PL/SQL

PL/SQL static code analysis

Unique rules to find Bugs, Vulnerabilities, Security Hotspots, and Code Smells in your PL/SQL code

All rules 188 | Vulnerability 4 | Bug 45 | Security Hotspot 2 | Code Smell 137

Tags

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Blocks containing "EXECUTE IMMEDIATE" should trap all exceptions
Code Smell

"EXCEPTION_INIT -20,NNN" calls should be centralized
Code Smell

"CREATE OR REPLACE" should be used instead of "CREATE"
Code Smell

Block labels should appear on the same lines as "END"
Code Smell

"LOOP ... END LOOP;" constructs should be avoided
Code Smell

"IF" statements should not be nested too deeply
Code Smell

"CASE" expressions should end with "ELSE" clauses
Code Smell

String literals should not be duplicated
Code Smell

Constant names should comply with a naming convention
Code Smell

Output parameters should be assigned
Bug

"ROWNUM" should not be used at the same query level as "ORDER BY"
Bug

All branches in a conditional structure should not have exactly the same implementation
Bug

Strings should only be moved to variables or columns

Blocks containing "EXECUTE IMMEDIATE" should trap all exceptions

Analyze your code

Code Smell · Critical · error-handling

Since the purpose of the `EXECUTE IMMEDIATE` statement is to execute dynamic SQL queries - which by definition can contain unexpected errors - properly handling exceptions becomes critical. Therefore, care should be taken to trap all possible exceptions.

Noncompliant Code Example

```
DECLARE
  result      VARCHAR2(42);
  column      VARCHAR2(42);
BEGIN
  column := 'DUMMY_2';
  EXECUTE IMMEDIATE 'SELECT ' || column || ' FROM DUAL' INTO result; -- Non-Compliant
END;
/
```

Compliant Solution

```
SET SERVEROUTPUT ON

DECLARE
  result      VARCHAR2(42);
  column      VARCHAR2(42);
BEGIN
  column := 'DUMMY_2';
  EXECUTE IMMEDIATE 'SELECT ' || column || ' FROM DUAL' INTO result; -- Compliant
EXCEPTION
  WHEN OTHERS THEN
    DBMS_OUTPUT.PUT_LINE ('Execute immediate error: ' || DBMS_UTILITY.FORMAT_ERROR_STACK);
END;
/
```

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