Couchbase

Couchbase Associate Java Developer Certification Exam Study Guide

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Welcome to Couchbase Associate Java Developer Certification!

What to Expect:

⇒ Use this Study Guide to prepare for CB130j: Couchbase Associate Java Developer Certification Exam.

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Information Confidentiality

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Certification Program and Exam Overview

This Study Guide is designed to help you prepare for the Couchbase Associate Java Developer Certification exam. The 40-question certification exam is based on fundamental aspects of Couchbase 7.1 database, the Couchbase Java SDK 3.4.3, and building a prototype application. The 8 modules of eLearning provided are the ideal sources for preparation. As with any certification, the most valuable parts are the learning process which leads to successful concept recognition.

We encourage you to take time to go through the free, self-paced eLearning modules of Certification preparation. These materials are designed to walk you through essential topics, Couchbase features and benefits, as well as how Couchbase 7.0 and Java SDK 3.4.3 knowledge can be applied to the creation of an application. However, this is not a required step prior to taking the Certification Exam. As of the upload of this document, the Java SDK reference is 3.4.3; however, due to constant updates, Couchbase cannot guarantee that is the most current SDK at the time a learner takes the module or exam.

Items to understand:
⇒ Topics in this Study Guide are aligned to the exam and are organized by subject area, where each topic contains a description of what to know.
⇒ The list of topics can be used as a checklist.
⇒ The eLearning materials can be used as points of reference and explanation of key concepts covered in the exam.
⇒ The main course contains a PDF of resources in the LMS where you gain further understanding of the key concepts discussed.
⇒ Everything in the exam is covered somewhere in the course preparation materials.

Possible Preparation Path:
⇒ Review the 8 modules that are 5 to 20 minutes in length. These modules include interactive slides, accompanying narration, knowledge check quizzes.
⇒ Make notes of key topics and call outs that align with the Study Guide topics listed.
⇒ Work through the lab exercises for practice with key concepts.
⇒ 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.

<u>Certification Exam Logistics</u>

When you are ready to test and validate your product knowledge, please visit learn.couchbase.com/store to purchase an industry-recognized CB130j: Couchbase Associate Java Developer Certification Exam.

- Certification exams may be taken from a location of your choosing, anywhere in the world at any time, using the Couchbase Academy Learning Management System (LMS) which also hosts our Certification Course modules.
- For help with your exam purchase, exam registration process, credentials verification, or other questions related to our certification program, process, and procedures, please visit couchbase.com/academy/certification.
- The exam itself is computer-based and must be purchased from Couchbase.
- As of August 1, 2023, this exam will no longer require a proctor.
- You have up to 60 minutes to answer the 40 multiple choice questions. You must answer at least 32 questions correctly (80%) in order to pass the exam.
- Read each question carefully, and provide the best answer. Questions can be skipped and returned to as you have the ability to review all selected answers before submitting the exam.
- In particular, questions refer to the Couchbase Java SDK version 3.x. No previous version of the Java SDK will be referenced in the exam or associated certification materials.

<u>Certification Exam Pass/Fail Scenarios</u>

If you earn a passing score, you will be granted the Couchbase Certified Associate Java Developer badge which is granted by Credly, our badging vendor.

- This badge can be socialized on LinkedIn, Twitter, Facebook, WhatsApp or within your email signature.
- The skills you show with this certification have been validated as appropriate for the Associate-level Java Developer, and have been attested to by many Subject Matter Experts within Couchbase, Inc.

If you do not earn a passing score, you will need to:

- Review the CB130j: Couchbase Associate Java Developer Certification Course at no additional cost.
- Purchase a new exam on the Couchbase Academy Store.

Certification Exam Frequently Asked Questions (FAQs)

1. Is there anything in the exam, which was not covered in the course?
    No, everything in the exam is derived from the course materials and associated lab exercises.

2. Do I have to know class names and method signatures?
    No, however we expect you to be familiar with the basic method structure of the APIs in question and to evaluate if the given methods are written correctly or not.

3. Do I have to write, complete or rearrange source code?
    No. The only thing you should be able to do is read a snippet of code and understand what it's doing.

4. Who is eligible to take a certification exam?
    Our certification exam is available to Java Developers seeking to attain the Java Associate Developer certification. We offer a corresponding course to help you prepare you for our certification exam. However, you may purchase and sit for a certification exam any time you like.

5. Can I get certified without taking the training course?
    Our training course is the best way to gain the knowledge tested in our certification exam. However, course attendance is not a required step in the certification process.

6. How do I purchase a certification exam?
    Exams are available for purchase on our Couchbase Academy Store. Locate the exam and add to cart (*CB130j: Couchbase Associate Java Developer Certification Exam*) where you will be directed to log in if you have not already done so. Once logged in, you will complete the checkout. Once purchase has completed, you can begin your exam in the Couchbase Academy.

7. How long is my exam purchase good for?
    Once you have purchased the exam from the Couchbase Academy store, you have 90 calendar days or the exam expires. Once this exam has expired, you must purchase another if you wish to continue with the exam. Therefore we encourage you not to wait to take your exam date.

8. What happens if I pass the exam?
    Within 72 hours of passing the exam, you will receive a notice to claim your digital badge through Credly. Once you accept your badge, you can share via LinkedIn, Twitter, and/or place in your email signature.

9. What happens if I do not pass the exam?
    ONE exam purchase offers you ONE opportunity to take the exam, whether you pass or fail. If you need another opportunity to take the exam, you may purchase again from our store. We encourage you to refresh your knowledge with the material in the associated course before re-attempting the exam.

10. Do I have to create an account to take the exam or get the badge?
    In order to accept your badge, you ARE required to create an account with Credly.

11. Does this exam require a proctor to begin?
    As of August 1, 2023, there is no requirement for a proctor. Take the exam in the LMS in the same way you took the eLearning modules.

Couchbase Overview

1. What is SQL and what are its features and benefits?

2. What is NoSQL and what are its features and benefits?

3. How do Relational (SQL) databases compare to NoSQL database benefits?

4. Compare and contrast Vertical and Horizontal scaling.

5. What are the services Couchbase provides and what are the benefits of each?

6. How do different document types (graph, table, key/value, etc.) impact database storage?

7. Describe important considerations when selecting appropriate document Keys in a Key/Value Store.

8. Define JSON, the essentials of JSON syntax, and the capabilities of JSON documents.

9. How do JSON documents work with Key/Value pairs?

Getting and Setting Up Couchbase

10. What is Couchbase Capella?

11. How can you obtain Couchbase and what are the benefits of downloading on a local machine, using Docker, Couchbase Capella, and using a Public Cloud options?

12. What are the default offerings of a Trial Database/Cluster in Capella?

13. How do the Trial offerings differ from a Production-ready Database/Cluster?

14. When can replicas be enabled and what does enabling Flush allow a Developer to do?

15. Define a Couchbase Database/Cluster, Bucket, Scope, and Collection.

16. How do Couchbase Clusters, Buckets, Collections, and Scopes compare to similar concepts in Relational databases? For example, a Couchbase Cluster is similar to _____ in a Relational database.

17. Given data amounts and restrictions, be able to allocate memory correctly for a Couchbase Bucket.

18. When loading data into a Couchbase Database/Cluster in which component are documents housed?

19. What is cbimport and when is it used in Couchbase?

How to Store and Access Data Using the Couchbase Java SDK 3.x

20. What are the steps a Developer would need to take when adding the Couchbase Java SDK 3.x to an application project?

21. Be prepared to evaluate Database/Cluster, Bucket, Scope, and Collection code for accuracy in order to complete basic operations.

22. What are the components necessary to creating a successful connection from your application to a Couchbase Database/Cluster?

23. What are the Transcoders available with Couchbase, and what do each of these Transcoders do?

24. Explain how the storage of data and its format can contribute to getting the most out of Couchbase.

25. Identify the different exceptions that can be thrown, what each exception means, and how each should be handled.

26. What is the wan-development profile and what does it do?

27. What are the basic Key/Value operations and what does each achieve?

28. Which common dependency options are used with Java applications?

How Document Design Impacts Application Behavior

29. How does Memory first architecture benefit an application?

30. Which attributes of Couchbase would contribute to an application's performance?

31. What is the difference between a natural key and surrogate key and when might the use of each be beneficial?

32. What are the storage requirements for documents in Couchbase?

33. What actions are included in the three phases of data modeling, and how can each phase impact application performance?

34. What are common Domain Object and Access patterns Developers might evaluate? What are the benefits and potential costs of each pattern?

35. What are best practices for identifying JSON document types?

36. Define enforced normalization and relaxed normalization. Explain how de-normalizing data can benefit or cause issues for a database.

37. What are common document timestamp options? What are the benefits and drawbacks of each option?

38. Define cardinality, atomicity, and entities.

39. How does creating many JOINs impact database storage?

How to Query Using the Couchbase Java SDK 3.x

40. What results-viewing options are available in the Query Workbench?

41. Define SQL++/N1QL, its capabilities, and its key syntax elements.

42. Be prepared to identify valid SQL++/N1QL query statements.

43. Define and describe the following indexes: Primary, Secondary, Composite, Partial, Partial Composite Indexes.

44. What operations can be completed with basic SQL++/N1QL filtering? How do JOINs impact these operations?

45. When executing queries, what is the Couchbase component (Database/Cluster, Bucket, Scope, Collection) a Developer needs to query on?

46. How does SQL++/N1QL compare to SQL?

47. What is the purpose of a back tick in SQL++/N1QL?

48. How can a Developer use the Couchbase Java SDK to execute a query with named parameters?

49. How can the Developer use a SQL++/N1QL query to join documents from multiple Collections?

Beyond the Basics: Using the Couchbase Java SDK 3.x to Do More

50. What are the mutating and non-mutating operations used when working with a sub-document in Couchbase?

51. What are the key characteristics of Optimistic Locking and Pessimistic Locking?

52. What is CAS and how does it function within Couchbase? Be prepared to evaluate code examples.

53. Be prepared to evaluate the viability of code for completing a retry pattern.

54. What are durability options and how are they important to how data is stored in Couchbase?

55. What are the Durability Levels in Couchbase and how might using them impact application performance?

56. What is a vBucket and how does it function within Couchbase?

57. Describe the sharding process Couchbase utilizes as well as its benefits to data manipulation and durability.

58. How are documents in Couchbase persisted to disk?

Next Steps

Now that you have taken the eLearning modules, worked through the lab exercises, taken the quizzes, and completed this Study Guide, we hope you feel prepared to take the Couchbase Associate Java Developer Certification exam.

Exam

The exam must be purchased at the Couchbase Academy Store and take your exam. One exam purchase makes the purchaser eligible for one exam attempt. If the exam is failed, a new exam must be purchased.

Once you schedule your exam time, the exam will contain 40 randomized questions. You will be given 60 minutes to complete the exam, and no feedback will be provided at the question level. Once you have completed the exam, you will be given your score.

Questions? Concerns?

Please send all inquiries to training@couchbase.com.