BSC Training Course: Simplifying the usage of persistent distributed data with DataClay

Objectives

The objective of this course is to provide an in-depth overview of dataClay, a distributed data store designed for object-oriented applications. This platform enables seamless storage and manipulation of distributed data by allowing programmers to use persistent objects through the same classes utilized in their applications. By eliminating the need for complex transformations between persistent and non-persistent data models, dataClay significantly simplifies the development process for data-intensive applications.

dataClay facilitates transparent management of distributed data, freeing developers from concerns about its physical location. This is achieved through a minimal set of annotations in the classes, ensuring ease of integration and use.

Furthermore, dataClay can operate independently or in conjunction with programming models such as COMPSs, to enable the parallelization of applications that work with persistent data. This integration provides a robust mechanism for efficiently combining distributed programming environments with persistent storage solutions.

Requirements

- Basic programming skills in Python

- Elemental Docker usage
- Laptop (or similar development machine) with Docker and Python installed.

Learning Outcomes

In this course, the fundamental syntax needed to create dataClay-powered applications will be taught. On top of that, the course will motivate the benefits and provide comprehensive ways to leverage the potential of active objects.

During the hands-on parts of this course, the attendees will be able to program their own application and experience first-hand the active mechanisms of dataClay and how to use them. The hands-on and exercises will be run on the attendees laptop, but all knowledge is trivially interpolated to distributed architectures such as HPC environments or the Compute Continuum.

Academic Staff

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Course Convener

- Alex Barceló. Recognised Researcher (Workflows and Distributed Computing - Distributed Object Management)

Course Lecturers

Department and Research group: Computer Sciences - Workflows and Distributed Computing

- David Cano. Research Engineer.
- Marc Monfort. Research Engineer.

Materials

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Further information

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BSC Training Courses do not charge fees.

CONTACT US for further details about MSc, PhD, Post Doc studies, exchanges and collaboration in education and training with BSC.

For further details about Postgraduate Studies in UPC - Barcelona School of Informatics (FiB), visit the website.

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