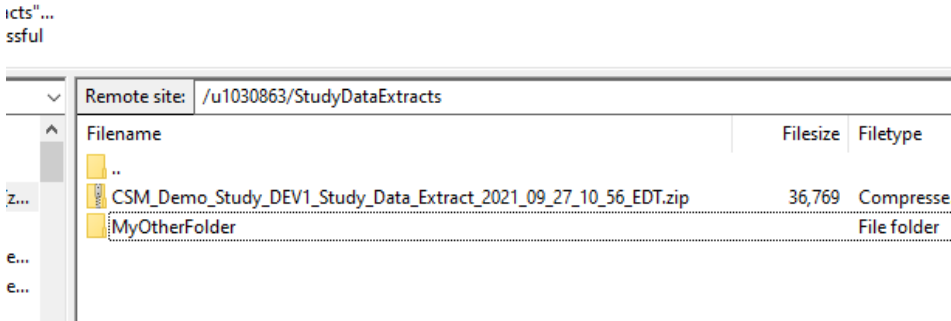
## 12.2 Working with Vault FTP Folders Using Vault API

If the SDE or other similar extract jobs have a destination of the Veeva FTP location (also known as 'File Staging'), then one can use the SDE job zip delivered there through its otherwise recurring schedule. This alleviates the need to drive the start of the job / retrieve status, etc.

The main reference for Vault API, working with its FTP folders can be found here:

<https://developer.veevavault.com/api/23.3/#file-staging>. The intent is to work with FTP folders, but via a REST API, instead of traditional FTPS / port 21 connections.

With the EDC Job configured to send the resulting SDE to an FTP, and viewing through an FTP tool like Filezilla:



... we can use the API to retrieve files from that location (<https://developer.veevavault.com/api/23.3/#list-items-at-a-path>), using a REST call like:

[.../api/v23.3/services/file\\_staging/items/u1030863/StudyDataExtracts?recursive=true](https://developer.veevavault.com/api/v23.3/services/file_staging/items/u1030863/StudyDataExtracts?recursive=true)

The return of the REST endpoint with recursive=true includes folders, and all files within:

```

1  [
2  "responseStatus": "SUCCESS",
3  "data": [
4    {
5      "kind": "file",
6      "path": "/u1030863/StudyDataExtracts/CSM_Demo_Study_DEV1_Study_Data_Extract_2021_09_27_10_56_EDT.zip",
7      "name": "CSM_Demo_Study_DEV1_Study_Data_Extract_2021_09_27_10_56_EDT.zip",
8      "size": 36769,
9      "modified_date": "2021-09-27T15:31:04.000Z"
10     },
11     {
12       "kind": "folder",
13       "path": "/u1030863/StudyDataExtracts/MyOtherFolder",
14       "name": "MyOtherFolder"
15     },
16     {
17       "kind": "file",
18       "path": "/u1030863/StudyDataExtracts/MyOtherFolder/CSM_Demo_Study_DEV1_Study_Data_Extract_2021_09_27_10_56_EDT.zip",
19       "name": "CSM_Demo_Study_DEV1_Study_Data_Extract_2021_09_27_10_56_EDT.zip",
20       "size": 36769,
21       "modified_date": "2021-09-27T15:31:32.000Z"
22     }
23   ]
24 ]

```

Then, use the REST endpoint to stream the file(s), see the reference: <https://developer.veevavault.com/api/23.3/#get-item-content>



## 12.3 Retrieve Study Jobs

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-study-jobs">https://developer-cdms.veevavault.com/api/23.3/#retrieve-study-jobs</a>																							
Style	GET																							
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs																							
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Optional</td> <td>Name of the study. When omitting, one can search across multiple studies</td> </tr> <tr> <td>job_type</td> <td>Required</td> <td>The API name of the job type for the search. See valid values here: <a href="#">Jobs / Data Extracts Overview</a></td> </tr> <tr> <td>created_start</td> <td>Optional</td> <td>Format of yyyy-MM-ddTHH:mm:ssZ, the jobs to retrieve since a specific date. When omitted, '7 days ago' is used (i.e. 'Now' - 7 days) <b>NOTE:</b> The difference between specific created_start and end can be no more than 30 days. (whether provided in the request, or defaults)</td> </tr> <tr> <td>created_end</td> <td>Optional</td> <td>Format of yyyy-MM-ddTHH:mm:ssZ, the end of the range to search in. <b>NOTE:</b> The difference between specific created_start and end can be no more than 30 days. (whether provided in the request, or defaults)</td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>			Name	Req/Opt	Notes	study_name	Optional	Name of the study. When omitting, one can search across multiple studies	job_type	Required	The API name of the job type for the search. See valid values here: <a href="#">Jobs / Data Extracts Overview</a>	created_start	Optional	Format of yyyy-MM-ddTHH:mm:ssZ, the jobs to retrieve since a specific date. When omitted, '7 days ago' is used (i.e. 'Now' - 7 days) <b>NOTE:</b> The difference between specific created_start and end can be no more than 30 days. (whether provided in the request, or defaults)	created_end	Optional	Format of yyyy-MM-ddTHH:mm:ssZ, the end of the range to search in. <b>NOTE:</b> The difference between specific created_start and end can be no more than 30 days. (whether provided in the request, or defaults)	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
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Notes	<ul style="list-style-type: none"> <li>• Use to get the recent finished jobs of a study (or studies) of a specific job type.</li> <li>• The response is ordered <b>descending</b>, i.e. most recent at the top, reading down.</li> <li>• If the API caller is <b>NOT</b> starting the SDE job, waiting, and retrieving that job's output zip file, this endpoint is used to retrieve those job IDs, which are required to retrieve the output file of a previous job. The typical use case: <ul style="list-style-type: none"> <li>○ Study is deployed live</li> <li>○ Data manager (or other) schedules an SDE run in the EDC Tools UI</li> <li>○ -&gt; API jobs that watch the vault will see newly running SDE(s) jobs and retrieve as necessary</li> </ul> </li> <li>• The <b>job_id</b> value in the return is the value to use in the endpoint discussed later in this document - <a href="#">Retrieve Job Output File</a></li> <li>• Only the job types mentioned in the <b>Jobs / Data Extracts Overview</b> section of this chapter can use this endpoint.</li> </ul>																							

## Examples

Description / Request (URL)	Response
<b>Jobs (SDE) of a single study - with no start passed, assuming call on July 1st 2022 (for 'now')</b>	
<pre>.../app/cdm/jobs?study_name=ABCPharma_DEV1&amp;&amp;job_type=study_data_extract__v</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 2,     "total": 2   },   "created_start": "2022-06-01T12:00:00Z",   "created_end": null,   "jobs": [     {       "job_id": 324003,       "job_type": "study_data_extract__v",       "study_name": "ABCPharma_DEV1",       "status": "completed__v",       "created_by": "John Smith",       "created_date": "2022-06-02T12:14:42Z",       "last_modified_date": "2022-06-02T12:20:42Z"     },     {       "job_id": 324002,       "job_type": "study_data_extract__v",       "study_name": "ABCPharma_DEV1",       "status": "errors__v",       "created_by": "John Smith",       "created_date": "2022-06-01T08:14:42Z",       "last_modified_date": "2022-06-01T08:02:42Z"     }   ] }</pre>
<b>Passing specific created start and end</b>	
<pre>...app/cdm/jobs?study_name=ABCPharma_DEV1&amp;job_type=study_data_extract__v&amp;created_start=2022-05-15T12:00:00Z&amp;created_end=2022-06-01T12:00:00Z</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 1,     "total": 1   },   "created_start": "2022-05-15T12:00:00Z",   "created_end": "2022-06-01T12:00:00Z", }</pre>

Description / Request (URL)	Response
	<pre data-bbox="483 254 1140 646">"jobs": [   {     "job_id": 324002,     "job_type": "study_data_extract__v",     "study_name": "Labrinone_DEV1",     "status": "errors__v",     "created_by": "John Smith",     "created_date": "2022-06-01T08:14:42Z",     "last_modified_date": "2022-06-01T08:02:42Z"   } ] }</pre>

## 12.4 Start Study Job - SDE

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#start-job-sde">https://developer-cdms.veevavault.com/api/23.3/#start-job-sde</a>																																																																		
Style	<b>POST</b>																																																																		
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/start_now																																																																		
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More information on system datasets here in <a href="#">CDMS Help</a></td> </tr> <tr> <td>export_file_types</td> <td>Required</td> <td></td> <td>JSON array of Strings - the formats desired on the SDE run. These values are one or more (any combination) of: <ul style="list-style-type: none"> <li>• CSV</li> <li>• SAS</li> <li>• XPT</li> </ul> <p><b>WARNING:</b> At SDE version previous to 23R2, the parameter was export_file_type, with a single answer (of 2 choices). 23R2 and forward uses this new format, array of strings</p> </td> </tr> <tr> <td>file_name</td> <td>Optional</td> <td>(see notes)</td> <td>If omitted, Vault names the ZIP file with "{Study_Name}Study_Data_Extract{DATETIME}{TIMEZONE}". Some restrictions apply to the file naming</td> </tr> <tr> <td>external_connections</td> <td>Optional</td> <td></td> <td>JSON array / list of the FTP connection names (setup in the study, via <b>EDC Tools</b>) to also forward the SDE zip file on to)</td> </tr> <tr> <td>use_external_ids</td> <td>Optional</td> <td>false</td> <td>Boolean - whether to use the item definition / form definition 'External ID' property, instead of design names</td> </tr> <tr> <td>include_formilb</td> <td>Optional</td> <td>false</td> <td>Boolean - include the Form ILB or not</td> </tr> <tr> <td>split_datetime</td> <td>Optional</td> <td>false</td> <td>Boolean - whether to split date time fields into 3 fields (main, date only, time only)</td> </tr> <tr> <td>exclude_blank_forms</td> <td>Optional</td> <td>false</td> <td>Boolean - whether to exclude rows/data from forms that are in status blank</td> </tr> <tr> <td>include_rand_treatment</td> <td>Optional</td> <td>false</td> <td>Boolean - only applicable if the study is using the Randomization module. Use of <b>true</b> includes the <b>SYS_RANDOM</b> dataset</td> </tr> <tr> <td>all_clinical_datasets</td> <td>Required</td> <td></td> <td>Boolean - whether to include all non-system (CRF) datasets</td> </tr> <tr> <td>clinical_datasets</td> <td>Optional *</td> <td></td> <td>If all_clinical_datasets = false, then this must be provided, a JSON array of dataset names to run</td> </tr> </tbody> </table>			Name	Req/Opt	Default (when omitted)	Notes	study_name	Required		Name of the study	job_type	Required		For this job type, the value is always <b>study_data_extract_v</b>	include_restricted_data	Optional	false	Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b> .	include_study_design	Optional	false	Boolean - whether the run will include an additional folder of definition CSVs	version	Required		The version of the SDE, in vX.X.Y format (XX = year, Y = 1, 2, or 3). That is the format at release of the SDE. 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Use of <b>true</b> includes the <b>SYS_RANDOM</b> dataset	all_clinical_datasets	Required		Boolean - whether to include all non-system (CRF) datasets	clinical_datasets	Optional *		If all_clinical_datasets = false, then this must be provided, a JSON array of dataset names to run
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export_file_types	Required		JSON array of Strings - the formats desired on the SDE run. These values are one or more (any combination) of: <ul style="list-style-type: none"> <li>• CSV</li> <li>• SAS</li> <li>• XPT</li> </ul> <p><b>WARNING:</b> At SDE version previous to 23R2, the parameter was export_file_type, with a single answer (of 2 choices). 23R2 and forward uses this new format, array of strings</p>																																																																
file_name	Optional	(see notes)	If omitted, Vault names the ZIP file with "{Study_Name}Study_Data_Extract{DATETIME}{TIMEZONE}". Some restrictions apply to the file naming																																																																
external_connections	Optional		JSON array / list of the FTP connection names (setup in the study, via <b>EDC Tools</b> ) to also forward the SDE zip file on to)																																																																
use_external_ids	Optional	false	Boolean - whether to use the item definition / form definition 'External ID' property, instead of design names																																																																
include_formilb	Optional	false	Boolean - include the Form ILB or not																																																																
split_datetime	Optional	false	Boolean - whether to split date time fields into 3 fields (main, date only, time only)																																																																
exclude_blank_forms	Optional	false	Boolean - whether to exclude rows/data from forms that are in status blank																																																																
include_rand_treatment	Optional	false	Boolean - only applicable if the study is using the Randomization module. Use of <b>true</b> includes the <b>SYS_RANDOM</b> dataset																																																																
all_clinical_datasets	Required		Boolean - whether to include all non-system (CRF) datasets																																																																
clinical_datasets	Optional *		If all_clinical_datasets = false, then this must be provided, a JSON array of dataset names to run																																																																

	all_system_datasets	Required		Boolean - whether to include all system datasets, e.g. SYS_FORM, SYS_SUB, etc. More information on system datasets: <a href="#">CDMS Help</a>
	system_datasets	Optional *		Required if all_system_datasets = false. JSON array of SYS_* named datasets to run
	include_custom_objects	Required		Boolean - whether to include any custom objects. These objects must also be registered with the study
	custom_objects	Optional *		When include_custom_objects = true, the objects to include. These objects are set up in the object sde_customobject_config__v -> name__v value. That record refers to a custom object for export, i.e. records of that study. The custom object setup should be configured for deployments and have a study__c column
	boolean_formatting	Optional	y_n	Possible values include: <ul style="list-style-type: none"> <li>• y_n</li> <li>• y_n_empty</li> <li>• t_f</li> <li>• t_f_empty</li> <li>• 1_0</li> <li>• 1_empty</li> <li>• 1_0_empty</li> <li>• true_false</li> <li>• true_false_empty</li> <li>• yes_no</li> <li>• yes_no_empty</li> </ul>
	item_display_label	Optional	label	Possible values include: <ul style="list-style-type: none"> <li>• label</li> <li>• short_label</li> </ul> The option is used to direct which style labels to use for SAS datasets, specifically the column labels
Notes	<ul style="list-style-type: none"> <li>• When the study job starts, the vault job ID is returned to the caller. The caller then uses that to check job status, and eventually retrieve the file of the job</li> <li>• For some system datasets (SYS_RAND, SYS_LAB*, SYS_ASM*), that module must be in use in the study, for the dataset to appear in the run.</li> </ul>			

## Examples

Description / Request (URL)	Response
<b>Common</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "study_data_extract__v",     "version": "v23.3",     "include_restricted_data": false,     "include_rand_treatment": false,     "export_file_types": ["CSV", "SAS"],     "use_external_ids": false,   } }</pre>	<pre>{   "responseStatus": "SUCCESS",   "response": {     "job_type": "study_data_extract__v",     "job_id": 307484,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:30:05Z",     "include_restricted_data": false,     "include_study_design": false,   } }</pre>

Description / Request (URL)	Response
<pre> "include_formilb": false, "split_datetime": false, "exclude_blank_forms": false, "all_clinical_datasets": true, "all_system_datasets": true, "include_custom_objects": false, "boolean_formatting": "y_n_empty", "item_display_label": "label" } </pre>	<pre> "version": "v23.3", "export_file_types": ["CSV", "SAS"], "file_name": null, "external_connections": null, "use_external_ids": false, "include_formilb": false, "split_datetime": false, "exclude_blank_forms": false, "include_rand_treatment": false, "all_clinical_datasets": true, "clinical_datasets": null, "all_system_datasets": true, "system_datasets": null, "include_custom_objects": false, "custom_objects": null, "boolean_formatting": "y_n_empty", "item_display_label": "label" } </pre>

**Bare required options (thus all the defaults)**

<pre> {   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "study_data_extract_v",     "version": "v23.3",     "export_file_types": ["CSV"],     "all_clinical_datasets": true,     "all_system_datasets": true,     "include_custom_objects": false   } } </pre>	<pre> {   "responseStatus": "SUCCESS",   "response": {     "job_type": "study_data_extract_v",     "job_id": 307485,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:32:01Z",     "include_restricted_data": false,     "include_study_design": false,     "version": "v23.3",     "export_file_types": ["CSV"],     "file_name": null,     "external_connections": null,     "use_external_ids": false,     "include_formilb": false,     "split_datetime": false,     "exclude_blank_forms": false,     "include_rand_treatment": false,     "all_clinical_datasets": true,     "clinical_datasets": null,     "all_system_datasets": true,     "system_datasets": null,     "include_custom_objects": false,     "custom_objects": null,     "boolean_formatting": "y_n",     "item_display_label": "label"   } } </pre>
--	--

Description / Request (URL)	Response
	}
Settings specific datasets, plus other options	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "study_data_extract__v",     "version": "v23.3",     "include_restricted_data": true,     "include_rand_treatment": true,     "include_study_design": true,     "export_file_types": ["CSV", "SAS", "XPT"],     "file_name": "My_Zip_File",     "use_external_ids": true,     "include_formilb": true,     "split_datetime": true,     "exclude_blank_forms": true,     "all_clinical_datasets": false,     "clinical_datasets": [       "AE",       "DM"     ],     "all_system_datasets": false,     "system_datasets": [       "SYS_FORM",       "SYS_Q"     ],     "include_custom_objects": true,     "custom_objects": [       "doc_tracking_c",       "adjudication_tracking_c"     ]   } } </pre>	<pre> {   "responseStatus": "SUCCESS",   "response": {     "job_type": "study_data_extract__v",     "job_id": 307486,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:47:35Z",     "include_restricted_data": true,     "include_study_design": true,     "include_rand_treatment": true,     "version": "v23.3",     "export_file_types": ["CSV", "SAS", "XPT"],     "file_name": "My_Zip_File",     "external_connections": null,     "use_external_ids": true,     "include_formilb": true,     "split_datetime": true,     "exclude_blank_forms": true,     "include_rand_treatment": false,     "all_clinical_datasets": false,     "clinical_datasets": [       "AE",       "DM"     ],     "all_system_datasets": false,     "system_datasets": [       "SYS_Q",       "SYS_FORM"     ],     "include_custom_objects": true,     "custom_objects": [       "doc_tracking_c",       "adjudication_tracking_c"     ],     "boolean_formatting": "y_n",     "item_display_label": "label"   } } </pre>
Also Direct to the FTP Location(s)	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "study_data_extract__v",     "version": "v23.3", </pre>	<pre> {   "responseStatus": "SUCCESS",   "response": {     "job_type": "study_data_extract__v",     "job_id": 307485, </pre>

Description / Request (URL)	Response
<pre>                 "export_file_types": ["CSV", "SAS", "XPT"],                 "all_clinical_datasets": true,                 "all_system_datasets": true,                 "include_custom_objects": false,                 "external_connections": [                     "My_FTP_Drop"                 ]             }         }     } </pre>	<pre>         "created_by": "eric.emerton@eke.com",         "created_date": "2022-06-27T20:32:01Z",         "include_restricted_data": false,         "include_study_design": false,         "version": "v23.3",         "export_file_types": ["CSV", "SAS", "XPT"],         "file_name": null,         "external_connections": [             "My_FTP_Drop"         ],         "use_external_ids": false,         "include_formilb": false,         "split_datetime": false,         "exclude_blank_forms": false,         "include_rand_treatment": false,         "all_clinical_datasets": true,         "clinical_datasets": null,         "all_system_datasets": true,         "system_datasets": null,         "include_custom_objects": false,         "custom_objects": null,         "boolean_formatting": "y_n",         "item_display_label": "label"     } } </pre>



## 12.5 Start Study Job - Subject Progress Listing

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#start-job-subject-progress">https://developer-cdms.veevavault.com/api/23.3/#start-job-subject-progress</a>																		
Style	POST																		
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/start_now																		
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Default (when omitted)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td></td> <td>Name of the study</td> </tr> <tr> <td>job_type</td> <td>Required</td> <td></td> <td>For this job type, the value is always <b>subject_progress_listing_v</b></td> </tr> <tr> <td>include_restricted_data</td> <td>Optional</td> <td>false</td> <td>Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b>.</td> </tr> </tbody> </table>			Name	Req/Opt	Default (when omitted)	Notes	study_name	Required		Name of the study	job_type	Required		For this job type, the value is always <b>subject_progress_listing_v</b>	include_restricted_data	Optional	false	Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b> .
Name	Req/Opt	Default (when omitted)	Notes																
study_name	Required		Name of the study																
job_type	Required		For this job type, the value is always <b>subject_progress_listing_v</b>																
include_restricted_data	Optional	false	Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b> .																
Notes	<ul style="list-style-type: none"> <li>• This listing generates data about subjects (row per subject) with various counts of their progress</li> <li>• When the study job starts, the vault job ID is returned to the caller. The caller then uses that to check job status, and eventually retrieve the file of the job</li> </ul>																		

### Examples

Description / Request (URL)	Response
<a href="#">Run the Job</a>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "subject_progress_listing_v",     "include_restricted_data": false   } }</pre>	<pre>{   "responseStatus": "SUCCESS",   "response": {     "job_type": "subject_progress_listing_v",     "job_id": 307480,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:26:11Z",     "include_restricted_data": false   } }</pre>

## 12.6 Start Study Job - Event Progress Listing

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#start-job-event-progress">https://developer-cdms.veevavault.com/api/23.3/#start-job-event-progress</a>																						
Style	POST																						
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/start_now																						
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Default (when omitted)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td></td> <td>Name of the study</td> </tr> <tr> <td>job_type</td> <td>Required</td> <td></td> <td>For this job type, the value is always <b>event_progress_listing_v</b></td> </tr> <tr> <td>include_restricted_data</td> <td>Optional</td> <td>false</td> <td>Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b>.</td> </tr> <tr> <td>include_review_data</td> <td>Optional</td> <td>false</td> <td>Boolean - whether to include information about SDV/DMR activity with the events (forms/items contained within)</td> </tr> </tbody> </table>			Name	Req/Opt	Default (when omitted)	Notes	study_name	Required		Name of the study	job_type	Required		For this job type, the value is always <b>event_progress_listing_v</b>	include_restricted_data	Optional	false	Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b> .	include_review_data	Optional	false	Boolean - whether to include information about SDV/DMR activity with the events (forms/items contained within)
Name	Req/Opt	Default (when omitted)	Notes																				
study_name	Required		Name of the study																				
job_type	Required		For this job type, the value is always <b>event_progress_listing_v</b>																				
include_restricted_data	Optional	false	Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b> .																				
include_review_data	Optional	false	Boolean - whether to include information about SDV/DMR activity with the events (forms/items contained within)																				
Notes	<ul style="list-style-type: none"> <li>This listing generates data about events (row per subject events) with current status and other metric information about events.</li> <li>When the study job starts, the vault job ID is returned to the caller. The caller then uses that to check job status, and eventually retrieve the file of the job</li> </ul>																						

### Examples

Description / Request (URL)	Response
<a href="#">Run the Job</a>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "event_progress_listing_v",     "include_restricted_data": false,     "include_review_data": true   } }</pre>	<pre>{   "responseStatus": "SUCCESS",   "response": {     "job_type": "event_progress_listing_v",     "job_id": 307481,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:26:39Z",     "include_restricted_data": false,     "include_review_data": true   } }</pre>

## 12.7 Start Study Job - Form Progress Listing

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#start-job-form-progress">https://developer-cdms.veevavault.com/api/23.3/#start-job-form-progress</a>																						
Style	POST																						
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/start_now																						
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Default (when omitted)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td></td> <td>Name of the study</td> </tr> <tr> <td>job_type</td> <td>Required</td> <td></td> <td>For this job type, the value is always <b>form_progress_listing__v</b></td> </tr> <tr> <td>include_restricted_data</td> <td>Optional</td> <td>false</td> <td>Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b>.</td> </tr> <tr> <td>include_item_counts</td> <td>Optional</td> <td>false</td> <td>Whether to include an additional column about counts of items (data fields) on the forms</td> </tr> </tbody> </table>			Name	Req/Opt	Default (when omitted)	Notes	study_name	Required		Name of the study	job_type	Required		For this job type, the value is always <b>form_progress_listing__v</b>	include_restricted_data	Optional	false	Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b> .	include_item_counts	Optional	false	Whether to include an additional column about counts of items (data fields) on the forms
Name	Req/Opt	Default (when omitted)	Notes																				
study_name	Required		Name of the study																				
job_type	Required		For this job type, the value is always <b>form_progress_listing__v</b>																				
include_restricted_data	Optional	false	Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b> .																				
include_item_counts	Optional	false	Whether to include an additional column about counts of items (data fields) on the forms																				
Notes	<ul style="list-style-type: none"> <li>This listing generates data about events (row per subject forms) with current status and other metric information about each form.</li> <li>When the study job starts, the vault job ID is returned to the caller. The caller then uses that to check job status, and eventually retrieve the file of the job</li> </ul>																						

### Examples

Description / Request (URL)	Response
<a href="#">Run the Job</a>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "form_progress_listing__v",     "include_restricted_data": false,     "include_item_counts": false   } }</pre>	<pre>{   "responseStatus": "SUCCESS",   "response": {     "job_type": "form_progress_listing__v",     "job_id": 307482,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:27:00Z",     "include_restricted_data": false,     "include_item_counts": false   } }</pre>

## 12.8 Start Study Job - Query Detail Listing

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#start-job-query-detail-listing">https://developer-cdms.veevavault.com/api/23.3/#start-job-query-detail-listing</a>																		
Style	POST																		
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/start_now																		
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Default (when omitted)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td></td> <td>Name of the study</td> </tr> <tr> <td>job_type</td> <td>Required</td> <td></td> <td>For this job type, the value is always <b>query_detail_listing_v</b></td> </tr> <tr> <td>include_restricted_data</td> <td>Optional</td> <td>false</td> <td>Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b>.</td> </tr> </tbody> </table>			Name	Req/Opt	Default (when omitted)	Notes	study_name	Required		Name of the study	job_type	Required		For this job type, the value is always <b>query_detail_listing_v</b>	include_restricted_data	Optional	false	Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b> .
Name	Req/Opt	Default (when omitted)	Notes																
study_name	Required		Name of the study																
job_type	Required		For this job type, the value is always <b>query_detail_listing_v</b>																
include_restricted_data	Optional	false	Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b> .																
Notes	<ul style="list-style-type: none"> <li>This listing generates data about queries (row per subject query) with current status and other metric information about queries.</li> <li>When the study job starts, the vault job ID is returned to the caller. The caller then uses that to check job status, and eventually retrieve the file of the job</li> </ul>																		

### Examples

Description / Request (URL)	Response
<a href="#">Run the Job</a>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "query_detail_listing_v",     "include_restricted_data": false   } }</pre>	<pre>{   "responseStatus": "SUCCESS",   "response": {     "job_type": "query_detail_listing_v",     "job_id": 307483,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:27:26Z",     "include_restricted_data": false   } }</pre>

## 12.9 Start Study Job - Core Listings

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#start-job-core-listings">https://developer-cdms.veevavault.com/api/23.3/#start-job-core-listings</a>																					
Style	<b>POST</b>																					
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/start_now																					
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>job_type</td> <td>Required</td> <td>For this job type, the value is always <b>core_listing__v</b></td> </tr> <tr> <td>all_sites</td> <td>Required</td> <td>Boolean - whether to include data from all sites (or a subset)</td> </tr> <tr> <td>sites</td> <td>Required *</td> <td>Required only when all_sites = false. JSON array of site numbers to include</td> </tr> <tr> <td>all_forms</td> <td>Required</td> <td>Boolean - where to include all form data</td> </tr> <tr> <td>forms</td> <td>Required *</td> <td>Required only when all_forms = false. JSON array of study design form names to include</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study_name	Required	Name of the study	job_type	Required	For this job type, the value is always <b>core_listing__v</b>	all_sites	Required	Boolean - whether to include data from all sites (or a subset)	sites	Required *	Required only when all_sites = false. JSON array of site numbers to include	all_forms	Required	Boolean - where to include all form data	forms	Required *	Required only when all_forms = false. JSON array of study design form names to include
Name	Req/Opt	Notes																				
study_name	Required	Name of the study																				
job_type	Required	For this job type, the value is always <b>core_listing__v</b>																				
all_sites	Required	Boolean - whether to include data from all sites (or a subset)																				
sites	Required *	Required only when all_sites = false. JSON array of site numbers to include																				
all_forms	Required	Boolean - where to include all form data																				
forms	Required *	Required only when all_forms = false. JSON array of study design form names to include																				
Notes	<ul style="list-style-type: none"> <li>• This export is a predecessor to the SDE, of a different format. It only returns CSVs of form data</li> <li>• When the study job starts, the vault job ID is returned to the caller. The caller then uses that to check job status, and eventually retrieve the file of the job</li> </ul>																					

### Examples

Description / Request (URL)	Response
Core Listing - all sites	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "core_listing__v",     "all_sites": true,     "all_forms": true,     "forms": []   } }</pre>	<pre>{   "responseStatus": "SUCCESS",   "response": {     "job_type": "core_listing__v",     "job_id": 305511,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-17T19:39:51Z",     "all_sites": true,     "sites": null,     "all_forms": true,     "forms": null   } }</pre>
Core Listing - all sites = false, then specific list	
<pre>{</pre>	<pre>{</pre>

Description / Request (URL)	Response
<pre> "study_name": "ABCP-2022-01_DEV1", "request": {   "job_type": "core_listing_v",   "all_sites": false,   "sites": ["101", "201", "102"],   "all_forms": true,   "forms": [] } </pre>	<pre> "responseStatus": "SUCCESS", "response": {   "job_type": "core_listing_v",   "job_id": 305702,   "created_by": "eric.emerton@eke.com",   "created_date": "2022-06-17T19:55:14Z",   "all_sites": false,   "sites": [     "101",     "201",     "102"   ],   "all_forms": true,   "forms": null } </pre>
<b>Core Listing - specific forms and sites</b>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "core_listing_v",     "all_sites": false,     "sites": ["101"],     "all_forms": false,     "forms": ["AE"]   } } </pre>	<pre> {   "responseStatus": "SUCCESS",   "response": {     "job_type": "core_listing_v",     "job_id": 305706,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-17T19:58:27Z",     "all_sites": false,     "sites": [       "101"     ],     "all_forms": false,     "forms": [       "AE"     ]   } } </pre>

## 12.10 Start Study Job - Data and Definitions Export

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#start-job-dde">https://developer-cdms.veevavault.com/api/23.3/#start-job-dde</a>																		
Style	POST																		
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/start_now																		
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Default (when omitted)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td></td> <td>Name of the study</td> </tr> <tr> <td>job_type</td> <td>Required</td> <td></td> <td>For this job type, the value is always <b>data_and_definition_export_v</b></td> </tr> <tr> <td>include_restricted_data</td> <td>Optional</td> <td>false</td> <td>Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b>.</td> </tr> </tbody> </table>			Name	Req/Opt	Default (when omitted)	Notes	study_name	Required		Name of the study	job_type	Required		For this job type, the value is always <b>data_and_definition_export_v</b>	include_restricted_data	Optional	false	Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b> .
Name	Req/Opt	Default (when omitted)	Notes																
study_name	Required		Name of the study																
job_type	Required		For this job type, the value is always <b>data_and_definition_export_v</b>																
include_restricted_data	Optional	false	Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b> .																
Notes	<ul style="list-style-type: none"> <li>• This export is a predecessor to the SDE, of a different format. It only returns CSVs of form data</li> <li>• When the study job starts, the vault job ID is returned to the caller. The caller then uses that to check job status, and eventually retrieve the file of the job</li> </ul>																		

### Examples

Description / Request (URL)	Response
<a href="#">Run the Job</a>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "data_and_definition_export_v",     "include_restricted_data": false   } }</pre>	<pre>{   "responseStatus": "SUCCESS",   "response": {     "job_type": "data_and_definition_export_v",     "job_id": 307579,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:23:24Z",     "include_restricted_data": false   } }</pre>

## 12.11 Start Study Job - Audit Trail by Study

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#start-job-audit-by-study">https://developer-cdms.veevavault.com/api/23.3/#start-job-audit-by-study</a>																										
Style	POST																										
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/start_now																										
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Default (when omitted)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td></td> <td>Name of the study</td> </tr> <tr> <td>job_type</td> <td>Required</td> <td></td> <td>For this job type, the value is always <b>audit_trail_export__v</b></td> </tr> <tr> <td>date_range_start</td> <td>Required</td> <td></td> <td>String, but as YYYY-MM-DD date formatted. The day from which the audit results will reflect. The start to end cannot exceed 30 days. If a wider range is necessary, it cannot be started from the API</td> </tr> <tr> <td>date_range_end</td> <td>Optional</td> <td>(today)</td> <td>String, but as YYYY-MM-DD date formatted. The day 'up to' audit results will reflect, e.g. &lt;that day&gt; 23:59, end of day. The start to end cannot exceed 30 days. If a wider range is necessary, it cannot be started from the API</td> </tr> <tr> <td>specific_users</td> <td>Optional</td> <td>null / no filter on users</td> <td>JSON array of vault user names to subset the results to. For example: ["joe.smith@abcpharma.com", "mary.jones@abcpharma.com"]</td> </tr> </tbody> </table>			Name	Req/Opt	Default (when omitted)	Notes	study_name	Required		Name of the study	job_type	Required		For this job type, the value is always <b>audit_trail_export__v</b>	date_range_start	Required		String, but as YYYY-MM-DD date formatted. The day from which the audit results will reflect. The start to end cannot exceed 30 days. If a wider range is necessary, it cannot be started from the API	date_range_end	Optional	(today)	String, but as YYYY-MM-DD date formatted. The day 'up to' audit results will reflect, e.g. <that day> 23:59, end of day. The start to end cannot exceed 30 days. If a wider range is necessary, it cannot be started from the API	specific_users	Optional	null / no filter on users	JSON array of vault user names to subset the results to. For example: ["joe.smith@abcpharma.com", "mary.jones@abcpharma.com"]
Name	Req/Opt	Default (when omitted)	Notes																								
study_name	Required		Name of the study																								
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specific_users	Optional	null / no filter on users	JSON array of vault user names to subset the results to. For example: ["joe.smith@abcpharma.com", "mary.jones@abcpharma.com"]																								
Notes	<ul style="list-style-type: none"> <li>The output file from the job is a zip file, with CSVs by subject</li> <li>When the study job starts, the vault job ID is returned to the caller. The caller then uses that to check job status, and eventually retrieve the file of the job</li> </ul>																										

### Examples

Description / Request (URL)	Response
<a href="#">Run the Job - no users</a>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "audit_trail_export__v",     "date_range_start": "2023-05-01",     "date_range_end": "2023-05-03"   } }</pre>	<pre>{   "responseStatus": "SUCCESS",   "response": {     "job_type": "audit_trail_export__v",     "job_id": 307579,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:23:24Z",     "date_range_start": "2023-05-01",     "date_range_end": "2023-05-03",     "specific_users": null   } }</pre>



Description / Request (URL)	Response
<a href="#">Run the Job - with users</a>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "audit_trail_export_v",     "date_range_start": "2023-05-01",     "date_range_end": "2023-05-03",     "specific_users": ["jim.jones@abcpharma.com"]   } } </pre>	<pre> {   "responseStatus": "SUCCESS",   "response": {     "job_type": "audit_trail_export_v",     "job_id": 307579,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:23:24Z",     "date_range_start": "2023-05-01",     "date_range_end": "2023-05-03",     "specific_users": ["jim.jones@abcpharma.com"]   } } </pre>

## 12.12 Start Study Job - Audit Trail by Site

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#start-job-audit-by-site">https://developer-cdms.veevavault.com/api/23.3/#start-job-audit-by-site</a>																														
Style	POST																														
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/start_now																														
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Name	Req/Opt	Default (when omitted)	Notes																												
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job_type	Required		For this job type, the value is always <b>audit_trail_export_by_site__v</b>																												
date_range_start	Required		String, but as YYYY-MM-DD date formatted. The day from which the audit results will reflect. The start to end cannot exceed 30 days. If a wider range is necessary, it cannot be started from the API																												
date_range_end	Optional	(today)	String, but as YYYY-MM-DD date formatted. The day 'up to' audit results will reflect, e.g. <that day> 23:59, end of day. The start to end cannot exceed 30 days. If a wider range is necessary, it cannot be started from the API																												
specific_sites	Required		The sites (site numbers) to specifically gain audit trail information about																												
specific_users	Optional	null / no filter on users	JSON array of vault user names to subset the results to. For example: ["joe.smith@abcpharma.com", "mary.jones@abcpharma.com"]																												
Notes	<ul style="list-style-type: none"> <li>The output file from the job is a zip file, with CSVs by subject</li> <li>When the study job starts, the vault job ID is returned to the caller. The caller then uses that to check job status, and eventually retrieve the file of the job</li> </ul>																														

### Examples

Description / Request (URL)	Response
<a href="#">Run the Job - no users</a>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "audit_trail_export_by_site__v",     "date_range_start": "2023-05-01",     "date_range_end": "2023-05-03",     "specific_sites": ["101", "102"]   } }</pre>	<pre>{   "responseStatus": "SUCCESS",   "response": {     "job_type": "audit_trail_export_by_site__v",     "job_id": 307579,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:23:24Z",     "date_range_start": "2023-05-01",     "date_range_end": "2023-05-03",     "specific_users": null,   } }</pre>

Description / Request (URL)	Response
	<pre> "specific_sites": ["101", "102"],     } } </pre>
<p><b>Run the Job - with users</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "audit_trail_export_by_site_v",     "date_range_start": "2023-05-01",     "date_range_end": "2023-05-03",     "specific_sites": ["101", "102"],     "specific_users": ["jim.jones@abcpharma.com"]   } } </pre>	<pre> {   "responseStatus": "SUCCESS",   "response": {     "job_type": "audit_trail_export_by_site_v",     "job_id": 307579,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:23:24Z",     "date_range_start": "2023-05-01",     "date_range_end": "2023-05-03",     "specific_sites": ["101", "102"]     "specific_users": ["jim.jones@abcpharma.com"]   } } </pre>

## 12.13 Start Study Job - Audit Trail by Subject

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#start-job-audit-by-subject">https://developer-cdms.veevavault.com/api/23.3/#start-job-audit-by-subject</a>																														
Style	POST																														
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/start_now																														
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Default (when omitted)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td></td> <td>Name of the study</td> </tr> <tr> <td>job_type</td> <td>Required</td> <td></td> <td>For this job type, the value is always <b>audit_trail_export_by_subject_v</b></td> </tr> <tr> <td>date_range_start</td> <td>Required</td> <td></td> <td>String, but as YYYY-MM-DD date formatted. The day from which the audit results will reflect. The start to end cannot exceed 30 days. If a wider range is necessary, it cannot be started from the API</td> </tr> <tr> <td>date_range_end</td> <td>Optional</td> <td>(today)</td> <td>String, but as YYYY-MM-DD date formatted. The day 'up to' audit results will reflect, e.g. &lt;that day&gt; 23:59, end of day. The start to end cannot exceed 30 days. If a wider range is necessary, it cannot be started from the API</td> </tr> <tr> <td>specific_subjects</td> <td>Required</td> <td></td> <td>The subjects specifically gain audit trail information about</td> </tr> <tr> <td>specific_users</td> <td>Optional</td> <td>null / no filter on users</td> <td>JSON array of vault user names to subset the results to. For example: ["joe.smith@abcpharma.com", "mary.jones@abcpharma.com"]</td> </tr> </tbody> </table>			Name	Req/Opt	Default (when omitted)	Notes	study_name	Required		Name of the study	job_type	Required		For this job type, the value is always <b>audit_trail_export_by_subject_v</b>	date_range_start	Required		String, but as YYYY-MM-DD date formatted. The day from which the audit results will reflect. The start to end cannot exceed 30 days. If a wider range is necessary, it cannot be started from the API	date_range_end	Optional	(today)	String, but as YYYY-MM-DD date formatted. The day 'up to' audit results will reflect, e.g. <that day> 23:59, end of day. The start to end cannot exceed 30 days. If a wider range is necessary, it cannot be started from the API	specific_subjects	Required		The subjects specifically gain audit trail information about	specific_users	Optional	null / no filter on users	JSON array of vault user names to subset the results to. For example: ["joe.smith@abcpharma.com", "mary.jones@abcpharma.com"]
Name	Req/Opt	Default (when omitted)	Notes																												
study_name	Required		Name of the study																												
job_type	Required		For this job type, the value is always <b>audit_trail_export_by_subject_v</b>																												
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Notes	<ul style="list-style-type: none"> <li>The output file from the job is a zip file, with CSVs by subject</li> <li>When the study job starts, the vault job ID is returned to the caller. The caller then uses that to check job status, and eventually retrieve the file of the job</li> </ul>																														

### Examples

Description / Request (URL)	Response
<a href="#">Run the Job - no users</a>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "audit_trail_export_by_subject_v",     "date_range_start": "2023-05-01",     "date_range_end": "2023-05-03",     "specific_sites": ["101", "102"]   } }</pre>	<pre>{   "responseStatus": "SUCCESS",   "response": {     "job_type": "audit_trail_export_by_subject_v",     "job_id": 307579,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:23:24Z",     "date_range_start": "2023-05-01",     "date_range_end": "2023-05-03",     "specific_users": null,   } }</pre>

Description / Request (URL)	Response
	<pre> "specific_sites": ["101", "102"], } </pre>
<p><b>Run the Job - with users</b></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "audit_trail_export_by_subject_v",     "date_range_start": "2023-05-01",     "date_range_end": "2023-05-03",     "specific_subjects": ["101-001", "101-002"],     "specific_users": ["jim.jones@abcpharma.com"]   } } </pre>	<pre> {   "responseStatus": "SUCCESS",   "response": {     "job_type": "audit_trail_export_by_subject_v",     "job_id": 307579,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:23:24Z",     "date_range_start": "2023-05-01",     "date_range_end": "2023-05-03",     "specific_sites": ["101-001", "101-002"],     "specific_users": ["jim.jones@abcpharma.com"]   } } </pre>

## 12.14 Start Study Job - Data Change Report

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#start-job-data-change-report">https://developer-cdms.veevavault.com/api/23.3/#start-job-data-change-report</a>																																														
Style	<b>POST</b>																																														
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/start_now																																														
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Default (when omitted)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Required</td> <td></td> <td>Name of the study</td> </tr> <tr> <td>job_type</td> <td>Required</td> <td></td> <td>For this job type, the value is always <b>data_change_report_v</b></td> </tr> <tr> <td>export_file_type</td> <td>Required</td> <td></td> <td>Values of <b>CSV</b> or <b>Excel</b> only</td> </tr> <tr> <td>date_range_start</td> <td>Optional</td> <td></td> <td>(one of Start to End range, or Days Previous must be provided)  String, but as YYYY-MM-DD date formatted. The day from which the audit results will reflect. The start to end cannot exceed 90 days. If a wider range is necessary, it cannot be started from the API</td> </tr> <tr> <td>date_range_end</td> <td>Optional</td> <td>(today)</td> <td>(one of Start to End range, or Days Previous must be provided)  String, but as YYYY-MM-DD date formatted. The day 'up to' audit results will reflect, e.g. &lt;that day&gt; 23:59, end of day. The start to end cannot exceed 90 days. If a wider range is necessary, it cannot be started from the API</td> </tr> <tr> <td>days_previous</td> <td>Optional</td> <td></td> <td>(one of Start to End range, or Days Previous must be provided)  Whole number from 1 to 90 only</td> </tr> <tr> <td>include_restricted_data</td> <td>Optional</td> <td>false</td> <td>Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b>.</td> </tr> <tr> <td>all_forms</td> <td>Optional</td> <td>true</td> <td>Boolean - whether to include all forms, or subset to specific ones</td> </tr> <tr> <td>forms</td> <td>Optional</td> <td></td> <td>Design names of forms to retrieve information on, only (vs. all forms)</td> </tr> <tr> <td>external_connections</td> <td>Optional</td> <td></td> <td>JSON array / list of the FTP connection names (setup in the study, via <b>EDC Tools</b>) to also forward the SDE zip file on to)</td> </tr> </tbody> </table>			Name	Req/Opt	Default (when omitted)	Notes	study_name	Required		Name of the study	job_type	Required		For this job type, the value is always <b>data_change_report_v</b>	export_file_type	Required		Values of <b>CSV</b> or <b>Excel</b> only	date_range_start	Optional		(one of Start to End range, or Days Previous must be provided)  String, but as YYYY-MM-DD date formatted. The day from which the audit results will reflect. The start to end cannot exceed 90 days. If a wider range is necessary, it cannot be started from the API	date_range_end	Optional	(today)	(one of Start to End range, or Days Previous must be provided)  String, but as YYYY-MM-DD date formatted. The day 'up to' audit results will reflect, e.g. <that day> 23:59, end of day. The start to end cannot exceed 90 days. If a wider range is necessary, it cannot be started from the API	days_previous	Optional		(one of Start to End range, or Days Previous must be provided)  Whole number from 1 to 90 only	include_restricted_data	Optional	false	Boolean - whether to include data that is otherwise on restricted forms. The API caller must have this permission to use <b>true</b> .	all_forms	Optional	true	Boolean - whether to include all forms, or subset to specific ones	forms	Optional		Design names of forms to retrieve information on, only (vs. all forms)	external_connections	Optional		JSON array / list of the FTP connection names (setup in the study, via <b>EDC Tools</b> ) to also forward the SDE zip file on to)
Name	Req/Opt	Default (when omitted)	Notes																																												
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Notes	<ul style="list-style-type: none"> <li>• The report includes changes to Item data from a specific range, or over the past X (previous) days from now</li> <li>• Indicate restricted data (or not), also specific forms (or all forms)</li> <li>• When the study job starts, the vault job ID is returned to the caller. The caller then uses that to check job status, and eventually retrieve the file of the job</li> <li>• Specific date ranges must be on/after Dec 1st, 2023 (tracking not available for this report before then)</li> <li>• Feature flag in the Vault must be <b>on</b> for this report to run</li> </ul>																																														

## Examples

Description / Request (URL)	Response
<p><a href="#">Run the Job - CSV, no restricted data, all forms, specific dates</a></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "data_change_report__v",     "export_file_type": "CSV",     "date_range_start": "2023-07-10",     "include_restricted_data": false,     "all_forms": true   } } </pre>	<pre> {   "responseStatus": "SUCCESS",   "response": {     "job_type": "data_change_report__v",     "job_id": 307483,     "created_by": "chunter@abcpharma.com",     "created_date": "2023-06-27T20:27:26Z",     "export_file_type": "CSV",     "date_range_start": "2023-07-10",     "date_range_end": "2023-07-14",     "days_previous": null,     "include_restricted_data": false,     "all_forms": true,     "forms": null,     "external_connections": null   } } </pre>
<p><a href="#">Run the Job - Excel, restricted data, specific forms (not all), days previous usage, and send to Vault FTP folder</a></p>	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "data_change_report__v",     "export_file_type": "Excel",     "date_range_start": null,     "date_range_end": null,     "days_previous": 5,     "include_restricted_data": true,     "all_forms": false,     "forms": ["AE", "CM", "DM"],     "external_connections": ["MyFTPLocation"]   } } </pre>	<pre> {   "responseStatus": "SUCCESS",   "response": {     "job_type": "data_change_report__v",     "job_id": 307483,     "created_by": "chunter@abcpharma.com",     "created_date": "2023-06-27T20:27:26Z",     "export_file_type": "Excel",     "date_range_start": null,     "date_range_end": null,     "days_previous": 5,     "include_restricted_data": true,     "all_forms": false,     "forms": ["AE", "CM", "DM"],     "external_connections": ["MyFTPLocation"]   } } </pre>

## 12.15 Retrieve Job Status

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-job-status">https://developer-cdms.veevavault.com/api/23.3/#retrieve-job-status</a>						
Style	<b>GET</b>						
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/{job_id}						
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>job_id</td> <td>Required</td> <td>The vault job ID. This value is embedded in the endpoint / URL. These job IDs are received on the start of a job, or via a query of study jobs.</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	job_id	Required	The vault job ID. This value is embedded in the endpoint / URL. These job IDs are received on the start of a job, or via a query of study jobs.
Name	Req/Opt	Notes					
job_id	Required	The vault job ID. This value is embedded in the endpoint / URL. These job IDs are received on the start of a job, or via a query of study jobs.					
Notes	<ul style="list-style-type: none"> <li>Use this endpoint to determine the current status of a CDMS study job, i.e. waiting for a job to finish.</li> <li>Only the job types mentioned in the <a href="#">Jobs / Data Extracts Overview</a> section of this chapter can use this endpoint.</li> </ul>						

### Possible Job Statuses

Status	API Value	Notes
In Progress	in_progress__v	The job is currently running
Completed	completed__v	The overall job finished. <b>WARNING:</b> This does not mean the job was 100% successful. Once should parse / examine the logs and output files of the job to verify their content and indication of errors for that job type.
Failed	failed__v	The overall job failed. The finer details of the failure are likely in files / logs the job generates.
Canceled	canceled__v	The job was / is canceled
Canceling	canceling__v	An API call was done to cancel the job (see next section), and the job is still in the process of canceling. Once complete, the status will move to canceled__v



## Examples

Description / Request (URL)	Response
<a href="#">Get status for a job</a>	
<pre>..api/{version}/app/cdm/jobs/305610</pre>	<pre>{   "responseStatus": "SUCCESS",   "job_type": "study_data_extract__v",   "response": {     "job_id": 305610,     "study_name": "ABCP-2022-01_DEV1",     "status": "canceled__v",     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-17T18:32:15Z",     "last_modified_date": "2022-06-17T18:32:58Z"   } }</pre>

## 12.16 Cancel Job

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#cancel-job">https://developer-cdms.veevavault.com/api/23.3/#cancel-job</a>						
Style	<b>POST</b>						
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/{job_id}/cancel_now						
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>job_id</td> <td>Required</td> <td>The vault job ID. This value is embedded in the endpoint / URL. These job IDs are received on the start of a job, or via a query of study jobs.</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	job_id	Required	The vault job ID. This value is embedded in the endpoint / URL. These job IDs are received on the start of a job, or via a query of study jobs.
Name	Req/Opt	Notes					
job_id	Required	The vault job ID. This value is embedded in the endpoint / URL. These job IDs are received on the start of a job, or via a query of study jobs.					
Notes	<ul style="list-style-type: none"> <li>• Use this endpoint to cancel a CDMS study job that is currently running / in progress</li> <li>• Once the job goes to completed (or canceled), an error will be returned on the attempt</li> <li>• Only the job types mentioned in the <b>Jobs / Data Extracts Overview</b> section of this chapter can use this endpoint.</li> </ul>						

### Examples

Description / Request (URL)	Response
<b>Cancel successful</b>	
<pre>../api/{version}/app/cdm/jobs/305610/cancel_now</pre>	<pre>{   "responseStatus": "SUCCESS",   "response": {     "job_type": "study_data_extract_v",     "job_id": 305610,     "study_name": "ABCP-2022-01_DEV1"   } }</pre>
<b>Cancel yields an error</b>	
<pre>../api/{version}/app/cdm/jobs/305610/cancel_now</pre>	<pre>{   "responseStatus": "FAILURE",   "errorMessage": "[Job] with status [canceled_v] is not cancellable" }</pre>

## 12.17 Retrieve Job Output Log

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-job-log">https://developer-cdms.veevavault.com/api/23.3/#retrieve-job-log</a>						
Style	<b>GET</b>						
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/{job_id}/file/log						
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>job_id</td> <td>Required</td> <td>The vault job ID. This value is embedded in the endpoint / URL. These job IDs are received on the start of a job, or via a query of study jobs.</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	job_id	Required	The vault job ID. This value is embedded in the endpoint / URL. These job IDs are received on the start of a job, or via a query of study jobs.
Name	Req/Opt	Notes					
job_id	Required	The vault job ID. This value is embedded in the endpoint / URL. These job IDs are received on the start of a job, or via a query of study jobs.					
Notes	<ul style="list-style-type: none"> <li>• Use this endpoint to retrieve the Vault job log for a CDMS study job</li> <li>• The output is text format and is high level information only. The job type will dictate more warnings / errors in log files it produces (contained in the output file, zip)</li> <li>• Only the job types mentioned in the <a href="#">Jobs / Data Extracts Overview</a> section of this chapter can use this endpoint.</li> </ul>						

### Examples

Description / Request (URL)	Response
<b>Job that has status completed</b>	
<pre>../api/{(version)}/app/cdm/jobs/305616/file/log</pre>	<pre>2022-06-17T19:00:40.908Z Starting execution for job 305616 2022-06-17T19:00:44.972Z All chunks for job 305616 processed; beginning aggregation. 2022-06-17T19:00:45.956Z Successfully aggregated completed results for job 305616. 2022-06-17T19:00:46.908Z 2022-06-17T19:00:46.908Z Job Title: AsyncOperation 2022-06-17T19:00:46.909Z Job Type: ASYNC_OPERATION 2022-06-17T19:00:46.909Z Job Subtype: EVENT_PROGRESS_LISTING 2022-06-17T19:00:46.909Z Job Schedule Time: 2022-06-17T19:00:39.000Z 2022-06-17T19:00:46.909Z Job Queue Time: 2022-06-17T19:00:39.000Z 2022-06-17T19:00:46.909Z Job Execution Time: 2022-06-17T19:00:41.000Z 2022-06-17T19:00:46.909Z Job Finish Time: 2022-06-17T19:00:47.000Z 2022-06-17T19:00:46.909Z Job Completion Status: Success (COMPLETED_WITH_SUCCESS)</pre>
<b>Job that was canceled</b>	
<pre>../api/{(version)}/app/cdm/jobs/305610/file/log</pre>	<pre>2022-06-17T18:32:48.058Z All chunks for job 305610 processed; beginning aggregation. 2022-06-17T18:32:49.065Z Successfully aggregated completed results for job 305610. 2022-06-17T18:32:49.087Z Aggregation results are likely incomplete due to job 305610 having been canceled; 29 chunks were not processed due to cancellation. 2022-06-17T18:32:51.608Z 2022-06-17T18:32:51.609Z Job Title: AsyncOperation 2022-06-17T18:32:51.609Z Job Type: ASYNC_OPERATION 2022-06-17T18:32:51.609Z Job Subtype: STUDY_DATA_EXTRACT</pre>

Description / Request (URL)	Response
	<pre>2022-06-17T18:32:51.609Z Job Schedule Time: 2022-06-17T18:32:16.000Z 2022-06-17T18:32:51.609Z Job Queue Time: 2022-06-17T18:32:16.000Z 2022-06-17T18:32:51.609Z Job Execution Time: 2022-06-17T18:32:20.000Z 2022-06-17T18:32:51.610Z Job Finish Time: 2022-06-17T18:32:52.000Z 2022-06-17T18:32:51.610Z Job Completion Status: Cancelled (CANCELLED) 2022-06-17T18:32:51.610Z Job Cancelled by: Eric Emerton (eric.emerton@eke.com) 2022-06-17T18:32:51.610Z Job Cancelled on: 2022-06-17T18:32:32.000Z</pre>

## 12.18 Retrieve Job Output File

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-job-output-file">https://developer-cdms.veevavault.com/api/23.3/#retrieve-job-output-file</a>						
Style	<b>GET</b>						
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/{ <b>job_id</b> }/file/content						
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>job_id</td> <td>Required</td> <td>The vault job ID. This value is embedded in the endpoint / URL. These job IDs are received on the start of a job, or via a query of study jobs.</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	job_id	Required	The vault job ID. This value is embedded in the endpoint / URL. These job IDs are received on the start of a job, or via a query of study jobs.
Name	Req/Opt	Notes					
job_id	Required	The vault job ID. This value is embedded in the endpoint / URL. These job IDs are received on the start of a job, or via a query of study jobs.					
Notes	<ul style="list-style-type: none"> <li>• Use this endpoint to retrieve the CDMS study job output file, e.g. a zip file of export content</li> <li>• Only a job with status <b>completed__v</b> can run this endpoint</li> <li>• <b>WARNING:</b> Depending on the job type, additional logs could be included in the output zip file, with indications of warnings and/or failures. Always read these files for true status of the job</li> <li>• Only the job types mentioned in the <a href="#">Jobs / Data Extracts Overview</a> section of this chapter can use this endpoint.</li> </ul>						

### Examples

Description / Request (URL)	Response
<a href="#">Get of job output file</a>	
../api/{version}/app/cdm/jobs/305510/file/content	(not shown, the stream of a zip file, typically)

## 13 Users

### 13.1 Retrieve Users

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-users">https://developer-cdms.veevavault.com/api/23.3/#retrieve-users</a>															
Style																
Endpoint	<your Vault URL>/api/v23.3/app/cdm/users															
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Optional</td> <td>Name of the study. This can be omitted, and all users the API caller has rights to are returned</td> </tr> <tr> <td>user_names</td> <td>Optional</td> <td>List specific users to return, the user name in &lt;user&gt;@&lt;domain&gt;.com format.. Separate multiple by comma</td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study_name	Optional	Name of the study. This can be omitted, and all users the API caller has rights to are returned	user_names	Optional	List specific users to return, the user name in <user>@<domain>.com format.. Separate multiple by comma	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
Name	Req/Opt	Notes														
study_name	Optional	Name of the study. This can be omitted, and all users the API caller has rights to are returned														
user_names	Optional	List specific users to return, the user name in <user>@<domain>.com format.. Separate multiple by comma														
limit	Optional	Pagination API - different limit from the default 1000 can be used														
offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd														
Notes	<ul style="list-style-type: none"> <li>• User to retrieve information about users in the vault as they relate to studies in the vault</li> <li>• The top level of each user / entry returned is Vault account properties. An interior section of the return is itself a JSON array of study access that the user has rights for.</li> <li>• The return <b>will</b> include all <b>vault owners</b> since those users are on every study.</li> <li>• Refer to the <b>Return Parameter Notes</b> table after the examples for detailed information on each property.</li> </ul>															

### Examples

Description / Request (URL)	Response
Many Users (multiple studies)	
../app/cdm/users	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 17,     "total": 17   },   "vault_id": 1004329,   "users": [     {       "user_id": "164737",       "user_name": "alt_sys_user@eke.com",</pre>

Description / Request (URL)	Response
	<pre> "user_email": "eric.emerton@veeva.com", "user_title": "", "user_last_name": "Sys User", "user_first_name": "Alt", "company": "", "federated_id": "", "user_language": "en", "user_locale": "en_US", "user_timezone": "(GMT-05:00) Eastern Standard Time (America/New_York)", "security_policy": "Basic", "activation_date": "2020-09-29", "created_date": "2020-09-29T17:26:41Z", "last_modified_date": "2021-02-02T01:06:02Z", "principal_investigator": false, "active": true, "vault_owner": false, "all_studies_access": false, "studies": [   {     "study_environment": "Labrinone-DM2_DEV1",     "study_role": "CDMS Lead Data Manager",     "study_access": "Enabled",     "all_sites_access": true,     "lms_training_status": "",     "ignore_lms_training_status": false   } ] } : : : : ] } </pre>

**Users of one study**

<pre> ../app/cdm/users?study_name=ABCP-2022-01_DEV1 </pre>	<pre> {   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 6,     "total": 6   },   "vault_id": 1004329,   "users": [     { </pre>
--	---

Description / Request (URL)	Response
	<pre> "user_id": "96483", "user_name": "dm_test_user@eke.com", "user_email": "eric.emerton@veeva.com", "user_title": "", "user_last_name": "DM", "user_first_name": "Test User", "company": "", "federated_id": "", "user_language": "en", "user_locale": "en_US", "user_timezone": "(GMT-05:00) Eastern Standard Time (America/Indianapolis)", "security_policy": "Basic", "activation_date": "2022-06-28", "created_date": "2018-07-23T19:28:20Z", "last_modified_date": "2022-06-28T13:41:42Z", "principal_investigator": false, "active": true, "vault_owner": false, "all_studies_access": false, "studies": [   {     "study_environment": "ABCP-2022-01_DEV1",     "study_role": "CDMS Lead Data Manager",     "study_access": "Enabled",     "all_sites_access": true,     "lms_training_status": "",     "ignore_lms_training_status": false   } ] }, : : : : { "user_id": "92677", "user_name": "eric.emerton@eke.com", "user_email": "eric.emerton@veeva.com", "user_title": "", "user_last_name": "Emerton", "user_first_name": "Eric", "company": "", "federated_id": "", "user_language": "en", "user_locale": "en_US", "user_timezone": "(GMT-05:00) Eastern Standard Time (America/New_York)", "security_policy": "Basic", "activation_date": "", </pre>



Description / Request (URL)	Response
	<pre> "created_date": "2018-02-12T21:07:25Z", "last_modified_date": "2021-03-26T03:13:09Z", "principal_investigator": false, "active": true, "vault_owner": true, "all_studies_access": false } ] } </pre>
<p><b>Single user who is a vault owner (thus access to all studies, studies array omitted)</b></p>	
<pre> ../app/cdm/users?user_names=eric.emerton@eke.com </pre>	<pre> {   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 1,     "total": 1   },   "vault_id": 1004329,   "users": [     {       "user_id": "92677",       "user_name": "eric.emerton@eke.com",       "user_email": "eric.emerton@veeva.com",       "user_title": "",       "user_last_name": "Emerton",       "user_first_name": "Eric",       "company": "",       "federated_id": "",       "user_language": "en",       "user_locale": "en_US",       "user_timezone": "(GMT-05:00) Eastern Standard Time (America/New_York)",       "security_policy": "Basic",       "activation_date": "",       "created_date": "2018-02-12T21:07:25Z",       "last_modified_date": "2021-03-26T03:13:09Z",       "principal_investigator": false,       "active": true,       "vault_owner": true,       "all_studies_access": false     }   ] } </pre>
<p><b>Single user with multiple study access</b></p>	
<pre> ../app/cdm/users?user_names=mia.st </pre>	<pre> { </pre>

Description / Request (URL)	Response
one@eke.com	<pre> "responseStatus": "SUCCESS", "responseDetails": {   "limit": 1000,   "offset": 0,   "size": 1,   "total": 1 }, "vault_id": 1004329, "users": [   {     "user_id": "92876",     "user_name": "mia.stone@eke.com",     "user_email": "eric.emerton@veeva.com",     "user_title": "",     "user_last_name": "Stone",     "user_first_name": "Mia",     "company": "",     "federated_id": "",     "user_language": "en",     "user_locale": "en_US",     "user_timezone": "(GMT-05:00) Eastern Standard Time (America/New_York)",     "security_policy": "Basic",     "activation_date": "",     "created_date": "2018-02-12T23:21:15Z",     "last_modified_date": "2021-02-02T01:06:02Z",     "principal_investigator": false,     "active": true,     "vault_owner": false,     "all_studies_access": false,     "studies": [       {         "study_environment": "Labrinone1_DEV1",         "study_role": "CDMS Clinical Research Associate",         "study_access": "Enabled",         "site_access": "",         "country_access": "United States",         "lms_training_status": "",         "ignore_lms_training_status": false       },       {         "study_environment": "Labrinone2_DEV1",         "study_role": "CDMS Lead Data Manager",         "study_access": "Enabled",         "site_access": "US-103,CA-101,CA-102,CA-103,UK-102,UK-103",         "country_access": "",         "lms_training_status": "",         "ignore_lms_training_status": false       }     ]   } } </pre>

Description / Request (URL)	Response
	<pre> {   "study_environment": "Labrinone3_DEV1",   "study_role": "CDMS Lead Data Manager",   "study_access": "Enabled",   "site_access": "",   "country_access": "",   "lms_training_status": "",   "ignore_lms_training_status": false }, {   "study_environment": "Labrinone4_DEV1",   "study_role": "CDMS Lead Data Manager",   "study_access": "Enabled",   "all_sites_access": true,   "lms_training_status": "",   "ignore_lms_training_status": false } ] } ] } </pre>

### Return Parameter Notes

Location	Type	Notes
responseStatus	String	
responseDetails	Section	
responseStatus/limit	Integer	When paging involved, the limit of each return
responseStatus/offset	Integer	When paging involved, the offset of the current return
responseStatus/size	Integer	The size of the current return
responseStatus/total	Integer	The total (outside of any paging) of the query
vault_id	Integer	The Vault ID
users	Array	An entry per user of the return
users/user_id	String	Value is across all vaults / domains
users/user_name	String	E.g. eric.emerton@eke.com
users/user_email	String	

Location	Type	Notes
users/user_title	String	
users/user_last_name	String	
users/user_first_name	String	
users/company	String	
users/federated_id	String	This value is the user name in a system the user is using SSO for to login to the vault. The security policy must be set appropriately for this value to line up. (multiple SSO policies can reside in one vault)
users/user_language	String	E.g. en, fr, de, etc.
users/user_locale	String	E.g. en_US, en_AU, etc.
users/user_timezone	String	Full label of the user's timezone
users/security_policy	String	The security policy name value
users/activation_date	String (as Date)	If there is an activation date, shown as yyyy-MM-dd format. Otherwise <b>omitted</b>
users/created_date	String	Format yyyy-MM-ddThh:ss:mmZ, UTC date time
users/last_modified_date	String	Format yyyy-MM-ddThh:ss:mmZ, UTC date time
users/principal_investigator	Boolean	When choosing 'Add as Principal Investigator' from the UI, a user can also be a PI for tagging to a specific site.
users/active	Boolean	I.e. if the user is active in the vault (no specific study)
users/vault_owner	Boolean	If the user is a vault owner, they have access to all studies (need no specific study access). These users returned will not have a user/studies JSON array of entries
users/all_studies_access	Boolean	When it is true access to all existing and future studies of the vault
users/studies	Array node	Vault owner users have this <b>omitted</b> , i.e. since access to all studies is implied
users/studies/study_environment	String	The Study Instance label, e.g. ABC-2022-01_DEV1
users/studies/study_role	String	The study role name, i.e. 'for that study'
users/studies/study_access	String	Values of <b>Enabled</b> or <b>Disabled</b>
users/studies/all_sites_access	Boolean	When <b>true</b> , the user has access to all sites. If <b>false</b> , <b>omitted</b> from return.
users/studies/site_access	String	Comma list of sites the user has access to
users/studies/country_access	String	Comma list of study countries for the user, if not specific site access. That is, the sites of those countries.
users/studies/lms_training_status	String	Values are empty, <b>Trained</b> or <b>Not Trained</b>
users/studies/ignore_lms_training_status	Boolean	When this value is <b>true</b> , the LMS training status on that study is ignored. That is, the user is allowed into the study per this flag



## 13.2 Add / Update Users (CSV)

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#upload-users">https://developer-cdms.veevavault.com/api/23.3/#upload-users</a>									
Style	PUT									
Endpoint	<your Vault URL>/api/v23.3/app/cdm/users									
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>import_file</td> <td>Required</td> <td>CSV file. Includes header line, and a row per user to action on. One line can be multiple studies (e.g UAT vault). See <a href="#">CDMS Help</a> for full details on the structure of the file, plus latest template</td> </tr> <tr> <td>append_site_country_access</td> <td>Optional</td> <td>URL parameter, <b>NOT</b> in the request body. <b>false</b> is the default. When true used, it means to add sites or countries not already present on the user, vs. a full replace of existing access with values in the body / attempt</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	import_file	Required	CSV file. Includes header line, and a row per user to action on. One line can be multiple studies (e.g UAT vault). See <a href="#">CDMS Help</a> for full details on the structure of the file, plus latest template	append_site_country_access	Optional	URL parameter, <b>NOT</b> in the request body. <b>false</b> is the default. When true used, it means to add sites or countries not already present on the user, vs. a full replace of existing access with values in the body / attempt
Name	Req/Opt	Notes								
import_file	Required	CSV file. Includes header line, and a row per user to action on. One line can be multiple studies (e.g UAT vault). See <a href="#">CDMS Help</a> for full details on the structure of the file, plus latest template								
append_site_country_access	Optional	URL parameter, <b>NOT</b> in the request body. <b>false</b> is the default. When true used, it means to add sites or countries not already present on the user, vs. a full replace of existing access with values in the body / attempt								
Notes	<ul style="list-style-type: none"> <li>This endpoint is used to create or update users</li> <li>Each row is a user to make updates (or create)</li> <li>See <a href="#">CDMS Help</a> for full details on the structure of the file, plus latest template</li> <li>For deactivation at a study level, the endpoint is used with specific <b>'Disabled'</b> value in the Study Access column.</li> <li>Vault or domain activation or deactivation - see the next few sections</li> <li>The CSV attempted is checked for: <ul style="list-style-type: none"> <li>Correct column header names</li> <li>Values in each cell that comply with checks</li> <li>If <b>ANY</b> of the rows fail, the return response will enumerate those rows with issues. No job starts in such cases</li> </ul> </li> <li><b>WARNING:</b> The CSV template can change from release to release as new properties are introduced. If some of the new properties are required, this could upend existing built integrations. The API version does <b>NOT</b> refer back and use older CSV templates. Consult the documentation and experiment in pre release vaults on coming releases</li> <li>Once a job successful starts, the job ID is returned, and this endpoint: <p>&lt;your Vault URL&gt;/api/v23.3/services/jobs/{job_id}</p> <p>.. can be used to check for the status of the job. Once the job completes, consider using <a href="#">Retrieve Users</a> to verify the state of each of the users created and/or updated.</p> </li> </ul>									

### Examples

Description / Request (URL)	Response
CSV attempted is valid, job starts	
.../api/v23.3/app/cdm/users?append_study_country_access=false	{ <pre> "responseStatus": "SUCCESS", </pre>

Description / Request (URL)	Response
<p>(with content/type = text/csv and file passed in <code>import_file</code> parameter)</p>	<pre> "response": {   "job_type": "EDC Import",   "job_id": 446208,   "status": "Queued",   "created_by": "user.admin@username.com",   "created_date": "2021-08-16T12:14:42Z" } </pre>
<p><b>Attempt where there are issues in the CSV</b></p>	
<p>.../api/v23.3/app/cdm/users?append_study_country_access=false</p> <p>(with content/type = text/csv and file passed in <code>import_file</code> parameter)</p>	<pre> {   "responseStatus": "FAILURE",   "responseDetails": {     "rows": 1,     "ready": 0,     "warning": 0,     "error": 1,     "limit": 100   },   "errors": [     {       "errorMessage": "Error: Ignore LMS Status [Maybe] does not exist, Study Access [Enabledd] does not exist, Role [CDMS Principal Investigatorr] does not exist",       "User Name": "test_api_1@eke.com",       "Study Role": "CDMS Principal Investigatorr",       "Ignore LMS Status": "Maybe",       "Study Access": "Enabledd"     }   ] } </pre>

### 13.3 Add / Update Users (JSON)

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#upload-users-json">https://developer-cdms.veevavault.com/api/23.3/#upload-users-json</a>																																																																																																										
Style	<b>POST</b>																																																																																																										
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Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Array</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>append_site_country_access</td> <td></td> <td>Optional</td> <td>Boolean - <b>false</b> is the default</td> </tr> <tr> <td>User Name</td> <td>users</td> <td>Required</td> <td>e.g. - first.last@company.com, '@company.com' is the domain portion relative to the vault, or cross domain user</td> </tr> <tr> <td>Email</td> <td>users</td> <td>Required</td> <td></td> </tr> <tr> <td>Title</td> <td>users</td> <td>Optional</td> <td></td> </tr> <tr> <td>First Name</td> <td>users</td> <td>Required</td> <td></td> </tr> <tr> <td>Last Name</td> <td>users</td> <td>Required</td> <td></td> </tr> <tr> <td>Company</td> <td>users</td> <td>Optional</td> <td></td> </tr> <tr> <td>Language</td> <td>users</td> <td>Required</td> <td>e.g. 'en'</td> </tr> <tr> <td>Locale</td> <td>users</td> <td>Required</td> <td>e.g. 'en_US'</td> </tr> <tr> <td>Timezone</td> <td>users</td> <td>Required</td> <td>E.g. '(GMT-08:00) Pacific Standard Time (America/Los_Angeles)' - see vault documentation for valid values</td> </tr> <tr> <td>Security Policy</td> <td>users</td> <td>Required</td> <td>E.g. 'Basic'</td> </tr> <tr> <td>Federated ID</td> <td>users</td> <td>Optional</td> <td>Value related to an SSO login (non vault 'Basic' account)</td> </tr> <tr> <td>Activation Date</td> <td>users</td> <td>Optional</td> <td>mm/dd/yyyy format, if passed, i.e. future date to activate a new account</td> </tr> <tr> <td>Send Welcome Email</td> <td>users</td> <td>Required</td> <td>'Yes' or 'No'</td> </tr> <tr> <td>Add as Principal Investigator</td> <td>users</td> <td>Required</td> <td>'Yes' or 'No' - Most often a 'No', with PI setup during site creation. Use of Yes here could result in the person being in the vault several times (same name).</td> </tr> <tr> <td>Study</td> <td>users</td> <td>Required</td> <td>For production, usually the same as study label, otherwise</td> </tr> <tr> <td>Study Environment</td> <td>users</td> <td>Required</td> <td>The study label, typically, i.e. with the '_DEV1', 'TST3', etc</td> </tr> <tr> <td>Access to All Environments</td> <td>users</td> <td>Required</td> <td>'Yes' or 'No'</td> </tr> <tr> <td>Cross Study Role</td> <td>users</td> <td>Optional</td> <td>E.g. 'CDMS Lead Data Manager', only use with access to all studies</td> </tr> <tr> <td>Study Access</td> <td>users</td> <td>Required</td> <td>'Enabled' or 'Disabled'</td> </tr> <tr> <td>Study Role</td> <td>users</td> <td>Required</td> <td>E.g. 'CDMS Lead Data Manager' (primary to set / use)</td> </tr> <tr> <td>Access to All Sites</td> <td>users</td> <td>Required</td> <td>'Yes' or 'No'. When 'Yes', specify no countries / sites. When 'No', must specify some country and/or site access</td> </tr> <tr> <td>Country Access</td> <td>users</td> <td>Required *</td> <td>One of All Sites = Yes, or specific country and/or site access is required</td> </tr> <tr> <td>Site Access</td> <td>users</td> <td>Required *</td> <td>One of All Sites = Yes, or specific country and/or site access is required</td> </tr> <tr> <td>Ignore LMS Status</td> <td>users</td> <td>Required</td> <td>'Yes' or 'No'</td> </tr> </tbody> </table>			Name	Array	Req/Opt	Notes	append_site_country_access		Optional	Boolean - <b>false</b> is the default	User Name	users	Required	e.g. - first.last@company.com, '@company.com' is the domain portion relative to the vault, or cross domain user	Email	users	Required		Title	users	Optional		First Name	users	Required		Last Name	users	Required		Company	users	Optional		Language	users	Required	e.g. 'en'	Locale	users	Required	e.g. 'en_US'	Timezone	users	Required	E.g. '(GMT-08:00) Pacific Standard Time (America/Los_Angeles)' - see vault documentation for valid values	Security Policy	users	Required	E.g. 'Basic'	Federated ID	users	Optional	Value related to an SSO login (non vault 'Basic' account)	Activation Date	users	Optional	mm/dd/yyyy format, if passed, i.e. future date to activate a new account	Send Welcome Email	users	Required	'Yes' or 'No'	Add as Principal Investigator	users	Required	'Yes' or 'No' - Most often a 'No', with PI setup during site creation. Use of Yes here could result in the person being in the vault several times (same name).	Study	users	Required	For production, usually the same as study label, otherwise	Study Environment	users	Required	The study label, typically, i.e. with the '_DEV1', 'TST3', etc	Access to All Environments	users	Required	'Yes' or 'No'	Cross Study Role	users	Optional	E.g. 'CDMS Lead Data Manager', only use with access to all studies	Study Access	users	Required	'Enabled' or 'Disabled'	Study Role	users	Required	E.g. 'CDMS Lead Data Manager' (primary to set / use)	Access to All Sites	users	Required	'Yes' or 'No'. When 'Yes', specify no countries / sites. When 'No', must specify some country and/or site access	Country Access	users	Required *	One of All Sites = Yes, or specific country and/or site access is required	Site Access	users	Required *	One of All Sites = Yes, or specific country and/or site access is required	Ignore LMS Status	users	Required	'Yes' or 'No'
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Ignore LMS Status	users	Required	'Yes' or 'No'																																																																																																								



Domain Administrator	users	Optional	'Yes' or 'No', if passed - 'Yes' should be <b>very</b> rare)
Service Availability Notifications	users	Required	'Yes' or 'No'
Product Announcement Emails	users	Required	'Yes' or 'No'
Status	users	Required	'Active' or 'Inactive' - overall vault status of the account
Bypass Veeva ID Check	users	Optional	'Yes' or 'No' if passed, 'No' is the default

#### Notes

- This endpoint is used to create or update users
- It allows a **JSON body** in the request, instead of a CSV file (previous section's endpoint).
- See [CDMS Help](#) for full details on the structure of the CSV file, plus the latest template, as the values used in the JSON formatted request body must still comply with all column names, values, etc.
- For deactivation at a study level, the endpoint is used with specific '**Disabled**' value in the Study Access column.
- Vault or domain activation or deactivation - see the next few sections
- The attempt is checked in the same ways as a CSV upload - for:
  - Correct JSON parameter names - must match CSV column header names
  - Values comply with same checks the UI shows, as will the CSV endpoint
  - If **ANY** of the entries fail, the return response will enumerate those entries with issues. No job starts in such cases
- **WARNING:** The CSV template (and thus JSON node names) can change from release to release as new properties are introduced. If some of the new properties are required, this could upend existing built integrations. The API version does **NOT** refer back and use older CSV templates. Consult the documentation and experiment in pre release vaults on coming releases
- Once a job successful starts, the job ID is returned, and this endpoint:

`<your Vault URL>/api/v23.3/services/jobs/{job_id}`

.. can be used to check for the status of the job. Once the job completes, consider using [Retrieve Users](#) to verify the state of each of the users created and/or updated.

### General Example (Body, 2 users)

```
{
  "append_site_country_access": false,
  "users": [
    {
      "User Name": "joe.smith@my-cdms-vaults.com",
      "Email": "joe.smith@veeva.com",
      "Title": "Mr.",
      "First Name": "Joe",
      "Last Name": "Smith",
      "Company": "Sponsor ABCXYZ",
      "Language": "en",
      "Locale": "en_US",
    }
  ]
}
```

```

    "Timezone": "(GMT-08:00) Pacific Standard Time (America/Los_Angeles)",
    "Security Policy": "Basic",
    "Federated ID": "",
    "Activation Date": "10/15/2023",
    "Send Welcome Email": "Yes",
    "Add as Principal Investigator": "No",
    "Study": "ABCP-2023-001",
    "Study Environment": "ABCP-2023-001_UAT5",
    "Access to All Environments": "No",
    "Cross Study Role": "",
    "Study Access": "Enabled",
    "Study Role": "CDMS Lead Data Manager",
    "Access to All Sites": "Yes",
    "Country Access": "",
    "Site Access": "",
    "Ignore LMS Status": "No",
    "Domain Administrator": "No",
    "Service Availability Notifications": "No",
    "Product Announcement Emails": "No",
    "Status": "Active",
    "Bypass Veeva ID Check": "No"
  },
  {
    "User Name": "mary.jones@my-cdms-vaults.com",
    "Email": "mary.jones@veeva.com",
    "Title": "",
    "First Name": "Mary",
    "Last Name": "Jones",
    "Company": "Cary General Hospital",
    "Language": "en",
    "Locale": "en_US",
    "Timezone": "(GMT-08:00) Pacific Standard Time (America/Los_Angeles)",
    "Security Policy": "Basic",
    "Federated ID": "",
    "Activation Date": "10/15/2023",
    "Send Welcome Email": "Yes",
    "Add as Principal Investigator": "No",
    "Study": "ABCP-2023-001",
    "Study Environment": "ABCP-2023-001_UAT5",
    "Access to All Environments": "No",
    "Cross Study Role": "",
    "Study Access": "Enabled",
    "Study Role": "CDMS Clinical Research Coordinator",
    "Access to All Sites": "No",
    "Country Access": "",
    "Site Access": "101",
    "Ignore LMS Status": "No",
    "Domain Administrator": "No",
  }
}

```

```

    "Service Availability Notifications": "No",
    "Product Announcement Emails": "No",
    "Status": "Active",
    "Bypass Veeva ID Check": "No"
  }
]
}

```

## Return Examples

Description / Request (URL)	Response
<b>Attempt is valid, job starts</b>	
<p>.../api/v23.3/app/cdm/users_json? (see general example above.. when valid)</p>	<pre> {   "responseStatus": "SUCCESS",   "response": {     "job_type": "EDC Import",     "job_id": 446208,     "status": "Queued",     "created_by": "user.admin@username.com",     "created_date": "2023-08-16T12:14:42Z"   } } </pre>
<b>Attempt where there are issues in the CSV</b>	
<p>.../api/v23.3/app/cdm/users_json (see general example above.. when invalid, at least one issue with a user in the attempt)</p>	<pre> {   "responseStatus": "FAILURE",   "responseDetails": {     "rows": 1,     "ready": 0,     "warning": 0,     "error": 1,     "limit": 100   },   "errors": [     {       "errorMessage": "Error: Ignore LMS Status [Maybe] does not exist, Study Access [Enabledd] does not exist, Role [CDMS Principal Investigatorr] does not exist",       "User Name": "test_api_1@eke.com",       "Study Role": "CDMS Principal Investigatorr",       "Ignore LMS Status": "Maybe",       "Study Access": "Enabledd"     }   ] } </pre>

Description / Request (URL)	Response
	<pre data-bbox="462 241 1573 367">    ] }</pre>

### 13.4 Inactivate User – Vault or Domain Level

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#inactivate-user">https://developer-cdms.veevavault.com/api/23.3/#inactivate-user</a>									
Style	<b>DELETE</b>									
Endpoint	<your Vault URL>/api/v23.3/objects/users/{user_id}									
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>user_id</td> <td>Required</td> <td>The Vault user ID.</td> </tr> <tr> <td>domain</td> <td>Optional</td> <td>URL parameter, true/false. When omitted the default is false.</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	user_id	Required	The Vault user ID.	domain	Optional	URL parameter, true/false. When omitted the default is false.
Name	Req/Opt	Notes								
user_id	Required	The Vault user ID.								
domain	Optional	URL parameter, true/false. When omitted the default is false.								
Notes	<ul style="list-style-type: none"> <li>Use this endpoint <b>ONLY</b> to inactivate a user account, vault or domain wise</li> <li>For the deactivation of just a <b>specific</b> study, use the <b>Upload Users</b> endpoint, but with a line for the user indicating a <b>Disabled</b> status.</li> <li><b>WARNING:</b> This endpoint with <b>domain=true</b> will inactivate the user across <b>ALL</b> vaults they otherwise have access into. The use of domain=false will inactivate the user in just the vault targeted. (all studies in that vault).</li> <li><b>TIP:</b> Later a user can be reactivated. Consider leaving a user's study access intact, so that a simple reactivation later can return the user to all appropriate study access rights.</li> </ul>									

### Examples

Description / Request (URL)	Response
<b>Inactivate successful - just the target vault</b>	
..api/v23.3/objects/users/1234567	<pre>{   "responseStatus": "SUCCESS",   "id": 1234567 }</pre>
<b>Inactivate successful - domain level (ALL vaults on that domain)</b>	
..api/v23.3/objects/users/1234567?domain=true	<pre>{   "responseStatus": "SUCCESS",   "id": 1234567 }</pre>
<b>Bad User ID</b>	
..api/v23.3/objects/users/1234599	<pre>{   "responseStatus": "FAILURE",   "errors": [     {       "type": "INVALID_DATA",       "message": "User [1234599] not found"     }   ] }</pre>

Description / Request (URL)	Response
	<pre>    }   ] }</pre>

### 13.5 Activate User – Domain Level

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#activate-users">https://developer-cdms.veevavault.com/api/23.3/#activate-users</a> (from the main vault endpoint for update a user, at vault level) - <a href="https://developer.veevavault.com/api/23.3/#update-users">https://developer.veevavault.com/api/23.3/#update-users</a> )									
Style	<b>PUT</b>									
Endpoint	<your Vault URL>/api/v23.3/objects/users/{user_id}									
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>user_id</td> <td>Required</td> <td>The Vault user ID, as part of the endpoint</td> </tr> <tr> <td>domain_active__v</td> <td>Required</td> <td><b>Encoded</b> parameter on the action only. Value = <b>true</b></td> </tr> </tbody> </table>	Name	Req/Opt	Notes	user_id	Required	The Vault user ID, as part of the endpoint	domain_active__v	Required	<b>Encoded</b> parameter on the action only. Value = <b>true</b>
Name	Req/Opt	Notes								
user_id	Required	The Vault user ID, as part of the endpoint								
domain_active__v	Required	<b>Encoded</b> parameter on the action only. Value = <b>true</b>								
Notes	<ul style="list-style-type: none"> <li>Use this endpoint <b>ONLY</b> to activate a user account that is currently inactive on the domain (all vaults in the domain)</li> <li>Only a domain admin can perform this action. The API caller must have that access on the domain to perform.</li> <li>This action must be performed first, prior to more actions to activate in specific vaults, then more to activate specific studies (where necessary)</li> </ul>									

### Examples

Description / Request (URL)	Response
<b>Active on domain successful</b>	
..api/v23.3/objects/users/1234567 (with encoded parameter <b>domain_active__v = true</b> )	<pre>{   "responseStatus": "SUCCESS",   "id": 1234567 }</pre>
<b>Bad User ID</b>	
..api/v23.3/objects/users/1234599	<pre>{   "responseStatus": "FAILURE",   "errors": [     {       "type": "INVALID_DATA",       "message": "User [1234599] not found"     }   ] }</pre>

### 13.6 Activate User – Vault Level

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#activate-users">https://developer-cdms.veevavault.com/api/23.3/#activate-users</a> (from the main vault endpoint for update a user, at vault level) - <a href="https://developer.veevavault.com/api/23.3/#update-vault-membership">https://developer.veevavault.com/api/23.3/#update-vault-membership</a>												
Style	<b>PUT</b>												
Endpoint	<b>&lt;your Vault URL&gt;/api/v23.3/objects/users/{user_id}/vault_membership/{vault_id}</b>												
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>user_id</td> <td>Required</td> <td>The Vault user ID, as part of the endpoint</td> </tr> <tr> <td>vault_id</td> <td>Required</td> <td>The Vault ID to be activated, as part of the endpoint</td> </tr> <tr> <td>active__v</td> <td>Required</td> <td><b>Encoded</b> parameter on the action only. Value = <b>true</b></td> </tr> </tbody> </table>	Name	Req/Opt	Notes	user_id	Required	The Vault user ID, as part of the endpoint	vault_id	Required	The Vault ID to be activated, as part of the endpoint	active__v	Required	<b>Encoded</b> parameter on the action only. Value = <b>true</b>
Name	Req/Opt	Notes											
user_id	Required	The Vault user ID, as part of the endpoint											
vault_id	Required	The Vault ID to be activated, as part of the endpoint											
active__v	Required	<b>Encoded</b> parameter on the action only. Value = <b>true</b>											
Notes	<ul style="list-style-type: none"> <li>Use this endpoint <b>ONLY</b> to activate a user account that is currently inactive on a specific vault, and the account is to be activated on that vault only.</li> <li>This action must be performed first, prior to specific study activations (where necessary)</li> </ul>												

### Examples

Description / Request (URL)	Response
<b>Active on vault successful</b>  ..api/v23.3/objects/users/1234567/vault_membership/10043299 (with encoded parameter <b>active__v = true</b> )	<pre>{   "responseStatus": "SUCCESS" }</pre>
<b>Bad User ID</b>  ..api/v23.3/objects/users/1234599/vault_membership/10043299	<pre>{   "responseStatus": "FAILURE",   "errors": [     {       "type": "INVALID_DATA",       "message": "User [1234599] not found"     }   ] }</pre>



### 13.7 Retrieve Study Roles

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-study-roles">https://developer-cdms.veevavault.com/api/23.3/#retrieve-study-roles</a>									
Style	<b>GET</b>									
Endpoint	<your Vault URL>/api/v23.3/app/cdm/studyroles									
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
Name	Req/Opt	Notes								
limit	Optional	Pagination API - different limit from the default 1000 can be used								
offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd								
Notes	<ul style="list-style-type: none"> <li>Use this endpoint to retrieve the configured study roles in the vault</li> <li>The <b>Upload Users (CSV)</b> and <b>Upload Users (JSON)</b> will use these roles for administering users on studies in the Vault.</li> </ul>									

### Examples

Description / Request (URL)	Response
Get roles in the Vault	
..api/{version}/app/cdm/studyroles	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 47,     "total": 47   },   "studyroles": [     {       "id": "0AR00000000I001",       "role_api_name": "cdms_api_read_only_v",       "role_name": "CDMS API Read Only",       "role_team": "other_v",       "accept_closeout_pdf": false,       "add_casebook": false,       "answer_query": false,       "answer_third_party_queries": false,       "api_access": true,       "approve_code": false,       "approve_import": false,       "approve_lab_normals": false,       "assessments_tab": false,       "assign_code": false,     }   ] }</pre>

Description / Request (URL)	Response
	<pre> "browse_view": false, "cdb_tools": false, "close_all_queries": false, "close_query": false, "coder_tab": false, "coder_tools_tab": false, "configure_cdb": false, "configure_randomization": false, "copy_study_data_to_ppt": false, "create_export_definition": false, "create_listing": false, "create_protocol_deviations": false, "create_view": false, "data_entry": false, "data_entry_tab": false, "delete_casebook": false, "delete_export_definition": false, "delete_listing": false, "delete_view": false, "design_library": false, "design_study": false, "download_import_package": false, "edc_tools_tab": false, "edit_classification": false, "edit_clinical_assessments": false, "edit_cql": false, "edit_dmr": false, "edit_form_linking": false, "edit_integration_mappings": false, "edit_lab_analyte_library": false, "edit_lab_locations_and_normals": false, "edit_protocol_deviations": false, "edit_sdv": false, "edit_study_settings": false, "execute_query_rules": false, "freeze_data": false, "generate_blank_pdf": false, "generate_closeout_pdf": false, "generate_csv": false, "generate_detail_pdf": false, "generate_export_package": false, "invalidate_randomization": false, "lab_mass_update": false, "labs_tab": false, "library_tab": false, "lock_data": false, "manage_amendments": false, "manage_assessments": false, </pre>

Description / Request (URL)	Response
	<pre> "manage_bulk_lock_and_freeze": false, "manage_coder_study_settings": false, "manage_coding_lists": false, "manage_data_and_definition_export": false, "manage_email_group_assignment": false, "manage_ftp": false, "manage_jobs": false, "manage_key_mappings": false, "manage_lab_study_settings": false, "manage_lab_units_and_codelists": false, "manage_learning": false, "manage_randomization_list": false, "manage_review_plan_assignment_criteria": false, "manage_review_plan_manual_assignment": false, "manage_review_plans_assignment": false, "manage_safety_configuration": false, "manage_safety_integrations": false, "manage_site_lab_assignment": false, "manage_site_vault_settings": false, "manage_sources": false, "manage_study_countries": false, "manage_study_deployments": false, "manage_study_lock": false, "manage_study_priority": false, "manage_study_roles": false, "manage_study_sites": false, "manage_unblinding_rules": false, "manage_users": false, "modify_listing": false, "modify_view": false, "notify_sites_of_closeout": false, "open_query": false, "protocol_deviations_tab": false, "public_access": false, "randomization_list_actions": false, "randomization_tab": false, "randomize_subject": false, "reports_dashboards_tab": false, "restricted_data_access": false, "reveal_treatment": false, "review_closeout_pdf": false, "review_tab": false, "safety_integrations_tab": false, "schedule_reports": false, "sign": false, "studio_tab": false, "system_tools_tab": false, "unrestrict_randomization_data": false, </pre>

Description / Request (URL)	Response
	<pre> "vault_configuration_report": false, "view_admin": false, "view_all_lab_settings": false, "view_bulk_lock_and_freeze": false, "view_casebook": true, "view_classification": true, "view_clinical_assessments": false, "view_code": true, "view_dmr": false, "view_export": false, "view_export_packages": false, "view_form_linking": false, "view_import": false, "view_integration_mappings": false, "view_lab_analyte_library": false, "view_lab_locations_and_normals": false, "view_library": true, "view_listings": false, "view_protocol_deviations": false, "view_queries": false, "view_query": true, "view_randomization_enrollment": false, "view_randomization_kit_device": false, "view_restricted_randomization_enrollment": false, "view_safety_integrations": false, "view_sdv": false, "view_selected_cdb_query_listings": false, "view_selected_listings": false, "view_study_design": true, "view_study_sites": true, "view_users": true, "workbench_tab": false }, {   "id": "0AR0000000I002",   "role_api_name": "cdms_api_read_write_v",   "role_name": "CDMS API Read Write",   "role_team": "other_v",   "accept_closeout_pdf": false,   "add_casebook": true,   "answer_query": true,   "answer_third_party_queries": false,   "api_access": true,   "approve_code": false,   "approve_import": false,   "approve_lab_normals": false,   "assessments_tab": true,   "assign_code": true, </pre>

Description / Request (URL)	Response
	<pre> "browse_view": false, "cdb_tools": false, "close_all_queries": false, "close_query": true, "coder_tab": true, "coder_tools_tab": true, "configure_cdb": false, "configure_randomization": false, "copy_study_data_to_ppt": false, "create_export_definition": false, "create_listing": false, "create_protocol_deviations": false, "create_view": false, "data_entry": true, "data_entry_tab": true, "delete_casebook": false, "delete_export_definition": false, "delete_listing": false, "delete_view": false, "design_library": true, "design_study": true, "download_import_package": false, "edc_tools_tab": true, "edit_classification": true, "edit_clinical_assessments": false, "edit_cql": false, "edit_dmr": false, "edit_form_linking": false, "edit_integration_mappings": false, "edit_lab_analyte_library": false, "edit_lab_locations_and_normals": false, "edit_protocol_deviations": false, "edit_sdv": false, "edit_study_settings": false, "execute_query_rules": false, "freeze_data": false, "generate_blank_pdf": false, "generate_closeout_pdf": false, "generate_csv": false, "generate_detail_pdf": false, "generate_export_package": false, "invalidate_randomization": false, "lab_mass_update": false, "labs_tab": true, "library_tab": true, "lock_data": false, "manage_amendments": false, "manage_assessments": false, </pre>

Description / Request (URL)	Response
	<pre> "manage_bulk_lock_and_freeze": false, "manage_coder_study_settings": false, "manage_coding_lists": false, "manage_data_and_definition_export": false, "manage_email_group_assignment": true, "manage_ftp": false, "manage_jobs": true, "manage_key_mappings": false, "manage_lab_study_settings": false, "manage_lab_units_and_codelists": false, "manage_learning": false, "manage_randomization_list": false, "manage_review_plan_assignment_criteria": false, "manage_review_plan_manual_assignment": false, "manage_review_plans_assignment": false, "manage_safety_configuration": false, "manage_safety_integrations": false, "manage_site_lab_assignment": false, "manage_site_vault_settings": false, "manage_sources": false, "manage_study_countries": false, "manage_study_deployments": false, "manage_study_lock": false, "manage_study_priority": false, "manage_study_roles": false, "manage_study_sites": true, "manage_unblinding_rules": false, "manage_users": true, "modify_listing": false, "modify_view": false, "notify_sites_of_closeout": false, "open_query": true, "protocol_deviations_tab": true, "public_access": false, "randomization_list_actions": false, "randomization_tab": true, "randomize_subject": false, "reports_dashboards_tab": true, "restricted_data_access": false, "reveal_treatment": false, "review_closeout_pdf": false, "review_tab": true, "safety_integrations_tab": true, "schedule_reports": false, "sign": false, "studio_tab": true, "system_tools_tab": true, "unrestrict_randomization_data": false, </pre>

Description / Request (URL)	Response
	<pre> "vault_configuration_report": false, "view_admin": false, "view_all_lab_settings": false, "view_bulk_lock_and_freeze": false, "view_casebook": true, "view_classification": true, "view_clinical_assessments": false, "view_code": true, "view_dmr": false, "view_export": false, "view_export_packages": false, "view_form_linking": false, "view_import": false, "view_integration_mappings": false, "view_lab_analyte_library": false, "view_lab_locations_and_normals": false, "view_library": true, "view_listings": false, "view_protocol_deviations": false, "view_queries": false, "view_query": true, "view_randomization_enrollment": false, "view_randomization_kit_device": false, "view_restricted_randomization_enrollment": false, "view_safety_integrations": false, "view_sdv": false, "view_selected_cdb_query_listings": false, "view_selected_listings": false, "view_study_design": true, "view_study_sites": true, "view_users": true, "workbench_tab": true }, {   "id": "0AR00000000706",   "role_api_name": "cdms_lead_data_manager__v",   "role_name": "CDMS Lead Data Manager",   "role_team": "data_management__v",   "accept_closeout_pdf": false,   "add_casebook": false,   "answer_query": false,   "answer_third_party_queries": false,   "api_access": true,   "approve_code": false,   "approve_import": true,   "approve_lab_normals": false,   "assessments_tab": false,   "assign_code": false, </pre>

Description / Request (URL)	Response
	<pre> "browse_view": true, "cdb_tools": true, "close_all_queries": true, "close_query": true, "coder_tab": false, "coder_tools_tab": false, "configure_cdb": false, "configure_randomization": false, "copy_study_data_to_ppt": false, "create_export_definition": true, "create_listing": true, "create_protocol_deviations": true, "create_view": false, "data_entry": false, "data_entry_tab": false, "delete_casebook": false, "delete_export_definition": false, "delete_listing": false, "delete_view": false, "design_library": false, "design_study": false, "download_import_package": true, "edc_tools_tab": true, "edit_classification": false, "edit_clinical_assessments": false, "edit_cql": true, "edit_dmr": true, "edit_form_linking": false, "edit_integration_mappings": true, "edit_lab_analyte_library": false, "edit_lab_locations_and_normals": false, "edit_protocol_deviations": true, "edit_sdv": false, "edit_study_settings": true, "execute_query_rules": true, "freeze_data": true, "generate_blank_pdf": true, "generate_closeout_pdf": true, "generate_csv": true, "generate_detail_pdf": true, "generate_export_package": true, "invalidate_randomization": false, "lab_mass_update": true, "labs_tab": true, "library_tab": false, "lock_data": true, "manage_amendments": true, "manage_assessments": true, </pre>



Description / Request (URL)	Response
	<pre> "manage_bulk_lock_and_freeze": true, "manage_coder_study_settings": false, "manage_coding_lists": false, "manage_data_and_definition_export": false, "manage_email_group_assignment": true, "manage_ftp": true, "manage_jobs": true, "manage_key_mappings": false, "manage_lab_study_settings": true, "manage_lab_units_and_codelists": true, "manage_learning": true, "manage_randomization_list": false, "manage_review_plan_assignment_criteria": false, "manage_review_plan_manual_assignment": false, "manage_review_plans_assignment": true, "manage_safety_configuration": false, "manage_safety_integrations": true, "manage_site_lab_assignment": true, "manage_site_vault_settings": true, "manage_sources": true, "manage_study_countries": true, "manage_study_deployments": false, "manage_study_lock": true, "manage_study_priority": true, "manage_study_roles": true, "manage_study_sites": true, "manage_unblinding_rules": true, "manage_users": false, "modify_listing": true, "modify_view": false, "notify_sites_of_closeout": true, "open_query": true, "protocol_deviations_tab": true, "public_access": true, "randomization_list_actions": false, "randomization_tab": true, "randomize_subject": false, "reports_dashboards_tab": true, "restricted_data_access": true, "reveal_treatment": false, "review_closeout_pdf": false, "review_tab": true, "safety_integrations_tab": true, "schedule_reports": true, "sign": false, "studio_tab": false, "system_tools_tab": true, "unrestrict_randomization_data": false, </pre>

Description / Request (URL)	Response
	<pre> "vault_configuration_report": false, "view_admin": false, "view_all_lab_settings": true, "view_bulk_lock_and_freeze": true, "view_casebook": true, "view_classification": false, "view_clinical_assessments": false, "view_code": true, "view_dmr": true, "view_export": true, "view_export_packages": true, "view_form_linking": true, "view_import": true, "view_integration_mappings": true, "view_lab_analyte_library": true, "view_lab_locations_and_normals": true, "view_library": false, "view_listings": true, "view_protocol_deviations": true, "view_queries": true, "view_query": true, "view_randomization_enrollment": true, "view_randomization_kit_device": false, "view_restricted_randomization_enrollment": false, "view_safety_integrations": true, "view_sdv": true, "view_selected_cdb_query_listings": false, "view_selected_listings": false, "view_study_design": false, "view_study_sites": true, "view_users": false, "workbench_tab": true     },     :     :     :     (etc. - all other roles...)     ] } </pre>

### 13.8 Retrieve Email Groups

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-email-groups">https://developer-cdms.veevavault.com/api/23.3/#retrieve-email-groups</a>														
Style	<b>GET</b>														
Endpoint	<your Vault URL>/api/v23.3/app/cdm/email_groups														
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study</td> <td>Required</td> <td>The study to retrieve email groups from</td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>			Name	Req/Opt	Notes	study	Required	The study to retrieve email groups from	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
Name	Req/Opt	Notes													
study	Required	The study to retrieve email groups from													
limit	Optional	Pagination API - different limit from the default 1000 can be used													
offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd													
Notes	<ul style="list-style-type: none"> <li>● Use this endpoint to retrieve the configured email groups of the study, plus the number of current members in each</li> <li>● A different endpoint is used to retrieve the members of a group (next section)</li> <li>● Add / Update / Delete members of a group is another endpoint (later section)</li> <li>● This endpoint is new at 23R3 and falls under the syntax usage of just <b>study</b>, vs. <b>study_name</b>. All endpoints at the 24R1 release will follow suit to that syntax, with study a match on the visual study label in the UI (<b>NOT</b> the study__v -&gt; name__v background value, which can occasionally be different from the visual in system)</li> </ul>														

## Examples

Description / Request (URL)	Response
<p><a href="#">Get email groups of a study</a></p> <pre> ..api/{{version}}/app/cdm/email_groups ?study_name=ABCP-2022-01_DEV1           </pre>	<pre> {   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 2,     "total": 2   },   "email_groups": [     {       "id": "XYZ0000000123",       "name": "Main Study Alerts",       "members": 3     },     {       "id": "XYZ0000000125",       "name": "Safety Alerts",       "members": 6     }   ] }           </pre>

### 13.9 Retrieve Email Group Members

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-email-group-members">https://developer-cdms.veevavault.com/api/23.3/#retrieve-email-group-members</a>																		
Style	<b>GET</b>																		
Endpoint	<your Vault URL>/api/v23.3/app/cdm/email_group_members																		
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study</td> <td>Required</td> <td>The study to retrieve email groups from</td> </tr> <tr> <td>email_group_name</td> <td>Required *</td> <td>One of email group name or ID is required. If both passed, ID is used</td> </tr> <tr> <td>email_group_id</td> <td>Required *</td> <td>One of email group name or ID is required.</td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study	Required	The study to retrieve email groups from	email_group_name	Required *	One of email group name or ID is required. If both passed, ID is used	email_group_id	Required *	One of email group name or ID is required.	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
Name	Req/Opt	Notes																	
study	Required	The study to retrieve email groups from																	
email_group_name	Required *	One of email group name or ID is required. If both passed, ID is used																	
email_group_id	Required *	One of email group name or ID is required.																	
limit	Optional	Pagination API - different limit from the default 1000 can be used																	
offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd																	
Notes	<ul style="list-style-type: none"> <li>● Use this endpoint to retrieve the members of a specific group in the study</li> <li>● A different endpoint is used to retrieve the groups defined for the study (previous section)</li> <li>● Add / Update / Delete members of a group is another endpoint (next section)</li> <li>● This endpoint is new at 23R3 and falls under the syntax usage of just <b>study</b>, vs. <b>study_name</b>. All endpoints at the 24R1 release will follow suit to that syntax, with study a match on the visual study label in the UI (<b>NOT</b> the study__v -&gt; name__v background value, which can occasionally be different from the visual in system)</li> </ul>																		

## Examples

Description / Request (URL)	Response
<p><a href="#">Get email group members (by ID)</a></p> <pre>..api/{version}/app/cdm/email_group_members?study=ABCP-2022-01_DEV1&amp;email_group_id=XYZ0000000123</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 2,     "total": 2   },   "users": [     {       "user_id": 212333,       "user_name": "joe.smith@sb-abcpharma.com",       "user_email": "joe.smith@veeva.com",       "user_last_name": "Smith",       "user_first_name": "Joe"     },     {       "user_id": 212345,       "user_name": "mary.jones@sb-abcpharma.com",       "user_email": "mary.jones@veeva.com",       "user_last_name": "Jones",       "user_first_name": "Mary"     }   ] }</pre>
<p><a href="#">Get email group members (by Name) - no members</a></p> <pre>..api/{version}/app/cdm/email_group_members?study=ABCP-2022-01_DEV1&amp;email_group_name=MyLeadDMGroup</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 0,     "total": 0   },   "users": [   ] }</pre>

### 13.10 Update Email Group Members

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#update-email-group-members">https://developer-cdms.veevavault.com/api/23.3/#update-email-group-members</a>															
Style	<ul style="list-style-type: none"> <li>● <b>PUT</b> (removes ALL current members, and sets membership to the list provided)</li> <li>● <b>POST</b> (provide a list, and ensure the each of the users in the list is a member - will not modify other user membership)</li> <li>● <b>DELETE</b> (provide a list, and ensure each of the users in the list is <b>removed</b> as a member - will not modify other user membership)</li> </ul>															
Endpoint	<your Vault URL>/api/v23.3/app/cdm/jobs/email_group_members															
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study</td> <td>Required</td> <td>Name of the study</td> </tr> <tr> <td>email_group_name</td> <td>Required *</td> <td>One of email group name or ID is required. If both passed, ID is used</td> </tr> <tr> <td>email_group_id</td> <td>Required *</td> <td>One of email group name or ID is required.</td> </tr> <tr> <td>users (Array of user IDs)</td> <td>Required *</td> <td>Can be an empty users array, i.e. for PUT (to remove all).</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study	Required	Name of the study	email_group_name	Required *	One of email group name or ID is required. If both passed, ID is used	email_group_id	Required *	One of email group name or ID is required.	users (Array of user IDs)	Required *	Can be an empty users array, i.e. for PUT (to remove all).
Name	Req/Opt	Notes														
study	Required	Name of the study														
email_group_name	Required *	One of email group name or ID is required. If both passed, ID is used														
email_group_id	Required *	One of email group name or ID is required.														
users (Array of user IDs)	Required *	Can be an empty users array, i.e. for PUT (to remove all).														
Notes	<ul style="list-style-type: none"> <li>● Use this endpoint to modify members of the email group on the study</li> <li>● Refer to the above PUT, POST, DELETE for different scenarios</li> <li>● This endpoint is new at 23R3 and falls under the syntax usage of just <b>study</b>, vs. <b>study_name</b>. All endpoints at the 24R1 release will follow suit to that syntax, with study a match on the visual study label in the UI (<b>NOT</b> the study__v -&gt; name__v background value, which can occasionally be different from the visual in system)</li> </ul>															

## Examples

Description / Request (URL)	Response
<b>PUT - Remove all existing members, and set to a specific list</b>	
<pre data-bbox="71 394 597 625">/api/v23.3/app/cdm/email_group_members (PUT)  {   "study": "ABCP-2022-01_DEV1",   "email_group_name": "MainStudyAlerts",   "users": ["212333", "212345"] }</pre>	<pre data-bbox="758 394 1258 625">{   "responseStatus": "SUCCESS",   "study": "ABCP-2022-01_DEV1",   "email_group_id": "XYZ0000000123",   "email_group_name": "MainStudyAlerts",   "members": 2 }</pre>
<b>POST - Have a list of users added to the email group, not adjusting any other existing members.</b>	
<pre data-bbox="71 798 609 1024">/api/v23.3/app/cdm/email_group_members (POST)  {   "study": "ABCP-2022-01_DEV1",   "email_group_name": "MainStudyAlerts",   "users": ["212336"] }</pre>	<pre data-bbox="758 798 1258 1056">{   "responseStatus": "SUCCESS",   "study": "ABCP-2022-01_DEV1",   "email_group_id": "XYZ0000000123",   "email_group_name": "MainStudyAlerts",   "members": 12,   "users_added": 1 }</pre>
<b>PUT - Remove all existing members, and set to a specific list</b>	
<pre data-bbox="71 1201 633 1428">/api/v23.3/app/cdm/email_group_members (DELETE)  {   "study": "ABCP-2022-01_DEV1",   "email_group_name": "MainStudyAlerts",   "users": ["212336"] }</pre>	<pre data-bbox="758 1201 1258 1459">{   "responseStatus": "SUCCESS",   "study": "ABCP-2022-01_DEV1",   "email_group_id": "XYZ0000000123",   "email_group_name": "MainStudyAlerts",   "members": 11,   "users_removed": 1 }</pre>



## 14 Study Design

### 14.1 Design Overview

The study design endpoints started at release **22R2**, and additional will be released going forward. The primary use case is for programmatic parsing of a study's design, similar to CDISC ODM **xml** files. The plan for Vault CDMS is to release APIs that can retrieve that similar representation of a study's design, by casebook version (file per), but initially in JSON file format (Vault platform's primary format).

Studies are designed using design level components that mirror the data levels:

- **Casebook Version Definition**
- .. then.. -> **Event Group Definition**
- .. then.. -> **Event Definition**
- .. then.. -> **Form Definition**
- .. then.. -> **Item Group Definition**
- .. then.. -> **Item Definition**
- ...then.. -> Codelist / Unit Codelist Definitions (used by dropdown Item definitions)

Each casebook version yields a schedule of these components, i.e. what is in use at the various levels. Properties like 'repeating', labels, short labels, etc. (seen in the Studio SDS) are included at all levels.

Currently, the Vault CDMS Studio module allows for export of a Study Design Specification (SDS), plus annotated workbooks PDFs - by casebook version. The SDS is an Excel workbook and could be parsed for all the same design information, but programmatic retrieval of these is not possible, and studies get amendments / new casebook versions often. Further, the programmatic parsing of Excel workbooks can be risky as compared to the same information in JSON (or XML) format.

## 14.2 Retrieve Casebook Versions

Similar to the online help, this is noted here only as a pointer to the existing **Studies** -> [Retrieve Studies](#) endpoint. As of 22R2 release, it includes the casebook definitions in the study..

### 14.3 Retrieve Coding Definitions

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-coding-definitions">https://developer-cdms.veevavault.com/api/23.3/#retrieve-coding-definitions</a>														
Style	<b>GET</b>														
Endpoint	<your Vault URL>/api/v23.3/app/cdm/coder/forms														
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_name</td> <td>Optional</td> <td>Name of the study. This can be omitted, and all users the API caller has rights to are returned</td> </tr> <tr> <td>limit</td> <td>Optional</td> <td>Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td>offset</td> <td>Optional</td> <td>Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>			Name	Req/Opt	Notes	study_name	Optional	Name of the study. This can be omitted, and all users the API caller has rights to are returned	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
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offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd													
Notes	<ul style="list-style-type: none"> <li>Used to retrieve the list of medical coding forms, i.e. those tagged to use Vault CDMS Coder. Medical coding requests are added on the submit of such forms</li> <li>The coding definition includes the item definition being coded (e.g. AE verbatim, DM drug name), plus other properties from the form (if the study design maps them)</li> <li>With this information, one can then use the response information to obtain information from the Medical Coding requests and queries of the study, that is, 'of' that definition.</li> </ul>														

### Examples

Description / Request (URL)	Response
<b>Get Coding Form Definitions of a Study</b>	
<pre>.../api/v23.3/app/cdm/coder/forms?study_name=ABCP-2022-01_DEV1</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 3,     "total": 3   },   "forms": [     {       "form_name": "AE",       "form_type": "ae_v",       "form_definition_status": "active_v",       "form_coding_status": "active_v",       "dictionary_definition": "MedDRA",       "dictionary_release": "MedDRA_25_1",       "coding_item_definition_id": "V0T000000002001",       "coding_item_definition_name": "VV-000004"     }   ] }</pre>

Description / Request (URL)	Response
	<pre> }, {   "form_name": "MULTI_CODING",   "form_type": "other_v",   "form_type_other_label": "My Other Label Here",   "form_definition_status": "active_v",   "form_coding_status": "active_v",   "dictionary_definition": "MedDRA",   "dictionary_release": "MedDRA_25_1",   "coding_item_definition_id": "V0T000000003001",   "coding_item_definition_name": "VV-000005" }, {   "form_name": "Concomitant-Medication",   "form_type": "conmed_v",   "form_definition_status": "active_v",   "form_coding_status": "active_v",   "dictionary_definition": "WHODrug C3",   "dictionary_release": "GLOBALC3Mar22",   "coding_item_definition_id": "V0T000000004001",   "coding_item_definition_name": "VV-000006" } ] } </pre>

## 14.4 Retrieve Study Masters

Help Main	<p><a href="https://developer-cdms.veevavault.com/api/23.3/#retrieve-study-masters">https://developer-cdms.veevavault.com/api/23.3/#retrieve-study-masters</a></p> <p>This action can be performed from any Vault type (Development, UAT, Prod, Training), but makes the <b>most</b> sense when from the <b>Development</b> / 'Control Center' Vault (where deployments happen from). Control center CDMS vaults control the deployments Dev -&gt; UAT(s) -&gt; Production, so have the best information on where a study master stands, relative to its instances.</p>																		
Style	<b>GET</b>																		
Endpoint	<b>&lt;your Vault URL&gt;/api/v23.3/app/cdm/design/study_masters</b>																		
Parameters	<table border="1"> <thead> <tr> <th data-bbox="354 695 581 737">Name</th> <th data-bbox="584 695 688 737">Req/Opt</th> <th data-bbox="691 695 1500 737">Notes</th> </tr> </thead> <tbody> <tr> <td data-bbox="354 741 581 783">study_master_name</td> <td data-bbox="584 741 688 783">Optional</td> <td data-bbox="691 741 1500 783">Provide if the retrieve is meant to filter to a specific study master + it's instances</td> </tr> <tr> <td data-bbox="354 787 581 829">organization_name</td> <td data-bbox="584 787 688 829">Optional</td> <td data-bbox="691 787 1500 829">Provide an organization name (in the Vault) to filter the return against</td> </tr> <tr> <td data-bbox="354 833 581 896">library</td> <td data-bbox="584 833 688 896">Optional</td> <td data-bbox="691 833 1500 896">Default is <b>no filter</b>, if not provided (e.g. any study). Otherwise, provide true or false to specify return of just library or non-library studies</td> </tr> <tr> <td data-bbox="354 900 581 942">limit</td> <td data-bbox="584 900 688 942">Optional</td> <td data-bbox="691 900 1500 942">Pagination API - different limit from the default 1000 can be used</td> </tr> <tr> <td data-bbox="354 947 581 1039">offset</td> <td data-bbox="584 947 688 1039">Optional</td> <td data-bbox="691 947 1500 1039">Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study_master_name	Optional	Provide if the retrieve is meant to filter to a specific study master + it's instances	organization_name	Optional	Provide an organization name (in the Vault) to filter the return against	library	Optional	Default is <b>no filter</b> , if not provided (e.g. any study). Otherwise, provide true or false to specify return of just library or non-library studies	limit	Optional	Pagination API - different limit from the default 1000 can be used	offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd
Name	Req/Opt	Notes																	
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offset	Optional	Pagination API - the offset of the current page, if the response is to cross multiple pages. Example: 1750 records in query, 0 thru 999 (zero based index) in 1st 'page', then 1000 to 1749 in the 2nd																	
Notes	<ul style="list-style-type: none"> <li>• This endpoint retrieves all study masters in the Vault.</li> <li>• The most relevant information is when retrieved from the <b>Development</b> / 'Control Center' vault, as it has visibility into all Dev, UAT, Training, Production, etc. instances. That is, it knows what build number each is at, whether the first deploy to that target vault has happened (or not), and other crucial design / deploy information</li> <li>• When an instance is from a remote vault (not the same as the executing API), the response will only indicate <b>-remote vault-</b> for some parameters that cannot be determined without connecting to that remote Vault.</li> </ul>																		

## Examples

Description / Request (URL)	Response
<a href="#">Get study masters (and instances of each) in a Vault</a>	
<pre>https://{{vaultDNS}}/api/{{version}}/app/cdm/design/study_masters</pre>	<pre>"responseStatus": "SUCCESS", "responseDetails": {   "limit": 1000,   "offset": 0,   "size": 3,   "total": 3 }, "study_masters": [   {     "study_master_name": "ABCP-2023-01",     "organization_name": "ABC Pharma",     "external_id": "",     "library": false,     "study_instances": [       {         "study_id": "OOZ0000009W001",         "study_name": "ABCP-2023-01_DEV1",         "study_label": "ABCP-2023-01_DEV1",         "study_external_id": "ABCP-2023-01",         "created_date": "2023-04-06T18:49:42Z",         "last_deployed_date": null,         "environment_type": "development_v",         "instance_status": "live_v",         "build_number": 15,         "highest_casebook_version": 1,         "sequence": 1,         "vault_id": 114107,         "vault_name": "My Development Vault"       },       {         "study_id": "-remote vault-",         "study_name": "-remote vault-",         "study_label": "ABCP-2023-01_UAT1",         "study_external_id": "-remote vault-",         "created_date": "2023-04-17T18:49:42Z",         "last_deployed_date": "2023-04-20T13:49:42Z",         "environment_type": "test_v",         "instance_status": "live_v",         "build_number": 13,         "highest_casebook_version": 1,         "sequence": 1,         "vault_id": 114108,         "vault_name": "My UAT Vault"       }     ]   } ]</pre>

Description / Request (URL)	Response
	<pre>    ]   },   :   : etc.. more study masters   : ] }</pre>

## 14.5 Create Study Master

Help Main	<a href="https://developer-cdms.veevavault.com/api/23.3/#create-study-master">https://developer-cdms.veevavault.com/api/23.3/#create-study-master</a>  This action can only be performed from a <b>Development</b> / 'Control Center' (where deployments happen from) Vault.															
Style	<b>POST</b>															
Endpoint	<b>&lt;your Vault URL&gt;/api/v23.3/app/cdm/design/actions/create_study</b>															
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Req/Opt</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>study_master_name</td> <td>Required</td> <td>Name of the new study must be unique in the vault.  The action will <b>also</b> create a '&lt;name&gt;_DEV1' study instance, but no other (UAT, Prod) instances. Additional instances must be created via the Tools -&gt; EDC Tools UI</td> </tr> <tr> <td>organization_name</td> <td>Required</td> <td>The name of the organization to apply the new study to</td> </tr> <tr> <td>external_id</td> <td>Optional</td> <td>This value will default to the study_master_name, when not provided</td> </tr> <tr> <td>library</td> <td>Optional</td> <td>Default is <b>false</b>, if not provided. Whether this new study should be classified as a library study (or not)</td> </tr> </tbody> </table>	Name	Req/Opt	Notes	study_master_name	Required	Name of the new study must be unique in the vault.  The action will <b>also</b> create a '<name>_DEV1' study instance, but no other (UAT, Prod) instances. Additional instances must be created via the Tools -> EDC Tools UI	organization_name	Required	The name of the organization to apply the new study to	external_id	Optional	This value will default to the study_master_name, when not provided	library	Optional	Default is <b>false</b> , if not provided. Whether this new study should be classified as a library study (or not)
Name	Req/Opt	Notes														
study_master_name	Required	Name of the new study must be unique in the vault.  The action will <b>also</b> create a '<name>_DEV1' study instance, but no other (UAT, Prod) instances. Additional instances must be created via the Tools -> EDC Tools UI														
organization_name	Required	The name of the organization to apply the new study to														
external_id	Optional	This value will default to the study_master_name, when not provided														
library	Optional	Default is <b>false</b> , if not provided. Whether this new study should be classified as a library study (or not)														
Notes	<ul style="list-style-type: none"> <li>The action is for creating a new study master. A study master encompasses all 'instances' of the study (DEV1, UAT1, UAT2, prod instance, etc).</li> <li>The final result of this endpoint is <b>only</b> the creation of a DEV1 study, as a member of the overall study master.. UAT and/or production instances must be configured / created via the Tools -&gt; EDC Tools UI</li> <li>The action cannot be performed in any Vault other than the <b>Development</b> / 'Control Center' Vault. These are the vaults that <b>all</b> deployments (Dev to UAT, UAT to Prod) are initiated from.</li> </ul>															

### Examples

Description / Request (URL)	Response
<a href="#">Add of new study</a>	
<pre>{   "study_master_name": "ABCP-2023-01",   "organization_name": "ABC Pharma" }</pre>	<pre>{   "responseStatus": "SUCCESS",   "study_master_name": "ABCP-2023-01",   "organization_name": "ABC Pharma",   "external_id": "",   "library": false,   "study_instances": [     {       "study_id": "OOZ0000009W001",     }   ] }</pre>



Description / Request (URL)	Response
	<pre> "study_name": "ABCP-2023-01_DEV1", "study_label": "ABCP-2023-01_DEV1", "instance_created_date": "2023-04-06T18:49:42Z", "last_deployed_date": null, "environment_type": "development_v", "instance_status": "live_v", "build_number": 1, "highest_casebook_version": 1, "sequence": 1, "vault_id": 114107, "vault_name": "My Development Vault" } ] } </pre>
<b>Add study with external ID</b>	
<pre> {   "study_master_name": "ABCP-2023-01",   "organization_name": "ABC Pharma",   "external_id": "ABCP-2023-01", } </pre>	<pre> {   {     "responseStatus": "SUCCESS",     "study_master_name": "ABCP-2023-01",     "organization_name": "ABC Pharma",     "external_id": "ABCP-2023-01",     "library": false,     "study_instances": [       {         "study_id": "OOZ0000009W001",         "study_name": "ABCP-2023-01_DEV1",         "study_label": "ABCP-2023-01_DEV1",         "instance_created_date": "2023-04-06T18:49:42Z",         "last_deployed_date": null,         "environment_type": "development_v",         "instance_status": "live_v",         "build_number": 1,         "highest_casebook_version": 1,         "sequence": 1,         "vault_id": 114107,         "vault_name": "My Development Vault"       }     ]   } } </pre>

## 15 Best Practices / Tips

Area	Best Practice
<b>Error Detection</b>	<p>Watch the ‘inner’ vs. ‘outer’ success/fail statuses in API response. The Vault API is designed such that most API endpoints all multiple actions of that type in the same call. As such, the status of each entry in the request is embedded at the inner level. The outer <b>responseStatus</b> is largely an indication that ‘yes, you reached the server, and it performed an action’. The example below is the attempt to add two event groups, where one succeeds, one fails. Note the inner <b>responseStatus</b> for each, with overall outer <b>responseStatus</b></p> <pre data-bbox="386 646 1266 1402"> {   "responseStatus": "SUCCESS",   "eventgroups": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egIRT_INFO",       "eventgroup_sequence": 1     },     {       "responseStatus": "FAILURE",       "errorMessage": "[Subject] with name [101-021] not found",       "study_country": "United States",       "site": "101",       "subject": "101-021",       "eventgroup_name": "egIRT_INFO"     }   ] } </pre>
<b>Error Detection</b>	<p>If creating an integration into Vault CDMS, what is your error detection overall strategy?</p> <ul data-bbox="435 1518 1511 1724" style="list-style-type: none"> <li>● Do you examine each response for success before moving on to a sequential / next call</li> <li>● What sort of alerting / process kicks off when there is an error? How do you avoid things falling through the cracks?</li> <li>● What about the mistake / update scenarios? What happens when your source data changes, mistake or otherwise, how do you push the data in, where an update might have a different course of action from the initial add?</li> </ul>

Area	Best Practice
Study Design	For an inbound integration to Vault CDMS: <ul style="list-style-type: none"> <li>● If possible, <b>avoid</b> form designs that involve <b>both</b> user entered data and integrated data.</li> <li>● If the data is semi-consistent from the upstream system from Vault CDMS, consider a template of forms, 100% read only that can be reused study to study.</li> </ul>
Study Design	A repeating visit in Vault CDMS increments the <b>eventgroup_sequence</b> values (1, 2, .. etc). Although there is an event_sequence property, current system design yields that as a <b>1</b> , always. The event group level is used for both single repeating events (e.g. Unscheduled), or series of events (e.g. Day 1, Day 8, Day 15.. but by Cycle)
API Account	Try to follow a path for the API account with a Vault Security Policy with setting 'No Password Expiration'. In this way, a recurring integration is not at risk of having an expired password upend the push or pull of important information.
API Account	An API user is no different from any other study user. Typically, users must go through / pass a training before their study access is truly enabled. For an API / system user, ensure to check the <b>Ignore LMS Status, Assume Trained</b> attribute on the account (typically). Otherwise the API user won't find the study (or studies) intended. The action is not necessary if the specific Vault is not activated to required LMS training before study access is granted.
Inspecting Data	Strive to inspect the existing forms / events before attempting an action to push data into the study. Does the subject even exist? Does the target area of data (form, event group, etc) exist?
Inspecting Data	If a form is submitted, it must first be opened for edit via the <b>Edit Submitted Form</b> API endpoint, Edit Form (later section), before proceeding with the update of data. Currently there is no parameter to allow for conditional open for edit, during the call to update data on a form, not a parameter to additionally submit the form once data is updated/added.
Create vs Upsert	Various API endpoints started as specific create actions, with later <b>PUT</b> versions performing an upsert of the entity (event group, form, item group, etc). The upsert option is a better option, since specific sequences can be indicated at the various design levels, with the result being either an add (if does not exist) or a skipped action. Update '2nd time in' scenarios benefit from this approach as the same sequence of API calls can typically be used.
Sequences	The various design levels of a study - event group, form, item group - can repeat, or not repeat. When the do not repeat the Create / Upsert endpoints do not require the specific indication of, say: : "eventgroup._sequence": 1 : in the request body. That said, consider always including these regardless, as it makes for a more consistent request/response match

Area	Best Practice																																
<b>Locked / Frozen</b>	<p>Various levels of locked and frozen statuses in turn affect ability to push data into Vault CDMS:</p> <table border="1" data-bbox="386 342 1526 751"> <thead> <tr> <th>Area</th> <th>Status</th> <th>Add/Update Data</th> <th>Add/Update Queries</th> </tr> </thead> <tbody> <tr> <td>Study</td> <td>Locked</td> <td>Disallowed</td> <td>Disallowed</td> </tr> <tr> <td>Site</td> <td>Locked</td> <td>Disallowed</td> <td>Disallowed</td> </tr> <tr> <td>Subject</td> <td>Locked</td> <td>Disallowed</td> <td>Disallowed</td> </tr> <tr> <td>Event</td> <td>Locked</td> <td>Disallowed</td> <td>Disallowed</td> </tr> <tr> <td>Event</td> <td>Frozen</td> <td>Disallowed (event date changes)</td> <td>Allowed (on event date)</td> </tr> <tr> <td>Form</td> <td>Locked</td> <td>Disallowed</td> <td>Disallowed</td> </tr> <tr> <td>Form</td> <td>Frozen</td> <td>Disallowed</td> <td>Allowed</td> </tr> </tbody> </table> <p>Frozen and Locked are not automatable through the API, by design. These were/are human decisions to stop actions from happening.</p>	Area	Status	Add/Update Data	Add/Update Queries	Study	Locked	Disallowed	Disallowed	Site	Locked	Disallowed	Disallowed	Subject	Locked	Disallowed	Disallowed	Event	Locked	Disallowed	Disallowed	Event	Frozen	Disallowed (event date changes)	Allowed (on event date)	Form	Locked	Disallowed	Disallowed	Form	Frozen	Disallowed	Allowed
Area	Status	Add/Update Data	Add/Update Queries																														
Study	Locked	Disallowed	Disallowed																														
Site	Locked	Disallowed	Disallowed																														
Subject	Locked	Disallowed	Disallowed																														
Event	Locked	Disallowed	Disallowed																														
Event	Frozen	Disallowed (event date changes)	Allowed (on event date)																														
Form	Locked	Disallowed	Disallowed																														
Form	Frozen	Disallowed	Allowed																														
<b>Change Reasons</b>	<p>For the update of a form data, a change reason is only used when there is an update/change to existing values, after there has been at least one submit of the form. Change reasons <b>can</b> be included for the initial set of data, but they are ignored, instead the default ‘changes before submission’ is used. That said, it is easier to send your change reason with all form updates. In this way you don’t have to track necessarily that it’s the 1st or later touch of the form data.</p>																																
<b>Jobs</b>	<p>The Vault CDMS job types that allow start / inspect / retrieve output follow the Vault platform job flow. That is, a job of <b>Completed</b> status might <b>not</b> necessarily not have had any issues. Depending on the job type, more detailed log style information is usually included in the output. Both the Vault job log and the content of the job’s output should be inspected.</p>																																
<b>User Administration</b>	<p>For updating of users with a CDMS vault, ensure the proper usage depending on the need:</p> <ol style="list-style-type: none"> <li>(1) For <b>full</b> deactivation of an account, this will remove the user from all vaults (thus all studies in those vaults) on that domain. Reactivation of an account is later (if needed) a <b>two</b> step process. (update of domain status, then update of vault memberships)</li> <li>(2) For deactivation of an account at the <b>vault</b> level, this will remove the user from any studies they otherwise would have had access to, in that vault</li> <li>(3) For study access deactivation -&gt; use the upload users endpoint, with a line indicating <b>Study Status = Disabled</b>, to remove access to a single study. Specific site / country access does not need to be removed, as later a re-activation in the study might happen, returning the user to the state they were at deactivation in the study.</li> </ol>																																
<b>User Administration</b>	<p>The add/update of users in the vault involves the pass of a <b>CSV</b> of user information in the same way as the Vault CDMS Users UI. The CSV template can change from release to release as new properties are introduced. If some of the new properties are required, this could upend existing built integrations. The API version does <b>NOT</b> refer back and use older CSV templates. Consult the <a href="#">CDMS Help</a> and experiment in pre release vaults on coming releases when writing user administration integrations.</p>																																

