Intitulé du cours	Web Applications Patterns		
Durée du cours	12 h	Crédits ECTS	1
Objectifs du cours (Compétences visées)	**Web Application Patterns** This course provides a comprehensive introduction to API Management, focusing on modern web architectures, security strategies, and practical tools. Students will explore the transition from monolithic to API-oriented architectures and the MVC design pattern's role in system design. Key topics include: • API lifecycle challenges and solutions, such as contract-driven development and versioning. • Securing APIs using token-based authentication (SAML, OIDC) and implementing stateless APIs. • Understanding OIDC flows, token management, and integration with API management tools. • Configuring API gateways and tools like APIMan to manage, secure, and version APIs. The course combines theoretical knowledge with hands-on activities, culminating in a capstone project where students design and secure an API ecosystem. By the end, participants will have practical skills to manage and secure APIs effectively in real-world applications.		
Contenu détaillé du cours et méthodes et/ou moyens pédagogiques (Grands chapitres)	• Session 1 : Understand What An Api Is, Its Role In Modern Architectures, And The Basics Of The Mvc Pattern As A Precursor To Api-Oriented Architectures. Topics: - What Is An Api? - Transition From Monolith To Api-Oriented Architectures - Basics Of Mvc Pattern: Model, View, Controller?(Mvc Patterns) - Mvc Vs. Non-Mvc Architectures • Session 2 : Dentify Common Problems In Api Management And Explore Strategies To Address Them. - Common Issues In Api Lifecycle - Contract-Driven Development To Synchronize Front-End And Back-End Teams - Versioning And Dependency Management? • Session 3 : Learn About Securing Apis Using Tokens And Other Modern Security Practices. - Token-Based Authentication (Saml, Oidc) - Differences Between Access And Refresh Tokens - Security Implications Of Stateless Apis • Session 4 : • Session 5 : Explore Api Gateway Functionalities And Api Management Tools Like Apiman. - Role Of Api Gateways In Mediating Requests - Key Features Of Api Managers - Network Isolation And Dmz Architectures • Session 6 : Apply Knowledge Gained In A Practical Project. Design And Secure A Simple Api Ecosystem, We Usually Use The Transversal Project Setup Between Frontend Application Courses And Advanced Java Programming.		
Modalités d'évaluation	Grades are not added for the course		
Nom de l'enseignant	Thomas.Broussard		