vmware LEARNING

Spring Professional Develop

Exam Details (Last Updated: 05/19/2022)

The Spring Professional Develop (2V0-72.22) exam, which leads to Spring Certified Professional 2023 certification is a 60-item exam, with a passing score of 300 using a scaled method. Candidates are given 130 minutes to complete the exam, which includes adequate time to complete the exam for non-native English speakers.

Exam Delivery

This is a proctored exam delivered through Pearson VUE. For more information, visit the Pearson VUE website.

Certification Information

For details and a complete list of requirements and recommendations for attainment, please reference the VMware Education Services – Certification website.

Minimally Qualified Candidate

Minimally Qualified Candidate (MQC) is recommended to have at least 6 to 12 months of experience. The MQC has both a strong conceptual understanding and programming experience using Spring framework. The MQC understands the major features of Spring and Spring Boot, which includes configuration, data access, REST, AOP, auto-configuration, actuator, security, and Spring testing framework to build enterprise and microservices applications.

Exam Sections

Sections Included in this Exam

Section 1 – Spring Core

- Objective 1.1 Introduction to Spring Framework
- Objective 1.2 Java Configuration
  - 1.2.1 Define Spring Beans using Java code
  - 1.2.2 Access Beans in the Application Context
  - 1.2.3 Handle multiple Configuration files
  - 1.2.4 Handle Dependencies between Beans
  - 1.2.5 Explain and define Bean Scopes
- Objective 1.3 Properties and Profiles
  - 1.3.1 Use External Properties to control Configuration
  - 1.3.2 Demonstrate the purpose of Profiles
  - 1.3.3 Use the Spring Expression Language (SpEL)
- Objective 1.4 Annotation-Based Configuration and Component Scanning

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- 1.4.1 Explain and use Annotation-based Configuration
- 1.4.2 Discuss Best Practices for Configuration choices
- 1.4.3 Use @PostConstruct and @PreDestroy
- 1.4.4 Explain and use “Stereotype” Annotations

Objective 1.5 Spring Bean Lifecycle

- 1.5.1 Explain the Spring Bean Lifecycle
- 1.5.2 Use a BeanFactoryPostProcessor and a BeanPostProcessor
- 1.5.3 Explain how Spring proxies add behavior at runtime
- 1.5.4 Describe how Spring determines bean creation order
- 1.5.5 Avoid issues when Injecting beans by type

Objective 1.6 Aspect Oriented Programming

- 1.6.1 Explain the concepts behind AOP and the problems that it solves
- 1.6.2 Implement and deploy Advices using Spring AOP
- 1.6.3 Use AOP Pointcut Expressions
- 1.6.4 Explain different types of Advice and when to use them

Section 2 – Data Management

Objective 2.1 Introduction to Spring JDBC

- 2.1.1 Use and configure Spring’s JdbcTemplate
- 2.1.2 Execute queries using callbacks to handle result sets
- 2.1.3 Handle data access exceptions

Objective 2.2 Transaction Management with Spring

- 2.2.1 Describe and use Spring Transaction Management
- 2.2.2 Configure Transaction Propagation
- 2.2.3 Setup Rollback rules
- 2.2.4 Use Transactions in Tests

Objective 2.3 Spring Boot and Spring Data for Backing Stores

- 2.3.1 Implement a Spring JPA application using Spring Boot
- 2.3.2 Create Spring Data Repositories for JPA

Section 3 – Spring MVC

Objective 3.1 Web Applications with Spring Boot

- 3.1.1 Explain how to create a Spring MVC application using Spring Boot
- 3.1.2 Describe the basic request processing lifecycle for REST requests
- 3.1.3 Create a simple RESTful controller to handle GET requests
- 3.1.4 Configure for deployment

Objective 3.2 REST Applications

- 3.2.1 Create controllers to support the REST endpoints for various verbs
- 3.2.2 Utilize RestTemplate to invoke RESTful services

Section 4 – Testing

- Objective 4.1 Testing Spring Applications
  - 4.1.1 Write tests using JUnit 5
  - 4.1.2 Write Integration Tests using Spring
  - 4.1.3 Configure Tests using Spring Profiles
  - 4.1.4 Extend Spring Tests to work with Databases
- Objective 4.2 Advanced Testing with Spring Boot and MockMVC
  - 4.2.1 Enable Spring Boot testing
  - 4.2.2 Perform integration testing
  - 4.2.3 Perform MockMVC testing
  - 4.2.4 Perform slice testing

Section 5 – Security

- Objective 5.1 Explain basic security concepts
- Objective 5.2 Use Spring Security to configure Authentication and Authorization
- Objective 5.3 Define Method-level Security

Section 6 – Spring Boot

- Objective 6.1 Spring Boot Feature Introduction
  - 6.1.1 Explain and use Spring Boot features
  - 6.1.2 Describe Spring Boot dependency management
- Objective 6.2 Spring Boot Properties and Autoconfiguration
  - 6.2.1 Describe options for defining and loading properties
  - 6.2.2 Utilize auto-configuration
  - 6.2.3 Override default configuration
- Objective 6.3 Spring Boot Actuator
  - 6.3.1 Configure Actuator endpoints
  - 6.3.2 Secure Actuator HTTP endpoints
  - 6.3.3 Define custom metrics
  - 6.3.4 Define custom health indicators

Recommended Courses/Training Materials

Spring: Core Training
Spring: Core Training - On Demand

Associated Certification

Spring Certified Professional 2023

References*

In addition to the recommended courses, item writers use the following references for information when writing exam questions. It is recommended that you study the reference content as you prepare to take the exam, in addition to any recommended training.

Name	Version
Spring Framework Documentation	Spring Framework 5.3
Spring Framework Core Technologies	Spring Framework 5.3
Spring Framework Data Access	Spring Framework 5.3
Spring Framework Testing	Spring Framework 5.3
Spring Framework MVC	Spring Framework 5.3
Spring Security	Spring Framework 5.3
Spring Data JPA	Spring Data 2021.0
Using Spring Boot	Spring Boot 2.5
Spring Boot Features	Spring Boot 2.5
Spring Boot Actuator	Spring Boot 2.5
Spring Boot Build Tools Plugins	Spring Boot 2.5

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REV. 1/2023