

EOSC DevOps framework and virtual infrastructure for ENVRI-FAIR common FAIR data services

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Entry in the community requirement database: [ENVRI-FAIR](#)

About the pilot

Description of supported work

The project goal is to deploy a DevOps environment, with necessary capacity of Cloud Infrastructures and services for testing ENVRI-FAIR development. The project aims to automate the testing/integration of the FAIR data services developed by the teams in ENVRI-FAIR.

Objectives

- **Automated Cloud execution for data workflow** : Demonstrate it in the VREs or in ENVRI RIs (e.g., LifeWatch or others). It will help the ENVRI community to learn the EOSC services, and build practices for the other similar use cases
- **Continuously testing and integration for ENVRI services**: get familiar with the DevOps/Agile methodologies for software development, testing and operation
- **Notebook based environment for FAIR data access and processing**: 1) provide the Jupyter service to users, with examples to access data sets and models, 2) users can perform customised experiments using the notebook services, access data, store the data, publish and share the results with the others.

Team

Participant	Role	Name and Surname
ENVRI-FAIR	PI	Zhiming Zhao
EGI Foundation	Shepherd	Andrea Manzi
ENVRI-FAIR	Developers	Spiros Koulouzis, Yuandou Wang,

Technical Plan

The full technical plan can be found here:

Work planned for Q1	<ol style="list-style-type: none">1. Test services/tools developed in ENVRIplus in the test bed, (e.g., DRIP for OpenStack services, particle formation for OneData /Jupyter notebook, etc.)2. Get familiar with the services and test bed3. Test how to request resources based specific geo-locations4. Communicate with different sub domains/RIs to collect potential experiments on the test bed5. Make plan for the experiments
Work planned for Q2	<ol style="list-style-type: none">1. Develop demonstrator for the automated VM planning, provisioning and service deployment. Extended it to a scientific workflow;2. Set up the DevOps pipeline, and test CI/CD for data management services (e.g., knowledge base content update, and experiments collected from Q1)3. Perform data experiments in the Jupyter hub, and perform some benchmark studies on the performance
Work planned for Q3	<ol style="list-style-type: none">1. Develop demonstrator for a scientific workflow (e.g., from lifewatch or other sub-domains/RIs)2. Demonstrate the DevOps pipeline of Jelastic for data management services3. Demonstrate a number of Jupyter notebook examples
Work planned for Q4	<ol style="list-style-type: none">1. Exploitation of the results to the ENVRI-FAIR communities2. Support ENVRI-FAIR community to take over the results and further develop them in their own context3. Support ENVRI-FAIR community to prepare for the further EOSC integration

EOSC services and providers

Providers

CESGA:

Type	Resources	Resource Status	Service status
Jelastic Installation	<ul style="list-style-type: none">• 1 VM 8 CPUs , 24 GB RAM , 1 TB storage via NFS• 1 VM 12 CPUs, 24 GB RAM, 1.5 TB storage via NFS	Provisioned	Provisioned https://jca.j.fedcloud.eu/ https://app.j.fedcloud.eu/
VM for Automated Cloud execution for data workflow	<ul style="list-style-type: none">• 1 VM 12 CPUs, 16 GB RAM, 1.5 TB storage via NFS	Provisioned	OK
VM and Storage for Oneprovider installation	<ul style="list-style-type: none">• 1 VM 8 CPUs, 32 GB RAM, 50 GB local storage• 10 TB storage via NFS	Provisioned	https://oneprovider-envri.datahub.egi.eu/

INFN-CATANIA:

Type	Resources	Resource Status	Service status
EGI Notebooks instance	<ul style="list-style-type: none">• 4 VMs 8 CPUs, 16 GB RAM , 120GB local storage	Provisioned	Provisioned https://envri-notebooks.fedcloud-tf.fedcloud.eu/ access to DataHub to be defined
VM for Automated Cloud execution for data workflow	<ul style="list-style-type: none">• 4 VMs 4 CPUs, 8GB RAM, 100 GB local storage	Provisioned	OK

Services

- EGI Cloud Compute
- EGI Notebooks
- Jelastic
- EGI DataHub