# Microsoft

## Exam 70-470

## Recertification for MCSE: Business Intelligence

**Version: 5.0**

**[ Total Questions:   316 ]**

## Topic break down

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## Topic 1, Scenario 1

### General Background

You are the data architect for a company that uses SQL Server 2012 Enterprise Edition. You design data modeling and reporting solutions that are based on a sales data warehouse.

### Background

The solutions will be deployed on the following servers:

- ✎ ServerA runs SQL Server Database Engine. ServerA is the data warehouse server.
- ✎ ServerB runs SQL Server Database Engine, SQL Server Analysis Services (SSAS) in multidimensional mode, and SQL Server Integration Services (SSIS).
- ✎ ServerC runs SSAS in tabular mode, SQL Server Reporting Services (SSRS) running in SharePoint mode, and Microsoft SharePoint 2010 Enterprise Edition with SP1.

The data warehouse schema currently contains the tables shown in the exhibit. (Click the Exhibit button.)
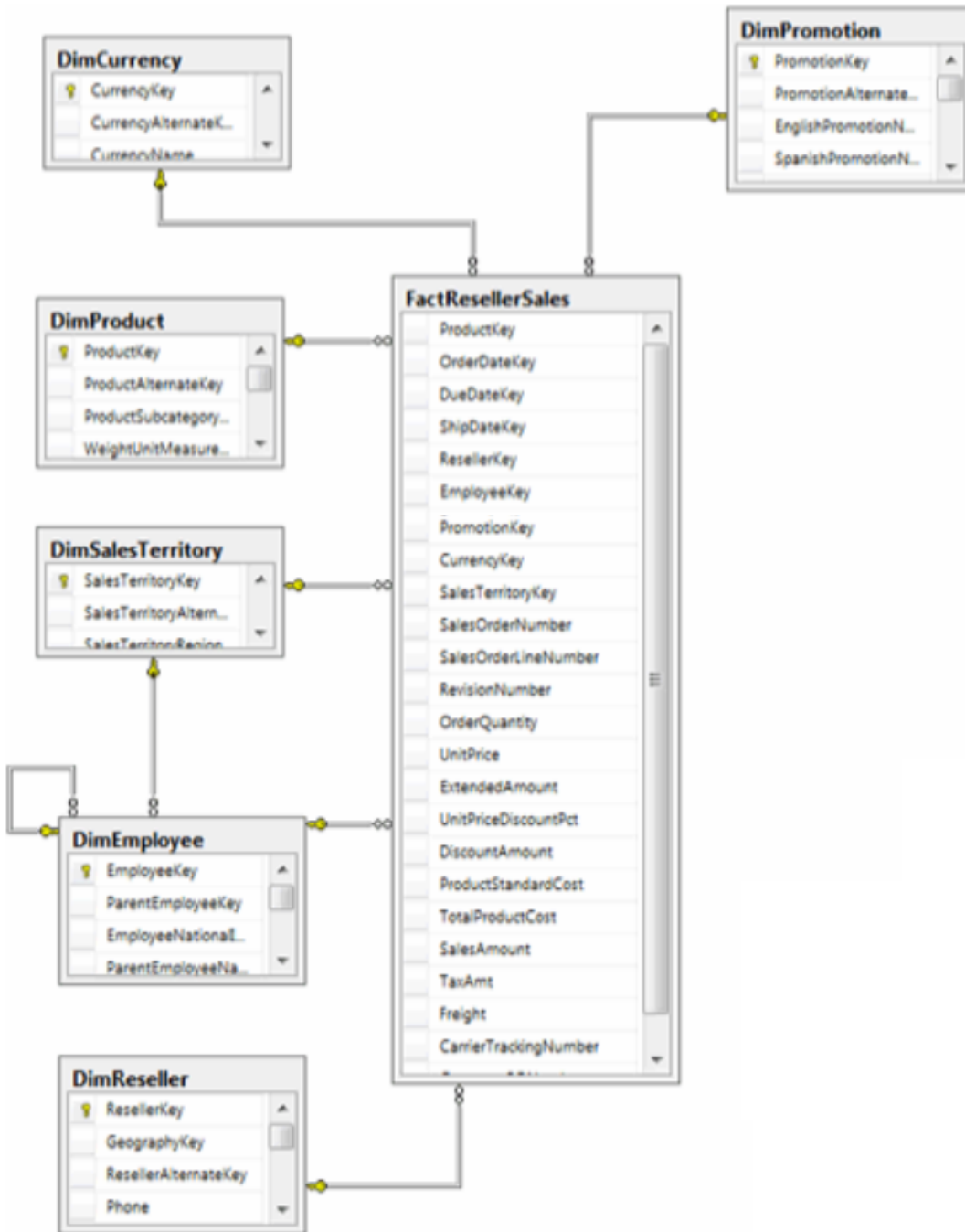
## Business Requirements

The reporting solution must address the requirements of the sales team, as follows:

- Team members must be able to view standard reports from SharePoint.
- Team members must be able to perform ad-hoc analysis by using Microsoft Power View and Excel.
- Team members can have standard reports delivered to them on a schedule of their choosing.
- The standard reports:
- Will use a sales territory hierarchy for organizing data by region.
- Will be accessible from SharePoint.

The Excel ad-hoc reports:

    ✎ Will use the same data store as the standard reports.
    ✎ Will provide direct access to the data store for the sales team and a simplified view
       for the executive team.

**Technical Requirements**
The standard reports must be based on an SSAS cube. The schema of the data
warehouse on ServerA must be able to support the ability to slice the fact data by the
following dates:
    ✎ Order date (OrderDateKey)
    ✎ Due date DueDateKey
    ✎ Ship date (ShipDateKey)

Additions and modifications to the data warehouse schema must adhere to star schema
design principles to minimize maintenance and complexity.

The multidimensional and tabular models will be based on the data warehouse. The tabular
and multidimensional models will be created by using SQL Server Data Tools (SSDT). The
tabular project is named AdhocReports and the multidimensional project is named
StandardReports.
The cube design in the StandardReports project must define two measures for the unique
count of sales territories (SalesTerritoryKey) and products (ProductKey).

A deployment script that can be executed from a command-line utility must be created to
deploy the StandardReports project to ServerB.

The tabular model in the AdhocReports project must meet the following requirements:
    ✎ A hierarchy must be created that consists of the SalesTerritoryCountry and
       SalesTerritoryRegion columns from the DimSalesTerritory table and the
       EmployeeName column from the DimEmployee table.
    ✎ A key performance indicator (KPI) must be created that compares the total
       quantity sold (OrderQuantity) to a threshold value of 1,000.
    ✎ A measure must be created to calculate day-over-day (DOD) sales by region
       based on order date.

SSRS on ServerC must be configured to meet the following requirements:
    ✎ It must use a single data source for the standard reports.
    ✎ It must allow users to create their own standard report subscriptions.
    ✎ The sales team members must be limited to only viewing and subscribing to
       reports in the Sales Reports library.
A week after the reporting solution was deployed to production, Marc, a salesperson,
indicated that he has never received reports for which he created an SSRS subscription. In
addition, Marc reports that he receives timeout errors when running some reports on
demand.

**A\Batch 1**

**Question No : 1  - (Topic 1)**

You need to create the KPI in the AdhocReports project in time for the next production release cycle.

What should you do?

**A.** Create a measure by using the SUM([OrderQuantity]) expression and create a KPI based on the measure. Then set the target value. Check in the changes before the next release cycle.
**B.** Create a KPI based on the OrderQuantity column and then set the target value. Check in the changes before the next release cycle.
**C.** Create a measure by using the SUM([OrderQuantity]) expression. Then use the CREATE KPI CURRENTCUBE statement to define the KPI and target value. Check in the changes before the next release cycle.
**D.** Create a measure by using the COUNT([OrderQuantity]) expression and create a KPI based on the measure. Then set the target value. Check in the changes before the next release cycle.

**Answer: C**

### Question No : 2  - (Topic 1)

You need create the data source view for the StandardReports project.

What should you do?

**A.** Generate a relational schema from the dimensions and cubes by using the Schema Generation wizard.
**B.** Create a data source, connect it to the data warehouse, and then use the Data Source View wizard.
**C.** Execute the Import from Table wizard and then use the Data Source View wizard.
**D.** Create a new data source view and then use the Import from Table wizard.

**Answer: B**

### Question No : 3  - (Topic 1)

You need to deploy the StandardReports project.

What should you do? (Each correct answer presents a complete solution. Choose all that apply.)

**A.** Deploy the project from SQL Server Data Tools (SSDT).
**B.** Use the Analysis Services Deployment utility to create an XMLA deployment script.
**C.** Use the Analysis Services Deployment wizard to create an MDX deployment script.
**D.** Use the Analysis Services Deployment wizard to create an XMLA deployment script.

## Answer: A,D

**Explanation:** There are several methods you can use to deploy a tabular model project. Most of the deployment methods that can be used for other Analysis Services projects, such as multidimensional, can also be used to deploy tabular model projects.

A: Deploy command in SQL Server Data Tools
The Deploy command provides a simple and intuitive method to deploy a tabular model project from the SQL Server Data Tools authoring environment.
Caution:
This method should not be used to deploy to production servers. Using this method can overwrite certain properties in an existing model.

D: The Analysis Services Deployment Wizard uses the XML output files generated from a Microsoft SQL Server Analysis Services project as input files. These input files are easily modifiable to customize the deployment of an Analysis Services project. The generated deployment script can then either be immediately run or saved for later deployment.

Incorrect:
not B: The Microsoft.AnalysisServices.Deployment utility lets you start the Microsoft SQL Server Analysis Services deployment engine from the command prompt. As input file, the utility uses the XML output files generated by building an Analysis Services project in SQL Server Data Tools (SSDT).

## Question No : 4  - (Topic 1)

You need to create a measure for DOD sales.

What should you do? (Each correct answer presents part of the solution. Choose all that apply.)

**A.** Specify a date table by using a Mark as Date table.
**B.** Use the Data Analysis Expressions (DAX) PARALLELPERIOD() function.
**C.** Use the Business Intelligence Wizard to define time intelligence.
**D.** Use the Multidimensional Expressions (MDX) LAG() function.

**Answer: A,C**

**Explanation:** * From scenario:

A measure must be created to calculate day-over-day (DOD) sales by region based on order date.

A: Specify Mark as Date Table for use with Time Intelligence (SSAS Tabular)
In order to use time intelligence functions in DAX formulas, you must specify a date table and a unique identifier (datetime) column of the Date data type. Once a column in the date table is specified as a unique identifier, you can create relationships between columns in the date table and any fact tables.

C: The time intelligence enhancement is a cube enhancement that adds time calculations (or time views) to a selected hierarchy. This enhancement supports the following categories of calculations:
Period to date.
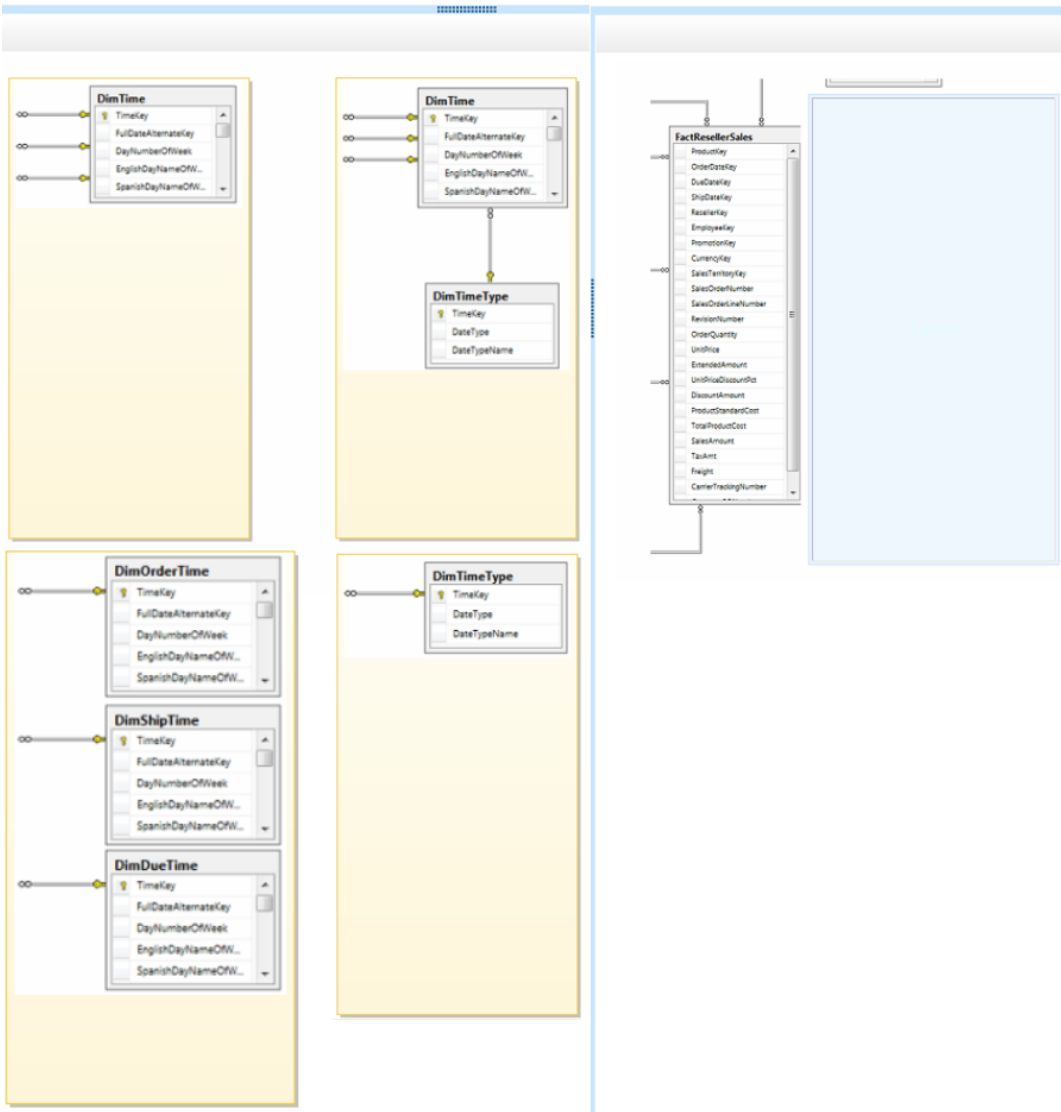Period over period growth.
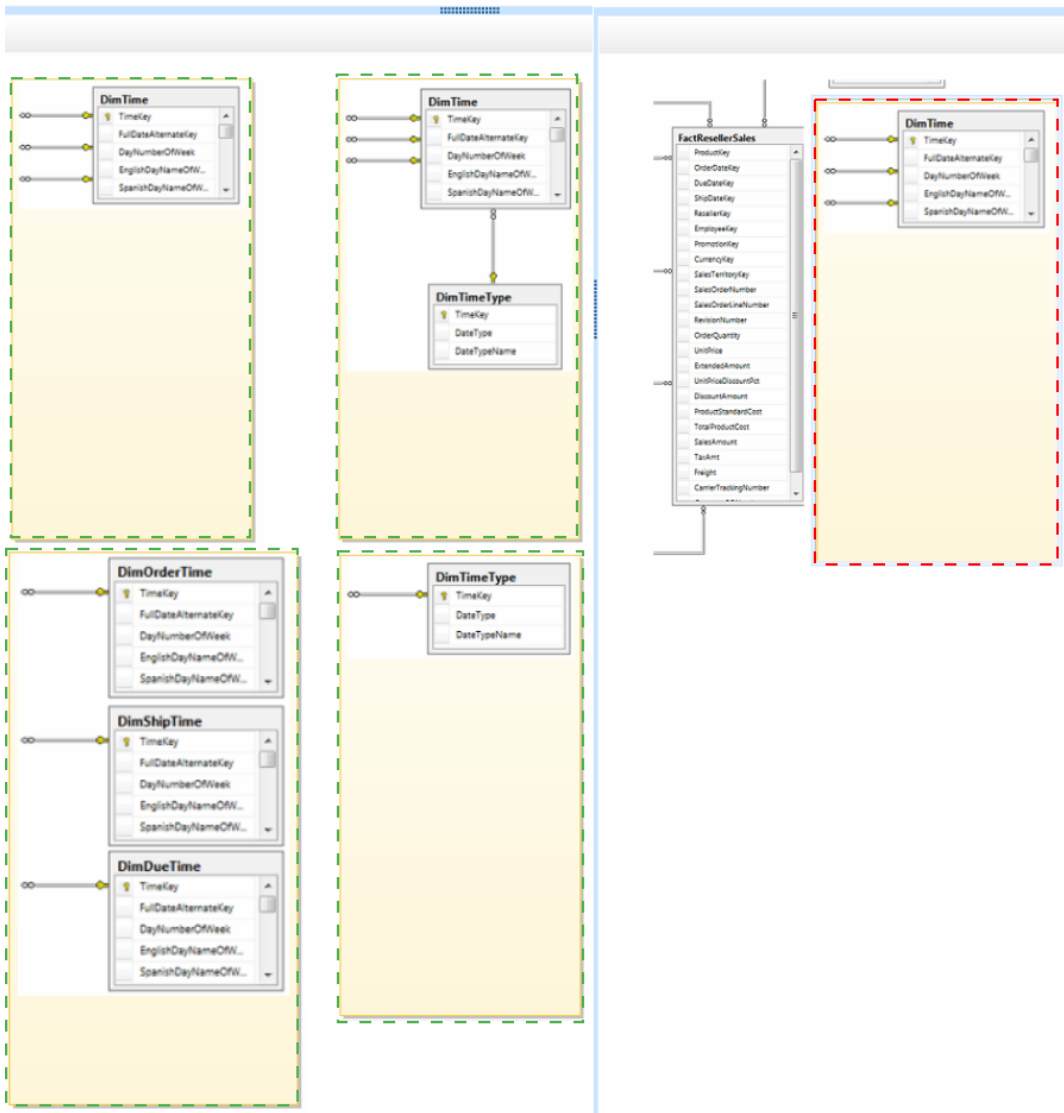Moving averages.
Parallel period comparisons.

### Question No : 5 DRAG DROP - (Topic 1)

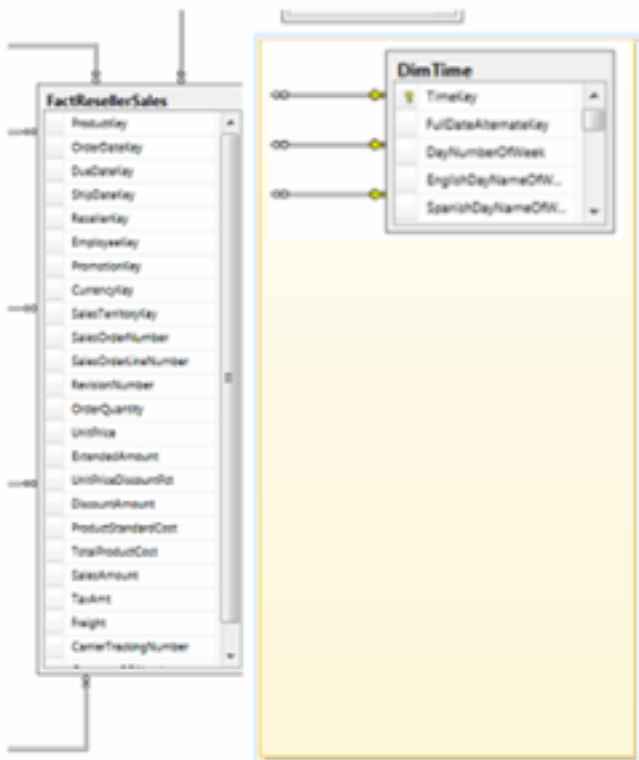You need to complete the design of the data warehouse.

Which design should you use? (To answer, drag the appropriate tables and relationships to the correct location in the answer area. Use only the tables and relationships that apply.)

**Answer:**

**Explanation:**

C:\Users\Kamran\Desktop\02.png

**Question No : 6  - (Topic 1)**

You need to identify the reports that produce the errors that Marc is receiving.

What should you do?

**A.** Write a query by using the Subscriptions table in the report server database.
**B.** Use the Windows Event Viewer to search the Application log for errors.
**C.** Write a query by using the ExecutionLog3 view in the report server database.
**D.** Search the ReportServerService_<timestamp>.log file for errors.

**Answer: C**

**Question No : 7  - (Topic 1)**

You need to create the sales territory and product measures.

Which aggregate function should you use for both measures?

**A.** COUNT (DISTINCT column_name)
**B.** Distinct Count
**C.** Distinct
**D.** Count

**Answer: B**

**Question No : 8  - (Topic 1)**

You need to ascertain why Marc did not receive his reports.

What should you do?

**A.** Search the ReportServerService_<timestamp>.log file for errors.
**B.** Search the registry for errors.
**C.** Use the Windows Event Viewer to search the Application log for errors.
**D.** Use SQL Server Management Studio to search the SQL Server logs for errors.

**Answer: B**

## Question No : 9 - (Topic 1)

You need to create the hierarchy in the AdhocReports project in time for the next production release cycle.

What should you do?

**A.** Multi-select all of the columns, right-click the columns, and then click the Create Hierarchy command. Check in the changes before the next release cycle.
**B.** Use the RELATED() function to consolidate the columns in the DimSalesTerritory table, multi-select the columns, right-click the columns, and then click the Create Hierarchy command. Check in the changes before the next release cycle.
**C.** Use the RELATEDTABLEQ function to consolidate the tables, multi-select the columns in the hierarchy, right-click the columns, and then click the Create Hierarchy command. Check in the changes before the next release cycle.
**D.** Use the RELATED() function to consolidate the columns in the DimEmployee table, multi-select the columns, right-click the columns, and then click the Create Hierarchy command. Check in the changes before the next release cycle.

**Answer: D**

## Question No : 10 - (Topic 1)

You need to configure the SSRS data source.

What should you do?

**A.** Store the credentials.
**B.** In the data source configuration window, select the Prompt for credentials option.
**C.** Create a .NET form to enable users to enter their credentials.
**D.** Configure Kerberos authentication.

**Answer: A**

### Topic 2, Contoso Ltd

**Background**

You are the business intelligence (BI) solutions architect for Contoso Ltd, a multinational sales company with offices in London, Madrid, Paris, Brisbane, Tokyo, and New York. Contoso sells office consumable products such as pens, printer ink, and paper.

You produce solutions by using SQL Server 2012 Business Intelligence Edition and Microsoft SharePoint Server 2010 Enterprise Edition with SP1.

**Technical Background**

Contoso's products are categorized by using four levels while some use only two or three levels. Products are categorized as shown in the following table.

| Product Type | Product Category | Product Sub Category | Product Sub Section |
|---|---|---|---|
| Papers | Copy Paper | | |
| | Note | Sticky Notes | |
| | | "Sign Here" Notes | |
| Tapes and Glue | Adhesive Glue | | |
| | Tape | Masking Tape | |
| | | Sticky Tape | |
| Writing | Pens | Ball Pens | |
| | | Pencils | |
| | | Whiteboard Markers | Permanent Markers |
| | | | Removable Markers |
| | Corrections | Correction Tape | |
| | | Correction Fluid | |
| | Erasers | | |

Contoso sells products through mobile sales staff, direct marketing, and its website. Sales personnel are located in various regions around the world, and each region has a sales manager who is paid a quarterly bonus based on the total sales in the region during the quarter. Regions are categorized as shown in the following table.

| Region | Country | State |
|---|---|---|
| Oceania | Australia | Queensland |
| | | New South Wales |
| | New Zealand | Canterbury |
| | | Marlborough |
| Europe | Great Britain | Cornwall |
| | | Aberdeen |
| | | Cardiff |
| | Germany | Baden-Württemberg |
| | | Saxony |

SQL Server Analysis Services (SSAS) is used to host a multidimensional database. The database contains a single cube named Sales and three database dimensions named Products, Regions, and Date. A single measure named Sales Total has been defined in the cube. The data source for the database is a SQL Server data warehouse.

The Products dimension contains a single user-defined hierarchy named Products. To prevent the display of empty members when users browse the Products dimension, the Extract, Transform, and Load (ETL) process populates all missing values as shown in the following diagram.

| Product Type | Product Category | Product Sub Category | Product Sub Section |
|---|---|---|---|
| Papers | Copy Paper | Copy Paper | Copy Paper |
| Papers | Note Papers | Sticky Notes | Sticky Notes |

The structure of the Products hierarchy is shown in the following diagram.

| Products |
|---|
| • Product Type |
| •• Product Category |
| ⁂ Product Sub Category |
| ⁑ Product Sub Section |
| <new level> |
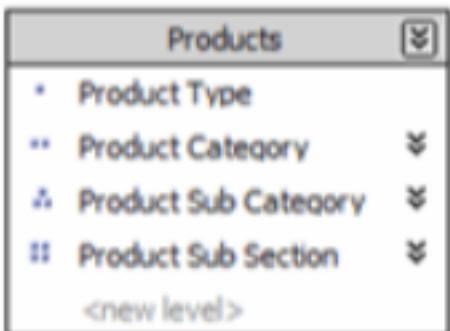
The Regions dimension contains a single user-defined hierarchy named Sales Regions.

The dimension is based on a single dimension table in the data warehouse and the attribute relationships have not been modified since the dimension was created by using the Dimension wizard. The structure of the Sales Regions hierarchy is shown in the following diagram.
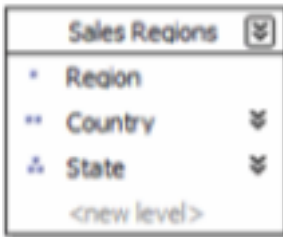


The Date dimension contains a single user-defined hierarchy named Calendar. The structure of the Calendar hierarchy is shown in the following diagram.



A role named UserRegions has been created in the SSAS database that will be used to filter members in the Regions dimension based on the authenticated user.

Administrative staff from around the world will produce sales reports with Microsoft Excel 2010 based on the Sales cube.

Developers will produce reports with SQL Server Reporting Services (SSRS) based on the Sales cube and the reports will be delivered to users through report subscriptions and a web browser.
All users log on to an Active Directory Domain Services (AD DS) domain named contoso.com. All client computers and servers are joined to the contoso.com domain.

**Business Requirements**
The BI system must meet the following reporting requirements:
  - Display all sales figures in euro currency, regardless of the client's reporting location
  - Include a new measure named AD Sales that calculates average daily sales for a selected month
  - Support near real-time reporting while maintaining good performance for multidimensional queries
  - Support reports that show currency exchange rates

&#9998; Deliver executive reports that are parameterized and rendered from report snapshots

In addition, cube objects must use terms familiar to users from around the world. For example, in the Sales Regions hierarchy, users from Great Britain must see the State level presented as County when browsing the Sales cube.

The Sales cube must support a new measure group named Sales Planning. The measure group must consist of a single measure named Sales Plan that enables the management team to use Excel 2010 to enter sales plans for future monitoring.

**Technical Requirements**
The BI system must meet the following technical requirements:

&#9998; Architecture requirements
&#9998; The system must use separate servers for each of the following components:
&#9998; SQL Server Database Engine
&#9998; SQL Server Integration Services
&#9998; SQL Server Analysis Services in multidimensional mode
&#9998; SharePoint Server with the Reporting Services Add-in o All servers must be installed using U.S. regional settings.
&#9998; The system must source currency exchange rate data from a database hosted in Windows Azure SQL Databases.

&#9998; Security requirements
&#9998; When possible, the system must use Windows authentication for all database connections.
&#9998; The system must prevent users from querying data from outside of their region.
&#9998; The system must allow certain users to query data from multiple regions.

&#9998; Development requirements
&#9998; When browsing the Products hierarchy, repeating values for different levels of a given drill-path must be avoided. For example, Papers -> Copy Paper -> Copy Paper -> Copy Paper should appear simply as Papers -> Copy Paper.
&#9998; The system must support report snapshots. The default maximum number of retained snapshots must not exceed five.

**Question No : 11  - (Topic 2)**

You need to configure SSRS to meet the maximum number of snapshots requirement.

What should you do? (Each answer presents a complete solution. Choose all that apply.)

**A.** In SharePoint Central Administration, set the System Snapshot Limit option to 5.
**B.** In Reporting Services Configuration Manager, set the System Snapshot Limit option to 5.

**C.** For each report, set the Limit number of snapshots option to 5.

**D.** Use PowerShell to set the System Snapshot Limit option to 5.

**Answer: A,C**

**Explanation:** A: Reporting Services Service Applications are managed from SharePoint Central Administration. The Management and Properties pages allow you to update the configuration of the service application as well as common administration tasks.

Note:

* From scenario: The system must support report snapshots. The default maximum number of retained snapshots must not exceed five.

* System Snapshot Limit

Default is -1, which is no limit.

Set a site-wide default value for the number of copies of report history to retain. The default value provides an initial setting that establishes the number of snapshots that can be stored for each report. You can specify different limits in property pages for specific reports.

Not B: Use the Reporting Services Configuration Manager to configure a Reporting Services Native Mode installation. If you installed a report server by using the files-only installation option, you must use this tool to configure the server before you can use it. If you installed a report server by using the default configuration installation option, you can use this tool to verify or modify the settings that were specified during setup.

Not D: SQL Server 2012 supports Windows PowerShell, which is a powerful scripting shell that lets administrators and developers automate server administration and application deployment.

**Question No : 12 DRAG DROP - (Topic 2)**

You need to optimize the Regions dimension.

How should you configure the attribute relationships? (To answer, drag the appropriate attribute from the list of attributes to the correct location in the hierarchy relationship. Use only attributes that apply.)
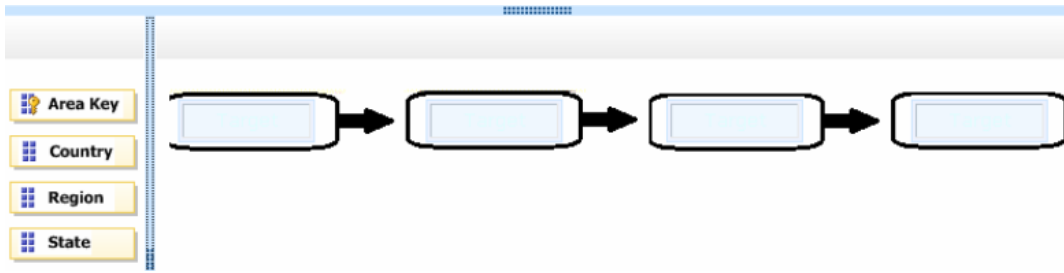
**Answer:**
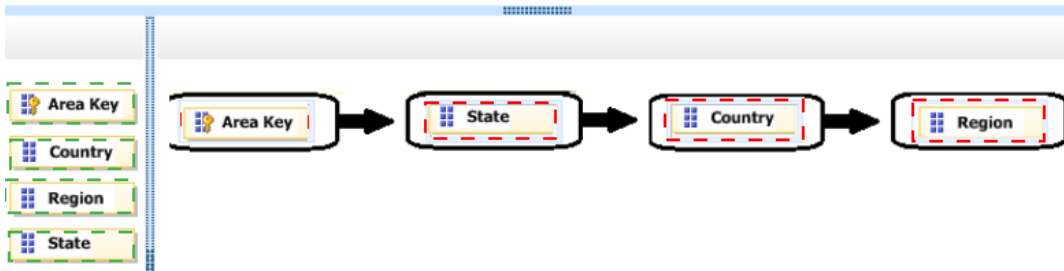


**Explanation:**



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**Question No : 13  - (Topic 2)**

You need to modify the Sales Regions hierarchy to meet the reporting requirements.

Which S5A5 feature should you use?

**A.** Calculation
**B.** Translation
**C.** Action
**D.** Perspective

**Answer: B**

**Question No : 14  - (Topic 2)**

You need to configure per-user security authentication for reporting against the Sales cube.

What should you do? (Each correct answer presents part of the complete solution. Choose all that apply.)

**A.** Create Service Principal Names (SPNs).
**B.** Configure account delegation.
**C.** Enable forms-based authentication.
**D.** Enable mixed-mode authentication.

**Answer: A,D**

**Explanation:** * From scenario:

/ Administrative staff from around the world will produce sales reports with Microsoft Excel 2010 based on the Sales cube.

/ Security requirements

When possible, the system must use Windows authentication for all database connections.

The system must prevent users from querying data from outside of their region.

The system must allow certain users to query data from multiple regions.

A: To use Kerberos authentication with SQL Server requires both the following conditions to be true:

The client and server computers must be part of the same Windows domain, or in trusted domains.

A Service Principal Name (SPN) must be registered with Active Directory, which assumes the role of the Key Distribution Center in a Windows domain. The SPN, after it is registered, maps to the Windows account that started the SQL Server instance service. If the SPN registration has not been performed or fails, the Windows security layer cannot determine the account associated with the SPN, and Kerberos authentication will not be used.

D: For windows authentication we need to enable mixed-mode authentication

**Question No : 15  - (Topic 2)**

You need to develop the executive reports.

What should you do? (Each correct answer presents part of the solution. Choose all that apply.)

**A.** Remove default values from all parameters.
**B.** Implement dataset query parameters to filter data.
**C.** Set the data source to use Windows authentication.
**D.** Set the data source to use stored Windows credentials.
**E.** Provide default values for all parameters.
**F.** Implement dataset filters to filter data.

**Answer: B,D,E**

**Explanation:** * From scenario:

Deliver executive reports that are parameterized and rendered from report snapshots

BD: The data source that the shared dataset is based on has Prompt or Windows Integrated credentials.

**Question No : 16  - (Topic 2)**

You need to configure the UserRegions role.

Which Multidimensional Expressions (MDX) function should you use?

**A.** ANCESTOR ( )
**B.** USERNAME ( )
**C.** FIRSTSIBLING ( )
**D.** LEAD ( )
**E.** COUSIN ( )

**Answer: B**

**Question No : 17  - (Topic 2)**

You need to configure the partition storage settings to support the reporting requirements.

Which partition storage setting should you use?

**A.** DirectQuery
**B.** In-Memory

**C.** MOLAP
**D.** Low-latency MOLAP
**E.** Scheduled MOLAP
**F.** High-latency MOLAP

**Answer: D**

## Question No : 18 - (Topic 2)

You need to develop an SSRS report that retrieves currency exchange rate data.

How should you configure the data source for the report?

**A.** Use the Windows Azure SQL Database data source type and then set Windows
authentication for the credentials.
**B.** Use the Windows Azure SQL Database data source type and then set a username and
password for the credentials.
**C.** Use the SQL Server data source type and then set a username and password for the
credentials.
**D.** Use the SQL Server data source type and then set Windows authentication for the
credentials.

**Answer: B**

## Question No : 19 - (Topic 2)

You need to modify the Sales cube to support the planning requirements.

Which SSA5 feature should you use?

**A.** At KPI
**B.** A translation
**C.** A writeback partition
**D.** A perspective

**Answer: C**

**Question No : 20 - (Topic 2)**

You need to configure the partition storage settings to support the reporting requirements.

Which partition storage setting should you use?

**A.** Low-latency MOLAP
**B.** In-Memory
**C.** High-latency MOLAP
**D.** Regular
**E.** DirectQuery
**F.** LazyAggregations

**Answer: A**

**Question No : 21 - (Topic 2)**

You need to configure per-user security authentication for reporting against the Sales cube.

What should you do? (Each correct answer presents part of the complete solution. Choose all that apply.)

**A.** Install PowerPivot.
**B.** Create Service Principal Names (SPNs).
**C.** Configure account delegation.
**D.** Set up the Unattended Service Account.

**Answer: A,B**

**Explanation:** * From scenario:
/ Administrative staff from around the world will produce sales reports with Microsoft Excel 2010 based on the Sales cube.
/ Security requirements
When possible, the system must use Windows authentication for all database connections.
The system must prevent users from querying data from outside of their region.
The system must allow certain users to query data from multiple regions.

B: To use Kerberos authentication with SQL Server requires both the following conditions to be true:
The client and server computers must be part of the same Windows domain, or in trusted

domains.

A Service Principal Name (SPN) must be registered with Active Directory, which assumes the role of the Key Distribution Center in a Windows domain. The SPN, after it is registered, maps to the Windows account that started the SQL Server instance service. If the SPN registration has not been performed or fails, the Windows security layer cannot determine the account associated with the SPN, and Kerberos authentication will not be used.

## Topic 3, Tailspin Toys Case A

### Background

You are the business intelligence (BI) solutions architect for Tailspin Toys.

You produce solutions by using SQL Server 2012 Business Intelligence edition and Microsoft SharePoint Server 2010 Service Pack 1 (SP1) Enterprise edition.

### Technical Background

### Data Warehouse

The data warehouse is deployed on a SQL Server 2012 relational database. A subset of the data warehouse schema is shown in the exhibit. (Click the Exhibit button.)



Data Warehouse Schema
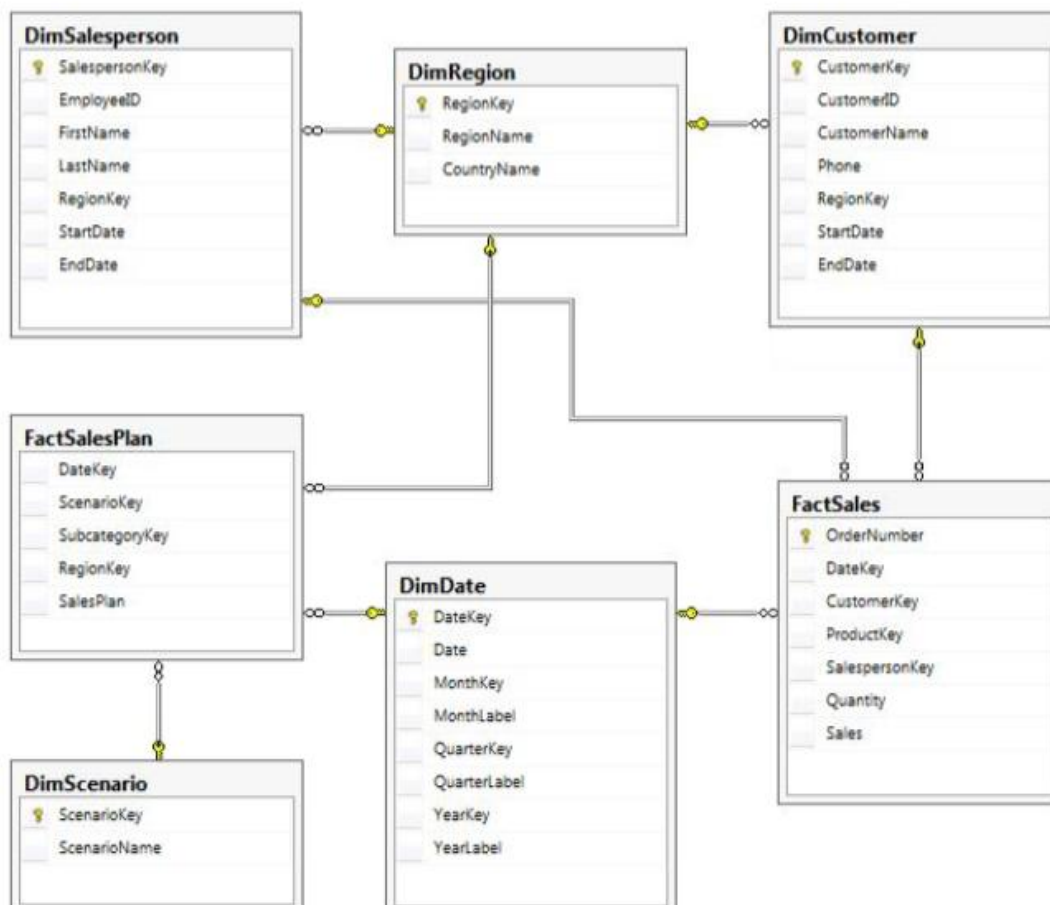
The schema shown does not include the table design for the product dimension.

The schema includes the following tables:
- FactSalesPlan table stores data at month-level granularity. There are two scenarios: Forecast and Budget.
- The DimDate table stores a record for each date from the beginning of the company's operations through to the end of the next year.
- The DimRegion table stores a record for each sales region, classified by country. Sales regions do not relocate to different countries.
- The DimCustomer table stores a record for each customer.
- The DimSalesperson table stores a record for each salesperson. If a salesperson relocates to a different region, a new salesperson record is created to support historically accurate reporting. A new salesperson record is not created if a salesperson's name changes.
- The DimScenario table stores one record for each of the two planning scenarios.

All relationships between tables are enforced by foreign keys. The schema design is as denormalized as possible for simplicity and accessibility. One exception to this is the DimRegion table, which is referenced by two dimension tables.

Each product is classified by a category and subcategory and is uniquely identified in the source database by using its stock-keeping unit (SKU). A new SKU is assigned to a product if its size changes. Products are never assigned to a different subcategory, and subcategories are never assigned to a different category.

Extract, transform, load (ETL) processes populate the data warehouse every 24 hours.

**ETL Processes**
One SQL Server Integration Services (SSIS) package is designed and developed to populate each data warehouse table. The primary source of data is extracted from a SQL Azure database. Secondary data sources include a Microsoft Dynamics CRM 2011 on-premises database.
ETL developers develop packages by using the SSIS project deployment model. The ETL developers are responsible for testing the packages and producing a deployment file. The deployment file is given to the ETL administrators. The ETL administrators belong to a Windows security group named SSISOwners that maps to a SQL Server login named SSISOwners.

**Data Models**
The IT department has developed and manages two SQL Server Analysis Services (SSAS) BI Semantic Model (BISM) projects: Sales Reporting and Sales Analysis. The Sales Reporting database has been developed as a tabular project. The Sales Analysis database has been developed as a multidimensional project. Business analysts use PowerPivot for Microsoft Excel to produce self-managed data models based directly on the data warehouse or the corporate data models, and publish the PowerPivot workbooks to a SharePoint site.

The sole purpose of the Sales Reporting database is to support business user reporting and ad-hoc analysis by using Power View. The database is configured for DirectQuery mode and all model queries result in SSAS querying the data warehouse. The database is based on the entire data warehouse.

The Sales Analysis database consists of a single SSAS cube named Sales. The Sales cube has been developed to support sales monitoring, analysts, and planning. The Sales cube metadata is shown in the following graphic.
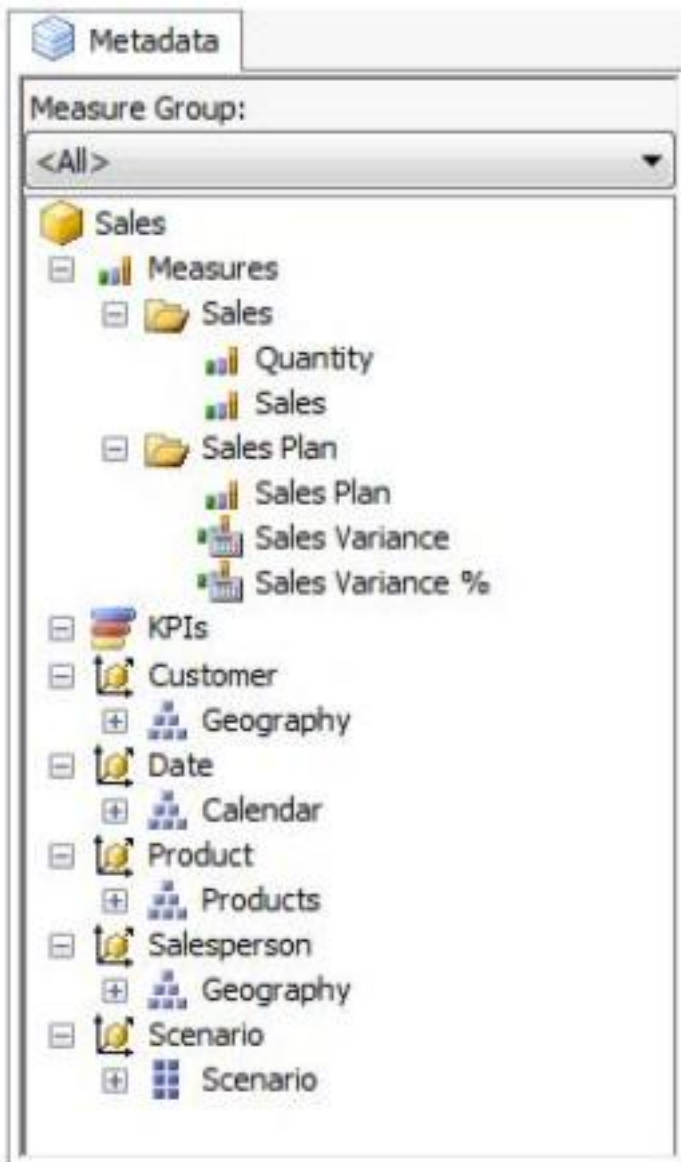


Details of specific Sales cube dimensions are described in the following table.

| Dimension | Hierarchies and levels | Additional information |
|---|---|---|
| Date | Calendar<br>• Year<br>• Quarter<br>• Month<br>• Date | All attributes are hidden.<br><br>The appropriate dimension and attribute Type properties have been configured. |
| Salesperson | Geography<br>• Country<br>• Region<br>• Salesperson | Based on the DimSalesperson and DimRegion tables.<br><br>All attributes are hidden. |
| Scenario | Scenario (attribute hierarchy)<br>• Scenario | Current hierarchy level is All. All contains Budget and Forecast. |

The Sales cube dimension usage is shown in the following graphic.



The Sales measure group is based on the FactSales table. The Sales Plan measure group is based on the FactSalesPlan table. The Sales Plan measure group has been configured with a multidimensional OLAP (MOLAP) writeback partition. Both measure groups use MOLAP partitions, and aggregation designs are assigned to all partitions. Because the volumes of data in the data warehouse are large, an incremental processing strategy has been implemented.

The Sales Variance calculated member is computed by subtracting the Sales Plan forecast amount from Sales. The Sales Variance °/o calculated member is computed by dividing Sales Variance by Sales. The cube's Multidimensional Expressions (MDX) script does not set any color properties.

**Analysis and Reporting**
SQL Server Reporting Services (SSRS) has been configured in SharePoint integrated

mode.

A business analyst has created a PowerPivot workbook named Manufacturing Performance that integrates data from the data warehouse and manufacturing data from an operational database hosted in SQL Azure. The workbook has been published in a PowerPivot Gallery library in SharePoint Server and does not contain any reports. The analyst has scheduled daily data refresh from the SQL Azure database. Several SSRS reports are based on the PowerPivot workbook, and all reports are configured with a report execution mode to run on demand.

Recently users have noticed that data in the PowerPivot workbooks published to SharePoint Server is not being refreshed. The SharePoint administrator has identified that the Secure Store Service target application used by the PowerPivot unattended data refresh account has been deleted.

## Business Requirements
### ETL Processes
All ETL administrators must have full privileges to administer and monitor the SSIS catalog, and to import and manage projects.

### Data Models
The budget and forecast values must never be accumulated when querying the Sales cube. Queries should return the forecast sales values by default.

Business users have requested that a single field named SalespersonName be made available to report the full name of the salesperson in the Sales Reporting data model.

Writeback is used to initialize the budget sales values for a future year and is based on a weighted allocation of the sales achieved in the previous year.

### Analysis and Reporting
Reports based on the Manufacturing Performance PowerPivot workbook must deliver data that is no more than one hour old.

Management has requested a new report named Regional Sales. This report must be based on the Sales cube and must allow users to filter by a specific year and present a grid with every region on the columns and the Products hierarchy on the rows. The hierarchy must initially be collapsed and allow the user to drill down through the hierarchy to analyze sales. Additionally, sales values that are less than S5000 must be highlighted in red.

## Technical Requirements
### Data Warehouse
Business logic in the form of calculations should be defined in the data warehouse to ensure consistency and availability to all data modeling experiences.
The schema design should remain as denormalized as possible and should not include unnecessary columns.
The schema design must be extended to include the product dimension data.

### ETL Processes
Package executions must log only data flow component phases and errors.

**Data Models**

Processing time for all data models must be minimized.

A key performance indicator (KPI) must be added to the Sales cube to monitor sales performance. The KPI trend must use the Standard Arrow indicator to display improving, static, or deteriorating Sales Variance % values compared to the previous time period.

**Analysis and Reporting**

IT developers must create a library of SSRS reports based on the Sales Reporting database. A shared SSRS data source named Sales Reporting must be created in a SharePoint data connections library.

## Question No : 22 - (Topic 3)

You need to grant appropriate permissions to the SSISOwners SQL Server login.

What should you do?

**A.** Map the login to the SSISDB database. Assign the user to the ssis_admin role.
**B.** Map the login to the msdb database. Assign the user to the db_owner role.
**C.** Map the login to the msdb database. Assign the user to the db_ssisadmin role.
**D.** Map the login to the SSISDB database. Assign the user to the db_ssisadmin role.
**E.** Map the login to the SSISDB database. Assign the user to the db_owner role.
**F.** Map the login to the msdb database. Assign the user to the ssis_admin role.

**Answer: D**

## Question No : 23 - (Topic 3)

You need to configure package execution logging to meet the requirements.

What should you do?

**A.** Configure logging in each ETL package to log the OnError, OnInformation, and Diagnostic events.
**B.** Set the SSIS catalog's Server-wide Default Logging Level property to Performance.
**C.** Set the SSIS catalog's Server-wide Default Logging Level property to Basic.
**D.** Set the SSIS catalog's Server-wide Default Logging Level property to Verbose.
**E.** Configure logging in each ETL package to log the OnError, OnPreExecute, and

OnPostExecute events.

**Answer: B**

**Question No : 24  - (Topic 3)**

You need to create the Sales Reporting shared SSRS data source.

Which SSRS data connection type should you use?

**A.** OData
**B.** Microsoft SQL Server
**C.** ODBC
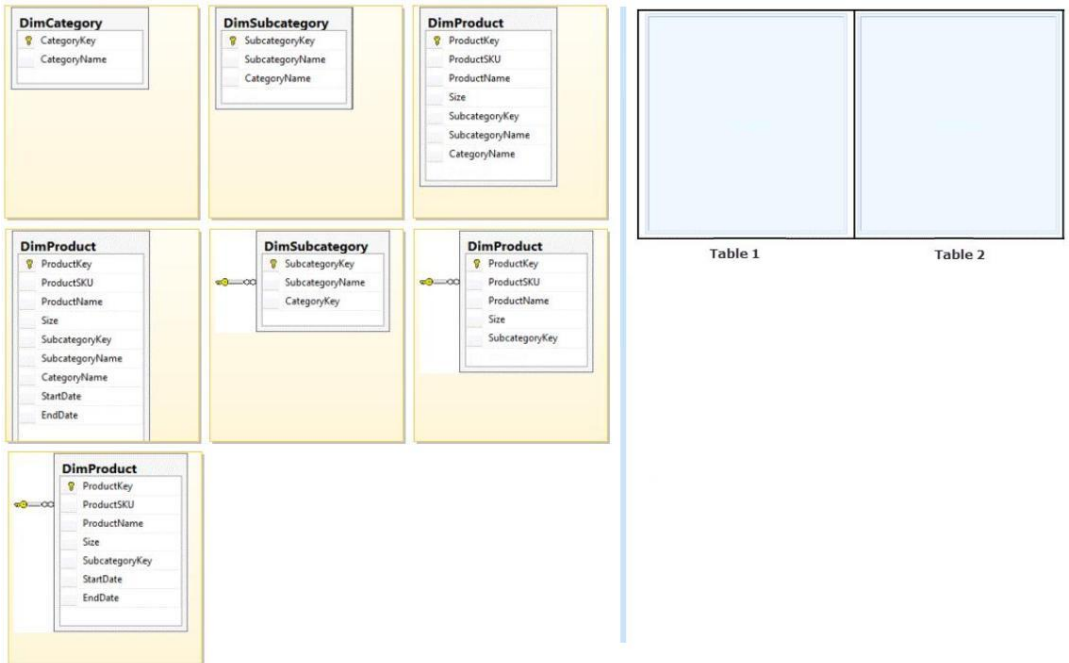**D.** OLE DB

**Answer: B**

**Question No : 25 DRAG DROP - (Topic 3)**

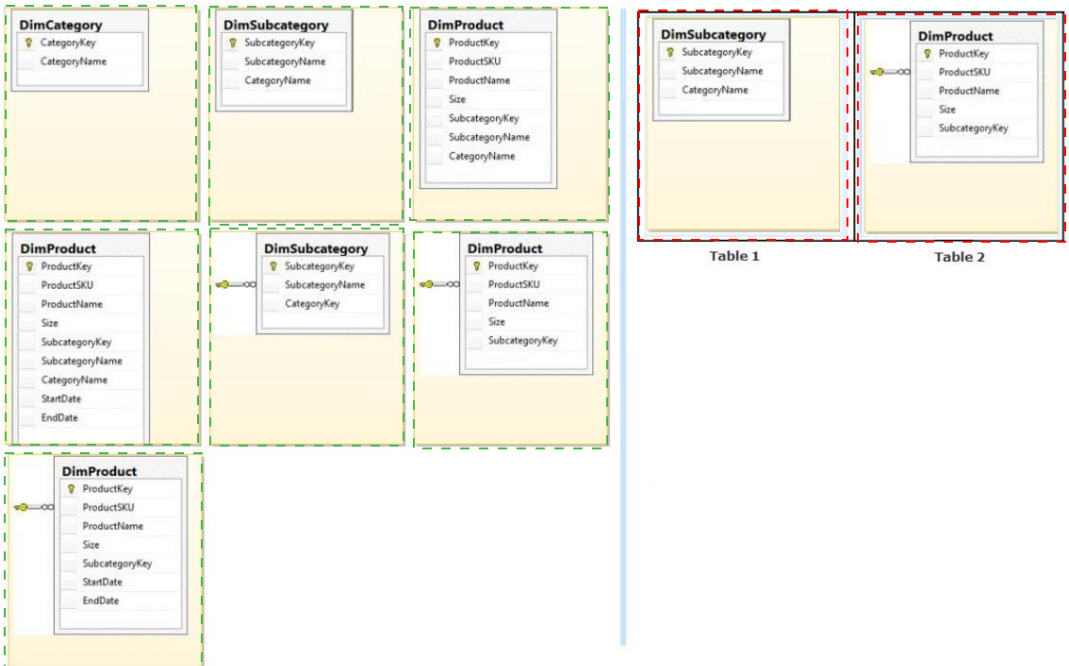You need to extend the schema design to store the product dimension data.

Which design should you use?

To answer, drag the appropriate table or tables to the correct location or locations in the answer area. (Fill from left to right. Answer choices may be used once, more than once, or not all.)
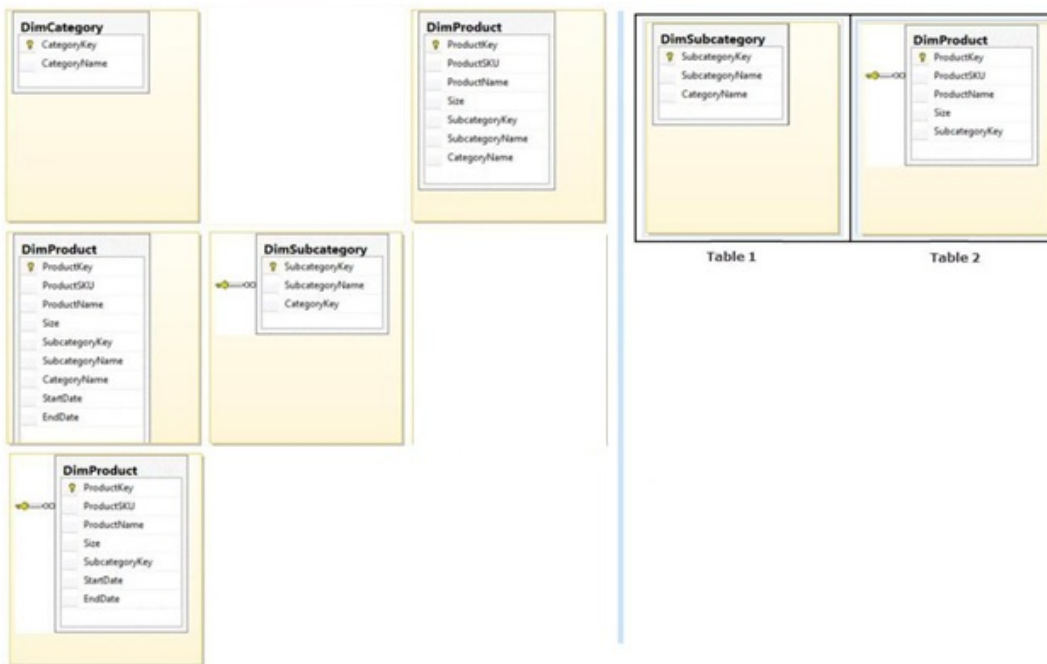
**DimCategory**
- 🔑 CategoryKey
- CategoryName

**DimSubcategory**
- 🔑 SubcategoryKey
- SubcategoryName
- CategoryName

**DimProduct**
- 🔑 ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey
- SubcategoryName
- CategoryName

Table 1     Table 2

**DimProduct**
- 🔑 ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey
- SubcategoryName
- CategoryName
- StartDate
- EndDate

**DimSubcategory**
- 🔑 SubcategoryKey
- SubcategoryName
- CategoryKey

**DimProduct**
- 🔑 ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey

**DimProduct**
- 🔑 ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey
- StartDate
- EndDate

**Answer:**

**DimCategory**
- 🔑 CategoryKey
- CategoryName

**DimSubcategory**
- 🔑 SubcategoryKey
- SubcategoryName
- CategoryName

**DimProduct**
- 🔑 ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey
- SubcategoryName
- CategoryName

**DimSubcategory**
- 🔑 SubcategoryKey
- SubcategoryName
- CategoryName

**DimProduct**
- 🔑 ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey

Table 1     Table 2

**DimProduct**
- 🔑 ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey
- SubcategoryName
- CategoryName
- StartDate
- EndDate

**DimSubcategory**
- 🔑 SubcategoryKey
- SubcategoryName
- CategoryKey

**DimProduct**
- 🔑 ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey

**DimProduct**
- 🔑 ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey
- StartDate
- EndDate

**Explanation:**

**DimCategory**
- CategoryKey
- CategoryName

**DimProduct**
- ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey
- SubcategoryName
- CategoryName

**DimSubcategory**
- SubcategoryKey
- SubcategoryName
- CategoryName

**DimProduct**
- ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey

Table 1

Table 2

**DimProduct**
- ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey
- SubcategoryName
- CategoryName
- StartDate
- EndDate

**DimSubcategory**
- SubcategoryKey
- SubcategoryName
- CategoryKey

**DimProduct**
- ProductKey
- ProductSKU
- ProductName
- Size
- SubcategoryKey
- StartDate
- EndDate

/ The schema design must be extended to include the product dimension data.

* DimProduct table need to contain a foreign key to the DimSubCategory table. No further SubCategory data should be stored in the DimProduct table.

* No time related columns (StartDate, EndDate) should be included in the DimProduct table.

**Question No : 26 DRAG DROP - (Topic 3)**

You need to complete the following UPDATE statement to initialize the budget sales values for 2012.

Which MDX weight value expression should you use?

To answer, drag the appropriate weight value expression to the answer area.

**Expressions**

( [Measures] . [Sales] , [Date] . [Calendar] )
/
( [Measures] . [Sales] , Ancestor( [Date] . [Calendar] ,
    [Date] . [Calendar] . [Year] ) )

( [Measures].[Sales],  [Date] . [Calendar]. Lag (12) )
/
( [Measures] . [Sales], Ancestor ( [Date] . [Calendar],
    [Date] . [Calendar] . [Year] ). PrevMember )

( [Measures] . [ Sales ] , ParallelPeriod( [ Date ] . [ Calendar ] . [Month] ,
    12, [Date] . [Calendar] ) )
/
( [Measures] . [Sales] , Ancestor ( [Date] . [Calendar] ,
    [Date] . [Calendar] . [Year]) .PrevMember )

([Measures] . [Sales], ParallelPeriod ( [Date] . [Calendar] . [Month],
    12, [Date]. [Calendar]))
/
([Measures] . [Sales], Ancestor ([Date] . [Calendar],
    [Date] . [Calendar] . [Year]). PrevMember, Root ([Salesperson]),
    Root([Product]))

**Answer area**

UPDATE  CUBE  [ Sales ]
SET   ( [ Measures ] . [Sales Plan ] ,  [ Scenario ] . [ Scenario ] . [ Budget ] ,
    [ Date ] . [ Calendar ] . [ 2012 ] ) = 12000000
USE_WEIGHTED_ALLOCATION BY

Expression

---

# Answer:

**Expressions**

( [Measures] . [Sales] , [Date] . [Calendar] )
/
( [Measures] . [Sales] , Ancestor( [Date] . [Calendar] ,
    [Date] . [Calendar] . [Year] ) )

( [Measures].[Sales],  [Date] . [Calendar]. Lag (12) )
/
( [Measures] . [Sales], Ancestor ( [Date] . [Calendar],
    [Date] . [Calendar] . [Year] ). PrevMember )

( [Measures ] . [ Sales ] , ParallelPeriod( [ Date ] . [ Calendar ] . [Month] ,
    12, [Date] . [Calendar] ) )
/
( [Measures] . [Sales] , Ancestor ( [Date] . [Calendar] ,
    [Date]. [Calendar] . [Year]) .PrevMember )

([Measures] . [Sales], ParallelPeriod ( [Date] . [Calendar] . [Month],
    12, [Date]. [Calendar]))
/
([Measures] . [Sales], Ancestor ([Date] . [Calendar],
    [Date] . [Calendar] . [Year]). PrevMember, Root ([Salesperson]),
    Root([Product]))

**Answer area**

UPDATE  CUBE  [ Sales ]
SET   ( [ Measures ] . [Sales Plan ] ,  [ Scenario ] . [ Scenario ] . [ Budget ] ,
    [ Date ] . [ Calendar ] . [ 2012 ] ) = 12000000
USE_WEIGHTED_ALLOCATION BY

([Measures] . [Sales], ParallelPeriod ( [Date] . [Calendar] . [Month],
    12, [Date]. [Calendar]))
/
([Measures] . [Sales], Ancestor ([Date] . [Calendar],
    [Date] . [Calendar] . [Year]). PrevMember, Root ([Salesperson]),
    Root([Product]))

# Explanation:

**Answer area**

UPDATE  CUBE  [ Sales ]
SET   ( [ Measures ] . [Sales Plan ] ,  [ Scenario ] . [ Scenario ] . [ Budget ] ,
    [ Date ] . [ Calendar ] . [ 2012 ] ) = 12000000
USE_WEIGHTED_ALLOCATION BY

([Measures] . [Sales], ParallelPeriod ( [Date] . [Calendar] . [Month],
    12, [Date]. [Calendar]))
/
([Measures] . [Sales], Ancestor ([Date] . [Calendar],
    [Date] . [Calendar] . [Year]). PrevMember, Root ([Salesperson]),
    Root([Product]))

C:\Users\Kamran\Desktop\image.jpg

### Question No : 27  - (Topic 3)

You need to select an appropriate tool for creating the Regional Sales report.

Which tool or tools should you use? (Each correct answer presents a complete solution. Choose all that apply.)

**A.** Excel 2010, using the CUBE functions
**B.** Power View, using a Matrix
**C.** Excel 2010, using a PivotTable
**D.** Report Builder, using a Matrix

### Answer: B,C,D

**Explanation:**

B: Working with a matrix in Power View

A matrix is a type of visualization that is similar to a table in that it is made up of rows and columns. However, a matrix can be collapsed and expanded by rows and/or columns. If it contains a hierarchy, you can drill down/drill up.

C: Using an Excel Pivot Table, connecting to the Cube, will give you the option to drill down the cube. Using conditional formatting you can highlight specific value ranges.

D: Matrices provide functionality similar to crosstabs and pivot tables. At run time, as the report data and data regions are combined, a matrix grows horizontally and vertically on the page. Values in matrix cells display aggregate values scoped to the intersection of the row and column groups to which the cell belongs. You can format the rows and columns to highlight the data you want to emphasize. You can also include drilldown toggles that initially hide detail data; the user can then click the toggles to display more or less detail as needed.

* From scenario:

Management has requested a new report named Regional Sales. This report must be based on the Sales cube and must allow users to filter by a specific year and present a grid with every region on the columns and the Products hierarchy on the rows. The hierarchy must initially be collapsed and allow the user to drill down through the hierarchy to analyze sales. Additionally, sales values that are less than $5000 must be highlighted in red.

**Question No : 28 - (Topic 3)**

You need to configure the Scenario attribute to ensure that business users appropriately query the Sales Plan measure.

What should you do? (Each correct answer presents part of the solution. Choose all that apply.)

**A.** Set the AttributeHierarchyVisible property to False.
**B.** Set the IsAggregatable property to False.
**C.** Set the Usage property to Parent.
**D.** set the DefaultMember property to the Forecast member.
**E.** Set the AttributeHierarchyEnabled property to False.
**F.** Set the RootMemberIf property to ParentIsMissing.

**Answer: C,D**

**Explanation:**

The Sales measure group is based on the FactSales table. The Sales Plan measure group is based on the FactSalesPlan table. The Sales Plan measure group has been configured with a multidimensional OLAP (MOLAP) writeback partition. Both measure groups use MOLAP partitions, and aggregation designs are assigned to all partitions.

**Question No : 29 DRAG DROP - (Topic 3)**

You need to configure the attribute relationship types for the Salesperson dimension.

Which configuration should you use?

To answer, drag the appropriate pair of attributes and attribute relationships from the list to the correct location or locations in the answer area. (Answer choices may be used once, more than once, or not all.)
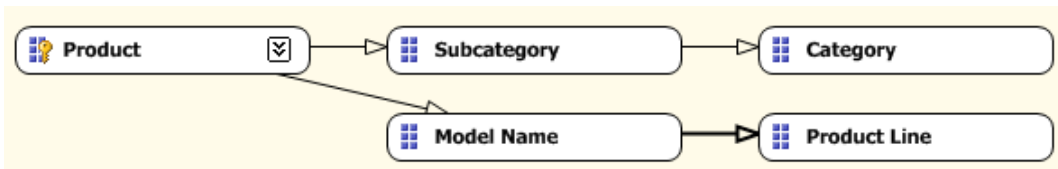
**Answer:**
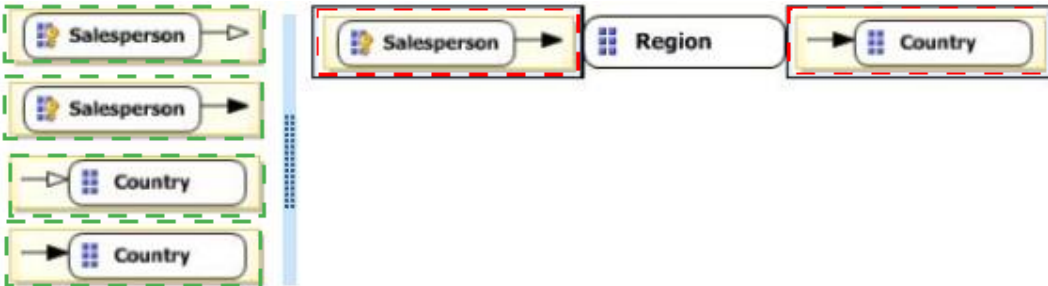


**Explanation:**



Note:

You connect a "higher-level" attribute to a "lower-level" attribute.

Best practice design says relationships should be rigid (bold filled lines) when members aren't shifting around.

Example:

## Question No : 30 - (Topic 3)

You need to select an appropriate tool for creating the Regional Sales report.

Which tools or tools should you use? (Each correct answer presents a complete solution. Choose all that apply.)

**A.** Power View, using a table configured for vertical multiples
**B.** Excel 2010, using a PivotTable
**C.** Report Builder, using a Matrix
**D.** Power View, using a table configured for horizontal multiples

**Answer: B,C**

## Question No : 31 - (Topic 3)

You need to fix the PowerPivot data refresh problem by using the least amount of administrative effort.

What should you do?

**A.** Use the PowerPivot Configuration Tool and select the Upgrade Features, Services, Applications and Solutions option.
**B.** Use the PowerPivot Configuration Tool and select the Configure or Repair PowerPivot for SharePoint option.
**C.** Reinstall SSAS in PowerPivot for SharePoint mode by using the SQL Server 2012 installation media.
**D.** In SharePoint Central Administration, create a target application and configure the PowerPivot service application settings to use the target application.

**Answer: B**

## Question No : 32 - (Topic 3)

You need to define the trend calculation for the sales performance KPI.

Which KPI trend MDX expression should you use?

**A.** CASE
WHEN [Sales Variance %] < ([Sales Variance %], [Date].[Calendar].PrevMember) THEN -1
WHEN [Sales Variance %] = ([Sales Variance %], [Date].[Calendar].PrevMember) THEN 0
ELSE 1 END
**B.** IIF([Sales Variance %3 < ([Sales Variance %], [Date].[Calendar].PrevMember), 1, 0)
**C.** IIF([Sales Variance %] < ([Sales Variance %], [Date].[Calendar].PrevMember), 0, 1)
**D.** CASE
WHEN [Sales Variance %] < ([Sales Variance %], [Date].[Calendar].PrevMember) THEN 1
WHEN [Sales Variance %] = ([Sales Variance %], [Date].[Calendar].PrevMember) THEN 0
ELSE -1
END

**Answer: A**

### Question No : 33  - (Topic 3)

You need to create the calculation for SalespersonName.

What should you do? (Each correct answer presents a complete solution. Choose all that apply.)

**A.** Create a computed column in the data warehouse's DimSalesperson table. Include the column in the Sales Reporting model's Salesperson table.
**B.** Modify the data warehouse's DimSalesperson table and add a new column. Use an UPDATE statement to populate the new column with values. Update the SSIS package developed to populate the data warehouse's DimSalesperson table to use a Derived Column transformation to produce the calculation.
**C.** Configure the Sales Reporting model's Salesperson table properties to be based on a query. Define a derived column in the query.
**D.** Add a calculated column to the Sales Reporting model's Salesperson table by using the Data Analysis Expressions (DAX) language CONCATENATE function.
**E.** Create a view in the data warehouse that defines a derived column based on the DimSalesperson table. Base the Sales Reporting model's Salesperson table on the view. Include the column in the Sales Reporting model's Salesperson table.
**F.** Add a calculated column to the Sales Reporting model's Salesperson table by using the Data Analysis Expressions (DAX) language ADDCOLUMNS function.

**Answer: B,E**

### Question No : 34  - (Topic 3)

You need to configure data refresh for the Manufacturing Performance PowerPivot workbook.

What should you do? (Each correct answer presents part of the solution. Choose ail that apply.)

**A.** Configure the PowerPivot Data Refresh Timer Job to run every 60 minutes.
**B.** Restore the PowerPivot workbook to an SSAS instance in tabular mode.
**C.** Script a process command and configure a SQL Server Agent job to execute the command every 60 minutes.
**D.** Restore the PowerPivot workbook to an SSAS instance in PowerPivot for SharePoint mode.

**Answer: A**

## Topic 4, Contoso, Ltd Case A
**General Background**
You are the SQL Server Administrator for Contoso, Ltd. You have been tasked with upgrading all existing SQL Server instances to SQL Server 2012.

**Technical Background**
The corporate environment includes an Active Directory Domain Services (AD DS) domain named contoso.com. The forest and domain levels are set to Windows Server 2008. All default containers are used for computer and user accounts. All servers run Windows Server 2008 R2 Service Pack 1 (SP1). All client computers run Windows 7 Professional SP1. All servers and client computers are members of the contoso.com domain.

The current SQL Server environment consists of a single instance failover cluster of SQL Server 2008 R2 Analysis Services (SSAS). The virtual server name of the cluster is SSASCluster. The cluster includes two nodes: Node1 and Node2. Node1 is currently the active node. In anticipation of the upgrade, the prerequisites and shared components have been upgraded on both nodes of the cluster, and each node was rebooted during a weekly maintenance window.

A single-server deployment of SQL Server 2008 R2 Reporting Services (SSRS) in native mode is installed on a server named SSRS01. The Reporting Server service is configured to use a domain service account. SSRS01 hosts reports that access the SSAS databases for sales data as well as modeling data for the Research team. SSRS01 contains 94 reports used by the organization. These reports are generated continually during business hours. Users report that report subscriptions on SSRS01 are not being delivered. You run the reports on demand from Report Manager and find that the reports render as expected.

A new server named SSRS02 has been joined to the domain, SSRS02 will host a single-

server deployment of SSRS so that snapshots of critical reports are accessible during the upgrade.

The server configuration is shown in the exhibit. (Click the Exhibit button.)


Server Configuration
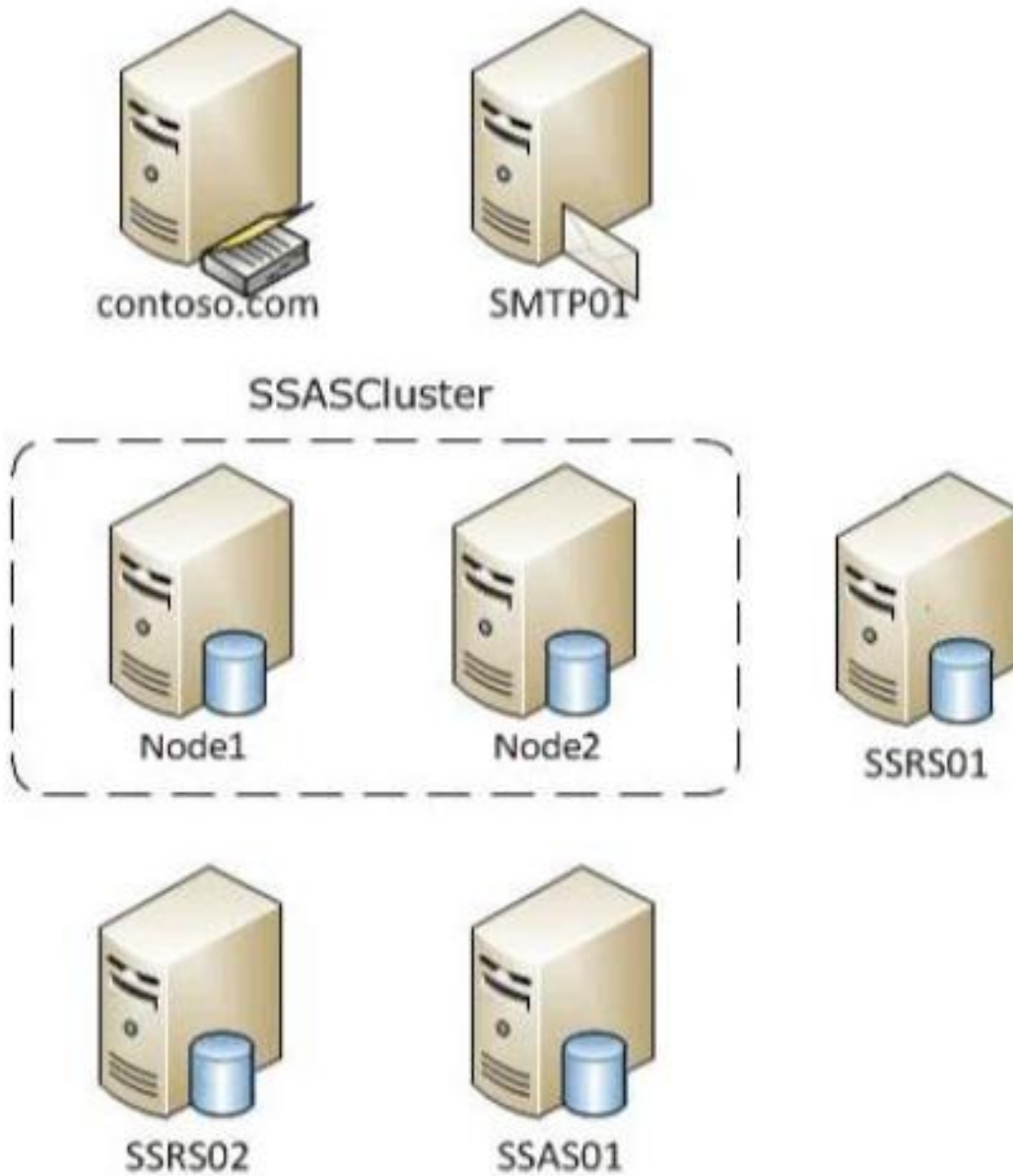
The production system includes three SSAS databases that are described in the following table.

| Database name | Size |
|---|---|
| Customer Sales | 350 MB |
| Manufacturing | 1.2 GB |
| Research | 620 MB |

All SSAS databases are backed up once a day, and backups are stored offsite.

**Business Requirements**

After the upgrade users must be able to perform the following tasks:

- Ad-hoc analysis of data in the SSAS databases by using the Microsoft Excel PivotTable client.
- Daily operational analysis by executing a custom application that uses ADOMD.NET and existing Multidimensional Expressions (MDX) queries.

The detailed data must be stored in the model.

**Technical Requirements**

You need to minimize downtime during the SSASCluster upgrade. The upgrade must minimize user intervention and administrative effort.

The upgrade to SQL Server 2012 must maximize the use of all existing servers, require the least amount of administrative effort, and ensure that the SSAS databases are operational as soon as possible.

You must implement the highest level of domain security for client computers connecting to SSRS01. The SSRS instance on SSRS01 must use Kerberos delegation to connect to the SSAS databases. Email notification for SSRS01 has not been previously configured. Email notification must be configured to use the SMTP server SMTP01 with a From address of reports@contoso.com. Report distribution must be secured by using SSL and must be limited to the contoso.com domain.

You have the following requirements for SSRS02:

- Replicate the SSRS01 configuration.
- Ensure that all current reports are available on SSRS02.
- Minimize the performance impact on SSR501.

In preparation for the upgrade, the SSRS-related components have been installed on the new SSRS02 server by using the Reporting Services file-only installation mode. The Reporting Services databases have been restored from SSRS01 and configured appropriately.

You must design a strategy to recover the SSRS instance on SSRS01 in the event of a

system failure. The strategy must ensure that SSRS can be recovered in the minimal amount of time and that reports are available as soon as possible. Only functional components must be recovered.

SSRS02 is the recovery server and is running the same version of SSRS as SSRS01. A full backup of the SSRS databases on SSRS01 is performed nightly. The report server configuration files, custom assemblies, and extensions on SSRS02 are manually synchronized with SSRS01.
Prior to implementing the upgrade to SQL Server 2012, you must back up all existing SSAS databases.

Databases on SSRS01 is performed nightly. The report server configuration files, custom assemblies, and extensions on SSRS02 are manually synchronized with SSRS01.

Prior to implementing the upgrade to SQL Server 2012, you must back up all existing SSAS databases. The backup must include only the partitioning, metadata, and aggregations to minimize the processing time required when restoring the databases. You must minimize processing time and the amount of disk space used by the backups.

Before upgrading SSAS on the SSASCluster, all existing databases must be moved to a temporary staging server named SSAS01 that hosts a default instance of SQL Server 2012 Analysis Services. This server will be used for testing client applications connecting to SSAS 2012, and as a disaster recovery platform during the upgrade. You must move the databases by using the least amount of administrative effort and minimize downtime.
All SSAS databases other than the Research database must be converted to tabular BI Semantic Models (BISMs) as part of the upgrade to SSAS 2012. The Research team must have access to the Research database for modeling throughout the upgrade. To facilitate this, you detach the Research database and attach it to SSAS01.

While testing the Research database on SSAS01, you increase the compatibility level to 1100. You then discover a compatibility issue with the application. You must roll back the compatibility level of the database to 1050 and retest.

After completing the upgrade, you must do the following:
1. Design a role and assign an MDX expression to the Allowed member set property of the Customer dimension to allow sales representatives to browse only members of the Customer dimension that are located in their sales regions. Use the sales representatives' logins and minimize impact on performance.
2. Deploy a data model to allow the ad-hoc analysis of data. The data model must be cached and source data from an OData feed.

## Question No : 35  - (Topic 4)

You need to implement the security requirement for the sales representatives.

Which MDX expression should you use?

```
C  A.   Exists([Customer].[Customer Number].Members, StrToMember("[Employees].[Login].&[" +
        Username + "]"), "Security Filter")

C  B.   NonEmpty([Customer].[Customer Number].Members + StrToMember("[Employees].[Login].&["
        + Username + "]")

C  C.   NonEmpty([Customer].[Customer Number].Members, (StrToMember("[Employees].[Login].&["
        + Username + "]"), Measures.[Security Filter Count]))

C  D.   Exists([Customer].[Customer Number].Members + StrToMember("[Employees].[Login].&[" +
        Username + "]")
```

**A.** Option A
**B.** Option B
**C.** Option C
**D.** Option D

**Answer: A**

## Question No : 36 - (Topic 4)

You need to perform the pre-upgrade database backup operation by using SQL Server Management Studio (SSMS).

How should you configure the backup options?

**A.** Select the Apply compression check box. Select the Encrypt backup file check box and supply a password.
**B.** Clear the Apply compression check box. Select the Encrypt backup file check box and supply a password.
**C.** Clear the Apply compression check box. Clear the Encrypt backup file check box.
**D.** Select the Apply compression check box. Clear the Encrypt backup file check box.

**Answer: D**

## Question No : 37 - (Topic 4)

You need to re-establish subscriptions on SSRS01.

What should you do?

**A.** Manually failover the active node.

**B.** Install prerequisites and upgrade shared components on Node1 and Node2.
**C.** Generate a SQL Server 2012 configuration file by running the SQL Server Setup executable.
**D.** Upgrade Node1 by using the SQL Server 2012 Upgrade wizard.

## Answer: A

**Explanation:**

SSRS reports are scheduled by SQL server Agent jobs.
Start the SQL Server Agent on SSRS01.

## Question No : 38 - (Topic 4)

You need to configure security for the SSRS instance on SSRS01 to connect to SSAS and minimize downtime.

What should you do? (Each correct answer presents part of the solution. Choose all that apply.)

**A.** Register a service principal name for the Report Server service.
**B.** Register a service principal name for the Analysis Services service.
**C.** Restart the IIS service.
**D.** Configure SSRS01 to use the Negotiate authentication type.
**E.** Configure SSRS01 to use the Custom authentication type.

## Answer: A,D

**Explanation:** A (not B): If you are deploying Reporting Services in a network that uses the Kerberos protocol for mutual authentication, you must create a Service Principal Name (SPN) for the Report Server service if you configure it to run as a domain user account.

D (not E):
* See step 6 below.

To register an SPN for a Report Server service running as a domain user
    &#9986; Install Reporting Services and configure the Report Server service to run as a domain user account. Note that users will not be able to connect to the report server until you complete the following steps.
    &#9986; Log on to the domain controller as domain administrator.
    &#9986; Open a Command Prompt window.
    &#9986; Copy the following command, replacing placeholder values with actual values that

are valid for your network:

✎ Setspn -a http/<computer-name>.<domain-name>:<port><domain-user-account>

✎ Run the command.

✎ Open the RsReportServer.config file and locate the <AuthenticationTypes> section. Add <RSWindowsNegotiate/> as the first entry in this section to enable NTLM.

* RSWindowsNegotiate. If you initially set the Windows service account for the report server to NetworkService or LocalSystem in Reporting Services Configuration Manager, RSWindowsNegotiate is added to the RSReportServer.config file as the default setting. With this setting, the report server can accept requests from client applications requesting Kerberos or NTLM authentication. If Kerberos is requested and the authentication fails, the report server switches to NTLM authentication and prompts the user for credentials unless the network is configured to manage authentication transparently.

Using RSWindowsNegotiate is your best option because it provides the greatest flexibility for multiple clients in an intranet environment.

Not C: IIS is not mention in this scenario.

Note:
* From scenario:
/ A single-server deployment of SQL Server 2008 R2 Reporting Services (SSRS) in native mode is installed on a server named SSRS01. The Reporting Server service is configured to use a domain service account.

Reference: Register a Service Principal Name (SPN) for a Report Server

### Question No : 39  - (Topic 4)

You need to roll back the compatibility level of the Research database.

What should you do?

**A.** Restore a backup of the previous version of the database.
**B.** Use an ALTER DATABASE statement to set the compatibility option.
**C.** Change the CompatibilityLevel property in the XMLA script, and then execute the script.
**D.** In SQL Server Management Studio (SSMS), change the compatibility level in the database properties.

**Answer: A**

## Question No : 40 - (Topic 4)

You need to develop a BISM that meets the business requirements for ad-hoc and daily operational analysis. You must minimize development effort.

Which development approach and mode should you use?

**A.** Develop a tabular project and configure the model with the DirectQuery mode setting on and the project query mode set to DirectQuery.
**B.** Develop a tabular project and configure the model with the DirectQuery mode setting on and the project query mode set to In-Memory with DirectQuery.
**C.** Develop a multidimensional project and configure the model with the DirectQuery mode setting off.
**D.** Develop a multidimensional project and configure the cube to use hybrid OLAP (HOLAP) storage mode.

### Answer: C

**Explanation:**

/ After the upgrade users must be able to perform the following tasks:

/ Ad-hoc analysis of data in the SSAS databases by using the Microsoft Excel PivotTable client (which uses MDX).

/ Daily operational analysis by executing a custom application that uses ADOMD.NET and existing Multidimensional Expressions (MDX) queries.

/ Deploy a data model to allow the ad-hoc analysis of data. The data model must be cached and source data from an OData feed.

We cannot use DirectQuery mode so C is the only answer that will provide the required caching.

When a model is in DirectQuery mode, it can only be queried by using DAX. **You cannot use MDX to create queries**. This means that you cannot use the Excel Pivot Client, because Excel uses MDX.

## Question No : 41 - (Topic 4)

You need to configure SSRS to send the required notification messages.

Which configuration settings should you use? (Each correct answer presents a partial solution. Choose all that apply.)

**A.** <SendUsing>2</SendUsing>
**B.** <SendUsing>contoso.com</SendUsing>
**C.** <SMTPServer>SMTP01/SMTPServer>
**D.** <SMTPServerPort>110</SMTPServerPort>
**E.** <SMTPServer>SSRS01/SMTPServer>
**F.** <From>reports@contoso.com</From>
**G.** <PermittedHosts>contoso.com</PermittedHosts>

**Answer: A,C,F,G**

**Explanation:**

A:

* In the configuration file, the delivery method is set through the SendUsing configuration setting.

* SendUsing specifies a method for sending messages. You can choose between a network SMTP service or a local SMTP service pickup directory. To use a remote SMTP service, this value must be set to 2 in the RSReportServer.config file.

C, F:

* From scenario: Email notification for SSRS01 has not been previously configured. Email notification must be configured to use the SMTP server SMTP01 with a From address of reports@contoso.com.

* SMTPServer specifies the remote SMTP server or forwarder. This value is a required value if you are using a remote SMTP server or forwarder.

G:

* From scenario: Report distribution must be secured by using SSL and must be limited to the contoso.com domain.

Note:

Configuration Options for Remote SMTP Service

The connection between the report server and an SMTP server or forwarder is determined by the following configuration settings:

* SendUsing specifies a method for sending messages. You can choose between a network SMTP service or a local SMTP service pickup directory. To use a remote SMTP service, this value must be set to 2 in the RSReportServer.config file.

* SMTPServer specifies the remote SMTP server or forwarder. This value is a required value if you are using a remote SMTP server or forwarder.

* From sets the value that appears in the From: line of an e-mail message. This value is a required value if you are using a remote SMTP server or forwarder.

Other values that are used for remote SMTP service include the following (note that you do not need to specify these values unless you want to override the default values).
* SMTPServerPort is configured for port 25.
* SMTPAuthenticate specifies how the report server connects to the remote SMTP server.

Reference: Configure a Report Server for E-Mail Delivery (Reporting Services), Configuration Options for Remote SMTP Service

### Question No : 42  - (Topic 4)

You need to re-establish subscriptions on SSRS01.

What should you do?

**A.** Start the SQL Server Agent on SSRS01.
**B.** Restore the ReportServer database.
**C.** Restore the ReportServerTempDB database.
**D.** Use the SQL Server Configuration Manager to reset the SQL Service account credentials.

**Answer: A**

### Question No : 43  - (Topic 4)

You need to use Reporting Services Configuration Manager to configure SSRS to complete the installation on SSRS02.

What should you do? (Each correct answer presents a partial solution. Choose all that apply.)

**A.** Change the encryption key.
**B.** Specify the execution account.
**C.** Join the scale-out deployment.

**D.** Set the Report Server Web Service URL.

**E.** Set the Report Manager URL.

**F.** Delete the encryption key.

**Answer: A,B,E**

**Explanation:** A: We need to restore a copy of the encryption key from SSRS01. This step is necessary for enabling reversible encryption on pre-existing connection strings and credentials that are already in the report server database.

B: Reporting Services provides a special account that is used for unattended report processing and for sending connection requests across the network. The account is used in the following ways:

/ Send connection requests over the network for reports that use database authentication, or connect to external report data sources that do not require or use authentication.

/ Retrieve external image files that are used in report. If you want to use an image file and the file cannot be accessed through Anonymous access, you can configure the unattended report processing account and grant the account permission to access the file.

E: Example:

1.First of all open Internet Explorer and go to Report Manager URL which is something like below:

http://string-pc/Reports2012

2. Click on your SSRS project. So now it will show you the list of reports which are deployed on your report server.
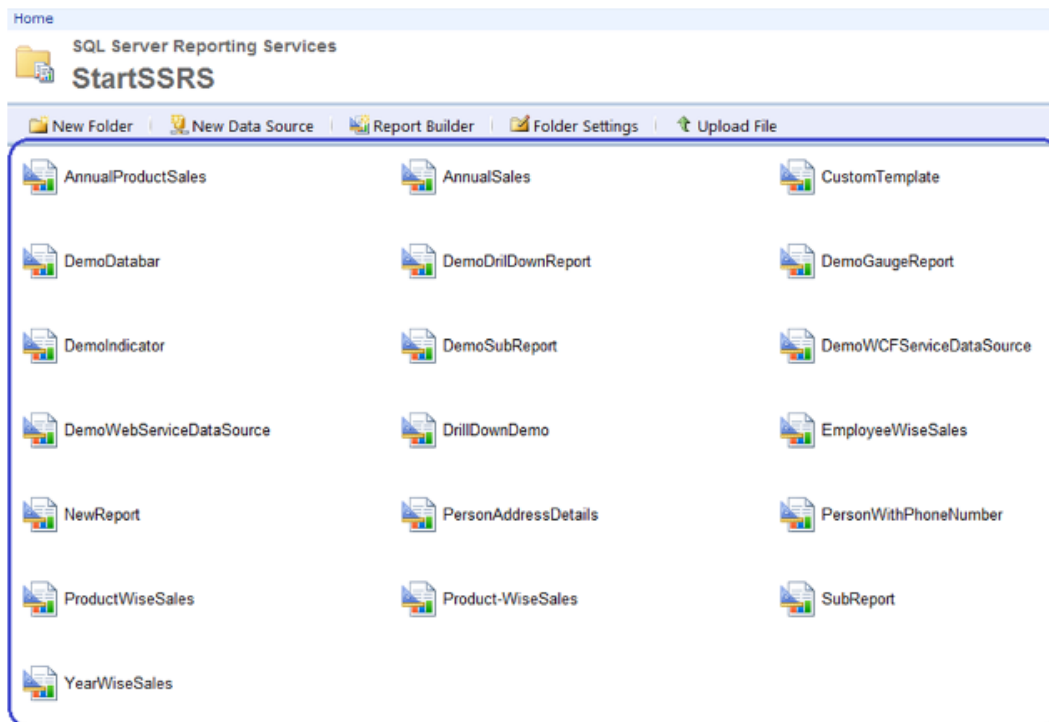
3. Now click on down arrow on the report which you want to subscribe and selectManage. Etc.

* From Scenario:

/ A new server named SSRS02 has been joined to the domain, SSRS02 will host a single-server deployment of SSRS so that snapshots of critical reports are accessible during the upgrade.
/ You have the following requirements for SSRS02:
    &#x2710; Replicate the SSRS01 configuration.
    &#x2710; Ensure that all current reports are available on SSRS02.
    &#x2710; Minimize the performance impact on SSRS01.

/ In preparation for the upgrade, the SSRS-related components have been installed on the new SSRS02 server by using the Reporting Services file-only installation mode. The Reporting Services databases have been restored from SSRS01 and configured appropriately.

/ SSRS02 is the recovery server and is running the same version of SSRS as SSRS01. The report server configuration files, custom assemblies, and extensions on SSRS02 are manually synchronized with SSRS01.

## Question No : 44  - (Topic 4)

You need to implement the Customer Sales and Manufacturing data models.

What should you do? (Each correct answer presents a partial solution. Choose all that apply.)

**A.** Use the Database Synchronization Wizard to upgrade the database to tabular mode.
**B.** Use SQL Server Integration Services (SSIS) to copy the database design to the SSAS instance, and specify tabular mode as the destination.
**C.** Use SQL Server Data Tools (SSDT) to redevelop and deploy the projects.
**D.** Use the current SSAS instance.
**E.** Install a new instance of SSAS in tabular mode.

**Answer: C,E**
**Explanation:**

C: Tabular models are authored in SQL Server Data Tools (SSDT) using new tabular model project templates. You can import data from multiple sources, and then enrich the model by adding relationships, calculated columns, measures, KPIs, and hierarchies. Models can then be deployed to an instance of Analysis Services where client reporting applications can connect to them. Deployed models can be managed in SQL Server Management Studio just like multidimensional models. They can also be partitioned for optimized processing and secured to the row-level by using role based security.

E: If you are installing Analysis Services to use the new tabular modeling features, you must install Analysis Services in a server mode that supports that type of model. The server mode is Tabular, and it is configured during installation.
After you install the server in this mode, you can use it host solutions that you build in tabular model designer. A tabular mode server is required if you want tabular model data access over the network.

* From scenario:
/ Deploy a data model to allow the ad-hoc analysis of data. The data model must be cached and source data from an OData feed.
/ All SSAS databases other than the Research database must be converted to tabular BI Semantic Models (BISMs) as part of the upgrade to SSAS 2012. The Research team must have access to the Research database for modeling throughout the upgrade. To facilitate this, you detach the Research database and attach it to SSAS01.

* The Business Intelligence Semantic Model (BISM) is a single unified BI platform which has both multi-dimensional as well as tabular data modeling capabilities to offer best of both worlds and choice for the developer.

Reference: Install Analysis Services in Tabular Mode

Reference: Tabular Modeling (SSAS Tabular)

## Question No : 45  - (Topic 4)

You need to use SQL Server Management Studio (SSMS) to make the SSAS databases available for application testing.

What should you do?

**A.** Restore the SSAS databases from the latest backup to SSAS01.
**B.** Script the databases as a Create script to a new window and then execute the script on SSAS01.
**C.** Detach the SSAS databases from the SSASCluster, and then attach them to SSAS01.
**D.** Use the Import/Export Wizard to copy the databases from the production server to the development server.

**Answer: A**

## Question No : 46  - (Topic 4)

You need to design the recovery strategy for SSRS01.

What should the strategy include? (Each correct answer presents part of the solution. Choose all that apply.)

**A.** Re-create the SQL Server Agent jobs that are used to trigger schedules.
**B.** Restore the ReportServer and ReportServerTempDB databases with recovery.
**C.** Restore the ReportServer and ReportServerTempDB databases with no recovery.
**D.** Restore the msdb database.
**E.** Restore the Report Server encryption key.
**F.** Restore the database encryption key.

**Answer: A,B,E**

## Question No : 47 DRAG DROP - (Topic 4)

You need to upgrade the SSASCluster.

Which three actions should you perform in sequence? (To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.)

Install prerequisites and upgrade shared components on Node1 and Node2.

Upgrade Node1 by using the SQL Server 2012 Upgrade Wizard.

Upgrade Node2 by using the SQL Server 2012 Upgrade Wizard.

Upgrade Node2 from the command prompt by using a configuration file. Specify the /FAILOVERCLUSTERROLLOWNERSHIP=1 option.

Upgrade Node2 from the command prompt by using a configuration file. Specify the /FAILOVERCLUSTERROLLOWNERSHIP=0 option.

Manually failover the active node.

Generate a SQL Server 2012 configuration file by running the SQL Server Setup executable.

Upgrade Node1 from the command prompt by using a configuration file.

**Answer:**

Install prerequisites and upgrade shared components on Node1 and Node2.

Upgrade Node1 by using the SQL Server 2012 Upgrade Wizard.

Upgrade Node2 by using the SQL Server 2012 Upgrade Wizard.

Upgrade Node2 from the command prompt by using a configuration file. Specify the /FAILOVERCLUSTERROLLOWNERSHIP=1 option.

Upgrade Node2 from the command prompt by using a configuration file. Specify the /FAILOVERCLUSTERROLLOWNERSHIP=0 option.

Manually failover the active node.

Generate a SQL Server 2012 configuration file by running the SQL Server Setup executable.

Upgrade Node1 from the command prompt by using a configuration file.

Generate a SQL Server 2012 configuration file by running the SQL Server Setup executable.

Upgrade Node2 from the command prompt by using a configuration file. Specify the /FAILOVERCLUSTERROLLOWNERSHIP=1 option.

Upgrade Node1 from the command prompt by using a configuration file.

**Explanation:**

Box 1:

Generate a SQL Server 2012
configuration file by running the SQL
Server Setup executable.

Box 2:

Upgrade Node2 from the command
prompt by using a configuration file.
Specify the /
**FAILOVERCLUSTERROLLOWNERS
HIP=1** option.

Box 3:

Upgrade Node1 from the command
prompt by using a configuration file.

Note:
* From scenario:
/ The current SQL Server environment consists of a single instance failover cluster of SQL
Server 2008 R2 Analysis Services (SSAS). The virtual server name of the cluster is
SSASCluster. The cluster includes two nodes: Node1 and Node2. Node1 is currently the
active node. In anticipation of the upgrade, the prerequisites and shared components have
been upgraded on both nodes of the cluster, and each node was rebooted during a weekly
maintenance window.

**The upgrade must minimize user intervention and administrative effort**. So we'll
upgrade using the scripted method rather than the GUI method.

* (box 1)
/ SQL Server Setup provides the ability to generate a configuration file based upon the
system default and run-time inputs. You can use the configuration file to deploy SQL
Server throughout the enterprise with the same configuration. You can also standardize
manual installations throughout the enterprise, by creating a batch file that launches
Setup.exe.
/ How to generate a configuration file
Insert the SQL Server installation media. From the root folder, double-click Setup.exe. To
install from a network share, locate the root folder on the share, and then double-click

Setup.exe.

Follow the wizard through to the Ready to Install page. The path to the configuration file is specified in the Ready to Install page in the configuration file path section. For more information about how to install SQL Server, see Install SQL Server 2012 from the Installation Wizard (Setup).

Cancel the setup without actually completing the installation, to generate the INI file.

* (box 2) First upgrade the passive node node2.

To be able to use the configuration file we use the command prompt. After the upgrade, the cluster will fail over to the upgraded node.

*( Box 3) upgrade Node1 (which is now the passive node)

* You can upgrade a SQL Server failover cluster to a SQL Server 2008 failover cluster by using the SQL Server Installation Wizard or a command prompt. One of the main features of SQL Server 2008 failover clustering is minimal downtime for rolling upgrades and updates.

* To control the failover behavior of cluster nodes during the upgrade process, run the upgrade operation at the command prompt and use the /FAILOVERCLUSTERROLLOWNERSHIP parameter.

* To upgrade a SQL Server failover cluster to SQL Server 2008 R2, you must run the Setup on one failover cluster node at a time, starting with the passive nodes. Setup determines when to fail over to the upgraded node, depending on the total number of nodes in the failover cluster instance, and the number of nodes that have already been upgraded. When half of the nodes or more have already been upgraded, Setup by default will cause a failover to an upgraded node.

To control the failover behavior of cluster nodes during the upgrade process, run the upgrade operation at the command prompt and use the /FAILOVERCLUSTERROLLOWNERSHIP parameter to control the failover behavior before the upgrade operation takes the node offline. Use of this parameter is as follows:

/FAILOVERCLUSTERROLLOWNERSHIP=0 will not roll cluster ownership (move group) to upgraded nodes, and does not add this node to the list of possible owners of the SQL Server cluster at the end of upgrade.

/FAILOVERCLUSTERROLLOWNERSHIP=1 will roll cluster ownership (move group) to upgraded nodes, and will add this node to the list of possible owners of the SQL Server cluster at the end of upgrade.

/FAILOVERCLUSTERROLLOWNERSHIP=2 is the default setting. It will be used if this parameter is not specified. This setting indicates that SQL Server Setup will manage cluster ownership (move group) as needed.

## Topic 5, Data Architect

### General Background

You are a Data Architect for a company that uses SQL Server 2012 Enterprise edition.

You have been tasked with designing a data warehouse that uses the company's financial database as the data source. From the data warehouse, you will develop a cube to simplify the creation of accurate financial reports and related data analysis.

### Background

You will utilize the following three servers:

- ServerA runs SQL Server Database Engine. ServerA is a production server and also hosts the financial database.
- ServerB runs SQL Server Database Engine, SQL Server Analysis Services (SSAS) in multidimensional mode, SQL Server Integration Services (SSIS), and SQL Server Reporting Services (SSRS).
- ServerC runs SSAS in multidimensional mode.
- The financial database is used by a third-party application and the table structures cannot be modified.

The relevant tables in the financial database are shown in the exhibit. (Click the Exhibit button.)



Financial Database tables
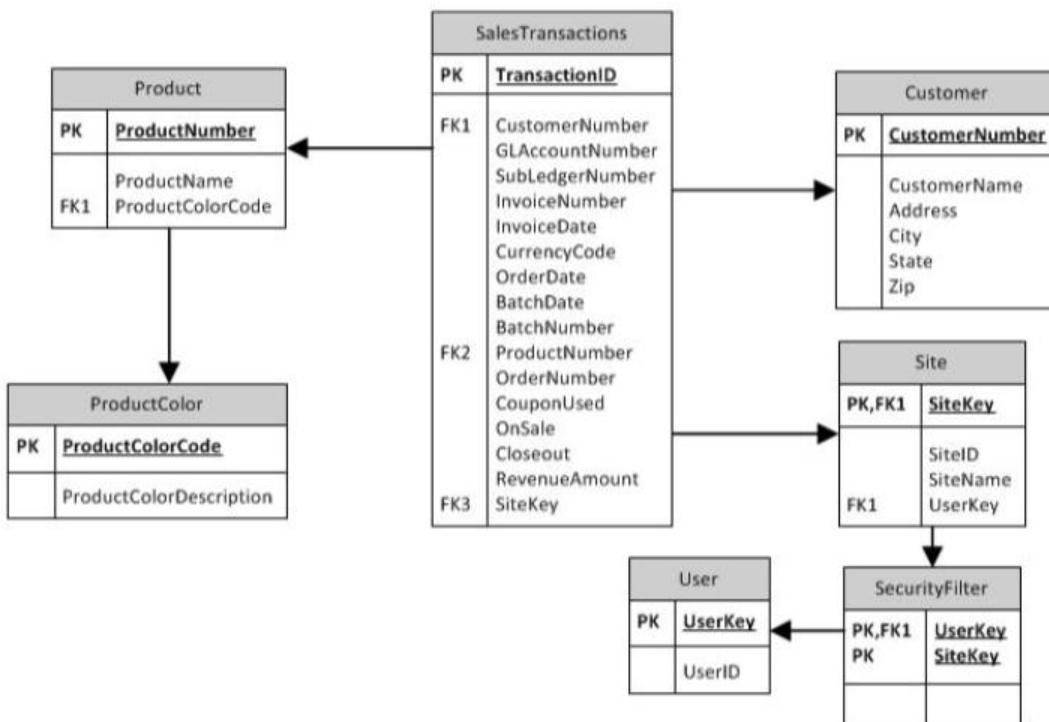
The SalesTransactions table is 500 GB and is anticipated to grow to 2 TB. The table is

partitioned by month. It contains only the last five years of financial data. The CouponUsed, OnSale, and Closeout columns contain only the values Yes or No. Each of the other tables is less than 10 MB and has only one partition.

The SecurityFilter table specifies the sites to which each user has access.

## Business Requirements

The extract, transform, load (ETL) process that updates the data warehouse must run daily between 8:00 P.M. and 5:00 A.M. so that it doesn't impact the performance of ServerA during business hours. The cube data must be available by 8:00 A.M.

The cube must meet the following business requirements:
- ✎ Ensure that reports display the most current information available.
- ✎ Allow fast access to support ad-hoc reports and data analysis.

Business Analysts will access the data warehouse tables directly, and will access the cube by using SSRS, Microsoft Excel, and Microsoft SharePoint Server 2010 PerformancePoint Services. These tools will access only the cube and not the data warehouse.

## Technical Requirements

SSIS solutions must be deployed by using the project deployment model.
You must develop the data warehouse and store the cube on ServerB. When the number of concurrent SSAS users on ServerB reaches a specific number, you must scale out SSAS to ServerC and meet following requirements:
- ✎ Maintain copies of the cube on ServerB and ServerC.
- ✎ Ensure that the cube is always available on both servers.
- ✎ Minimize query response time.

The cube must meet the following technical requirements:
- ✎ The cube must be processed by using an SSIS package.
- ✎ The cube must contain the prior day's data up to 8:00 P.M. but does not need to contain same-day data.
- ✎ The cube must include aggregation designs when it is initially deployed.
- ✎ A product dimension must be added to the cube. It will contain a hierarchy comprised of product name and product color.

Because of the large size of the SalesTransactions table, the cube must store only aggregations—the data warehouse must store the detailed data. Both the data warehouse and the cube must minimize disk space usage.

As the cube size increases, you must plan to scale out to additional servers to minimize processing time.

The data warehouse must use a star schema design. The table design must be as denormalized as possible. The history of changes to the Customer table must be tracked in the data warehouse. The cube must use the data warehouse as its only data source.

Security settings on the data warehouse and the cube must ensure that queries against the SalesTransactions table return only records from the sites to which the current user has

access.

The ETL process must consist of multiple SSIS packages developed in a single project by using the least amount of effort. The SSIS packages must use a database connection string that is set at execution time to connect to the financial database. All data in the data warehouse must be loaded by the SSIS packages.

You must create a Package Activity report that meets the following requirements:
  ✎ Track SSIS package execution data (including package name, status, start time, end time, duration, and rows processed).
  ✎ Use the least amount of development effort.

## Question No : 48  - (Topic 5)

You need to choose the appropriate key to use when designing a dimension table based on the Customer table.

What should you do?

**A.** Use a surrogate key.
**B.** Use a natural key.
**C.** Use the CustomerNumber column as the key.
**D.** Concatenate the CustomerName and CustomerNumber columns and use the concatenated string as the key.
**E.** Use the CustomerName column as the key.

**Answer: A**

## Question No : 49  - (Topic 5)

You need to slice data by the CouponUsed, OnSale, and Closeout columns.

What should you do?

**A.** Create one linked dimension for each column.
**B.** Create one degenerate dimension.
**C.** Create one role-playing dimension.
**D.** Create one junk dimension.

**Answer: D**

**Question No : 50 - (Topic 5)**

You need to implement the aggregation designs for the cube.

What should you do?

**A.** Use the CREATE CACHE statement.
**B.** Use the Aggregation Design Wizard.
**C.** Create relational indexes on the source tables.
**D.** Use the Usage-Based Optimization Wizard.

**Answer: B**

**Question No : 51 - (Topic 5)**

You need to identify changes in the financial database.

What should you do?

**A.** Add SQL Server log shipping to each table.
**B.** Add SQL Server mirroring to each table.
**C.** Perform a full extract of each table.
**D.** Enable change data capture on each table.
**E.** Create an AlwaysOn Availability Group that includes all the tables.

**Answer: D**

**Question No : 52 - (Topic 5)**

You need to identify changes in the financial database.

What should you do?

**A.** Add SQL Server replication to each table.

**B.** Extract data from the current partition of each table.
**C.** Add a timestamp column to each table.
**D.** Perform a full extract of each table.
**E.** Enable change data capture on each table.

**Answer: E**

## Question No : 53 - (Topic 5)

You need to design a cube partitioning strategy to be implemented as the cube size increases.

What should you do?

**A.** Use relational OLAP (ROLAP) on all local partitions.
**B.** Implement monthly remote partitions.
**C.** Use multidimensional OLAP (MOLAP) on all local partitions.
**D.** Implement monthly local partitions.

**Answer: B**

## Question No : 54 - (Topic 5)

You need to implement the aggregation designs for the cube.

What should you do?

**A.** Use the Usage-Based Optimization Wizard.
**B.** Use the Aggregation Design Wizard.
**C.** Partition the cube by month.
**D.** Implement cache warming in SSAS via an SSIS package.

**Answer: B**

## Question No : 55 - (Topic 5)

You need to select the appropriate storage settings for the cube.

Which settings should you choose?

**A.** Relational OLAP (ROLAP) with proactive caching enabled
**B.** Multidimensional OLAP (MOLAP) with proactive caching enabled and a rebuild interval of 24 hours
**C.** Hybrid OLAP (HOLAP) with proactive caching disabled
**D.** Hybrid OLAP (HOLAP) with proactive caching enabled

**Answer: C**

## Question No : 56  - (Topic 5)

You need to configure a parameter for the database connection string.

What should you do?

**A.** Use a required package parameter.
**B.** Use a required project parameter.
**C.** Use a package configuration.
**D.** Use a global variable.

**Answer: B**

## Question No : 57  - (Topic 5)

You need to implement the product dimension.

What should you do?

**A.** In the data warehouse, create a product dimension from a view that joins the Product and ProductColor tables in the financial database and contains product name and product color attributes.
**B.** In the data warehouse, create a dimension table that contains product name and a dimension table that contains product color.
**C.** In the data warehouse, create a product dimension table that contains product name and product color.
**D.** In the cube, create a named query that joins the Product and ProductColor tables in the financial database.

**Answer: C**

**Question No : 58 - (Topic 5)**

You need to create the Package Activity report.

What should you do?

**A.** Create a log table and use SSIS event handlers to write to the log table. Then create an SSRS report that uses the log table.
**B.** Use the SSIS log provider for SQL Server. Then create an SSRS report that uses the sysssislog table.
**C.** Create a log table and build a custom log provider to write to the log table. Then create an SSRS report that uses the log table.
**D.** Create an SSRS report that uses thecatalog.executions and catalog.execution_data_statistics views.

**Answer: D**

**Question No : 59 - (Topic 5)**

You need to implement security in the cube to limit the sites visible to each user.

What should you do?

**A.** Create an SSAS database role in the cube for each user and assign the sites each user can access to his or her database role.
**B.** Create an SSAS server role for each user and assign the sites each user can access to his or her server role.
**C.** Create an SSAS database role and define a Multidimensional Expressions (MDX) calculation to implement dynamic dimension security.
**D.** Create a view on the SalesTransactions table that uses the SecurityFilter and User table data to limit the sites for each user.

**Answer: C**

**Question No : 60 - (Topic 5)**

You need to scale out SSAS.

What should you do?

**A.** Back up the cube on ServerB and restore it on ServerC each day.
**B.** Create an empty cube on ServerC and link to the objects in the cube on ServerB.
**C.** Process the cube on both ServerB and ServerC each day.
**D.** Synchronize the cube from ServerB to ServerC each day.

**Answer: D**

### Question No : 61  - (Topic 5)

You need to restrict access to data in the tables in the data warehouse.

What should you do?

**A.** Configure column-level permissions.
**B.** Configure database roles.
**C.** Create views and grant permissions to the views.
**D.** Configure application roles.

**Answer: C**

### Topic 6, WingTip Toys

**General Background**
You are a data architect for WingTip Toys. The company uses SQL Server 2012 Enterprise edition. SQL Server Analysis Services (SSAS) and SQL Server Reporting Services (SSRS) are installed on separate servers.

**Data Warehouse**
The company's data warehouse initially contained less than 100 MB and 100 million rows of data from only one data source. It now contains more than 10 TB and 10 billion rows of data, in 25 tables, from 12 data sources.

The largest table in the data warehouse, the factOrders table, contains 5 TB of data. The factOrders table contains three date keys: OrderDateKey InvoiceDateKey, and ShipDateKey. The data warehouse server has 1 TB of RAM. Memory usage is currently at 20 percent.

One billion rows of data are added to the data warehouse each month. New data is copied each night from the data sources into SQL Server staging tables, and existing records are not updated. The largest data set is order information, which is loaded in parallel into multiple staging tables, one for each data source. All the staging tables have the same structure and belong to the same filegroup as the factOrders table.

The dimCustomers table stores customer information that may change over time.

**Data Models**

You are developing three SSAS databases, as described in the following table.

| Database name | Model type | Description |
|---|---|---|
| Operations | Multidimensional | Includes dimensions named **Customers**, **Date**, and **Product**, and a measure group named **Orders** that is based on the **factOrders** table.<br><br>All business users are assigned to the **BusinessUsers** database role. Business users can currently view metadata for all dimensions in the database.<br><br>Managers can view only data related to their departments. |
| Sales | Tabular | Includes all tables and rows in the data warehouse. |
| Finance | To be determined | The initial database size will be approximately the same as the total memory of the SSAS server. |

**Reporting**

Business users frequently generate reports in Microsoft Excel by using PowerPivot. The PowerPivot Management Dashboard does not currently display any usage data.

Several SSRS reports exist that use the data warehouse as a source. The data warehouse queries are aggregate queries that use the factOrders table and one or more dimension tables. All SSRS data sources use Integrated Windows authentication.

SSRS displays a security access error message when managers run SSRS reports based on the Operations database.

Reporting performance has become unacceptably slow.

**Business Requirements**

Improve the query speed of the SSRS reports.
Allow business users to create reports by using PowerPivot and Power View.
Ensure that all users other than business users can view metadata for the Customers
dimension. Ensure that business users cannot view metadata for the Customers
dimension.

**Technical Requirements**
Modify the tables in the data warehouse to minimize aggregate query processing time.
Minimize disk storage in the data warehouse.

Ensure that all multidimensional models process data as quickly as possible.
Create a fact table named factCustomerContact in the data warehouse to store the contact
date, customer key, and communication type for each instance of customer contact.

Store the history of customer information changes in the dimCustomers table.

Move data from the staging tables into the factOrders table as quickly as possible. When
creating dimensions for the date keys in the factOrders table, minimize storage space
requirements and optimize the cube processing time.

Ensure that queries against the Sales database return the most current data in the data
warehouse.
Ensure that the SSAS model of the Finance database does not page to disk or return a
memory error as the size of the database grows.

Create an SSAS monitoring solution that tracks the following data:
    ✎ Queries answered per second
    ✎ Queries from cache direct per second
    ✎ Queries from file per second.

**Question No : 62 - (Topic 6)**

You need to design the dimCustomers table.

Which design approach should you use?

**A.** Reference dimension
**B.** Type 2 slowly changing dimension
**C.** Junk dimension
**D.** Conformed dimension
**E.** Type 1 slowly changing dimension

**Answer: B**

**Question No : 63  - (Topic 6)**

You need to select the appropriate model type for the Finance database.

Which model type should you select?

**A.** Star schema
**B.** Multidimensional
**C.** Relational
**D.** Tabular with PowerPivot

**Answer: B**

**Question No : 64  - (Topic 6)**

You need to implement a strategy for efficiently storing sales order data in the data warehouse.

What should you do?

**A.** Separate the factOrders table into multiple tables, one for each month that has orders, and use a local partitioned view.
**B.** Separate the factOrders table into multiple tables, one for each day that has orders, and use a local partitioned view.
**C.** Create daily partitions in the factOrders table.
**D.** Create monthly partitions in the factOrders table.

**Answer: C**

**Question No : 65  - (Topic 6)**

You need to create the factCustomerContact table.

Which type of table should you create?

**A.** A fact table with a non-additive measure
**B.** A factless fact table
**C.** A periodic snapshot fact table
**D.** A fact table with an additive measure

**Answer: B**

### Question No : 66  - (Topic 6)

You need to select and configure a tool for the monitoring solution.

What should you choose?

**A.** Performance Monitor configured with the MSAS11:Storage Engine Query counter
**B.** Performance Monitor configured with the MSAS11:Processing counter
**C.** SQL Server Profiler configured with the Query Processing: Query Subcube event
**D.** SQL Server Profiler configured with the Queries Events: Query Begin event

**Answer: A**

### Question No : 67  - (Topic 6)

You need to improve the performance of data warehouse queries.

What should you do?

**A.** Create columnstore indexes.
**B.** Create clustered indexes.
**C.** Create indexed views.
**D.** Create bitmap indexes.

**Answer: A**

### Question No : 68  - (Topic 6)

You need to ensure that you can monitor the usage data.

What should you do?

**A.** In SharePoint Central Administration, enable usage data collection.
**B.** In the PowerPivot Configuration Tool, repair PowerPivot for SharePoint.
**C.** In the PowerPivot Configuration Tool, upgrade PowerPivot for SharePoint.
**D.** In Reporting Services Configuration Manager, enable report execution logging.

**Answer: A**

**Question No : 69  - (Topic 6)**

You need to ensure that managers can successfully run reports.

What should you do?

**A.** Implement Kerberos delegation.
**B.** Configure the SSRS data sources to store Windows credentials.
**C.** Implement forms-based authentication.
**D.** Configure the CustomData property in the connection strings.

**Answer: A**

**Question No : 70  - (Topic 6)**

You need to configure permissions for the Customers dimension.

What should you do? (Each correct answer presents a complete solution. Choose all that apply.)

**A.** In SQL Server Management Studio, configure the BusinessUsers role to disallow the reading of all definitions.
**B.** In SQL Server Data Tools, configure the BusinessUsers role to disallow the reading of the Customers dimension definition.
**C.** In SQL Server Management Studio, deny the member set for the Customers dimension data by using the Multidimensional Expressions (MDX) expression Filter([BusinessUsers]).
**D.** In SQL Server Management Studio, configure the BusinessUsers role to disallow the reading of the Customers dimension definition.

**Answer: B,D**

**Question No : 71  - (Topic 6)**

You need to select a method of moving data from the staging tables to the factOrders table.

What type of Transact-SQL (T-SQL) statement should you use?

**A.** INSERT INTO...SELECT
**B.** SELECT...INTO
**C.** ALTER PARTITION-SWITCH
**D.** ALTER PARTITION FUNCTION
**E.** ALTER TABLE...SWITCH

**Answer: E**

**Question No : 72  - (Topic 6)**

You need to implement the date dimension in the Operations database.

What should you do?

**A.** Create three database dimensions. Add each database dimension as a cube dimension by setting the Referenced relationship type.
**B.** Create one database dimension. Add three cube dimensions based on the database dimension. Set the Regular relationship type for each cube dimension.
**C.** Create three database dimensions. Add each database dimension as a cube dimension by setting the Regular relationship type.
**D.** Create one database dimension. Add three cube dimensions based on the database dimension. Set the Referenced relationship type for each cube dimension.

**Answer: B**

**Question No : 73  - (Topic 6)**

You need to select the appropriate mode for the Sales database.

Which mode should you select?

**A.** ROLAP
**B.** Direct Query
**C.** MOLAP
**D.** In-Memory

**Answer: B**

## Topic 7, Contoso, Ltd Case B

**General Background**

You are the business intelligence (BI) solutions architect for Contoso, Ltd, an online retailer.

You produce solutions by using SQL Server 2012 Business Intelligence edition and Microsoft SharePoint Server 2010 Service Pack 1 (SP1) Enterprise edition.

A SharePoint farm has been installed and configured for intranet access only. An Internet-facing web server hosts the company's public e-commerce website. Anonymous access is not configured on the Internet-facing web server.

**Data Warehouse**

The data warehouse is deployed on a 5QL Server 2012 relational database instance. The data warehouse is structured as shown in the following diagram.
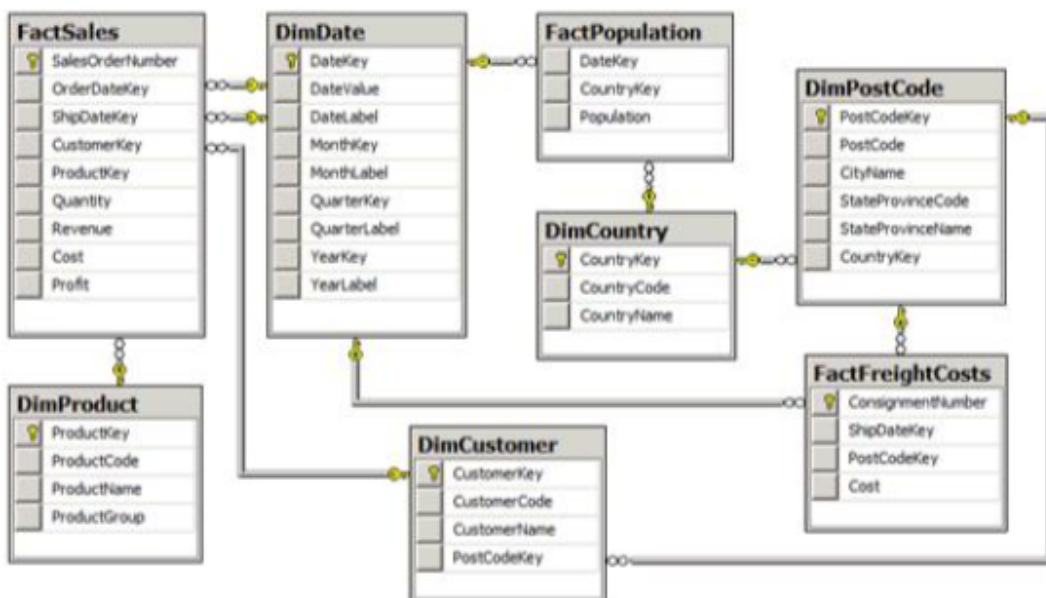


The following Transact-SQL (T-SQL) script is used to create the FactSales and FactPopulation tables:

```
CREATE TABLE [dbo].[FactSales]
(
      [SalesOrderNumber] NCHAR(10) PRIMARY KEY
    , [OrderDateKey] INT NOT NULL
    , [ShipDateKey] INT NOT NULL
    , [CustomerKey] INT NOT NULL
    , [ProductKey] INT NOT NULL
    , [Quantity] INT NOT NULL
    , [Revenue] SMALLMONEY NOT NULL
    , [Cost] SMALLMONEY NOT NULL
    , [Profit] AS ([Revenue]-[Cost])
);
GO

CREATE TABLE [dbo].[FactPopulation]
(
      [DateKey] INT NOT NULL
    , [CountryKey] INT NOT NULL
    , [Population] INT NOT NULL
);
GO
```

The FactPopulation table is loaded each year with data from a Windows Azure Marketplace commercial dataset. The table contains a snapshot of the population values for all countries of the world for each year. The world population for the last year loaded exceeds 6.8 billion people.

**ETL Process**
SQL Server Integration Services (SSIS) is used to load data into the data warehouse. All SSIS projects are developed by using the project deployment model.

A package named StageFactSales loads data into a data warehouse staging table. The package sources its data from numerous CSV files exported from a mainframe system. The CSV file names begin with the letters GLSD followed by a unique numeric identifier that never exceeds six digits. The data content of each CSV file is identically formatted.
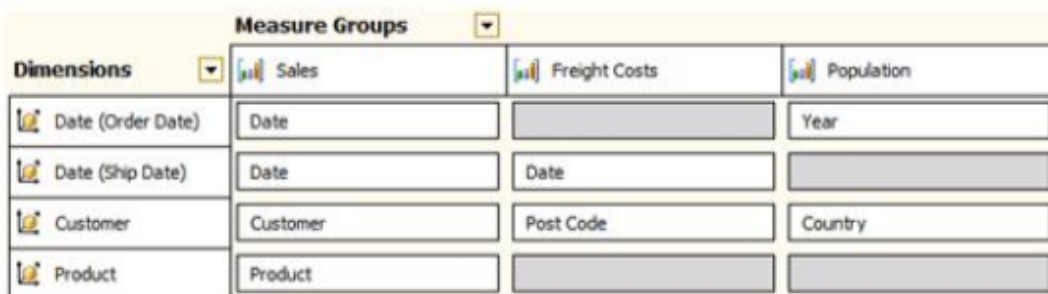
A package named LoadFactFreightCosts sources data from a Windows Azure SQL Database database that has data integrity problems. The package may retrieve duplicate rows from the database.

The package variables of all packages have the RaiseChangedEvent property set to true. A package-level event handler for the OnVariableValueChanged event consists of an Execute SQL task that logs the System::VariableName and System::VariableValue variables.

**Data Models**

SQL Server Analysis Services (SSAS) is used to host the Corporate BI multidimensional database. The Corporate BI database contains a single data source view named Data Warehouse. The Data Warehouse data source view consists of all data warehouse tables. All data source view tables have been converted to named queries.

The Corporate BI database contains a single cube named Sales Analysis and three database dimensions: Date, Customer and Product. The dimension usage for the Sales Analysis cube is as shown in the following image.

| Dimensions | Measure Groups | | |
|---|---|---|---|
| | Sales | Freight Costs | Population |
| Date (Order Date) | Date | | Year |
| Date (Ship Date) | Date | Date | |
| Customer | Customer | Post Code | Country |
| Product | Product | | |

The Customer dimension contains a single multi-level hierarchy named Geography. The structure of the Geography hierarchy is shown in the following image.

| Geography |
|---|
| Country |
| State Province |
| City |
| Post Code |
| Customer |
| <new level> |

The Sales Analysis cube's calculation script defines one calculated measure named Sales Per Capita. The calculated measure expression divides the Revenue measure by the Population measure and multiplies the result by 1,000. This calculation represents revenue per 1,000 people.

The Sales Analysis cube produces correct Sales Per Capita results for each country of the world; however, the Grand Total for all countries is incorrect, as shown in the following image (rows 2-239 have been hidden).
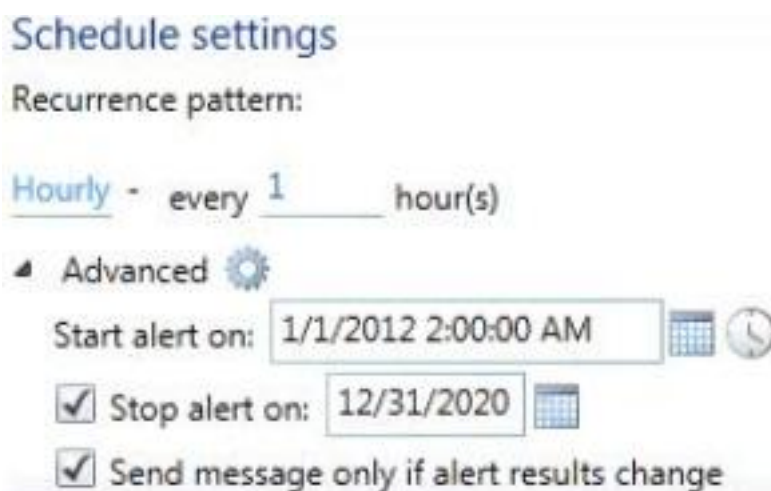
| | A | B | C |
|---|---|---|---|
| 1 | Row Labels ▼ | Revenue | Sales Per Capita |
| 240 | ⊞ Western Sahara | 253 | 0.46 |
| 241 | ⊞ Yemen | 12,345 | 0.52 |
| 242 | ⊞ Zambia | 1,700 | 0.13 |
| 243 | ⊞ Zimbabwe | 16,000 | 1.25 |
| 244 | Grand Total | 46,030,298 | -26.76 |

A role named Analysts grants Read permission for the Sales Analysis cube to all sales and marketing analysts in the company.

SQL Server Reporting Services (SSRS) is configured in SharePoint integrated mode. All reports are based on shared data sources.

Corporate logo images used in reports were originally configured as data-bound images sourced from a SQL Server relational database table. The image data has been exported to JPG files. The image files are hosted on the Internet-facing web server. All reports have been modified to reference the corporate logo images by using the fully qualified URLs of the image files. A red X currently appears in place of the corporate logo in reports.

Users configure data alerts on certain reports. Users can view a report named Sales Profitability on demand; however, notification email messages are no longer being sent when Sales Profitability report data satisfies alert definition rules. The alert schedule settings for the Sales Profitability report are configured as shown in the following image.

## Schedule settings

Recurrence pattern:

Hourly - every 1 hour(s)

◢ Advanced ⚙

Start alert on: 1/1/2012 2:00:00 AM 📅 🕐

☑ Stop alert on: 12/31/2020 📅

☑ Send message only if alert results change

**Business Requirements**

**Data Models**

Users must be able to:
- Provide context to measures and filter measures by using all related data warehouse dimensions.
- Analyze measures by order date or ship date.

Additionally, users must be able to add a measure named Sales to the report canvas by clicking only once in the Power View field list. The Sales measure must allow users to analyze the sum of the values in the Revenue column of the FactSales data warehouse table. Users must be able to change the aggregation function of the Sales measure.

**Analysis and Reporting**
A sales manager has requested the following query results from the Sales Analysis cube for the 2012 fiscal year:
- Australian postal codes and sales in descending order of sales.
- Australian states and the ratio of sales achieved by the 10 highest customer sales made for each city in that state.

**Technical Requirements**
**ETL Processes**
If an SSIS package variable value changes, the package must log the variable name and the new variable value to a custom log table.

The StageFactSales package must load the contents of all files that match the file name pattern. The source file name must also be stored in a column of the data warehouse staging table.
In the design of the LoadFactSales package, if a lookup of the dimension surrogate key value for the product code fails, the row details must be emailed to the data steward and written as an error message to the SSIS catalog log by using the public API.

You must configure the LoadFactFreightCosts package to remove duplicate rows, by using the least development effort.

**Data Models**
Users of the Sales Analysis cube frequently filter on the current month's data. You must ensure that queries to the Sales Analysis cube default to the current month in the Order Date dimension for all users.

You must develop and deploy a tabular project for the exclusive use as a Power View reporting data source. The model must be based on the data warehouse. Model table names must exclude the Dim or Fact prefixes. All measures in the model must format values to display zero decimal places.

**Analysis and Reporting**
Reports must be developed that combine the SSIS catalog log messages with the package

variable value changes.

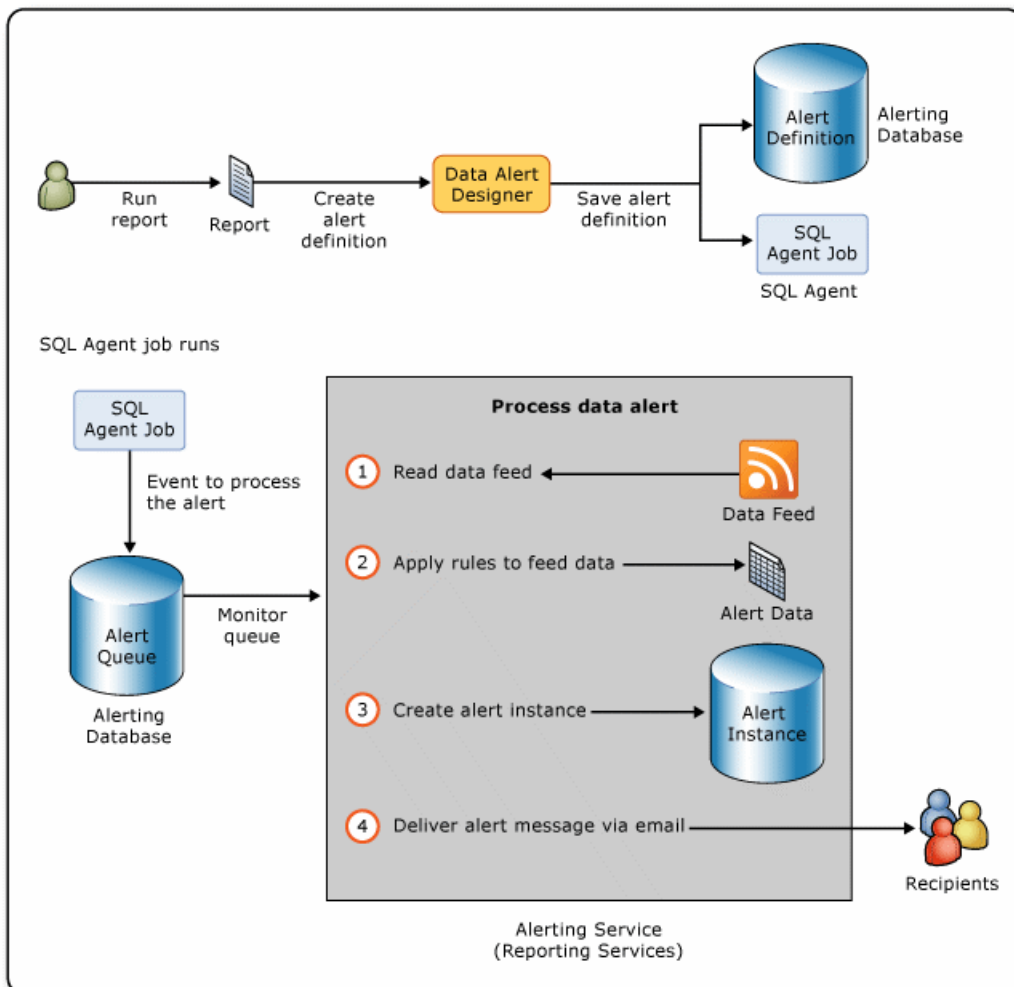## Question No : 74 - (Topic 7)

You need to identify the reasons that data alert notifications are not being sent.

Which of the following reasons are possible? (Each correct answer presents a complete solution. Choose al that apply.)

**A.** The shared schedule is paused.
**B.** The data source used by the report is disabled.
**C.** The SSRS service is not running.
**D.** The report data has not changed since the previous notification
**E.** The SQL Server Agent is not running.
**F.** The SSRS encryption key has been deleted.

**Answer: C,E**

**Explanation:**
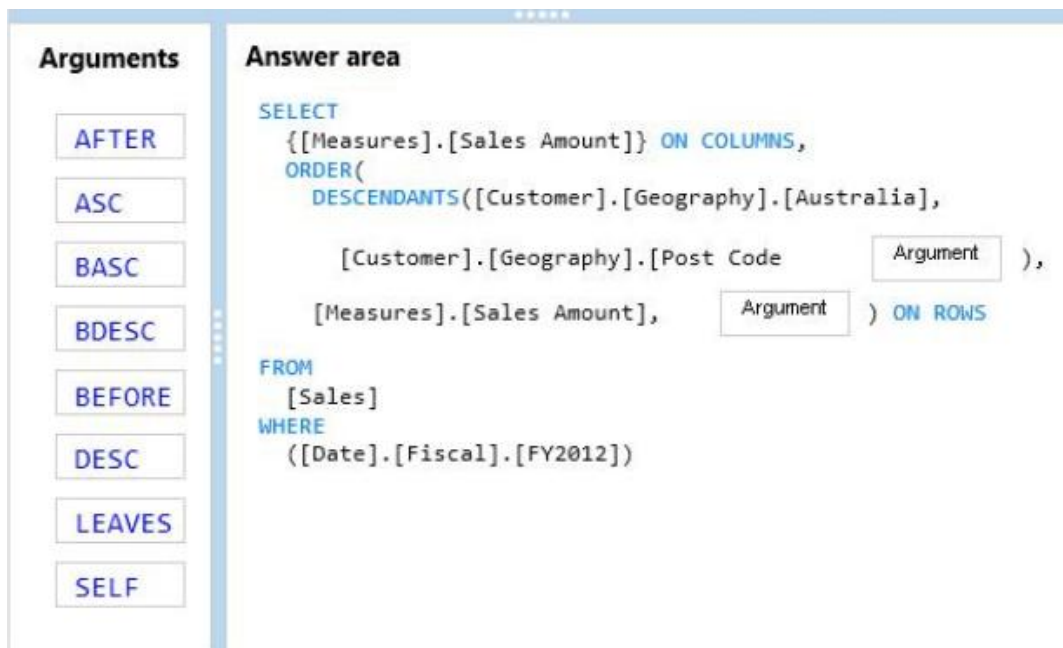
One possibility is that no SQL Server Agent alerts have been configured. This is a free, easy way to get notified of corruption, job failures, or major outages even before monitoring systems pick it up.

**Question No : 75 DRAG DROP - (Topic 7)**

You are creating the Australian postal code query.
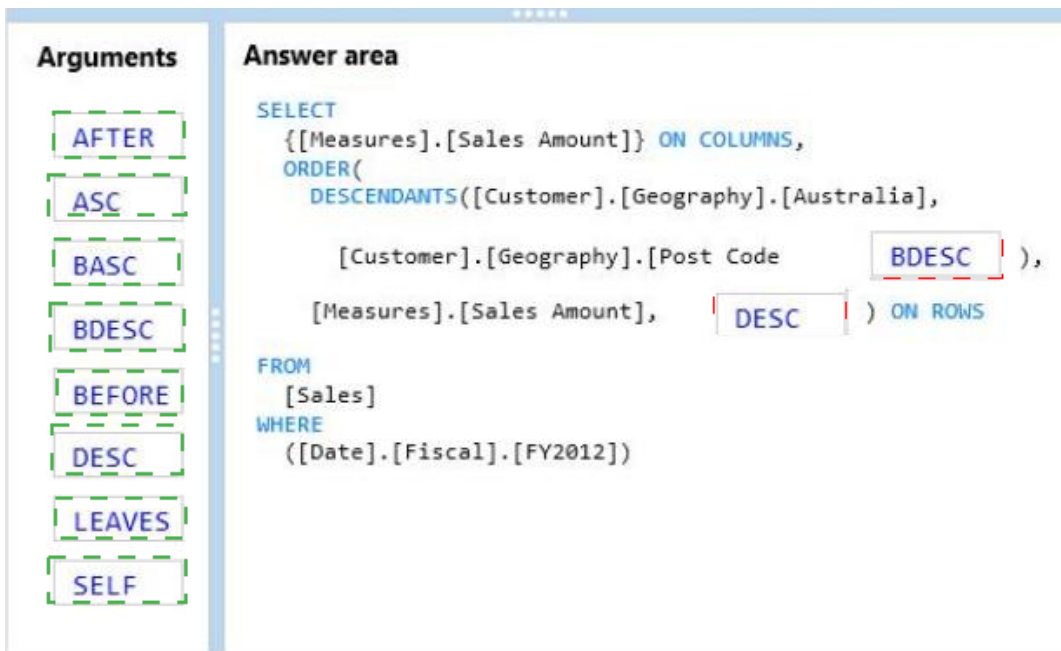
Which arguments should you use to complete the query?

To answer, drag the appropriate arguments to the correct location or locations in the answer area. (Use only arguments that apply.)

| Arguments | Answer area |
|---|---|
| AFTER | SELECT<br>  {[Measures].[Sales Amount]} ON COLUMNS,<br>  ORDER(<br>    DESCENDANTS([Customer].[Geography].[Australia], |
| ASC |     [Customer].[Geography].[Post Code   **Argument** ), |
| BASC |     [Measures].[Sales Amount],   **Argument** ) ON ROWS |
| BDESC | FROM |
| BEFORE |   [Sales]<br>WHERE |
| DESC |   ([Date].[Fiscal].[FY2012]) |
| LEAVES | |
| SELF | |

**Answer:**

**Arguments**

AFTER

ASC

BASC

BDESC

BEFORE

DESC

LEAVES

SELF

**Answer area**

```
SELECT
    {[Measures].[Sales Amount]]} ON COLUMNS,
    ORDER(
        DESCENDANTS([Customer].[Geography].[Australia],

        [Customer].[Geography].[Post Code    BDESC  ),

        [Measures].[Sales Amount],    DESC  ) ON ROWS
FROM
    [Sales]
WHERE
    ([Date].[Fiscal].[FY2012])
```

**Explanation:**

Box 1: BDESC

Box 2: DESC

**Question No : 76 DRAG DROP - (Topic 7)**

You need to implement the requirements for the StageFactSales package.

Which four actions should you perform in sequence? (To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.)

Add a Data Flow task, then add a
Microsoft Excel source to the task and
configure it to use the connection
manager.

Set the
**FileNameColumnName** property of
the source.

Add a MULTIFILE connection manager
and configure it to load data from files
named **GLSD\*.csv**.

Add a MULTIFLATFILE connection
manager and configure it to load data
from files named **GLSD\*.csv**.

Add an OLE DB destination and
configure it to store the output of the
source.

Add a Data Flow task, then add a Flat
File source to the task and configure it
to use the connection manager.

**Answer:**

Add a Data Flow task, then add a
Microsoft Excel source to the task and
configure it to use the connection
manager.

Set the
**FileNameColumnName** property of
the source.

Add a MULTIFILE connection manager
and configure it to load data from files
named **GLSD\*.csv**.

Add a MULTIFLATFILE connection
manager and configure it to load data
from files named **GLSD\*.csv**.

Add an OLE DB destination and
configure it to store the output of the
source.

Add a Data Flow task, then add a Flat
File source to the task and configure it
to use the connection manager.

Add a MULTIFLATFILE connection
manager and configure it to load data
from files named **GLSD\*.csv**.

Add a Data Flow task, then add a Flat
File source to the task and configure it
to use the connection manager.

Set the
**FileNameColumnName** property of
the source.

Add an OLE DB destination and
configure it to store the output of the
source.

**Explanation:**

Box 1:

Add a MULTIFLATFILE connection manager and configure it to load data from files named **GLSD\*.csv**.

Box 2:

Add a Data Flow task, then add a Flat File source to the task and configure it to use the connection manager.

Box 3:

Set the **FileNameColumnName** property of the source.

Box 4:

Add an OLE DB destination and configure it to store the output of the source.

Note:

* MULTIFLATFILE

A Multiple Flat Files connection manager enables a package to access data in multiple flat files.

* From scenario: A package named StageFactSales loads data into a data warehouse staging table. The package sources its data from numerous CSV files exported from a mainframe system. The CSV file names begin with the letters GLSD followed by a unique numeric identifier that never exceeds six digits. The data content of each CSV file is identically formatted.

**Question No : 77  - (Topic 7)**

You need to ensure that the Sales measure in the Power View field list meets the requirements.

What should you do? (Each correct answer presents a part of the solution. Choose all that apply.)

**A.** Format the column to display zero decimal places.
**B.** Hide the column from client tools.
**C.** Create a measure named Sales based on the column by using the Data Analysis Expressions (DAX) SUM() function.
**D.** Rename the column to Sales.
**E.** Format the measure to display zero decimal places.

### Answer: A,C

**Explanation:** * Data Analysis Expressions (DAX) provides many functions for creating aggregations such as sums, counts, and averages. These functions are very similar to aggregation functions used by Microsoft Excel.
* SUMX Function
Returns the sum of an expression evaluated for each row in a table.

### Question No : 78 DRAG DROP - (Topic 7)

You need to develop the LoadFactSales package to write the error messages to the SSIS catalog log.
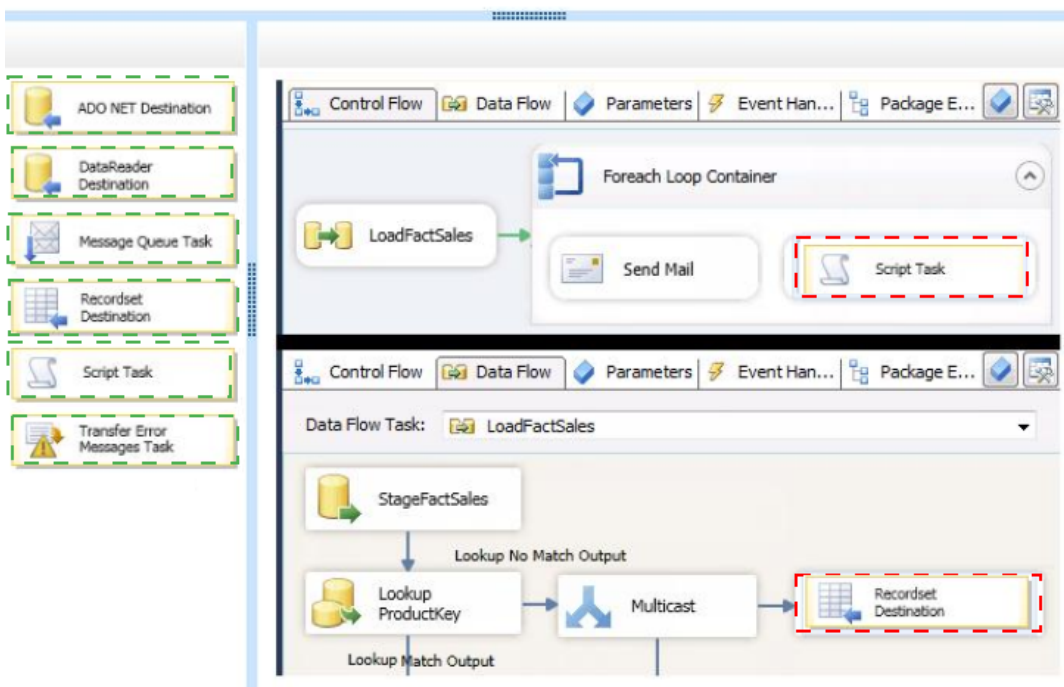
Which components should you use?

To answer, drag the appropriate components to the correct location or locations in the answer area. (Use only components that apply.)
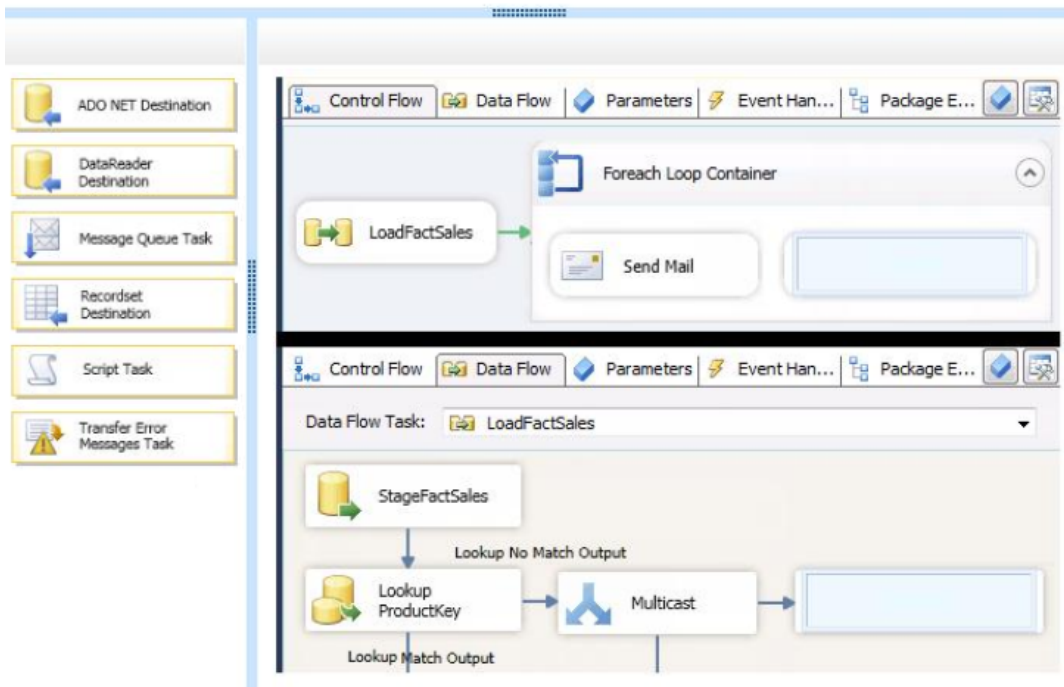
**Answer:**



## Question No : 79 - (Topic 7)

You need to update the Execute SQL task in the OnVariableValueChanged event handler of all SSIS packages.

Which additional variable should be logged?

**A.** System::ExecutionInstanceGUID
**B.** System::ServerExecutionID
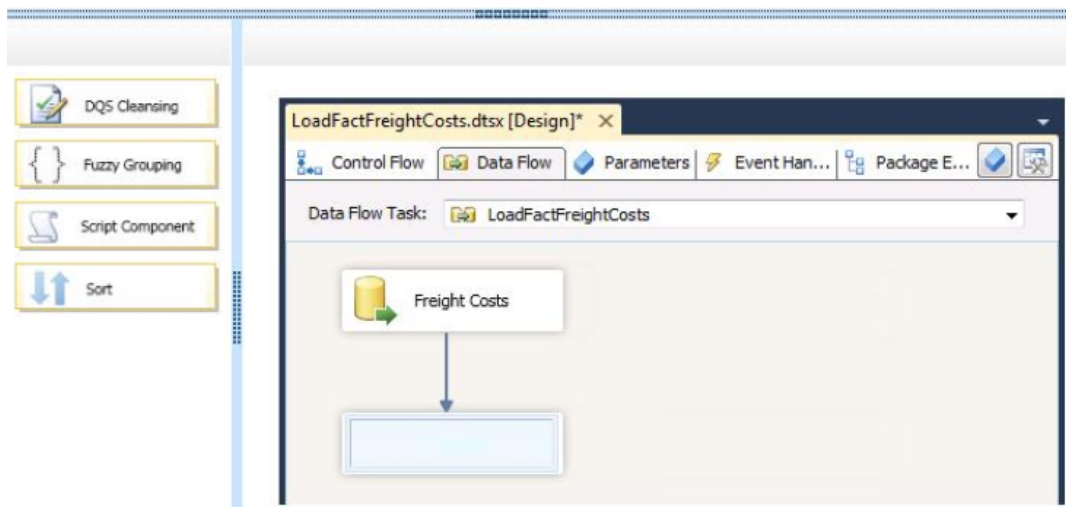**C.** System::VariableID
**D.** System::SourceID

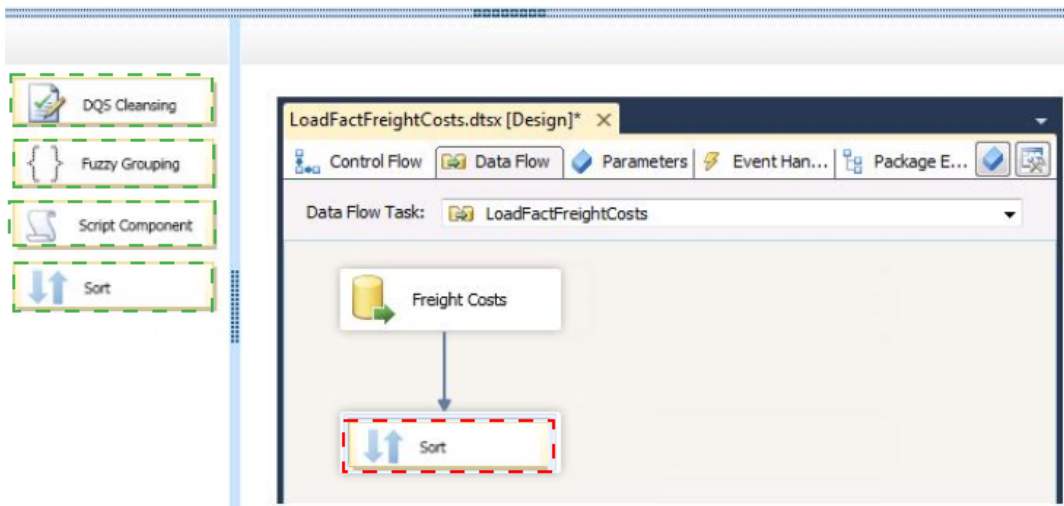**Answer: C**

**Question No : 80 DRAG DROP - (Topic 7)**

You need to configure the LoadFactFreightCosts package to address the data integrity issues.

Which data flow component should you use?

To answer, drag the appropriate data flow component to the answer area.



**Answer:**

**Question No : 81 - (Topic 7)**

You need to ensure that queries to the Sales Analysis cube default to the correct time period.

Where should you set the default member Multidimensional Expressions (MDX) expression?

**A.** In the DefaultMember property of the Month attribute of the Date dimension.
**B.** In the cube's calculation script.
**C.** In the DefaultMeasure property of the cube.
**D.** In the Analysts role.

**Answer: B**

**Question No : 82 - (Topic 7)**

You need to ensure that the Sales Per Capita calculated measure produces correct results.

What should you do?

**A.** Set the DataType property of the Population column of the FactPopulation data source view table to System.Int64.
**B.** Set the Source DataType property of the Population measure to BigInt.
**C.** Set the data type of the Population column of the FactPopulation data warehouse table

to BIGINT.

**D.** Set the DataType property of the Population measure to BigInt.

**Answer: B**

**Question No : 83 DRAG DROP - (Topic 7)**

You are creating the Australian states query.

Which Multidimensional Expressions (MDX) calculation should you use to complete the query?

To answer, drag the appropriate calculation to the answer area.

```
SUM(
    TOPCOUNT(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
        [Customer].[Geography].[City]), 10,
        [Measures].[Sales Amount]),
    [Measures].[Sales Amount])
/
([Customer].[Geography].CURRENTMEMBER, [Measures].[Sales Amount])
```

```
SUM(
    TOPCOUNT(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
        [Customer].[Geography].[Customer]), 10,
        [Measures].[Sales Amount]),
    [Measures].[Sales Amount])
/
([Customer].[Geography].CURRENTMEMBER, [Measures].[Sales Amount])
```

```
SUM(
    GENERATE(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
        [Customer].[Geography].[City]),
        TOPCOUNT(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
            [Customer].[Geography].[Customer]), 10,
            [Measures].[Sales Amount])),
    [Measures].[Sales Amount])
/
([Customer].[Geography].CURRENTMEMBER, [Measures].[Sales Amount])
```

```
SUM(
    GENERATE(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
        [Customer].[Geography].[City]),
        TOPCOUNT(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
            [Customer].[Geography].[City]), 10,
            [Measures].[Sales Amount])),
    [Measures].[Sales Amount])
/
([Customer].[Geography].CURRENTMEMBER, [Measures].[Sales Amount])
```

```
WITH MEMBER [Measures].[State Sales Density By Top 10 Customers Per City]
AS




SELECT
    {[Measures].[State Sales Density By Top 10 Customers Per City]}
    ON COLUMNS,
    [Customer].[Geography].[Australia].CHILDREN ON ROWS
FROM
    [Sales]
WHERE
    ([Date].[Fiscal].[FY2012])
```

**Answer:**

```
SUM(
    TOPCOUNT(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
        [Customer].[Geography].[City]), 10,
        [Measures].[Sales Amount]),
    [Measures].[Sales Amount])
/
([Customer].[Geography].CURRENTMEMBER, [Measures].[Sales Amount])
```

```
SUM(
    TOPCOUNT(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
        [Customer].[Geography].[Customer]), 10,
        [Measures].[Sales Amount]),
    [Measures].[Sales Amount])
/
([Customer].[Geography].CURRENTMEMBER, [Measures].[Sales Amount])
```

```
SUM(
    GENERATE(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
        [Customer].[Geography].[City]),
        TOPCOUNT(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
            [Customer].[Geography].[Customer]), 10,
            [Measures].[Sales Amount])),
    [Measures].[Sales Amount])
/
([Customer].[Geography].CURRENTMEMBER, [Measures].[Sales Amount])
```

```
SUM(
    GENERATE(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
        [Customer].[Geography].[City]),
        TOPCOUNT(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
            [Customer].[Geography].[City]), 10,
            [Measures].[Sales Amount])),
    [Measures].[Sales Amount])
/
([Customer].[Geography].CURRENTMEMBER, [Measures].[Sales Amount])
```

```
WITH MEMBER [Measures].[State Sales Density By Top 10 Customers Per City]
AS
    SUM(
        GENERATE(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
            [Customer].[Geography].[City]),
            TOPCOUNT(DESCENDANTS([Customer].[Geography].CURRENTMEMBER,
                [Customer].[Geography].[Customer]), 10,
                [Measures].[Sales Amount])),
        [Measures].[Sales Amount])
    /
    ([Customer].[Geography].CURRENTMEMBER, [Measures].[Sales Amount])
SELECT
    {[Measures].[State Sales Density By Top 10 Customers Per City]}
    ON COLUMNS,
    [Customer].[Geography].[Australia].CHILDREN ON ROWS
FROM
    [Sales]
WHERE
    ([Date].[Fiscal].[FY2012])
```

**Question No : 84  - (Topic 7)**

You need to ensure that the corporate logos appear in reports.

What should you do?

**A.** In SharePoint Central Administration, configure the unattended execution account.
**B.** In SharePoint Central Administration, configure the Report Server service account.
**C.** In Reporting Services Configuration Manager, configure the unattended execution account.
**D.** In Reporting Services Configuration Manager, configure the Report Server service account.

**Answer: A**

**Question No : 85  - (Topic 7)**

You need to develop the tabular project to support the date analysis requirements.

What should you do?

**A.**
• Create one date table named Date.
• Create an active relationship between the DateKey column of the Date table and the OrderDateKey column of the Sales table.
• Create an inactive relationship between the DateKey column of the Date table and the ShipDateKey column of the Sales table.
**B.**
• Create two date tables, one named Order Date and one named Ship Date.
• Create an active relationship between the DateKey column of the Order Date table and the OrderDateKey column of the Sales table.
• Create an inactive relationship between the DateKey column of the Ship Date table and the ShipDateKey column of the Sales table.
**C.**
• Create one date table named Date.
• Create an active relationship between the DateKey column of the Date table and the ShipDateKey column of the Sales table.
• Create an inactive relationship between the DateKey column of the Date table and the OrderDateKey column of the Sales table.
**D.**
• Create two date tables, one named Order Date and one named Ship Date.

• Create an active relationship between the DateKey column of the Order Date table and the OrderDateKey column of the Sales table.
• Create an active relationship between the DateKey column of the Ship Date table and the ShipDateKey column of the Sales table.

**Answer: C**


## Topic 8, Tailspin Toys Case B
**Overview**

Tailspin Toys is a manufacturing company that has offices across the United States, Europe, and Asia.

Tailspin Toys plans to implement a business intelligence (BI) solution for its US-based headquarters to manage the sales data, including information on customer transactions, products, sales quotas, and bonuses.

**Existing Environment**

**Data Sources**

Tailspin Toys currently stores data in line-of-business applications, relational databases, flat files, and the following;

- A Microsoft Excel spreadsheet named MarketResearch.xlsx. The spreadsheet is stored on a network drive in a directory owned by an analyst.
- A tabular model named Research.xlsx used in PowerPivot for Excel. Research.xlsx uses MarketResearch.xlsx as one of its data sources.

**Network**

The network contains an Active Directory forest named tailspintoys.com. The forest contains a Microsoft SharePoint Server 2013 server farm.

**Implementation Plans**

**Databases**

Tailspin Toys plans to build a star schema data warehouse named DB1. DB1 will be loaded from several different sources and will be updated nightly to contain new sales data.

DB1 will contain the following table types:

- A fact table to store transactional data, including transaction date, productID, customerID, quantity, and sales amounts.
- Dimension tables to store information about each customer, each product, each date, and each sales department user.

**BI Semantic Models**

Tailspin Toys plans to deploy the following BI semantic models:

- A multidimensional cube named CUBE1 that will store sales data. CUBE1 will be based on DB1 and will be hosted in SQL Server Analysis Services (SSAS).

CUBE1 will contain two distinct count measures named UniqueCustomers and UniqueProducts. The measures are expected to aggregate hundreds of millions of rows from DB1.

✍ A tabular model named SalesCommission that will contain information about sales department user quotas and commissions.

✍ A tabular model named Research that will contain the migrated model from Research.xlsx.

✍ An instance of SSAS in tabular mode named Tabular.

**Planned Reports and Queries**

Tailspin Toys plans to implement the following reports and queries:

✍ Power View reports that use data from the Research model.

✍ Reports for each year the company recorded sales data that used the SalesCommission model. The reports will use the Dates_Between() and the DatesInPeriod() DAX functions in queries.

✍ Reports that use CUBE1 that contain the following query statements:

```
01   SELECT [Measures].[UniqueCustomers] ON 0,
02   [Date].[Date].[Date] ON 1
03   FROM [CUBE1]
04   WHERE
05   [Date].[Calendar Month].[Calendar Month].&[2012]&[1]

06   SELECT [Measures].[UniqueProducts] ON 0,
07   [Date].[Date].[Date] ON 1
08   FROM [CUBE1]
09   WHERE
10   [Date].[Calendar Month].[Calendar Month].&[2012]&[1]
```

✍ A report named SalesByCategory that uses CUBE1 and the following query statement: (Line numbers are included for reference only.)

```
01   SELECT
02   {[Measures].[SalesAmount]} on 0
03   ,{(
04   [Date].[CalendarYear].[&2012]
05   ,
06   [Product].[Categories].[Category].[Category1]
07   ),(
08   [Product].[Categories].[Category].[Category2]
09   ,
10   [Date].[CalendarYear].[&2012]
11   )} ON 1
12   from CUBE1
```

**Self-Service Reporting**

Tailspin Toys plans to deploy the following self-service reports:

- Reports created by sales department specialists that use CUBE1 and contain drillthroughs, maps, sparklines, and Key Performance Indicators (KPIs). The reports will be stored in a SharePoint Server document library named Library1.
- Reports created by sales department managers that use the SalesCommission model. The reports will contain visualizations that show sales department users their current sales as compared to their quota.
- Power Pivot models stored in a SharePoint Server document library that is configured as a PowerPivot Gallery named Gallery1.

**Requirements**

**Data Security Requirements**

Sales department users browsing CUBE1 must be able to view the sales data that relates to their respective customers only.

Access to reports must be controlled by using SharePoint permissions.

**ETL Requirements**

Tailspin Toys identifies the following extract, transformation, and load (ETL) requirements:

- Nightly updates of DB1 must support the incremental load of dimension and fact tables on separate schedules. Fact data may be loaded before dimension data.
- ETL processes must be able to update dimension attributes without losing context for historical facts.
- Referential integrity between dimension and fact tables must be maintained at all times.

**Cube Performance Requirements**

The design of CUBE1 must minimize the processing time of the UniqueCustomers and Unique Products measures. The time required to process CUBE1 each night must be minimized.

**Data Refresh Requirements**

The Research model must be refreshed nightly without interrupting the workflow of the analyst.

**Question No : 86  - (Topic 8)**

You need to implement the SalesCommission model to support the planned reports and queries.

What should you do?

**A.** Create a date table that contains only one row for each date on which a sale is recorded.
**B.** Use the existing transaction date column in the sales table for date calculations.
**C.** Create a date table that contains a row for every date since data started being recorded.
**D.** Create a new calculated date column in the sales table for date calculations.

**Answer: C**

**Question No : 87 - (Topic 8)**

You need to recommend a SQL Server Integration Services (SSIS) package design that meets the ETL requirements.

What should you include in the recommendation?

**A.** Add new rows for changes to existing dimension members and enable inferred members.
**B.** Update non-key attributes in the dimension tables to use new values.
**C.** Update key attributes in the dimension tables to use new values.
**D.** Add new rows for changes to existing dimension members and disable inferred members.

**Answer: A**

**Question No : 88 - (Topic 8)**

You need to prepare the infrastructure for the planned implementation of Gallery1.

Which three actions should you perform? Each correct answer presents part of the solution,

**A.** Install a Database Engine instance.
**B.** Run the PowerPivot Configuration Tool.
**C.** Install the SQL Server Reporting Services add-in for SharePoint.
**D.** Install SQL Server PowerPivot for SharePoint.
**E.** Install the SQL Server Reporting Services - SharePoint feature.
**F.** Run the Install-SPUserSolution cmdlet.

**Answer: B,C,D**

**Question No : 89  - (Topic 8)**

You need to configure Library1 to support the planned self-service reports.

What is the best configuration you should add to Library1? More than one answer choice may achieve the goal. Select the BEST answer.

**A.** The Report Builder report content type
**B.** The PowerPivot Gallery Document content type
**C.** The Report Builder Model content type
**D.** The Report content type

**Answer: A**

**Question No : 90 DRAG DROP - (Topic 8)**

You need to recommend a solution to implement the data security requirements for CUBE1.

Which three actions should you recommend performing in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.



| Actions | Answer Area |
| --- | --- |
| Create a factless fact table. | |
| Create a perspective. | |
| Write an MDX expression. | |
| Enable Visual Totals. | |
| Create a SQL Server login. | |

**Answer:**



| Actions | Answer Area |
|---|---|
| Create a factless fact table. | Create a SQL Server login. |
| Create a perspective. | Write an MDX expression. |
| Write an MDX expression. | Enable Visual Totals. |
| Enable Visual Totals. | |
| Create a SQL Server login. | |

**Question No : 91  - (Topic 8)**

You execute the SalesbyCategory report and receive the following error message:
"Members, tuples, or sets must use the same hierarchies in the function."

You need to ensure that the query executes successfully.

Which two actions should you perform? Each correct answer presents part of the solution.

**A.** Move the Product clause from line 08 to line 10.
**B.** Move the Date and Product clauses on line 11 to axis 0.
**C.** Move the Date clause from line 10 to line 08.
**D.** Move the Measures clause on line 02 to axis 1.

**Answer: C**

**Question No : 92  - (Topic 8)**

You need to recommend a partitioning strategy that meets the performance requirements for CUBE1.

What should you include in the recommendation?

**A.** Create separate measure groups for each distinct count measure.
**B.** Createone measure group for all distinct count measures.
**C.** Createa separate dimension for each distinct count attribute.
**D.** Createone dimension for all distinct count attributes.

**Answer: A**

### Question No : 93  - (Topic 8)

You need to recommend a cube architecture for CUBE1. The solution must meet the performance requirements for CUBE1.

Which two partitions should you recommend creating? Each correct answer presents part of the solution.

**A.** Partitions based on the values of the customerID column in the dimension table
**B.** Partitions based on the values of the customerID column in the fact table
**C.** Partitions based on the values of the productID column in the fact table
**D.** Partitions based on the values of the productID column in the dimension table

**Answer: A,D**

### Question No : 94  - (Topic 8)

You need to deploy a solution for the planned self-service reports that will be used by the sales department managers.

What is the best solution you should deploy? More than one answer choice may achieve the goal. Select the BEST answer.

**A.** A filter
**B.** A KPI
**C.** A calculated column
**D.** A measure

**Answer: B**

**Question No : 95  - (Topic 8)**

You are deploying the Research model.

You need to ensure that the data contained in the model can be refreshed.

What should you do?

**A.** Import MarketResearch.xlsx to a new tabular database on the Tabular instance.
**B.** Assign the Tabular instance service account permissions to the MarketResearch.xlsx network location.
**C.** Create a SQL Server Integration Services (SSIS) package that imports data from MarketResearch.xlsx nightly. Load the data to CUBE1.
**D.** Upload MarketResearch.xlsx to Library1.

**Answer: B**

**Topic 9, Mix Questions Set A**

**Question No : 96  - (Topic 9)**

You are creating a product dimension table and a SQL Server Integration Services (SSIS) package that will load the table.

You need to keep a history in the table of changes to the names of products.

Which three actions should you perform? Each correct answer presents part of the solution.

**A.** Add a Slowly Changing Dimension transformation to the package.
**B.** Enable Change Data Capture for the table.
**C.** Create an inferred member column in the table.
**D.** From the Slowly Changing Dimension Wizard, set the name column to Type 3.
**E.** Create an end date column in the table.
**F.** Create a start date column in the table.

**Answer: A,E,F**

**Question No : 97 DRAG DROP - (Topic 9)**

Your network contains a development environment, a staging environment, and a production environment.

You have a SQL Server Integration Services (SSIS) project. All of the packages in the project load data from files in a shared network folder. The packages use indirect XML configurations to set the location of the network folder.

The project is deployed to the three environments. Each environment has a different set of source files and a different network folder for the source files.

Currently, if an environment variable is missing, the package will use the network folder specified in the package, not the folder specified in the XML configuration file.

You need to ensure that each time a package is executed, the network folder location specified in the package is NOT used.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

| Actions | Answer Area |
|---|---|
| Use indirect database configurations. | |
| Use the /SET parameter. | |
| Configure the project to use the Project Deployment Model. | |
| Use a project parameter. | |
| Use direct XML configurations. | |
| Configure the project to use the Package Deployment Model. | |
| Mark the parameter as sensitive. | |
| Mark the parameter as required. | |

**Answer:**

| Actions | Answer Area |
|---|---|
| Use indirect database configurations. | Configure the project to use the Project Deployment Model. |
| Use the /SET parameter. | |
| Configure the project to use the Project Deployment Model. | Use a project parameter. |
| Use a project parameter. | |
| Use direct XML configurations. | Mark the parameter as required. |
| Configure the project to use the Package Deployment Model. | |
| Mark the parameter as sensitive. | |
| Mark the parameter as required. | |

**Question No : 98  - (Topic 9)**

You are designing a multidimensional OLAP (MOLAP) cube.

The MOLAP cube must meet the following requirements:

- Ensure that workloads for aggregation tuning can be automatically collected.
- Require the least amount of effort to perform manual aggregation tuning.
- Minimize impact on the performance of previously tuned queries.

You need to design a MOLAP cube that meets the requirements.

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

**A.** Enable SQL Server Analysis Services (SSAS) query logging. Run the Usage-Based Optimization Wizard to generate aggregations. Merge the wizard results with existing aggregation designs.
**B.** Set up multiple partitions. Run the Aggregation Design Wizard periodically for each measure group. After the wizard finishes, discard the old aggregation design and accept the new one.
**C.** Set up multiple partitions. Run the Aggregation Design Wizard on each partition. Schedule the aggregations by using an XMLA script in SQL Server Agent.
**D.** Set the AggregationUsage property of all attributes based on natural keys to Full.

**Answer: A**

**Question No : 99 DRAG DROP - (Topic 9)**

You are administering a SQL Server Analysis Services (SSAS) database on a server. The database hosts a financial cube based on a SQL Azure database.

You need to grant read access to the financial cube for all users in the group USA\PowerUsers.

Which three actions should you perform in sequence? (To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.)

Add the **USA\PowerUsers** group to the role. Set the cube access for the role to **Read**.

Add the **USA\PowerUsers** group to the role. Set the cube access for the role to **Select**.

Add the group **USA\PowerUsers** as a SQL Server login to the server.

In SQL Server Management Studio (SSMS), connect to the Database Engine instance on the server.

Add the **USA\PowerUsers** group to the role. Set the cube access for the role to **Read and Process**.

Create a new role for the database.

In SQL Server Management Studio (SSMS), connect to the SSAS instance on the server.

**Answer:**

Add the **USA\PowerUsers** group to the role. Set the cube access for the role to **Read**.

Add the **USA\PowerUsers** group to the role. Set the cube access for the role to **Select**.

Add the group **USA\PowerUsers** as a SQL Server login to the server.

In SQL Server Management Studio (SSMS), connect to the Database Engine instance on the server.

Add the **USA\PowerUsers** group to the role. Set the cube access for the role to **Read and Process**.

Create a new role for the database.

In SQL Server Management Studio (SSMS), connect to the SSAS instance on the server.

In SQL Server Management Studio (SSMS), connect to the SSAS instance on the server.

Create a new role for the database.

Add the **USA\PowerUsers** group to the role. Set the cube access for the role to **Read**.

**Explanation:**

Box 1: In the SQ L Management Studio (SSMS), connect to the SSAS instance on the server.

Box 2: Create a new role for the database.

Box 3: Add the USA\PowerUsers group to the role. Set the cube access for the role to Read.

Note:

\* A member of the server role for Microsoft SQL Server Analysis Services, or a member of a database role that has Full Control (Administrator) permissions in a particular database, can create a database role that only has permission to process specified objects within the database. Giving a database role permission to process a database object lets an administrator delegate the task of processing certain objects, without also granting extraneous permissions to the user who is performing the processing.

- ✎ In SQL Server Management Studio, connect to the instance of Analysis Services, expandRolesfor the appropriate database in Object Explorer, and then double-click a database role (or right-click Rolesand selectNew Roleto create a new database role). If this is a new role, make sure that you enter a name for the role in theRole namebox.
- ✎ ClickCubesin theSelect a Pagepane, locate the cube in theCubelist, and then select theProcesscheck box for the cube.
- ✎ Click theOKbutton.

\* To give a database role permission to process a cube

\* There is no write permissions on a cube.

## Question No : 100 - (Topic 9)

An existing cube dimension that has 30 attribute hierarchies is performing very poorly. You have the following requirements:

- ✎ Implement drill-down browsing.
- ✎ Reduce the number of attribute hierarchies but ensure that the information contained within them is available to users on demand.
- ✎ Optimize performance.

You need to redesign the cube dimension to meet the requirements.

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

**A.** set the AggregateFunction property to Sum on all measures. Use the SCOPE statement in a Multidimensional Expressions (MDX) calculation to tune the aggregation types.
**B.** Set the AttributeHierarchyOptimizedState property to FullyOptimized on the attribute hierarchies.
**C.** Create user-defined hierarchies. For the attributes sourced by the levels of the user-defined hierarchies, set the RelationshipType property to Rigid. Run incremental processing.
**D.** Remove as many attribute hierarchies as possible from the dimension. Reintroduce the

information in the attribute hierarchies as properties. Implement natural hierarchies and set the AttributeHierarchyVisible property to False for attributes used as levels in the natural hierarchies.

**Answer: D**

## Question No : 101 - (Topic 9)

You are designing a subscription strategy for a SQL Server Reporting Services (SSRS) report.

You have an application that populates a table with user-specific subscription schedules and report formats.

You need to ensure that users can receive reports by email according to their preferences. Email messages will be sent via an internal mail server.

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

**A.** Create a standard SSRS subscription for each record in the table.
**B.** Create a data-driven SSRS subscription for each record in the schedule table.
**C.** Create a standard SSRS subscription for each subscription schedule.
**D.** Create one data-driven SSRS subscription. Schedule the subscription to frequently retrieve user preferences.

**Answer: D**
**Explanation:**
Ref: http://technet.microsoft.com/en-us/library/ms187066(v=sql.105).aspx

## Question No : 102 DRAG DROP - (Topic 9)

You are designing a dataset for a SQL Server Reporting Services (SSRS) report.

The report includes the report items displayed in the following graphic.
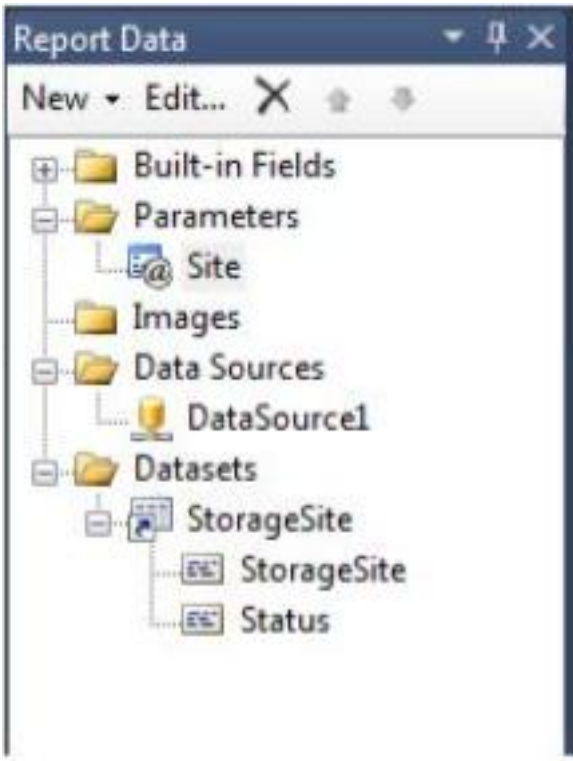
The dataset is sourced from a commonly used stored procedure in an inventory data mart hosted in a SQL Azure database.

It returns the status for all products across all storage sites. The report must display data for the storage site that is selected by the Site report parameter. You cannot change the stored procedure code.
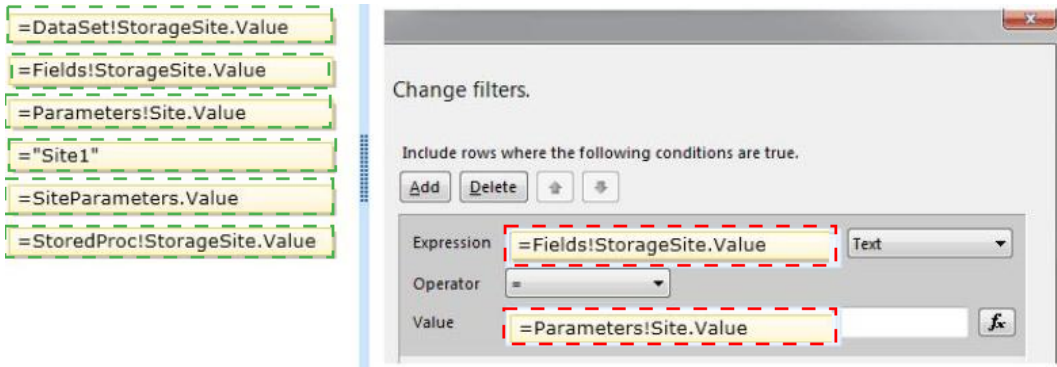
You need to filter the dataset to use only data specific to the selected site.
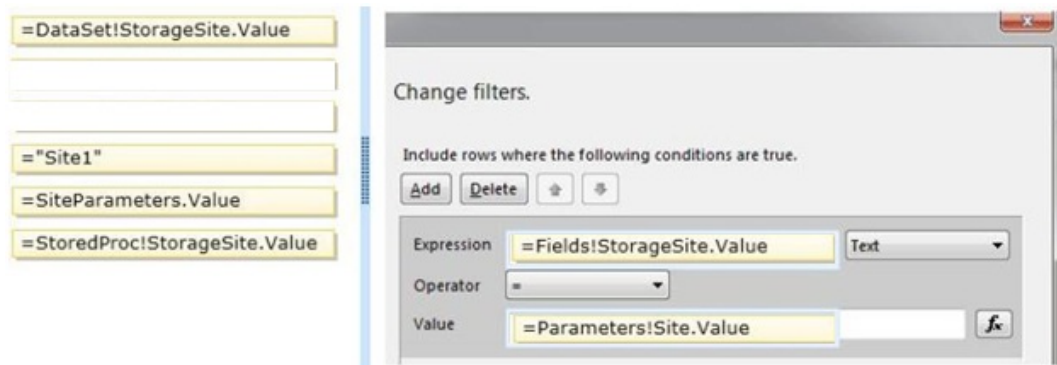
How should you configure the filter?

To answer, drag the appropriate expression or expressions to the correct location or locations in the answer area. (Answer choices may be used once, more than once, or not all.)

**Answer:**

```
=DataSet!StorageSite.Value
=Fields!StorageSite.Value
=Parameters!Site.Value
="Site1"
=SiteParameters.Value
=StoredProc!StorageSite.Value
```

Change filters.

Include rows where the following conditions are true.

Add  Delete

Expression  =Fields!StorageSite.Value  Text

Operator  =

Value  =Parameters!Site.Value  fx

**Explanation:**

```
=DataSet!StorageSite.Value



="Site1"
=SiteParameters.Value
=StoredProc!StorageSite.Value
```

Change filters.

Include rows where the following conditions are true.

Add  Delete

Expression  =Fields!StorageSite.Value  Text

Operator  =

Value  =Parameters!Site.Value  fx

Note:

To set a filter on the dataset

  ✎ Open a report in Design view.
  ✎ Right-click a dataset in the Report Data pane and then clickDataset Properties. TheDataset Propertiesdialog box opens.
  ✎ ClickFilters. This displays the current list of filter equations. By default, the list is empty.
  ✎ ClickAdd. A new blank filter equation appears.
  ✎ InExpression, type or select the expression for the field to filter. To edit the expression, click the expression (fx) button.

Box 1: Here we use the Fields expression.

  ✎ From the drop-down box, select the data type that matches the type of data in the expression you created in step 5.
  ✎ In theOperatorbox, select the operator that you want the filter to use to compare the values in theExpressionbox and theValuebox. The operator you choose determines the number of values that are used from the next step.

Box 2: we test for equality.

  ✎ In theValuebox, type the expression or value against which you want the filter to evaluate the value inExpression.

Box 3: we compare to the value of the Parameter named Site.

  ✎ Click OK.

**Question No : 103 - (Topic 9)**

You are designing a customer dimension for a multidimensional OLAP (MOLAP) database. The dimension table will contain millions of rows of data.

Customer dimension attributes will come from the following two sources:

- An enterprise resource planning (ERP) system that contains millions of rows of data. Attributes from this source will be updated daily.
- A marketing database that contains thousands of rows of data representing customers' geographic information. Attributes from this source will be updated monthly.

Most report queries against the cube use attributes from both sources. Customers in the cube dimension will frequently be filtered by the geographic attributes.

You need to design the dimension table and cube dimension to ensure that report queries perform well, and minimize the time required to reprocess cube attributes.

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

**A.** Create a dimension table for each source. Create one cube dimension that joins the two dimension tables together.
**B.** Create one dimension table that combines data from both sources. Create a cube dimension for each source.
**C.** Create one dimension table that combines data from both sources. Create one cube dimension that references the dimension table.
**D.** Create a dimension table for each source, and a cube dimension for each source.

**Answer: D**

**Question No : 104 DRAG DROP - (Topic 9)**

You are configuring an Excel Services service application in a Microsoft SharePoint farm.

Users will deploy Excel workbooks to SharePoint libraries that allow interaction with PivotTables through Excel Services. PivotTable data is sourced from secured SQL Server

Analysis Services (SSAS) cubes and PowerPivot models inside published workbooks.

You need to ensure that users can refresh the PivotTables from within Excel Services without a warning message appearing.

What should you do?

To answer, drag the appropriate term or terms to the correct location or locations in the answer area. (Use only terms that apply.)

| Terms | Answer area |
|---|---|
| Excel Services | Manage the [ Term ] service application in Central Administration. |
| external data areas | |
| SQL Server Reporting Services | Ensure that deployed workbooks are in [ Term ] . |
| trusted data connections | |
| trusted data providers | Disable refresh warnings for [ Term ] . |
| trusted file locations | |

**Answer:**

| Terms | Answer area |
|---|---|
| Excel Services | Manage the [ Excel Services ] service application in Central Administration. |
| external data areas | |
| SQL Server Reporting Services | Ensure that deployed workbooks are in [ trusted file locations ] . |
| trusted data connections | |
| trusted data providers | Disable refresh warnings for [ trusted data connections ] . |
| trusted file locations | |

## Question No : 105 HOTSPOT - (Topic 9)

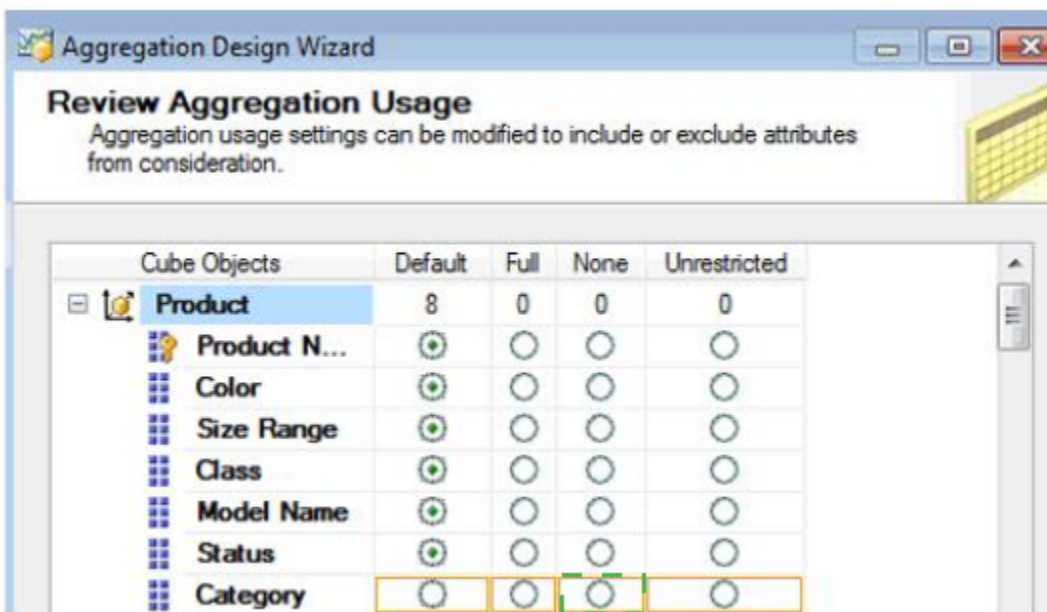You are designing aggregations for a SQL Server Analysis Services (SSAS) cube.

You need to ensure that every aggregation excludes the Category attribute.

Which option should you select?

To answer, select the appropriate option in the answer area.
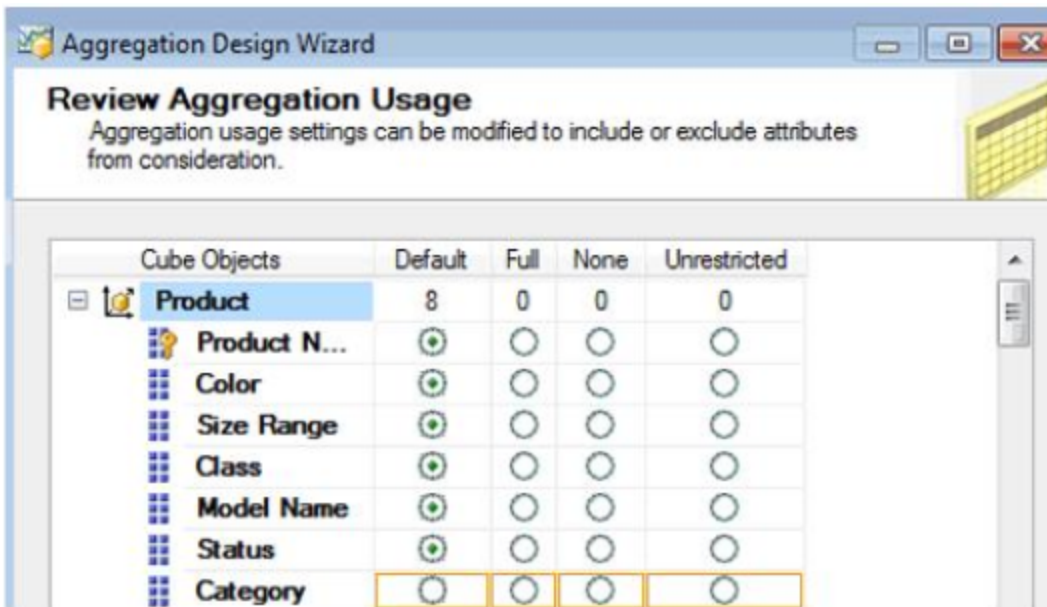
**Answer:**



**Question No : 106 HOTSPOT - (Topic 9)**

You are configuring the partition storage settings for a SQL Server Analysis Services (SSAS) cube.

The partition storage must meet the following requirements:

  ✍ Optimize the storage of source data and aggregations in the cube.
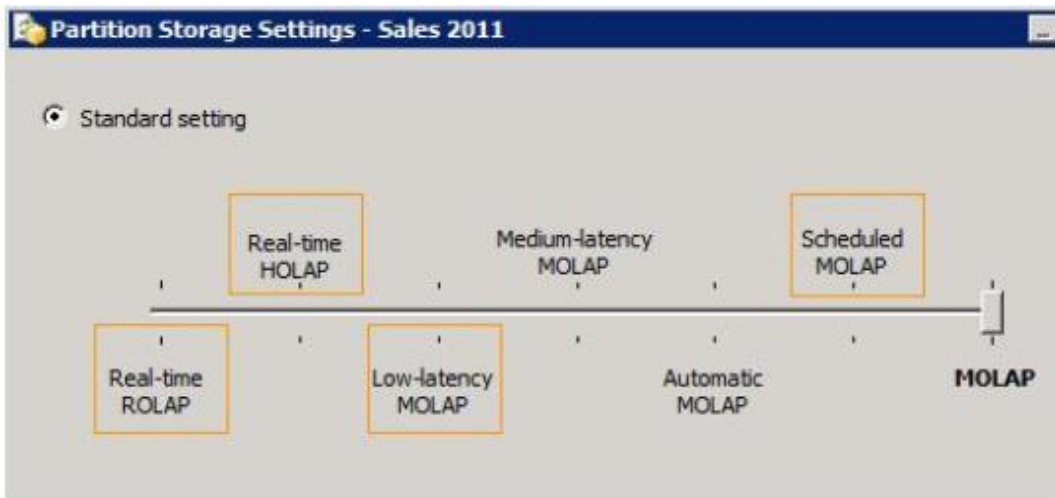  ✍ Use proactive caching.

✎ Drop cached data that is more than 30 minutes old.
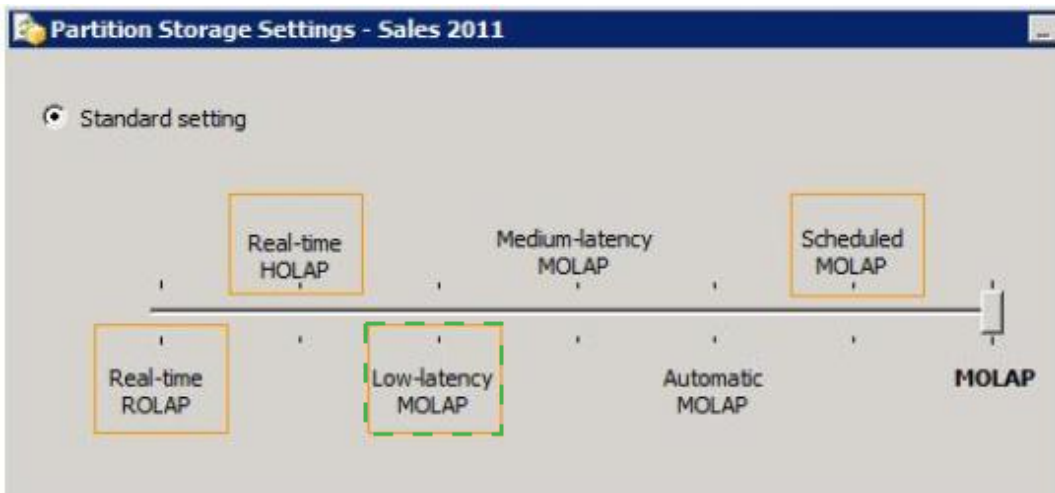✎ Update the cache when data changes, with a silence interval of 10 seconds.

You need to select the partition storage setting.

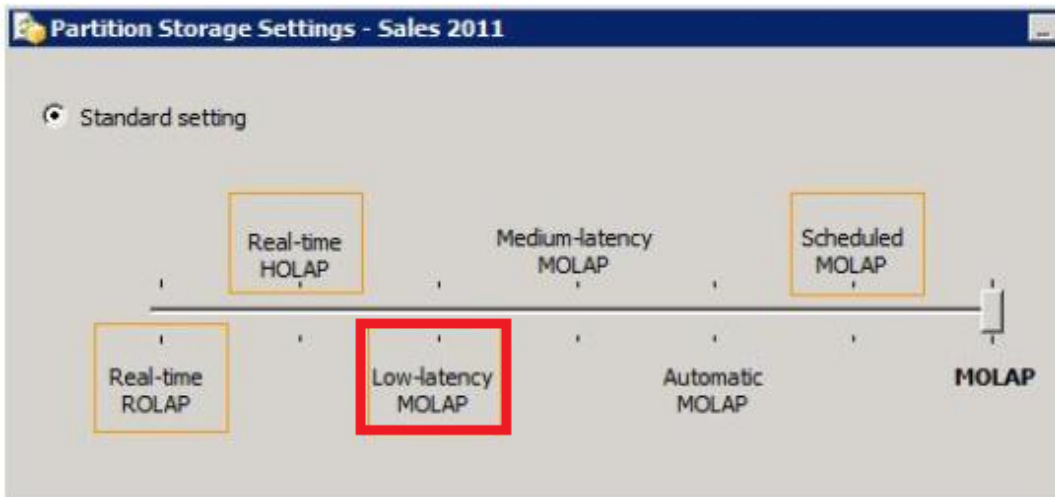Which setting should you select?

To answer, select the appropriate setting in the answer area.



**Answer:**



**Explanation:**

http://msdn.microsoft.com/en-us/library/ms175646.aspx

Low Latency MOLAP

Detail data and aggregations are stored in multidimensional format. The server listens for notifications of changes to the data and switches to real-time ROLAP while MOLAP objects are reprocessed in a cache. A silence interval of at least 10 seconds is required before updating the cache. There is an override interval of 10 minutes if the silence interval is not attained. Processing occurs automatically as data changes with a target latency of 30 minutes after the first change.

This setting would typically be used for a data source with frequent updates when query performance is somewhat more important than always providing the most current data. This setting automatically processes MOLAP objects whenever required after the latency interval. Performance is slower while the MOLAP objects are being reprocessed.

**Question No : 107 - (Topic 9)**

You are developing the database schema for a SQL Server Analysis Services (SSAS) BI Semantic Model (BISM). The BISM will be based on the schema displayed in the following graphic.
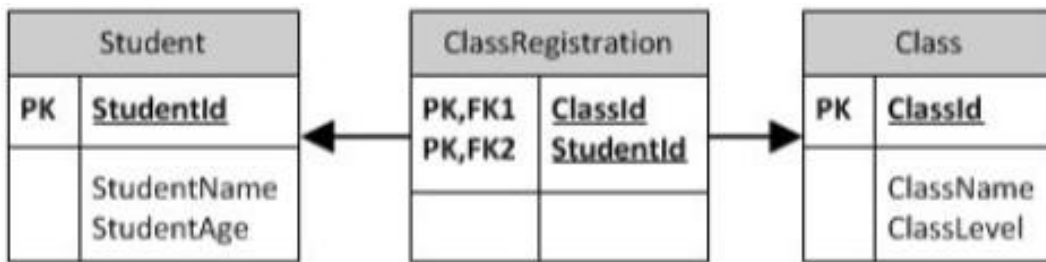
You have the following requirements:

- ✎ Ensure that queries of the data model correctly display average student age by class.
- ✎ Ensure that the solution supports role-based security and partitions.
- ✎ Minimize development effort.

You need to design the data model.

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

**A.** Create a multidimensional project and define measures and a many-to-many dimensional relationship. Create partitions in SQL Server Management Studio (SSMS).
**B.** Create a multidimensional project and define measures and a reference relationship. Create partitions in SQL Server Data Tools (SSDT).
**C.** Create a tabular project and define measures. Create partitions in SQL Server Data Tools (SSDT).
**D.** Create a tabular project and define calculated columns. Create partitions in SQL Server Management Studio (SSMS).

**Answer: A**

## Question No : 108  - (Topic 9)

You are redesigning a SQL Server Analysis Services (SSAS) database that contains a cube named Sales. Before the initial deployment of the cube, partition design was optimized for processing time. The cube currently includes five partitions named FactSalesl through FactSales5. Each partition contains from 1 million to 2 million rows.

The FactSales5 partition contains the current year's information. The other partitions contain information from prior years; one year per partition. Currently, no aggregations are defined on the partitions.

You remove fact rows that are more than five years old from the fact table in the data source and configure query logs on the SSAS server.

Several queries and reports are running very slowly.

You need to optimize the partition structure and design aggregations to improve query performance and minimize administrative overhead.

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

**A.** Use the Usage-Based Optimization Wizard to create aggregations for the current partitions.
**B.** Use the Aggregation Design Wizard to create aggregations for the current partitions.
**C.** Combine all the partitions into a single partition. Use the Usage-Based Optimization Wizard to create aggregations.
**D.** Combine all the partitions into a single partition. Use the Aggregation Design Wizard to create aggregations.

**Answer: A**

### Question No : 109 HOTSPOT - (Topic 9)

A school stores information about teachers, students, classes, and enrollments in a Windows Azure SQL Database database. The database includes a table that maps the user IDs of teachers to the subjects they teach.

Teachers access reports in a SQL Server Reporting Services (SSRS) instance by using their credentials.

You are developing a report that displays a table of class enrollments for a specific subject. The report will prompt teachers to select from their mapped subjects. The table is based on a dataset named ClassData. To minimize report execution time, the ClassData dataset has been configured to cache all class enrollment data.
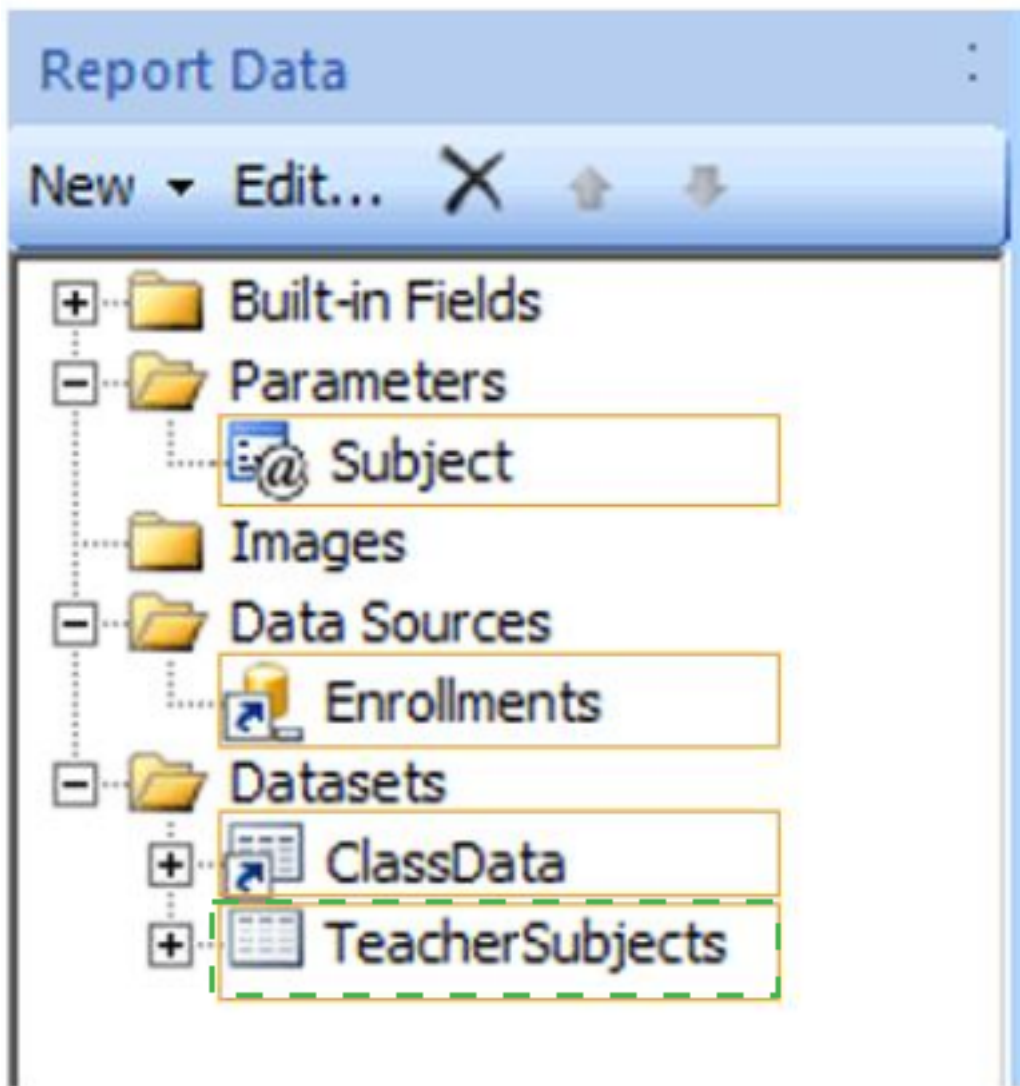
You need to ensure that the report parameter displays the correct subjects for each teacher.

Which item should you configure? To answer, select the appropriate item in the answer

area.
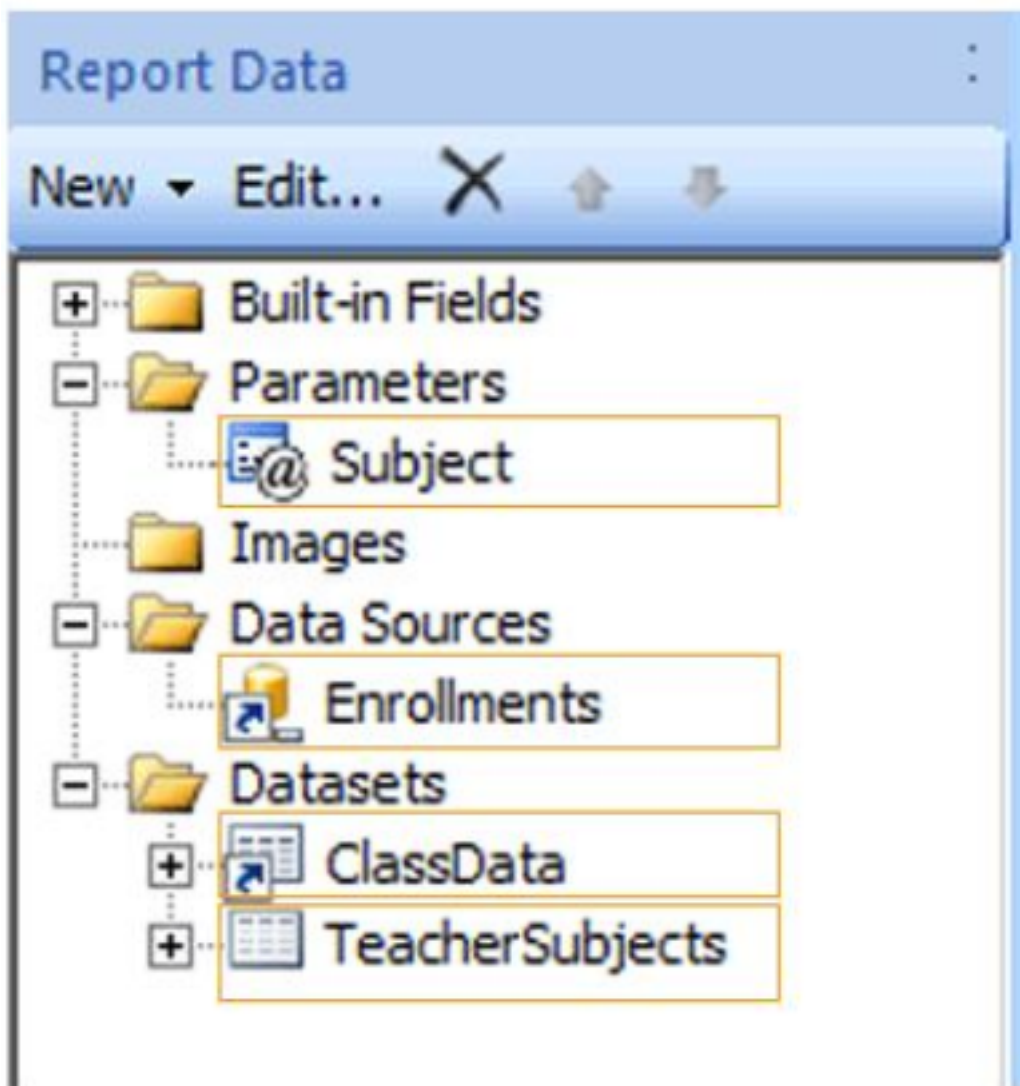


**Answer:**

**Question No : 110 - (Topic 9)**

You deploy a PowerPivot workbook to a document library in a Microsoft SharePoint site. Workbook data comes from two different sources: Source A and Source B.

The workbook contains three small lookup tables from Source A, and five tables with a total of 20 million rows from Source B. Data from Source A is updated at 9:00 A.M. and data from Source B is updated throughout the day.

You have the following requirements:

- ✎ Refresh the PowerPivot workbook with updated lookup data as soon as possible.
- ✎ Minimize load on the source systems and the SharePoint environment during business hours.
- ✎ Minimize user involvement in the data refresh process.

You enable automatic data refresh for the workbook.

You need to configure a data refresh schedule for the workbook that meets the requirements.

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

**A.** Set the default schedule to refresh outside of business hours. Do not manually refresh the workbook.
**B.** Set the default schedule to refresh outside of business hours. Manually refresh the workbook at 9:00 A.M. every day.
**C.** Set the default schedule to refresh at 9:00 A.M. every day. Create a separate schedule for Source B's connection to refresh outside of business hours.
**D.** Set the default schedule to refresh at 3:00 P.M. every day. Do not create individual source schedules.
**E.** Set the default schedule to refresh at 9:00 A.M. every day. Do not create individual source schedules.

**Answer: C**

**Question No : 111  - (Topic 9)**

A SQL Server Analysis Services (SSAS) cube contains a large measure group. The fact table supporting the measure group is loaded with new data throughout the day.

You have the following requirements:

    ✍ Ensure that the cube displays current data as quickly as possible.
    ✍ Maximize availability of the cube.
    ✍ Maximize query performance for all aggregation levels.

You need to choose a partitioning strategy that meets the requirements.

Which partitioning strategy should you choose? (More than one answer choice may achieve the goal. Select the BEST answer.)

**A.** Create one partition for the current day that uses multidimensional OLAP (MOLAP) with proactive caching as a storage mode.
**B.** Create one partition for the current month that uses hybrid OLAP (HOLAP) as a storage mode.

**C.** Create one partition for the current day that uses relational OLAP (ROLAP) as a storage mode.

**D.** Create one partition for the current day that uses multidimensional OLAP (MOLAP) as a storage mode. Process the partition each night.

**Answer: A**

**Question No : 112 DRAG DROP - (Topic 9)**

You develop a SQL Server Integration Services (SSIS) project named Project1 by using SQL Server Data Tools (SSDT). Project1 contains a package named Package1.

You add a project parameter named EnvironmentText to Project1.

In SQL Server Management Studio (SSMS), you create the SSIS catalog.

You have the following requirements:

    ✎ Configure Package1 so it can run within either a development environment or a test environment.
    ✎ Pass the value of an SSIS environment variable to the EnvironmentText project parameter.
    ✎ The value of the environment variable must be different for each SSIS environment.

You need to deploy the SSIS project and configure the SSIS environment.

Which three actions should you perform in sequence? (To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.)

| Actions | Answer Area |
|---|---|
| Using SSDT, deploy **Project1** to a new folder named **Folder1**. | |
| In SSDT, configure **Project1** to reference the environments, and associate the project parameter **EnvironmentText** with the environment variable **EnvironmentText**. | |
| In SSMS, create the DevEnvironment and TestEnvironment environments in **Folder1** and configure each environment to include an environment variable named **EnvironmentText**. | |
| In SSMS, create the DevEnvironment and TestEnvironment environments in **Project1** and configure each environment to include an environment variable named **EnvironmentText**. | |
| In SSDT, create the DevEnvironment and TestEnvironment environments in **Project1** and configure each environment to include an environment variable named **EnvironmentText**. | |
| In SSMS, configure **Project1** to reference the environments, and associate the project parameter **EnvironmentText** with the environment variable **EnvironmentText**. | |

## Answer:

| Actions | Answer Area |
|---|---|
| Using SSDT, deploy **Project1** to a new folder named **Folder1**. | Using SSDT, deploy **Project1** to a new folder named **Folder1**. |
| In SSDT, configure **Project1** to reference the environments, and associate the project parameter **EnvironmentText** with the environment variable **EnvironmentText**. | |
| In SSMS, create the DevEnvironment and TestEnvironment environments in **Folder1** and configure each environment to include an environment variable named **EnvironmentText**. | In SSMS, create the DevEnvironment and TestEnvironment environments in **Folder1** and configure each environment to include an environment variable named **EnvironmentText**. |
| In SSMS, create the DevEnvironment and TestEnvironment environments in **Project1** and configure each environment to include an environment variable named **EnvironmentText**. | In SSMS, configure **Project1** to reference the environments, and associate the project parameter **EnvironmentText** with the environment variable **EnvironmentText**. |
| In SSDT, create the DevEnvironment and TestEnvironment environments in **Project1** and configure each environment to include an environment variable named **EnvironmentText**. | |
| In SSMS, configure **Project1** to reference the environments, and associate the project parameter **EnvironmentText** with the environment variable **EnvironmentText**. | |

**Question No : 113 DRAG DROP - (Topic 9)**

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