

# Exam DA-100: Analyzing Data with Microsoft Power BI

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## Module 1: Get Started with Microsoft Data Analytics

- Q01 – What are the building blocks of Power BI?
- A01 – Visualizations, Datasets, Reports, Dashboards, and Tiles
- Q02 – What is the common flow of activity in Power BI?
- A02 – Bring data into Power BI Desktop and create a report, share it to the Power BI service, view and interact with reports and dashboards.
- Q03 – A collection of ready-made visuals, pre-arranged in dashboards and reports is called what?
- A03 – An App

## Module 2:- Prepare Data with Power BI

### Lesson 1: Get Data from Various Data Sources

- Q01 – Which query language do you use to extract data from Microsoft SQL Server?
- A01 – T-SQL
- Q02 – You're creating a Power BI report with data from an Azure Analysis Services Cube. When the data refreshes in the cube, you would like to see it immediately in the Power BI report. How should you connect?
- A02 – Connect Live
- Q03 – What can you do to improve performance when you are getting data in Power BI?
- A03 – Do some calculations in the original data source.

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## Lesson 2: Optimize Performance

- Q01 – Which storage mode leaves the data at the data source?
- A01 – DirectQuery
- Q02 – Which technology improves performance by generating a single query statement to retrieve and transform source data?
- A02 – Query Folding

## Lesson 3: Resolve Data Errors

- Q01 – What type of import error might leave a column blank?
- A01 – Data type error

## Module 3: Clean, Transform, and Load Data in Power BI

### Lesson 1: Data Shaping

- Q01 – The primary data preparation tool in Power BI is called what?
- A01 – Power Query Editor
- Q02 – The process of shaping data by converting your flat data into a table that contains an aggregation value for each unique value in a column is called what?
- A02 – Pivot (pivoting a column)
- Q03 – What can be achieved by removing unnecessary rows and columns?
- A03 – Deleting unnecessary rows and columns will reduce a dataset size and its good practice to load only necessary data into your data model.

### Lesson 2: Enhance the Data Structure

- Q01 – What is not a best practice for naming conventions in Power BI?
- A01 – Abbreviated column names.
- Q02 – What functionality lets you see the code that is generated as part of each transformation step?
- A02 – Advanced Editor
- Q03 – If you have two queries that have different data, but you want to concatenate the results into one query with all the combined rows, which operation should you perform?
- A03 - Append

### Lesson 3: Data Profiling

- Q01 – How many rows does Power Query scan to detect the type of data in the columns?
- A01 – 1000

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- Q02 – Data profiling is defined as what?
- A02 – Studying the nuances of the data
- Q03 – What is the risk of having null values in a numeric column?
- A03 – DAX expressions that AVERAGE data will be incorrect.

## Module 4: Designing a Data Model

### Lesson 1: Introduction to Data Modeling

- Q01 – Two types of tables of a star schema are what?
- A01 – Dimension and Fact tables.
- Q02 – What is the difference between a fact table and a dimension table?
- A02 – Fact tables contain observational data while dimension tables contain information about specific entities within the data.

### Lesson 2: Working with Tables

- Q01 – What is Cardinality?
- A01 – The direction that the data flows in a relationship between two tables.
- Q02 – What is it called when multiple records in one table are associated with multiple records in another table?
- A02 – many-to-many relationship.

### Lesson 3: Dimensions and Hierarchies

- Q01 – A dimension that can filter related facts differently is called what?
- A01 – A role-playing dimension.
- Q02 – What type of table stores details about business entities?
- A02 – Dimension table.

## Module 5: Creating Measures using DAX in Power BI

### Lesson 1: Introduction to DAX

- Q01 – Which are calculated on demand? Calculated columns or Measures?
- A01 – Measures
- Q02 – Which are based on filters? Calculated columns or Measures based?
- A01 – Measures

### Lesson 2: DAX Content

- Q01 – Which DAX function evaluates an expression in a modified filter context?

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- A01 – CALCULATE
- Q02 – Why would you want to override the default context?
- A02 – To create measures that behave according to your intentions, regardless of what the user selects.

## Lesson 3: Advanced DAX

- Q01 – What type of Measure uses SUM to aggregate over one set of dimensions and a different aggregation over a different set of dimension?
- A01 – Semi-additive
- Q02 – What type of functions enable you to manipulate data using time periods?
- A02 – Time intelligence
- Q03 – Which two functions will help you compare dates to the previous month?
- A03 – CALCULATE and PREVIOUSMONTH

## Module 6: Optimize Model Performance

### Lesson 1: Optimize the data model for performance

- Q01 – What benefit do you get from analyzing metadata?
- A01 – The benefit of analyzing metadata is that you can clearly identify data inconsistencies with your dataset.
- Q02 – Which tool enables you to identify bottlenecks that exist in code?
- A02 – Performance Analyzer
- Q03 – What is cardinality?
- A03 – The direction that the data flows in a relationship between tables.

### Lesson 2: Optimize DirectQuery Models

- Q01 – Which Power BI option gives you the option to send fewer queries and disable certain interactions?
- A01 – Query reduction.
- Q02 – Other than Power BI, another place for performance optimization can be performed is where?
- A02 – At the data source
- Q03 – Is it possible to create a relationship between two columns if they are different DATA TYPE columns?
- A03 – No, both columns in a relationship must be sharing the same DATA TYPE.

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## Lesson 3: Create and Manage Aggregations

- Q01 – A critical aspect of data aggregation is that it allows you to focus on what?
- A01 – The important and most meaningful data.
- Q02 – Before you start creating aggregations, you should first decide what?
- A02 – The grain (level) on which to create them.

## Module 7: Create Reports

### Lesson 1: Design a Report

- Q01 – What is the benefit of using a report tooltip?
- A01 – To give users additional information about a report visual, such as the author and date/time it was created.
- Q02 – Do you need to import custom visuals each time you want to use them when you are developing a new report?
- A02 – No, custom visuals are always available for selection under the Visualization pane.

### Lesson 2: Enhance a Report

- Q01 – Which filter is not available in Power BI reports?
- A01 – Page Type
- Q02 – How can you analyze performance of each of your report elements?
- A02 – By using performance analyzer.
- Q03 – Can you use bookmarks to create a slide show in Power BI?
- A03 – Yes, you can, by adding buttons as navigation to go between saved bookmarks.

## Module 8: Create Dashboards

### Lesson 1: Create a Dashboard

- Q01 – Where can you configure and set alerts?
- A01 – Data alerts can be set only in Power BI service on specific visuals such as KPI cards, gauges, and cards.
- Q02 – What is a key benefit of Power BI's real-time streaming capabilities?
- A02 – You can stream data and update dashboards as soon as the data is logged.
- Q03 – Pinning an entire report page to a dashboard ensure what?
- A03 – Since the tiles are live, it ensures that you are not using old data and your dashboards reflect live data changes.

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## Lesson 2: Real-time Dashboards

- Q01 – What feature allows you to ask a natural-language query about the data?
- A01 – The Q&A feature.
- Q02 – What feature in dashboards is used to alert consumers to the sensitivity of the data?
- A02 – Data classification

## Module 9: Create Paginated Reports in Power BI

### Lesson 2: Creating Paginated Reports

- Q01 – Why are parameters important in Power BI paginated reports?
- A01 – They allow the user to control aspects of how the report is rendered when the report is run.
- Q02 – Power BI paginated reports are created by using which tool?
- A02 – Power BI Report Builder.
- Q03 – Power BI paginated reports is an evolved technology that was built from which original tool?
- A03 – SQL Server Reporting Services.

## Module 10: Perform Advanced Analytics

### Lesson 1: Advanced Analytics

- Q01 – What Power BI feature can give an in-depth analysis of the distribution of data?
- A01 – The Analyze feature allows a user to understand why the distribution of data looks the way it does.
- Q02 – Where are time series charts located?
- A02 – Time series charts can be imported from AppSource.
- Q03 – What visual should be used to display outliers?
- A03 – The scatter chart displays outliers.

### Lesson 2: Data Insights through AI Visuals

- Q01 – What does the AI splits feature do?
- A01 – AI splits work by considering all the available fields and determining which one to drill into to get the highest/lowest value of a measure that is being analyzed.
- Q02 – Can you access the Q&A feature by using buttons?
- A02 – Yes, you can access the Q&A feature by selecting the Q&A button type.
- Q03 – What is not a feature of the Q&A feature?

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- A03 – Searching for help topics about Power BI.
- Q04 – What does the decomposition tree not enable you to do?
- A04 – Conduct what-if analysis with built-in parameters.

### Module 11: Create and Manage Workspaces

#### Lesson 1: Creating Workspaces

- Q01 – How is the admin workspace different from other types of workspace roles?
- A01 – Admins are the only role that can add and remove users.
- Q02 – What is the best description of a workspace?
- A02 – A workspace is a centralized location or repository that allows you to collaborate with colleagues and teams to create collections of reports, dashboards, etc.

#### Lesson 2: Sharing and Managing Assets

- Q01 – What feature in Power BI service can you use to troubleshoot the flow of data from its source to destination?
- A01 – View Lineage
- Q02 – A key tenant of Data protection is sensitivity labels, which specifies what?
- A02 – Which data can be exported.

### Module 12: Manage Datasets in Power BI

#### Lesson 1: Parameters

- Q01 – What type of parameter provides a look at how different scenarios might play out?
- A01 – What-if
- Q02 – What benefit does dynamic reports provide to end users?
- A02 – It gives the more control over the data that is displayed.

#### Lesson 2: Datasets

- Q01 – Where are the dataset-scheduled refreshes configured?
- A01 – Power BI Service
- Q02 – What reserved parameters configure the start and end of where Incremental refresh should occur?
- A02 – RangeStart and RangeEnd



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- Q03 – What is the difference between Promotion and Certification when endorsing a dataset?
- A03 – Promotion does not need specific permissions while Certification requires permission from the dataset owner to access the dataset.

### Module 13: Row-level Security

#### Lesson 1: Security in Power BI

- Q01 – Which function will tell you the logged on username in the Power BI Service?
- A01 – USERPRINCIPALNAME()
- Q02 – Where can you test RLS by using different security roles?
- A02 – Both Power BI Desktop and Power BI Service.