localhost,13001

QueensClassSchedule

Server	localhost,13001
Author	stats
Created	Tuesday, December 14, 2021 6:00:49 PM
File Path	C:\Users\stats\OneDrive\Documents\My Database Documentation\queensClassDocRedgate-2021-12-14T18-00-49.pdf

Table of Contents

▤ *localhost,13001*

Databases (1)

- 🗄 QueensClassSchedule

Server Properties

Property	Value
Product	Microsoft SQL Server
Version	15.0.4153.1
Language	English
Platform	NT x64
Edition	Developer Edition (64-bit)
Engine Edition	3 (Enterprise)
Processors	4
OS Version	6.2 (9200)
Physical Memory	4988
Is Clustered	False
Root Directory	C:\
Collation	SQL_Latin1_General_CP1_CI_AS

Server Settings

Property	Value
Default data file path	/var/opt/mssql/data/
Default backup file path	/var/opt/mssql/backup/
Default log file path	/var/opt/mssql/log/
Recovery Interval (minutes)	0
Default index fill factor	0
Default backup media retention	0
Compress Backup	False

Advanced Server Settings

Property	Value
Locks	0
Nested triggers enabled	True
Allow triggers to fire others	True
Default language	English

Network packet size	4096
Default fulltext language LCID	1033
Two-digit year cutoff	2049
Remote login timeout	10
Cursor threshold	-1
Max text replication size	65536
Parallelism cost threshold	5
Max degree of parallelism	0
Min server memory	16
Max server memory	2147483647
Scan for startup procs	False
Transform noise words	False
CLR enabled	False
Blocked process threshold	0
Filestream access level	False
Optimize for ad hoc workloads	False
CLR strict security	True

▢ User databases

Databases (1)

- ▤ QueensClassSchedule

▤ QueensClassSchedule Database

Database Properties

Property	Value
SQL Server Version	Max
Compatibility Level	SQL Server 2016
Last backup time	12/07/2021
Last log backup time	12/07/2021
Creation date	Dec 7 2021
Users	7
Database Encryption Enabled	False
Database Encryption Algorithm	None
Database size	144.00 MB
Unallocated space	2.23 MB

Database Options

Property	Value
Compatibility Level	130
Database collation	SQL_Latin1_General_CP1_CI_AS
Restrict access	MULTI_USER
Is read-only	False
Auto close	False
Auto shrink	False
Database status	ONLINE
In standby	False
Cleanly shutdown	True
Supplemental logging enabled	False
Snapshot isolation state	OFF
Read committed snapshot on	False
Recovery model	FULL
Page verify option	CHECKSUM
Auto create statistics	True
Auto update statistics	True
Auto update statistics asynchronously	False
ANSI NULL default	False
ANSI NULL enabled	False
ANSI padding enabled	False

ANSI warnings enabled	False
Arithmetic abort enabled	False
Concatenating NULL yields NULL	False
Numeric roundabort enabled	False
Quoted Identifier On	False
Recursive triggers enabled	False
Close cursors on commit	False
Local cursors by default	False
Fulltext enabled	True
Trustworthy	False
Database chaining	False
Forced parameterization	False
Master key encrypted by server	False
Published	False
Subscribed	False
Merge published	False
Is distribution database	False
Sync with backup	False
Service broker GUID	9f5d9c27-bc5c-4d67-9b27-e7ae78bc354f
Service broker enabled	False
Log reuse wait	LOG_BACKUP
Date correlation	False
CDC enabled	False
Encrypted	False
Honor broker priority	False
Default language	English
Default fulltext language LCID	1033
Nested triggers enabled	True
Transform noise words	False
Two-digit year cutoff	2049
Containment	NONE
Target recovery time	60
Database owner	sa

Files

Name	Type	Size	Maxsize	Autogrowth	File Name
QC2019	Data	8.00 MB	unlimited	64.00 MB	/var/opt/mssql/data/QueensClassSchedule-CurrentSemester.mdf
QC2019_log	Log	136.00 MB	2048.00 GB	64.00 MB	/var/opt/mssql/log/QueensClassSchedule-CurrentSemester_0.ldf

📰 *Tables*

Objects

Name
DBSecurity.UserAuthorization
Facility.Building
Facility.Department
Facility.DepartmentInstructors
Facility.Instructor
Facility.Room
Process.WorkFlowSteps
Schedule.Class
Schedule.Courses
Schedule.ModeOfInstruction
Uploadfile.CurrentSemesterCourseOfferings

▦ [DBSecurity].[UserAuthorization]

Properties

Property	Value
Collation	SQL_Latin1_General_CP1_CI_AS
Row Count (~)	5
Created	10:58:50 PM Tuesday, December 14, 2021
Last Modified	10:58:50 PM Tuesday, December 14, 2021

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity	Default
PK C	UserAuthorizationKey	int	4	NOT NULL	1 - 1	
	ClassTime	[UDT].[NumberCode]	10	NULL allowed		('7:45')
	Individual_Project	[UDT].[Description]	50	NULL allowed		('PROJECT 3 CREATE QUEENS CLASS SCHEDULE')
	GroupMemberLastName	[UDT].[Name]	60	NOT NULL		
	GroupMemberFirstName	[UDT].[Name]	60	NOT NULL		
	GroupName	[UDT].[Name]	60	NOT NULL		('G745_2')
	DateAdded	datetime2	8	NULL allowed		(sysdatetime())

Indexes

Key	Name	Key Columns	Unique
PK C	PK_UserAuthorizationKey	UserAuthorizationKey	True

SQL Script

```
CREATE TABLE [DBSecurity].[UserAuthorization]
(
[UserAuthorizationKey] [int] NOT NULL IDENTITY(1, 1),
[ClassTime] [UDT].[NumberCode] NULL CONSTRAINT [DFT_ClassTime] DEFAULT ('7:45'),
```

```
[Individual_Project] [UDT].[Description] NULL CONSTRAINT [DFT_Individual_Project]
DEFAULT ('PROJECT 3 CREATE QUEENS CLASS SCHEDULE'),
[GroupMemberLastName] [UDT].[Name] NOT NULL,
[GroupMemberFirstName] [UDT].[Name] NOT NULL,
[GroupName] [UDT].[Name] NOT NULL CONSTRAINT [DFT_GroupName] DEFAULT ('G745_2'),
[DateAdded] [datetime2] NULL CONSTRAINT [DFT_DateAdded] DEFAULT (sysdatetime())
) ON [PRIMARY]
GO
ALTER TABLE [DBSecurity].[UserAuthorization] ADD CONSTRAINT [PK_UserAuthorizationKey]
PRIMARY KEY CLUSTERED  ([UserAuthorizationKey]) ON [PRIMARY]
GO
```

Uses

[UDT].[Description]
[UDT].[Name]
[UDT].[NumberCode]
DBSecurity

Used By

[Process].[WorkFlowSteps]
[ClassScheduleProcedure].[CreateUserAuthorizationTable]

▦ [Facility].[Building]

Properties

Property	Value
Collation	SQL_Latin1_General_CP1_CI_AS
Row Count (~)	23
Created	10:58:51 PM Tuesday, December 14, 2021
Last Modified	10:58:51 PM Tuesday, December 14, 2021

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	BuildingID	[UDT].[SurrogateKeyInt]	4	NOT NULL	1 - 1
	BuildingCode	[UDT].[Abbreviation]	4	NULL allowed	
	BuildingName	[UDT].[Name]	60	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK__Building__5463CDE4508C31CE	BuildingID	True

SQL Script

```
CREATE TABLE [Facility].[Building]
(
[BuildingID] [UDT].[SurrogateKeyInt] NOT NULL IDENTITY(1, 1),
[BuildingCode] [UDT].[Abbreviation] NULL,
[BuildingName] [UDT].[Name] NULL
) ON [PRIMARY]
GO
ALTER TABLE [Facility].[Building] ADD CONSTRAINT [PK__Building__5463CDE4508C31CE]
PRIMARY KEY CLUSTERED  ([BuildingID]) ON [PRIMARY]
GO
```

Uses

[UDT].[Abbreviation]
[UDT].[Name]
[UDT].[SurrogateKeyInt]

Facility

Used By

[Facility].[Room]
[ClassScheduleProcedure].[CreateBuildingTable]
[ClassScheduleProcedure].[CreateCoursesTable]
[ClassScheduleProcedure].[CreateRoomTable]

🖿 [Facility].[Department]

Properties

Property	Value
Collation	SQL_Latin1_General_CP1_CI_AS
Row Count (~)	85
Created	10:58:51 PM Tuesday, December 14, 2021
Last Modified	10:58:52 PM Tuesday, December 14, 2021

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	DepartmentID	[UDT].[SurrogateKeyInt]	4	NOT NULL	1 - 1
	DepartmentName	[UDT].[NameCode]	20	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK__Departme__B2079BCDD412A8D1	DepartmentID	True

SQL Script

```
CREATE TABLE [Facility].[Department]
(
[DepartmentID] [UDT].[SurrogateKeyInt] NOT NULL IDENTITY(1, 1),
[DepartmentName] [UDT].[NameCode] NULL
) ON [PRIMARY]
GO
ALTER TABLE [Facility].[Department] ADD CONSTRAINT [PK__Departme__B2079BCDD412A8D1]
PRIMARY KEY CLUSTERED  ([DepartmentID]) ON [PRIMARY]
GO
```

Uses

[UDT].[NameCode]
[UDT].[SurrogateKeyInt]
Facility

Used By

[Facility].[DepartmentInstructors]
[Schedule].[Class]
[ClassScheduleProcedure].[CreateClassTable]
[ClassScheduleProcedure].[CreateCoursesTable]
[ClassScheduleProcedure].[CreateDepartmentInstructorsTable]
[ClassScheduleProcedure].[CreateDepartmentTable]

▦ [Facility].[DepartmentInstructors]

Properties

Property	Value
Heap	True
Row Count (~)	1730
Created	10:58:52 PM Tuesday, December 14, 2021
Last Modified	10:58:52 PM Tuesday, December 14, 2021

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability
FK🔑	InstructorID	[UDT].[ForeignKeyInt]	4	NOT NULL
FK🔑	DepartmentID	[UDT].[ForeignKeyInt]	4	NOT NULL

Foreign Keys

Name	Columns
FK__Departmen__Depar__436BFEE3	DepartmentID->[Facility].[Department].[DepartmentID]
FK__Departmen__Instr__4277DAAA	InstructorID->[Facility].[Instructor].[InstructorID]

SQL Script

```
CREATE TABLE [Facility].[DepartmentInstructors]
(
[InstructorID] [UDT].[ForeignKeyInt] NOT NULL,
[DepartmentID] [UDT].[ForeignKeyInt] NOT NULL
) ON [PRIMARY]
GO
ALTER TABLE [Facility].[DepartmentInstructors] ADD CONSTRAINT [FK__Departmen__-
Depar__436BFEE3] FOREIGN KEY ([DepartmentID]) REFERENCES [Facility].[Department]
([DepartmentID])
GO
ALTER TABLE [Facility].[DepartmentInstructors] ADD CONSTRAINT [FK__Departmen__-
Instr__4277DAAA] FOREIGN KEY ([InstructorID]) REFERENCES [Facility].[Instructor]
([InstructorID])
GO
```

Uses

[Facility].[Department]

[Facility].[Instructor]
[UDT].[ForeignKeyInt]
Facility

Used By

[ClassScheduleProcedure].[CreateDepartmentInstructorsTable]

🖽 [Facility].[Instructor]

Properties

Property	Value
Collation	SQL_Latin1_General_CP1_CI_AS
Row Count (~)	1597
Created	10:58:51 PM Tuesday, December 14, 2021
Last Modified	10:58:52 PM Tuesday, December 14, 2021

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK 🔑 C	InstructorID	[UDT].[SurrogateKeyInt]	4	NOT NULL	1 - 1
	FirstName	[UDT].[Name]	60	NULL allowed	
	LastName	[UDT].[Name]	60	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK 🔑 C	PK__Instruct__9D010B7B09DF2B08	InstructorID	True

SQL Script

```
CREATE TABLE [Facility].[Instructor]
(
[InstructorID] [UDT].[SurrogateKeyInt] NOT NULL IDENTITY(1, 1),
[FirstName] [UDT].[Name] NULL,
[LastName] [UDT].[Name] NULL
) ON [PRIMARY]
GO
ALTER TABLE [Facility].[Instructor] ADD CONSTRAINT [PK__Instruct__9D010B7B09DF2B08]
PRIMARY KEY CLUSTERED  ([InstructorID]) ON [PRIMARY]
GO
```

Uses

[UDT].[Name]
[UDT].[SurrogateKeyInt]
Facility

Used By

[Facility].[DepartmentInstructors]
[Schedule].[Courses]
[ClassScheduleProcedure].[CreateCoursesTable]
[ClassScheduleProcedure].[CreateDepartmentInstructorsTable]
[ClassScheduleProcedure].[CreateInstructorTable]

📠 [Facility].[Room]

Properties

Property	Value
Collation	SQL_Latin1_General_CP1_CI_AS
Row Count (~)	319
Created	10:58:51 PM Tuesday, December 14, 2021
Last Modified	10:58:52 PM Tuesday, December 14, 2021

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	RoomID	[UDT].[SurrogateKeyInt]	4	NOT NULL	1 - 1
FK	BuildingID	[UDT].[ForeignKeyInt]	4	NULL allowed	
	RoomNumber	[UDT].[NumberCode]	10	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK__Room__3286391976FD4CDE	RoomID	True

Foreign Keys

Name	Columns
FK__Room__BuildingID__408F9238	BuildingID->[Facility].[Building].[BuildingID]

SQL Script

```
CREATE TABLE [Facility].[Room]
(
[RoomID] [UDT].[SurrogateKeyInt] NOT NULL IDENTITY(1, 1),
[BuildingID] [UDT].[ForeignKeyInt] NULL,
[RoomNumber] [UDT].[NumberCode] NULL
) ON [PRIMARY]
GO
ALTER TABLE [Facility].[Room] ADD CONSTRAINT [PK__Room__3286391976FD4CDE] PRIMARY KEY
CLUSTERED  ([RoomID]) ON [PRIMARY]
GO
ALTER TABLE [Facility].[Room] ADD CONSTRAINT [FK__Room__BuildingID__408F9238] FOREIGN
```

```
KEY ([BuildingID]) REFERENCES [Facility].[Building] ([BuildingID])
GO
```

Uses

[Facility].[Building]
[UDT].[ForeignKeyInt]
[UDT].[NumberCode]
[UDT].[SurrogateKeyInt]
Facility

Used By

[Schedule].[Courses]
[ClassScheduleProcedure].[CreateCoursesTable]
[ClassScheduleProcedure].[CreateRoomTable]

```
KEY ([BuildingID]) REFERENCES [Facility].[Building] ([BuildingID])
```

⊞ [Process].[WorkFlowSteps]

Properties

Property	Value
Collation	SQL_Latin1_General_CP1_CI_AS
Row Count (~)	8
Created	10:58:50 PM Tuesday, December 14, 2021
Last Modified	10:58:50 PM Tuesday, December 14, 2021

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity	Default
PK C	WorkFlowStepKey	[UDT].[SurrogateKeyInt]	4	NOT NULL	1 - 1	
	WorkFlowStepDescription	[UDT].[Description]	50	NOT NULL		
	WorkFlowStepTableRowCount	[UDT].[ColumnInt]	4	NULL allowed		((0))
	StartingDateTime	datetime2	8	NULL allowed		(sysdatetime())
	EndingDateTime	datetime2	8	NULL allowed		(sysdatetime())
	ClassTime	[UDT].[NumberCode]	10	NULL allowed		('07:15')
FK	UserAuthorizationKey	[UDT].[ForeignKeyInt]	4	NOT NULL		

Indexes

Key	Name	Key Columns	Unique
PK C	PK_WorkFlowSteps	WorkFlowStepKey	True

Foreign Keys

Name	Columns
FK__WorkFlowS__UserA__324172E1	UserAuthorizationKey->[DBSecurity].[UserAuthorization].[User-AuthorizationKey]

SQL Script

```
CREATE TABLE [Process].[WorkFlowSteps]
(
[WorkFlowStepKey] [UDT].[SurrogateKeyInt] NOT NULL IDENTITY(1, 1),
[WorkFlowStepDescription] [UDT].[Description] NOT NULL,
[WorkFlowStepTableRowCount] [UDT].[ColumnInt] NULL CONSTRAINT [DF__WorkFlowS__Work-
F__3335971A] DEFAULT ((0)),
[StartingDateTime] [datetime2] NULL CONSTRAINT [DF__WorkFlowS__Start__3429BB53] DEFAULT
(sysdatetime()),
[EndingDateTime] [datetime2] NULL CONSTRAINT [DF__WorkFlowS__Endin__351DDF8C] DEFAULT
(sysdatetime()),
[ClassTime] [UDT].[NumberCode] NULL CONSTRAINT [DF__WorkFlowS__Class__361203C5] DEFAULT
('07:15'),
[UserAuthorizationKey] [UDT].[ForeignKeyInt] NOT NULL
) ON [PRIMARY]
GO
ALTER TABLE [Process].[WorkFlowSteps] ADD CONSTRAINT [PK_WorkFlowSteps] PRIMARY KEY
CLUSTERED  ([WorkFlowStepKey]) ON [PRIMARY]
GO
ALTER TABLE [Process].[WorkFlowSteps] ADD CONSTRAINT [FK__WorkFlowS__UserA__324172E1]
FOREIGN KEY ([UserAuthorizationKey]) REFERENCES [DBSecurity].[UserAuthorization] ([User-
AuthorizationKey])
GO
```

Uses

[DBSecurity].[UserAuthorization]
[UDT].[ColumnInt]
[UDT].[Description]
[UDT].[ForeignKeyInt]
[UDT].[NumberCode]
[UDT].[SurrogateKeyInt]
Process

Used By

[Process].[usp_ShowWorkflowSteps]
[Process].[usp_TrackWorkFlow]

▦ [Schedule].[Class]

Properties

Property	Value
Collation	SQL_Latin1_General_CP1_CI_AS
Row Count (~)	1627
Created	10:58:52 PM Tuesday, December 14, 2021
Last Modified	10:58:52 PM Tuesday, December 14, 2021

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	ClassID	[UDT].[SurrogateKeyInt]	4	NOT NULL	1 - 1
FK	DepartmentID	[UDT].[ForeignKeyInt]	4	NOT NULL	
	ClassNumber	[UDT].[NumberCode]	10	NULL allowed	
	CourseDescription	[UDT].[Description]	50	NULL allowed	
	ClassHours	[UDT].[NumberCode]	10	NULL allowed	
	ClassCredits	[UDT].[ColumnInt]	4	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK__Class__CB1927A0A49BE9C4	ClassID	True

Foreign Keys

Name	Columns
FK__Class__Departmen__46486B8E	DepartmentID->[Facility].[Department].[DepartmentID]

SQL Script

```
CREATE TABLE [Schedule].[Class]
(
[ClassID] [UDT].[SurrogateKeyInt] NOT NULL IDENTITY(1, 1),
[DepartmentID] [UDT].[ForeignKeyInt] NOT NULL,
[ClassNumber] [UDT].[NumberCode] NULL,
[CourseDescription] [UDT].[Description] NULL,
[ClassHours] [UDT].[NumberCode] NULL,
```

```
[ClassCredits] [UDT].[ColumnInt] NULL
) ON [PRIMARY]
GO
ALTER TABLE [Schedule].[Class] ADD CONSTRAINT [PK__Class__CB1927A0A49BE9C4] PRIMARY KEY
CLUSTERED  ([ClassID]) ON [PRIMARY]
GO
ALTER TABLE [Schedule].[Class] ADD CONSTRAINT [FK__Class__Departmen__46486B8E] FOREIGN
KEY ([DepartmentID]) REFERENCES [Facility].[Department] ([DepartmentID])
GO
```

Uses

[Facility].[Department]
[UDT].[ColumnInt]
[UDT].[Description]
[UDT].[ForeignKeyInt]
[UDT].[NumberCode]
[UDT].[SurrogateKeyInt]
Schedule

Used By

[Schedule].[Courses]
[ClassScheduleProcedure].[CreateClassTable]
[ClassScheduleProcedure].[CreateCoursesTable]

⊞ [Schedule].[Courses]

Properties

Property	Value
Collation	SQL_Latin1_General_CP1_CI_AS
Row Count (~)	4522
Created	10:58:52 PM Tuesday, December 14, 2021
Last Modified	10:58:52 PM Tuesday, December 14, 2021

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity	Default
PK C	CourseID	[UDT].[SurrogateKeyInt]	4	NOT NULL	1 - 1	
	CourseCode	[UDT].[NameCode]	20	NULL allowed		((-1))
FK	ClassID	[UDT].[ForeignKeyInt]	4	NULL allowed		((-1))
FK	InstructorID	[UDT].[ForeignKeyInt]	4	NULL allowed		((-1))
FK	RoomID	[UDT].[ForeignKeyInt]	4	NULL allowed		((-1))
FK	ModeOfInstructionID	[UDT].[ForeignKeyInt]	4	NULL allowed		((-1))
	Section	[UDT].[NumberCode]	10	NULL allowed		('TBA')
	Day	[UDT].[NameCode]	20	NULL allowed		('TBA')
	StartTime	[UDT].[NameCode]	20	NULL allowed		('TBA')
	EndTime	[UDT].[NameCode]	20	NULL allowed		('TBA')
	Enrolled	[UDT].[ColumnInt]	4	NULL allowed		((0))
	Limit	[UDT].[ColumnInt]	4	NULL allowed		((0))

Indexes

Key	Name	Key Columns	Unique
PK C	PK__Courses__C92D7187DA1749DF	CourseID	True

Foreign Keys

Name	Columns
FK__Courses__Instruc__4C0144E4	InstructorID->[Facility].[Instructor].[InstructorID]
FK__Courses__RoomID__4DE98D56	RoomID->[Facility].[Room].[RoomID]
FK__Courses__ClassID__4A18FC72	ClassID->[Schedule].[Class].[ClassID]
FK__Courses__ModeOfI__4FD1D5C8	ModeOfInstructionID->[Schedule].[ModeOfInstruction].[ModeOfInstructionID]

SQL Script

```
CREATE TABLE [Schedule].[Courses]
(
[CourseID] [UDT].[SurrogateKeyInt] NOT NULL IDENTITY(1, 1),
[CourseCode] [UDT].[NameCode] NULL CONSTRAINT [DF__Courses__CourseC__4924D839] DEFAULT
((-1)),
[ClassID] [UDT].[ForeignKeyInt] NULL CONSTRAINT [DF__Courses__ClassID__4B0D20AB]
DEFAULT ((-1)),
[InstructorID] [UDT].[ForeignKeyInt] NULL CONSTRAINT [DF__Courses__Instruc__4CF5691D]
DEFAULT ((-1)),
[RoomID] [UDT].[ForeignKeyInt] NULL CONSTRAINT [DF__Courses__RoomID__4EDDB18F] DEFAULT
((-1)),
[ModeOfInstructionID] [UDT].[ForeignKeyInt] NULL CONSTRAINT [DF__Courses__ModeOf-
I__50C5FA01] DEFAULT ((-1)),
[Section] [UDT].[NumberCode] NULL CONSTRAINT [DF__Courses__Section__51BA1E3A] DEFAULT
('TBA'),
[Day] [UDT].[NameCode] NULL CONSTRAINT [DF__Courses__Day__52AE4273] DEFAULT ('TBA'),
[StartTime] [UDT].[NameCode] NULL CONSTRAINT [DF__Courses__StartTi__53A266AC] DEFAULT
('TBA'),
[EndTime] [UDT].[NameCode] NULL CONSTRAINT [DF__Courses__EndTime__54968AE5] DEFAULT
('TBA'),
[Enrolled] [UDT].[ColumnInt] NULL CONSTRAINT [DF__Courses__Enrolle__558AAF1E] DEFAULT
((0)),
[Limit] [UDT].[ColumnInt] NULL CONSTRAINT [DF__Courses__Limit__567ED357] DEFAULT ((0))
) ON [PRIMARY]
GO
ALTER TABLE [Schedule].[Courses] ADD CONSTRAINT [PK__Courses__C92D7187DA1749DF] PRIMARY
KEY CLUSTERED  ([CourseID]) ON [PRIMARY]
GO
ALTER TABLE [Schedule].[Courses] ADD CONSTRAINT [FK__Courses__Instruc__4C0144E4]
FOREIGN KEY ([InstructorID]) REFERENCES [Facility].[Instructor] ([InstructorID])
GO
ALTER TABLE [Schedule].[Courses] ADD CONSTRAINT [FK__Courses__RoomID__4DE98D56] FOREIGN
KEY ([RoomID]) REFERENCES [Facility].[Room] ([RoomID])
GO
ALTER TABLE [Schedule].[Courses] ADD CONSTRAINT [FK__Courses__ClassID__4A18FC72]
FOREIGN KEY ([ClassID]) REFERENCES [Schedule].[Class] ([ClassID])
GO
ALTER TABLE [Schedule].[Courses] ADD CONSTRAINT [FK__Courses__ModeOfI__4FD1D5C8]
FOREIGN KEY ([ModeOfInstructionID]) REFERENCES [Schedule].[ModeOfInstruction] ([ModeOf-
InstructionID])
GO
```

Uses

[Facility].[Instructor]
[Facility].[Room]
[Schedule].[Class]
[Schedule].[ModeOfInstruction]
[UDT].[ColumnInt]
[UDT].[ForeignKeyInt]
[UDT].[NameCode]
[UDT].[NumberCode]
[UDT].[SurrogateKeyInt]
Schedule

Used By

[ClassScheduleProcedure].[CreateCoursesTable]

⊞ [Schedule].[ModeOfInstruction]

Properties

Property	Value
Collation	SQL_Latin1_General_CP1_CI_AS
Row Count (~)	4
Created	10:58:51 PM Tuesday, December 14, 2021
Last Modified	10:58:52 PM Tuesday, December 14, 2021

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	ModeOfInstructionID	[UDT].[SurrogateKeyInt]	4	NOT NULL	1 - 1
	Description	[UDT].[ShortDescription]	20	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_ModeOfInstruction	ModeOfInstructionID	True

SQL Script

```
CREATE TABLE [Schedule].[ModeOfInstruction]
(
[ModeOfInstructionID] [UDT].[SurrogateKeyInt] NOT NULL IDENTITY(1, 1),
[Description] [UDT].[ShortDescription] NULL
) ON [PRIMARY]
GO
ALTER TABLE [Schedule].[ModeOfInstruction] ADD CONSTRAINT [PK_ModeOfInstruction]
PRIMARY KEY CLUSTERED  ([ModeOfInstructionID]) ON [PRIMARY]
GO
```

Uses

[UDT].[ShortDescription]
[UDT].[SurrogateKeyInt]
Schedule

Used By

[Schedule].[Courses]
[ClassScheduleProcedure].[CreateCoursesTable]
[ClassScheduleProcedure].[CreateModeOfInstructionTable]

📧 [Uploadfile].[CurrentSemesterCourseOfferings]

Properties

Property	Value
Collation	SQL_Latin1_General_CP1_CI_AS
Heap	True
Row Count (~)	4522
Created	4:31:20 PM Monday, April 12, 2021
Last Modified	4:33:21 PM Monday, April 12, 2021

Columns

Name	Data Type	Max Length (Bytes)	Nullability	Default
Semester	varchar(50)	50	NULL allowed	('Current Semester')
Sec	varchar(50)	50	NULL allowed	
Code	varchar(50)	50	NULL allowed	
Course (hr, crd)	varchar(50)	50	NULL allowed	
Description	varchar(50)	50	NULL allowed	
Day	varchar(50)	50	NULL allowed	
Time	varchar(50)	50	NULL allowed	
Instructor	varchar(50)	50	NULL allowed	
Location	varchar(50)	50	NULL allowed	
Enrolled	varchar(50)	50	NULL allowed	
Limit	varchar(50)	50	NULL allowed	
Mode of Instruction	varchar(50)	50	NULL allowed	

SQL Script

```
CREATE TABLE [Uploadfile].[CurrentSemesterCourseOfferings]
(
[Semester] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL CONSTRAINT [DF_-
CurrentSemesterCourseOfferings_Semester] DEFAULT ('Current Semester'),
[Sec] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL,
[Code] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL,
[Course (hr, crd)] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL,
[Description] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL,
[Day] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL,
[Time] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL,
[Instructor] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL,
[Location] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL,
[Enrolled] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL,
```

```
[Limit] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL,
[Mode of Instruction] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL
) ON [PRIMARY]
GO
```

Uses

Uploadfile

Used By

[ClassScheduleProcedure].[CreateBuildingTable]

[ClassScheduleProcedure].[CreateClassTable]

[ClassScheduleProcedure].[CreateCoursesTable]

[ClassScheduleProcedure].[CreateDepartmentInstructorsTable]

[ClassScheduleProcedure].[CreateDepartmentTable]

[ClassScheduleProcedure].[CreateInstructorTable]

[ClassScheduleProcedure].[CreateRoomTable]

🖽 *Views*

Objects

Name
Utils.uvw_FindColumnDefinitionPlusDefaultAndCheckConstraint

⊞ [Utils].[uvw_FindColumnDefinitionPlusDefaultAndCheckConstraint]

Properties

Property	Value
Collation	SQL_Latin1_General_CP1_CI_AS
ANSI Nulls On	True
Quoted Identifier On	True
Created	9:19:15 AM Sunday, October 27, 2019
Last Modified	9:19:15 AM Sunday, October 27, 2019

Columns

Name	Data Type	Max Length (Bytes)
FullyQualifiedTableName	nvarchar(257)	514
SchemaName	[sys].[sysname]	256
TableName	[sys].[sysname]	256
ColumnName	[sys].[sysname]	256
OrdinalPosition	int	4
FullyQualifiedDomainName	nvarchar(257)	514
DomainName	[sys].[sysname]	256
DataType	nvarchar(128)	256
IsNullable	varchar(3)	3
DefaultName	[sys].[sysname]	256
DefaultNameDefinition	nvarchar(4000)	8000
CheckConstraintRuleName	[sys].[sysname]	256
CheckConstraintRuleNameDefinition	nvarchar(4000)	8000

SQL Script

```
CREATE VIEW [Utils].[uvw_FindColumnDefinitionPlusDefaultAndCheckConstraint] AS
SELECT  CONCAT(tbl.TABLE_SCHEMA, '.', tbl.TABLE_NAME) AS FullyQualifiedTableName ,
        tbl.TABLE_SCHEMA AS SchemaName ,
        tbl.TABLE_NAME AS TableName ,
        col.COLUMN_NAME AS ColumnName ,
        col.ORDINAL_POSITION AS OrdinalPosition,
        CONCAT(col.DOMAIN_SCHEMA, '.', col.DOMAIN_NAME) AS FullyQualifiedDomainName ,
        col.DOMAIN_NAME AS DomainName ,
        CASE
```

```sql
                WHEN col.DATA_TYPE = 'varchar'
                THEN CONCAT('varchar(', CHARACTER_MAXIMUM_LENGTH, ')')
                WHEN col.DATA_TYPE = 'nvarchar'
                THEN CONCAT('nvarchar(', CHARACTER_MAXIMUM_LENGTH, ')')
                WHEN col.DATA_TYPE = 'nchar'
                THEN CONCAT('nchar(', CHARACTER_MAXIMUM_LENGTH, ')')
                WHEN col.DATA_TYPE = 'numeric'
                THEN CONCAT('numeric(', NUMERIC_PRECISION_RADIX, ', ',
                        NUMERIC_SCALE, ')')
                WHEN col.DATA_TYPE = 'decimal'
                THEN CONCAT('decimal(', NUMERIC_PRECISION_RADIX, ', ',
                        NUMERIC_SCALE, ')')
                ELSE col.DATA_TYPE
         END AS DataType ,
         col.IS_NULLABLE AS IsNullable,
         dcn.DefaultName ,
         col.COLUMN_DEFAULT AS DefaultNameDefinition ,
         cc.CONSTRAINT_NAME AS CheckConstraintRuleName,
         cc.CHECK_CLAUSE  AS CheckConstraintRuleNameDefinition
FROM     ( SELECT    TABLE_CATALOG ,
                     TABLE_SCHEMA ,
                     TABLE_NAME ,
                     TABLE_TYPE
           FROM      INFORMATION_SCHEMA.TABLES
           WHERE     ( TABLE_TYPE = 'BASE TABLE' )
         ) AS tbl
         INNER JOIN ( SELECT TABLE_CATALOG ,
                             TABLE_SCHEMA ,
                             TABLE_NAME ,
                             COLUMN_NAME ,
                             ORDINAL_POSITION ,
                             COLUMN_DEFAULT ,
                             IS_NULLABLE ,
                             DATA_TYPE ,
                             CHARACTER_MAXIMUM_LENGTH ,
                             CHARACTER_OCTET_LENGTH ,
                             NUMERIC_PRECISION ,
                             NUMERIC_PRECISION_RADIX ,
                             NUMERIC_SCALE ,
                             DATETIME_PRECISION ,
                             CHARACTER_SET_CATALOG ,
                             CHARACTER_SET_SCHEMA ,
                             CHARACTER_SET_NAME ,
                             COLLATION_CATALOG ,
                             COLLATION_SCHEMA ,
                             COLLATION_NAME ,
                             DOMAIN_CATALOG ,
                             DOMAIN_SCHEMA ,
                             DOMAIN_NAME
                      FROM   INFORMATION_SCHEMA.COLUMNS
                    ) AS col ON col.TABLE_CATALOG = tbl.TABLE_CATALOG
                             AND col.TABLE_SCHEMA = tbl.TABLE_SCHEMA
                             AND col.TABLE_NAME = tbl.TABLE_NAME
```

```sql
        LEFT OUTER JOIN ( SELECT    t.name AS TableName ,
                                    SCHEMA_NAME(s.schema_id) AS SchemaName ,
                                    ac.name AS ColumnName ,
                                    d.name AS DefaultName
                        FROM        sys.all_columns AS ac
                                    INNER JOIN sys.tables AS t ON ac.object_id =
t.object_id
                                    INNER JOIN sys.schemas AS s ON t.schema_id =
s.schema_id
                                    INNER JOIN sys.default_constraints AS d ON
ac.default_object_id = d.object_id
                        ) AS dcn ON dcn.SchemaName = tbl.TABLE_SCHEMA
                                    AND dcn.TableName = tbl.TABLE_NAME
                                    AND dcn.ColumnName = col.COLUMN_NAME
        LEFT OUTER JOIN ( SELECT    cu.TABLE_CATALOG ,
                                    cu.TABLE_SCHEMA ,
                                    cu.TABLE_NAME ,
                                    cu.COLUMN_NAME ,
                                    c.CONSTRAINT_CATALOG ,
                                    c.CONSTRAINT_SCHEMA ,
                                    c.CONSTRAINT_NAME ,
                                    c.CHECK_CLAUSE
                        FROM        INFORMATION_SCHEMA.CONSTRAINT_COLUMN_USAGE
                                    AS cu
                                    INNER JOIN INFORMATION_SCHEMA.CHECK_CONSTRAINTS
                                    AS c ON c.CONSTRAINT_NAME = cu.CONSTRAINT_NAME
                        ) AS cc ON cc.TABLE_SCHEMA = tbl.TABLE_SCHEMA
                                    AND cc.TABLE_NAME = tbl.TABLE_NAME
                                    AND cc.COLUMN_NAME = col.COLUMN_NAME


GO
```

Uses

Utils

🖻 *Stored Procedures*

Objects

Name
ClassScheduleProcedure.CreateBuildingTable
ClassScheduleProcedure.CreateClassTable
ClassScheduleProcedure.CreateCoursesTable
ClassScheduleProcedure.CreateDepartmentInstructorsTable
ClassScheduleProcedure.CreateDepartmentTable
ClassScheduleProcedure.CreateInstructorTable
ClassScheduleProcedure.CreateModeOfInstructionTable
ClassScheduleProcedure.CreateRoomTable
ClassScheduleProcedure.CreateUDTs
ClassScheduleProcedure.CreateUserAuthorizationTable
ClassScheduleProcedure.CreateWorkFlowStepsTable
Process.CreateQueensClassSchedule
Process.usp_ShowWorkflowSteps
Process.usp_TrackWorkFlow

📄 [ClassScheduleProcedure].[CreateBuildingTable]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

Parameters

Name	Data Type	Max Length (Bytes)
@UserAuthorizationKey	int	4

SQL Script

```
CREATE PROCEDURE [ClassScheduleProcedure].[CreateBuildingTable] (
    @UserAuthorizationKey INT
)
AS

DECLARE @Start DATETIME2 = SYSDATETIME()

CREATE TABLE [Facility].Building (
    BuildingID [UDT].[SurrogateKeyInt] NOT NULL PRIMARY KEY IDENTITY(1,1),
    BuildingCode [UDT].[Abbreviation] NULL,
    BuildingName [UDT].[Name] NULL
)

INSERT INTO [Facility].Building (BuildingCode)
    SELECT DISTINCT SUBSTRING([Location], 1, 2) FROM Uploadfile.CurrentSemesterCourse-
Offerings
    WHERE [Location] <> ''

UPDATE [Facility].[Building]
    SET BuildingName =
        CASE
            WHEN BuildingCode = N'IB' THEN N'I Building'
            WHEN BuildingCode = N'GC' THEN N'Gertz Center'
            WHEN BuildingCode = N'QH' THEN N'Queens Hall'
            WHEN BuildingCode = N'SU' THEN N'Student Union'
            WHEN BuildingCode = N'RA' THEN N'Rathaus Hall'
            WHEN BuildingCode = N'MU' THEN N'Music Building'
            WHEN BuildingCode = N'KY' THEN N'Kiely Hall'
            WHEN BuildingCode = N'RZ' THEN N'Razran Hall'
            WHEN BuildingCode = N'SB' THEN N'Science Building'
```

```sql
            WHEN BuildingCode = N'CH' THEN N'Colwin Hall'
            WHEN BuildingCode = N'HH' THEN N'Honors Hall'
            WHEN BuildingCode = N'AR' THEN N'AR Building'
            WHEN BuildingCode = N'DY' THEN N'Delany Hall'
            WHEN BuildingCode = N'PH' THEN N'Powdermaker Hall'
            WHEN BuildingCode = N'RO' THEN N'Rosenthal Library'
            WHEN BuildingCode = N'FG' THEN N'FitzGerald Gym'
            WHEN BuildingCode = N'CD' THEN N'Campbell Dome'
            WHEN BuildingCode = N'KG' THEN N'King Hall'
            WHEN BuildingCode = N'JH' THEN N'Jefferson Hall'
            WHEN BuildingCode = N'RE' THEN N'Remsen Hall'
            WHEN BuildingCode = N'KP' THEN N'Klapper Hall'
            WHEN BuildingCode = N'GT' THEN N'Goldstein Theatre'
            WHEN BuildingCode = N'GB' THEN N'G Building'
        END

        DECLARE @RowCount INT = (SELECT COUNT(*) FROM [Facility].Building)

        EXEC [Process].usp_TrackWorkFlow
        @StartTime = @Start,
        @WorkFlowDescription = N'Create Facility.Building',
        @WorkFlowStepTableRowCount = @RowCount,
        @UserAuthorizationKey = @UserAuthorizationKey
GO
```

Uses

[Facility].[Building]
[Uploadfile].[CurrentSemesterCourseOfferings]
[Process].[usp_TrackWorkFlow]
ClassScheduleProcedure

Used By

[Process].[CreateQueensClassSchedule]

🗋 [ClassScheduleProcedure].[CreateClassTable]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

Parameters

Name	Data Type	Max Length (Bytes)
@UserAuthorizationKey	int	4

SQL Script

```
CREATE PROCEDURE [ClassScheduleProcedure].[CreateClassTable](
    @UserAuthorizationKey INT
)
AS
BEGIN

    DECLARE @Start DATETIME2 = SYSDATETIME()

    CREATE TABLE [Schedule].[Class] (
        ClassID [UDT].[SurrogateKeyInt] NOT NULL PRIMARY KEY IDENTITY(1, 1),
        DepartmentID [UDT].[ForeignKeyInt] NOT NULL FOREIGN KEY REFERENCES
[Facility].[Department](DepartmentID),
        ClassNumber [UDT].[NumberCode] NULL,
        CourseDescription [UDT].[Description] NULL,
        ClassHours [UDT].[NumberCode] NULL,
        ClassCredits [UDT].[ColumnInt]NULL,
    )

    INSERT INTO Schedule.Class(DepartmentID, ClassNumber, CourseDescription, Class-
Hours, ClassCredits)
        SELECT DISTINCT
            (SELECT DepartmentID FROM Facility.Department WHERE DepartmentName =
LEFT([Course (hr, crd)], CHARINDEX(' ', [Course (hr, crd)]))) AS 'DepartmentID'
            ,SUBSTRING([Course (hr, crd)], CHARINDEX(' ', [Course (hr, crd)])+1,
CHARINDEX('(', [Course (hr, crd)])-2 - CHARINDEX(' ', [Course (hr, crd)])+1) AS 'Class-
Number'
            ,[Description] AS 'CourseDescription'
            ,SUBSTRING([Course (hr, crd)], CHARINDEX('(', [Course (hr, crd)])+1,
CHARINDEX(',', [Course (hr, crd)]) - CHARINDEX('(', [Course (hr, crd)]) - 1) AS 'Class-
Hours'
            ,CAST(SUBSTRING(RIGHT([Course (hr, crd)], 2), 1, 1) AS INT) AS 'Class-
Credits'
```

```
        FROM Uploadfile.CurrentSemesterCourseOfferings

    DECLARE @RowCount INT = (SELECT COUNT(*) FROM Schedule.Class)

    EXEC [Process].usp_TrackWorkFlow
    @StartTime = @Start,
    @WorkFlowDescription = N'Create Schedule.Class',
    @WorkFlowStepTableRowCount = @RowCount,
    @UserAuthorizationKey = @UserAuthorizationKey
END
GO
```

Uses

[Facility].[Department]
[Schedule].[Class]
[Uploadfile].[CurrentSemesterCourseOfferings]
[Process].[usp_TrackWorkFlow]
ClassScheduleProcedure

Used By

[Process].[CreateQueensClassSchedule]

🗒 [ClassScheduleProcedure].[CreateCoursesTable]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

Parameters

Name	Data Type	Max Length (Bytes)
@UserAuthorizationKey	int	4

SQL Script

```sql
CREATE PROCEDURE [ClassScheduleProcedure].[CreateCoursesTable](
    @UserAuthorizationKey INT
)
AS
BEGIN

    DECLARE @Start DATETIME2 = SYSDATETIME()

    CREATE TABLE [Schedule].[Courses] (
        CourseID [UDT].[SurrogateKeyInt] PRIMARY KEY IDENTITY(1,1),
        CourseCode [UDT].[NameCode] NULL DEFAULT(-1),
        ClassID [UDT].[ForeignKeyInt] FOREIGN KEY REFERENCES [Schedule].[Class](Class-
ID) DEFAULT(-1),
        InstructorID [UDT].[ForeignKeyInt] FOREIGN KEY REFERENCES
[Facility].[Instructor](InstructorID) DEFAULT (-1),
        RoomID [UDT].[ForeignKeyInt] FOREIGN KEY REFERENCES [Facility].[Room](RoomID)
DEFAULT (-1),
        ModeOfInstructionID [UDT].[ForeignKeyInt] FOREIGN KEY REFERENCES
[Schedule].[ModeOfInstruction](ModeOfInstructionID) DEFAULT (-1),
        Section [UDT].[NumberCode] NULL DEFAULT('TBA'),
        [Day] [UDT].[NameCode] NULL DEFAULT('TBA'),
        StartTime [UDT].[NameCode] NULL DEFAULT('TBA'),
        EndTime [UDT].[NameCode] NULL DEFAULT('TBA'),
        Enrolled [UDT].[ColumnInt] NULL DEFAULT(0),
        Limit [UDT].[ColumnInt] NULL DEFAULT(0),
    )
    INSERT INTO [Schedule].Courses
        SELECT
            Code AS 'CourseCode'
            ,(SELECT ClassID FROM Schedule.Class C
                WHERE C.DepartmentID = (SELECT DepartmentID FROM Facility.Department D
```

```sql
WHERE D.DepartmentName = LEFT([Course (hr, crd)], CHARINDEX(' ', [Course (hr, crd)])))
                AND C.ClassNumber = SUBSTRING([Course (hr, crd)], CHARINDEX(' ',
[Course (hr, crd)])+1, CHARINDEX('(', [Course (hr, crd)])-2 - CHARINDEX(' ', [Course
(hr, crd)])+1)
                AND C.CourseDescription = [Description]
                AND C.ClassHours = SUBSTRING([Course (hr, crd)], CHARINDEX('(',
[Course (hr, crd)])+1, CHARINDEX(',', [Course (hr, crd)]) - CHARINDEX('(', [Course (hr,
crd)]) - 1)
                AND C.ClassCredits = CAST(SUBSTRING(RIGHT([Course (hr, crd)], 2),
1, 1) AS INT)
            ) AS 'ClassID'
          ,COALESCE((SELECT InstructorID FROM [Facility].Instructor I
              WHERE I.FirstName = RIGHT(Instructor, LEN(Instructor) - CHARINDEX(',',
Instructor))
                AND I.LastName = LEFT(Instructor, CHARINDEX(',', Instructor)-1)
            ), -1) AS 'InstructorID'
          ,COALESCE((SELECT RoomID FROM [Facility].[Room] R
              WHERE R.BuildingID = (SELECT BuildingID FROM Facility.Building B WHERE
B.BuildingCode = SUBSTRING([Location], 1, 2)
                AND R.RoomNumber = RIGHT([Location], LEN([Location]) - CHARINDEX('
', [Location])))
            ), -1) AS 'RoomID'
          ,(SELECT ModeOfInstructionID FROM Schedule.ModeOfInstruction M WHERE
M.[Description] = [Mode of Instruction]
            ) AS 'ModeOfInstructionID'
          ,Sec
          ,CASE
             WHEN [Day] = ' ' THEN 'TBA'
             ELSE [Day]
            END AS 'Day'
          ,CASE
             WHEN LEFT([Time], CHARINDEX('-', [Time])-1) = ' ' THEN 'TBA'
             ELSE LEFT([Time], CHARINDEX('-', [Time])-1)
            END AS 'StartTime'
          ,CASE
             WHEN SUBSTRING([Time], CHARINDEX('-', [Time])+2, LEN([Time]) -
CHARINDEX('-', [Time])+2) = ' ' THEN 'TBA'
             ELSE SUBSTRING([Time], CHARINDEX('-', [Time])+2, LEN([Time]) -
CHARINDEX('-', [Time])+2)
            END AS 'EndTime'
          ,Enrolled
          ,Limit
      FROM Uploadfile.CurrentSemesterCourseOfferings


      DECLARE @RowCount INT = (SELECT COUNT(*) FROM Schedule.Courses)


      EXEC [Process].usp_TrackWorkFlow
      @StartTime = @Start,
      @WorkFlowDescription = N'Create Schedule.Courses',
      @WorkFlowStepTableRowCount = @RowCount,
      @UserAuthorizationKey = @UserAuthorizationKey
END
GO
```

Uses

[Facility].[Building]
[Facility].[Department]
[Facility].[Instructor]
[Facility].[Room]
[Schedule].[Class]
[Schedule].[Courses]
[Schedule].[ModeOfInstruction]
[Uploadfile].[CurrentSemesterCourseOfferings]
[Process].[usp_TrackWorkFlow]
ClassScheduleProcedure

Used By

[Process].[CreateQueensClassSchedule]

📄 [ClassScheduleProcedure].[CreateDepartmentInstructorsTable]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

Parameters

Name	Data Type	Max Length (Bytes)
@UserAuthorizationKey	int	4

SQL Script

```
CREATE PROCEDURE [ClassScheduleProcedure].[CreateDepartmentInstructorsTable](
    @UserAuthorizationKey INT
)
AS
BEGIN

    DECLARE @Start DATETIME2 = SYSDATETIME()

    CREATE TABLE [Facility].[DepartmentInstructors](
        InstructorID [UDT].[ForeignKeyInt] NOT NULL FOREIGN KEY REFERENCES
[Facility].Instructor(InstructorID),
        DepartmentID [UDT].[ForeignKeyInt] NOT NULL FOREIGN KEY REFERENCES
[Facility].Department(DepartmentID)
    )

    INSERT INTO [Facility].[DepartmentInstructors] (InstructorID, DepartmentID)
        SELECT DISTINCT
            (SELECT InstructorID FROM [Facility].Instructor
                WHERE FirstName = RIGHT(Instructor, LEN(Instructor) - CHARINDEX(',',
Instructor))
                AND LastName = LEFT(Instructor, CHARINDEX(',', Instructor)-1)) AS
'InstructorID'
            ,(SELECT DepartmentID FROM [Facility].Department
                WHERE DepartmentName = LEFT([Course (hr, crd)], CHARINDEX(' ', [Course
(hr, crd)]))) AS 'DepartmentID'
        FROM Uploadfile.CurrentSemesterCourseOfferings
        WHERE LEFT(Instructor, CHARINDEX(',', Instructor)-1) <> ' '

        DECLARE @RowCount INT = (SELECT COUNT(*) FROM [Facility].DepartmentInstructors)

        EXEC [Process].usp_TrackWorkFlow
```

```
        @StartTime = @Start,
        @WorkFlowDescription = N'Create Facility.DepartmentInstructors',
        @WorkFlowStepTableRowCount = @RowCount,
        @UserAuthorizationKey = @UserAuthorizationKey
END
GO
```

Uses

[Facility].[Department]
[Facility].[DepartmentInstructors]
[Facility].[Instructor]
[Uploadfile].[CurrentSemesterCourseOfferings]
[Process].[usp_TrackWorkFlow]
ClassScheduleProcedure

Used By

[Process].[CreateQueensClassSchedule]

📄 [ClassScheduleProcedure].[CreateDepartmentTable]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

Parameters

Name	Data Type	Max Length (Bytes)
@UserAuthorizationKey	int	4

SQL Script

```sql
CREATE PROCEDURE [ClassScheduleProcedure].[CreateDepartmentTable](
    @UserAuthorizationKey INT
)
AS
BEGIN

    DECLARE @Start DATETIME2 = SYSDATETIME()

    -- SET NOCOUNT ON added to prevent extra result sets from
    -- interfering with SELECT statements.
    SET NOCOUNT ON;

    CREATE TABLE [Facility].[Department](
    [DepartmentID] [UDT].[SurrogateKeyInt] IDENTITY(1,1) NOT NULL PRIMARY KEY,
    [DepartmentName] [UDT].[NameCode] NULL
    )

    -- Insert statements for procedure here
    INSERT INTO [Facility].[Department]
        (DepartmentName)
    SELECT DISTINCT LEFT([Course (hr, crd)], CHARINDEX(' ', [Course (hr, crd)]))
    FROM Uploadfile.CurrentSemesterCourseOfferings

    DECLARE @RowCount INT = (SELECT COUNT(*) FROM [Facility].Department)

    EXEC [Process].usp_TrackWorkFlow
    @StartTime = @Start,
    @WorkFlowDescription = N'Create Facility.Department',
    @WorkFlowStepTableRowCount = @RowCount,
    @UserAuthorizationKey = @UserAuthorizationKey
```

```
END
GO
```

Uses

[Facility].[Department]
[Uploadfile].[CurrentSemesterCourseOfferings]
[Process].[usp_TrackWorkFlow]
ClassScheduleProcedure

Used By

[Process].[CreateQueensClassSchedule]

🗈 [ClassScheduleProcedure].[CreateInstructorTable]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

Parameters

Name	Data Type	Max Length (Bytes)
@UserAuthorizationKey	int	4

SQL Script

```
CREATE PROCEDURE [ClassScheduleProcedure].[CreateInstructorTable] (
    @UserAuthorizationKey INT
)
AS
BEGIN

    DECLARE @Start DATETIME2 = SYSDATETIME()

    CREATE TABLE [Facility].Instructor (
        InstructorID [UDT].[SurrogateKeyInt] NOT NULL Primary key identity(1,1),
        FirstName [UDT].[Name] null,
        LastName [UDT].[Name] null
    )

    SET IDENTITY_INSERT [Facility].Instructor ON
    INSERT [Facility].Instructor (InstructorID, FirstName, LastName) VALUES (-1,
N'TBA', N'TBA')
    SET IDENTITY_INSERT [Facility].Instructor OFF

    INSERT INTO [Facility].Instructor (LastName, FirstName)
        SELECT DISTINCT
            LEFT(Instructor, CHARINDEX(',', Instructor)-1) AS 'LastName'
           ,RIGHT(Instructor, LEN(Instructor) - CHARINDEX(',', Instructor)) AS 'First-
Name'
        FROM Uploadfile.CurrentSemesterCourseOfferings
        WHERE LEFT(Instructor, CHARINDEX(',', Instructor)-1) <> ' '

    DECLARE @RowCount INT = (SELECT COUNT(*) FROM [Facility].Instructor)

    EXEC [Process].usp_TrackWorkFlow
```

```
    @StartTime = @Start,
    @WorkFlowDescription = N'Create Facility.Instructor',
    @WorkFlowStepTableRowCount = @RowCount,
    @UserAuthorizationKey = @UserAuthorizationKey


END
GO
```

Uses

[Facility].[Instructor]
[Uploadfile].[CurrentSemesterCourseOfferings]
[Process].[usp_TrackWorkFlow]
ClassScheduleProcedure

Used By

[Process].[CreateQueensClassSchedule]

📄 [ClassScheduleProcedure].[CreateModeOfInstructionTable]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

Parameters

Name	Data Type	Max Length (Bytes)
@UserAuthorizationKey	int	4

SQL Script

```sql
CREATE PROCEDURE [ClassScheduleProcedure].[CreateModeOfInstructionTable] (
    @UserAuthorizationKey INT
)
AS
BEGIN

    DECLARE @Start DATETIME2 = SYSDATETIME()

    CREATE TABLE [Schedule].[ModeOfInstruction](
        [ModeOfInstructionID] [UDT].[SurrogateKeyInt] NOT NULL IDENTITY(1, 1),
        [Description] [UDT].[ShortDescription] NULL,
        CONSTRAINT [PK_ModeOfInstruction] PRIMARY KEY CLUSTERED
    (
        [ModeOfInstructionID] asc
    )with (pad_index = off, statistics_norecompute = off, ignore_dup_key = off,
allow_row_locks = on, allow_page_locks = on, optimize_for_sequential_key = off) on
[PRIMARY]
)

    INSERT [Schedule].[ModeOfInstruction]([Description])Values('Online');

    INSERT [Schedule].[ModeOfInstruction]([Description])Values('In-Person');

    INSERT [Schedule].[ModeOfInstruction]([Description])Values('Hybrid');

    INSERT [Schedule].[ModeOfInstruction]([Description])Values('Web-Enhanced');


    DECLARE @RowCount INT = (SELECT COUNT(*) FROM Schedule.ModeOfInstruction)
```

```
    EXEC [Process].usp_TrackWorkFlow
    @StartTime = @Start,
    @WorkFlowDescription = N'Create Schedule.ModeOfInstruction',
    @WorkFlowStepTableRowCount = @RowCount,
    @UserAuthorizationKey = @UserAuthorizationKey

END
GO
```

Uses

[Schedule].[ModeOfInstruction]
[Process].[usp_TrackWorkFlow]
ClassScheduleProcedure

Used By

[Process].[CreateQueensClassSchedule]

📄 [ClassScheduleProcedure].[CreateRoomTable]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

Parameters

Name	Data Type	Max Length (Bytes)
@UserAuthorizationKey	int	4

SQL Script

```sql
CREATE PROCEDURE [ClassScheduleProcedure].[CreateRoomTable] (
    @UserAuthorizationKey INT
)
AS
BEGIN

    DECLARE @Start DATETIME2 = SYSDATETIME()

    CREATE TABLE [Facility].Room (
        RoomID [UDT].[SurrogateKeyInt]  NOT NULL PRIMARY KEY IDENTITY(1,1),
        BuildingID [UDT].[ForeignKeyInt] NULL FOREIGN KEY REFERENCES
[Facility].[Building](BuildingID),
        RoomNumber [UDT].[NumberCode] NULL
    )

    SET IDENTITY_INSERT [Facility].Room ON
    INSERT Facility.Room (RoomID, RoomNumber) VALUES (-1, 'TBA')
    SET IDENTITY_INSERT [Facility].Room OFF

    INSERT INTO [Facility].[Room](BuildingID, RoomNumber)
        SELECT DISTINCT
        (SELECT BuildingID FROM [Facility].[Building] WHERE LEFT([Location],
CHARINDEX(' ', [Location])) = BuildingCode) AS 'BuildingID'
        ,RIGHT([Location], LEN([Location]) - CHARINDEX(' ', [Location])) AS 'Building-
Room'
        FROM Uploadfile.CurrentSemesterCourseOfferings AS CS
        WHERE CHARINDEX(' ', [Location]) <> 0

    DECLARE @RowCount INT = (SELECT COUNT(*) FROM [Facility].Room)
```

```
    EXEC [Process].usp_TrackWorkFlow
    @StartTime = @Start,
    @WorkFlowDescription = N'Create Facility.Room',
    @WorkFlowStepTableRowCount = @RowCount,
    @UserAuthorizationKey = @UserAuthorizationKey

END
GO
```

Uses

[Facility].[Building]
[Facility].[Room]
[Uploadfile].[CurrentSemesterCourseOfferings]
[Process].[usp_TrackWorkFlow]
ClassScheduleProcedure

Used By

[Process].[CreateQueensClassSchedule]

🖼 [ClassScheduleProcedure].[CreateUDTs]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

Parameters

Name	Data Type	Max Length (Bytes)
@UserAuthorizationKey	int	4

SQL Script

```
CREATE PROCEDURE [ClassScheduleProcedure].[CreateUDTs] (
    @UserAuthorizationKey INT
)
AS
BEGIN

    DECLARE @Start DATETIME2 = SYSDATETIME()

    CREATE TYPE [UDT].[SurrogateKeyInt] FROM INT NOT NULL

    CREATE TYPE [UDT].[ForeignKeyInt] FROM INT NULL

    CREATE TYPE [UDT].[ColumnInt] FROM INT NULL

    CREATE TYPE [UDT].[Abbreviation] FROM NVARCHAR(2) NULL

    CREATE TYPE [UDT].[Name] FROM NVARCHAR(30) NULL

    CREATE TYPE [UDT].[NameCode] FROM NVARCHAR(10) NULL

    CREATE TYPE [UDT].[NumberCode] FROM NVARCHAR(5) NULL

    CREATE TYPE [UDT].[Description] FROM VARCHAR(50) NULL

    CREATE TYPE [UDT].[ShortDescription] FROM VARCHAR(20)

    EXEC [Process].usp_TrackWorkFlow
    @StartTime = @Start,
    @WorkFlowDescription = N'Create User Defined Types',
    @WorkFlowStepTableRowCount = -1,
    @UserAuthorizationKey = @UserAuthorizationKey
```

```
END
GO
```

Uses

[Process].[usp_TrackWorkFlow]

ClassScheduleProcedure

📄 [ClassScheduleProcedure].[CreateUserAuthorizationTable]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

SQL Script

```sql
CREATE PROCEDURE [ClassScheduleProcedure].[CreateUserAuthorizationTable]
AS
BEGIN
    CREATE TABLE [DBSecurity].[UserAuthorization](
        [UserAuthorizationKey] [int] NOT NULL IDENTITY(1,1),
        [ClassTime] [UDT].[NumberCode] NULL,
        [Individual_Project] [UDT].[Description] NULL,
        [GroupMemberLastName] [UDT].[Name]  NOT NULL,
        [GroupMemberFirstName] [UDT].[Name]  NOT NULL,
        [GroupName] [UDT].[Name]  NOT NULL,
        [DateAdded] [datetime2](7) NULL,
     CONSTRAINT [PK_UserAuthorizationKey] PRIMARY KEY CLUSTERED
    (
        [UserAuthorizationKey] ASC
    )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_-
ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
    ) ON [PRIMARY]

    ALTER TABLE [DbSecurity].[UserAuthorization]
        ADD   CONSTRAINT [DFT_ClassTime]  DEFAULT ('7:45') FOR [ClassTime]

    ALTER TABLE [DbSecurity].[UserAuthorization]
        ADD CONSTRAINT [DFT_Individual_Project]  DEFAULT ('PROJECT 3 CREATE QUEENS
CLASS SCHEDULE') FOR [Individual_Project]

    ALTER TABLE [DbSecurity].[UserAuthorization]
        ADD CONSTRAINT [DFT_GroupName]  DEFAULT ('G745_2') FOR [GroupName]

    ALTER TABLE [DbSecurity].[UserAuthorization]
        ADD CONSTRAINT [DFT_DateAdded]  DEFAULT (sysdatetime()) FOR [DateAdded]

    INSERT INTO [DbSecurity].[UserAuthorization] (GroupMemberLastName, GroupMemberFirst-
Name)
        VALUES (N'Sajjad', N'Muhammad Ali'),
               (N'Sumaryev', N'Yevgeniy'),
               (N'Jean', N'Gomez'),
```

```
                (N'Chao', N'Wang'),
                (N'Andy', N'Qu')

END
GO
```

Uses

[DBSecurity].[UserAuthorization]
ClassScheduleProcedure

Used By

[Process].[CreateQueensClassSchedule]

🖾 [ClassScheduleProcedure].[CreateWorkFlowStepsTable]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

SQL Script

```sql
CREATE PROCEDURE [ClassScheduleProcedure].[CreateWorkFlowStepsTable]
AS
BEGIN
    CREATE TABLE [Process].[WorkFlowSteps](
        [WorkFlowStepKey] [UDT].[SurrogateKeyInt] IDENTITY(1,1) NOT NULL,
        [WorkFlowStepDescription] [UDT].[Description] NOT NULL,
        [WorkFlowStepTableRowCount] [UDT].[ColumnInt] NULL,
        [StartingDateTime] [datetime2](7) NULL,
        [EndingDateTime] [datetime2](7) NULL,
        [ClassTime] [UDT].[NumberCode] NULL,
        [UserAuthorizationKey] [UDT].[ForeignKeyInt] NOT NULL FOREIGN KEY REFERENCES
DBSecurity.UserAuthorization(UserAuthorizationKey),
     CONSTRAINT [PK_WorkFlowSteps] PRIMARY KEY CLUSTERED
    (
        [WorkFlowStepKey] ASC
    )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_-
ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
    ) ON [PRIMARY]

    ALTER TABLE [Process].[WorkFlowSteps]
        ADD DEFAULT ((0)) FOR [WorkFlowStepTableRowCount]

    ALTER TABLE [Process].[WorkFlowSteps]
        ADD DEFAULT (sysdatetime()) FOR [StartingDateTime]

    ALTER TABLE [Process].[WorkFlowSteps]
        ADD DEFAULT (sysdatetime()) FOR [EndingDateTime]

    ALTER TABLE [Process].[WorkFlowSteps]
        ADD DEFAULT ('07:15') FOR [ClassTime]
END
GO
```

Uses

ClassScheduleProcedure

Used By

[Process].[CreateQueensClassSchedule]

🗒 [Process].[CreateQueensClassSchedule]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

SQL Script

```sql
CREATE PROCEDURE [Process].[CreateQueensClassSchedule]
AS
BEGIN
    --EXEC ClassScheduleProcedure.CreateUDTs

    EXEC ClassScheduleProcedure.CreateUserAuthorizationTable

    EXEC ClassScheduleProcedure.CreateWorkFlowStepsTable

    EXEC ClassScheduleProcedure.CreateBuildingTable @UserAuthorizationKey = 1

    EXEC ClassScheduleProcedure.CreateInstructorTable @UserAuthorizationKey = 3

    EXEC ClassScheduleProcedure.CreateDepartmentTable @UserAuthorizationKey = 2

    EXEC ClassScheduleProcedure.CreateModeOfInstructionTable @UserAuthorizationKey = 5

    EXEC ClassScheduleProcedure.CreateRoomTable @UserAuthorizationKey = 4

    EXEC ClassScheduleProcedure.CreateDepartmentInstructorsTable @UserAuthorizationKey
= 1

    EXEC ClassScheduleProcedure.CreateClassTable @UserAuthorizationKey = 1

    EXEC ClassScheduleProcedure.CreateCoursesTable @UserAuthorizationKey = 1

    EXEC Process.usp_ShowWorkFlowSteps
END
GO
```

Uses

[ClassScheduleProcedure].[CreateBuildingTable]
[ClassScheduleProcedure].[CreateClassTable]
[ClassScheduleProcedure].[CreateCoursesTable]

[ClassScheduleProcedure].[CreateDepartmentInstructorsTable]

[ClassScheduleProcedure].[CreateDepartmentTable]

[ClassScheduleProcedure].[CreateInstructorTable]

[ClassScheduleProcedure].[CreateModeOfInstructionTable]

[ClassScheduleProcedure].[CreateRoomTable]

[ClassScheduleProcedure].[CreateUserAuthorizationTable]

[ClassScheduleProcedure].[CreateWorkFlowStepsTable]

[Process].[usp_ShowWorkflowSteps]

Process

📄 [Process].[usp_ShowWorkflowSteps]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

SQL Script

```
CREATE PROCEDURE [Process].[usp_ShowWorkflowSteps]
AS
BEGIN
    --
    SET NOCOUNT ON;
    SELECT * FROM Process.WorkFlowSteps
END
GO
```

Uses

[Process].[WorkFlowSteps]
Process

Used By

[Process].[CreateQueensClassSchedule]

🗔 [Process].[usp_TrackWorkFlow]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

Parameters

Name	Data Type	Max Length (Bytes)
@StartTime	datetime2	8
@WorkFlowDescription	Description	50
@WorkFlowStepTableRowCount	int	4
@UserAuthorizationKey	int	4

SQL Script

```
CREATE PROCEDURE [Process].[usp_TrackWorkFlow] (
    @StartTime DATETIME2,
    @WorkFlowDescription [UDT].[Description],
    @WorkFlowStepTableRowCount INT,
    @UserAuthorizationKey INT
)
AS
BEGIN
    INSERT INTO [Process].WorkFlowSteps (StartingDateTime, WorkFlowStepDescription,
WorkFlowStepTableRowCount, UserAuthorizationKey)
        VALUES (@StartTime, @WorkFlowDescription, @WorkFlowStepTableRowCount, @User-
AuthorizationKey)
END
GO
```

Uses

[Process].[WorkFlowSteps]
[UDT].[Description]
Process

Used By

[ClassScheduleProcedure].[CreateBuildingTable]
[ClassScheduleProcedure].[CreateClassTable]

[ClassScheduleProcedure].[CreateCoursesTable]

[ClassScheduleProcedure].[CreateDepartmentInstructorsTable]

[ClassScheduleProcedure].[CreateDepartmentTable]

[ClassScheduleProcedure].[CreateInstructorTable]

[ClassScheduleProcedure].[CreateModeOfInstructionTable]

[ClassScheduleProcedure].[CreateRoomTable]

[ClassScheduleProcedure].[CreateUDTs]

▣ *Table-valued Functions*

Objects

Name
dbo.DatabaseObjects
dbo.JSONHierarchy

𝔼fx [dbo].[DatabaseObjects]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

Parameters

Name	Data Type	Max Length (Bytes)
@ListOfObjectIDs	varchar(max)	max

SQL Script

```
create function [dbo].[DatabaseObjects]
/**
    Summary: >
      lists out the full names, schemas and (where appropriate)
      the owner of the object.
    Author: PhilFactor
    Date: 10/9/2017
    Examples:
       - Select * from dbo.DatabaseObjects('2123154609,960722475,1024722703')
    Returns: >
      A table with the id, name of object and so on.
          **/
(
    @ListOfObjectIDs varchar(max)
)
returns table
--WITH ENCRYPTION|SCHEMABINDING, ..
as
return
(
    select object_id
        , schema_name(schema_id) + '.' + coalesce(object_name(parent_object_id) + '.',
'') + name as name
    from sys.objects as ob
        inner join openjson(N'[' + @ListOfObjectIDs + N']')
            on convert(int, Value) = ob.object_id
);
GO
```

▣ [dbo].[JSONHierarchy]

Properties

Property	Value
ANSI Nulls On	True
Quoted Identifier On	True

Parameters

Name	Data Type	Max Length (Bytes)
@JSONData	varchar(max)	max
@Parent_object_ID	int	4
@MaxObject_id	int	4
@type	int	4

SQL Script

```
create function [dbo].[JSONHierarchy]
(
    @JSONData varchar(max)
  , @Parent_object_ID int = null
  , @MaxObject_id int = 0
  , @type int = null
)
returns @ReturnTable table
(
    -- https://www.red-gate.com/simple-talk/blogs/consuming-hierarchical-json-
documents-sql-server-using-
openjson/?utm_source=simpletalk&utm_medium=pubemail&utm_content=20171010-
slota1&utm_term=simpletalkmain

    --
    Element_ID int identity(1, 1) primary key /* internal surrogate primary key gives
the order of parsing and the list order */
  , SequenceNo int null                       /* the sequence number in a list */
  , Parent_ID int                             /* if the element has a parent then it is
in this column. The document is the ultimate parent, so you can get the structure from
recursing from the document */
  , Object_ID int                             /* each list or object has an object id.
This ties all elements to a parent. Lists are treated as objects here */
  , Name nvarchar(2000)                       /* the name of the object */
  , StringValue nvarchar(max) not null        /*the string representation of the value
of the element. */
  , ValueType varchar(10) not null            /* the declared type of the value
represented as a string in StringValue*/
)
as
```

```sql
begin
    --the types of JSON
    declare @null    int = 0
          , @string  int = 1
          , @int     int = 2
          , @boolean int = 3
          , @array   int = 4
          , @object  int = 5;

    declare @OpenJSONData table
    (
        sequence int identity(1, 1)
      , [key] varchar(200)
      , Value varchar(max)
      , type int
    );

    declare @key       varchar(200)
          , @Value     varchar(max)
          , @Thetype   int
          , @ii        int
          , @iiMax     int
          , @NewObject int
          , @firstchar char(1);

    insert into @OpenJSONData
    (
        [key]
      , Value
      , type
    )
    select [Key]
         , Value
         , Type
    from openjson(@JSONData);
    select @ii    = 1
         , @iiMax = scope_identity();
    select @firstchar
        = --the first character to see if it is an object or an array
        substring(
                    @JSONData
                  , patindex(
                              '%[^' + char(0) + '- ' + char(160) + ']%'
                            , ' ' + @JSONData + '!' collate SQL_Latin1_General_-
CP850_BIN
                            ) - 1
                  , 1
                );
    if @type is null
        and @firstchar in ( '[', '{' )
    begin
        insert into @ReturnTable
        (
```

```
            SequenceNo
        , Parent_ID
        , Object_ID
        , Name
        , StringValue
        , ValueType
        )
    select 1
            , null
            , 1
            , '-'
            , ''
            , case @firstchar
                    when '[' then
                        'array'
                    else
                        'object'
                end;
    select @type            = case @firstchar
                                    when '[' then
                                        @array
                                    else
                                        @object
                                  end
            , @Parent_object_ID = 1
            , @MaxObject_id     = coalesce(@MaxObject_id, 1) + 1;
    end;
    while (@ii <= @iiMax)
    begin
        --OpenJSON renames list items with 0-nn which confuses the consumers of the
table
        select @key     = case
                                when [key] like '[0-9]%' then
                                    null
                                else
                                    [key]
                            end
            , @Value   = Value
            , @Thetype = type
        from @OpenJSONData
        where sequence = @ii;

        if @Thetype in ( @array, @object ) --if we have been returned an array or
object
        begin
            select @MaxObject_id = coalesce(@MaxObject_id, 1) + 1;
            --just in case we have an object or array returned
            insert into @ReturnTable --record the object itself
            (
                SequenceNo
            , Parent_ID
            , Object_ID
            , Name
```

```sql
            , StringValue
            , ValueType
        )
        select @ii
            , @Parent_object_ID
            , @MaxObject_id
            , @key
            , ''
            , case @Thetype
                when @array then
                    'array'
                else
                    'object'
            end;

        insert into @ReturnTable --and return all its children
        (
            SequenceNo
          , Parent_ID
          , Object_ID
          , [Name]
          , StringValue
          , ValueType
        )
        select SequenceNo
            , Parent_ID
            , Object_ID
            , [Name]
            , StringValue
            , ValueType
        from dbo.JSONHierarchy(@Value, @MaxObject_id, @MaxObject_id, @type);
        select @MaxObject_id = max(Object_ID) + 1
        from @ReturnTable;
    end;
    else
        insert into @ReturnTable
        (
            SequenceNo
          , Parent_ID
          , Object_ID
          , Name
          , StringValue
          , ValueType
        )
        select @ii
            , @Parent_object_ID
            , null
            , @key
            , @Value
            , case @Thetype
                when @string then
                    'string'
                when @null then
```

```sql
                                'null'
                    when @int then
                            'int'
                    when @boolean then
                            'boolean'
                    else
                            'int'
                end;

        select @ii = @ii + 1;
    end;


    return;
end;
GO
```

🗔 *User-Defined Data Types*

Objects

Name
UDT.Abbreviation
UDT.ColumnInt
UDT.Description
UDT.ForeignKeyInt
UDT.Name
UDT.NameCode
UDT.NumberCode
UDT.ShortDescription
UDT.SurrogateKeyInt

[UDT].[Abbreviation]

Properties

Property	Value
Nullability	NULL allowed
Base Type Name	nvarchar
Length	2

SQL Script

```
CREATE TYPE [UDT].[Abbreviation] FROM nvarchar (2) NULL
GO
```

Uses

UDT

Used By

[Facility].[Building]

🖳 [UDT].[ColumnInt]

Properties

Property	Value
Nullability	NULL allowed
Base Type Name	int
Length	4

SQL Script

```
CREATE TYPE [UDT].[ColumnInt] FROM int NULL
GO
```

Uses

UDT

Used By

[Process].[WorkFlowSteps]
[Schedule].[Class]
[Schedule].[Courses]

🖳 [UDT].[Description]

Properties

Property	Value
Nullability	NULL allowed
Base Type Name	varchar
Length	50

SQL Script

```
CREATE TYPE [UDT].[Description] FROM varchar (50) NULL
GO
```

Uses

UDT

Used By

[DBSecurity].[UserAuthorization]
[Process].[WorkFlowSteps]
[Schedule].[Class]
[Process].[usp_TrackWorkFlow]

🗔 [UDT].[ForeignKeyInt]

Properties

Property	Value
Nullability	NULL allowed
Base Type Name	int
Length	4

SQL Script

```
CREATE TYPE [UDT].[ForeignKeyInt] FROM int NULL
GO
```

Uses

UDT

Used By

[Facility].[DepartmentInstructors]
[Facility].[Room]
[Process].[WorkFlowSteps]
[Schedule].[Class]
[Schedule].[Courses]

🗎 [UDT].[Name]

Properties

Property	Value
Nullability	NULL allowed
Base Type Name	nvarchar
Length	30

SQL Script

```
CREATE TYPE [UDT].[Name] FROM nvarchar (30) NULL
GO
```

Uses

UDT

Used By

[DBSecurity].[UserAuthorization]
[Facility].[Building]
[Facility].[Instructor]

🔲 [UDT].[NameCode]

Properties

Property	Value
Nullability	NULL allowed
Base Type Name	nvarchar
Length	10

SQL Script

```
CREATE TYPE [UDT].[NameCode] FROM nvarchar (10) NULL
GO
```

Uses

UDT

Used By

[Facility].[Department]
[Schedule].[Courses]

🖳 [UDT].[NumberCode]

Properties

Property	Value
Nullability	NULL allowed
Base Type Name	nvarchar
Length	5

SQL Script

```
CREATE TYPE [UDT].[NumberCode] FROM nvarchar (5) NULL
GO
```

Uses

UDT

Used By

[DBSecurity].[UserAuthorization]
[Facility].[Room]
[Process].[WorkFlowSteps]
[Schedule].[Class]
[Schedule].[Courses]

🔲 [UDT].[ShortDescription]

Properties

Property	Value
Nullability	NULL allowed
Base Type Name	varchar
Length	20

SQL Script

```
CREATE TYPE [UDT].[ShortDescription] FROM varchar (20) NULL
GO
```

Uses

UDT

Used By

[Schedule].[ModeOfInstruction]

🔢 [UDT].[SurrogateKeyInt]

Properties

Property	Value
Nullability	NOT NULL
Base Type Name	int
Length	4

SQL Script

```
CREATE TYPE [UDT].[SurrogateKeyInt] FROM int NOT NULL
GO
```

Uses

UDT

Used By

[Facility].[Building]
[Facility].[Department]
[Facility].[Instructor]
[Facility].[Room]
[Process].[WorkFlowSteps]
[Schedule].[Class]
[Schedule].[Courses]
[Schedule].[ModeOfInstruction]

👤 *Users*

Objects

Name
BiStudent
dbo
EC3\thehitman
guest
student

BiStudent

Properties

Property	Value
Type	SqlUser
Default Schema	dbo

Database Level Permissions

Type	Action
CONNECT	Grant

SQL Script

```
CREATE USER [BiStudent] WITHOUT LOGIN
GO
```

👤 dbo

Properties

Property	Value
Type	SqlUser
Login Name	sa
Default Schema	dbo

Database Level Permissions

Type	Action
CONNECT	Grant

SQL Script

```
GO
```

👤 EC3\thehitman

Properties

Property	Value
Type	WindowsUser
Login Name	EC3\thehitman
Default Schema	dbo

Database Level Permissions

Type	Action
CONNECT	Grant

SQL Script

```sql
IF NOT EXISTS (SELECT * FROM master.dbo.syslogins WHERE loginname = N'EC3\thehitman')
CREATE LOGIN [EC3\thehitman] FROM WINDOWS
GO
CREATE USER [EC3\thehitman] FOR LOGIN [EC3\thehitman]
GO
```

guest

Properties

Property	Value
Type	SqlUser
Default Schema	guest

SQL Script

GO

👤 student

Properties

Property	Value
Type	SqlUser
Default Schema	dbo

Database Level Permissions

Type	Action
CONNECT	Grant

SQL Script

```
CREATE USER [student] WITHOUT LOGIN
GO
```

👥 *Database Roles*

Objects

Name
db_accessadmin
db_backupoperator
db_datareader
db_datawriter
db_ddladmin
db_denydatareader
db_denydatawriter
db_owner
db_securityadmin
public

👥 db_accessadmin

Properties

Property	Value
Owner	dbo

👥 db_backupoperator

Properties

Property	Value
Owner	dbo

👥 db_datareader

Properties

Property	Value
Owner	dbo

Members

- BiStudent
- student

SQL Script

```
ALTER ROLE [db_datareader] ADD MEMBER [BiStudent]
GO
ALTER ROLE [db_datareader] ADD MEMBER [student]
GO
```

Uses

BiStudent
student

👥 db_datawriter

Properties

Property	Value
Owner	dbo

👥 db_ddladmin

Properties

Property	Value
Owner	dbo

👥 db_denydatareader

Properties

Property	Value
Owner	dbo

👥 db_denydatawriter

Properties

Property	Value
Owner	dbo

👥 db_owner

Properties

Property	Value
Owner	dbo

Members

- EC3\thehitman

SQL Script

```
ALTER ROLE [db_owner] ADD MEMBER [EC3\thehitman]
GO
```

Uses

EC3\thehitman

👥 db_securityadmin

Properties

Property	Value
Owner	dbo

👥 public

Properties

Property	Value
Owner	dbo

⋀ *Schemas*

Objects

Name
ClassScheduleProcedure
DBSecurity
Facility
GroupNameProject3
Process
Project3
Schedule
UDT
Uploadfile
Utils
YourLastName

⋀ ClassScheduleProcedure

Properties

Property	Value
Owner	dbo

SQL Script

```
CREATE SCHEMA [ClassScheduleProcedure]
AUTHORIZATION [dbo]
GO
```

Used By

[ClassScheduleProcedure].[CreateBuildingTable]

[ClassScheduleProcedure].[CreateClassTable]

[ClassScheduleProcedure].[CreateCoursesTable]

[ClassScheduleProcedure].[CreateDepartmentInstructorsTable]

[ClassScheduleProcedure].[CreateDepartmentTable]

[ClassScheduleProcedure].[CreateInstructorTable]

[ClassScheduleProcedure].[CreateModeOfInstructionTable]

[ClassScheduleProcedure].[CreateRoomTable]

[ClassScheduleProcedure].[CreateUDTs]

[ClassScheduleProcedure].[CreateUserAuthorizationTable]

[ClassScheduleProcedure].[CreateWorkFlowStepsTable]

⋀ DBSecurity

Properties

Property	Value
Owner	dbo

SQL Script

```sql
CREATE SCHEMA [DBSecurity]
AUTHORIZATION [dbo]
GO
```

Used By

[DBSecurity].[UserAuthorization]

Λ Facility

Properties

Property	Value
Owner	dbo

SQL Script

```sql
CREATE SCHEMA [Facility]
AUTHORIZATION [dbo]
GO
```

Used By

[Facility].[Building]
[Facility].[Department]
[Facility].[DepartmentInstructors]
[Facility].[Instructor]
[Facility].[Room]

⋀ GroupNameProject3

Properties

Property	Value
Owner	dbo

SQL Script

```
CREATE SCHEMA [GroupNameProject3]
AUTHORIZATION [dbo]
GO
```

⋀ Process

Properties

Property	Value
Owner	dbo

SQL Script

```sql
CREATE SCHEMA [Process]
AUTHORIZATION [dbo]
GO
```

Used By

[Process].[WorkFlowSteps]
[Process].[CreateQueensClassSchedule]
[Process].[usp_ShowWorkflowSteps]
[Process].[usp_TrackWorkFlow]

⋀ Project3

Properties

Property	Value
Owner	dbo

SQL Script

```
CREATE SCHEMA [Project3]
AUTHORIZATION [dbo]
GO
```

⋀ Schedule

Properties

Property	Value
Owner	dbo

SQL Script

```
CREATE SCHEMA [Schedule]
AUTHORIZATION [dbo]
GO
```

Used By

[Schedule].[Class]
[Schedule].[Courses]
[Schedule].[ModeOfInstruction]

⋀ UDT

Properties

Property	Value
Owner	dbo

SQL Script

```
CREATE SCHEMA [UDT]
AUTHORIZATION [dbo]
GO
```

Used By

[UDT].[Abbreviation]
[UDT].[ColumnInt]
[UDT].[Description]
[UDT].[ForeignKeyInt]
[UDT].[Name]
[UDT].[NameCode]
[UDT].[NumberCode]
[UDT].[ShortDescription]
[UDT].[SurrogateKeyInt]

⅄ Uploadfile

Properties

Property	Value
Owner	dbo

SQL Script

```
CREATE SCHEMA [Uploadfile]
AUTHORIZATION [dbo]
GO
```

Used By

[Uploadfile].[CurrentSemesterCourseOfferings]

⋀ Utils

Properties

Property	Value
Owner	dbo

SQL Script

```sql
CREATE SCHEMA [Utils]
AUTHORIZATION [dbo]
GO
```

Used By

[Utils].[uvw_FindColumnDefinitionPlusDefaultAndCheckConstraint]

⋏ YourLastName

Properties

Property	Value
Owner	dbo

SQL Script

```
CREATE SCHEMA [YourLastName]
AUTHORIZATION [dbo]
GO
```