Loading the Lookup Table

1. **Commands to load the relevant data in the Lookup Table**

    Calculate UCL: Average + (3* Standard Deviation) based on the last 10 transactions of a card_id

```sql
insert into ext_lookup
(card_id, upper_control_limit, last_postcode, last_transaction_dt, credit_score)

select card_id,
avg+ (3*std) as UCL ,
postcode,
from_unixtime(transaction_dt, 'yyyy-MM-dd HH:mm:ss') ,
 score
from
(select * from
(select card_id,
member_id,
postcode,
unix_timestamp(transaction_dt, 'dd-MM-yyyy HH:mm:ss') as transaction_dt,
row_number() over (partition by card_id order by unix_timestamp(transaction_dt, 'dd-MM-yyyy HH:mm:ss') desc)
as row_num,
AVG(amount) OVER( partition by card_id ORDER BY unix_timestamp(transaction_dt, 'dd-MM-yyyy HH:mm:ss')
desc ROWS BETWEEN CURRENT ROW and 9 following ) as avg,
STDDEV(amount) OVER( partition by card_id ORDER BY unix_timestamp(transaction_dt, 'dd-MM-yyyy
HH:mm:ss') desc ROWS BETWEEN CURRENT ROW and 9 following ) as std
from ext_past_transaction
where status='GENUINE'
) moving_avg
 where row_num=1) temp_query

left outer join member_score
on temp_query.member_id=member_score.member_id;
```

2. Command to see the table created and it's content

a. At hive

select * from ext_lookup limit 5;

b. At hbase end
Scan 'lookup'

3. Screenshot of the created table

```
[hive> select * from ext_lookup limit 5;
OK
ext_lookup.card_id      ext_lookup.upper_control_limit  ext_lookup.last_postcode      ext_lookup.last_transaction_dt  e
xt_lookup.credit_score
340028465709212 16331555        24658   2018-01-02 03:25:35     233
340054675199675 14156079        50140   2018-01-15 19:43:23     631
340082915339645 15285685        17844   2018-01-26 19:03:47     407
340134186926007 15239767        67576   2018-01-18 23:12:50     614
340265728490548 16084916        72435   2018-01-21 02:07:35     202
Time taken: 0.167 seconds, Fetched: 5 row(s)
```

```
hbase(main):002:0> scan 'lookup'
ROW                        COLUMN+CELL
 340028465709212           column=transaction_info:Upper_control_limit, timestamp=1673878745054, value=16331555
 340028465709212           column=transaction_info:credit_score, timestamp=1673878745054, value=233
 340028465709212           column=transaction_info:last_Postcode, timestamp=1673878745054, value=24658
 340028465709212           column=transaction_info:last_Transaction_dt, timestamp=1673878745054, value=2018-01-02 03
                           :25:35
 340054675199675           column=transaction_info:Upper_control_limit, timestamp=1673878746706, value=14156079
 340054675199675           column=transaction_info:credit_score, timestamp=1673878746706, value=631
 340054675199675           column=transaction_info:last_Postcode, timestamp=1673878746706, value=50140
 340054675199675           column=transaction_info:last_Transaction_dt, timestamp=1673878746706, value=2018-01-15 19
                           :43:23
 340082915339645           column=transaction_info:Upper_control_limit, timestamp=1673878746706, value=15285685
 340082915339645           column=transaction_info:credit_score, timestamp=1673878746706, value=407
 340082915339645           column=transaction_info:last_Postcode, timestamp=1673878746706, value=17844
 340082915339645           column=transaction_info:last_Transaction_dt, timestamp=1673878746706, value=2018-01-26 19
                           :03:47
 340134186926007           column=transaction_info:Upper_control_limit, timestamp=1673878746706, value=15239767
 340134186926007           column=transaction_info:credit_score, timestamp=1673878746706, value=614
 340134186926007           column=transaction_info:last_Postcode, timestamp=1673878746706, value=67576
 340134186926007           column=transaction_info:last_Transaction_dt, timestamp=1673878746706, value=2018-01-18 23
                           :12:50
 340265728490548           column=transaction_info:Upper_control_limit, timestamp=1673878746706, value=16084916
 340265728490548           column=transaction_info:credit_score, timestamp=1673878746706, value=202
 340265728490548           column=transaction_info:last_Postcode, timestamp=1673878746706, value=72435
 340265728490548           column=transaction_info:last_Transaction_dt, timestamp=1673878746706, value=2018-01-21 02
```