

KOENIG SOLUTIONS • COURSE OUTLINE

Power BI Advanced Reporting and Administration (Microsoft)

Learn to design advanced reports, apply complex DAX, optimise data models and administer Power BI Service environments securely.

3 Days

DURATION

11

MODULES

75

TOPICS

5

HANDS-ON ACTIVITIES

COURSE OVERVIEW

This course covers advanced report design principles, connecting to cloud and on-premises data sources, and preparing data with Power Query before building interactive visualisations. It then addresses advanced DAX calculations, analytical methods such as forecasting and cohort analysis, data model optimisation with query folding, and report performance tuning. Finally, it covers administering Power BI Service workspaces and access control, publishing and deploying reports, sharing reports and dashboards, and monitoring security and governance across the tenant.

WHO THIS COURSE IS FOR

Data analysts, BI specialists, and report developers with basic Power BI knowledge

PREREQUISITES

- Basic understanding of Power BI concepts and interface
- Familiarity with data concepts and analytics fundamentals
- Experience working with at least one data source
- Basic knowledge of relational databases

LEARNING OBJECTIVES

- Design and develop interactive reports and dashboards for data analysis and decision-making
- Implement advanced analytical methods and DAX calculations within reports
- Administer, secure, and share reports and dashboards effectively across organizations
- Optimize data models for performance and implement best practices
- Manage Power BI Service environments, workspaces, and user access

11 Modules, 75 Topics

DAY 1 Report Design and Data Source Integration

01

Advanced Report Design Principles

TOPICS

- Report design best practices for user engagement and clarity
- Designing layouts for different report types and business scenarios
- Visual hierarchy and information architecture
- Color theory, typography, and accessibility standards
- Responsive design for different screen sizes and devices
- Performance considerations in report design
- Understanding user personas and designing for decision-making

02

Connecting to Cloud and On-Premises Data Sources

TOPICS

- Connecting to Azure SQL Database and SQL Server
- Establishing connections to cloud data sources
- Managing on-premises data gateway configurations
- Working with relational and non-relational databases
- Handling authentication and security in connections
- Troubleshooting data source connectivity issues
- Best practices for data source management

03

Data Transformation and Preparation

TOPICS

- Loading data from multiple sources into Power BI Desktop
- Using Power Query for data cleaning and transformation
- Handling missing values and data quality issues
- Merging and appending queries from various sources
- Creating calculated columns for enhanced analysis
- Staging data for optimal report performance
- Documenting transformation logic and data lineage

04

Building Interactive Visualizations

TOPICS

- Creating effective chart types for different analytical scenarios
- Configuring visuals for interactivity and drill-down capabilities
- Working with slicers, buttons, and navigation controls
- Implementing conditional formatting and visual indicators
- Creating KPI cards and gauge visualizations
- Building matrix and decomposition tree visualizations

DAY 2

Advanced Analytics and Report Optimization

05

Advanced DAX Calculations and Measures

TOPICS

- Understanding DAX syntax and context evaluation
- Creating calculated measures for complex business logic
- Time intelligence functions for period-over-period analysis
- Implementing running totals and cumulative calculations
- Working with CALCULATE for filter context manipulation
- Creating advanced ranking and classification measures
- Performance optimization through measure design

06

Advanced Analytical Methods in Reports

TOPICS

- Implementing trend analysis and forecasting visualizations
- Working with variance analysis and comparative analytics
- Creating scenario planning and what-if analysis
- Implementing cohort analysis and customer segmentation
- Advanced aggregation and roll-up calculations
- Anomaly detection and outlier visualization
- Building predictive analytics dashboards

07

Data Model Optimization and Query Folding

TOPICS

- Reviewing data model architecture and relationships
- Implementing star schema and dimensional modeling
- Optimizing relationships for better performance
- Understanding query folding and native queries
- Identifying and addressing bottlenecks in data refresh
- Implementing aggregations and dual storage modes
- Best practices for model scalability

Report Performance and Rendering

5 Hands-ons**DAY 3**

Administration, Sharing, and Service Management

09

Power BI Service Workspaces and Access Control

TOPICS

- Understanding Premium and Shared Capacity in Power BI Service
- Creating and managing workspaces
- Assigning roles and permissions (Admin, Member, Contributor, Viewer)
- Implementing row-level security for multi-tenant environments
- Managing dataset access and sharing policies
- Configuring object-level security
- Implementing column-level security for sensitive data

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Publishing and Deploying Reports

TOPICS

- Publishing reports from Desktop to Power BI Service
- Managing report versions and updates
- Configuring scheduled refreshes and real-time refreshes
- Setting up incremental refresh for large datasets
- Managing dataset owners and endorsement
- Implementing deployment pipelines for environments
- Automating report deployment workflows

11

Sharing Reports and Dashboards

TOPICS

- Sharing reports with specific users and groups
- Creating and managing distribution groups
- Using the Sharing feature for granular permissions
- Embedding reports in applications and portals
- Creating public links and guest access
- Exporting reports in various formats
- Managing subscription and alert configurations

12

Monitoring, Security, and Governance

TOPICS

- Monitoring tenant health and resource usage
- Implementing data loss prevention policies
- Auditing and tracking user activity
- Managing sensitivity labels and information protection
- Setting up administrative alerts
- Creating governance policies for report development

HANDS-ON ACTIVITIES

Practise What You Learn

#	MODULE	ACTIVITY
08	Report Performance and Rendering	■ Analyzing report performance metrics ■ Implementing slicers and filters efficiently ■ Optimizing visual rendering and page load times ■ Using bookmarks for interactive navigation ■ Creating and managing calculation groups

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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