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ORACLE University

Oracle Cloud Infrastructure

Developing on Oracle Autonomous Database

Objectives

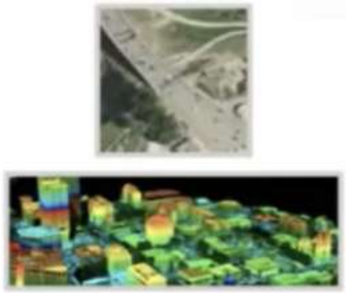
- Learn how Autonomous Database supports spatial data management
- Develop spatial applications with ADB using developer languages and APIs
- Use the spatial features of ADB with Spatial Studio no-code tools

Spatial Data Management in ADB

- What is Spatial Data?
- How is it used?

What is Spatial Data?

Locations based on GPS, addresses, commercial map data, sensor readings, and so on. These are represented as geometries like points, lines, polygons, circles, and arcs.



Satellite imagery and sensor-based (LiDAR) models

Networks that model road systems, telco, energy, transportation, and other infrastructure

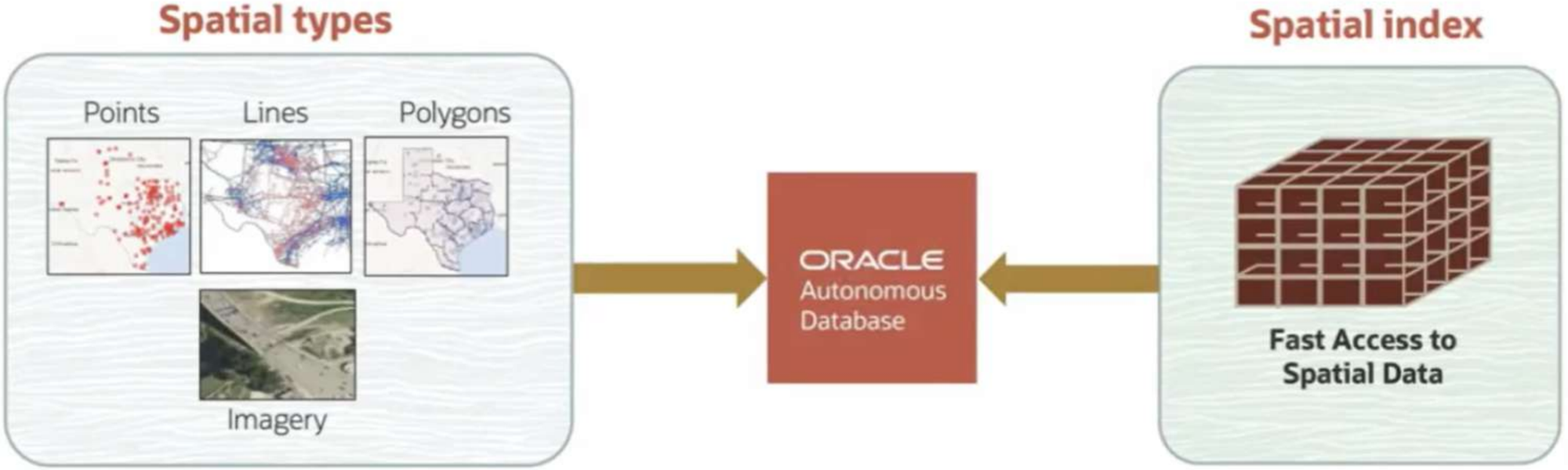
Location is a “universal key” relating otherwise unrelated entities

Spatial: It is About Location and Spatial Relationships

Are things in the same location? Who is the nearest?
What tax zone is this in? Where can I deliver in 35 minutes?
What is in my sales territory? Is this built in a flood zone?
Do I have a clear Line of Sight?

Which part of the road has the most accidents?

Native Spatial Data Management, Processing, and Analysis



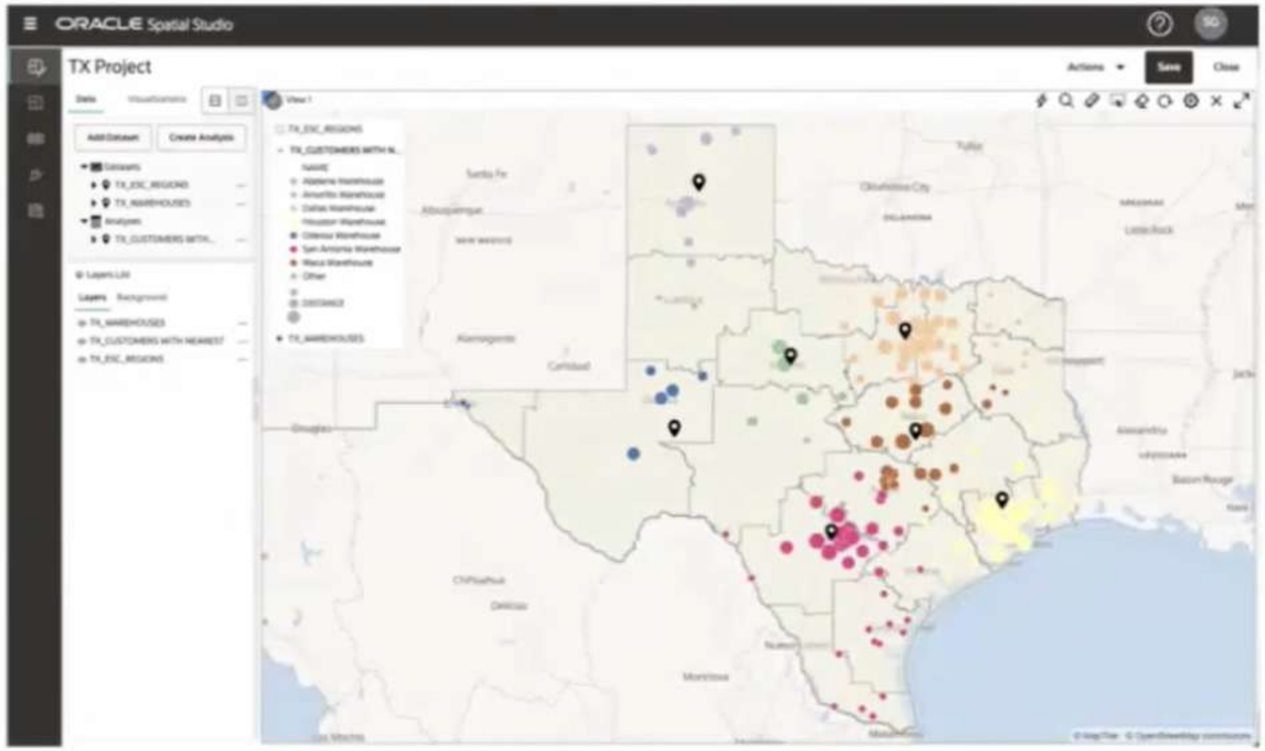
Spatial Analysis Through SQL

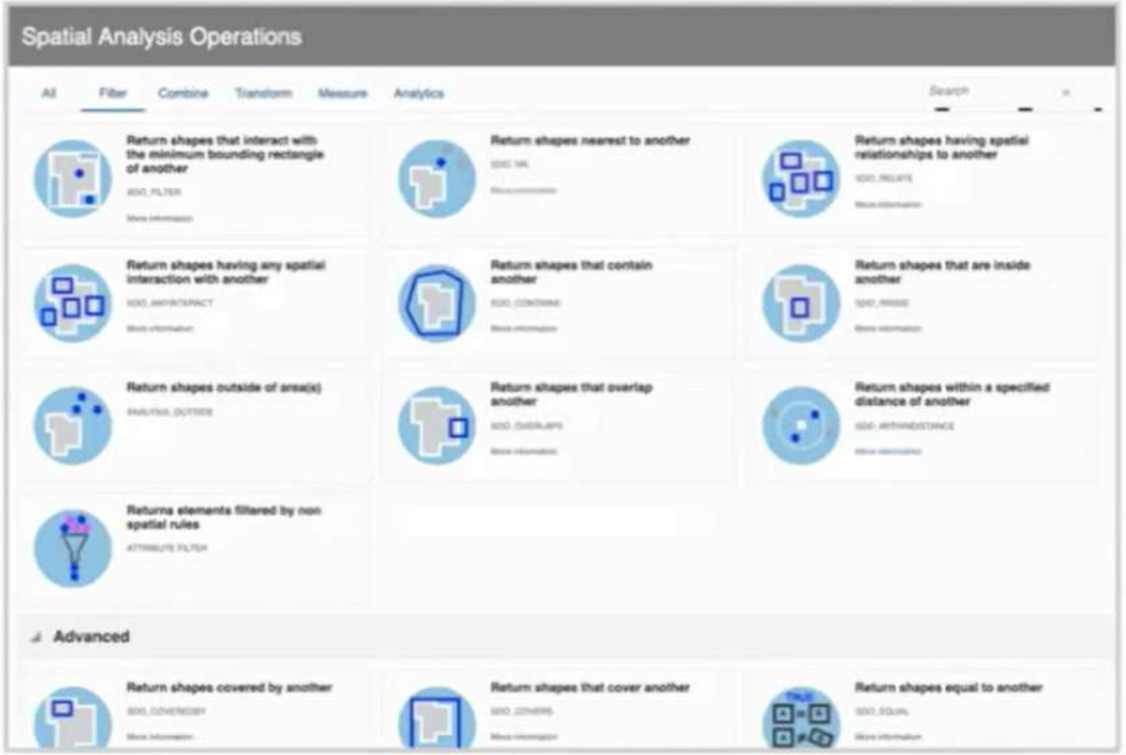
```
SELECT a.customer_name, a.phone_number
FROM policy_holders a
WHERE sdo_within_distance( a.geom, hurricane_path_geom,
          'distance = 10 unit = mile') = 'TRUE';
```

What is Spatial Studio?

It is a self-service application, to create interactive maps and perform spatial analysis on business data quickly and easily.

Users can visualize, explore, and analyze geospatial data stored in and managed by Oracle in the cloud or on-premises.





How to Get Spatial Studio with ADB

Included at no additional cost with Oracle Autonomous Database

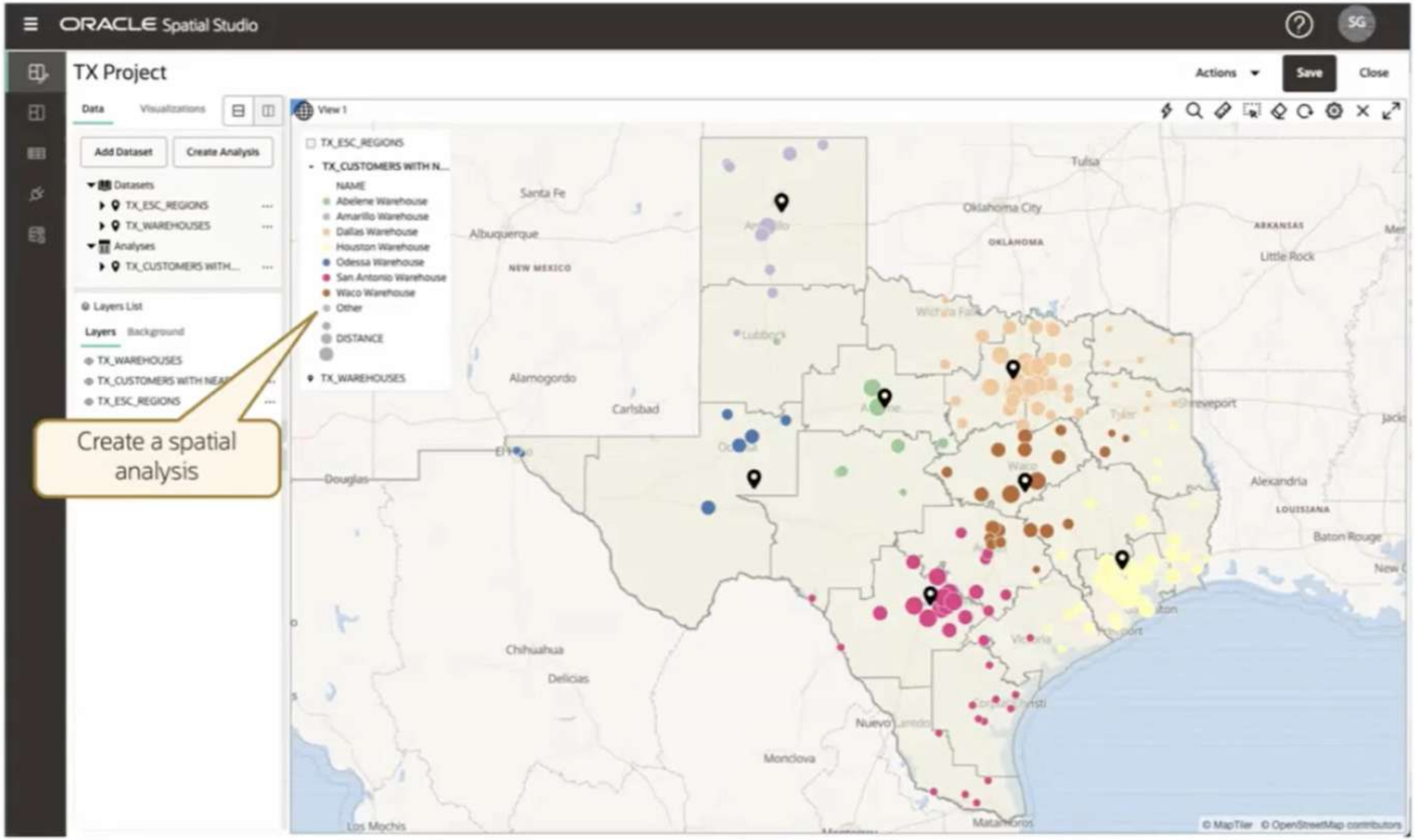
However, requires additional compute resources to deploy

Available as a deployable JEE application and self-contained Quickstart

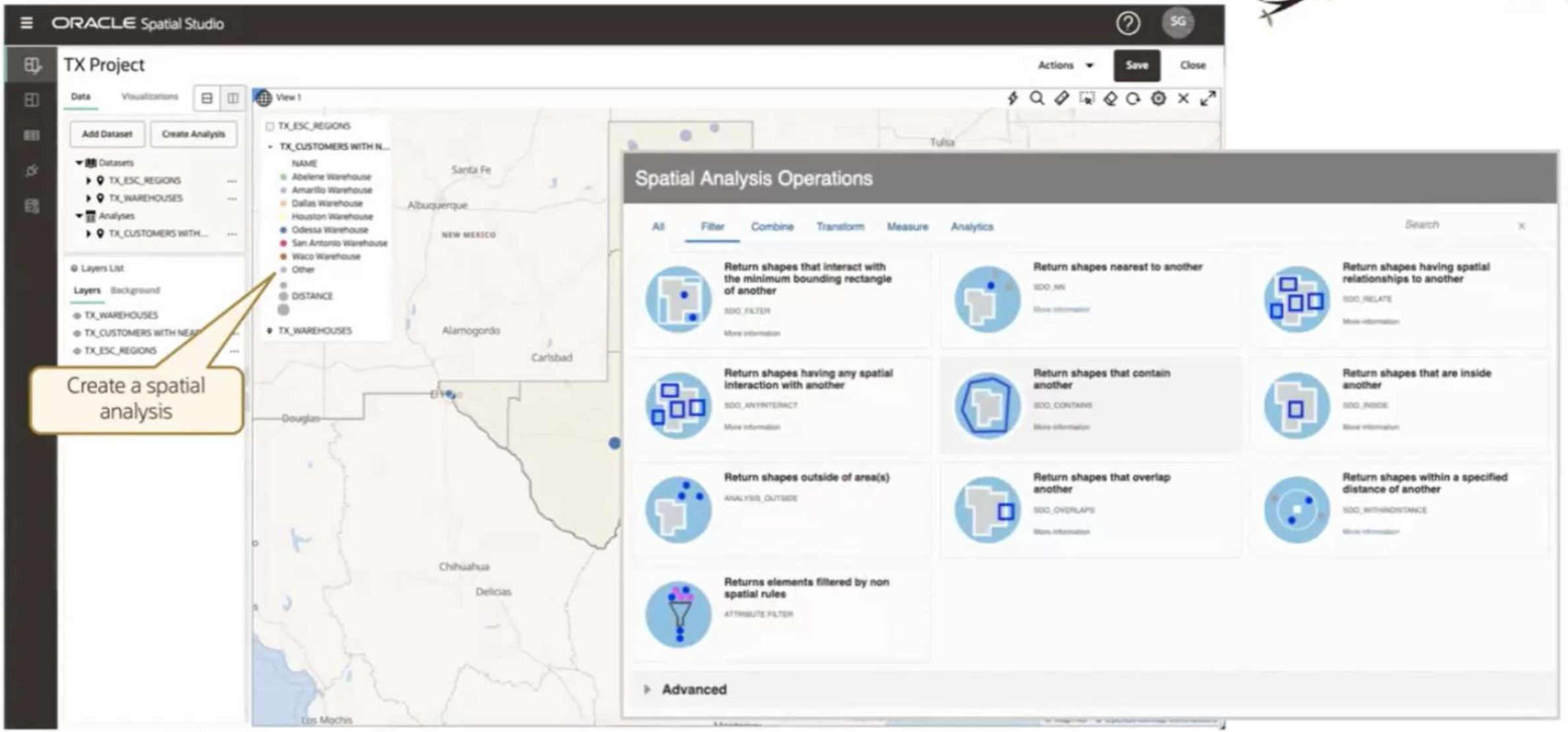
On the Oracle Cloud Marketplace

Step-by-step instructions can be found on Oracle LiveLabs at:
`https://developer.oracle.com/livelabs` Search for: Spatial Studio

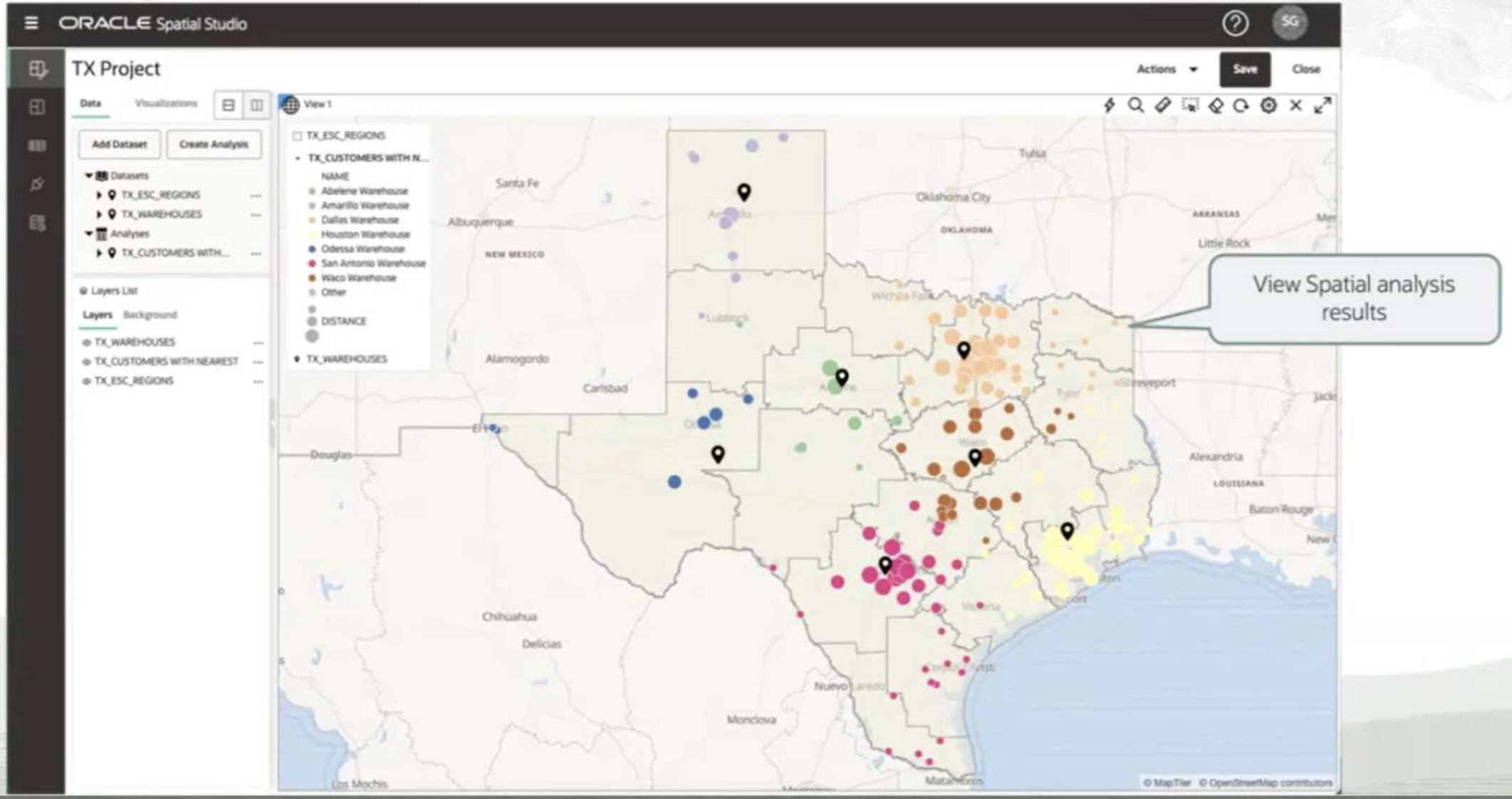
Performing Spatial Analysis



Performing Spatial Analysis



Visualizing Results



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