

INTRODUCTION TO POWER BI DESKTOP



Successful business decisions are driven by data.
Make those decisions at the pace of business with
Power BI.

COURSE OVERVIEW

Microsoft's Power BI is a visualization tool that gets you unprecedented actionable insights at the pace of business. Introduction to Power BI is a course that offers a comprehensive curriculum that will help you become proficient in Power BI desktop. This will be your guide for operating the end-to-end process of turning raw data into insightful reports. It is an instructor-led course taught by industry experts and covers:

- Pre-processing
- Data quality data
- Filtration and transformation
- Developing detailed, and interactive visualizations

The course encompasses a series of lectures supplemented with hands-on exercises. It is designed both for practitioners and beginners. For beginners, the foundational concepts will get you where you need to be to hit the ground running. For practitioners, this course will add to your existing knowledge and instill confidence in you, enabling you to emulate these learnings at work.

LEARNING OUTCOMES

In this course, you will:

- Connect to various sources of data and build a unified data model using relationships
- Analyze, clean, preprocess, and transform data using the user-friendly set of ribbons, menus, buttons, and other interactive components
- Use DAX to slice and summarize data
- Use Power Query to clean, load, and transform data
- Build insightful visualizations using the drag and drop interface of Power BI
- Build an end-to-end pipeline for Data Visualization using Microsoft Power BI



01 GET STARTED WITH POWER BI

WHAT IS POWER BI & POWER BI DESKTOP

Microsoft Power BI is a business intelligence tool that connects various sources of data and builds coherent, visually immersive, and interactive visualizations making it easier than ever to harvest insights.

Whether your data is in a simple Microsoft Excel workbook, a CSV file, or in a collection of cloud-based and on-premises data warehouses, Power BI lets you easily connect, transform, model, and visualize your data to derive actionable insights.

In this module, you will:

- Define Power BI
- Discuss the business value of using Power BI
- Install and run Power BI Desktop
- Identify its key components
- Explore regional settings
- Learn Power BI features and workflow

02 CONNECTING AND TRANSFORMING DATA

SHAPING DATA WITH POWER BI DESKTOP

With Power BI Desktop, you can connect to many different data sources using its in-built data source connectors. Once the data is loaded, Power Query, the data transformation, and the data preparation engine behind Power BI help in transforming data with the aid of a user-friendly set of ribbons, menus, buttons, and other interactive components. Power Query extends the same data transformation capabilities across all data sources.

In this module, you will:

- Identify different types of data connectors
- Connect to data sources, such as Microsoft Excel, CSV, PBDIS and so forth
- Profile data, such as Column Quality, Distribution, and Profile
- Implement basic transformations, such as changing data types, dealing with null values, errors, and other data quality issues
- Create Index Columns, Conditional Columns, and Columns from Example
- Group and aggregate data
- Attempt pivoting and unpivoting
- Merge and append queries
- Use PowerQuery editor to shape and transform data

03 CREATING A DATA MODEL

WHAT IS DATA MODELING?

Data modeling encompasses analyzing and defining different data gathered from various sources and defining the relationships between those bits of data.

With Power BI Desktop, you can combine different sources of data based on those relationships to form a unified data model to create visuals and reports. A relationship in a data model defines how different data sources are linked to each other similar to how relationships are in a relational database.

Building a great data model is about simplifying the disarray. A star schema is one way to simplify a data model, and you will learn how to implement this in your data model along with creating custom fields and values (known as calculated columns and measures) using Data Analysis Expressions (DAX) which is a programming language used in Power BI.

In this module, you will:

- Define data model
- Create table relationships
- Manage relationships
- Understand relationship cardinality

04 ANALYZING DATA USING DATA ANALYSIS EXPRESSIONS (DAX)

DAX OVERVIEW

Data Analysis Expressions (DAX) is the language used in Analysis Services, Power BI, and Power Pivot in Excel. DAX formulas include functions, operators, and values to perform advanced calculations and queries on data in related tables and columns in tabular data models.

In this module, you will learn:

- Create DAX tables, columns, and measures
- Execute DAX operators
- Discuss basic Math & statistical functions
- Implement date & time functions
- Attempt text functions
- Use calculate & filter functions

05 DATA VISUALIZATION

VISUALIZING DATA WITH POWER BI REPORTS

Visualizing data with Power BI reports:

Power BI helps users to make the most of available data and make better, faster decisions through a variety of visuals, bringing data to life.

In this module, you will:

- Identify the many in-built visualizations Power BI offers and discuss their uses
- Build basic visuals such as bar chart, line chart, hierarchy chart, and sankey chart
- Generate AI reports
- Filter, slice, and drill reports to analyze them