

Digital archive as a service: automatic deployment of an Invenio-based repository using TOSCA orchestration and Apache Mesos

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In the framework of the H2020 INDIGO-DataCloud project we have implemented an advanced solution for the automatic deployment of digital data repositories based on Invenio, the digital library framework developed by Cern. Exploiting cutting-edge technologies, like docker and Apache Mesos, and standard interfaces like TOSCA we are able to provide a service that simplifies the process of creating and managing repositories of various digital assets using cloud resources.

An Invenio-based repository consists of a set of services (e.g. database, message queue, cache, worker and frontend) that need to be properly installed, configured and linked together. These operations along with the provisioning of the resources and their monitoring and maintenance can be challenging for individual researchers or small-to-moderate-sized research groups.

To this purpose the INDIGO-Datacloud platform provides advanced features for orchestrating the deployment of complex virtual infrastructures on distributed cloud environments: it is able to provision the required resources automatically over heterogeneous and/or hybrid cloud infrastructures and to configure them automatically ensuring dynamic elasticity and resilience. This approach has been successfully adopted to support the “Digital Research Infrastructure for the Arts and Humanities” (DARIAH) use-case.

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