Exception Handling

--scenario 1

CREATE OR REPLACE PROCEDURE SafeTransferFunds (

p\_from\_account IN NUMBER,

p\_to\_account IN NUMBER,

p\_amount IN NUMBER

)

IS

v\_balance NUMBER;

BEGIN

SELECT Balance INTO v\_balance

FROM Accounts

WHERE AccountID = p\_from\_account

FOR UPDATE;

IF v\_balance < p\_amount THEN

RAISE\_APPLICATION\_ERROR(-20001, 'Insufficient funds in source account.');

END IF;

UPDATE Accounts

SET Balance = Balance - p\_amount

WHERE AccountID = p\_from\_account;

UPDATE Accounts

SET Balance = Balance + p\_amount

WHERE AccountID = p\_to\_account;

COMMIT;

DBMS\_OUTPUT.PUT\_LINE('Transfer successful from ' || p\_from\_account || ' to ' || p\_to\_account);

EXCEPTION

WHEN OTHERS THEN

ROLLBACK;

DBMS\_OUTPUT.PUT\_LINE('Error: ' || SQLERRM);

END;

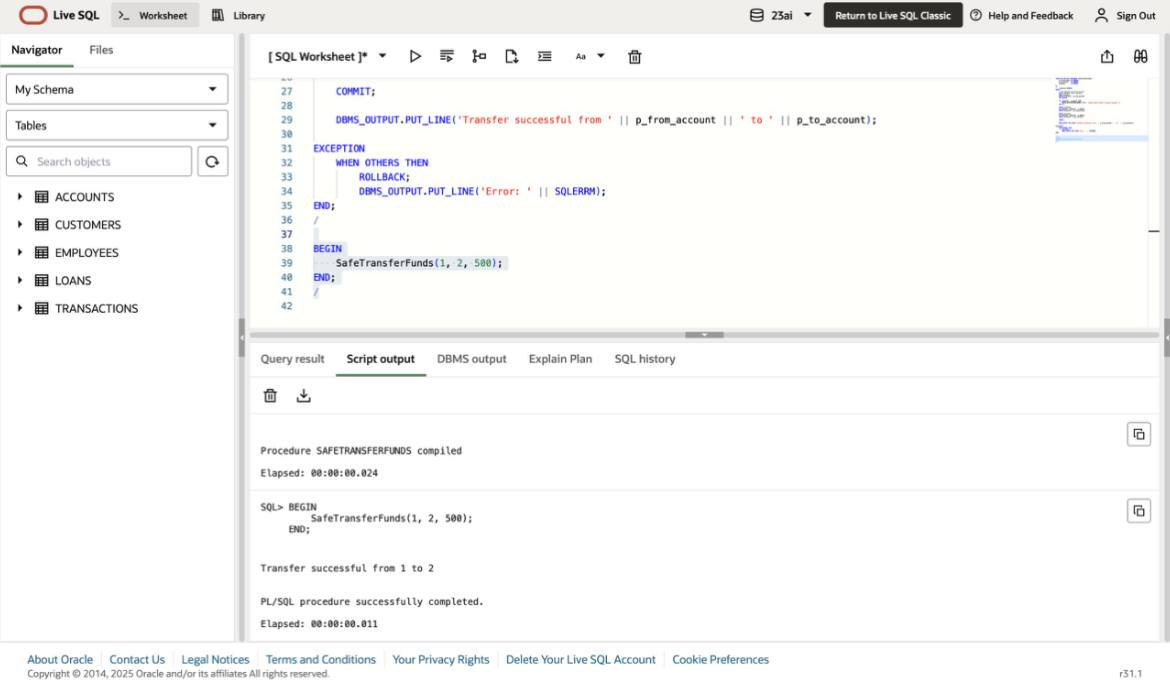
/

BEGIN

SafeTransferFunds(1, 2, 500);

END;

/



--scenario 2

CREATE OR REPLACE PROCEDURE UpdateSalary (

p\_emp\_id IN NUMBER,

p\_percentage IN NUMBER

)

IS

BEGIN

UPDATE Employees

SET Salary = Salary + (Salary \* p\_percentage / 100)

WHERE EmployeeID = p\_emp\_id;

IF SQL%ROWCOUNT = 0 THEN

RAISE\_APPLICATION\_ERROR(-20002, 'Employee not found.');

END IF;

COMMIT;

DBMS\_OUTPUT.PUT\_LINE('Salary updated for Employee ID: ' || p\_emp\_id);

EXCEPTION

WHEN OTHERS THEN

DBMS\_OUTPUT.PUT\_LINE('Error: ' || SQLERRM);

END;

/

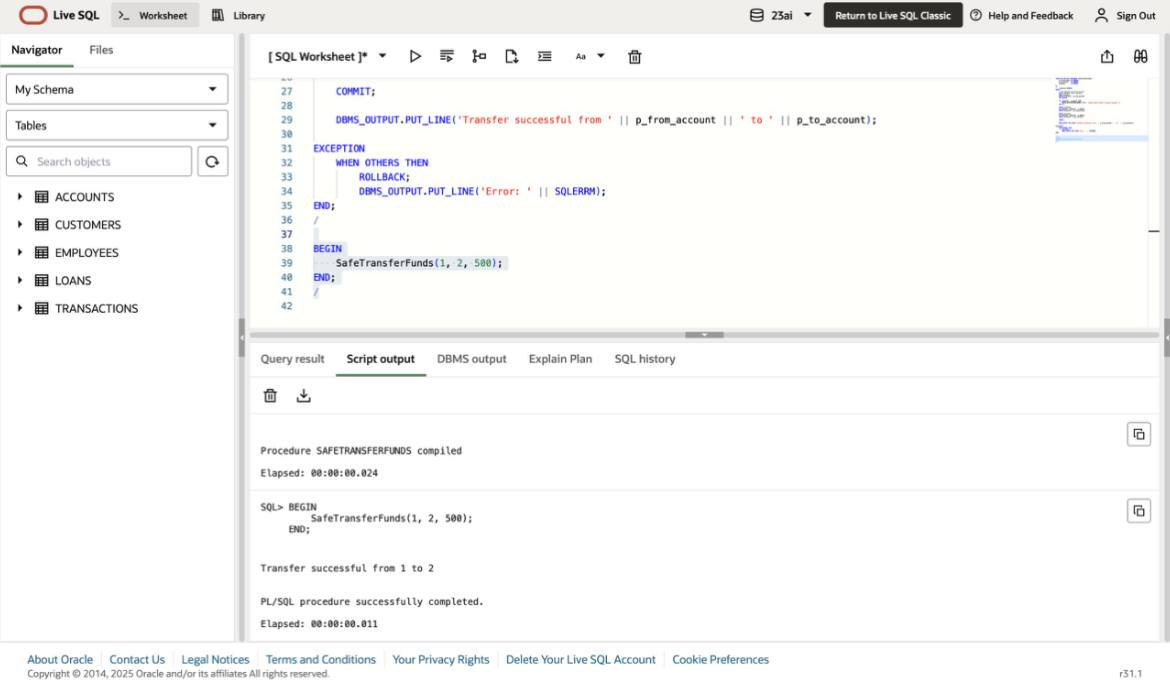
BEGIN

UpdateSalary(2, 10);

UpdateSalary(100, 10);

END;

/



--scenario 3

CREATE OR REPLACE PROCEDURE AddNewCustomer (

p\_id IN NUMBER,

p\_name IN VARCHAR2,

p\_dob IN DATE,

p\_balance IN NUMBER

)

IS

BEGIN

INSERT INTO Customers (CustomerID, Name, DOB, Balance, LastModified)

VALUES (p\_id, p\_name, p\_dob, p\_balance, SYSDATE);

COMMIT;

DBMS\_OUTPUT.PUT\_LINE('Customer added: ' || p\_name);

EXCEPTION

WHEN DUP\_VAL\_ON\_INDEX THEN

DBMS\_OUTPUT.PUT\_LINE('Error: Customer with ID ' || p\_id || ' already exists.');

WHEN OTHERS THEN

DBMS\_OUTPUT.PUT\_LINE('Unexpected Error: ' || SQLERRM);

END;

/

BEGIN

AddNewCustomer(31, 'Mohan Raj', TO\_DATE('1995-01-01', 'YYYY-MM-DD'), 3000);

AddNewCustomer(31, 'Mohan Raj Again', TO\_DATE('1990-01-01', 'YYYY-MM-DD'), 3000); -- Should fail

END;

/

