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Name: **Introduction to Spring Framework in 10 Steps** Date: **11-06-2018**

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| **Create project with start.spring.io** | | * Create maven project with java, spring boot version >=2.0 * Group: default package, artifact: project name * Dependencies: add library * @SpringBootApplication : scan package and subpackage it in |
| **@Component và**  **@Autowire** | | * @Component: khai báo một thành phần để Spring container quản lý * @Autowire: Nối các dependency giữa các bean |
| **Dynamic Autowire** | | * Spring tự động scan và quản lý các bean. Sau đó nối chúng với nhau. * @primary dùng để khai báo dependency chính. |
| **Constructor**  **Setter injection** | | * Two way to inject dependency into another component * No setter or constructor will be use setter in the background |
| **Popularity of spring framework** | | * Enable Testable code: Because use DI so easy to write unit test * No plumbing code: không cần viết những code phải viết khi thực thi code chính * Flexible Architecture: * Stay current: create many project to support modern trend |
| **SUMMARY** | Tạo project với start.spring.io  Autowiring và dynamic autowire  Constructor and Setter injection- the best way is don’t use that two  Popularity of spring framework | |

Name: **IDE and Maven Project** Date: **11-06-2018**

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| **- Intellij**  **Key Shortcut** | | * Hint: Ctrl+ Space , Alt + enter; * Search: double+shift , * Goto declaration: ctrl + click * Type hierarchy: ctrl + H |
| **Maven là gì ?** | | * maven là một chương trình quản lý dự án cho phép các developers có thể quản lý về version, các dependencies ( các thư viện sử dụng trong dự án ) , quản lý build, tự động download javadoc & source, .... |
| **-POM.xml** | | * Project object model * Dependency: input library, and 1 library can call many dependencies ( others) |
| **Maven lifecycle** | | * Validate: xác nhận tất cả các thông tin của dự án là hợp lệ và chính xác. * Compile: biên dịch source code. * Test: chạy các unit test với một framework phù hợp. * Package: đóng gói các code đã được biên dịch và tổ chức các code đó đúng định dạng ví dụ như file jar hoặc file war đã cấu hình bên trong file pom. * Integration-test: thực hiện kiểm thử trong môi trường integration-test. * Verify: thực hiện kiểm tra việc đóng gói đã chính xác hay chưa. * Install: cài đặt các gói trong local repository. * Deploy: cài đặt package ở đây có thể là các file jar hoặc war lên một remote repository |
| **Maven working** | | * Read configuration file, check local repository, if exist it call from local   If not, It download from central. |
| **Maven command line** | | * In command dos, using mvn `command`, IDE just use `command` |
| **SUMMARY** | Tạo project và quản lý với maven | |

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| **Autowiring**  **@Qualifier** | | -Tự động nối các instance (dependency) vào instance khác.  - @Qualifier(value= “”) cấu hình để spring biết dependency nào cần @Autowire. |
| **Dependency injection** | | * Chỉ việc tạo và nối các module cấp thấp (dependency) vào module cấp cao. |
| **Bean Scope** | | * Dependency : prototype & bean contain dependency: singleton * Dependency singleton. To make dependency become prototype => use proxyMode = “” |
| **Bean lifecycle** | | -Vòng đời của 1 bean  - trước khi khởi tạo : @PostConstruct  - khi thực hiện công việc  - sau khi phá hủy: @PreDestroy |
| **Xml configuration** | | * With annotation <context:component-scan base-package="package contain componet "/> * Without annotation:   + Define bean: <bean id=" name bean for get bean" class="class path "/>  + Inject dependency <property name=" dependency name field" ref=" bean id of dependency"/> setter injection ,  <constructor-arg ref=""/> contructor injection |
| **IoC container**  **Application context**  **Bean factory** | | * IoC: move the control out of controller or component which need dependency to framework. * IoC container: the program or framework provides that function * Application context and BeanFactory is 2 implement of spring IoC container |
| **@Component**  **@Repository**  **@Service**  **@Controller** | |  |
| **Read properties file** | | * With Annotation : @PropertySource("classpath: properties name") * With Xml +annotation: <context:property-placeholder location="classpath: properties name "/>   + @Value(“${key of properties}”)   * With pure xml: use <property> to inject |
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