# Clouds, VMs and other resources from EGI for bioinformatics training

EGI is an international collaboration that federates the digital capabilities, resources and expertise of national and international research communities in Europe and worldwide. The main goal is to empower researchers from all disciplines to collaborate and to carry out data- and compute-intensive science and innovation. EGI has participants and associated participants drawn from representatives of national e-infrastructure consortiums (NGIs), EIROs, ERICs, and other legal entities. These entities provide the physical resources and shared services that enable EGI to deliver, improve and innovate services for communities.

EGI offering includes the EGI Federated Cloud, a federated IaaS cloud to run compute- or data-intensive tasks and host online services in Virtual Machines or Docker containers on IT resources accessible. It also provides the services and technologies to create federation of clouds (community, private or public clouds) that operate according to the preferences, choices and constraints set by its members and users. The EGI Cloud Federation is modelled on the concept of an abstract Cloud Management stack subsystem that is integrated with components of the EGI Core Infrastructure and that provides a set of agreed uniform interfaces within the community it provides services to.

This session will introduce the EGI infrastructure and its services with a special focus on the EGI Federated Cloud and its usage to deploy and execute bioinformatics applications. During the hands-on, students could try the main features of the EGI Federated Cloud to manage VMs and deploy bioinformatics applications on them. Students will learn how to create, configure and destroy VMs, allocate and use storage and launch Docker containers. Examples has been prepared with useful applications and services for bioinformatics training such as Galaxy and Jupyter, which are ideal candidates for showcasing the primary and downstream bioinformatics analysis respectively. Moreover, one exercise will show how to setup a Chipster server in the EGI Federated Cloud. Chipster is a user-friendly analysis software for high-throughput data developed by CSC that contains over 340 analysis tools for next generation sequencing (NGS), microarray, proteomics and sequence data.

Schedule

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| Timeslot | Description |
| Part I: Introduction | |
| 09:00 – 09:30 | Clouds, VMs and other resources from EGI for bioinformatics training |
| Part II: Exercises | |
| 09:30 –12:30 (with a 20’ break) | * Running Chipster in the EGI Federated Cloud * Basic tools to exploit the EGI Federated Cloud   + Commands to create, configure and destroy VMs   + Running Virtual Appliances on the Fed Cloud: the Jupyter Case   + Persistent Storage   + Contextualisation * Running a Docker container: the Galaxy case |