

KOENIG SOLUTIONS · COURSE OUTLINE

Power BI Developer

Learn to build custom Power BI visuals, connectors and embedded applications, working with DAX, M and the Power BI APIs.

5 Days

40 HOURS

12

MODULES

68

TOPICS

COURSE OVERVIEW

This course is focuses upon the customization requirements in Power BI visuals and embed in organization application. It will also cover the deep concepts with respect to data model and working DAX and M.

WHO THIS COURSE IS FOR

Power BI Developers

Report Developers

BI Application Developers

Data Analysts

Power BI Administrators

PREREQUISITES

- Trainee must have experience with Power BI Desktop and Service. In addition, should be familiar with Azure Cloud, Programming Language: C#, Python, HTML, CSS, JavaScript.

LEARNING OBJECTIVES

- Design interactive reports with bookmarks and drill through
- Build DAX expressions and work with variables in a data model
- Design advanced queries using M and query parameters
- Create streaming datasets and real-time dashboards
- Develop custom data connectors with the Power Query SDK
- Program data-driven visuals using TypeScript and D3.js
- Package and distribute custom visuals built with the Visuals API
- Implement row level security using the User-Owns-Data model

12 Modules, 68 Topics

DAY 1

01

Power BI Desktop Primer

TOPICS

- Quick revisit with Working flow of Power BI
- Getting Data from different types of sources
- Designing Queries using the Query Editor Window
- Understanding importance of Data Model
- Designing Interactive Reports with Bookmarks
- Designing Reports with Drill through
- Publishing PBIX Project Files to the Power BI Service

02

Working with Data Model and DAX

TOPICS

Importing Data into a Star Schema · Dealing Many to many relationship · Building DAX Expressions · Working with Variables in DAX

03

Designing Advanced Queries Using M

TOPICS

- Understanding Query Design and the ETL Process
- Introduction to Programming with M
- Understanding Query Folding
- Designing with Query Functions
- Designing with Query Parameters
- Creating Reusable Project Template Files

DAY 2

04

Power BI Service Primer

TOPICS

Understanding Workspace · Adding users · Sharing and Accessing Workspace · Distribution of Power BI App · Exploring Power BI Admin · Creating Dashboard

05

Developing Streaming Datasets and Real-time Dashboards

TOPICS

- Introduction to Real-time Datasets
- Creating a Streaming Dataset using python Code
- Designing Dashboards with Streaming Data Tiles
- Creating a Push Dataset with Real-time Data

06

Getting Started with the Power BI Developer Tools

TOPICS

Getting Started with Visual Studio Code · Getting Started with Visual Studio 2019 · Working with Node.js and Node Package Manager · Data Gateway

DAY 3**07**

Developing Custom Data Connectors

TOPICS

- Understanding the Role of Custom Data Connectors
- Developing with the Power Query SDK
- Packaging, Deploying and Testing a Custom Data Connector
- Configuring Authentication for a Custom Data Connector
- Understanding Authentication Flows with OAuth2
- Creating a Custom Data Connector for the Microsoft Graph API

08

Programming with TypeScript and the D3.js Library

TOPICS

TypeScript Language Primer · Getting Started with D3 and SVG Graphics · Creating Data-driven Visuals · Enhancing Visuals with Scales and Axes · Using D3 Layouts · Event Handling and Transitions

09

Developing and Distributing Custom Visuals

TOPICS

- Understanding the Power BI Visuals API
- Creating Custom Visual Projects with PBIVIZ
- Understanding the Custom Visual Build Process
- Testing and Debugging a Custom Visual
- Defining Visual Capabilities and Data Mappings
- Programming D3-style Data Binding using Categorical Data
- Extending a Visual with Custom Properties
- Packaging and Distributing Custom Visuals

10

Programming the Power BI Service API

TOPICS

- Power BI Service API Overview
- Registering Applications with Azure AD
- Programming Authentication and Managing Access Tokens
- Developing Custom Applications to Publish PBIX Project Files
- Patching Data source Credentials and Refreshing Datasets

11

Developing with Power BI Embedded

TOPICS

- Overview of the Embedding Features in Power BI
- Understanding Premium Capacities versus Embedded Capacities
- Retrieving Embedding Data using the Power BI Service API
- Generating and Managing Embed Tokens
- Using the Power BI JavaScript API to Embed Reports and Dashboards
- Writing Client-side Code to Interact with an Embedded Report

Securing Datasets Using Row Level Security

TOPICS

- Understanding Row Level Security (RLS)
- Implementing RLS in a Power BI Desktop Project
- Designing for RLS with the User-Owns-Data Model
- Implementing RLS Dynamically using the USERNAME Function
- Designing for RLS with the App-Owns-Data Model
- Generating Embed Tokens Restricted by RLS Roles

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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