Steps to Create and use append-only updatable ledger tables

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Create and use append-only updatable ledger tables

This article shows you how to create an append-only ledger table in Azure SQL Database, insert values into your append-only ledger table, attempt to make updates to the data, and view the results using the ledger view. We will use a an example of a card key access system of a facility, which is an append-only system pattern. This will give you a practical example of the relationship between the append-only ledger table and it's corresponding ledger view.

Prerequisite

- Have an existing Azure SQL Database.

Create an updatable ledger table

We will create a simple KeyCardEvents table with the following schema.

Column name	Data type	Description
EmployeeID	int	The unique ID of the employee accessing the building.
AccessOperationDescription	nvarchar (MAX)	The access operation of the employee.
Timestamp	datetime2	The date and time the employee accessed the building

1. Using either SQL Server Management Studio or Azure Data Studio, create a new schema and table called [AccessControl].[KeyCardEvents].

```
CREATE SCHEMA [AccessControl]
CREATE TABLE [AccessControl].[KeyCardEvents]
    (
        [EmployeeID] INT NOT NULL,
        [AccessOperationDescription] NVARCHAR (MAX) NOT NULL,
        [Timestamp] Datetime2 NOT NULL
    )
WITH (
        LEDGER = ON (
                    APPEND_ONLY = ON
                    )
        );
```

2. Add a new building access event into the AccessControl.KeyCardEvents table with the following values.

```
    INSERT INTO [AccessControl].[KeyCardEvents]
    VALUES ('43869', 'Building42', '2020-05-02T19:58:47.1234567')
```

3. View the contents of your KeyCardEvents table, specifying the hidden columns that are added to your append-only ledger table.

```
SELECT *
    ,[ledger_start_transaction_id]
    ,[ledger_start_sequence_number]
FROM [AccessControl].[KeyCardEvents]
```

5. Try to update the KeyCardEvents table by changing the EmployeeID from '43869' to '34184'

```
    UPDATE [AccessControl].[KeyCardEvents] SET [EmployeeID] = 34184
```

You will receive and error message stating the updates are not allowed for your append-only ledger table.

How good have you found this content?

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