SYSTÈMES DISTRIBUÉS

Semestre	Semestre 2
Type	Facultatif
Nature	UE

PRÉ-REQUIS

Operating systems
Computer networks

OBJECTIFS

Distributed systems are present in all aspects of our daily digital life: file sharing systems, social networks, clouds, etc. The objective of this class is to study the fundamental mechanisms, algorithms, and system implementations that enable the development of distributed applications.

Compétences acquises :

Understanding fundamental concepts of distributed systems
Being able to design new distributed systems based on pre-existing mechanisms
Being able to analyze the organization of a distributed system

CONTENU

(2h) Introduction to distributed systems, distributed systems architectures
(2h) Communication: remote procedure calls, message-oriented communication, stream-oriented communication, multicast communication
(2h) Naming and location: flat naming, distributed hash tables, structured naming, attribute-based naming
(4h) Coordination: logical clocks, snapshots, mutual exclusion, election algorithms
(4h) Distributed transactions and concurrency control
(4h) Replication and consistency
(2h) Fault tolerance
(2h) Distributed file systems
(2h) Virtualization and cloud computing architectures

APPARTIENT À

Master 1 informatique parcours Science Informatique

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CONTACT(S)

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