

Spring – Introduction

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Définition

“Spring is an application framework for the Java platform ”

Outils et de règles facilitant le développement d'applications



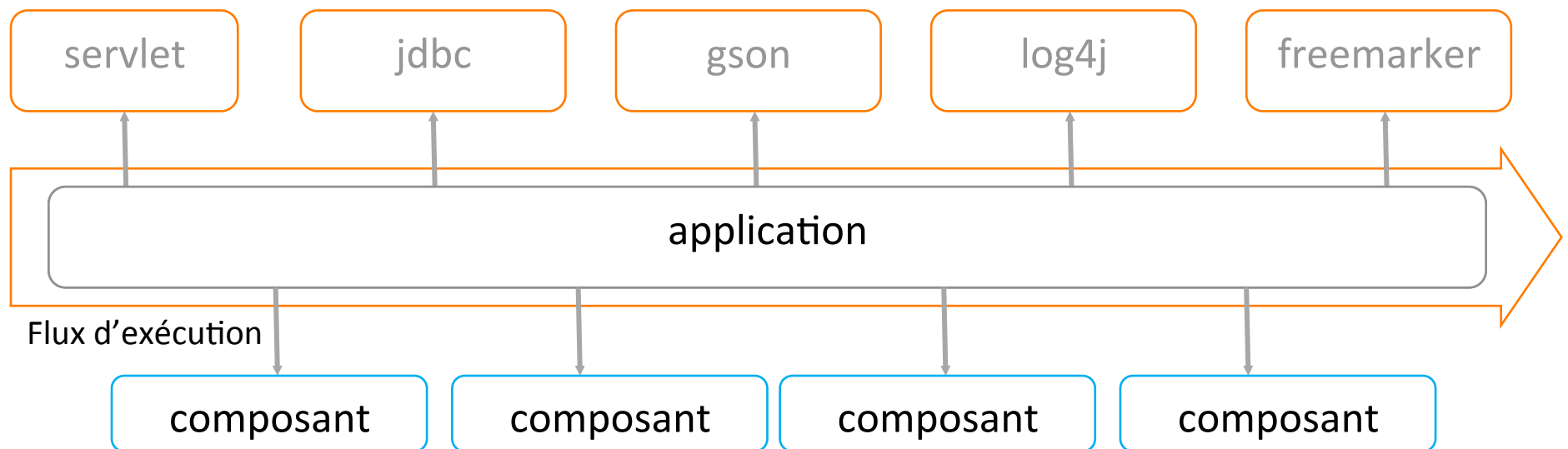
Principes généraux mis en oeuvre dans Spring

- inversion du contrôle
- injection de dépendances
- programmation par aspects
- approche MVC (modèle – vue – contrôleur)

Programmation orientée objet traditionnelle

Des **objets** s'échangent des **messages** et utilisent des **bibliothèques**

Constat applications web

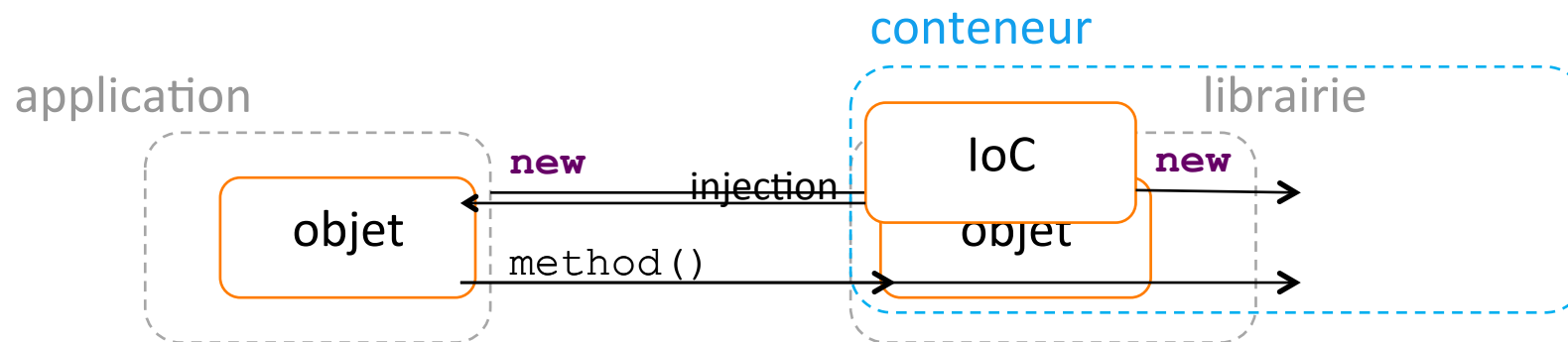


Programmation objet traditionnelle

Les objets gèrent le cycle de vie des dépendances

Constat

- rigide, peu évolutif, complexe



Définition

AOP : *Aspect-Oriented Programming* (1997)

Objectifs

- fonctionnalités dites transversales
- modularité

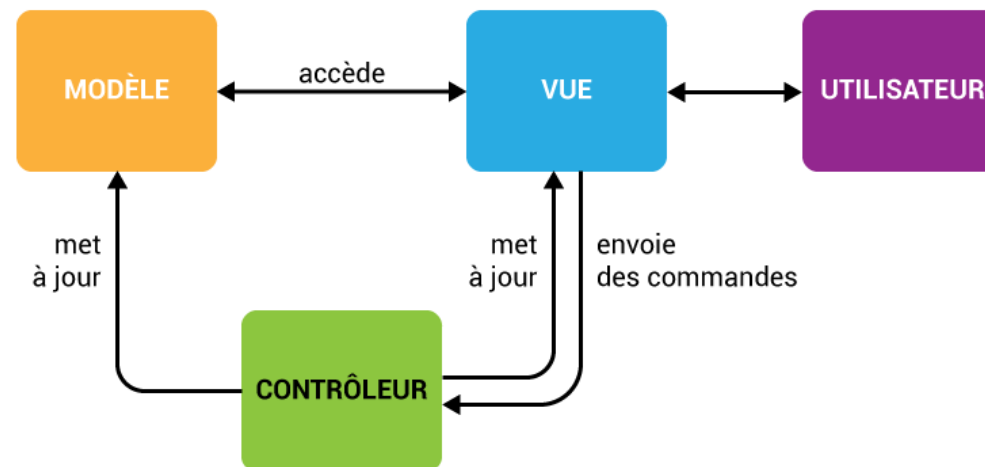
Mis en oeuvre dans Spring

- Transactions
- Définition de services non fonctionnels

Définition

Un **schéma de structuration** des applications en trois parties

- **M**odèle données gérées par l'application
- **V**ue présentation des données
- **C**ontrôleur gestion des actions utilisateur

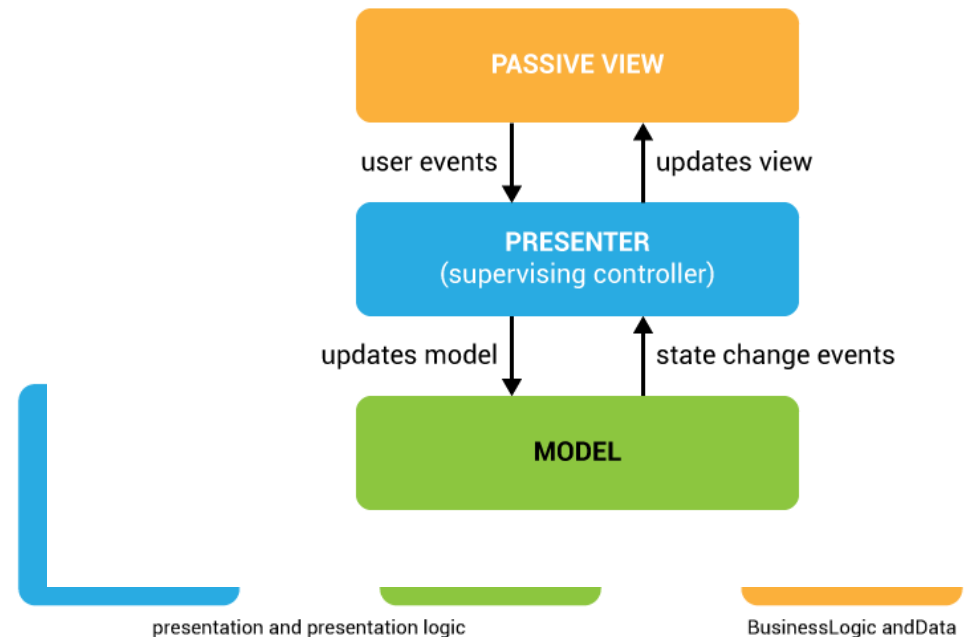


Mise en oeuvre

- Structuration largement adoptée
Struts, JSF, Ruby on Rails, Django, ASP.NET MVC, Symfony

























Autres schémas de structuration

- MVVM
Model – View – Viewmodel
- MVP
Model – View – Presenter



Ecosystème

Plus de 50 sous-projets

 <p>SPRING IO PLATFORM Provides a cohesive, vendor-neutral platform for building modern applications. It is a modular enterprise-grade distribution that reduces a complex set of dependencies.</p>	 <p>SPRING BOOT Takes an opinionated view of building Spring applications and gets you up and running as quickly as possible.</p>	 <p>SPRING FRAMEWORK Provides core support for dependency injection, transaction management, web, REST, data access, messaging and more.</p>	 <p>SPRING CLOUD DATA FLOW An orchestration service for composable data integration applications on modern systems.</p>	 <p>SPRING CLOUD Provides a set of tools for common patterns in distributed systems. Ideal for building and deploying microservices.</p>
 <p>SPRING DATA Provides a consistent approach to data access - relational, non-relational, maps, streams and beyond.</p>	 <p>SPRING INTEGRATION Supports the web, Inbound, Outbound, Integration Patterns via lightweight messaging and declarative adapters.</p>	 <p>SPRING BATCH Simplifies and optimizes the work of processing high-volume batch operations.</p>	 <p>SPRING SECURITY Protects your application with comprehensive and extensible authentication and authorization support.</p>	 <p>SPRING HATEOAS Simplifies creating REST representations that follow the HATEOAS principle.</p>
 <p>SPRING REST DOCS Generate REST API services by combining Swagger annotations with auto-generated snippets produced with Spring MVC Test or REST Assured.</p>	 <p>SPRING SOCIAL Easily connects your application with third-party APIs such as Facebook, Twitter, LinkedIn, and more.</p>	 <p>SPRING AMQP Applies core Spring concepts to the development of AMQP-based messaging solutions.</p>	 <p>SPRING MOBILE Simplifies the development of mobile web apps through device detection and progressive rendering options.</p>	 <p>SPRING FOR ANDROID Provides key Spring components for use in developing Android applications.</p>
 <p>SPRING WEB FLOW Supports building web applications with controlled navigation, such as checking in for a flight or applying for a loan.</p>	 <p>SPRING WEB SERVICES Facilitates the development of various REST SOAP web services.</p>	 <p>SPRING LOAD Simplifies the development of applications using LDAP using Spring's familiar template-based approach.</p>	 <p>SPRING SESSION Spring Session provides an API and implementation for managing a user's session information.</p>	 <p>SPRING SHELL Provides a powerful framework for building command-line apps using a Spring-based programming model.</p>
 <p>SPRING XD Simplifies the development of big data applications by abstracting complex analysis, batch jobs, and data streams.</p>	 <p>SPRING FLO A JavaScript library that embeds the Node.js module loader for pipeline and simple graphs.</p>	 <p>SPRING KAFKA Provides Familiar Spring Abstractions for Apache KAFKA.</p>	 <p>SPRING STATEMACHINE A framework for application developers to use with their complex web Spring applications.</p>	

Spring

- Outils et de règles
- Faciliter le développement d'applications, notamment Java EE
- Structuration et principes : IoC, AOP, MVC