Microsoft Fabric in a Day Lab Manual – Lab 7

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# Lab 7: Data Analysis - Building Your Semantic Model and Reports in Fabric

## Introduction:

Now that the Data Warehouse has been loaded, you’re ready to design the Semantic Model. The Semantic Model is the business representation of your data. It’s where relationships between tables and calculations are created.

## Part 1: Designing the Semantic Model

1. Navigate to Power BI experience of your Fabric Workspace and click the Fabric Warehouse that was created in Lab 6

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1. Open the “Model” tab from the bottom of the Warehouse UI to launch the semantic modeling experience

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1. You will see a list of all tables available in the data warehouse

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1. Click the “Default dataset objects” tab from the bottom of the model window

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1. Build a relationship between dim\_salesperson and fact\_sales\_orders by click + dragging the SalespersonPersonId field from fact\_sales\_orders to the PersonId field on dim\_salesperson and releasing

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1. In the New Relationship tab, confirm fact\_sales\_orders as Table 1, Cardinality as many-to-one, and Cross-Filter Direction as Single and click Ok

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1. There will now be a relationship between the dim\_salesperson and the fact\_sales\_orders table visible in the modeling UI

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1. Repeat steps 5-7 for the remaining dimension tables using the following mapping
   1. fact\_sales\_orders.DeliveryCityId -> dim\_location.CityID
   2. fact\_sales\_orders.CustomerId -> dim\_customer.CustomerID
   3. fact\_sales\_orders.PackageTypeId -> dim\_package.PackageTypeId
   4. fact\_sales\_orders.StockItemId -> dim\_stock\_items.StockItemID
2. Pay close attention to the Cross-Filter Direction of each join

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1. Click the fact\_sales\_orders table from the Explorer and click “New Measure” from the top ribbon

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1. The expression bar for creating a measure will now appear at the top

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1. Add the following to the expression box:
   1. Extended Amount = SUMX(fact\_sales\_orders, fact\_sales\_orders[Quantity] \* fact\_sales\_orders[UnitPrice])

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1. You will now see the Extended Amount measure under the Explorer

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1. You are now done with Part 1 of Lab 7

## Part 2: Visualizing Your Data via Custom Power BI Report

Once the semantic model has been defined you are ready to begin visualizing the data using Power BI. What makes Fabric unique is that all of the modeling and reporting activities can be done through the browser. That said, you can still leverage Power BI desktop if needed.

1. Navigate to Power BI experience of your Fabric Workspace and click the Semantic Model of the Fabric Warehouse that was created in Lab 6

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1. From the navigate tiles, click the dropdown for “Explore This Data” and click “Create a blank report”

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1. Notice that the report development experience resembles the experience of Power BI report creation in the web today
   1. Data blade contains all available objects from our semantic model
   2. Visualization blade allows you to select the visualization type to be used
   3. Filters blade allows you to visual, page, and report level filters

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1. Click the down-carrot next to dim\_customer from the Data blade and check the box next to CustomerName to create the first visualization on your canvas

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1. Click on the table that was created to select it

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1. Repeat step 4 for the tables and fields listed below
   1. dim\_customer.CustomerName
   2. dim\_location.CityName
   3. dim\_location.StateProvinceName
   4. dim\_package.PackageTypeName
   5. dim\_stock\_items.StockItemName
   6. fact\_sales\_orders.OrderId

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1. Resize the table and move it to the bottom of the canvas

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1. Create a new Clustered Column Chart visual to the canvas by clicking the icon from the visualization blade

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1. From the Data blade, add dim\_salesperson.FullName and the measure that was created in Part 1 (fact\_sales\_orders Extended Amount) to the chart

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1. Adjust the visualization to the left of the canvas

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1. Add a Card visualization to the canvas and add the OrderId field to it

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1. Click Save in the top right corner to save your report

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1. Name your report “FIAD Manual Report {your\_intials}” and click save

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1. You are now done with Part 2 of Lab 7

## Part 3: Visualizing Your Data via Auto-Generated Power BI Report

1. Navigate to Power BI experience of your Fabric Workspace and click the Semantic Model of the Fabric Warehouse that was created in Lab 6

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1. From the navigate tiles, click the dropdown for “Explore This Data” and click “Auto-create a report”

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1. Fabric will begin creating a Power BI report based on the data points in your Semantic Model

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1. If desired, you can edit this report and tailor it to specific scenarios. Otherwise, click Save from the top ribbon

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1. Name the report “FIAD Auto-Created Report {your\_initials}” and click Save

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1. Navigate back to your Workspace Landing page to view all artifacts from the course

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1. You are now done with Lab 7