

Ngenea Hub

Ngenea Hub harnesses the power of [Ngenea](#) to provide global workflows, enabling your data to be where you need it, when you need it.

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Installation

A deployment of Ngenea Hub comprises two main components:

- **Ngenea Hub** - the central management point, from which all tasks are managed
- **Ngenea Worker** - worker agents, installed on individual Ngenea servers, that execute the Ngenea tasks

Ngenea Worker are installed on one or more nodes in a *Site*, which typically represents a single Ngenea cluster or location.

Ngenea Hub needs to be accessible from all *Ngenea Workers* on the following ports:

- 6379/tcp
- 5672/tcp

Installing Ngenea Hub

Ngenea Hub can be installed in a number of ways, use one of the methods described below.

CentOS / Redhat - Online Installation

Configure Docker Authentication

Note: This step is not required on PixStor systems

Configure Docker authentication for `eurepo.arcapix.com`.

```
docker login eurepo.arcapix.com
```

Installing Ngenea Hub

Transfer the `ngenea-hub` rpm to the target system.

Install the `ngenea-hub` package via yum.

```
yum install ngenea-hub-<version>.rpm
```

Create an initial Ngenea Hub configuration file at `/etc/sysconfig/ngeneahub`. This file contains the credentials which will be required for deploying workers.

```
ngeneahubctl createconfig
```

Enable and start the `ngenea` service.

```
systemctl enable --now ngeneahub
```

Check the status of the service with:

```
ngeneahubctl status
```

CentOS / Redhat - Offline installation

The `ngeneahub` service will attempt to pull the required docker images from the Ngenea software repository servers. In situations where this is not possible (due to network restrictions, for instance), the containers can be installed via additional RPM: `ngenea-hub-images`, available at the same location as the main RPM.

Once the RPMs are transferred to the target system, they can be installed using *rpm*.

```
rpm -ivh ngenea-hub-<version>.rpm ngenea-hub-images-<version>.rpm
```

Cloud Deployment

Coming soon: image-based deployment of Ngenea Hub in the cloud.

Container Native Deployment

It is possible to deploy Ngenea Hub using standard container management tools and processes.

Please [contact us](#) to discuss.

Ngenea Worker

Pre-requisite: Ngenea Server software installed and configured

Install the `ngenea-worker` package via rpm.

```
yum install ngenea-worker
```

Add the appropriate worker [configuration](#).

Enable and start the `ngenea-worker@SITENAME.target` systemd unit. Replace `SITENAME` with the reference which will be used for this site.

```
systemctl enable --now ngenea-worker@SITENAME.target
```

Configuration

Hub Initial Configuration

Once all services are up, create an admin user with:

```
ngeneahubctl adduser
```

Register an initial *site* (replacing `SITENAME`) (see [Worker Installation](#) for enabling a *site's* worker agents).

```
ngeneahubctl addsite SITENAME
```

Log into the UI at <http://server.address:8000>.

Hub Configuration

Settings

The main configuration file for Ngenea Hub is at `/etc/sysconfig/ngeneahub`. This is an environment file which holds the information required for connecting to the various backend services.

Mandatory Settings

Setting	Description
POSTGRES_DB	Internal database name
POSTGRES_USER	Internal database username
POSTGRES_PASSWORD	Internal database password
BROKER_USER	Queue username
BROKER_PASSWORD	Queue password

Optional settings

Setting	Description
RABBITMQ_USER	User to use when connecting to the rabbitmq broker. Overrides BROKER_USER.
RABBITMQ_PASSWORD	Password to use when connecting to the rabbitmq broker. Overrides BROKER_PASSWORD.
RABBITMQ_HOST	Address of the RabbitMQ broker service. Defaults to the container service address.
REDIS_PASSWORD	User to connect to the rabbitmq broker. Overrides BROKER_PASSWORD.
REDIS_HOST	Address of the Redis queue results store. Defaults to the container service address.
RABBITMQ_DEFAULT_USER	Username to use when initializing the RabbitMQ broker. Not used after the service has been initialised.
RABBITMQ_DEFAULT_PASS	Password to use when initializing the RabbitMQ broker. Not used after the service has been initialised. Overrides BROKER_PASSWORD.
WORKERS	The number of gunicorn workers to spawn for serving API requests. Default to 8.
CONSUMER_TIMEOUT	The timeout for rabbitmq consumer delivery acknowledgement in seconds. Default: 10800000 (3 hours)

Docker Compose configuration

The `docker-compose` file is stored in `/usr/share/ngeneahub/docker/docker-compose.yml`.

This can be extended by creating an override file at `/usr/share/ngeneahub/docker/docker-compose.override.yml`.

Worker Configuration

The Ngenea Worker configuration should be added to `/etc/ngenea/ngenea-worker.conf`. The configuration is in *ini* format. For example:

```
[settings]
broker_url = amqp://user:password@localhost
result_backend = redis://:password@localhost:6379
```

The following is a list of available settings:

Option	Type	Default	Required	Description
<i>threads</i>	<i>int</i>	<i>10</i>	No	The number of concurrent tasks that can be run.
<i>result_backend</i>	<i>string</i>		Yes	The URI for the Ngenea Hub results backend
<i>broker_url</i>	<i>string</i>		Yes	The URI for the Ngenea Hub broker

Note: The initial access credentials can be found in the `/etc/sysconfig/ngeneahub` configuration file on the Ngenea Hub server. By default, the `BROKER_PASSWORD` is used for both the `broker_url` and the `result_backend` passwords, and the `BROKER_USER` is used for the `broker_url` username.

Usage

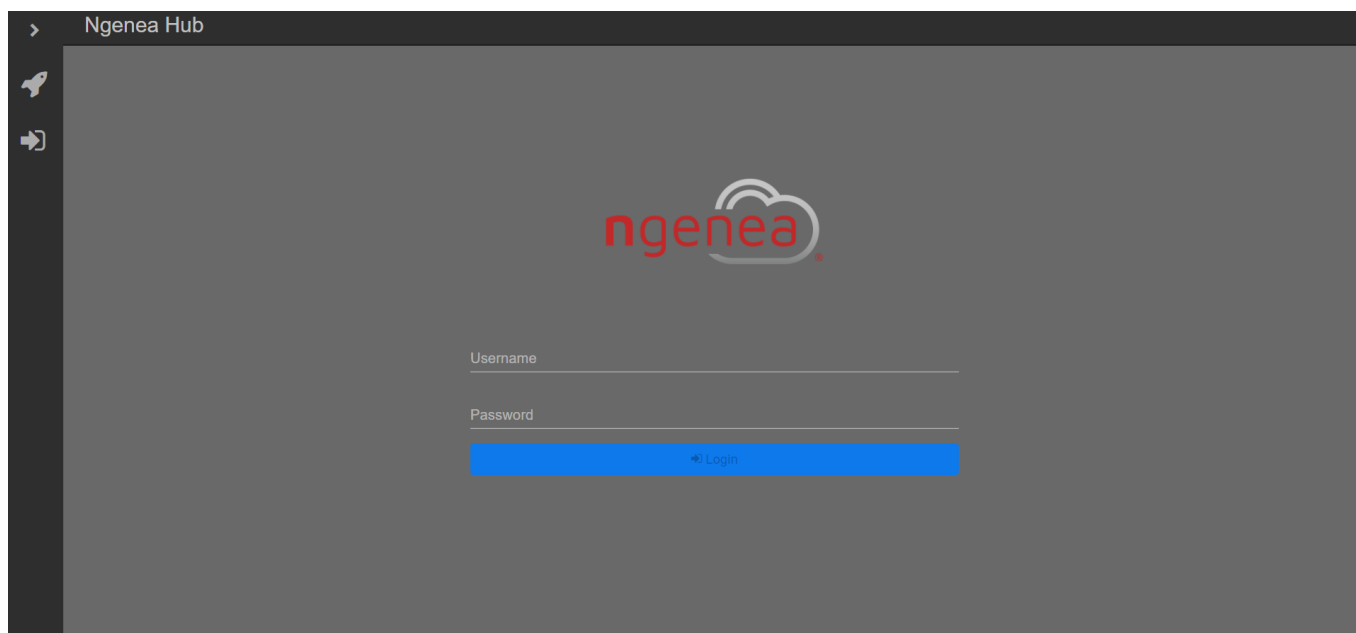
Web Interface

To access Ngenea Hub, go to `http://example.com:8000/`.

Authentication

Login

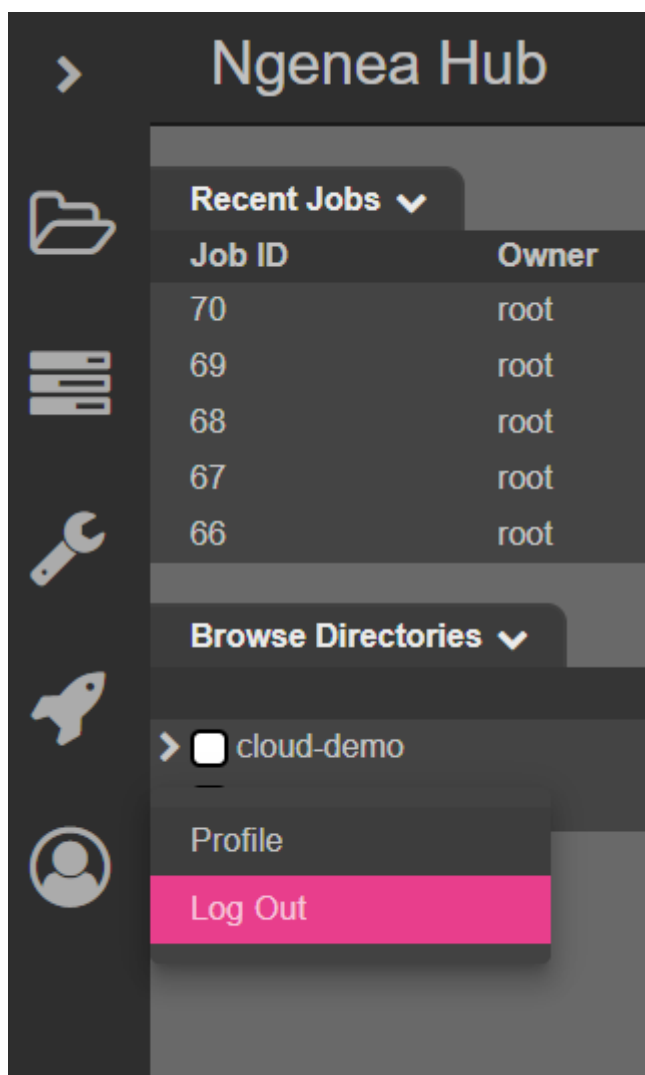
Upon navigating to the Ngenea Hub UI a login screen is presented.



Enter a valid username and password before pressing the Login button to authenticate.

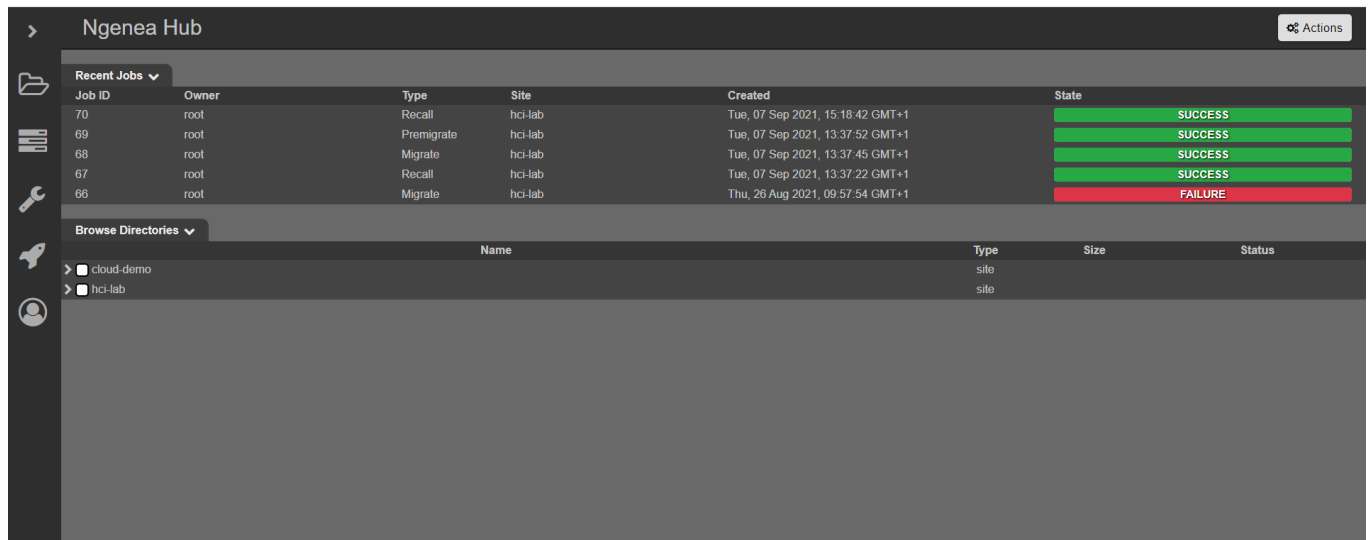
Logout

To end your session, select Logout from the Man Icon at the bottom left hand corner of the UI.



Browser

Upon logging in, select the directory icon on the left hand side of the UI. This takes to the Browser page.



The Browser page allows users to see a list of recent jobs as well as browse all available directories across all Sites for the purpose of either migrating, pre-migrating, recalling, or sending files.

Recent Jobs

The Recent Jobs section shows a list of the 5 most recent jobs that were initiated via the UI.

The view presents several columns:

Option	Description
Job ID	Shows the identification number associated with the job
Owner	Name of the user who created the job
Type	Shows the job's type, i.e. Migrate, Recall, Premigrate, or Send
Site	Name of the Site where files were migrated from
Created	Shows the job's creation time
State	Shows the job's state, i.e. success or failure

Browse Directories

The Browse Directories section contains a list of configured Sites and correspondent directories under the Sites' filesystems.

The view presents several columns:

Option	Description
Name	Shows the name of the Site, directories, and files
Type	Shows whether the listed item is a Site, directory, or file
Size	Shows the directories and files size

Option	Description
--------	-------------

Status	Shows whether files are online or offline
--------	---

User can select one or multiple directories, or one or multiple files to migrate, premigrate, recall them or send them to a different Site.

Migrate

To Migrate a directory or file, expand the Site containing said directory and file. Select the directory or file you wish to Migrate by ticking their relevant boxes.

Click the "Actions" button at the top right hand side of the page and select "Migrate".

A new Job is created and it is shown at the top of the "Recent Jobs" list. Job's State will display a progress bar until completion.

Once job is complete, the State will either show as Success or Failed.

Premigrate

To Premigrate a directory or file, expand the Site containing said directory and file. Select the directory or file you wish to Premigrate by ticking their relevant boxes.

Click the "Actions" button at the top right hand side of the page and select "Premigrate".

A new Job is created and it is shown at the top of the "Recent Jobs" list. Job's State will display a progress bar until completion.

Once job is complete, the State will either show as Success or Failed.

Recall

To Recall a directory or file, expand the Site containing said directory and file. Select the directory or file you wish to Recall by ticking their relevant boxes.

Click the "Actions" button at the top right hand side of the page and select "Recall".

A new Job is created and it is shown at the top of the "Recent Jobs" list. Job's State will display a progress bar until completion.

Once job is complete, the State will either show as Success or Failed.

Send

To Send a directory or file from one Site to another, expand the Site containing said directory and file. Select the directory or file you wish to Send by ticking their relevant boxes.

Click the "Actions" button at the top right hand side of the page and select "Send".

Select the Site you wish to send the directory and/or files to. Tick the "Hydrate files on destination" if required, and click "Confirm".

Confirm running workflow

Please confirm you wish to run workflow 'Send' for the following:

Site:

hci-lab

Folders (including all contents and subfolders):

/mmfs1/data/vfx/apps/autodesk/plugins

Items:

-

Additional fields:

Destination Site

☐ Hydrate files on destination

Confirm

Cancel

A new Job is created and it is shown at the top of the “Recent Jobs” list. Job’s State will display a progress bar until completion.

Once job is complete, the State will either show as Success or Failed.

Expanding the receiving Site’s Directories now shows the path that was replicated from the sending Site.

Jobs

The Jobs page shows a list of all the jobs that were initiated via the UI.

Ngeneia Hub

Job List

Apply Filter

Items per page: 20 1-20 of 70

Job ID	Owner	Type	Site	Created	State
70	root	Recall	hci-lab	Tue, 07 Sep 2021, 15:18:42 GMT+1	SUCCESS
69	root	Premigrate	hci-lab	Tue, 07 Sep 2021, 13:37:52 GMT+1	SUCCESS
68	root	Migrate	hci-lab	Tue, 07 Sep 2021, 13:37:45 GMT+1	SUCCESS
67	root	Recall	hci-lab	Tue, 07 Sep 2021, 13:37:22 GMT+1	SUCCESS
66	root	Migrate	hci-lab	Thu, 26 Aug 2021, 09:57:54 GMT+1	FAILURE
65	root	Send	hci-lab	Mon, 16 Aug 2021, 11:46:40 GMT+1	1 / 1 (100%)
64	root	Migrate	hci-lab	Mon, 16 Aug 2021, 11:45:17 GMT+1	FAILURE
63	root	Migrate	cloud-demo	Thu, 12 Aug 2021, 14:45:19 GMT+1	FAILURE
62	root	Migrate	hci-lab	Tue, 10 Aug 2021, 14:22:21 GMT+1	FAILURE
61	root	Premigrate	cloud-demo	Tue, 10 Aug 2021, 14:21:16 GMT+1	FAILURE
60	root	Recall	cloud-demo	Tue, 10 Aug 2021, 14:20:45 GMT+1	FAILURE
59	root	Recall	hci-lab	Thu, 05 Aug 2021, 23:14:20 GMT+1	SUCCESS
58	root	Send	hci-lab	Thu, 05 Aug 2021, 23:12:33 GMT+1	FAILURE
57	root	Send	hci-lab	Thu, 05 Aug 2021, 09:52:07 GMT+1	FAILURE
56	root	Recall	hci-lab	Thu, 05 Aug 2021, 09:51:06 GMT+1	SUCCESS
55	root	Send	cloud-demo	Wed, 04 Aug 2021, 10:13:55 GMT+1	0 / 1 (0%)
54	root	Migrate	hci-lab	Wed, 04 Aug 2021, 10:05:32 GMT+1	SUCCESS
53	root	Send	cloud-demo	Wed, 04 Aug 2021, 09:37:54 GMT+1	0 / 1 (0%)
52	root	Migrate	hci-lab	Tue, 27 Jul 2021, 15:27:31 GMT+1	SUCCESS
51	root	Migrate	hci-lab	Fri, 23 Jul 2021, 15:10:42 GMT+1	SUCCESS

Summary

Jobs by type

Jobs by state

The view presents several columns:

.. list-table:: Jobs View Options :header-rows: 1 :widths: 25 75

Option	Description
Job ID	Shows the identification number associated with the job
Owner	Name of the user who created the job

Option	Description
Type	Shows the job's type, i.e. Migrate, Recall, Premigrate, or Send
Site	Name of the Site where files were migrated from
Created	Shows the job's creation time
State	Shows the job's state, i.e. success or failure

Each column can be sorted in ascending and descending order.

Pagination

To select whether to view 20, 50, or 100 Jobs at the time, choose the relevant option in the "Items per Page" dropdown.

Clicking on the right and left arrow next to "Items per Page" will take you to the next/previous pages.

Apply Filter

Jobs list can be filtered by time period, job type, and job state.

To filter the list, select the "Apply Filter" button on the top left hand side of the UI.

Select one or a combination of filters, and click "Apply".

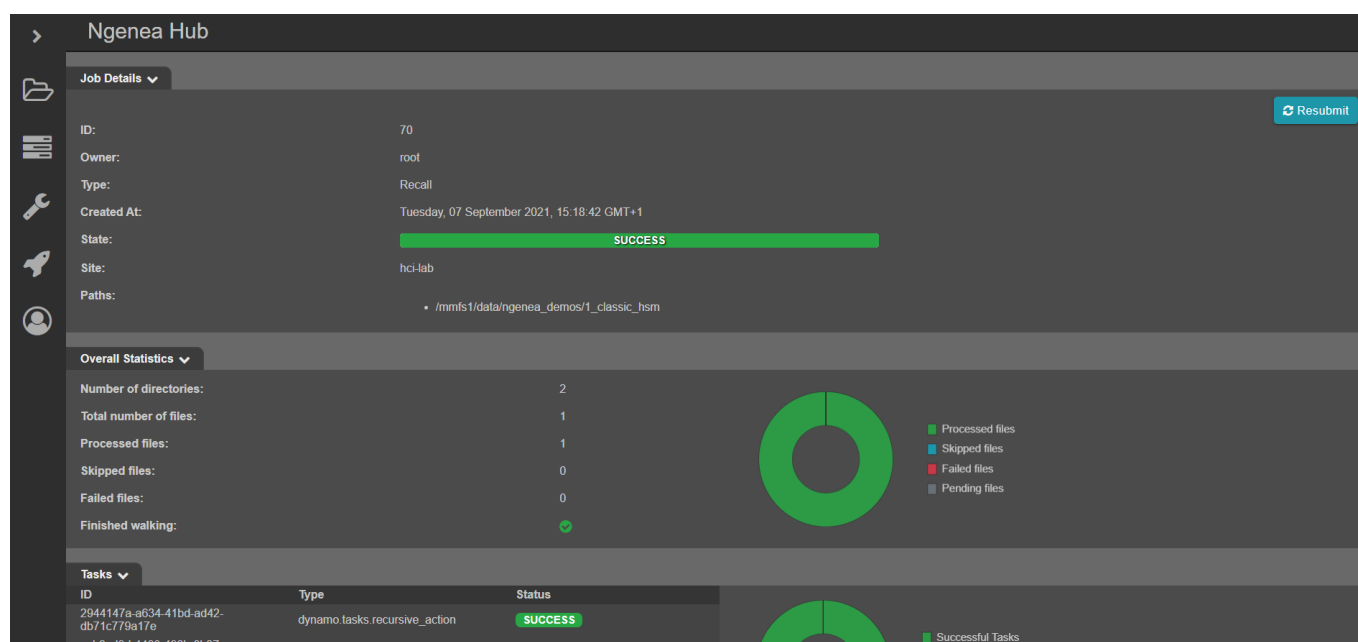
Job are now filtered as per your selection.

To remove a filter, simply select the "x" next to the applied filter.

Job ID

On the Jobs page, click on a Job ID to see additional information regarding the Job.

The Job Details, Overall Statistics, and Tasks tab are displayed.



Each tab shows specific Job details, some of which are clickable:

- Overall Statistics -> Total number of files, processed files, skipped files, and failed files.
- Tasks -> ID

Selecting any of the clickable items opens a dialogue showing the relevant output.

Jobs can also be resubmitted by clicking the “Resubmit” button at the top right hand side of the page.

Owner

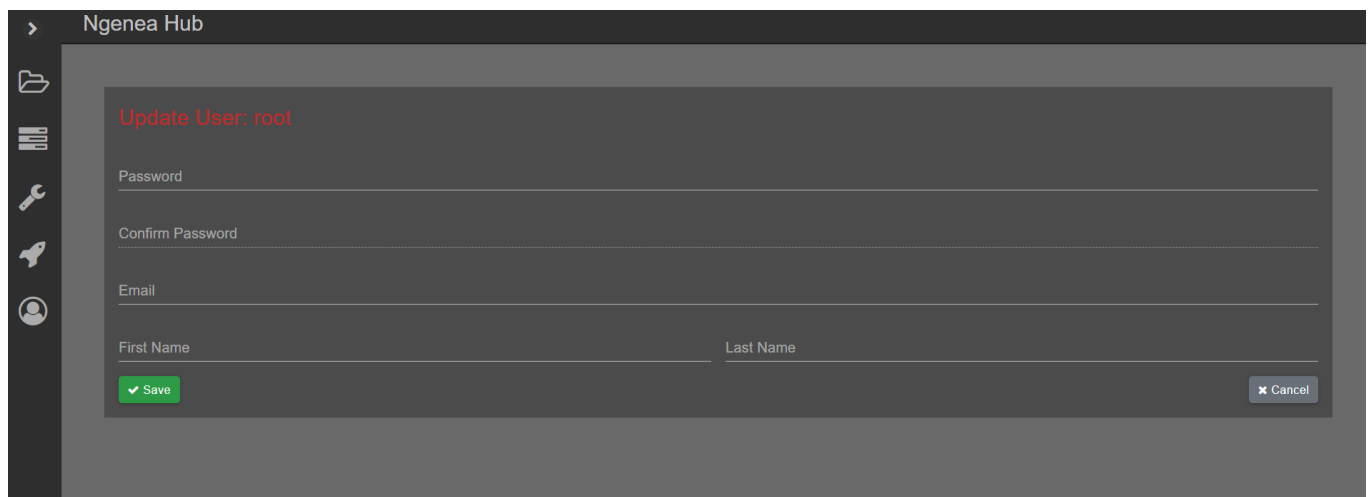
On the Jobs page, click on any Owner to see additional information regarding the user who initiated the Job.

Selecting an Owner takes to a page that shows details about the user, as well as a list of Jobs initiated by said user.

Owner Details

If you selected your own user, you will see an “Update Profile” on the top right hand side of the page.

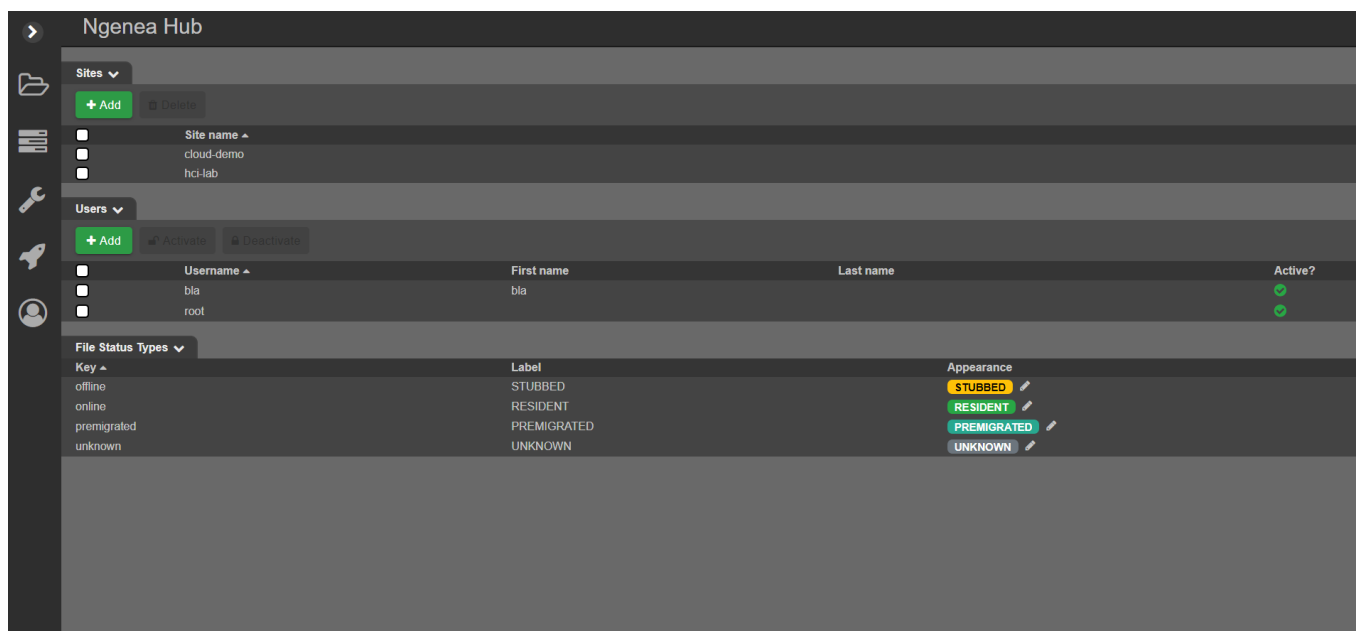
This takes you to the “Update User” page where you can change your own password, email, first name and last name.

The screenshot shows a web interface titled "Ngenea Hub" with a dark sidebar on the left containing icons for a folder, list, wrench, rocket, and user profile. The main content area is a form titled "Update User: root" in red text. The form has input fields for "Password", "Confirm Password", "Email", "First Name", and "Last Name". At the bottom left of the form is a green "Save" button with a checkmark icon, and at the bottom right is a grey "Cancel" button with an 'x' icon.

The Job List's layout is the same as the one shown in Jobs page and has the same functionalities.

Administration

The Administration page allows you to add and delete Sites, add, activate and deactivate Users, as well as changing the name and colours of the labels found in the Browse Directories section.



Sites

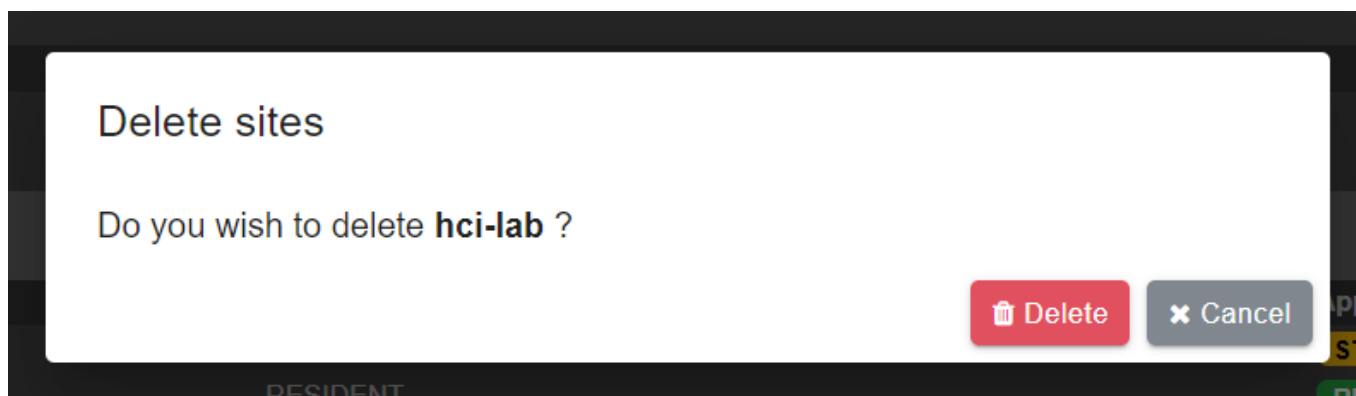
The Sites tab contains the list of Sites that have been configured. This list can be sorted by Site name in ascending and descending order.

Add Site

To add a Site, select the “Add” button, enter a Site name, and confirm by clicking “Add”

Delete Site

To delete a Site, select one or multiple Sites by ticking their correspondent boxes. Click “Delete” and then confirm deletion once the “Delete Site” dialogue is presented.

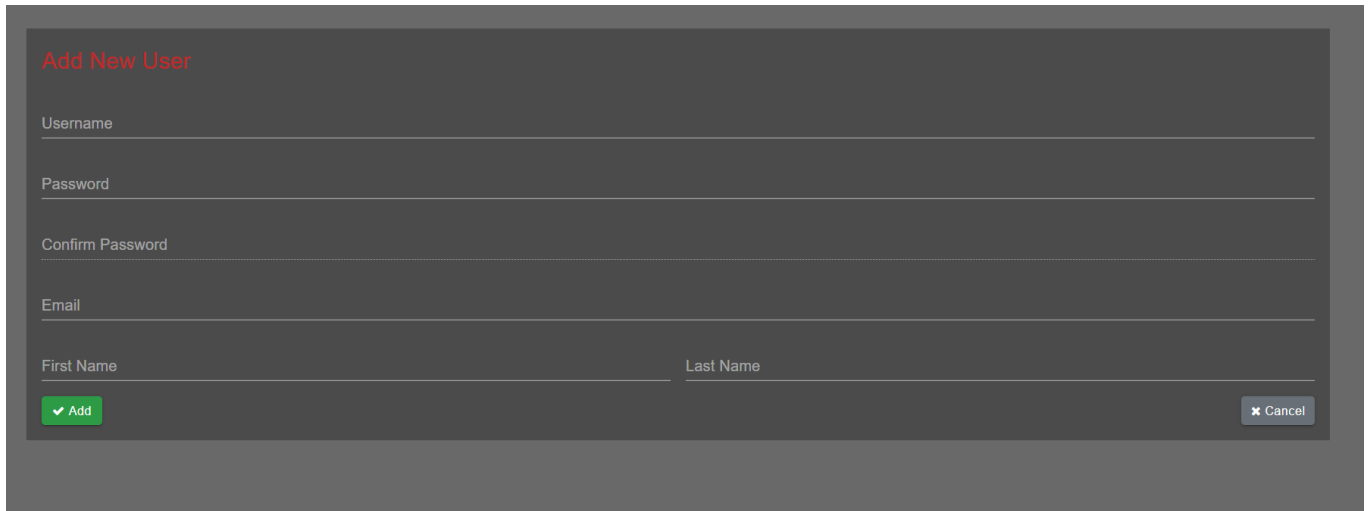


Users

The Users tab contains the list of Users who are allowed to use the UI. This list can be sorted by Username in ascending and descending order.

Add User

To add a new User, select the “Add” button, then enter a Username, Password, Email, First Name, and Last Name.

A screenshot of a web form titled "Add New User" in red text. The form has a dark gray background with white text for labels. The labels are: Username, Password, Confirm Password, Email, First Name, and Last Name. There are two buttons at the bottom: a green "Add" button with a checkmark icon and a gray "Cancel" button with an 'x' icon.

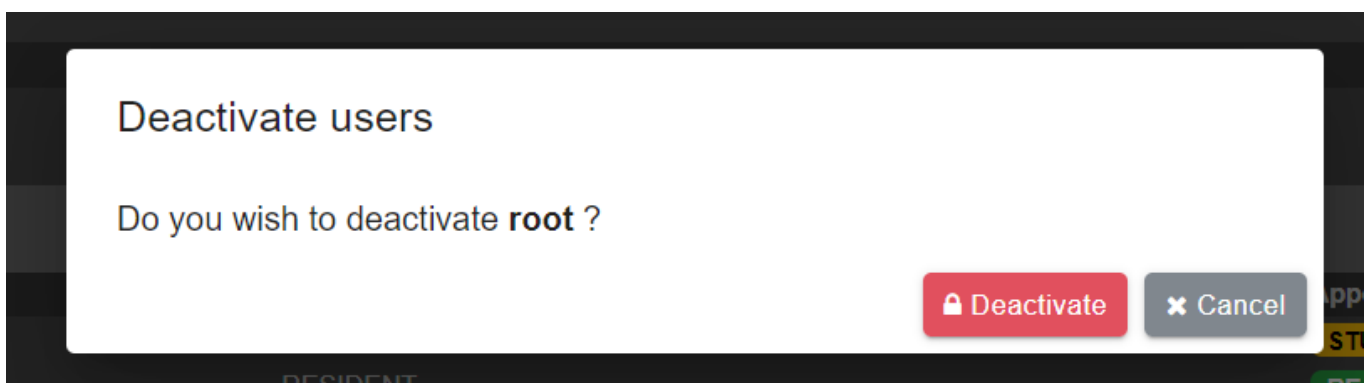
Confirm by clicking “Add”.

Activate User

To activate an existing User, select the “Activate” button, and then confirm activation once the “Activate user” dialog is presented.

Deactivate User

To deactivate a User, select one or multiple Users by ticking their correspondent boxes. Click “Deactivate” and then confirm deactivation once the “Deactivate user” dialogue is presented.

A screenshot of a dialog box titled "Deactivate users". The dialog has a white background and a dark border. It contains the text "Do you wish to deactivate root ?" where "root" is in blue. At the bottom right, there are two buttons: a red "Deactivate" button with a lock icon and a gray "Cancel" button with an 'x' icon.

User will no longer have access to the UI but still exists and can be reactivated at any time.

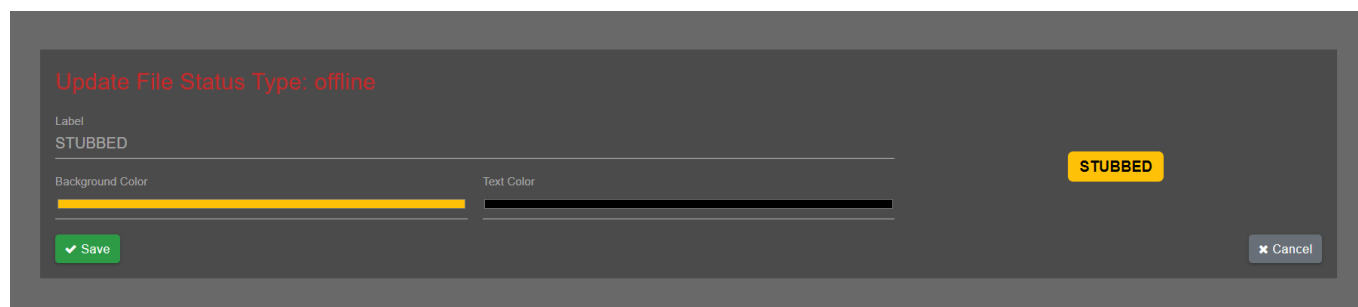
File Status Types

The File Status Types tab lists the labels that are used to indicate a file’s status.

The labels are customisable as both colour and label name can be changed.

To change the appearance of a label, select the pencil symbol next to the label that needs updating.

“Update File Status Type” page is displayed:



Change label name, background colour, or text colour as per your preference.

Click “Save” to confirm the update.

API

Reference

The API reference can be found at your Ngenea Hub install at `/api/docs/`. This section does not attempt to duplicate the reference, but instead provide some usage examples.

Authentication

Authentication to the API can be performed in 2 ways

- JWT Authentication
- Client Keys

The first one is for interacting with the API interactively and is therefore most likely not suitable for building automated workflows. On the other hand, client keys are valid until they are revoked and are more suitable for automation.

JWT Authentication

To use the API directly, authentication tokens should be generated to prevent sending the username and password repeatedly. You need to generate these tokens by sending you username-password pair to the login endpoint: `/auth/token`

```
curl -s -X POST 'http://localhost:8000/api/auth/token/' -H 'Accept: application/json' -H 'Content-Type: application/json' -d '{"username": "dfoster", "password": "*****"}' | jq -r '{
  "access": <access_token>,
  "refresh": <refresh_token>,
}
```

There are 2 types of authentication tokens:

- Access token
- Refresh token

Access tokens are used for doing API requests. You need to include the token in the Authorization header to use any other endpoint:

```
curl -s -X GET 'http://localhost:8000/api/jobs/' -H 'Accept: application/json' -H 'Content-Type: application/json' -H "Authorization: Bearer $JWT_ACCESS_TOKEN" | jq
{
  "count": 0,
  "next": null,
  "previous": null,
  "results": [],
  "stats": {
    "type": {
      "migrate": 0,
      "premigrate": 0,
      "recall": 0
    },
    "state": {
      "SUCCESS": 0,
      "FAILURE": 0,
      "STARTED": 0,
      "PENDING": 0,
      "ERROR": 0
    },
    "created": {},
    "site": {}
  }
}
```

On the other hand, refresh tokens are used for refreshing the access token. For security purposes, access tokens expire in 1 hour and refresh tokens expire in 1 day. When an expired token is used, one of HTTP 401 Unauthorized and HTTP 403 Forbidden errors is received. In that case, you need to refresh the access token with `/api/token/refresh/` endpoint:

```
curl -s -X POST 'http://localhost:8000/api/auth/token/refresh/' -H 'Accept: application/json' -H 'Content-Type: application/json' -d '{"refresh": "<refresh_token>"}' | jq -r
{
  "access": <new_access_token>,
}
```

Refresh tokens can also be expired too. In that case, you need to send your credentials (username and password) again to obtain new token pair.

Client Keys

Creating Client Keys

Note: The UI does not currently support creating client keys and therefore have to be done via the API directly

Before we can authenticate using the client key, we need to temporarily authenticate using JWT to be able to create a client key.

To get a valid JWT access token using curl and jq:

```
export JWT_TOKEN=$(curl -s -X POST 'http://localhost:8000/api/auth/token/' -H 'Accept: application/json' -H 'Content-Type: application/json' -d '{"username": "dfoster", "password": "*****"}' | jq -r .access)
echo $JWT_TOKEN
<token>
```

This can now be used to create a client key:

```
curl -s -X POST 'http://localhost:8000/api/auth/clientkeys/' -H 'Accept: application/json' -H 'Content-Type: application/json' -H "Authorization: Bearer $JWT_TOKEN" -d '{"name": "my_automation_key"}' | jq '.'
{
  "url": "http://localhost:8000/api/auth/clientkeys/1/",
  "id": 1,
  "name": "my_automation_key",
  "api_key": "YOUR_API_KEY"
}
```

{warning} This **is** the only time the client key will be visible, make sure it **is** recorded.

Using Client Keys

The key created in the previous section can now be used by setting the header `Authorization: Api-Key YOUR_API_KEY` against an API endpoint. For example:

```
export API_KEY=YOUR_API_KEY

curl -s -X GET 'http://localhost:8000/api/jobs/' -H 'Accept: application/json' -H 'Content-Type: application/json' -H "Authorization: Api-Key $API_KEY" | jq
{
  "count": 0,
  "next": null,
  "previous": null,
  "results": [],
}
```



```

"stats": {
  "type": {
    "migrate": 0,
    "premigrate": 0,
    "recall": 0
  },
  "state": {
    "SUCCESS": 0,
    "FAILURE": 0,
    "STARTED": 0,
    "PENDING": 0,
    "ERROR": 0
  },
  "created": {},
  "site": {}
}
}

```

Submitting Workflow

To submit a workflow, the following parameters are required:

name	description
workflow	The name of the workflow to submit
paths	A list of paths to execute the workflow on
site	The name of the site where the workflow should be started from. Steps within a workflow may run on different sites.

In additional, the following optional parameters may be provided:

name	description
discovery	Name of the file discovery technique to use. Currently the only supported discovery is <code>recursive</code> . If no discovery is specified, <code>recursive</code> will be used as the default. If explicitly set to <code>null</code> , no discovery will be performed and the provided paths will be used 'as is'.
fields	Additional parameter for the workflow, typically used by custom workflows.

Migrate

Using a Client Key stored in a environment variable `TOKEN`, the following is an example of migrating a file using curl.

```

curl -s -X POST 'http://example.com/api/file/workflow/' -H 'Accept: application/json' -H 'Content-Type: application/json' -H "Authorization: Api-Key $TOKEN" -d '{"paths": ["/mmfs1/data/

```

```
sample_data.tgz"], "site": "dfoster1", "workflow": "migrate",  
"discovery": null}'
```

Note: Since we're only migrating a single file, we don't need recursive discovery, so discovery has been set to `null` to disable it.

Monitoring and Management

systemd service

Ngeneahub is controlled via the `ngeneahub` systemd service

ngeneahubctl cli tool

The `ngeneahubctl` tool can be used to manually stop/start the services, outside of systemd, for debugging

Docker containers

Ngeneahub uses a collection of docker containers, which can be managed by standard Docker monitoring/management tools and processes:

Container Name	Description
<code>ngeneahub_app_1</code>	Web application
<code>ngeneahub_jobrefresh_1</code>	Maintenance task controller
<code>ngeneahub_db_1</code>	Application database (Postgres)
<code>ngeneahub_rabbitmq_1</code>	Task queue broker
<code>ngeneahub_redis_1</code>	Task results backend

Custom Workflows

Defining workflows

It's possible to define custom workflows which use pre-defined steps as building blocks to create your workflow.

Note: Custom workflows are not currently exposed via the UI. Use the API `/api/workflows/` endpoint to create custom workflows

A workflow definition requires the following parameters:

name	description
name	The unique name for this workflow. For easy of submission again the API, this should not contain spaces.
label	The human readable name for this workflow, can contain spaces.
icon	A HTML representation of an icon to display in the UI. Font Awesome is useful here.
steps	A list of steps to perform. Described in more detail below.
fields	A list of runtime fields. Described in more detail below.

Steps

Steps are defined in JSON. Steps is a list of individual steps that will be perform serially.

Each step is a defined as a dict. The following fields are in defined

- **name** *[required]*: The name of the task to run, e.g. `dynamo.tasks.migrate`
- **site** *[optional]*: The name of the site to run against. Default: The site associated with the initial filelist provided to the workflow.

Any other fields are passed as `kwargs` to the task.

Example 1 - Send to a site

```
[
  {
    "name": "dynamo.tasks.migrate"
  },
  {
    "name": "dynamo.tasks.recall",
    "site": "london"
  }
]
```

Runtime fields

A workflow needs to be able to accept parameters as it submitted. Taking example #1 above, "london" doesn't want to be hardcoded as the destination site, as that would mean a new workflow would need to be defined for each possible destination.

Instead, fields can be defined, that in turn will need to be provided at workflow submission time. Fields are defined as a dict with the following keys:

- **name** *[required]*: The name of the field.
- **label** *[required]*: The fiendly name for this field, used for presenting in the UI
- **type** *[required]*: The type of the field. Valid options are:
 - `string` - a free text field

- `int` - a free text field that will be validated a integer
- `bool` - a checkbox
- `enum[enum_type]` - A dropdown box representing a choice of option, populated from `enum_type`. `enum_type` can be one of the following
 - `site` - A list of all the sites Ngenea Hub has defined

Example 3 - Custom fields

```
[
  {
    "name": "target_site",
    "label": "Site to migrate to",
    "type": "enum[site]"
  },
  {
    "name": "delete",
    "label": "Delete from source",
    "type": "bool"
  }
]
```

Back in the definition of a step, any value that is prefixed with a `&` will be used as a field name and the value replaced instead of a literal string.

The following example, modifies example #1 to use the custom field as defined in example #3:

Example 4 - Using custom fields

```
[
  {
    "name": "dynamo.tasks.migrate"
  },
  {
    "name": "dynamo.tasks.recall",
    "site": "&target_site"
  }
]
```

Running Workflows

Note: Workflows that define runtime fields cannot be submitted via the UI currently.

A workflow is run via the `/api/file/workflow/` endpoint and expects the following parameters.

name	description
<code>paths</code>	A list of paths to perform the workflows against
<code>site</code>	The site to perform the workflow against

Reference

Workflow Steps

This section documents all the currently supported steps in ngenea hub. See [Custom Workflows](#) for guidance on how to use these steps in your own workflows.

`dynamo.tasks.migrate`

Migrates a list of files to a pre-defined remote target using Ngenea.

Argument	Type	Default	Description
<code>premigrate</code>	<code>bool</code>	<code>False</code>	retain the content of every migrated file and do not set the OFFLINE flag for the file.migrating.
<code>stub_size</code>	<code>int</code>	<code>0</code>	retain a segment of every migrated file starting from its beginning and having a specified approximate length in bytes.
<code>overwrite</code>	<code>bool</code>	<code>False</code>	overwrite remote objects if they already exist-do not create remote object instances with various UUID suffixes

`dynamo.tasks.recall`

Recalls a list of files to a pre-defined remote target using Ngenea.

Argument	Type	Default	Description
<code>skip_hash</code>	<code>bool</code>	<code>False</code>	If the recall should skip checking the hash of the file

`dynamo.tasks.reverse_stub`

Recalls a list of files to a pre-defined remote target using Ngenea.

Argument	Type	Default	Description
<code>hydrate</code>	<code>bool</code>	<code>False</code>	If the file should be premigrated instead of a regular stub
<code>stub_size</code>	<code>int</code>	<code>0</code>	The max file size before files will be stubbed for this task
<code>skip_hash</code>	<code>bool</code>	<code>False</code>	If the recall should skip checking the hash of the file
<code>overwrite</code>	<code>bool</code>	<code>False</code>	overwrite local files if they already exist.

`dynamo.tasks.delete_paths_from_gpfs`

Removes a list of files from a GPFS filesystem.

This step takes no additional arguments.

GET /auth/clientkeys/

API endpoint for managing client keys

Query Parameters:

- **page** (*integer*) – A page number within the paginated result set. When not given, first page is retrieved by default.
- **page_size** (*integer*) – Number of results to return per page. Page size parameter can be a number between 20 and 100. For disabling pagination and retrieving all results, 0 should be given. When page size parameter is empty or <20, 20 results are returned by default. When page size parameter >100, 100 results are returned by default.

Status Codes:

- 200 OK –

Response JSON Object:

- **count** (*integer*) – (required)
- **next** (*string*) –
- **previous** (*string*) –
- **results[].id** (*integer*) – (read only)
- **results[].name** (*string*) – Name of the client key (required)
- **results[].url** (*string*) – (read only)

POST /auth/clientkeys/

API endpoint for managing client keys

Request JSON Object:

- **api_key** (*string*) – (read only)
- **id** (*integer*) – (read only)
- **name** (*string*) – Name of the client key (required)
- **url** (*string*) – (read only)

Status Codes:

- 201 Created –

Response JSON Object:

- **api_key** (*string*) – (read only)
- **id** (*integer*) – (read only)
- **name** (*string*) – Name of the client key (required)
- **url** (*string*) – (read only)

GET /auth/clientkeys/{id}/

API endpoint for managing client keys

Parameters:

- **id** (*string*) –

Status Codes:

- 200 OK –

Response JSON Object:

- **id** (*integer*) – (read only)
- **name** (*string*) – Name of the client key (required)
- **url** (*string*) – (read only)

PATCH /auth/clientkeys/{id}/

API endpoint for managing client keys

Parameters:

- **id** (*string*) –

Request JSON Object:

- **id** (*integer*) – (read only)
- **name** (*string*) – Name of the client key (required)
- **url** (*string*) – (read only)

Status Codes:

- [200 OK](#) –

Response JSON Object:

- **id** (*integer*) – (read only)
- **name** (*string*) – Name of the client key (required)
- **url** (*string*) – (read only)

DELETE /auth/clientkeys/{id}/

API endpoint for managing client keys

Parameters:

- **id** (*string*) –

Status Codes:

- [204 No Content](#) –

POST /auth/token/

Takes a set of user credentials and returns an access and refresh JSON web token pair to prove the authentication of those credentials.

Request JSON Object:

- **password** (*string*) – (required)
- **username** (*string*) – (required)

Status Codes:

- [201 Created](#) –

Response JSON Object:

- **password** (*string*) – (required)
- **username** (*string*) – (required)

POST /auth/token/refresh/

Takes a refresh type JSON web token and returns an access type JSON web token if the refresh token is valid.

Request JSON Object:

- **refresh** (*string*) – (required)

Status Codes:

- [201 Created](#) –

Response JSON Object:

- **refresh** (*string*) – (required)

POST /auth/token/verify/

Verifies that the token is not expired AND the token owner exists in the database AND the token owner is an active user.

Request JSON Object:

- **token** (*string*) – (required)
- **type** (*string*) – Token type e.g: *access* or *refresh* (required)

Status Codes:

- 201 Created –

Response JSON Object:

- **token** (*string*) – (required)
- **type** (*string*) – Token type e.g: *access* or *refresh* (required)

GET /file/

Retrieves list of files under given path for given site.

Query Parameters:

- **path** (*string*) – Target directory path
- **site** (*string*) – Site name
- **details** (*boolean*) – Show details of children objects

Status Codes:

- 200 OK –

GET /file/test/

API endpoint for managing files.

Status Codes:

- 200 OK –

POST /file/workflow/

Performs a workflow on a list of files

Request JSON Object:

- **discovery** (*string*) – Discovery name
- **fields** (*object*) –
- **job** (*integer*) – Job ID
- **paths[]** (*string*) –
- **site** (*string*) – Site name (required)
- **workflow** (*string*) – Workflow name (required)

Status Codes:

- 201 Created –

Response JSON Object:

- **discovery** (*string*) – Discovery name
- **fields** (*object*) –
- **job** (*integer*) – Job ID
- **paths[]** (*string*) –
- **site** (*string*) – Site name (required)
- **workflow** (*string*) – Workflow name (required)

GET /filestatustypes/

API endpoint for managing file status types.

Query Parameters:

- **page** (*integer*) – A page number within the paginated result set. When not given, first page is retrieved by default.

- **page_size** (*integer*) – Number of results to return per page. Page size parameter can be a number between 20 and 100. For disabling pagination and retrieving all results, 0 should be given. When page size parameter is empty or <20, 20 results are returned by default. When page size parameter >100, 100 results are returned by default.

Status Codes:

- 200 OK –

Response JSON Object:

- **count** (*integer*) – (required)
- **next** (*string*) –
- **previous** (*string*) –
- **results[].background_color** (*string*) – (required)
- **results[].key** (*string*) – (required)
- **results[].label** (*string*) – (required)
- **results[].text_color** (*string*) – (required)
- **results[].url** (*string*) – (read only)

GET /filestatustypes/{key}/

API endpoint for managing file status types.

Parameters:

- **key** (*string*) –

Status Codes:

- 200 OK –

Response JSON Object:

- **background_color** (*string*) – (required)
- **key** (*string*) – (required)
- **label** (*string*) – (required)
- **text_color** (*string*) – (required)
- **url** (*string*) – (read only)

PATCH /filestatustypes/{key}/

API endpoint for managing file status types.

Parameters:

- **key** (*string*) –

Request JSON Object:

- **background_color** (*string*) – (required)
- **label** (*string*) – (required)
- **text_color** (*string*) – (required)

Status Codes:

- 200 OK –

Response JSON Object:

- **background_color** (*string*) – (required)
- **label** (*string*) – (required)
- **text_color** (*string*) – (required)

GET /jobs/

API endpoint for managing jobs.

Query Parameters:

- **page** (*integer*) – A page number within the paginated result set. When not given, first page is retrieved by default.
- **page_size** (*integer*) – Number of results to return per page. Page size parameter can be a number between 20 and 100. For disabling pagination and retrieving all results, 0 should be given. When page size parameter is empty or <20, 20 results are returned by default. When page size parameter >100, 100 results are returned by default.
- **created** (*string*) – Jobs are filtered for this period. Leave null for displaying jobs in all times.
- **jobtype** (*string*) – Job type
- **state** (*string*) – Job state
- **owner** (*string*) – Job owner's username

Status Codes:

- 200 OK –

Response JSON Object:

- **count** (*integer*) – (required)
- **next** (*string*) –
- **previous** (*string*) –
- **results[].created** (*string*) – Time of the job creation
- **results[].dir_walk_complete** (*string*) – (read only)
- **results[].id** (*integer*) – (read only)
- **results[].jobtype** (*string*) – (required)
- **results[].num_dir_tasks** (*string*) – (read only)
- **results[].numfailedfiles** (*integer*) –
- **results[].numfiles** (*integer*) –
- **results[].numprocessedfiles** (*integer*) –
- **results[].numskippedfiles** (*integer*) –
- **results[].owner** (*string*) – (read only)
- **results[].site** (*string*) – Site Name (required)
- **results[].state** (*string*) –
- **results[].url** (*string*) – (read only)

POST /jobs/

API endpoint for managing jobs.

Request JSON Object:

- **created** (*string*) – Time of the job creation
- **dir_walk_complete** (*string*) – (read only)
- **discovery** (*string*) – Path discovery method
- **id** (*integer*) – (read only)
- **jobtype** (*string*) – (required)
- **num_dir_tasks** (*string*) – (read only)
- **numfailedfiles** (*integer*) –
- **numfiles** (*integer*) –
- **numprocessedfiles** (*integer*) –
- **numskippedfiles** (*integer*) –
- **owner** (*string*) – (read only)
- **paths** (*string*) – (read only)
- **site** (*string*) – Site Name (required)

- **state** (*string*) –
- **url** (*string*) – (read only)

Status Codes:

- 201 Created –

Response JSON Object:

- **created** (*string*) – Time of the job creation
- **dir_walk_complete** (*string*) – (read only)
- **discovery** (*string*) – Path discovery method
- **id** (*integer*) – (read only)
- **jobtype** (*string*) – (required)
- **num_dir_tasks** (*string*) – (read only)
- **numfailedfiles** (*integer*) –
- **numfiles** (*integer*) –
- **numprocessedfiles** (*integer*) –
- **numskippedfiles** (*integer*) –
- **owner** (*string*) – (read only)
- **paths** (*string*) – (read only)
- **site** (*string*) – Site Name (required)
- **state** (*string*) –
- **url** (*string*) – (read only)

GET /jobs/recent/

Retrieves last N jobs as recent jobs. N = 5 by default (defined in dynamohub/settings/base.py).

Query Parameters:

- **page** (*integer*) – A page number within the paginated result set. When not given, first page is retrieved by default.
- **page_size** (*integer*) – Number of results to return per page. Page size parameter can be a number between 20 and 100. For disabling pagination and retrieving all results, 0 should be given. When page size parameter is empty or <20, 20 results are returned by default. When page size parameter >100, 100 results are returned by default.

Status Codes:

- 200 OK –

Response JSON Object:

- **count** (*integer*) – (required)
- **next** (*string*) –
- **previous** (*string*) –
- **results[].created** (*string*) – Time of the job creation
- **results[].dir_walk_complete** (*string*) – (read only)
- **results[].discovery** (*string*) – Path discovery method
- **results[].id** (*integer*) – (read only)
- **results[].jobtype** (*string*) – (required)
- **results[].num_dir_tasks** (*string*) – (read only)
- **results[].numfailedfiles** (*integer*) –
- **results[].numfiles** (*integer*) –
- **results[].numprocessedfiles** (*integer*) –
- **results[].numskippedfiles** (*integer*) –
- **results[].owner** (*string*) – (read only)

- **results[].paths** (*string*) – (read only)
- **results[].site** (*string*) – Site Name (required)
- **results[].state** (*string*) –
- **results[].url** (*string*) – (read only)

GET /jobs/{id}/

API endpoint for managing jobs.

Parameters:

- **id** (*string*) –

Status Codes:

- 200 OK –

Response JSON Object:

- **created** (*string*) – Time of the job creation
- **dir_walk_complete** (*string*) – (read only)
- **discovery** (*string*) – Path discovery method
- **id** (*integer*) – (read only)
- **jobtype** (*string*) – (required)
- **num_dir_tasks** (*string*) – (read only)
- **numfailedfiles** (*integer*) –
- **numfiles** (*integer*) –
- **numprocessedfiles** (*integer*) –
- **numskippedfiles** (*integer*) –
- **owner** (*string*) – (read only)
- **paths** (*string*) – (read only)
- **site** (*string*) – Site Name (required)
- **state** (*string*) –
- **url** (*string*) – (read only)

PATCH /jobs/{id}/

API endpoint for managing jobs.

Parameters:

- **id** (*string*) –

Request JSON Object:

- **created** (*string*) – Time of the job creation
- **dir_walk_complete** (*string*) – (read only)
- **discovery** (*string*) – Path discovery method
- **id** (*integer*) – (read only)
- **jobtype** (*string*) – (required)
- **num_dir_tasks** (*string*) – (read only)
- **numfailedfiles** (*integer*) –
- **numfiles** (*integer*) –
- **numprocessedfiles** (*integer*) –
- **numskippedfiles** (*integer*) –
- **owner** (*string*) – (read only)
- **paths** (*string*) – (read only)
- **site** (*string*) – Site Name (required)
- **state** (*string*) –
- **url** (*string*) – (read only)

Status Codes:

- [200 OK](#) –

Response JSON Object:

- **created** (*string*) – Time of the job creation
- **dir_walk_complete** (*string*) – (read only)
- **discovery** (*string*) – Path discovery method
- **id** (*integer*) – (read only)
- **jobtype** (*string*) – (required)
- **num_dir_tasks** (*string*) – (read only)
- **numfailedfiles** (*integer*) –
- **numfiles** (*integer*) –
- **numprocessedfiles** (*integer*) –
- **numskippedfiles** (*integer*) –
- **owner** (*string*) – (read only)
- **paths** (*string*) – (read only)
- **site** (*string*) – Site Name (required)
- **state** (*string*) –
- **url** (*string*) – (read only)

DELETE /jobs/{id}/

API endpoint for managing jobs.

Parameters:

- **id** (*string*) –

Status Codes:

- [204 No Content](#) –

GET /jobs/{id}/files/

Retrieves the files related with a job, with their execution status.

Parameters:

- **id** (*string*) –

Query Parameters:

- **category** (*string*) –

Status Codes:

- [200 OK](#) –

Response JSON Object:

- **created** (*string*) – Time of the job creation
- **dir_walk_complete** (*string*) – (read only)
- **discovery** (*string*) – Path discovery method
- **id** (*integer*) – (read only)
- **jobtype** (*string*) – (required)
- **num_dir_tasks** (*string*) – (read only)
- **numfailedfiles** (*integer*) –
- **numfiles** (*integer*) –
- **numprocessedfiles** (*integer*) –
- **numskippedfiles** (*integer*) –
- **owner** (*string*) – (read only)
- **paths** (*string*) – (read only)
- **site** (*string*) – Site Name (required)

- **state** (*string*) –
- **url** (*string*) – (read only)

POST /jobs/{id}/resubmit/

Resubmits the job with given id. If the job is not finished yet, this action will not have an effect.

Parameters:

- **id** (*string*) –

Status Codes:

- 201 Created –

GET /sites/

API endpoint for managing sites.

Query Parameters:

- **page** (*integer*) – A page number within the paginated result set. When not given, first page is retrieved by default.
- **page_size** (*integer*) – Number of results to return per page. Page size parameter can be a number between 20 and 100. For disabling pagination and retrieving all results, 0 should be given. When page size parameter is empty or <20, 20 results are returned by default. When page size parameter >100, 100 results are returned by default.

Status Codes:

- 200 OK –

Response JSON Object:

- **count** (*integer*) – (required)
- **next** (*string*) –
- **previous** (*string*) –
- **results[].id** (*integer*) – (read only)
- **results[].name** (*string*) – Site Name (required)
- **results[].url** (*string*) – (read only)

POST /sites/

API endpoint for managing sites.

Request JSON Object:

- **id** (*integer*) – (read only)
- **name** (*string*) – Site Name (required)
- **url** (*string*) – (read only)

Status Codes:

- 201 Created –

Response JSON Object:

- **id** (*integer*) – (read only)
- **name** (*string*) – Site Name (required)
- **url** (*string*) – (read only)

GET /sites/{id}/

API endpoint for managing sites.

Parameters:

- **id** (*string*) –

Status Codes:

- 200 OK –

Response JSON Object:

- **id** (*integer*) – (read only)
- **name** (*string*) – Site Name (required)
- **url** (*string*) – (read only)

PATCH /sites/{id}/

API endpoint for managing sites.

Parameters:

- **id** (*string*) –

Request JSON Object:

- **id** (*integer*) – (read only)
- **name** (*string*) – Site Name (required)
- **url** (*string*) – (read only)

Status Codes:

- 200 OK –

Response JSON Object:

- **id** (*integer*) – (read only)
- **name** (*string*) – Site Name (required)
- **url** (*string*) – (read only)

DELETE /sites/{id}/

API endpoint for managing sites.

Parameters:

- **id** (*string*) –

Status Codes:

- 204 No Content –

GET /tasks/

API endpoint for viewing tasks.

Query Parameters:

- **page** (*integer*) – A page number within the paginated result set. When not given, first page is retrieved by default.
- **page_size** (*integer*) – Number of results to return per page. Page size parameter can be a number between 20 and 100. For disabling pagination and retrieving all results, 0 should be given. When page size parameter is empty or <20, 20 results are returned by default. When page size parameter >100, 100 results are returned by default.
- **tasktype** (*string*) – Task type
- **state** (*string*) – Task state
- **job** (*integer*) – Job ID

Status Codes:

- 200 OK –

Response JSON Object:

- **count** (*integer*) – (required)

- **next** (*string*) –
- **previous** (*string*) –
- **results[].job** (*integer*) – (required)
- **results[].state** (*string*) – (required)
- **results[].taskid** (*string*) – Job task ID (required)
- **results[].tasktype** (*string*) – (required)
- **results[].url** (*string*) – (read only)

GET /tasks/{taskid}/

API endpoint for viewing tasks.

Parameters:

- **taskid** (*string*) –

Status Codes:

- **200 OK** –

Response JSON Object:

- **job** (*integer*) – (required)
- **numfailedfiles** (*integer*) –
- **numfiles** (*integer*) –
- **numprocessedfiles** (*integer*) –
- **numskippedfiles** (*integer*) –
- **paths** (*string*) – (read only)
- **results** (*string*) – (read only)
- **state** (*string*) – (required)
- **taskid** (*string*) – Job task ID (required)
- **tasktype** (*string*) – (required)
- **url** (*string*) – (read only)

GET /users/

API endpoint for managing users.

Query Parameters:

- **page** (*integer*) – A page number within the paginated result set. When not given, first page is retrieved by default.
- **page_size** (*integer*) – Number of results to return per page. Page size parameter can be a number between 20 and 100. For disabling pagination and retrieving all results, 0 should be given. When page size parameter is empty or <20, 20 results are returned by default. When page size parameter >100, 100 results are returned by default.

Status Codes:

- **200 OK** –

Response JSON Object:

- **count** (*integer*) – (required)
- **next** (*string*) –
- **previous** (*string*) –
- **results[].date_joined** (*string*) –
- **results[].email** (*string*) –
- **results[].first_name** (*string*) –
- **results[].id** (*integer*) – (read only)

- **results[].is_active** (*boolean*) – Designates whether this user should be treated as active. Unselect this instead of deleting accounts.
- **results[].last_login** (*string*) –
- **results[].last_name** (*string*) –
- **results[].url** (*string*) – (read only)
- **results[].username** (*string*) – Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only. (required)

POST /users/

API endpoint for managing users.

Request JSON Object:

- **email** (*string*) –
- **first_name** (*string*) –
- **last_name** (*string*) –
- **password** (*string*) – (required)
- **username** (*string*) – Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only. (required)

Status Codes:

- [201 Created](#) –

Response JSON Object:

- **email** (*string*) –
- **first_name** (*string*) –
- **last_name** (*string*) –
- **password** (*string*) – (required)
- **username** (*string*) – Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only. (required)

GET /users/{username}/

API endpoint for managing users.

Parameters:

- **username** (*string*) –

Status Codes:

- [200 OK](#) –

Response JSON Object:

- **date_joined** (*string*) –
- **email** (*string*) –
- **first_name** (*string*) –
- **id** (*integer*) – (read only)
- **is_active** (*boolean*) – Designates whether this user should be treated as active. Unselect this instead of deleting accounts.
- **last_login** (*string*) –
- **last_name** (*string*) –
- **url** (*string*) – (read only)
- **username** (*string*) – Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only. (required)

PATCH /users/{username}/

API endpoint for managing users.

Parameters:

- **username** (*string*) –

Request JSON Object:

- **email** (*string*) –
- **first_name** (*string*) –
- **last_name** (*string*) –
- **password** (*string*) –

Status Codes:

- 200 OK –

Response JSON Object:

- **email** (*string*) –
- **first_name** (*string*) –
- **last_name** (*string*) –
- **password** (*string*) –

DELETE /users/{username}/

API endpoint for managing users.

Parameters:

- **username** (*string*) –

Status Codes:

- 204 No Content –

POST /users/{username}/activate/

Activates user account with given username.

Parameters:

- **username** (*string*) –

Status Codes:

- 201 Created –

POST /users/{username}/deactivate/

Deactivates user account with given username.

Parameters:

- **username** (*string*) –

Status Codes:

- 201 Created –

GET /workflows/

API endpoint for viewing workflows.

Query Parameters:

- **page** (*integer*) – A page number within the paginated result set. When not given, first page is retrieved by default.
- **page_size** (*integer*) – Number of results to return per page. Page size parameter can be a number between 20 and 100. For disabling pagination and retrieving all results, 0 should be given. When page size parameter is empty or <20, 20 results are returned by default. When page size parameter >100, 100 results are returned by default.

Status Codes:

- 200 OK –

Response JSON Object:

- **count** (*integer*) – (required)
- **next** (*string*) –
- **previous** (*string*) –
- **results[].fields** (*object*) –
- **results[].icon** (*string*) – HTML Representation of icon
- **results[].id** (*integer*) – (read only)
- **results[].label** (*string*) – Friendly name of the workflow (required)
- **results[].name** (*string*) – Name of Workflow (required)
- **results[].steps** (*object*) – (required)

POST /workflows/

API endpoint for viewing workflows.

Request JSON Object:

- **fields** (*object*) –
- **icon** (*string*) – HTML Representation of icon
- **id** (*integer*) – (read only)
- **label** (*string*) – Friendly name of the workflow (required)
- **name** (*string*) – Name of Workflow (required)
- **steps** (*object*) – (required)

Status Codes:

- 201 Created –

Response JSON Object:

- **fields** (*object*) –
- **icon** (*string*) – HTML Representation of icon
- **id** (*integer*) – (read only)
- **label** (*string*) – Friendly name of the workflow (required)
- **name** (*string*) – Name of Workflow (required)
- **steps** (*object*) – (required)

GET /workflows/{id}/

API endpoint for viewing workflows.

Parameters:

- **id** (*string*) –

Status Codes:

- 200 OK –

Response JSON Object:

- **fields** (*object*) –
- **icon** (*string*) – HTML Representation of icon
- **id** (*integer*) – (read only)
- **label** (*string*) – Friendly name of the workflow (required)
- **name** (*string*) – Name of Workflow (required)
- **steps** (*object*) – (required)

DELETE /workflows/{id}/

API endpoint for viewing workflows.

Parameters:

- **id** (*string*) –

Status Codes:

- 204 No Content –

Tools

The following sections document add-on tools for Ngenea Hub

ngclient

NAME

ngclient – Ngenea Hub CLI client

SYNOPSIS

ngclient authenticate (-u USERNAME [-p PASSWORD] | -T TOKEN) [-k NAME]

ngclient migrate *path...* [-s *site*] [-r] [-p] [options...]

ngclient recall *path...* [-s *site*] [-r] [options...]

ngclient send *path...* [-s *source*] -t *target* [options...]

DESCRIPTION

ngclient is a CLI wrapper for the default Ngenea Hub workflows - migrate, recall, and send. It also provides a mechanism for generating authentication tokens.

ngclient settings can be read from a config file, rather than being passed on the command line. See **ngenea-client.conf(5)** for more information on the configuration format. CLI flags take precedence over config file settings.

The *authenticate* command can be used to generate a client key from a username or access token. The generated client key will be printed to stdout. That client key can then be used with the workflow sub-commands, either via the *-client-key* flag, or by saving it to the **ngenea-client.conf(5)** configuration file.

OPTION SUMMARY

<i>path...</i>	One paths to call the workflow on
-T, --access-token TOKEN	Access token to authenticate with
-u, --username USERNAME	Username to authenticate with
-p, --password PASSWORD	Password for the authentication user

```

me
-k, --key-name NAME          Unique name for the client key
    --base-url              Base URL of the Ngenea Hub API
-c, --config CONFIG          Alternative configuration file path
    --client-key KEY         Client API key to authenticate with
-s, --site SITE              Site to perform the workflow on
-t, --target TARGET          Site to send files to
-d, --no-wait                Exit after job is submitted, don't
wait for it to complete
    --timeout SECONDS       wait for completion timeout. If not
set, wait indefinitely
-r, --recursive              Perform task recursively.
-p, --premigrate             Premigrate files from site
-H, --hydrate                Hydrate files on the send target site
-h, --help                  Print help message and exit

```

OPTIONS

- **-T, -access-token**

An access token to generate a client key with.

- **-u, -username**

Username to generate a client key with.

- **-p, -password**

Password to use in combination with *-username*

If *-username* is specified and *-password* isn't, you will be prompted to enter a password interactively. This may be preferable so that the password doesn't appear in shell history.

- **-k, -key-name**

A *unique* name to assign when generating a client key.

This will be displayed in the Ngenea Hub UI

If not specified, a random uuid will be generated for the key name.

- **-base-url**

Base URL of the Ngenea Hub API, which operations will be performed against.

This can be used to perform Ngenea Hub operations on a remote server.

If not specified, the default is *http://localhost:8000/api*

- **-c, -config**

The path to an alternative configuration file.

If not specified, the default configuration path will be used. The default path is in the user's HOME directory *\$HOME/.config/ngenea/ngenea-client.conf*

See **ngenea-client.conf(5)** for more information on the configuration format.

- **-client-key**

Ngenea Hub authentication client key.

This can be generated via the Ngenea Hub REST API, or using **ngclient(1)** *authenticate*

- **-s, -site**

Site to use for workflows.

For *migrate* and *recall*, this is the site where the workflows execute. For *send*, this is the source site, from which files are sent.

Site does not have to match the node where **ngclient** is being called. This can be used to migrate/recall/send files from a remote site.

Note - shell-globbing will be evaluated on the local node. For a remote site, the files that the glob would match may differ.

- **-t, -target**

Target site for the *send* workflow

- **-d, -no-wait**

Don't wait for workflows to complete.

By default, **ngclient** will wait for the workflow to complete, subject to *-timeout*.

With this flag, **ngclient** will exit immediately. The workflow will continue to execute independently. In that case, the workflow can be monitored in the Ngenea Hub UI

- **-timeout**

How long to wait for workflows to complete, in seconds.

If not specified, **ngclient** will wait indefinitely.

If the workflow doesn't complete within the timeout, the client will exit with an error. The workflow itself may continue to execute.

- **-r, -recursive**

Migrate or recall files and directories recursively.

- **-p, -premigrate**

Premigrate files

Premigrated files are migrated, but the data is kept resident.

- **-H, -hydrate**

Controls whether the *send* workflow 'hydrates' files on the target.

If false, files are only reverse stubbed on the target.

- **-h, -help**

Prints the help message.

EXAMPLES

GENERATE A CLIENT KEY

```
$ ngclient authenticate --username pixadmin -k ngclient-pixadmin
pixadmin's password:
jDBh2cRk6.LswQfylT2BtGiqtYUWhMB1iipJmQNgr
```

RECALL A FILE

```
ngclient recall /mmfs1/data/hello.txt -s site1 --client-key
jDBh2cRk6.LswQfylT2BtGiqtYUWhMB1iipJmQNgr
```

For brevity, the *site* and *client-key* can be saved to the config file

PREMIGRATE A DIRECTORY RECURSIVELY

Assuming the site and client key has been saved to the config file

```
ngclient migrate /mmfs1/data/sample_data/cats -p -r
```

SEND A FILE TO A REMOTE SITE

```
ngclient send /mmfs1/data/hello.txt -s site1 -t site2 --hydrate
```

SEE ALSO

ngenea-client.conf(5), transparent_recall(1), ngmigrate(1), ngrecall(1)

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ngenea-client.conf

NAME

ngenea-client.conf – Configuration file for Ngenea Hub Client

SYNOPSIS

The Ngenea Hub client configuration files is used to configure **ngclient(1)** and **transparent_recall(1)**

The default config file location is in the user's HOME directory `$HOME/.config/ngenea/ngenea-client.conf`

NOTE - unless explicitly specified with the `-config` flag, both `ngclient(1)` and `transparent_recall(1)` will use this same default config file.

FILE FORMAT

ngenea-client.conf(5) uses an ini-style format.

It is made up of `key = value` lines under the `[settings]` section header.

```
[settings]
client_key = mykey
```

Boolean type values can be either *true*, *false*, *yes*, or *no* (case-insensitive)

Additional sections, or unrecognised keys are ignored.

PARAMETERS

- **base_url**

Base URL of the Ngenea Hub API, which operations will be performed against.

This can be used to perform Ngenea Hub operations on a remote server.

If not specified, the default is `http://localhost:8000/api`

- **client_key**

Ngeneia Hub authentication client key.

This can be generated via the Ngeneia Hub REST API, or using **ngclient(1)** *authenticate*

- **site**

The default site to use for workflows.

For *migrate* and *recall*, this is the site where the workflows execute. For *send*, this is the source site, from which files are sent.

- **wait**

Whether to wait for workflows to complete.

If true (default), tools will wait for the workflow to complete, subject to *timeout*.

If false, tools will exit immediately. The workflow will continue to execute independently. In that case, the workflow can be monitored in the Ngeneia Hub UI

- **timeout**

How long to wait for workflows to complete, in seconds.

If not set, tools will wait indefinitely.

If the workflow doesn't complete within the timeout, the client will exit with an error. The workflow itself may continue to execute.

- **hydrate**

For **ngclient(1)** *send*, controls whether sent files are hydrated on the target.

If false, files are only reverse stubbed on the target.

EXAMPLE

```
[settings]
base_url = http://mypixserver:8000/api
client_key = ...
site = mysite
wait = true
timeout = 180
hydrate = true
```

SEE ALSO

ngclient(1), transparent_recall(1)

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transparent_recall

NAME

transparent_recall – Recall individual files via Ngenea Hub

SYNOPSIS

transparent_recall file [-config CONF]

DESCRIPTION

transparent_recall is a tool for recalling individual files via Ngenea Hub

Performing recalls via Ngenea Hub allows for monitoring progress via the Ngenea Hub UI. Individual recall tasks performed on demand, but for reporting are grouped together into one job per hour.

transparent_recall can be called directly to recall files, but typically would be installed as a filesystem policy rule. See **TRANSPARENT RECALL POLICY** for more info.

OPTION SUMMARY

file	One or more directory to export events from
--config CONF	Alternative configuration file location
-h, --help	Print help message and exit

OPTIONS

- **-config**

The path to an alternative configuration file.

If not specified, the default configuration path will be used. The default path is in the user's HOME directory `$HOME/.config/ngenea/ngenea-client.conf`

See the **CONFIGURATION** section below for more information.

-h, -help

Prints the help message.

CONFIGURATION

transparent_recall requires authentication to be able to perform recalls via Ngenea Hub. To authenticate, a valid *client_key* must be placed in the configuration file.

A client key can be generated via the Ngenea Hub REST API, or using the **ngclient(1)** *authenticate* command.

Minimally, the configuration must include this *client_key*, as well as the *site* where recalls are performed.

```
[settings]
client_key = ...
site = thissite
```

The *site* must match the the node where the recall was triggered.

transparent_recall will respect any **ngclient(1)** *recall* configuration options, except for *recursive*. This includes *timeout*; by default it will wait indefinitely for the recall to complete.

See **ngenea-client.conf(5)** for more information on the configuration format and additional options.

TRANSPARENT RECALL POLICY

Transparent recall, but definition, is intended to be triggered automatically when an offline file is opened for reading or writing.

To enable transparent recall functionality using **transparent_recall**, the following rules can be added to the filesystem placement policy.

```
RULE FileData EVENT 'DATA'
    ACTION( system_lw('/usr/bin/transparent_recall ' ||
getDetail('path_name'))=0)
```

See **mmchpolicy(1)** for how to change the filesystem placement policy

SEE ALSO

ngclient(1), ngenea-client.conf(5), ngrecall(1), mmchpolicy(1)

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Contact

Ngenea Hub is provided and supported by:

Sycomp: <https://example.com>

Changelog

Dynamohub 1.3.0 (2021-09-22)

=====

Features

- "live" changes to file status (DYNAMOHUB-105)
- Transparent Recall logging (DYNAMOHUB-100)
- Expose Groups model via REST API (DYNAMOHUB-277)
- Option to show/hide hidden objects in the filebrowser (DYNAMOHUB-262)
- UI for setting IP addresses against Site (DYNAMOHUB-232)
- Extend site model to store it's IP addresses (DYNAMOHUB-229)
- ClientKey UI (DYNAMOHUB-143)
- PATCH support for /workflow/ endpoint (DYNAMOHUB-285)
- Spinners on UI components waiting for API response (DYNAMOHUB-281)
- Having visible alerts or redirects according to the websocket warnings (DYNAMOHUB-276)
- Websocket request should wait for response before sending another request (DYNAMOHUB-272)
- Reconsider websockets broadcast approach (DYNAMOHUB-271)
- Revamp 404 page (DYNAMOHUB-252)
- Allow the client-key to access all routes excluding user and client-key (DYNAMOHUB-243)
- Control number of worker threads (DYNAMOHUB-237)
- Change colours for paginated table (DYNAMOHUB-218)
- Make action dropdown wider (DYNAMOHUB-212)
- Make task table sortable (DYNAMOHUB-202)
- Execute the production code via gunicorn (DYNAMOHUB-129)
- Task for checking the current filesets residing on a site (DYNAMOHUB-251)
- Site worker snapdiff celery discovery task (DYNAMOHUB-245)
- Ability to submit tasks to an existing job (DYNAMOHUB-215)
- Ngenea Hub remote client (DYNAMOHUB-213)

Bugfixes

- Workers can timeout on waiting for response from rabbitmq (DYNAMOHUB-291)
- Fails to open directories with strange file names (DYNAMOHUB-288)
- Swagger logs exception (DYNAMOHUB-283)
- Prevent resubmitting a job multiple times in quick succession (DYNAMOHUB-274)
- "Failure" job filter only shows failures for one site (DYNAMOHUB-273)
- Actions button visible on the user profile page (DYNAMOHUB-270)
- Unable to deactivate users (DYNAMOHUB-269)
- Update user profile "save" button is always enabled (DYNAMOHUB-268)
- Inaccurate "last login" info (DYNAMOHUB-267)
- Sort order of jobs (DYNAMOHUB-266)
- Browser tries to show contents of a non-directory (DYNAMOHUB-260)
- Fix frontend issue when submitting large number of files to a workflow (DYNAMOHUB-259)
- Clicking on "Owner" for a clientkey gives a 404 (DYNAMOHUB-253)
- Include ngeneahub-frontend in ngeneahub-images RPM (DYNAMOHUB-242)
- Resubmitting a job doesn't use the same discovery method (DYNAMOHUB-239)
- Some overall job stats don't update until the dir walk is complete (DYNAMOHUB-210)
- Files without a file extension are listed as both directory and folder (DYNAMOHUB-200)

Dynamohub 1.2.0 (2021-08-11)

=====

Features

- Update RabbitMQ to 3.9 (DYNAMOHUB-223)
- paginate tasks in /api/jobs/<id> (DYNAMOHUB-204)
- Group transparent recall tasks (DYNAMOHUB-216)
- Ability to submit non-recursive tasks (DYNAMOHUB-214)

Bugfixes

- Rest API can not be authenticated with an access token (DYNAMOHUB-227)
- Fix client side pagination for task list in job details (DYNAMOHUB-219)
- List of files in job details is empty (DYNAMOHUB-211)
- Using a boolean as a workflow step parameter fails (DYNAMOHUB-208)

Dynamohub 1.1.0 (2021-06-19)

=====

Features

- Send data between different sites via the UI (DYNAMOHUB-124)
- Rework ngenea output parsing (DYNAMOHUB-115)
- Rebuild UI using React (DYNAMOHUB-103)
- Improve stat task to make directory handling explicit (DYNAMOHUB-188)
- step argument: skip-check-hash (DYNAMOHUB-176)
- step argument: overwrite-remote (DYNAMOHUB-175)
- step argument: overwrite-local (DYNAMOHUB-174)
- step argument: stub-size (DYNAMOHUB-173)
- React 404 should not change URL (DYNAMOHUB-166)
- Support file delete workflow (DYNAMOHUB-164)
- Recent jobs list should show the most recent jobs, nevermind what state they are in (DYNAMOHUB-147)
- Job reporting scaling improvements (DYNAMOHUB-84)

Bugfixes

- `/api/users/` endpoint throwing error when a username containing "." exists (DYNAMOHUB-187)
- "failed to acquire a DMAPI lock EXCL immediately; keeping trying..." is treated as an error (DYNAMOHUB-186)
- Job reporting not providing correct counts (DYNAMOHUB-185)
- Resubmit button should not be enabled when not usable (DYNAMOHUB-184)
- Using UI to trigger workflow fails (DYNAMOHUB-177)
- Attempting to post to /api/file/workflow with only a token causes 500 (DYNAMOHUB-171)
- Bug when a directory is in intermediate selection state and closed (DYNAMOHUB-170)

Dynamohub 1.0.4 (2021-06-10)

=====

Features

- Allow overriding the site on a per-step basis (DYNAMOHUB-151)
- Submission time arguments to workflow support (DYNAMOHUB-150)
- Validate runtime fields (DYNAMOHUB-136)
- Show verbose error information on failure (DYNAMOHUB-156)
- New task: reverse stub (DYNAMOHUB-155)
- Report task types with more meaningful names (DYNAMOHUB-152)

Bugfixes

- Fix bug where sub-directories can fail to be processed (DYNAMOHUB-148)
- recursive_action failures report as success (DYNAMOHUB-142)

Dynamohub 1.0.3 (2021-05-19)

=====

Features

- Refactor existing ngenea hub tasks to message passing format (DYNAMOHUB-140)
- Support static arguments to a step (DYNAMOHUB-137)
- Provide existing actions as default workflows (DYNAMOHUB-131)
- enable easy access to dbshell (DYNAMOHUB-134)
- Workflows are now defined dynamically (DYNAMOHUB-132)
- Allow users to create (API) client keys (DYNAMOHUB-141)

Bugfixes

- Fixed an issue with submitting workflows with Client Key (DYNAMOHUB-144)
- Fixed warnings generated from auto field (DYNAMOHUB-133)

Dynamohub 1.0.2 (2021-04-26)

=====

Features

- Expose JWT Login API endpoints (DYNAMOHUB-90)
- Add Swagger API Documentation (DYNAMOHUB-94)
- Validate that site names do not end with the suffix we use to identify queue types (DYNAMOHUB-85)
- Allow middle-click/right-click to open navbar links in new tabs (DYNAMOHUB-83)
- Ship ngeneahub cli tool as a venv with docker-compose included (DYNAMOHUB-81)
- Improve performance of job page by doing pagination server-side (DYNAMOHUB-56)

Dynamohub 1.0.1 (2021-04-01)

=====

Bugfixes

- Symlinks cause file browser to fail (DYNAMOHUB-86)
- "Creation time" should be "ctime" - "Last changed time" (DYNAMOHUB-78)
- Files and folders with newlines in their names fails, with console error (DYNAMOHUB-55)

Features

- Standalone UI providing interfaces for core Ngenea/Dynamo workflows (DYNAMOHUB-1)
- Positioning and content of UI buttons (DYNAMOHUB-38)
- Show percentage completion of job based on # of files transferred vs remaining (DYNAMOHUB-34)
- Remove redundant environment settings (DYNAMOHUB-82)
- Show a user view page when clicking on a user link (DYNAMOHUB-79)
- Pop-up confirmation of job actions (DYNAMOHUB-57)
- Support for premigrate task (DYNAMOHUB-50)
- Allow viewing directories from different sites (DYNAMOHUB-12)

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ArcaPix EULA

January 2021

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4.3.5 loss of business opportunity, goodwill or reputation;

where any of the losses set out in condition 4.3.1 to condition 4.3.5 are direct or indirect; or

4.3.6 any special, indirect or consequential loss, damage, charges or expenses.

4.4 Other than the losses set out in condition 4.3 (for which we are not liable), our maximum aggregate liability under or in connection with this EULA whether in contract, tort (including negligence) or otherwise, shall in all circumstances not exceed a sum equal to the Licence Fee paid in the 12 months prior to the event first giving rise to any liability. This maximum cap does not apply to condition 4.5.

4.5 Nothing in this EULA shall limit or exclude our liability for:

4.5.1 death or personal injury resulting from our negligence;

4.5.2 fraud or fraudulent misrepresentation;

4.5.3 any other liability that cannot be excluded or limited by English law.

4.6 Save as required by applicable law or agreed to in writing, we provide the Work on an "AS IS" basis, without conditions, warranties, representations or other terms of any kind, either express or implied (and any such implied conditions, warranties, representations or other terms, whether implied by statute, common law or otherwise, are excluded to the fullest extent permitted by law), including, without limitation, any conditions, warranties, representations or other terms relating to title, non-infringement, merchantability, or fitness for a particular purpose. You are solely responsible for determining the appropriateness of using the Work and for any configuration or interface necessary for you to effectively use the Work and assume any risks associated with your exercise of permissions under this EULA.

4.7 Without prejudice to clause 4.6, where the API interacts with any software or system which is not provided by us, we are not responsible and shall have no liability in any way for such software or system.

5 Termination

5.1 We may terminate this EULA immediately by written notice to you if you commit a breach of this EULA which you fail to remedy (if remediable) within 14 days after the service of written notice requiring you to do so. Without prejudice to our rights under this clause 5.1, your rights under this EULA will terminate automatically without the need for notice if you commit a material breach of any of the terms of this EULA.

5.2 On termination for any reason:

5.2.1 all rights granted to you under this EULA shall cease;

5.2.2 you must immediately cease all activities authorised by this EULA; and

5.2.3 you must immediately and permanently delete or remove the Work from all computer equipment in your possession, and immediately destroy or return to us (at our option) all copies of the Work then in your possession, custody or control and, in the case of destruction, certify to us that you have done so.

6 Communications between us

6.1 We may update the terms of this EULA at any time on notice to you in accordance with this condition 6. Your continued use of the Work following the deemed receipt and service of the notice under condition 6.3 shall constitute your acceptance to the terms of this EULA, as varied. If you do not wish to accept the terms of the EULA (as varied) you must immediately stop using and accessing the Work on the deemed receipt and service of the notice.

6.2 If we have to contact you, we will do so by email or by pre-paid post to the address you provided in accordance with your order for or registration of the Work.

6.3 Note that any notice:

6.3.1 given by us to you will be deemed received and properly served 24 hours after it is first posted on our website, 24 hours after an email is sent, or three days after the date of posting of any letter; and

6.3.2 given by you to us will be deemed received and properly served 24 hours after an email is sent, or three days after the date of posting of any letter.

6.4 In proving the service of any notice, it will be sufficient to prove, in the case of posting on our website, that the website was generally accessible to the public for a period of 24 hours after the first posting of the notice; in the case of a letter, that such letter was properly addressed, stamped and placed in the post to the address of the recipient given for these purposes; and, in the case of an email, that such email was sent to the email address of the recipient given for these purposes.

7 Events outside our control

7.1 We will not be liable or responsible for any failure to perform, or delay in performance of, any of our obligations under this EULA that is caused by an Event Outside Our Control. An Event Outside Our Control is defined below in condition 7.2.

7.2 An Event Outside Our Control means any act or event beyond our reasonable control, including without limitation failure of public or private telecommunications networks.

7.3 If an Event Outside Our Control takes place that affects the performance of our obligations under this EULA:

7.3.1 our obligations under this EULA will be suspended and the time for performance of our obligations will be extended for the duration of the Event Outside Our Control; and

7.3.2 we will use our reasonable endeavours to find a solution by which our obligations under this EULA may be performed despite the Event Outside Our Control.

8 Third Party Software

8.1 Any part or component of the Software which has been contributed or created by any third party (including any open-source software) and which is not owned by us (Third Party Software) shall be deemed to be incorporated within the Software for the purposes of this EULA (except where expressly provided to the contrary) and use of the Third Party Software shall be subject to (and you shall comply with) such additional terms as relate to such Third Party Software from time to time (Third Party Additional Terms), and such Third Party Additional terms shall take precedence over this EULA in relation to such Third Party Software. You shall indemnify and hold us harmless against any loss or damage which we may suffer or incur as a result of your breach of any Third Party Additional Terms howsoever arising, and we may treat your breach of any Third Party Additional Terms as a material breach of this EULA.

8.2 For the avoidance of doubt, the performance of, and any issues caused by or arising from, any Third Party Software shall be considered an Event Outside Our Control and (without prejudice to the provisions of this EULA in relation to warranties regarding the Software generally) all Third Party Software is provided on an "AS IS" basis and without conditions, warranties, representations or other terms of any kind, either express or implied (and any such implied conditions, warranties, representations or other terms, whether implied by statute, common law or otherwise, are excluded to the fullest extent permitted by law), including, without limitation, any conditions, warranties, representations or other terms relating to title, non-infringement, merchantability, or fitness for a particular purpose.

9 Other important terms

9.1 We may transfer our rights and obligations under this EULA to another organisation, but this will not affect your rights or our obligations under this EULA.

9.2 You may only transfer your rights or your obligations under this EULA to another person if we agree in writing.

9.3 This EULA and any document expressly referred to in it constitutes the entire agreement between us and supersedes and extinguishes all previous agreements, promises, assurances, warranties, representations and understandings between us, whether written or oral, relating to its subject matter. You agree that you shall have no remedies in respect of any statement, representation, assurance or warranty (whether made innocently or negligently) that is not set out in this EULA or any document expressly referred to in it. You agree that you shall have no claim for innocent or negligent misrepresentation or negligent misstatement based on any statement in this EULA or any document expressly referred to in it.

9.4 If we fail to insist that you perform any of your obligations under this EULA, or if we do not enforce our rights against you, or if we delay in doing so, that will not mean that we have waived our rights against you and will not mean that you do not have to comply with those obligations. If we do waive a default by you, we will only do so in writing signed by us, and that will not mean that we will automatically waive any later default by you.

9.5 Each of the conditions of this EULA operates separately. If any court or competent authority decides that any of them are unlawful or unenforceable, the remaining conditions will remain in full force and effect.

9.6 This EULA, its subject matter and its formation (and any non-contractual disputes or claims) are governed by English law. We both irrevocably agree to the exclusive jurisdiction of the courts of England and Wales.