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Otras herramientas y asistentes de IA generativa para ciudadanos y usuarios técnicos

Graph Studio y Spatial Studio

Francisco Alvarez

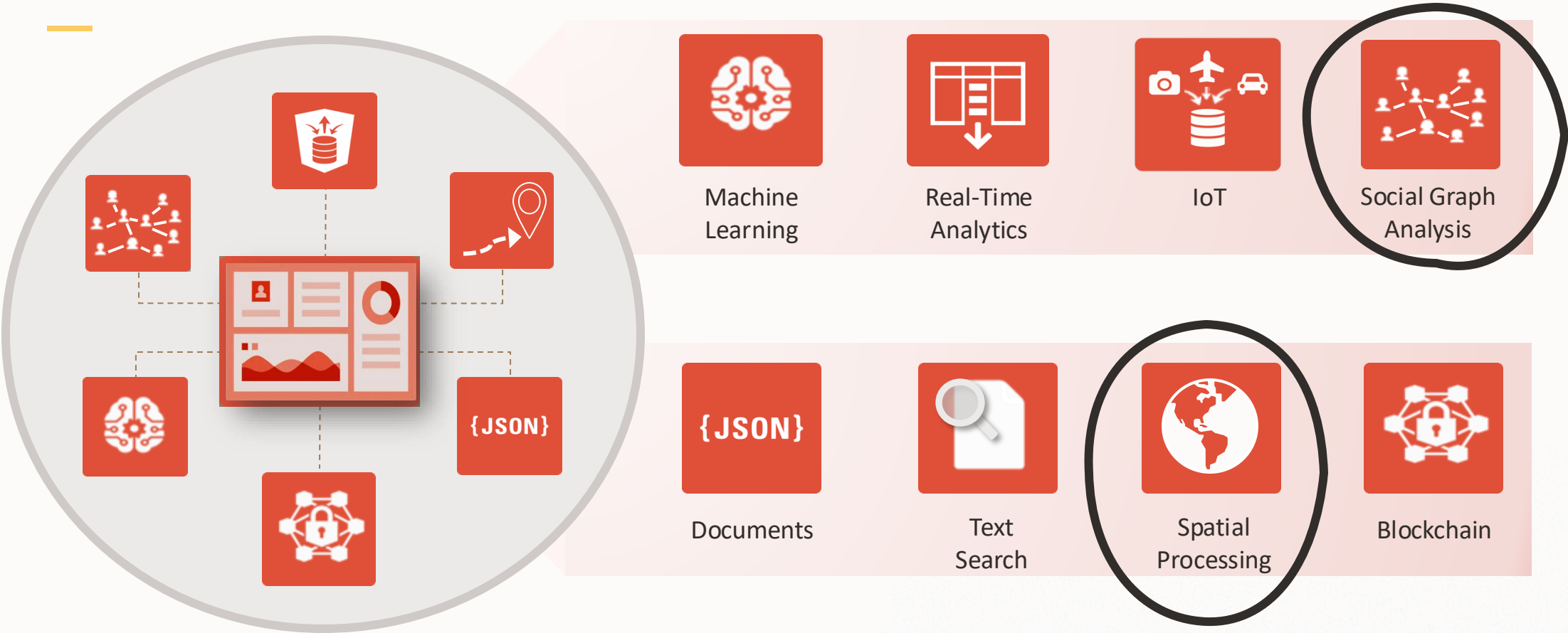


Safe harbor statement

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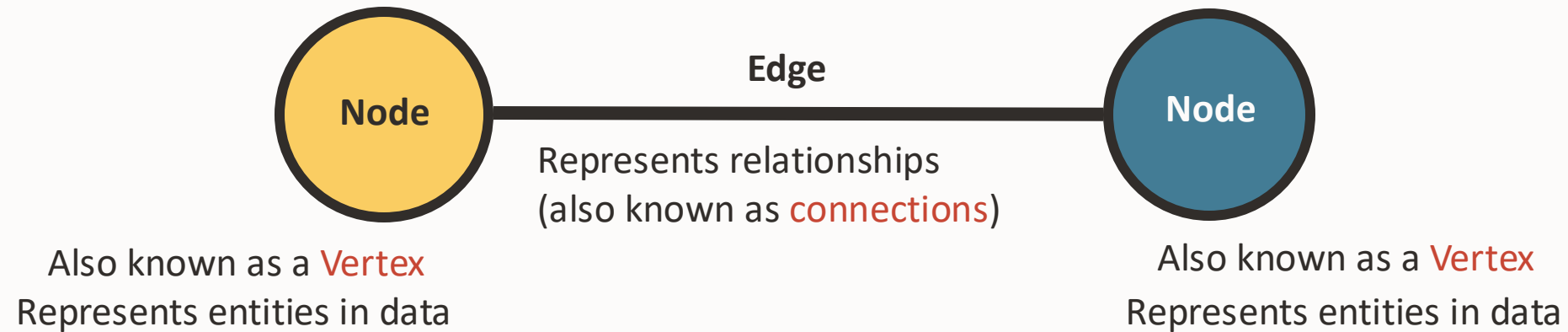
Data Driven Apps Create Value from Data in New Ways



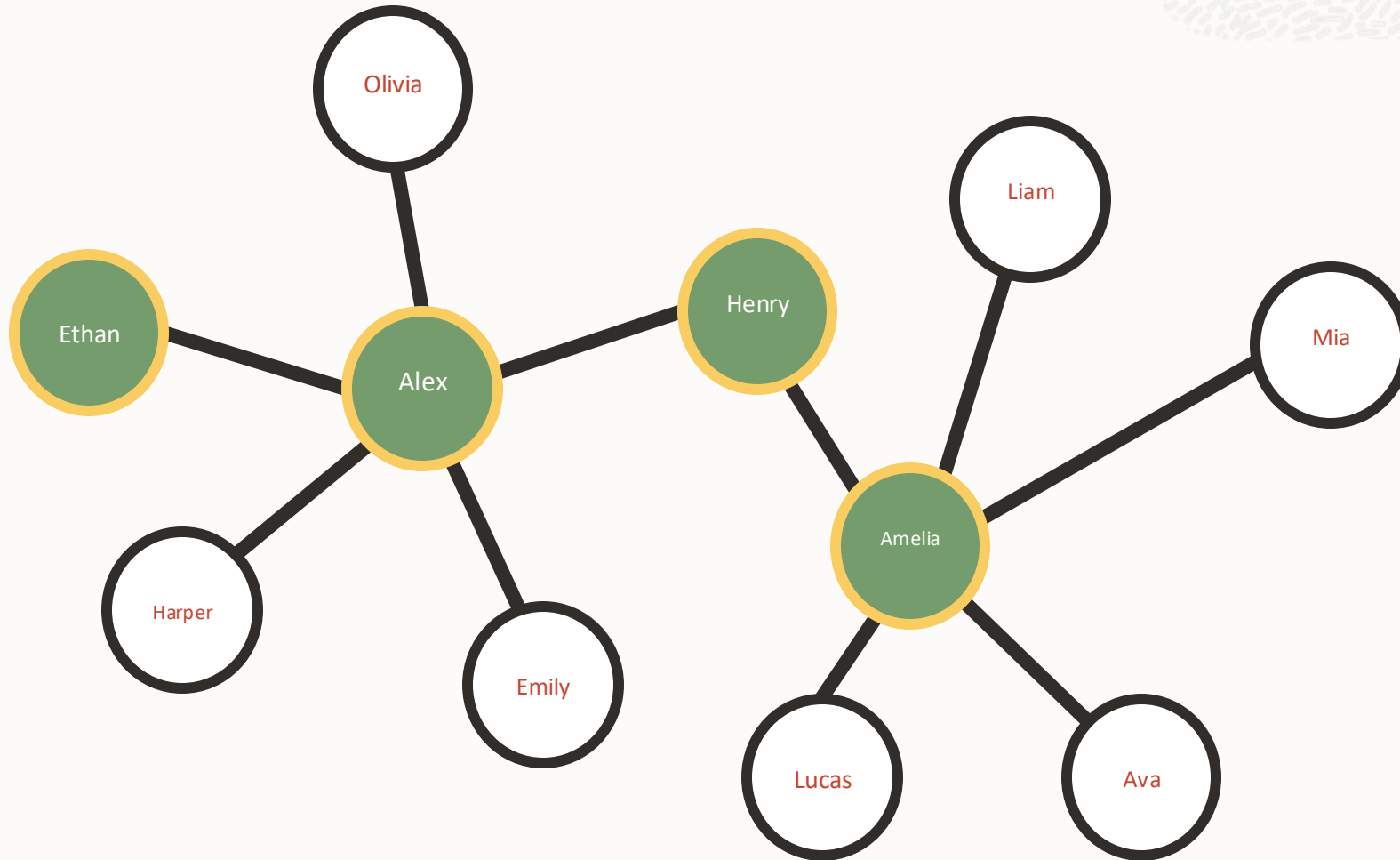
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Graph Studio

Oracle Graph



Are you connected to someone?

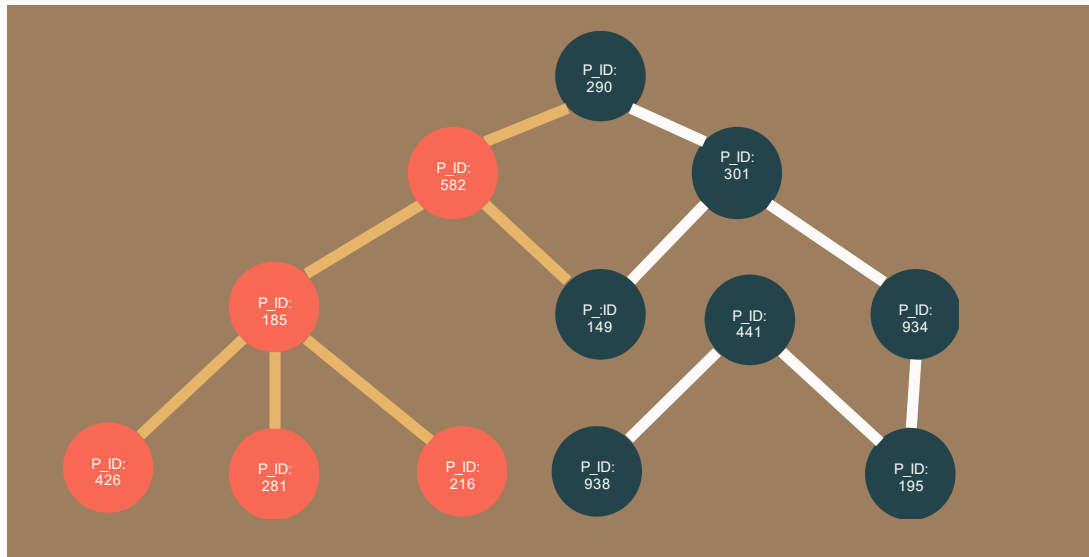


What is Ethan's connection to Amelia (number of hops and folks along the way)

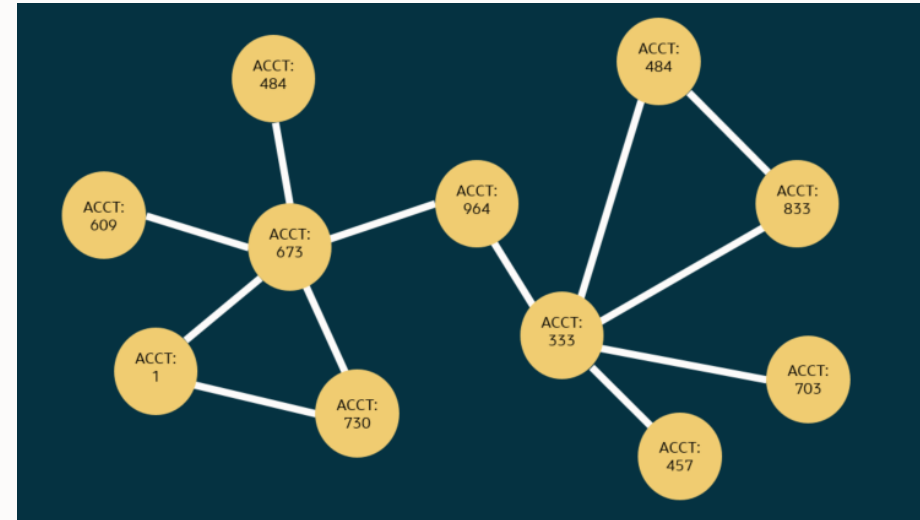
Are there folks connected to a lot of people (like Alex and Amelia)

Social interactions is a Natural Graph

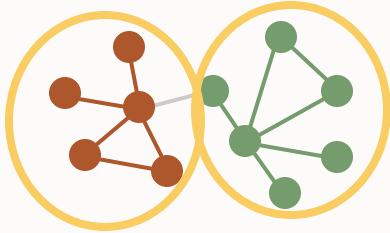
Analyze organization or service dependencies



Find anomalous patterns in transactions
Or paths between entities

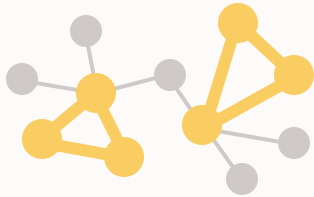


Graph Algorithms



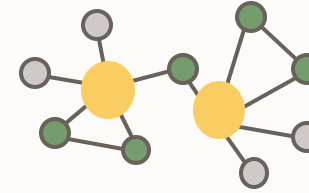
Detect communities

Which are the customers with similar behavioral patterns?



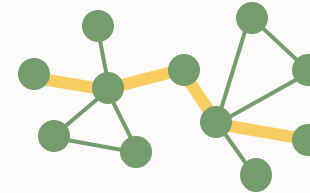
Identifying structures

What patterns match known fraudulent transactions



Find important nodes

Who are the influencers in this social network?



Find paths

Is a bank account connected to a known fraudulent bank account?

Graph Studio

Ready to use in Autonomous!

Automated graph modeling

Notebook UI

- Run graph queries
- Run graph algorithms
- Graph visualization

The screenshot displays the Oracle Graph Studio interface. On the left, a sidebar contains navigation icons for home, search, and a list of notebooks. The main area is divided into two panels. The top panel, titled 'Get Started', includes a 'Welcome to Oracle Graph' message, a link to 'Simplify Graph Analytics with Autonomous Database', and a 'Learn More' section with links to 'Documentation' and 'Blog'. Below this is a progress bar with three steps: 'Select Tables', 'Create Graph', and 'Analyze'. The bottom panel, titled 'Notebooks', shows a notebook named 'Use Cases > Graph Queries examples'. The notebook content includes a SQL query using the Cypher-like syntax for graph queries. Below the query, there is a 'Customer ID' input field with the value '4734'. The bottom half of the notebook shows a graph visualization with nodes representing customers (Caland, August, Donna, Bridget, Tai) and products (1714.43, 1738.43, 1720.43). The graph shows relationships between these entities. On the right side of the graph, there is a legend for 'Vertices' and 'Edges' with checkboxes for 'CHANNELS', 'CUSTOMERS', 'PRODUCTS', 'SALES', and 'SH_SALES_VIEW_SH...'. The bottom of the interface shows a copyright notice: 'Copyright © 2023, Oracle and/or its affiliates'.

```
sql>pgx
select a, b, c, d, e, f, other_customer.cust_email from
match (customer:CUSTOMERS) <-[a]- (sale1)-[b]-> (channel:CHANNELS) <-[c]- (sale2)-[d]-> (other_customer:CUSTOMERS) on SH_PGVIEW_GRAPH,
match (sale1) -[e]-> (product1:products) on SH_PGVIEW_GRAPH,
match (sale2) -[f]-> (product2:products) on SH_PGVIEW_GRAPH,
match (customer) on SH_PGVIEW_GRAPH
where customer.cust_id = ${customer_id (Customer ID) = 4734}
and sale1.amount_sold > 1000.0
and sale2.amount_sold > 1400.0
and product1 = product2
limit 20
```

Customer ID
4734

Vertices

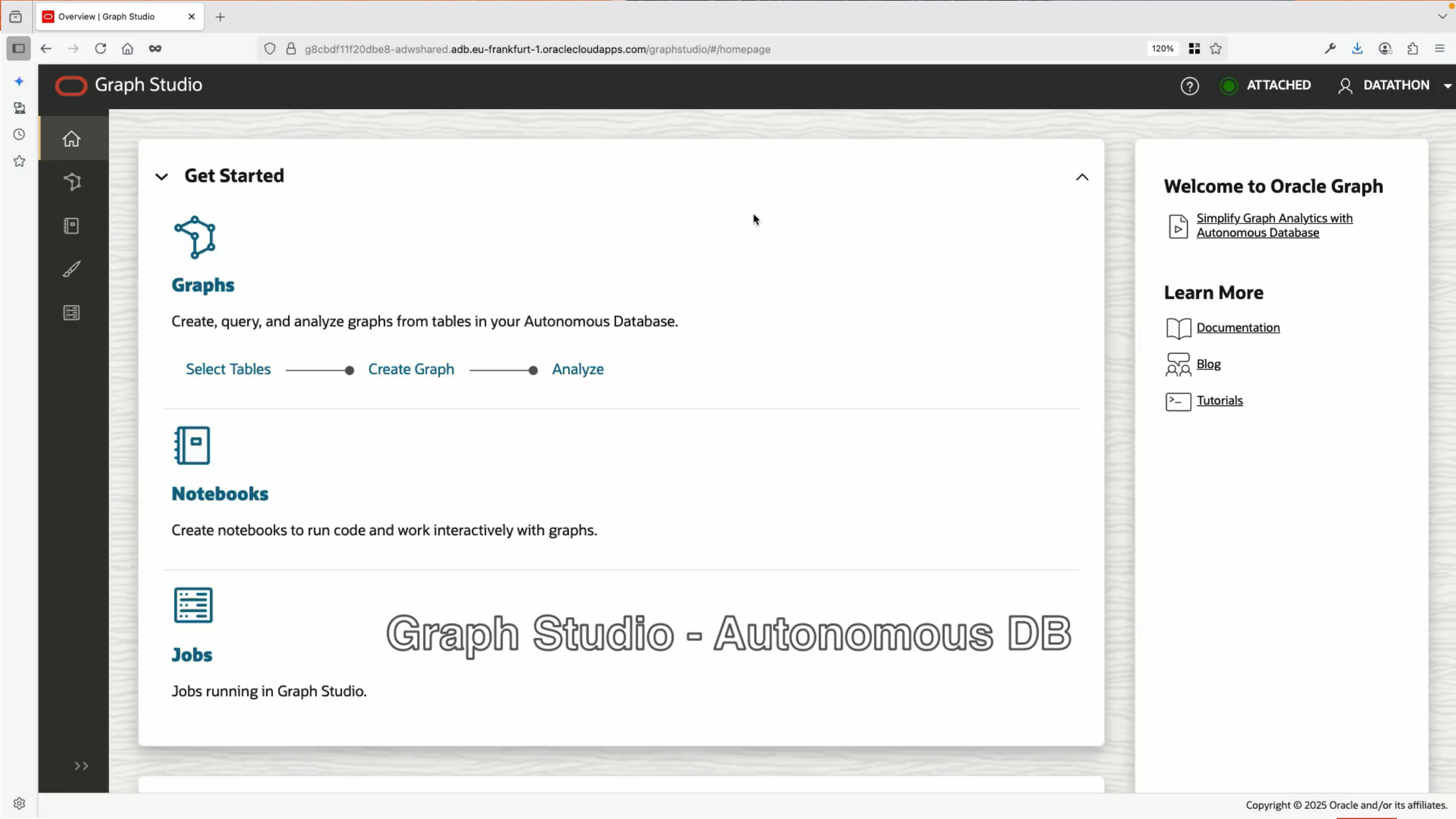
- ☒ CHANNELS
- ☒ CUSTOMERS
- ☒ PRODUCTS
- ☒ SALES

Edges

- ☒ SH_SALES_VIEW_SH...

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Demo!



Graph Studio



ATTACHED



DATATHON

Get Started



Graphs

Create, query, and analyze graphs from tables in your Autonomous Database.

Select Tables



Create Graph



Analyze



Notebooks

Create notebooks to run code and work interactively with graphs.



Jobs

Jobs running in Graph Studio.

Graph Studio - Autonomous DB

Welcome to Oracle Graph



[Simplify Graph Analytics with Autonomous Database](#)

Learn More



[Documentation](#)



[Blog](#)



[Tutorials](#)

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Spatial Studio

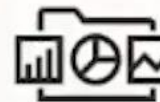
Oracle Spatial

Everything happens somewhere

Data element in every Oracle Database

Relate and analyze data by location

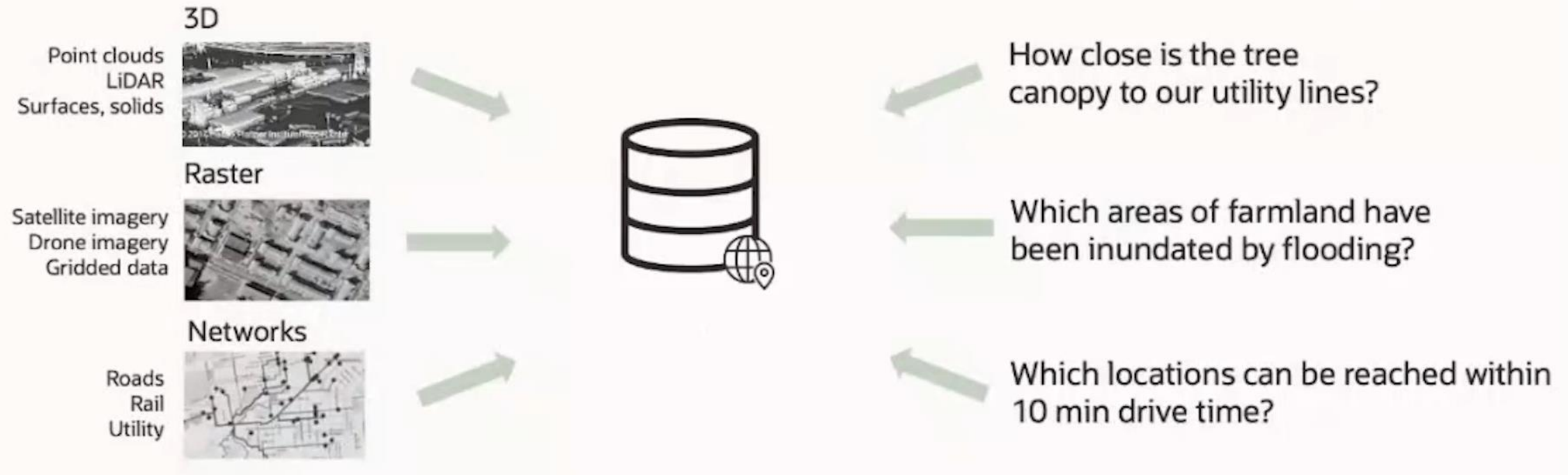
In the context of business workflows



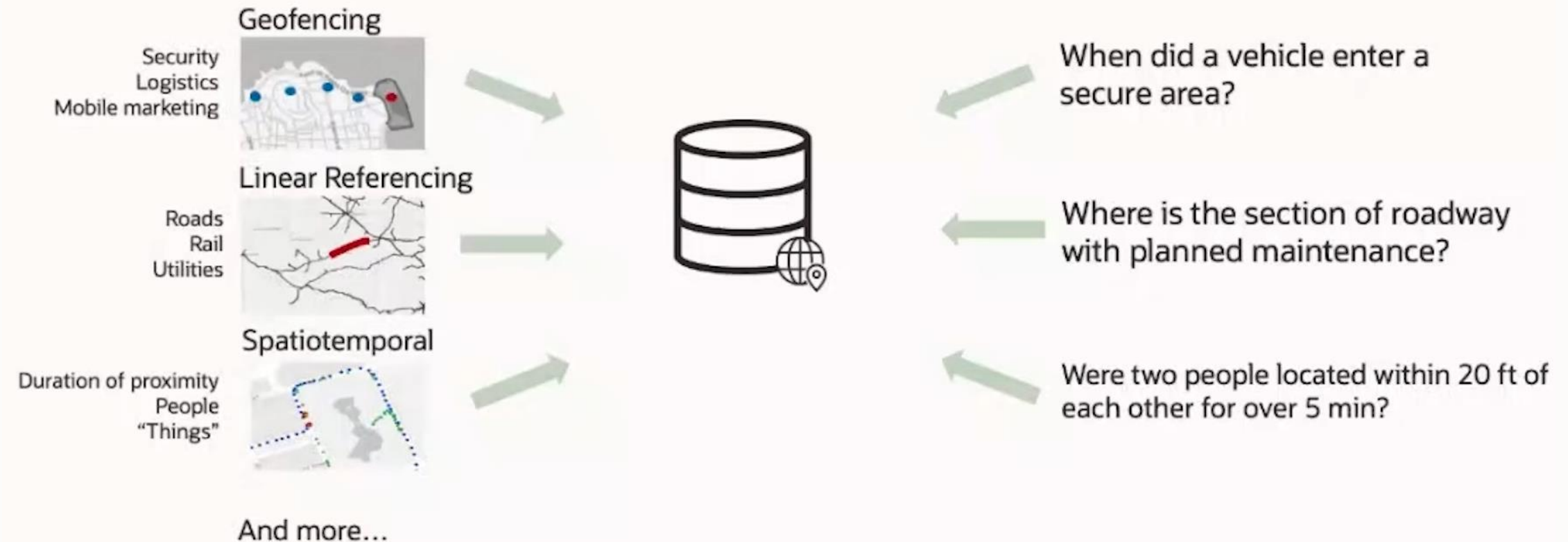
Oracle Spatial



Oracle Spatial

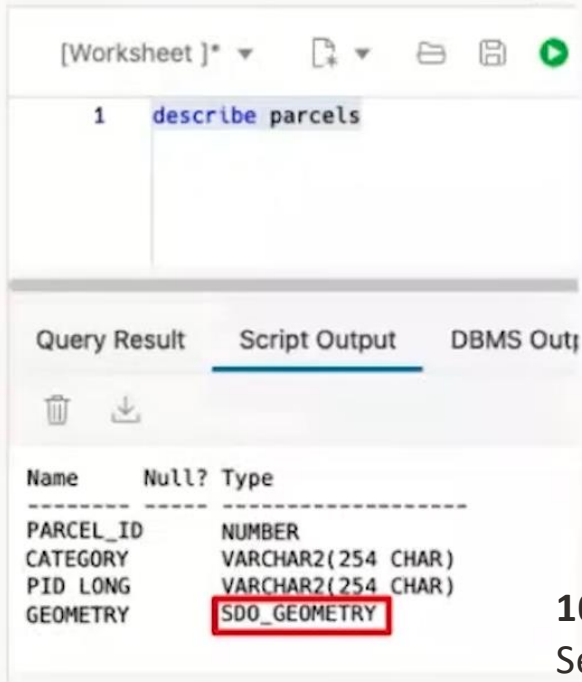


Oracle Spatial



Oracle Spatial

Native spatial data type

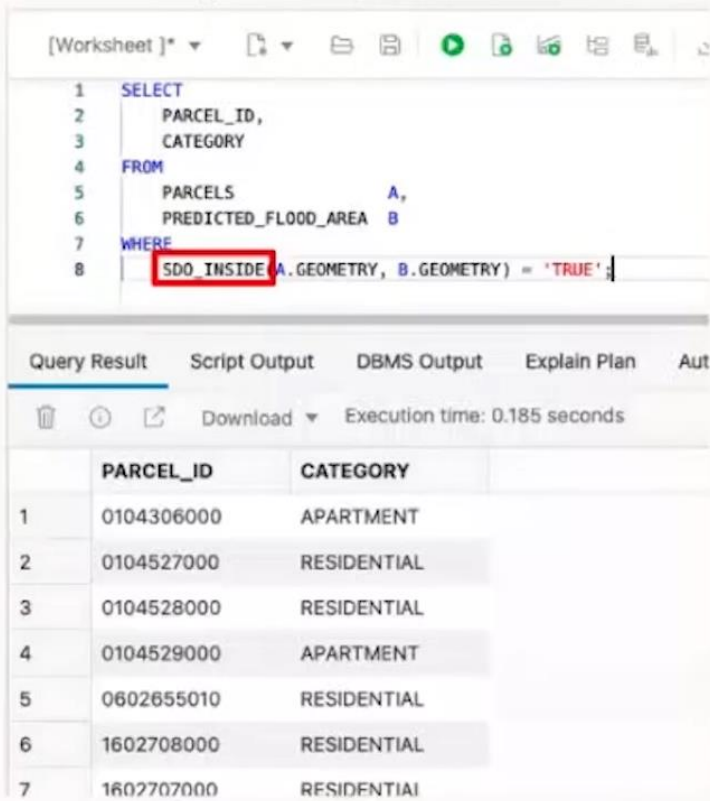


```
1 describe parcels
```

Name	Null?	Type
PARCEL_ID		NUMBER
CATEGORY		VARCHAR2(254 CHAR)
PID LONG		VARCHAR2(254 CHAR)
GEOMETRY		SDO_GEOMETRY



Native spatial operations



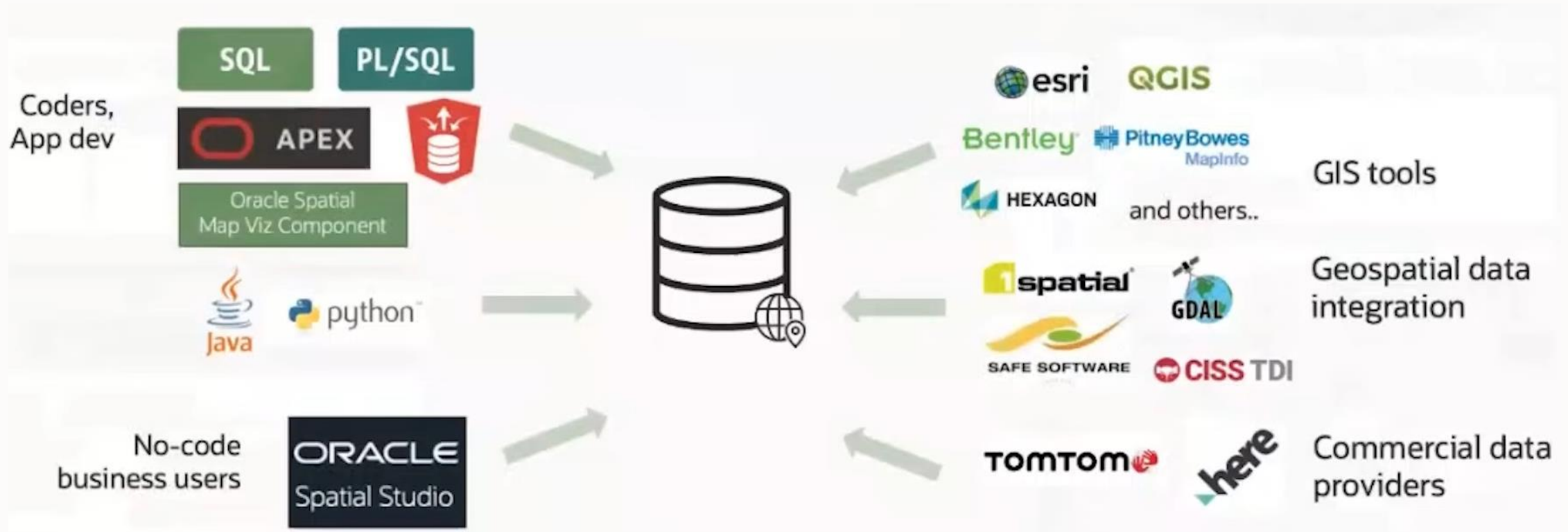
```
1 SELECT
2   PARCEL_ID,
3   CATEGORY
4 FROM
5   PARCELS A,
6   PREDICTED_FLOOD_AREA B
7 WHERE
8   SDO_INSIDE(A.GEOMETRY, B.GEOMETRY) = 'TRUE';
```

	PARCEL_ID	CATEGORY
1	0104306000	APARTMENT
2	0104527000	RESIDENTIAL
3	0104528000	RESIDENTIAL
4	0104529000	APARTMENT
5	0602655010	RESIDENTIAL
6	1602708000	RESIDENTIAL
7	1602707000	RESIDENTIAL

100s of spatial SQL operations

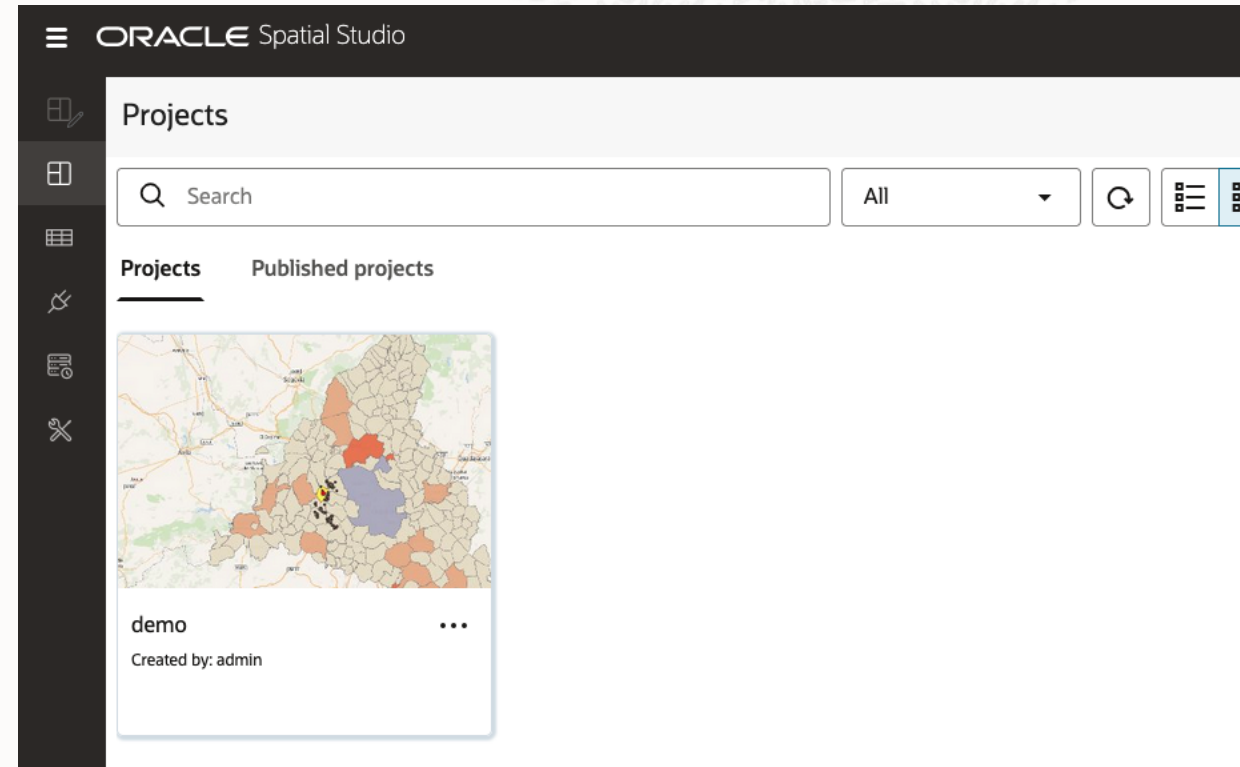
- Search: which are nearest?
- Measure: how far away?
- Aggregate: lasso área of all locations?
- Compare: where do regions overlap?

Oracle Spatial



Spatial Studio – no code application

- No-code Access to spatial features of Oracle database
- Prepare, analyze, visualize, share
- Free app with database
- Run where you need it: your laptop or from OCI marketplace



Get Started

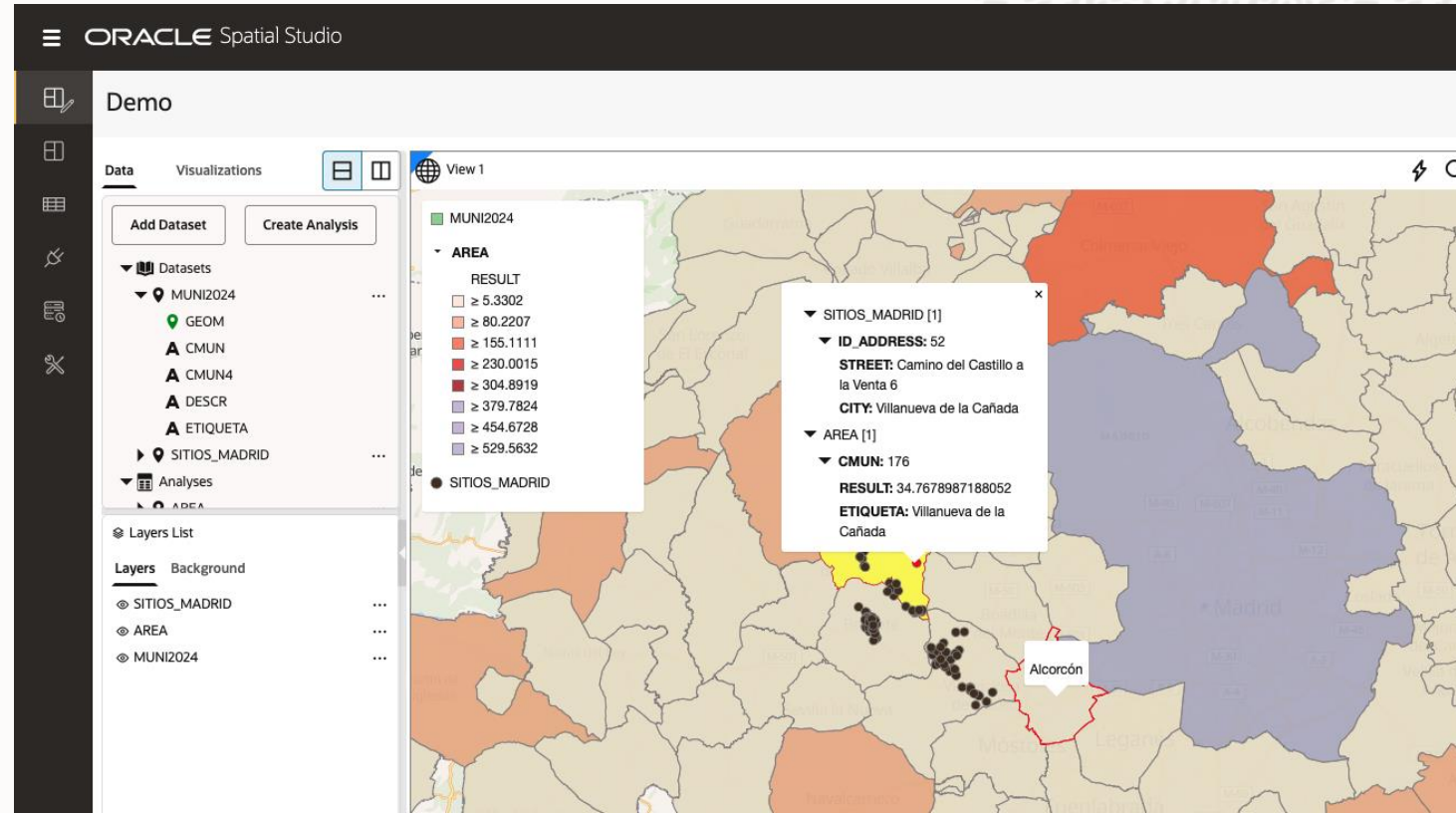
<https://www.Oracle.com/database/technologies/spatial-studio/get-started.html>

Doc

<https://docs.Oracle.com/en/database/Oracle/spatial-studio>

Typical Data Analysis Workflow

- Data ingestion
 - Spatial and non-spatial data
- Data enrichment
 - Address geocoding
 - Converting placenames
- Geospatial processing
 - Creating analytical workflows
- Interactive analysis
 - Map visualization
- Publication of results



Spatial Studio – Self-service spatial analytics

Spatial Studio – Simple Geospatial Analysis

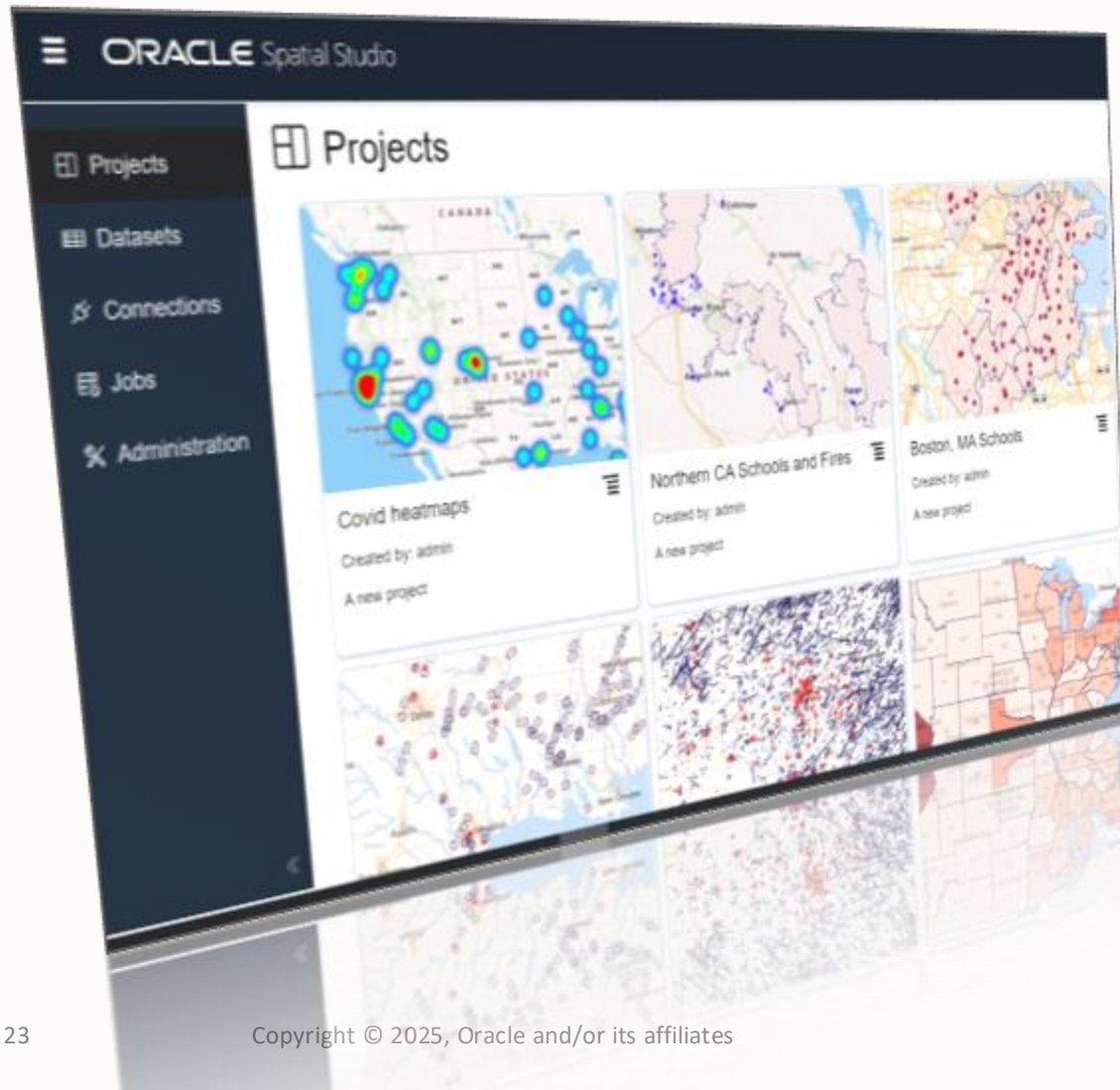
The screenshot displays the Oracle Spatial Studio interface. The top bar shows the Oracle logo and 'Spatial Studio' text. The left sidebar contains a 'Demo' section with 'Data' and 'Visualizations' tabs. The 'Data' tab is active, showing a list of datasets: MUNI2024, SITIOS_MADRID, and AREA. The 'Visualizations' tab shows a map view with a legend for 'AREA' and 'SITIOS'. The main panel is titled 'Spatial Analysis Operations' and features a search bar and a grid of 18 analysis tools. The tools are categorized into 'All', 'Filter', 'Combine', 'Transform', 'Measure', and 'Analytics'. The 'All' category is selected, showing a grid of 18 tools. Each tool has an icon and a description.

Spatial Analysis Operations

Search

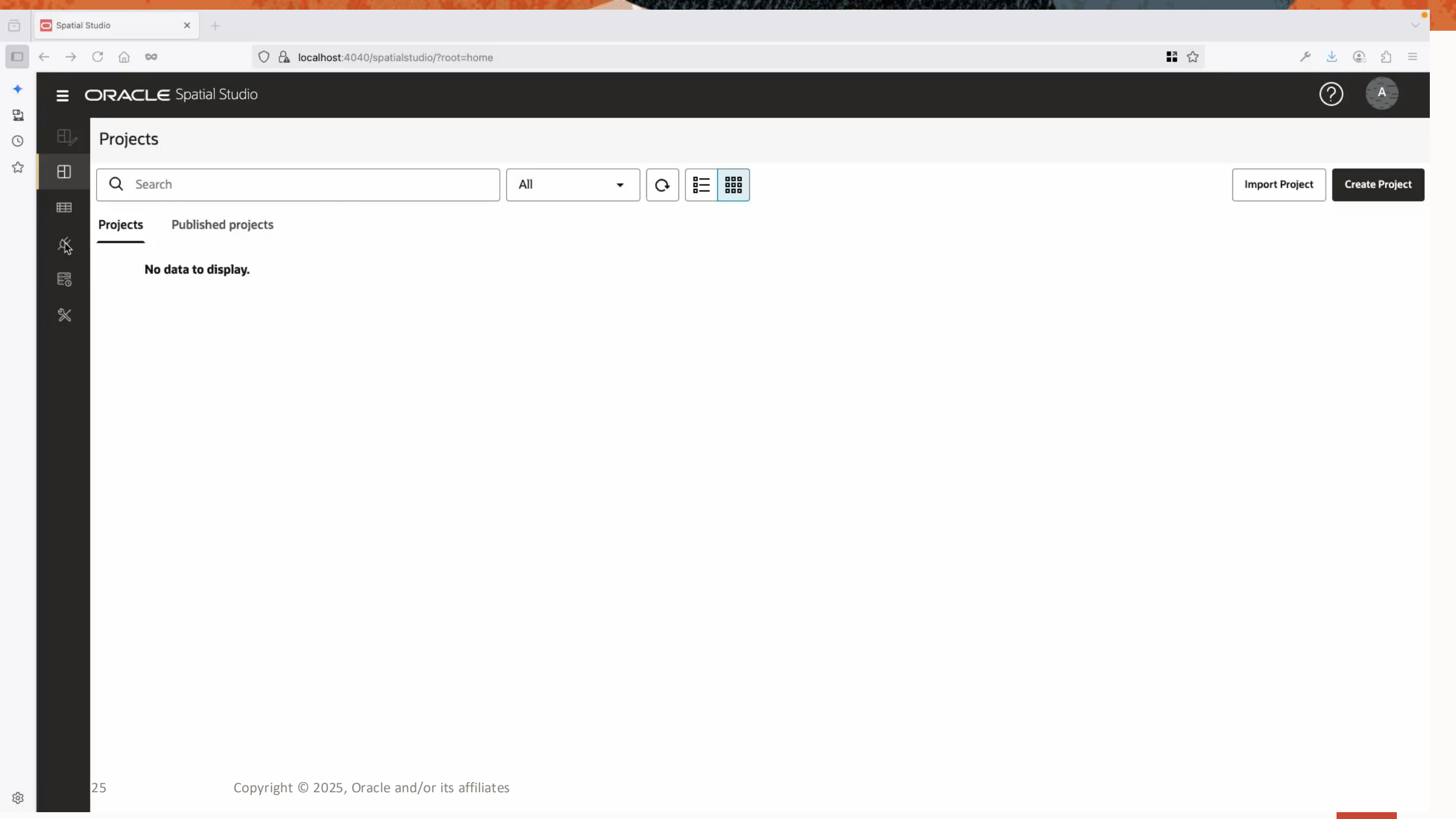
Icon	Description
	Return shapes that interact with the minimum bounding rectangle of another
	Return shapes nearest to another
	Return shapes having spatial relationships to another
	Return shapes having any spatial interaction with another
	Return shapes that contain another
	Return shapes that are inside another
	Return shapes outside of area(s)
	Return shapes that overlap another
	Return shapes within a specified distance of another
	Returns elements filtered by non-spatial rules
	Return selected features
	Combine lines
	Create the area defined by the "rubber band" envelope of a set of shapes
	Create the smallest box that bounds a set of shapes
	Combine a set of shapes into one
	Spatial Join
	Add a buffer of a specified distance
	Create point in the middle of a shape
	Create the area defined by the "rubber band" envelope of a set of shapes
	Create the smallest circle that encloses a set of shapes
	Create the smallest box that encloses a set of shapes

Map creation and spatial analysis for non-experts



- Browser-based, self-service tool for analysts and developers
- Analytics-oriented features
 - Convert addresses to coordinates using Oracle Maps Cloud Service
 - Hundreds of spatial operators and functions
 - Interactive visualization
 - Integration with OAC
- Developer-oriented features
 - Prepare GPS or other geospatial data for analysis
 - Generate complex SQL statements
 - Publish results via REST

Demo!



Projects

Search

All



Import Project

Create Project

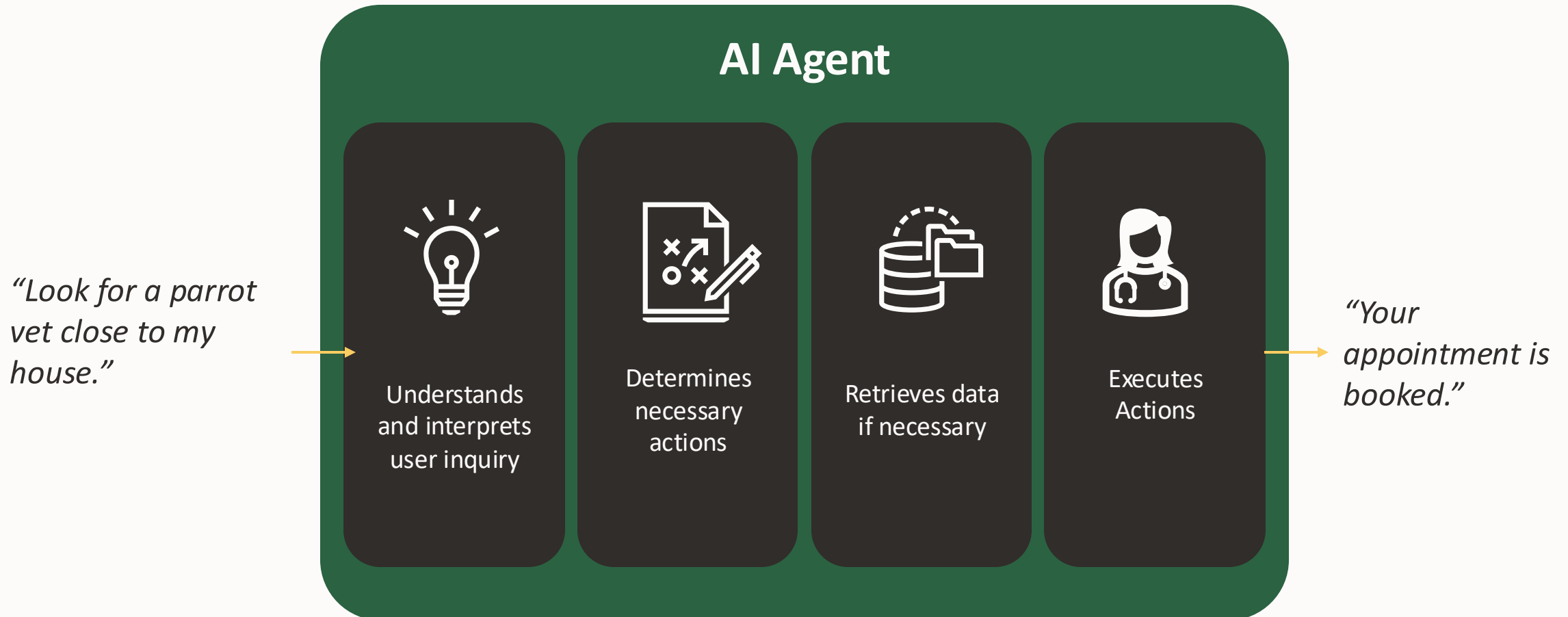
Projects

Published projects

No data to display.

OCI Generative AI Agents

Applications of large language models, packaged and validated, ready to use out-of-the-box



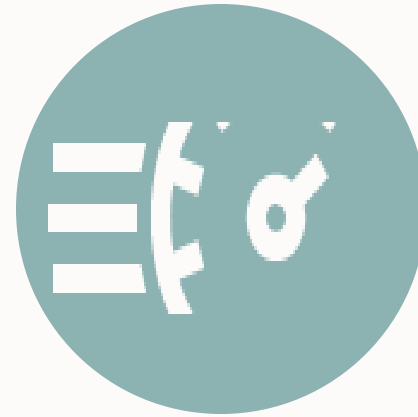
OCI Generative AI Agents



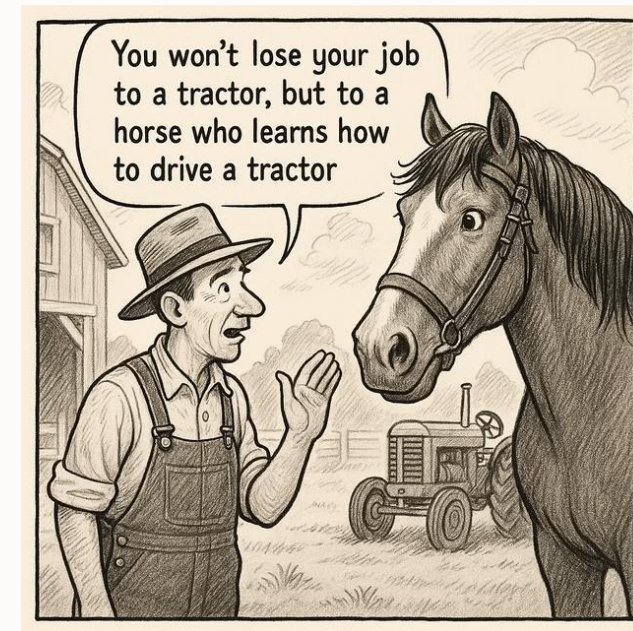
Leveraging Data
Expertise



Built-In, Not
Bolted On



Fosters Fast Time
to Value



Preguntas



Our mission is to help people see
data in new ways, discover insights,
unlock endless possibilities.



Gracias



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