

Oracle Spatial FOURSQUARE

Demonstration of different queries

AskTom 30. Sep. 2025

Count number of rows in the external table foursquare_ext

```
%sql  
select count(*) from foursquare_ext;
```

```
COUNT(*)  
105292526
```

Count number of rows in the database table foursquare_geom

```
%sql  
select count(*) from foursquare_geom;
```

```
COUNT(*)  
105212100
```

Describe the table foursquare_geom



```
%script
describe foursquare_geom;
```

Name	Null?	Type
FSQ_PLACE_ID	NOT NULL	VARCHAR2(32767)
NAME		VARCHAR2(32767)
LATITUDE		NUMBER
LONGITUDE		NUMBER
ADDRESS		VARCHAR2(32767)
LOCALITY		VARCHAR2(32767)
REGION		VARCHAR2(32767)
POSTCODE		VARCHAR2(32767)
COUNTRY		VARCHAR2(32767)
FSQ_CATEGORY_IDS		JSON
GEOMETRY		MDSYS.SDO_GEOMETRY

Select "region" from the JSON result from geocode of data for the coordinates

```
%sql
SELECT region, json_value(result,'$.matches.region') AS region_corr
FROM (
  SELECT
    region,
    CAST(SDO_GCDR.ELOC_GEOCODE(longitude,latitude) AS JSON) AS result
  FROM foursquare_geom where fsq_place_id in ('5f2900858101276da0c9b12f','51375836
');
```

Type to search

REGION 	REGION_CORR 
	OSLO
Oslo County	OSLO
3	OSLO

Reverse geocode based on coordinates and returns the result as JSON

```
%sql
SELECT
  CAST(SDO_GCDR.ELOC_GEOCODE(10.43220,59.83320) AS JSON) AS result
FROM dual;
```

RESULT

```
[{"id":"0","matchCount":"1","matches":
[{"edgeId":554666211,"municipality":"Asker","street":"Hagaløkkveien","settlement":
"Billingstad","percent":0.8294507661770689,"side":"R","sequence":"0","postalCode":
"1383","language":"NOR","region":"Viken","x":10.431787077932869,"matchCode":1,"hou
seNumber":"6","matchVector":"???14141414??
404?","country":"NO","name":"","y":59.8333284646431}}]}
```

Extract different values from the JSON result

```
%sql
SELECT json_value(result,'$.matches.country') AS country, json_value(result,'$.mat
FROM (
  SELECT
    CAST(SDO_GCDR.ELOC_GEOCODE(10.43220,59.83320) AS JSON) AS result
  FROM dual);
```

Type to search

COUNTRY ↕	MUNICIPALITY ↕	POSTCODE ↕
NO	Asker	1383

Find all places in a distance from a given point :
"sdo_within_distance"

```
%sql
SELECT  * FROM foursquare_geom WHERE country='NO'
and sdo_within_distance(
    sdo_geometry(2001,4326,sdo_point_type(longitude,latitude,null),null,null),
    sdo_geometry(2001,4326,sdo_point_type(10.43220,59.83320,null),null,null),'dista
```

Type to search

FSQ_PLACE_ID ↕	NAME ↕
109958c60c8e42418a072cb5	Ikea kort kundeservice
87b9e1b4895546d26cc56f1d	Shell Mastercard
04aa8ffd10954ee388c89c53	Asker kommune Barne- og Familieenheten Homestart
f343fa64233a4f219a2f50a8	Renessanse Media
ff942cbc92634ca6554d6205	Hunton Fiber

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Select data from the table foursquare_geom base on a
FSQ_PLACE_ID

```
%sql
SELECT  NAME,ADDRESS, LOCALITY,REGION,POSTCODE,COUNTRY, FSQ_CATEGORY_IDS FROM fours
```

Type to search

NAME ↕	ADDRESS ↕	LOCALITY ↕	REGION ↕	POSTCODE ↕
Bagel & Juice	Øvre Slottsgate 7	Oslo	Oslo	157

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Select the first category id from the JSON result for FSQ_CATEGORY_IDS (using JSON_VALUE)

```
%sql
SELECT json_value(FSQ_CATEGORY_IDS, '$[0]' ) AS first_value
FROM foursquare_geom
WHERE FSQ_PLACE_ID='4b628f21f964a520514b2ae3';
```

```
FIRST_VALUE
4bf58dd8d48988d179941735
```

Find the number of category IDs in the JSON result for FSQ_CATEGORY_IDS (using JSON_VALUE & size)

```
%sql
SELECT json_value(FSQ_CATEGORY_IDS, '$.size()' RETURNING NUMBER) AS array_size
FROM foursquare_geom
WHERE FSQ_PLACE_ID='4b628f21f964a520514b2ae3';
```

```
ARRAY_SIZE
3
```

Select all category ids from a JSON result using JSON_TABLE

```
%sql
SELECT
  jt.cid as fsq_cids
FROM foursquare_geom,
  JSON_TABLE(
    FSQ_CATEGORY_IDS, '$[*]' COLUMNS (cid VARCHAR2(100) PATH '$')
  ) jt
WHERE fsq_place_id='4b628f21f964a520514b2ae3'
```

Type to search

FSQ_CIDS 

4bf58dd8d48988d179941735

4bf58dd8d48988d112941735

4bf58dd8d48988d1e0931735

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Find the number of places located in Norway (NO) in the external table

```
%sql
SELECT count(*)
FROM foursquare_ext
WHERE country='NO' and latitude is not null and longitude is not null;
```

```
COUNT(*)
304997
```

Find the number of places located in Norway (NO) in the database table

```
%sql
SELECT count(*)
FROM foursquare_geom
WHERE country='NO';
```



```
COUNT(*)
304997
```

Check the contents of the table OSLO_KOMMUNE (Oslo Municipality)



```
%sql
SELECT *
FROM oslo_kommune;
```





Type to search

GEOMETRY 	LOKALID 	OBJTYPE 	KOM 
	2f8abeb3-f180-4800-84a3-df6653fc9468	Kommune	Oslo

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Check the contents of the geometry column in table OSLO_KOMMUNE (Oslo Municipality)

```
%sql
select SDO_UTIL.TO_GEOJSON(GEOMETRY) from oslo_kommune;
-- or use SDO_UTIL.TO_WKTGEOMETRY(GEOMETRY)
```



Type to search

SDO_UTIL.TO_GEOJSON(GEOMETRY) 
{ "type": "Polygon", "coordinates": [[[10.80332, 59.82459], [10.80357, 59.82464], [10.80367, 59.82464], [10.80367, 59.82459], [10.80332, 59.82459]]] }

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Count number of places in Oslo Municipality (database table foursquare_geom)

```
%sql
SELECT
count(*)
FROM (
    TABLE(
        sdo_PointInPolygon(
            CURSOR(
                select geometry as geom, name, fsq_place_id AS pid
                from foursquare_geom where country='NO'
            ),
            (SELECT geometry from oslo_kommune),
            0.05,
            'mask=anyinteract')
        )
    );
```

COUNT(*)
58677

Count number of point in Oslo Municipality (external table foursquare_ext)

```
%sql
SELECT
count(*)
FROM (
    TABLE(
        sdo_PointInPolygon(
            CURSOR(
                select longitude,
                latitude
                from foursquare_ext where country='NO'
            ),
            (SELECT geometry from oslo_kommune),
            0.05,
            'mask=anyinteract')
        )
    );
```

COUNT(*)
58677



Select some information from places located in Oslo Municipality

```
%sql
SELECT
pid, name, SDO_UTIL.TO_WKTGEOMETRY(geom) as location
FROM (
    TABLE(
        sdo_PointInPolygon(
            CURSOR(
                select geometry as geom, name, fsq_place_id AS pid
                from foursquare_geom where country='NO'
            ),
            (SELECT geometry from oslo_kommune),
            0.05,
            'mask=anyinteract')
        )
    )
fetch first 5 rows only;
```

PID ↕	NAME ↕	LOCATION ↕
7ac9650a97f3416ed7965a65	Nyhus Sykkel	POINT (10.776209
4f101a7fe4b0044a21b83d73	Torshov Kvartal VI	POINT (10.775979
67a83620c619473eec985ae3	Sinsen Kolonial	POINT (10.775629
b58f88b8fbdc4f32aaa01034	Petter Hoel	POINT (10.775898
7824c8d6d47c46da231003a5	Bezerra International Consultancy	POINT (10.775451

Find all Irish Pubs in Oslo Municipality

```
%sql
SELECT
  t.name, c.category_name, SDO_UTIL.TO_WKTGEOMETRY(t.geom) as location
FROM
  (SELECT
    fg.name, fg.geometry as geom, jt.cid as cid
  FROM foursquare_geom fg,
    JSON_TABLE(
      fg.FSQ_CATEGORY_IDS, '$[*]' COLUMNS (cid VARCHAR2(100) PATH '$')
    ) jt
  where fg.fsq_place_id in
    (SELECT
      t1.pid
    FROM
      (SELECT
        pid
      FROM (
        TABLE(
          sdo_PointInPolygon(
            CURSOR(
              select geometry as geom, name, fsq_place_id AS pid
                from foursquare_geom where country='NO'),
              (SELECT geometry from oslo_kommune),
              0.05,
              'mask=anyinteract'))
        )) t1)) t
  JOIN foursquare_categories c ON t.cid = c.category_id where upper(category_name)
```



NAME	CATEGORY_NAME	LOCATION
Dirty Nelly Irish Pub	Irish Pub	POINT (10.7547915694089 59.9150902097681)
The Old Irish Pub – Klingenberg	Irish Pub	POINT (10.732068 59.913548)
O'Reilly's	Irish Pub	POINT (10.7573546123191 59.9220518589344)
Shamrock	Irish Pub	POINT (10.7657017012187 59.9272602766137)
Birgittes punk & kanin forvaltning AS	Irish Pub	POINT (10.764202 59.953901)
Mulligan's Irish Pub	Irish Pub	POINT (10.739749 59.914913)
Paddy's Irish Pub		POINT (10.7330297094733 59.9144577951045)
The Wild Rover	Irish Pub	POINT (10.747222 59.911633)
The Old Irish Pub – Majorstuen	Irish Pub	POINT (10.7155269384384 59.929269770038)
O'Connor's Irish Pub Oslo	Irish Pub	POINT (10.7588841 59.9199589)

Thank you for your attention!