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

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- Size should be specified for string variables
  Bug
- Predefined exceptions should not be overridden
  Bug
- "NOT NULL" variables should be initialized
  Bug
- "NCHAR" and "NVARCHAR2" size should not be specified in bytes
  Bug
- "END LOOP" should be followed by a semicolon
  Bug
- Constraints should not be applied to types that cannot be constrained
  Bug
- Improper constraint forms should not be used
  Bug
- Scale should not be specified for float types
  Bug
- Constant declarations should contain initialization assignments
  Bug
- "RAISE_APPLICATION_ERROR" should only be used with error codes from -20,000 to -20,999
  Bug
- "FETCH ... BULK COLLECT INTO" should not be used without a "LIMIT" clause
  Bug
- Anchored types should not be constrained
  Bug
- "DELETE" and "UPDATE" statements should contain "WHERE" clauses
  Bug

"NCHAR" and "NVARCHAR2" size should not be specified in bytes

Analyze your code

Bug | Blocker ?

`NCHAR` and `NVARCHAR2` lengths must be given in characters, not bytes. This is partly because a single character may occupy more than a single byte in memory. Specify the field length in bytes, and theoretically your value could overrun the field, but instead Oracle simply refuses to run the code. Specify it in characters, and Oracle will allocate the appropriate number of bytes to store the requested number of characters. Trying to specify the length semantics in bytes will result in the `PLS-00639: NCHAR/NVARCHAR2 cannot be byte length semantics` exception being raised.

Noncompliant Code Example

```
DECLARE
  foo NCHAR(42 BYTE); -- Noncompliant - raises PLS-00639
BEGIN
  NULL;
END;
/
```

Compliant Solution

```
DECLARE
  foo NCHAR(42);      -- Compliant
  bar NCHAR(42 CHAR); -- Also compliant, as an alternative
BEGIN
  NULL;
END;
/
```

Available In:

sonarlint | sonarcloud | sonarqube Developer Edition