

Exam DA-100: Analyzing Data with Microsoft Power BI – Skills Measured

This exam was updated on November 23, 2021. Following the current exam guide, we have included a version of the exam guide with Track Changes set to “On,” showing the changes that were made to the exam on that date.

NOTE: Passing score: 700. Learn more about exam scores [here](#).

Audience Profile

Data Analysts enable businesses to maximize the value of their data assets by using Power BI. As a subject matter expert, data analysts are responsible for designing and building scalable data models, cleaning and transforming data, and enabling advanced analytic capabilities that provide meaningful business value through easy-to-comprehend data visualizations. Data analysts also collaborate with key stakeholders across verticals to deliver relevant insights based on identified business requirements.

The Data Analyst should have a fundamental understanding of data repositories and data processing both on-premises and in the cloud.

Skills Measured

NOTE: The bullets that follow each of the skills measured are intended to illustrate how we are assessing that skill. This list is not definitive or exhaustive.

NOTE: Most questions cover features that are General Availability (GA). The exam may contain questions on Preview features if those features are commonly used.

Prepare the Data (20-25%)

Get data from different data sources

- identify and connect to a data source
- change data source settings
- select a shared dataset or create a local dataset
- select a storage mode
- choose an appropriate query type
- identify query performance issues
- use Microsoft Dataverse
- use parameters
- use or create a PBIDS file
- use or create a data flow

- connect to a dataset using the XMLA endpoint

Profile the data

- identify data anomalies
- examine data structures
- interrogate column properties
- interrogate data statistics

Clean, transform, and load the data

- resolve inconsistencies, unexpected or null values, and data quality issues
- apply user-friendly value replacements
- identify and create appropriate keys for joins
- evaluate and transform column data types
- apply data shape transformations to table structures
- combine queries
- apply user-friendly naming conventions to columns and queries
- leverage Advanced Editor to modify Power Query M code
- configure data loading
- resolve data import errors

Model the Data (25-30%)

Design a data model

- define the tables
- configure table and column properties
- define quick measures
- flatten out a parent-child hierarchy
- define role-playing dimensions
- define a relationship's cardinality and cross-filter direction
- design the data model to meet performance requirements
- resolve many-to-many relationships
- create a common date table
- define the appropriate level of data granularity
- apply or change sensitivity labels

Develop a data model

- apply cross-filter direction and security filtering
- create calculated tables
- create hierarchies
- create calculated columns

- implement row-level security roles
- implement object-level security
- set up the Q&A feature

Create measures by using DAX

- use DAX to build complex measures
- use CALCULATE to manipulate filters
- implement Time Intelligence using DAX
- replace numeric columns with measures
- use basic statistical functions to enhance data
- create semi-additive measures

Optimize model performance

- remove unnecessary rows and columns
- identify poorly performing measures, relationships, and visuals
- improve cardinality levels by changing data types
- improve cardinality levels through summarization
- create and manage aggregations
- use Query Diagnostics

Visualize the Data (20-25%)

Create reports

- add visualization items to reports
- choose an appropriate visualization type
- format and configure visualizations
- import a custom visual
- configure conditional formatting
- configure small multiples
- apply slicing and filtering
- add an R or Python visual
- add a Smart Narrative visual
- configure the report page
- design and configure for accessibility
- configure automatic page refresh
- create a paginated report
- create a PivotTable from a Power BI dataset in Excel

Create dashboards

- set mobile view

- manage tiles on a dashboard
- configure data alerts
- use the Q&A feature
- add a dashboard theme
- pin a live report page to a dashboard

Enrich reports for usability

- configure bookmarks
- create custom tooltips
- edit and configure interactions between visuals
- configure navigation for a report
- apply sorting
- configure Sync Slicers
- use the selection pane
- use drillthrough and cross filter
- drilldown into data using interactive visuals
- export report data
- design reports for mobile devices

Analyze the Data (10-15%)

Enhance reports to expose insights

- apply conditional formatting
- apply slicers and filters
- perform top N analysis
- explore statistical summary
- use the Q&A visual
- add a Quick Insights result to a report
- create reference lines by using Analytics pane
- use the Play Axis feature of a visualization
- personalize visuals

Perform advanced analysis

- identify outliers
- conduct Time Series analysis
- use anomaly detection
- use groupings and binnings
- use the Key Influencers to explore dimensional variances
- use the decomposition tree visual to break down a measure
- apply AI Insights

Deploy and Maintain Deliverables (10-15%)

Manage datasets

- configure a dataset scheduled refresh
- configure row-level security group membership
- provide access to datasets
- configure incremental refresh settings
- promote or certify Power BI datasets
- identify downstream dataset dependencies
- configure large dataset format

Create and manage workspaces

- create and configure a workspace
- recommend a development lifecycle strategy
- assign workspace roles
- configure and update a workspace app
- publish, import, or update assets in a workspace
- apply sensitivity labels to workspace content
- use deployment pipelines
- configure subscriptions
- promote or certify Power BI content

[The exam guide below shows the changes that were implemented on November 23, 2021.](#)

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