



Danny Mancheno

# SEQUENCE OBJECTS

```
--===== SEQUENCE OBJECTS
-- Author: Danny.Mancheno
-- Procedure: Project2.CreateSequenceObjects
-- Create date: 4/13/20
-- Description: Procedure that creates sequence objects, that will be used through out the project.
=====
GO
DROP PROC IF EXISTS Project2.CreateSequenceObjects
GO
CREATE PROC Project2.CreateSequenceObjects
AS
BEGIN
    DROP SEQUENCE IF EXISTS PKSequence.WorkFlowStepTableRowCount;           -- WorkFlowStepTableRowCount
    CREATE SEQUENCE PKSequence.WorkFlowStepTableRowCount
        START WITH 1
        INCREMENT BY 1

    DROP SEQUENCE IF EXISTS PKSequence.DimProductKeyGenerator               -- Product
    CREATE SEQUENCE PKSequence.DimProductKeyGenerator
        START WITH 1 INCREMENT BY 1
        MINVALUE 0
        MAXVALUE 2147483648
        CACHE

    DROP SEQUENCE IF EXISTS PKSequence.DimProductCategoryKeyGenerator        -- ProductCategory
    CREATE SEQUENCE PKSequence.DimProductCategoryKeyGenerator
        START WITH 1 INCREMENT BY 1
        MINVALUE 0
        MAXVALUE 2147483648
        CACHE

    DROP SEQUENCE IF EXISTS PKSequence.DimProductSubCategoryKeyGenerator     -- ProductSubCategory
    CREATE SEQUENCE PKSequence.DimProductSubCategoryKeyGenerator
        START WITH 1 INCREMENT BY 1
        MINVALUE 0
        MAXVALUE 2147483648
        CACHE
    DROP SEQUENCE IF EXISTS PKSequence.DimCustomerKeyGenerator                -- CustomerKeyGen
    CREATE SEQUENCE PKSequence.DimCustomerKeyGenerator
        START WITH 1 INCREMENT BY 1
        MINVALUE 0
        MAXVALUE 2147483648
        CACHE

    DROP SEQUENCE IF EXISTS PKSequence.DimOccupationKeyGenerator              -- OccupationKeyGen
    CREATE SEQUENCE PKSequence.DimOccupationKeyGenerator
        START WITH 1 INCREMENT BY 1
        MINVALUE 0
        MAXVALUE 2147483648
        CACHE

    DROP SEQUENCE IF EXISTS PKSequence.DimTerritoryKeyGenerator                -- TerritoryKeyGen
    CREATE SEQUENCE PKSequence.DimTerritoryKeyGenerator
        START WITH 1 INCREMENT BY 1
        MINVALUE 0
        MAXVALUE 2147483648
        CACHE

    DROP SEQUENCE IF EXISTS PKSequence.DimSalesManagersKeyGenerator            -- SalesManagerKeyGen
    CREATE SEQUENCE PKSequence.DimSalesManagersKeyGenerator
        START WITH 1 INCREMENT BY 1
        MINVALUE 0
        MAXVALUE 2147483648
        CACHE

    DROP SEQUENCE IF EXISTS PKSequence.DimDataKeyGenerator                     -- DataSequenceKey
    CREATE SEQUENCE PKSequence.DimDataKeyGenerator
        START WITH 1 INCREMENT BY 1
        MINVALUE 0
        MAXVALUE 2147483648
        CACHE

    DROP SEQUENCE IF EXISTS PKSequence.DimProductCategoryKeyGenerator          -- ProductCategory
    CREATE SEQUENCE PKSequence.DimProductCategoryKeyGenerator
        START WITH 1 INCREMENT BY 1
        MINVALUE 0
        MAXVALUE 2147483648
        CACHE

    --
    -- 1234567890
END;
```

# CREATED THE DBSECURITY.USERAUTHORIZATION TABLE

```
197 ====== CREATE DBSECURITY TABLE
198 -- Author: Danny.Mancheno
199 -- Procedure: Project2.CreateDbSecurityTable
200 -- Create date: 4/13/20
201 -- Description: A procedure to create the group auth table.
202 ======
203 GO
204 USE BiClass;
205 GO
206 DROP PROC IF EXISTS Project2.CreateDBSecurityTable;
207 GO
208 CREATE PROC Project2.CreateDBSecurityTable
209     @UserAuthorization      INT
210 AS
211 BEGIN
212     DROP TABLE IF EXISTS DbSecurity.UserAuthorization;
213     CREATE TABLE DbSecurity.UserAuthorization
214     (
215         UserAuthorization      INT          NOT NULL
216         CONSTRAINT [PK_UserAuthorization] PRIMARY KEY (UserAuthorization),
217         ClassTime                NCHAR(10)      NULL DEFAULT('9:15'),
218         IndividualProject        NVARCHAR(60)    NULL DEFAULT('PROJECT 2 RECREATE THE BICLASS STAR SCHEMA'),
219         GroupMemberLastName       NVARCHAR(135)   NOT NULL,
220         GroupMemberFirstname      NVARCHAR(125)   NOT NULL,
221         GroupName                NVARCHAR(20)     NOT NULL DEFAULT('G9-3_C915'),
222         DateAdded                DATETIME2     NULL DEFAULT SYSDATETIME()
223     )
224
225     INSERT INTO DbSecurity.UserAuthorization
226     ( UserAuthorization, GroupMemberLastName, GroupMemberFirstname )
227     VALUES
228     ( 1, 'Bodaj', 'Emiljano' ),
229     ( 2, 'Mancheno', 'Danny' ),
230     ( 3, 'Chen', 'Lin' ),
231     ( 4, 'Brandwein', 'Jason' ),
232     ( 5, 'Chen', 'Juhao' ),
233     ( 6, 'Ahmed', 'Nabila' );
234
235
236     DECLARE @Index INT, @StartingDateTime DateTime2
237     SET @Index = NEXT VALUE FOR [PkSequence].WorkFlowStepTableRowCount
238     SET @StartingDateTime = Sysdatetime()
239     EXEC [Process].[usp_TrackWorkFlow] @WorkFlowStepKey = @Index,
240                                         @GroupMemberUserAuthorizationKey = 2,
241                                         @WorkFlowStepDescription = 'Created the DbSecurity.UserAuth Table',
242                                         @StartingDateTime = @StartingDateTime
243
244     SELECT * FROM DbSecurity.UserAuthorization;
245
246
247 END
248 GO
```

Results							
	UserAuthorization	ClassTime	IndividualProject	GroupMemberLastNa..	GroupMemberFirstna..	GroupName	DateAdded
1	1	9:15	PROJECT 2 RECREATE THE BIC...	Bodaj	Emiljano	G9-3_C915	2020-04-13 13:42:06.2367627
2	2	9:15	PROJECT 2 RECREATE THE BIC...	Mancheno	Danny	G9-3_C915	2020-04-13 13:42:06.2367627
3	3	9:15	PROJECT 2 RECREATE THE BIC...	Chen	Lin	G9-3_C915	2020-04-13 13:42:06.2367627
4	4	9:15	PROJECT 2 RECREATE THE BIC...	Brandwein	Jason	G9-3_C915	2020-04-13 13:42:06.2367627
5	5	9:15	PROJECT 2 RECREATE THE BIC...	Chen	Juhao	G9-3_C915	2020-04-13 13:42:06.2367627
6	6	9:15	PROJECT 2 RECREATE THE BIC...	Ahmed	Nabila	G9-3_C915	2020-04-13 13:42:06.2367627

# ADDED THE COLUMNS TO THE TABLES

```
===== ALTER ALL TABLES =====
-- Author: Danny.Mancheno
-- Procedure: AlterTables
-- Create date: 4/13/20
-- Description: Alters all tables, and includes name default constraints to prevent future errors.
=====
GO
DROP PROC IF EXISTS Project2.AlterTables
GO
CREATE PROC Project2.AlterTables
    @UserAuthorization INT
AS
BEGIN
    ALTER TABLE [CH01-01-Dimension].[DimCustomer]
        ADD UserAuthorizationKey INT NOT NULL -- 1
        CONSTRAINT DF_Cus_UAKDefault DEFAULT(000),
        DateAdded DATETIME2(7) NULL,
        CONSTRAINT DF_Cus_DADefault Default(SYSDATETIME()),
        DateOfLastUpdate DATETIME2(7) NULL,
        CONSTRAINT DF_Cus_DOLUDefault Default(SYSDATETIME());
    ALTER TABLE [CH01-01-Dimension].[DimGender]
        ADD UserAuthorizationKey INT NOT NULL -- 2
        CONSTRAINT DF_Gen_UAKDefault DEFAULT(000),
        DateAdded DATETIME2(7) NULL,
        CONSTRAINT DF_Gen_DADefault Default(SYSDATETIME()),
        DateOfLastUpdate DATETIME2(7) NULL,
        CONSTRAINT DF_Gen_DOLUDefault Default(SYSDATETIME());
    ALTER TABLE [CH01-01-Dimension].[DimMaritalStatus]
        ADD UserAuthorizationKey INT NOT NULL -- 3
        CONSTRAINT DF_Mar_UAKDefault DEFAULT(000),
        DateAdded DATETIME2(7) NULL,
        CONSTRAINT DF_Mar_DADefault Default(SYSDATETIME()),
        DateOfLastUpdate DATETIME2(7) NULL,
        CONSTRAINT DF_Mar_DOLUDefault Default(SYSDATETIME());
    ALTER TABLE [CH01-01-Dimension].[DimOccupation]
        ADD UserAuthorizationKey INT NOT NULL -- 4
        CONSTRAINT DF_Occ_UAKDefault DEFAULT(000),
        DateAdded DATETIME2(7) NULL,
        CONSTRAINT DF_Occ_DADefault Default(SYSDATETIME()),
        DateOfLastUpdate DATETIME2(7) NULL,
        CONSTRAINT DF_Occ_DOLUDefault Default(SYSDATETIME());
    ALTER TABLE [CH01-01-Dimension].[DimOrderDate]
        ADD UserAuthorizationKey INT NOT NULL -- 5
        CONSTRAINT DF_Ord_UAKDefault DEFAULT(000),
        DateAdded DATETIME2(7) NULL,
        CONSTRAINT DF_Ord_DADefault Default(SYSDATETIME()),
        DateOfLastUpdate DATETIME2(7) NULL,
        CONSTRAINT DF_Ord_DOLUDefault Default(SYSDATETIME());
    ALTER TABLE [CH01-01-Dimension].[DimProduct]
        ADD UserAuthorizationKey INT NOT NULL -- 6
        CONSTRAINT DF_Pro_UAKDefault DEFAULT(000),
        DateAdded DATETIME2(7) NULL,
        CONSTRAINT DF_Pro_DADefault Default(SYSDATETIME()),
        DateOfLastUpdate DATETIME2(7) NULL,
        CONSTRAINT DF_Pro_DOLUDefault Default(SYSDATETIME());
    ALTER TABLE [CH01-01-Dimension].[DimTerritory]
        ADD UserAuthorizationKey INT NOT NULL -- 7
        CONSTRAINT DF_Ter_UAKDefault DEFAULT(000),
        DateAdded DATETIME2(7) NULL,
        CONSTRAINT DF_Ter_DADefault Default(SYSDATETIME()),
        DateOfLastUpdate DATETIME2(7) NULL,
        CONSTRAINT DF_Ter_DOLUDefault Default(SYSDATETIME());
    ALTER TABLE [CH01-01-Dimension].[SalesManagers]
        ADD UserAuthorizationKey INT NOT NULL -- 8
        CONSTRAINT DF_Sal_UAKDefault DEFAULT(000),
        DateAdded DATETIME2(7) NULL,
        CONSTRAINT DF_Sal_DADefault Default(SYSDATETIME()),
        DateOfLastUpdate DATETIME2(7) NULL,
        CONSTRAINT DF_Sal_DOLUDefault Default(SYSDATETIME());
    ALTER TABLE [CH01-01-Fact].[Data]
        ADD UserAuthorizationKey INT NOT NULL -- 9
        CONSTRAINT DF_Dat_UAKDefault DEFAULT(000),
        DateAdded DATETIME2(7) NULL,
        CONSTRAINT DF_Dat_DADefault Default(SYSDATETIME()),
        DateOfLastUpdate DATETIME2(7) NULL,
        CONSTRAINT DF_Dat_DOLUDefault Default(SYSDATETIME());
    DECLARE @Index INT, @StartingDateTime Datetime2
    SET @Index = NEXT VALUE FOR [PKSequence].WorkflowStepTableRowCount
    SET @StartingDateTime = Sysdatetime()
    EXEC [Process].[usp_TrackWorkflow] @WorkflowStepKey = @Index,
        @GroupMemberUserAuthorizationKey = 2,
        @WorkflowStepDescription = 'Altered and added all table columns',
        @StartingDateTime = @StartingDateTime
END
GO
```

CH01-01-Dimension.DimCustomer	
Columns	
CustomerKey	(PK, int, not null)
CustomerName	(varchar(30), null)
UserAuthorizationKey	(int, not null)
DateAdded	(datetime2(7), null)
DateOfLastUpdate	(datetime2(7), null)

CH01-01-Dimension.DimOrderDate	
Columns	
OrderDate	(PK, date, not null)
MonthName	(varchar(10), null)
MonthNumber	(int, null)
Year	(int, null)
UserAuthorizationKey	(int, not null)
DateAdded	(datetime2(7), null)
DateOfLastUpdate	(datetime2(7), null)

# DROPPED THE FOREIGN KEYS FROM THE FACT.DATA TABLE

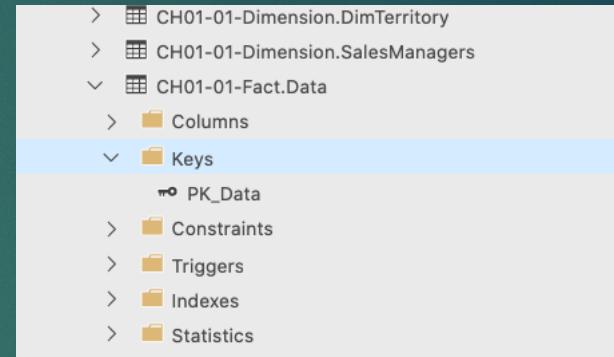
```
===== DROP_FOREIGN_KEYS
-- Author:      Danny Mancheno
-- Procedure:   Project2.DropForeignKeysFromStarSchemaData;
-- Create date:  4/13/20
-- Description: Drop all foreign keys from the CH01-01-Fact.Data Table.
=====
GO
DROP PROC IF EXISTS Project2.DropForeignKeysFromStarSchemaData;
GO
CREATE PROC Project2.DropForeignKeysFromStarSchemaData
    @UserAuthorization      INT
AS
BEGIN
    DECLARE @StartingTime DATETIME2(7) = SYSDATETIME();

    SET NOCOUNT ON;

    ALTER TABLE [CH01-01-FACT].[DATA]
    DROP CONSTRAINT FK_Data_DimCustomer, FK_Data_DimGender, FK_Data_DimMaritalStatus, FK_Data_DimOccupation,
    |           FK_Data_DimOrderDate, FK_Data_DimProduct, FK_Data_DimTerritory, FK_Data_SalesManagers;

    DECLARE @Index INT, @StartingDateTime DateTime2
    SET @Index = NEXT VALUE FOR [PkSequence].WorkFlowStepTableRowCount
    SET @StartingDateTime = Sysdatetime()

    EXEC [Process].[usp_TrackWorkFlow] @WorkFlowStepKey = @Index,
    |           @GroupMemberUserAuthorizationKey = 2,
    |           @WorkFlowStepDescription = 'Dropping all foreign keys',
    |           @StartingDateTime = @StartingDateTime;
END
GO
```



# TRUNCATION

```
===== TRUNCATE ALL TABLES
-- Author:      Danny.Mancheno
-- Procedure:   Project2.TruncateTables
-- Create date: 4/13/20
-- Description: This will truncate all the table data
=====
GO
DROP PROC IF EXISTS Project2.TruncateStarSchemaData
GO
CREATE PROC Project2.TruncateStarSchemaData
    @UserAuthorization           INT
AS
BEGIN
    TRUNCATE TABLE [CH01-01-Dimension].[DimCustomer]
    TRUNCATE TABLE [CH01-01-Dimension].[DimGender]
    TRUNCATE TABLE [CH01-01-Dimension].[DimMaritalStatus]
    TRUNCATE TABLE [CH01-01-Dimension].[DimOccupation]
    TRUNCATE TABLE [CH01-01-Dimension].[DimOrderDate]
    TRUNCATE TABLE [CH01-01-Dimension].[DimProduct]
    TRUNCATE TABLE [CH01-01-Dimension].[DimTerritory]
    TRUNCATE TABLE [CH01-01-Dimension].[SalesManagers]
    TRUNCATE TABLE [CH01-01-Fact].[Data]

    DECLARE @Index INT, @StartingDateTime DateTime2
    SET @Index = NEXT VALUE FOR [PkSequence].WorkFlowStepTableRowCount
    SET @StartingDateTime = Sysdatetime()

    EXEC [Process].[usp_TrackWorkFlow] @WorkFlowStepKey = @Index,
                                         @GroupMemberUserAuthorizationKey = 2,
                                         @WorkFlowStepDescription = 'Truncate all Star Schema tables',
                                         @StartingDateTime = @StartingDateTime;

END
GO
```

# LOAD GENDER

```
548
549 ===== GENDER
550 -- Author: Danny Mancheno
551 -- Procedure: Project.Load_DimGender
552 -- Create date: 4/13/20
553 -- Description: Load DimMaritalStatus table
554 =====
555
556 --SELECT GENDER FROM FileUpload.OriginallyLoadedData;
557 SELECT * FROM [CH01-01-Dimension].[DimGender];
558
559 DROP PROC IF EXISTS [Project2].[Load_DimGender]
560 GO
561 CREATE PROC [Project2].[Load_DimGender]
562 | @UserAuthorizationKey INT
563 AS
564 BEGIN
565 ALTER TABLE [CH01-01-Dimension].[DimGender] ALTER COLUMN GenderDescription VARCHAR(10);
566
567
568 -- starts here
569 DECLARE @StartingTime AS DATETIME2(7) = SYSDATETIME()
570 SET NOCOUNT ON;
571
572 INSERT INTO [CH01-01-Dimension].[DimGender]
573 ( Gender, GenderDescription, UserAuthorizationKey )
574 SELECT DISTINCT Gender,
575 CASE WHEN Gender = 'M' THEN 'Mascline' ELSE 'Feminine' END AS GenderDescription,
576 @UserAuthorizationKey
577 FROM FileUpload.OriginallyLoadedData;
578
579 -- ends here.
580
581 DECLARE @Index INT, @StartingDateTime DateTime2
582 SET @Index = NEXT VALUE FOR [PkSequence].WorkFlowStepTableRowCount
583 SET @StartingDateTime = Sysdatetime()
584 EXEC [Process].[usp_TrackWorkFlow] @WorkFlowStepKey = @Index,
585 @GroupMemberUserAuthorizationKey = 2,
586 @WorkFlowStepDescription = 'Loaded Gender Table',
587 @StartingDateTime = @StartingDateTime
588 END;
589
590 ===== MARITALSTATUS
591 -- Author: Lin Chen
592 -----
```

## Results

	Gender	GenderDescription	UserAuthorizationKey	DateAdded	DateOfLastUpdate
1	F	Feminine	2	2020-04-13 13:37:00.7615356	2020-04-13 13:37:00.7615356
2	M	Mascline	2	2020-04-13 13:37:00.7615356	2020-04-13 13:37:00.7615356

## Messages

# LOAD STAR SCHEMA DATA

```
--EXEC Project2.AddForeignKeysToStarSchemaData
GO
DROP PROC IF EXISTS Project2.LoadStarSchemaData
GO
CREATE PROC Project2.LoadStarSchemaData
AS
BEGIN

    EXEC [Project2].[Load_DimCustomer] @UserAuthorizationKey = 1;
    EXEC [Project2].[Load_DimGender] @UserAuthorizationKey = 2;
    EXEC [Project2].[Load_DimMaritalStatus] @userAuthorizationKey = 3;
    EXEC [Project2].[Load_DimOccupation] @userAuthorizationKey = 4;
    EXEC [Project2].[Load_DimOrderDate] @UserAuthorizationKey = 6;
    EXEC [Project2].[Load_Product_ProductCategory_ProductSubCategory] @UserAuthorizationKey = 3;
    EXEC [Project2].[Load_DimTerritory] @userAuthorizationKey = 3;
    EXEC [Project2].[Load_SalesManagers] @UserAuthorizationKey = 6;
    --EXEC Project2.Load_Data

END
GO

EXEC Project2.LoadStarSchemaData;
SELECT * FROM Process.WorkFlowSteps;
```

## Final run

```
955 GO
956 DROP PROC IF EXISTS Project2.LoadStarSchemaData
957 GO
958 CREATE PROC Project2.LoadStarSchemaData
959 AS
960 BEGIN
961 ...
962 ...
963     EXEC [Project2].[Load_DimCustomer] @UserAuthorizationKey = 1;
964     EXEC [Project2].[Load_DimGender] @UserAuthorizationKey = 2;
965     EXEC [Project2].[Load_DimMaritalStatus] @UserAuthorizationKey = 3;
966     EXEC [Project2].[Load_DimOccupation] @UserAuthorizationKey = 4;
967     EXEC [Project2].[Load_DimOrderDate] @UserAuthorizationKey = 6;
968     EXEC [Project2].[Load_Product_ProductCategory_ProductSubCategory] @UserAuthorizationKey = 3;
969     EXEC [Project2].[Load_DimTerritory] @UserAuthorizationKey = 3;
970     EXEC [Project2].[Load_SalesManagers] @UserAuthorizationKey = 6;
971     --EXEC Project2.Load_Data
972 ...
973
974 END
975 GO
976
977
978 EXEC Project2.LoadStarSchemaData;
979 SELECT * FROM Process.WorkFlowSteps;
980
981 /*
982 SELECT * FROM [CH01-01-Dimension].[DimCustomer];
983 SELECT * FROM [CH01-01-Dimension].[DimGender];
```

### Results    Messages

4	DimOccupation Table	5
5	DimOrderDate Table	1124
6	DimProduct Table	130
7	DimTerritory Table	10
8	DimSalesManager Table	17
9	FactData Table	60398

	WorkFlowStepKey	WorkFlowStepDescription	WorkFlowStepTableRowCount	StartingDateTime	EndingDateTime	ClassTime	UserAuthoriza
1	1	WorkFlowSteps table created	1	2020-04-13 13:36:58.9664348	2020-04-13 13:36:58.9664348	09:15	1
2	2	Created the DbSecurity.Use...	0	2020-04-13 13:36:59.0071230	2020-04-13 13:36:59.0071230	09:15	2
3	3	Altered and added all tabl...	0	2020-04-13 13:36:59.1053776	2020-04-13 13:36:59.1053776	09:15	2
4	4	Dropping all foreign keys	0	2020-04-13 13:36:59.1328255	2020-04-13 13:36:59.1328255	09:15	2
5	5	RowCount Table Checked!	0	2020-04-13 13:36:59.2347192	2020-04-13 13:36:59.2347192	09:15	1
6	6	Truncate all Star Schema t...	0	2020-04-13 13:36:59.2913757	2020-04-13 13:36:59.2913757	09:15	2
7	7	DimCustomer Table loaded	0	2020-04-13 13:37:00.6684953	2020-04-13 13:37:00.6684953	09:15	1
8	8	Loaded Gender Table	0	2020-04-13 13:37:00.8140504	2020-04-13 13:37:00.8140504	09:15	2
9	9	Load DimMaritalStatus table	0	2020-04-13 13:37:00.9676503	2020-04-13 13:37:00.9676503	09:15	3
10	10	Loaded data into the DimOc...	0	2020-04-13 13:37:01.1160260	2020-04-13 13:37:01.1160260	09:15	6