Study Guide

Exam PL-300: Microsoft Power BI Data Analyst

Quick navigation

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Purpose of this document

This study guide should help you understand what to expect on *Exam PL-300: Microsoft Power BI Data Analyst*, and includes a summary of the topics the exam might cover and links to additional resources. The information and materials in this document should help you focus your studies as you prepare for the exam.

Certification

Certification journey

For an overview of attaining Microsoft Certification, including prerequisites (if any) and additional resources, explore The journey to Microsoft Certified: Data Analyst Associate.

Certification renewal

Once you earn your certification, don't let it expire. When you have an active certification that's expiring within six months, you should renew it—at no cost—by passing a renewal assessment on Microsoft Learn. Remember to renew your certification annually, if you want to retain it.

To identify which certifications are available for you to renew, visit your Certifications in your Microsoft Learn profile:

- Ensure your certification profile is connected to your Learn profile.
- Expect an email that directs you to the applicable assessment that you must pass on Microsoft Learn. You'll receive this email as soon as you have a certification that you're eligible to renew.
- When you pass an online assessment, your certification will extend by one year from the current expiration date.
- To help prepare for the assessment, explore the collection of free modules on the certification renewal page.

About the exam

Exam PL-300: Microsoft Power BI Data Analyst is required to earn the Power BI Data Analyst Associate certification.

This exam measures your ability to implement Microsoft Azure security controls that protect identity, access, data, applications, and networks in cloud and hybrid environments as part of an end-to-end infrastructure.

As an exam candidate, you should have practical experience with administering Azure and hybrid environments and with Infrastructure as Code, security-operations processes, cloud capabilities, and Azure services.

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Passing score

A passing score is 700. Learn more about exam scoring and score reports.

What to expect on the exam

Are you new to Microsoft certification exams? You can explore the exam environment by visiting our exam sandbox. We created the sandbox so you have an opportunity to experience an exam before you take it. In the sandbox, you can interact with different question types, such as *build list*, *case studies*, and others that you might encounter in the user interface when you take an exam. Additionally, it includes the introductory screens, instructions, and help topics related to the different types of questions that your exam might include. It also includes the non-disclosure agreement that you must accept before you can launch the exam.

Prepare to take the exam

There are several points to consider, or pursue, as you prepare for an exam. The following sections detail those points.

Request accommodations

We're committed to ensuring all learners are set up for success. If you use assistive devices, require extra time, or need modification to any part of the exam experience, you can request an accommodation. We encourage you to learn more about available accommodations and how to obtain them by visiting this page.

Take practice tests

Taking a practice test is a great way to know whether you're ready to take the exam or if you need to study a bit more. Subject-matter experts write the Microsoft Official Practice Tests, which are designed to assess all exam objectives. Take the PL-300: Microsoft Official Practice Test.

Objective domain: skills the exam measures

The English language version of this exam was released on February 28, 2022.

Some exams are localized into other languages, and those are updated approximately eight weeks after the English version is updated. Other available languages are listed in the **Schedule Exam** section of the **Exam Details** webpage. If the exam isn't available in your preferred language, you can request an additional 30 minutes to complete the exam.

> **Note**
> The bullets that follow each of the skills measured are intended to illustrate how we are assessing that skill. Related topics may be covered in the exam.

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> **Note**
> Most questions cover features that are general availability (GA). The exam may contain questions on Preview features if those features are commonly used.

Skills measured

- Prepare the data (15–20%)
- Model the data (30–35%)
- Visualize and analyze the data (25–30%)
- Deploy and maintain assets (20–25%)

Functional groups

Prepare the data (15–20%)

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
- Use Microsoft Dataverse
- Change the value in a parameter
- Connect to a data flow

Clean, transform, and load the data

- Profile the data
- Resolve inconsistencies, unexpected or null values, and data quality issues
- Identify and create appropriate keys for joins
- Evaluate and transform column data types
- Shape and transform tables
- Combine queries
- Apply user-friendly naming conventions to columns and queries
- Configure data loading
- Resolve data import errors

Model the data (30–35%)

Design a data model

- Define the tables
- Configure table and column properties
- Design and implement role-playing dimensions

- Define a relationship's cardinality and cross-filter direction
- Design a data model that uses a star schema
- Create a common date table

Develop a data model

- Create calculated tables
- Create hierarchies
- Create calculated columns
- Implement row-level security roles
- Use the Q&A feature

Create model calculations by using DAX

- Create basic measures by using DAX
- Use CALCULATE to manipulate filters
- Implement Time Intelligence using DAX
- Replace implicit measures with explicit measures
- Use basic statistical functions
- Create semi-additive measures
- Use quick measures

Optimize model performance

- Remove unnecessary rows and columns
- Identify poorly performing measures, relationships, and visuals
- Reduce cardinality levels to improve performance

Visualize and analyze the data (25–30%)

Create reports

- Add visualization items to reports
- Choose an appropriate visualization type
- Format and configure visualizations
- Use a custom visual
- Apply and customize a theme
- Configure conditional formatting
- Apply slicing and filtering
- Configure the report page
- Use the Analyze in Excel feature
- Choose when to use a paginated report

Create dashboards

- Manage tiles on a dashboard

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- Configure mobile view
- Use the Q&A feature
- Add a Quick Insights result to a dashboard
- Apply a dashboard theme
- Pin a live report page to a dashboard

Enhance reports for usability and storytelling

- Configure bookmarks
- Create custom tooltips
- Edit and configure interactions between visuals
- Configure navigation for a report
- Apply sorting
- Configure Sync Slicers
- Group and layer visuals by using the selection pane
- Drilldown into data using interactive visuals
- Export report data
- Design reports for mobile devices

Identify patterns and trends

- Use the Analyze feature in Power BI
- Identify outliers
- Choose between continuous and categorical axes
- Use groupings, binnings, and clustering
- Use AI visuals
- Use the Forecast feature
- Create reference lines by using the Analytics pane

Deploy and maintain assets (20–25%)

Manage files and datasets

- Identify when a gateway is required
- Configure a dataset scheduled refresh
- Configure row-level security group membership
- Provide access to datasets
- Manage global options for files

Manage workspaces

- Create and configure a workspace
- Assign workspace roles
- Configure and update a workspace app
- Publish, import, or update assets in a workspace

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- Apply sensitivity labels to workspace content
- Configure subscriptions and data alerts
- Promote or certify Power BI content

Corresponding learning paths and modules

The design of learning paths and modules should teach you how to perform a role and will help you study for the applicable exam. However, learning paths aren't always in the same order as an exam's "skills measured" list. Therefore, we've created a convenient table that links the skills measured to specific paths and modules.

Exam skills measured	Links to learning paths
Prepare the data (15–20%)	PL-300 Learning Path: Prepare data for analysis • Get data in Power BI • Clean, transform, and load data in Power BI
Model the data (30–35%)	PL-300 Learning Path: Model data in Power BI • Design a data model in Power BI • Introduction to creating measures using DAX in Power BI • Optimize a model for performance in Power BI
Visualize and analyze the data (25–30%)	PL-300 Learning Path: Visualize data in Power BI • Work with Power BI visuals • Create a data-driven story with Power BI reports • Create dashboards in Power BI • Create paginated reports PL-300 Learning Path: Data analysis in Power BI • Perform analytics in Power BI • Work with AI visuals in Power BI
Deploy and maintain assets (20–25%)	PL-300 Learning Path: Manage workspaces and datasets in Power BI • Create and manage workspaces in Power BI • Manage datasets in Power BI • Implement row-level security

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Additional study resources

We offer several resources to help you prepare for the exam and stay current and engaged with the Microsoft Azure community. These resources range from formal training to blogs and even interviews with Microsoft team members.

Study resource link	Resource description
Course PL-300T00: Microsoft Power BI Data Analyst	Take a three-day, instructor-led course that discusses the various methods and best practices that are in line with business and technical requirements for modeling, visualizing, and analyzing data with Power BI.
Exam Prep Videos	Visit our Exam Readiness Zone for short videos on strategies and tips to prepare for this exam.
**Microsoft Power Apps documentation - Power Apps	Microsoft Docs**	Stay informed on the latest products, tools, and features, and get information on pricing, partners, support, solutions, and more.
#LessCodeMorePower	The show all about PowerApps.
Microsoft Learn Community Blog	Get the latest information about certification tests and exam study groups.

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