Modul 7: Date 30.10. – 05.11.24

Advanced Skills Reporting II

30.10.2024: Introduction to Power BI

Students master the following skills:

☐ Learn connection methods and performance issues

☐ Understand storage modes

☐ Explain data shape transformations

☐ Increase the structure of data

☐ Profile and examine the data

Agenda

Trainer: **Ahmed Youssef**

30.10.24	Topics
9.30 –10.15am	Installation of VM machine in MAC ▪ Installing vm machine to install power BI
10.15 – 10.30 am	Installing Power BI ▪ Installing power BI
10.30 – 10.45 am	Coffee Break
10.45 – 12.30 m	Getting data from different sources ▪ Identify and retrieve data from different data sources ▪ Understand the connection methods and their performance implications

	▪ Understanding storage modes
12.30 – 1.30 pm	**Lunch Break**
1.30 – 3.00 pm	**Clean, Transform and Load the Data** ▪ Apply data shape transformations ▪ Enhance the structure of the data ▪ Profile and examine the data ▪ Practical exercises in creating reports
3.00 – 3.45 pm	**Case study 1: Using different sources and structuring data** ▪ Practical exercises in structuring data
3.45 – 4.00 pm	**Coffee Break**
4.00 – 5 pm	**General discussion about practical exercises** ▪ Going through the process of practical exercises
5 – 5.30 pm	**Feedback** ▪ Self-assessment of the achievement of the learning objectives. ▪ Live evaluation: going through the affected areas

01.11.2024: Data Models and Model calculations in DAX

Students master the following skills:

☐ Understand about relationships and their cardinality

☐ Filter propagation

☐ Explain Model Calculations using DAX

☐ Comprehending dynamic measures

☐ Use of CALCULATE Function & Modifiers

Agenda

Trainer: *Ahmed Youssef*

01.11.2024	Topics
9.30 – 10.00 am	**Design a data model** • Define relationships and their cardinality • Implement Dimensions and Hierarchies • Understanding filter propagation
10.00 – 10.30 am	**Create Model Calculations using DAX** • Understand DAX functions • Creating a calculated Data table using DAX • Use DAX for formulas and expressions • Create calculated tables and measures • Build dynamic measures
10.30 – 10.45 am	**Coffee Break**
10.45 – 12.30 m	**CALCULATE Function & Modifiers** • Use the Calculate function • Use filter modifier functions within Calculate • Examine filter context
12.30 – 1.30 pm	**Lunch Break**

1.30– 3.30 pm	**Case Study 1: Applying DAX** ▪ Practical exercises in DAX
3.00 – 3.45 pm	**Case Study 2: Using Data Model and calculate function** ▪ Practical exercises in calculate function
3.45 – 4.00 pm	**Coffee Break**
4.00 – 5 pm	**General discussion about practical exercises** ▪ Going through the process of practical exercises
5 – 5.30 pm	**Feedback** ▪ Self-assessment of the achievement of the learning objectives. ▪ Live evaluation: going through the affected areas

04.11.2024: Time Intelligence DAX Patterns and Report Design

Students master the following skills:

☐ Use of time intelligence DAX patterns

☐ Explain the Advanced Report Design Principles

☐ Explain the bestpractices and tooltips

☐ Understanding the basics of RLS

☐ Explain the use of Static RLS and Dynamic RLS

Agenda

Trainer: *Ahmed Youssef*

04.11.2024	Topics
9.30 – 10.00 am	**Understanding DAX function summary** ▪ Understand the use of DAX functions
10.00 – 10.30 am	**Time Intelligence DAX Patterns** ▪ Define time intelligence ▪ Use time intelligence functions ▪ Understand common time intelligence patterns
10.30 – 10.45 am	**Coffee Break**
10.45 – 12.30 pm	**Advanced Report Design Principles** ▪ Understand the importance of data storytelling ▪ Plan report layout, user interface and flow ▪ Utilize best practices for custom report navigation, report tooltips and drill-through options

12.30 – 1.30 pm	Lunch Break
1.30– 3.00 pm	Row-Level Security ▪ Define RLS ▪ Implement Static RLS ▪ Implement Dynamic RLS
3.00 – 4.45 pm	Case Study 1: Use of time intelligence DAX patterns ▪ Understand the use of time intelligence DAX ▪ Practical exercises in time intelligence DAX
3.45 – 4.00 pm	Coffee Break
4.00 – 5 pm	General discussion about practical exercises ▪ Going through the process of practical exercises
5 – 5.30 pm	Feedback ▪ Self-assessment of the achievement of the learning objectives ▪ Live evaluation: going through the affected areas

05.11.2024: APIs (Streamlit, Flask, FastAPI)
Learning goals

Students master the following skills:

☐ Understanding basics of API development

☐ Building simple APIs with Flask

☐ Creating advanced APIs with FastAPI

☐ Building interactive web applications with Streamlit

☐ Deploying and testing APIs

Agenda

Trainer: Ahmed Youssef

05.11.2024	Topics
9.30 – 10.30 am	▪ What is an API? Importance and use cases
10.30 – 10.45 am	Coffee Break
13.30 – 12.30 m	▪ Flask basics. Creating a simple API ▪ Creating basic HTTP requests with Flask
12.30 – 1.30 pm	Lunch Break

1.30 – 2.30 pm	• FastAPI basics. Creating and managing APIs with FastAPI • Async programming with fast api
2.30 – 3.30 pm	• Streamlit basics Building interactive web applications • Comparison between different APIs
3.30 – 3.45 pm	Coffee Break
3.45 – 5 pm	• Deployment strategies. Testing APIs for performance and reliability • API development best practices. Security and maintenance
5 – 5.30 pm	Feedback • Self-assessment of the achievement of the learning objectives. • Live evaluation: going through the affected areas

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