



# EOOSC for projects

**Using EOOSC digital services to consolidate project digital infrastructures at Observatoire de Paris**



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**Using EOOSC digital services to consolidate project digital infrastructures at Observatoire de Paris**

# Observatoire de Paris & EOSC

- A few projects linked to EOSC:
  - **ESCAPE** (European Science Cluster of Astronomy & Particle physics ESFRI research infrastructure);
  - **VAMDC** (Virtual Atomic and Molecular Data Centre), using EUDAT services;
  - **Europlanet-2024-RI**, with its VESPA-Cloud prototype, supported by EOSC-Hub;
  - **NenuFAR**, using cold storage (on tapes) via EUDAT/B2SAFE.
- Implication into EOSC is considered as a strategic asset for the upcoming large scale projects of the institute and the astrophysics science community, as well as for the large digital infrastructures.
- Observatoire de Paris is a **member of the EOSC Association**.

# Generic EOSC resources

## in a nut-shell

- EOSC Marketplace: <https://marketplace.eosc-portal.eu>  
=> access/order services
- Generic services:
  - compute (EGI - cloud compute, Jupyter Notebook...)
  - storage (EUDAT - B2Drop/B2Share/B2Safe)
  - preservation/publication/DOI (B2Share, Zenodo...)
- Service orders may require configuration.  
Some service providers require direct discussion for this configuration.
- Authorisation and Authentication:  
Using a provider's AAI (e.g., EUDAT-B2Access, EGI-Checkin, GÉANT-eduTEAMS...)

# Example 1 – AAI

## Authorisation and Authentication

- Service = manageable registry of users with roles.
  - register users in a « virtual organisation »
  - users are invited (e-mail) and use their preferred identity provider to login (Edugain, ORCID, Github...)
  - users are assigned to « groups »
- Application can be configured to use AAI (e.g., with OpenID)
  - authentication is delegated to AAI
  - authorisation (e.g., roles) can be mapped from AAI groups



# AAI for Europlanet-VESPA

## Using eduTeams

- Europlanet/VESPA: Data discovery network for solar and planetary sciences.
- Need for AAI to grant access to code repository, services, configuration interfaces.

The screenshot shows the eduTEAMS web interface for the organization "Virtual European Solar and Planetary Access". The user is logged in as Baptiste Cecconi, with the role of VO/GROUP MANAGER. The interface includes a navigation menu on the left with options like "VO manager", "Group manager", and "User". The main content area displays "Quick tools" for managing the organization, such as "Add member...", "Create service member...", "Invite member...", "Add manager...", "Create group...", and "Add member to resource...". Each tool has a brief description of its function. The footer contains license information (BSD 2), privacy policy, support contact, and version details.

# AAI for Europlanet-VESPA

## Using eduTeams

voparis-gitlab.obspm.fr

VESPA forums Mission IPDA JUICE CDDP radio Adress'RLR Cassini STEREO OnlineOCR Revues Banques Webmail bibli English YT->MP4 DOI

Sign in · GitLab

### GitLab

**A complete DevOps platform**

GitLab is a single application for the entire software development lifecycle. From project planning and source code management to CI/CD, monitoring, and security.

This is a self-managed instance of GitLab.

Observatoire de Paris Standard

Observatoire de Paris Username

Password

Sign in

Obspm

eduTEAMS

Remember me




Afficher un menu



# AAI in EOSC

## Ordering

- search « AAI » in « Operations & Infrastructure Management Services » / « Security & Identity »

<input type="checkbox"/> Other 2 <input type="checkbox"/> Engineering & Technology 1 <input type="checkbox"/> Electrical, Electronic & Information Engineering 1 <input type="checkbox"/> Chemical Engineering 0 <input type="checkbox"/> Civil Engineering 0 <input type="checkbox"/> Environmental Biotechnology 0 <input type="checkbox"/> Environmental Engineering 0 <input type="checkbox"/> Industrial Biotechnology 0 <input type="checkbox"/> Materials Engineering 0 <input type="checkbox"/> Mechanical Engineering 0 <input type="checkbox"/> Medical Engineering 0 <input type="checkbox"/> Nanotechnology 0 <input type="checkbox"/> Other Engineering & Technology Sciences 0 <input type="checkbox"/> Agricultural Sciences 0 <input type="checkbox"/> Agricultural Biotechnology 0 <input type="checkbox"/> Agriculture, Forestry & Fisheries 0 <input type="checkbox"/> Animal & Dairy Sciences 0 <input type="checkbox"/> Other Agricultural Sciences 0 <input type="checkbox"/> Veterinary Sciences 0 <input type="checkbox"/> Humanities 0 <input type="checkbox"/> Arts 0 <input type="checkbox"/> History & Archaeology 0 <input type="checkbox"/> Languages & Literature 0 <input type="checkbox"/> Other Humanities 0 <input type="checkbox"/> Philosophy, Ethics & Religion 0	<div style="border: 1px solid #ccc; padding: 5px;"> <p style="text-align: right;">ORDER REQUIRED</p>  <p><b>B2ACCESS</b> B2ACCESS</p> <p>Identity &amp; <b>authorisation</b></p> <p>Organisation: EUDAT          Provided by: Jülich Supercomputing Centre          Scientific domain: Generic</p> <p><input type="checkbox"/> Add to comparison   <input type="checkbox"/> Add to favourites</p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p style="text-align: right;">ORDER REQUIRED</p>  <p><b>EGI Check-In</b> EGI Check-In</p> <p>Access and use EGI services in a uniform and easy way</p> <p>Organisation: EGI Foundation          Scientific domain: Generic</p> <p><input type="checkbox"/> Add to comparison   <input type="checkbox"/> Add to favourites</p> <p>THE RESOURCE HAS 1 OFFER THAT MATCHES YOUR SEARCH CRITERIA  <a href="#">As community AAI</a></p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p style="text-align: right;">OPEN ACCESS</p>  <p><b>eduTEAMS</b> eduTEAMS</p> <p>Making <b>managing</b> virtual teams easy</p> <p>Organisation: GÉANT Association          Scientific domain: Generic</p> <p><input type="checkbox"/> Add to comparison   <input type="checkbox"/> Add to favourites</p> </div>
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Provide feedback



# Example 2 – VM Compute

## Using EGI-Cloud-Compute resources

- EOSC-Hub Early Adopter Program: extensive support from EGI. Service continued after end of EOSC-Hub project (small resource)
- Access managed by eduTEAMS AAI.
- Users in « admins:cloud » group have access to the *EGI-cloud-compute* configuration interface.
- Token based access
- How-to by VESPA admins:  
[Create an openstack ubuntu machine on EOSC with ports 80 and 8080 open](#)

# VM Compute for Europlanet-VESPA

## Using EGI-Cloud-Compute resources

- Europlanet/VESPA: Data discovery network for solar and planetary sciences.
- Need for cloud compute service to host server with interoperable data distribution framework for small teams.
- Small VM, with web server, and dedicated public IP.

The screenshot shows the EGI Cloud Compute resource page on the EOSC Marketplace. The page is titled "EGI Cloud Compute" and features a search bar with the text "EGI Cloud Compute". The main content area includes a description of the service, its organization (EGI Foundation), and a list of providers. A prominent blue button labeled "Access the resource" is visible, with a note below it stating "ORDER REQUIRED". The page also includes a navigation menu at the top, a breadcrumb trail, and a sidebar with social media icons. At the bottom, there is a section for "SCIENTIFIC CATEGORISATION" with a "Generic" category selected.

**EGI Cloud Compute**  
 EGI Cloud Compute  
 Run virtual machines on-demand with complete control over computing resources  
 Organisation: **EGI Foundation**  
 Provided by: **CESNET, Institute of Physics of Cantabria (IFCA), Institute of Information and Communication Technologies, Deutsches Elektronen-Synchrotron, Turkish Academic Network and Information Center, National Distributed Computing Infrastructure, ACC Cyfronet AGH-UST, The SCIGNE Platform, 100 Percent IT, Institute of Informatics - Slovak Academy of Sciences, Institute of Accelerating Systems and Applications, Fraunhofer SCAI, Fundacion Centro Tecnologico de Supercomputacion de Galicia, GSI Helmholtzzentrum für Schwerionenforschung GmbH, Italian National Institute of Nuclear Physics**

☆☆☆☆☆ (0.0 / 5) 0 reviews  Add to comparison  Add to favourites

[Webpage](#) [Helpdesk](#) [Helpdesk e-mail](#) [Manual](#) [Training information](#) [Ask a question about this resource?](#)

**SCIENTIFIC CATEGORISATION**  
 Generic

Cloud Compute gives you the ability to deploy and scale virtual machines on-demand. It offers guaranteed computational resources in a secure and isolated environment with standard API access, without the overhead of managing physical servers. Cloud Compute offers the possibility to select pre-configured virtual appliances (e.g. CPU, memory, disk, operating system or software) from a catalogue replicated across all EGI cloud providers. With Cloud Compute you can: Execute compute- and data-intensive workloads (both batch and interactive). Host long-running services (e.g. web servers, databases or applications servers). Create disposable testing and development testing environments on virtual machines and scale your infrastructure needs. Select virtual machine configurations (CPU, memory, disk) and application environments to fit your requirements. Manage your Cloud Compute resources in a flexible way with integrated monitoring and accounting capabilities.



# Example 3 – Cold Storage

## Using EUDAT/B2SAFE

- EOSC-DICE project call:
  - EC funding
  - support to community
- Dedicated discussion to select solution.
- 3 PB of cold storage (tapes) located in MPCDF (Max Planck Computing and Data Facility)
- Data transfer using IRODS
- Current stage:  
discussion on sustainability and continuation of service provision





# Cold Storage for NenuFAR

## 3 PB of storage on tapes using IRODS

- NenuFAR:Low Frequency Radio Telescope in Nançay (SKA Pathfinder). Producing ~1PB / yr
- Need for cold storage, for back-up copy.

The screenshot shows the EOSC Marketplace website. The browser address bar is 'marketplace.eosc-portal.eu'. The page title is 'B2SAFE - EOSC Marketplace'. The main content area features the 'EUROPEAN OPEN SCIENCE CLOUD' logo and a search bar containing 'B2SAFE'. Below the logo, there is a breadcrumb trail: 'Resources > Processing & Analysis > Data Management > Preservation > B2SAFE'. The main resource card for B2SAFE includes a blue cube icon with 'B2SAFE' on it, the title 'B2SAFE', a description 'Keep research data safe via data management policies', the organization 'EUDAT', and a list of providers: 'Cineca Consorzio Interuniversitario, SURF, The Cyprus Institute, Barcelona Supercomputing Center - Centro Nacional de Supercomputación, Jülich Supercomputing Centre, National Infrastructures for Research and Technology, CSC - IT CENTER FOR SCIENCE, Karlsruhe Institute of Technology, IT4Innovations / VSB-TUO'. There is a '0.0 / 5' rating with 0 reviews and buttons for 'Add to comparison' and 'Add to favourites'. A blue button says 'Access the resource' with a lock icon and 'ORDER REQUIRED' below it. At the bottom of the card are links for 'Webpage', 'Helpdesk', 'Helpdesk e-mail', 'Manual', and 'Training information', along with a link to 'Ask a question about this resource?'. Below the card, there are tabs for 'ABOUT', 'DETAILS', and 'REVIEWS (0)'. The 'DETAILS' section contains a paragraph describing B2SAFE as a robust and highly available service. The 'FEATURES' section lists several bullet points: support for data management policies, support for customised policies, support for less frequently used archival data, support for large scale storage resources, a single namespace across heterogeneous storages, support for integration with different storage systems, access via GridFTP, Webdav, iRODS commands, and service offered by a network of EUDAT service providers. On the right side, there are two sections: 'SCIENTIFIC CATEGORISATION' with a 'Generic' category selected, and 'CATEGORISATION' with 'Data Storage' selected, and sub-categories 'Archive', 'Replicated', 'Online', and 'Data Management' listed below it. A 'Provide feedback' button is visible on the far right edge.



# EOSC & Science of the Universe

- Before EOSC: many open science global/international alliances (IVOA, SPASE/IHDEA, RDA, OGC/DataTerra).

*Open-Science & FAIR is well understood and implemented*

- With EOSC:
  - Earth Sciences: **EPOS**
  - Collaboration EUDAT/B2FIND + IVOA
  - Astrophysics & Particle Physics: **ESCAPE**



- Projects **using EOSC without a direct EOSC funding**: Europlanet/VESPA, VAMDC...

# Opportunities

- DICE-EOSC: <https://www.dice-eosc.eu/call-service-requests>
- EGI-ACE: <https://www.egi.eu/egi-ace-open-call/>
- EOSC-Pillar:  
<https://www.eosc-pillar.eu/news/resources-offered-thematic-services-integrated-e-eosc-national-catalogues>
- EOSC-Future: <https://eoscfuture-grants.eu>
- OpenAIRE-Nexus, DARE (Earth Science / EPOS)...
- FAIR-IMPACT  
(<https://fair-impact.eu/events/synchronisation-force-events/synchronisation-force-1st-workshop-november-2022>)



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# AAI for Europlanet-VESPA

## Using eduTeams

The screenshot shows the GitLab login interface for the instance `voparis-gitlab.obspm.fr`. The page features a navigation menu at the top with various project names like `VESPA`, `forums`, `Mission`, etc. The main content area displays the GitLab logo and a description: "A complete DevOps platform" and "GitLab is a single application for the entire software development lifecycle...". Below this, there are two tabs: "Observatoire de Paris" (selected) and "Standard". The login form includes fields for "Observatoire de Paris Username" and "Password", a "Sign in" button, and a "Remember me" checkbox. An overlay window titled "Sign in with" is positioned in the foreground, showing two authentication options: "Obspm" (with a logo) and "eduTEAMS" (highlighted in grey). A "Remember me" checkbox is also present in the overlay.






# AAI in EOSC

## Ordering

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- Other 2
- Engineering & Technology 1
  - Electrical, Electronic & Information Engineering 1
  - Chemical Engineering 0
  - Civil Engineering 0
  - Environmental Biotechnology 0
  - Environmental Engineering 0
  - Industrial Biotechnology 0
  - Materials Engineering 0
  - Mechanical Engineering 0
  - Medical Engineering 0
  - Nanotechnology 0
  - Other Engineering & Technology Sciences 0
- Agricultural Sciences 0
  - Agricultural Biotechnology 0
  - Agriculture, Forestry & Fisheries 0
  - Animal & Dairy Sciences 0
  - Other Agricultural Sciences 0
  - Veterinary Sciences 0
- Humanities 0
  - Arts 0
  - History & Archaeology 0
  - Languages & Literature 0
  - Other Humanities 0
  - Philosophy, Ethics & Religion 0

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# Opportunities

- DICE-EOSC: <https://www.dice-eosc.eu/call-service-requests>
- EGI-ACE: <https://www.egi.eu/egi-ace-open-call/>
- EOSC-Pillar:  
<https://www.eosc-pillar.eu/news/resources-offered-thematic-services-integrated-eosc-national-catalogues>
- EOSC-Future: <https://eoscfuture-grants.eu>
- OpenAIRE-Nexus, DARE (Earth Science / EPOS)...
- FAIR-IMPACT  
(<https://fair-impact.eu/events/synchronisation-force-events/synchronisation-force-1st-workshop-november-2022>)