Job offer "Linux system administrator" for the European PHIDIAS project

Type of contract: fixed-term;

Duration of the contract: 1 year renewable twice;

Salary: from € 2,000 to € 2,500 gross monthly depending on experience;

Desired level of studies: minimum BSC Degree in computer science;

Application: please send CV and cover letter to recrutement@cines.fr;

More information: https://www.cines.fr/en/

The framework and context of the mission

The Centre Informatique National de l'Enseignement Supérieur (CINES) is a public institution, based in Montpellier, and placed under the supervision of the French Ministry of Higher Education, Research and Innovation (MESRI).

It provides a variety of IT resources through its three national statutory missions in:

- **High-Performance Computing** (hosting of the Occigen supercomputer for GENCI);
- **Long-term archiving** of electronic data;
- **IT Hosting** of national and regional platforms.

The European PHIDIAS project, launched in September 2019 for a period of 3 years and coordinated by CINES, is based on a European consortium of 13 partners. It focuses on the development and production of a set of interdisciplinary tools and services based on HPC. The objective is to allow Earth system sciences to exploit large data sets derived from observations by satellites. These services will provide FAIR (Findable, Accessible, Interoperable and Reusable) access to processed datasets, as well as high value-added AI or HPC-on-demand services. This will be possible thanks to a large data storage capacity and a broadband network across Europe.

PHIDIAS will therefore offer a catalog of services allowing users to easily discover and access data and their processing. This catalog will implement interoperable services for data discovery, access and processing, and will be connected to other important data repositories such as GEOSS, NextGEOSS, EOSC and EDP.

Description of the mission

Attached to the "System Administration" pole of the CINES' HPC department, you will work with the team of 5 people dedicated to piloting intensive computing environments, and will thus share the group's missions and methods.

The PHIDIAS project is divided into 7 Work Packages (WP) and CINES, in addition to the overall management of the project, is responsible for WP1 (Management) and WP2 (Computer & storage workflows).

Within the WP2 dedicated to the implementation of innovative computing & data services, you will participate in task 2.1 (HPC, HPDA and storage services) and will be required to participate punctually

in tasks 2.2 (Storage backend and archiving services) and 2.3 (On the fly computing), the latter being carried out in partnership with the Finnish national computing center CSC. Finally, due to the complementarity of these tasks with another European EOSC-Pillar project in which CINES is strongly involved, the tools put into production within the framework of the WP2 of PHIDIAS will be shared between the two projects.

As a Linux system administrator, your main activities will be to:

- Participate in the implementation of an easy-to-use calculation and data architecture based on modern tools such as Kubernetes and Docker, Podman or Singularity type containers;
- Ensure from a system point of view that these tools are properly interfaced with the Slurm batch manager which is used on the Occigen supercomputer;
- Participate in the production of new data exchange tools (e.g. based on iRODS);
- Share research and results with the rest of the team;
- Monitor the methods for exchanging and managing data flows.

Profile

- Graduated from a BSC Degree in computer science (minimum);
- You have a minimum of 2-years experience in the administration of Linux systems and the field of container-based cloud computing;
- You demonstrate communication and synthesis skills;
- You have a good level of English allowing you to follow and fully participate in exchanges with partners of European projects.

Technical skills desired

- You master the administration of Linux systems;
- You have already installed container and orchestration environments;
- You know how to set up load tests, monitoring and use anomaly detection tools;
- You know the following environments:
  - ✓ Docker, Podman, Singularity, Kubernetes;
  - ✓ A batch system of Slurm type;
  - ✓ Bash, Python;
  - ✓ Ansible, Packer;
  - ✓ Kibana, Grafana, Prometheus.
  - ✓ Any experience in Data Mining, Text Mining and using NLP is also welcome

Interpersonal skills

- Ability to communicate and work effectively as a team;
- Ability to analyze and synthesize;
- Adaptability.