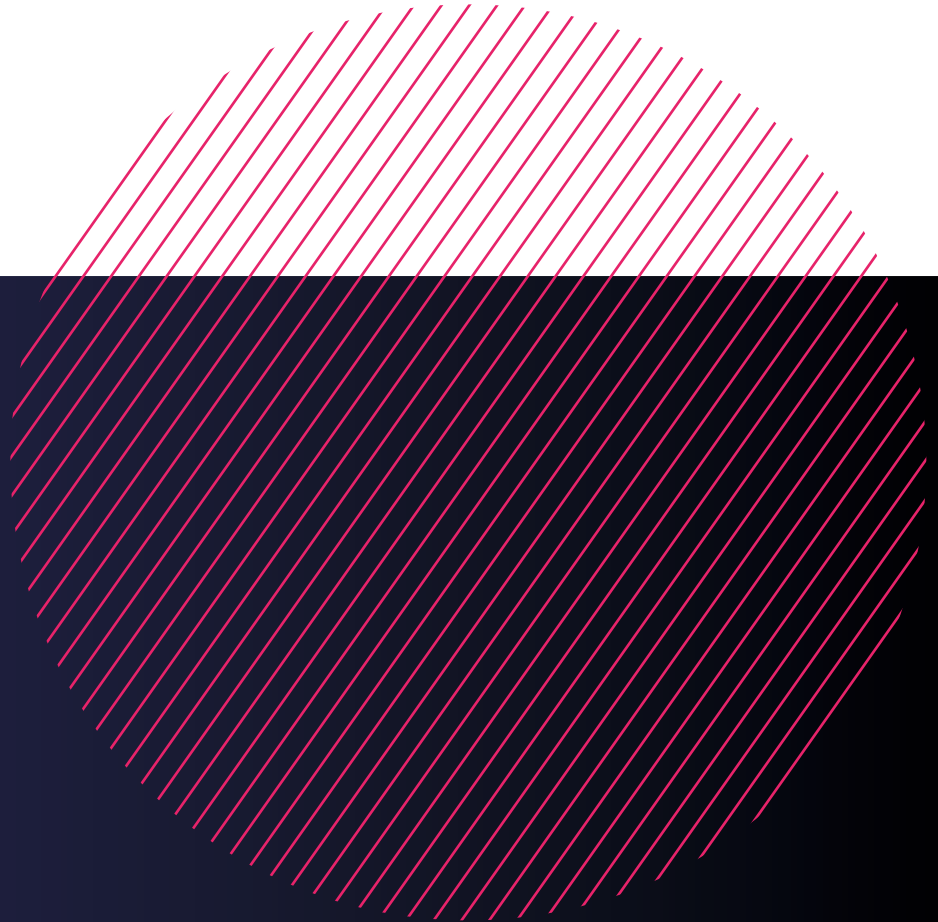
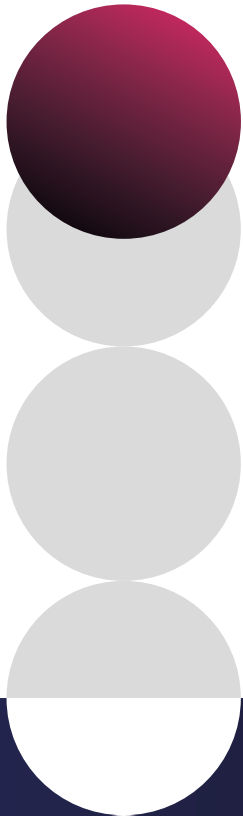


MICROSOFT POWER BI COURSE

# Power BI Reporting

BE-TERNA MICROSOFT POWER BI



# Introduction

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Throughout this course, with hands-on activities and challenges, you will learn Power BI data modeling and designer skills to build insight-driven, self-service applications. You will learn step-by-step to build a Power BI report from scratch with visualization best practices.

The first part of this course includes topics dealing with data connections, cleaning, manipulating, and transforming, resolving data model issues in Power BI Desktop. Nowadays, Power BI is not only a powerful BI visualization tool, but it is also can be observed as ETL (Extract Transform and Load) solution, and it allows us to connect data from any kind of different sources, link them together, create metrics and optimize data structure.

In process of creating a visualization, you will learn how to use columns from the data model in process of creating charts, but also to create and use DAX dimensions and measures. The course combines theoretical concepts with demonstrations and hands-on exercises to teach the essential concepts for designing useful and effective visualizations. You will be able to look in depth at the different visualizations, discuss their propose, and select the appropriate one for your data and the type of questions you need to answer.

## COURSE OBJECTIVES AND INTENDED SKILLS

- ◇ Build Power BI reports and dashboards.
- ◇ Look in depth at the different visualizations available in Power BI and learn how to select the appropriate visualization/s to answer your data questions.
- ◇ Identify data types and explain how they are interpreted as visualizations.
- ◇ Create a data model and M language usage
- ◇ Create and maintain data connections
- ◇ Resolve data structure issues and errors
- ◇ Add dimensions and measures via DAX
- ◇ Design and create visualizations, based on user-centered workflows, for others to use.
- ◇ Discuss concepts of data visualization and how they are implemented in Power BI.
- ◇ Identify best practices for visualization design.
- ◇ Responsive design and customization for mobile application.
- ◇ Publishing reports and apps, and sharing them with others.

## THIS COURSE IS RECOMMENDED FOR THE FOLLOWING USER ROLES:

- Business analysts
- Data analysts
- Data architects
- Data Engineer
- Business Intelligence and Reporting Professional



# Course Modules

## 01. INTRODUCTION

### Objectives

1. Describe the Microsoft Power platform
2. Explore the parts of a Power BI Desktop and Power BI Service
3. Differentiate dimensions and measures
4. Discover how to make selections and searches in an app, characterizing the different search options and color-coding for the selection states

### Topics

- ◇ Microsoft Power BI Family
- ◇ Microsoft Power BI Desktop
- ◇ Microsoft Power BI Service

## 02. ADDING DATA

### Objectives

1. Explore data connections
2. Learn about different data load aspects
3. Learn how to load data from a file into an app
4. Explore Power Query Editor

### Topics

- ◇ Import Data from CSV files in Microsoft Power BI Desktop
- ◇ Import Data from Excel files in Microsoft Power BI Desktop
- ◇ Import Data from Folders in Microsoft Power BI Desktop

## 03. DATA TRANSFORMATION

### Objectives

1. Explain key fields
2. Describe and solve synthetic keys
3. Joining tables
4. Create new fields in a table
5. Explain Count and Sum
6. Describe circular references
7. Create calendar
8. Discover options to transform or add new column
9. Use transformation functions

### Topics

- ◇ Design and implement basic transformation
- ◇ Power Query overview
- ◇ Basic transformation
- ◇ Advance transformation
- ◇ Appending Queries
- ◇ Merging Queries
- ◇ Create new column
- ◇ Create new table
- ◇ Split column and Trim
- ◇ Remove column
- ◇ Replace values
- ◇ Manage incomplete data
- ◇ Meet data quality requirements
- ◇ Transformation steps
- ◇ Data from Power BI Service

## 04. DATA MODELING

### Objectives

1. Identify areas to clean up in the data model
2. Describe the concatenation types
3. Discuss about performance and future model support

### Topics

- ◇ Modeling and Relationships
- ◇ Star Schema vs Snowflake Schema

## 05. GRAPHS AND VISUALIZATIONS

### Objectives

1. Review the principles of human perception in relation to different visualizations
2. Classify the data and describe the different data types
3. Identify the most appropriate visualization based on the data
4. Review all the basic charts and tables in Power BI Desktop
5. Describe the chart and table properties

### Topics

- ◇ Introduction to Visualization Section
- ◇ Bar Chart
- ◇ Line Chart
- ◇ Pie Chart
- ◇ KPI Chart
- ◇ Tables – List Tables, Pivot Tables
- ◇ Clustered Column Graphs
- ◇ Stacked and 100% Graphs
- ◇ Graph Options and Properties
- ◇ Trend Analysis Graphs
- ◇ Area Graphs Ribbon
- ◇ Scatter plots and Bubble plots
- ◇ Additional Graphs - Using Custom Visualizations

## 06. FILTERING DATA

### Objectives

1. Use objects for single or multiple data selection
2. Usage of Filter Pane
3. Connect two pages with drill-through option
4. Learn how to synchronize filters in application

### Topics

- ◇ Using Slicers
- ◇ Visual Filters
- ◇ Page Filters
- ◇ Drill Through Filter

## 07. DAX BASICS

### Objectives

1. Explain how and when to use DAX
2. Create calculations with quick measure options
3. Learn how to create basic time/intelligence calculations
4. Define and use parameters

### Topics

- ◇ What is DAX?
- ◇ DAX Operators and Syntax
- ◇ M vs DAX
- ◇ Create a New Column
- ◇ Rules to Create Measures
- ◇ Calculated Columns vs Calculated Measures

## 08. POWER BI SERVICE

### Objectives

1. Learn how to publish Power BI Desktop application on server environment
2. Describe the delivery process and learn how to publish apps
3. Define process for data update and notification
4. Use Dashboards to combine the most important KPI and charts from different applications

### Topics

- ◇ Publishing Reports to the Power BI Service
- ◇ Pinning Visualizations to Dashboards
- ◇ Creating Interactive Dashboards
- ◇ App Workspaces
- ◇ Scheduling automated refresh of your reports
- ◇ Analyzing in Excel
- ◇ Data Alert Collaboration Subscription

## 09. ADVANCED OPTIONS

### Objectives

1. Understand bookmarks and work with custom visualizations
2. Discuss about Premium benefits and the components
3. Use options for colors, sorting, and navigating
4. Explore options for sharing application and collaboration

### Topics

- ◇ Mobile Reports
- ◇ Q & A
- ◇ Bookmarks
- ◇ Visualization interaction
- ◇ Report layout - fine tuning
- ◇ Using Themes in Power BI
- ◇ Exporting to PDF, Power Point, Word

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