Course code: **SPRING**

Course title: **Spring Framework**

Days: 2

Description:

Course intended for:

The training is intended for Java programmers wishing to develop applications on the basis of IoC container and basic API provided by Spring Framework.

Course objective:

The training objective is to acquire the skills of configuration and use of the IoC Spring Framework container.

In particular, the participants are to:

- Get familiar with the capabilities of Spring Framework
- Get familiar with the Dependency Injection pattern and learn to use it with the IoC Spring Framework container
- Find out how to configure the components from the XML Spring Framework descriptor level and using Java annotations
- learn to use Spring Expression Language
- get familiar with advanced issues, such as AOP
- find out how to test business components
- find out how to integrate applications in Spring Framework using webservices.

Requirements:

The training participants are required to be familiar with Java language programming (to be learned at the course J/JP).

Course parameters:

2*8 hours (2*7 net hours) of lectures and workshops (with a visible emphasis on workshops).

Group size: no more than 8-10 participants.

Course curriculum:

1. Introduction
    - A review of Spring Framework modules
    - IoC container
    - Data layer: Hibernate
    - Web layer: Spring MVC and webservices
    - AOP
    - Testing
2. IoC container
    - IoC pattern
    - Application structure in Spring Framework
    - Container launching
    - Defining of beans
        - Constructors, factories
        - Simple properties,
        - Complex properties, collections
        - Combining of collections
        - Inheritance
        - p-namespace
    - Specification of dependencies

- Lazy initialization
- Autowiring
- Resources
- Cooperation with container
- Bean range
  - singleton, prototype, request, session
  - own ranges
- Method injection
- Bena life cycle and listening
- Closing of container
- Separation of configuration parts to property files
- Location
- Events
- Injection of resources

3. Data validation and conversion in Spring
   - Validator interface
   - Replacement of validation error codes with messages
   - Properties editors
   - Type conversion
   - Field formatting
   - Specification of limitations
4. Spring Expression Language
   - Review of capabilities

- Syntax
- Use

5. Basics of Spring AOP
    - Basic terminology: aspect, join point, advice, pointcut
    - Action types
    - Configuration
6. Component testing
7. Introduction to webservices
    - JAX-WS
    - Hessian/Burlap

REST