

Couchbase Associate .NET Developer Certification Exam Study Guide

Version 1.0

Last updated: April 2021



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Welcome to Couchbase Associate .NET Developer Certification!

What to Expect:

- ⇒ Use this Study Guide to prepare for CB130cs: Couchbase Associate .NET Developer Certification Exam.

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Certification Program and Exam Overview

This Study Guide is designed to help you prepare for the Couchbase Associate .NET Developer Certification exam. The 40-question certification exam is based on fundamental aspects of Couchbase 6.5+ database, the Couchbase .NET SDK 3.x, and building a prototype application. The 8 courses of eLearning and 7 Lab exercises 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 courses of Certification preparation. These materials are designed to walk you through essential topics, Couchbase features and benefits, as well as how Couchbase 6.5+ and .NET SDK 3.x knowledge can be applied to the creation of an application. However, this is not a required step prior to taking the Certification Exam.

Items to understand:

- ⇒ Topics in this Study Guide and aligned to the exam and 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 eLearning and Lab materials can be used as points of reference and explanation of key concepts covered in the exam.
- ⇒ Each course contains a PDF of resources 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 courses that are 5 to 20 minutes in length. These courses 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. Use the labs to experiment with anything you need to spend more time on.
- ⇒ 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.

Certification Exam Logistics

When you are ready to test and validate your product knowledge, please visit learn.couchbase.com/store to purchase an industry-recognized CB130cs: Couchbase Associate .NET Developer Certification Exam.

- Certification exams may be taken from a location of your choosing, anywhere in the world, provided you meet the basic system and test environment requirements. ***Please read these instructions thoroughly.*** [See here for requirements.](#) *Mac users should pay specific attention here as setting changes may be required.* All users will need to bring a photo ID to the exam.
- 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 and scheduled with the vendor ProctorU in order to take it.
- The proctor will require 15-25 minutes of setup before you begin the exam. You will receive general instructions from the proctor.
- It is **IMPORTANT** that you ***do not start the exam until you are told to do so by the proctor, who must type in a password before you begin.*** Starting the exam without the proctor can invalidate your exam.
- 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 .NET SDK version 3.x. No previous version of the .NET SDK will be referenced in the exam or associated certification materials.

Certification Exam Pass/Fail Scenarios

If you earn a passing score, you will be granted the Couchbase Certified Associate .NET 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 .NET 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 CB130cs: Couchbase Associate .NET Developer Certification Course at no additional cost.
- Purchase a new exam on the Couchbase Academy Store.
- Schedule a time to take the exam with ProctorU.

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 .NET Developers seeking to attain the Associate .NET 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 (CB130cs: Couchbase Associate .NET 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 will receive several emails from ProctorU inviting you to set up your account and schedule your exam.
7. **How long is my exam purchase good for?**
Once you have purchased the exam from the Couchbase Academy store, you must schedule and take your exam through ProctorU within 60 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 schedule 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?**
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 take the exam, you ARE required to create a ProctorU account. In order to accept your badge, you are ARE required to create an account with Credly.

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 SQL databases compare to NoSQL 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 impact database storage plans?
7. Describe the important considerations when selecting Keys for Documents 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. How can you download Couchbase and what are the benefits of each of downloading on a local machine, using Docker, and using a Public Cloud options?
11. How large of a basic Cluster would a Developer create for prototyping or for production of an application? Also, how might configuring a Cluster change when creating a production-ready application?
12. What are the key considerations when allocating Memory upon initial set-up in Couchbase?
13. What is cbimport, are permissions are needed, and how does it benefit the Developer using Couchbase?
14. When and how are Bucket replicas created in Couchbase?
15. What is a Flush setting and when might it be enabled?
16. Given data amounts and restrictions, be able to allocate memory correctly for a Couchbase Bucket.
17. What are the steps a Developer would follow to create a new Couchbase Cluster?
18. What are the steps a Developer would follow to connect Couchbase to data?

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

19. What are the steps a Developer would need to take when adding the Couchbase .NET SDK 3.x to an application project?
20. Be prepared to evaluate Bucket, Cluster, and Collection code for accuracy in order to complete pertinent operations.
21. What are the Transcoders available with Couchbase, and what do each of these Transcoders do?
22. Explain how the storage of data and its format can contribute to getting the most out of Couchbase.
23. Describe how the Serialization and Deserialization processes happen in Couchbase and when they take place.

- 24. How do asynchronous method calls impact the utilization of the Couchbase .NET 3.x SDK when connecting to the Couchbase database?
- 25. List the different exceptions that can be thrown and what each exception means.
- 26. What are the basic Key/Value operations and what does each achieve?
- 27. How would a Developer use the Couchbase .NET SDK 3.x in order to reference the essential parts of the Couchbase database?
- 28. How must Dependency Injections for .NET be handled?
- 29. What is the impact of ClusterProvider and BucketProvider to connecting to and storing data in Couchbase?

How Document Design Impacts Application Behavior

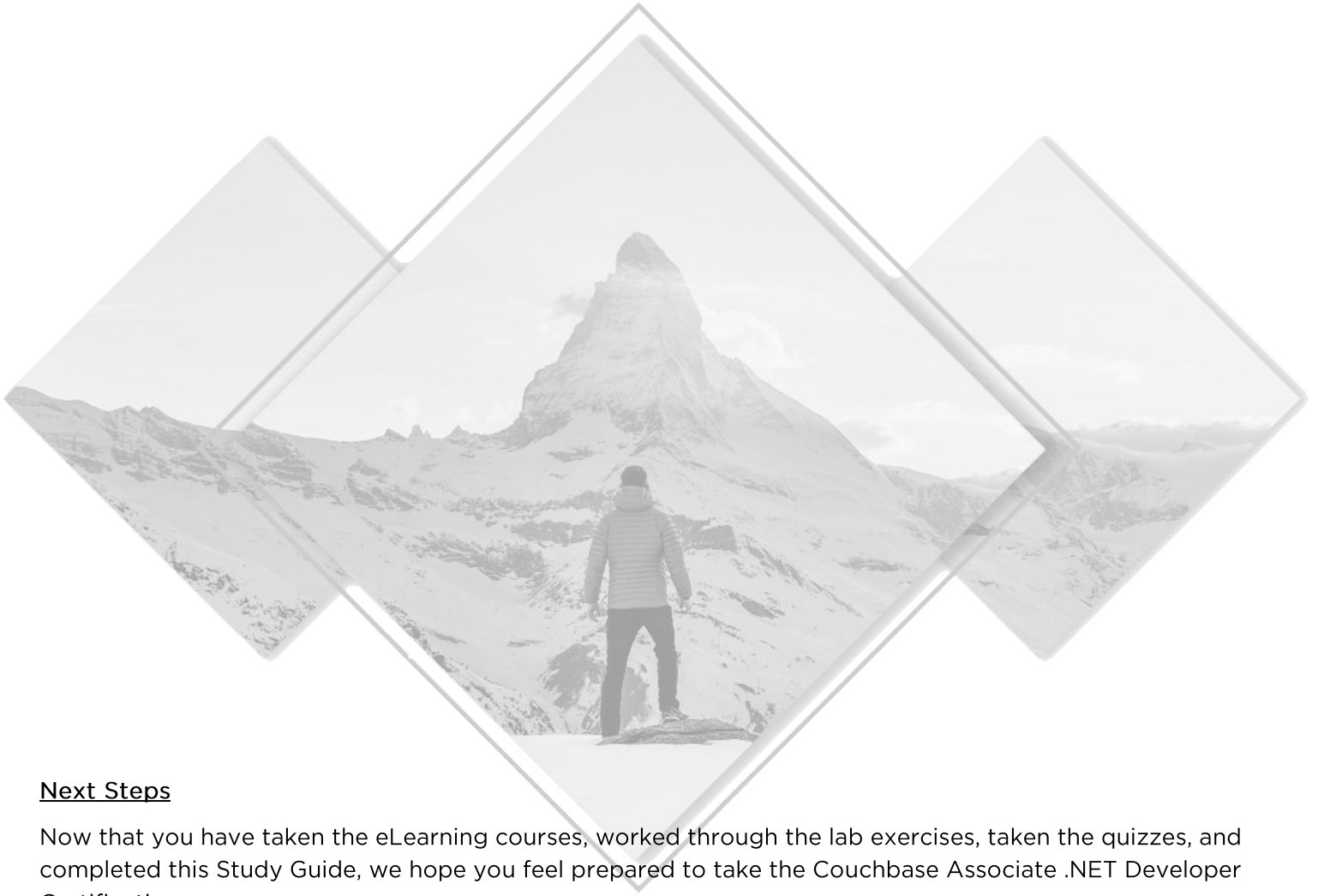
- 30. Which attributes of Couchbase would contribute to an application's performance?
- 31. What advantages and disadvantages are there to monolithic document storage in Couchbase?
- 32. What is the difference between a natural key and surrogate key?
- 33. How might key composition impact an application?
- 34. What actions are included in the three phases of data modeling, and how can each phase impact application performance?
- 35. What are common Domain Object patterns Developers might use? What are the pros and cons of each pattern?
- 36. What are best practices for identifying JSON document types?
- 37. What are the rationales for isolating or aggregating data in distinct documents?

How to Query Using the Couchbase .NET SDK 3.x

- 38. Define and describe the following indexes: Primary, Secondary, Composite, Partial, Partial Composite Indexes.
- 39. What are the key elements of the Query Workbench and what do they show?
- 40. Define N1QL, its capabilities, and its key syntax elements.
- 41. Be prepared to identify valid N1QL query statements.
- 42. What operations can be completed with basic N1QL filtering?
- 43. How does N1QL compare to SQL?
- 44. How can a Developer use the Couchbase .NET SDK to execute a query with named parameters?
- 45. How can a Developer process results from a N1QL query?

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

- 46. What are the mutating and non-mutating operations used when working with a sub-document in Couchbase?
- 47. What are the key characteristics of Optimistic Locking and Pessimistic Locking?
- 48. What is CAS and how does it function within Couchbase?
- 49. Be prepared to evaluate the viability of code for completing a retry pattern.
- 50. What are durability options and how are they important to how data is stored in Couchbase?
- 51. What are the DurabilityLevels in Couchbase and how might using them impact application performance?
- 52. What is a vBucket, what is it composed of, and how does it function within Couchbase?
- 53. Describe the sharding process Couchbase utilizes as well as its benefits to data manipulation and durability.



Next Steps

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

Exam

The exam must be purchased at the Couchbase Academy Store and scheduled with ProctorU, our testing vendor, in order to be taken. Once you have scheduled your exam time, your exam will contain 40 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.