uCertify

Course Outline

MongoDB 4 for Beginners

18 May 2024

1. Course Objective
2. Pre-Assessment
3. Exercises, Quizzes, Flashcards & Glossary

   Number of Questions
4. Expert Instructor-Led Training
5. ADA Compliant & JAWS Compatible Platform
6. State of the Art Educator Tools
7. Award Winning Learning Platform (LMS)
8. Chapter & Lessons

   Syllabus

   Chapter 1: Preface

   Chapter 2: Introducing MongoDB

   Chapter 3: Understanding MongoDB Data Structures

   Chapter 4: Using the MongoDB Shell

   Chapter 5: Developing with Program Language Drivers

   Chapter 6: Building Complex Queries Using Aggregation

   Chapter 7: Maintaining MongoDB Performance

   Chapter 8: Securing MongoDB

   Chapter 9: Getting from a Web Form to MongoDB

   Chapter 10: Appendix A: Using Docker

   Videos and How To
9. Practice Test

   Here's what you get

   Features
10. Live labs

    Lab Tasks

    Here's what you get
11. Post-Assessment

1. Course Objective

Learn MongoDB tools and other concepts with the MongoDB 4 for Beginners course and lab. The lab is cloud-based, device-enabled, and can be easily integrated with an LMS. The MongoDB course and lab cover MongoDB basic and advanced concepts. The course provides knowledge on topics such as MongoDB data structures and shell; developing with program language drivers, MongoDB security, maintaining MongoDB performance, using MongoDB shell, and much more.

2. Pre-Assessment

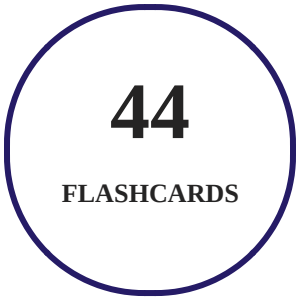
Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

3. Quiz

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.

4. flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.



5. Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.

6. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

7. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

8. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

9. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**
    1. Best Postsecondary Learning Solution

- **2015**
    1. Best Education Solution

2. Best Virtual Learning Solution
3. Best Student Assessment Solution
4. Best Postsecondary Learning Solution
5. Best Career and Workforce Readiness Solution
6. Best Instructional Solution in Other Curriculum Areas
7. Best Corporate Learning/Workforce Development Solution

- **2016**
    1. Best Virtual Learning Solution
    2. Best Education Cloud-based Solution
    3. Best College and Career Readiness Solution
    4. Best Corporate / Workforce Learning Solution
    5. Best Postsecondary Learning Content Solution
    6. Best Postsecondary LMS or Learning Platform
    7. Best Learning Relationship Management Solution

- **2017**
    1. Best Overall Education Solution
    2. Best Student Assessment Solution
    3. Best Corporate/Workforce Learning Solution
    4. Best Higher Education LMS or Learning Platform

- **2018**
    1. Best Higher Education LMS or Learning Platform
    2. Best Instructional Solution in Other Curriculum Areas
    3. Best Learning Relationship Management Solution

- **2019**
    1. Best Virtual Learning Solution
    2. Best Content Authoring Development or Curation Solution
    3. Best Higher Education Learning Management Solution (LMS)

- **2020**

1. Best College and Career Readiness Solution
2. Best Cross-Curricular Solution
3. Best Virtual Learning Solution

10. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

Syllabus

Chapter 1: Preface

- Who this course is for?
- What this course covers?
- To get the most out of this course
- Conventions used

Chapter 2: Introducing MongoDB

- Overview of MongoDB
- Installing MongoDB

- Installing MongoDB on Linux
- Summary

Chapter 3: Understanding MongoDB Data Structures

- What is NoSQL?
- Documents, collections, and database
- Data-modeling considerations
- Creating a MongoDB database and collection
- Summary

Chapter 4: Using the MongoDB Shell

- Overview
- Performing simple queries
- Database and collection operations
- Creating, updating, or deleting documents
- Creating and running shell scripts
- Summary

Chapter 5: Developing with Program Language Drivers

- Overview of the MongoDB PHP driver
- Installing the MongoDB PHP extension
- Performing CRUD operations using PHPLIB
- Other libraries and framework integration
- Summary

Chapter 6: Building Complex Queries Using Aggregation

- An overview of aggregation
- Using single-purpose aggregation
- Using the aggregation pipeline
- Using map-reduce
- Using the MongoDB Compass aggregation pipeline builder
- Summary

Chapter 7: Maintaining MongoDB Performance

- Indexes
- Simple backup and restore
- Replication

- Sharding
- Summary

Chapter 8: Securing MongoDB

- MongoDB security overview
- Transport Layer Security
- Authentication
- Access control
- Summary

Chapter 9: Getting from a Web Form to MongoDB

- Building the application
- Configuring transaction support
- Adding security
- Summary

Chapter 10: Appendix A: Using Docker

- Using MongoDB with Docker

11. Practice Test

uCertify provides full length practice tests. These tests closely follow the exam objectives and are designed to simulate real exam conditions. Each course has a number of test sets consisting of hundreds of items to ensure that learners are prepared for the certification exam.

Here's what you get

40	2	40
PRE-ASSESSMENTS QUESTIONS	FULL LENGTH TESTS	POST-ASSESSMENTS QUESTIONS

Features

Each question comes with detailed remediation explaining not only why an answer option is correct but also why it is incorrect.

Unlimited Practice

Each test can be taken unlimited number of times until the learner feels they are prepared. Learner can review the test and read detailed remediation. Detailed test history is also available.

Each test set comes with learn, test and review modes. In learn mode, learners will attempt a question and will get immediate feedback and complete remediation as they move on to the next question. In test mode, learners can take a timed test simulating the actual exam conditions. In review mode, learners can read through one item at a time without attempting it.

12. Live Labs

The benefits of live-labs are:

- Exam based practical tasks
- Real equipment, absolutely no simulations
- Access to the latest industry technologies
- Available anytime, anywhere on any device
- Break and Reset functionality
- No hardware costs

Lab Tasks

Introducing MongoDB

- Installing MongoDB on Kali Linux
- Installing MongoDB on Linux

Using the MongoDB Shell

- Creating a Database
- Dropping a Database
- Creating a Collection
- Deleting a Collection
- Creating Multiple Documents
- Deleting a Document
- Running a Direct Command
- Running a Shell Script

Developing with Program Language Drivers

- Searching by Name

Building Complex Queries Using Aggregation

- Using Single-Purpose Aggregation
- Using the Aggregation Pipeline
- Using the $group Stage Accumulators
- Using the $lookup Stage Accumulators
- Using the $match Stage Accumulators
- Using the $anyElementTrue Expression Operator
- Using the $add Expression Operator
- Using map-reduce

Maintaining MongoDB Performance

- Creating Single Field Indexes
- Creating Compound Indexes
- Creating Multi-Key Indexes
- Using mongodump
- Using mongorestore

Securing MongoDB

- Mongo Shell Authentication using SCRAM
- Creating a Role
- Dropping a Role
- Creating a User
- Dropping a User

Here's what you get

29	27
LIVE LABS	VIDEO TUTORIALS

13. Post-Assessment

After completion of the uCertify course Post-Assessments are given to students and often used in conjunction with a Pre-Assessment to measure their achievement and the effectiveness of the exam.

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