# QGIS Application - Bug report #19149
# QgsGeometry class can't distinguish between an empty geometry and a null geometry

2018-06-08 11:00 AM - Philip Whitten

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|---|---|---|---|
| **Status:** | Closed | | |
| **Priority:** | Normal | | |
| **Assignee:** | Philip Whitten | | |
| **Category:** | Geometry | | |
| **Affected QGIS version:**| 3.0.3 | **Regression?:** | No |
| **Operating System:** | | **Easy fix?:** | No |
| **Pull Request or Patch supplied:** | | **Resolution:** | worksforme |
| **Crashes QGIS or corrupts data:** | | **Copied to github as #:** | 26979 |

**Description**

In the QgsGeometry class, the current test for an empty geometry, that is a valid geometry with no vertices is;

    @bool QgsGeometry::isEmpty() const
    {
      if ( !d->geometry )
      {
        return true;
      }
    return d->geometry->isEmpty();
      }
      @
      Whilst the test for a null geometry, that is, a geometry where the vertices are unknown and maybe empty is:

@  bool QgsGeometry::isNull() const {
  return !d->geometry;
 }@

Hence, by the logic of the tests, there is no distinction between an empty geometry and a null geometry.

**History**

**#1 - 2018-06-08 11:59 AM - Matthias Kuhn**

*- Resolution set to worksforme*

*- Status changed from Open to Closed*

This is well defined and working from what I can see. If you think there is something wrong, please post a snippet with obtained and expected results.

QgsGeometry().isEmpty()

> *True*

QgsGeometry().isNull()

> *True*

QgsGeometry.fromWkt('LineString()').isEmpty()

>

> *True*

QgsGeometry.fromWkt('LineString()').isNull()

> *False*

**#2 - 2018-06-12 02:15 PM - Philip Whitten**

*- Status changed from Closed to Reopened*

Why doesn't it work for an empty point geometry?  For example:

QgsGeometry.fromWkt('Point()').isEmpty()
True
QgsGeometry.fromWkt('Point()').isNull()
True

**#3 - 2018-06-12 02:36 PM - Philip Whitten**

Furthermore, is it possible to create a null geometry that isn't also an empty geometry?  That is give the result of True to isNull(), but, false to isEmpty()?

**#4 - 2018-06-14 05:27 AM - Philip Whitten**

*- Status changed from Reopened to Closed*

A new issue has been created that more accurately describes the problem.