Power BI Developer

Number of Days: 5

Duration of Course: 40 hours

Pre-requisite: 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.

Course Objective: 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.

Contents

Course Contents

Day 1: Module 01: Power BI Desktop Primer

- 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

Day 1: Module 02: Working with Data model and DAX

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

Day 1: Module 03: Designing Advanced Queries using M

- 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: Module 04: Power BI Service Primer

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

Day 2: Module 05: Developing Streaming Datasets and Real-time Dashboards

- 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

Day 2: Module 06: Getting Started with the Power BI Developer Tools

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

Day 3: Module 07: Developing Custom Data Connectors

- 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

Day 3: Module 08: Programming with TypeScript and the D3.js Library

- 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

Day 4: Module 09: Developing and Distributing Custom Visuals

- 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

Day 4: Module 10: Programming the Power BI Service API

- 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

Day 5: Module 11: Developing with Power BI Embedded

- 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

Day 5: Module 12: Securing Datasets using Row Level Security

- 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