

[CANCELLED] Parallel Programming with Python @ BSC

Monday, July 6, 2020 - Wednesday, July 8, 2020

Barcelona BSC Campus Nord

Agenda

Day 1 (Monday, July 6th, 2020)

Session 1 / 9:30 am – 1:00 pm (2 h lectures, 1 h practical)

1. Introduction to parallel programming and Python
- 11:00 Coffee break
2. Practical: How to compile and run python applications

Session 2 / 2:00pm – 5:30 pm (2h lectures, 1h practical)

1. Scientific Python: NumPy, SciPy, Matplotlib, Bokeh
- 16:00 Coffee break
2. Practical: Simple python programs and optimizations

Day 2 (Tuesday, July 7th, 2020)

Session 1 / 9:30 am - 1:00 pm (1.5 h lectures, 1.5 h practical)

1. Parallelism in Python. Shared memory
2. Introduction to performance analysis. Paraver: tool to analyze and understand performance
3. Python pools
- 11:00 Coffee break
3. Practical: Examples of python parallelism

Session 2 / 2:00 pm - 5:30 pm (1.5 h lectures, 1.5 h practical)

1. Distributed memory
Visualizing distributed environments with Paraver
2. Python queues
- 16:00 Coffee break
3. Practical: Trace generation and trace analysis
4. Practical: environment on RPi

Day 3 (Wednesday, July 8th, 2020)

Session 1 / 9:30 am - 1:00 pm (1 h lecture, 2h practical)

1. Introduction to PyCOMPSSs
2. PyCOMPSSs syntax
- 11:00 Coffee break
3. PyCOMPSSs hands-on

Session 2 / 2:00 pm - 5:30 pm (2 h lectures, 1 h practical)

1. PyCUDA and support for accelerators
2. Debugging
- 16:00 Coffee break
3. Hands-on with PyCUDA

END of COURSE