

Using Mesos and Marathon for the DARIAH data repository platform



INDIGO - DataCloud

RIA-653549



Davor Davidović, Eva Cetinić
RBI, Croatia



INDIGO-DataCloud is co-founded by the
Horizon 2020 Framework Programme



Data repository in the cloud

❖ What?

- provide simple deploying and hosting of the open access repository solutions (Zenodo) in the cloud

❖ Why?

- simplify the process of creating and managing repositories of various digital assets in the cloud

❖ Who?

- focused towards meeting the needs of individual researchers & research groups

Collecting requirements

DA#1	Distributed storage
DA#2	Global level AAI
DA#3	Online access to data
DA#4	Data replication
DA#5	Persistent data storage
DA#6	Long-term availability of results
DA#7	Metadata management
DA#8	Share data capabilities

Solution steps

- ❖ create Zenedo-based DARIAH repository project in <https://github.com/indigo-dc/dariah-repository>
 - automated repository build using docker (docker-compose)
- ❖ register the repository in indigo_dc docker hub and enable automated build:
<https://hub.docker.com/r/indigodatacloudapps/dariah-repository/>
- ❖ before porting to Mesos/Marathon:
 - Define the service dependencies
 - Docker-compose links → marathon dependencies
 - Define the ports to be exposed publicly or to other services
 - Define storage strategy
 - which persistent volumes are needed by each service; if services need to share volumes, define access mode

Solution steps

❖ Mesos + Marathon to:

- keep containers up and running
- preserve the dependencies among the containerized services

❖ create a TOSCA template which:

- creates a Mesos Cluster with Marathon
- deploys the different components of the repository as containers on Marathon

❖ use Orchest to manage TOSCA deployments and resources on the Orchestrator

❖ Future work: ScienceGateway portlet to run new repository instance

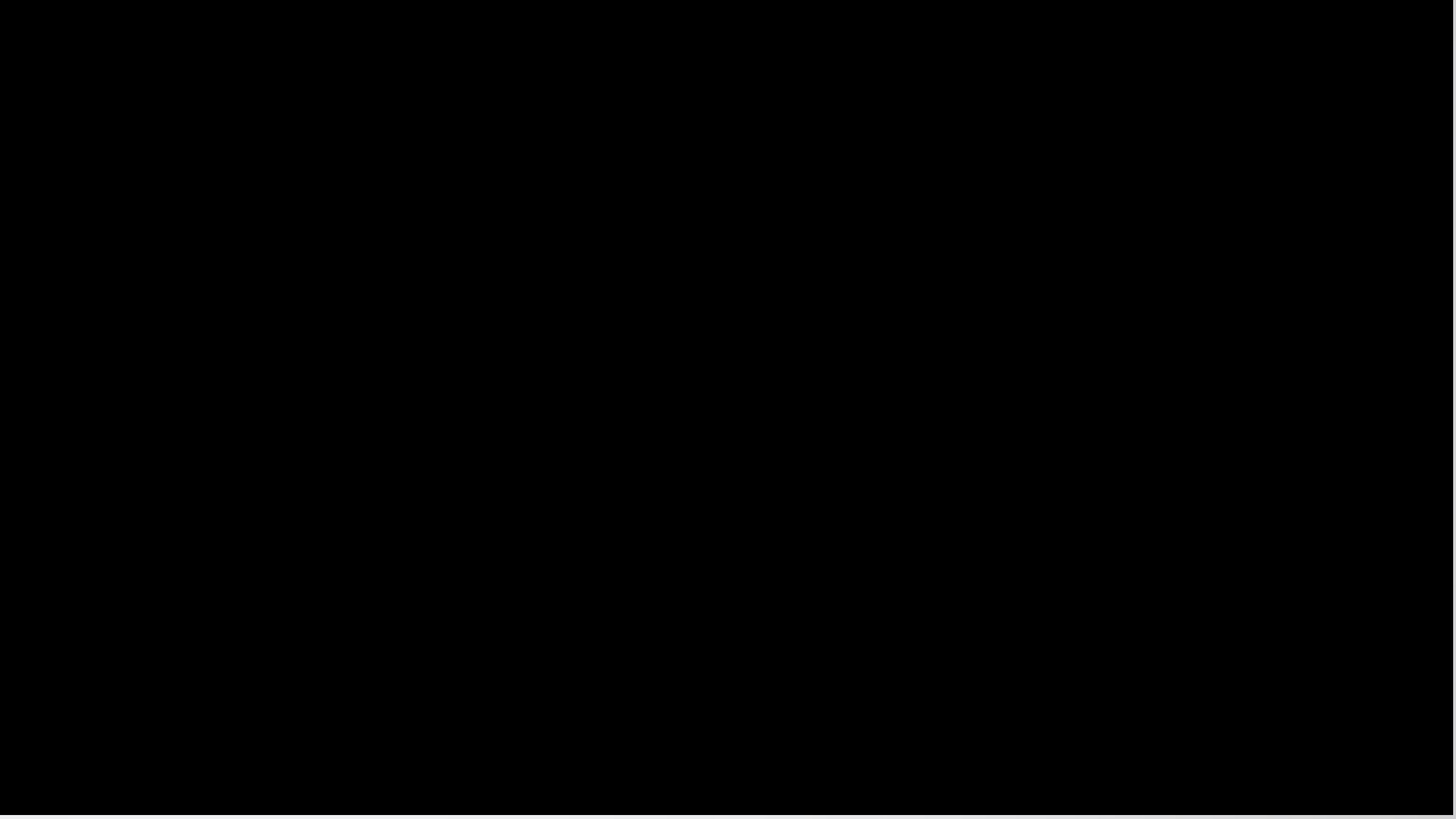
Deploying Zenodo-based repository in the cloud using Marathon



Required services:

- INDIGO IAM
- Orchestrator
- Orchest
- Mesos
- Marathon

Link to the demo: <https://youtu.be/Fk6welU23pw>





Thank you.