



Azure Data Engineering

Capstone Project Synopsis

ETL pipelines to feed data to Data Marts to drive Claim Operations

Industry Background :

Car Insurance is one of the types of insurance which takes a lion's share of businesses of insurance companies in the US. Right from the purchase of a new car to the sale and resale of used cars till the point of salvaging the vehicle, insurance companies give end to end coverage for any damage caused to the vehicle. This along with add-on packages covering injury and property insurance has made Car Insurance once of the most sought after and hassle free insurances to opt for.

Problem Statement :

Second Cars is one of the leading used car sales giants with presence in the North America and Europe region. It has presence across 120 markets and primarily deals with buying and selling of used cars providing full end services of vehicle inspection, certification, insurance and delivery. With an increase in customers and expansion in geography, Second Cars is got this requirement of tracking their global sales at a single place.

The Customer Sales Team at Second Cars is tasked with the responsibility of ensuring that the sales experience of the customers is fast and hassle free. Any factor leading to a bad experience for a customer is taken very seriously and steps are taken to fix the same.





The Sales Team prepares a number of reports to be shared with the VP, Sales Operations on a week-on-week basis. Some of the metrics to be covered would be :

- #Cars Sold
- Sales Value
- Inventory Value
- %Unsold cars
- %Sales without policy
- Avg. Turnaround Time

Source Data stores :

1. Customer and Order delivery details on **Azure SQL Server**
2. Product features and pricing details on **Azure Cosmos DB**
3. Customer Reviews data on **ADLS Gen2**

Destination Data Store :

1. **Azure SQL Data Warehouse**

ETL Tools :

1. **Azure Data Factory**
2. **Azure Databricks**

Tasks :

- Create a **Data Model** keeping in mind the requirements of the Business Analytics Team in Azure SQL DW
- Implement an ETL using **Azure Data Factory** to clean, transform and move the data from Azure SQL Server and **ADLS Gen2** to Azure SQL DW
- Implement an ETL using **Azure Databricks** to clean, transform and move the data from **Azure Cosmos DB** to Azure SQL DW

Project Deliverables :

- Architecture diagram of the ETL design
- Data model in Azure SQL DW
- Successful ETL in ADF and Databricks with end data loaded in Azure SQL DW





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