# End-to-End SSIS ETL Scenario with AdventureWorks2014

## Business story

AdventureWorks needs a daily analytics pipeline that:  
- Ingests orders, customers, products from multiple sources (SQL, Excel, XML, files).  
- Validates and standardizes the data.  
- Detects new/changed dimension members.  
- Loads Fact tables and Gold summaries.  
- Exports CSVs for downstream apps.  
- Zips daily exports and sends email notifications.  
- Maintains audit & error logs.

## Source system (AdventureWorks2014)

Use these tables:  
- Sales.SalesOrderHeader, Sales.SalesOrderDetail  
- Sales.Customer, Person.Person, Sales.Store  
- Production.Product, Production.ProductSubcategory, Production.ProductCategory  
- Person.Address, Person.StateProvince, Person.CountryRegion

## Target (DW) schema

Staging, Dimensions, Facts, Audit, Reference, Ops schemas.  
Includes tables for staging data, DimCustomer, DimProduct, FactSales, ETL\_RunLog, and BadRows.

## Assignment Pack (Questions ➜ Answers)

### Import Excel → Staging

Question: Monthly offline orders arrive as Excel files. Load to staging and reject invalid rows.

Answer: Use Excel Source, Conditional Split, OLE DB Destination, and Flat File Destination for rejects.

### Drop & Recreate Excel Sheet

Question: Produce DailyRegionTotals.xlsx, overwrite if exists.

Answer: Use Execute SQL Task to drop, Data Flow to recreate sheet with data.

### Import XML → Staging

Question: Vendors post Products.xml. Load to staging, reject malformed entries.

Answer: Use XML Source, Data Conversion, Conditional Split.

### Copy between SQL Instances

Question: Copy Customers nightly from ProdServer to ReportServer.

Answer: Use Lookup to detect new or changed customers, insert or update accordingly.