High Performance Computing Course Introduction
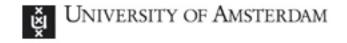
High Performance computing and Big Data

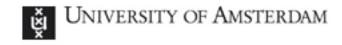| Object	**Simplified HPC for Everyone**
	stop the Jargon…
How	**Learn by doing → Lectures & Workshops**
Facilities	**Access to the State of Art computing facilities provided by the National Super Computer Centre SURF SARA**
More info	➤ Web site: **www.hpc.uva.nl** ➤ studiegids: **http://studiegids.uva.nl/web/uva/sgs/nl/c/14797.html**

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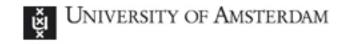# From the introductory video on the hpc.uva.nl Web site

- Learn how to use the **available facilities**
- However there **is a lot to take care ...**
- **Explore** and **analyse** your data ...
- **State of art computing** and **support**
- **10 years** to get my results & now it takes **2 weeks**
- Accuracy, speed, ease of use, scaling ...
- It's **great** that there a **course** now, I would like to take myself.

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What you need?

- Your own laptop (and charger!)

- Operating system: Microsoft Windows, OSX, Linux, other. . .

- Access to eduroam/UvA wireless

- A terminal program: cmd, Terminal, xterm, etc.
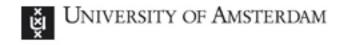
- An ssh client. For Windows, putty

How to approach the HPC

- Learn by doing, hands on
- Use cases

This year we introduced:

- Set of Lectures to complete the give the basic background to be able to:
  - Communicate with computer scientists/ programmers and understand what they actually mean ☺
  - First step to prepare a generation of **Data Scientists**
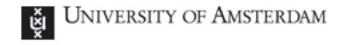
How to approach the HPC

- Learn by doing, hands on
- Use cases
- Jargon: stop!

Also this year :

New HPC course 'High Performance Computing and Big Data'

16 May 2013

From 3 until 28 June 2013, the new UvA HPC course 'High Performance Computing and Big Data' will take place. The course will be in English.

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HPC Schedule

Topics	Organizers	Type/duration
Intro to distributed sys & BigData	(Adam Belloum, UvA)	Lectures/6 hours
Introduction to Unix	(Willem Vermin, SURF SARA)	Workshop/2 hours
Using Lisa / Using Cartesius	(Willem Vermin, SURF SARA)	Workshop/4 hours
Using Hadoop	(Machiel Jansen/ Jeroen Schot, SURF SARA)	Workshop/8 hours
GPU on DAS4	(Ana Varbanescu, UvA/VU)	Workshop/4 hours
Local and Remote Visualisation Techniques	(Rob Belleman, UvA)	Workshop/4 hours
HPC Cloud	(Markus van Dijk/ Natalie Danezi, SURF SARA)	Workshop/8 hours
MPI / OpenMP	(Clemens Grelck, UvA)	Workshop/4 hours

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TODO (for Students)

Topics	Organizers	Type/duration
Intro to distributed sys & BigData	(Adam Belloum, UvA)	Lectures/6 hours

- Foster et al. "Cloud Computing and Grid Computing 360-Degree Compared," Grid Computing Environments Workshop, 2008. GCE '08 , vol., no., pp.1,10, 12-16 Nov. 2008 doi: 10.1109/GCE.2008.4738445

- Adam Jacobs "The pathologies of big data", Magazine Communications of the ACM ,Vol. 52 Issue 8, Aug. 2009. doi: 10.1145/1536616.1536632

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