

/*

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01/16/2017

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Course: BUSIT 210

Assignment: Module 02, Assignment 02

Quarter: Winter 2016-2017

*/

--***** [DWAdventureWorks_Basics ETL] *****--

-- This file will drop and create the [DWAdventureWorks_Basics]

-- database, with all its objects. (Extracts/Transforms from the OLTP directly).

--*****--

USE [master]

GO

If EXISTS (Select * from Sysdatabases Where Name = 'DWAdventureWorks_Basics')

BEGIN

ALTER DATABASE [DWAdventureWorks_Basics] SET SINGLE_USER WITH ROLLBACK IMMEDIATE

DROP DATABASE [DWAdventureWorks_Basics]

END

GO

CREATE DATABASE [DWAdventureWorks_Basics] ON PRIMARY

(NAME = N'DWAdventureWorks_Basics'

, FILENAME = N'C:_BISolutions\DWAdventureWorks_Basics.mdf' --Store Database Here

, SIZE = 10MB

, MAXSIZE = 1GB

, FILEGROWTH = 10MB)

LOG ON

(NAME = N'DWAdventureWorks_Basics_log'

, FILENAME = N'C:_BISolutions\DWAdventureWorks_Basics_log.LDF'--Store Log File Here

, SIZE = 1MB

, MAXSIZE = 1GB

, FILEGROWTH = 10MB)

GO

EXEC [DWAdventureWorks_Basics].dbo.sp_changedbowner @loginame = N'SA', @map=false

USE [DWAdventureWorks_Basics]

GO

--=====Create Table DimCustomers=====--

CREATE TABLE [DWAdventureWorks_Basics].dbo.DimCustomers

(CustomerKey int NOT NULL IDENTITY(1,1) --Set to row 1

, CustomerID int NOT NULL

, CustomerFullName nvarchar(100) NOT NULL

, CustomerCityName nvarchar(50) NOT NULL

, CustomerStateProvinceName nvarchar(50) NOT NULL

, CustomerCountryRegionCode nvarchar(50) NOT NULL

, CustomerCountryRegionName nvarchar(50) NOT NULL

, CONSTRAINT [PK_DimCustomers] PRIMARY KEY CLUSTERED (CustomerKey ASC)

)

GO

-----Create Table DimProducts-----

```
CREATE TABLE [DWAAdventureWorks_Basics].dbo.DimProducts
(
    ProductKey int NOT NULL IDENTITY(1,1) --Set to row 1
    ,ProductID int NOT NULL
    ,ProductName nvarchar(50) NOT NULL
    ,StandardListPrice decimal(18,4) NOT NULL
    ,ProductSubCategoryID int NOT NULL
    ,ProductSubCategoryName nvarchar(50) NOT NULL
    ,ProductCategoryID int NOT NULL
    ,ProductCategoryName nvarchar(50) NOT NULL
    ,CONSTRAINT [PK_DimProducts] PRIMARY KEY CLUSTERED (ProductKey ASC)
)
GO
```

-----Create Table DimDates-----

```
CREATE TABLE [DWAAdventureWorks_Basics].dbo.DimDates
(
    DateKey int
    ,FullDate DateTime NOT NULL
    ,FullDateName nvarchar(50) NULL
    ,MonthID int NOT NULL
    ,MonthName nvarchar(50) NOT NULL
    ,YearID int NOT NULL
    ,YearName nvarchar(50) NOT NULL
    ,CONSTRAINT [PK_DimDates] PRIMARY KEY CLUSTERED (DateKey)
)
GO
```

-----Create Table FactSalesOrders-----

```
CREATE TABLE [DWAAdventureWorks_Basics].dbo.FactSalesOrders
(
    SalesOrderID int NOT NULL
    ,SalesOrderDetailID int NOT NULL
    ,PRIMARY KEY (SalesOrderID, SalesOrderDetailID)
    ,OrderDateKey int NOT NULL
    ,CONSTRAINT FK_OrderDateKey FOREIGN KEY
    REFERENCES DimDates(DateKey)
    ,CustomerKey int NOT NULL
    ,CONSTRAINT FK_CustomerKey FOREIGN KEY
    REFERENCES DimCustomers(CustomerKey)
    ,ProductKey int NOT NULL
    ,CONSTRAINT FK_ProductKey FOREIGN KEY
    REFERENCES DimProducts(ProductKey)
    ,OrderQty int NOT NULL
    ,ActualUnitPrice decimal(18,4) NOT NULL
)
GO
USE [DWAAdventureWorks_Basics]
GO
```

```

__*****__
-- Drop Foreign Keys Constants
__*****__
-- <Your code goes here>
ALTER TABLE [dbo].[FactSalesOrders]
    DROP CONSTRAINT FK_OrderDateKey
ALTER TABLE [dbo].[FactSalesOrders]
    DROP CONSTRAINT FK_CustomerKey
ALTER TABLE [dbo].[FactSalesOrders]
    DROP CONSTRAINT FK_ProductKey
GO
__*****__
-- Clear all tables and reset their Identity Auto Number
__*****__
-- <Your code goes here>
TRUNCATE TABLE
    [DWAdventureWorks_Basics].dbo.DimCustomers
TRUNCATE TABLE
    [DWAdventureWorks_Basics].dbo.DimDates
TRUNCATE TABLE
    [DWAdventureWorks_Basics].dbo.DimProducts
TRUNCATE TABLE
    [DWAdventureWorks_Basics].dbo.FactSalesOrders
GO
__*****__
-- Insert into DimCustomers -- Use this to test your select statment!
-- <Your code goes here>
INSERT INTO [DWAdventureWorks_Basics].dbo.DimCustomers
    (CustomerID
      ,CustomerFullName
      ,CustomerCityName
      ,CustomerStateProvinceName
      ,CustomerCountryRegionCode
      ,CustomerCountryRegionName
    )

SELECT CustomerID
    ,FirstName + ' ' + LastName
    ,City
    ,StateProvinceName
    ,CountryRegionCode
    ,CountryRegionName
FROM [AdventureWorks_Basics].dbo.Customer
GO

```

--*****--

-- Insert into DimProducts -- Use this to test your select statment!

-- <Your code goes here>

INSERT INTO [DWAdventureWorks_Basics].dbo.DimProducts

(ProductID
,ProductName
,StandardListPrice
,ProductSubCategoryID
,ProductSubCategoryName
,ProductCategoryID
,ProductCategoryName
)

SELECT p.ProductID

,p.Name
,CAST(p.ListPrice AS Decimal (18,4))
,CAST(ISNULL(ps.[ProductSubcategoryID], -1) AS nvarchar(6))
,CAST(ISNULL(ps.[Name], 'NA') AS nvarchar(50))
,CAST(ISNULL(pc.[ProductCategoryID], -1) AS nvarchar(6))
,CAST(ISNULL(pc.[Name], 'NA') AS nvarchar(50))

FROM [AdventureWorks_Basics].[dbo].[Products] AS p

LEFT JOIN [AdventureWorks_Basics].[dbo].[ProductSubcategory] AS ps
ON p.[ProductSubcategoryID] = ps.[ProductSubcategoryID]

LEFT JOIN [AdventureWorks_Basics].[dbo].[ProductCategory] AS pc
ON ps.[ProductCategoryID] = pc.[ProductCategoryID]

GO

--*****--

-- Since the date table has no associated source table we can fill the data

-- using a SQL script

-- Delete From DimDates

INSERT INTO [DimDates]

([DateKey], [FullDate], [FullDateName], [MonthID], [MonthName], [YearID], [YearName])

Values

(-1, Cast('01/01/1900' as datetime), 'Unknown Day', -1, 'Unknown Month', -1, 'Unknown Year')
, (-2, Cast('01/01/1900' as datetime), 'Corrupt Day', -2, 'Corrupt Month', -2, 'Corrupt Year')

GO

-- Create variables to hold the start and end date

DECLARE @StartDate datetime = '01/01/2005'

DECLARE @EndDate datetime = '01/01/2010'

-- Use a while loop to add dates to the table

DECLARE @DateInProcess datetime

SET @DateInProcess = @StartDate

WHILE @DateInProcess <= @EndDate

BEGIN

-- Add a row into the date dimension table for this date

INSERT INTO DimDates

([DateKey], [FullDate], [FullDateName], [MonthID], [MonthName], [YearID], [YearName])

VALUES (

Cast(Convert(nVarchar(50), @DateInProcess, 112) as int) -- [DateKey] = 20050101 to 20101231

, @DateInProcess -- [FullDate] = '2005-01-01 00:00:00.000'

, DateName(weekday, @DateInProcess) + ',' + DateName(mm, @DateInProcess) + ',' +

Convert(nVarchar(50), @DateInProcess, 110) -- [DateKey] = 20050101 to 20101231

, Month(@DateInProcess) -- [MonthID]

, DateName(month, @DateInProcess) -- [MonthName]

, Year(@DateInProcess) -- [YearID]

, Cast(Year(@DateInProcess) as nVarchar(50)) -- [YearName]

)

-- Add a day and loop again

SET @DateInProcess = DateAdd(d, 1, @DateInProcess)

END

GO

-- Select * from DimDates

--*****__

-- Insert into FactSalesOrders -- Use this to test your select statment!

-- <Your code goes here>

INSERT INTO [DWAdventureWorks_Basics].dbo.FactSalesOrders

(SalesOrderID

,SalesOrderDetailID

,OrderDateKey

,CustomerKey

,ProductKey

,OrderQty

,ActualUnitPrice

)

SELECT sod.SalesOrderID

,sod.SalesOrderDetailID

,CAST(CONVERT(NVARCHAR(50), soh.OrderDate, 112) AS INT)

,dc.CustomerKey

,dp.ProductKey

,CAST(sod.OrderQty AS int)

,CAST(sod.UnitPrice AS Decimal (18,4))

FROM [AdventureWorks_Basics].dbo.SalesOrderDetail AS sod

INNER JOIN [AdventureWorks_Basics].dbo.SalesOrderHeader AS soh

ON sod.SalesOrderID = soh.SalesOrderID

INNER JOIN DimDates AS dd

ON dd.FullDate = soh.OrderDate

INNER JOIN DimCustomers AS dc

ON dc.CustomerID = soh.CustomerID

INNER JOIN DimProducts AS dp

ON dp.ProductID = sod.ProductID

GO

```

--*****
-- Replace Foreign Keys Constraints
--*****
-- <Your code goes here>
USE DWAdventureWorks_Basics;
GO
    ALTER TABLE [dbo].[FactSalesOrders]
        ADD CONSTRAINT [FK_FactSalesOrders_DimCustomers]
        FOREIGN KEY ([CustomerKey])
        REFERENCES [dbo].[DimCustomers] ([CustomerKey])
GO
    ALTER TABLE [dbo].[FactSalesOrders]
        ADD CONSTRAINT [FK_FactSalesOrders_DimProducts]
        FOREIGN KEY ([ProductKey])
        REFERENCES [dbo].[DimProducts] ([ProductKey])
GO
    ALTER TABLE [dbo].[FactSalesOrders]
        ADD CONSTRAINT [FK_FactSalesOrders_DimDates]
        FOREIGN KEY ([OrderDateKey])
        REFERENCES [dbo].[DimDates] ([DateKey])
GO

/* Checking Tables
USE [DWAdventureWorks_Basics];
SELECT * FROM [dbo].[DimCustomers]

SELECT * FROM [dbo].[DimDates]

SELECT * FROM [dbo].[DimProducts]

SELECT * FROM [dbo].[FactSalesOrders]
*/

=====Back Up Database DWAdventureWorks_Basics=====
BACKUP DATABASE DWAdventureWorks_Basics
TO DISK = N'C:\_BISolutions\DWAdventureWorks_Basics.bak'
WITH INIT

--*****
-- Review the results of this script
--*****
Select 'Database Filled'
Select [TableName] = '[dbo].[DimCustomers]', [RowCount] = Count(*) from [dbo].[DimCustomers]
Select [TableName] = '[dbo].[DimDates]', [RowCount] = Count(*) from [dbo].[DimDates]
Select [TableName] = '[dbo].[DimProducts]', [RowCount] = Count(*) from [dbo].[DimProducts]
Select [TableName] = '[dbo].[FactSalesOrders]', [RowCount] = Count(*) from [dbo].[FactSalesOrders]

```

Products

	Column Name	Condensed Type	Nullable
🔑	ProductID	int	No
	Name	nvarchar(50)	No
	ListPrice	money	No
	ProductSubcategoryID	int	Yes
	SafetyStockLevel	smallint	No
	ProductLine	nchar(2)	Yes

SalesOrderDetail

	Column Name	Condensed Type	Nullable
🔑	SalesOrderID	int	No
🔑	SalesOrderDetailID	int	No
	ProductID	int	No
	OrderQty	smallint	No
	UnitPrice	money	No
	UnitPriceDiscount	money	No

ProductSubcategory

	Column Name	Condensed Type	Nullable
🔑	ProductSubcategoryID	int	No
	Name	nvarchar(50)	No
	ProductCategoryID	int	No

SalesOrderHeader

	Column Name	Condensed Type	Nullable
🔑	SalesOrderID	int	No
	OrderDate	datetime	No
	CustomerID	int	No
	CreditCardID	int	Yes
	CreditCardApprovalCode	varchar(15)	Yes
	TotalDue	money	No
	Comment	nvarchar(128)	Yes

Customer

	Column Name	Condensed Type	Nullable
🔑	CustomerID	int	No
	FirstName	nvarchar(50)	No
	LastName	nvarchar(50)	No
	AddressID	int	No
	AddressLine1	nvarchar(60)	No
	City	nvarchar(30)	No
	StateProvinceName	nvarchar(50)	No
	CountryRegionCode	nvarchar(3)	No
	CountryRegionName	nvarchar(50)	No
	PostalCode	nvarchar(15)	No
	BusinessEntityID	int	No

ProductCategory

	Column Name	Condensed Type	Nullable
🔑	ProductCategoryID	int	No
	Name	nvarchar(50)	No

DimDates

	Column Name	Condensed Type	Nullable
🔑	DateKey	int	No
	FullDate	datetime	No
	FullDateName	nvarchar(50)	Yes
	MonthID	int	No
	MonthName	nvarchar(50)	No
	YearID	int	No
	YearName	nvarchar(50)	No



FactSalesOrders

	Column Name	Condensed Type	Nullable
🔑	SalesOrderID	int	No
🔑	SalesOrderDetailID	int	No
	OrderDateKey	int	No
	CustomerKey	int	No
	ProductKey	int	No
	OrderQty	int	No
	ActualUnitPrice	decimal(18, 4)	No



DimProducts

	Column Name	Condensed Type	Nullable
🔑	ProductKey	int	No
	ProductID	int	No
	ProductName	nvarchar(50)	No
	StandardListPrice	decimal(18, 4)	No
	ProductSubCategoryID	int	No
	ProductSubCategoryName	nvarchar(50)	No
	ProductCategoryID	int	No
	ProductCategoryName	nvarchar(50)	No

DimCustomers

	Column Name	Condensed Type	Nullable
🔑	CustomerKey	int	No
	CustomerID	int	No
	CustomerFullName	nvarchar(100)	No
	CustomerCityName	nvarchar(50)	No
	CustomerStateProvinceName	nvarchar(50)	No
	CustomerCountryRegionCode	nvarchar(50)	No
	CustomerCountryRegionName	nvarchar(50)	No

