



Database for Bug Tracking System

Ashish Kumar

001499787

Problem Statement

A bug tracking tool is used to record and track bugs in the software by all the members of the team.

Bug tracking is important in software engineering as complex software systems typically have hundreds or thousands of defects. Managing, evaluating and prioritizing these bugs is a difficult task when done manually. When the number of defects increases over a period, it is difficult to manage this data in Excel sheets. Thus, an efficient database system could be designed to manage the defect lifecycle.

Also, when the product goes live it is important to have the bug's history so that if the similar or same bug arises, we can track the issue easily. So, a consistent database is required to preserve the data in many forms and which we can use anywhere and maybe after ages.

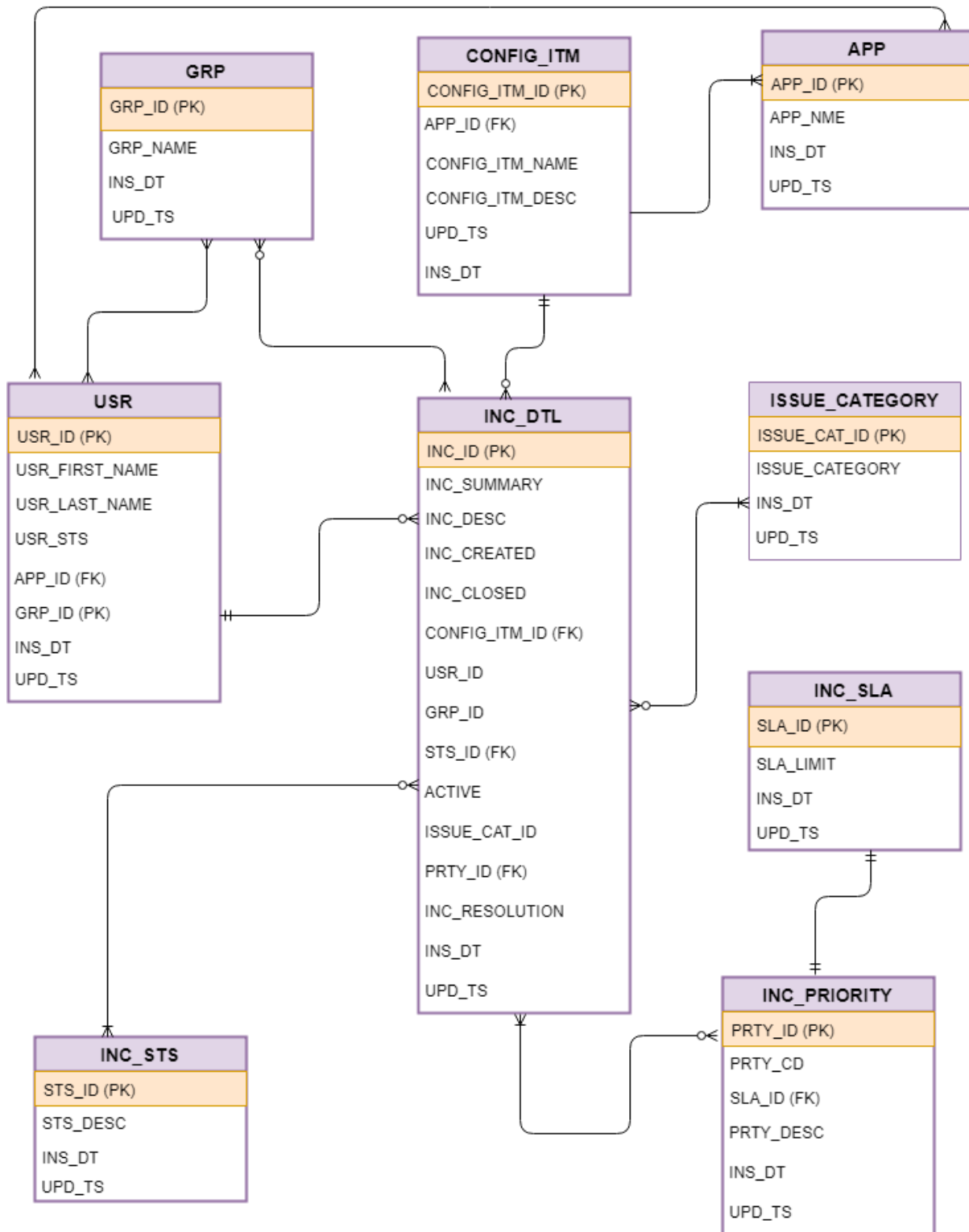
Approach

The database should be designed to store large data, that interacts with applications to manage and analyze the data. Triggers and Procedures can be used to perform the operations on the database which increases the efficiency and security of the database.

The tool used to design and store the data are SSMS (Microsoft SQL Server Management Studio) and MS SQL Server Express Edition. For ER diagram, I have used draw.io tool.

The database is normalized efficiently, and information are divided into subject based tables to reduce the redundant data. Stored procedures are used to create an incident and store the default values for that incident. Triggers have been used to properly handle the events and store the data in correct tables. View is created to see the details of the incident all in one table using joins.

'ER Diagram



STORED PROCEDURE

```
USE [IMS]
GO
```

```
/****** Object: StoredProcedure [dbo].[spIncCreate]    Script Date: 13-12-2018 08:52:03 *****/
SET ANSI_NULLS ON
GO
```

```
SET QUOTED_IDENTIFIER ON
GO
```

```
CREATE PROCEDURE [dbo].[spIncCreate]
```

```
    @iConfigItemName    VARCHAR(10)          = NULL,
    @iIncSumry           VARCHAR(1000) = NULL,
    @iIncDesc            VARCHAR(1000) = NULL,
    @iPriority            CHAR(2)              = NULL
```

```
AS
BEGIN
```

```
    SET NOCOUNT ON; --Need Explanation
```

```
    -- Remap input parameters to local variables to avoid parameter siniffing
```

```
    DECLARE @ConfigItemName VARCHAR(10)          = ISNULL(@iConfigItemName, ''),
            @IncSumry        VARCHAR(1000) = ISNULL(@iIncSumry, 'Please Update
Incident Summary'),
            @IncDesc         VARCHAR(1000) = ISNULL(@iIncDesc, 'Please Update
Incident Summary'),
            @Priority         CHAR(2)          = ISNULL(@iPriority, 'P3'),
            @QuryCnt          smallint,
            @ConfigItemID     smallint,
            @IncId            smallint,
            @PrtyId           smallint;
```

```
    -- Lookup for Configuration Item
```

```
    SELECT
        @QuryCnt = COUNT(*)
        ,@ConfigItemID = CONFIG_ITM_ID
    FROM
        DBO.CONFIG_ITM
    WHERE
        CONFIG_ITM_NAME = @ConfigItemName
    GROUP BY
        CONFIG_ITM_ID;
```

```
    -- Generate Incident Number
```

```
    SELECT @IncId = MAX(INC_ID) + 1 FROM DBO.INC_DTL;
```

```
    -- Get Priority Details for incident
```

```
    SELECT @PrtyID = PRTY_ID FROM DBO.INC_PRIORITY WHERE PRTY_CD = @Priority;
```

```
IF @QuryCnt = 1 BEGIN
```

```
    INSERT INTO [dbo].[INC_DTL]
        ([INC_ID]
        , [INC_SUMMARY]
        , [INC_DESC]
        , [INC_CREATED]
        , [INC_CLOSED]
        , [CONFIG_ITM_ID]
        , [USR_ID]
        , [GRP_ID]
        , [PRTY_ID]
        , [STS_ID]
        , [ACTIVE]
        , [ISSUE_CAT_ID]
        , [INC_RESOLUTION]
        , [INS_DT]
        , [UPD_TS])
```

```
VALUES
```

```
    (@IncId
    , @IncSumry
    , @IncDesc
    , sysdatetime()
    , '9999-01-01 00:00:00.000'
    , @ConfigItemID
    , 0
    , 1
    , @PrtyID
    , 1
    , 'YES'
    , 0
    , ''
    , getdate()
    , sysdatetime());
```

```
        PRINT '*****Incident created successfully for the issue*****'
```

```
END
```

```
ELSE
```

```
        PRINT '*****Entered Configuration Item is Unknow*****'
```

```
END
GO
```

TRIGGERS

```
USE [IMS]
GO
/***** Object: Trigger [dbo].[TRIG_INSERT_GRP]    Script Date: 13-12-2018 08:52:52 *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TRIGGER [dbo].[TRIG_INSERT_GRP]
ON [dbo].[USR]
FOR INSERT
AS
BEGIN
    INSERT INTO [dbo].[GRP]
        ([GRP_ID]
        , [GRP_NAME]
        , [INS_DT]
        , [UPD_TS])
    SELECT USR.GRP_ID, 'INSERTED BY TRIG' AS GRP_NAME, getdate(), sysdatetime()
    FROM DBO.[USR] USR
    LEFT JOIN DBO.[GRP] GRP on USR.GRP_ID = GRP.GRP_ID
    WHERE GRP.GRP_ID IS NULL
END
```

```
USE [IMS]
GO
/***** Object: Trigger [dbo].[TRIG_DELETE_GRP]    Script Date: 13-12-2018 08:53:16 *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TRIGGER [dbo].[TRIG_DELETE_GRP]
ON [dbo].[USR]
AFTER UPDATE
AS
BEGIN
    DELETE FROM [dbo].[GRP]

        WHERE GRP_ID NOT IN (SELECT GRP_ID FROM USR) and GRP_NAME='INSERTED BY TRIG'

END
```

VIEW

```
USE [IMS]
GO
```

```
/****** Object: View [dbo].[INCIDENT_DETAILS]    Script Date: 13-12-2018 08:54:05 *****/
SET ANSI_NULLS OFF
GO
```

```
SET QUOTED_IDENTIFIER ON
GO
```

```
CREATE VIEW [dbo].[vwINCIDENT_DETAILS]
AS
SELECT SRC.INC_ID,
       SRC.INC_SUMMARY,
       SRC.INC_DESC,
       SRC.INC_CREATED,
       SRC.INC_CLOSED,
       CI.CONFIG_ITM_DESC,
       CONCAT(USR.USR_LAST_NAME, ', ', USR.USR_FIRST_NAME) AS ASSIGNEE,
       IPRTY.PRTY_DESC,
       ISTS.STS_DESC,
       GRP.GRP_NAME,
       ACTIVE,
       ISCAT.ISSUE_CATEGORY,
       SRC.INC_RESOLUTION
FROM DBO.INC_DTL SRC
LEFT JOIN DBO.CONFIG_ITM CI ON SRC.CONFIG_ITM_ID = CI.CONFIG_ITM_ID
LEFT JOIN DBO.USR USR ON SRC.USR_ID = USR.USR_ID
LEFT JOIN DBO.GRP GRP ON SRC.GRP_ID = GRP.GRP_ID
LEFT JOIN DBO.INC_PRIORITY IPRTY ON SRC.PRTY_ID = IPRTY.PRTY_ID
LEFT JOIN DBO.INC_STS ISTS ON SRC.STS_ID = ISTS.STS_ID
LEFT JOIN DBO.ISSUE_CATEGORY ISCAT ON SRC.ISSUE_CAT_ID = ISCAT.ISSUE_CAT_ID;
GO
```

APPENDIX

```
USE [master]
GO
/***** Object: Database [IMS]    Script Date: 13-12-2018 09:40:06 *****/
CREATE DATABASE [IMS]
    CONTAINMENT = NONE
    ON PRIMARY
    ( NAME = N'IMS', FILENAME = N'C:\Program Files\Microsoft SQL
Server\MSSQL14.SQLEXPRESS\MSSQL\DATA\IMS.mdf' , SIZE = 8192KB , MAXSIZE = UNLIMITED, FILEGROWTH
= 65536KB )
    LOG ON
    ( NAME = N'IMS_log', FILENAME = N'C:\Program Files\Microsoft SQL
Server\MSSQL14.SQLEXPRESS\MSSQL\DATA\IMS_log.ldf' , SIZE = 8192KB , MAXSIZE = 2048GB ,
FILEGROWTH = 65536KB )
GO
ALTER DATABASE [IMS] SET COMPATIBILITY_LEVEL = 130
GO
IF (1 = FULLTEXTSERVICEPROPERTY('IsFullTextInstalled'))
begin
EXEC [IMS].[dbo].[sp_fulltext_database] @action = 'enable'
end
GO
ALTER DATABASE [IMS] SET ANSI_NULL_DEFAULT OFF
GO
ALTER DATABASE [IMS] SET ANSI_NULLS OFF
GO
ALTER DATABASE [IMS] SET ANSI_PADDING OFF
GO
ALTER DATABASE [IMS] SET ANSI_WARNINGS OFF
GO
ALTER DATABASE [IMS] SET ARITHABORT OFF
GO
ALTER DATABASE [IMS] SET AUTO_CLOSE OFF
GO
ALTER DATABASE [IMS] SET AUTO_SHRINK OFF
GO
ALTER DATABASE [IMS] SET AUTO_UPDATE_STATISTICS ON
GO
ALTER DATABASE [IMS] SET CURSOR_CLOSE_ON_COMMIT OFF
GO
ALTER DATABASE [IMS] SET CURSOR_DEFAULT GLOBAL
GO
ALTER DATABASE [IMS] SET CONCAT_NULL_YIELDS_NULL OFF
GO
ALTER DATABASE [IMS] SET NUMERIC_ROUNDABORT OFF
GO
ALTER DATABASE [IMS] SET QUOTED_IDENTIFIER OFF
GO
ALTER DATABASE [IMS] SET RECURSIVE_TRIGGERS OFF
GO
ALTER DATABASE [IMS] SET DISABLE_BROKER
GO
ALTER DATABASE [IMS] SET AUTO_UPDATE_STATISTICS_ASYNC OFF
GO
ALTER DATABASE [IMS] SET DATE_CORRELATION_OPTIMIZATION OFF
```



```

GO
ALTER DATABASE [IMS] SET TRUSTWORTHY OFF
GO
ALTER DATABASE [IMS] SET ALLOW_SNAPSHOT_ISOLATION OFF
GO
ALTER DATABASE [IMS] SET PARAMETERIZATION SIMPLE
GO
ALTER DATABASE [IMS] SET READ_COMMITTED_SNAPSHOT OFF
GO
ALTER DATABASE [IMS] SET HONOR_BROKER_PRIORITY OFF
GO
ALTER DATABASE [IMS] SET RECOVERY FULL
GO
ALTER DATABASE [IMS] SET MULTI_USER
GO
ALTER DATABASE [IMS] SET PAGE_VERIFY CHECKSUM
GO
ALTER DATABASE [IMS] SET DB_CHAINING OFF
GO
ALTER DATABASE [IMS] SET FILESTREAM( NON_TRANSACTED_ACCESS = OFF )
GO
ALTER DATABASE [IMS] SET TARGET_RECOVERY_TIME = 60 SECONDS
GO
ALTER DATABASE [IMS] SET DELAYED_DURABILITY = DISABLED
GO
ALTER DATABASE [IMS] SET QUERY_STORE = OFF
GO
USE [IMS]
GO
/***** Object: Table [dbo].[GRP]      Script Date: 13-12-2018 09:40:06 *****/
SET ANSI_NULLS OFF
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[GRP](
    [GRP_ID] [smallint] NOT NULL,
    [GRP_NAME] [varchar](30) NOT NULL,
    [INS_DT] [date] NOT NULL,
    [UPD_TS] [datetime] NOT NULL
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[INC_DTL]   Script Date: 13-12-2018 09:40:06 *****/
SET ANSI_NULLS OFF
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[INC_DTL](
    [INC_ID] [smallint] NOT NULL,
    [INC_SUMMARY] [varchar](50) NOT NULL,
    [INC_DESC] [varchar](1000) NOT NULL,
    [INC_CREATED] [datetime] NOT NULL,
    [INC_CLOSED] [datetime] NOT NULL,
    [CONFIG_ITM_ID] [smallint] NOT NULL,
    [USR_ID] [smallint] NOT NULL,
    [GRP_ID] [smallint] NOT NULL,
    [PRTY_ID] [smallint] NOT NULL,
    [STS_ID] [smallint] NOT NULL,
    [ACTIVE] [varchar](3) NOT NULL,

```

```

        [ISSUE_CAT_ID] [smallint] NOT NULL,
        [INC_RESOLUTION] [varchar](1000) NOT NULL,
        [INS_DT] [date] NOT NULL,
        [UPD_TS] [datetime] NOT NULL
    ) ON [PRIMARY]
GO
/***** Object: Table [dbo].[INC_PRIORITY]    Script Date: 13-12-2018 09:40:06 *****/
SET ANSI_NULLS OFF
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[INC_PRIORITY](
    [PRTY_ID] [smallint] NOT NULL,
    [PRTY_CD] [varchar](3) NOT NULL,
    [SLA_ID] [smallint] NOT NULL,
    [PRTY_DESC] [varchar](20) NOT NULL,
    [INS_DT] [date] NOT NULL,
    [UPD_TS] [datetime] NOT NULL
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[CONFIG_ITM]    Script Date: 13-12-2018 09:40:06 *****/
SET ANSI_NULLS OFF
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[CONFIG_ITM](
    [CONFIG_ITM_ID] [smallint] NOT NULL,
    [CONFIG_ITM_NAME] [varchar](10) NOT NULL,
    [CONFIG_ITM_DESC] [varchar](100) NOT NULL,
    [APP_ID] [smallint] NOT NULL,
    [INS_DT] [date] NOT NULL,
    [UPD_TS] [datetime] NOT NULL
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[USR]    Script Date: 13-12-2018 09:40:06 *****/
SET ANSI_NULLS OFF
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[USR](
    [USR_ID] [smallint] NOT NULL,
    [USR_FIRST_NAME] [varchar](100) NOT NULL,
    [USR_LAST_NAME] [varchar](100) NOT NULL,
    [USR_STS] [char](1) NOT NULL,
    [GRP_ID] [smallint] NOT NULL,
    [APP_ID] [smallint] NOT NULL,
    [INS_DT] [date] NOT NULL,
    [UPD_TS] [datetime] NOT NULL
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[INC_STS]    Script Date: 13-12-2018 09:40:06 *****/
SET ANSI_NULLS OFF
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[INC_STS](
    [STS_ID] [smallint] NOT NULL,
    [STS_DESC] [varchar](15) NOT NULL,

```

```

        [INS_DT] [date] NOT NULL,
        [UPD_TS] [datetime] NOT NULL
    ) ON [PRIMARY]
GO
/***** Object: Table [dbo].[ISSUE_CATEGORY]    Script Date: 13-12-2018 09:40:06 *****/
SET ANSI_NULLS OFF
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[ISSUE_CATEGORY](
    [ISSUE_CAT_ID] [smallint] NOT NULL,
    [ISSUE_CATEGORY] [varchar](30) NOT NULL,
    [INS_DT] [date] NOT NULL,
    [UPD_TS] [datetime] NOT NULL
) ON [PRIMARY]
GO
/***** Object: View [dbo].[vwINCIDENT_DETAILS]    Script Date: 13-12-2018 09:40:06 *****/
SET ANSI_NULLS OFF
GO
SET QUOTED_IDENTIFIER ON
GO

```

```

CREATE VIEW [dbo].[vwINCIDENT_DETAILS]
AS
SELECT SRC.INC_ID,
       SRC.INC_SUMMARY,
       SRC.INC_DESC,
       SRC.INC_CREATED,
       SRC.INC_CLOSED,
       CI.CONFIG_ITM_DESC,
       CONCAT(USR.USR_LAST_NAME, ', ', USR.USR_FIRST_NAME) AS ASSIGNEE,
       IPRTY.PRTY_DESC,
       ISTS.STS_DESC,
       GRP.GRP_NAME,
       ACTIVE,
       ISCAT.ISSUE_CATEGORY,
       SRC.INC_RESOLUTION
FROM DBO.INC_DTL SRC
LEFT JOIN DBO.CONFIG_ITM CI ON SRC.CONFIG_ITM_ID = CI.CONFIG_ITM_ID
LEFT JOIN DBO.USR USR ON SRC.USR_ID = USR.USR_ID
LEFT JOIN DBO.GRP GRP ON SRC.GRP_ID = GRP.GRP_ID
LEFT JOIN DBO.INC_PRIORITY IPRTY ON SRC.PRTY_ID = IPRTY.PRTY_ID
LEFT JOIN DBO.INC_STS ISTS ON SRC.STS_ID = ISTS.STS_ID
LEFT JOIN DBO.ISSUE_CATEGORY ISCAT ON SRC.ISSUE_CAT_ID = ISCAT.ISSUE_CAT_ID;
GO
/***** Object: View [dbo].[vwIncTimeElapsed]    Script Date: 13-12-2018 09:40:06 *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE VIEW [dbo].[vwIncTimeElapsed]
AS
SELECT SRC.INC_ID,

```

```

SRC.INC_SUMMARY,
SRC.INC_DESC,
SRC.INC_CREATED,
SRC.INC_CLOSED,
CI.CONFIG_ITM_DESC,
CONCAT(USR.USR_LAST_NAME, ',',USR.USR_FIRST_NAME) AS ASSIGNEE,
IPRTY.PRTY_DESC,
ISTS.STS_DESC,
GRP.GRP_NAME,
ACTIVE,
ISCAT.ISSUE_CATEGORY,
SRC.INC_RESOLUTION,
DATEDIFF(day,SRC.INC_CREATED, SRC.INC_CLOSED) AS TIME_ELAPSED
FROM DBO.INC_DTL SRC
LEFT JOIN DBO.CONFIG_ITM CI ON SRC.CONFIG_ITM_ID = CI.CONFIG_ITM_ID
LEFT JOIN DBO.USR USR ON SRC.USR_ID = USR.USR_ID
LEFT JOIN DBO.GRP GRP ON SRC.GRP_ID = GRP.GRP_ID
LEFT JOIN DBO.INC_PRIORITY IPRTY ON SRC.PRTY_ID = IPRTY.PRTY_ID
LEFT JOIN DBO.INC_STS ISTS ON SRC.STS_ID = ISTS.STS_ID
LEFT JOIN DBO.ISSUE_CATEGORY ISCAT ON SRC.ISSUE_CAT_ID = ISCAT.ISSUE_CAT_ID
WHERE SRC.STS_ID='4';
GO
/***** Object: Table [dbo].[APP]      Script Date: 13-12-2018 09:40:06 *****/
SET ANSI_NULLS OFF
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[APP](
    [APP_ID] [smallint] NOT NULL,
    [APP_NME] [varchar](100) NOT NULL,
    [INS_DT] [date] NOT NULL,
    [UPD_TS] [datetime] NOT NULL
) ON [PRIMARY]
GO
/***** Object: Table [dbo].[INC_SLA]   Script Date: 13-12-2018 09:40:06 *****/
SET ANSI_NULLS OFF
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[INC_SLA](
    [SLA_ID] [smallint] NOT NULL,
    [SLA_LIMIT] [varchar](20) NOT NULL,
    [INS_DT] [date] NOT NULL,
    [UPD_TS] [datetime] NOT NULL
) ON [PRIMARY]
GO
INSERT [dbo].[APP] ([APP_ID], [APP_NME], [INS_DT], [UPD_TS]) VALUES (1, N'Warranty Customer
Care', CAST(N'2018-12-09' AS Date), CAST(N'2018-12-11T19:03:35.373' AS DateTime))
INSERT [dbo].[APP] ([APP_ID], [APP_NME], [INS_DT], [UPD_TS]) VALUES (2, N'Sales Analysis
Reporting', CAST(N'2018-12-09' AS Date), CAST(N'2018-12-11T19:03:35.373' AS DateTime))
INSERT [dbo].[APP] ([APP_ID], [APP_NME], [INS_DT], [UPD_TS]) VALUES (3, N'Quality Care Rewards',
CAST(N'2018-12-11' AS Date), CAST(N'2018-12-11T19:03:35.373' AS DateTime))
INSERT [dbo].[CONFIG_ITM] ([CONFIG_ITM_ID], [CONFIG_ITM_NAME], [CONFIG_ITM_DESC], [APP_ID],
[INS_DT], [UPD_TS]) VALUES (1, N'WCCX01', N'FTP Warranty Claims Files', 1, CAST(N'2018-12-09' AS
Date), CAST(N'2018-12-09T01:10:05.647' AS DateTime))
INSERT [dbo].[CONFIG_ITM] ([CONFIG_ITM_ID], [CONFIG_ITM_NAME], [CONFIG_ITM_DESC], [APP_ID],
[INS_DT], [UPD_TS]) VALUES (3, N'WCCX03', N'Load Warranty Mart tables', 1, CAST(N'2018-12-09' AS
Date), CAST(N'2018-12-09T01:11:34.890' AS DateTime))

```

```

INSERT [dbo].[CONFIG_ITM] ([CONFIG_ITM_ID], [CONFIG_ITM_NAME], [CONFIG_ITM_DESC], [APP_ID],
[INS_DT], [UPD_TS]) VALUES (2, N'WCCX02', N'Load Warranty Mart Stage tables', 1, CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:09:09.247' AS DateTime))
INSERT [dbo].[CONFIG_ITM] ([CONFIG_ITM_ID], [CONFIG_ITM_NAME], [CONFIG_ITM_DESC], [APP_ID],
[INS_DT], [UPD_TS]) VALUES (4, N'CDDX01', N'Update tables', 2, CAST(N'2018-12-13' AS Date), CAST(N'2018-12-13T07:24:12.190' AS DateTime))
INSERT [dbo].[CONFIG_ITM] ([CONFIG_ITM_ID], [CONFIG_ITM_NAME], [CONFIG_ITM_DESC], [APP_ID],
[INS_DT], [UPD_TS]) VALUES (5, N'CDDX02', N'Delete tables', 3, CAST(N'2018-12-13' AS Date), CAST(N'2018-12-13T07:24:36.490' AS DateTime))
INSERT [dbo].[GRP] ([GRP_ID], [GRP_NAME], [INS_DT], [UPD_TS]) VALUES (1, N'APPLICATION SUPPORT GRP', CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:35:50.023' AS DateTime))
INSERT [dbo].[GRP] ([GRP_ID], [GRP_NAME], [INS_DT], [UPD_TS]) VALUES (2, N'Product Management', CAST(N'2018-12-11' AS Date), CAST(N'2018-12-11T19:39:26.417' AS DateTime))
INSERT [dbo].[GRP] ([GRP_ID], [GRP_NAME], [INS_DT], [UPD_TS]) VALUES (3, N'Testing Team', CAST(N'2018-12-11' AS Date), CAST(N'2018-12-11T19:39:41.627' AS DateTime))
INSERT [dbo].[GRP] ([GRP_ID], [GRP_NAME], [INS_DT], [UPD_TS]) VALUES (4, N'OPERATIONS', CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T12:38:13.077' AS DateTime))
INSERT [dbo].[GRP] ([GRP_ID], [GRP_NAME], [INS_DT], [UPD_TS]) VALUES (5, N'INSERTED BY TRIG', CAST(N'2018-12-11' AS Date), CAST(N'2018-12-11T01:24:35.217' AS DateTime))
INSERT [dbo].[GRP] ([GRP_ID], [GRP_NAME], [INS_DT], [UPD_TS]) VALUES (0, N'INSERTED BY TRIG', CAST(N'2018-12-12' AS Date), CAST(N'2018-12-12T21:10:33.540' AS DateTime))
INSERT [dbo].[INC_DTL] ([INC_ID], [INC_SUMMARY], [INC_DESC], [INC_CREATED], [INC_CLOSED],
[CONFIG_ITM_ID], [USR_ID], [GRP_ID], [PRTY_ID], [STS_ID], [ACTIVE], [ISSUE_CAT_ID],
[INC_RESOLUTION], [INS_DT], [UPD_TS]) VALUES (1001, N'Batch Job Failure', N'WCCX001 Job Aborted, Source file not found', CAST(N'2018-12-09T01:45:36.260' AS DateTime), CAST(N'1900-01-01T00:00:00.000' AS DateTime), 1, 111, 0, 2, 1, N'YES', 4, N'Communicated with Mainframe Team, Restarted the Job', CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:45:36.263' AS DateTime))
INSERT [dbo].[INC_DTL] ([INC_ID], [INC_SUMMARY], [INC_DESC], [INC_CREATED], [INC_CLOSED],
[CONFIG_ITM_ID], [USR_ID], [GRP_ID], [PRTY_ID], [STS_ID], [ACTIVE], [ISSUE_CAT_ID],
[INC_RESOLUTION], [INS_DT], [UPD_TS]) VALUES (1002, N'Misising some claims', N'Issue with claims eligibility fucntionalitiy', CAST(N'2018-12-10T19:57:36.510' AS DateTime), CAST(N'9999-01-01T00:00:00.000' AS DateTime), 2, 0, 1, 3, 3, N'YES', 0, N'', CAST(N'2018-12-10' AS Date), CAST(N'2018-12-10T19:57:36.510' AS DateTime))
INSERT [dbo].[INC_DTL] ([INC_ID], [INC_SUMMARY], [INC_DESC], [INC_CREATED], [INC_CLOSED],
[CONFIG_ITM_ID], [USR_ID], [GRP_ID], [PRTY_ID], [STS_ID], [ACTIVE], [ISSUE_CAT_ID],
[INC_RESOLUTION], [INS_DT], [UPD_TS]) VALUES (1003, N'Misising some claims', N'Issue with claims eligibility fucntionalitiy', CAST(N'2018-12-11T00:50:49.920' AS DateTime), CAST(N'2018-12-13T02:44:49.057' AS DateTime), 1, 0, 1, 1, 4, N'YES', 0, N'', CAST(N'2018-12-11' AS Date), CAST(N'2018-12-11T00:50:49.920' AS DateTime))
INSERT [dbo].[INC_DTL] ([INC_ID], [INC_SUMMARY], [INC_DESC], [INC_CREATED], [INC_CLOSED],
[CONFIG_ITM_ID], [USR_ID], [GRP_ID], [PRTY_ID], [STS_ID], [ACTIVE], [ISSUE_CAT_ID],
[INC_RESOLUTION], [INS_DT], [UPD_TS]) VALUES (1004, N'Please Update Incident Summary', N'Please Update Incident Summary', CAST(N'2018-12-11T20:45:26.590' AS DateTime), CAST(N'2018-12-13T09:26:08.753' AS DateTime), 3, 0, 1, 3, 4, N'YES', 0, N'', CAST(N'2018-12-11' AS Date), CAST(N'2018-12-11T20:45:26.590' AS DateTime))
INSERT [dbo].[INC_DTL] ([INC_ID], [INC_SUMMARY], [INC_DESC], [INC_CREATED], [INC_CLOSED],
[CONFIG_ITM_ID], [USR_ID], [GRP_ID], [PRTY_ID], [STS_ID], [ACTIVE], [ISSUE_CAT_ID],
[INC_RESOLUTION], [INS_DT], [UPD_TS]) VALUES (1005, N'Batch Job failure', N'Batch aborted unexpectedly', CAST(N'2018-12-13T02:56:46.997' AS DateTime), CAST(N'9999-01-01T00:00:00.000' AS DateTime), 1, 0, 1, 1, 1, N'YES', 0, N'', CAST(N'2018-12-13' AS Date), CAST(N'2018-12-13T02:56:46.997' AS DateTime))
INSERT [dbo].[INC_PRIORITY] ([PRTY_ID], [PRTY_CD], [SLA_ID], [PRTY_DESC], [INS_DT], [UPD_TS]) VALUES (1, N'P1', 1, N'High', CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:14:42.453' AS DateTime))
INSERT [dbo].[INC_PRIORITY] ([PRTY_ID], [PRTY_CD], [SLA_ID], [PRTY_DESC], [INS_DT], [UPD_TS]) VALUES (2, N'P2', 2, N'Medium', CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:15:02.543' AS DateTime))

```

```

INSERT [dbo].[INC_PRIORITY] ([PRTY_ID], [PRTY_CD], [SLA_ID], [PRTY_DESC], [INS_DT], [UPD_TS])
VALUES (3, N'P3', 3, N'Low', CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:15:17.810' AS
DateTime))
INSERT [dbo].[INC_SLA] ([SLA_ID], [SLA_LIMIT], [INS_DT], [UPD_TS]) VALUES (1, N'4 Hours',
CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:22:53.447' AS DateTime))
INSERT [dbo].[INC_SLA] ([SLA_ID], [SLA_LIMIT], [INS_DT], [UPD_TS]) VALUES (2, N'8 Hours',
CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:23:01.153' AS DateTime))
INSERT [dbo].[INC_SLA] ([SLA_ID], [SLA_LIMIT], [INS_DT], [UPD_TS]) VALUES (3, N'24 Hours',
CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:23:10.890' AS DateTime))
INSERT [dbo].[INC_STS] ([STS_ID], [STS_DESC], [INS_DT], [UPD_TS]) VALUES (1, N'OPEN',
CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:27:29.717' AS DateTime))
INSERT [dbo].[INC_STS] ([STS_ID], [STS_DESC], [INS_DT], [UPD_TS]) VALUES (2, N'IN PROGRESS',
CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:27:54.120' AS DateTime))
INSERT [dbo].[INC_STS] ([STS_ID], [STS_DESC], [INS_DT], [UPD_TS]) VALUES (3, N'HOLD',
CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:28:12.540' AS DateTime))
INSERT [dbo].[INC_STS] ([STS_ID], [STS_DESC], [INS_DT], [UPD_TS]) VALUES (4, N'CLOSED',
CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:28:26.610' AS DateTime))
INSERT [dbo].[ISSUE_CATEGORY] ([ISSUE_CAT_ID], [ISSUE_CATEGORY], [INS_DT], [UPD_TS]) VALUES (1,
N'DATABASE SPACE ISSUE', CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:31:20.450' AS
DateTime))
INSERT [dbo].[ISSUE_CATEGORY] ([ISSUE_CAT_ID], [ISSUE_CATEGORY], [INS_DT], [UPD_TS]) VALUES (2,
N'MOUNT SPACE FULL', CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:31:51.607' AS DateTime))
INSERT [dbo].[ISSUE_CATEGORY] ([ISSUE_CAT_ID], [ISSUE_CATEGORY], [INS_DT], [UPD_TS]) VALUES (3,
N'DATABASE CONNECTION PROBLEM', CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:32:33.747' AS
DateTime))
INSERT [dbo].[ISSUE_CATEGORY] ([ISSUE_CAT_ID], [ISSUE_CATEGORY], [INS_DT], [UPD_TS]) VALUES (4,
N'SERVER CONNECTION PROBLEM', CAST(N'2018-12-09' AS Date), CAST(N'2018-12-09T01:43:20.797' AS
DateTime))
INSERT [dbo].[USR] ([USR_ID], [USR_FIRST_NAME], [USR_LAST_NAME], [USR_STS], [GRP_ID], [APP_ID],
[INS_DT], [UPD_TS]) VALUES (1001, N'Joel', N'Olsen', N'Y', 4, 2, CAST(N'2018-12-09' AS Date),
CAST(N'2018-12-09T12:38:13.060' AS DateTime))
INSERT [dbo].[USR] ([USR_ID], [USR_FIRST_NAME], [USR_LAST_NAME], [USR_STS], [GRP_ID], [APP_ID],
[INS_DT], [UPD_TS]) VALUES (1003, N'Ashish', N'Kumar', N'Y', 5, 1, CAST(N'2018-12-11' AS Date),
CAST(N'2018-12-11T01:24:35.210' AS DateTime))
INSERT [dbo].[USR] ([USR_ID], [USR_FIRST_NAME], [USR_LAST_NAME], [USR_STS], [GRP_ID], [APP_ID],
[INS_DT], [UPD_TS]) VALUES (1006, N'Amit', N'Kumar', N'Y', 1, 1, CAST(N'1900-01-01' AS Date),
CAST(N'1900-01-01T00:00:00.000' AS DateTime))
INSERT [dbo].[USR] ([USR_ID], [USR_FIRST_NAME], [USR_LAST_NAME], [USR_STS], [GRP_ID], [APP_ID],
[INS_DT], [UPD_TS]) VALUES (1010, N'Pete', N'Parke', N'Y', 0, 1, CAST(N'2018-12-12' AS Date),
CAST(N'2018-12-12T21:10:33.500' AS DateTime))
/***** Object: Index [PK_APP_F00E5805D5035174]      Script Date: 13-12-2018 09:40:06 *****/
ALTER TABLE [dbo].[APP] ADD PRIMARY KEY NONCLUSTERED
(
    [APP_ID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY =
OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
GO
/***** Object: Index [PK_CONFIG_I_F35D29099B6406CB]      Script Date: 13-12-2018 09:40:06
*****/
ALTER TABLE [dbo].[CONFIG_ITM] ADD PRIMARY KEY NONCLUSTERED
(
    [CONFIG_ITM_ID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY =
OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
GO
/***** Object: Index [PK_GRP_38033FBE7042D00D]      Script Date: 13-12-2018 09:40:06 *****/
ALTER TABLE [dbo].[GRP] ADD PRIMARY KEY NONCLUSTERED
(

```

```

        [GRP_ID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY =
OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
GO
/***** Object: Index [PK__INC_DTL__EA26684747AA8760]    Script Date: 13-12-2018 09:40:06
*****/
ALTER TABLE [dbo].[INC_DTL] ADD PRIMARY KEY NONCLUSTERED
(
        [INC_ID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY =
OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
GO
/***** Object: Index [PK__INC_PRI0__CDC4C2DFD51FC2C2]    Script Date: 13-12-2018 09:40:06
*****/
ALTER TABLE [dbo].[INC_PRIORITY] ADD PRIMARY KEY NONCLUSTERED
(
        [PRTY_ID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY =
OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
GO
/***** Object: Index [PK__INC_SLA__4E147153B4254290]    Script Date: 13-12-2018 09:40:06
*****/
ALTER TABLE [dbo].[INC_SLA] ADD PRIMARY KEY NONCLUSTERED
(
        [SLA_ID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY =
OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
GO
/***** Object: Index [PK__INC_STS__D93FFE7BE708204D]    Script Date: 13-12-2018 09:40:06
*****/
ALTER TABLE [dbo].[INC_STS] ADD PRIMARY KEY NONCLUSTERED
(
        [STS_ID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY =
OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
GO
/***** Object: Index [PK__ISSUE_CA__536C5C235FA2501A]    Script Date: 13-12-2018 09:40:06
*****/
ALTER TABLE [dbo].[ISSUE_CATEGORY] ADD PRIMARY KEY NONCLUSTERED
(
        [ISSUE_CAT_ID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY =
OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
GO
/***** Object: Index [PK__USR__725E118CB0516E4C]    Script Date: 13-12-2018 09:40:06 *****/
ALTER TABLE [dbo].[USR] ADD PRIMARY KEY NONCLUSTERED
(
        [USR_ID] ASC,
        [GRP_ID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY =
OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
GO
ALTER TABLE [dbo].[APP] ADD DEFAULT (getdate()) FOR [INS_DT]
GO
ALTER TABLE [dbo].[APP] ADD DEFAULT (sysdatetime()) FOR [UPD_TS]
GO
ALTER TABLE [dbo].[CONFIG_ITM] ADD DEFAULT (getdate()) FOR [INS_DT]
GO

```

```

ALTER TABLE [dbo].[CONFIG_ITM] ADD DEFAULT (sysdatetime()) FOR [UPD_TS]
GO
ALTER TABLE [dbo].[GRP] ADD DEFAULT (getdate()) FOR [INS_DT]
GO
ALTER TABLE [dbo].[GRP] ADD DEFAULT (sysdatetime()) FOR [UPD_TS]
GO
ALTER TABLE [dbo].[INC_DTL] ADD DEFAULT (getdate()) FOR [INS_DT]
GO
ALTER TABLE [dbo].[INC_DTL] ADD DEFAULT (sysdatetime()) FOR [UPD_TS]
GO
ALTER TABLE [dbo].[INC_PRIORITY] ADD DEFAULT (getdate()) FOR [INS_DT]
GO
ALTER TABLE [dbo].[INC_PRIORITY] ADD DEFAULT (sysdatetime()) FOR [UPD_TS]
GO
ALTER TABLE [dbo].[INC_SLA] ADD DEFAULT (getdate()) FOR [INS_DT]
GO
ALTER TABLE [dbo].[INC_SLA] ADD DEFAULT (sysdatetime()) FOR [UPD_TS]
GO
ALTER TABLE [dbo].[INC_STS] ADD DEFAULT (getdate()) FOR [INS_DT]
GO
ALTER TABLE [dbo].[INC_STS] ADD DEFAULT (sysdatetime()) FOR [UPD_TS]
GO
ALTER TABLE [dbo].[ISSUE_CATEGORY] ADD DEFAULT (getdate()) FOR [INS_DT]
GO
ALTER TABLE [dbo].[ISSUE_CATEGORY] ADD DEFAULT (sysdatetime()) FOR [UPD_TS]
GO
ALTER TABLE [dbo].[USR] ADD DEFAULT (getdate()) FOR [INS_DT]
GO
ALTER TABLE [dbo].[USR] ADD DEFAULT (sysdatetime()) FOR [UPD_TS]
GO
ALTER TABLE [dbo].[CONFIG_ITM] WITH CHECK ADD CONSTRAINT [FK_CONFIG_ITM_APP] FOREIGN
KEY([APP_ID])
REFERENCES [dbo].[APP] ([APP_ID])
GO
ALTER TABLE [dbo].[CONFIG_ITM] CHECK CONSTRAINT [FK_CONFIG_ITM_APP]
GO
ALTER TABLE [dbo].[GRP] WITH CHECK ADD CONSTRAINT [FK_USR_GRP] FOREIGN KEY([GRP_ID])
REFERENCES [dbo].[GRP] ([GRP_ID])
GO
ALTER TABLE [dbo].[GRP] CHECK CONSTRAINT [FK_USR_GRP]
GO
ALTER TABLE [dbo].[INC_DTL] WITH CHECK ADD CONSTRAINT [FK_INC_DTL_CONFIG_ITM] FOREIGN
KEY([CONFIG_ITM_ID])
REFERENCES [dbo].[CONFIG_ITM] ([CONFIG_ITM_ID])
GO
ALTER TABLE [dbo].[INC_DTL] CHECK CONSTRAINT [FK_INC_DTL_CONFIG_ITM]
GO
ALTER TABLE [dbo].[INC_DTL] WITH CHECK ADD CONSTRAINT [FK_INC_DTL_INC_PRIORITY] FOREIGN
KEY([PRTY_ID])
REFERENCES [dbo].[INC_PRIORITY] ([PRTY_ID])
GO
ALTER TABLE [dbo].[INC_DTL] CHECK CONSTRAINT [FK_INC_DTL_INC_PRIORITY]
GO
ALTER TABLE [dbo].[INC_DTL] WITH CHECK ADD CONSTRAINT [FK_INC_DTL_INC_STS] FOREIGN
KEY([STS_ID])
REFERENCES [dbo].[INC_STS] ([STS_ID])
GO
ALTER TABLE [dbo].[INC_DTL] CHECK CONSTRAINT [FK_INC_DTL_INC_STS]

```



```

GO
ALTER TABLE [dbo].[INC_PRIORITY] WITH CHECK ADD CONSTRAINT [FK_INC_PRIORITY_INC_SLA] FOREIGN
KEY([SLA_ID])
REFERENCES [dbo].[INC_SLA] ([SLA_ID])
GO
ALTER TABLE [dbo].[INC_PRIORITY] CHECK CONSTRAINT [FK_INC_PRIORITY_INC_SLA]
GO
ALTER TABLE [dbo].[USR] WITH CHECK ADD CONSTRAINT [FK_USR_APP] FOREIGN KEY([APP_ID])
REFERENCES [dbo].[APP] ([APP_ID])
GO
ALTER TABLE [dbo].[USR] CHECK CONSTRAINT [FK_USR_APP]
GO
/***** Object: StoredProcedure [dbo].[spIncCreate] Script Date: 13-12-2018 09:40:06 *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO

```

```

CREATE PROCEDURE [dbo].[spIncCreate]

```

```

    @iConfigItemName    VARCHAR(10)          = NULL,
    @iIncSumry           VARCHAR(1000) = NULL,
    @iIncDesc            VARCHAR(1000) = NULL,
    @iPriority            CHAR(2)              = NULL

```

```

AS
BEGIN

```

```

    SET NOCOUNT ON; --Need Explanation

```

```

    -- Remap input parameters to local variables to avoid parameter sniffing

```

```

    DECLARE @ConfigItemName VARCHAR(10)          = ISNULL(@iConfigItemName, ''),
            @IncSumry        VARCHAR(1000) = ISNULL(@iIncSumry, 'Please Update
Incident Summary'),
            @IncDesc         VARCHAR(1000) = ISNULL(@iIncDesc, 'Please Update
Incident Summary'),
            @Priority         CHAR(2)          = ISNULL(@iPriority, 'P3'),
            @QuryCnt          smallint,
            @ConfigItemID    smallint,
            @IncId            smallint,
            @PrtyId          smallint;

```

```

    -- Lookup for Configuration Item

```

```

    SELECT
        @QuryCnt = COUNT(*)
        , @ConfigItemID = CONFIG_ITM_ID
    FROM
        DBO.CONFIG_ITM
    WHERE
        CONFIG_ITM_NAME = @ConfigItemName
    GROUP BY
        CONFIG_ITM_ID;

```

```

    -- Generate Incident Number

```

```

    SELECT @IncId = MAX(INC_ID) + 1 FROM DBO.INC_DTL;

```

```

-- Get Priority Details for incident
SELECT @PrtyID = PRTY_ID FROM DBO.INC_PRIORITY WHERE PRTY_CD = @Priority;

IF @QuryCnt = 1 BEGIN

    INSERT INTO [dbo].[INC_DTL]
    ( [INC_ID]
      , [INC_SUMMARY]
      , [INC_DESC]
      , [INC_CREATED]
      , [INC_CLOSED]
      , [CONFIG_ITM_ID]
      , [USR_ID]
      , [GRP_ID]
      , [PRTY_ID]
      , [STS_ID]
      , [ACTIVE]
      , [ISSUE_CAT_ID]
      , [INC_RESOLUTION]
      , [INS_DT]
      , [UPD_TS] )
    VALUES
    ( @IncId
      , @IncSumry
      , @IncDesc
      , sysdatetime()
      , '9999-01-01 00:00:00.000'
      , @ConfigItemID
      , 0
      , 1
      , @PrtyID
      , 1
      , 'YES'
      , 0
      , ''
      , getdate()
      , sysdatetime() );

    PRINT '*****Incident created successfully for the issue*****'

END

ELSE

    PRINT '*****Entered Configuration Item is Unknow*****'

END
GO
USE [master]
GO
ALTER DATABASE [IMS] SET READ_WRITE
GO

```