[HYBRID] PATC: Programming Distributed Computing Platforms with COMPSs

Objectives

COMPSs is a programming model which is able to exploit the inherent concurrency of sequential applications and execute them in a transparent manner to the application developer in distributed computing platform. This is achieved by annotating part of the codes as tasks, and building at execution a task-dependence graph based on the actual data used consumed/produced by the tasks. The COMPSs runtime is able to schedule the tasks in the computing nodes and take into account facts like data locality and the different nature of the computing nodes in case of heterogeneous platforms. Additionally, recently COMPSs has been enhanced with the possibility of coordinating Web Services as part of the applications. COMPSs supports Java, C/C++ and Python as programming languages.

Requirements

Prerequisites: Programming skills in Java and Python

Please download and carefully read the following **instructions** regarding the logistics participants enrolling PATC at BSC are expected to follow.

Learning Outcomes

Learning Outcomes: In the course, the COMPSs syntax, programming methodology and an overview of the runtime internals will be given. The attendees will get a first lesson about programming with COMPSs that will enable them to start programming with this framework.

A hands-on with simple introductory exercises will be also performed. The students who finish this course will be able to develop simple COMPSs applications and to run them both in a local resource and in a distributed platform (initially in a private cloud).

The exercises will be delivered in Python and Java. In case of Python, Jupyter notebooks will be used in some of the exercises.

Academic Staff

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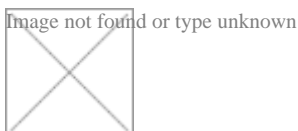
Course Convener:

Rosa M Badia Workflows and Distributed Computing Group Manager, Computer Sciences - Workflows and Distributed Computing Department

Lecturers:

- Rosa M Badia. Workflows and Distributed Computing Group Manager, Computer Sciences - Workflows and Distributed Computing Department

- Javier Conejero, Senior Researcher, Computer Sciences - Workflows and Distributed Computing Department, BSC

- Jorge Ejarque, Researcher, Computer Sciences - Workflows and Distributed Computing Department, BSC

- Daniele Lezzi, Senior Researcher, Computer Sciences - Workflows and Distributed Computing Department, BSC

[Materials](#)

Download the slides [COMPSs Tutorial](#)

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[Further information](#)

All PATC Courses at BSC 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.

Sponsors: BSC is funding the PATC @ BSC training events.

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