

AIBT103 – Big data processing

From the Advanced Master AIBT

(Artificial Intelligence and Business Transformation)



Highlights

- Introduction to Big Data processing
- Practical courses

Harnessing the complexity of large amounts of data is a challenge in itself. But Big Data is more than that: originally characterized by the 3 Vs of Volume, Velocity and Variety, it often requires dedicated computing solutions, which will be explored in this module.

Prerequisites

- Engineering Degree on Computer Science or a related domain (telecommunications, etc).
OR
- Engineering Degree on another subject with a major on Computer Science.
OR
- Work experience on Computer science.

Key elements

Dates: **9 - 12 December 2019**

Duration: **28 hours, 4 days**

For whom:

recent graduates, jobseekers and experienced employees

Location:

ISAE-SUPAERO, Toulouse

Course fees: **2 300 €**

Language: **English**

Learning objectives

After completing this course, participants will be able to:

- Implement the distribution of simple operations via the Map/Reduce principle in Spark;
- Explain the difference between CPU and GPGPU computation;
- Connect on a cloud computing engine (e.g. Google Cloud Platform) and launch a simple task;
- Understand the usefulness of containers
- Deploy a Docker container.

Practical information and registration

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Course Content

Distributed computing with Spark:

- History
- MapReduce paradigm
- Hadoop Stack
- Hadoop Distributed File System
- MLlib Machine Learning library

Virtualization and cloud computing:

- Different approaches to virtualization
- Economical models
- Technical benefits (snapshots, dynamic deployment and migration, failover...)
- cloud engines (principles, deployment examples, node choices)

Docker:

- History,
- Fundamental differences w.r.t. virtualization
- Docker components
- Tools