

Workshop



- Microsoft Power BI
- AdventureWorksLT DB
- Microsoft Azure
 - Azure SQL



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Sample Databases

AdventureWorks

AdventureWorks201x & AdventureWorksDW201x

- AdventureWorks sells bikes & related products (parts & accessories) through two sales channels:
 - direct to customers via internet
 - indirectly through resellers (or stores or bike shops)
- Business transactions tracked are sales, purchases & inventory
- These transactions may have some of the following dimensions:
 - Products sold or purchased - Product Hierarchy: Products, Product Subcategories & Product Categories
 - Address for customer, employees, stores & others - Geography Hierarchy: City, State, Country
 - Resellers (or Store or Bike Shops)
 - Customers (Individuals buying over the internet)
 - Ship, Order, Due, Purchase & other Dates - Date Hierarchy - Year, Quarter, Month, Day
 - Employees: including salespeople
 - Vendors: product and part suppliers
 - Sales promotions



AdventureWorks201x & AdventureWorksDW201x

- AdventureWorks201x
 - OLTP (on-line transactional processing) database
 - **System of record (SOR)** for AdventureWorks company
 - Normalized ER Model
- AdventureWorksDW201x
 - **Data Warehouse (DW)**
 - Data source is AdventureWorks201x (sort of...)
 - Dimensional data model
- AdventureWorks201x
 - Sales
 - Inventory
 - Purchasing Sales
- AdventureWorksDW201x
 - Internet Sales
 - Reseller Sales
 - Inventory

AdventureWorks201x & AdventureWorksDW201x

- Microsoft's documentation has not been kept up-to-date (similar to most IT's BI & DW documentation BTW) but is useful when understanding the overall model and business rules:
 - [Schemas in AdventureWorks](#)
 - [AdventureWorks Data Dictionary](#)
 - [Adventure Works Cycles Business Scenarios](#)
- Additional documentation
 - [AdventureWorks – Data Dictionary](#) – by Dataedo (sells data dictionary software & ERD)
 - [AdventureWorks \(printer friendly\).pdf](#) - pdf of above
- AdventureWorks Data Model (both old)
 - [AdventureWorks OLTP Database Diagram](#)
 - [AdventureWorks DW Schema](#)

Sample Databases

AdventureWorksLT

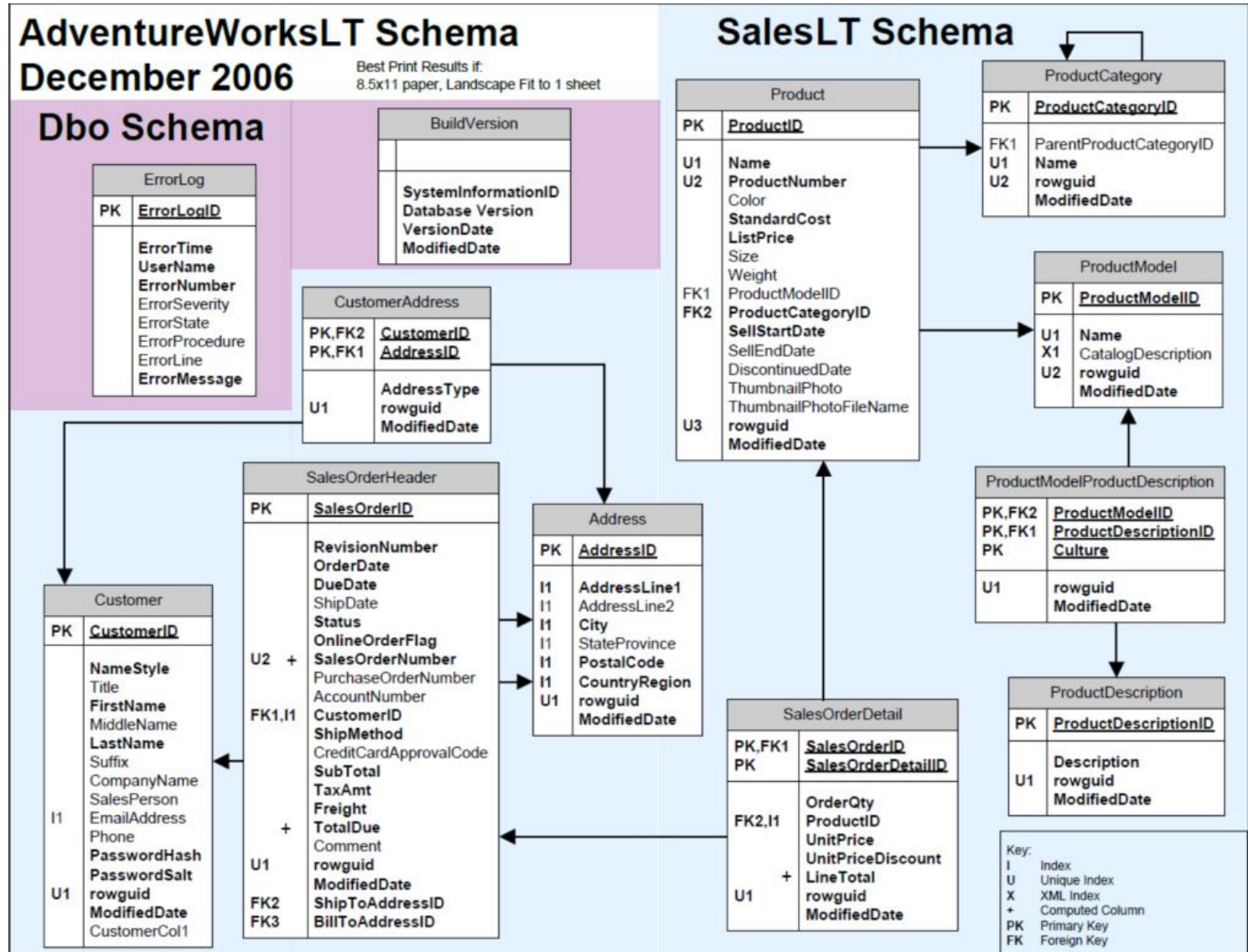
Sample Databases

- AdventureWorksLT is a sample database created by Microsoft and available for SQL Server and Azure SQL
- AdventureWorksLT is a subset of the AdventureWorks database sample with is an OLTP (on-line transaction processing) database in 3NF.
 - Not a random sample as all orders are from same day
 - Total sales \$ from SalesOrderHeader & SalesOrderDetail does not match!

AdventureWorksLT: Tables and Row Counts

table name	row count
Address	450
Customer	847
CustomerAddress	417
Product	295
ProductCategory	41
ProductDescription	762
ProductModel	128
ProductModelProductDescription	762
SalesOrderDetail	542
SalesOrderHeader	32

AdventureWorksLT Data Model



Three business entities involved:

- Sales Order (sales transaction)
- Product (what was sold)
- Customer (who purchased products)

Entity-Relationship (ER) Model

- Transactions
 - SalesOrderHeader
 - SalesOrderDetail
- What is sold:
 - Products
- Product Hierarchy: (3 levels)
 - Product
 - Product Category (2 levels)
- Who sold to:
 - Customer
 - People
 - Company – Resells the bikes
- Where:
 - Address (Address Line, City, CountryRegion)

AdventureWorksLT Data Model (Dataedo)

Customer

SalesLT.Customer
CustomerID
NameStyle
Title
FirstName
MiddleName
LastName
Suffix
CompanyName
SalesPerson
EmailAddress
Phone
PasswordHash
PasswordSalt
rowguid
ModifiedDate

SalesLT.CustomerAddress
CustomerID
AddressID
AddressType
rowguid
ModifiedDate

SalesLT.Address
AddressID
AddressLine1
AddressLine2
City
StateProvince
CountryRegion
PostalCode
rowguid
ModifiedDate

Sales Order

SalesLT.SalesOrderHeader
SalesOrderID
RevisionNumber
OrderDate
DueDate
ShipDate
Status
OnlineOrderFlag
SalesOrderNumber
PurchaseOrderNumber
AccountNumber
CustomerID
ShipToAddressID
BillToAddressID
ShipMethod
CreditCardApprovalCode
SubTotal
TaxAmt
Freight
TotalDue
Comment
rowguid
ModifiedDate

SalesLT.SalesOrderDetail
SalesOrderID
SalesOrderDetailID
OrderQty
ProductID
UnitPrice
UnitPriceDiscount
LineTotal
rowguid
ModifiedDate

Product

SalesLT.ProductCategory
ProductCategoryID
ParentProductCategoryID
Name
rowguid
ModifiedDate

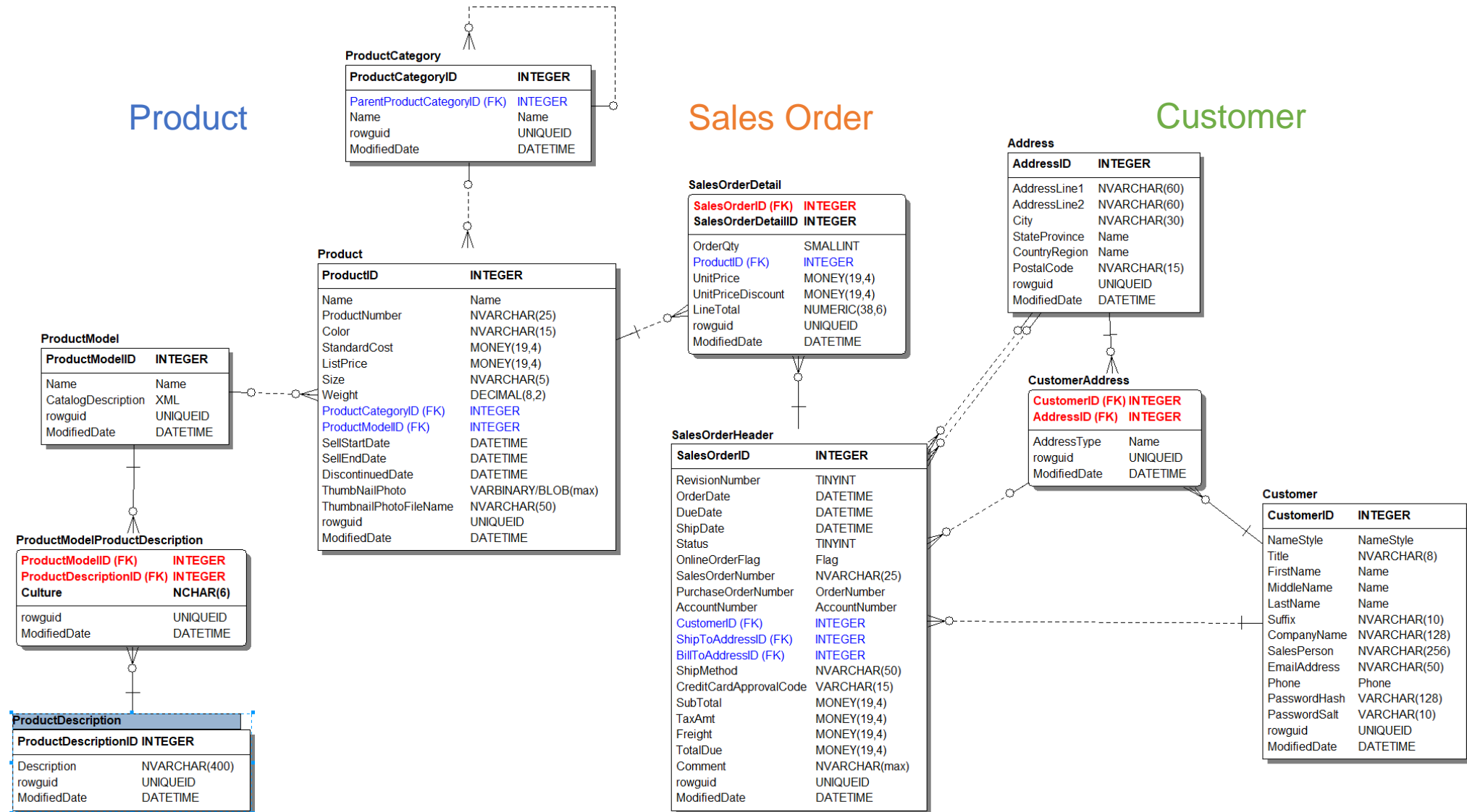
SalesLT.Product
ProductID
Name
ProductNumber
Color
StandardCost
ListPrice
Size
Weight
ProductCategoryID
ProductModelID
SellStartDate
SellEndDate
DiscontinuedDate
ThumbnailPhoto
ThumbnailPhotoFileName
rowguid
ModifiedDate

SalesLT.ProductDescription
ProductDescriptionID
Description
rowguid
ModifiedDate

SalesLT.ProductModelProductDescription
ProductModelID
ProductDescriptionID
Culture
rowguid
ModifiedDate

SalesLT.ProductModel
ProductModelID
Name
CatalogDescription
rowguid
ModifiedDate

AdventureWorksLT Data Model (ER/Studio)

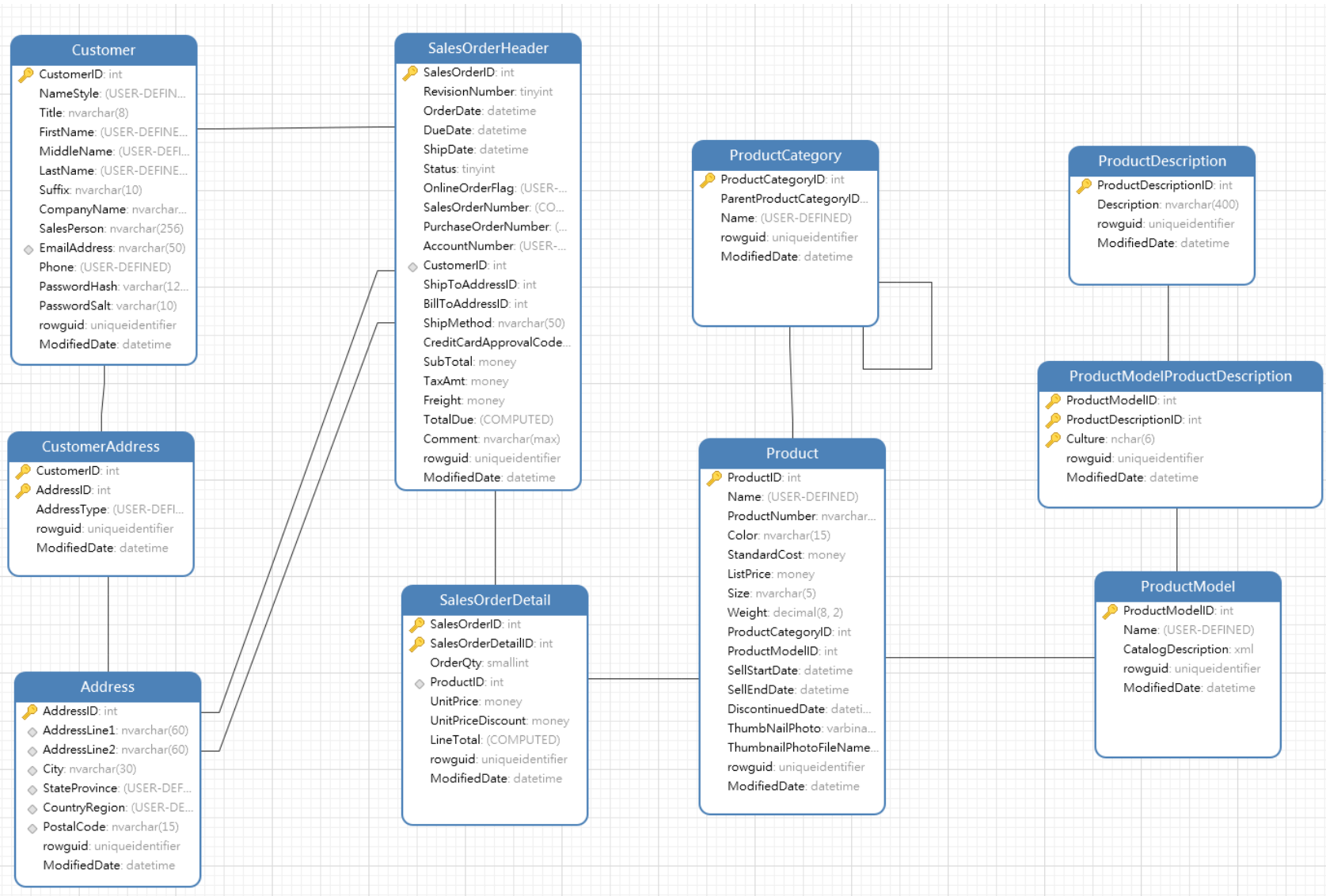


AdventureWorksLT Data Model (Navicat)

Customer

Sales Order

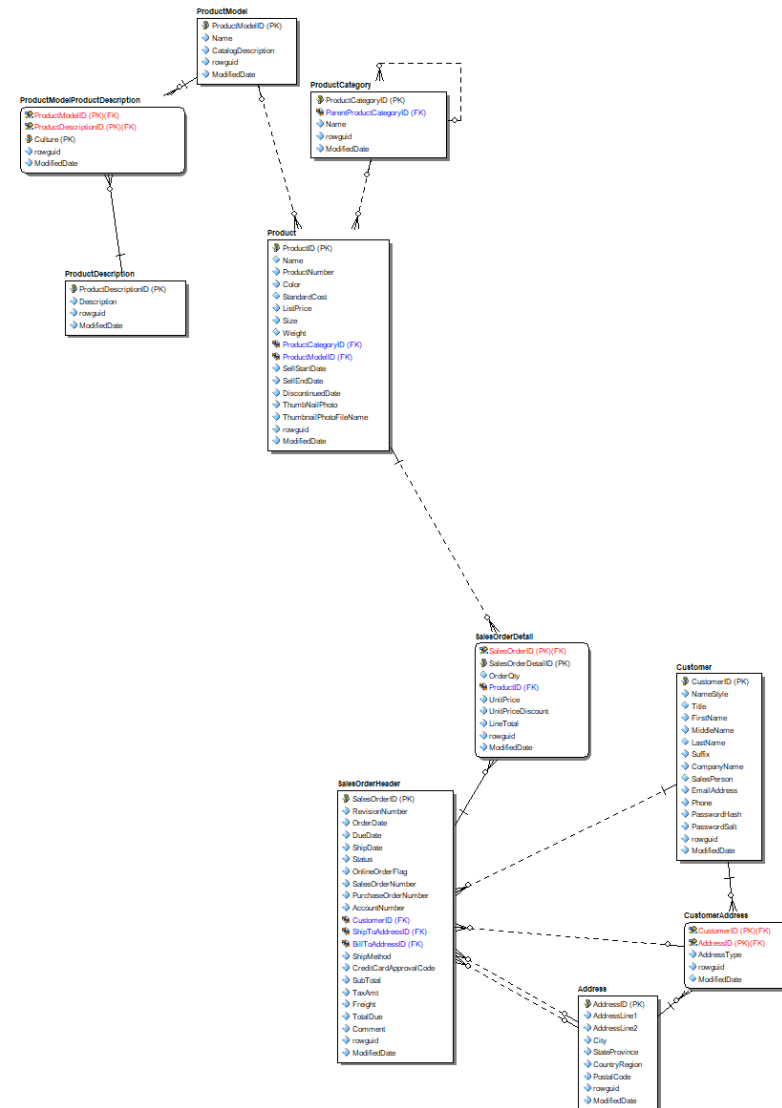
Product



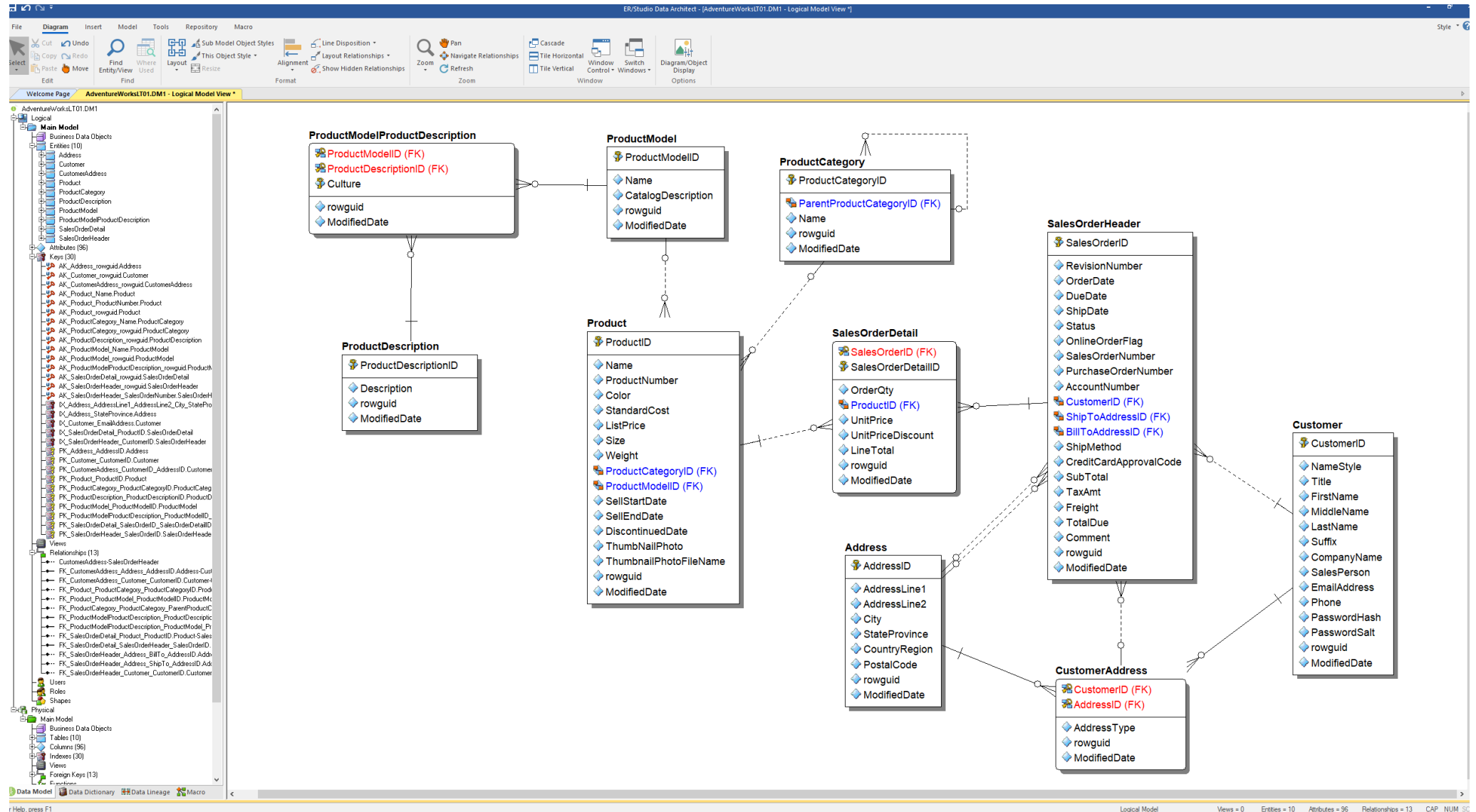
ER/Studio

AdventureWorksLT

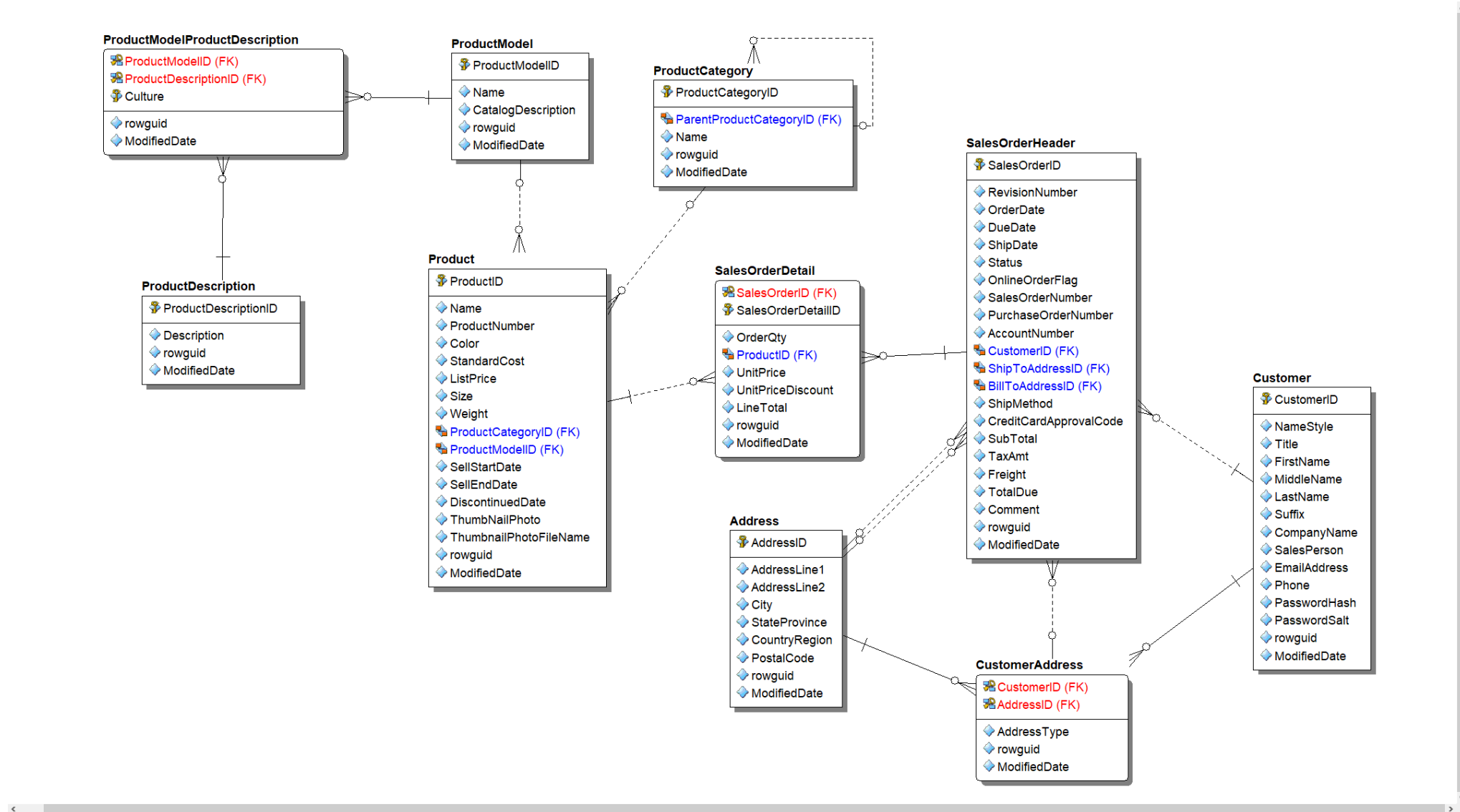
AdventureWorksLT



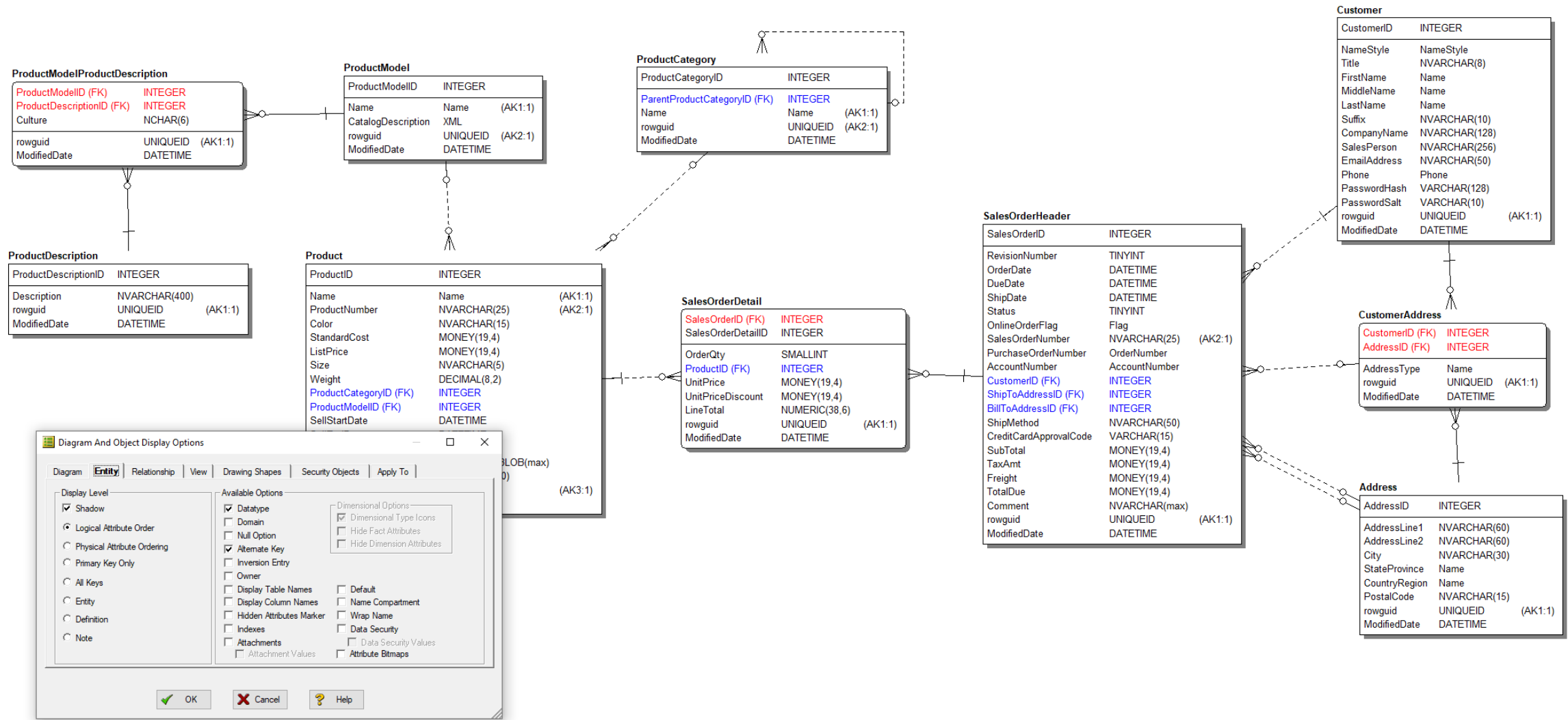
AdventureWorksLT



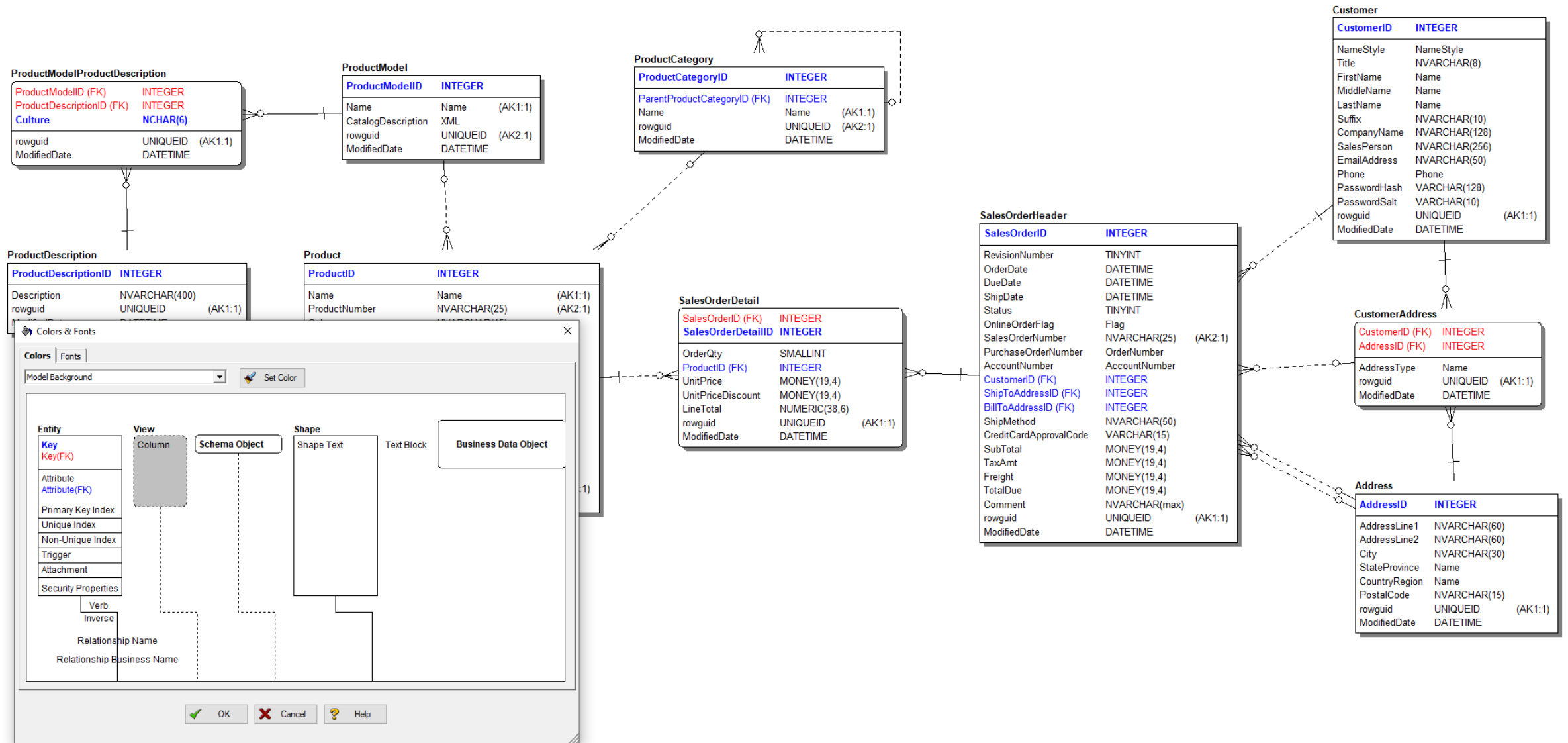
AdventureWorksLT



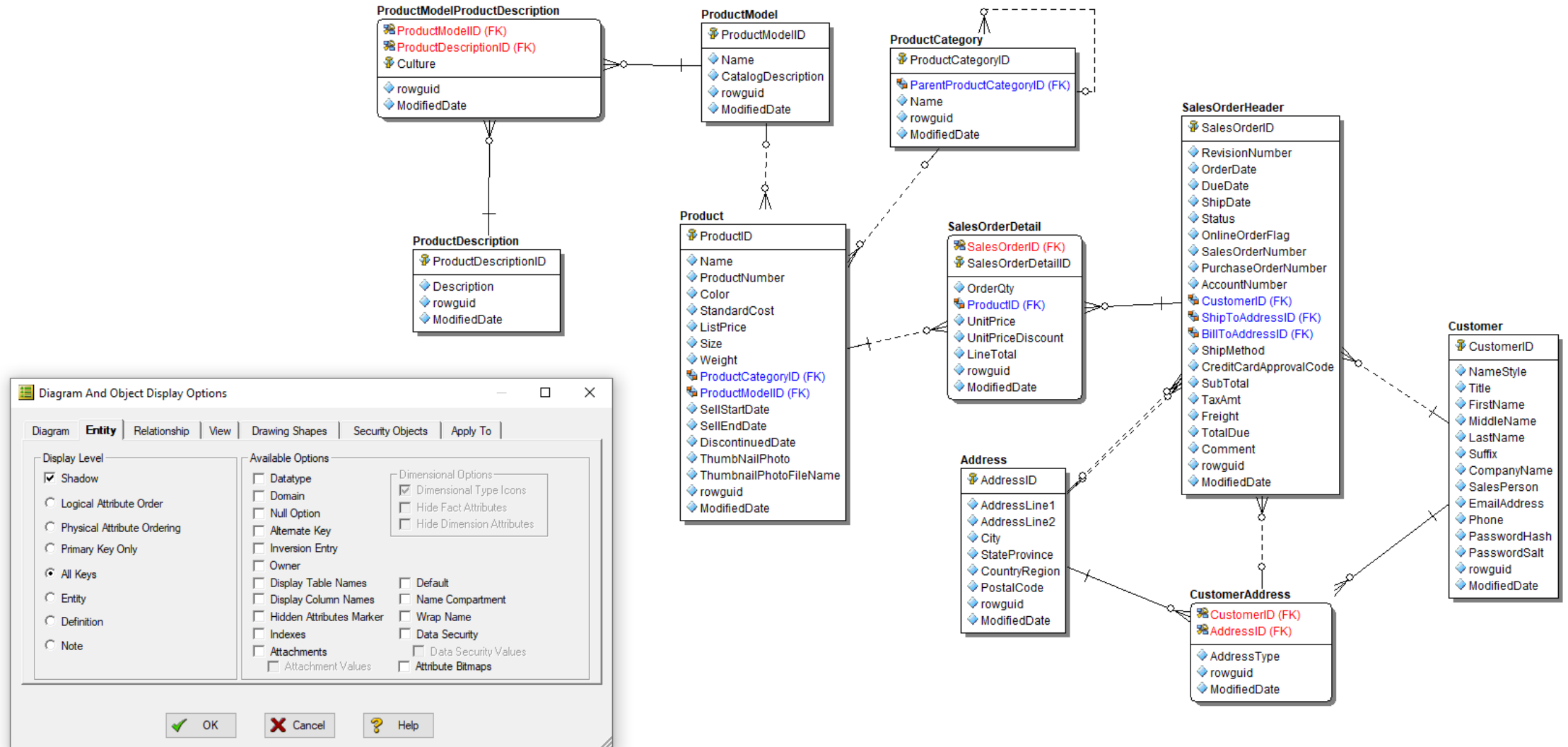
AdventureWorksLT



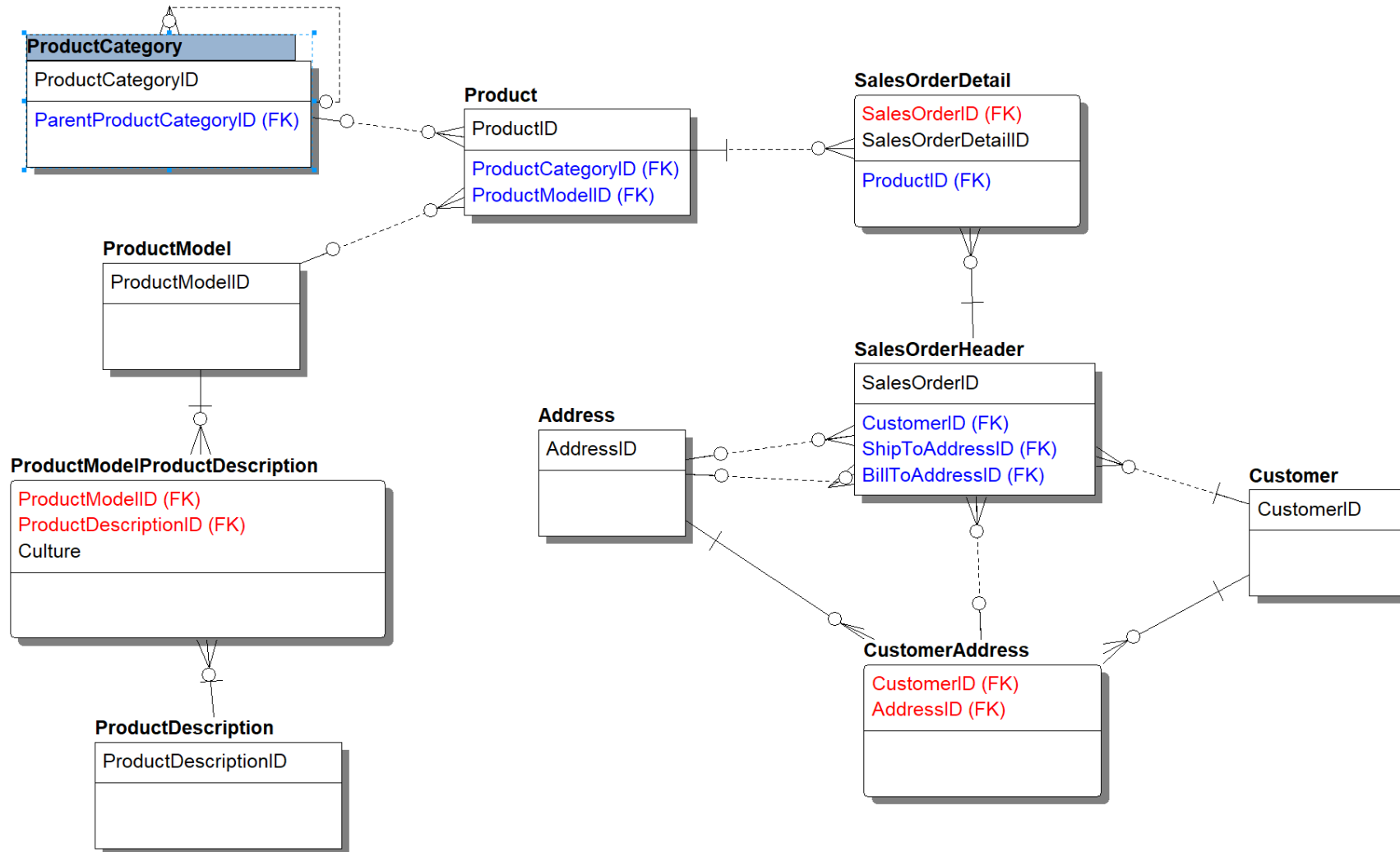
AdventureWorksLT



AdventureWorksLT



AdventureWorksLT



Navicat

AdventureWorksLT

AdventureWorksLT

