**Update of LEGO framework version 3.10.3 to 3.10.10**

1. Target

* solve DSIN project technical issue
* used for JEE application
* LEGO framework mostly consists of open source components

LEGO 3 includes:

1. Spring – Implement DAO in simple manner using application security and transaction management. Spring security framework provide security for entire application.
2. Struts 2 – used for presentation layer
3. Persistence layer- used OMR tools or JDBC and spring integrate all these tools
4. Application trace management system – used SLF4J library to provide interface to an abstract layer but we use log4j library
5. Development by layer
6. Data access - for accessing RDBMS via DAO pattern

It contain only persistence code not business or presentation code

1. Business service – implementing business functionalities and used spring beans components
2. Presentation – MVC2 pattern of struts 2 used, GUI

Presentation logic used for validation

1. Configuration
2. Spring configuration
3. Configuration of open source libraries
4. Struts configuration in web

Application context used in spring configuration management. A specific application context has been created for LEGO.

1.Spring context – 1. LEGO context – configuration of beans specific to LEGO and not modified

2. LEGO java application context -

2.spring configuration file - put in the classpath of the application

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fwkContext.xml needs to be edited.

3.Hibernate configuration file -

hibernate.cfg.xml file on application classpath and loated by default in fwk-conf directory. These file deleted if you do not use hibernate.

4.OJB configuration files

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* Web project

1.spring context – 1. LEGO context- – configuration of beans specific to LEGO and not modified

2. LEGO java application context

3. LEGO web application context – inherites these 2 contexts

- integrates web security configuration and spring beans declaration management by annotations for struts 2 actions.

2.spring configuration file - in twkWebContext.xml file included in WEB-INF directory.This file enable annotations.

It also contain by default activation of security in web environment

3.web.xml file – contain configuration of filters and listeners for spring, spring security and struts 2.

3. Substitution of the configuration data : property placeholder

PropertyPlaceholderConfigurer file will be substituted at runtime when loading the configuration.

Spring 2.5 version LEGO3 framework is based. Context:propertyplaceholder tag is used for injecting property files in BeanFactory.

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Jar files provided by LEGO

All the dependencies included by LEGO directly and also their versions definitions are located in the pom.xml of LEGO root project.

General LEGO 3 set up

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4.Architecture

-creation of business service instance covered by spring container

-dependancy injection managed by spring container

-LEGO provides factory to access the beans defined in spring configuration.

-Implement a service : it is a POJO class wsith dependencies to other services

-Transactional Management : 1.Declarative management

2.Programatic management

* Platform transaction manager-creation of new transaction, participation of existing transaction, commit & rollback of a transaction.

Platform transaction manager declared in fwkDB.xml

1. JTAtransactionmanagement :
2. Datasoure : JDBC connection
3. Hibernate : session
4. Persistencebroker: OJB

-Configuration of the aspect : Platform transaction manager bean is set then activate transaction management

-Aspect behavior configuration :

-Recommendations : \*\*\*\*page 24\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

5.Persistence