

Summary of work in H2020 CloudButton - IBM

Abstract

IBM is leading WP3 where we developed Lithops framework. Lithops is the main component in the CloudButton Toolkit. It also used by different components that were developed by other participants of the project. Lithops is a mature, production ready framework that is used both IBM internally and by IBM customers. We developed Lithops as a multi cloud framework, where a single Lithops API enables users to access almost any cloud provider, like AWS, IBM, Azure, Google, and so on. Lithops supports hybrid deployments, where users can submit jobs against local K8s clusters and also leverage public clouds when more resources required.

Staff members that participated in the project

Gil Vernik (active member)

Omer Belhasin (former member)

David Breitgand (former member)

Ofer Biran (former member)

List of publications (with links, everything must be open access). Staff participating in each publication. Total number of publications by partner.

Joint papers with URV

List of github repositories (with links). Staff contributing to each repository. Total number of repositories.

1. Lithops - <https://github.com/lithops-cloud/lithops>
2. LithopsCloud CLI tool - <https://github.com/lithops-cloud/lithopscld>

List of dissemination activities. Staff contributing to each dissemination activity. Total number of dissemination activities.

Talks

1. [Your easy move to serverless computing and radically simplified data processing](#) Strata Data Conference, NY 2019. See video of Lithops usage [here](#) and the example of Monte Carlo [here](#)
2. [CNCF Webinar - Toward Hybrid Cloud Serverless Transparency with Lithops Framework](#)

3. BDVA 2021- Your easy move to serverless computing and radically simplified data processing
4. Haifa Tech Talks 2021 - Your easy move to serverless computing – a small step for a big difference
5. Stuttgart meetup 2021 - Function as a Service:Running small pieces of code in the Cloud

Blogs

1. [Decoding dark molecular matter in spatial metabolomics with IBM Cloud Functions](#)
2. [Using Serverless to Run Your Python Code on 1000 Cores by Changing Two Lines of Code](#)
3. [Lithops, a Multi-cloud Serverless Programming Framework](#)
4. [Serverless Without Constraints](#)
5. [Speed-up your Python applications using Lithops and Serverless Cloud resources](#)
6. [Simplify the developer experience with OpenShift for Big Data processing by using Lithops framework](#)

List of exploitation activities. Staff contributing to each exploitation activity. Total number of exploitation activities.

1. Lithops is an official interface for the IBM Cloud Code Engine
<https://cloud.ibm.com/docs/codeengine?topic=codeengine-lithops>
2. EMBL using Lithops in their production workloads and moved their production METASPACE engine to use Lithops over IBM Cloud.
3. We constantly having PoC with various customers, where they use Lithops to deploy massive workloads against IBM Gen2 instances
4. Joint collaboration with RedHat to explore Lithops benefit for workloads over OpenShift

List of collaborations or integrations with other partners. Staff contributing to each collaboration activity. Total number of collaboration activities.

URV, RedHat mostly. And the rest of course..