

Enterprise Integration with Spring 1.x Certification Study Guide

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Overview

This guide is designed to help you prepare for the Enterprise Integration with Spring 1.x certification exam.

The certification exam is based on the SpringSource 4-day Enterprise Integration with Spring training and the materials provided with it are the ideal source to use for preparation. Of course as with any certification the most valuable part, besides recognition, is the learning process. Hence we encourage you to take time to experiment and follow your curiosity when questions arise.

A 4-day course contains a lot of material. To help you focus your efforts and to know when you're ready we've put together this guide. It contains a list of topics and a list of further resources. Topics are organized by subject area, where each topic contains a description of what you should make sure you know.

The list of topics can be used as a check-list. The training materials can be used as a point of reference and as a learning ground. The list of resources is where you can go further for getting answers.

One possible way to prepare is to do the following for a given training module:

1. Review the slides, making notes of questions
2. Work through the lab (if there is one)
3. Review the list of topics that matches to the module by subject area
4. Use the lab to experiment with anything you need to spend more time on
5. Use the provided list of resources to look for further answers

Of course there are many more ways to organize your efforts. You can pair up with someone else planning to take the exam or review all presentations for a given subject area before going through the labs. Or maybe you have access to actual applications you can review to test your knowledge.

Please keep in mind that you are expected to have good working knowledge of all the topics listed. Most of the questions will be very general, however you will be asked a few advanced questions.

Last but not least we're always interested to hear your feedback. You can send an email to your instructor and/or to training@springsource.com to let us know what you thought.

Topics By Subject Area

The following is a list of topics, each of which is likely to have questions on the exam. The topics are organized by subject area. They do not exactly reflect the module names in the course.

Remoting

General

- The concepts involved with Spring Remoting on both server- and client-side
- The benefits of Spring Remoting over traditional remoting technologies
- The remoting protocols supported by Spring

RMI-based Spring Remoting

- How Spring Remoting-based RMI is less invasive than plain RMI

Spring HTTP Invoker

- How client and server interact with each other

Web Services

General

- How do Web Services compare to Remoting and Messaging

Spring Web Services

- The approach to building web services that Spring-WS supports
- The Object-to-XML frameworks supported by Spring-OXM

Note that Spring-OXM is now a module in Spring 3.0, not in Spring-WS, but for what you need to know that doesn't matter

- The strategies supported to map requests to endpoints
- Of these strategies, how does `@PayloadRoot` work exactly?
- The functionality offered by the `WebServiceTemplate`

Web Services Security

- The underlying WS-Security implementations supported by Spring-WS
- How key stores are supported by Spring-WS for use with WS-Security

RESTful services with Spring-MVC

General

- The main REST principles

REST support in Spring-MVC

- Spring-MVC is an alternative to JAX-RS, not an implementation
- The `@RequestMapping` annotation, including URI template support
- The `@RequestBody` and `@ResponseBody` annotations
- The functionality offered by the `RestTemplate`

JMS with Spring

General

- Where can Spring-JMS applications obtain their JMS resources from
- The functionality offered by Spring's JMS message listener container, including the use of a `MessageListenerAdapter` through the 'method' attribute in the `<jms:listener/>` element
- The functionality offered by the `JmsTemplate`

Transactions

Local JMS Transactions with Spring

- How to enable local JMS transactions with Spring's message listener container
- If and if so, how is a local JMS transaction made available to the `JmsTemplate`
- How does Spring attempt to synchronize a local JMS transaction and a local database transaction
- The functionality offered by the `JmsTransactionManager`

JTA and Two-phased commit transactions with Spring

- What guarantees does JTA provide that local transactions do not provide
- How to switch from local to global JTA transactions
- Where can you obtain a JTA transaction manager from

Batch processing with Spring Batch

General

- Main concepts (Job, Step, Job Instance, Job Execution, Step Execution, etc.)
- The interfaces typically used to implement a chunk-oriented Step
- How and where state can be stored
- What are job parameters and how are they used
- What is a FieldSetMapper and what is it used for

Spring Integration

General

- Main concepts (Messages, Channels, Endpoint types)
Pay special attention to the various Endpoint types and how they're used!
- How to programmatically create new Messages
- Using chains and bridges

Synchronous vs. asynchronous message passing

- The different Channel types and how each of them should be used
- The corresponding effects on things like transactions and security
- The need for active polling and how to configure that

Resources

This section contains a list of resources relating for learning.

[Spring Community Forums](#) – look for existing discussions or start your own, take advantage of one of the best parts of Spring: its community.

[SpringSource Blog](#) – point your favorite RSS reader or come back every so often for detailed, quality posts by Spring developers.

[Reference Documentation](#) – add bookmarks in your browser to the reference documentation pages for [Spring](#) and the related frameworks.

[Spring Samples](#) – a subversion repository with projects that can be built with maven and imported into STS/Eclipse. Some of the samples have associated blog posts on the SpringSource Blog listed above. You could check by searching on the keywords: “sample name” springsource blog.

[Spring By Example](#) – another good repository with complete code samples and the ability to contribute your own samples.

[Web Sites](#) – it's hard to single out individual web sites. There are so many. If we had to name a few they would include [Infoq](#), [Dzone](#), [JavaWorld](#), [Spring Hub](#) among many others.

[Books](#) – there are many books. It's also hard to find ones that are up-to-date because it takes so much effort to write them or keep them up-to-date, so check the date of the last edition and the version of the framework covered. Publishers like (e.g. Apress, Manning) provide early access to book chapters in PDF as they are being written.

[Spring Projects JIRA](#) – most likely not the first place to come to in the beginning but overall a great learning resource when looking up information on very specific issues or new features. You can read comments, leave comments, as well as vote. Sometimes discussions on the community forums result in the creation of issues in JIRA.