Course Out

Administering a SQL Database I
764)



24 Mar 2024

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1. Course Objective

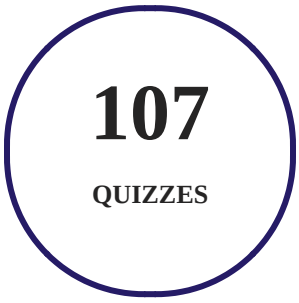
Kick start your prep for the MCSA 70-764 certification exam with the Administering a SQL Database Infrastructure (70-764) course and lab. The lab is cloud-based, device-enabled, and can be easily integrated with an LMS. The SQL training course covers the MCSA 70-764 exam objectives and provides the knowledge and skills required to configure data access and auditing; manage backup and restore of the database; manage and monitor SQL Server instance; and manage high availability and disaster recovery.

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.

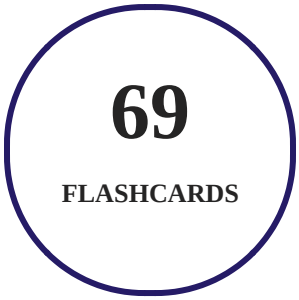
3. Quizzes

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: Introduction

- About 70-764 Exam
- Install and Configure the AdventureWorks2016 Database

Chapter 2: Configure Encryption

- Key Management Architecture and Encryption Hierarchy
- Cell-Level Encryption
- Transparent Data Encryption
- Always Encrypted

- Backup Encryption
- Connection Encryption
- Encryption Troubleshooting
- Summary

Chapter 3: Configure Data Access and Permission

- Create and Maintain Users
- Create and Maintain Custom Roles
- Manage Database Object Permission
- Configure User Option for Azure SQL Database
- Configure Row-Level Security (RLS)
- Configure Dynamic Data Masking (DDM)
- Summary

Chapter 4: Configure Auditing

- Manage a SQL Server Audit
- Query the SQL Server Audit Log
- Configure and Manage Azure SQL Database Audit

- Summary

Chapter 5: Develop a Backup Strategy

- SQL Server Backup Tips
- Backup Types
- Summary

Chapter 6: Manage Database

- Backup Very Large Databases (VLDB)
- Benchmark a Server
- Performance Tuning on Azure IaaS
- Manage Very Large Databases
- Summary

Chapter 7: Alert Data for Failed Backups

- Configure Alerting for Failed Backups
- Backup Database to Azure
- Manage Transaction Log Backups
- Configure Backup Automation

- Perform Piecemeal Restores
- Summary

Chapter 8: Restore Data

- Restore Databases
- Perform Page Restore
- Perform Point-in-Time Recovery
- Restore Filegroups
- Develop a Plan to Automate and Test Restores
- Summary

Chapter 9: Manage Database Integrity

- Implement Database Consistency Checks
- Identify Database Corruption
- Recover from Database Corruption
- Summary

Chapter 10: Database Activity

- Blocking Activities

- tempdb Resources
- Data Collector
- Summary

Chapter 11: Query Store

- Manage the Query Store
- Extended Events
- Identify Problematic Execution Plans
- Summary

Chapter 12: Manage Indexes

- Identify and Repair Index Fragmentation
- Identify and Create Missing Indexes
- Manage Columnstore Indexes
- Manage Partitioned Tables
- Summary

Chapter 13: SQL Server Instances

- Create and Manage Operators

- Create and Manage SQL Agent Alerts
- Configure Policy-Based Management
- Identify Available Space on Data Volumes
- Identify the Cause of Manage Performance Degradation
- Summary

Chapter 14: Implement Log Shipping and Configure Cluster

- Configure and Monitor Log Shipping
- Windows Server Failover Cluster
- Manage Shared Disks
- Cluster Shared Volumes
- Summary

Chapter 15: Availability Group

- Database Mirroring
- Create an Availability Group
- Manage Failover
- Configure Read-Only Routing

- Create Distributed Availability Groups
- Summary

Videos and How To

uCertify course includes videos to help understand concepts. It also includes How Tos that help learners in accomplishing certain tasks.

102	20:32
VIDEOS	HOURS

11. Practice Test

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

Configure Data Access and Permission

- Creating a New User with System Administrator Rights
- Creating a Database Role
- Creating an Application Role
- Granting Permissions to Create Tables

Configure Auditing

- Creating a Server Audit and its Specification
- Creating and Enabling the SQL Server Audit Log

Develop a Backup Strategy

- Setting the Recovery Model in SQL Server

Manage Database

- Adding a File to a Database
- Adding a Filegroup with Two Files to a Database
- Adding Two Log Files to a Database
- Removing a File from a Database

Alert Data for Failed Backups

- Monitoring a Full Backup of the Database

Restore Data

- Restoring a Database
- Restoring Filegroups

Manage Database Integrity

- Using the ALTER Command with the ROLLBACK IMMEDIATE Command
- Using CHECKDB
- Using the CHECKSUM Verification
- Creating a Database Snapshot

Database Activity

- Using sp_who
- Using sys.dm_os_waiting_tasks

- Using sys.dm_db_file_space_usage
- Returning Pages and Usage Information of User Objects

Query Store

- Retrieving Information About Query Store Options
- Retrieving Information About Query Store Status
- Retrieving All of the Stored Procedures for a Database
- Retrieving a List of T-SQL Statements and Query Plans
- Retrieving the Query Plan, Query Text, and Execution Count

Manage Indexes

- Enabling DTA for a Query Store
- Creating a Partitioned Table Using SSMS

SQL Server Instances

- Creating Custom Categories for Policies
- Using sys.dm_os_volume_stats
- Modifying DB Startup Parameters to Optimize Performance
- Creating an Event Session

Here's what you get

33	34	32
LIVE LABS	VIDEO TUTORIALS	MINUTES

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.

GET IN TOUCH:

3187 Independence Drive
Livermore, CA 94551,
United States

+1-415-763-6300

support@ucertify.com

www.ucertify.com