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## 1 Overview

### 1.1 Purpose

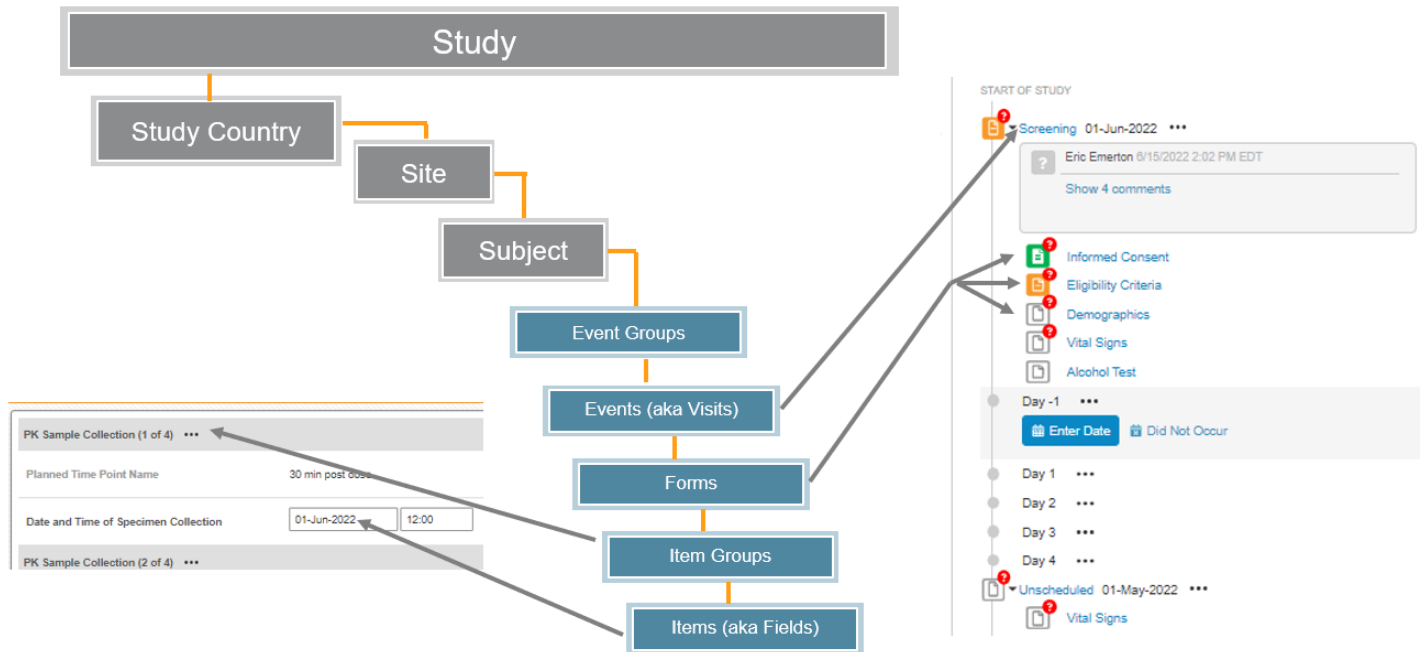
This document serves as an extended guide, supplemental to the API developer website for Veeva Vault CDMS API. Best practices, cause/effect examples are given here, whereas the online help is quicker reference with typically few/one example(s). Refer to the **Best Practices** chapter at the end of this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

### 1.2 Reference URLs

<a href="https://developer-cdms.veevavault.com/api/22.1/">https://developer-cdms.veevavault.com/api/22.1/</a>	As of Veeva Vault release 22.1, this is the main CDMS API reference (subjects, events, forms, etc.)  <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)
<a href="https://developer.veevavault.com/">https://developer.veevavault.com/</a>	General home page for Veeva Vault developers
<a href="https://developer.veevavault.com/docs/#rest-api">https://developer.veevavault.com/docs/#rest-api</a>	Quick start guide for general Veeva Vault API
<a href="https://developer.veevavault.com/api/22.1/">https://developer.veevavault.com/api/22.1/</a>	As of Veeva Vault release 22R1, the main Vault API reference. General Vault concepts used by any vault application (logs, FTP, documents, etc.) are outlined

### 1.3 CDMS Hierarchy

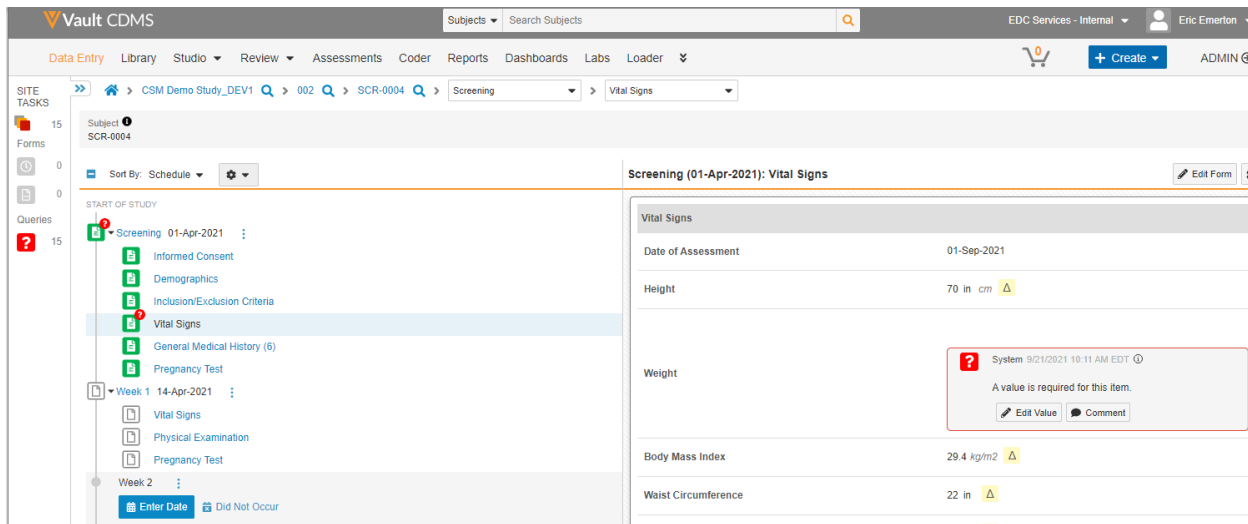
The CDMS data hierarchy / terminology is summarized by:



- 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 Status**, 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	Required
VS	Vital Signs	No	Yes	Yes			VS	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						VSPPOS	VSPPOS	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	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": [

```

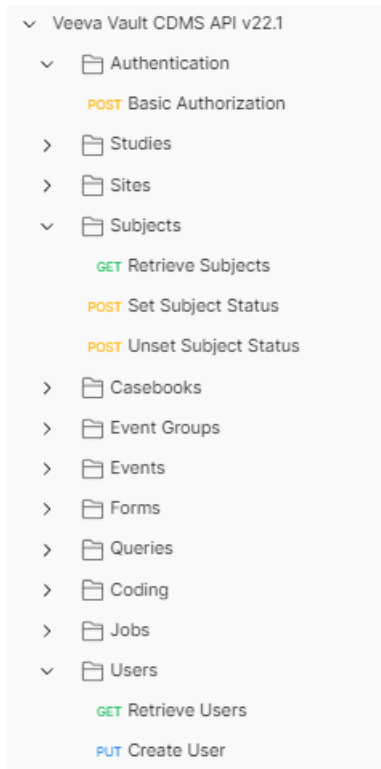
.. with **responseStatus** returning the overall request status. Most Vault APIs have paging, with total, limit, offset, and URLs to the 'next' / 'previous' page of data (of a query/request).

- CDMS API endpoints 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/22.1/#vault-cdms-errors>

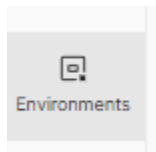


## 1.5 Postman Collection

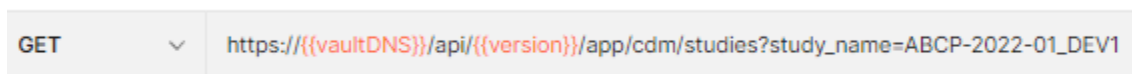
Any REST endpoint tool can be used for experimenting as part of API development. This guide will show examples using Postman. Each API release includes a Postman collection, downloadable from the developer API website. As example, the 22R1 release postman collection:



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



... to change between variables with in the collection, e.g. `{{vaultDNS}}` below (the URL for your vault), `{{version}}` (e.g. **v22.1** 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 found (for each new API release) right at the beginning of the API section:

Veeva Vault
Documentation
References
Release Notes
Support

Q Search

Run in Postman™
Authentication
Domain Information
Vault Query Language (VQL)
Metadata Definition Langu...
Documents
Binders
Vault Objects
Document Roles
Users
SCIM
Groups

# Run in Postman™

Vault provides a Platform Postman™ collection for each GA release of the Veeva Vault REST API. Note that this collection represents the point in time when the API became GA, and will not receive additional updates. For the most up-to-date documentation, developers should reference the REST API reference. Application-specific endpoints are not included in the Postman™ reference. Learn more about the [Vault Postman™ Collection](#).

▶ Run in Postman

## Authentication

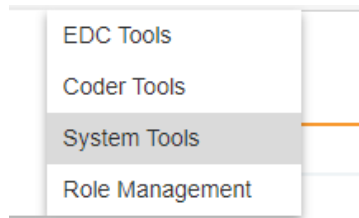
The **Run in Postman** button will lead you through getting the collection for use.

## 1.6 Rate Limits / Caveats

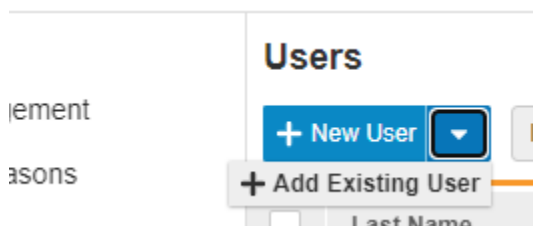
- **WARNING:** There are API limits vault wide, as well as by user, to protect the vault. These are general vault platform specific, not necessarily applicable because of Vault CDMS. Earlier releases (< 21R1 ) have hard limits for each 5-minute window, plus a 24-hour daily limit for all users of the 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/22.1/#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 API Read Only	CDMS API 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	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:



log Vault > Groups Configuration Operations Deployment Connections Settings

3 Permission Sets > API Access

Details Admin <b>Application</b> Objects Tabs Pages EDC									
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

1 Users

ty Profiles

sion Sets

tion 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
END Tools Tab Access	CDMS Permission Set for END 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/22.1/#authentication">https://developer-cdms.veevavault.com/api/22.1/#authentication</a>
Style	<b>POST</b>
Endpoint	<your Vault URL>/api/v22.1/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/22.1/#oauth-2-0-openid-connect">https://developer.veevavault.com/api/22.1/#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
<p><b>Successful Login</b></p> <p>.../api/v22.1/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>
<p><b>Bad User and/or password</b></p> <p>.../api/v22.1/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>
<p><b>Session timed out</b></p>	<pre>{   "responseStatus": "FAILURE",   "errors": [     {       "type": "INVALID_SESSION_ID",       "message": "Invalid or expired session ID."     }   ] }</pre>

Description / Request	Response
	<pre>         }       ]     } </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/22.1/#retrieve-studies">https://developer-cdms.veevavault.com/api/22.1/#retrieve-studies</a>
Style	GET
Endpoint	<your Vault URL>/api/v22.1/app/cdm/studies
Parameters	(none)
Notes	<ul style="list-style-type: none"> <li>• Use to retrieve the list of studies in the vault</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> </ul>

### Examples

Description / Request (URL)	Response
<p><b>Get All Studies</b></p> <p>.../api/v22.1/app/cdm/studies</p> <p>(no parameters on the URL)</p>	<pre>{   "responseStatus": "SUCCESS",   "studies": [     {       "study_name": "Labrinone",       "external_id": "Labrinone",       "study_phase": "Phase III",       "study_status": "Execution"     },     {       "study_name": "ABCP-2022-01_DEV1_DEV1",       "external_id": "ABCP-2022-01",       "study_phase": "Phase II",       "study_status": "Locked"     }   ] }</pre>

**IMPORTANT:** The **study\_name** value is what is used for all other requests into / out of CDMS. This value, though, can be out of sync with the visual study label in the system (rare). For example, in a UAT vault the 6<sup>th</sup> UAT might be **StudyName\_UAT6** for **study\_name**, but visually on screen **StudyName\_ForLive**.

## 4 Countries

### 4.1 Retrieve Countries

Help Main	<b>WARNING: No CDMS formal endpoint for this yet, instead using base Vault VQL concept. CDMS data structures are study countries, study sites, subjects...etc. Master vault countries are the basis for study countries (i.e. activated for use in a study), and as such, the main countries level is merely informational.</b>
Style	GET
Endpoint	<your Vault URL>/api/v22.1/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>Information only, do not necessarily actively use. The CDMS concept of 'Study Country' is a country (from the master list in the vault), and this VQL gets that master 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>Use to get the master country list in the vault</li> <li>The 3-character and 2-character ISO codes are returned</li> </ul>

### Examples

Description / Request (URL)	Response
<b>Get All Countries</b>  .../api/v22.1/query?q=SELECT id,abbreviation__v,abbreviation_2__v ,name__v from country__v order by name__v	<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",</pre>

Description / Request (URL)	Response
	<pre>       "abbreviation_2__v": "AL",       "name__v": "Albania"     },     {       "id": "OOV000000000403",       "abbreviation__v": "DZA",       "abbreviation_2__v": "DZ",       "name__v": "Algeria"     },     {       "id": "OOV000000000404",       "abbreviation__v": "ARG",       "abbreviation_2__v": "AR",       "name__v": "Argentina"     }   ] }</pre>



## 4.2 Retrieve Study Countries

Help Main	<b>WARNING: No CDMS formal endpoint for this yet, instead using base Vault VQL concept. This approach is only temporary, and should be treated as such (replace with the formal endpoint when released, scheduled for 22R2)</b>
Style	<b>GET</b>
Endpoint	<code>&lt;your Vault URL&gt;/api/v22.1/query?q=SELECT id,study__vr.name__v,country_abbreviation__v,country_abbreviation_2__v,name__v from study_country__v where study__vr.name__v='&lt;your study name here!&gt;' order by name__v</code>
Parameters	<ul style="list-style-type: none"> <li>q (the query, as shown above)</li> </ul>
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 and 2-character ISO codes are returned</li> <li>It is not necessary to run this in most sessions as the get of sites / subjects will include countries</li> </ul>

## Examples

Description / Request (URL)	Response
<b>Get All Study Countries</b>  <code>.../api/v22.1/query?q=SELECT id,study__vr.name__v,country_abbreviation__v,country_abbreviation_2__v,name__v from study_country__v where study__vr.name__v='ABCP-2022-01_DEV1' order by name__v</code>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "pagesize": 1000,     "pageoffset": 0,     "size": 3,     "total": 3   },   "data": [     {       "id": "OP000000000I006",       "study__vr.name__v": "ABCP-2022-01_DEV1",       "country_abbreviation__v": "AUT",       "country_abbreviation_2__v": "AT",       "name__v": "Austria"     },     {       "id": "OP000000000I007",       "study__vr.name__v": "ABCP-2022-01_DEV1",       "country_abbreviation__v": "CAN",       "country_abbreviation_2__v": "CA",       "name__v": "Canada"     }   ] }</pre>

Description / Request (URL)	Response
	<pre>{   "id": "OP000000000I003",   "study_vr.name_v": "ABCP-2022-01_DEV1",   "country_abbreviation_v": "USA",   "country_abbreviation_2_v": "US",   "name_v": "United States" }</pre>

## 5 Sites

### 5.1 Retrieve Sites

Reference	<a href="https://developer-cdms.veevavault.com/api/22.1/#retrieve-sites">https://developer-cdms.veevavault.com/api/22.1/#retrieve-sites</a>									
Style	GET									
URL	<your Vault URL>/api/v22.1/app/cdm/sites?study_name=X&study_country=Y									
Parameters (URL)	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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></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
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								
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
<p><b>Get All Sites of a Study</b></p> <p>.../api/v22.1/app/cdm/sites?study_name=ABC P-2022-01_DEV1</p>	<pre>{   "responseStatus": "SUCCESS",   "sites": [     {       "site": "101",       "site_name": "Cary Hospital",       "site_status": "active_v",       "site_closeout_status": "",       "study_country": "United States",       "principal_investigator": "Linda Johnson",       "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", </pre>

Description / Request (URL)	Response
	<pre>         "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><b>Get All Sites of a Country</b></p> <p>.../api/v22.1/app/cdm/sites?study_name=ABC P-2022-01_DEV1&amp;study_country=Canada</p>	<pre> {   "responseStatus": "SUCCESS",   "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 (America/New_York) "     }   ] } </pre>

## 6 Subjects / Casebooks

### 6.1 Retrieve Subjects

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#retrieve-subjects">https://developer-cdms.veevavault.com/api/22.1/#retrieve-subjects</a>																	
Style	GET																	
Endpoint	<your Vault URL>/api/v22.1/app/cdm/subjects																	
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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>last_modified_date</td><td>Optional</td><td>Filter to subject's modified since a certain date. Format: yyyy-MM-ddTHH:mm:ssZ</td></tr></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	last_modified_date	Optional	Filter to subject's modified since a certain date. Format: yyyy-MM-ddTHH:mm:ssZ
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																
last_modified_date	Optional	Filter to subject's modified since a certain date. Format: yyyy-MM-ddTHH:mm:ssZ																
Notes	<ul style="list-style-type: none"><li>● Use to get the subjects of a study</li><li>● If filtering by a site, one must also provide that site's country. You can only currently filter by one site</li><li>● Coming release allows search by id, and multi site (but not all) search</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 (<b>Set Subject Status</b>, later section). The Help Main link above details the names of those potential return values.</li></ul>																	

## Examples

Description / Request (URL)	Response
<p><a href="#">Get All Subjects of a Study</a></p> <p>.../api/v22.1/app/cdm/subjects?study_name=ABCP-2022-01_DEV1</p>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 12,     "total": 12   },   "subjects": [     {       "id": "OPP00000001P001",       "study_name": "ABCP-2022-01_DEV1",       "site": "101",       "study_country": "United States",       "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"     },     {       "id": "OPP00000001O001",       "study_name": "ABCP-2022-01_DEV1",       "site": "101",       "study_country": "United States",       "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"     },     :     etc..     :   ] }</pre>
<p><a href="#">Get All Subjects of a Country</a></p> <p>.../api/v22.1/app/cdm/subjects?study_name=ABCP-2022-01_DEV1&amp;study_country=Canada</p>	<p>(as above.. but to filter of Canada sites only)</p>

Description / Request (URL)	Response
<p><a href="#">Retrieve Subjects of a Site</a></p> <pre>.../api/v22.1/app/cdm/subjects?study_name=ABCP-2022-01_DEV1&amp;study_country=United States&amp;site=101</pre>	<p>(as above.. but to filter of site 101 only)</p>
<p><a href="#">Retrieve Subjects of a Site, where Milestones Dates Present (all, for examples)</a></p> <pre>.../api/v22.1/app/cdm/subjects?study_name=ABCP-2022-01_DEV1&amp;study_country=United States&amp;site=101</pre>	<pre>: :   },   "subjects": [     {       "id": "OPP00000001H001",       "study_name": "ABCP-2022-01_DEV1",       "site": "101",       "study_country": "United States",       "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"     },     :     :   ],</pre>

## 6.2 Create Subjects (Casebooks)

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#create-subjects">https://developer-cdms.veevavault.com/api/22.1/#create-subjects</a>																							
Style	POST																							
Endpoint	<your Vault URL>/api/v22.1/app/cdm/casebooks																							
Parameters	<table><tr><th>Name</th><th>Array/Section</th><th>Req/Opt</th><th>Notes</th></tr><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></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.
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.																					
Notes	<ul style="list-style-type: none"><li>● Use 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></ul>																							

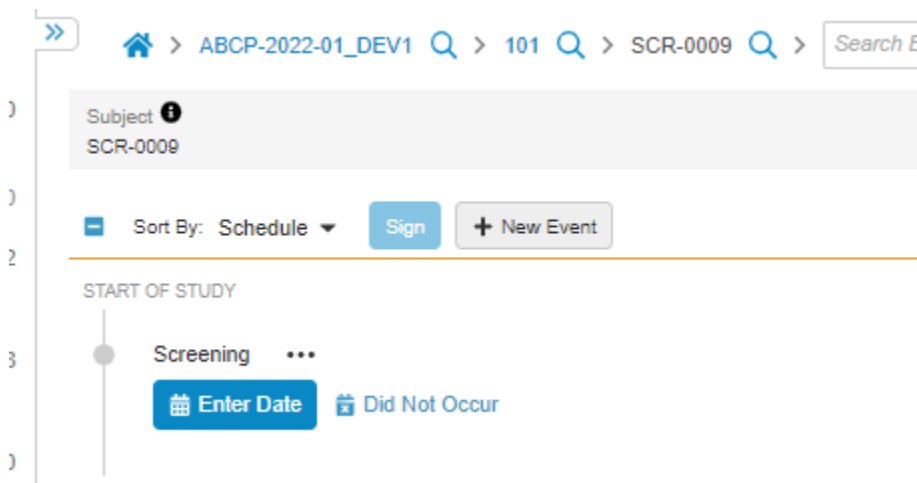


## Examples

Description / Request (URL)	Response
<b>Add Subject - setting a specific subject number</b>	
<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",     }   ] }</pre>
<b>Adding Many Subjects</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "study_country": "United States",       "site": "101",       "subject": "101002"     },     {       "study_country": "United States",       "site": "101",       "subject": "101003"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "subjects": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101002",     },     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101003",     }   ] }</pre>
<b>Add Subject using 'Next' Style Pre Screen Numbering</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "subjects": [     {       "study_country": "United States",       "site": "101"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "subjects": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0008",     }   ] }</pre>

Description / Request (URL)	Response
Add Many Subjects - Some work, some fail	
<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",     },     {       "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)



The screenshot shows the Vault CDMS user interface for a specific subject. At the top, a breadcrumb navigation bar displays the path: Home > ABCP-2022-01\_DEV1 > 101 > SCR-0009. Below this, the subject's name 'SCR-0009' is shown. A 'Sort By: Schedule' dropdown menu is set to 'Schedule', with 'Sign' and '+ New Event' buttons. The main section, titled 'START OF STUDY', features a vertical timeline. A grey dot on the timeline is labeled 'Screening'. Below this dot are two buttons: 'Enter Date' (with a calendar icon) and 'Did Not Occur' (with a calendar icon and a red 'X').

## 6.3 Set Subject Status

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#set-subject-status">https://developer-cdms.veevavault.com/api/22.1/#set-subject-status</a>																															
Style	POST																															
Endpoint	<your Vault URL>/api/v22.1/app/cdm/subjects/actions/setstatus																															
Parameters	<table><tr><th>Name</th><th>Array/Section</th><th>Req/Opt</th><th>Notes</th></tr><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></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)																													
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																													
Notes	<ul style="list-style-type: none"><li>● Use 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: <a href="https://developer-cdms.veevavault.com/api/22.1/#subject-statuses">https://developer-cdms.veevavault.com/api/22.1/#subject-statuses</a> for a full list, although there can be additional statuses in the vault (custom statuses)</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:

<a href="#">+ New Casebook</a> Subject Status: All ▼ Signature completed: All ▼				
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 ? <a href="#">Save View As</a>								
▼ Filters (1) <a href="#">Clear All Filters</a>								
» Study: CSM Demo Study_DEV1 ?								
<a href="#">+ Create</a>								
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

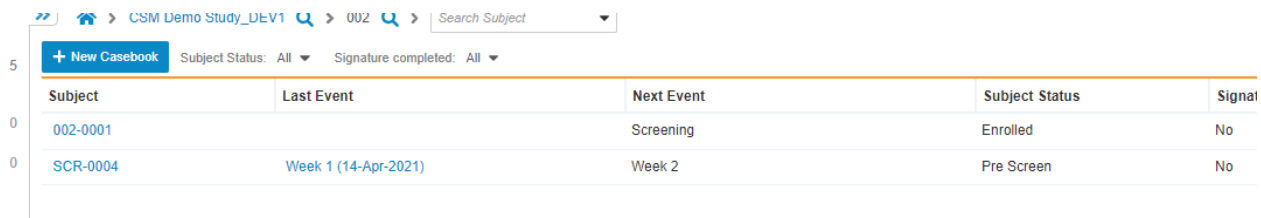
Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#unset-subject-status">https://developer-cdms.veevavault.com/api/22.1/#unset-subject-status</a>																										
Style	<b>POST</b>																										
Endpoint	<your Vault URL>/api/v22.1/app/cdm/subjects/actions/unsetstatus																										
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>• Use to <b>unset</b> the status of a subject</li> <li>• That <b>subject_status</b> value must be the <b>API name</b>, not the label. See: <a href="https://developer-cdms.veevavault.com/api/22.1/#subject-statuses">https://developer-cdms.veevavault.com/api/22.1/#subject-statuses</a> for a full list, although there can 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>

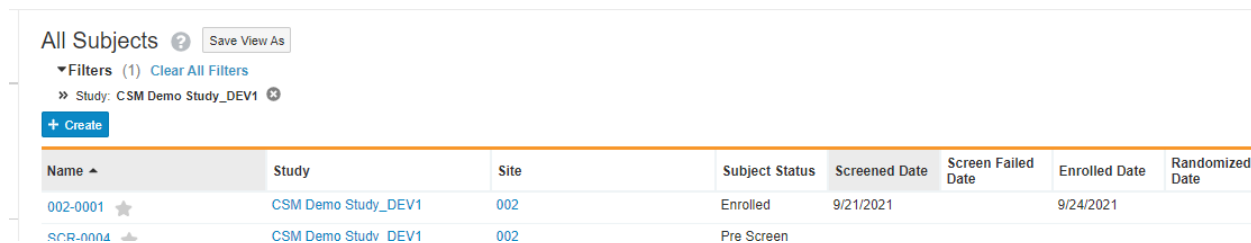
## Flow Based Example

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:



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

## 7 Event Groups

### 7.1 Create Event Groups

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#create-event-groups">https://developer-cdms.veevavault.com/api/22.1/#create-event-groups</a>																															
Style	POST																															
Endpoint	<your Vault URL>/api/v22.1/app/cdm/eventgroups																															
Parameters	<table><tr><th>Name</th><th>Array/Section</th><th>Req/Opt</th><th>Notes</th></tr><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</td></tr></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
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																													
Notes	<ul style="list-style-type: none"><li>● Use to add an Event Group</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>). If other event group types, the date is not set in this API call, instead the Set Event Date (see the <b>Set Event Date</b> section)</li></ul>																															

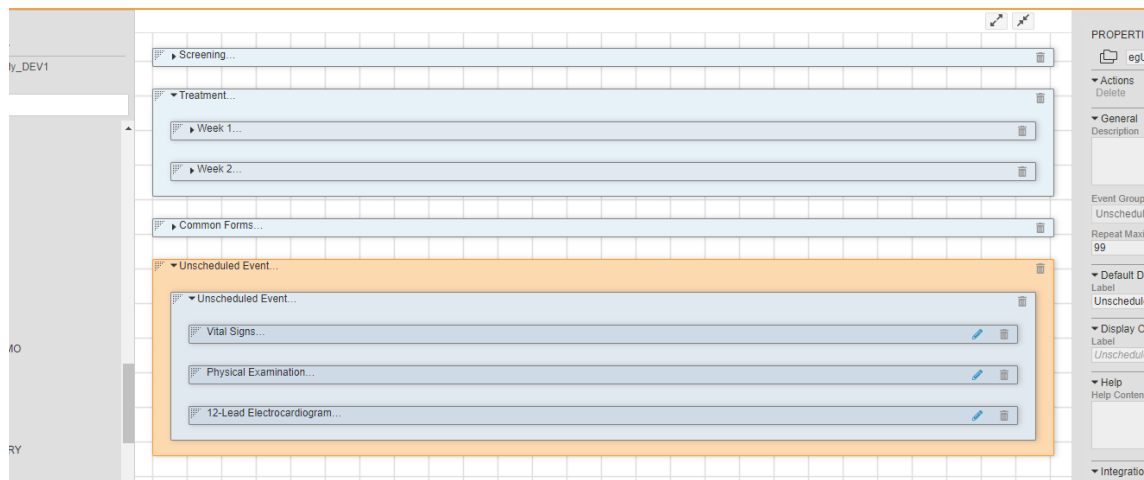
### Examples

Description / Request (URL)	Response
Add New Event Groups (multiple subjects in one call)	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "eventgroups": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001", </pre>	<pre>{   "responseStatus": "SUCCESS",   "eventgroups": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101", </pre>

Description / Request (URL)	Response
<pre>       "eventgroup_name": "egSCREENING"     },     {       "study_country": "United States",       "site": "101",       "subject": "101-002",       "eventgroup_name": "egIRT_INFO"     }   ] }</pre>	<pre>     "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\_UN, in design name):



The event group (highlighted above) is of Type = **Unscheduled** and has name **egUNS**. 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  ]
13 }

```

## Result in EDC:

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

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 }
13

```

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

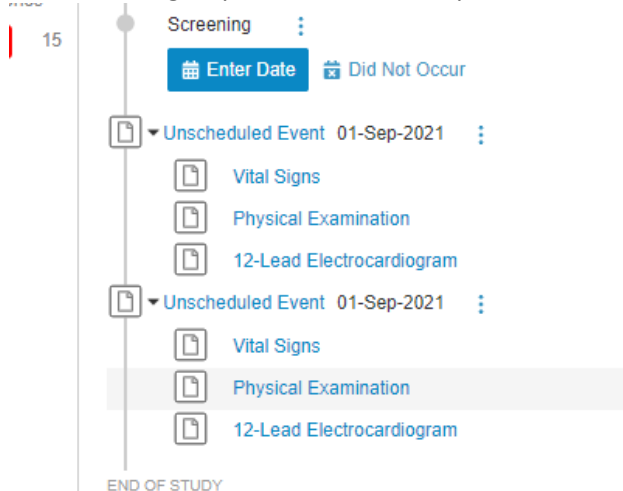
Pretty Raw Preview Visualize **JSON** ▼ ≡

```

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 }
14

```

.. 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):



**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/22.1/#upsert-event-groups">https://developer-cdms.veevavault.com/api/22.1/#upsert-event-groups</a>																																		
Style	<b>PUT</b>																																		
Endpoint	<your Vault URL>/api/v22.1/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</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
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																																
Notes	<ul style="list-style-type: none"> <li>• Use to add (if doesn't exist yet at that specific sequence), or skip if exists</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 the Set Event Date (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> </ul>																																		

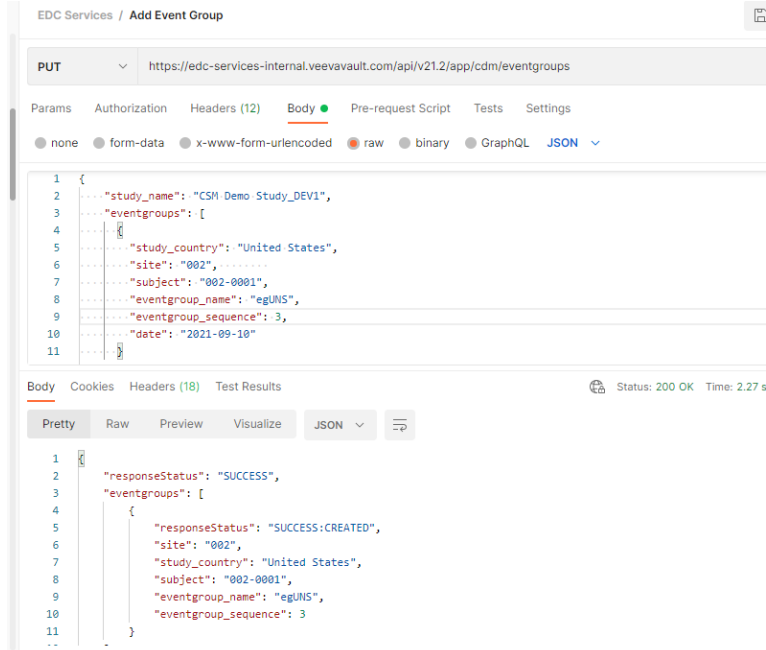
## Examples

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",       "eventgroup_sequence": 1     },     {       "study_country": "United States",</pre>	<pre>{   "responseStatus": "SUCCESS",   "eventgroups": [     {       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egSCREENING",       "eventgroup_sequence": 1     },     {</pre>

Description / Request (URL)	Response
<pre>       "site": "101",       "subject": "101-002",       "eventgroup_name": "egMAIN_VISITS",       "eventgroup_sequence": 1     }   ] }</pre>	<pre>       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",       "subject": "101-002",       "eventgroup_name": "egMAIN_VISITS",       "eventgroup_sequence": 1     }   ] }</pre>
New unscheduled type event group, added	
<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     }   ] }</pre>
Add of two, first exists (skipped), 2nd added	
<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,       "date": "2022-05-01"     }   ] }</pre>	<pre> {   "responseStatus": "SUCCESS",   "eventgroups": [     {       "responseStatus": "SUCCESS:UPDATED",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egUNSCHEDULED",       "eventgroup_sequence": 1     },     {       "responseStatus": "SUCCESS:CREATED",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egUNSCHEDULED",       "eventgroup_sequence": 2     }   ] }</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 a REST client interface for a PUT request to the endpoint `https://edc-services-internal.veevavault.com/api/v21.2/app/cdm/eventgroups`. The request body is a JSON object:

```

{
  "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"
    }
  ]
}

```

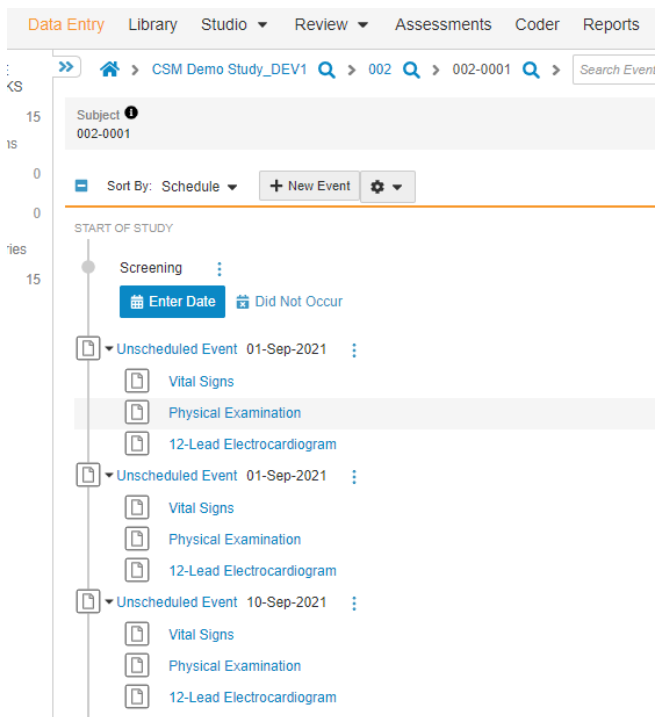
The response status is 200 OK. The response body is a JSON object:

```

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

```

...yields, in EDC:



The screenshot shows the EDC interface for the study "CSM Demo Study\_DEV1" and subject "002-0001". The "START OF STUDY" section shows the "Screening" event with a date of "01-Sep-2021". Below this, there are three "Unscheduled Event" groups, each with a date of "01-Sep-2021" and "10-Sep-2021". Each group contains three events: "Vital Signs", "Physical Examination", and "12-Lead Electrocardiogram".

**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 the **Add Event Group** is always a brand new event group, next sequence.

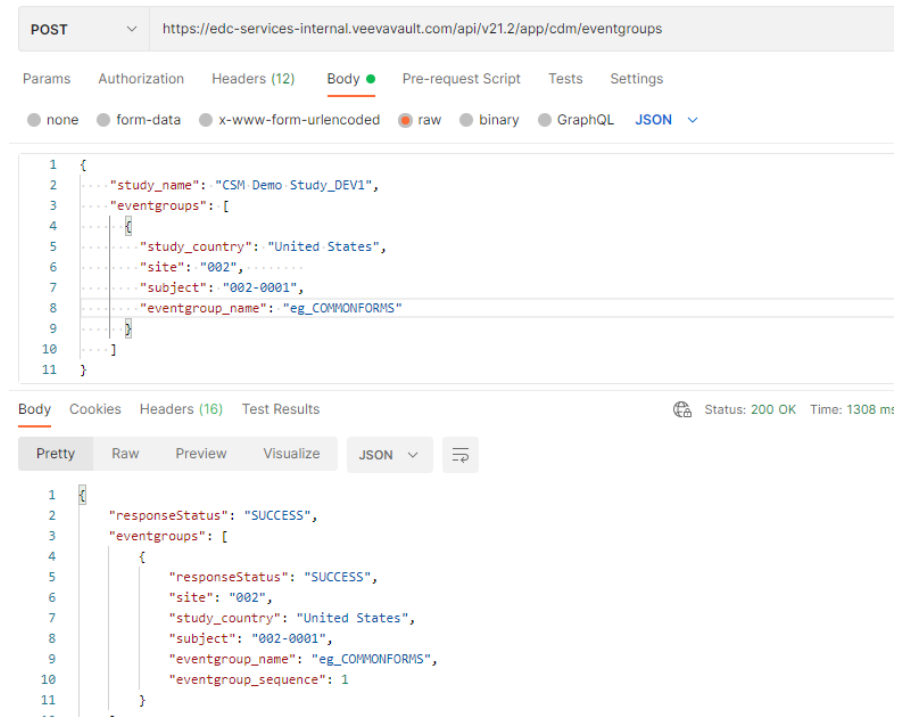
The event date is required for an event group of type = **Unscheduled**, with failed attempt:



```

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
12     }
13   ]
14 }
  
```

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:



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

```

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 }

```

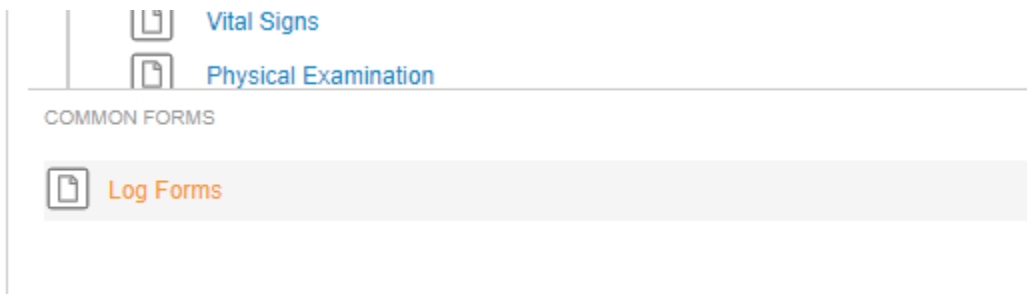
The response status is 200 OK. The response body is a JSON object:

```

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 }

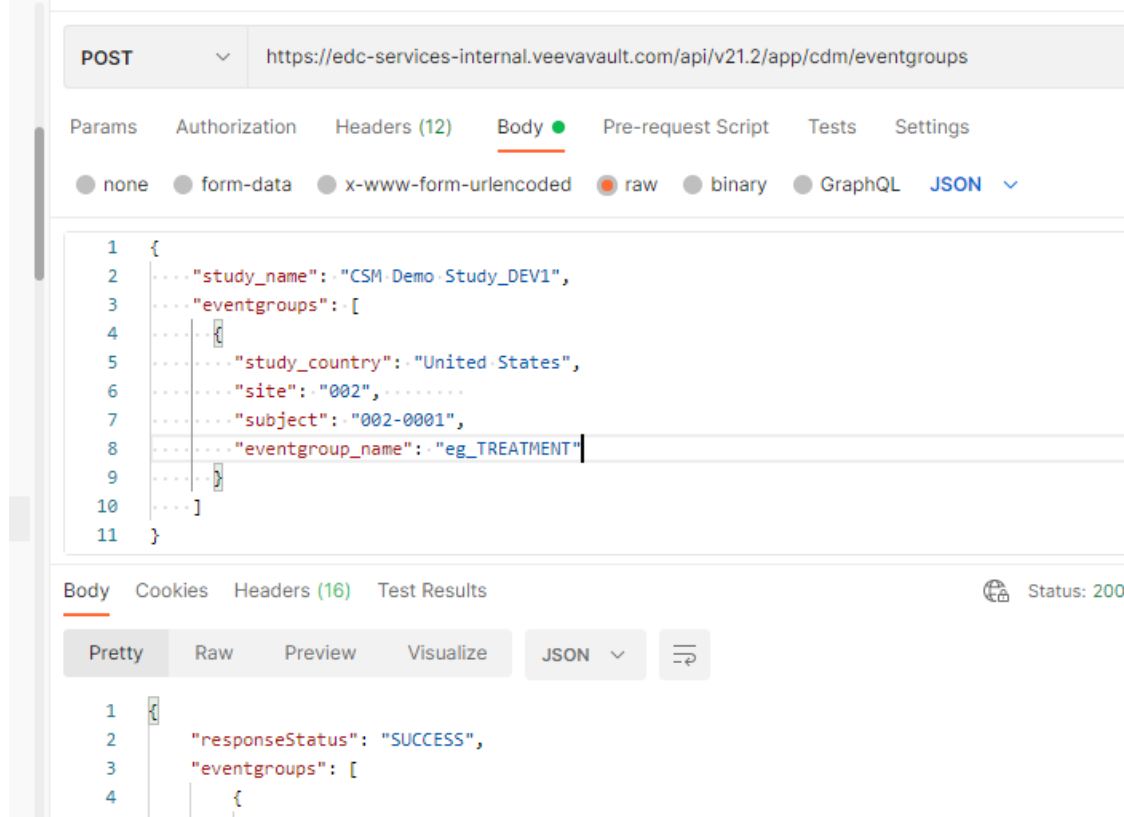
```

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



The screenshot shows the EDC interface with a sidebar on the left containing icons for 'Vital Signs', 'Physical Examination', and 'COMMON FORMS'. The 'COMMON FORMS' section is highlighted, and a 'Log Forms' button is visible below 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:



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

```

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_TREATMENT"
9     }
10  ]
11 }

```

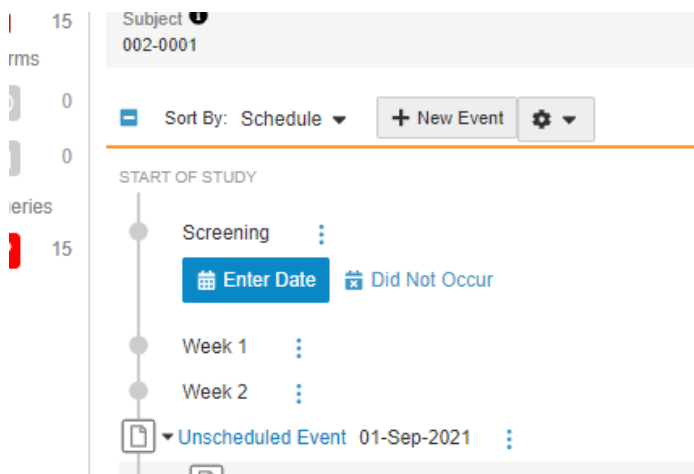
The response status is 200. The response body is a JSON object:

```

1 {
2   "responseStatus": "SUCCESS",
3   "eventgroups": [
4     {
5       "study_name": "CSM-Demo-Study-DEV1",
6       "eventgroups": [
7         {
8           "study_country": "United-States",
9           "site": "002",
10          "subject": "002-0001",
11          "eventgroup_name": "eg_TREATMENT"
12        }
13      ]
14    }
15  ]
16 }

```

**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)



The screenshot shows the Vault CDMS interface for a study. The subject is 002-0001. The event group is 'eg\_TREATMENT'. The date is set to 01-Sep-2021. The interface includes a 'Sort By: Schedule' dropdown, a '+ New Event' button, and a 'START OF STUDY' section with 'Screening', 'Week 1', 'Week 2', and 'Unscheduled Event' entries. The 'Unscheduled Event' entry is highlighted with a date of 01-Sep-2021.

## 8 Events

### 8.1 Retrieve Events / Forms

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#retrieve-events">https://developer-cdms.veevavault.com/api/22.1/#retrieve-events</a>																								
Style	GET																								
Endpoint	<your Vault URL>/api/v22.1/app/cdm/events																								
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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></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
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																							
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>																								

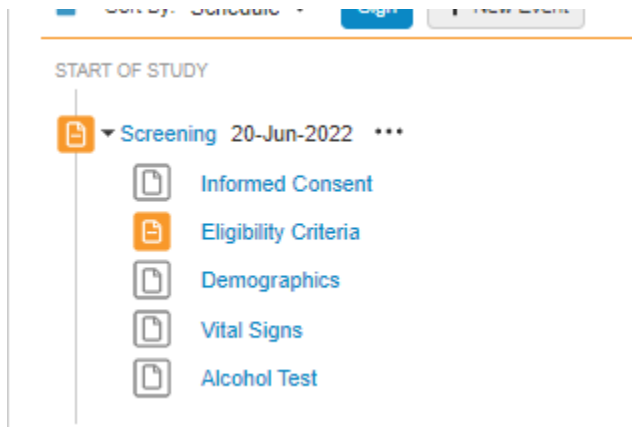
### Examples

Description / Request (URL)	Response
Get of specific event (1)	
<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",   "events": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0001",       "eventgroup_name": "egSCR",       "eventgroup_sequence": 1,       "event_name": "evSCR",       "event_sequence": 1,       "event_date": "2022-06-20",       "forms": [         {           "form_name": "Informed-Consent",</pre>

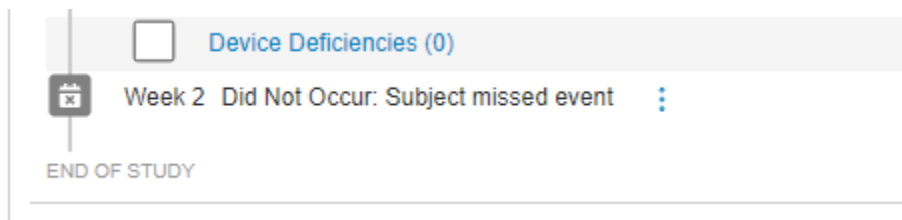
Description / Request (URL)	Response
	<pre>         "form_sequence": 1,         "form_status": "blank__v",         "locked": true,         "frozen": true,         "intentionally_left_blank": false,         "intentionally_left_blank_reason": null       },       {         "form_name": "Eligibility-Criteria",         "form_sequence": 1,         "form_status": "submitted__v",         "locked": false,         "frozen": true,         "intentionally_left_blank": false,         "intentionally_left_blank_reason": null       },       {         "form_name": "Demographics",         "form_sequence": 1,         "form_status": "blank__v",         "locked": false,         "frozen": true,         "intentionally_left_blank": false,         "intentionally_left_blank_reason": null       },       {         "form_name": "Vital-Signs",         "form_sequence": 1,         "form_status": "blank__v",         "locked": false,         "frozen": true,         "intentionally_left_blank": false,         "intentionally_left_blank_reason": null       }     ]   } } </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",   "events": [     {       "study_country": "United States",       "site": "102",       "subject": "SCR-0001", </pre>

Description / Request (URL)	Response
	<pre> "eventgroup_name": "egMAIN", "eventgroup_sequence": 1, "event_name": "evVISIT1", "event_sequence": 1, "locked": false, "frozen": false, "event_date": null, "forms": [] } ] } </pre>

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



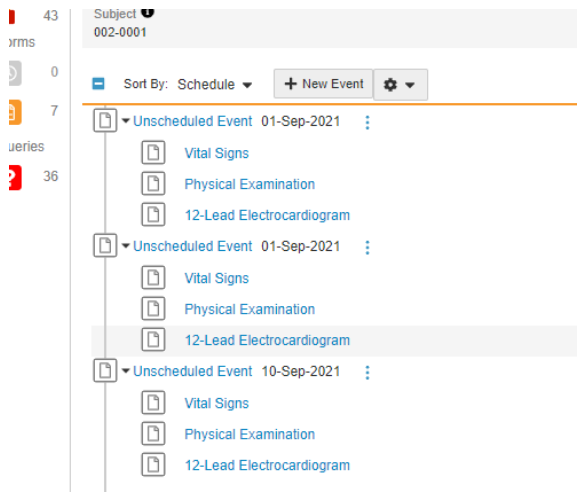
**Example 2** above includes no forms. This can happen when the event status is Planned (no event date yet), or Did Not Occur (specifically marked by site as missed or other reason)



## 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. These 3 events – Unscheduled – repeat:



.. with applicable section in the return, noting **eventgroup\_sequence: 3** : (the 3<sup>rd</sup> of that design, one with Sept 10th, 2021 date)

```
205     },
206     {
207         "study_country": "United States",
208         "site": "002",
209         "subject": "002-0001",
210         "eventgroup_name": "egUNS",
211         "eventgroup_sequence": 3,
212         "event_name": "evUNSC",
213         "event_sequence": 1,
214         "event_date": "2021-09-10",
215         "forms": [
216             {
217                 "form_name": "VS",
218                 "form_sequence": 1,
219                 "form_status": "blank_v",
220                 "locked": false,
221                 "frozen": false,
222                 "intentionally_left_blank": false,
223                 "intentionally_left_blank_reason": null
224             }
225         ]
226     }
227 ]
```



## 8.2 Create Events

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#create-events">https://developer-cdms.veevavault.com/api/22.1/#create-events</a>																																
Style	POST																																
Endpoint	<your Vault URL>/api/v22.1/app/cdm/events																																
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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 to add</td></tr></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 to add
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 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>● Does not set the event date, instead one would use <b>Set Event Date</b> (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
<b>Non-repeating event group where event resides</b>	
<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
Add of event inside a repeating event group, the 2nd sequence	
<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>
Multiple attempted, one fails due to already existed	
<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/22.1/#set-event-date">https://developer-cdms.veevavault.com/api/22.1/#set-event-date</a>																																															
Style	POST																																															
Endpoint	<your Vault URL>/api/v22.1/app/cdm/events/actions/setdate																																															
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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>Depends</td><td>The reason for date change. Only <b>required</b> when the event already has an event date set</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></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	Depends	The reason for date change. Only <b>required</b> when the event already has an event date set	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
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	Depends	The reason for date change. Only <b>required</b> when the event already has an event date set																																													
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																																													
Notes	<ul style="list-style-type: none"><li>● Use 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>● 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

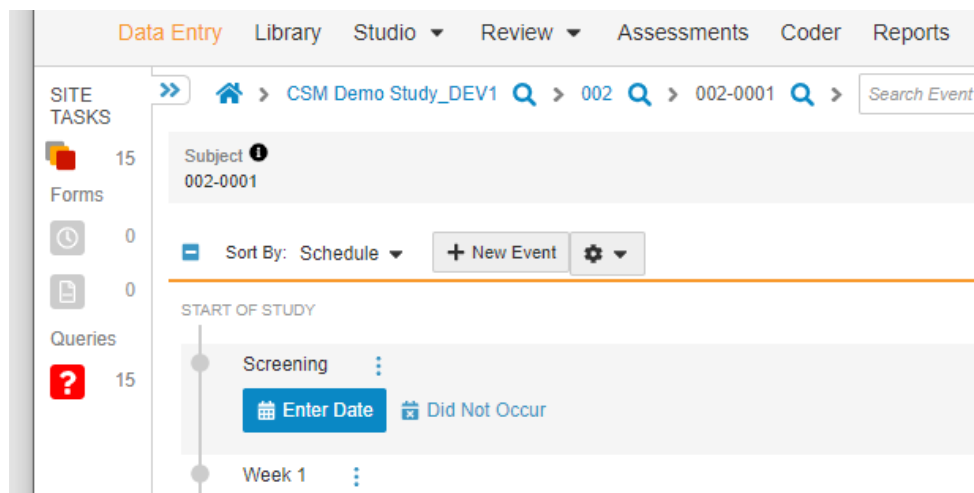
Description / Request (URL)	Response
<b>Non-repeating event group (where event resides)</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",       "event_name": "evV6" ,       "date": "2022-06-01"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "events": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",       "eventgroup_sequence": 1,       "event_name": "evV6",       "event_sequence": 1     }   ] }</pre>
<b>Two attempted, one succeeds, one fails</b>	
<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",       "study_country": "Canada",       "site": "201",       "subject": "201-001",       "eventgroup_name": "egTREATMENT",       "eventgroup_sequence": 1,       "event_name": "evDay1",       "event_sequence": 1,       "date": "2022-06-01"     },     {       "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": "evDay1",       "event_sequence": 1,       "date": "2022-06-05"     }   ] }</pre>

Description / Request (URL)	Response
	<pre> ] } </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",       "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"     }   ] } </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",       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT",       "eventgroup_sequence": 1,       "event_name": "evV6",       "event_sequence": 1     }   ] } </pre>
Change of date (requires reason)	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "United States",       "site": "101",       "subject": "101-001",       "eventgroup_name": "egTREATMENT", </pre>	<pre> {   "responseStatus": "SUCCESS",   "events": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "101-001", </pre>

Description / Request (URL)	Response
<pre> {   "event_name": "evV6" ,   "date": "2022-06-02",   "change_reason": "Change by IRT system" } </pre>	<pre> {   "eventgroup_name": "egTREATMENT",   "eventgroup_sequence": 1,   "event_name": "evV6",   "event_sequence": 1 } </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"
11    }
12  ]
13 }

```

Body Cookies Headers (16) Test Results  Status: 200

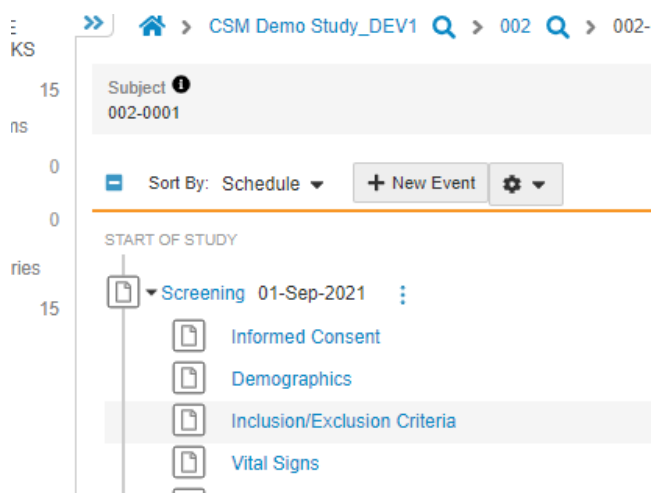
Pretty Raw Preview Visualize JSON 

```

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",

```

...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:

**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      "date": "2021-08-31"
11    }
12  ]
13 }

```

Body Cookies Headers (16) Test Results Status: 200 OK Time: 566 ms

Pretty Raw Preview Visualize **JSON**

```

1 {
2   "responseStatus": "SUCCESS",
3   "events": [
4     {
5       "responseStatus": "FAILURE",
6       "errorMessage": "Change reason is required",
7       "study_country": "United States",
8       "site": "002",
9       "subject": "002-0001",
10      "eventgroup_name": "eg_SCREENING",

```

... **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 S

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  ]

```

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



SITE TASKS

15

Forms

0

Queries

15

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/22.1/#set-event-as-did-not-occur">https://developer-cdms.veevavault.com/api/22.1/#set-event-as-did-not-occur</a>																																				
Style	POST																																				
Endpoint	<your Vault URL>/api/v22.1/app/cdm/events/actions/didnotoccur																																				
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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>Required</td><td>The reason for date change. Only <b>required</b> when the event already has an event date set</td></tr></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	Required	The reason for date change. Only <b>required</b> when the event already has an event date set
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	Required	The reason for date change. Only <b>required</b> when the event already has an event date set																																		
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>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>																																				

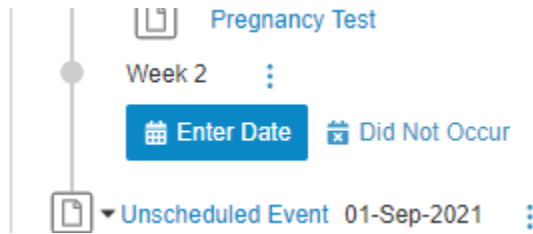
## Examples

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

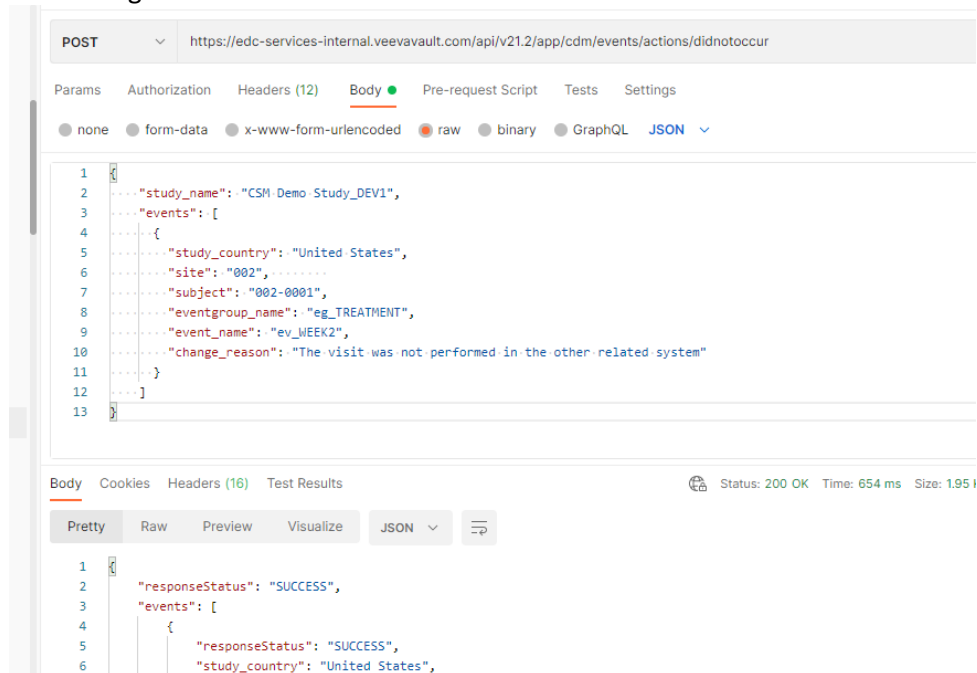
Description / Request (URL)	Response
<pre> ] } </pre>	<pre>     "event_sequence": 1   } ] } </pre>
Multiple, one succeeds, one fails	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "events": [     {       "study_country": "Canada",       "site": "201",       "subject": "201-001",       "eventgroup_name": "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

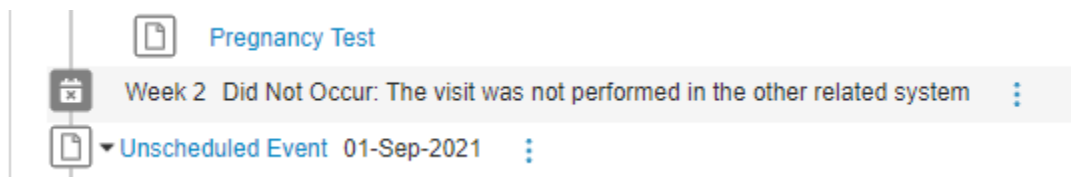
For the EDC visit without a date: (Week 2)



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



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



## 9 Forms

### 9.1 Retrieve Forms / Item Data

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#retrieve-forms">https://developer-cdms.veevavault.com/api/22.1/#retrieve-forms</a>																														
Style	GET																														
Endpoint	<your Vault URL>/api/v22.1/app/cdm/forms																														
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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>Required</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>Required</td><td>Design <b>name</b> in the study of the event to filter to</td></tr><tr><td>form_name</td><td>Optional</td><td>Design <b>name</b> in the study of the form to filter to</td></tr><tr><td>form_sequence</td><td>Optional</td><td>The specific form sequence (if a repeating form) to filter to. (1 is assumed if omitted)</td></tr></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	Required	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	Required	Design <b>name</b> in the study of the event to filter to	form_name	Optional	Design <b>name</b> in the study of the form to filter to	form_sequence	Optional	The specific form sequence (if a repeating form) to filter to. (1 is assumed if omitted)
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																													
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event_name	Required	Design <b>name</b> in the study of the event to filter to																													
form_name	Optional	Design <b>name</b> in the study of the form to filter to																													
form_sequence	Optional	The specific form sequence (if a repeating form) to filter to. (1 is assumed if omitted)																													
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></ul>																														

### Examples

Description / Request (URL)	Response
Return a Demography form	
<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",   "forms": [     {       "study_country": "Canada",       "site": "201",       "subject": "SCR-0001",       "eventgroup_name": "egSCR",</pre>

Description / Request (URL)	Response
	<pre> "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, "intentionally_left_blank": false, "intentionally_left_blank_reason": null, "itemgroups": [   {     "itemgroup_name": "ig-DM",     "itemgroup_sequence": 1,     "itemgroup_external_id": "ig.DM",     "items": [       {         "item_name": "CHILDFSP",         "value": null       },       {         "item_name": "RACE_OTHER",         "value": "true"       },       {         "item_name": "RACE_NHORPI",         "value": "false"       },       {         "item_name": "RACE_AIORAN",         "value": null       },       {         "item_name": "CHILDSP",         "value": "SURGICAL PROCEDURE"       }     ]   } ] </pre>
Return data from a form with one of every type of item	

Description / Request (URL)	Response
<pre>...app/cdm/forms?study_name =ABCP-2022- 01_DEV1&amp;study_country=Canada &amp;site=201&amp;subject=SCR- 0001&amp;eventgroup_name=egUNS&amp;e ventgroup_sequence=1&amp;event_n ame=evUNS&amp;form_name=OE</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 1,     "total": 1   },   "forms": [     {       "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,       "intentionally_left_blank": false,       "intentionally_left_blank_reason": null,       "itemgroups": [         {           "itemgroup_name": "igOE",           "itemgroup_sequence": 1,           "itemgroup_external_id": "igOE",           "items": [             {               "item_name": "URL_FIELD",               "value": "https://google.com"             },             {               "item_name": "LONGTXT",               "value": "Here is some long text with a line return, etc\nand more\nand more\nand so on..  the end"             },             {               "item_name": "DATEONLY_UNKS",               "value": "UN-Jun-2022"             },             {               "item_name": "INTFIELD",               "value": "23"             }           ]         }       ]     }   ] }</pre>

Description / Request (URL)	Response
	<pre> {   "item_name": "DT_WITH_UNKS",   "value": "UN-UNK-2022 UN:UN" }, {   "item_name": "DATEONLY",   "value": "07-Jun-2022" }, {   "item_name": "SHORTTXT",   "value": "Some text here" }, {   "item_name": "DATEANDTIME",   "value": "06-Jun-2022 13:30" }, {   "item_name": "CL",   "value": "Y" }, {   "item_name": "DECIMAL",   "value": "3.2" }, {   "item_name": "FORM_LINK_FIELD",   "value": "OPT000000021003" }, {   "item_name": "UCLFIELD",   "value": "0.45" }, {   "item_name": "CB",   "value": "true" } } ] } ] } ] } </pre>



## 9.2 Create Forms

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#create-forms">https://developer-cdms.veevavault.com/api/22.1/#create-forms</a>																																							
Style	POST																																							
Endpoint	<your Vault URL>/api/v22.1/app/cdm/forms																																							
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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></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
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																																					
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>• 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 <b>Upsert Forms</b>)</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>																																							

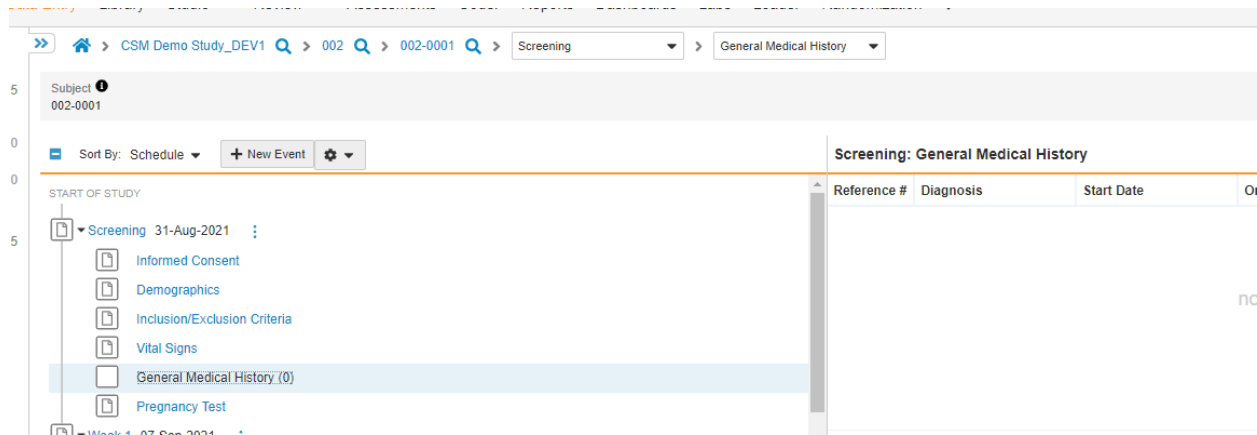
## Examples

Description / Request (URL)	Response
<b>Add of one form</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"     }   ] }</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>
<b>Add of two more forms, N+1 and N+2 are added (when current N exist)</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"     },     {       "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",       "form_sequence": 1     }   ] }</pre>

Description / Request (URL)	Response
	<pre>       "form_sequence": 3     }   ] }</pre>
Attempt to add two, but the last violates the maximum repeats of that design location in the study	
<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>

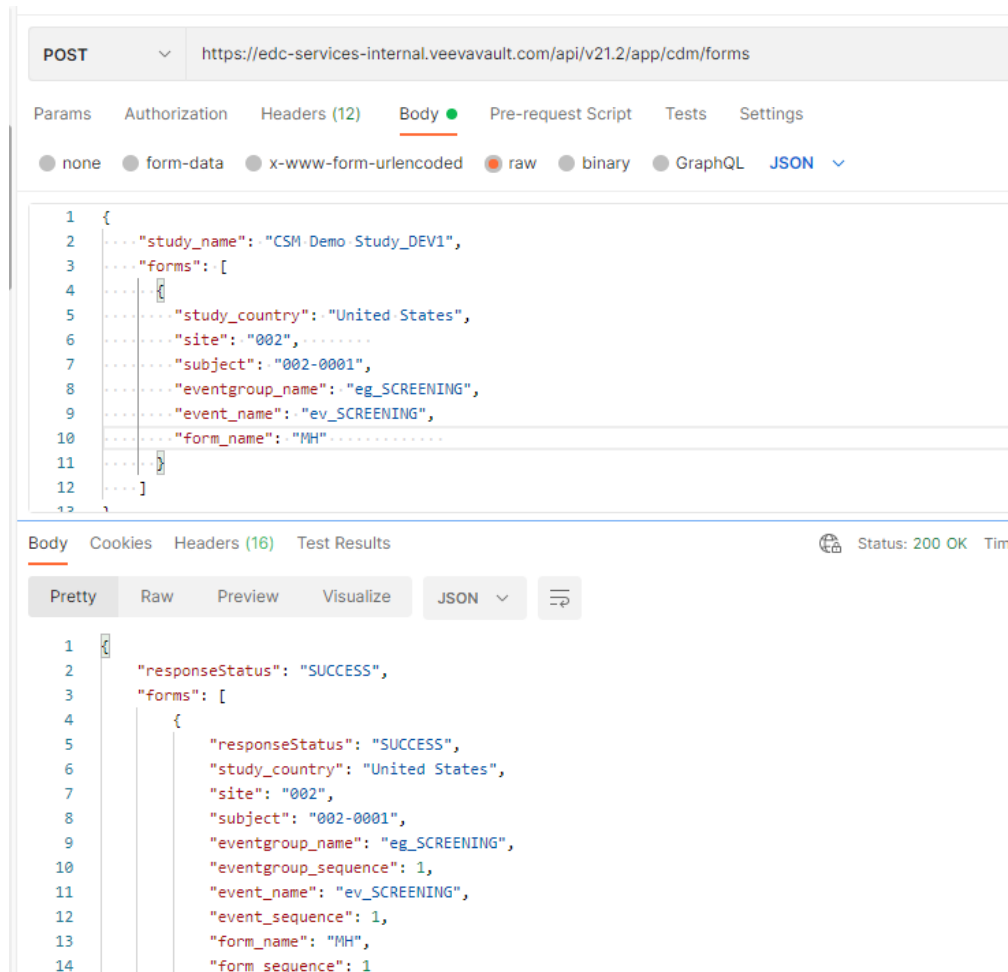
## Flow Based Examples

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



The screenshot shows the EDC interface for a subject (002-0001) in the 'Screening' event group. The 'General Medical History' form is highlighted in the left sidebar. The main area displays a table with columns: Reference #, Diagnosis, Start Date, and On. The table is currently empty, and the status 'nc' is visible on the right.

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:



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

```

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 }

```

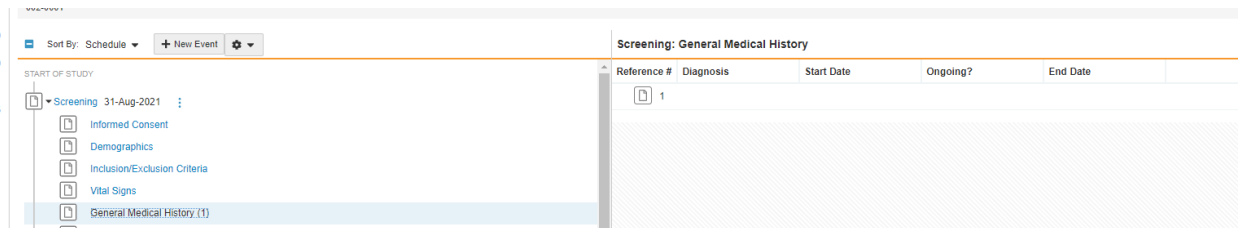
The response status is 200 OK. The response body is a JSON object with the following structure:

```

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
15    }
16  ]
17 }

```

...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 v
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.

### 9.3 Upsert Forms

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#upsert-forms">https://developer-cdms.veevavault.com/api/22.1/#upsert-forms</a>																																								
Style	PUT																																								
Endpoint	<your Vault URL>/api/v22.1/app/cdm/forms																																								
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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></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)																																						
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)																																						
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>• 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
<b>Add of one (doesn't currently exist)</b>	
<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>
<b>Attempt Upsert at location where form exists already (Essentially SKIPPED)</b>	
<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>
<b>Add of many, with the last hitting the maximum repeats of study design at that location</b>	
<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>



## 9.4 Create Item Groups

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#create-item-groups">https://developer-cdms.veevavault.com/api/22.1/#create-item-groups</a>																																												
Style	POST																																												
Endpoint	<your Vault URL>/api/v22.1/app/cdm/itemgroups																																												
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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></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																																										
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																																										
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 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 <b>Upsert Data on a Form</b> (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
Add of one (next)	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "itemgroups": [     {       "study_country": "United States",</pre>	<pre>{   "responseStatus": "SUCCESS",   "itemgroups": [     {       "responseStatus": "SUCCESS",</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> {   "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>

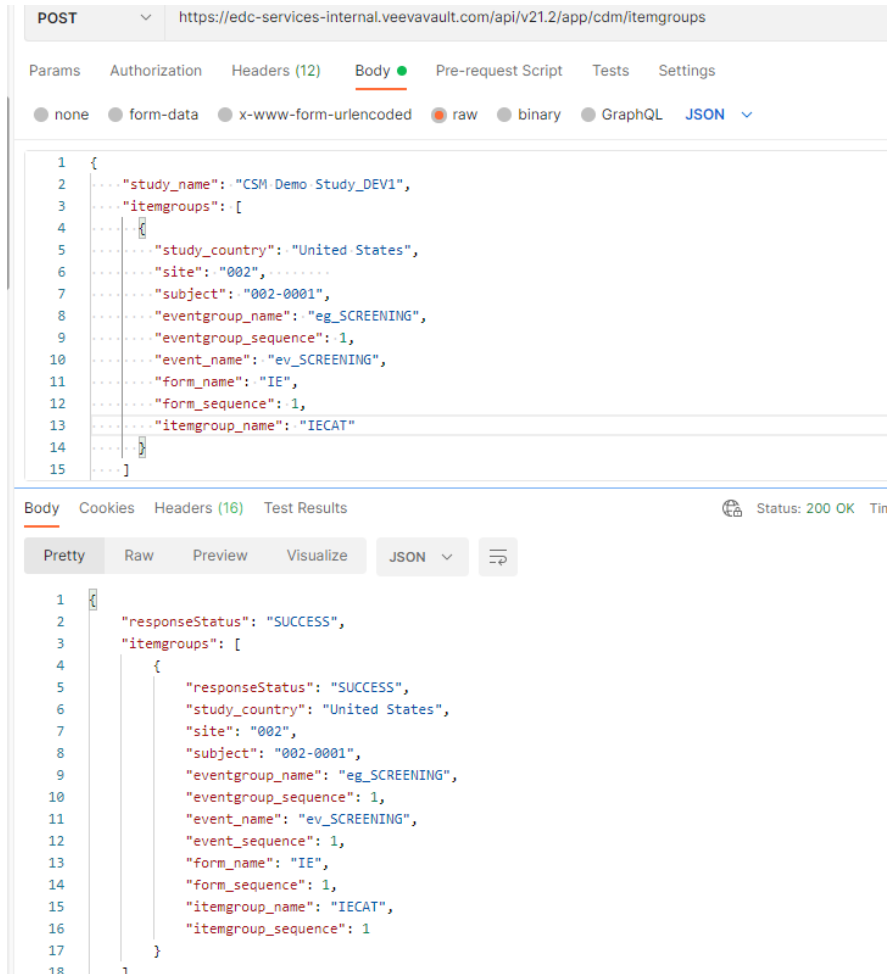
### Add of three, but maximum repeats is 2 at that location

<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",       "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": [     {       "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     },     {       "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": 2     }   ] } </pre>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

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

```

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  ]

```

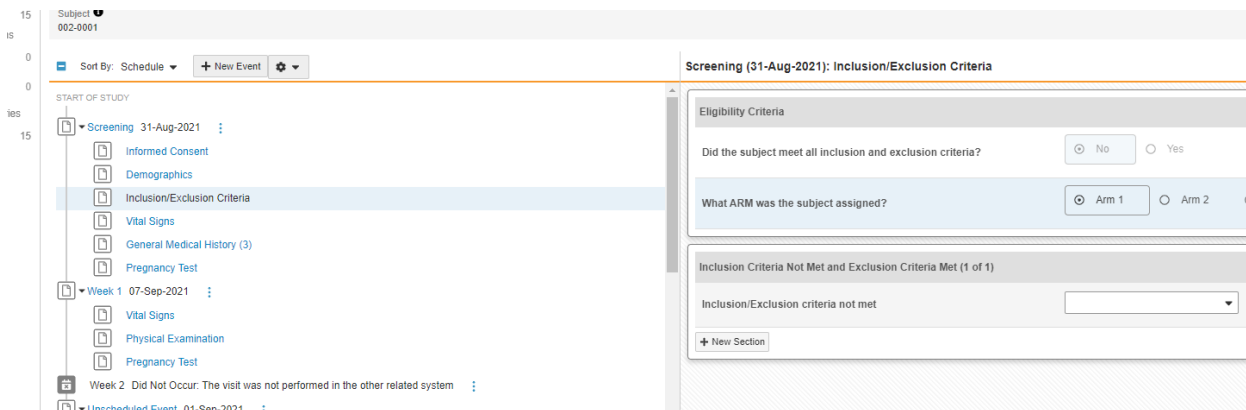
The response status is 200 OK. The response body is a JSON object:

```

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  ]

```

... resulting in the EDC UI view:



The screenshot shows the EDC UI interface. The left sidebar displays a tree view of the study events, with 'Screening (31-Aug-2021)' selected. The main panel shows the 'Screening (31-Aug-2021): Inclusion/Exclusion Criteria' section. It includes a table with columns for 'Eligibility Criteria', 'Did the subject meet all inclusion and exclusion criteria?', and 'What ARM was the subject assigned?'. The table shows that the subject met the criteria and was assigned to Arm 1. Below the table, there is a section for 'Inclusion Criteria Not Met and Exclusion Criteria Met (1 of 1)' with 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

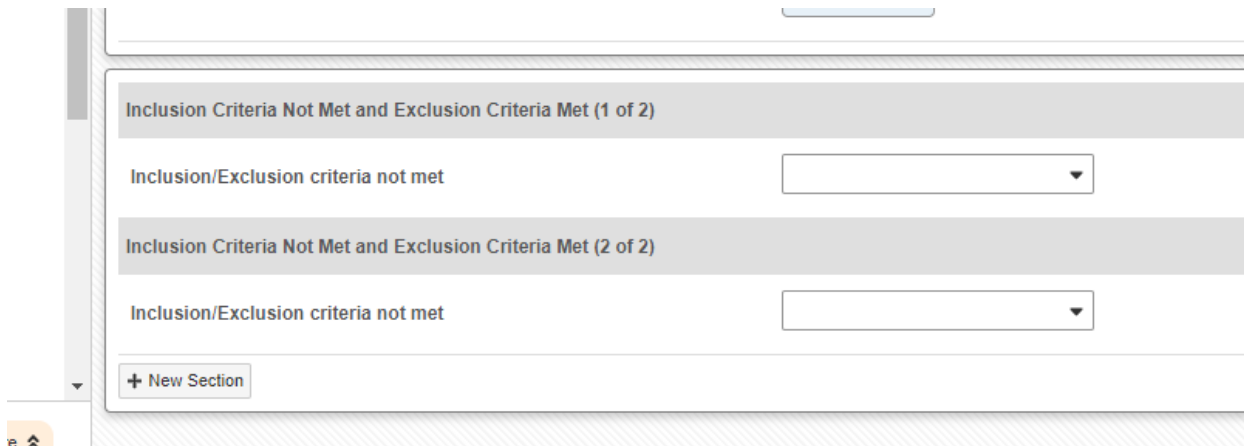
Pretty Raw Preview Visualize JSON

```

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

## 9.5 Upsert Item Groups

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#upsert-item-groups">https://developer-cdms.veevavault.com/api/22.1/#upsert-item-groups</a>																																																			
Style	PUT																																																			
Endpoint	<your Vault URL>/api/v22.1/app/cdm/itemgroups																																																			
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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></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 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 <b>Upsert Data on a Form</b> (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
<b>Two adds, successful</b>	
<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>
<b>Add attempt, but the item group already exists (essentially SKIPPED)</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "itemgroups": [     {       "study_country": "United States",       "site": "101",       "subject": "SCR-0006",       "eventgroup_name": "egSCR",       "event_name": "evSCR", </pre>	<pre>{   "responseStatus": "SUCCESS",   "itemgroups": [     {       "responseStatus": "SUCCESS:UPDATED",       "study_country": "United States",       "site": "101",       "subject": "SCR-0006",       "eventgroup_name": "egSCR", </pre>

Description / Request (URL)	Response
<pre>       "form_name": "IE",       "form_sequence": 1,       "itemgroup_name": "ig-IE2",       "itemgroup_sequence": 1     }   ] }</pre>	<pre>     "eventgroup_sequence": 1,     "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>
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#### Add of a later sequence - the result is add of all 'up to', i.e. gaps filled

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Description / Request (URL)	Response
<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": 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> "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": 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>

## 9.6 Set/Upsert Form Data (Items)

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#set-form-data">https://developer-cdms.veevavault.com/api/22.1/#set-form-data</a> ( <b>POST</b> ) <a href="https://developer-cdms.veevavault.com/api/22.1/#upsert-form-data">https://developer-cdms.veevavault.com/api/22.1/#upsert-form-data</a> ( <b>PUT</b> , to same endpoint)																																																						
Style(s)	<b>POST</b> (runs as add / update) <b>PUT</b> (runs as upsert)																																																						
Endpoint	<your Vault URL>/api/v22.1/app/cdm/items																																																						
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</td></tr> <tr> <td>form_sequence</td><td>forms</td><td>Optional</td><td>The specific sequence of the form. 1 assumed if omitted</td></tr> <tr> <td>itemgroup_name</td><td>forms/items</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>forms/items</td><td>Optional</td><td>The specific item group sequence where the item resides. 1 assumed if omitted</td></tr> <tr> <td>item_name</td><td>forms/items</td><td>Required</td><td>Design <b>name</b> in the study of the item to set with value</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	form_sequence	forms	Optional	The specific sequence of the form. 1 assumed if omitted	itemgroup_name	forms/items	Required	Design <b>name</b> in the study of the item group location	itemgroup_sequence	forms/items	Optional	The specific item group sequence where the item resides. 1 assumed if omitted	item_name	forms/items	Required	Design <b>name</b> in the study of the item to set with value
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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 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> <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> </li> <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> </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)
	"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

Item Type	Example	Notes
	(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",       "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"         },         { </pre>	<pre>{   "responseStatus": "SUCCESS",   "items": [     {       "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": "CB",       "value": "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"     },     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0001",       "eventgroup_name": "egUNS",       "eventgroup_sequence": 3,       "event_name": "evUNS",       "event_sequence": 1, </pre>

Description / Request (URL)	Response
<pre>       "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"     },     {       "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>       "form_name": "OE",       "form_sequence": 1,       "itemgroup_name": "igOE",       "itemgroup_sequence": 1,       "item_name": "DATEONLY",       "value": "2022-06-01"     },     {       "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"     },     {       "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"     },     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0001",       "eventgroup_name": "egUNS",       "eventgroup_sequence": 3,       "event_name": "evUNS",       "event_sequence": 1, </pre>

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

Description / Request (URL)	Response
	<pre> "form_name": "OE", "form_sequence": 1, "itemgroup_name": "igOE", "itemgroup_sequence": 1, "item_name": "UCLFIELD", "value": "2.1", "unit_value": "double_std" }, {   "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" }, {   "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" }, {   "responseStatus": "SUCCESS",   "study_country": "United States",   "site": "101",   "subject": "SCR-0001",   "eventgroup_name": "egUNS",   "eventgroup_sequence": 3,   "event_name": "evUNS", </pre>

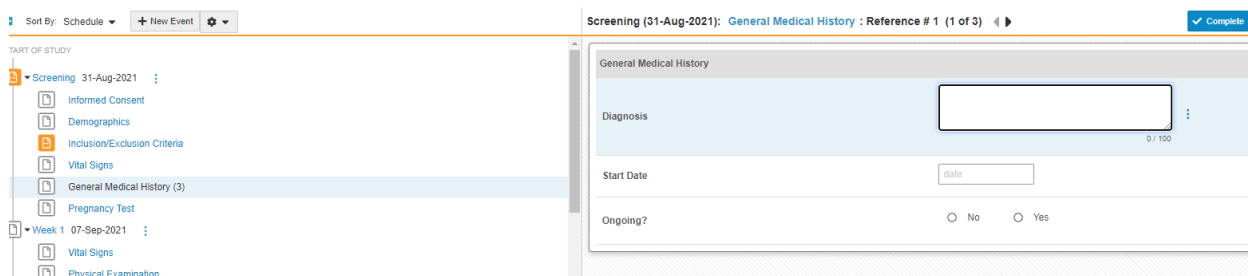


Description / Request (URL)	Response
	<pre>       "event_sequence": 1,       "form_name": "OE",       "form_sequence": 1,       "itemgroup_name": "igOE",       "itemgroup_sequence": 1,       "item_name": "LONGTXT",       "value": "Some text in a long text field \n with a line break in the payload"     }   ] }</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"     }   ] }</pre>
PUT style (upsert)	
<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</p>	<pre> {   "responseStatus": "SUCCESS",   "items": [     {       "responseStatus": "SUCCESS:CREATED",       :       :     }   ] }</pre>

Description / Request (URL)	Response
made.	<p>OR</p> <pre>{   "responseStatus": "SUCCESS",   "items": [     {       "responseStatus": "SUCCESS:UPDATED",       :       :     }   ] }</pre>

## Flow Based Examples

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



... 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": "MHSTAT",
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.

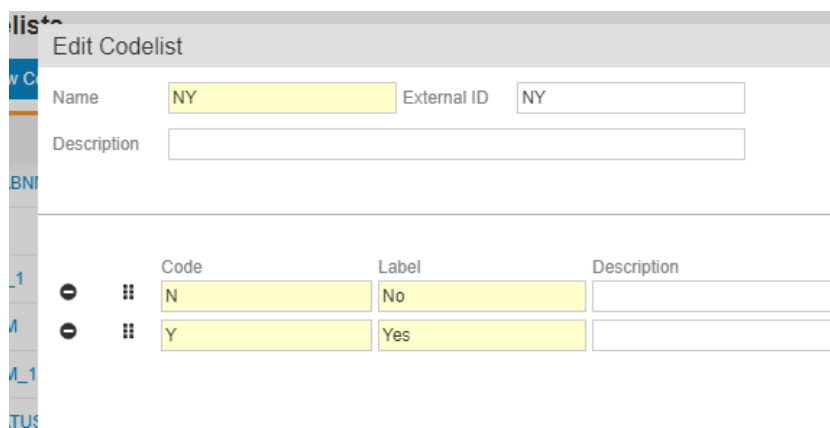
A 2<sup>nd</sup> API submit to the form, to set **Ongoing = No**, uses this additional section of the items JSON array:

```

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

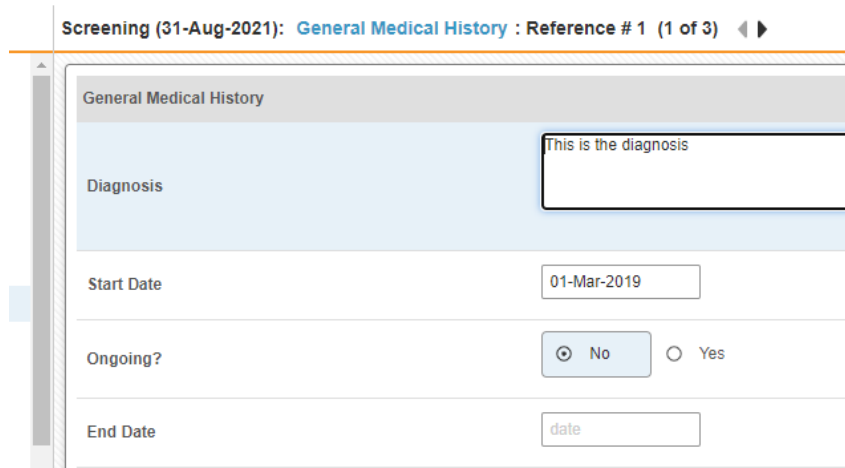
```

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



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     "itemgroup_name": "MH",
23     "itemgroup_sequence": 1,
24     "item_name": "MHENDAT",
25     "value": "2020-01-31"
26   }
27 ]
28 }

```

**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": "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": "Headaches",
19           "change_reason": "This is a custom reason for field value"
20         }
21       ]
22     }
23   ]
24 }

```

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       "itemgroup_sequence": 1
18     }
19   ]
20 }

```

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:

Forms

0

Sort By: Schedule

+ New Event

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

Complete

Item Audit Trail

Timestamp (Mid/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".

Headaches

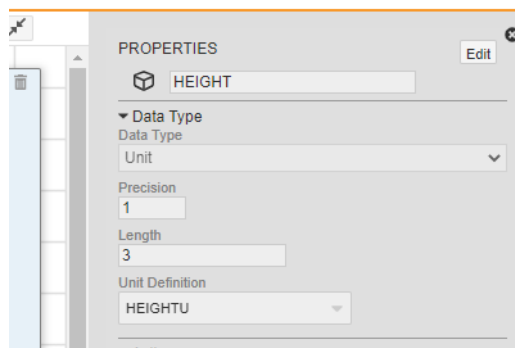
Other (please specify)

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



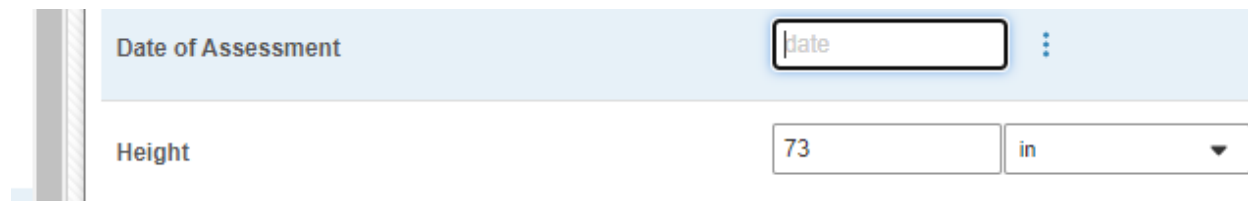
The API body to update the Height field, then, to set 73 Inches is:

```

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:



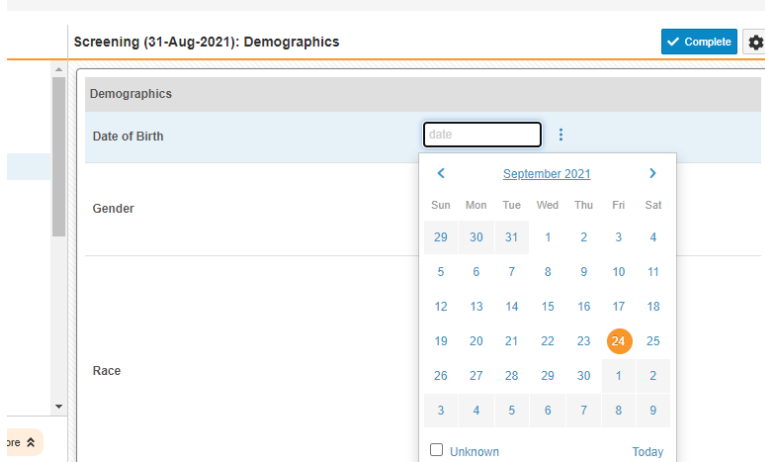
Although the definition of the field is 3 places for the whole number portion, and 1 for decimal, it is not required to enter '73.0' through the API. Attempting 73.12, though, violates the design of this field, and is met with this on attempt:

```

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:



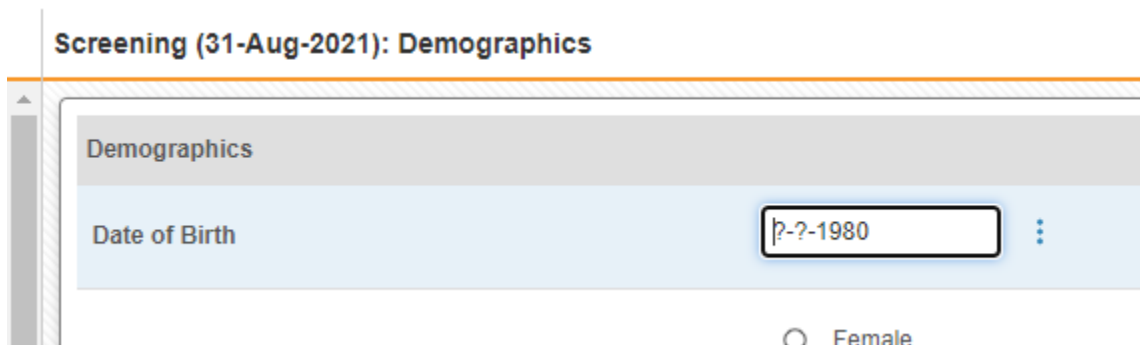
The API body to set an unknown value for both Month and Day: (**UN** is used in each of the portions)

```

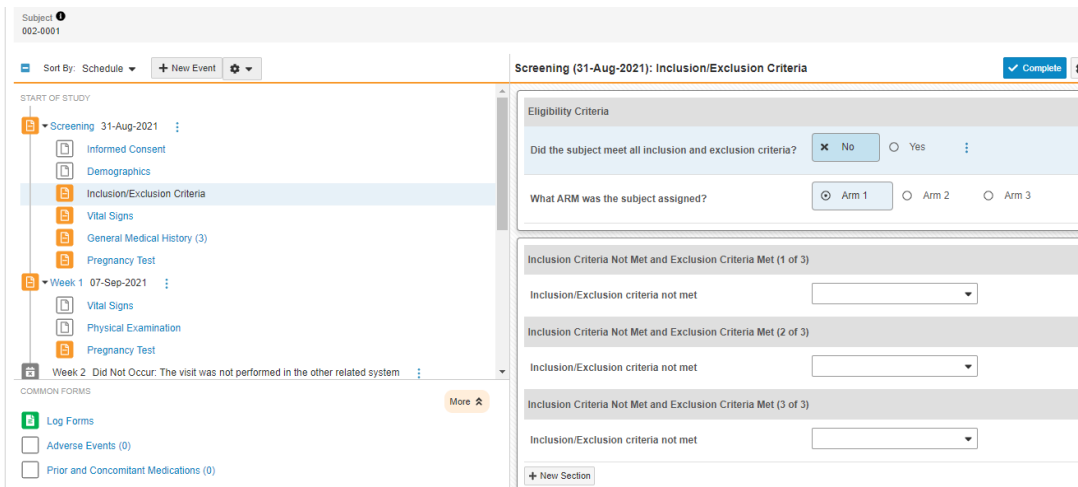
1  ...
2  ...
3  ...
4  ...
5  ...
6  ...
7  ...
8  ...
9  ...
10 ...
11 ...
12 ...
13 ...
14 ...
15 ...
16 ...
17 ...
18 ...
19 ...
20 ...
21 ...
22 ...

```

.. 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 1

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

Inclusion/Exclusion criteria not met

Inclusion Criteria 14

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

Inclusion/Exclusion criteria not met

Exclusion Criteria 2

+ New Section

## 9.7 Submit Forms

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#submit-forms">https://developer-cdms.veevavault.com/api/22.1/#submit-forms</a>																																											
Style	POST																																											
Endpoint	<your Vault URL>/api/v22.1/app/cdm/forms/actions/submit																																											
Parameters	<table><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
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																																									
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>• 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
<b>Submit of one form</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "forms": [     {       "site": "101",       "study_country": "United States",       "subject": "SCR-0002",       "eventgroup_name": "egSCR",       "event_name": "evSCR",       "form_name": "IE"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "forms": [     {       "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     }   ] }</pre>

Description / Request (URL)	Response
	}
Submit of specific repeating form	
<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>
Multiple attempted, one succeeds, one fails	
<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",       "form_name": "AE",       "form_sequence": 4     }   ] }</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",       "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>

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

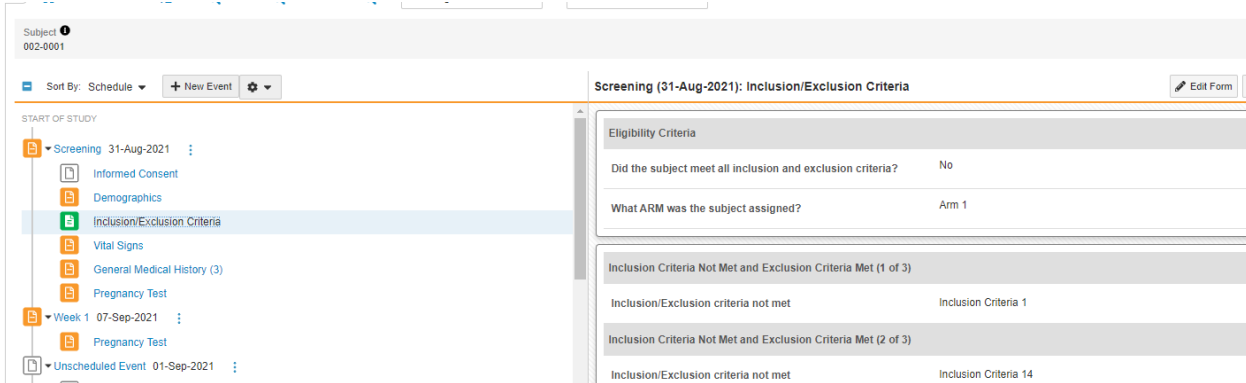
Pretty Raw Preview Visualize JSON

```

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 | ⚙

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

- Log Forms

More ⬆

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

Edit Form

**Eligibility Criteria**

Did the subject meet all inclusion and exclusion criteria? No

What ARM was the subject assigned? Arm 1

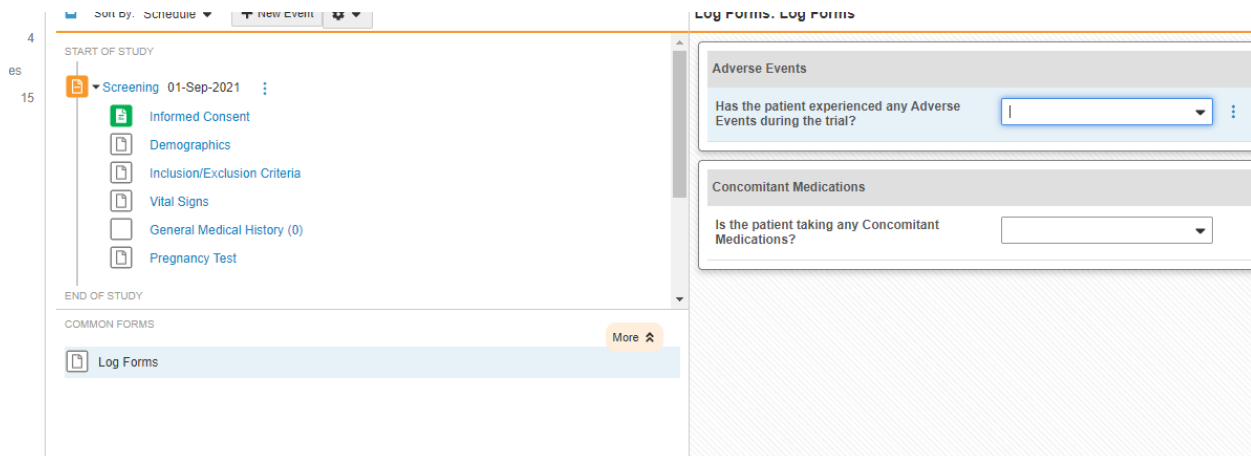
**Inclusion Criteria Not Met and Exclusion Criteria Met (1 of 3)**

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 | ⚙

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

- Log Forms

More ⬆

### Log Forms: Log Forms

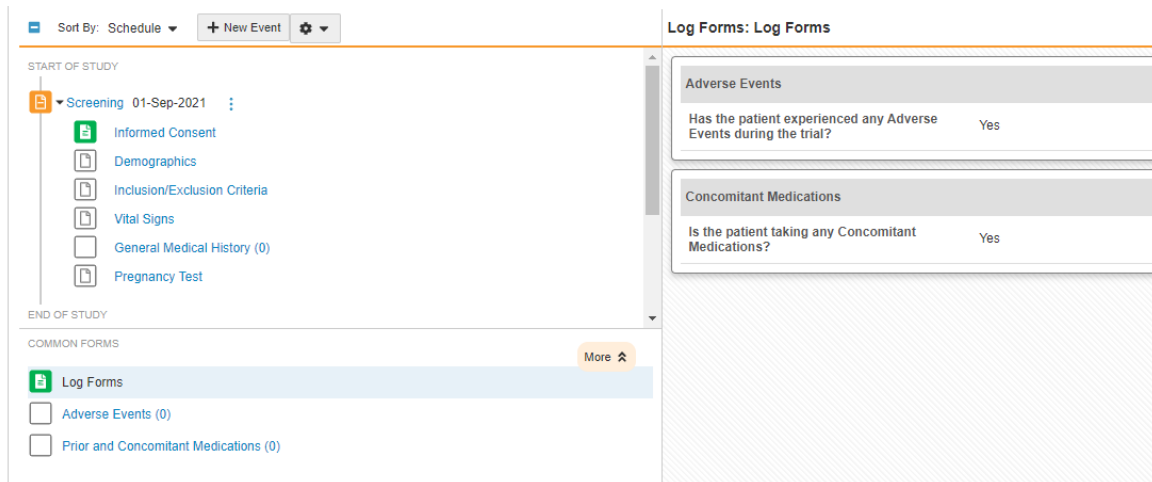
**Adverse Events**

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 | ⚙

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

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

More ⬆

### 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



## 9.8 Reopen Submitted Forms

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#reopen-submitted-forms">https://developer-cdms.veevavault.com/api/22.1/#reopen-submitted-forms</a>																																												
Style	POST																																												
Endpoint	<your Vault URL>/api/v22.1/app/cdm/forms/actions/edit																																												
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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>Optional</td><td>The specific sequence to open. 1 assumed if omitted</td></tr><tr><td>change_reason</td><td>forms</td><td>Required</td><td>The reason to be applied as part of opening the form for edit</td></tr></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	Optional	The specific sequence to open. 1 assumed if omitted	change_reason	forms	Required	The reason to be applied as part of opening the form for edit
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	Optional	The specific sequence to open. 1 assumed if omitted																																										
change_reason	forms	Required	The reason to be applied as part of opening the form for edit																																										
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>• 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>• The parameter <b>change_reason</b> in the body is required for opening a form and will be added to the audit trail of the form.</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>																																												

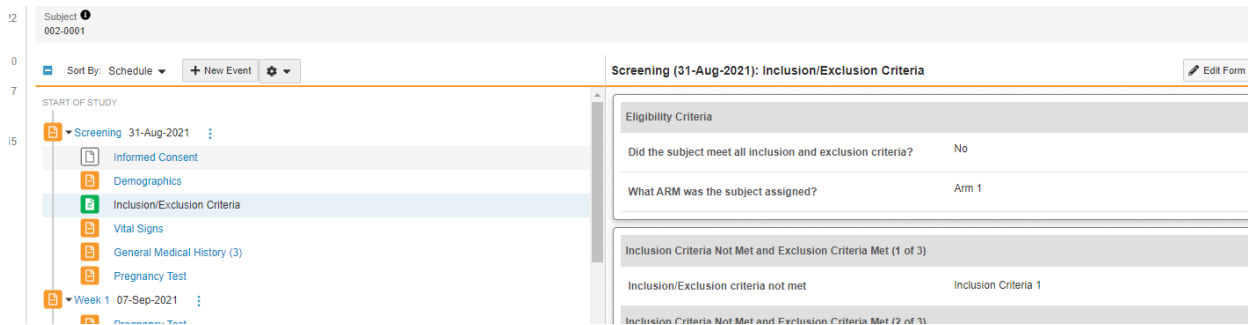
## Examples

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",</pre>	<pre>{   "responseStatus": "SUCCESS",   "forms": [     {       "responseStatus": "SUCCESS",       "study_country": "United States",       "site": "101",       "subject": "SCR-0002",</pre>

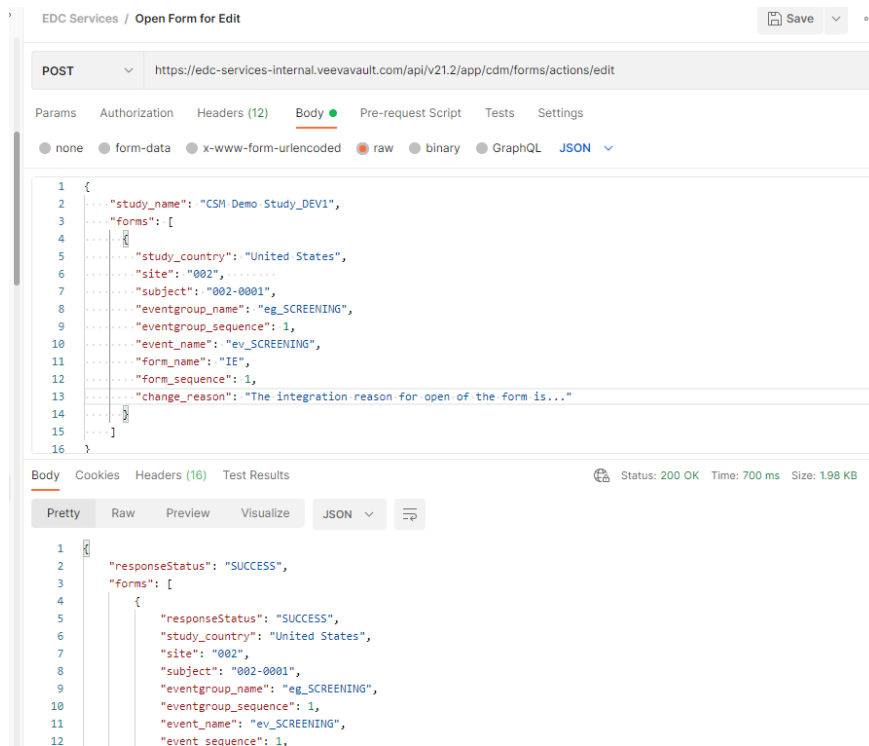
Description / Request (URL)	Response
<pre>       "event_name": "LOGS",       "form_name": "AE",       "form_sequence": 3,       "change_reason": "my reason for open form"     }   ] }</pre>	<pre>     "eventgroup_name": "LOGS",     "eventgroup_sequence": 1,     "event_name": "LOGS",     "event_sequence": 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,       "form_name": "AE",       "form_sequence": 4     }   ] }</pre>

## Flow Based Example

For the currently submitted form in EDC:



The API post:



```

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 }

```

```

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

Inclusion Criteria 1

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/22.1/#retrieve-queries">https://developer-cdms.veevavault.com/api/22.1/#retrieve-queries</a>																													
Style	GET																													
Endpoint	<your Vault URL>/api/v22.1/app/cdm/queries																													
Parameters	<table><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></tbody></table> <p><b>NOTE:</b> Additional filtering / retrieval of queries is discussed in later sections (By ID or By Medical Coding Definition)</p>			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>
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>																												
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.</li><li>● 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' 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="#">Get of all queries in a study</a></p> <p><code>https://{vaultDNS}/api/{version}/app/cdm/queries?study_name=ABCP-2022-01_DEV1</code></p> <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, </pre>

Description / Request (URL)	Response
	<pre> "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"   } ] }, {   "id": "OPW00000000U002",   "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": [     { </pre>

Description / Request (URL)	Response
	<pre>         "id": "OPY0000000V002",         "activity": "open__v",         "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 </pre>



Description / Request (URL)	Response
	<pre> coding add via API (2nd add)",     "message_date": "2022-06-08T20:54:33Z",     "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>
<b>Filter to just those in Open status</b>	
<a href="https://{{vaultDNS}}/api/{{version}}/app/cdm/queries?study_name=ABCP-2022-01_DEV1&amp;query_status=open_v">https://{{vaultDNS}}/api/{{version}}/app/cdm/queries?study_name=ABCP-2022-01_DEV1&amp;query_status=open_v</a>	(Like above, but to the queries where a touch of the query.. OR message exists, >= the parameter passed)
<b>Filter to a specific point in time</b>	
<a href="https://{{vaultDNS}}/api/{{version}}/app/cdm/queries?study_name=ABCP-2022-01_DEV1&amp;query_status=open_v">https://{{vaultDNS}}/api/{{version}}/app/cdm/queries?study_name=ABCP-2022-01_DEV1&amp;query_status=open_v</a>	(Like above, but to the queries where a touch of the query.. OR message exists, >= the parameter passed)

Description / Request (URL)	Response
01_DEV1&last_modified_date=2022-06-01T12:30:00Z	parameter passed)
<b>Filter to queries from a specific form design name</b>	
https://{vaultDNS}}/api/{version}}/app/cdm/queries?study_name=ABCP-2022-01_DEV1&form_name=AE	(Like above, but to the filter)
<b>Filter to a specific subject</b>	
https://{vaultDNS}}/api/{version}}/app/cdm/queries?study_name=ABCP-2022-01_DEV1&study_country=United States&site=101&subject=SCR-0002	(Like above, but to the filter)
<b>Filter to a specific country</b>	
https://{vaultDNS}}/api/{version}}/app/cdm/queries?study_name=ABCP-2022-01_DEV1&study_country=United States	(Like above, but to the filter)

## 10.2 Retrieve Queries - By ID(s)

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#retrieve-queries-by-id">https://developer-cdms.veevavault.com/api/22.1/#retrieve-queries-by-id</a>									
Style	GET									
Endpoint	<your Vault URL>/api/v22.1/app/cdm/queries									
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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></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
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								
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>● 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>Single Query (where found)</p> <pre>https://{vaultDNS}/api/{version}/app/c dm/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
<b>Attempt where ID not found</b>	
<pre>https://{vaultDNS}}/api/{version}}/app/c dm/queries?study_name=ABCP-2022- 01_DEV1&amp;id=OPW0000000T011</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 0,     "total": 0   },   "queries": [] }</pre>
<b>Multiple Queries</b>	
<pre>https://{vaultDNS}}/api/{version}}/app/c dm/queries?study_name=ABCP-2022- 01_DEV1&amp;id=OPW0000000T001,OPW0000000T002</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 2,     "total": 2   },   "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"         }       ]     }   ] }</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 -> **Get Medical Coding Queries** section, later in the document*

## 10.4 Open Queries - By Study Context

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#open-query">https://developer-cdms.veevavault.com/api/22.1/#open-query</a>																																																											
Style	POST																																																											
Endpoint	<your Vault URL>/api/v22.1/app/cdm/queries																																																											
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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></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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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																																																									
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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>• <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 by Item ID or Event ID are in later sections</li></ul>																																																											



## Examples

Description / Request (URL)	Response
Add one query, to an item inside a repeating event group	
<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>
Add multiple, non-repeating areas (omit sequences)	
<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>
Query add to an event	
<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:

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

Edit Fo

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

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

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   ]
19 }

```

.. 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?

?

Eric Emerton 9/24/2021 12:14 PM EDT

This is the text of my query...

Edit Value

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 SI





Pretty Raw Preview Visualize **JSON** ▾ 

```

1  {
2    "responseStatus": "SUCCESS",
3    "queries": [
4      {
5        "responseStatus": "SUCCESS",
6        "id": "OPW000000041002",
7        "query_name": "VV-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

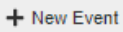

```

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


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


23 Forms 0 Queries 16



Subject ⓘ  
002-0001

Sort By: Schedule ▾  

START OF STUDY

 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/22.1/#open-query-by-item-id">https://developer-cdms.veevavault.com/api/22.1/#open-query-by-item-id</a>																
Style	POST																
Endpoint	<your Vault URL>/api/v22.1/app/cdm/items/actions/openquery																
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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 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></table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	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														
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 other endpoints that expose the ID)</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 by Subject/Design information, or Event ID, are in other sections</li></ul>																

## Examples

Description / Request (URL)	Response
Attempt add of two, one fails, one succeeds	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "id": "V5D00000000K011",       "message": ""     },     {       "id": "V5D00000000K011",       "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": "OPW00000000X003",         "query_status": "open_v",         "item_id": "V5D00000000K011"       }     ]   } }</pre>

## 10.6 Open Queries - By Event ID

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#open-query-by-event-id">https://developer-cdms.veevavault.com/api/22.1/#open-query-by-event-id</a>																
Style	POST																
Endpoint	<your Vault URL>/api/v22.1/app/cdm/events/actions/openquery																
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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 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></table>	Name	Array	Req/Opt	Notes	study_name		Required	Name of the study	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														
study_name		Required	Name of the study														
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)														
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 event where the query is added. This endpoint is only know if the Event’s ID is known (obtained through exports, other other endpoints that expose the ID)</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 by Subject/Design information, or Item ID, are in other sections</li></ul>																

## Examples

Description / Request (URL)	Response
Attempt add of two, one fails, one succeeds	
<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": "OPW00000000X003",         "query_status": "open_v",         "event_id": "OPS00000001X001"       }     ]   }</pre>

## 10.7 Answer Queries - By Study Context

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#answer-query">https://developer-cdms.veevavault.com/api/22.1/#answer-query</a>																																																										
Style	<b>POST</b>																																																										
Endpoint	<your Vault URL>/api/v22.1/app/cdm/queries/actions/answer																																																										
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## Examples

Description / Request (URL)	Response
<p>Answer of one query</p> <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/22.1/#answer-query">https://developer-cdms.veevavault.com/api/22.1/#answer-query</a>																			
Style	POST																			
Endpoint	<your Vault URL>/api/v22.1/app/cdm/queries/actions/answer																			
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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></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)
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### Examples

Description / Request (URL)	Response
<b>Answer of one query</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "id": "OPW00000014003",       "message": "Answered Query via API"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW00000014003",       "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,     }   ] }</pre>

Description / Request (URL)	Response
	<pre>      "item_name": "SEX"     }   ] }</pre>

## 10.9 Close Queries - By Study Context

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#close-query">https://developer-cdms.veevavault.com/api/22.1/#close-query</a>																																																								
Style	POST																																																								
Endpoint	<your Vault URL>/api/v22.1/app/cdm/queries/actions/close																																																								
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## Examples

Description / Request (URL)	Response
Close one query (with message)	
<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 close query"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW000000012005",       "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/22.1/#close-query">https://developer-cdms.veevavault.com/api/22.1/#close-query</a>																			
Style	POST																			
Endpoint	<your Vault URL>/api/v22.1/app/cdm/queries/actions/close																			
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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></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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### Examples

Description / Request (URL)	Response
Close of one query (with message)	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "id": "OPW00000014003",       "message": "Closed Query via API"     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW00000014003",       "query_name": "VV-000255",       "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": "DM",       "form_sequence": 1,       "itemgroup_name": "ig-DM",       "itemgroup_sequence": 1,     }   ] }</pre>

Description / Request (URL)	Response
	<pre>      "item_name": "SEX"     }   ] }</pre>

## 10.11 Reopen Queries - By Study Context

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#reopen-query">https://developer-cdms.veevavault.com/api/22.1/#reopen-query</a>																																																										
Style	<b>POST</b>																																																										
Endpoint	<your Vault URL>/api/v22.1/app/cdm/queries/actions/reopen																																																										
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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)																																																								
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 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 <b>Reopen Queries - By Query ID</b></li> <li><b>TIP:</b> If query IDs are known (returned in <b>Get Queries</b>), then use of this option By ID is preferred.</li> </ul>																																																										



## Examples

Description / Request (URL)	Response
<b>Reopen of one query</b> <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": "OPW000000012005",       "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/22.1/#reopen-query">https://developer-cdms.veevavault.com/api/22.1/#reopen-query</a>																		
Style	POST																		
Endpoint	<your Vault URL>/api/v22.1/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 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 <b>Reopen Queries - By Study Design</b></li> <li><b>TIP:</b> If query IDs are known (returned in <b>Get Queries</b>), then use of this option By ID is preferred.</li> </ul>																		

### Examples

Description / Request (URL)	Response
<a href="#">Answer of one query</a>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "queries": [     {       "id": "OPW00000012006",       "message": "Reopened query via API by ID."     }   ] }</pre>	<pre>{   "responseStatus": "SUCCESS",   "queries": [     {       "responseStatus": "SUCCESS",       "id": "OPW00000012006",       "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",     }   ] }</pre>

Description / Request (URL)	Response
	<pre>        "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/22.1/#retrieve-coding-requests">https://developer-cdms.veevavault.com/api/22.1/#retrieve-coding-requests</a>																					
Style	GET																					
Endpoint	<your Vault URL>/api/v22.1/app/cdm/coder/codingrequests																					
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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>The Vault <b>name__v</b> value (<b>not</b> ID) of the medical coding item definition, i.e. location of the coding, that form. Currently this is retrieved only through Vault Business Admin. A coming release will yield this value via a design level API.</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></td><td>Filter to coding requests modified since a certain date. Format: <b>yyyy-MM-ddTHH:mm:ssZ</b></td></tr></table>	Name	Req/Opt	Notes	study_name	Required	Name of the study	coding_item_definition	Required	The Vault <b>name__v</b> value ( <b>not</b> ID) of the medical coding item definition, i.e. location of the coding, that form. Currently this is retrieved only through Vault Business Admin. A coming release will yield this value via a design level API.	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		Filter to coding requests modified since a certain date. Format: <b>yyyy-MM-ddTHH:mm:ssZ</b>
Name	Req/Opt	Notes																				
study_name	Required	Name of the study																				
coding_item_definition	Required	The Vault <b>name__v</b> value ( <b>not</b> ID) of the medical coding item definition, i.e. location of the coding, that form. Currently this is retrieved only through Vault Business Admin. A coming release will yield this value via a design level API.																				
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		Filter to coding requests modified since a certain date. Format: <b>yyyy-MM-ddTHH:mm:ssZ</b>																				
Notes	<ul style="list-style-type: none"><li>• Use this API to retrieve the medical coding requests</li><li>• Required is the <b>coding_item_definition</b> (e.g., AE, CM, etc.). Only one coding form (its requests) can be returned at once</li><li>• <b>WARNING:</b> As of 22R1 release, one must get the coding item definition name from Vault Business Admin only. These are the <b>name__v</b> values of the <b>Medical Coding Item Definitions</b> vault object (formatted typically as VV-XXXXX values)</li><li>• Filter for requests modified since a point is done is done with the <b>last_modified_date</b> parameter. The format is: yyyy-MM-ddTHH:mm:ssZ</li></ul>																					

## Examples

Description / Request (URL)	Response
All requests of specific definition (MedDRA)	
<pre>.../app/cdm/subjects?study_name=ABCPharma_DEV1&amp;coding_item_definition=VV-000023</pre>	<pre>{   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 2,     "total": 2   },   "codingrequests": [     {       "coding_item_definition": "V0T000000002001",       "form_status": "Active",       "form_type": "AE",       "dictionary_definition": "MedDRA",       "requests": [         {           "id": "V0V000000003001",           "site": "101",           "subject": "SCR-0001",           "verbatim": "My Term 1",           "start_date": "",           "stop_date": "",           "event": "LOGS",           "event_sequence": 1,           "form": "Adverse-Event",           "form_sequence": 1,           "item_group": "ig-AE",           "item_group_sequence": 1,           "item": "AETERM",           "coding_status": "Open",           "last_coded_by_third_party": "",           "last_coded_date": "",           "assigned_to_third_party": "",           "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": ""         }       ]     }   ] }</pre> <p>&lt;&lt;&lt;&lt;&lt; this is a checkbox field, and never checked.. the value in items is <b>null</b> (not "false" yet)</p>

Description / Request (URL)	Response
	<pre> "pt_code": "", "pt": "", "hlt_code": "", "hlt": "", "hlgt_code": "", "hlgt": "", "soc": "", "soc_code": "", "primary_path": "" }, {   "id": "V0V000000003002",   "site": "101",   "subject": "SCR-0001",   "verbatim": "My AE 2",   "start_date": "2022-05-01T00:00:00Z",   "stop_date": "",   "event": "LOGS",   "event_sequence": 1,   "form": "Adverse-Event",   "form_sequence": 2,   "item_group": "ig-AE",   "item_group_sequence": 1,   "item": "AETERM",   "coding_status": "Coded",   "last_coded_by_third_party": "",   "last_coded_date": "2022-06-02T18:35:03Z",   "assigned_to_third_party": "",   "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/cdm/subjects?study_name=ABCPharma_DEV1&amp;coding_item_definition=VV-000024</pre>	<pre> {   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0,     "size": 2,     "total": 2   },   "codingrequests": [     {       "coding_item_definition": "V0T000000004001",       "form_status": "Active",       "form_type": "ConMed",       "dictionary_definition": "WHODrug C3",       "requests": [         {           "id": "V0V000000004001",           "site": "101",           "subject": "SCR-0001",           "verbatim": "Aspirin",           "start_date": "",           "stop_date": "",           "event": "LOGS",           "event_sequence": 1,           "form": "Concomitant-Medication",           "form_sequence": 1,           "item_group": "ig-CM",           "item_group_sequence": 1,           "item": "CMTRT",           "coding_status": "Coded",           "last_coded_by_third_party": "",           "last_coded_date": "2022-06-02T20:02:26Z",           "assigned_to_third_party": "",           "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",           "drug_code": "00002701004", </pre>

Description / Request (URL)	Response
	<pre> "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": "",   "event": "LOGS",   "event_sequence": 1,   "form": "Concomitant-Medication",   "form_sequence": 2,   "item_group": "ig-CM",   "item_group_sequence": 1,   "item": "CMTRT",   "coding_status": "Open",   "last_coded_by_third_party": "",   "last_coded_date": "",   "assigned_to_third_party": "",   "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>
<b>Filter to a specific subject</b>	
<pre>.../app/cdm/subjects?study_name=ABCPharma_DEV1&amp;coding_item_definition=VV-000023&amp;study_country=United States&amp;site=101&amp;subject=101-001</pre>	(Like above, but to the filter)

## Flow Based Examples

These medical coding requests in the Coder UI

Data Entry
Library
Studio
Review
Assessments
**Coder**
Reports
Dashboards
Labs
Loader
Randomization

0
Create

**Coder**
Oriol\_Test2\_DEV1 - AE

Sponsor  
OrionLifeSciences
Study  
Oriol\_Test2\_DEV1
Form  
AE
Dictionary  
MedDRA 23.0
Synonym List  
MedDRA-syn. list

Code Mode
Approve Mode

Coding Status: All
Query Status: All
Site: All
Subject: All
Selected 1

Verbatim	Seriousness	Coding Status	Assigned Code	Site	Subject	Query Status	Query Age (D)
Cough		OPEN		100	SCR-0001		
Headache	Mild	OPEN		100	SCR-0001		
Headache		AUTOCODED	Headache	100	SCR-0002		

1-4 of 4

Dictionary
Suggestions

Headache
Columns to Search:
LLT
PT
HLT
HLGT
SOC

Code Options	LLT	PT	HLT	HLGT	SOC	Primary F
	10019211 Headache	10019211 Headache	10019233 Headaches NEC	10019231 Headaches	10029205 Nervous system disorders	Y
	10019218 Headache NOS	10019211 Headache	10019233 Headaches NEC	10019231 Headaches	10029205 Nervous system disorders	Y
	10019215 Headache dull	10019211 Headache	10019233 Headaches NEC	10019231 Headaches	10029205 Nervous system disorders	Y

HEADACHE

ASSIGNED CODE

Lowest Level Term: 10019211 Headache  
Preferred Term: 10019211 Headache  
High Level Term: 10019233 Headaches NEC  
High Level Group Term: 10019231 Headaches  
System Organ Class: 10029205 Nervous system disorders

QUERIES (0)
PROPERTIES

Are retrieved with this API GET:

GET
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
Cookies
Headers (18)
Test Results

Status: 200 OK
Time: 518 ms
Size: 4.76 K

Pretty
Raw
Preview
Visualize
JSON

```

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
{
  "responseStatus": "SUCCESS",
  "codingrequests": [
    {
      "coding_item_definition": "V000000000000001",
      "form_status": "Active",
      "form_type": "AE",
      "dictionary_definition": "MedDRA",
      "requests": [
        {
          "id": "V1000000000000001",
          "site": "100",
          "subject": "SCR-0002",
          "verbatim": "Headache",
          "start_date": "2021-05-01T00:00:00Z",
          "stop_date": "",
          "event": "Screening",
          "event_sequence": 1,
          "form": "Adverse Events",
          "form_sequence": 1,
          "item_group": null,
          "item_group_sequence": 1,
          "item": null,
          "coding_status": "Autocoded",
          "last_coded_by_third_party": "",
          "last_coded_date": "2021-05-14T10:06:25Z",
          "assigned_to_third_party": ""
        }
      ]
    }
  ]
}

```

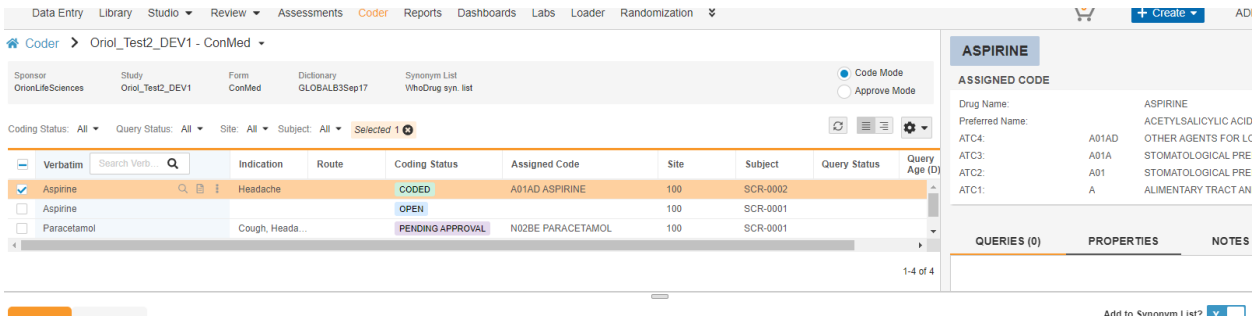
Further down the return is the coding for the AE:

```

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:



The screenshot displays the EDC interface for coding Aspirine. The main table shows the following entries:

Verbatim	Indication	Route	Coding Status	Assigned Code	Site	Subject	Query Status	Query Age (D)
Aspirine	Headache		CODED	A01AD ASPIRINE	100	SCR-0002		
Aspirine			OPEN		100	SCR-0001		
Paracetamol	Cough, Headache		PENDING APPROVAL	N02BE PARACETAMOL	100	SCR-0001		

The right-hand panel, titled 'ASPIRINE', shows the assigned code and a list of queries:

Drug Name	Preferred Name	ATC4	ATC3	ATC2	ATC1
ASPIRINE	ACETYLSALICYLIC ACID	A01AD	A01A	A01	A

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/22.1/#retrieve-coding-queries">https://developer-cdms.veevavault.com/api/22.1/#retrieve-coding-queries</a>									
Style	GET									
Endpoint	<your Vault URL>/api/v22.1/app/cdm/queries									
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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></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
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								
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>• 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
By specific coding definition ID	
<pre>https://{vaultDNS}/api/{version}/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>
Queries across two coding definitions	

Description / Request (URL)	Response
<pre>https://{vaultDNS}}/api/{version}/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/22.1/#open-coding-query">https://developer-cdms.veevavault.com/api/22.1/#open-coding-query</a>																			
Style	POST																			
Endpoint	<your Vault URL>/api/v22.1/app/cdm/coder/actions/openquery																			
Parameters	<table><tr><th>Name</th><th>Array</th><th>Req/Opt</th><th>Notes</th></tr><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></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>• <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 by Subject/Design information, Event ID, or Item ID, are in other sections</li></ul>																			

## Examples

Description / Request (URL)	Response
<b>Multiple queries added</b>	
<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": "OPW0000000W001",       "query_name": "VV-000234",       "query_status": "open_v",       "coding_request": "V0V000000004001"     },     {       "responseStatus": "SUCCESS",       "id": "OPW0000000V001",       "query_name": "VV-000233",       "query_status": "open_v",       "coding_request": "V0V000000003002"     }   ] }</pre>

Description / Request (URL)	Response
Multiple queries attempted, one succeeds, one fails	
<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>

## 12 Jobs

### 12.1 Jobs / Data Extracts Overview

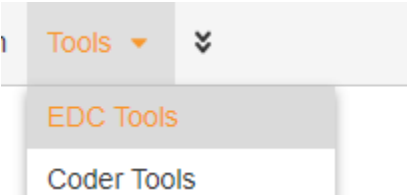
Currently the main full extract of the CDMS system (a study) is the **Study Data Extract**, itself a job inside the CDMS **EDC Tools** area -> **Jobs** tab. The job run yields a zip file that is cumulative of the entire study. This section will discuss the start / retrieve status / get file of this type 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 (**Get Events/Forms** and **Get 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

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.

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:

Data Entry
Library
Studio
Review
Assessments
Coder
Reports
Dashboards
Labs
Loader
Randomization
Tools

CSM Demo Study\_DEV1

Casebook Versions
Rules
**Jobs**
Email Group Assignment
Sites
Study Countries
FTP's
Review Plan Assignm

+ New Job

Status: All
Type: All

[Job History](#)
[Job Schedule \(0\)](#)

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.

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The job create screen:

New Job

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

</

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:

 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/22.1/#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:

icts" ...  
ssful

Remote site: /u1030863/StudyDataExtracts			
Filename	Filesize	Filetype	
..			
CSM_Demo_Study_DEV1_Study_Data_Extract_2021_09_27_10_56_EDT.zip	36,769	Compressed	
MyOtherFolder		File folder	

... we can use the API to retrieve files from that location (<https://developer.veevavault.com/api/22.1/#list-items-at-a-path>), using a REST call like:

**.../api/v22.1/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   }

```

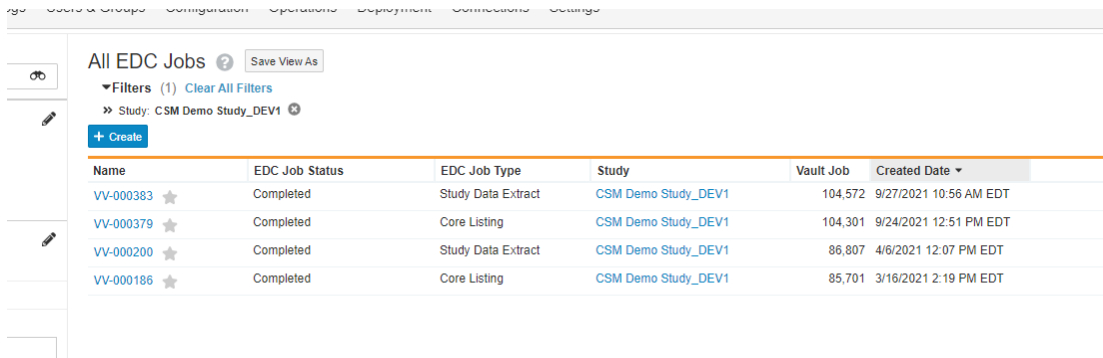
Then, use the REST endpoint to stream the file(s), see the reference: <https://developer.veevavault.com/api/22.1/#get-item-content>



## 12.3 Retrieve Recently Finished Jobs

If the API caller is **NOT** starting the SDE job, waiting, and retrieving that job's output zip file, then one needs to poll the study, its recently finished jobs. That is, one can schedule a nightly job through the **EDC Tools** UI, and an API caller can simply inspect those jobs to retrieve output files (zip) for these jobs.

**IMPORTANT NOTE: THIS APPROACH IS TEMPORARY.** It will be replaced by a formal CDMS endpoint for getting study jobs, and across multiple studies. The records of the EDC Tools -> Jobs tab are in a vault object: (**edc\_job\_\_v**), essentially the **EDC Tools -> Jobs** tab

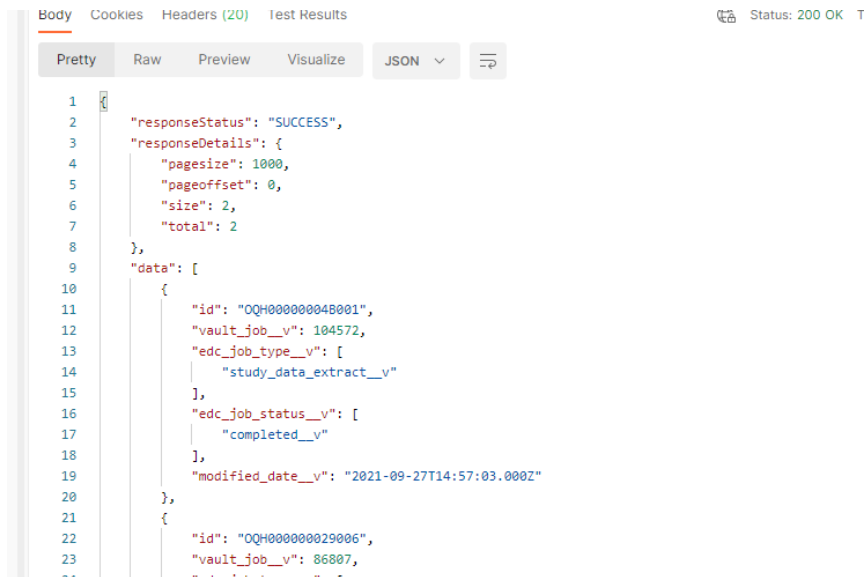


Name	EDC Job Status	EDC Job Type	Study	Vault Job	Created Date
VV-000383	Completed	Study Data Extract	CSM Demo Study_DEV1	104,572	9/27/2021 10:56 AM EDT
VV-000379	Completed	Core Listing	CSM Demo Study_DEV1	104,301	9/24/2021 12:51 PM EDT
VV-000200	Completed	Study Data Extract	CSM Demo Study_DEV1	86,807	4/6/2021 12:07 PM EDT
VV-000186	Completed	Core Listing	CSM Demo Study_DEV1	85,701	3/16/2021 2:19 PM EDT

A Vault VQL statement can be run against a study and job type:

`.../api/v22.1/query?q=SELECT id, vault_job__v, edc_job_type__v, edc_job_status__v, modified_date__v from edc_job__v where study__vr.name__v='CSM Demo Study_DEV1' and edc_job_status__v='completed__v' and edc_job_type__v='study_data_extract__v' order by modified_date__v desc`

...yielding just the SDE type, and those now completed, and latest at beginning of the return:



```

{
  "responseStatus": "SUCCESS",
  "responseDetails": {
    "pagesize": 1000,
    "pageoffset": 0,
    "size": 2,
    "total": 2
  },
  "data": [
    {
      "id": "OQH000000048001",
      "vault_job__v": 104572,
      "edc_job_type__v": [
        "study_data_extract__v"
      ],
      "edc_job_status__v": [
        "completed__v"
      ],
      "modified_date__v": "2021-09-27T14:57:03.000Z"
    },
    {
      "id": "OQH000000029006",
      "vault_job__v": 86807,
      "edc_job_type__v": [
        "study_data_extract__v"
      ],
      "edc_job_status__v": [
        "completed__v"
      ],
      "modified_date__v": "2021-04-06T12:07:00.000Z"
    }
  ]
}

```

The **vault\_job\_\_v** value in the return is the value to use in the endpoint discussed later in this document - **Retrieve Job Output File**

## 12.4 Start Study Job - SDE

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#start-study-data-extract-job">https://developer-cdms.veevavault.com/api/22.1/#start-study-data-extract-job</a>																																																																														
Style	<b>POST</b>																																																																														
Endpoint	<your Vault URL>/api/v22.1/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>study_data_extract__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>version</td><td>Required</td><td></td><td>The version of the SDE, in vXX.Y format (XX = year, Y = 1, 2, or 3). That is the format at release of the SDE. More information on system datasets here in <a href="#">CDMS Help</a></td></tr> <tr> <td>export_file_type</td><td>Required</td><td></td><td>Must be one of <b>CSV</b> or <b>SAS with XPT and CSV</b></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> <tr> <td>all_system_datasets</td><td>Required</td><td></td><td>Boolean - whether to include all system datasets, e.g. SYS_FORM, SYS_SUB, etc. More information on system datasets: <a href="#">CDMS Help</a></td></tr> <tr> <td>system_datasets</td><td>Optional *</td><td></td><td>Required if all_system_datasets = false. JSON array of SYS_* named datasets to run</td></tr> <tr> <td>include_custom_objects</td><td>Required</td><td></td><td>Boolean - whether to include any custom objects. These objects must also be registered with the study</td></tr> <tr> <td>custom_objects</td><td>Optional *</td><td></td><td>When include_custom_objects = true, the objects to include. These objects are setup in the object sde_customobject_config__v -&gt; name__v value. That record refers to a custom object for export, i.e. records of that study. The custom object setup should be</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> .	version	Required		The version of the SDE, in vXX.Y format (XX = year, Y = 1, 2, or 3). That is the format at release of the SDE. More information on system datasets here in <a href="#">CDMS Help</a>	export_file_type	Required		Must be one of <b>CSV</b> or <b>SAS with XPT and CSV</b>	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 setup 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
Name	Req/Opt	Default (when omitted)	Notes																																																																												
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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 setup 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
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": "v22.1",     "include_restricted_data": false,     "include_rand_treatment": false,     "export_file_type": "SAS with XPT and CSV",     "use_external_ids": false,     "include_formilb": false,     "split_datetime": false,     "exclude_blank_forms": false,     "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": 307484,     "created_by": "eric.emerton@eke.com",     "created_date": "2022-06-27T20:30:05Z",     "include_restricted_data": false,     "version": "v22.1",     "export_file_type": "SAS with XPT and 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   } }</pre>
<b>Bare required options (thus all the defaults)</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "study_data_extract__v",     "version": "v22.1",     "export_file_type": "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,     "version": "v22.1",   } }</pre>

Description / Request (URL)	Response
<pre> } } </pre>	<pre> "export_file_type": "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 } } </pre>
Settings specific datasets, plus other options	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "study_data_extract_v",     "version": "v22.1",     "include_restricted_data": true,     "include_rand_treatment": true,     "export_file_type": "SAS with XPT and CSV",     "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_rand_treatment": true,     "version": "v22.1",     "export_file_type": "SAS with XPT and CSV",     "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": [ </pre>

Description / Request (URL)	Response
	<pre> "doc_tracking_c", "adjudication_tracking_c"  ]  }  }</pre>
Also Direct to the FTP Location(s)	
<pre> {   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "study_data_extract_v",     "version": "v22.1",     "export_file_type": "CSV",     "all_clinical_datasets": true,     "all_system_datasets": true,     "include_custom_objects": false,     "external_connections": [       "My_FTP_Drop"     ]   } }</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,     "version": "v22.1",     "export_file_type": "CSV",     "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   } }</pre>

## 12.5 Start Study Job - Subject Progress Listing

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#start-subject-progress-listing-job">https://developer-cdms.veevavault.com/api/22.1/#start-subject-progress-listing-job</a>																		
Style	POST																		
Endpoint	<your Vault URL>/api/v22.1/app/cdm/jobs/start_now																		
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Default (when omitted)</th><th>Notes</th></tr><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></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
Run the Job	
<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/22.1/#start-event-progress-listing">https://developer-cdms.veevavault.com/api/22.1/#start-event-progress-listing</a>																		
Style	<b>POST</b>																		
Endpoint	<your Vault URL>/api/v22.1/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> </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> .
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> .																
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
<b>Run the Job</b>	
<pre>{   "study_name": "ABCP-2022-01_DEV1",   "request": {     "job_type": "event_progress_listing__v",     "include_restricted_data": false   } }</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   } }</pre>

## 12.7 Start Study Job - Form Progress Listing

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#start-form-progress-listing-job">https://developer-cdms.veevavault.com/api/22.1/#start-form-progress-listing-job</a>																						
Style	<b>POST</b>																						
Endpoint	<your Vault URL>/api/v22.1/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
<b>Run the Job</b>	
<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@eek.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/22.1/#start-event-progress-listing">https://developer-cdms.veevavault.com/api/22.1/#start-event-progress-listing</a>																		
Style	<b>POST</b>																		
Endpoint	<your Vault URL>/api/v22.1/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
<b>Run the Job</b>	
<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@eek.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/22.1/#start-core-listings-job">https://developer-cdms.veevavault.com/api/22.1/#start-core-listings-job</a>																					
Style	POST																					
Endpoint	<your Vault URL>/api/v22.1/app/cdm/jobs/start_now																					
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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></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
<b>Core Listing - all sites</b>	
<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>
<b>Core Listing - all sites = false, then specific list</b>	
<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>
Core Listing - specific forms and sites	
<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/22.1/#start-data-and-definition-export-job">https://developer-cdms.veevavault.com/api/22.1/#start-data-and-definition-export-job</a>																		
Style	<b>POST</b>																		
Endpoint	<your Vault URL>/api/v22.1/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
<b>Run the Job</b>	
<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@eek.com",     "created_date": "2022-06-27T20:23:24Z",     "include_restricted_data": false   } }</pre>

## 12.11 Retrieve Job Status

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#retrieve-job-status">https://developer-cdms.veevavault.com/api/22.1/#retrieve-job-status</a>						
Style	GET						
Endpoint	<your Vault URL>/api/v22.1/app/cdm/jobs/{job_id}						
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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></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 <b>Jobs / Data Extracts Overview</b> 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. WARNING: 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@eek.com",     "created_date": "2022-06-17T18:32:15Z",     "last_modified_date": "2022-06-17T18:32:58Z"   } }</pre>

## 12.12 Cancel Job

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#cancel-job">https://developer-cdms.veevavault.com/api/22.1/#cancel-job</a>						
Style	POST						
Endpoint	<your Vault URL>/api/v22.1/app/cdm/jobs/{job_id}/cancel_now						
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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></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>

## 12.13 Retrieve Job Output Log

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#retrieve-job-log">https://developer-cdms.veevavault.com/api/22.1/#retrieve-job-log</a>						
Style	GET						
Endpoint	<your Vault URL>/api/v22.1/app/cdm/jobs/{job_id}/file/log						
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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></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 <b>Jobs / Data Extracts Overview</b> section of this chapter can use this endpoint.</li></ul>						

## Examples

Description / Request (URL)	Response
<b>Job that has status completed</b>	
../api/{version}/app/cdm/jobs/305616/file/log	<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>	
../api/{version}/app/cdm/jobs/305610/file/log	<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>

## 12.14 Retrieve Job Output File

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#retrieve-job-output-file">https://developer-cdms.veevavault.com/api/22.1/#retrieve-job-output-file</a>						
Style	GET						
Endpoint	<your Vault URL>/api/v22.1/app/cdm/jobs/{job_id}/file/content						
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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></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 <b>Jobs / Data Extracts Overview</b> 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/22.1/#retrieve-users">https://developer-cdms.veevavault.com/api/22.1/#retrieve-users</a>											
Style												
Endpoint	<your Vault URL>/api/v22.1/app/cdm/users											
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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></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
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										
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
<b>Many Users (multiple studies)</b>	
../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",       "user_email": "eric.emerton@veeva.com",       "user_title": "",       "user_last_name": "Sys User",       "user_first_name": "Alt", </pre>

Description / Request (URL)	Response
	<pre> "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": [     {       "user_id": "96483",       "user_name": "dm_test_user@eke.com",       "user_email": "eric.emerton@veeva.com",       "user_title": "", </pre>

Description / Request (URL)	Response
	<pre>       "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@eek.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, </pre>

Description / Request (URL)	Response
	<pre>         "vault_owner": true,         "all_studies_access": false       }     ]   } </pre>
Single user who is a vault owner (thus access to all studies, studies array omitted)	
<pre> ../app/cdm/users?user_names=eric.emerton@euke.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@euke.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>
Single user with multiple study access	
<pre> ../app/cdm/users?user_names=mia.stone@euke.com </pre>	<pre> {   "responseStatus": "SUCCESS",   "responseDetails": {     "limit": 1000,     "offset": 0, </pre>

Description / Request (URL)	Response
	<pre>         "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                 },                 {                     "study_environment": "Labrinone3_DEV1",                     "study_role": "CDMS Lead Data Manager",                     "study_access": "Enabled", </pre>

Description / Request (URL)	Response
	<pre> "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	
users/user_title	String	
users/user_last_name	String	
users/user_first_name	String	



Location	Type	Notes
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 the line is <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 a user is set to have access to all studies, now and in the future. (e.g. a Sandbox or UAT 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 the value is <b>true</b> , the user has access to all sites in the study. If <b>false</b> , the line is <b>omitted</b> from the return.
users/studies/site_access	String	Comma list of sites the user has access to
users/studies/country_access	String	Comma list of study counties the user has access to. 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 Upload Users

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#upload-users">https://developer-cdms.veevavault.com/api/22.1/#upload-users</a>											
Style	PUT											
Endpoint	<your Vault URL>/api/v22.1/app/cdm/users											
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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_study_country_access</td><td>Optional</td><td></td></tr></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_study_country_access	Optional	
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_study_country_access	Optional											
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:  &lt;your Vault URL&gt;/api/v22.1/services/jobs/{job_id}  .. can be used to check for the status of the job. Once the job completes, consider using <b>Retrieve Users</b> to verify the state of each of the users created and/or updated.</li></ul>											

## Examples

Description / Request (URL)	Response
CSV attempted is valid, job starts	
<pre>https://{vaultDNS}/api/v22.1/app/cdm/users?append_study_country_access=false</pre> <p>(with content/type = text/csv and file passed in <b>import_file</b> parameter)</p>	<pre>{   "responseStatus": "SUCCESS",   "response": {     "job_type": "EDC Import",</pre>

Description / Request (URL)	Response
	<pre> "job_id": 446208, "status": "Queued", "created_by": "user.admin@username.com", "created_date": "2021-08-16T12:14:42Z" } </pre>
Attempt where there are issues in the CSV	
<pre> https://{vaultDNS}/api/v22.1/ app/cdm/users?append_study_coun try_access=false  (with content/type = text/csv and file passed in <b>import_file</b> parameter) </pre>	<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 Inactivate User – Vault or Domain Level

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#inactivate-user">https://developer-cdms.veevavault.com/api/22.1/#inactivate-user</a>									
Style	<b>DELETE</b>									
Endpoint	<your Vault URL>/api/v22.1/objects/users/{user_id}									
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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 <b>false</b>.</td></tr></table>	Name	Req/Opt	Notes	user_id	Required	The Vault user ID.	domain	Optional	URL parameter, true/false. When omitted the default is <b>false</b> .
Name	Req/Opt	Notes								
user_id	Required	The Vault user ID.								
domain	Optional	URL parameter, true/false. When omitted the default is <b>false</b> .								
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/v22.1/objects/users/1234567	<pre>{   "responseStatus": "SUCCESS",   "id": 1234567 }</pre>
<b>Inactivate successful - domain level (ALL vaults on that domain)</b>	
..api/v22.1/objects/users/1234567?domain=true	<pre>{   "responseStatus": "SUCCESS",   "id": 1234567 }</pre>
<b>Bad User ID</b>	
..api/v22.1/objects/users/1234599	<pre>{   "responseStatus": "FAILURE",   "errors": [     {       "type": "INVALID_DATA",       "message": "User [1234599] not found"     }   ] }</pre>

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

### 13.4 Activate User – Domain Level

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#activate-users">https://developer-cdms.veevavault.com/api/22.1/#activate-users</a>  (from the main vault endpoint for update a user, at vault level) - <a href="https://developer.veevavault.com/api/22.1/#update-users">https://developer.veevavault.com/api/22.1/#update-users</a> )									
Style	PUT									
Endpoint	<your Vault URL>/api/v22.1/objects/users/{user_id}									
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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></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/v22.1/objects/users/1234567  (with encoded parameter parameter <b>domain_active__v = true</b> )	<pre>{   "responseStatus": "SUCCESS",   "id": 1234567 }</pre>
<b>Bad User ID</b>	
..api/v22.1/objects/users/1234599	<pre>{   "responseStatus": "FAILURE",   "errors": [     {       "type": "INVALID_DATA",       "message": "User [1234599] not found"     }   ] }</pre>

### 13.5 Activate User – Vault Level

Help Main	<a href="https://developer-cdms.veevavault.com/api/22.1/#activate-users">https://developer-cdms.veevavault.com/api/22.1/#activate-users</a>  (from the main vault endpoint for update a user, at vault level) - <a href="https://developer.veevavault.com/api/22.1/#update-vault-membership">https://developer.veevavault.com/api/22.1/#update-vault-membership</a>												
Style	PUT												
Endpoint	<your Vault URL>/api/v22.1/objects/users/{user_id}/vault_membership/{vault_id}												
Parameters	<table><tr><th>Name</th><th>Req/Opt</th><th>Notes</th></tr><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></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/v22.1/objects/users/1234567/vault_membership/10043299  (with encoded parameter parameter <b>active__v = true</b> )	<pre>{   "responseStatus": "SUCCESS" }</pre>
<b>Bad User ID</b>	
..api/v22.1/objects/users/1234599/vault_membership/10043299	<pre>{   "responseStatus": "FAILURE",   "errors": [     {       "type": "INVALID_DATA",       "message": "User [1234599] not found"     }   ] }</pre>

## 14 Best Practices / Tips

Area	Best Practice
Error Detection	<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> {   "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>
Error Detection	<p>If creating an integration into Vault CDMS, what is your error detection overall strategy?</p> <ul 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	<p>For an inbound integration to Vault CDMS:</p> <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	<p>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)</p>
API Account	<p>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.</p>
API Account	<p>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.</p>
Inspecting Data	<p>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?</p>
Inspecting Data	<p>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.</p>
Create vs Upsert	<p>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.</p>
Sequences	<p>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:</p> <pre> : "eventgroup._sequence": 1 : </pre> <p>in the request body. That said, consider always including these regardless, as it makes for a more consistent request/response match</p>

Area	Best Practice																																
Locked / Frozen	Various levels of locked and frozen statuses in turn affect ability to push data into Vault CDMS:																																
	<table><tr><th>Area</th><th>Status</th><th>Add/Update Data</th><th>Add/Update Queries</th></tr><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></table>	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																													
Frozen and Locked are not automatable through the API, by design. These were/are human decisions to stop actions from happening.																																	
Change Reasons	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.																																
Jobs	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.																																
User Administration	For updating of users with a CDMS vault, ensure the proper usage depending on the need: <div><div>(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)</div><div>(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</div><div>(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.</div></div>																																
User Administration	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.																																

