SAP TechEd

Explore SAP Datasphere from A to Z
DA183

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Agenda

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02

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04

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01 What is this exercise about?

The Business Scenario

Retail transactions sample data from a number of outlet stores located in the United States. The transaction details include the store, the sold product, the sales manager, and measures on revenue, cost, discount, and profit.

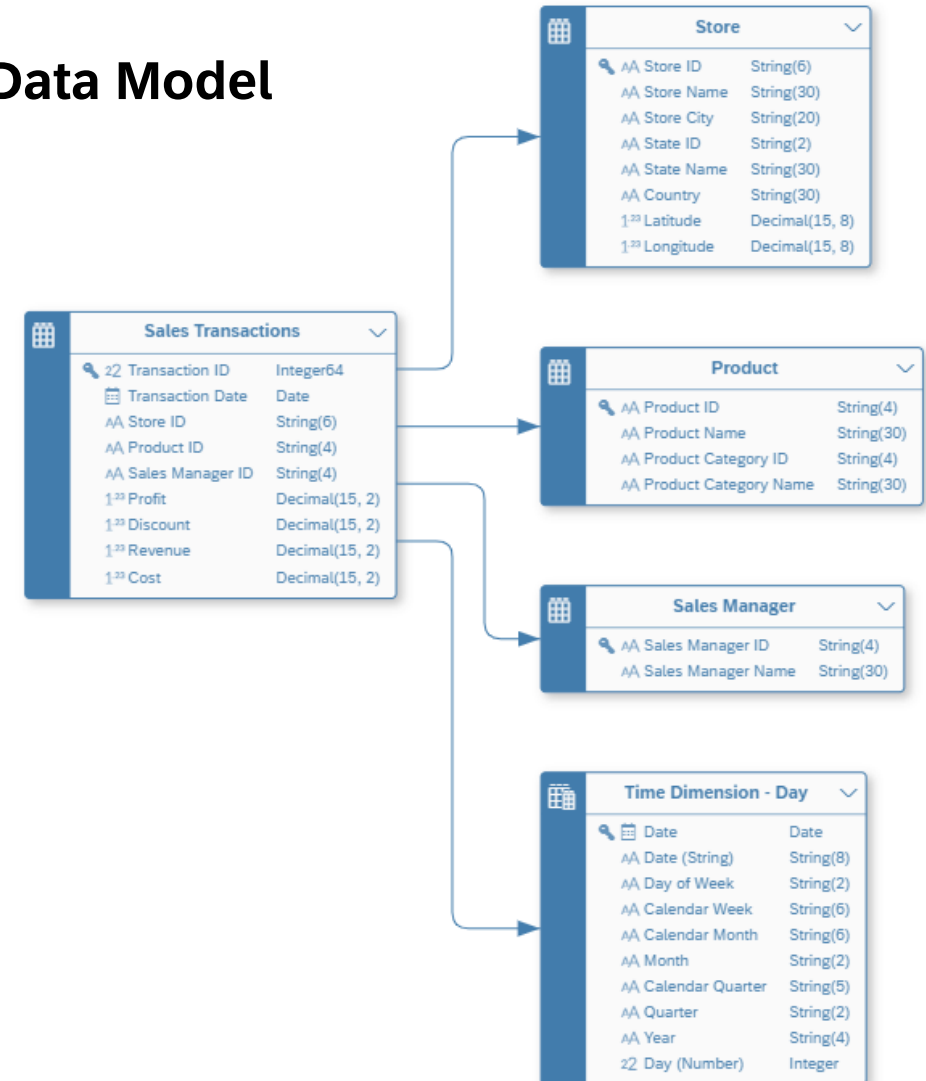The sales department is looking for a few analytics they need:
- Year-over-Year Sales Comparison
- Sales Per Region
- Best Sales Representative

The exercises will walk you through the steps using SAP Datasphere and SAP Analytics Cloud to answer those open questions.

The following tables are being used and the data is provided on GitHub:

Table Name	Description	Model Type
Sales Transactions	Daily retail transactions per store	Relational Dataset
Store	Details per Store Outlet	Dimension
Sales Manager	Details on all Sales Manager	Dimension
Product	Details on the products being sold	Dimension

The Data Model

Store

Store ID	String(6)
Store Name	String(30)
Store City	String(20)
State ID	String(2)
State Name	String(30)
Country	String(30)
Latitude	Decimal(15, 8)
Longitude	Decimal(15, 8)

Sales Transactions

Transaction ID	Integer64
Transaction Date	Date
Store ID	String(6)
Product ID	String(4)
Sales Manager ID	String(4)
Profit	Decimal(15, 2)
Discount	Decimal(15, 2)
Revenue	Decimal(15, 2)
Cost	Decimal(15, 2)

Product

Product ID	String(4)
Product Name	String(30)
Product Category ID	String(4)
Product Category Name	String(30)

Sales Manager

Sales Manager ID	String(4)
Sales Manager Name	String(30)

Time Dimension - Day

Date	Date
Date (String)	String(8)
Day of Week	String(2)
Calendar Week	String(6)
Calendar Month	String(6)
Month	String(2)
Calendar Quarter	String(5)
Quarter	String(2)
Year	String(4)
Day (Number)	Integer

What are the requirements?

Requirements

❑ Google Chrome Browser

❑ Access to the GitHub Repository for the script & files:
https://github.com/SAP-samples/teched2023-DA183v

❑ Access to any SAP Datasphere system.
In case you do not have access you can use a
Guided Experience Trial

❑ You will also need a set of files for these exercises.
Download the ZIP-file from the GitHub site:
➡ DA183_Resources.zip

02 Where to find the script & data files?

The GitHub Repository is located: https://github.com/SAP-samples/teched2023-DA183v

➡ **Download the ZIP File**

Requirements

- Google Chrome Browser
- Access to this GitHub repository
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- You will also need a set of files for these exercises
  Download the ZIP-file from the GitHub site: ➡ DA183_Resources.zip

⚠ Once downloaded to your local machine, please unzip the file into a separate folder.
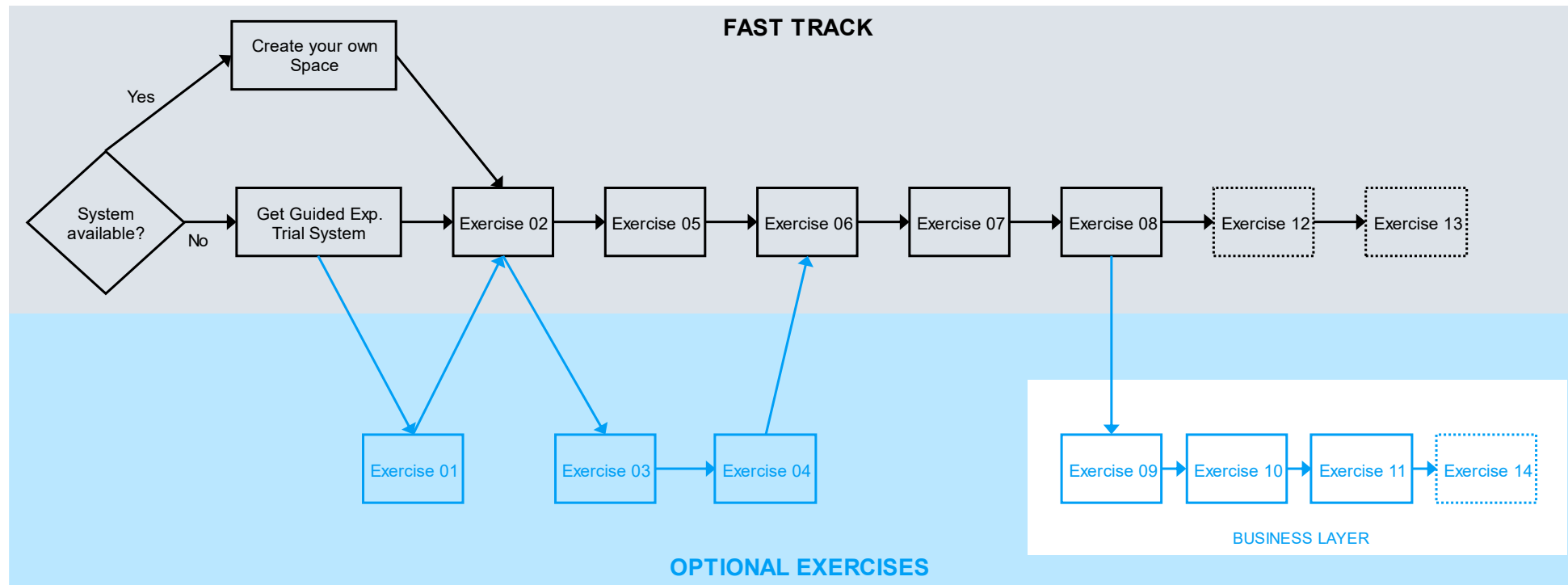⚠ You will need it for the exercises. So, please remember the file location of the unzipped files!

Name	Date modified	Type	Size
Dimension Product.csv	12.08.2021 19:28	Microsoft Excel C...	1 KB
Dimension Sales Manager.csv	12.08.2021 19:28	Microsoft Excel C...	1 KB
Dimension Store.csv	21.10.2021 23:28	Microsoft Excel C...	16 KB
Sales Transactions.csv	21.09.2022 18:47	Microsoft Excel C...	6.352 KB
Sales_ER_Model.json	22.09.2022 10:41	JSON File	8 KB

03 Exercises: Fast Track and Optional Exercises

We structured the overall exercise the following way:

- **Fast Track** for anyone eager to finish early and enjoy exploring the system on your own

- **Optional Exercises** if you want to learn more about the solution especially how to create tables, ER Models, and Business Layer Models

03 Part 1 – Getting Started

In this area you get an **overview about the business scenario & the data model** used throughout the exercises.

We also give you guidance **how to get your Guided Experience Trial system** in case you do not have access to a SAP Datasphere system already.

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- Exercise 01: First Log On
- Exercise 02: Get to know your own Space (Fast Track)

3. SAP Datasphere – Data Builder

- Exercise 03: Prepare Your Data
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- Exercise 05: Importing Tables (Fast Track)
- Exercise 06: Uploading Data (Fast Track)
- Exercise 07: Creating the Dimension (Fast Track)
- Exercise 08: Creating the View (Fast Track)

4. SAP Datasphere – Business Layer

- Exercises 09: Business Layer - Dimension
- Exercises 10: Business Layer – Fact
- Exercises 11: Business Layer – Consumption Model

5. SAP Analytics Cloud

- Exercise 12: Top 10 Revenue Generating Products (Fast Track)
  Requires Exercise 08 to be completed
- Exercise 13: Revenue by Geography (Fast Track)
  Requires Exercise 08 to be completed
- Exercise 14: Best Salesperson
  Requires Exercise 11 to be completed

03 Part 2 – SAP Datasphere

In this section you get an overview about **your first log on** and **how you navigate in the system** in case you have never used SAP Datasphere before.

The **first mandatory exercise is** *#02: Get to know your own Space* where you learn more about Spaces and create the Time Dimension required for your modeling in later parts of the exercise.

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03 Part 3 – SAP Datasphere Data Builder

This is the **core part of the modeling exercise**.

You can manually create the tables and the entity relationship model, or use the **Fast Track** by importing the tables provided with the CSN file called *Sales_ER_Model.json*.

Then you populate the tables with data by **uploading data files** using the CSV files from the ZIP file. Based on these tables you then **create a dimension, a fact view** as well as an **analytic model**.

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03 What is the detour about?

Some exercises have a **detour** before the actual exercise content.

The detour gives you more context and details about the different objects used in an exercise.

For example in exercise 03 we briefly explain the different model types in the Data Builder.

Exercise 03 - Data Layer - Prepare Your Data

📝 **Note:** This is an Optional Exercise

📗 **Detour: SAP Datasphere - Model Types**

Before we are going to start with the first exercise in creating a table and creating the first model, let us have a look at the different asset types that you can create in the Data Builder of SAP Datasphere.

So, let's now look at the different asset types:

- **Table:** Create a table to contain data by defining its column structure. You can configure each field of the table, and already define semantics and associations. You have the ability to upload data to this table later on.

- **Graphical View:** In the Graphical View you can leverage Tables and Views to prepare data and the create new Views using a graphical no-code/low-code editor. Join datasets as appropriate, add other operators to remove or create columns and filter or aggregate data, and specify measures and other aspects of your output structure in the output node.

- **SQL View:** In the SQL View you can leverage Tables and Views to the create new Views by using SQL or SQL-script (table function) view in a powerful SQL editor.
  Not used in the DA183 exercises.

- **Entity Relationship Model:** Here you define the relationships between Tables or Views, which then are being leveraged when you create a new View based on the Tables or Views.

- **Analytic Model:** Analytic models are the analytical foundation for making data ready for consumption in SAP Analytics Cloud. They allow you to create and define multi-dimensional models to provide data for analytical purposes to answer different business questions.

- **Data Flow:** You define Data Flows to use data transformations and leverage the option to load data from a source system and persist it in SAP Datasphere.
  Not used in the DA183 exercises.

- **Replication Flow:** Create a replication flow if you want to copy multiple data assets from the same source to the same target in a fast and easy way and do not require complex projections.
  Not used in the DA183 exercises.

- **Intelligent Lookup:** Create an intelligent lookup to merge data from two entities even if there are problems joining them.
  Not used in the DA183 exercises.

- **Task Chain:** Create a task chain that groups multiple tasks, which can be run in series manually or through a schedule.
  Not used in the DA183 exercises.

End of Detour

Start of the exercise

In this section we will start creating the tables for our sample models and then upload the raw data to those tables in Excercise 5.

We will start to create the tables in SAP Datasphere.

1. Log On to your SAP Datasphere tenant.

2. Select the menu option Data Builder on the left-hand side.

3. In case you are being asked, select your Space (e.g. GE12345)

4. Select the option New Table

03 Part 4 – SAP Datasphere Business Layer

The exercises in the Business Layer are <u>optional</u>.

However, if you are interested you will learn how to create a dimension, a fact, and a consumption model.

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03 Part 5 – SAP Analytics Cloud

In this part you will **create simple stories in SAP Analytics Cloud** to learn how to visualize your data based on a live connection to SAP Datasphere.

- The first story shows a year over year comparison

- The second story shows the revenue by geography.

- <u>Both require the previous exercises to be completed up to exercise 08</u>.

- The final story about the best salesperson <u>can only be completed if you finished the exercise 09 to 11</u>.

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04 Your Space GE12345

When using a guided experience trial system for this hands-on training, a predefined Space is already there for you named: **GE12345**

The number will be different for everyone!

In case you use your own system, we recommend you use a new empty Space.

GE12345

GE12345

✓ **Healthy**

Deployed on Nov 01, 2023 09:23

Storage:

1.1 MB

Memory:

1.6 MB

SAP Datasphere

3   3   10   Edit

Thank you

Contact information:

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