

This FAQ addresses frequently asked questions relating to the integration of Oracle Application Server and the open source framework Spring.

Q. What is the Spring Framework?

Spring is a popular open source framework that is designed to help developers construct high quality applications faster by enforcing common used patterns of application design within the framework itself. It has rapidly become popular across the industry and many developers use it with popular application servers such as Oracle Application Server. Content about Spring can be found on OTN at <http://otn.oracle.com/spring/> or on the Spring Framework web site at <http://www.springframework.org/>. While Spring is an open source framework, much of the intellectual property, training and support on Spring is offered by the company Interface21 at <http://www.interface21.com/>.

Q. How can I use Spring in the Oracle Application Server?

The Oracle Application Server does not ship with Spring but it's frequently used by developers building applications that run on the Oracle Application Server. Oracle provides documentation on using Spring on Oracle Application Server as part of its documentation set at http://download-west.oracle.com/docs/cd/B25221_04/web.1013/b14433/opensrc.htm#sthref214. The Spring documentation covers using Oracle TopLink with Spring at <http://static.springframework.org/spring/docs/2.0.x/reference/orm.html#orm-toplink>.

Oracle not only certifies not only the base Spring distribution with Oracle Application Server but also works with third party distributions where external to Oracle support can be acquired – in particular the SASH (Spring, Apache, Struts and Hibernate) distribution provided by SourceLabs. More information on SASH can be found on OTN at <http://www.oracle.com/technology/tech/java/sash.html>.

Through the Oracle Application Server class loading infrastructure, it is easy to make Spring natively part of the Oracle Application Server runtime available to all applications including supporting multiple versions of Spring (1.2.x and 2.0).

Oracle has centralized all its resources about Spring and Oracle integration at <http://otn.oracle.com/spring>.

Q. What are the integration points between Spring and Oracle Application Server?

The Spring framework is designed to take advantage of services provided by application servers including JDBC, transactions, Web services, messaging, persistence, EJB and management. As such, Oracle Application Server has many natural integration points with Spring.

As examples of Spring integration, as part of the launch of the OTN Spring site, examples have been provided for:

- a. Java Persistence API (JPA) integration with TopLink Essentials (the reference implementation for JPA) and Spring.
- b. Persistence using Oracle TopLink with Spring
- c. Stateless session bean integration with EJB 3.0 and Spring.
- d. JMX management integration with Spring and the Oracle Application Server management console Application Server Control.
- e. JDBC Access with Spring.

More examples are expected to be published around the Oracle Application Development Framework (ADF) with Spring, Oracle Application Server JMS with Spring and Oracle Application Server Web services with Spring.

Q. How long has Oracle been working with Spring?

Oracle has provided integration with Spring since Spring 1.2 when Oracle TopLink and Spring were first integrated. You can find an example of this integration in the Pet Clinic sample application. This initial engagement has grown to a serious engineering commitment to include TopLink Essentials in Spring 2.0 today, continued TopLink support, tight integration with the broader Oracle Application Server J2EE container and will continue with further work in emerging Web services standards like the Service Component Architecture and Service Data Objects specifications.

Q. Is there any Oracle specific code shipped with the standard Spring distribution?

Yes, Spring 2.0 includes TopLink Essentials as part of its distribution, which is the reference implementation of JPA from Sun's Java EE 5.0 implementation in Project Glassfish and is also distributed as part of Spring 2.0. TopLink Essentials is also shipped with Oracle Application Server 10g R3 (10.1.3.1) as a commercially supported JPA implementation.

Oracle has worked very closely with the Spring development team to ensure that there is a seamless integration between JPA and Spring and the inclusion of TopLink Essentials into Spring is representative of that work.

Q. If I develop applications on Oracle Application Server with Spring, is there any proprietary integration with Oracle Application Server?

A significant part of the attraction of Spring is how it transparently enables developers to use the services of application servers generically rather than coding to Application Server specific APIs. Spring running on Oracle Application Server does not require any specific workarounds that are unique or proprietary to Oracle Application Server.

Q. How are Spring Beans managed from Oracle Application Server management console, Oracle Application Server Control?

Exposing Spring Beans with Spring JMX will make them automatically appear within the Oracle Application Server Control console's Mbean browser for runtime configuration and manipulation.

Q. How has Oracle been active in the Spring community?

In addition to working directly with Spring to ensure early JPA and Spring integration, Oracle staff were active at the inaugural Spring Experience and Spring One conferences. At SpringOne, (<http://www.springone.com/>), Oracle was not only a sponsor but delivered several talks on Oracle and Spring integration as well as staffed a booth for conference attendees to ask further questions outside of conference sessions.

Q. What are the future directions of Oracle Application Server with Spring?

In addition to continuing integration with the core application server, Oracle has been active with Interface21 and Spring on the Service Component Architecture and Service Data Object specifications that are being developed by a consortium of leading software companies including Oracle, IBM, BEA and SAP. More information on these specifications and Spring integration in this area can be found at <http://www.osoa.org>.



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