Reusable Container Inventory

09.21.2018

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PART I: Summary

This project is to create a relational database for tracking US Government reusable containers. This database will identify key required fields necessary for compliance under the Federal Acquisition Regulations. This database will be used by shipping, asset management and quality to show control and compliance to these federal requirements.

Goals

1. What type of reusable containers do we have on hand? (*see* fig. 4)
2. What is the quantity received, issued, and balance-on-hand? (*see* fig. 4)
3. Where is the reusable container located? (*see* fig. 5)
4. What is the cost associated to the reusable container? (*see* fig. 5)
5. What is the disposition of the reusable containers? (*see* fig. 5)

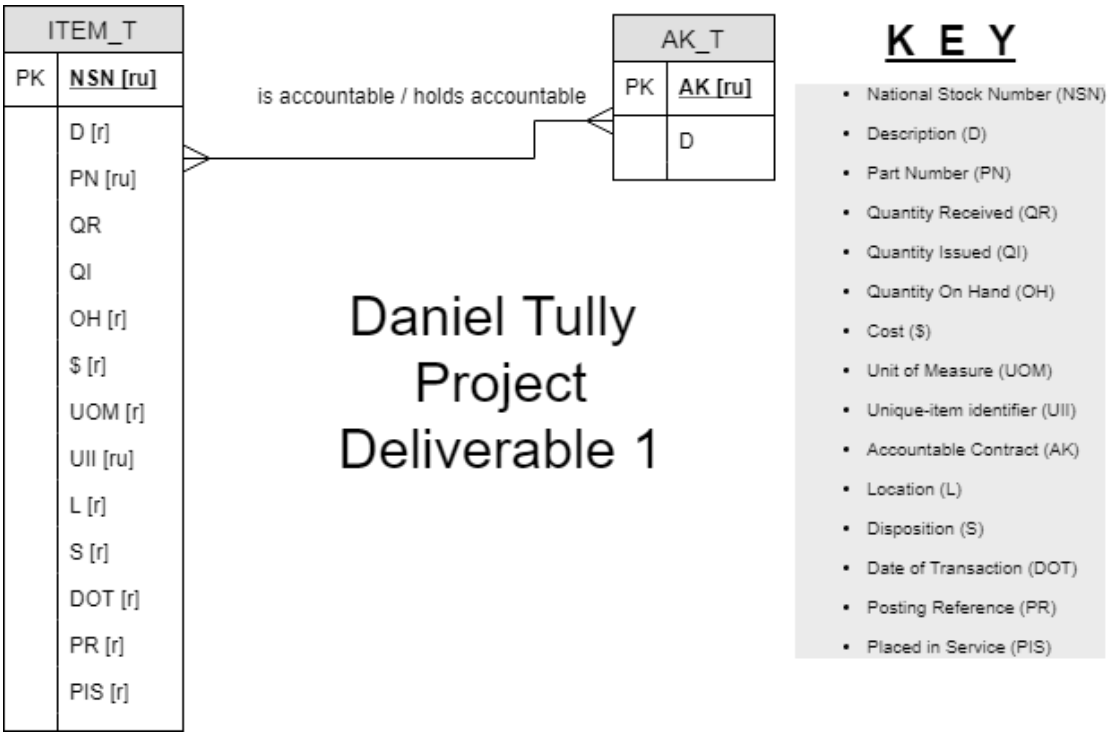
Business Rules

- US Government property is to be managed in accordance with the Federal Acquisition Regulations 52.245-1 Government Property.
    - Records will contain the minimum required fields as identified in 52.245-1(f)(1)(iii)(A)

Diagrams

I. Conceptual Model

In this ERD we are showing how the item table (ITEM_T) has a many to many relationship with the accountable contract table (AK_T).

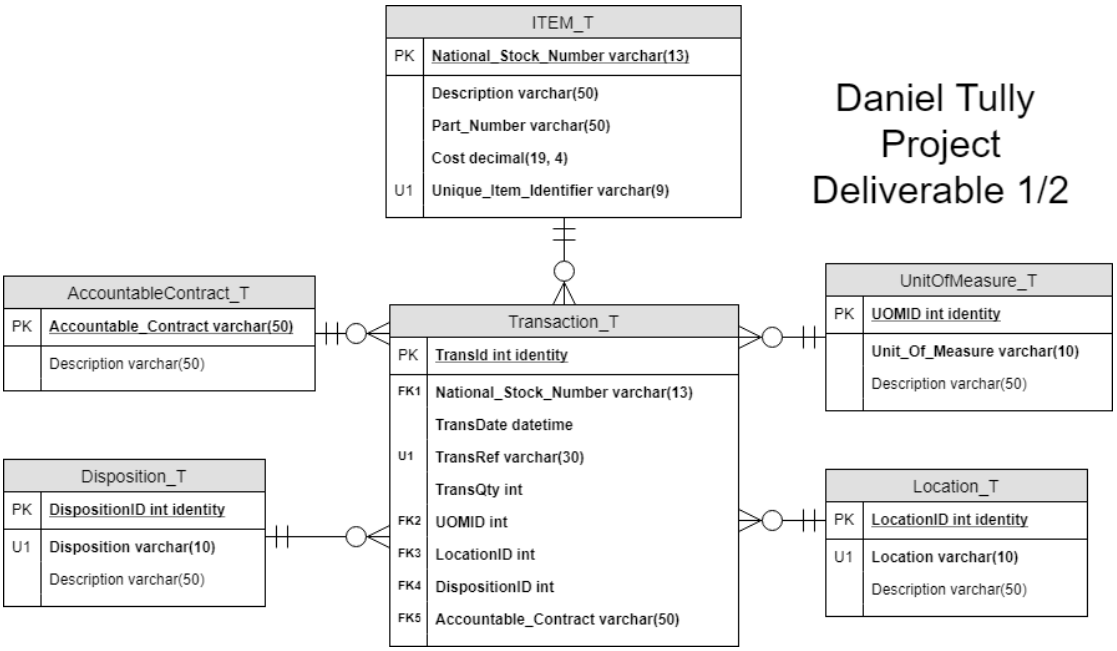


Sample Data:

NSN	D	PN	$	UII	UOH	UOM	AK	L	S	DOT	PR	PIS	QR	QI
8140010876567	CONTAINER,SHIPPING	12345-7	$ 200.00	010876567	20	EA	N03C0047	BLD05	RECEIVED	10/10/17	RR10001	10/10/17	20	0
8140013873301	CONTAINER,SHIPPING	12345-1	$ 150.00	013873301	50	EA	F08C0356	BLD05	RECEIVED	10/20/17	RR10002	10/20/17	50	0
8140170560573	CONTAINER,SHIPPING	12345-3	$ 30.00	170560573	10	EA	N03C0047	BLD05	RECEIVED	11/01/17	RR10003	11/01/17	10	0

II. Normalized Logical Model

In an effort to normalize the data to 3NF you can see that I have identified new entities, attributes and relationships. I decided to make all dates the standard type datetime and all dollars we are using as type decimal(19,4). In order to reduce duplications, we created entities for the National Stock Number, Unit of Measure, Disposition, Accountable Contract and Location. We also added an entity (Transaction_T) to capture our transactions and aid in the running of derived totals for Quantity (Received, Issued and On Hand balances.



Glossary

- Federal Acquisition Regulations 52.245-1
- National Stock Number (NSN): as it is known in the US, is a 13-digit numeric code, identifying all the 'standardized material items of supply' as they have been recognized by all NATO countries including United States Department of Defense.
- Description (D): used to identify things
- Part Number (PN): is an identifier of a particular part design used in a particular industry.
- Quantity Received (QR): taken into one's possession, a specified amount.
- Quantity Issued (QI): releasing from one's possession, a specified amount.
- Quantity On Hand (OH): The total number of stock-keeping units (SKUs) that are physically located in the warehouse location
- Cost ($): an amount that has to be paid or spent to buy or obtain something.

- Unit of Measure (UOM): definite magnitude of a quantity.
- Unique-item identifier (UII): A globally unique and unambiguous identifier that distinguishes an item from all other like and unlike items.
- Accountable Contract (AK): legal authorization to which the asset is accountable.
- Location (L): place where the asset is located.
- Disposition (S): Status or type of transaction.
- Date of Transaction (DOT): date transaction occurred.
- Posting Reference (PR): document supporting transaction.
- Placed in Service (PIS): supporting transaction date.

PART II: Physical Database Design

```
 /*
       CLASS: IST659
       PROJECT 2 DELIVERABLE (CREATE)
       DAN TULLY
       DATE: 09/20/18 (8263)

*/

/* DROP VIEWS */
DROP VIEW IF EXISTS TRANSHIST
DROP VIEW IF EXISTS ONHAND
/* DROP FUNCTION */
DROP FUNCTION IF EXISTS dbo.Qty
/* DROP PROCEDURES */
DROP PROCEDURE IF EXISTS addMainTrans
DROP PROCEDURE IF EXISTS IssMainTrans
DROP PROCEDURE IF EXISTS ScrMainTrans
DROP PROCEDURE IF EXISTS LstMainTrans
/* DROP TABLES */
DROP TABLE IF EXISTS Transaction_T
DROP TABLE IF EXISTS Main_T
DROP TABLE IF EXISTS Item_T
DROP TABLE IF EXISTS LOCATION_T
DROP TABLE IF EXISTS DISPOSITION_T
DROP TABLE IF EXISTS UnitOfMeasure_T
DROP TABLE IF EXISTS AccountableContract_T
GO
/* CREATED ITEM (NSN) TABLE */
CREATE TABLE Item_T (
National_Stock_Number varchar(13) PRIMARY KEY
,Description varchar (50) NOT NULL
,Part_Number varchar(50) NOT NULL
,Cost DECIMAL(19,4) NOT NULL
,Unique_Item_Identifier varchar(9) UNIQUE NOT NULL
);
GO
/* CREATED LOCATION TABLE */
CREATE TABLE Location_T (
LocationID int identity PRIMARY KEY NOT NULL
,Location varchar(10) UNIQUE NOT NULL
,Description varchar (50)
```

```
);
GO
/* CREATED DISPOSITION (STATUS) TABLE*/
CREATE TABLE Disposition_T (
DispositionID int identity PRIMARY KEY NOT NULL
,Disposition varchar(10) UNIQUE NOT NULL
,Description varchar (50)
);
GO
/* CREATED UNIT OF MEASURE TABLE*/
CREATE TABLE UnitOfMeasure_T (
UOMID int identity PRIMARY KEY NOT NULL
,Unit_Of_Measure varchar(10) NOT NULL
,Description varchar (50)
);
GO
/* CREATED ACCOUNTABLE CONTRACT TABLE*/
CREATE TABLE AccountableContract_T (
Accountable_Contract varchar(50) PRIMARY KEY NOT NULL
,Description varchar (50)
);

GO
/* CREATED TRANSACTION TABLE*/
CREATE TABLE Transaction_T (
TransId int identity PRIMARY KEY NOT NULL
,National_Stock_Number varchar(13) FOREIGN KEY REFERENCES ITEM_T(National_Stock_Number)
NOT NULL
,TransDate Date NOT NULL
,TransRef varchar(30) UNIQUE NOT NULL
,TransQty int NOT NULL
,UOMID int FOREIGN KEY REFERENCES UnitOfMeasure_T(UOMID) NOT NULL
,LocationID int FOREIGN KEY REFERENCES Location_T(LocationID) NOT NULL
,DispositionID int FOREIGN KEY REFERENCES Disposition_T(DispositionID) NOT NULL
,Accountable_Contract varchar(50) FOREIGN KEY REFERENCES
AccountableContract_T(Accountable_Contract) NOT NULL
);
GO
/* CREATED STORED PROCEDURE TO UPDATE A RECEIVED TRANSACTION */
CREATE OR ALTER PROCEDURE addMainTrans (
@NSN varchar(13)
, @AccountContract varchar(50)
, @TransRef varchar(30)
, @TransQty int
) AS
BEGIN
	INSERT INTO Transaction_T (

	UOMID,National_Stock_Number,LocationID,DispositionID,Accountable_Contract,TransDat
e,TransRef,TransQty
	)VALUES (
		2,@NSN,5,1,@AccountContract, getdate(),@TransRef,@TransQty
	)
END;
GO
/* CREATED STORED PROCEDURE TO UPDATE A ISSUED TRANSACTION */
CREATE OR ALTER PROCEDURE IssMainTrans (
@NSN varchar(13)
, @AccountContract varchar(50)
```

```
, @TransRef varchar(30)
, @TransQty int
) AS
BEGIN
	INSERT INTO Transaction_T (

	UOMID,National_Stock_Number,LocationID,DispositionID,Accountable_Contract,TransDat
e,TransRef,TransQty
	)VALUES (
		2,@NSN,5,2,@AccountContract, getdate(),@TransRef,@TransQty
	)
END;
GO
/* CREATED STORED PROCEDURE TO UPDATE A SCRAP TRANSACTION */
CREATE OR ALTER PROCEDURE ScrMainTrans (
@NSN varchar(13)
, @AccountContract varchar(50)
, @TransRef varchar(30)
, @TransQty int
) AS
BEGIN
	INSERT INTO Transaction_T (

	UOMID,National_Stock_Number,LocationID,DispositionID,Accountable_Contract,TransDat
e,TransRef,TransQty
	)VALUES (
		2,@NSN,5,3,@AccountContract, getdate(),@TransRef,@TransQty
	)
END;
GO
/* CREATED STORED PROCEDURE TO UPDATE A LOST TRANSACTION */
CREATE OR ALTER PROCEDURE LstMainTrans (
@NSN varchar(13)
, @AccountContract varchar(50)
, @TransRef varchar(30)
, @TransQty int
) AS
BEGIN
	INSERT INTO Transaction_T (

	UOMID,National_Stock_Number,LocationID,DispositionID,Accountable_Contract,TransDat
e,TransRef,TransQty
	)VALUES (
		2,@NSN,5,4,@AccountContract, getdate(),@TransRef,@TransQty
	)
END;
GO
/* CREATED USER DEFINED FUNCTION */
CREATE or ALTER FUNCTION dbo.Qty(@Accountable_Contract varchar(50),
@National_Stock_Number varchar(13),@DispID int)
RETURNS int
AS
BEGIN
    DECLARE @ret int;
    SELECT @ret = SUM(Transaction_T.TransQty)
    FROM Transaction_T
    WHERE Transaction_T.National_Stock_Number = @National_Stock_Number and
Transaction_T.Accountable_Contract = @Accountable_Contract
        and Transaction_T.DispositionID = @DispID;
```

```
     IF (@ret IS NULL)
        SET @ret = 0;
    RETURN @ret;
END;
GO
/* CREATED VIEW ON HAND REPORT */
CREATE OR ALTER VIEW ONHAND AS
SELECT Transaction_T.Accountable_Contract as ContractCode,Item_T.Description,
Item_T.Part_Number, Item_T.National_Stock_Number
,(SELECT dbo.Qty(Transaction_T.Accountable_Contract,Item_T.National_Stock_Number,1)) as
QtyRecd
,(SELECT dbo.Qty(Transaction_T.Accountable_Contract,Item_T.National_Stock_Number,2)) as
QtyIssd
,((SELECT
dbo.Qty(Transaction_T.Accountable_Contract,Item_T.National_Stock_Number,3))+(SELECT
dbo.Qty(Transaction_T.Accountable_Contract,Item_T.National_Stock_Number,4))) as
QtyLostScrap
,((SELECT dbo.Qty(Transaction_T.Accountable_Contract,Item_T.National_Stock_Number,1)) -
(SELECT dbo.Qty(Transaction_T.Accountable_Contract,Item_T.National_Stock_Number,2)) -
(SELECT dbo.Qty(Transaction_T.Accountable_Contract,Item_T.National_Stock_Number,3))-
(SELECT dbo.Qty(Transaction_T.Accountable_Contract,Item_T.National_Stock_Number,4))) as
QtyOH
,CONCAT( '$' , FORMAT(CAST(Item_T.Cost AS money), N'N', 'en-US')) as UnitCost
,CONCAT( '$' , FORMAT(CAST(((SELECT
dbo.Qty(Transaction_T.Accountable_Contract,Item_T.National_Stock_Number,1)) - (SELECT
dbo.Qty(Transaction_T.Accountable_Contract,Item_T.National_Stock_Number,2)) - (SELECT
dbo.Qty(Transaction_T.Accountable_Contract,Item_T.National_Stock_Number,3|4)))*Item_T.Cos
t AS money), N'N', 'en-US')) as UnitExtCost
FROM Item_T
JOIN Transaction_T on Item_T.National_Stock_Number = Transaction_T.National_Stock_Number
GROUP BY Transaction_T.Accountable_Contract,Item_T.Description, Item_T.Part_Number,
Item_T.National_Stock_Number,Item_T.Cost
GO

CREATE OR ALTER VIEW TRANSHIST AS
SELECT Transaction_T.National_Stock_Number
,Transaction_T.TransDate
,Transaction_T.TransRef
,Transaction_T.TransQty
,CONCAT( '$' , FORMAT(CAST(Item_T.Cost*Transaction_T.TransQty AS money), N'N', 'en-US'))
as TotalCost
,CONCAT( '$' , FORMAT(CAST(Item_T.Cost AS money), N'N', 'en-US')) as CostPerUnit
,UnitOfMeasure_T.Description
,Location_T.Location
,Disposition_T.Disposition
,Transaction_T.Accountable_Contract
,Transaction_T.Transid
FROM Transaction_T
JOIN Item_T on Item_T.National_Stock_Number = Transaction_T.National_Stock_Number
JOIN UnitOfMeasure_T on UnitOfMeasure_T.UOMID = Transaction_T.UOMID
JOIN Location_T on Location_T.LocationID = Transaction_T.LocationID
JOIN Disposition_T on Disposition_T.DispositionID = Transaction_T.DispositionID
```

Data Creation

```
/*
       CLASS: IST659
```

```
       PROJECT 2 DELIVERABLE (INSERT/SELECT)
       DAN TULLY
       DATE: 09/20/18 (8263)

*/

/* INSERT DATA INTO ITEM_T */
INSERT INTO ITEM_T (National_Stock_Number
,Description
,Part_Number
,Cost
,Unique_Item_Identifier)
VALUES ('1015217970516','CONTAINER,SHIPPING','590775',5,'217970516')
,('2815219217306','CONTAINER,SHIPPING','4257175 ',10,'219217306')
,('2815219217311','CONTAINER,SHIPPING','4257180',200,'219217311')
,('4470000067872','CONTAINER,SHIPPING','17-J-3009',450,'000067872')
,('4920992775743','CONTAINER,SHIPPING','01TL13356-03',25,'992775743')
,('4935998460019','CONTAINER,SHIPPING','4257185',75,'998460019')
,('4935998873610','CONTAINER,SHIPPING','4257190',125,'998873610')
,('5342000094378','CONTAINER,SHIPPING','F310936-45',50,'000094378')
,('5845219130485','CONTAINER,SHIPPING','9465003-1',400,'219130485')
,('5895996622902','CONTAINER,SHIPPING','800516-0002',300,'996622902')
SELECT * FROM ITEM_T;

/* INSERT DATA INTO Location_T */
INSERT INTO Location_T
VALUES ('BLD01','BUILDING ONE')
,('BLD02','BUILDING TWO')
,('BLD03','BUILDING THREE')
,('BLD04','BUILDING FOUR')
,('BLD05','BUILDING FIVE')
SELECT * FROM Location_T;

/* INSERT DATA INTO Disposition_T */
INSERT INTO Disposition_T
VALUES ('RECEIVED','New Item or Qty Added')
,('ISSUED','Item or Qty Removed')
,('SCRAPPED','Item Damaged')
,('LOST','Item Cannot Be Located')
SELECT * FROM Disposition_T;

/* INSERT DATA INTO UnitOfMeasure_T */
INSERT INTO UnitOfMeasure_T
VALUES ('BO','BOX')
,('EA','EACH')
,('LO','LOT')
,('PA','PALLET')
SELECT * FROM UnitOfMeasure_T;

/* INSERT DATA INTO AccountableContract_T */
INSERT INTO AccountableContract_T (Accountable_Contract,Description)
VALUES ('F08C0356','F9852408C0356')
      ,('N03C0047','N0038303C0047')
      ,('M12C1254','MDA03212C1254')
SELECT * FROM AccountableContract_T;
GO

/* INSERT RECEIVED DATA INTO TRANSACTION_T USING PROCEDURE */
EXEC dbo.addMainTrans '2815219217306','F08C0356','RR8263',25
```

```
EXEC dbo.addMainTrans '4935998460019','N03C0047','RR8264',32
EXEC dbo.addMainTrans '5342000094378','F08C0356','RR8265',100
EXEC dbo.addMainTrans '5895996622902','M12C1254','RR8266',250
EXEC dbo.addMainTrans '2815219217306','M12C1254','RR8267',100
EXEC dbo.addMainTrans '4935998460019','N03C0047','RR8268',100
EXEC dbo.addMainTrans '2815219217306','F08C0356','RR8269',25
EXEC dbo.addMainTrans '4935998460019','N03C0047','RR8270',32
EXEC dbo.addMainTrans '5342000094378','F08C0356','RR8271',100
EXEC dbo.addMainTrans '5895996622902','M12C1254','RR8272',250
SELECT * FROM Transaction_T order by Transaction_T.Accountable_Contract,
Transaction_T.National_Stock_Number;

/* SELECT ALL COLUMNS FROM ONHAND VIEW */
SELECT * FROM ONHAND;

/* SELECT ALL COLUMNS FROM TRANSHIST VIEW */
SELECT * FROM TRANSHIST
order by Accountable_Contract, National_Stock_Number, TransId;
```

Data Manipulation

```
/* INSERT ISSUED DATA INTO TRANSACTION_T USING PROCEDURE */
EXEC dbo.IssMainTrans '2815219217306','F08C0356','DD1149/18-001',5
EXEC dbo.IssMainTrans '5342000094378','F08C0356','DD1149/18-002',150
EXEC dbo.IssMainTrans '2815219217306','M12C1254','DD1149/18-003',50
EXEC dbo.IssMainTrans '5895996622902','M12C1254','DD1149/18-004',450
EXEC dbo.IssMainTrans '4935998460019','N03C0047','DD1149/18-005',100

/* INSERT SCRAP DATA INTO TRANSACTION_T USING PROCEDURE */
EXEC dbo.ScrMainTrans '2815219217306','F08C0356','Scrap/18-001',5
EXEC dbo.ScrMainTrans '2815219217306','M12C1254','Scrap/18-002',5

/* INSERT LOST DATA INTO TRANSACTION_T USING PROCEDURE */
EXEC dbo.LstMainTrans '2815219217306','F08C0356','Lost/18-001',5
EXEC dbo.LstMainTrans '4935998460019','N03C0047','Lost/18-002',1
/*
       UPDATE TRANSACTION_T
       Provided to set TransDate to show chronological order of events.
       Stored Procedure is defaulted to show current date on the transaction
*/
UPDATE Transaction_T SET TransDate = '2018-09-07' WHERE TransId BETWEEN 1 and 5;
UPDATE Transaction_T SET TransDate = '2018-09-14' WHERE TransId BETWEEN 6 and 11;

/* Created this using the CRUD Transaction screen (ex. see fig. 3), so I can delete it */
```

National_Stock_Number	TransDate	TransRef	TransQty	TotalCost	CostPerUnit	Description	Location	Disposition	Accountable_Contract	Transid
4935998873610	2018-09-21	RR8273	10	$1,250.00	$125.00	EACH	BLD05	RECEIVED	F08C0356	20

```
/* DELETING A TRANSID */
DELETE FROM TRANSACTION_T WHERE TRANSID = 20
```

Answering Data Questions

1. *What type of reusable containers do we have on hand?* (*Figure 1 - On Hand*) This report shows what type of reusable containers (by National Stock Number) are on hand.

2. What is the quantity received, issued, and balance-on-hand? (*Figure 1 - On Hand*) This report quantity received, issued and balance-on-hand.

The below VIEW is pulling from the FROM the Item_T table and joining the Transaction_T table to bring together the necessary fields to answer the first two questions. Provided some formatting ($) on the cost for visual appeal. This query supports the business rules as outlined above.

```
/* SELECT ALL COLUMNS FROM ONHAND VIEW */
SELECT * FROM ONHAND;
```

100 %

Results | Messages

	ContractCode	Description	Part_Number	National_Stock_Number	QtyRecd	QtyIssd	QtyLostScrap	QtyOH	UnitCost	UnitExtCost
1	F08C0356	CONTAINER,SHIPPING	4257175	2815219217306	50	5	10	35	$10.00	$450.00
2	F08C0356	CONTAINER,SHIPPING	F310936-45	5342000094378	200	150	0	50	$50.00	$2,500.00
3	M12C1254	CONTAINER,SHIPPING	4257175	2815219217306	100	50	5	45	$10.00	$500.00
4	M12C1254	CONTAINER,SHIPPING	800516-0002	5895996622902	500	450	0	50	$300.00	$15,000.00
5	N03C0047	CONTAINER,SHIPPING	4257185	4935998460019	164	100	1	63	$75.00	$4,800.00

[*Figure 2 - On Hand Qry*]

3. Where is the reusable container located? (*Figure 2 – Transaction History*) This report shows a location for the reusable containers. Although they are all currently together in one location, I created the option to move them to other buildings (if necessary).

4. What is the cost associated to the reusable container? (*Figure 2 – Transaction History*) This report the associated cost for the reusable containers.

5. What is the disposition of the reusable containers? (*Figure 2 – Transaction History*) This report shows the disposition (by transaction) for the reusable containers.

The below VIEW is pulling FROM the Transaction_T table and joining in tables Item_T, UnitOfMeasure_T , Location_T and Disposition_T to combine the necessary information in order

to answer questions 3-5. Provided some formatting ($) on the cost for visual appeal. This query supports the business rules as outlined above.

```
92  /* SELECT ALL COLUMNS FROM TRANSHIST VIEW */
93  SELECT * FROM TRANSHIST
94  order by Accountable_Contract, National_Stock_Number, TransId;
```

100 %

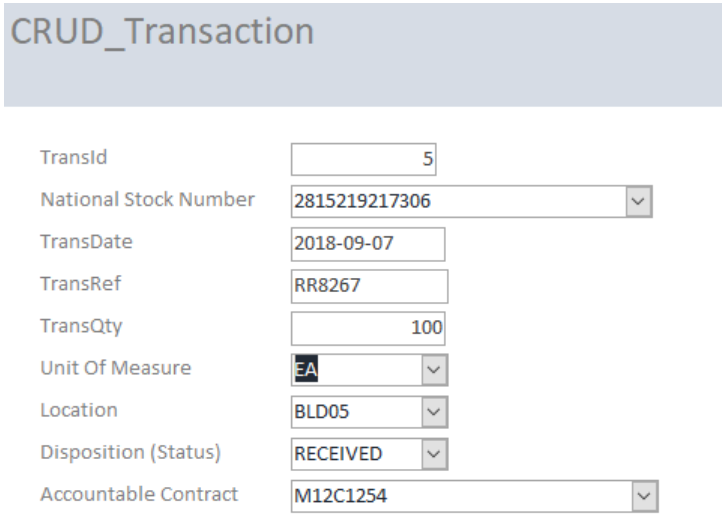
Results | Messages

	National_Stock_Number	TransDate	TransRef	TransQty	TotalCost	CostPerUnit	Description	Location	Disposition	Accountable_Contract
1	2815219217306	2018-09-07	RR8263	25	$250.00	$10.00	EACH	BLD05	RECEIVED	F08C0356
2	2815219217306	2018-09-14	RR8269	25	$250.00	$10.00	EACH	BLD05	RECEIVED	F08C0356
3	2815219217306	2018-09-14	DD1149/18-001	5	$50.00	$10.00	EACH	BLD05	ISSUED	F08C0356
4	2815219217306	2018-09-21	Scrap/18-001	5	$50.00	$10.00	EACH	BLD05	SCRAPPED	F08C0356
5	2815219217306	2018-09-21	Lost/18-001	5	$50.00	$10.00	EACH	BLD05	LOST	F08C0356
6	5342000094378	2018-09-07	RR8265	100	$5,000.00	$50.00	EACH	BLD05	RECEIVED	F08C0356
7	5342000094378	2018-09-14	RR8271	100	$5,000.00	$50.00	EACH	BLD05	RECEIVED	F08C0356
8	5342000094378	2018-09-21	DD1149/18-002	150	$7,500.00	$50.00	EACH	BLD05	ISSUED	F08C0356
9	2815219217306	2018-09-07	RR8267	100	$1,000.00	$10.00	EACH	BLD05	RECEIVED	M12C1254
10	2815219217306	2018-09-21	DD1149/18-003	50	$500.00	$10.00	EACH	BLD05	ISSUED	M12C1254
11	2815219217306	2018-09-21	Scrap/18-002	5	$50.00	$10.00	EACH	BLD05	SCRAPPED	M12C1254
12	5895996622902	2018-09-07	RR8266	250	$75,000.00	$300.00	EACH	BLD05	RECEIVED	M12C1254
13	5895996622902	2018-09-14	RR8272	250	$75,000.00	$300.00	EACH	BLD05	RECEIVED	M12C1254
14	5895996622902	2018-09-21	DD1149/18-004	450	$135,000.00	$300.00	EACH	BLD05	ISSUED	M12C1254
15	4935998460019	2018-09-07	RR8264	32	$2,400.00	$75.00	EACH	BLD05	RECEIVED	N03C0047
16	4935998460019	2018-09-14	RR8268	100	$7,500.00	$75.00	EACH	BLD05	RECEIVED	N03C0047
17	4935998460019	2018-09-14	RR8270	32	$2,400.00	$75.00	EACH	BLD05	RECEIVED	N03C0047
18	4935998460019	2018-09-21	DD1149/18-005	100	$7,500.00	$75.00	EACH	BLD05	ISSUED	N03C0047
19	4935998460019	2018-09-21	Lost/18-002	1	$75.00	$75.00	EACH	BLD05	LOST	N03C0047

[*Figure 2 – Transaction History Qry*]

Implementation

The Microsoft Access Graphical User Interface (below, fig. 3) allows a user to Create, Read, Update and Delete data from the database.



[*Figure 3 – MS Access Transaction Screen*]

The Microsoft Access Reports (below, fig. 4 & 5) allow users to answer the data questions (Goals) mentioned above.

ON HAND Quantity

ContractCode	National_Stock_Num	Description	Part_Number	QtyRecd	QtyIssd	QtyLostScrap	QtyOH	UnitCost	UnitExtCost
F08C0356	2815219217306	CONTAINER,SHIPPIN	4257175	50	5	10	35	$10.00	$450.00
F08C0356	5342000094378	CONTAINER,SHIPPIN	F310936-45	200	150	0	50	$50.00	$2,500.00
M12C1254	2815219217306	CONTAINER,SHIPPIN	4257175	100	50	5	45	$10.00	$500.00
M12C1254	5895996622902	CONTAINER,SHIPPIN	800516-0002	500	450	0	50	$300.00	$15,000.00
N03C0047	4935998460019	CONTAINER,SHIPPIN	4257185	164	100	1	63	$75.00	$4,800.00

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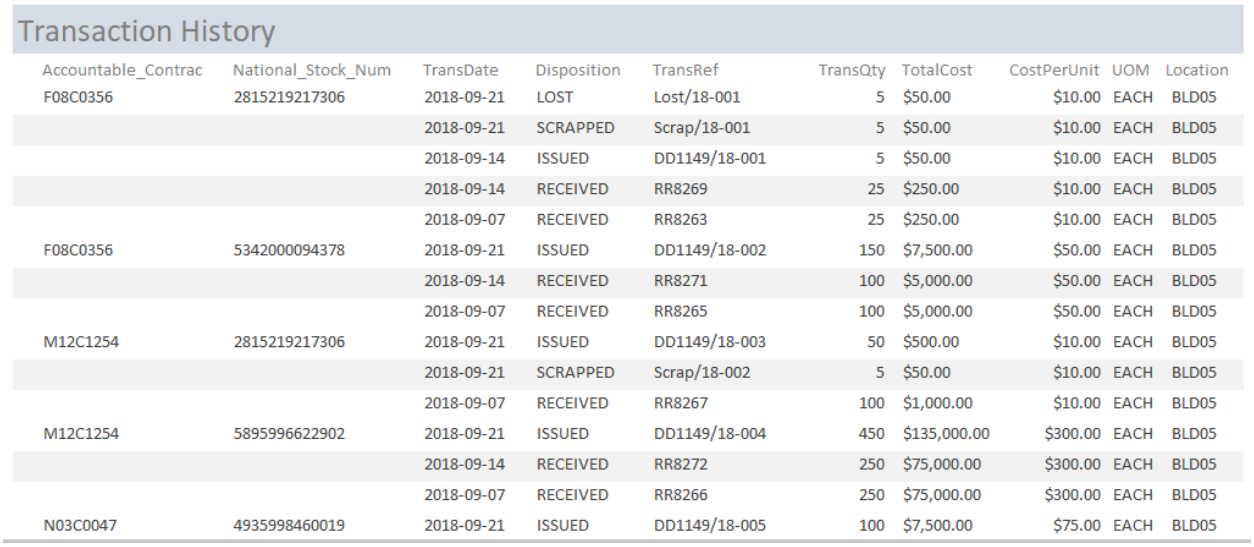
[*Figure 4 – MS Access On Hand Quantity Report*]



Transaction History

Accountable_Contrac	National_Stock_Num	TransDate	Disposition	TransRef	TransQty	TotalCost	CostPerUnit	UOM	Location
F08C0356	2815219217306	2018-09-21	LOST	Lost/18-001	5	$50.00	$10.00	EACH	BLD05
		2018-09-21	SCRAPPED	Scrap/18-001	5	$50.00	$10.00	EACH	BLD05
		2018-09-14	ISSUED	DD1149/18-001	5	$50.00	$10.00	EACH	BLD05
		2018-09-14	RECEIVED	RR8269	25	$250.00	$10.00	EACH	BLD05
		2018-09-07	RECEIVED	RR8263	25	$250.00	$10.00	EACH	BLD05
F08C0356	5342000094378	2018-09-21	ISSUED	DD1149/18-002	150	$7,500.00	$50.00	EACH	BLD05
		2018-09-14	RECEIVED	RR8271	100	$5,000.00	$50.00	EACH	BLD05
		2018-09-07	RECEIVED	RR8265	100	$5,000.00	$50.00	EACH	BLD05
M12C1254	2815219217306	2018-09-21	ISSUED	DD1149/18-003	50	$500.00	$10.00	EACH	BLD05
		2018-09-21	SCRAPPED	Scrap/18-002	5	$50.00	$10.00	EACH	BLD05
		2018-09-07	RECEIVED	RR8267	100	$1,000.00	$10.00	EACH	BLD05
M12C1254	5895996622902	2018-09-21	ISSUED	DD1149/18-004	450	$135,000.00	$300.00	EACH	BLD05
		2018-09-14	RECEIVED	RR8272	250	$75,000.00	$300.00	EACH	BLD05
		2018-09-07	RECEIVED	RR8266	250	$75,000.00	$300.00	EACH	BLD05
N03C0047	4935998460019	2018-09-21	ISSUED	DD1149/18-005	100	$7,500.00	$75.00	EACH	BLD05

[*Figure 5 – MS Access Transaction History Report*]

Reflection

• What assumptions did you have at the start of your project that changed by the end? Think in terms of both your own problem domain as well as your knowledge of the process.

When I started this project, I didn't expect to have to create so many tables. I thought it was pretty straight forward and could be handled in fewer tables. After going through this exercise, and swinging the pendulum between too many table and not enough tables, I released it is best to plan for expanded applications of your tool and to create the necessary relationships between the table in order to ensure normalized data today and for the future.

The assumptions I made on my problem remained the same throughout the project. They are based on the business rules outlined above so they really didn't change.

• The next time you do this, what will be different?

Next time I do this I will better plan for the future up front. Now that I have gone through this class and project I learned a few things that will help me achieve that goal in the future. Normalization of data, creating stored procedures, creating functions and creating views are all very useful strategies for a successful implementation.

• Regardless of whether you go through these steps again, how do you think it will inform your approach to data as an information professional?

This process really opened my eyes to the importance of data and some of the tools available to help protect it. I am now looking at ways to better capture, use and store data at my current job so this class really has provided me with new insight and the knowledge to tackle that head on.

As an information profession, data is the source of all the deliverables and the quality of that data will directly affect the quality of the deliverable. Businesses and individuals make many strategic and tactical decision on the information they have or are provided and ultimately having accurate data will save money.