

Tutorial proposal for CLOUD COMPUTING

Title: How to port an application between Clouds

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Summary

The tutorial will be split in two parts: theory and case study.

The theoretical part will include the reasons for portability between the Clouds and a deep and critical analysis of the available solutions supporting the portability of the Clouds, like open APIs, open protocols, standards, abstraction layers or semantic repositories.

The starting points will be the overviews recently exposed in the papers “Portability and interoperability between Clouds: challenges and case study” (http://dx.doi.org/10.1007/978-3-642-24755-2_6) and “Portable Cloud Applications - from Theory to Practice” (<http://dx.doi.org/10.1016/j.future.2012.01.009>), as well in the collection of the contributions gathered in “European Research Activities in Cloud Computing” (<http://www.c-s-p.org/Flyers/European-Research-Activities-in-Cloud-Computing1-4438-3507-2.htm>).

Passing from the abstract level to the practical level, the case study part will include a description of a particular solution for portability (including demos). The solution under discussion is the one provided by the open-source API and platform developed in the frame of the mOSAIC project (<http://www.mosaic-cloud.eu>). The focus will be put on the programming style as well on the platform features for deployment and execution monitoring. At least one simple Web application will be used as example.

A preview of the support for the second part of the tutorial can be obtained from the open-source code repository (<http://bitbucket.org/mosaic>) – including application examples, the platform documentation (<http://developers.mosaic-cloud.eu>), or the short video available on YouTube (<http://youtu.be/ctO9fqaDMBc>).

Biography of the presenter:

Dana Petcu, M.Sc., Ph.D. is leading the Distributed and Parallel Computing research team of the Computer Science Department of West University of Timisoara, Romania, where she is professor and responsible for the High Performance Computing center as well as PhD and master studies in Computer Science. Moreover, she is the executive director of the research spin-off Institute e-Austria Timisoara. Her research experience is related to distributed and parallel computing. She has authored more than two hundreds reviewed articles, ten textbooks, fifteen conference proceedings, and acts as chief editor of the journal SCPE. Her publications from the last five years have been devoted to Clouds, HPC, Grids and Web services. She is/was leading EC-FP7 projects HOST, SPRERS, and mOSAIC (last as scientific manager), as well as the Romanian teams involved in SCIENCE, DEHEMS, HP-SEE, SEED etc. In 2005, she received the Maria-Sybilla-Merian international award for women in science and education, and currently represents Romania as expert in the European research policy forums like FP7-ICTC, eIRG and eIPF, and EC Cloud Expert Group.

A full CV is available at <http://web.info.uvt.ro/~petcu/dp2012.pdf> .

Tutorial experiences at international events / last year:

Latest tutorials sustained at international events:

- 2nd Training on Software Services, 11 November 2011, Timisoara, Romania (<http://sprers.eu/events/2nd-training-on-software-services>),
 - o 50' : Introduction to Cloud Computing, available as YouTube video: <http://youtu.be/HLm5V134Va8> and slides: <http://sprers.eu/storage/Intro-CC-1.pdf>
 - o 50' : mOSAIC – theory, available as YouTube video: <http://youtu.be/KIxEoFFcSI0> and slides: <http://sprers.eu/storage/mOSAIC-2ndTraining.pdf>
- Contrail Summer School on Grid and Cloud Computing, 30 June 2011, Hyeres, France (<http://contrail-project.eu/programme>),
 - o 75': Playing with the mosaic of clouds, slides available at: http://contrail-project.eu/en_GB/c/document_library/get_file?uuid=9c7b6d7f-d3e4-4f8d-8aab-cfedfa30bf73&groupId=18553

Latest invited talks:

- ServiceWave 2011, 27 October 2011, Poznan, Poland (<http://servicewave.eu/2011/programme/>),
 - o Portability and interoperability between Clouds: challenges and case study
- International Research Workshop on Advanced High Performance Computing Systems, 27 June 2011, Cetraro, Italy (<http://www.hpcc.unical.it/workshop2011/program.htm>),
 - o How is built a mosaic of Clouds