

Design and Manage Analytics Solutions Using Power BI (PL-300T00)

Duration: 3 days

Audience: Analyste de données

Who is this training for?

This course is for data and business intelligence professionals who want to learn how to perform accurate data analysis using Power BI. This training is also aimed at those who develop reports that visualize data from data platform technologies that exist in the cloud and on-premises.

Training objectives

- Acquire, cleanse, and transform data
- Model data for performance and scalability
- Design and create reports for data analysis
- Apply and perform advanced report analytics • Manage and share report items

Summary

This course will cover the various methods and best practices that meet the business and technical requirements of modeling, visualizing, and analyzing data with Power BI. This course will also demonstrate how to access and process data from a range of data sources, including both relational and non-relational data. This course will also explore the implementation of adequate security standards and policies across the Power BI spectrum, including datasets and groups. This training will also cover the management and deployment of reports and dashboards for content sharing and distribution.

Course outline

Module 1: Getting Started with Microsoft Data Analytics

This module explores the different roles in the data space, highlights the important roles and responsibilities of a data analyst, and then explores the landscape of the Power BI portfolio.

Lessons

- Data Analytics and Microsoft

- Getting Started with Power B

Module 2 : Getting Data in Power BI

This module explores identifying and extracting data from different data sources. You'll also learn about data connectivity and storage options, and understand the difference and performance implications of connecting directly to data versus importing it.

Lessons

- Data Analytics and Microsoft
- Performance Optimization
- Troubleshoot Data Errors

Lab : Preparing Data in Power BI Desktop

- Preparing Data

Module 3 : Cleaning, Transforming, and Loading Data in Power BI

This module teaches you the process of profiling and understanding the condition of data. You will learn how to identify anomalies, consider the size and shape of the data, and perform proper data cleaning and transformation steps to prepare for loading the data into the model.

Lessons

- Shaping Data
- Data Profiling
- Strengthening the Data Structure

Lab : Loading Data in Power BI Desktop

- Loading Data

Module 4: Design a Data Model in Power BI

This module teaches the fundamental concepts of designing and developing a data model to achieve proper performance and scalability. This module will also help you understand and address many common data modeling issues, including relationships, security, and performance.

Lessons

- Introduction to Data Modeling
- Working with Tables
- Dimensions and Hierarchies

Lab : Modeling Data in Power BI Desktop

- Creating Model Relationships
- Configuring Table and Column Properties
- Creating Hierarchies

Module 5: Creating Calculations in Models Using DAX in Power BI

This module introduces you to the world of DAX and its true power in improving a model. You'll learn about aggregations and the concept of metrics, calculated columns and tables, and time-intelligence functions to solve computational and data analysis problems.

Lessons

- Introduction to DAX
- Real-time dashboards
- Advanced use of DAX

Lab: Introduction to DAX in Power BI Desktop

- Create calculated tables
- Create calculated columns
- Create

Lab: Advanced DAX measures in Power BI Desktop

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Use the CALCULATE() function to manipulate the filter context

- Use the Time Intelligence

Module 6 functions: Optimize model performance in Power BI

In this module, you'll learn best practices for the steps, processes, concepts, and data modeling needed to optimize a data model for enterprise-grade performance.

Lessons

- Optimize the data model for performance
- Optimize models DirectQuery

Module 7: Report in Power BI

This module introduces you to the fundamentals and concepts of designing and creating reports, including selecting the right visuals, designing a layout, and applying basic but critical functionality. The important topic of design for accessibility is also covered.

Lessons

- Create a report
- Enhance the report

Lab : Improving reports with interaction and formatting in Power BI Desktop

- Create and configure a segment sync
- Create a drillthrough page
- Apply conditional formatting
- Create and use bookmarks

Lab: Design a report in Power BI Desktop

- Create a report
- Configure visual fields and formatting properties

Module 8: Create dashboards in Power BI

In this module, you'll learn how to tell an engaging story by using dashboards and the various navigation tools available to keep you navigated. You'll learn about the functions and features and ways to enhance dashboards for usability and insights.

Lessons

- Create a dashboard
- Real-time dashboards
- Enhance a dashboard

Lab: Create a dashboard in Power BI Service

- Create a dashboard
- Pin visuals to a dashboard
- Use Q&A to create a dashboard tile

Module 9: Identify patterns and trends in Power BI

This module helps you apply additional features to improve the report and get better data insights, and teaches you the steps to use in the report to perform the current data analysis. You'll also perform advanced analytics by using the artificial intelligence visuals on the report to gain deeper and more meaningful insights into the data.

Lessons

- Advanced analytics
- Insights into data through artificial intelligence visuals

Lab: Data analysis in Power BI Desktop

- Create animated scatter charts
- Use a visual to predict values

Module 10: Create and manage workspaces in Power BI

This module will introduce you to workspaces, and teach you how to create and manage them. You'll also learn how to share content, including reports and dashboards, and then how to distribute an app.

Lessons

- Create workspaces
- Share and manage resources

Module 11: Manage files and datasets in Power BI

This module introduces you to settings and datasets. You'll also learn how to manage datasets and parameters, create dynamic reports with parameters, and set options for refreshing the dataset.

Lessons

- Settings

Datasets After completing this module, students will be able to :

- Manage datasets and settings
- Create dynamic reports with parameters
- Schedule dataset refresh
- Troubleshoot gateway service connectivity issue

Module 12: Row-level security in Power BI

This module introduces you to row-level security, both static and dynamic methods, and how to set it up.

Lessons

- Security in Power BI

Lab: Enforce row-level security

- Set up many-to-many relationships
- Enforce row-level security

Approach and methodology

Practical and structured approach combining focused theory and guided workshops. Participants gradually design and manage analysis solutions with Power BI through concrete exercises inspired by professional scenarios, promoting an immediate application of the learnings. They learn how to model data, create relevant visualizations, and produce interactive reports to support decision-making. Led by a Microsoft certified trainer, the training focuses on interactivity and the development of directly transferable skills to effectively exploit data in a professional context.

Prerequisites

Successful data analysts start this role with the experience of working with data in the cloud.

Specifically: Understanding of basic database concepts. Knowledge of how to use relational data in the cloud. Knowledge of the use of non-relational data in the cloud. Knowledge of data analysis and visualization concepts.

Recommendations

- Have a foundation in data analysis (Excel or equivalent)
- Understand the basics of data (tables, relationships, filters)
- Have a first experience with Power BI (asset)
- Be comfortable with data manipulation Interest in data visualization and interpretation