

Operating Systems and Networking

Methodology for design and deployment of network and service architecture

IDENTIFICATION

CODE : IFA-4-S1-EC-PLD-MARS
ECTS : 3.0

HOURS

Lectures : 10.0 h
Seminars : 0.0 h
Laboratory : 32.0 h
Project : 0.0 h
Teacher-student contact : 42.0 h
Personal work : 40.0 h
Total : 82.0 h

ASSESSMENT METHOD

Project oral defense (présentations and architecture demonstration)

TEACHING AIDS

Paper copy of the slides concerning the lecture. Videos containing key points regarding the configuration of the network architecture will be made available on Moodle.

TEACHING LANGUAGE

French

CONTACT

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AIMS

This project picked from real cases, aims at designing and prototyping a distributed architecture to support a 360 ° customer vision management tool in a multi-agency and multi-site business. The objective is to understand business needs and translate them into physical, technical, and application-level solutions. It comes to designing application architecture (service layers objects), and technical and physical architecture (including the system organization and network infrastructure). The design should take into account Information System security requirements including providing concrete answers to ensure the service continuity (Organization of a disaster recovery plan / computer backup) on this new feature. The implementation of a Proof of Concept using virtualization technologies will validate the architectural choices and demonstrate the feasibility.

More specifically, the objectives of this project are

- Analysis and understand a real professional context
- Use UML to design and develop the application architecture
- Implement a service-oriented Web application architecture design methodology (Identify and model business objects, Design and specify the service layer, Designing technical support architecture)
- Prototype and deploy services
- Give a concrete vision of the Organization of a real infrastructure using virtual machines, organize and implement a distributed architecture and associated networking services and prepare this architecture in a ready-to-manage style.

CONTENT

This module has different units of courses:

Architectures and technologies for services-oriented information systems
Urbanization of information systems and services-oriented design method
Design of architectures distributed and secured and put into operation

The objective is an implementation on a concrete case:

- Study and design of a distributed services-based architecture
- Establishment of a POC of the distributed architecture

BIBLIOGRAPHY

- [1] G. Pujolles. Les Réseaux
- [2] A. Tannenbaum. Réseaux : architecture, protocoles, applications
- [3] C. Longépé. Le projet d'urbanisation du SI, 2014
- [4] P. Desfray, G. Raymond . TOGAF en pratique - Modèles d'architecture d'entreprise, 2014
- [5] Softeam. SOA : Architecture Logique. Livre blanc, Avril 2011 <<http://www.softeam.fr/sites/default/files/files/Livre%20blancSOA%20Architecture%20Logique.pdf>

PRE-REQUISITE

Skills in Information System modelling method, Information system design, network infrastructure organization

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