



Technology + Knowledge = Innovation

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Vivasoft

Consulting & Training



Vivasoft is a leading company in the technology sector, specializing in offering innovative solutions based on Microsoft. With years of experience in the market, we are proud to be certified Microsoft partners, committed to supporting the digital transformation of businesses. We provide a comprehensive range of Microsoft products and highly qualified training courses, designed to help companies optimize their processes, enhance productivity, and acquire advanced skills in the world of technology.

Module 1: Introduction to Power BI

What is Power BI and What is it Used For?

- Definition and overview of Power BI
- Differences between Power BI Desktop, Power BI Service, and Power BI Mobile
- Power BI architecture: datasets, reports, and dashboards
- How Power BI integrates with other data sources (Excel, SQL Server, SharePoint, Google Analytics, etc.)

Installation and Configuration of Power BI Desktop

- Download and installation process
- Overview of the Power BI Desktop interface
- Navigating through different work areas: Report, Data, Model, etc.

First Steps: Creating the First Report

- Importing data from files (Excel, CSV, PDF, etc.)
- Connecting to online data sources (e.g., SharePoint, Azure SQL Database, Web, etc.)
- Creating simple tables and visualizations (charts, tables, cards)

Module 2: Data Preparation and Modeling

Cleaning and Transforming Data with Power Query

- Introduction to Power Query
- Basic operations: filtering, sorting, removing, duplicates
- Advanced transformations: merging, appending, pivoting/unpivoting, changing data types
- Handling missing data and incorrect values

Data Modeling

- Creating tables and defining relationships
- Data normalization: creating dimension and fact tables
- Managing primary keys and foreign keys
- Understanding **Star Schema vs. Snowflake Schema**

Creating Calculated Columns and Measures

Introduction to DAX (Data Analysis Expressions)

What is DAX and when to use it

Basic functions: SUM, AVERAGE, COUNTROWS

Filtering functions: CALCULATE, FILTER

Creating custom measures

Creating calculated columns

Module 3: Creating Reports and Dashboards

Visualizations in Power BI

- Types of visualizations: tables, bar charts, pie charts, maps, KPI cards
- Customizing visualizations: colors, labels, axes, filters
- Working with filters: report-level, page-level, and visualization-level filters

Interactivity and Drill-Down

- Adding interactivity: filters, slicers, selection, and drill-through
- Creating dynamic visualizations with "Drill-Down" and "Drill-Up"
- Using "Bookmarking" to navigate between different report views

Creating Dashboards

- What is a dashboard, and how is it different from a report?
- Creating and publishing dashboards on Power BI Service
- Adding Tiles from reports and datasets
- Customizing dashboards: modifying and interacting with elements

Module 4: Advanced DAX and Optimization

Advanced DAX Functions

Time Intelligence functions: SAMEPERIODLASTYEAR, DATEADD, DATESYTD

Complex measures using IF, SWITCH, and variables

Aggregation functions: SUMX, AVERAGEX, COUNTX

Creating measures for advanced analysis: Percentage variations, growth calculations, profit margins

Performance Management and Optimization

- Techniques to optimize the data model
- Optimizing DAX queries: reducing calculations and improving performance
- Reducing data volume: using aggregations and filters
- **Hands-on exercises** for optimization

Module 5: Power BI Service and Publishing

Introduction to Power BI Service

- What is Power BI Service, and how does it differ from Power BI Desktop?
- Uploading reports to Power BI Service
- Managing and sharing reports and dashboards with the team

Collaboration and Report Sharing

- Creating Workspaces and publishing content
- Permissions and user management: Admin, Members, and Contributors
- Creating apps to share reports and dashboards
- Using Power BI Apps for enterprise-wide distribution

Automation and Scheduling

- Scheduling automatic data refreshes
- Setting up alerts and notifications in Power BI
- Creating automated workflows with Power Automate

Module 6: Power BI Mobile and Power BI Embedded

Power BI Mobile

- Viewing reports on mobile devices
- Interaction and customization for mobile use
- Creating push notifications and alerts for mobile users

Power BI Embedded

- What is Power BI Embedded, and how does it work?
- Integrating Power BI into web applications or enterprise software
- Authentication and user management in Power BI Embedded

Module 7: Best Practices and Design

Best Practices for Report Design

- Creating clear and easy-to-interpret reports
- Guidelines for color usage and element placement
- Designing responsive and easy-to-navigate reports
- Choosing the right visualizations based on data type and purpose

Data Security and Privacy Management

- Introduction to data security in Power BI
- Row-Level Security (RLS) to protect sensitive data
- Managing access policies and privacy settings in Power BI Service

Module 8: Hands-on Exercises and Final Project

Final Practical Project: Creating a Complete Report

- Students develop a full report from a provided dataset, applying:
 - Power Query for data transformation
 - DAX for calculations and measures
 - Best visualization techniques
- Publishing the report on Power BI Service
- Sharing and presenting the final project