# FactSet Procure-to-Pay API

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## Contents

# Scope

This document describes how to use FactSet's Procure-to-Pay Provisioning API endpoints to create and manage FactSet user accounts and entitlements. The API adheres to the following SCIM RFCs:

https://datatracker.ietf.org/doc/html/rfc7644 (Protocol)

https://datatracker.ietf.org/doc/html/rfc7643 (Schema)

You should be familiar with the XML and JSON languages, HTTP protocol and Web Services. This document will describe the syntax needed for proper request formatting as well as the rules for processing responses. In addition, code examples are included, which further illustrate the use of this service.

Your implementation should be capable of workflow-based, ad-hoc and bulk requests against all endpoints.

# Authentication

All APIs are hosted under https://api.factset.com. Authentication is handled using API Keys or OAUTH and authorization is handled using FactSet's in-house subscriptions product. You can find more information about using API Keys and OAUTH at https://developer.factset.com/authentication.

HTTP request and response header names should be considered case insensitive as per HTTP Standard**.** Please do not rely on case sensitive matching of headers in your code.
OAUTH Client Credential flow is available as a means of authentication

# UAT-Path

The API supports a UAT path, https://api.uat.factset.com/scim/v2 which is provided solely for testing of bug fixes and enhancements. Any changes, additions or updates of any kind passed into the UAT path will apply as if they were passed into production URLs and endpoints except for any new, documented features, of the UAT paths.

# Procure-to-Pay Provisioning API Introduction

This section describes how to use FactSet's externally facing API to create and manage user provisioning and entitlement. You should be familiar with the XML language, the HTTP protocol, and Web Services. This document will describe the syntax needed for proper request formatting as well as the rules for processing responses. JSON examples are included as well

The API described in this document allows for the creation, modification, and deletion of end users on FactSet's systems.

Please note that if Vermillion Reporting Suite (VRS) is in scope of your implementation, a minimum version of "VRS 21.9" is required to make use of this API against VRS users. Please speak with your FactSet account team for questions related to versions or upgrading

## User Provisioning

The UP API should be integrated into your user-onboarding/CRM systems to provide seamless ordering and integration with FactSet. This should include workflow based, ad-hoc and bulk solutions to leverage the API and its endpoints.

To receive FactSet content, individuals must exist in FactSet's CRM system and be entitled. FactSet's CRM system contains basic information about the end user's name, e-mail address and location. In addition, FactSet assigns each user a unique serial number which is never reused. Individuals are grouped into FactSet usernames which represent groupings of individuals aligned by business unit, workflow, location or other grouping as determined by your account team. Available FactSet Usernames are listed in FactSet's Control Center in the left pane under Usernames & QNT Accounts. Speak to your FactSet account representatives if you require additional information regarding FactSet Usernames.

Creation of an individual and allocating a serial number is accomplished via the (POST) /users endpoint of the API.

Once assigned a serial and allocated to a Username, individuals can then be assigned additional functionality or content via permissioning of additional FactSet products. FactSet creates different types of workstations which are containers holding predefined products. FactSet services many types of institutions; certain workstations or products are geared towards a particular workflow or use cases.

## Terms

Below please fine terms and definitions of parameters and values of this API which are particular to FactSet.

### SerialNumber

A unique identifier allocated to each individual with access to FactSet. A serial number is distinct and never re-used if cancelled.

### Username

Each Serial Number is allocated to a Username. A Username represents a logical grouping of serial numbers. This grouping may be determined by business type, physical location, or job role amongst others and is determined by your FactSet account team and is a relatively static and unchanging list. A list of available usernames to allocate Serial Numbers to and descriptions is available in FactSet's Control Center under "Usernames & QNT Accounts" and are also available via API should an unknown username be provided.

### Products

Products represent entitlements to either FactSet Products, Exchanges or Benchmarks and may be allocated to, or removed from, individuals via the API. A list of products for allocation to Serial Numbers is available via the Products Management endpoints of this API. If additional products need to be made available for you to order, please contact your FactSet Account Team.

### Location

Each individual allocated a Serial Number must be assigned a location. A list of available locations and details are available from the Location Management endpoints of this API. If new locations need to be made available, please contact your FactSet Account Team.

### Workstation

A FactSet workstation, remarked by Workstation=TRUE, represents base level access to FactSet and issues the individual a serial number. Workstation products may never be removed from an individual but may be updated to new values. If you wish to cancel all entitlements of an individual, see Delete User.

- Please note that this document covers changing the FactSet workstation via API. This is a soon-to-be released enhancement. Changing the workstation at this time can only be accomplished via communication with your FactSet account Team.

### RoleName

RoleName is an optional parameter, determined by yourself and your FactSet Account Team. RoleNames are optional attributes passed in on Create User and Patch User functions which always allocate or update a Workstation and any products you and your Account Team determine in order to provision users for any base level of entitlements on creation/update; saving calls to the API. If a RoleName is not passed in on the creation of a serial, then a pre-defined, default FactSet workstation, as defined by your Account Team, will be allocated to the new user. Typically, this default workstation will be 6781 – FactSet Identity.

### AssertionValue

FactSet supports SAML2.0 for means of authentication to FactSet-domain resources within a browser. Should a Federation exist between your domain and FactSet's you may define the expected nameID for the SSO login of the individual. AssertionValues **must** be unique within the Federation and may not contain the following characters: ", <, >, *, &, ?, #, %, {, }, |, \,/, ^, ~, [, ]

### FactSetNetID

- A distinct FactSet login-ID allocated to an individual. Typically, this value is a concatenation of the individual's givenName and familyName as defined by this API. FactSetNetID is typically deprecated in terms of login in favor of the individual's email address.

## 1. Schemas

Each Schema urn: may be passed into the GET /schemas endpoint for verbose information on each schema

### 1.1 Core: User – schemas:core:2.0:User

*"schemas":["urn:ietf:params:scim:schemas:core:2.0:User"],*

See https://datatracker.ietf.org/doc/html/rfc7643 for description of SCIM-RFC specific user core attributes. The API itself is otherwise self-describing at FactSet's Developer Portal within the downloadable .yml file.

The service provider will allocate all individuals an ID per RFC7643. This ID may be utilized for further management of the individual, it may not be changed. You, the implementer, may assign the individual your own record keeping by providing an ExternalID value for any individuals you deem fit.

### 1.2 Core: Groups – schemas:core:2.0:Group

*"schemas":["urn:ietf:params:scim:schemas:core:2.0:Group"],*

See https://datatracker.ietf.org/doc/html/rfc7643 - Group Representation for description of SCIM-RFC specific Group core attributes. The API itself is otherwise self-describing at FactSet's Developer Portal as well as within the downloadable .yml file.

Group "displayName" values contain human-readable representations of the purpose of the group.

"value" representations of Group "members" are the core:2.0:User "id" which FactSet has provisioned the user/individual with, typically a concatenation of the individual's FactSet Username-Serial.

### 1.3 FactSet User Attributes – FactSet:Core:1.0:User

See section 3 for user management.
Basic FactSet-specific attributes of a given individual as presented by distinct serialNumber.

*"schemas":["urn:scim:schemas:extension:FactSet:Core:1.0:User"],*

| Parameter name | Data type | Description |
|---|---|---|
| username | String | The FactSet username the individual is (or is to be) allocated to |
| serialNumber | String | The unique and distinct serial number allocated to each individual with access to FactSet |
| factSetNetId | String | Distinct FactSet logon ID provided to each individual with a serial number |
| roleName | String | Represents the base set of products allocated to an individual. See Control Center's **Orders & Entitlements > Procure-to-Pay Overview** for a list of available roleNames. |
| products | String Array | Array describing the FactSet products allocated to an individual. See the FactSet Products for more detail |
| assertionValue | String | Expected nameID value to be asserted on SAML login |
| pendingProductOrders | Object Array | Array of objects showing any products pending application to an individual after order. Products may be delayed due to various circumstances such as requiring manual exchange approval |
| location | String Array | Location details of the location the individual is (or is to be) allocated to. See FactSet Location Attributes below for additional detail |

## 1.4 FactSet Location Attributes – FactSet:Core:1.0:Location

Each individual provisioned for access to FactSet must be allocated to a present location {id} within FactSet's CRM. The Location schema exposes these CRM-Location details to the implementer. See section 4 for endpoints. If new locations are required speak to your FactSet Account Representatives to have them created.

*"schemas":["urn:scim:schemas:extension:FactSet:Core:1.0:Location"],*

| Parameter name | Data type | Description |
|---|---|---|
| id | String | The FactSet CRM location id representing the distinct physical location's reference value in FactSet's systems |
| externalId | String | Your firm's (optional) reference to a FactSet location id applied via this API |
| name | String | The location id's name |
| description | String | Optional description describing the location id |
| address1,2,3 | String | Address details of location id |
| locality | String | Location id's city |
| region | String | Region of location id within FactSet's CRM (e.g. "California") |
| postalCode | String | Postal Code of location id within FactSet's CRM |
| country | String | The Country the location id is located within |
| phoneNumber | String | Any associated phone number of the location id |
| mainLocation | Object | Contains reference to the location id's associated parent-location within FactSet's CRM |

## 1.5 FactSet Products – FactSet:Core:1.0:Product

Available products can be listed from the /Products endpoints. To make additional products available to your implementation please speak to your FactSet Account Representative. See section 6 for endpoints.

*"schemas":["urn:scim:schemas:extension:FactSet:Core:1.0:Product"],*

| Parameter name | Data type | Description |
|---|---|---|
| id | String | Value represents the distinct "Product"-ID and access to an entitlement within the FactSet product Catalog |
| name | String | Human readable name of a given Product "id" |
| description | String | Human readable description of the Product "id" |
| workstation | Bool | A bool-value representing whether or not the product-itself is base-level access to FactSet, issuing the individual's serial number "workstation":true products cannot be canceled, but may be updated |
| requiresApproval | String | Indicates whether a specific product requires approval |
| groupDescription | String | Product type, e.g. Exchange Quotes, Product, Database |
| whiteLabel | Bool | Product(s) made available specific to your implementation |
| orderable | Bool | Details whether the product can be ordered |

## 1.6 FactSet Enterprise Hosting – FactSet:EnterpriseHosting:1.0:Group

Enterprise Hosting pods are separated by domains typically denoted by the last character of the domainCode.

U:UAT, D:Development, P:Production. See https://controlcenter.factset.com → Enterprise Hosting → Pods, for additional details on available domains.

*"schemas":["urn:scim:schemas:extension:FactSet:EnterpriseHosting:1.0:Group"],*

| Parameter name | Data type | Description |
|---|---|---|
| domainCode | String | Domain code of the Enterprise Hosting pod containing this group |

## 1.7 FactSet Vermilion Reporting User Attributes – FactSet:VRS:1.0:User

VRS User attributes, permissions and tenancies are managed via User Management in Section 3.

*"schemas":["urn:scim:schemas:extension:FactSet:VRS:1.0:User "],*

| Parameter name | Data type | Description |
|---|---|---|
| domainData | Object Array | A set of attributes pertaining to individual Vermilion domains. Contains the below parameters: |
| domainCode | String | Unique identifier for the Vermilion domain. |
| tenancies | Object Array | List of tenancies (Values) where the User exists in the associated domain. |
| value | String | Name of a tenant within 'tenancies' array |
| isAdministrator | Bool | Whether the User is an administrator in the associated domain |
| password | String | Password of the User in the associated domain. May be null upon creation of the User, but afterward may not change from a non-null to a null value |

## 1.8 FactSet Vermilion Reporting Groups – FactSet:VRS:1.0:Group

VRS group membership managed via Group Management endpoints: Section 5

*"schemas":["urn:scim:schemas:extension:FactSet:VRS:1.0:Group"],*

| Parameter name | Data type | Description |
|---|---|---|
| tenant | String | The tenant this role is in |
| domainCode | String | The domain code of the Enterprise Hosting Pod in which the user resides (value cannot be changed) |

## 2. Server Information

Servers: https://api.factset.com/scim/v2/

### 2.1 Get Service Provider Configuration - GET /serviceProviderConfig

#### Description

Provides information and supported operations of the API set.

#### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

#### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

#### Responses

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response |
| 400 | Bad Request |
| 401 | Missing or invalid authentication |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 2.2 List Schemas - GET /schemas/{id}

### Description

Provides details of the schemas available via the API by provided {id}.

### Available Schemas in this document:

urn:ietf:params:scim:api:messages:2.0:Error
urn:ietf:params:scim:api:messages:2.0:ListResponse
urn:ietf:params:scim:schemas:core:2.0:Group
urn:ietf:params:scim:schemas:core:2.0:ServiceProviderConfig
urn:ietf:params:scim:schemas:core:2.0:User
urn:scim:schemas:extension:CoreFactset:1.0
urn:scim:schemas:extension:FactSet:Core:1.0:Location
urn:scim:schemas:extension:FactSet:Core:1.0:Product
urn:scim:schemas:extension:FactSet:Core:1.0:User
urn:scim:schemas:extension:FactSet:EnterpriseHosting:1.0:Group
urn:scim:schemas:extension:FactSet:VRS:1.0:User
urn:scim:schemas:extension:FactSet:VRS:1.0:Group

### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

### Request Query Parameters

| Parameter name | Data type | Description | Required |
|---|---|---|---|
| {id} | String | Ex: urn:scim:schemas:extension:CoreFactset:1.0<br>Returns additional detail of the provided {id} | Yes |

### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

### Responses

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response |
| 400 | Bad Request |
| 401 | Missing or invalid authentication |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 3. User Management

Servers: https://api.factset.com/scim/v2/

### 3.1 List Users - GET /users

#### Description

Returns details for individuals. If ?filter is not provided, all individuals and their details are returned.

#### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

#### Request Query Parameters

| Parameter name | Data type | Description | Required |
|---|---|---|---|
| filter | String | See RFC 7644 section 3.4.2.2 for syntax (**note**: only a subset of the filter string grammar is currently supported) | No |

#### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

#### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response |
| 400 | Invalid filter value provided |
| 401 | Invalid authentication |
| 403 | User unauthorized |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 3.2 Create User - POST /Users

### Description

Creates a FactSet account for an individual based on submitted criteria.

- Base access to FactSet is based on entitlements of a FactSet Workstation product which issues a unique FactSet serial number.
    - See GET-Products endpoint for a list of available Workstation=TRUE products
- Products with "Workstation=TRUE" are known as "Workstations." An individual may only be entitled for a single Workstation product at any given time.
- Workstation products may be changed, but not cancelled, via PATCH-User endpoint by providing a new Workstation=TRUE product.
    - To cancel an individual, see DELETE-User endpoint
- On user creation, if no roleName or Workstation=TRUE product are passed in then the individual will be issued a Product{id} with Workstation=TRUE associated as determined by your FactSet account team as a default.
- For VRS workflows, requests to amend the tenancy associated with a user should only complete this action from within the MASTER tenant.

### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

### Request Body

| Parameter Name | Data Type | Required | Description |
|---|---|---|---|
| core:2.0:User Schema | | | |
| schemas | Array | Yes | Any included Schemas in the POST |
| externalId | String | No | External reference to user id |
| name | String Array | Yes | 'familyName' and 'givenName' of individual |
| email | String | Yes | Email address of individual |
| FactSet:Core:1.0:User Schema | | | |
| username | String | Yes | FactSet username the individual is to be allocated to |
| location | String Array | Yes | Contains the location 'value' the individual is to be allocated to. See Location Management for available locations |
| roleName | String | No | The roleName to be assigned to the individual |
| assertionValue | String | No | The expected nameID value to be passed by the individual for SAML2.0 logon |
| products | String Array | No | An array of product 'values' to be applied to the individual |

FactSet:VRS:1.0:User Schema

| | | | |
|---|---|---|---|
| domainData | Object Array | If VRS User-Yes | Set of atrributes describing VRS domains. Contains below items: |
| domainCode | String | If VRS User-Yes | Unique Idenifier for VRS Domain |
| tenancies | Object Array | If VRS user - Yes | List of tenancies where user exists in the associated VRS domain |
| isAdministrator | Bool | If VRS user - Yes | Whether the user is an administrator in the associated VRS domain |

## Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

## Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, contains submitted criteria from POST as well as additional FactSet provided attributes |
| 400 | Provided Resource contains invalid data |
| 401 | Missing or invalid authentication |
| 403 | User not authorized |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 3.3 Get User - GET /Users/{id}

### Description

Returns the details of a single individual if provided {id}

### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

### Request Path Parameters

| Parameter name | Data type | Description | Required |
|---|---|---|---|
| {id} | String | The API provided "id" for a given individual | No |

### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response |
| 401 | Missing or invalid authentication |
| 403 | User not authorized |
| 404 | User not found |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 3.4 Replace User - PUT /Users/{id}

### Description

Completely replace user based on details provided. Please note FactSet schemas for which user attributes cannot be changed and should not be provided.

### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

### Request Path Parameters

| Parameter name | Data type | Description | Required |
|---|---|---|---|
| {id} | String | The API provided "id" for a given individual | Yes |

### Request Body

| Parameter Name | Data Type | Required | Description |
|---|---|---|---|
| schemas:core:2.0:User | | | |
| schemas | Array | Yes | Any included Schemas in the POST |
| externalId | String | No | External reference to user id |
| name | String Array | No | 'familyName' and 'givenName' of individual |
| email | String | No | Email address of individual |
| FactSet:Core:1.0:User | | | |
| username | String | No | FactSet username the individual is to be allocated to |
| location | String Array | No | Contains the location 'value' the individual is to be allocated to. See Location Management for available locations |
| roleName | String | No | The roleName to be assigned to the individual |
| assertionValue | String | No | The expected nameID value to be passed by the individual for SAML2.0 logon |
| products | String Array | No | An array of product 'values' to be applied to the individual |

| FactSet:VRS:1.0:User | | | |
|---|---|---|---|
| domainData | Object Array | If VRS User-Yes | Set of atrributes describing VRS domains. Contains below items: |
| domainCode | String | If VRS User-Yes | Unique Idenifier for VRS Domain |
| tenancies | Object Array | If VRS user - Yes | List of tenancies where user exists in the associated VRS domain |
| isAdministrator | Bool | If VRS user - Yes | Whether the user is an administrator in the associated VRS domain |

## Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

## Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response. Contains entire set of user attributes |
| 400 | Provided resource contains invalid data |
| 401 | Missing or invalid authentication |
| 403 | User not authorized |
| 404 | User not found |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 3.5 Patch User - PATCH /Users/{id}

### Description

Add, replace, or remove attributes of a user. Please note FactSet schemas for which user attributes cannot be changed and should not be provided.

### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

### Request Path Parameters

| Parameter name | Data type | Description | Format |
|---|---|---|---|
| {id} | String | The API provided "id" for a given individual | nvarchar(250 |

### Request Body

| Parameter Name | Data Type | Required | Description |
|---|---|---|---|
| schemas | Array | Yes | Any includes Schemas in the POST, typically 'urn:ietf:params:scim:api:messages:2.0:PatchOp' |
| Operations | String Array | Yes | Contains 'op', 'path' of schema to be changed and new 'value' |

### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response. Contains entire set of user attributes |
| 400 | Patch request invalid |
| 401 | Missing or invalid authentication |
| 403 | User not authorized |
| 404 | User not found |
| 429 | Rate limit reached |

| | |
|---|---|
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 3.6 Delete User - DELETE /Users/{id}

### Description

Deletes a user by provided {id}. Deletion of an individual cancels all FactSet entitlements and the FactSet serial number.

### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

### Request Path Parameters

| Parameter name | Data type | Description | Format |
|---|---|---|---|
| {Id} | String | The API provided "id" for a given individual | nvarchar(250 |

### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

### Response Codes

| HTTP status code | Description |
|---|---|
| 204 | Expected response. User successfully deleted |
| 401 | Missing or invalid authentication |
| 403 | User not authorized |
| 404 | User not found |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 4. Location Management

Schema: FactSet:Core:1.0:Location

Servers: https://api.factset.com/scim/v2/

### 4.1 List Locations - GET /locations

#### Description

Returns list of locations and details per-location via the GET request.

#### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

#### Request Query Parameters

| Parameter name | Data type | Description | Format |
|---|---|---|---|
| filter | String | See RFC 7644 section 3.4.2.2 for syntax (**note**: only a subset of the filter string grammar is currently supported) | nvarchar(200) |

#### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

#### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response |
| 400 | Invalid filter value provided |
| 401 | Invalid authentication |
| 403 | User unauthorized |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 4.2 Get Location - GET /locations/{id}

### Description

Returns the details of a single location as provide by {id} in path

### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

### Request Parameters

| Parameter name | Data type | Description | Format |
|---|---|---|---|
| {id} | String | The API provided "id" for a given location | nvarchar(250 |

### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response |
| 401 | Missing or invalid authentication |
| 403 | User not authorized |
| 404 | Location not found |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 4.3 Replace Location - PUT /locations/{id}

### Description

Completely replace location details based on POST-body provided. Applies your location reference, as ExternalID, to referenced FactSet provided "id".

### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

### Request Parameters

| Parameter name | Data type | Description | Format |
|---|---|---|---|
| {id} | String | The API provided "id" for a given location | nvarchar(250 |

### Request Body

| Parameter name | Data type | Description | Format |
|---|---|---|---|
| ExternalId | String | Your internal reference to a specific location to be associated to the FactSet provided "id" | nvarchar(250 |

### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response. Contains entire set of user attributes |
| 400 | Provided resource contains invalid data |
| 401 | Missing or invalid authentication |
| 403 | User not authorized |
| 404 | Location "id" not found |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 4.4 Patch Location - PUT /locations/{id}

### Description

Update location details based on POST-body provided. Updates your location reference, as ExternalID, to referenced FactSet provided “id”.

### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use ‘Basic <base64 encoded value>’ format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

### Request Parameters

| Parameter name | Data type | Description | Format |
|---|---|---|---|
| {id} | String | The API provided “id” for a given location | nvarchar(250 |

### Request Body

| Parameter Name | Data Type | Required | Description |
|---|---|---|---|
| schemas | Array | Yes | Any includes Schemas in the POST |
| Operations | String Array | Yes | Contains ‘op’, ‘path’:’externalId’ and the new ‘value’ to be allocated to externalId |

### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet’s request key header |

### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response. Contains entire set of user attributes |
| 400 | Provided resource contains invalid data |
| 401 | Missing or invalid authentication |
| 403 | User not authorized |
| 404 | Location “id” not found |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 5. Group Management

Servers: ?filte

### 5.1 List Groups - GET /groups

#### Description

Returns a list of available groups and members. If ?filter is not provided, all available groups are returned.

#### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use ‘Basic <base64 encoded value>’ format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

#### Request Query Parameters

| Parameter name | Data type | Description | Format |
|---|---|---|---|
| filter | String | See RFC 7644 section 3.4.2.2 for syntax (**note**: only a subset of the filter string grammar is currently supported) | nvarchar(200) |

#### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet’s request key header |

#### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response |
| 400 | Invalid Filter value provided |
| 401 | Invalid authentication |
| 403 | User unauthorized |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 5.2 Get Group - GET /group/{id}

### Description

Returns details and members of a single group as provided by {id}.

### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

### Request Query Parameters

| Parameter name | Data type | Description | Format |
|---|---|---|---|
| {id} | String | See RFC 7644 section 3.4.2.2 for syntax (**note**: only a subset of the filter string grammar is currently supported) | nvarchar(200) |

### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response |
| 401 | Invalid authentication |
| 403 | User unauthorized |
| 404 | Group not found |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 5.3 Replace Group - PUT /group/{id}

### Description

Replace all members of a group as provided by ?id.

### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

### Request Parameters

| Parameter name | Data type | Description | Required |
|---|---|---|---|
| {id} | String | See RFC 7644 section 3.4.2.2 for syntax (**note**: only a subset of the filter string grammar is currently supported) | Yes |

### Request Body

| Parameter Name | Data Type | Required | Description |
|---|---|---|---|
| schemas | Array | Yes | Any includes Schemas in the POST |
| displayName | String | No | Human Readable name for the group |
| externalId | Sting | No | Any external reference to group 'id' |
| members | String Array | Yes | Array containing any new members as provided by string objects: 'value' containing user {id}, '$ref' URI containing path to user, and 'type' containing type of resource (e.g. 'user' or 'group') |

### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response. Contains details of group with members |
| 400 | Provided resource contains invalid data |
| 401 | Invalid authentication |
| 403 | User unauthorized |
| 404 | Group not found |

| | |
|---|---|
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 5.4 Update Group - Patch /group/{id}

### Description

Update members of a group as provided by ?id.

### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format). |

### Request Parameters

| Parameter name | Data type | Description | Format |
|---|---|---|---|
| {id} | String | See RFC 7644 section 3.4.2.2 for syntax (**note**: only a subset of the filter string grammar is currently supported) | nvarchar(200) |

### Request Body

| Parameter Name | Data Type | Required | Description |
|---|---|---|---|
| schemas | Array | Yes | Any includes Schemas in the POST, typically 'urn:ietf:params:scim:api:messages:2.0:PatchOp' |
| Operations | String Array | Yes | Contains 'op', 'path' of schema to be changed 'value' array containng obects: 'value' with updated membership {ids} as strings |

### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response. Contains details of group with members |
| 400 | Patch request invalid |
| 401 | Invalid authentication |

| | |
|---|---|
| 403 | User unauthorized |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 6. Product Management

Servers: https://api.factset.com/scim/v2/

### 6.1 List Products - GET /products/{id}

#### Description

Returns a list of available products which can be allocated to individual serial numbers. List returned shows all available Exchanges and Benchmarks in FactSet catalogs as well as specific FactSet-Products and Workstations allocated to your firm by your Account Team. If additional products are required to be listed please speak to your FactSet Account Representatives.

Products with **"workstation": true**, remark products which issue a FactSet serial number and denote base-level access to FactSet. Individuals may only ever be allocated a single product where "workstation":true.

#### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

#### Request Query Parameters

| Parameter name | Data type | Description | Format |
|---|---|---|---|
| filter | String | See RFC 7644 section 3.4.2.2 for syntax (**note**: only a subset of the filter string grammar is currently supported) | nvarchar(200) |
| {id} | String | If provided returns only details of the single product {id} | nvarchar(250) |

#### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

#### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response |

| | |
|---|---|
| 400 | Invalid Filter value provided |
| 401 | Invalid authentication |
| 403 | User unauthorized |
| 429 | Rate limit reached |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 7. File Manager

Servers: https://api.factset.com/scim/v2/

### 7.1 File Manager Audit - GET /FileManagerAudit

#### Description

Returns details of FactSet File Manager Security Groups

#### Request Headers

| Header name | Description |
|---|---|
| Authorization | Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format |
| Content-Type | Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format) |

#### Response Headers

| Header name | Description |
|---|---|
| X-DataDirect-Request-Key | FactSet's request key header |

#### Response Codes

| HTTP status code | Description |
|---|---|
| 200 | Expected response, returns JSON in body of response |
| 401 | Missing or invalid authentication |
| 403 | User not authorized |
| 500 | Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting |

## 8. Common Workflow Examples

### ***Add users to a group:***

List of available groups can be fetched from /Groups endpoint in section 5.1

<table>
<tr><td>HTTP method</td><td>PATCH</td></tr>
<tr><td>URL</td><td>https://api.factset.com/scim/v2/Groups/eh:xyz:Pod 05 - Users</td></tr>
<tr><td>HTTP request body</td><td><pre>
{
 "schemas": [
  "urn:ietf:params:scim:api:messages:2.0:PatchOp"
       ],
       "Operations": [
             {
                   "op": "add",
                   "path": "members",
                   "value": [
                         {
                               "value": "SAMPLE_USER-123456"
                         },
                         {
                               "value": "SAMPLE_USER-789012"
                         }
                   ]
             }
       ]
}
</pre></td></tr>
</table>

### ***Remove users a group:***

List of available groups can be fetched from /Groups endpoint in section 5.1

<table>
<tr><td>HTTP method</td><td>PATCH</td></tr>
<tr><td>URL</td><td>https://api.factset.com/scim/v2/Groups/eh:xyz:Pod 05 - Users</td></tr>
<tr><td>HTTP request body</td><td><pre>
{
      "schemas": [
      "urn:ietf:params:scim:api:messages:2.0:PatchOp"
      ],
      "Operations": [
            {
                  "op": "remove",
                  "path": "members[value eq \"SAMPLE_USER-123456\" or
value eq \"SAMPLE_USER-789012\"]"
            }
      ]
}
</pre></td></tr>
</table>

### *Replace users in Enterprise Hosting group:*

List of available groups can be fetched from “Get Groups” in section 5.2

<table>
<tr><td>HTTP method</td><td>PATCH</td></tr>
<tr><td>URL</td><td>https://api.factset.com/scim/v2/Groups/eh:xyz:Pod 05 - Users</td></tr>
<tr><td>HTTP request body</td><td><pre>
{
        "schemas": [
                "urn:ietf:params:scim:api:messages:2.0:PatchOp"
        ],
        "Operations": [
                {
                        "op": "replace",
                        "path": "members[value eq \"SAMPLE_USER-123456\" or
value eq \"SAMPLE_USER-789012\"]"
                        "value": [
                                {
                                        "value": "SAMPLE_USER-345678"
                                },
                                {
                                        "value": "SAMPLE_USER-901234"
                                }
                        ]
                }
        ]
}
</pre></td></tr>
</table>

### *Add products to a user:*

List of available products can be fetched from Products endpoint in section 6.1

<table>
<tr><td>HTTP method</td><td>PATCH</td></tr>
<tr><td>URL</td><td>https://api.factset.com/scim/v2/Users/SAMPLE_USER-123456</td></tr>
<tr><td>HTTP request body</td><td><pre>
{
        "schemas": [
                "urn:ietf:params:scim:api:messages:2.0:PatchOp"
        ],
        "Operations": [
                {
                        "op": "add",
                        "path":
"urn:scim:schemas:extension:FactSet:Core:1.0:User:products",
                        "value": [
                                {
                                        "value": "12455"
                                },
                                {
                                        "value": "706"
                                }
                        ]
                }
        ]
}
</pre></td></tr>
</table>

### Remove products from a user:

<table>
<tr><td>HTTP method</td><td>PATCH</td></tr>
<tr><td>URL</td><td>https://api.factset.com/scim/v2/Users/SAMPLE_USER-123456</td></tr>
<tr><td>HTTP request body</td><td><pre>{
      "schemas": [
            "urn:ietf:params:scim:api:messages:2.0:PatchOp"
      ],
      "Operations": [
            {
                  "op": "remove",
                  "path":
"urn:scim:schemas:extension:FactSet:Core:1.0:User:products[value eq
\"12455\" or value eq \"706\"]"
            }
      ]
}</pre></td></tr>
</table>

### Change email address:

<table>
<tr><td>HTTP method</td><td>PATCH</td></tr>
<tr><td>URL</td><td>https://api.factset.com/scim/v2/Users/SAMPLE_USER-123456</td></tr>
<tr><td>HTTP request body</td><td><pre>{
      "schemas": [
            "urn:ietf:params:scim:api:messages:2.0:PatchOp"
      ],
      "Operations": [
            {
                  "op": "replace",
                  "path": "email",
        "value": john.doe@factset.com
            }
      ]
}</pre></td></tr>
</table>

### Change location:

List of available locations can be fetched from Locations endpoint in section 4.1

<table>
<tr><td>HTTP method</td><td>PATCH</td></tr>
<tr><td>URL</td><td>https://api.factset.com/scim/v2/Users/SAMPLE_USER-123456</td></tr>
<tr><td>HTTP request body</td><td><pre>{
      "schemas": [
            "urn:ietf:params:scim:api:messages:2.0:PatchOp"
      ],
      "Operations": [
            {
                  "op": "replace",
                  "path":
"urn:scim:schemas:extension:FactSet:Core:1.0:User:location.value",
                  "value": "1691942"
            }
      ]
}</pre></td></tr>
</table>

### Delete a user:

| | |
|---|---|
| HTTP method | DELETE |
| URL | https://api.factset.com/scim/v2/Users/SAMPLE_USER-123456 |
| HTTP request body | None |

### Add user to VRS domain:

| | |
|---|---|
| HTTP method | PATCH |
| URL | https://api.factset.com/scim/v2/Users/SAMPLE_USER-123456 |
| HTTP request body | {<br> "schemas": [<br>  "urn:ietf:params:scim:api:messages:2.0:PatchOp"<br> ],<br> "Operations": [<br>  {<br>   "op": "add",<br>   "path":<br>"urn:scim:schemas:extension:FactSet:VRS:1.0:User:domainData",<br>   "value": [<br>    {<br>     "domainCode": "jpmp",<br>     "tenancies": [<br>      {<br>       "value": "MASTER"<br>      }<br>     ]<br>    }<br>   ]<br>  }<br> ]<br>} |

### Remove a user from a VRS Domain:

| | |
|---|---|
| HTTP method | PATCH |
| URL | https://api.factset.com/scim/v2/Users/SAMPLE_USER-123456 |
| HTTP request body | {<br> "schemas": [<br>  "urn:ietf:params:scim:api:messages:2.0:PatchOp"<br> ],<br> "Operations": [<br>  {<br>   "op": "remove",<br>   "path": "urn:scim:schemas:extension:FactSet:VRS:1.0:User:domainData[domainCode eq \"jpmp\"]"<br>  }<br> ]<br>} |

### Add tenancy to a user:

Note: when adding to a domain, the user must become a member of at least one tenancy.

| | |
|---|---|
| HTTP method | PATCH |
| URL | https://api.factset.com/scim/v2/Users/SAMPLE_USER-123456 |
| HTTP request body | {<br>      "schemas":<br>        ["urn:ietf:params:scim:api:messages:2.0:PatchOp"],<br>      "Operations":[{<br>        "op":"add",<br>        "path": "urn:scim:schemas:extension:FactSet:VRS:1.0:User:<br>domainData[domainCode eq \jpmp\].tenancies",<br>        "value": [{<br>            "value": "TENANT1"<br>        }]<br>          }]<br>} |

### Add multiple tenancies to a user:

| | |
|---|---|
| HTTP method | PATCH |
| URL | https://api.factset.com/scim/v2/Users/SAMPLE_USER-123456 |
| HTTP request body | {<br>      "schemas":<br>        ["urn:ietf:params:scim:api:messages:2.0:PatchOp"],<br><br>      "Operations":[{<br>        "op": "add",<br>        "path":<br>"urn:scim:schemas:extension:FactSet:VRS:1.0:User:domainData[domainCode<br>\"jpmp\"].tenancies",<br>          "value": [{<br>"value": "TENANT1"<br>}, {<br>"value": "TENANT2"<br>}]<br>} |

### Remove multiple tenancies from a user:

| | |
|---|---|
| HTTP method | PATCH |
| URL | https://api.factset.com/scim/v2/Users/SAMPLE_USER-123456 |
| HTTP request body | {<br>      "schemas":<br>        ["urn:ietf:params:scim:api:messages:2.0:PatchOp"],<br>      "Operations":[{<br>        "op":"remove",<br>         "path": "urn:scim:schemas:extension:FactSet:VRS:1.0:User<br>:domainData[domainCode eq \"jpmp\"].tenancies[value eq \"TENANT1\"<br>or value eq \"TENANT2\"]"<br>          }]<br>} |

### *Replace all tenancies on a user:*

| | |
|---|---|
| HTTP method | PATCH |
| URL | https://api.factset.com/scim/v2/Users/SAMPLE_USER-123456 |
| HTTP request body | `{`<br>`"schemas":`<br>`["urn:ietf:params:scim:api:messages:2.0:PatchOp"],`<br>`"Operations": [{`<br>`"op": "replace",`<br>`"path":`<br>`"urn:scim:schemas:extension:FactSet:VRS:1.0:User:domainData[domainCode eq \"jpmp\"].tenancies",`<br>`"value": [  {`<br>`"value" :"TENANT1"    }`<br>`]}]}` |

## *Examples of Fetching and Filtering data:*

- Below items are HTTP Method: GET
- Ensure that all request values are URL-encoded.
- See: https://tools.ietf.org/html/rfc7644#section-3.4.2.2 for complete filter parameters and definitions

### Show (first 100) users

*https://api.factset.com/scim/v2/users?startindex=1&count=100*

### Show all users with product 202

*https://api.factset.com/scim/v2/users?filter=urn:scim:schemas:extension:FactSet:Core:1.0:User:products.value eq "202"*

### Show details on product 202

https://api.factset.com/scim/v2/Products?filter=id eq "202"

### Show all Users entitled with product name containing "identity"

*https://api.factset.com/scim/v2/users?filter=urn:scim:schemas:extension:FactSet:Core:1.0:User:products.display co "identity"*

### Show Whitelisted products

*Whitelisted products are products specifically allocated for your ordering by your Account Team.*

*https://api.factset.com/scim/v2/Products?filter=whitelist eq true*

### Show (First 10) products where name contains "NYSE"

*https://api.factset.com/scim/v2/Products?startindex=1&count=10&filter=name co "NYSE"*

### Show (First 1000) products where groupdescription equals <value>

*https://api.factset.com/scim/v2/Products?startindex=1&count=1000&filter=groupdescription eq "Exchange Quotes"*

*Other available GroupDescription values:*

- *News/Broker Research*
- *Benchmarks/Constituents*

### Show Groups whose displayName contains "Training"

*https://api.factset.com/scim/v2/groups?filter=displayName co "Training"*

### Show Enterprise Hosting Groups, id starts with "eh"

*https://api.factset.com/scim/v2/groups?filter=displayName sw "eh"*

### Show List of individuals with a specific roleName assignment

*https://api.factset.com/scim/v2/Users?filter=urn:scim:schemas:extension:FactSet:Core:1.0:User:roleName eq "ARoleName"*

# Support – FactSet's Issue Tracker

## Issue Tracker

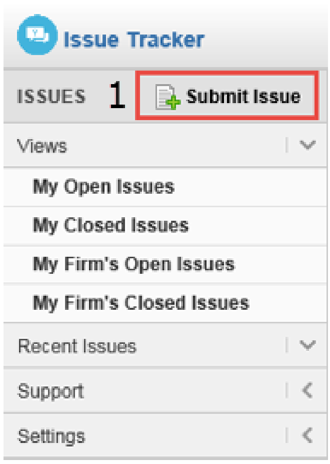
FactSet offers support for Federations and Provisioning via direct submission of support tickets to FactSet Engineers via FactSet's Issue Tracker at https://issuetracker.factset.com.

To gain access to Issue Tracker for Views/White Label and Federation support, contact your FactSet Account Representative. Request FactSet product 24303.

Engineers and product specialists will handle issues submitted via Issue Tracker. Update notifications will be delivered to your e-mail for any tickets submitted by yourself or colleagues who also have access to Issue Tracker.

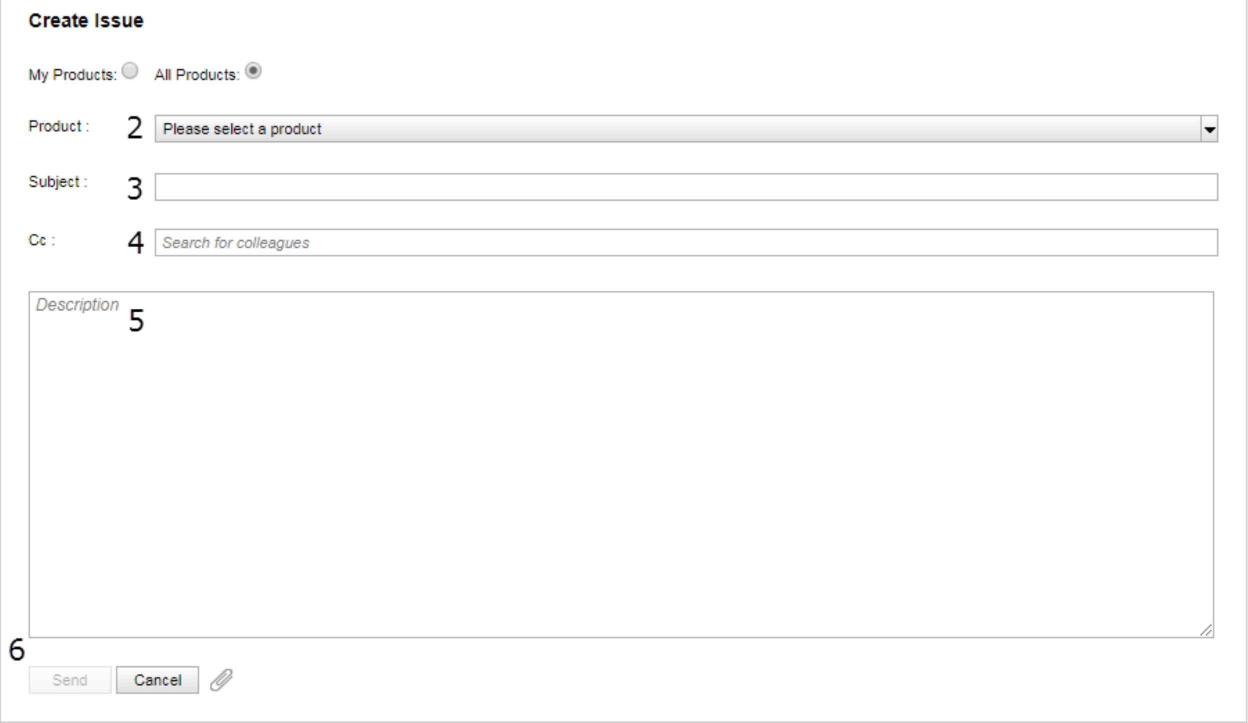
## Submitting an Issue via Issue Tracker

1. Log into https://issuetracker.factset.com and click on "Submit Issue"
2. From the "Product:" dropdown box, select the Product and then Category for the issue at hand
3. Fill in the "Subject:" field with an appropriate title
4. You may add to the "Cc:" field any of your colleagues who also have Issue Tracker access
5. Fill in the "Description" field with the issue at hand. You may also attach screenshots or other documents to the Issue
6. When completed, click on "Send"



Open issues filed by yourself will be available under "My Open Issues"; your closed issues will be under "My Closed Issues"

Issues opened and closed by others at your firm with Issue tracker will be located under "My Firm's Open Issues" and "My Firm's Closed Issues" respectively.



## Support Products

The below Issue Tracker products are available which apply to this documentation. Not all products may be available to you if they are not within the scope of your implementation.

Product - Procure-to-Pay - Provisioning

Categories

API Authentication Support: For setup and questions/troubleshooting of auth-systems required to authenticate to the Procure-to-Pay API

Procure-to-Pay API Support: For questions and troubleshooting of provisioning and entitling individuals via the Procure-to-Pay API

Setup:
For initial setup of the API

When submitting Procure-to-Pay API support inquiries, please include the following details with your inquiry:

- X-DataDirect-Request-Key – supplied in the response headers of any response from the API. This will allow FactSet to review the specific transaction in question
- ErrorId - Supplied in the response of the API. Sometimes contains useful information in a supplied "message" for you to act on
- TransactionCode – Supplied in the response of the API. Presence of the TransactionCode and accompanying "message" means that the request was not compliant in some regard to the requested transaction

# Change Log

v.2022-02-01:

- Initial release

v.2022-04-21:

- Added Contents Section
- Added File Manager Audit Endpoint

v.2022-04-28:

- Added Section 8: Common Workflow Examples

v.2022-05-13:

- Added White label parameter for Products schema

v.2022-05-24:

- Added UAT Section and description

v.2023-02-16

- Moved the /VermilionUsers endpoint into FactSet:VRS:1.0:User Schema
- Moved the /VermilionGroups endpoint into FactSet:VRS:1.0:Group Schema
- Added several Vermilion workflow examples as well as additional Filter/Fetching examples to Section 8

V2023-05-05

- Adjusted versioning for YYYY-MM-DD
- “Orderable” parameter added to **FactSet:Core:1.0:Product** schema