|      | Case 1: There is no reference Table, Simple ingestion with Merge Upsert logic |                       |                |                  |               |                 |        |                     |                                   |                |                        |               |                          |                                |   |
|------|---|-----------------------|----------------|------------------|---------------|-----------------|--------|---------------------|-----------------------------------|----------------|------------------------|---------------|--------------------------|--------------------------------|---|
|      | Mongo DB  |                       |                |                  |               |                 |        | Mongo DB            |                                   |                |                        |               |                          |                                |   |
|      |   |                       |                |                  | 1             |                 |        |                     |                                   | 1              |                        |               |                          |                                |   |
|      |   | from_of               |                |                  |               |                 |        |                     | from_offset: 0                    |                |                        |               |                          |                                |   |
|      | <b>Topic Offset</b>   | till_offse            | t: 0           | Kafka            | _             |                 |        | <b>Topic Offset</b> | till_offset: 5                    | _              |                        |               |                          |                                |   |
|      |   |                       |                |                  |               |                 |        |                     |                                   |                |                        |               |                          |                                |   |
|      |   |                       |                |                  |               |                 |        |                     |                                   |                |                        |               |                          |                                |   |
|      | last Procesed   |                       |                | after writing at |               |                 |        | last Procesed       |                                   |                |                        |               |                          |                                |   |
|      | Offset (Delta)  |                       |                | 0 Raw Delta      |               |                 |        | Offset (Delta)      | 5                                 | 5]             |                        |               |                          |                                |   |
|      |   |                       |                |                  |               |                 |        |                     |                                   |                |                        |               |                          |                                |   |
| opic |   |                       |                | First Note       | hook          | Raw/ Temp Table | 1      |                     | Second Note                       | hook           | Modeled Table          | 1             |                          |                                |   |
|      | Lee Ne  | Chu Nou               | -              | FIIST NOTE       | DOOK          |                 | Las Na | Str_Name            | Second Note                       | DOOK           |                        | Comuonos      | Lee Ne Chu Neuse         |                                |   |
| nce  | Loc_No  | Str_Nan<br>101 ABC1   | ie e           | _                |               | Sequence        |        | ABC1                | -                                 |                | Loc_HashKey<br>hskKey1 | Sequence<br>1 | Loc_No Str_Name 101 ABC1 |                                |   |
|      | 2   | 101 ABC1<br>102 ABC2  |                |                  |               |                 |        | ABC1<br>ABC2        |                                   |                |                        | 2             |                          |                                |   |
|      | 3   | 102 ABC2<br>103 ABC3  |                |                  | $\Rightarrow$ |                 |        | ABC2<br>ABC3        |                                   |                | hskKey2<br>hskKey3     | 3             |                          |                                |   |
|      | 4   | 103 ABC3<br>104 ABC4  |                |                  | •             |                 |        | ABC3<br>ABC4        |                                   |                |                        | 4             |                          |                                |   |
|      | 5   | 104 ABC4<br>105 ABC5  |                | $\dashv$         |               | 2               | 104    | ABC4<br>ABC5        | 1                                 |                | hskKey4<br>hskKey5     | 5             |                          |                                |   |
|      |   | 103 ABC3              |                |                  |               |                 | 105    |                     | 1                                 |                | пэккеуэ                | 1 5           | TOSTABCS                 | I                              |   |
|      | Mongo DB  |                       |                |                  | 7             |                 |        | Mongo DB            |                                   | 1              | ٦                      |               |                          |                                |   |
|      |   | f., a., a.            | fact. O        |                  |               |                 |        |                     | fuero effect. C                   |                |                        |               |                          |                                |   |
|      | Tania Officet   | from_of<br>till_offse |                | l/aflea          |               |                 |        | Tamia Officet       | from_offset: 6<br>till_offset: 11 | l/aflia        |                        |               |                          |                                |   |
|      | Topic Offset  | till_Offse            | et: 5          | Kafka            | -             |                 |        | Topic Offset        | tiii_offset: 11                   | Kafka<br>after | -                      |               |                          |                                |   |
|      |   |                       |                |                  |               |                 |        |                     |                                   | writing a      |                        |               |                          |                                |   |
|      | last Procesed   |                       |                | after writing at |               |                 |        | last Procesed       |                                   | Raw            | · I                    |               |                          |                                |   |
|      |   |                       |                | 5 Raw Delta      |               |                 |        | Offset (Delta)      |                                   |                |                        |               |                          |                                |   |
|      | Offset (Delta)  |                       |                | 5 Raw Deita      | _             |                 |        | Offset (Delta)      | 11                                | Delta          | _                      |               |                          |                                |   |
| opic |   |                       |                | First Note       | hook          | Raw/ Temp Table | 1      |                     | Second Note                       | hook           | Modeled Table          | 1             |                          |                                |   |
| ce   | Loc No  | Str_Nam               | <u></u>        | 1113614066       | DOOR          | Sequence        | Loc No | Str_Name            | 3000114 14000                     | DOOR           | Loc_HashKey            | Seguence      | Loc_No Str_Name          |                                |   |
| -    | 1   | 101 ABC1              | · <del>-</del> | 7                |               | 1               |        | ABC1                | †                                 |                | hskKey1                | 1             |                          |                                |   |
|      | 2   | 102 ABC2              |                | ┪                |               |                 |        | ABC2                | 1                                 |                | hskKey2                | 2             | 102 ABC2                 |                                |   |
|      | 3   | 103 ABC3              |                | ┪                |               |                 |        | B ABC3              | 1                                 |                | hskKey3                | 3             |                          |                                |   |
|      | 4   | 104 ABC4              |                | ┪                |               |                 |        | ABC4                | 1                                 |                | hskKey4                | 4             |                          |                                |   |
|      | 5   | 105 ABC5              |                |                  |               |                 |        | ABC5                |                                   |                | hskKey5                | 5             |                          |                                |   |
|      | 6   | 106 ABC6              |                |                  |               | 6               |        | ABC6                |                                   |                | hskKey6                | 6             | 106 ABC6                 |                                |   |
|      | 7   | 107 ABC7              |                |                  |               | -               |        | ABC7                |                                   |                | hskKey7                | 7             |                          |                                |   |
|      | 8   | 108 ABC8              |                | ┪                |               | 8               |        | B ABC8              | 1                                 |                | hskKey8                | 8             |                          |                                |   |
|      | 9   | 109 ABC9              |                | 7                |               | 9               |        | ABC9                | 1                                 |                | hskKey9                | 9             |                          |                                |   |
|      | 10  | 110 ABC10             |                | 7                |               | 10              |        | ABC10               | 1                                 |                | hskKey10               | 10            | 110 ABC10                |                                |   |
|      | 11  | 103 ABC33             |                | 7                |               | 11              |        | ABC33               | 1                                 |                |                        |               |                          | 1                              |   |
|      | •   |                       |                | <b>_</b>         |               |                 |        | •                   | _                                 |                |                        |               |                          | from_offset: "0": Offset value |   |
|      |   |                       |                |                  |               |                 |        |                     |                                   |                |                        |               |                          | (e.g. 6)                       |   |
|      |   |                       |                |                  |               |                 |        |                     |                                   |                |                        |               |                          | "1": 6                         |   |
|      |   |                       |                |                  |               |                 |        |                     |                                   |                |                        |               |                          |                                |   |
|      |   |                       |                |                  |               |                 |        |                     |                                   |                |                        |               |                          | till_offset: 5                 |   |
|      |   |                       |                |                  |               |                 |        |                     |                                   |                |                        |               |                          | "0": Offset value (e.g. 11)    | 1 |
|      |   |                       |                |                  |               |                 |        |                     |                                   |                |                        |               |                          | "1": 11 or any number          |   |

## Case 2: In case we have to do a lookup with other Table, e.g. Sales, location CFA which has reference with Dimension tables

| afka Topic |        |          | First Notebook | Raw/ Temp Table |        |          | Second Notebook | Rejected Table   |          |        |          | Modeled Table |
|------------|--------|----------|----------------|-----------------|--------|----------|-----------------|------------------|----------|--------|----------|---------------|
| equence    | Loc_No | Str_Name |                | Sequence        | Loc_No | Str_Name |                 | rej_reason       | Sequence | Loc_No | Str_Name | Loc_HashKey   |
|            |        |          |                |                 |        |          |                 | Loc missing from | _        |        |          |               |
| 1          | 101    | ABC1     |                | 1               | 101    | ABC1     |                 | Location Dim     | 5        | 105    | ABC5     | hskKey1       |
| 2          | 102    | ABC2     |                | 2               | 102    | ABC2     |                 |                  |          |        |          | hskKey2       |
| 3          | 103    | ABC3     |                | 3               | 103    | ABC3     |                 |                  |          |        |          | hskKey3       |
| 4          | 104    | ABC4     |                | 4               | 104    | ABC4     |                 |                  |          |        |          | hskKey4       |
| 5          | 105    | ABC5     |                | 5               | 105    | ABC5     |                 |                  |          |        |          | null          |

| Kafka Topic |        |          | First Notebook | Raw/ Temp Table |                 | Second Notebook | Rejected Table |             |       |          | Modeled Table |
|-------------|--------|----------|----------------|-----------------|-----------------|-----------------|----------------|-------------|-------|----------|---------------|
| Sequence    | Loc_No | Str_Name |                | Sequence        | Loc_No Str_Name |                 | rej_reason     | Sequence Lo | oc_No | Str_Name | Loc_HashKey   |
|             | 1 101  | ABC1     | ]              | 1               | 101 ABC1        |                 |                |             |       |          | hskKey1       |
|             | 102    | ABC2     | 1              | 2               | 102 ABC2        | ]               |                |             |       |          | hskKey2       |
| 1           | 103    | ABC3     |                | 3               | 103 ABC3        |                 |                |             |       |          | hskKey3       |
|             | 104    | ABC4     |                | 4               | 104 ABC4        |                 |                |             |       |          | hskKey4       |
| !           | 105    | ABC5     |                | 5               | 105 ABC5        |                 |                |             |       |          | hskKey5       |
| (           | 106    | ABC6     |                | 6               | 106 ABC6        |                 |                |             |       |          | hskKey6       |
|             | 7 107  | ABC7     |                | 7               | 107 ABC7        |                 |                |             |       |          | hskKey7       |
| :           | 108    | ABC8     |                | 8               | 108 ABC8        |                 |                |             |       |          | hskKey8       |
| 9           | 109    | ABC9     |                | 9               | 109 ABC9        |                 |                |             |       |          | hskKey9       |
| 10          | 110    | ABC10    |                | 10              | 110 ABC10       |                 |                |             |       |          | hskKey10      |
| 1:          | 1 103  | ABC33    |                | 11              | 103 ABC33       |                 |                | -           |       |          |               |