openEO Platform in EOSC

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What is openEO Platform?

• openEO Platform: federation of openEO backends providing intuitive programming libraries to process a wide variety of Earth Observation datasets

• Run your Earth Observation analysis on our federated infrastructure!
Why do we need openEO?

The Data Management Burden…

Traditional remote sensing product process for Sentinel-2

1. Researcher identifies study area
2. Search for Sentinel 2 tiles in Level 1C
3. Download all tiles for timespan of interest
4. Preprocess in sentinel to Level 2A
5. Resample to target spatial resolution
6. Create a subset in space & time
7. Apply algorithms to the subset
8. Product packaging and delivery

Allocated CPU | Allocated MEM | Status
---|---|---
8200 / 9600 (85%) | 520GB / 1007.8GB (82%) | ON
4700 / 5600 (84%) | 444GB / 503.6GB (86%) | ON
5200 / 5600 (93%) | 380GB / 503.6GB (81%) | ON

Credits: H. Kristen – ESA open Science 2017
How does it work?

Situation before openEO:

openEO API:
How does it work?

openEO API:

- Client 1
- Client 2
- Client 3

openEO Platform Aggregator:

- Client 1
- Client 2
- Client 3

openEO.cloud is a combination of these "backend" platforms

- CreoDIAS experimental
- TERRASCOPE
- eodc

Connects to

- EURO DATA CUBE
- sentinelhub
Client Libraries

JupyterLab (Python)
https://lab.openeo.cloud/

Web Editor (graphical)
https://editor.openeo.cloud/

R - Client
https://docs.openeo.cloud/getting-started/r/

Python - Client
https://docs.openeo.cloud/getting-started/python/

JavaScript - Client
https://docs.openeo.cloud/getting-started/javascript/
Registration

- https://openeo.cloud/#plans
- Follow the Step-by-Step Guide
The Network of Resources (NoR) is an ESA initiative to facilitate the use of cloud environments by users, sponsoring R&D users for the use of commercial platform resources.
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Onboarding into the EOSC Marketplace: by June 2023


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Join the community!

• https://openeo.cloud/

• Documentation:
  • openEO Platform: https://docs.openeo.cloud/
  • openEO: https://openeo.org/documentation/1.0/

• Questions?
  • Forum: https://discuss.eodc.eu/c/openeo-platform/5
  • Contact e-mail address: openeo-platform@eodc.eu
Thank you for your attention.

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Copernicus - eoSC AnaLytics Engine

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