**TÀI LIỆU MÔ TẢ CHUYỂN ĐỔI STORE – RPT.MERGE\_SHC\_SETT\_IBFT\_200 (FULL TEMPLATE)**

Chuyển MERGE → UPDATE + INSERT | Nguồn: V\_ISOMESSAGE\_TMP\_TURN\_0200 | Font: Times New Roman

**1. Tên store**

MERGE\_SHC\_SETT\_IBFT\_200 (Oracle → TiDB/Java).

**1.1 Phân tích store (diễn giải store cũ)**

Mục tiêu: Hợp nhất dữ liệu giao dịch IBFT MTI 0200 vào bảng SHCLOG\_SETT\_IBFT từ nguồn **ISOMESSAGE\_TMP\_TURN**.

Trong Oracle, thủ tục dùng MERGE để: (i) cập nhật các bản ghi đã có theo bộ khoá ghép (PAN, ORIGTRACE, TERMID, LOCAL\_DATE(mmdd), LOCAL\_TIME, ACQUIRER), (ii) chèn bản ghi còn thiếu. Sau MERGE, ghi log hoàn tất (Finish Merge) vào ERR\_EX.

Yêu cầu đặc thù:

• UPDATE: nếu amount nguồn (cent) khác amount đích (đồng) thì set RESPCODE=116 nếu RESPCODE hiện tại = 0; set TXNSRC='RC=99'; đồng thời map CONTENT\_FUND = IBFT\_INFO.

• INSERT: nguồn theo 1 dòng/khóa, ưu tiên TNX\_STAMP mới nhất (ROW\_NUMBER/PARTITION BY bộ khoá); sau đó chèn vào SHCLOG\_SETT\_IBFT nếu chưa tồn tại.

• Logging: ghi nhận thời điểm bắt đầu (Start), kết thúc bước MERGE (Finish Merge), kết thúc toàn store (End), và log lỗi (Exception) khi phát sinh.

• Gán STT: tính STT = ROW\_NUMBER() + iSTT cho các bản ghi STT IS NULL và ORIGRESPCODE=97 (không dùng bảng tạm).

**1.2 Bảng thay thế hàm Oracle → TiDB/Java (áp dụng cho store này)**

|  |  |
| --- | --- |
| Hàm/biểu thức Oracle | Thay thế (TiDB/Java) |
| MERGE INTO tgt USING src ON (key) ... | Tách 2 câu: UPDATE tgt JOIN src ON key ...; INSERT INTO tgt ... SELECT ... WHERE NOT EXISTS(...) |
| SYSDATE | NOW() |
| TO\_DATE/TO\_CHAR/TRUNC | STR\_TO\_DATE/DATE\_FORMAT/CURDATE; ví dụ '%%Y%%m%%d' trong INSERT DATE |
| NVL/DECODE | IFNULL / CASE WHEN ... THEN ... ELSE ... END |
| ROWNUM (dedup Oracle) | ROW\_NUMBER() OVER (PARTITION BY ... ORDER BY TNX\_STAMP DESC) |
| SUBSTR | SUBSTRING |
| to\_number\_bnv | CASE  WHEN B.BEN\_ID REGEXP '^[0-9]+$' THEN CAST(B.BEN\_ID AS UNSIGNED)  ELSE NULL  END |
| GET\_IBT\_BIN | JOIN IBFT\_BANK\_BINS + CASE map đặc biệt (191919→970459, 970415→970489) |
| MAP\_IBFT\_ACQ\_ID | Đổi thành câu lệnh case when |

**1.3 Câu lệnh chuyển đổi thay thế theo bước**

**Step 1 – Log bắt đầu**

INSERT INTO ERR\_EX(ERR\_TIME, ERR\_CODE, ERR\_DETAIL, ERR\_MODULE)  
VALUES (NOW(),0,'Start MERGE SHCLOG\_SETT\_IBFT and ISOMESSAGE\_TMP\_TURN','MERGE\_SHC\_SETT\_IBFT\_200');

**Step 2 – UPDATE (JOIN theo bộ khoá PAN+ORIGTRACE+TERMID+mmdd+LOCAL\_TIME+ACQUIRER)**

UPDATE SHCLOG\_SETT\_IBFT A

JOIN V\_ISOMESSAGE\_TMP\_TURN\_0200 B

ON A.PAN = B.card\_no\_trim

AND A.ORIGTRACE = B.trace\_no\_num

AND A.TERMID = B.term\_id

AND DATE\_FORMAT(A.LOCAL\_DATE, '%m%d') = B.local\_mmdd

AND A.LOCAL\_TIME = B.local\_time\_num

AND A.ACQUIRER = B.acq\_id\_num

SET

A.RESPCODE = CASE

WHEN A.AMOUNT <> ROUND(B.amount\_raw\_num/100, 0) AND A.RESPCODE = 0

THEN 116 ELSE A.RESPCODE

END,

A.TXNSRC = CASE

WHEN A.AMOUNT <> ROUND(B.amount\_raw\_num/100, 0)

THEN 'RC=99' ELSE A.TXNSRC

END,

A.CONTENT\_FUND = B.IBFT\_INFO

**Step 3 – INSERT (NOT EXISTS) + DEDUP nguồn theo TNX\_STAMP**

INSERT INTO SHCLOG\_SETT\_IBFT (

PAN, ORIGTRACE, TERMID, LOCAL\_DATE, LOCAL\_TIME, ACQUIRER,

DATA\_ID, PPCODE, MSGTYPE, PCODE, AMOUNT, ACQ\_CURRENCY\_CODE, TRACE,

SETTLEMENT\_DATE, ISSUER, RESPCODE, MERCHANT\_TYPE, MERCHANT\_TYPE\_ORIG, AUTHNUM,

SETT\_CURRENCY\_CODE, ADD\_INFO, ACCTNUM, ISS\_CURRENCY\_CODE, ORIGISS,

ORIGRESPCODE, CH\_CURRENCY\_CODE, ACQUIRER\_FE, ACQUIRER\_RP, ISSUER\_FE, ISSUER\_RP,

PCODE2, FROM\_SYS, BB\_BIN, BB\_BIN\_ORIG, CONTENT\_FUND, TXNSRC, ACQ\_COUNTRY,

POS\_ENTRY\_CODE, POS\_CONDITION\_CODE, ADDRESPONSE, MVV, F4, F5, F6, F49,

SETTLEMENT\_CODE, SETTLEMENT\_RATE, ISS\_CONV\_RATE, TCC,

refnum, trandate, trantime, ACCEPTORNAME, TERMLOC, F15, pcode\_orig,

ACCOUNT\_NO, DEST\_ACCOUNT

)

WITH base AS (

/\* dedup nguồn: 1 dòng/khóa, ưu tiên TNX\_STAMP mới nhất \*/

SELECT \*

FROM (

SELECT

card\_no\_trim, trace\_no\_num, term\_id, local\_mmdd, local\_time\_num, acq\_id\_num,

MTI, BEN\_ID, SERVICE\_CODE, ISS\_ID, PROC\_CODE, IBFT\_INFO,

ACQ\_COUNTRY, POS\_ENTRY\_CODE, POS\_CONDITION\_CODE, ADDRESPONSE, MVV,

F4, F5, F6, F49,

SETTLEMENT\_CODE, SETTLEMENT\_RATE, ISS\_CONV\_RATE, TCC,

REF\_NO, TNX\_STAMP, CARD\_ACCEPT\_NAME\_LOCATION, CARD\_ACCEPT\_ID\_CODE,

SETTLE\_DATE, ACCOUNT\_NO, DEST\_ACCOUNT, MCC, APPROVAL\_CODE, ADD\_INFO,

amount\_ins\_num, f4\_num, f5\_num, f6\_num, trace2\_num,

ROW\_NUMBER() OVER (

PARTITION BY card\_no\_trim, trace\_no\_num, term\_id, local\_mmdd, local\_time\_num, acq\_id\_num

ORDER BY TNX\_STAMP DESC

) rn

FROM V\_ISOMESSAGE\_TMP\_TURN\_0200

) t

WHERE t.rn = 1

),

src AS (

SELECT b.\*,

/\* Thay MAP\_IBFT\_ACQ\_ID(acq\_id\_num) bằng CASE cố định \*/

CASE CAST(b.acq\_id\_num AS UNSIGNED)

WHEN 970429 THEN 157979

WHEN 970400 THEN 161087

WHEN 970427 THEN 166888

WHEN 970441 THEN 180906

WHEN 970425 THEN 970459

WHEN 970431 THEN 452999

WHEN 970436 THEN 686868

WHEN 970419 THEN 818188

WHEN 970407 THEN 888899

WHEN 970434 THEN 888999

WHEN 970440 THEN 970468

WHEN 970418 THEN 970488

WHEN 970432 THEN 981957

WHEN 970405 THEN 970499

ELSE CAST(b.acq\_id\_num AS UNSIGNED)

END AS mapped\_acq\_id

FROM base b

)

SELECT

s.card\_no\_trim,

s.trace\_no\_num,

s.term\_id,

STR\_TO\_DATE(CONCAT(YEAR(CURDATE()), s.local\_mmdd), '%Y%m%d'),

s.local\_time\_num,

s.acq\_id\_num,

1,

CAST(s.PROC\_CODE AS UNSIGNED),

'210',

CAST(s.PROC\_CODE AS UNSIGNED),

s.amount\_ins\_num,

704,

s.trace2\_num,

STR\_TO\_DATE(CONCAT(YEAR(CURDATE()), LPAD(s.SETTLE\_DATE,4,'0')), '%Y%m%d'),

s.acq\_id\_num,

CASE

WHEN s.BEN\_ID = '971133' AND s.DEST\_ACCOUNT LIKE 'NPDC%' THEN 68

WHEN s.SERVICE\_CODE = 'QR\_PUSH' THEN 68

WHEN s.BEN\_ID = '971100' AND s.TCC = '99' THEN 68

WHEN TRIM(s.ISS\_ID) IN ('980471','980472') THEN 68

ELSE 0

END,

6011,

CAST(s.MCC AS UNSIGNED),

s.APPROVAL\_CODE,

704,

s.ADD\_INFO,

CONCAT(IFNULL(s.ACCOUNT\_NO,' '), '|', IFNULL(s.DEST\_ACCOUNT,'')),

704,

/\* ORIGISS: ưu tiên các ngoại lệ, sau đó dùng mapped\_acq\_id (thay MAP\_IBFT\_ACQ\_ID) \*/

CASE

WHEN TRIM(s.ISS\_ID) = '980471' THEN 980471

WHEN TRIM(s.ISS\_ID) = '980475' THEN 980478

WHEN s.acq\_id\_num = 191919 THEN 970459

WHEN s.acq\_id\_num = 970415 THEN 970489

ELSE s.mapped\_acq\_id

END,

'97',

704,

NULL, NULL, NULL, NULL,

/\* BB\_BIN\_ORIG: ngoại lệ rồi đến mapped\_acq\_id \*/

CASE

WHEN s.acq\_id\_num = 191919 THEN 970459

WHEN s.acq\_id\_num = 970415 THEN 970489

ELSE s.mapped\_acq\_id

END,

'IBT',

/\* === Vị trí #1: GET\_IBT\_BIN(...) → JOIN + CASE theo BEN\_ID/DEST\_ACCOUNT === \*/

CASE

WHEN TRIM(s.ISS\_ID) = '980472' THEN 980471

WHEN TRIM(s.ISS\_ID) = '980474' THEN 980478

WHEN s.BEN\_ID IS NOT NULL AND s.PROC\_CODE IN ('912020','910020')

THEN CASE

WHEN CAST(i\_ben.MEMBER\_ID AS UNSIGNED) = 191919 THEN 970459

WHEN CAST(i\_ben.MEMBER\_ID AS UNSIGNED) = 970415 THEN 970489

ELSE CAST(i\_ben.MEMBER\_ID AS UNSIGNED)

END

ELSE CASE

WHEN CAST(i\_dest.MEMBER\_ID AS UNSIGNED) = 191919 THEN 970459

WHEN CAST(i\_dest.MEMBER\_ID AS UNSIGNED) = 970415 THEN 970489

ELSE CAST(i\_dest.MEMBER\_ID AS UNSIGNED)

END

END,

/\* === Vị trí #2: TO\_NUMBER\_BNV(BEN\_ID) (theo yêu cầu: dùng CAST TiDB) + fallback GET\_IBT\_BIN === \*/

CASE

WHEN s.BEN\_ID IN (SELECT TGTT\_ID FROM TGTT\_20) THEN

CAST(s.BEN\_ID AS UNSIGNED) -- thay TO\_NUMBER\_BNV(s.BEN\_ID)

WHEN TRIM(s.ISS\_ID) IN ('980472','980474','980475') THEN

CASE

WHEN s.BEN\_ID IS NOT NULL AND s.PROC\_CODE IN ('912020','910020')

THEN CASE

WHEN CAST(i\_ben.MEMBER\_ID AS UNSIGNED) = 191919 THEN 970459

WHEN CAST(i\_ben.MEMBER\_ID AS UNSIGNED) = 970415 THEN 970489

ELSE CAST(i\_ben.MEMBER\_ID AS UNSIGNED)

END

ELSE CASE

WHEN CAST(i\_dest.MEMBER\_ID AS UNSIGNED) = 191919 THEN 970459

WHEN CAST(i\_dest.MEMBER\_ID AS UNSIGNED) = 970415 THEN 970489

ELSE CAST(i\_dest.MEMBER\_ID AS UNSIGNED)

END

END

ELSE

CAST(s.BEN\_ID AS UNSIGNED) -- thay TO\_NUMBER\_BNV(s.BEN\_ID)

END,

s.IBFT\_INFO,

'MTI=200',

s.ACQ\_COUNTRY, s.POS\_ENTRY\_CODE, s.POS\_CONDITION\_CODE, s.ADDRESPONSE, s.MVV,

s.f4\_num, s.f5\_num, s.f6\_num, s.F49,

s.SETTLEMENT\_CODE, s.SETTLEMENT\_RATE, s.ISS\_CONV\_RATE, s.TCC,

s.REF\_NO, DATE(s.TNX\_STAMP), DATE\_FORMAT(s.TNX\_STAMP, '%H%i%s'),

s.CARD\_ACCEPT\_NAME\_LOCATION, s.CARD\_ACCEPT\_ID\_CODE,

NULL, CAST(s.PROC\_CODE AS UNSIGNED),

s.ACCOUNT\_NO, s.DEST\_ACCOUNT

FROM src s

LEFT JOIN IBFT\_BANK\_BINS i\_ben

ON i\_ben.BIN = s.BEN\_ID

LEFT JOIN IBFT\_BANK\_BINS i\_dest

ON i\_dest.BIN = SUBSTRING(s.DEST\_ACCOUNT,1,6)

WHERE NOT EXISTS (

SELECT 1

FROM SHCLOG\_SETT\_IBFT A

WHERE A.PAN = s.card\_no\_trim

AND A.ORIGTRACE = s.trace\_no\_num

AND A.TERMID = s.term\_id

AND DATE\_FORMAT(A.LOCAL\_DATE,'%m%d') = s.local\_mmdd

AND A.LOCAL\_TIME = s.local\_time\_num

AND A.ACQUIRER = s.acq\_id\_num

);

**Step 4 – Log kết thúc MERGE**

INSERT INTO ERR\_EX(ERR\_TIME,ERR\_CODE,ERR\_DETAIL,ERR\_MODULE)  
VALUES (NOW(),0,'Finish Merge SHCLOG\_SETT\_IBFT and ISOMESSAGE\_TMP\_TURN','MERGE\_SHC\_SETT\_IBFT\_200');  
-- Ghi chú: TiDB thường autocommit; nếu dùng transaction thì commit ở tầng ứng dụng.

**Step 5 – Gán STT = ROW\_NUMBER() + :iSTT khi STT IS NULL & ORIGRESPCODE=97**

UPDATE SHCLOG\_SETT\_IBFT AS a

JOIN (

SELECT

tidb\_id,

ROW\_NUMBER() OVER (ORDER BY TRANDATE, TRANTIME, TRACE, id) + :iSTT AS new\_stt

FROM SHCLOG\_SETT\_IBFT

WHERE STT IS NULL

AND ORIGRESPCODE = 97

) AS b

ON a.tidb\_id = b.tidb\_id

SET a.STT = b.new\_stt;

**Step 6 – Log kết thúc toàn store**

INSERT INTO ERR\_EX(ERR\_TIME, ERR\_CODE, ERR\_DETAIL, ERR\_MODULE)  
VALUES (NOW(),0,'End MERGE\_SHC\_SETT\_IBFT\_200','RPT.MERGE\_SHC\_SETT\_IBFT\_200');

**Step 7 – Log lỗi (cho EXCEPTION ở ứng dụng)**

INSERT INTO ERR\_EX(ERR\_TIME, ERR\_CODE, ERR\_DETAIL, ERR\_MODULE, CRITICAL\_LEVEL)  
VALUES (NOW(), :ecode, :emesg, 'RPT.MERGE\_SHC\_SETT\_IBFT\_200', 2);

Ghi chú: Sau khi bạn dán câu lệnh cho Step 2/3/5, mình sẽ rà soát và format (canh lề, xuống dòng, comment) theo chuẩn tài liệu.