py42

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Code42 Software

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`py42` is a Python wrapper around the Code42 REST APIs that also provides several utility methods. Use `py42` to develop your own tools for working with Code42 data while avoiding the overhead of session / authentication management.

CHAPTER

ONE

FEATURES

- Managing users, organizations, and devices.
- Searching file events and alerts.
- Adding/Removing employees from detection lists.

CHAPTER

TWO

CONTENT

2.1 User Guides

2.1.1 Getting started with py42

- *Licensing*
- *Installation*
- *Authentication*
- *Troubleshooting and Support*

Licensing

This project uses the MIT License.

Installation

You can install py42 from PyPI, from source, or from distribution.

From PyPI

The easiest and most common way is to use `pip`:

```
pip install py42
```

To install a previous version of py42 via `pip`, add the version number. For example, to install version 0.4.1, you would enter:

```
pip install py42==0.4.1
```

Visit the project history on PyPI to see all published versions.

From source

Alternatively, you can install py42 directly from source code:

```
git clone https://github.com/code42/py42.git
```

When it finishes downloading, from the root project directory, run:

```
python setup.py install
```

From distribution

If you want create a `.tar` ball for installing elsewhere, run this command from the project's root directory:

```
python setup.py sdist
```

After it finishes building, the `.tar` ball will be located in the newly created `dist` directory. To install it, enter:

```
pip install py42-[VERSION].tar.gz
```

Authentication

Important: py42 currently only supports token-based authentication.

To initialize the `py42.sdk.SDKClient`, you must provide your credentials (basic authentication). If you are writing a script, we recommend using a secure password storage library, such as `keyring`, for retrieving passwords. However, subsequent requests use JWT authentication.

py42 currently does **not** support SSO login providers or any other identity providers such as Active Directory or Okta.

Troubleshooting and support

Debug mode

Debug mode may be useful if you are trying to determine if you are experiencing permissions issues. When debug mode is on, py42 logs HTTP request data to the console. Use the following as a guide for how to turn on debug mode in py42:

```
import py42.sdk
import py42.settings.debug as debug

py42.settings.debug.level = debug.DEBUG
```

File an issue on GitHub

If you are experiencing an issue with py42, you can create a *New issue* at the project repository. See the Github guide on creating an issue for more information.

Contact Code42 Support

If you don't have a GitHub account and are experiencing issues, contact Code42 support.

What's next?

Learn the basics by following the py42 Basics guide.

2.1.2 py42 Basics

This guide explains the basic concepts of py42. Learning these basics can help you gain confidence in writing your own scripts.

- *py42 Basics*
  - *Initialization*
  - *Paging*
  - *Py42Response*
  - *Dates*
  - *Exceptions*

The examples from this guide are intended as blanket concepts that apply to other areas in py42. For example, paging over users and devices works the same way as over departing employees and alerts.

Initialization

To use py42, you must initialize the SDK:

```
import py42.sdk

sdk = py42.sdk.from_local_account("https://console.us.code42.com", "my_username", "my_
↪password")
```

Paging

py42 clients often have a method with the name (or name prefix) `get_all` which handles iterating over pages of response items. Here are some examples:

- `py42.sdk.devices.get_all()`
- `py42.sdk.users.get_all()`
- `py42.sdk.legalhold.get_all_matters()`
- `py42.sdk.orgs.get_all()`

These methods each return a python generator. Looping over the pages returned by the generator gives you access to the actual list of items. Use the code snippet below as an example for working with generators and paging in py42:

```
# Prints the username and notes for all departing employees

pages = sdk.detectionlists.departing_employee.get_all()  # pages has 'generator' type
for page in pages:  # page has 'Py42Response' type
    employees = page["items"]
    for employee in employees:
        username = employee["userName"]
        notes = employee["notes"]
        print("{0}: {1}".format(employee, notes))
```

Each page is a typical py42 response. The next section covers what you can do with `Py42Response` objects.

Py42Response

py42 clients return `Py42Response` objects which are intentionally similar to `requests.Response` objects. The `Py42Response` class hides unneeded metadata found on the raw `requests.Response.text` (which is available as `Py42Response.raw_text`), making it easier to get the most useful parts of the response. Also, the object is subscriptable, meaning you can access it with keys or indices (depending on the JSON type underneath `data` on Code42 API responses):

```
user = response["users"][0]
item = list_response[0]["itemProperty"]
```

To see all the keys on a response, observe its `.text` attribute. By printing the response, you essentially print its text property:

```
# Prints details about the response from a getting a detection list user.

response = sdk.detectionlists.get_user("test.user@example.com")
print(response)  # JSON as Dictionary - same as print(response.text)
print(response.raw_text)  # Raw API response
print(response.status_code)  # 200
cloud_usernames = response["cloudUsernames"]
print(cloud_usernames)
```

Dates

Most dates in py42 support POSIX timestamps for date parameters. As an example, see :class:`sdk.queries.fileevents.filters.event_filter.EventTimestamp` which is used for querying file events by their event timestamp.

```
from datetime import datetime, timedelta

import py42.sdk
import py42.util
from py42.sdk.queries.fileevents.file_event_query import FileEventQuery
from py42.sdk.queries.fileevents.filters.event_filter import EventTimestamp

sdk = py42.sdk.from_local_account("https://console.us.code42.com", "my_username", "my_
↪password")

# Get the epoch date 14 days in the past
```

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```
query_date = datetime.utcnow() - timedelta(days=14)
query_epoch = (query_date - datetime.utcfromtimestamp(0)).total_seconds()

query = FileEventQuery(EventTimestamp.on_or_after(query_epoch))

response = sdk.securitydata.search_file_events(query)

# Print all the md5 Checksums from every file event within the past 14 days.
file_events = response["fileEvents"]
for event in file_events:
    print(event["md5Checksum"])
```

Exceptions

py42 throws some of its own exceptions when failures occur. py42 exceptions are found in the `py42.sdk.exceptions` module. Some of the available exceptions are:

- `Py42ForbiddenError`: (403) With your currently signed-in account, you don't have the necessary permissions to perform the action you were trying to do.
- `Py42UnauthorizedError`: (401) The username or password is incorrect.
- `Py42InternalServerError`: (500) Likely an unhandled issue on our servers.

For example, you are making a `create_sdk()` function and want to print a more user-friendly message when the provided username or password are incorrect:

```
import keyring
import py42.sdk
from py42.exceptions import Py42UnauthorizedError


def create_sdk(username):
    """Tries to initialize SDK. If unauthorized, prints message and exits."""
    try:
        password = keyring.get_password("my_program", username)
        return py42.sdk.from_local_account("www.authority.example.com", username,␣
↪password)
    except Py42UnauthorizedError:
        print("Invalid username or password.")
        exit(1)
```

2.1.3 Executing Searches

py42 features a powerful, flexible query system for quickly and easily searching file events and alerts. This guide explains the syntax for building queries and executing searches.

Search File Events

First, import the required modules and classes and create the SDK:

```
import py42.sdk
from py42.sdk.queries.fileevents.filters import *
from py42.sdk.queries.fileevents.file_event_query import FileEventQuery

sdk = py42.sdk.from_local_account("https://console.us.code42.com", "my_username", "my_
↪password")
```

You must create `query_filter.FilterGroup` objects to conduct searches. Filter groups have a type (in the form of a class), such as `EmailSender`, and an operator (in the form of a function), such as `is_in()`. Some example filter groups look like this:

```
email_filter = EmailSender.is_in(["test.user@example.com", "test.sender@example.com"])
exposure_filter = ExposureType.exists()
ip_filter = PrivateIPAddress.eq("127.0.0.1")
```

There are two operators when building `file_event_query.FileEventQuery` objects: `any()` and `all()`.

`any()` gets results where at least one of the filters is true and `all()` gets results where all of the filters are true.

```
any_query = FileEventQuery.any(email_filter, exposure_filter)
all_query = FileEventQuery.all(exposure_filter, ip_filter)
```

For convenience, the `FileEventQuery` constructor works the same way as `all()`:

```
all_query = FileEventQuery(exposure_filter, ip_filter)
```

You can put filters in an iterable and unpack them (using the `*` operator) in a `FileEventQuery`. This is a common use case for programs that need to conditionally build up filters:

```
# Conditionally appends filters to a list for crafting a query

filter_list = []
if need_shared:
    filter_list.append(Shared.is_true())
elif need_actors:
    actor_filter = Actor.is_in(["foo@example.com", "baz@example.com"])
    filter_list.append(actor_filter)
# Notice the use of the '*' operator to unpack filter_list
query = FileEventQuery(*filter_list)
```

To execute the search, use `securitydata.SecurityModule.search_file_events()`:

```
# Prints the MD5 hashes of all the files that caused exposure events where files were␣
↪moved to an external drive.

query = FileEventQuery(ExposureType.eq(ExposureType.REMOVABLE_MEDIA))
response = sdk.securitydata.search_file_events(query)
file_events = response["fileEvents"]
for event in file_events:
    print(event["md5Checksum"])
```

Search Alerts

Alert searches work in a very similar way to file event searches.

To start, import the filters and query object:

```
from py42.sdk.queries.alerts.filters import *
from py42.sdk.queries.alerts.alert_query import AlertQuery

# Create a query for getting all open alerts with severity either 'High' or 'Medium'.

filters = [AlertState.eq(AlertState.OPEN), Severity.is_in([Severity.HIGH, Severity.
↪MEDIUM])]
query = AlertQuery(*filters)
```

To execute the search, use the `alerts.AlertClient.search()` method:

```
# Prints the actor property from each search result
response = sdk.securitydata.alerts.search(query)
alerts = response["alerts"]
for alert in alerts:
    print(alert["actor"])
```

2.1.4 Add or Remove Users From the Departing Employees List

Use py42 to quickly and easily manage users on the Departing Employees list. This guide describes how to add users to and remove users from the Departing Employees list.

To add a user to the Departing Employees list, all you need to know is the user's Code42 user UID.

To get the user UID based on username:

```
user = sdk.users.get_by_username("username")
uid = user["users"][0]["userUid"]
```

`user_id` below refers to the user UID.

```
# Add the departing employee
response = sdk.detectionlists.departing_employee.add(user_id, departure_date)
```

Important: If the user is already in the Departing Employees list, you will get a response indicating that it is a bad request.

If a detection list user profile doesn't exist yet for this user, one will automatically be created before adding the user to the Departing Employees list.

To remove a user from the Departing Employees list:

```
sdk.detectionlists.departing_employee.remove(user_id)
```

For complete details, see Departing Employee.

2.1.5 Get Active Devices From an Organization

Using py42, you can retrieve information about the active devices in your organization for various use cases. For example, you might want to create a simple report that illustrates how many devices are running each operating system in your Code42 environment. Your user role determines which devices you have access to.

To begin, initialize the SDK:

```
import py42.sdk
sdk = py42.sdk.from_local_account("https://console.us.code42.com", "my_username", "my_
↪password")
```

The `DeviceClient.get_all()` Function

Next, use `py42.sdk.clients.devices.DeviceClient` to search for active devices in your organization. Use the `active` parameter on the `get_all()` method.

The `active` parameter has three different states:

- If `active` is set to `True`, you will only get active devices.
- If `active` is set to `False`, you will only get deactivated devices.
- If you don't use `active`, you will get all devices.

The `get_all()` function returns a generator of pages of devices. The devices returned by `get_all()` are based on the role and permissions of the user authenticating the SDK.

Examples

Here is an example using `get_all()` to get all active devices in your organization(s):

```
# For each active device in your organization, print its GUID and operating system

response = sdk.devices.get_all(active=True)
for page in response:
    devices = page["computers"]
    for device in devices:
        print("{0} - {1}".format(device["guid"], device["osName"]))
```

As another example, you might have the Cross Org Administrator role and want to get all the active devices for just one of your organizations. To do this, use the `py42.sdk.clients.devices.OrgClient.get_by_name()` method. The `get_by_name()` method returns a list of organizations matching the name you give it.

```
# For each active device in the engineering organization, print its GUID and␣
↪operating system.

# Assume there is only one org named "Engineering"
engineering_org = sdk.orgs.get_by_name("Engineering")[0]
engineering_org_uid = engineering_org["orgUid"]
response = sdk.devices.get_all(active=True, org_uid=engineering_org_uid)
for page in response:
    devices = page["computers"]
    for device in devices:
        print("{0} - {1}".format(device["guid"], device["osName"]))
```

We got the org UID from the engineering organization and then passed it as a parameter to the method to get all the devices, thus getting all the active devices in the engineering organization.

2.2 Method Documentation

The main SDK object by which all other methods are accessed is created by calling `py42.sdk.from_local_account`. For example:

```
import py42.sdk

sdk = py42.sdk.from_local_account("console.us.code42.com", "john.doe@example.com",
↪"my_pw")
# access properties on 'sdk' to explore all the available methods
```

Important: *py42* cannot be used with SAML or Sigle Sign-On based accounts such as Okta or Active Directory. Only accounts that are added by having an administrator create them within the Code42 console are currently supported.

Explore the complete public documentation for `py42` below.

2.2.1 Orgs

class py42.clients.orgs.**OrgClient**(*session*)

Bases: py42.clients.BaseClient

A client for interacting with Code42 organization APIs.

Use the OrgClient to create and retrieve organizations. You can also use it to block and deactivate organizations.

block(*org_id*)

Blocks the organization with the given org ID as well as its child organizations. A blocked organization will not allow any of its users or devices to log in. New registrations will be rejected and all currently logged in clients will be logged out. Backups continue for any devices that are still active. Rest Documentation

Parameters **org_id** (*int*) – An ID for an organization.

Returns *py42.response.Py42Response*

create_org(*org_name*, *org_ext_ref=None*, *notes=None*, *parent_org_uid=None*)

Creates a new organization. REST Documentation

Parameters

- **org_name** (*str*) – The name of the new organization.
- **org_ext_ref** (*str, optional*) – External reference information, such as a serial number, asset tag, employee ID, or help desk issue ID. Defaults to None.
- **notes** (*str, optional*) – Descriptive information about the organization. Defaults to None.
- **parent_org_uid** (*int, optional*) – The org UID for the parent organization. Defaults to None.

Returns *py42.response.Py42Response*

deactivate(*org_id*)

Deactivates the organization with the given ID, including all users, plans, and devices. Backups stop and archives move to cold storage. REST Documentation

Parameters **org_id** (*int*) – An ID for an organization.

Returns *py42.response.Py42Response*

get_all(***kwargs*)
Gets all organizations. REST Documentation

Returns An object that iterates over *py42.response.Py42Response* objects that each contain a page of organizations.

Return type generator

get_by_id(*org_id*, ***kwargs*)
Gets the organization with the given ID. REST Documentation

Parameters **org_id** (*int*) – An ID for an organization.

Returns A response containing the organization.

Return type *py42.response.Py42Response*

get_by_name(*org_name*, ***kwargs*)
Gets the organization with the given name. REST Documentation

Parameters **org_name** (*str*) – A name of an organization.

Returns A list of *py42.response.Py42Response* objects each containing an organization that has the given name.

Return type list

get_by_uid(*org_uid*, ***kwargs*)
Gets the organization with the given UID. REST Documentation

Parameters **org_uid** (*str*) – A UID for an organization.

Returns A response containing the organization.

Return type *py42.response.Py42Response*

get_current(***kwargs*)
Gets the organization for the currently signed-in user. REST Documentation

Returns A response containing the organization for the currently signed-in user.

Return type *py42.response.Py42Response*

reactivate(*org_id*)
Reactivates the organization with the given ID. Backups are *not* restarted automatically. REST Documentation

Parameters **org_id** (*int*) – An ID for an organization.

Returns *py42.response.Py42Response*

unblock(*org_id*)
Removes a block, if one exists, on an organization and its descendants with the given ID. All users in the organization remain blocked until they are unblocked individually. REST Documentation

Parameters **org_id** (*int*) – An ID for an organization.

Returns *py42.response.Py42Response*

2.2.2 Users

class py42.clients.users.**UserClient**(*session*)
Bases: py42.clients.BaseClient

A client for interacting with Code42 user APIs. Use the UserClient to create and retrieve users. You can also use it to block and deactivate users.

block(*user_id*)
Blocks the user with the given ID. A blocked user is not allowed to log in or restore files. Backups will continue if the user is still active. REST Documentation

Parameters **user_id** (*int*) – An ID for a user.

Returns *py42.response.Py42Response*

change_org_assignment(*user_id*, *org_id*)
Assigns a user to a different organization. REST Documentation

Parameters

- **user_id** (*int*) – An ID for a user.
- **org_id** (*int*) – An ID for the organization to move the user to.

Returns *py42.response.Py42Response*

create_user(*org_uid*, *username*, *email=None*, *password=None*, *first_name=None*, *last_name=None*, *notes=None*)
Creates a new user. WARNING: If the provided username already exists for a user, it will be updated in the database instead. REST Documentation

Parameters

- **org_uid** (*str*) – The org UID for the organization the new user belongs to.
- **username** (*str*) – The username for the new user.
- **email** (*str, optional*) – The email for the new user. Defaults to None.
- **password** (*str, optional*) – The password for the new user. Defaults to None.
- **first_name** (*str, optional*) – The first name for the new user. Defaults to None.
- **last_name** (*str, optional*) – The last name for the new user. Defaults to None.
- **notes** (*str, optional*) – Descriptive information about the user. Defaults to None.

Returns *py42.response.Py42Response*

deactivate(*user_id*, *block_user=None*)
Deactivates the user with the given user ID. Backups discontinue for a deactivated user, and their archives go to cold storage. REST Documentation

Parameters

- **user_id** (*int*) – An ID for a user.
- **block_user** (*bool, optional*) – Blocks the user upon deactivation. Defaults to None.

Returns *py42.response.Py42Response*

get_all(*active=None*, *email=None*, *org_uid=None*, *role_id=None*, *q=None*, ***kwargs*)
Gets all users. REST Documentation

Parameters

- **active** (*bool, optional*) – True gets active users only, and false gets deactivated users only. Defaults to None.
- **email** (*str, optional*) – Limits users to only those with this email. Defaults to None.
- **org_uid** (*str, optional*) – Limits users to only those in the organization with this org UID. Defaults to None.
- **role_id** (*int, optional*) – Limits users to only those with a given role ID. Defaults to None.
- **q** (*str, optional*) – A generic query filter that searches across name, username, and email. Defaults to None.

Returns An object that iterates over *py42.response.Py42Response* objects that each contain a page of users.

Return type generator

get_by_id(*user_id*, ***kwargs*)
Gets the user with the given ID. REST Documentation

Parameters **user_id** (*int*) – An ID for a user.

Returns A response containing the user.

Return type *py42.response.Py42Response*

get_by_uid(*user_uid*, ***kwargs*)
Gets the user with the given UID. REST Documentation

Parameters **user_uid** (*str*) – A UID for a user.

Returns A response containing the user.

Return type *py42.response.Py42Response*

get_by_username(*username*, ***kwargs*)
Gets the user with the given username. REST Documentation

Parameters **username** (*str*) – A username for a user.

Returns A response containing the user.

Return type *py42.response.Py42Response*

get_current(***kwargs*)
Gets the currently signed in user. REST Documentation

Returns A response containing the user.

Return type *py42.response.Py42Response*

reactivate(*user_id*, *unblock_user=None*)
Reactivates the user with the given ID. REST Documentation

Parameters

- **user_id** (*int*) – An ID for a user.
- **unblock_user** (*bool, optional*) – Whether or not to unblock the user. Defaults to None.

Returns *py42.response.Py42Response*

unblock(*user_id*)
Removes a block, if one exists, on the user with the given user ID. Unblocked users are allowed to log in and restore. REST Documentation

Parameters **user_id** (*int*) – An ID for a user.

Returns *py42.response.Py42Response*

class py42.usercontext.**UserContext**(*administration_client*)
Bases: object

An object representing the currently logged in user.

get_current_tenant_id()
Gets the currently signed in user's tenant ID.

2.2.3 Devices

class py42.clients.devices.**DeviceClient**(*session*)
Bases: py42.clients.BaseClient

A class to interact with Code42 device/computer APIs.

block(*device_id*)
Blocks a device causing the user not to be able to log in to or restore from Code42 on that device. REST Documentation

Parameters **device_id** (*int*) – The identification number of the device.

Returns *py42.response.Py42Response*

deactivate(*device_id*)
Deactivates a device, causing backups to stop and archives to go to cold storage. REST Documentation

Parameters **device_id** (*int*) – The identification number of the device.

Returns *py42.response.Py42Response*

deauthorize(*device_id*)
Deauthorizes the device with the given ID. If used on a cloud connector device, it will remove the authorization token for that account. REST Documentation

Parameters **device_id** (*int*) – The identification number of the device.

Returns *py42.response.Py42Response*

get_all(*active=None*, *blocked=None*, *org_uid=None*, *user_uid=None*, *destination_guid=None*, *include_backup_usage=None*, *include_counts=True*, *q=None*, ***kwargs*)
Gets all device information.

When no arguments are passed, all records are returned. To filter results, specify respective arguments. For example, to retrieve all active and blocked devices, pass active=true and blocked=true. REST Documentation

Parameters

- **active** (*bool, optional*) – Filters results by device state. When set to True, gets all active devices. When set to False, gets all deactivated devices. When set to None or excluded, gets all devices regardless of state. Defaults to None.
- **blocked** (*bool, optional*) – Filters results by blocked status: True or False. Defaults to None.

- **org_uid** (*int, optional*) – The identification number of an Organization. Defaults to None.
- **user_uid** (*int, optional*) – The identification number of a User. Defaults to None.
- **destination_guid** (*str or int, optional*) – The globally unique identifier of the storage server that the device back up to. Defaults to None.
- **include_backup_usage** (*bool, optional*) – A flag to denote whether to include the destination and its backup stats. Defaults to None.
- **include_counts** (*bool, optional*) – A flag to denote whether to include total, warning, and critical counts. Defaults to True.
- **q** (*str, optional*) – Searches results flexibly by incomplete GUID, hostname, computer name, etc. Defaults to None.

Returns

An object that iterates over *py42.response.Py42Response* objects that each contain a page of devices.

The devices returned by *get_all()* are based on the role and permissions of the user authenticating the py42 SDK.

Return type generator

get_by_guid(*guid*, *include_backup_usage=None*, ***kwargs*)
Gets device information by GUID. REST Documentation

Parameters

- **guid** (*str*) – The globally unique identifier of the device.
- **include_backup_usage** (*bool, optional*) – A flag to denote whether to include the destination and its backup stats. Defaults to None.

Returns A response containing device information.

Return type *py42.response.Py42Response*

get_by_id(*device_id*, *include_backup_usage=None*, ***kwargs*)
Gets device information by ID. REST Documentation

Parameters

- **device_id** (*int*) – The identification number of the device.
- **include_backup_usage** (*bool, optional*) – A flag to denote whether to include the destination and its backup stats. Defaults to None.

Returns A response containing device information.

Return type *py42.response.Py42Response*

get_settings(*guid*, *keys=None*)
Gets settings of the device. REST Documentation

Parameters

- **guid** (*str*) – The globally unique identifier of the device.
- **keys** (*str, optional*) – A comma separated list of device keys. Defaults to None.

Returns A response containing settings information.

Return type *py42.response.Py42Response*

reactivate(*device_id*)
Activates a previously deactivated device. REST Documentation

Parameters **device_id** (*int*) – The identification number of the device.

Returns *py42.response.Py42Response*

unblock(*device_id*)
Unblocks a device, permitting a user to be able to login and restore again. REST Documentation

Parameters **device_id** (*int*) – The identification number of the device.

Returns *py42.response.Py42Response*

2.2.4 Security Data

class py42.modules.securitydata.**SecurityModule**(*security_client*, *storage_client_factory*, *microservices_client_factory*)

Bases: object

property alerts
A collection of methods for retrieving and updating data about security alerts.

get_all_plan_security_events(*plan_storage_info*, *cursor=None*, *include_files=True*, *event_types=None*, *min_timestamp=None*, *max_timestamp=None*)
Gets events for legacy Endpoint Monitoring file activity on removable media, in cloud sync folders, and browser uploads. Support Article

Parameters

- **plan_storage_info** (py42.sdk.modules.securitydata.PlanStorageInfo) – Information about storage nodes for a plan to get file event activity for.
- **cursor** (*str, optional*) – A cursor position for only getting file events you did not previously get. Defaults to None.
- **include_files** (*bool, optional*) – Whether to include the files related to the file events.
- **to None.** (*Defaults*) –
- **event_types** – (str, optional): A comma-separated list of event types to filter by.

  Available options are:

  - DEVICE_APPEARED
  - DEVICE_DISAPPEARED
  - DEVICE_FILE_ACTIVITY
  - PERSONAL_CLOUD_FILE_ACTIVITY
  - RESTORE_JOB
  - RESTORE_FILE
  - FILE_OPENED
  - RULE_MATCH
  - DEVICE_SCAN_RESULT

- PERSONAL_CLOUD_SCAN_RESULT

Defaults to None.

- **min_timestamp** (*float, optional*) – A POSIX timestamp representing the beginning of the date range of events to get. Defaults to None.
- **max_timestamp** (*float, optional*) – A POSIX timestamp representing the end of the date range of events to get. Defaults to None.

Returns An object that iterates over *py42.response.Py42Response* objects that each contain a page of events.

Return type generator

get_all_user_security_events(*user_uid*, *cursor=None*, *include_files=True*, *event_types=None*, *min_timestamp=None*, *max_timestamp=None*)

Gets legacy Endpoint Monitoring file activity events for the user with the given UID.

Parameters

- **user_uid** (*str*) – The UID of the user to get security events for.
- **cursor** (*str, optional*) – A cursor position for only getting events you did not previously get. Defaults to None.
- **include_files** (*bool, optional*) – Whether to include the files related to the file activity events. Defaults to None.
- **event_types** – (str, optional): A comma-separated list of event types to filter by.

  Available options are:

  - DEVICE_APPEARED
  - DEVICE_DISAPPEARED
  - DEVICE_FILE_ACTIVITY
  - PERSONAL_CLOUD_FILE_ACTIVITY
  - RESTORE_JOB
  - RESTORE_FILE
  - FILE_OPENED
  - RULE_MATCH
  - DEVICE_SCAN_RESULT
  - PERSONAL_CLOUD_SCAN_RESULT

  Defaults to None.
- **min_timestamp** (*float, optional*) – A POSIX timestamp representing the beginning of the date range of events to get. Defaults to None.
- **max_timestamp** (*float, optional*) – A POSIX timestamp representing the end of the date range of events to get. Defaults to None.

Returns An object that iterates over *py42.response.Py42Response* objects that each contain a page of events.

Return type generator

get_security_plan_storage_info_list(*user_uid*)
Gets IDs (plan UID, node GUID, and destination GUID) for the storage nodes containing the file activity event data for the user with the given UID. REST Documentation

Parameters **user_uid** (*str*) – The UID of the user to get plan storage information for.

Returns list[*py42.modules.securitydata.PlanStorageInfo*]

search_file_events(*query*)
Searches for file events. REST Documentation

Parameters **query** (*py42.sdk.queries.fileevents.file_event_query.FileEventQuery*) – Also accepts a raw JSON str.

Returns A response containing the first 10,000 events.

Return type *py42.response.Py42Response*

class py42.modules.securitydata.**PlanStorageInfo**(*plan_uid*, *destination_guid*, *node_guid*)
Bases: object

property destination_guid
The GUID of the destination containing the storage archive.

property node_guid
The GUID of the storage node containing the archive.

property plan_uid
The UID of the storage plan.

2.2.5 Legal Hold

class py42.clients.legalhold.**LegalHoldClient**(*session*)
Bases: py42.clients.BaseClient

A client for interacting with Code42 Legal Hold APIs.

The LegalHoldClient provides the ability to manage Code42 Legal Hold Policies and Matters. It can:

- Create, view, and list all existing Policies.
- Create, view, deactivate, reactivate, and list all existing Matters.
- Add/remove Custodians from a Matter.

add_to_matter(*user_uid*, *legal_hold_uid*)
Add a user (Custodian) to a Legal Hold Matter. REST Documentation

Parameters

- **user_uid** (*str*) – The identifier of the user.
- **legal_hold_uid** (*str*) – The identifier of the Legal Hold Matter.

Returns *py42.response.Py42Response*

create_matter(*name*, *hold_policy_uid*, *description=None*, *notes=None*, *hold_ext_ref=None*)
Creates a new, active Legal Hold Matter. REST Documentation

Parameters

- **name** (*str*) – The name of the new Legal Hold Matter.

- **hold_policy_uid** (*str*) – The identifier of the Preservation Policy that will apply to this Matter.
- **description** (*str, optional*) – An optional description of the Matter. Defaults to None.
- **notes** (*str, optional*) – Optional notes information. Defaults to None.
- **hold_ext_ref** (*str, optional*) – Optional external reference information. Defaults to None.

Returns *py42.response.Py42Response*

create_policy(*name*, *policy=None*)

Creates a new Legal Hold Preservation Policy. V4 REST Documentation

Parameters

- **name** (*str*) – The name of the new Policy.
- **policy** (*dict, optional*) – The desired Preservation Policy settings as a dict. Defaults to None (where the server-default backup set is used).

Returns *py42.response.Py42Response*

deactivate_matter(*legal_hold_uid*)

Deactivates and closes a Legal Hold Matter. V4 REST Documentation

Parameters **legal_hold_uid** (*str*) – The identifier of the Legal Hold Matter.

Returns *py42.response.Py42Response*

get_all_matter_custodians(*legal_hold_uid=None*, *user_uid=None*, *user=None*, *active=True*)

Gets all Legal Hold memberships.

Each user (Custodian) who has been added to a Legal Hold Matter is returned by the server as a LegalHoldMembership object in the response body. If the object's active state is "INACTIVE", they have been removed from the Matter and are no longer subject to the Legal Hold retention rules. Users can be Custodians of multiple Legal Holds at once (and thus would be part of multiple LegalHoldMembership objects). REST Documentation

Parameters

- **legal_hold_uid** (*str, optional*) – Find LegalHoldMemberships for the Legal Hold Matter with this unique identifier. Defaults to None.
- **user_uid** (*str, optional*) – Find LegalHoldMemberships for the user with this identifier. Defaults to None.
- **user** (*str, optional*) – Find LegalHoldMemberships by flexibly searching on username, email, extUserRef, or last name. Will find partial matches. Defaults to None.
- **active** (*bool or None, optional*) – Find LegalHoldMemberships by their active state. True returns active LegalHoldMemberships, False returns inactive LegalHoldMemberships, None returns all LegalHoldMemberships regardless of state. Defaults to True.

Returns An object that iterates over *py42.response.Py42Response* objects that each contain a page of LegalHoldMembership objects.

Return type generator

get_all_matters(*creator_user_uid=None*, *active=True*, *name=None*, *hold_ext_ref=None*)
Gets all existing Legal Hold Matters. REST Documentation

Parameters

- **creator_user_uid** (*str, optional*) – Find Matters by the identifier of the user who created them. Defaults to None.
- **active** (*bool or None, optional*) – Find Matters by their active state. True returns active Matters, False returns inactive Matters, None returns all Matters regardless of state. Defaults to True.
- **name** (*str, optional*) – Find Matters with a 'name' that either equals or partially contains this value. Defaults to None.
- **hold_ext_ref** (*str, optional*) – Find Matters having a matching external reference field. Defaults to None.

Returns An object that iterates over *py42.response.Py42Response* objects that each contain a page of Legal Hold Matters.

Return type generator

get_matter_by_uid(*legal_hold_uid*)
Gets a single Legal Hold Matter. REST Documentation

Parameters **legal_hold_uid** (*str*) – The identifier of the Legal Hold Matter.

Returns A response containing the Matter.

Return type *py42.response.Py42Response*

get_policy_by_uid(*legal_hold_policy_uid*)
Gets a single Preservation Policy. V4 REST Documentation

Parameters **legal_hold_policy_uid** (*str*) – The identifier of the Preservation Policy.

Returns A response containing the Policy.

Return type *py42.response.Py42Response*

get_policy_list()
Gets a list of existing Preservation Policies. V4 REST Documentation

Returns A response containing the list of Policies.

Return type *py42.response.Py42Response*

reactivate_matter(*legal_hold_uid*)
Reactivates and re-opens a closed Matter. REST Documentation

Parameters **legal_hold_uid** (*str*) – The identifier of the Legal Hold Matter.

Returns *py42.response.Py42Response*

remove_from_matter(*legal_hold_membership_uid*)
Remove a user (Custodian) from a Legal Hold Matter. REST Documentation

Parameters **legal_hold_membership_uid** (*str*) – The identifier of the LegalHoldMembership representing the Custodian to Matter relationship.

Returns *py42.response.Py42Response*

2.2.6 Detection Lists

class py42.modules.detectionlists.**DetectionListsModule**(*microservice_client_factory*, *user_client*)

Bases: object

add_user_cloud_alias(*user_id*, *alias*)
Add a cloud alias to a user.

Parameters

- **user_id** (*str or int*) – The Code42 userUid whose alias you want to update.
- **alias** (*str*) – The alias to be added.

Returns *py42.response.Py42Response*

add_user_risk_tags(*user_id*, *tags*)
Add one or more risk factor tags.

Parameters

- **user_id** (*str or int*) – The Code42 userUid whose risk factor tag(s) you want to update.
- **tags** (*str or list of str*) – A single tag or multiple tags in a list to be added. For example: `"tag1"` or `["tag1", "tag2"]`. For python version 2.X, pass `u"str"` instead of `"str"`.

Returns *py42.response.Py42Response*

create_user(*username*)
Create a detection list profile for a user.

Parameters **username** (*str*) – The Code42 username of the user.

Returns *py42.response.Py42Response*

get_user(*username*)
Get user details by username.

Parameters **username** (*str*) – The Code42 username of the user.

Returns *py42.response.Py42Response*

get_user_by_id(*user_id*)
Get user details by user_id.

Parameters **user_id** (*str or int*) – The Code42 userId of the user.

Returns *py42.response.Py42Response*

remove_user_cloud_alias(*user_id*, *alias*)
Remove a cloud alias from a user.

Parameters

- **user_id** (*str or int*) – The user_id whose alias needs to be removed.
- **alias** (*str*) – The alias to be removed.

Returns *py42.response.Py42Response*

remove_user_risk_tags(*user_id*, *tags*)
Remove one or more risk factor tags.

Parameters

- **user_id** (*str or int*) – The Code42 userUid whose risk factor tag(s) needs you want to remove.
- **tags** (*str or list of str*) – A single tag or multiple tags in a list to be removed. For example: `"tag1"` or `["tag1", "tag2"]`. For python version 2.X, pass `u"str"` instead of `"str"`.

Returns *py42.response.Py42Response*

update_user_notes(*user_id*, *notes*)
Add or update notes related to the user.

Parameters

- **user_id** (*str or int*) – The Code42 userUid whose notes you want to update.
- **notes** (*str*) – User profile notes.

Returns *py42.response.Py42Response*

Departing Employees

class py42.clients.detectionlists.departing_employee.**DepartingEmployeeClient**(*session*, *user_context*, *detection_list_user_clien*

Bases: py42.clients.BaseClient

A client for interacting with Code42 Departing Employee APIs.

add(*user_id*, *departure_date=None*)

Adds a user to the Departing Employees list. Creates a detection list user profile if one didn't already exist.

REST Documentation

Raises a `Py42BadRequestError` when a user already exists in the Departing Employee detection list.

Parameters

- **user_id** (*str or int*) – The Code42 userUid of the user you want to add to the departing employees list.
- **departure_date** (*str, optional*) – Date in YYYY-MM-DD format. Date is treated as UTC. Defaults to None.

Returns *py42.response.Py42Response*

get(*user_id*)
Gets departing employee data of a user. REST Documentation

Parameters **user_id** (*str or int*) – The Code42 userUid of the user.

Returns py42.sdk.response.Py42Response

get_all(*filter_type='OPEN'*, *sort_key='CREATED_AT'*, *sort_direction='DESC'*)
Gets all Departing Employees.

Parameters

- **filter_type** (*str, optional*) – Filter results by status. Defaults to "OPEN".

- **sort_key** (*str, optional*) – Key to sort results on. Options: (CREATED_AT, DEPARTURE_DATE, DISPLAY_NAME, NUM_EVENTS, TOTAL_BYTES). Defaults to CREATED_AT.
- **sort_direction** (*str, optional*) – Sort direction. Options: (ASC, DESC). Defaults to DESC.

Returns An object that iterates over *py42.response.Py42Response* objects that each contain a page of departing employees.

Return type generator

remove(*user_id*)
Removes a user from the Departing Employees list. REST Documentation

Parameters **user_id** (*str or int*) – The Code42 userUid of the user.

Returns *py42.response.Py42Response*

set_alerts_enabled(*alerts_enabled=True*)
Enable or disable email alerting on Departing Employee exposure events. REST Documentation

Parameters

- **tenant_id** (*str, optional*) – The unique identifier of the customer tenant. Defaults to None (the tenant_id of SDK authorization user will be used).
- **alerts_enabled** (*bool*) – Set alerting to on (True) or off (False). Defaults to True.

Returns *py42.response.Py42Response*

update_departure_date(*user_id*, *departure_date*)
Add or modify details of an existing Departing Employee case. REST Documentation

Parameters

- **user_id** (*str*) – The Code42 userUid of the user.
- **departure_date** (*date*) – Date in YYYY-MM-DD format. Date is treated as UTC.

Returns py42.sdk.response.Py42Response

High Risk Employee

class py42.clients.detectionlists.high_risk_employee.**HighRiskEmployeeClient**(*session*, *user_context*, *detection_list_user_client*)

Bases: py42.clients.BaseClient

A client for interacting with High Risk Employee APIs.

add(*user_id*)
Adds a user to the High Risk Employee detection list. Creates a detection list user profile if one didn't already exist.

Raises a Py42BadRequestError when a user already exists in the High Risk Employee detection list.

Parameters **user_id** (*str or int*) – The Code42 userUid of the user you want to add to the High Risk Employee detection list.

Returns *py42.response.Py42Response*

get(*user_id*)
Get user information.

Parameters **user_id** (*str or int*) – The Code42 userUid of the user has been added to the High Risk Employee detection list.

Returns *py42.response.Py42Response*

get_all(*filter_type='OPEN'*, *sort_key=None*, *sort_direction=None*)
Search High Risk Employee list. Filter results by filter_type.

Parameters

- **filter_type** (*str*) – Valid filter types.
- **sort_key** (*str*) – Sort results based by field.
- **sort_direction** (*str*) – ASC or DESC

Returns An object that iterates over *py42.response.Py42Response* objects that each contain a page of users.

Return type generator

remove(*user_id*)
Remove a user from the High Risk Employee detection list.

Parameters **user_id** (*str or int*) – The Code42 userUid of the user you want to add to the High Risk Employee detection list.

Returns *py42.response.Py42Response*

set_alerts_enabled(*enabled=True*)
Enable alerts.

Parameters **enabled** (*bool*) – Whether to enable alerts for all users.

Returns *py42.response.Py42Response*

2.2.7 Alerts

class py42.clients.alerts.**AlertClient**(*session*, *user_context*)
Bases: py42.clients.BaseClient

A client for interacting with Code42 security alerts.

The AlertClient has the ability to search, resolve, and reopen alerts. Also, it can get the details for the file event query for the event that triggered the alert.

get_details(*alert_ids*, *tenant_id=None*)
Gets the details for the alerts with the given IDs, including the file event query that, when passed into a search, would result in events that could have triggered the alerts.

Parameters

- **alert_ids** (*iter[str]*) – The identification numbers of the alerts for which you want to get details for.
- **tenant_id** (*str, optional*) – The unique identifier of the tenant that the alerts belong to. When given None, it uses the currently logged in user's tenant ID. Defaults to None.

Returns A response containing the alert details.

Return type *py42.response.Py42Response*

reopen(*alert_ids*, *tenant_id=None*, *reason=None*)
Reopens the resolved alerts with the given IDs.

Parameters

- **alert_ids** (*iter[str]*) – The identification numbers for the alerts to reopen.
- **tenant_id** (*str, optional*) – The unique identifier for the tenant that the alerts belong to. When given None, it uses the currently logged in user's tenant ID. Defaults to None.
- **reason** (*str, optional*) – The reason the alerts are reopened. Defaults to None.

Returns *py42.response.Py42Response*

resolve(*alert_ids*, *tenant_id=None*, *reason=None*)
Resolves the alerts with the given IDs.

Parameters

- **alert_ids** (*iter[str]*) – The identification numbers for the alerts to resolve.
- **tenant_id** (*str, optional*) – The unique identifier for the tenant that the alerts belong to. When given None, it uses the currently logged in user's tenant ID. Defaults to None.
- **reason** (*str, optional*) – The reason the alerts are now resolved. Defaults to None.

Returns *py42.response.Py42Response*

search(*query*)
Searches alerts using the given *py42.sdk.queries.alerts.alert_query.AlertQuery*.

Parameters **query** (*py42.sdk.queries.alerts.alert_query.AlertQuery*) – An alert query. See the *Executing Searches User Guide* to learn more about how to construct a query.

Returns A response containing the alerts that match the given query.

Return type *py42.response.Py42Response*

class py42.sdk.queries.alerts.alert_query.**AlertQuery**(**args*, ***kwargs*)
Bases: py42.sdk.queries.BaseQuery

Helper class for building Code42 Alert queries.

An AlertQuery instance's `all()` and `any()` take one or more `FilterGroup` objects to construct a query that can be passed to the `AlertClient.search()` method. `all()` returns results that match all of the provided filter criteria, `any()` will return results that match any of the filters.

For convenience, the *AlertQuery* constructor does the same as `all()`.

Usage example:

```
state_filter = AlertState.eq(AlertState.OPEN)
rule_name_filter = RuleName.contains("EmailRule")
query = AlertQuery.all(state_filter, rule_name_filter)
```

Filter Classes

The following classes construct filters for file event queries. Each filter class corresponds to an alert detail. Call the appropriate classmethod on your desired filter class with the `value` you want to match and it will return a `FilterGroup` object that can be passed to `AlertQuery`'s `all()` or `any()` methods to create complex queries that match multiple filter rules.

See *Executing Searches* for more on building search queries.

class py42.sdk.queries.alerts.filters.alert_filter.**DateObserved**
Bases: py42.sdk.queries.query_filter.QueryFilterTimestampField

Class that filters alerts based on the timestamp the alert was triggered.

classmethod in_range(*start_value*, *end_value*)
Returns a `FilterGroup` to find events where the filter timestamp is in range between the provided *start_value* and *end_value*.

classmethod on_or_after(*value*)
Returns a `FilterGroup` to find events where the filter timestamp is on or after the provided *value*.

classmethod on_or_before(*value*)
Returns a `FilterGroup` to find events where the filter timestamp is on or before the provided *value*.

classmethod on_same_day(*value*)
Returns a `FilterGroup` to find events where the filter timestamp is within the same calendar day as the provided *value*.

class py42.sdk.queries.alerts.filters.alert_filter.**Actor**
Bases: py42.sdk.queries.alerts.filters.alert_filter.AlertQueryFilterStringField

Class that filters alerts based on the username that originated the event(s) that triggered the alert.

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.alerts.filters.alert_filter.**RuleName**
Bases: py42.sdk.queries.alerts.filters.alert_filter.AlertQueryFilterStringField

Class that filters alerts based on rule name.

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.alerts.filters.alert_filter.**Description**
Bases: py42.sdk.queries.alerts.filters.alert_filter.AlertQueryFilterStringField

Class that filters alerts based on rule description text.

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters **value** (*str*) – The value to match file events on.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.alerts.filters.alert_filter.**Severity**
Bases: py42.sdk.queries.query_filter.QueryFilterStringField

Class that filters alerts based on severity.

Available options are:

- Severity.HIGH
- Severity.MEDIUM
- Severity.LOW

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters **value** (*str*) – The value to match file events on.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.alerts.filters.alert_filter.**AlertState**
Bases: py42.sdk.queries.query_filter.QueryFilterStringField

Class that filters alerts based on alert state.

Available options are:

- AlertState.OPEN
- AlertState.DISMISSED

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters **value** (*str*) – The value to match file events on.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

2.2.8 File Event Queries

class py42.clients.file_event.**FileEventClient**(*session*)
Bases: py42.clients.BaseClient

A client for searching file events.

See the *Executing Searches User Guide* to learn more about how to construct a query.

search(*query*)
Searches for file events matching the query criteria. REST Documentation

Parameters **query** (FileEventQuery or str) – A composed FileEventQuery object or the raw query as a JSON formatted string.

Returns A response containing the query results.

Return type *py42.response.Py42Response*

class py42.sdk.queries.fileevents.file_event_query.**FileEventQuery**(**args*, ***kwargs*)
Bases: py42.sdk.queries.BaseQuery

Helper class for building Code42 Forensic Search queries.

A FileEventQuery instance's all() and any() take one or more FilterGroup objects to construct a query that can be passed to the FileEventClient.search() method. all() returns results that match all of the provided filter criteria, any() will return results that match any of the filters.

For convenience, the *FileEventQuery* constructor does the same as all().

Usage example:

```
email_filter = EmailSender.is_in(["test.user@example.com", "test.sender@example.
↪com"])
exposure_filter = ExposureType.exists()

query = FileEventQuery.all(email_filter, exposure_filter)
```

Filter Classes

The following classes construct filters for file event queries. Each filter class corresponds to a file event detail. Call the appropriate classmethod on your desired filter class with the `value` you want to match and it will return a `FilterGroup` object that can be passed to `FileEventQuery`'s `all()` or `any()` methods to create complex queries that match multiple filter rules.

Example:

To search for events observed for certain set of documents, you can use the `FileName` and `MD5` filter classes to construct `FilterGroups` that will search for matching filenames or (in case someone renamed the sensitive file) the known MD5 hashes of the files:

```
filename_filter = FileName.is_in(['confidential_plans.docx', 'confidential_plan_
↪projections.xlsx'])
md5_filter = MD5.is_in(['133765f4fff5e3038b9352a4d14e1532',
↪'ea16f0cbfc76f6eba292871f8a8c794b'])
```

See *Executing Searches* for more on building search queries.

Event Filters

class py42.sdk.queries.fileevents.filters.event_filter.**EventTimestamp**

Bases: py42.sdk.queries.query_filter.QueryFilterTimestampField

Class that filters events based on the timestamp of the event that occurred.

classmethod in_range(*start_value*, *end_value*)

Returns a `FilterGroup` to find events where the filter timestamp is in range between the provided *start_value* and *end_value*.

classmethod on_or_after(*value*)

Returns a `FilterGroup` to find events where the filter timestamp is on or after the provided *value*.

classmethod on_or_before(*value*)

Returns a `FilterGroup` to find events where the filter timestamp is on or before the provided *value*.

classmethod on_same_day(*value*)

Returns a `FilterGroup` to find events where the filter timestamp is within the same calendar day as the provided *value*.

class py42.sdk.queries.fileevents.filters.event_filter.**EventType**

Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters file events based on event type.

Available event types are provided as class attributes:

- `EventType.CREATED`
- `EventType.DELETED`
- `EventType.EMAILED`

- EventType.MODIFIED
- EventType.READ_BY_APP

Example:

```
filter = EventType.isin([EventType.READ_BY_APP, EventType.EMAILED])
```

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters value (*str*) – The value to match file events on.

classmethod exists()
Returns a FilterGroup to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters value_list (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters value (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a FilterGroup to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters value_list (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.event_filter.**InsertionTimestamp**
Bases: py42.sdk.queries.query_filter.QueryFilterTimestampField

Class that filters events based on the timestamp of when the event was actually added to the event store (which can be after the event occurred on the device itself).

value must be a POSIX timestamp. (see the *Dates* section of the Basics user guide for details on timestamp arguments in py42)

classmethod in_range(*start_value*, *end_value*)
Returns a FilterGroup to find events where the filter timestamp is in range between the provided *start_value* and *end_value*.

classmethod on_or_after(*value*)
Returns a FilterGroup to find events where the filter timestamp is on or after the provided *value*.

classmethod on_or_before(*value*)
Returns a FilterGroup to find events where the filter timestamp is on or before the provided *value*.

classmethod on_same_day(*value*)
Returns a FilterGroup to find events where the filter timestamp is within the same calendar day as the provided *value*.

class py42.sdk.queries.fileevents.filters.event_filter.**Source**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters value (*str*) – The value to match file events on.

classmethod exists()
Returns a FilterGroup to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a FilterGroup to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

File Filters

class py42.sdk.queries.fileevents.filters.file_filter.**FileCategory**
Bases: py42.sdk.queries.query_filter.QueryFilterStringField

Class that filters events by category of the file observed.

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters **value** (*str*) – The value to match file events on.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.file_filter.**FileName**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events by the name of the file observed.

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a FilterGroup to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.file_filter.**FileOwner**
Bases: `py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField`

Class that filters events by the owner of the file observed.

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.file_filter.**FilePath**
Bases: `py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField`

Class that filters events by path of the file observed.

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a FilterGroup to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.file_filter.**FileSize**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterComparableField

Class that filters events by size of the file observed.

Size value must be bytes.

classmethod greater_than(*value*)
Returns a FilterGroup to find events where filter data is greater than the provided value.

classmethod less_than(*value*)
Returns a FilterGroup to find events where filter data is less than than the provided value.

class py42.sdk.queries.fileevents.filters.file_filter.**MD5**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events by the MD5 hash of the file observed.

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a FilterGroup to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a FilterGroup to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.file_filter.**SHA256**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events by SHA256 hash of the file observed.

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a FilterGroup to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

Device Filters

class py42.sdk.queries.fileevents.filters.device_filter.**DeviceUsername**
Bases: `py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField`

Class that filters events by the Code42 username of the device that observed the event.

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.device_filter.**OSHostname**
Bases: `py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField`

Class that filters events by hostname of the device that observed the event.

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.device_filter.**PrivateIPAddress**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events by private (LAN) IP address of the device that observed the event.

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.device_filter.**PublicIPAddress**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events by public (WAN) IP address of the device that observed the event.

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

Cloud Filters

class py42.sdk.queries.fileevents.filters.cloud_filter.**Actor**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events by the cloud service username of the event originator (applies to cloud data source events only).

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.cloud_filter.**DirectoryID**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events by unique identifier of the cloud drive or folder where the event occurred (applies to cloud data source events only).

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a FilterGroup to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.cloud_filter.**Shared**
Bases: py42.sdk.queries.query_filter.QueryFilterBooleanField

Class that filters events by the shared status of the file at the time the event occurred (applies to cloud data source events only).

classmethod is_false()
Returns a FilterGroup to find events where the filter state is False.

classmethod is_true()
Returns a FilterGroup to find events where the filter state is True.

class py42.sdk.queries.fileevents.filters.cloud_filter.**SharedWith**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events by the list of users who had been granted access to the file at the time of the event (applies to cloud data source events only).

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a FilterGroup to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a FilterGroup to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.cloud_filter.**SharingTypeAdded**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters results to include events where a file's sharing permissions were changed to a value that increases exposure (applies to cloud data source events only).

Available options provided as class attributes:

- SharingTypeAdded.SHARED_VIA_LINK
- SharingTypeAdded.IS_PUBLIC
- SharingTypeAdded.OUTSIDE_TRUSTED_DOMAIN

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters value (*str*) – The value to match file events on.

classmethod exists()
Returns a FilterGroup to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters value_list (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters value (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a FilterGroup to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters value_list (*list*) – The list of values to exclude file events on.

Exposure Filters

class py42.sdk.queries.fileevents.filters.exposure_filter.**ExposureType**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events based on exposure type.

Available options are provided as class attributes:

- ExposureType.SHARED_VIA_LINK
- ExposureType.SHARED_TO_DOMAIN
- ExposureType.APPLICATION_READ
- ExposureType.CLOUD_STORAGE
- ExposureType.REMOVABLE_MEDIA
- ExposureType.IS_PUBLIC

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters value (*str*) – The value to match file events on.

classmethod exists()
Returns a FilterGroup to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters value_list (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.exposure_filter.**ProcessName**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events based on the process name involved in the exposure (applies to `read by browser or other app` events only).

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.exposure_filter.**ProcessOwner**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events based on the process owner that was involved in the exposure (applies to `read by browser or other app` events only).

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a FilterGroup to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.exposure_filter.**RemovableMediaName**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events based on the name of the removable media involved in the exposure (applies to removable media events only).

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a FilterGroup to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a FilterGroup to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.exposure_filter.**RemovableMediaVendor**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events based on the vendor of the removable media device involved in the exposure (applies to removable media events only).

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a FilterGroup to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a FilterGroup to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters value_list (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.exposure_filter.**RemovableMediaMediaName**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events based on the name of the removable media (as reported by the vendor/device, usually very similar to RemovableMediaName) involved in the exposure (applies to removable media events only).

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters value (*str*) – The value to match file events on.

classmethod exists()
Returns a FilterGroup to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters value_list (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters value (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a FilterGroup to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters value_list (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.exposure_filter.**RemovableMediaVolumeName**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events based on the name of the formatted volume (as reported by the operating system) of the removable media device involved in the exposure (applies to removable media events only).

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters value (*str*) – The value to match file events on.

classmethod exists()
Returns a FilterGroup to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters value_list (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters value (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.exposure_filter.**RemovableMediaPartitionID**
Bases: `py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField`

Class that filters events based on the unique identifier assigned (by the operating system) to the removable media involved in the exposure (applies to `removable media` events only).

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.exposure_filter.**RemovableMediaSerialNumber**
Bases: `py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField`

Class that filters events based on the serial number of the connected hardware as reported by the operating system (applies to `removable media` events only).

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.exposure_filter.**SyncDestination**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events based on the name of the cloud service the file is synced with (applies to `synced to cloud service` events only).

Available options are provided as class attributes:

- `SyncDestination.ICLOUD`
- `SyncDestination.BOX`
- `SyncDestination.BOX_DRIVE`
- `SyncDestination.GOOGLE_DRIVE`
- `SyncDestination.GOOGLE_BACKUP_AND_SYNC`
- `SyncDestination.DROPBOX`
- `SyncDestination.ONEDRIVE`

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.exposure_filter.**TabURL**
Bases: py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField

Class that filters events based on the URL of the active browser tab at the time the file contents were read by the browser (applies to `read by browser or other app` events only).

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.exposure_filter.**WindowTitle**
Bases: `py42.sdk.queries.fileevents.file_event_query.FileEventFilterStringField`

Class that filters events based on the name of the browser tab or application window that was open when a browser or other app event occurred (applies to `read by browser or other app` events only).

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod exists()
Returns a `FilterGroup` to find events where filter data exists.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_exists()
Returns a `FilterGroup` to find events where filter data does not exist.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

Email Filters

class py42.sdk.queries.fileevents.filters.email_filter.**EmailPolicyName**
Bases: `py42.sdk.queries.query_filter.QueryFilterStringField`

Class that filters events based on the email DLP policy that detected this file (applies to emails sent via Microsoft Office 365 only).

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.email_filter.**EmailSubject**
Bases: `py42.sdk.queries.query_filter.QueryFilterStringField`

Class that filters events based on the email's subject (applies to email events only).

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.email_filter.**EmailRecipients**
Bases: `py42.sdk.queries.query_filter.QueryFilterStringField`

Class that filters events based on the email's recipient list (applies to email events only).

classmethod eq(*value*)
Returns a `FilterGroup` to find events where the filter equals the provided `value`.

Parameters **value** (*str*) – The value to match file events on.

classmethod is_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a `FilterGroup` to find events where the filter is not equal to the provided `value`.

Parameters **value** (*str*) – The value to exclude file events on.

classmethod not_in(*value_list*)
Returns a `FilterGroup` to find events where the filter is not in the provided `value_list`.

Parameters **value_list** (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.email_filter.**EmailSender**
Bases: py42.sdk.queries.query_filter.QueryFilterStringField

Class that filters events based on the email's sender (applies to email events only).

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters value (*str*) – The value to match file events on.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters value_list (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters value (*str*) – The value to exclude file events on.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters value_list (*list*) – The list of values to exclude file events on.

class py42.sdk.queries.fileevents.filters.email_filter.**EmailFrom**
Bases: py42.sdk.queries.query_filter.QueryFilterStringField

Class that filters events based on the display name of the email's sender, as it appears in the "From:" field in the email (applies to email events only).

classmethod eq(*value*)
Returns a FilterGroup to find events where the filter equals the provided value.

Parameters value (*str*) – The value to match file events on.

classmethod is_in(*value_list*)
Returns a FilterGroup to find events where the filter is in the provided value_list.

Parameters value_list (*list*) – The list of values to match file events on.

classmethod not_eq(*value*)
Returns a FilterGroup to find events where the filter is not equal to the provided value.

Parameters value (*str*) – The value to exclude file events on.

classmethod not_in(*value_list*)
Returns a FilterGroup to find events where the filter is not in the provided value_list.

Parameters value_list (*list*) – The list of values to exclude file events on.

2.2.9 Archive

class py42.modules.archive.**ArchiveModule**(*archive_accessor_manager*, *archive_client*)
Bases: object

A module for getting information about backup archives on storage nodes along with functionality for streaming a file from backup.

get_all_device_restore_history(*days*, *device_id*)
Gets all restore jobs from the past given days for the device with the given ID. REST Documentation

Parameters

- **days** (*int*) – Number of days of restore history to retrieve.

- **device_id** (*int*) – The identification number of the device to get restore history for.

Returns An object that iterates over *py42.response.Py42Response* objects that each contain a page of restore history.

Return type generator

get_all_org_restore_history(*days*, *org_id*)

Gets all restore jobs from the past given days for the organization with the given ID. REST Documentation

Parameters

- **days** (*int*) – Number of days of restore history to retrieve.
- **org_id** (*int*) – The identification number of the organization to get restore history for.

Returns An object that iterates over *py42.response.Py42Response* objects that each contain a page of restore history.

Return type generator

get_all_user_restore_history(*days*, *user_id*)

Gets all restore jobs from the past given days for the user with the given ID. REST Documentation

Parameters

- **days** (*int*) – Number of days of restore history to retrieve.
- **user_id** (*int*) – The identification number of the user to get restore history for.

Returns An object that iterates over *py42.response.Py42Response* objects that each contain a page of restore history.

Return type generator

get_backup_sets(*device_guid*, *destination_guid*)

Gets all backup set names/identifiers referring to a single destination for a specific device. Learn more about backup sets.

Parameters

- **device_guid** (*str*) – The GUID of the device to get backup sets for.
- **destination_guid** (*str*) – The GUID of the destination containing the archive to get backup sets for.

Returns A response containing the backup sets.

Return type *py42.response.Py42Response*

stream_from_backup(*file_path*, *device_guid*, *destination_guid=None*, *archive_password=None*, *encryption_key=None*)

Streams a file from a backup archive to memory. REST Documentation

Parameters

- **file_path** (*str*) – The path to the file in your archive.
- **device_guid** (*str*) – The GUID of the device the file belongs to.
- **destination_guid** (*str, optional*) – The GUID of the destination that stores the backup of the file. If None, it will use the first destination GUID it finds for your device. 'destination_guid' may be useful if the file is missing from one of your destinations or if you want to optimize performance. Defaults to None.

- **archive_password** (*str, None*) – The password for archives that are protected with an additional password. This is only relevant to users with archive key password security. Defaults to None.
- **encryption_key** (*str, None*) – A custom encryption key for decryption an archive's file contents, necessary for restoring files. This is only relevant to users with custom key archive security. Defaults to None.

Returns A response containing the streamed content.

Return type *py42.response.Py42Response*

Usage example:

```
stream_response = sdk.archive.stream_from_backup("/full/path/to/file.txt",
↪"1234567890")
with open("/path/to/my/file", 'wb') as f:
    for chunk in stream_response.iter_content(chunk_size=128):
        if chunk:
            f.write(chunk)
```

update_cold_storage_purge_date(*archive_guid*, *purge_date*)

Updates the cold storage purge date for a specified archive. REST Documentation

Parameters

- **archive_guid** (*str*) – The identification number of the archive that should be updated
- **purge_date** (*str*) – The date on which the archive should be purged in yyyy-MM-dd format

Returns the response from the ColdStorage API.

Return type *py42.response.Py42Response*

2.2.10 Response

class py42.response.**Py42Response**(*requests_response*)

Bases: object

property encoding

The encoding used to decode the response text.

property headers

A case-insensitive dictionary of response headers.

iter_content(*chunk_size=1*, *decode_unicode=False*)

Iterates over the response data. When stream=True is set on the request, this avoids reading the content at once into memory for large responses.

Parameters

- **chunk_size** (*int, optional*) – The number of bytes it should read into memory. A value of None will function differently depending on the value of *stream*. stream=True will read data as it arrives in whatever size the chunks are received. If stream=False, data is returned as a single chunk. This is not necessarily the length of each item. Defaults to 1.
- **decode_unicode** (*bool, optional*) – If True, content will be decoded using the best available encoding based on the response. Defaults to False.

property raw_text
The `response.Response.text` property. It contains raw metadata that is not included in the Py42Response.text property.

property status_code
An integer code of the response HTTP Status, e.g. 404 or 200.

property text
The more useful parts of the HTTP response dumped into a dictionary.

property url
The final URL location of response.

2.2.11 Exceptions

exception py42.exceptions.**Py42ArchiveFileNotFoundError**(*device_guid*, *file_path*)
Bases: *py42.exceptions.Py42Error*

An exception raised when a resource file is not found or the path is invalid.

with_traceback()
Exception.with_traceback(tb) – set self.__traceback__ to tb and return self.

exception py42.exceptions.**Py42BadRequestError**(*exception*)
Bases: *py42.exceptions.Py42HTTPError*

A wrapper to represent an HTTP 400 error.

property response
The response object containing the HTTP error details.

with_traceback()
Exception.with_traceback(tb) – set self.__traceback__ to tb and return self.

exception py42.exceptions.**Py42Error**
Bases: `Exception`

A generic, Py42 custom base exception.

with_traceback()
Exception.with_traceback(tb) – set self.__traceback__ to tb and return self.

exception py42.exceptions.**Py42FeatureUnavailableError**
Bases: *py42.exceptions.Py42Error*

An exception raised when a requested feature is not supported in your Code42 environment.

with_traceback()
Exception.with_traceback(tb) – set self.__traceback__ to tb and return self.

exception py42.exceptions.**Py42ForbiddenError**(*exception*)
Bases: *py42.exceptions.Py42HTTPError*

A wrapper to represent an HTTP 403 error.

property response
The response object containing the HTTP error details.

with_traceback()
Exception.with_traceback(tb) – set self.__traceback__ to tb and return self.

exception py42.exceptions.**Py42HTTPError**(*exception*)
Bases: *py42.exceptions.Py42Error*

A base custom class to manage all HTTP errors raised by an API endpoint.

property response
The response object containing the HTTP error details.

with_traceback()
Exception.with_traceback(tb) – set self.__traceback__ to tb and return self.

exception py42.exceptions.**Py42InternalServerError**(*exception*)
Bases: *py42.exceptions.Py42HTTPError*

A wrapper to represent an HTTP 500 error.

property response
The response object containing the HTTP error details.

with_traceback()
Exception.with_traceback(tb) – set self.__traceback__ to tb and return self.

exception py42.exceptions.**Py42NotFoundError**(*exception*)
Bases: *py42.exceptions.Py42HTTPError*

A wrapper to represent an HTTP 404 error.

property response
The response object containing the HTTP error details.

with_traceback()
Exception.with_traceback(tb) – set self.__traceback__ to tb and return self.

exception py42.exceptions.**Py42SecurityPlanConnectionError**(*error_message*)
Bases: *py42.exceptions.Py42Error*

An exception raised when the user is not authorized to access the requested resource.

with_traceback()
Exception.with_traceback(tb) – set self.__traceback__ to tb and return self.

exception py42.exceptions.**Py42SessionInitializationError**(*exception*)
Bases: *py42.exceptions.Py42Error*

An exception raised when a user session is invalid. A session might be invalid due to session timeout, invalid token, etc.

with_traceback()
Exception.with_traceback(tb) – set self.__traceback__ to tb and return self.

exception py42.exceptions.**Py42StorageSessionInitializationError**(*error_message*)
Bases: *py42.exceptions.Py42Error*

An exception raised when the user is not authorized to initialize a storage session. This may occur when trying to restore a file or trying to get events for file activity on removable media, in cloud sync folders, and browser uploads.

with_traceback()
Exception.with_traceback(tb) – set self.__traceback__ to tb and return self.

exception py42.exceptions.**Py42UnauthorizedError**(*exception*)
Bases: *py42.exceptions.Py42HTTPError*

A wrapper to represent an HTTP 401 error.

property response
The response object containing the HTTP error details.

with_traceback()
Exception.with_traceback(tb) – set self.__traceback__ to tb and return self.

py42.exceptions.**raise_py42_error**(*raised_error*)
Raises the appropriate py42.exceptions.Py42HttpError based on the given error's response status code.

2.2.12 Util

py42.util.**convert_datetime_to_timestamp_str**(*date*)
Converts the given datetime to a formatted date str. The format matches strftime directives %Y-%m-%dT%H:%M:%S.%f.

Parameters **date** (*datetime*) – The datetime object to convert.

Returns A str representing the given date. Example output looks like '2020-03-25T15:29:04.465Z'.

Return type (str)

py42.util.**convert_timestamp_to_str**(*timestamp*)
Converts the given POSIX timestamp to a date str. The format matches strftime directives %Y-%m-%dT%H:%M:%S.%f.

Parameters **timestamp** (*float*) – A POSIX timestamp.

Returns A str representing the given timestamp. Example output looks like '2020-03-25T15:29:04.465Z'.

Return type (str)

py42.util.**format_json**(*json_string*)
Converts a minified JSON str to a prettified JSON str.

Parameters **json_string** (*str*) – A str representing minified JSON.

Returns A str representing prettified JSON.

Return type (str)

py42.util.**print_response**(*response*, *label=None*)
Prints a *py42.response.Py42Response* as prettified JSON. If unable to load, it prints the given response.

Parameters

- **response** (*py42.response.Py42Response*) – The response to print.
- **label** (*str, optional*) – A label at the beginning of the printed text. Defaults to None.

py42.sdk.**from_local_account**(*host_address*, *username*, *password*)
Creates a *SDKClient* object for accessing the Code42 REST APIs using the supplied credentials. Currently, only accounts created within the Code42 console or using the APIs (including py42) are supported. Username/passwords that are based on Active Directory, Okta, or other Identity providers cannot be used with this method.

Parameters

- **host_address** (*str*) – The domain name of the Code42 instance being authenticated to, e.g. console.us.code42.com

- **username** (*str*) – The username of the authenticating account.
- **password** (*str*) – The password of the authenticating account.

Returns *py42.sdk.SDKClient*

class py42.sdk.**SDKClient**(*sdk_dependencies*)
Bases: object

property archive
A collection of methods for accessing Code42 storage archives. Useful for doing web-restores or finding a file on an archive.

Returns *py42.modules.archive.ArchiveModule*

property detectionlists
A collection of properties each containing methods for managing specific detection lists, such as departing employees.

Returns *py42.modules.detectionlists.DetectionListsModule*

property devices
A collection of methods for retrieving or updating data about devices in the Code42 environment.

Returns *py42.clients.devices.DeviceClient*

classmethod from_local_account(*host_address*, *username*, *password*)
Creates a *SDKClient* object for accessing the Code42 REST APIs using the supplied credentials. Currently, only accounts created within the Code42 console or using the APIs (including py42) are supported. Username/passwords that are based on Active Directory, Okta, or other Identity providers cannot be used with this method.

Parameters

- **host_address** (*str*) – The domain name of the Code42 instance being authenticated to, e.g. console.us.code42.com
- **username** (*str*) – The username of the authenticating account.
- **password** (*str*) – The password of the authenticating account.

Returns *py42.sdk.SDKClient*

property legalhold
A collection of methods for retrieving and updating legal-hold matters, policies, and custodians.

Returns *py42.clients.legalhold.LegalHoldClient*

property orgs
A collection of methods for retrieving or updating data about organizations in the Code42 environment.

Returns *py42.clients.orgs.OrgClient*

property securitydata

A collection of methods and properties for getting security data such as:

- File events
- Alerts
- Security plan information

Returns *py42.modules.securitydata.SecurityModule*

property serveradmin
A collection of methods for getting server information for on-premise environments and tenant information for cloud environments.

Returns `py42.clients.administration.AdministrationClient`

property usercontext
A collection of methods related to getting information about the currently logged in user, such as the tenant ID.

Returns *py42.usercontext.UserContext*

property users
A collection of methods for retrieving or updating data about users in the Code42 environment.

Returns *py42.clients.users.UserClient*

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