

# Enterprise Integration with Spring

## Delivery Methods

- Instructor-led training
- Live-online
- Onsite training

## Course Duration

- Four days of instructor-led training
- 50% lecture, 50% hands-on lab

## Target Audience

- Developers
- Architects

## Prerequisites

- Experience with developing applications using Java
- Basic understanding of Spring

## Pricing

Contact your VMware® representative or a VMware Authorized Training Center for pricing information.

## More Information

Courses are conveniently scheduled around the world. Go to <http://www.vmware.com/education> to find the class that is right for you.

Onsite training is available for customers who prefer to bring a SpringSource/VMware Certified Instructor to their own facilities. For more information about onsite classes, including facility requirements, go to <http://www.vmware.com/education>.

## Course Overview

Enterprise Integration with Spring is a four-day training course that is led by SpringSource experts who will discuss the most important topics and technologies related to enterprise application integration. This hands-on training teaches you how to apply Spring technologies to solve integration problems that face server-side developers.

Completion of this training entitles each student to receive a free voucher to schedule an exam at a Pearson VUE Center to become a SpringSource Certified Spring Enterprise Integration Specialist.

## Course Objectives

At the end of the training, you will have gained an understanding of Spring and associated technologies for enterprise integration and be able to do the following:

- Use Spring to create concurrent applications and schedule tasks
- Use remoting to implement client-server applications
- Use Spring Web services to create loosely coupled SOAP-based Web services and clients
- Use Spring-MVC to create RESTful Web services and clients
- Use JMS for asynchronous messaging-based communication
- Understand and use local and distributed transactions
- Use Spring Integration to create event-driven pipes-and-filters architectures and integrate with external applications
- Use Spring Batch for managed, scalable batch processing that is based on both custom and built-in processing components

## Course Modules

<b>1 Introduction</b> <ul style="list-style-type: none"> <li>• Styles of enterprise integration</li> <li>• File transfer, remoting, and Web services</li> </ul>	<b>8 Global Transaction Management (XA and JTA)</b> <ul style="list-style-type: none"> <li>• Two-phase commit and XA</li> <li>• JTA and Spring</li> <li>• Configuring JtaTransactionManager</li> <li>• Transaction demarcation</li> </ul>
<b>2 Tasks and Scheduling</b> <ul style="list-style-type: none"> <li>• Introduction to concurrency</li> <li>• Java Concurrency APIs</li> <li>• Spring task scheduling support</li> <li>• &lt;task /&gt; namespace</li> <li>• @Scheduled and @Async annotations</li> </ul>	<b>9 Introduction to Spring Integration</b> <ul style="list-style-type: none"> <li>• Goals of Spring Integration</li> <li>• Core components of Spring Integration</li> <li>• Defining channels, message endpoints, and gateways</li> <li>• Spring Integration namespaces</li> <li>• Eclipse-based Visual Editor for Spring Integration</li> </ul>
<b>3 Remoting</b> <ul style="list-style-type: none"> <li>• Limitations of “plain” RMI</li> <li>• Benefits of using Spring remoting</li> <li>• Spring remoting over RMI</li> <li>• Spring HttpInvoker</li> <li>• Hessian and Burlap support</li> </ul>	<b>10 Configuring Spring Integration</b> <ul style="list-style-type: none"> <li>• Channel types and polling</li> <li>• Synchronous and asynchronous handoff</li> <li>• Synchronous and asynchronous error handling</li> <li>• Advanced endpoint types: bridge and router</li> <li>• Working with MessagingTemplate</li> </ul>
<b>4 SOAP Web Services with Spring WS</b> <ul style="list-style-type: none"> <li>• Web services best practices</li> <li>• Introduction to Spring Web services</li> <li>• Object-XML mapping with the Spring OXM abstraction layer</li> <li>• Client access with WebServiceTemplate</li> <li>• Error handling</li> <li>• Out-of-container testing</li> </ul>	<b>11 Spring Integration Advanced Features</b> <ul style="list-style-type: none"> <li>• Splitting and aggregating messages</li> <li>• Dispatcher configuration</li> <li>• XML support: XPath, XSLT, Object-XML mapping</li> </ul>
<b>5 RESTful Web Services</b> <ul style="list-style-type: none"> <li>• Core REST concepts</li> <li>• REST support in Spring 3.x</li> <li>• REST specific annotations in Spring</li> <li>• Client access with RestTemplate</li> </ul>	<b>12 Introduction to Spring Batch</b> <ul style="list-style-type: none"> <li>• Spring Batch high-level overview</li> <li>• Working with jobs, steps, readers, and writers</li> <li>• Job parameters and job identity</li> <li>• Batch state persistence in the database</li> <li>• Spring Batch quick-start example</li> </ul>
<b>6 Working with JMS</b> <ul style="list-style-type: none"> <li>• Introduction to JMS</li> <li>• Configuring JMS resources with Spring</li> <li>• Sending and receiving messages using Spring JmsTemplate and message listener containers</li> </ul>	<b>13 Restart and Recovery with Spring Batch</b> <ul style="list-style-type: none"> <li>• Stateful ItemReaders/Writers</li> <li>• Reading flat files</li> <li>• Introduction to skip, retry, repeat, and restart</li> <li>• Spring Batch listeners</li> </ul>
<b>7 Transactional JMS</b> <ul style="list-style-type: none"> <li>• Why use JMS transactions</li> <li>• Transactional JMS resources with Spring</li> <li>• Duplicate message handling</li> </ul>	<b>14 Spring Batch Admin and Scaling Batch Jobs</b> <ul style="list-style-type: none"> <li>• The Spring Batch Admin Web console</li> <li>• Scaling and parallel processing</li> <li>• Multithreaded and parallel steps</li> <li>• Partitioning</li> </ul>



VMware, Inc. 3401 Hillview Avenue Palo Alto CA 94304 USA Tel 877-486-9273 Fax 650-427-5001 [www.vmware.com](http://www.vmware.com)  
 © 2011 VMware, Inc. All rights reserved. The product or workshop materials is protected by U.S. and international copyright and intellectual property laws. VMware products are covered by one or more patents listed at <http://www.vmware.com/download/patents.html>. VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.

VMware warrants that it will perform these workshop services in a reasonable manner using generally accepted industry standards and practices. THE EXPRESS WARRANTY SET FORTH IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE SERVICES AND DELIVERABLES PROVIDED BY VMWARE, OR AS TO THE RESULTS WHICH MAY BE OBTAINED THEREFROM. VMWARE WILL NOT BE LIABLE FOR ANY THIRD-PARTY SERVICES OR PRODUCTS IDENTIFIED OR REFERRED TO CUSTOMER. All materials provided in this workshop are copyrighted by VMware (“Workshop Materials”). VMware grants the customer of this workshop a license to use and make reasonable copies of any Workshop Materials strictly for the purpose of facilitating such company’s internal understanding, utilization and operation of its licensed VMware product(s). Except as set forth expressly in the sentence above, there is no transfer of any intellectual property rights or any other license granted under the terms of this workshop. If you are located in the United States, the VMware contracting entity for the service will be VMware, Inc., and if outside of the United States, the VMware contracting entity will be VMware International Limited.