


UE1 INFORMATIQUE

 ECTS
9 crédits

 Composante
UFR de
mathématiques
et
informatique
(UFR27)

 Période de
l'année
Automne

Liste des enseignements

Obligatoire00Matière4.030.0Matière5.040.0Learning Objectives This graduate course aims at presenting technical software architecture concepts of modern frameworks and components of layered systems. It develops necessary skills to understand, develop, reason and criticize technical architectures and integration patterns. Prerequisites Strong background and practice of Java Standard Edition (L3 MIAGE INF2) Proficiency in development tools : Eclipse IDE, Git, Maven (L3 MIAGE DEVTOOL) Knowledge of the main Object-Oriented Design patterns (L3 MIAGE ISI5) Knowledge in Relational Databases and Database structure (L3 MIAGE INF9) Understanding of XML and JSON Content Introduction — What are the roles of a software architect ? Software Architecture : a Framework-based approach Basics of Software Architecture Inversion of Control with Jakarta EE8 – CDI Data format Binding with Jakarta EE8 – JAXB Rest Architectures and Implementation with Jakarta EE8 — JAXRS Persistence with Jakarta EE8 — JPA Message-based communication with Jakarta EE8 — JMS Business Logic with Jakarta EE8 — EJB Software Architecture Design: Enterprise Application Patterns Architecture Integration : Enterprise Integration Pattern Pedagogical Methods All the content of the course is provided in the EPIs and selected Github repositories. After an introductory session on the general principles of software architecture, and the role of the architect, we will dedicate a course to each main component of the Jakarta EE8 Platform. We'll use a reversed-class approach letting students present a different integration pattern at the beginning of each session from selected textbooks A long-haul project building up from notions seen in each session Calendar (initial & apprenticeship) 13 Sessions of 3h Session Content Application Evaluations 1 Introduction to software architecture Presentation of the project Presentation of the project - 2 CDI Lab sessions 3 JAXB Lab sessions 4 - JAXB for the project 5 JPA Lab sessions Pattern presentations 6 - JPA for the project Pattern presentations 7 JAXRS Lab Sessions Pattern presentations 8 - JAXRS for the project Pattern presentations 9 JMS Lab Sessions Pattern presentations 10 - JMS for the project Pattern presentations 11 EJB Lab Sessions Pattern presentations 12 Project Integration Pattern presentations 13 Project Integration Pattern presentations +14days Project Deadline Skills Understand and implement Software Architecture Patterns Understand and implement Software Integration Patterns Proficiency in Jakarta EE 8 development.