

Microsoft Certified IT Professional (MCITP): Database Developer

Includes: Exams 70-431 (Prerequisite MCTS certification), 70-441 & 70-442 (Two Professional Exams)

Exam 70-431: Microsoft Certified Technology Specialist (MCTS): SQL Server 2005 (Prerequisite MCTS certification)

Course Content

Microsoft Certified Technology Specialists in Microsoft SQL Server 2005 (MCTS: SQL Server 2005) implement and maintain SQL Server databases and typically pursue careers as database administrators, database developers, or business intelligence developers. This course teaches students how to use the tools and Transact-SQL language and know how to explore the user interface.

When you pass Exam 70-431: TS: Microsoft SQL Server 2005 – Implementation and Maintenance, you complete the requirements for the following certification:

- MCTS: Microsoft Certified Technology Specialist: SQL Server 2005

Exam 70-431 is also credit toward the following certifications:

- MCITP: Database Administrator
- MCITP: Database Developer
- MCSA on Microsoft Windows 2000
- MCSA on Microsoft Windows 2003
- MCSE on Microsoft Windows 2000
- MCSE on Microsoft Windows 2003

Learning segments:

Implementing a Microsoft SQL Server 2005 Database (Course 2779)

Module-1 Creating Databases and Database Files

Creating Databases

Creating Filegroups

Creating Schemas

Creating Database Snapshots

Module-2 Creating Data Types and Tables

Creating Data Types

Creating Tables

Creating Partitioned Tables

Module-3 Using XML

Retrieving XML by Using FOR XML

Shredding XML by Using OPENXML

Using the XML Data Type

Module-4 Creating and Tuning Indexes

Planning Indexes

Creating Indexes

Optimizing Indexes

Creating XML Indexes

Module-5 Implementing Data Integrity

Data Integrity Overview

Implementing Constraints

Implementing Triggers
Implementing XML Schemas

Module-6 Implementing Views
Introduction to Views
Creating and Managing Views
Optimizing Performance by Using Views

Module-7 Implementing Stored Procedures and Functions
Implementing Stored Procedures
Creating Parameterized Stored Procedures
Creating Functions
Handling Errors
Controlling Execution Context

Module-8 Implementing Managed Code in the Database
Introduction to the SQL Server Common Language Runtime
Importing and Configuring Assemblies
Creating Managed Database Objects

Module-9 Using Service Broker
Service Broker Overview
Creating Service Broker Objects
Sending and Receiving Messages

Maintaining a Microsoft SQL Server 2005 Database
(Course 2780)
Module-1 Installing and Configuring SQL Server 2005
Preparing to install SQL Server
Installing SQL Server
Managing a SQL Server 2005 Installation

Module-2 Managing Databases and Files
Planning databases
Creating databases
Managing databases

Module-3 Disaster Recovery
Planning a Backup Strategy
Backing Up User Databases
Restoring User Databases
Recovering Data from Database Snapshots
System Database and Disaster Recovery

Module-4 Managing Security
Overview of SQL Server Security
Securing the Server Scope
Securing the Database Scope
Managing Keys and Certificates in SQL Server

Module-5 Monitoring SQL Server
Viewing Current Activity
Using System Monitor
Using SQL Server Profiler
Using DDL Triggers
Using Event Notifications

Module-6 Transferring Data

Overview of Data Transfer
Introduction to SQL Server Integration Services
Using SQL Server Integration Services

Module-7 Automating Administrative Tasks
Automating Administrative Tasks in SQL Server 2005
Configuring the SQL Server Agent
Creating Jobs and Operators
Creating Alerts
Managing Multiple Servers
Managing SQL Server Agent Security

Module-8 Maintaining High Availability
Introduction to High Availability
Implementing Server Clustering
Implementing Database Mirroring
Implementing Log Shipping

Module-9 Introduction to Replication
Overview of Replication
Replication Scenarios

Exam 70-441: PRO: Designing Database Solutions by Using Microsoft SQL Server 2005 (Professional Exam)

Microsoft Certified IT Professional: Database Developer (MCITP: Database Developer) is the premier certification for database designers and developers. This credential demonstrates that you can design a secure, stable, enterprise database solution by using Microsoft SQL Server 2005. ReTrain for IT's 70-441 course teaches database developers who work in enterprise environments to identify and place database technologies during design to achieve a suitable solution that meets the needs of an organization and how to design databases for Microsoft SQL Server 2005 using business requirements.

Learning segments:

Designing Microsoft SQL Server 2005 Server-Side Solutions (Course 2781)

Module 1: Selecting SQL Server Services to Support Business Needs

Overview of the Built-in SQL Server Services
Evaluating When to Use the New SQL Server Services
Evaluating the Use of Database Engine Enhancements

Module 2: Designing a Security Strategy

Overview of Authentication Modes and Authorization Strategies
Designing a Security Strategy for Components of a SQL Server 2005 Solution
Designing Objects to Manage Application Access
Creating an Auditing Strategy
Managing Multiple Development Teams Using the SQL Server 2005 Security Features

Module 3: Designing a Data Modeling Strategy

Defining Standards for Storing XML Data in a Solution
Designing a Database Solution Schema
Designing a Scale-Out Strategy

Module 4: Designing a Transaction Strategy for a SQL Server 2005 Solution
Defining Data Behavior Requirements

Defining Isolation Levels
Designing a Resilient Transaction Strategy

Module 5: Designing a Notification Services Solution

Defining Event Data
Designing a Subscription Strategy
Designing a Notification Strategy
Designing a Notification Delivery Strategy

Module 6: Designing a Service Broker Solution

Designing a Service Broker Solution Architecture
Designing Service Broker Data Flow
Designing Service Broker Solution Availability

Module 7: Planning for Source Control, Unit Testing, and Deployment

Designing a Source Control Strategy
Designing a Unit Test Plan
Creating a Performance Baseline and Benchmarking Strategy
Designing a Deployment Strategy

Module 8: Evaluating Advanced Query and XML Techniques

Evaluating Common Table Expressions
Evaluating Pivot Queries
Evaluating Ranking Queries
Overview of XQuery
Overview of Strategies for Converting Data Between XML and Relational Formats

Maintaining a Microsoft SQL Server 2005 Database (Course 2782)

Module 1: Approaching Database Design Systematically

Overview of Database Design
Gathering Database Requirements
Creating a Conceptual Database Design

Module 2: Modeling a Database at the Logical Level

Building a Logical Database Model
Designing for OLTP Activity
Designing for Data Warehousing
Evaluating Logical Models

Module 3: Modeling a Database at the Physical Level

Designing Physical Database Objects
Designing Constraints
Designing for Database Security
Designing Server and Database Options
Evaluating the Physical Model

Module 4: Designing for Database Performance

Designing Indexes
Planning for Table Optimization
Planning for Database Optimization

Module 5: Designing a Database Access Strategy

Designing for Secure Data Access
Designing User-Defined Functions
Designing Stored Procedures

Module 6: Modeling Database Dependencies

Modeling Local Database Dependencies
Modeling Remote Database Dependencies

Exam 70-442: PRO: Designing and Optimizing Data Access by Using Microsoft SQL Server 2005 (Professional Exam)

Microsoft Certified IT Professional: Database Developer (MCITP: Database Developer) is the premier certification for database designers and developers. This credential demonstrates that you can design a secure, stable, enterprise database solution by using Microsoft SQL Server 2005. ReTrain for IT's 70-442 course teaches database developers working in enterprise environments to design server-side database solutions that utilize SQL Server 2005 services, how to design databases solutions that meet organizational data access needs and how to analyze and address performance bottlenecks that occur within their Microsoft® SQL Server™ 2005 database solutions.

Learning segments:

Designing Microsoft SQL Server 2005 Server-Side Solutions (Course 2781)

Module 1: Selecting SQL Server Services to Support Business Needs

Overview of the Built-in SQL Server Services
Evaluating When to Use the New SQL Server Services
Evaluating the Use of Database Engine Enhancements

Module 2: Designing a Security Strategy

Overview of Authentication Modes and Authorization Strategies
Designing a Security Strategy for Components of a SQL Server 2005 Solution
Designing Objects to Manage Application Access
Creating an Auditing Strategy
Managing Multiple Development Teams Using the SQL Server 2005 Security Features

Module 3: Designing a Data Modeling Strategy

Defining Standards for Storing XML Data in a Solution
Designing a Database Solution Schema
Designing a Scale-Out Strategy

Module 4: Designing a Transaction Strategy for a SQL Server 2005 Solution

Defining Data Behavior Requirements
Defining Isolation Levels
Designing a Resilient Transaction Strategy

Module 5: Designing a Notification Services Solution

Defining Event Data
Designing a Subscription Strategy
Designing a Notification Strategy

Designing a Notification Delivery Strategy

Module 6: Designing a Service Broker Solution

Designing a Service Broker Solution Architecture

Designing Service Broker Data Flow

Designing Service Broker Solution Availability

Module 7: Planning for Source Control, Unit Testing, and Deployment

Designing a Source Control Strategy

Designing a Unit Test Plan

Creating a Performance Baseline and Benchmarking Strategy

Designing a Deployment Strategy

Module 8: Evaluating Advanced Query and XML Techniques

Evaluating Common Table Expressions

Evaluating Pivot Queries

Evaluating Ranking Queries

Overview of XQuery

Overview of Strategies for Converting Data Between XML and Relational Formats

Designing the Data Tier for a Microsoft SQL Server 2005 (Course 2783)

Module-1 Choosing Data Access Technologies and an Object Model

Introduction to Data Access Technologies

Choosing Technologies for Accessing Data

Building a Data Access Layer

Designing Data Access from SQL Common Language Runtime (CLR) Objects

Available Data Object Models for Administering SQL Server

Module-2 Designing an Exception Handling Strategy

Exception Types and Their Purposes

Detecting Exceptions

Managing Exceptions

Module 3: Choosing a Cursor Strategy

Common Scenarios for Row-Based vs. Set-Based Operations

Selecting Appropriate Server-Side Cursors

Selecting Appropriate Client-Side Cursors

Module 4: Designing Query Strategies Using Multiple Active Result Sets

Introduction to MARS

Designing Query Strategies for Multiple Reads

Designing Query Strategies for Mixing Reads and Writes in the Same Connection

Concurrency Considerations When Using MARS

Module 5: Designing Caching Strategies for Database Applications

Why Caching Is Important

Data and Query Caching in SQL Server 2005

Using Caching Technologies Outside of SQL Server

Custom Caching Techniques

Module 6: Designing a Scalable Data Tier for Database Applications

Identifying the Need to Scale

Scaling Database Applications to Avoid Concurrency Contention

Scaling SQL Server Database Systems

Scaling Database Applications Using a Service-Oriented Architecture

Improving Availability and Scalability by Scaling Out Front-End Systems

Tuning and Optimizing Queries using Microsoft SQL Server 2005 (Course 2784)

Module 1: Measuring Database Performance

Importance of Benchmarking

Key Measures for Query Performance: Sysmon

Key Measures for Query Performance: Profiler

Guidelines for Identifying Locking and Blocking

Module 2: Optimizing Physical Database Design

Performance Optimization Model

Schema Optimization Strategy: Keys

Schema Optimization Strategy: Responsible Denormalization

Schema Optimization Strategy: Generalization

Module 3: Optimizing Queries for Performance

Performance Optimization Model: Queries

What Is Query Logical Flow?

Considerations for Using Subqueries

Module 4: Refactoring Cursors into Queries

Performance Optimization Model: Query-Set-based solutions

Five Steps to Building a Cursor

Strategies for Refactoring Cursors

Module 5: Optimizing an Indexing Strategy

Performance Optimization Model: Indexes

Considerations for Using Indexes

Best Uses of the Clustered Index

Best Practices for Non-Clustered Index Design

How to Document an Indexing Strategy

Module 6: Managing Concurrency

Performance Optimization Model: Locking and Blocking

Multimedia - "How to Use Efficient Queries to Reduce Locking and Blocking"

Strategies to Reduce Locking and Blocking

COURSE DESIGN & FEATURES

Self Paced CBT

Instructional Design Principles

Instructor-Led Training

Full motion video

Navigation and Controls

Practice Tests and Exam Simulators

Hands-on Lab Simulation

Digital Video/Audio Presentations

Multimedia Presentations

Realistic Simulations

Vendor Approved Curriculum

Self Paced CBT

Our Computer Based Training is divided into courses, which are divided into units. Each unit consists of a well-defined set of learning objectives, a series of interactions that teach the stated objectives, and a means for evaluating whether the learning objectives have been met.

Instructional Design Principles

Our courses are based on sound principles from research in instructional design, adult learning, and information processing. We believe that for training to be effective, the learner must view the training as meaningful and relevant. The learner must be engaged as an active participant.

Instructor-Led Training

This combines both the convenience and affordability of computer-based training with the effectiveness of a traditional classroom setting. The instructors featured in our multimedia CD's are not only certified in their area of expertise, but also have years of real world experience and are subject matter experts in their fields. Our courses feature video modules of our instructors teaching the information directly to you. This creates a personal learning experience and simulates the benefits of classroom learning- without leaving the comfort of your home.

Full motion video

Each class is presented in full motion video allowing you to see the steps, hear the explanations, and perform the tasks which includes our interactive hands-on training simulations, students will learn from real-world scenarios taught by our expert instructor.

Navigation and Controls

Our self-paced elearning courseware is designed to give you the freedom to proceed through each training class at your own pace. Courses are arranged in sections, with navigation and controls that allow you to fast forward, skip, go back, stop, restart, and control the pace of your training. You can stop at any time and easily find where you left off in your training.

Practice Tests and Exam Simulators

We incorporate practice tests and certification exam simulators into all of our courseware. The flexibility of our practice tests and exam simulators allow you to apply your knowledge and test what you have learned, ensuring you have the skills and confidence needed to pass your exams - the first time.

Hands-on Lab Simulation

Our courseware includes instructor-led demonstrations and hands-on lab exercises that allow you to practice what you learn in a fully functional, simulated environment. You will learn how to implement what you have learned to build skills for your chosen area of study and to pass your exams.

Our training system employs the next generation learning curriculum. Our courses include hands-on lab exercises that allow you to practice what you learn in a fully functional, simulated environment. You'll learn how to implement and utilize your knowledge to build the skills you need for your chosen area of study and to pass your exams. Hands-on Lab Simulation is a crucial component of your IT training. Practice makes perfect. Step-by-step hands-on labs with detail instructions are included to reinforce all key concepts. When you complete a topic, choose the Lab Simulation button to select the associated hands-on lab exercises. Labs allow you to reinforce concepts by performing the tasks you've just learned.

Digital Video/Audio Presentations

Our courses are developed using the latest in digital video/audio technology. Setting the standard for IT training, our courses provide you something no one else can - next generation, interactive, and effective training solutions. Do not accept any training unless it meets the high standards we offer - you deserve the best training there is!

Multimedia Presentations

Incorporating PowerPoint, Flash animations, charts, graphs, graphics and other relevant course material enhances the user experience of our computer based training modules. The use of multimedia reinforces key learning material and creates a more stimulating user experience.

Realistic Simulations

So you can see how the application really works. All Courses also include pre and post-test which identifies individual strengths and weaknesses, allowing you to take only the units you haven't mastered and test how well you've mastered the completed Module.

Vendor Approved Curriculum

ReTrain for IT's Computer-Based-Training modules have been designed in partnership with Microsoft, CompTIA and the EC Council and incorporate the official approved curriculum, guaranteeing you receive the appropriate information and training needed to get you certified.

Testing Centres

Prometric Test Centres

Prometric offers the most extensive, professional and secure testing network in the world where tests are delivered in over 160 countries in over 7,500 locations.

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