

# STRATEGIES FOR PASSING (MOSTLY) MICROSOFT CERTIFICATION EXAMS

By George Squillace



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#### George SQUILLACE

"SQL" is in the name!

- Husband & Dad
- Twenty Four Years of New Horizons service (June 2016)
- 30+ years in Information Technology
- Microsoft Certified Trainer (MCT) since 1997
- **■** Microsoft SQL Server certifications
  - MCSE: Business Intelligence
  - MCSE: Data Platform
  - MCSA
- SQL user group presenter
- Microsoft Virtual Academy presenter
- **SQLSaturday presenter**



Microsoft Virtual Academy



Business Intelligence

Data Platform





For fun: (no particular order)

Movies

Reading

Bicycling (road / city / trail)

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Travel

Music / Acoustic Guitar

Computers

Aircraft

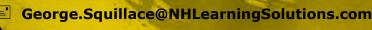


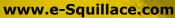












#### Agenda

➤ What is certification?



➤ How do I certify?

➤ How do I prepare?

Most pictures are hyperlinked leading you to other resources!











- > 99 exam sittings in the past 24+ years
- Passed almost every exam sitting on the first try (Thank you, dear Lord!)
- I've taken (and passed) vendor exams from Novell, CompTIA and Microsoft
  - (So, my testing experience is not from only one test vendor's reference point)
- I've earned a number of certifications from Novell, CompTIA and Microsoft over a range of products
- Certified in every version of SQL Server since SQL Server 2000
- ➤ Certified in every version of **Windows Server** from Windows NT 4.0 Windows Server 2008













#### What is Certification?

- Certification refers to the confirmation of certain characteristics of an object, person, or organization. This confirmation is often, but not always, provided by some form of external review, education, assessment, or audit.
- One of the most common types of certification in modern society is professional certification, where a person is certified as being able to competently complete a job or task, usually by the passing of an examination.
- Passing one or more challenging, computeradministered exams

Credit: Wikipedia



#### Why Certify?

- Verify skills / Confidence
- Prestige
  - > Not everyone can pass these exams
  - ➤ Not everyone is a good test-taker
- Job opportunities
  - > "Those holding an MCSE in the US, earn 17% more, on average, than those not certified."
- Salary / Raise / Bonus / Promotion \$\$\$
- Recognition
- Learn the product much more thoroughly / find more solutions
- Challenge
- Certification is not a "golden ticket"



#### **Microsoft Certification Tracks**







- Microsoft Technology Associate (MTA)
  - > "...an entry-level certification intended for people seeking knowledge of fundamental technology concepts"
  - "...addresses a wide spectrum of basic technical concepts"
- Microsoft Certified Solutions Associate (MCSA)
  - "...intended for people who seek entry-level jobs in an information technology environment. MCSA is a prerequisite for more advanced Microsoft certifications"

#### Microsoft Certified Solutions Expert (MCSE)

- Requires a prescribed MCSA certification
- "...intended for IT professionals seeking to demonstrate their ability to build innovative solutions across multiple technologies, both on-premises and in the cloud"

#### Data - Related MTA Certification

#### ➤ MTA: Database Fundamentals

- Exam 98-364, Database Fundamentals
- "...candidates for this exam are seeking to prove introductory knowledge of and skills with databases, including relational databases, such as Microsoft SQL Server"

## Data – Related MCSA Certifications

- MCSA: <u>SQL Server 2012/2014</u> (three exams)
  - Exam 70-461, Querying Microsoft SQL Server 2012/2014Y
  - Exam 70-462, Administering Microsoft SQL Server 2012/2014 Databases
  - Exam 70-463, Implementing a Data Warehouse with Microsoft SQL Server 2012/2014
- MCSA: <u>SQL 2016 Database Administration</u> (two exams)
  - Exam 70-764, Administering a SQL Database Infrastructure
  - Exam 70-765, Provisioning SQL Databases
- MCSA: <u>SQL 2016 Database Development</u> (two exams)
  - Exam 70-761, Querying Data with Transact-SQL
  - Exam 70-762, Developing SQL Databases
- MCSA: <u>SQL 2016 BI Development</u> (two exams)
  - > Exam 70-767, Implementing a SQL Data Warehouse
  - Exam 70-768, Developing SQL Data Models
- MCSA: <u>BI Reporting</u> (two exams)
  - Exam 70-778, Analyzing and Visualizing Data with Power BI
  - Exam 70-779, Analyzing and Visualizing Data with Microsoft Excel (beta)
- MCSA: <u>Machine Learning</u> (two exams)
  - Exam 70-773, Analyzing Big Data with Microsoft R
  - Exam 70-774, Perform Cloud Data Science with Azure Machine Learning
- MCSA: <u>Data Engineering with Azure</u>
  - Exam 70-775, Perform Data Engineering on Microsoft HD Insight
  - Exam 70-776, Perform Big Data Engineering on Microsoft Cloud Services (beta)



## Data – Related MCSE Certifications

- ► MCSE: <u>Data Management and Analytics</u> (two exams)
  - Earn MCSA (six different MCSAs qualify)
  - Pass one of the following exams:
    - Exam 70-473, Designing and Implementing Cloud Data Platform Solutions
    - > Exam 70-475, Designing and Implementing Big Data Analytics Solutions
    - > Exam 70-464, Developing Microsoft SQL Server Databases
    - Exam 70-465, Designing Database Solutions for Microsoft SQL Server
    - Exam 70-466, Implementing Data Models and Reports with Microsoft SQL Server
    - > Exam 70-467, Designing Business Intelligence Solutions with Microsoft SQL Server
    - Exam 70-762, Developing SQL Databases
    - Exam 70-767, Implementing a Data Warehouse using SQL
    - Exam 70-768, Developing SQL Data Models
    - Exam 70-773, Analyzing Big Data with Microsoft R
    - Exam 70-774, Perform Cloud Data Science with Azure Machine Learning
    - Exam 70-775, Perform Data Engineering on Microsoft Azure HDInsight

#### **SQL Server 2016 Certifications**

(partial certification list)

- > MTA
- **MCSA**
- **MCSE**



Microsoft Certified Solutions Expert (MCSE)

(must possess one exam and requires earning MCSA first)

Developing Microsoft **SQL Server Databases** 

Exam 70-464 Exam 70-465

Implementing Designing Data Models Database **And Reports** Solutions with **SQL Server SQL Server** 

for

Exam 70-466

Designing **Business** Intelligence Solutions with SQL Server

Exam 70-467

Designing and **Implementing Cloud Data** Platform Solutions

Exam 70-473

Designing and Implementing Big Data Analytics Solutions

Exam 70-475

Exams 473 and 475 are not yet available.

Database **Fundamentals** 

Exam 98-364

Microsoft Technology Associate (MTA)

**Querving Data** with Transact-SQL

Exam 70-761

Developing **SQL Databases** 

Exam 70-762

MCSA: SQL 2016 **Database Development**  Administering a **SQL Database** Infrastructure

Exam 70-764

**SQL Databases** Exam 70-765

Provisioning

MCSE: Data Management and Analytics

> Data Warehouses with SQL Server 2012

Implementing

Developing Data Models Exam 70-768

Exam 70-767

MCSA: SQL 2016 **Business Intelligence** Development

Microsoft Certified Solutions Associate (MCSA) certifications

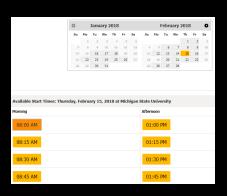
MCSA: SQL 2016

**Database Administration** 

## So, You've Decided to Certify: Test Registration Details

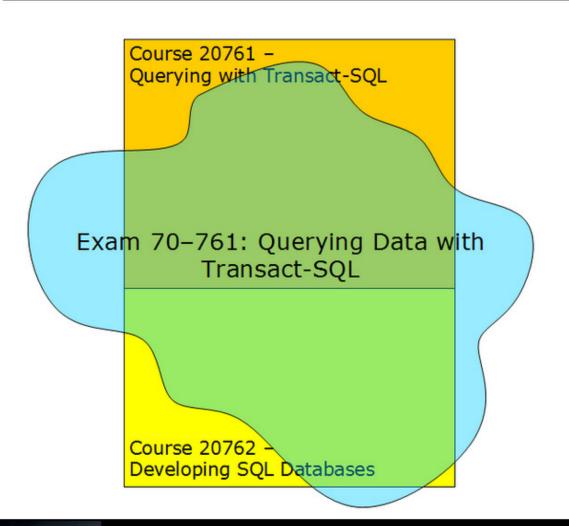
- Pearson Vue website
- Determine testing location
  - Remote testing is now available
- Determine desired timeframe
  - Morning
  - > Afternoon
- Fees
  - Example, \$165 for the Power BI exam
  - > Keep an eye out for promotions
  - Payment types
    - Voucher
    - Credit Card
- Identification (two forms required)
  - > Government ID with name, photo, and signature
  - Secondary form with name and signature

Select exam time



## V. Microsoft Exams





#### **Obvious condusions:**

Most exams relate to more than one course.

Some exam topics aren't found in any course.

Some course topics aren't covered in any exam.

Each exam has a "Skills Measured" description which becomes your studying target.

Skills measured



#### **Preparation Resources**



Exam preparation guide (a.k.a. "Skills Measured")

Microsoft Learning website

Microsoft Official Courses
(at New Horizons)



Microsoft TechNet <u>videos</u>

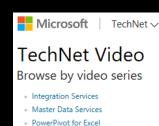
Microsoft Virtual Academy videos

Test preparation "Training Kits" (for the SQL 2012/2014 exams)

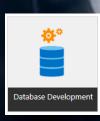
Test preparation software

See upcoming slides





- roweirivot ioi txtei
- Data Quality Services
- Data Minin
- SQL Server "How do I"?
- SQL Server Analysis Services (SSAS)
   "How Do I?"
- SQL Server 2008 Microsoft Certified Master (MCM) Readiness





#### **Test Preparation Software, Part 1**

- Test preparation software can be very helpful...
  - > ...the harder the exam
  - > ...the newer you are to testing
  - > ...the more anxiety you have
  - > ...the newer you are to the subject matter
- $> \frac{\text{Cost}}{\text{Cost}}$ , \$100 < x < \$150 per exam
- Preparation exams are very often harder than the actual exam
- Consider persuading your employer to cover the exam and preparation s'ware costs
- Sometimes abbreviated sample exams are available for free

#### **Test Preparation Software, Part 2**

- There are at least two test prep software deployment methods
  - ➤ Web-based
    - Connect to a subscription-based website, providing (for example) a six month preparation time window
    - Advantage: Allows you to connect anywhere, as long as you have a live connection
  - > Local executable
    - > Install a program to your local computer
      - Transcender
    - Advantage: Allows you to prepare anywhere, as long as you have the computer where you installed the software
- Test Prep Tip #1: Take five question tests while preparing
- Test Prep Tip #2: Take one test with every question and the answers and print the results with the answers to PDF
- Test Prep Tip #3: Don't worry about completing all of the questions; I don't generally visit even half the questions but I'm still properly prepared



#### **Test Preparation Software, Part 3**



	Transcender Club - Corporate Sales - Cert Prep Products - Conta	ct Us				
Transcende		#				
CERTIFICATION TRAINING	NETWORK PUBLISHING CLOUD SECURITY DATABASE DEVELOPMENT PROJE	СТ				
Home » Practice Exam » Microsoft » 70-461 Querying Microsoft SQL Server 2012/2014 (MCSA)						
RELATED PRODUCTS	Microsoft Practice Exam for 70-461 Querying Microsoft SQL Server 2012/2014 (MCSA)					
Cert-70-461 Quick Review Cert-70-461 Premium Solution	70 - 461 Querying Microsoft SoL Server 2012/2014  The Microsoft 70-461 practice exam is a simulation in minics the format, content, and difficulty of the actus Microsoft 70-461 certification exam. Not only will this practice exam develop your test-taking skills and identury of the actus of the access - 5109.00 practice exam develop your test-taking skills and identury or chances of passing the actual Microsoft 70-461 certification exam.  Choose an option Choise an option Show a symptom chance symptom and specification exam.  Choose an option Choise an option Show a symptom chance symptom and specification exam. Not only will this and indicate the choise of the choise option and specification exam. Not only will this and indicate the choise option and specification exam. Not only will this and indicate the choise option and specification exam. Not only will this and indicate the choise option and specification exam. Not only will this and indicate the choise option and specification exam. Not only will this and indicate the choise option and specification exam. Not only will this and indicate the choise option and the chois	ng ut.				
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#### Study Tip #1: Know Your Target

(Exam Objectives)



This exam measures your ability to accomplish the technical tasks listed below. The percentages indicate the relative weight of each major topic area on the exam. The higher the percentage, the more questions you are likely to see on that content area on the exam.

Please note that the questions may test on, but will not be limited to, the topics described in the bulleted text.

Hide all

Create database objects (24%)

Create and alter tables using T-SQL syntax (simple statements)

· Create tables without using the built in tools; ALTER; DROP; ALTER COLUMN; CREATE

Create and alter views (simple statements)

· Create indexed views; create views without using the built in tools; CREATE, ALTER, DROP

Design views

 Ensure code non regression by keeping consistent signature for procedure, views and function (interfaces); security implications

Create and modify constraints (simple statements)

Create constraints on tables; define constraints; unique constraints; default constraints; primary and foreign key constraints

Create and alter DML triggers.

 Inserted and deleted tables; nested triggers; types of triggers; update functions; handle multiple rows in a session; performance implications of triggers

Preparation resources

Table

. .

table\_constraint (Transact-SQL)

Work with data (27%)

Query data by using SELECT statements

- Use the ranking function to select top(X) rows for multiple categories in a single query; write and perform queries efficiently
  using the new (SQL 2005/8->) code items such as synonyms, and joins (except, intersect); implement logic which uses
  dynamic SQL and system metadata; write efficient, technically complex SQL queries, including all types of joins versus the use
- How are the test objectives located?
- Emphasize study of newer features
- Really...do I have to know ALL of that material?





### Study Tip #2: Managing the Volume of Material

➤ In regard to each product feature ask, "Is this a feature or skill every administrator / developer should know?"

Concentrate on those features



#### Study Tip #3: You'll Never Feel Ready Enough



- You can always postpone a day or two or more
- For what it's worth, near panic sets in a day or two before I take my test because I know I need to know more and better. I've learned to expect this (and my family gives me a lot of room then also)



#### What to Expect in the Testing Booth



- Marker board and pens
- Windows Calculator
- Use the restroom during the test
- Can't (no personal items)
  - "You will not be allowed to take any personal items with you into the testing room. This includes all bags or purses, books, notes, personal computers or devices, cell phones, pagers, watches and wallets."
- Dress for all temperatures
- There may be multiple people in the testing room.
- Expect being viewed by camera remotely
- Expect quiet
- Required passing score and total points presented at the beginning of the exam
- ➤ **Tip #4**: At the beginning of the exam calculate the points per question to determine the number of questions you must score correctly to obtain a passing score
- Exam score/outcome is immediately reported and printed

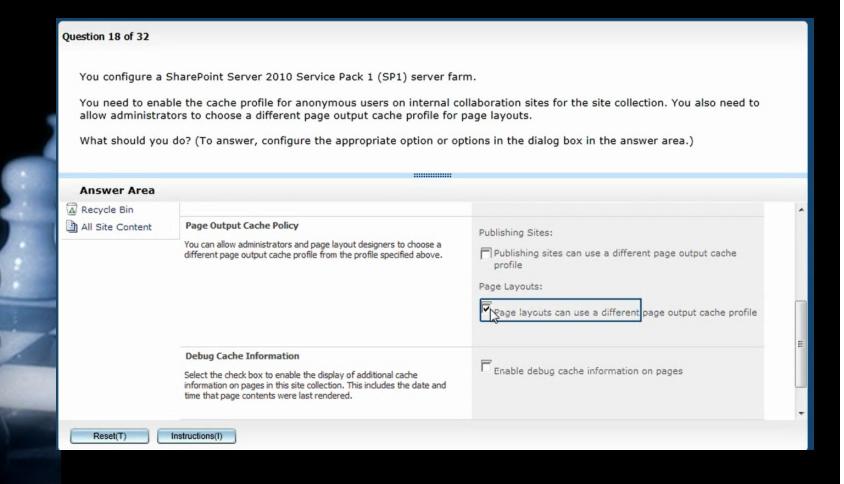




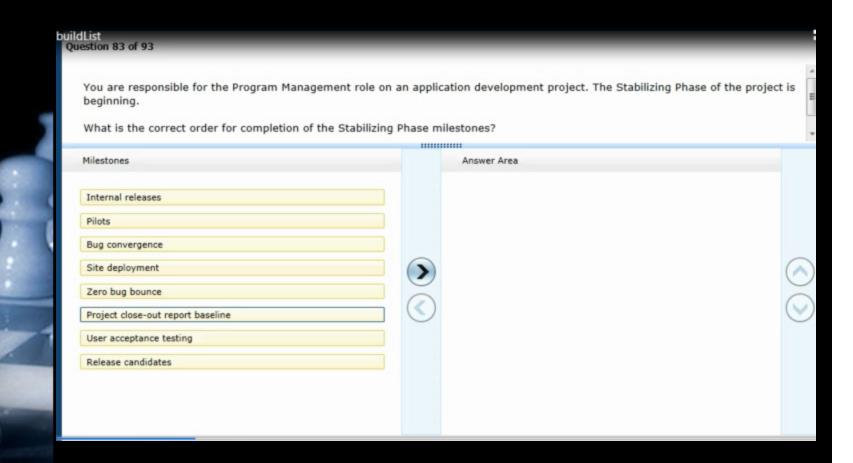
#### **Test Question Formats**

- Active Screen (interact with a complex dialog box, make appropriate choices)
- Build List (from a list of objects on the left pane need to be dragged into the right pane in the correct order)
- Case Studies (lengthy scenario, multiple questions, often include exhibits, often separately timed)
- Create-a-Tree
- Drag and Drop
- Hot Area
- Multiple Choice (sometimes the number of correct answers is provided, other times not)
- Repeated Answer Choices (same, large number of answers repeated over several questions)
- Simulations (portion wizard walkthrough)
- Short Answer Code (type programming code, key word list may be available)
- Best Answer (multiple choice, only one correct answer)
- Click here for short videos on what each of these look like
  - > Scroll down a bit more to see how exams are developed and modified

#### Test Question Format Active Screen



## Test Question Format Build List



## **Test Question Format Case Study**



#### Overview

This exam contains 2 case studies. The following case study includes 9 questions.

Case studies are not timed separately. You can use as much exam time as you we complete each case. However, manage your time to ensure you are able to complete all this exam. There are a total of 53 questions on this exam.

You will need to use the information provided in the case to answer the questions. Informa provided in the case apply to every question in this case study.

Each question is independent of the other questions in this case study. Information and de in a question apply only to that question.

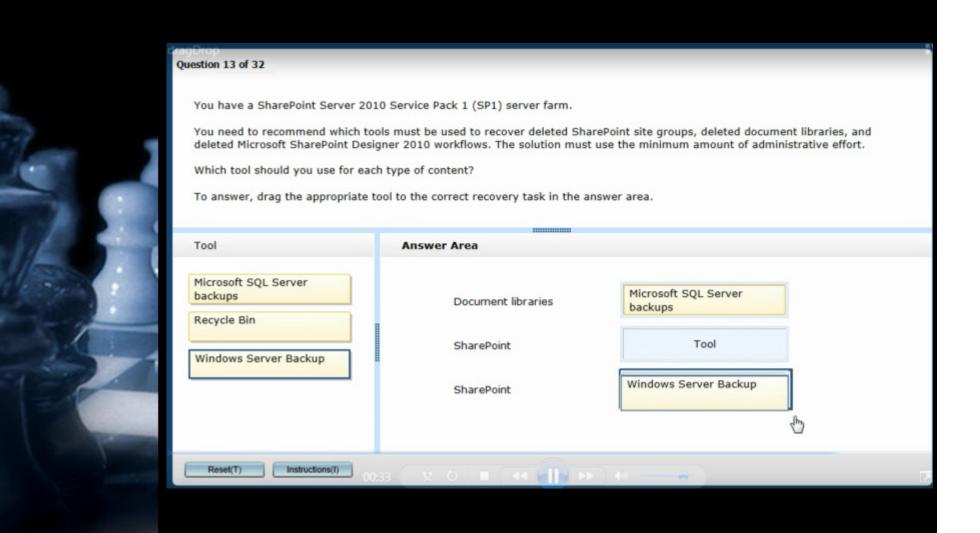
At the end of this case study, a review screen will appear. This screen allows you to review and to make changes before you move to the next section of the exam. After you begin a you cannot return to this section.

#### To start the case study

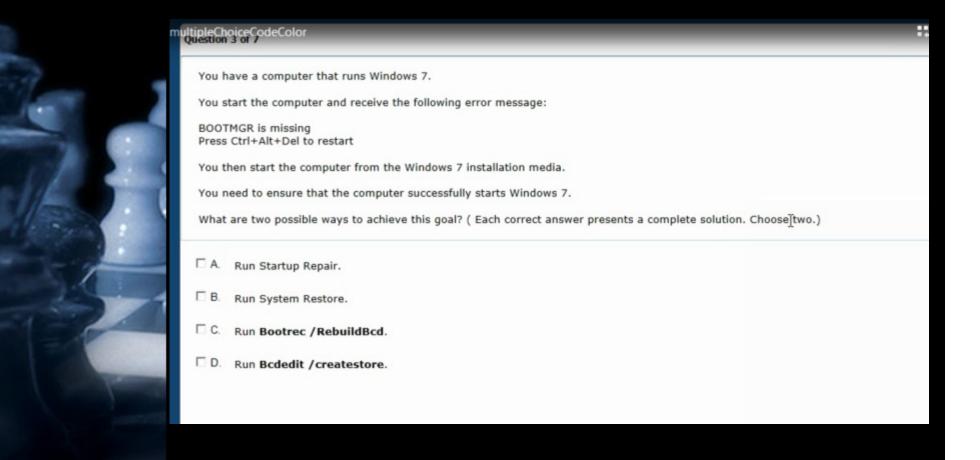
To display the first question in this case study, click the Next button. Use the buttons in th explore the content of the case study before you answer the questions. Clicking these butt

- They have a "story problem" format with 5-8 questions
- This is the primary format for design exams
- Irrelevant information is often included (just like the real world)
- Case study question series are often separately timed
- Often cannot return to review these questions

#### Test Question Format Drag and Drop



## **Test Question Format Multiple Choice**



## Test Question Format Repeated Answer

repeated\_answer\_series
Ouestion 1 of 3

A company has a deployment of Windows Deployment Services (WDS), the Microsoft Deployment Toolkit (MDT), and the Windows Automated Installation Kit (WAIK).

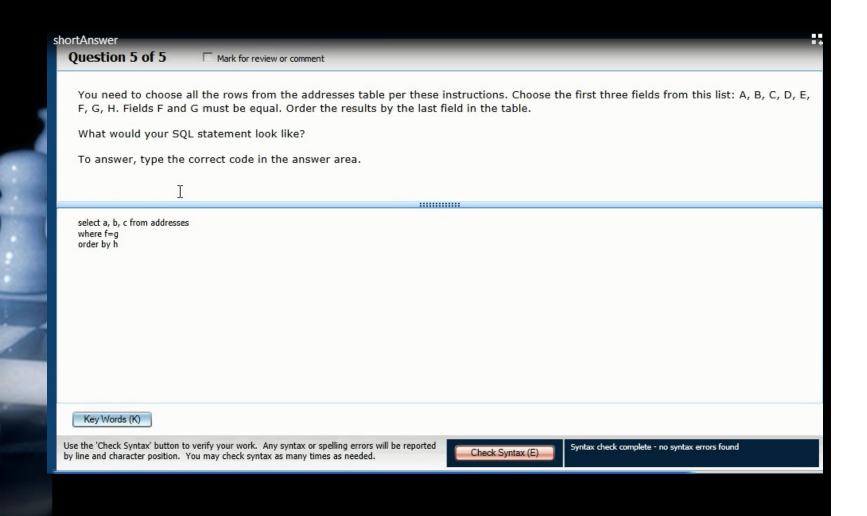
You are preparing to capture an image of a Windows 7 reference computer. You plan to deploy the image to new computers that have the same hardware as the reference computer.

You need to ensure that the captured image contains the device drivers from the reference computer.

What should you do?

- C A. Add a boot image in WDS.
- C B. Use Sysprep with an answer file and set the PersistAllDeviceInstalls option in the answer file to True.
- C C. Run the BCDEdit command.
- O D. Run the PEImg / Prep command.
- C E. Run the Start /w ocsetup command.
- C F. Run the Dism command with the /Add-Driver option.
- G. Run the Dism command with the /Mount-Wim option.
- C H Run the Dism command with the /Add-Package option.

## **Test Question Format Short Answer Code**



## Test Question Format Best Answer

#### bestAnswer Ouestion 1 of 2

You are designing a Windows desktop application for your company by using Microsoft .NET Framework 4 and Microsoft SQL Server 2008.

The middle tier of the application uses several **DataAdapter** objects that query a SQL Server database. The user interface (UI) tier of the application uses controls that are bound to Typed **DataSet** objects.

The database schema frequently changes.

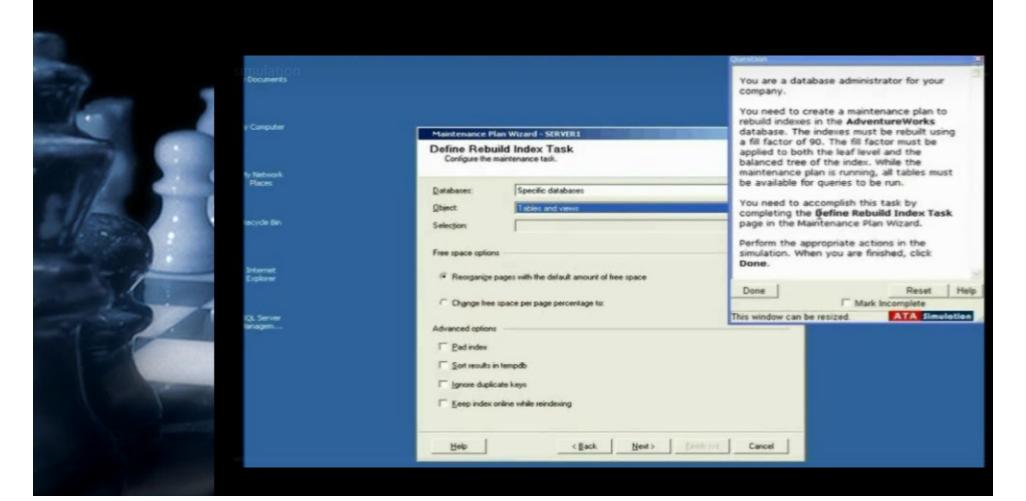
You need to ensure that changes in the database schema do not impact the UI tier.

What should you do? (More than one answer choice may achieve the goal. Select the BEST artswer.)

- O A. Encapsulate the DataAdapter objects in a custom Data Transfer Object (DTO) class.
- © B. Replace the DataSet objects with Language Integrated Natural Query (LINQ) objects.
- C. Encapsulate the DataSet objects in a custom Data Transfer Object (DTO) class.
- O D. Replace the DataAdapter objects with DataReader objects.

> More than one answer may be correct.

## **Test Question Format Simulation**



#### **More on Test Question Formats**

- On average 40-60 questions, more for CompTIA and Cisco
  - One of my Microsoft MCITP exams had 88 lengthy story problems
- One test question per screen page
  - Some questions have "Exhibits" which are one or more pictures that provide insight into answering the question (like a configuration screenshot)
- Some tests (most) allow you to return to previous questions, and to review marked questions before ending the exam
- Tip #5: look for opposites, exceptions, and look for patterns in answers



#### Exam Tip #6:

#### Of Course, Some of the Test Answers Are Made to Look Legitimate



- ▶ i.e., a test question may suggest running "CHECKDOMAIN.EXE /C" before running DCPROMO.
  - ➤ But there's no such command!

### **Exam Tip #7:**Use the Process of Elimination

- ➤ My (Corny) Conventions
  - no way, can't be the answer
  - ▶B not sure if it's the answer (no mark placed)
  - $\succ C$  not likely the answer
  - D very likely the answer

#### Exam Tip #8:

#### Put Your Best Effort Forth to Answer Each Question on the *First Pass* Through the Test



>...Even though some tests permit question review

## **Exam Tip #9: Manage Your Testing Time**



- ➤ I have been very time-challenged in my "recent" exams
- ➤ Determine the number of questions to be completed by the half-way point
- Check your watch a few times during the test, especially at halfway and maybe hourly

## Exam Tip #10: Aim to Pass the Exam on the First Try



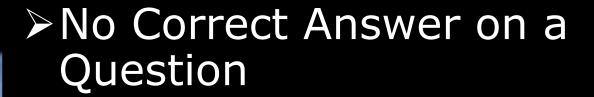
- Plan on visiting each question only once, so...
- ➤ Make your first answer your best answer
- Remember, "P" is for "Pass"
  - Certifications don't include your test scores

## Exam Tip #11: What time of the day should you take the exam?

- Choices: morning, afternoon, (sometimes) evening
- ➤ The test center may dictate their availability
- ➤ It depends on your biological or body clock
- Not usually at the end of the work day (but I've done it multiple times)
- Not right after lunch
- ➤ I like the morning to get it over with and because I'm the freshest



# It's Not a Perfect Testing World... Expect the Following:

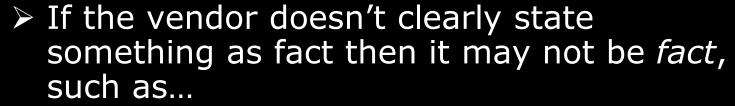




- ➤ More Than One Correct Answer
- ➤ Not Enough Detail Provided
- Remember, Select the *Best Answer*

#### Testing "Old Wives Tales"

➤ Lots of *rumors* surround the test scoring process.



- Whether or not the test is "adaptive"
- Are questions "weighted"
- The testing vendors don't explain the exam scoring methodology
  - > Partial credit?
  - > Adaptive tests?

## Totally Obvious Test-Taking Tips, Part 1

- > **Tip #12**: Know Your Product *Well* 
  - Read your courseware completely through, maybe twice
  - Hands-on practice with the product is mandatory to obtain product mastery
    - ➤ Consider running each lab 2-3 times
- > **Tip #13**: Be Calm, Try to *stay* calm
- Tip #14: Come well rested; don't pull an "all-nighter" the night before the exam
- > **Tip #15**: As you answer a question, in general, go with your first impression



# Totally Obvious Test-Taking Suggestions, Part 2



- Tip #16: Read the question very carefully, and answer the specific question. Don't rush!
- ➤ **Tip #17:** When permitted to return to previous questions, leverage previous questions to answer future questions.
- ➤ **Tip #18:** When you have >1 test to take for a certification track consider taking the easiest exam first to build your confidence

#### Some Tests Allow Feedback



➤ Mark questions for review and/or comment during the exam



Provide feedback (comments) on marked questions at the end of the exam

- > For example:
  - > Some test questions are incomplete
  - Some test questions are have no correct answers
    - "Trial" test questions

#### **Testing Trends**



- > Much harder exams
- > More clever exam questions
- ➤ Broader test question formats
- ➤ Test questions diverge greater from the related course material

#### **Upon Completing Certification**

(What to Expect)



Expect email

Per the email above you may have to order your certificate rather than receive it automatically

## Let's Look at Some Sample Questions for 70-463



# Go Get 'em! Y I

- ➤ I dare you!
- ➤ I love to hear about your successes and your missed attempts.
- Let me know via <u>email</u> about your test experience!