

Oracle Spatial Studio

Overview

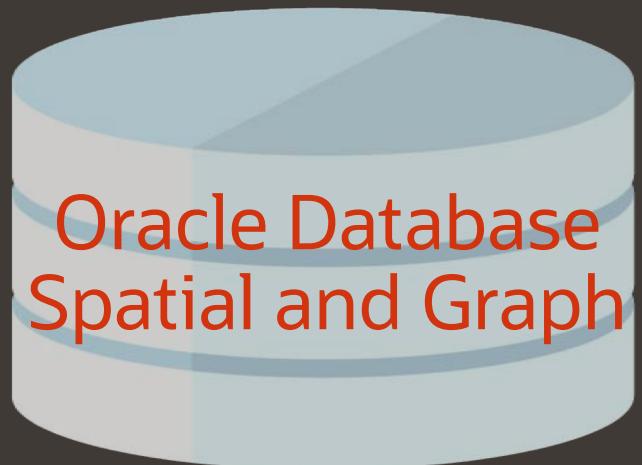
David Lapp

Product Manager
Oracle Spatial and Graph

Spatial Studio

- Purpose
- Use cases
- Features
- Walkthrough
- Licensing
- Resources

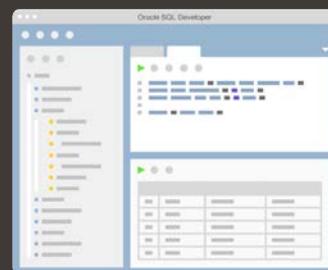
Purpose



Spatial data management,
analysis, and processing



Traditional access



SQL, PLSQL, Java coding
Some technical expertise

Spatial Studio



Self-service
Drag and drop

Use cases

Prepare address and coordinate data for spatial analysis and mapping

- Geocode customer and competitor address lists

Visualize data on interactive maps along with other contextual layers

- Navigate interactive map with customers, competitors, suppliers, sales regions...

Associate data through spatial relationships

- Determine the competitors located within a proposed new sales region

Enrich data with spatial attributes and metrics for downstream analytics

- Enrich customers with their associated sales region and distance from supplier

Integrate spatial content and analysis results via REST

- Access customers info as GeoJSON and integrate using an open source mapping library

Features

Data

- Access content from Oracle db
- Load Shapefiles, Spreadsheets, GeoJSON
- Geocode addresses
- Create longitude/latitude index
- Export as CSV, GeoJSON
- Pre-cache vector tiles

Developer

- Access analysis SQL
- Integrate published Project
- Access datasets and analyses via REST

Projects

- Combine datasets
- Create and configure visualizations
- Perform Spatial analysis operations
- Save and share results

Administration

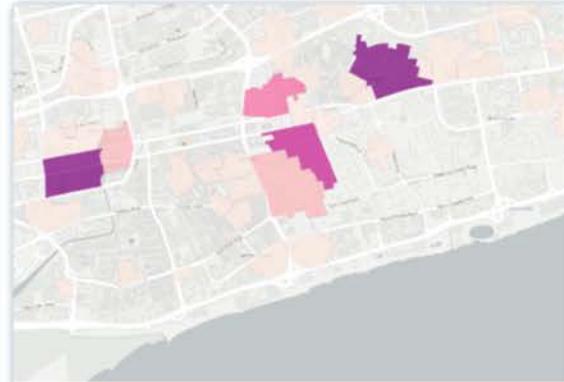
- Console UI
- Configure proxy
- Configure geocoding service endpoint
- View system status and logs
- Deeper admin outside UI i.e. WLS Console

Studio walkthrough

Projects

[Create](#)**sg_sample**

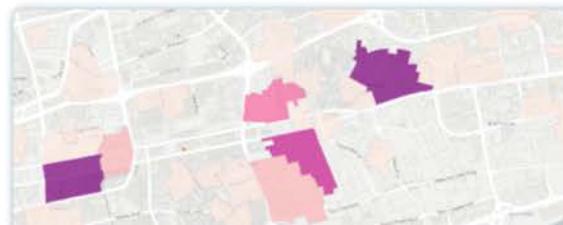
with datasets from data.gov.sg

**demo_project**

with datasets from data.gov.sg

Previously saved
Projects

Published projects



Previously saved
Published Projects

 Data

Create

Datasets

Connections

Search ...



Name

Description

Connection

Last Modified Date

	DB0902_DENGUE_CLUSTER	New dataset.	SPATIAL_STUDIO	2019-09-11T13:25:02.130Z
	DB0902_HAWKERCENTRE	New dataset.	SPATIAL_STUDIO	2019-09-11T13:25:28.793Z
	DB0902_KINDERGARTENS	New dataset.	SPATIAL_STUDIO	2019-09-11T14:13:37.961Z
	DB0902_ELDERCARE	New dataset.	SPATIAL_STUDIO	2019-09-11T14:16:37.344Z
	TX_COASTAL_ZONE	New dataset.	SPATIAL_STUDIO	2019-09-12T13:18:42.834Z
	TX_SITES	New dataset.	SPATIAL_STUDIO	2019-09-12T13:20:49.942Z
	TX_REGIONS	New dataset.	SPATIAL_STUDIO	2019-09-12T13:19:13.28

Properties

Create Project

Add to Active Project

Delete Dataset

Export Dataset

Dataset Cache

Prepare

Prepare non-spatial
data having addresses
or coordinates

Geocode Addresses

Clear Address Geocode

Create Lon/Lat Index

Drop Lon/Lat Index



Use address attributes to create geometries

Setup

Status

TX_SITES

Verify or adjust geo-attributes to be used to geocode

Geo-type

Column ...

Values

Address

ADDRESS_LINE1

1144 N Stemmons Fwy

1820 HWY 290 W

3000 E. Main St.



City

CITY

Austin

BRENHAM

DECATUR

Houston

Lewisville

ODESSA



Postal/Zip Code

ZIP

75067

75711

76234

76567

77025

77833

78751



State/Province

STATE

TX

----- Select -----

VENDOR_NAME

Appel Ford-Mercury Inc.

Griffith Ford Inc.

KK Ford LP



----- Select -----

PHONE

2212900

4467377

454-3711

498-0421

5979331

627-1011



----- Select -----

AREA_CODE

432

512

713

903

940

972

979

Apply

Close

Address
geocoding setup

Data

Create

Datasets

Connections

Search ...



Name

Description

Connection

Last Modified Date

DB0902_DENGUE_CLUSTER	New dataset.	SPATIAL_STUDIO	2019-09-11T13:25:02.130Z
DB0902_HAWKERCENTRE	New dataset.	SPATIAL_STUDIO	2019-09-11T13:25:28.793Z
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TX_SITES	New dataset.	SPATIAL_STUDIO	2019-09-12T13:20:49.942Z
TX_REGIONS	New dataset.	SPATIAL_STUDIO	2019-09-12T13:19:13.289Z

Properties

Create Project

Add to Active Project

Delete Dataset

Export Dataset

Pre-cache very
large datasets

Pre-cache

Dataset Cache

Purge Cache

Prepare

Data

Datasets

Name

- DB0902_DENGUE
- DB0902_HAWKER
- DB0902_KINDERG
- DB0902_ELDERCA
- TX_COASTAL_ZON
- TX_SITES
- TX_REGIONS

Pre-cache

Create

Draw the bounding box (Press Shift and start dragging the mouse):



Bounding Box: -106.92675906419599,26.034835916076887,-90.93066531419466,36.66644963104362

*** Vector tiles will be generated for Zoom Levels 0 through 10

Apply

Cancel

 Data

Create

Create Studio
artifacts

Datasets

Connections

Create

Sea



Project



Dataset



Connection

Name	Description	Connection	Last Modified
DB0902_DENGUE_CLUSTER	New dataset.	SPATIAL_STUDIO	2019-09-11T13:25:02.130Z
DB0902_HAWKERCENTRE	New dataset.	SPATIAL_STUDIO	2019-09-11T13:25:28.793Z
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 Data

Create

Datasets

Name

DB0902_DENGUE_CLUSTER



DB0902_HAWKERCENTRE



DB0902_KINDERGARTENS



DB0902_ELDERCARE



TX_COASTAL_ZONE



TX_SITES



TX_REGIONS

Create Connection

Select a connection type



Oracle Database



Oracle Autonomous Database

Cancel

Establish connections to
traditional and
Autonomous databases



Create Dataset

From a File



From a Connection



Upload files using a
Connection to create
new table and Dataset

Select Connection to
select existing
table/view for Dataset

Cancel

Active Project

Create

Data Elements

- Datasets
 - DB0902_DENGUE_CLUS...
 - DB0902_HAWKERCENTRE
 - DB0902_KINDERGARTENS
 - DB0902_ELDERCARE
- Analyses

demo_project

Layers List

Data

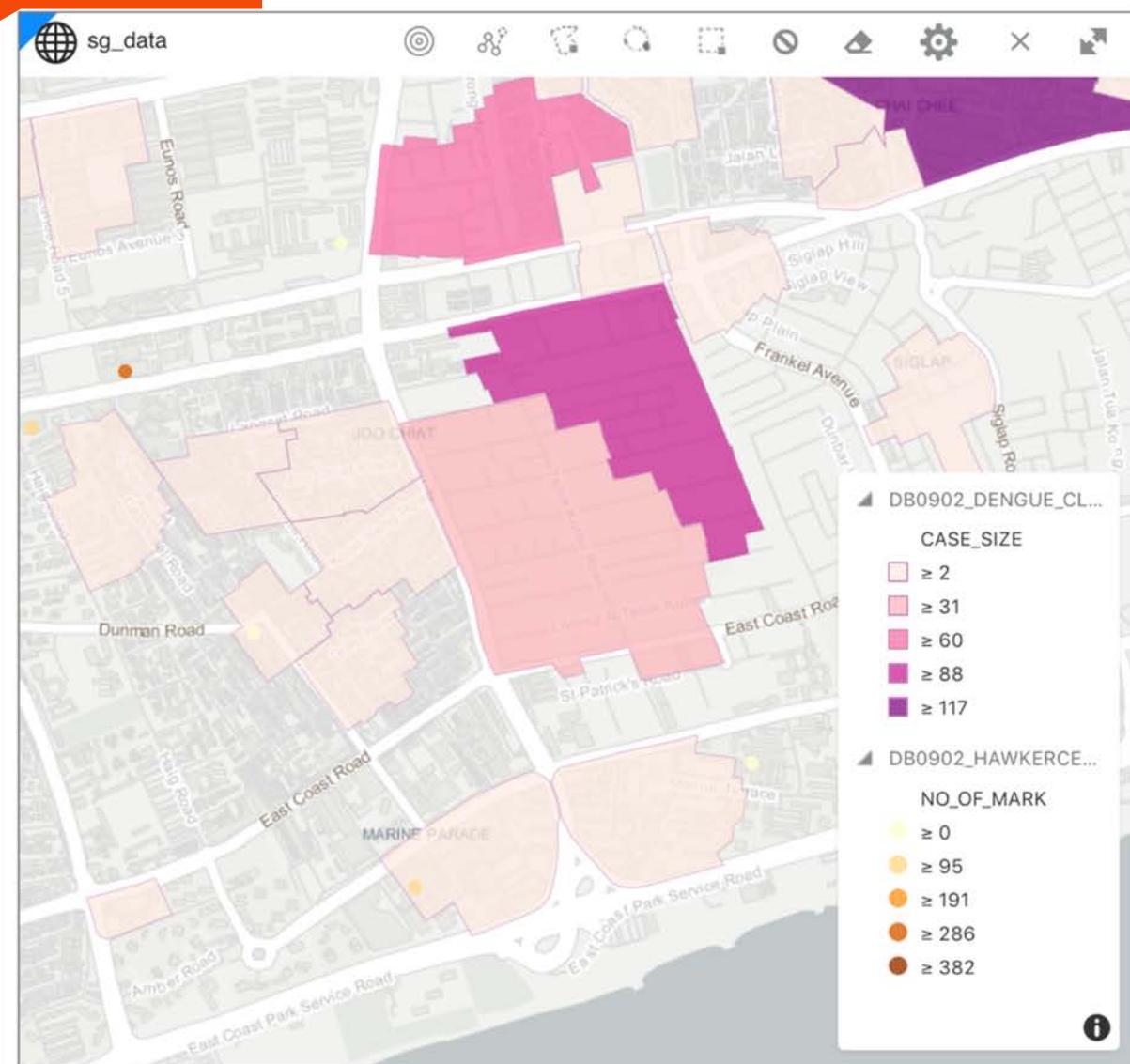
DB0902_HAWKERCENTRE

DB0902_DENGUE_CLUSTER

Background

Oracle OSM Positron

Work with Datasets
in a Project



Active Project

Create

Data Elements +

- Datasets
 - DB0902_DENGUE_CLUS...
 - DB0902_HAWKERCENTRE
 - DB0902_KINDERGARTENS
 - DB0902_ELDERCARE
- Analyses

demo_project

Layers List

Data

DB0902_HAWKERCENTRE

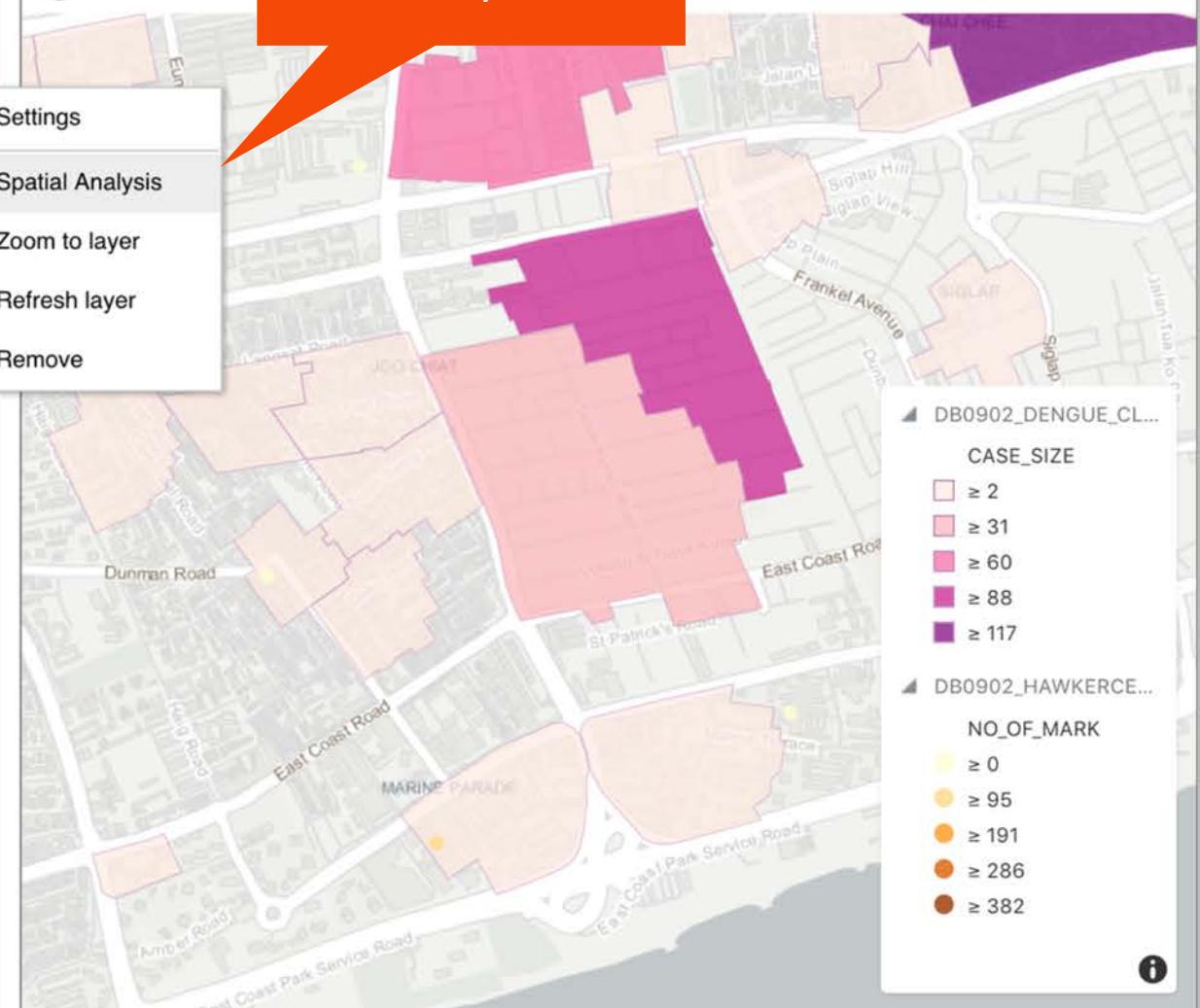
DB0902_DENGUE_CLUSTER

Background

Oracle OSM Positron

- Settings
- Spatial Analysis
- Zoom to layer
- Refresh layer
- Remove

Create a spatial analysis



Activity

All Filter Combine Transform Measure

Search

X

Select Spatial analysis



Return shapes that interact with the minimum bounding rectangle of another

SDO_FILTER

[More information](#)



Return shapes nearest to

SDO_NN

[More information](#)



Return shapes having spatial relationships to another

SDO_RELATE

[More information](#)



Return shapes having any spatial interaction with another

SDO_ANYINTERACT

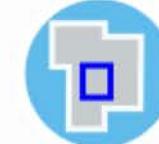
[More information](#)



Return shapes that contain another

SDO_CONTAINS

[More information](#)



Return shapes that are inside another

SDO_INSIDE

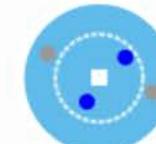
[More information](#)



Return shapes that overlap another

SDO_OVERLAPS

[More information](#)



Return shapes within a specified distance of another

SDO_WITHIN_DISTANCE

[More information](#)



Returns elements filtered by non spatial rules

ATTRIBUTE FILTER

[More information](#)



Return shapes covered by another

SDO_COVEREDBY

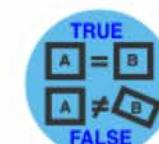
[More information](#)



Return shapes that cover another

SDO_COVERS

[More information](#)



Return shapes equal to another

SDO_EQUAL

[More information](#)



Return shapes that are on another

SDO_ON

[More information](#)



Return shapes that overlap another with disjoint boundaries

SDO_OVERLAPBDYDISJOINT

[More information](#)



Return shapes that overlap another with interacting boundaries

SDO_OVERLAPBDYINTERSECT

[More information](#)

Advanced

Active Project

Create



Data Elements

Datasets

DB0902_DENGUE_CLUS...

DB0902_HAWKERCENTRE

DB0902_KINDERGARTENS

DB0902_ELDERCARE

Analyses

DENGUE_CLUSTER_RU...

demo_project

Layers List

Data

DENGUE_CLUSTER_RUBBERBAND_A...

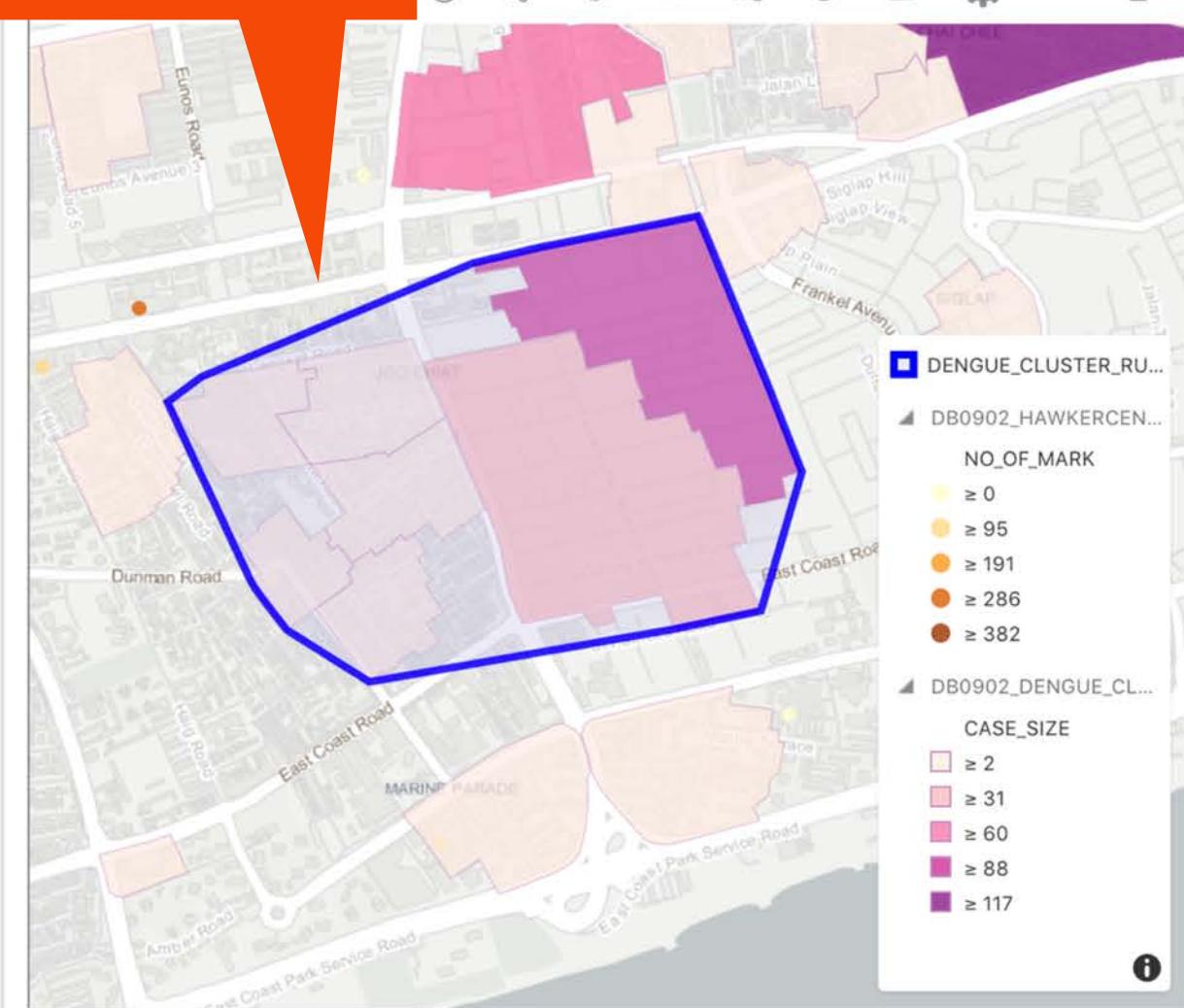
DB0902_DENGUE_CLUSTER

DB0902_HAWKERCENTRE

Background

Oracle OSM Positron

View Spatial analysis results



Activity

Dataset Properties - DENGUE_CLUSTER_RUBBERBAND_AREA

Create

Metadata

Columns

Dataset ID 77d08742a57f4acd9e97f22d8857d6a6

Statistics Status COLLECTED

* Name DENGUE_CLUSTER_RUBBERBAND_AREA

Last Statistics Time 2019-09-12T14:02:51Z

Description Spatial Analysis dataset.

Number of Rows 7

Update Statistics

Owner weblogic

Datasource ID ORACLE_SPATIAL_STUDIO_CONNECTION

Datasource Type database

Node Path database://data/schema/ORACLE_SPATIAL_STUDIO

GeoJSON Endpoint <https://129.213.161.27:8001/spatialstudio/api/v1/jsp> 

SQL

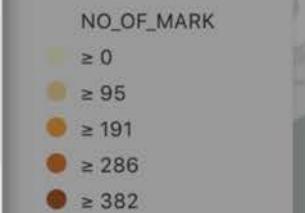
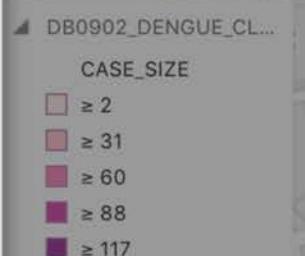
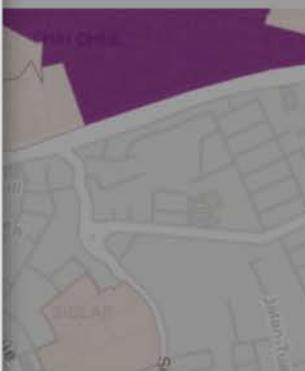
```
SELECT
  SDO_AGGR_CONVEXHULL(SDOAGGRTYPE("t1"."GEOMETRY", 0.05)) AS "GEOMETRY", '1' AS "23b2dc39-3caa-408c-a5de-908d0ac69e66" FROM
  "DB0902_DENGUE_CLUSTER" "t1" WHERE
  "t1"."STUDIO_ID" IN (156, 81, 18, 152, 157, 16, 22)
```

Access analysis REST endpoint and underlying SQL

Apply

Cancel

DENGUE_CLUSTER_RU...



 Jobs

Create

 View active and past Jobs

Active

Past

Type	Object	Created By	Status	Start Time	End Time
Gather DataSets stats batch 2 of 7			 DONE	Yesterday, 5:04 AM	Yesterday, 5:04 AM
Gather DataSets stats batch 3 of 7			 DONE	Yesterday, 5:04 AM	Yesterday, 5:04 AM
Gather DataSets stats batch 1 of 7			 DONE	Yesterday, 5:04 AM	Yesterday, 5:04 AM
Gather DataSets stats batch 4 of 7			 DONE	Yesterday, 5:04 AM	Yesterday, 5:04 AM
Gather DataSets stats batch 5 of 7			 DONE	Yesterday, 5:04 AM	Yesterday, 5:04 AM
Gather DataSets stats batch 6 of 7			 DONE	Yesterday, 5:04 AM	Yesterday, 5:04 AM
Gather DataSets stats batch 7 of 7			 DONE	Yesterday, 5:04 AM	Yesterday, 5:04 AM

Console

Create



Settings



System Status



Service Logs



About

Service URLs

* Geocoding Service URL: * Geocoding Batch Size:

Access administrative
info and functions

Web Proxy

Use Proxy Proxy Server: Proxy Server Port: Proxy Requires Login Proxy User Name: Proxy User Password:

Update Settings

Licensing

- Included with license or cloud plan including Oracle Spatial and Graph
- No extra cost
- Cloud
 - ADW/ATP
 - DBCS High Performance/Extreme Performance,
 - ExaCS (& CaC)
- On prem
 - DB EE with Spatial and Graph Option

Resources

Get started

Download

Doc

FAQ

Forum,
Blog...

<https://www.oracle.com/database/technologies/spatial-studio.html>

Database / Oracle Spatial Studio

Spatial Analytics and Maps. Fast and Easy.

Oracle Spatial Studio is a self-service web application that makes it easy for users to create interactive maps and perform spatial analysis on their business data.

Get Started with Oracle Spatial Studio → Download Oracle Spatial Studio →

What's New

- Demo: Oracle Spatial Studio (11:00)
- FAQ: Oracle Spatial Studio
- Presentation: Oracle Spatial and Graph in Oracle Database 19c (PDF)

Documentation

- Oracle Spatial Studio Guide
- Oracle Spatial Studio FAQ
- Oracle Spatial and Graph Developer's Guide
- Oracle Database 19c
- Oracle Database Products

Related Resources

- Oracle Autonomous Database
- Oracle Database 19c
- Oracle Database Cloud Service
- Oracle Database Express Edition
- Oracle Fusion Middleware

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