**SDO\_WITHIN\_DISTANCE**

**Format**

SDO\_WITHIN\_DISTANCE(geometry1, aGeom, params);

**Description**

Uses the spatial index to identify the set of spatial objects that are within some specified distance of a given object (such as an area of interest or point of interest).

**Keywords and Parameters**

| **Value** | **Description** |
| --- | --- |
| geometry1 | Specifies a geometry column in a table. The column has the set of geometry objects that will be operated on to determine if they are within the specified distance of the given object (aGeom). The column must be spatially indexed. Data type is SDO\_GEOMETRY. |
| aGeom | Specifies the object to be checked for distance against the geometry objects in geometry1. Specify either a geometry from a table (using a bind variable) or a transient instance of a geometry (using the SDO\_GEOMETRY constructor). Data type is SDO\_GEOMETRY. |
| params | A quoted string containing one or more keywords (with values) that determine the behavior of the operator. The remaining items (distance, querytype, and unit) are potential keywords for the params parameter. Data type is VARCHAR2. |
| distance | Specifies the distance value. If a coordinate system is associated with the geometry, the distance unit is assumed to be the unit associated with the coordinate system. This is a required keyword. Data type is NUMBER. |
| querytype | Set 'querytype=FILTER' to perform only a primary filter operation. If querytype is not specified, both primary and secondary filter operations are performed (default). Data type is VARCHAR2. |
| unit | Specifies the unit of measurement: a quoted string with unit= and an SDO\_UNIT value from the MDSYS.SDO\_DIST\_UNITS table (for example, 'unit=KM'). See [Section 2.6](http://stanford.edu/dept/itss/docs/oracle/10g/appdev.101/b10826/sdo_objrelschema.htm#i1010145) for more information about unit of measurement specification. Data type is NUMBER. Default = unit of measurement associated with the data. For geodetic data, the default is meters. |

**Returns**

The expression SDO\_WITHIN\_DISTANCE(arg1, arg2, arg3) = 'TRUE' evaluates to TRUE for object pairs that are within the specified distance, and FALSE otherwise.

**Usage Notes**

Distance between two extended objects (nonpoint objects such as lines and polygons) is defined as the minimum distance between these two objects. The distance between two adjacent polygons is zero.

If this operator is used with geodetic data, the data must be indexed with an R-tree spatial index. If this operator is used with geodetic data and if the R-tree spatial index is created with 'geodetic=false' specified, you cannot use the unit parameter.

The operator is disabled if the table does not have a spatial index or if the index has been built on more than two dimensions.

The operator must always be used in a WHERE clause and the condition that includes the operator should be an expression of the form:

SDO\_WITHIN\_DISTANCE(arg1, arg2, 'distance = <some\_dist\_val>') = 'TRUE'

The geometry column must have a spatial index built on it. If the data is geodetic, the spatial index must be an R-tree index.

SDO\_WITHIN\_DISTANCE is not supported for spatial joins. See [Section 4.2.1.3](http://stanford.edu/dept/itss/docs/oracle/10g/appdev.101/b10826/sdo_index_query.htm#i1005386) for a discussion on how to perform a spatial join within-distance operation.

**Examples**

The following example selects the GID values from the POLYGONS table where the GEOMETRY column object is within 10 distance units of the geometry stored in the aGeom variable.

SELECT A.GID

FROM POLYGONS A

WHERE

SDO\_WITHIN\_DISTANCE(A.Geometry, :aGeom, 'distance = 10') = 'TRUE';

The following example selects the GID values from the POLYGONS table where the GEOMETRY column object is within 10 distance units of the specified rectangle having the lower-left coordinates (x1,y1) and the upper-right coordinates (x2, y2).

SELECT A.GID

FROM POLYGONS A

WHERE

SDO\_WITHIN\_DISTANCE(A.Geometry, sdo\_geometry(2003,NULL,NULL,

sdo\_elem\_info\_array(1,1003,3),

sdo\_ordinate\_array(x1,y1,x2,y2)),

'distance = 10') = 'TRUE';

The following example selects the GID values from the POLYGONS table where the GID value in the QUERY\_POINTS table is 1 and a POLYGONS.GEOMETRY object is within 10 distance units of the QUERY\_POINTS.GEOMETRY object.

SELECT A.GID

FROM POLYGONS A, Query\_Points B

WHERE B.GID = 1 AND

SDO\_WITHIN\_DISTANCE(A.Geometry, B.Geometry, 'distance = 10') = 'TRUE';

See also the more complex SDO\_WITHIN\_DISTANCE examples in [Section C.2](http://stanford.edu/dept/itss/docs/oracle/10g/appdev.101/b10826/sdo_complex_queries.htm#CIHIAIDD).

**Related Topics**

* [SDO\_FILTER](http://stanford.edu/dept/itss/docs/oracle/10g/appdev.101/b10826/sdo_operat.htm#BJAFBCFC)
* [SDO\_RELATE](http://stanford.edu/dept/itss/docs/oracle/10g/appdev.101/b10826/sdo_operat.htm#i78531)