## Create Table with Partition/Clustering keys

```
CREATE TABLE books_by_author(
author_name TEXT,
publish_year INT,
book_id UUID,
book_name TEXT,
rating FLOAT,
PRIMARY KEY((author_name),publish_year,rating))
WITH CLUSTERING ORDER BY (publish_year DESC,rating ASC);
```

## Insert Data

```
INSERT INTO books_by_author
(author_name, publish_year, book_id, book_name, rating)
VALUES('James peterson',2008,uuid(),'Witch & Wizard',4);

INSERT INTO books_by_author
(author_name, publish_year, book_id, book_name, rating)
VALUES('James peterson',2021,uuid(),'The Red Book',4);

INSERT INTO books_by_author
(author_name, publish_year, book_id, book_name, rating)
VALUES('James peterson',2008,uuid(),'Cross Country',4.5);

INSERT INTO books_by_author
(author_name, publish_year, book_id, book_name, rating)
VALUES('James peterson',2008,uuid(),'Roses are Red',3.5);
```

```
INSERT INTO books_by_author
(author_name, publish_year, book_id, book_name, rating)
VALUES('James peterson',2018,uuid(),'President is Missing',4.5);

INSERT INTO books_by_author
(author_name, publish_year, book_id, book_name, rating)
VALUES('Michael Anderson' ,2017,uuid(),'Manning',4);
```

## Reading Data

```
SELECT * FROM books_by_author
WHERE author_name='James peterson'
AND publish_year > 2008;

SELECT * FROM books_by_author
WHERE publish_year > 2008;

SELECT * FROM books_by_author
WHERE publish_year > 2008 ALLOW FILTERING;

SELECT * FROM books_by_author
WHERE author_name='James peterson'
AND publish_year > 2008 AND publish_year <2021;

SELECT * FROM books_by_author
WHERE author_name='James peterson'
AND book_name='Cross Country';
```

## Time UUID DataType

```
ALTER TABLE books_by_author
ADD book_timeuuid TIMEUUID;

INSERT INTO books_by_author
(author_name, publish_year, book_id, book_timeuuid, book_name, rating)
VALUES ('Tony', 2017, uuid(), now(), 'Crust', 4);

SELECT * FROM books_by_author where author_name = 'Tony';
```

## Set DataType

```
ALTER TABLE books_by_author
ADD emails SET<TEXT>;

UPDATE books_by_author
    SET emails = {'michael@gmail.com', 'michael@yahoo.com'}
    WHERE author_name = 'Michael Anderson'
    AND publish_year = 2017
    AND rating=4;
```

### Add more elements to the set

```
UPDATE books_by_author
    SET emails = emails + {'michael1234@yahoo.com', 'michael@gmail.com'}
    WHERE author_name = 'Michael Anderson'
    AND publish_year = 2017
    AND rating=4;
```

## Delete from set

```
UPDATE books_by_author
        SET emails = emails - {'michael1234@yahoo.com'}
        WHERE author_name = 'Michael Anderson'
        AND publish_year = 2017
        AND rating=4;
```

## Remove all from set

```
UPDATE books_by_author
        SET emails = {}
        WHERE author_name = 'Michael Anderson'
        AND publish_year = 2017
        AND rating=4;
```

## List DataType

```
ALTER TABLE books_by_author
ADD phone LIST<TEXT>;

UPDATE books_by_author
        SET phone = ['1-180-11100']
        WHERE author_name = 'Michael Anderson'
        AND publish_year = 2017
        AND rating=4;
```

## Add more elements to the list

```
UPDATE books_by_author
    SET phone = phone + ['1-180-11101']
    WHERE author_name = 'Michael Anderson'
    AND publish_year = 2017
    AND rating=4;
```

## Update by index (bad practice)

```
UPDATE books_by_author
    SET phone[1] = '1-180-11102'
    WHERE author_name = 'Michael Anderson'
    AND publish_year = 2017
    AND rating=4;
```

Because it needs to load the whole list into the memory, out of memory issues.

## Delete an element from list

```
UPDATE books_by_author
    SET phone = phone - ['1-180-11101']
    WHERE author_name = 'Michael Anderson'
    AND publish_year = 2017
    AND rating=4;
```

This query also is not good for performance because it requires read before write operation, because it needs to load the entire list into the memory to remove that element and then shift all the elements so that the insertion order is maintained.

## Delete all from list

```
UPDATE books_by_author
        SET phone = []
        WHERE author_name = 'Michael Anderson'
        AND publish_year = 2017
        AND rating=4;
```

## Map DataType

```
ALTER TABLE books_by_author
ADD family MAP<TEXT, TEXT>;
```

```
UPDATE books_by_author
        SET  family = { 'Wife': 'Sanya', 'Sibling': 'John'}
        WHERE author_name = 'Michael Anderson'
        AND publish_year = 2017
        AND rating=4;
```

## Add more elements to the map

```
UPDATE books_by_author
        SET family = family + { 'Son': 'Albert'}
        WHERE author_name = 'Michael Anderson'
        AND publish_year = 2017
        AND rating=4;
```

## Delete an element from map

```
UPDATE books_by_author
        SET family = family - {'Wife'}
        WHERE author_name = 'Michael Anderson'
        AND publish_year = 2017
        AND rating=4;
```

## Select an element from map

```
select family['Son'] from books_by_author
        WHERE author_name = 'Michael Anderson'
        AND publish_year = 2017
        AND rating=4;
```