EUROPEAN WEATHER CLOUD

EWC Community Hub

9th EWC User Workshop (hybrid), 22nd September 2026

Francesco Murdaca (EUMETSAT)

Agenda

- EWC Community Hub
  - Definition and Goals
  - Target Users and Roles
  - Type of items, Item Metadata and how to create an item
  - How to contribute with your item
- EWC Community Hub Dashboard
  - Description
  - Features (search, filters, metadata)
- Deploying EWC Community Hub items
  - Ansible
  - Terraform
  - CLI
- Beyond Morpheus
- Demos

EWC Community Hub

As with the whole EWC, using the service does not affect IPRs

The European Weather Cloud (EWC) **Community Hub** wants to provide users with a **centralized platform where users can discover, evaluate, select and deploy items and services** for the European Meteorological Community.

ANSIBLE

OpenTofu

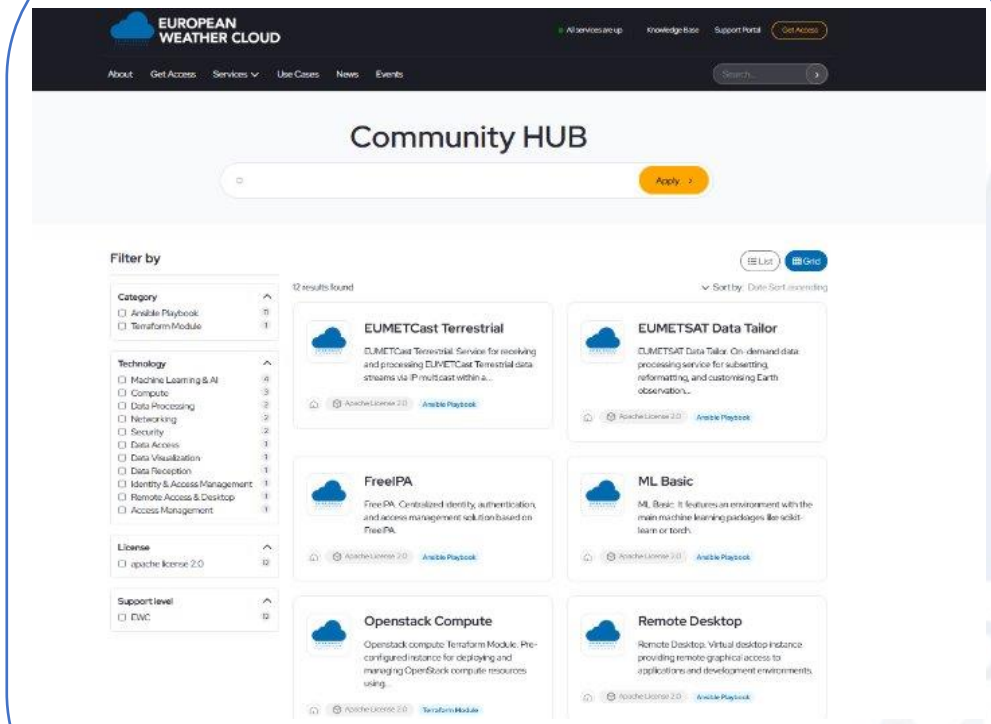
jupyter

HELM

MACHINE LEARNING

git

Community Items



Dashboard

- Ansible
- OpenTofu/Terraform
- Helm Charts
- EWC CLI python package
- …

Tooling & Documentation

Goals

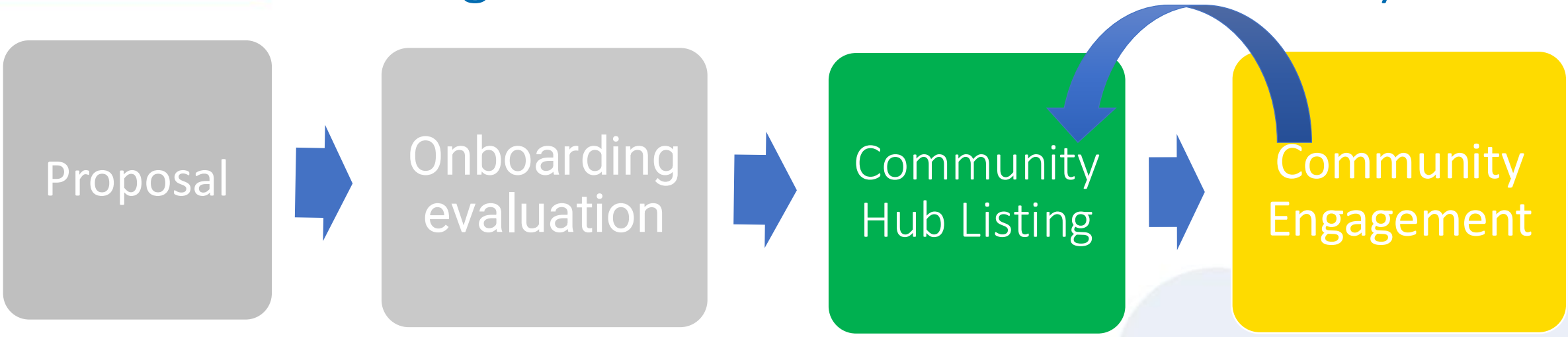
- **Engagement and collaboration**: Foster collaboration among EWC users of EUMETSAT & ECMWF Member and Co-Operating States.
- **Improve usability**: Cloud technologies tailored for meteorological applications.
- **Reduce redundant effort**: Reuseable and community-vetted Items that help you avoid redundant development.
- **Foster learning**: Practical examples and self-training on cloud technologies or exploration of use-cases that run natively in the EWC.
- **Turn legacy software into cloud-compatible solutions**: Existing software turned into cloud-native tools, through shared contributions.

EUROPEAN WEATHER CLOUD

Target Users and Roles

Audience	Roles
Everyone	Browse, utilize Items
EWC Users	All of the above + Apply Items directly in EWC tenancies
EWC Contributors	All of the above + Contribute and maintain Items; Engage with the community
EWC Admins	All of the above + Approve/remove Items; Provide guidance and guard-rails; Maintain only EWC Items

Adding a new item to the EWC Community Hub



Contributor

EWC users that have account

EWC staff

Contributions needs to be checked for required metadata. They need to have:

- **Name and description**
- **License**
- **Owner**
- **Indication of planned support level**

EWC staff

Accept the proposal

EWC staff

- **Handle feedback**
- **Monitor**

Contributor

- **Provide Support**
- **Handle feedback**
- **Update**

Creating a new item (Pull Request)

- Fork the GitHub repository https://github.com/ewcloud/ewc-community-hub
- Specify the metadata
- Propose it
- 🎉

ewc-community-hub

EWC Community Hub

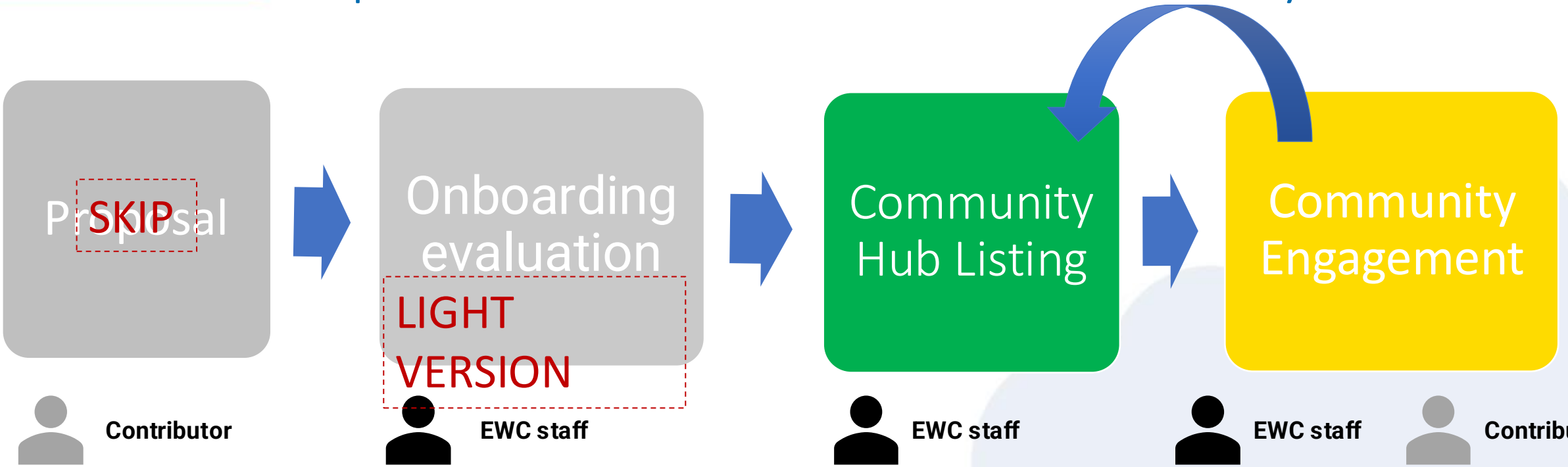
This repository hosts the structure of the items for the EWC Community Hub.

Item structure

```
unique-item-name:
  annotations: # (MANDATORY) They can be multiple per annotation, but comma separated
    licenseType: "Apache License 2.0"  # (MANDATORY)
    category: "Compute,Data Access" # (MANDATORY) Flexible values that will multiply as the community start contribut
    supportLevel: "EWC"  # (MANDATORY) EWC Or Community. INDICATE the level of assistance and maintenance provided.
    type: "Virtual Machines" # (MANDATORY) Takes on one of few possible values (i.e. Virtual Machines, Kubernetes App
  displayName: "EWC Flavour"  # (MANDATORY)
  description: # (MANDATORY) LONG DESCRIPTION OF THE ITEM's purpose, features, and functionality. GitLab Flavored Mar
  home: https://github.com/ewcloud/ewc-flavours  # (MANDATORY) URL TO THE PUBLIC REPOSITORY
  license: https://github.com/ewcloud/ewc-flavours/blob/main/LICENSE # (MANDATORY) URL TO THE LICENSE (e.g. ).
  icon: "http://placehold.it/200"  # (MANDATORY) URL to /logos in this repository or another pointer. The icon should
  maintainers:  # (MANDATORY) can be multiple (and email or url is also # (MANDATORY), you can provide one of them)
    - name: EWC Team # (MANDATORY)
      email: support@ewcloud.int
      url: https://github.com/ewcloud/ewc-flavours/issues
  name: unique-item-name  # (MANDATORY)
  published: false  # (MANDATORY) if true item is published on the website, if false, created but only visible to adm
  sources:  # (MANDATORY)
    - https://github.com/ewcloud/ewc-flavours/blob/main/ecmwf-data-flavour.yml
  summary: "SHORT DESCRIPTION OF THE ITEM."  # (MANDATORY)
  version: "1.0.0" # (MANDATORY) Wrapping the version in quotes is highly recommended.
```

If you are not familiar with GitHub, you can open a ticket, EWC team will support!

Update an item in the EWC Community Hub



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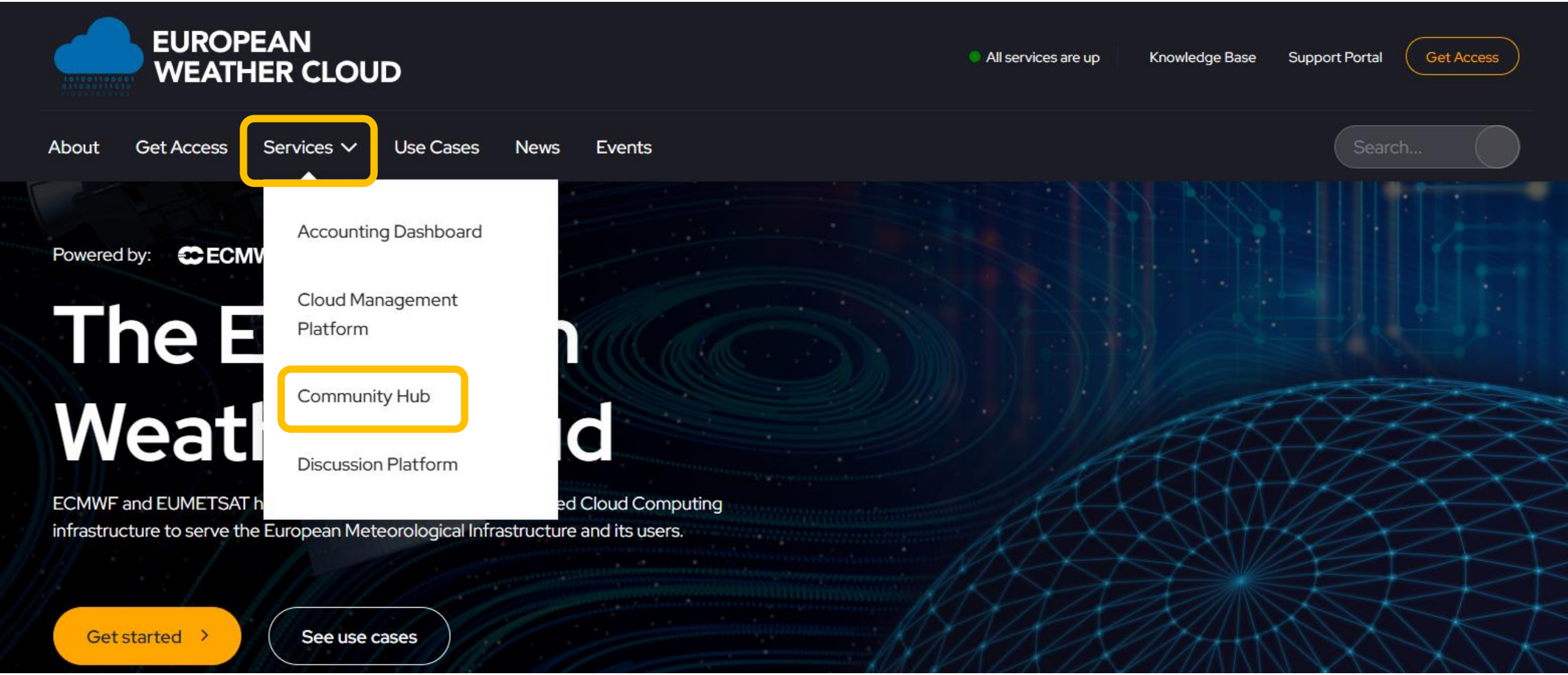
- **Update**

EWC Community Hub Dashboard

Community Hub in the EWC website



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Community Hub

Apply

Filter by

Category
- Automation 3
- Compute 11
- Data Access 3
- Data Processing 8
- Data Visualization 4
- GPU-accelerated 5
- Identity & Access Management 8
- Machine Learning & AI 5
- Networking 3
- Remote Access & Desktop 5
- Security 8
- Training 1

Technology
- Ansible Playbook 29
- GitHub Action 1
- Jupyter Notebook 1
- Python Package 1
- Python Script 2
- Terraform Module 9

License
- Apache License 2.0 9
- GNU General Public License v3.0 2
- MIT License 26

Support level
- Community 4
- EWC 33

Other
- Deployable 34
- EWCCLI-compatible 20

37 results found

Star 1 | Version 1.1.0

AI Models

It features the most popular data driven forecast models such as Pangu Weather, Fourcastnet or graphcast.

Ansible Playbook

Apache License 2.0

Star 0 | Version 2.1.3

Ansible Playbook Test Deployment via GitHub Actions

Automatically setup all necessary OpenStack test resources for an Ansible Playbook to run on, execute it and report test...

GitHub Action

MIT License

Star 0 | Version 1.0.1

Automation of OpenStack Backups

Automates the creation, restoration and scheduling of OpenStack VM disk backups.

Python Script

MIT License

Star 0 | Version 1.12.0

Default Stack Provisioning

Automates the creation and state management of three VMs, plus their OS configuration. Each of them serves an specific...

Ansible Playbook Terraform Module

MIT License

Star 1 | Version 1.1.0

ECMWF AIFS ENS CRPS

It features the ECMWF AIFS ENS CRPS data-driven model

Ansible Playbook

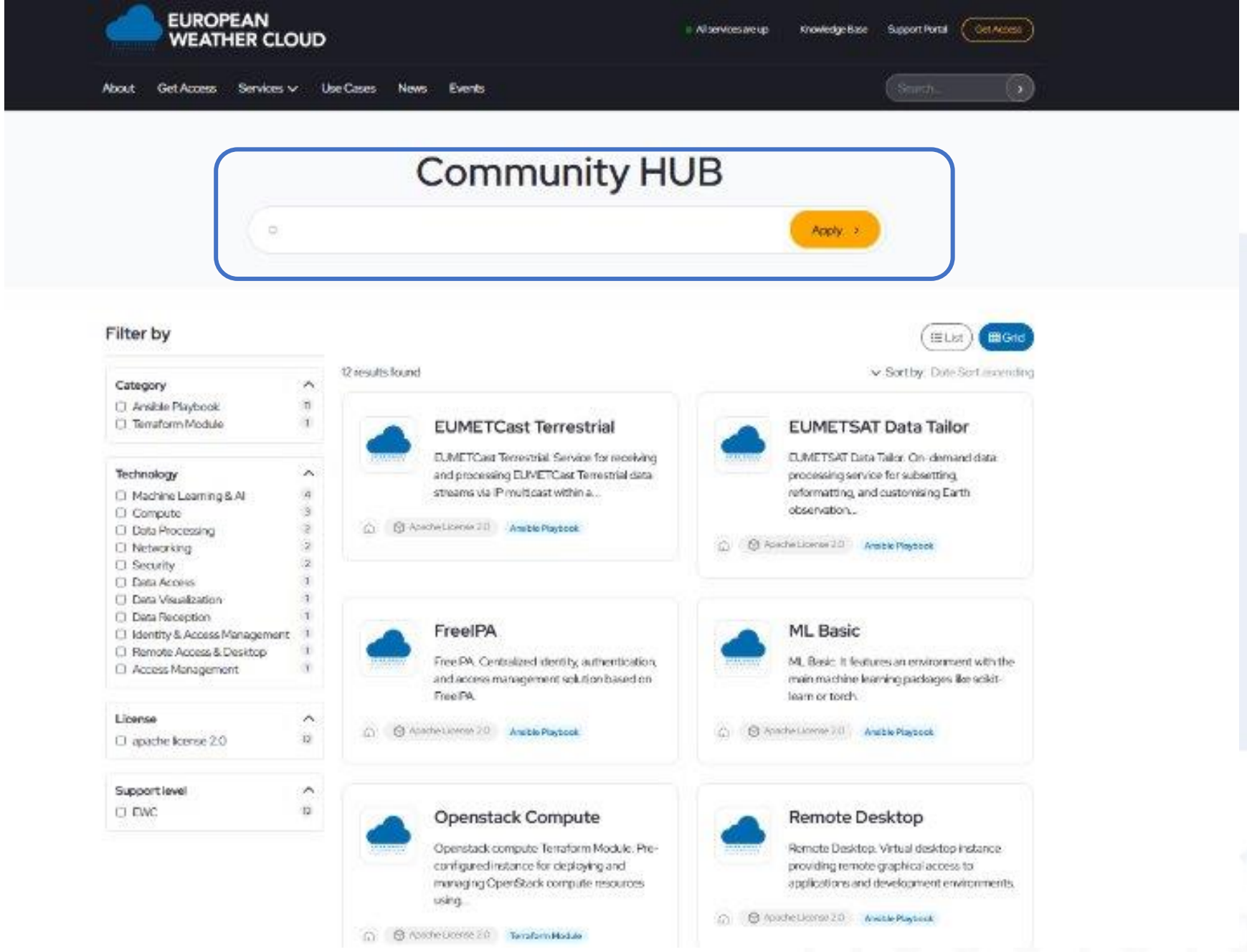
Star 1 | Version 1.1.0

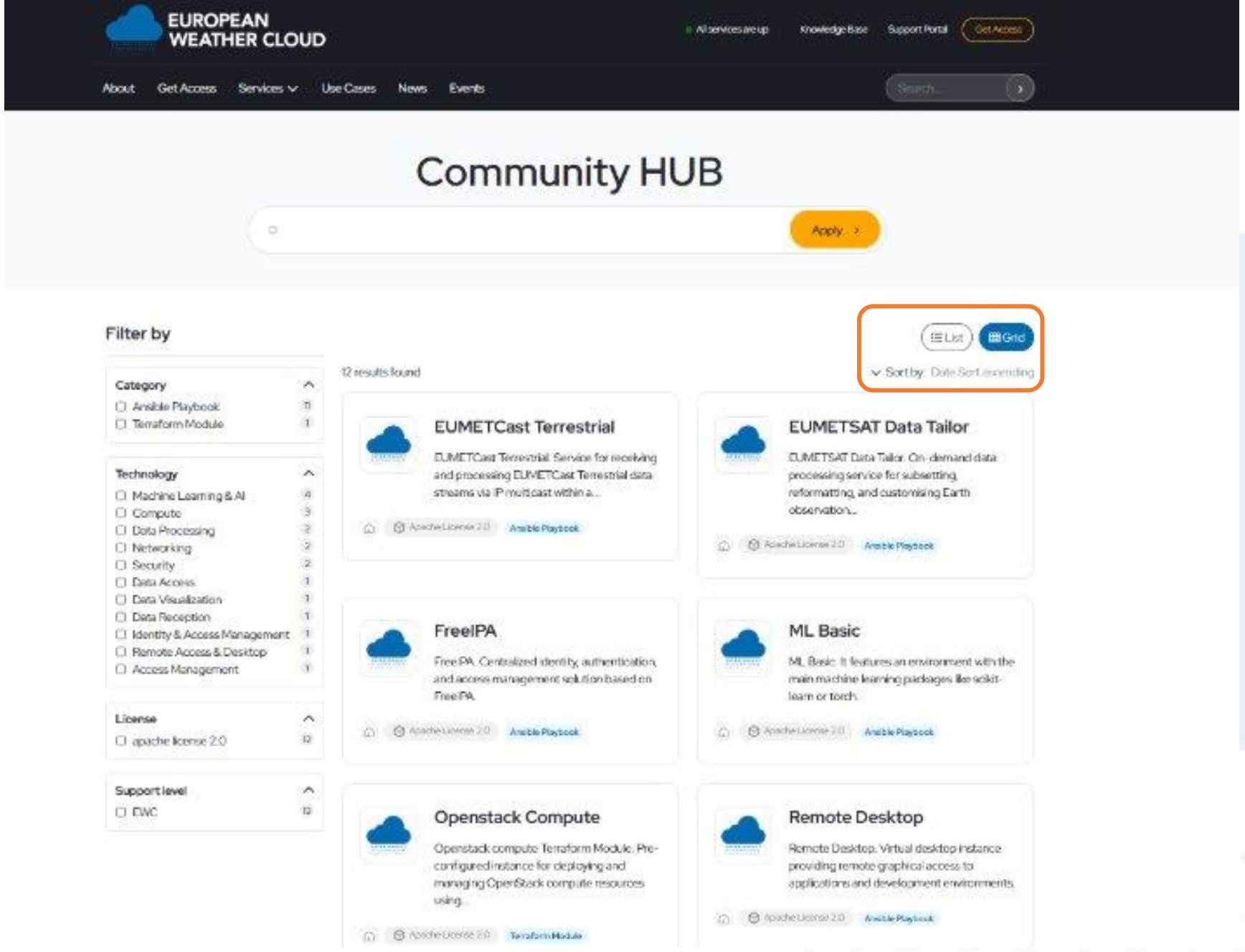
ECMWF AIFS Single MSE

It features the ECMWF AIFS Single data-driven model

Ansible Playbook

EUROPEAN WEATHER CLOUD




EUROPEAN WEATHER CLOUD
All services are up
Knowledge Base
Support Portal
Get Access
About
Get Access
Services
Use Cases
News
Events
Search...
Community HUB
Apply
Filter by
List
Grid
12 results found
Sort by: Date Sort (ascending)
Category
Ansible Playbook 11
Terraform Module 1
Technology
Machine Learning & AI 4
Compute 3
Data Processing 2
Networking 2
Security 2
Data Access 1
Data Visualization 1
Data Reception 1
Identity & Access Management 1
Remote Access & Desktop 1
Access Management 1
License
apache license 2.0 12
Support level
EWC 12
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EUMETCast Terrestrial Service for receiving and processing EUMETCast Terrestrial data streams via IP multicast within a...
Apache License 2.0
Ansible Playbook
EUMETSAT Data Tailor
EUMETSAT Data Tailor. On-demand data processing service for subsetting, reformatting, and customising Earth observation...
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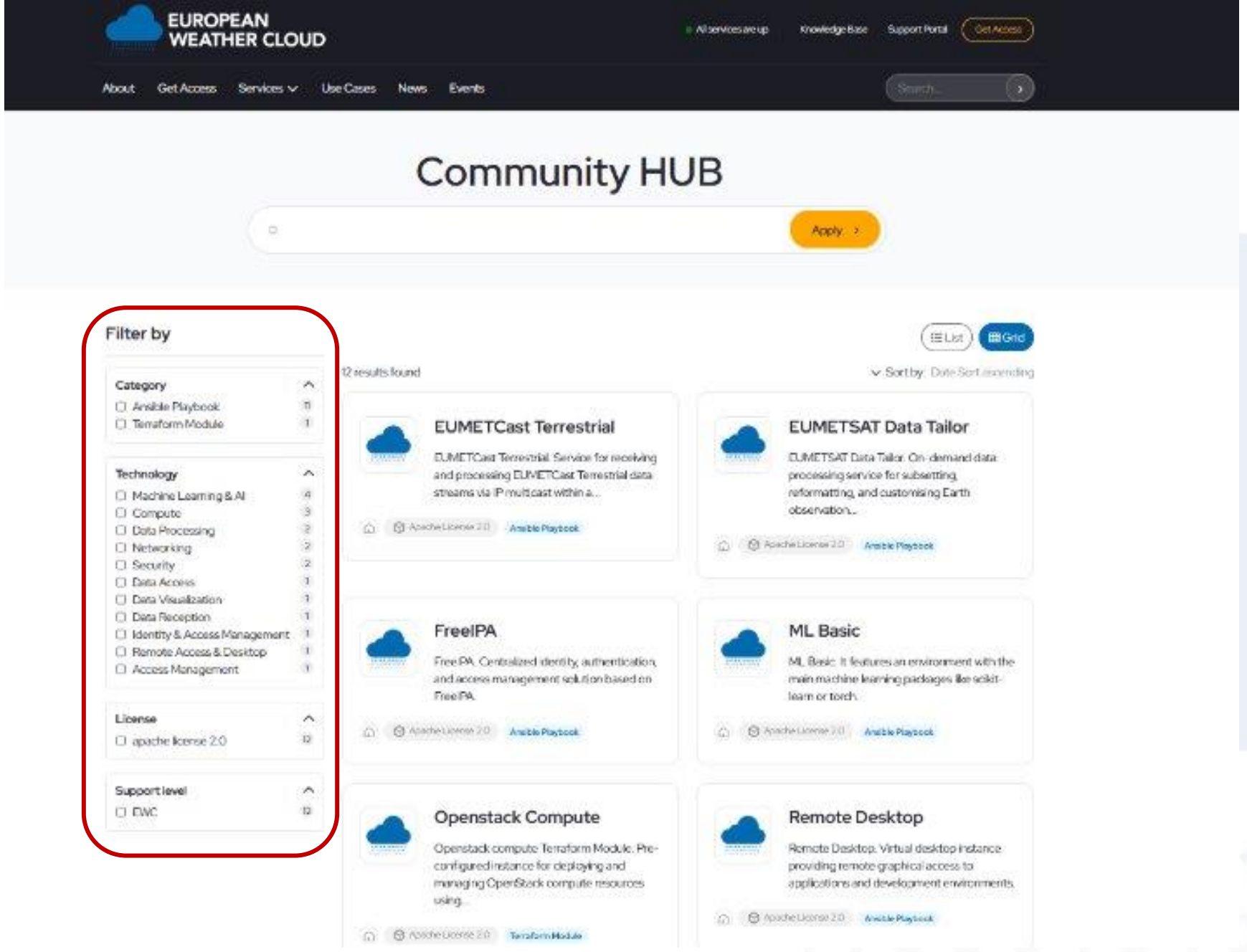
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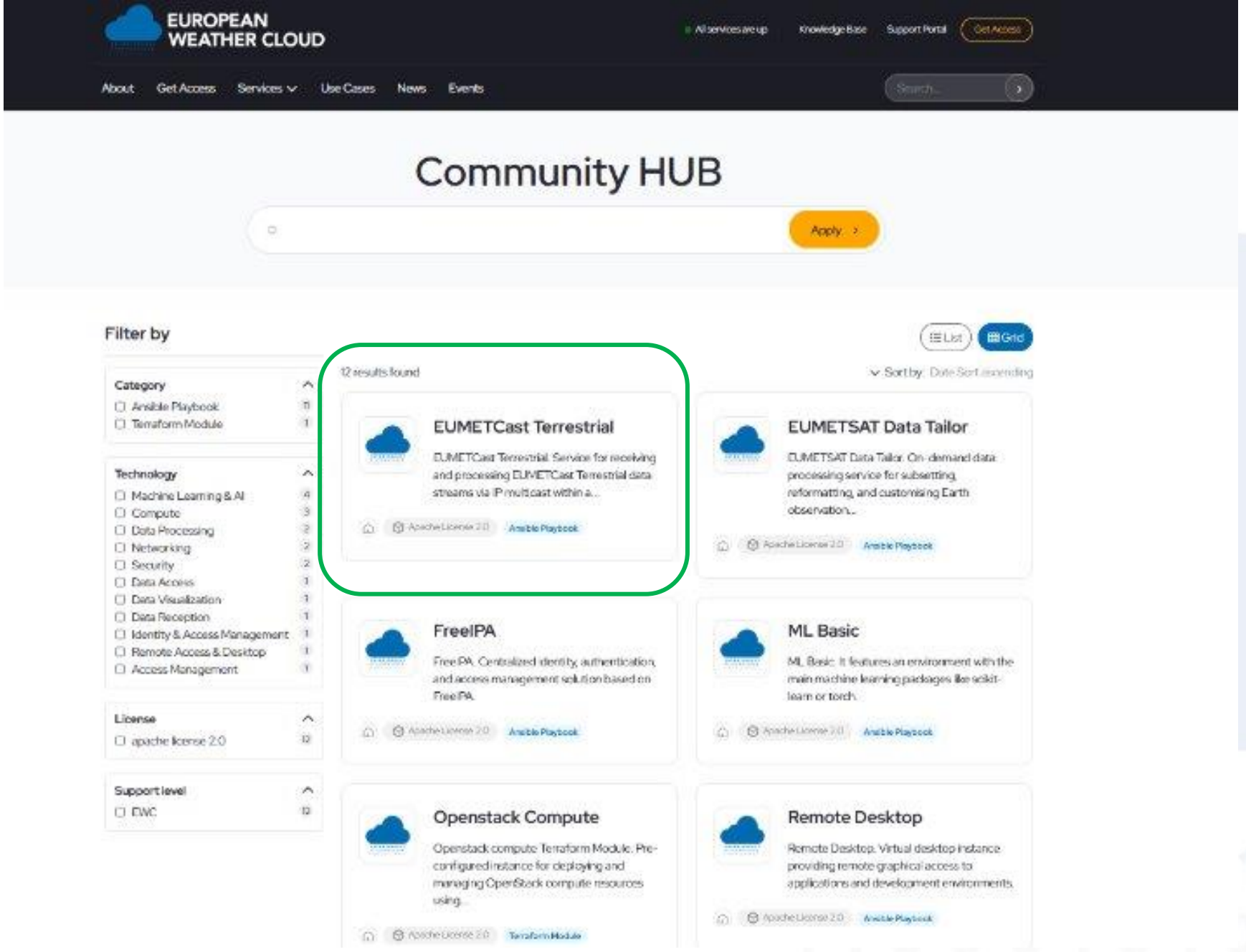
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Category
Ansible Playbook 11
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ECMWF Data Flavour

☆ Star 0 | Version 2.0.0

Repository

Maintainers

support[at]europeanweather.cloud

License

Apache License 2.0

Support level

EWC

Category

Compute | Data Access

ECMWF Data Flavour

Includes the basic ECMWF software stack, with MARS client and an environment with `ecCodes`, `Metview`, `Earthkit` and `Aviso`.

Getting started

- Clone or download the code from the source repository.
- Install ansible and other dependencies. You may want to do it in its own virtual environment (`pip install -r requirements.txt`)
- Fetch the external requirements

```
$ ansible-galaxy role install -r requirements.yml roles/
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- Define your inventory in `inventory`
- Run the apropriate playbook

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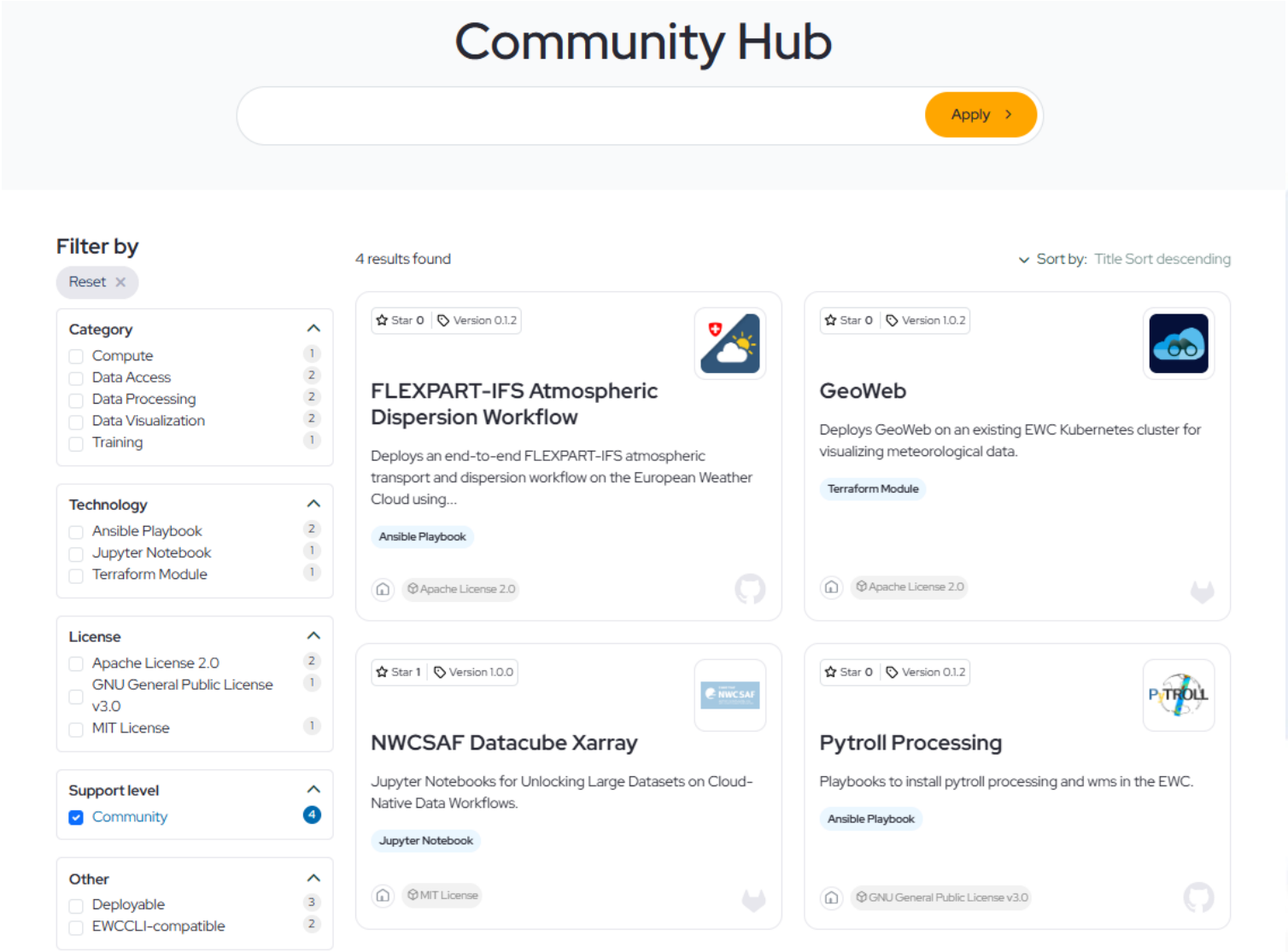
Community Items



Deploying EWC Community Hub items

Not all items are deployable

- Deployable items can be executed to provision, configure or deploy a resource:
  - Ansible playbooks
  - Terraform modules
  - Helm charts
  - Ansible playbook/Terraform modules
  - …
- Non deployable items support your workflows, for instance:
  - Jupyter notebooks
  - Tools
  - Examples
  - Libraries
  - …

EUROPEAN WEATHER CLOUD

Deploying items by technology

OpenTofu Terraform ANSIBLE

Items technology

Created by Francesco Murdaca, last modified just a moment ago

ⓘ If there is a technology or popular framework you wish was featured on the Community Hub, please let us know over the EWC Support Portal or the peer-support channel on the EWC discussion platform.

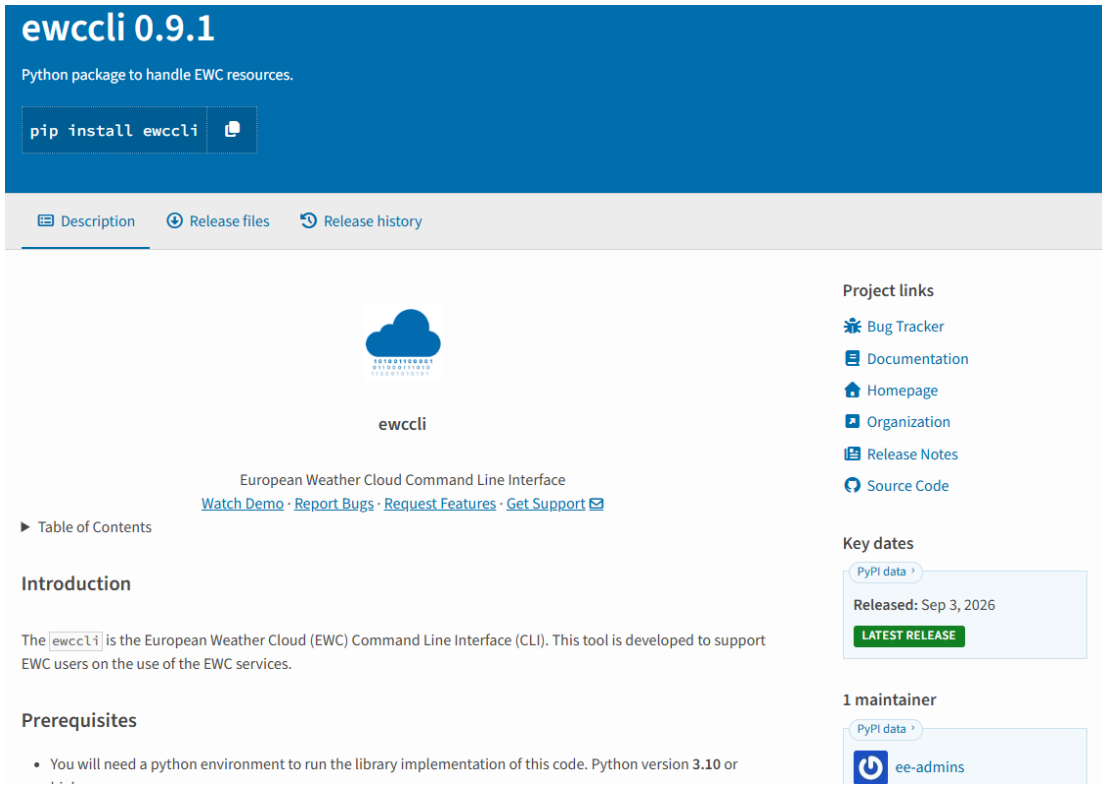
This page describes more in details what technologies are currently considered in the EWC Community Hub. (but we are not limiting them!)

Technology	Description	Example Use Case	Deployment Pre-requisites	References
Ansible Playbook	Configuration blueprints, mainly used for compute instances, but capable of much more	Setting up software on existing VMs	Ansible installed, SSH access, compute instance on EWC	Ansible Playbook
Terraform Module	Infrastructure as code (IaC) used to provision compute, network and storage resources in the cloud	Provisioning a new Kubernetes cluster	Terraform installed, OpenStack application credentials	Terraform Module
Helm Chart	Deployment manifests for containerized application tailored for running on Kubernetes (production-grade distributed compute service)	Deploying web application with load-balancing, logging, monitoring and alerting capabilities	Helm client installed, Kubernetes cluster on EWC	https://helm.sh/docs/topics/charts
Notebook	Python or R based interactive interface for documentation and execution of algorithms, code snippets or statistical models	Publishing a notebook for a step-by-step data fitting approach and result plots	Jupyter frameworks (e.g. Jupyterlab, Jupyterhub)	https://jupyter-notebook.readthedocs.io/en/latest
Dataset	Pointers to data collections, data samples, model weights, etc	Sharing a wide table, periodically updated, for reporting on frontal and cyclonic lift	Dependent on the type of dataset	N/A
Container Image	Software neatly bundled up with all of its dependencies, and simple to execute, across operative systems and CPU/GPU architectures, as containerized applications	Open-sourcing an image equipped with a scientific application, installable and usable via a single command	Container runtime installed, compute instance or Kubernetes cluster on EWC	Containers explained: What they are and why you should care
Documentation	Tutorials, step-by-step guides, reports, and any other source of information relevant in the context of the EWC	Publishing a how-to article about running a particular GPU-accelerated data pipeline on EWC	N/A	N/A

Deploying items by ewccli

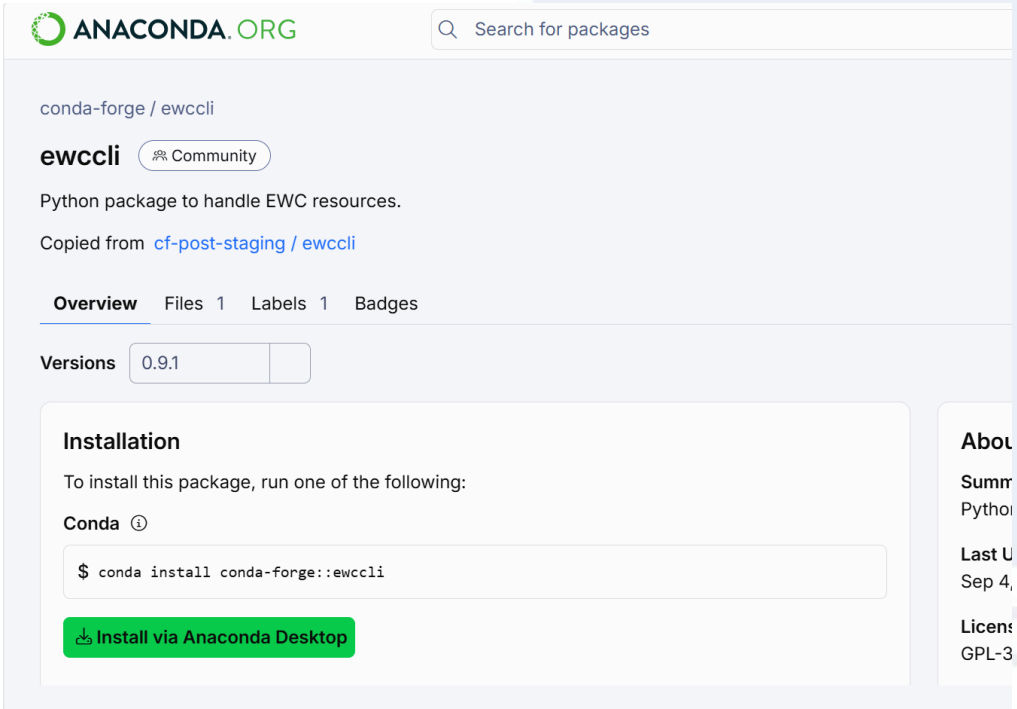
Use virtual environments to avoid clashes with existing dependencies!

PyPI



conda-forge

```
conda install conda-forge: ewccli
```



EUROPEAN WEATHER CLOUD

ewccli

Changelog

All notable changes to this project are documented in this file. See Conventional Commits for commit guidelines.

0.9.1 (2026-09-03)

Bug Fixes

- Missing username for the selected GPU image (#169) (33a708a)

0.9.0 (2026-09-02)

Features

- Enable installation on Python 3.13 (#166) (03bbbc3)

0.8.0 (2026-08-31)

Bug Fixes

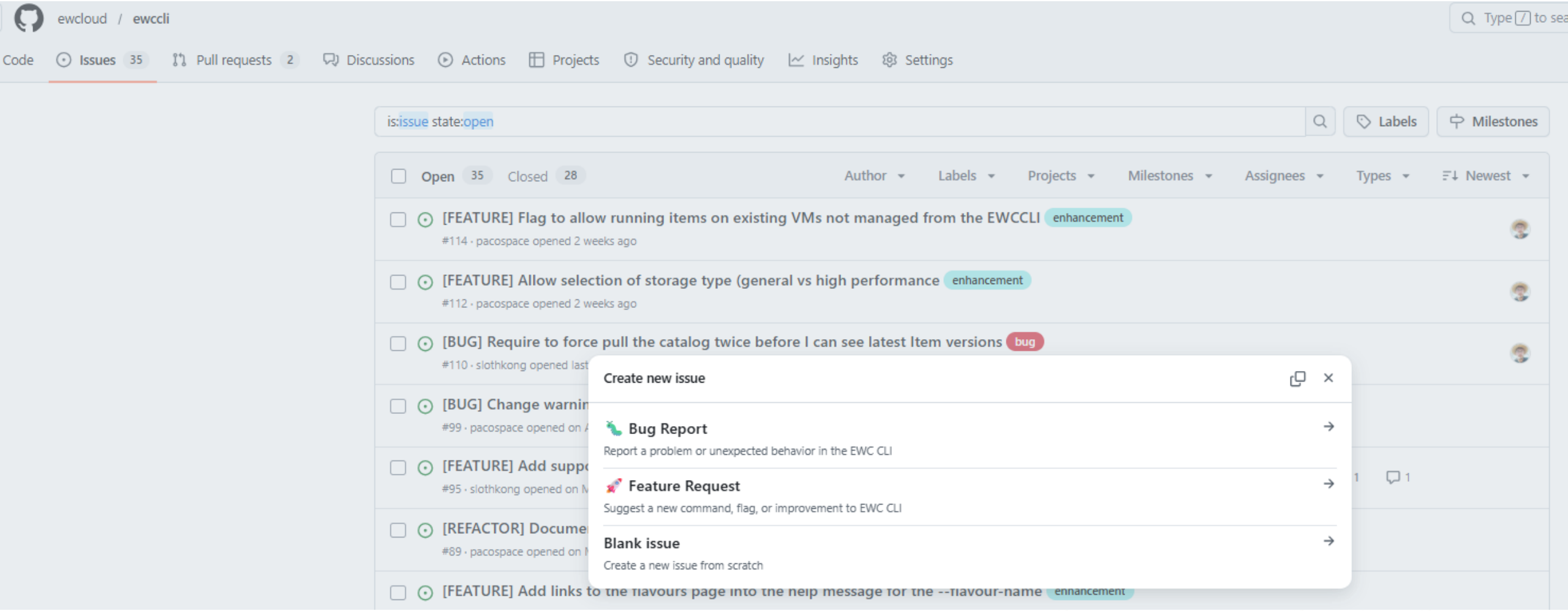
- Replace depleted default GPU flavour on CCI1 and CCI2 regions (#155) (bced25b)
- TypeError: option values must be strings during ewc login (#158) (0274a31)
- Use of OpenStack clouds.yaml file (#160) (556851a)

Features

- reduce ansible version to release ewccli on conda-forge (#161) (48e5d62)

0.7.1 (2026-08-06)

ewccli


ewcloud / ewccli
Code
Issues 35
Pull requests 2
Discussions
Actions
Projects
Security and quality
Insights
Settings
is:issue state:open
Labels
Milestones
Open 35
Closed 28
Author
Labels
Projects
Milestones
Assignees
Types
Newest
[FEATURE] Flag to allow running items on existing VMs not managed from the EWCCLI enhancement
#114 · pacospace opened 2 weeks ago
[FEATURE] Allow selection of storage type (general vs high performance enhancement
#112 · pacospace opened 2 weeks ago
[BUG] Require to force pull the catalog twice before I can see latest Item versions bug
#110 · slothkong opened last
[BUG] Change warnin
#99 · pacospace opened on A
[FEATURE] Add suppo
#95 · slothkong opened on M
[REFACTOR] Docume
#89 · pacospace opened on M
[FEATURE] Add links to the flavours page into the help message for the --flavour-name enhancement
Create new issue
Bug Report
Report a problem or unexpected behavior in the EWC CLI
Feature Request
Suggest a new command, flag, or improvement to EWC CLI
Blank issue
Create a new issue from scratch

Beyond Morpheus

Old -> New

Service	Current	New
Authentication	One login per application	EWC IAM – Single Sign On
Cloud management UI	MORPHEUS	openstack.
Workflows / Instance types	Morpheus Instances/Workflows	EWC Community Hub + EWCCLI
Secret Manager	Morpheus Cypher	EWC Secret Manager
Logging and Monitoring	Morpheus agent on each VM	TBD – analysing solutions

WEBINAR AVAILABLE

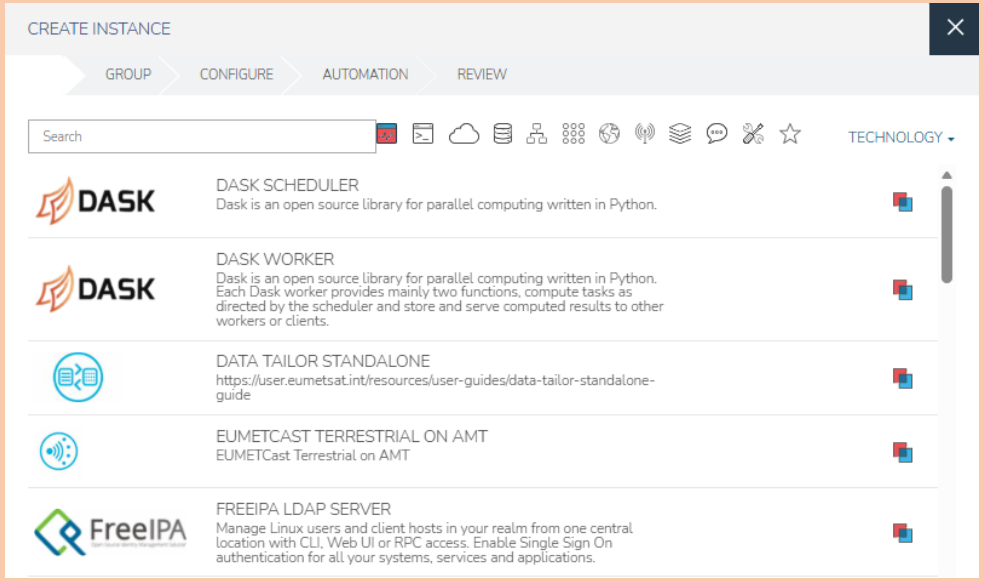
WEBINAR AVAILABLE

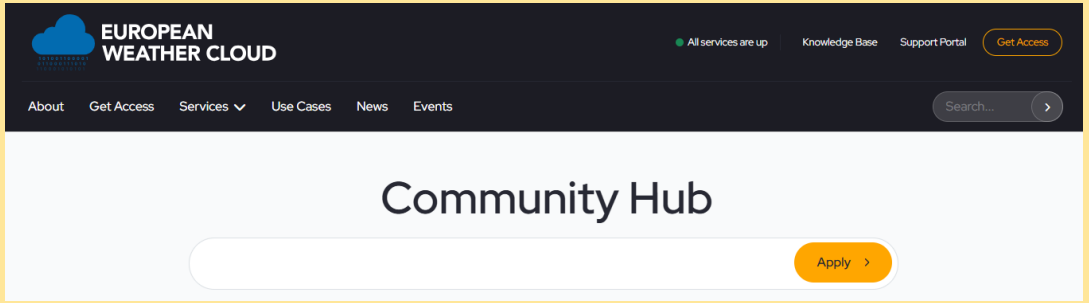
OPEN FOR PILOT

Morpheus instances/workflows vs EWC Community Hub

MORPHEUS

Hidden software





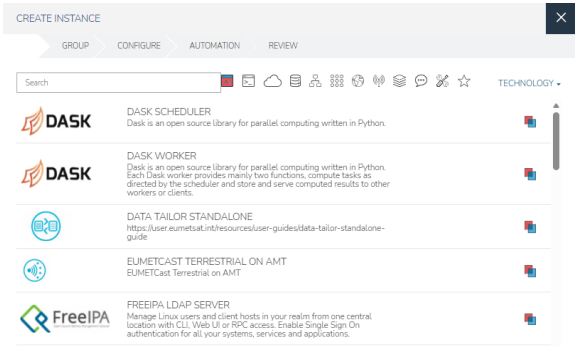
open source software

Morpheus instances/workflows -> EWC Community Hub + ewccli

MORPHEUS

VM

instance/workflow



openstack

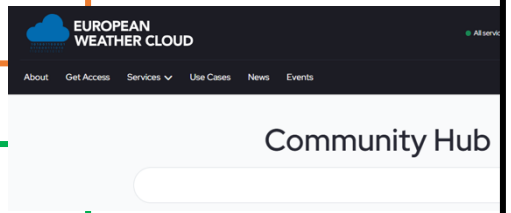
VM

Hub item

ANSIBLE

OpenTofu

HELM



ewccli

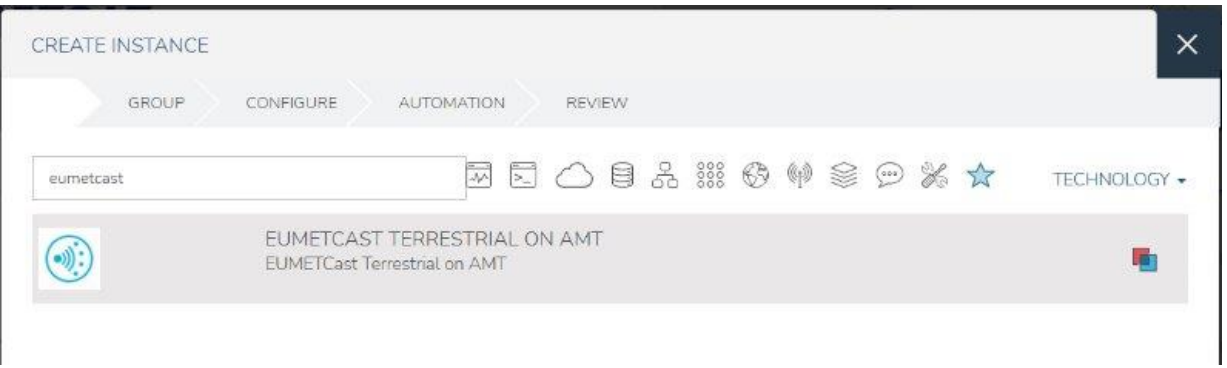
VM

Hub item

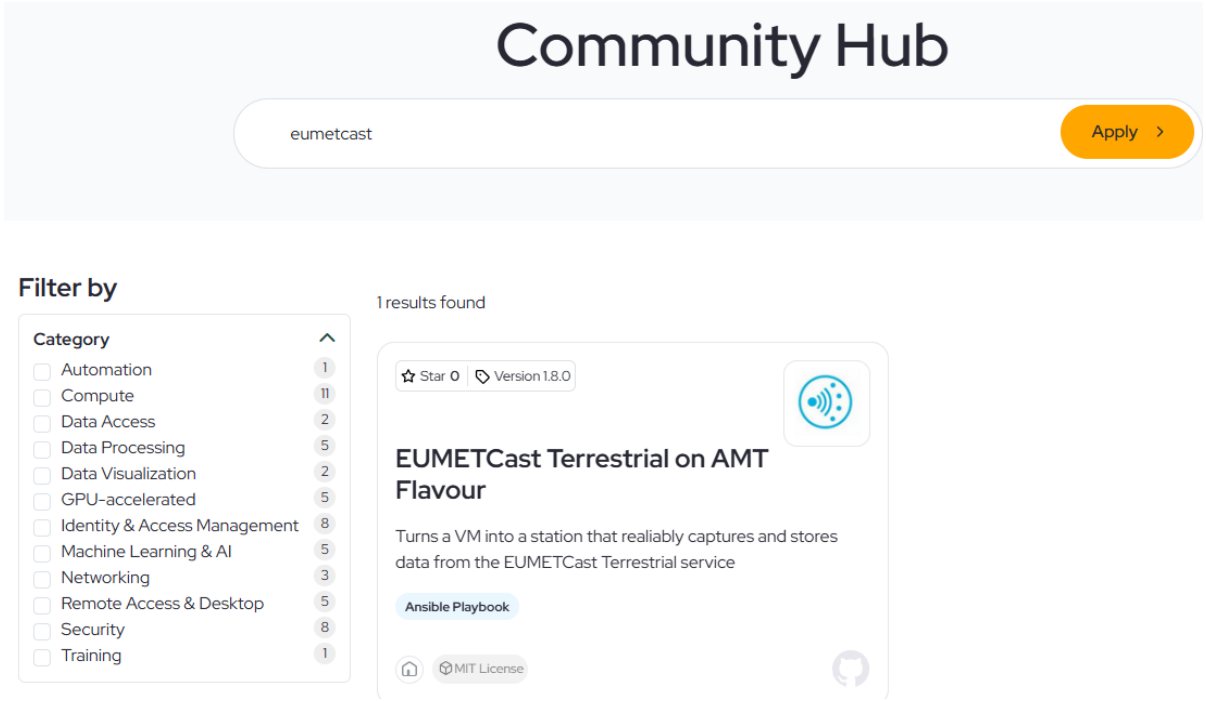
ANSIBLE

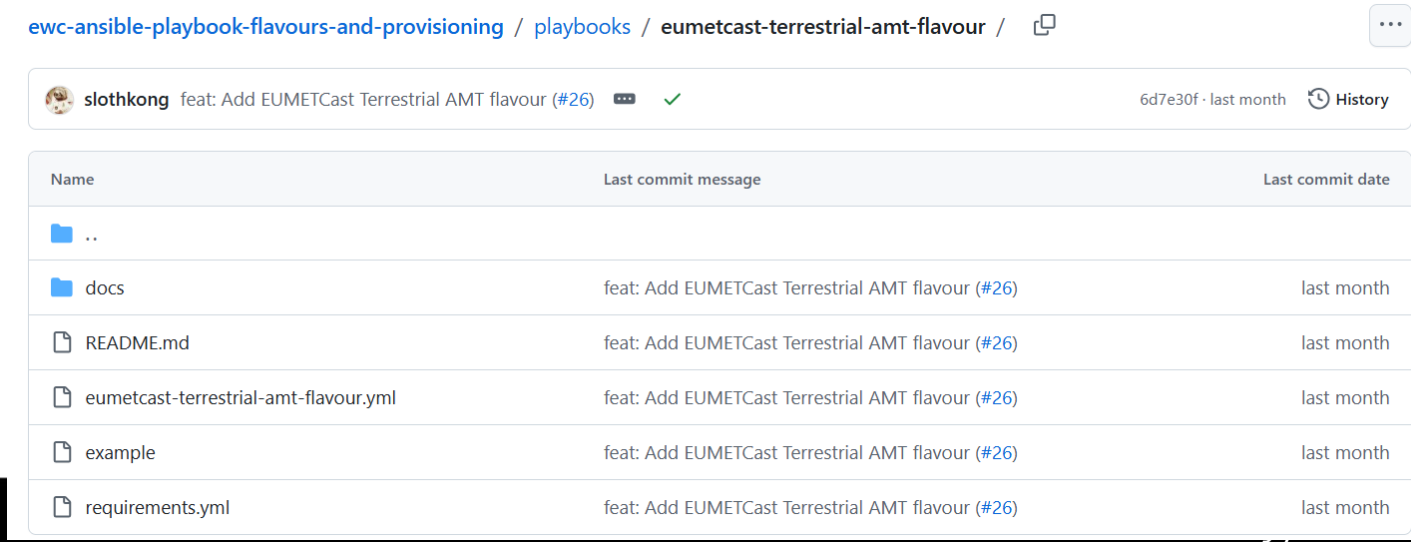
ewccli-compatible

Instances -> Hub items

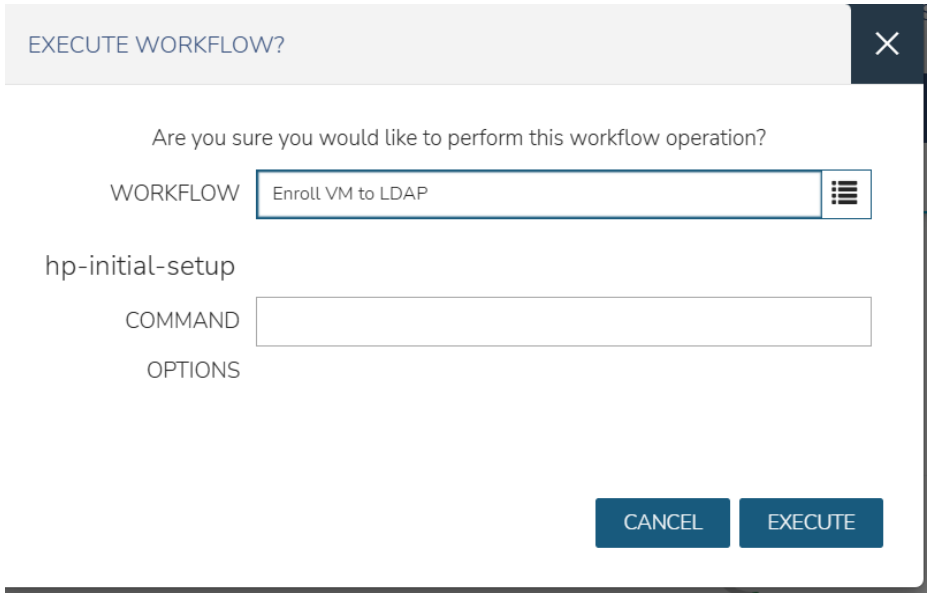


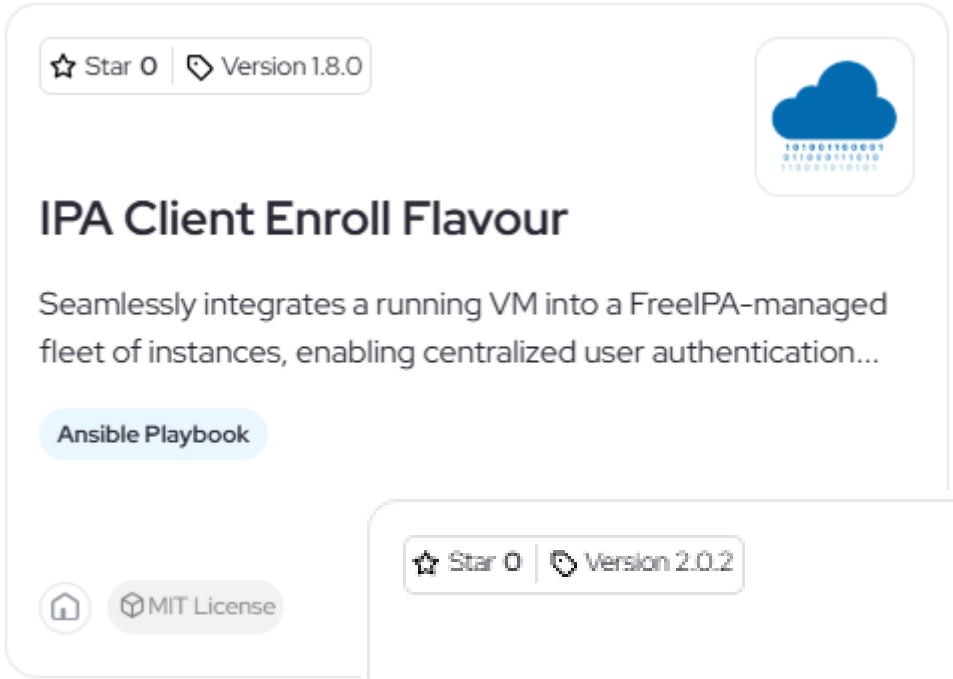
Metadata
- Maintainers
- Source code
- Level of maintenance
- LICENSE
- ...

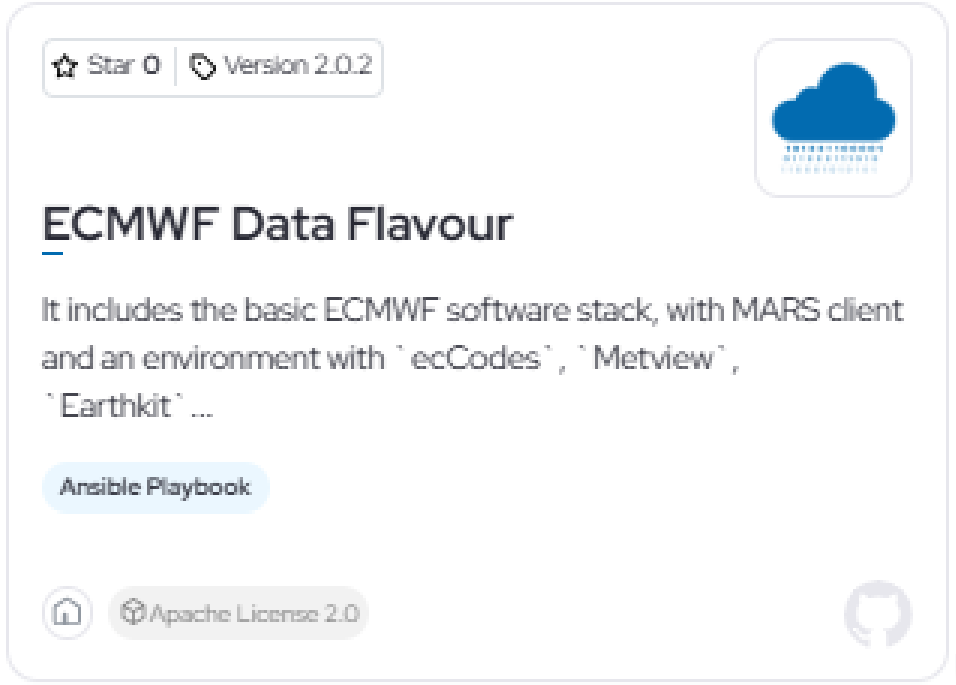




Workflows -> hub items







Morpheus instances/workflows -> EWC Community Hub

Star 0 | Version 1.12.0

HTC Execute Flavour

Setups a workspace from where users can submit computation tasks onto the shared resource pool managed by EWC HTC Batch...

Ansible Playbook

MIT License

Star 0 | Version 1.12.0

HTC Execute Flavour

Enables users to contribute with VMs towards the shared resources pool of the EWC HTC Batch Processing service

Ansible Playbook

MIT License

Star 0 | Version 1.12.0

Nginx Proxy Manager

Configures an existing VM as a user-friendly Nginx Proxy Manager server, simplifying virtual host management, SSL/HTTP/2...

Ansible Playbook

MIT License

Star 0 | Version 1.12.0

HAProxy

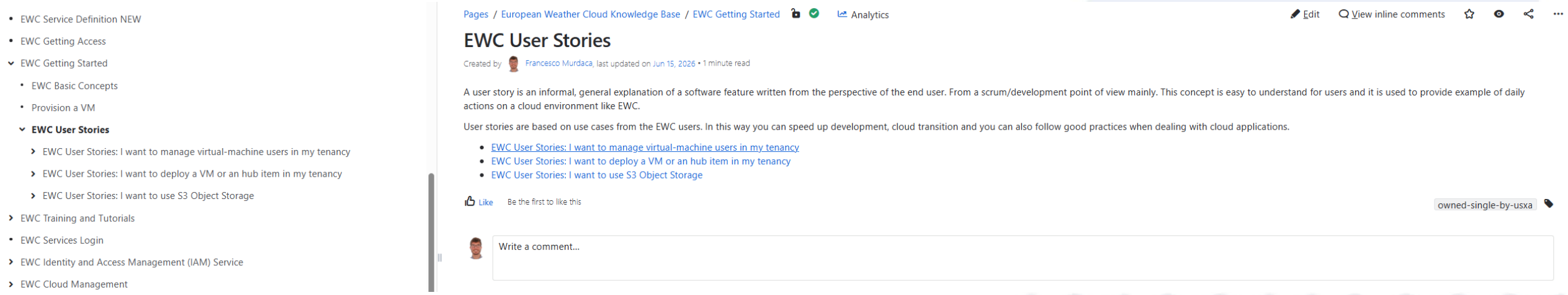
Configures an existing VM as a high-performance load balancer, enhancing application speed, security, and scalability...

Ansible Playbook

MIT License

Deploying items by ewccli

- Morpheus instances -> hub items
- Try them out! Give feedback!
- **EWC User stories**



ewccli in the future

K8s

Secret

DNS

S3

VM

Hub item

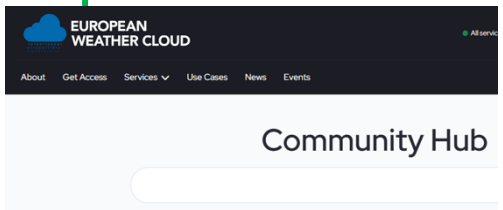
Crossplane

KEYCLOAK

ANSIBLE

ewccli-compatible

ewccli



Demo

ewccli - commands

- ewc login

- ewc hub list

- ewc hub deploy <HUB_ITEM>
  - ecmwf data flavour
  - eumetcast
  - pytroll-processing
- ewc infra list

- ewc infra create
- ewc hub deploy <HUB_ITEM> on existing ewccli deployed VM
  - enroll-to-ldap

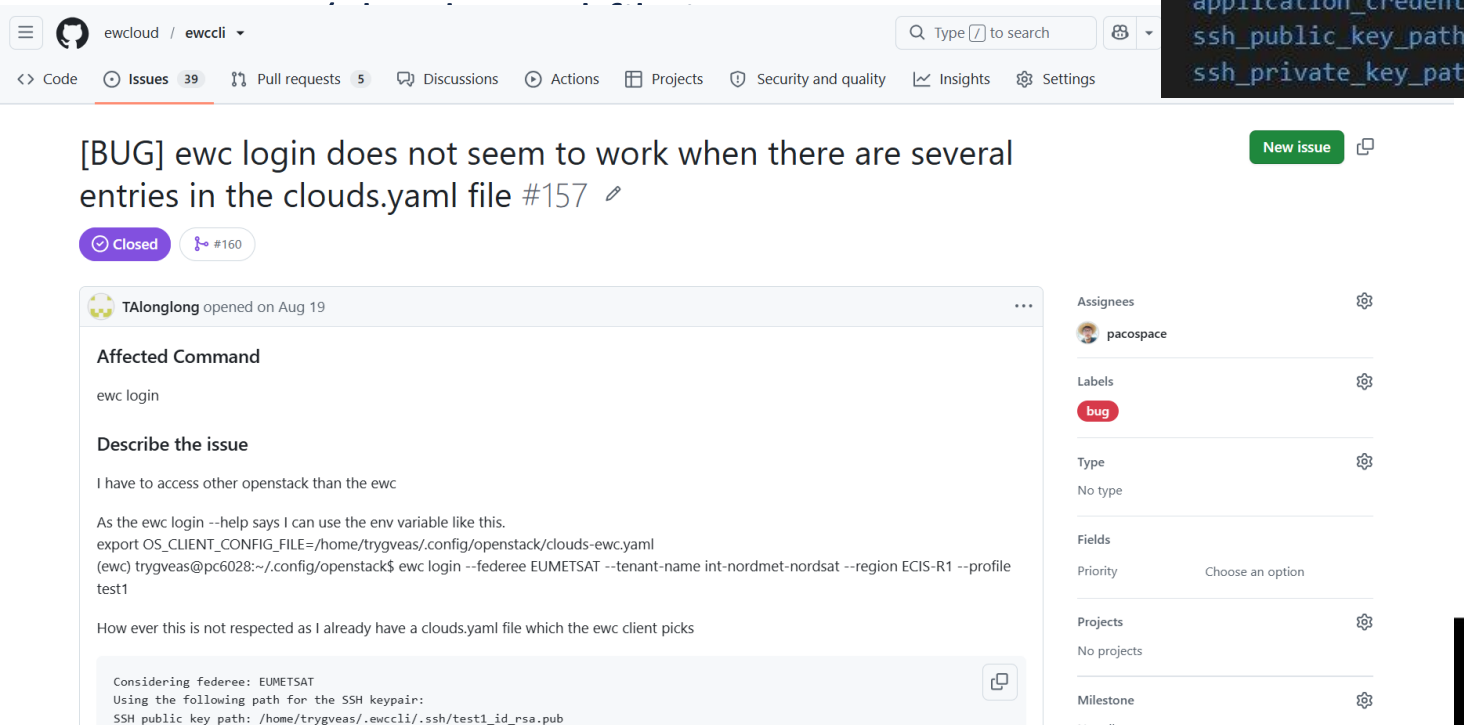
- Local custom run (ewc –custom-hub) (not published items)
- Modify locally an existing item (to fix a bug or to introduce a new feature)

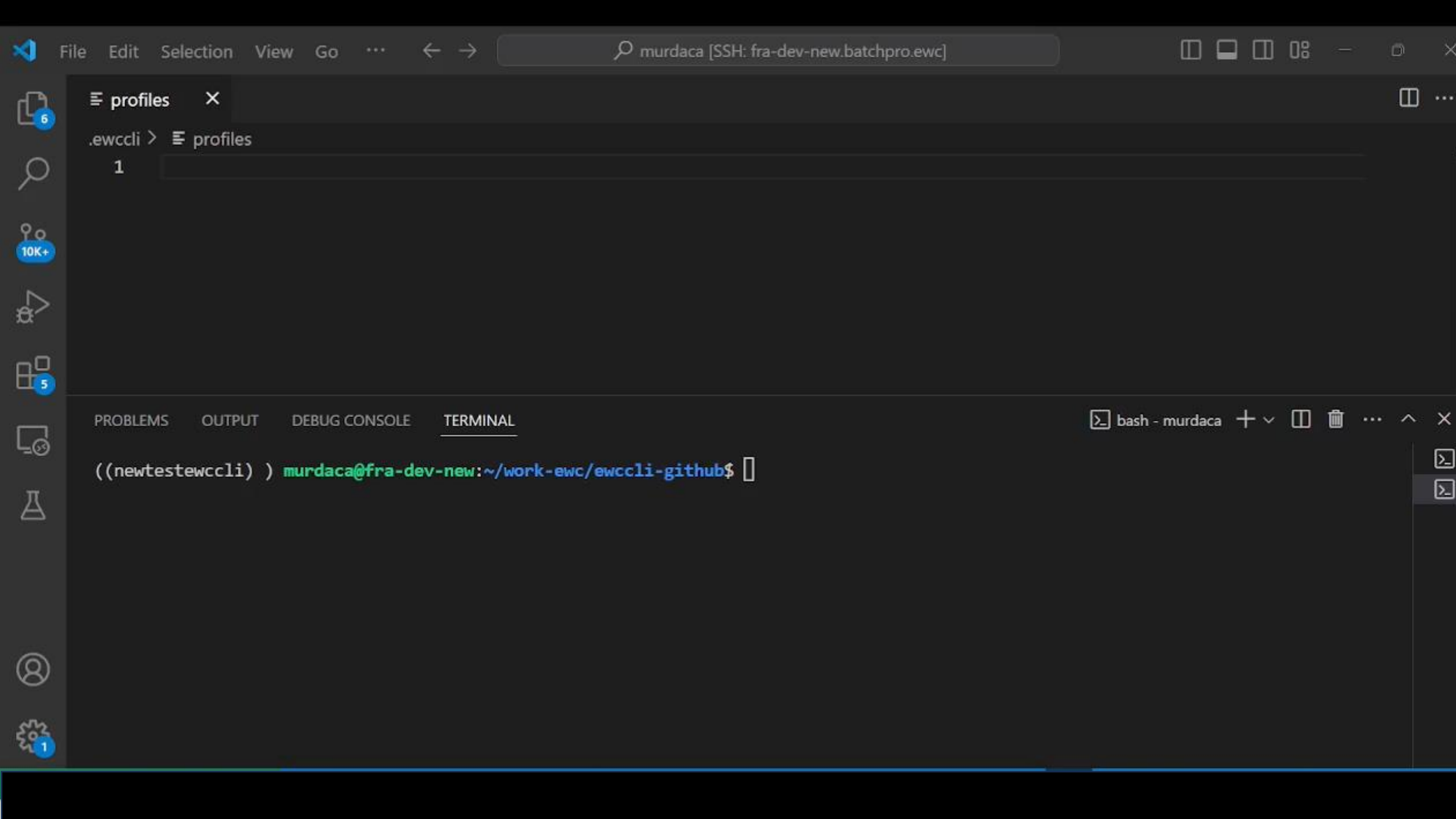
ewc login command – demo 1

- ewc login (profiles are created under ~/.ewccli/profiles)
  - Tenancy name
  - Federee (EUMETSAT vs ECMWF)
  - Region (ECIS R1, CCI1, etc.)
  - SSH keys
  - Application Credentials

```
[ewc-demo-eumetsat]
federee = EUMETSAT
region = ECIS-R1
tenant_name = ewc-demo-eumetsat
application_credential_id =
application_credential_secret =
ssh_public_key_path = /home/murdaca/.ewccli/.ssh/eumetsat-ecis-r1-ewc-demo-eumetsat_id_rsa.pub
ssh_private_key_path = /home/murdaca/.ewccli/.ssh/eumetsat-ecis-r1-ewc-demo-eumetsat_id_rsa


[ewc-demo-ecmwf]
federee = ECMWF
region = CC1
tenant_name = ewc-demo-ecmwf
application_credential_id =
application_credential_secret =
ssh_public_key_path = /home/murdaca/.ssh/id_rsa.pub
ssh_private_key_path = /home/murdaca/.ssh/id_rsa
```




File
Edit
Selection
View
Go
murdaca [SSH: fra-dev-new.batchpro.ewc]
profiles
.ewccli > profiles
1
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
bash - murdaca
((newtestewccli)) murdaca@fra-dev-new:~/work-ewc/ewccli-github$

ewc hub list command

ewc hub list

EWC HUB Items

Item	Title	Version	Summary
ai-models	AI Models	1.0.1	It features the most popular data driven forecast models such as Pangu Weather, Fourcastnet or graphcast.
ecmwf-aifs-single-mse	ECMWF AIFS Single MSE	1.1.0	It features the ECMWF AIFS Single data-driven model
ecmwf-aifs-ens-crps	ECMWF AIFS ENS CRPS	1.0.2	It features the ECMWF AIFS ENS CRPS data-driven model
ecmwf-anemoi	ECMWF Anemoi	1.0.1	It leverages the Anemoi framework to develop and run your AI-models or manage datasets.
ecmwf-data-flavour	ECMWF Data Flavour	2.0.2	It includes the basic ECMWF software stack, with MARS client and an environment with `ecCodes`, `Metview`, `Earthkit` and `Aviso`.
eumetcast-terrestrial-amt-flavour	EUMETCast Terrestrial on AMT Flavour	1.11.2	Turns a VM into a station that realiably captures and stores data from the EUMETCast Terrestrial service
eumetsat-s3-mount-flavour	EUMETSAT S3 Mount Flavour	1.11.2	Enables a VM to access public EUMETSAT data stored in shared S3 buckets, just as if it was on the local filesystem
eumetsat-data-tailor-flavour	EUMETSAT Data Tailor Flavour	1.11.2	Transforms an existing VM into a powerful satellite data customization hub, enabling users to efficiently subset, aggregate, reproject, and reformat data from METOP, MFG, MSG, MTG, and Sentinel-3 into GIS and image formats, offering faster processing and greater flexibility than web-based alternatives.
htc-execute-flavour	HTC Execute Flavour	1.11.2	Enables users to contribute with VMs towards the shared resources pool of the EWC HTC Batch Processing service
htc-submit-flavour	HTC Execute Flavour	1.11.2	Setups a workspace from where users can submit computation tasks onto the shared resource pool managed by EWC HTC Batch Processing service
ipa-client-enroll-flavour	IPA Client Enroll Flavour	1.11.2	Seamlessly integrates a running VM into a FreeIPA-managed fleet of instances, enabling centralized user authentication, DNS resolution, and secure remote access for simplified and scalable identity management.
ipa-client-disenroll-flavour	IPA Client Disenroll Flavour	1.11.2	Simplifies the secure removal of a running VM from a FreeIPA-managed fleet of instances, reducing administrative overhead and enhancing security by eliminating stale credentials and DNS records.
ipa-server-flavour	IPA Server Flavour	1.11.2	Turns an existing VM into a FreeIPA server, a central place for user authentication, authorization, and DNS-based resource discovery for secure and efficient identity management.
jupyterhub-flavour	JupyterHub Flavour	2.0.2	It installs and run jupyterhub on your instance, offering a convenient way to access it through the web.
ml-basic	ML Basic	1.0.1	It features an environment with the main machine learning packages like scikit-learn or torch.
pytroll-processing	Pytroll Processing	0.1.2	Playbooks to install pytroll processing and wms in the EWC.
remote-desktop-flavour	Remote Desktop Flavour	1.11.2	Transforms an existing VM into a secure, graphical desktop environment using X2Go and MATE, enabling simple remote access and intuitive cloud-based development for tenant users.
ssh-bastion-flavour	SSH Bastion Flavour	1.11.2	Tightens the configuration of a running VM, to operate as a secure SSH proxy with Fail2ban, providing tenant admins and users a fortified entry point to safely access private EWC networks from the public internet.
xcube-viewer-flavour	xcube Viewer Flavour	1.11.2	xcube Viewer on EWC, a web-based tool for interactive visualization of multi-dimensional Earth Observation data.
flexpart-ifs	FLEXPART-IFS Atmospheric Dispersion Workflow	0.1.2	Deploys an end-to-end FLEXPART-IFS atmospheric transport and dispersion workflow on the European Weather Cloud using ECMWF IFS forecast data.

ewccli commands - demo 2

- ewc hub deploy <HUB_ITEM>
  - ecmwf data flavour
  - Eumetcast
  - pytroll-processing
- ewc infra list

File Edit Selection View Go Run Terminal Help

murdaca [SSH: fra-dev-new.batchpro.ewc]

demo-ewc.yaml

work-ewc > ewccli-github > test-items > demo-ewc.yaml

```
1  apiVersion: communityhub.europeanweather.cloud/v1alpha1
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

bash - murdaca

```
((newtestewccli) ) murdaca@fra-dev-new:~/work-ewc/ewccli-github$
```

SSH: fra-dev-new.batchpro.ewc list-plans 0 0 6 Ln 40, Col 1 Spaces: 2 UTF-8 LF YAML

ewccli commands - demo 3

- ewc infra create
- ewc hub deploy <HUB_ITEM> on existing ewccli deployed VM
  - enroll-to-ldap

File Edit Selection View Go Run Terminal Help

murdaca [SSH: fra-dev-new.batchpro.ewc]

demo-ewc.yaml

work-ewc > ewccli-github > test-items > demo-ewc.yaml

```
3   spec:
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

bash - murdaca

```
((newtestewccli) ) murdaca@fra-dev-new:~/work-ewc/ewccli-github$
```

SSH: fra-dev-new.batchpro.ewc list-plans 0 0 6 Ln 24, Col 70 (59 selected) Spaces: 2 UTF-8 LF YAML

ewccli commands - demo 4

- Local custom hub run (not published items)
- Modify locally an existing item (to fix a bug or to introduce a new feature)

Community Hub

Apply

Filter by

Category

- Automation 1
- Compute 11
- Data Access 2
- Data Processing 5
- Data Visualization 2
- GPU-accelerated 5
- Identity & Access Management 8
- Machine Learning & AI 5
- Networking 3
- Remote Access & Desktop 5
- Security 8
- Training 1

Technology

- Ansible Playbook 26
- GitHub Action 1
- Jupyter Notebook 1
- Python Package 1
- Terraform Module 8

31 results found

Sort by: Title Sort descending

Star 1 | Version 1.0.1

AI Models

It features the most popular data driven forecast models such as Pangu Weather, Fourcastnet or graphcast.

Ansible Playbook

Apache License 2.0

Star 0 | Version 2.1.3

Ansible Playbook Test Deployment via GitHub Actions

Automatically setup all necessary OpenStack test resources for an Ansible Playbook to run on, execute it and report test...

GitHub Action

MIT License

Star 0 | Version 1.8.0

Star 1 | Version 1.0.2

Links

- EWC Community Hub Dashboard: Community HUB | The European Weather Cloud
- EWC Community Hub Documentation: EWC Community Hub - European Weather Cloud Knowledge Base - ECMWF Confluence Wiki
- EWCCLI: ewccli · PyPI
- EWC Community Hub Tooling Community Hub Tooling - European Weather Cloud Knowledge Base - ECMWF Confluence Wiki

Questions & Feedback

We’d love to hear your thoughts and questions.

Feedback on the Community Hub

EUROPEAN
WEATHER CLOUD
THANKS!