

Lab PL/SQL Batch Processing

```
DECLARE
  CURSOR c1 IS
    SELECT account_id, oper_type, new_value FROM action
    ORDER BY time_tag
    FOR UPDATE OF status;
BEGIN
  FOR acct IN c1 LOOP -- process each row one at a time

    acct.oper_type := upper(acct.oper_type);

    /*-----*/
    /* Process an UPDATE. If the account to */
    /* be updated doesn't exist, create a new */
    /* account. */
    /*-----*/
    IF acct.oper_type = 'U' THEN
      UPDATE accounts SET bal = acct.new_value
        WHERE account_id = acct.account_id;

      IF SQL%NOTFOUND THEN -- account didn't exist. Create it.
        INSERT INTO accounts
          VALUES (acct.account_id, acct.new_value);
      UPDATE action SET status =
```

```
        'Update: ID not found. Value inserted.'
        WHERE CURRENT OF c1;
ELSE
    UPDATE action SET status = 'Update: Success.'
        WHERE CURRENT OF c1;
END IF;
```

```
/*-----*/
/* Process an INSERT. If the account already */
/* exists, do an update of the account      */
/* instead.                                  */
/*-----*/
ELSIF acct.oper_type = 'I' THEN
BEGIN
    INSERT INTO accounts
        VALUES (acct.account_id, acct.new_value);
    UPDATE action set status = 'Insert: Success.'
        WHERE CURRENT OF c1;
EXCEPTION
    WHEN DUP_VAL_ON_INDEX THEN -- account already exists
        UPDATE accounts SET bal = acct.new_value
            WHERE account_id = acct.account_id;
        UPDATE action SET status =
            'Insert: Acct exists. Updated instead.'
            WHERE CURRENT OF c1;
```

END;

/*-----*/

/* Process a DELETE. If the account doesn't */
/* exist, set the status field to say that */
/* the account wasn't found. */

/*-----*/

ELSIF acct.oper_type = 'D' THEN

DELETE FROM accounts

WHERE account_id = acct.account_id;

IF SQL%NOTFOUND THEN -- account didn't exist.

UPDATE action SET status = 'Delete: ID not found.'

WHERE CURRENT OF c1;

ELSE

UPDATE action SET status = 'Delete: Success.'

WHERE CURRENT OF c1;

END IF;

/*-----*/

/* The requested operation is invalid. */

/*-----*/

ELSE -- oper_type is invalid

UPDATE action SET status =

'Invalid operation. No action taken.'

WHERE CURRENT OF c1;

END IF;

END LOOP;

COMMIT;

END;