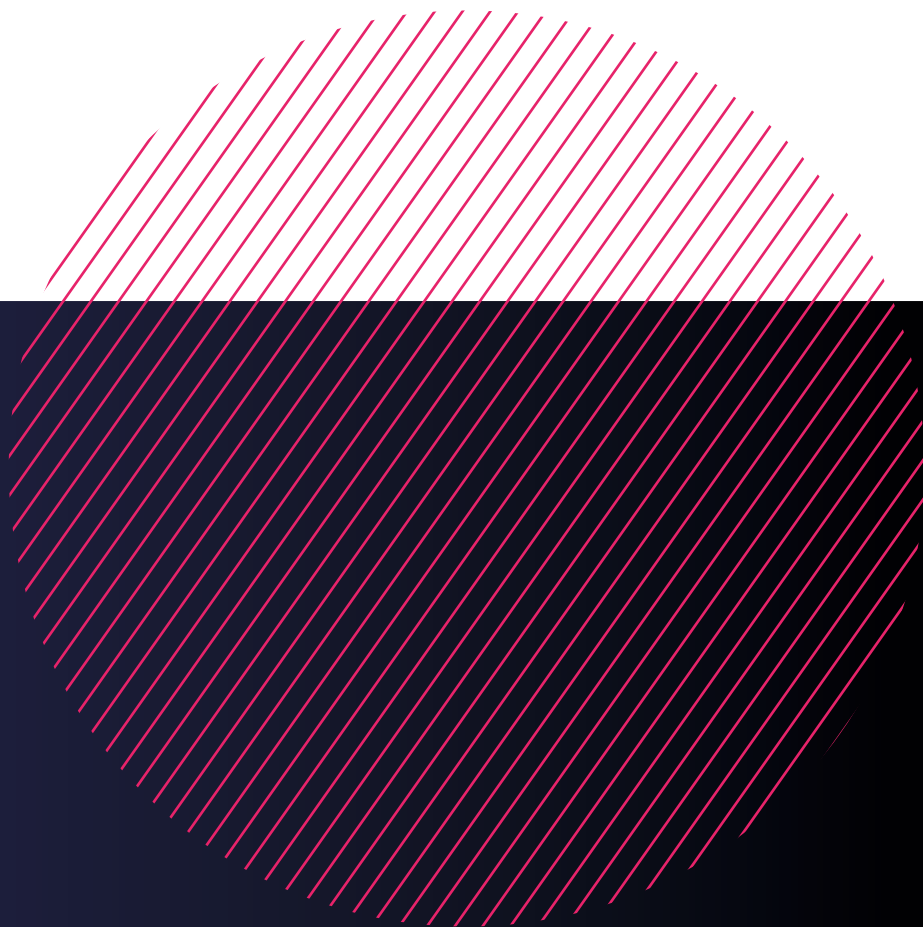
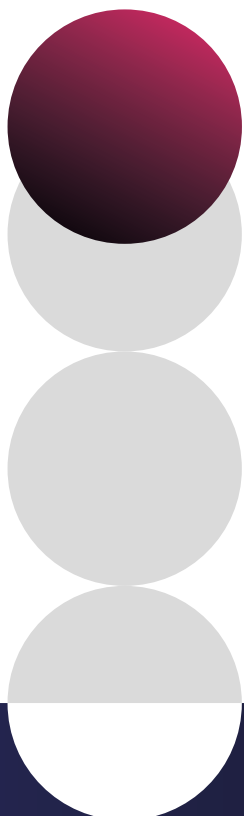


MICROSOFT POWER BI COURSE

Advanced Topics in Design and Development for reporting on Microsoft platform

MICROSOFT POWER BI COURSE



Introduction

Advanced Topics in Design and Development is a **specialised course for experienced Business Analysts and/or Data Architects**. The course takes you through a combination of demonstrations and exercises in order to **learn how to work in Azure Synapse Analytics**, as a limitless analytics service on Microsoft Azure that brings together options to ingest, explore, prepare, transform, manage, and serve data for immediate BI.

Furthermore, on this training course, you will have the opportunity to master Power BI, other advanced expressions (DAX), data modelling, performance, and design concepts. Beside Power BI, Microsoft offers Azure Synapse Analytics as an environment for effective ETL (Extract Transform and Load) and data modelling, so on this course you will also learn:

- ◇ how to build and debug data pipelines on Azure Data Factory
- ◇ how to create blob storage or SQL database
- ◇ how to optimise data structures in order to achieve good performance.

Using Report Builder, you will have the opportunity to create predefined reports in Excel and PDF formats and allow for their automatic distribution by email to end users. This course combines theoretical concepts with demonstrations and hands-on exercises to teach the comprehensive calculations and comparisons to build thriving and useful visualisations, and to adopt advanced concepts in scripting and data modeling, creating effective reporting data models that can support self-service visualisation.

COURSE PREREQUISITES

- ◇ Completed Power BI Reporting courses
- ◇ Understanding of the data modelling concepts (SQL knowledge is an advantage)
- ◇ At least 6 months of experience working with Power BI as a business analyst or data architect

COURSE OBJECTIVES AND INTENDED SKILLS

- Implement front-end solutions with advanced expressions and calculations
- Use advanced functions and visualisations to perform Pareto (ABC) and Basket analyses
- Investigating report performance and define needed changes in data modelling or visualisations
- Create predefined static reports and distribute them via email
- Setting goals and automatic tracking on Power BI service
- Transform the data model on Power BI Service (data pipeline, data flow, data sets)
- Data load and transformation in Azure Synapse Analytics
- Dedicated vs Serverless SQL in Synapse – Which should I use?!
- Optimise the data load process by applying incremental loads and create multiple QVD layers
- Discuss advanced technical concepts and solutions in real life scenarios with Power BI and Azure Synapse Analytics

THIS COURSE IS RECOMMENDED FOR THE FOLLOWING USER ROLES:

- ◇ Data Architects and Developers
- ◇ Data engineers
- ◇ Business Intelligence and Reporting Professional

* Before each course, after the initial registration of the participants, a mini-interview (15 minutes) will be organised with each of the participants, in order to determine the level of knowledge and the selection of topics that need to be covered during this training.

** The content of the course is subject to change and adjustment according to the knowledge, experience, and interest of the participants

Power BI Modules

01. ADVANCED CALCULATIONS

Objectives

1. Discuss the use of parameters and variables
2. Describe other data analysis techniques: Pareto analysis and Basket analysis
3. Learn how you can map out custom picture and integrate with reporting data

Topics

- ◇ Time related calculations
- ◇ What-if analysis
- ◇ Pareto analysis or ABC analysis
- ◇ Basket analysis
- ◇ Mapping custom pictures

02. ADVANCED OPTIONS ON POWER BI SERVICE

Objectives

1. Explore collaboration options on PBI Service
2. Learn how you can set and track progress/ achievement even when the data is not from the same application

Topics

- ◇ Mobile Reports
- ◇ Q & A
- ◇ Visualisation interaction
- ◇ Report layout - fine tuning
- ◇ Using Themes in Power BI
- ◇ Goals /Scorecard

03. REPORT CUSTOMISATION

Objectives

1. Learn how you can leverage the Fields parameter to bring additional life to your Power BI reports
2. Discuss how to top off existing visualisations, we can give report consumers the option of customising the visual and adjusting it to their own business needs

Topics

- ◇ Filed Parameters
- ◇ Personalised Visualisation
- ◇ Tooltip pages

04. REPORT PERFORMANCE

Objectives

1. Discuss where and when expressions are calculated
2. Work with external tools to optimise applications
3. Learn how to quickly identify poorly performing report elements
4. Discuss where you should perform data shaping
5. Learn how and where you can make changes that will speed up the report

Topics

- ◇ Performance Analyser
- ◇ Query flooding
- ◇ Filter usage
- ◇ Dax Studio
- ◇ Tabular editor

05. DATA MODELING ON POWER BI SERVICE

Objectives

1. Learn the difference between data set and data flow
2. Transfer ETL and modelling process from Power BI Desktop to Power Bi Service
3. Discuss options about shared, promoted, and certified datasets
4. Explore data lineage preview
5. Discuss how you can manage the lifecycle of organisational content

Topics

- ◇ Dataflow on PBI Service
- ◇ Dataset on PBI Service
- ◇ Increment data load
- ◇ Power BI deployment pipelines

06. REPORT BUILDER

Objectives

1. Discuss when it is necessary to create predefined reports
2. Explain how to use data modes (tables, measures, and dimensions) for Power BI report
3. Learn how to create reports in Report Builder

Topics

- ◇ Getting data from PBI Service
- ◇ Creating static predefined reports
- ◇ Distributing predefined reports

Azure Synapse Analytics modules

01. AZURE SYNAPSE ANALYTICS

Objectives

1. Explore Azure Synapse Analytics environment
2. Learn how to create and set up account

Topics

- ◇ Microsoft Intelligent Platform
- ◇ Resource group
- ◇ Azure Data Factory (ADF)
- ◇ Blob Storage
- ◇ Logic App

02. LOADING DATA TO SYNAPSE

Objectives

1. Explore data loading options
2. Discuss how to determine the required connectors and resources for the data loading process
3. Learn how to copy data from external locations into Blob storage, by using pipeline

Topics

- ◇ Choosing a data loading option
- ◇ Moving and transforming using a data flow
- ◇ Unsupported data loading scenarios
- ◇ Data loading best practice

03. DATA TRANSFORMATION AND PROCESSING WITH SYNAPSE

Objectives

1. Discuss options for Moving and transforming using a data flow
2. Learn how to create data flow for data transformation
3. Explore options for data modelling and test performance
4. Discuss incremental data loads

Topics

- ◇ Processing and querying very large datasets
- ◇ Data transformations – ETL process
- ◇ Adding a trigger to a data flow

04. POWER BI AND SYNAPSE

Objectives

1. Discuss seamless integration between data sources and reports
2. Learn how to combine multiple data sources to create a single Power BI dataset
3. Learn how materialised views can help in solving complex queries that are required for analytical purposes and how you can improve performance

Topics

- ◇ Combining Power BI and a serverless SQL pool
- ◇ Working on a composite model
- ◇ Using materialised views to improve performance

05. EXPLORE SQL SOLUTIONS

Objectives

1. Which Synapse pool should I use in different business scenarios?
2. Explore data Spark notebooks in order to quickly visualise your data by using built-in features

Topics

- ◇ Synapse Serverless SQL
- ◇ Synapse Analytics Dedicated SQL Pools
- ◇ Spark notebook scripting

06. DEBUGGING AND TROUBLESHOOTING

Objectives

1. Discuss the debug processes
2. Learn how to analyse the script logs and the tools that can help you in this process
3. Discuss how to track consumption and identify an appropriate Azure Synapse component

Topics

- ◇ Debugging and troubleshooting
- ◇ System and error variables
- ◇ Analyse Azure Synapse Analytics logs
- ◇ Pricing calculator

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