Handling with Synapse

When values in some columns on your database may change, there are methods to handle this:

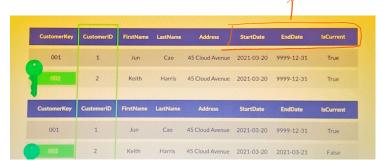**Type 1 SCD:**
→ Overwrite original data.
→ the old values are not saved, so the database only shows the latest values.

Type 2 SCD
→ to keep a track of the different versions of the data,
→ You store a new copy of a record whenever one of its fields changes, you have to add some extra columns.
→ Its issue is when you replicate, you need to replicate the key value, to solve this, you need to come up with a new one called a surrogate key, that is unique for each version.

Additional Columns

Type 3 SCD
→ Instead of creating an entirely new record when a field changes, you have 2 columns for a field: the old version and the current version.
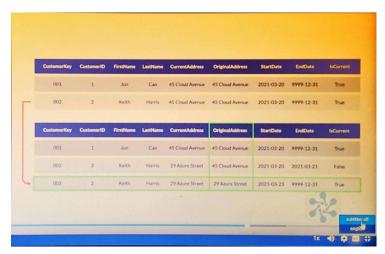→ You can either store the original value or the previous value in the old column.
→ You'll also need a column that says when the value was last modified.
→ One problem → You only have 2 versions of a field's value in the database. and another one is that it's only suitable for 1 or 2 fields. you wouldn't end up with a huge number of columns

Type 6 scd
Combination of type 2 and type 3.
It adds a new record whenever the field changes, and it also has an extra column to keep track of the previous version of the field.

CustomerKey	CustomerID	FirstName	LastName	CurrentAddress	OriginalAddress	StartDate	EndDate	IsCurrent
001	1	Jun	Cao	45 Cloud Avenue	45 Cloud Avenue	2021-03-20	9999-12-31	True
002	2	Keith	Harris	45 Cloud Avenue	45 Cloud Avenue	2021-03-20	9999-12-31	True

CustomerKey	CustomerID	FirstName	LastName	CurrentAddress	OriginalAddress	StartDate	EndDate	IsCurrent
001	1	Jun	Cao	45 Cloud Avenue	45 Cloud Avenue	2021-03-20	9999-12-31	True
002	2	Keith	Harris	29 Azure Street	45 Cloud Avenue	2021-03-20	2021-03-21	False
003	2	Keith	Harris	29 Azure Street	29 Azure Street	2021-03-23	9999-12-31	True

Others: Type 4 scd