

ORACLE **AUTONOMOUS DATABASE** **LEARNING LOUNGE**

An abstract graphic on the right side of the slide. It features a hand with a pinkish skin tone holding a glowing, golden-yellow sphere. From the bottom of the sphere, a stream of small, colorful particles (blue, green, pink, and orange) is falling, creating a sense of motion and data flow.

Graph RAG: Bring the Power of Graphs to Generative AI

Autonomous Database Learning Lounge

Hosted by Marcos Arancibia

Autonomous Database Product Management

Agenda



Melli Annamalai

Topics

- **Generative AI** depends on **LLMs** that are trained on available data, which can be **overly general or outdated** resulting in errors and answers that are not relevant.
- **Retrieval augmented generation (RAG)** addresses these issues by enabling **LLMs** to be combined with **private business data or other domain specific data**. Graph RAG can enhance RAG by including information derived from **relationships in data**.
- Learn more about **graphs**, **graph RAG** and the **power of combining graphs with generative AI**. We will demonstrate how easy graph RAG is with **graph and vector technologies in Autonomous Database**.

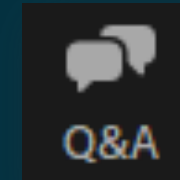
Q&A

- **Product Managers** will answer any questions

Before we begin...

This session is for you !!!

Ask your questions using **Q&A**



Product Managers are monitoring your questions

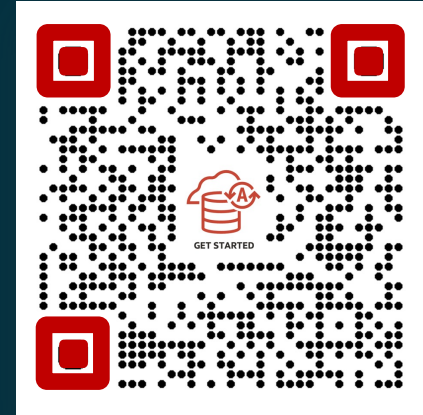
We will share links in **Chat**



The recording will be made available in a few days at
oracle.com/goto/adb-learning-lounge

Important links to bookmark

Links to get you started and to keep up to date with Autonomous Database



1 New Get Started page:
oracle.com/autonomous-database/get-started/

2 Join us: **LinkedIn**
bit.ly/adb-linkedln-grp   [@AutonomousDW](https://twitter.com/AutonomousDW)

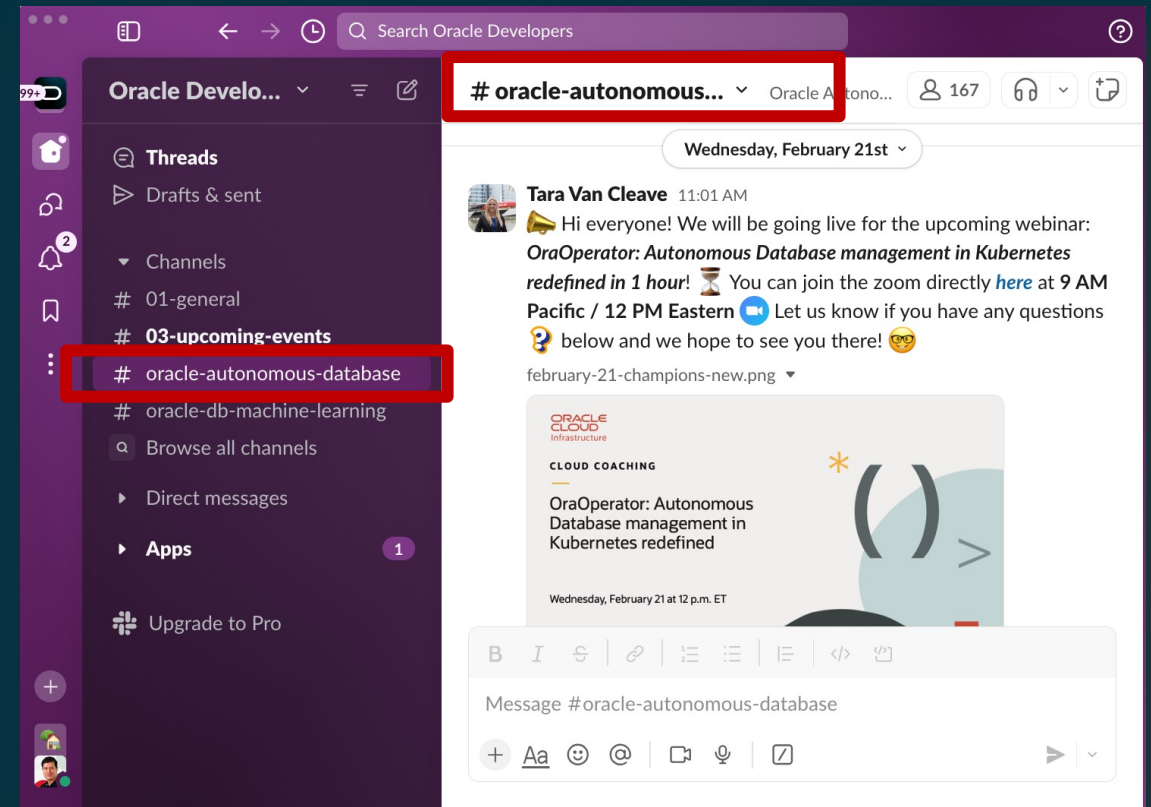
3 Got a question?
We are on stackoverflow
bit.ly/adb-stackoverflow

Join us on Developers Slack
(search #oracle-autonomous-database)
bit.ly/odevrel_slack (odevrel_slack)

Join our External Slack

STEP 1: bit.ly/odevrel_slack (odevrel_slack)

STEP 2: **search for #oracle-autonomous-database at the top and click on the Channel**



Upcoming Sessions

AUTONOMOUS DATABASE LEARNING LOUNGE

Presents



Graph RAG: Lleva el poder de los grafos a la IA generativa

26 Noviembre 2024 @ 11AM MEX/12PM COL/2PM ARG/6PM CET

oracle.com/goto/adb-learning-lounge-es



Ramu Murakami



Upcoming Sessions

AUTONOMOUS DATABASE LEARNING LOUNGE em Português apresenta

**Migração para ADB Parte I: Visualize e
avalie todo seu patrimônio de bases de
dados com o Oracle Estate Explorer**

27-Novembro-2024 @ 2PM BRA/5PM POR/6PM CET



oracle.com/goto/adb-learning-lounge-pt



**Juan
Mikalef**



**Lucas
Gonçalves**



Upcoming Sessions

AUTONOMOUS DATABASE LEARNING LOUNGE

en Español presenta



Migración a ADB Parte II: Migración sencilla desde versiones de bases de datos anteriores con DMS

3 Diciembre 2024 @ 11AM MEX/12PM COL/2PM ARG/6PM CET

oracle.com/goto/adb-learning-lounge-es



Jorge Martinez



Speaker



**Melli
Annamalai**

ORACLE

Graph RAG: Bring the Power of Graphs to Generative AI

Melli Annamalai

Distinguished Product Manager

November 21, 2024

In collaboration with Eduard Cuba, Oracle Labs



Agenda

Quick overview of Graph

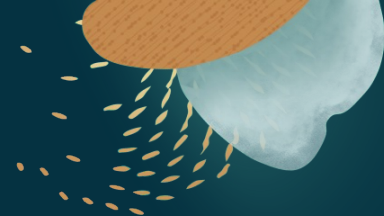
Graph RAG with three examples

What is a Graph?

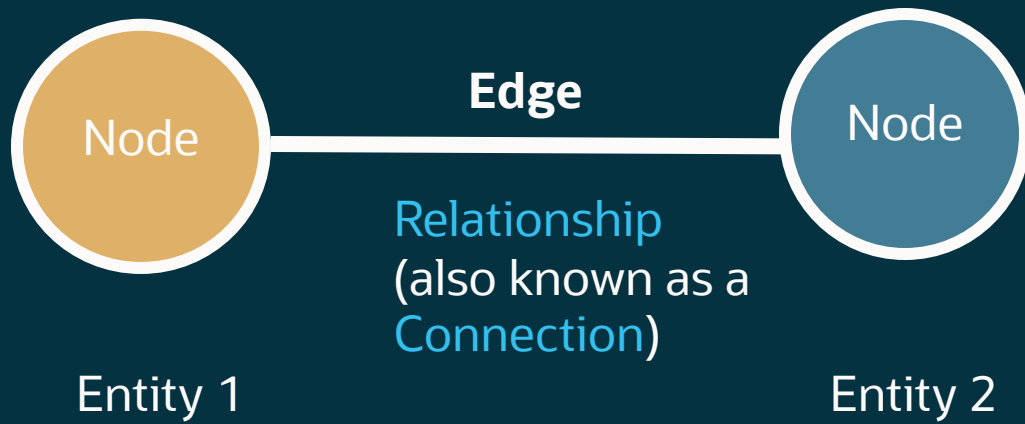


Graph data model captures how data is connected

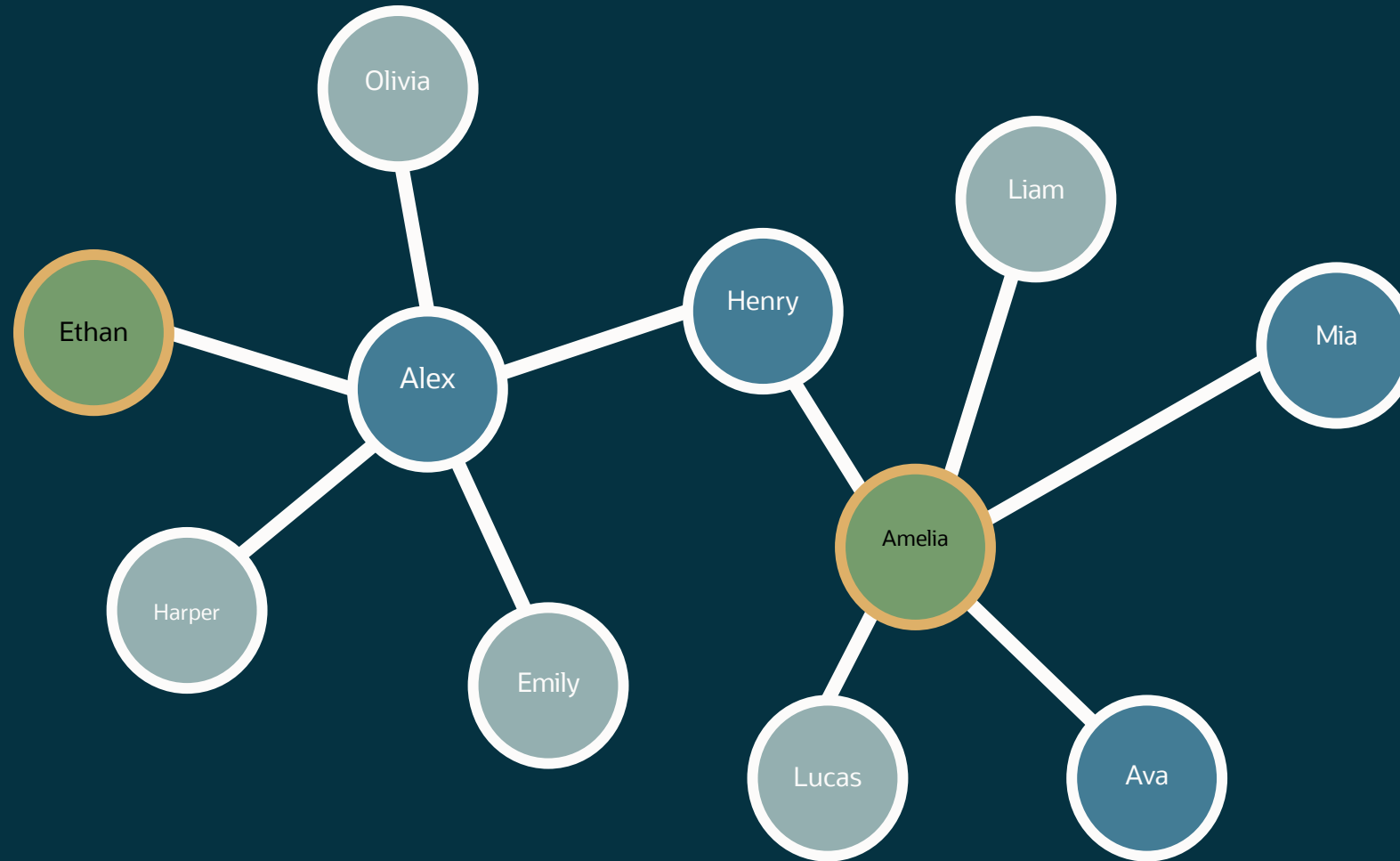
What is a graph?



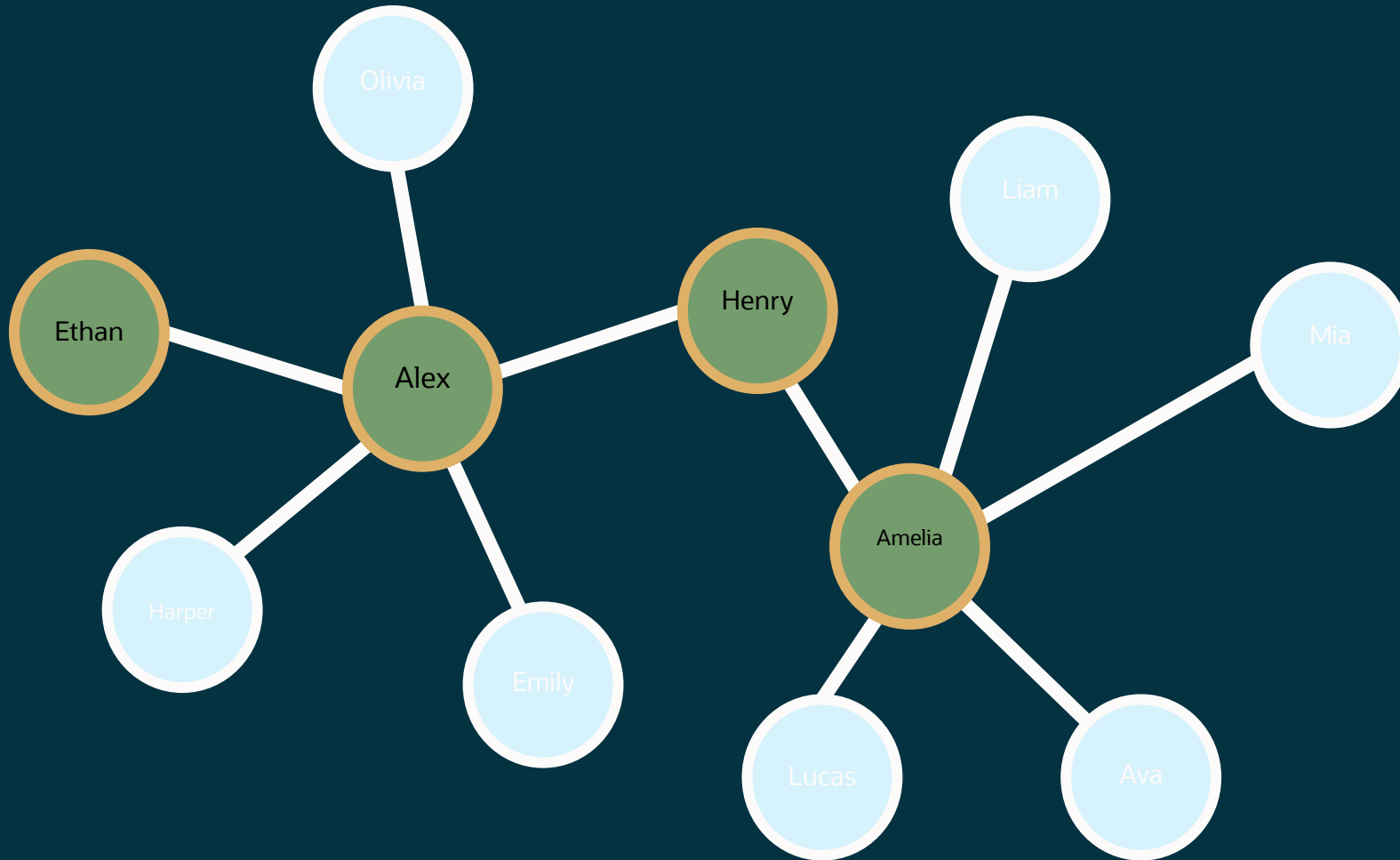
What is a graph?



Are you connected to someone you meet?



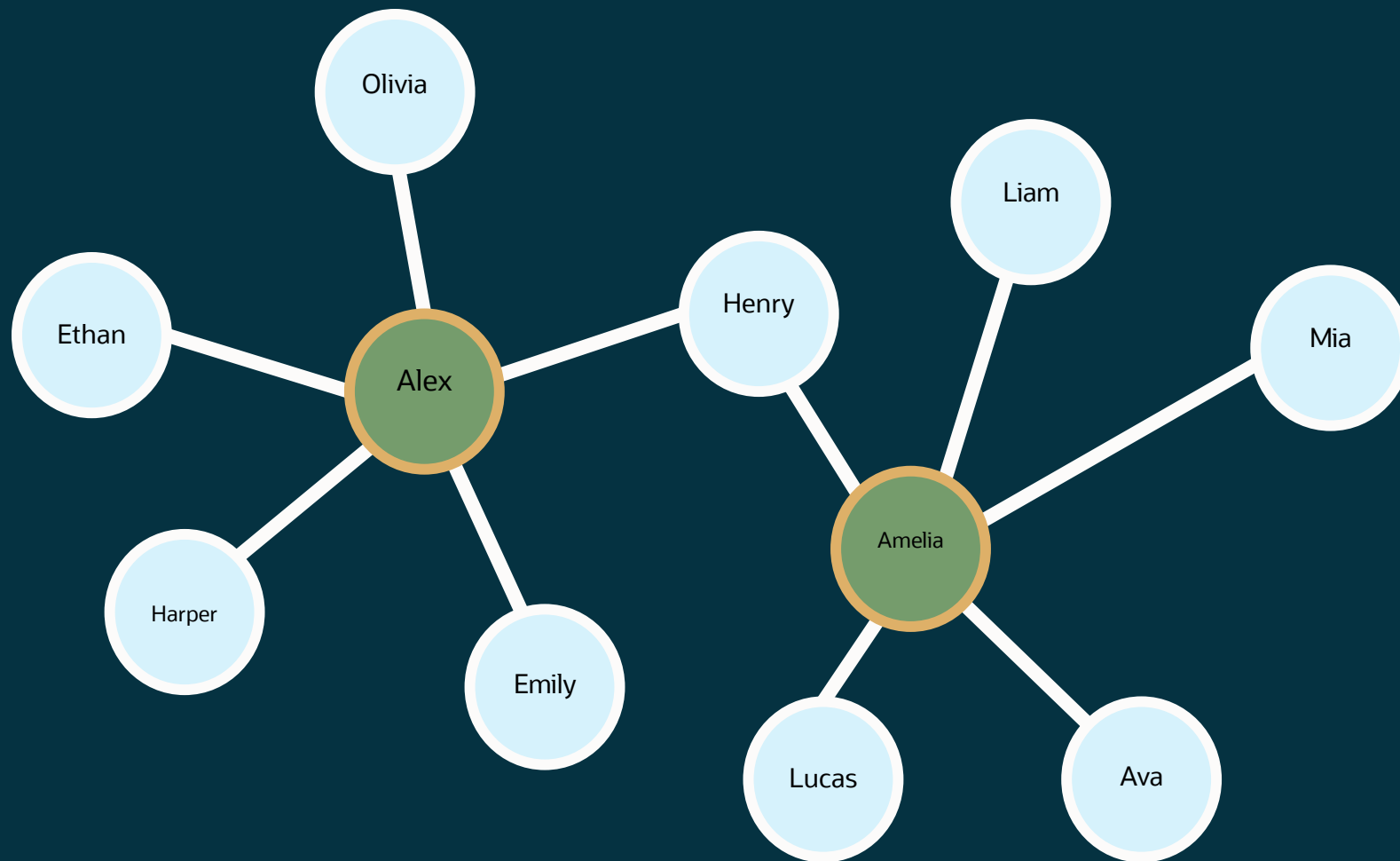
Are you connected to someone?



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)

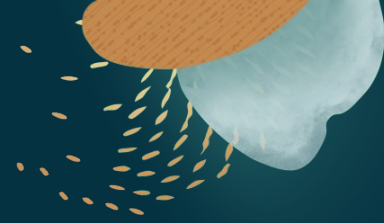
Who is highly connected?



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

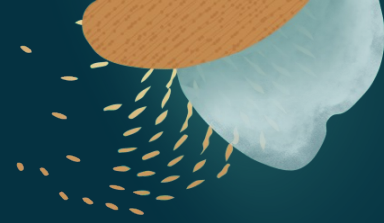
Are there folks connected to a lot of people (like Alex and Amelia)

Social Networks are Natural Graphs



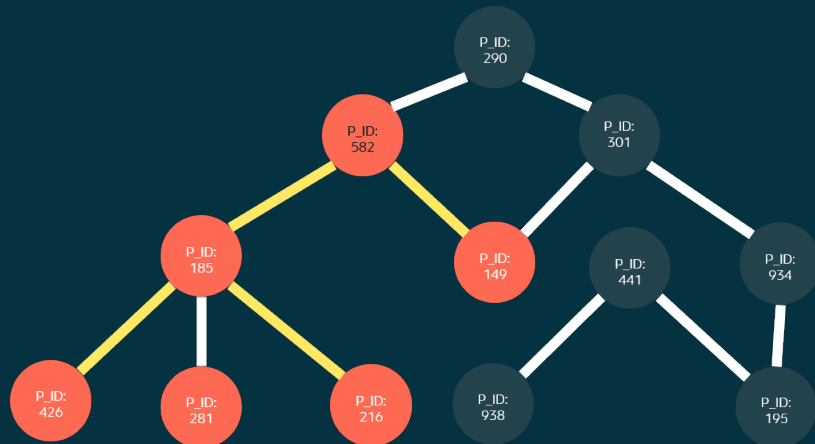
..... Many other types of data can be expressed as graphs as well, for new insights

Social Networks are Natural Graphs



..... Many other types of data can be expressed as graphs as well, for new insights

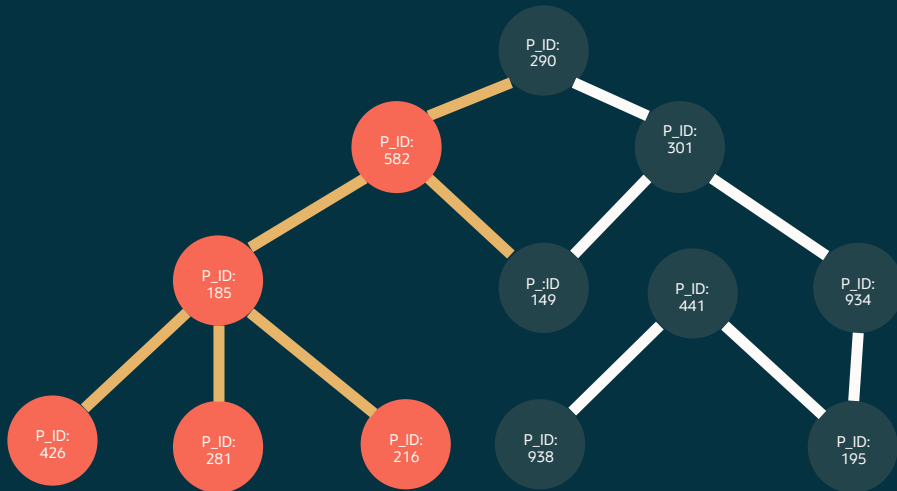
Analyze product dependencies in Manufacturing



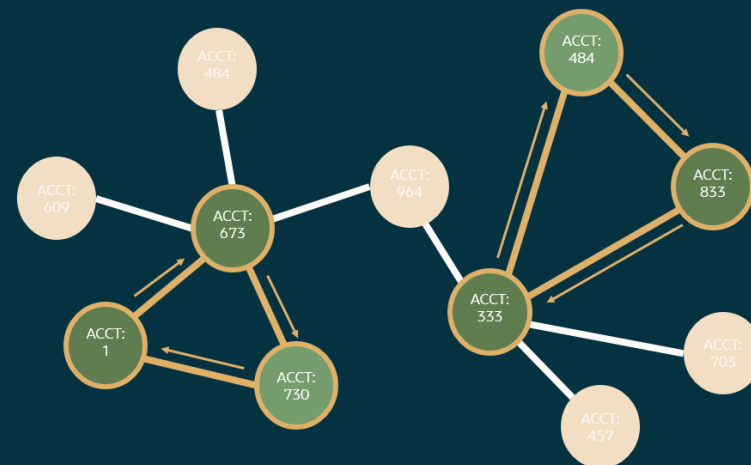
Social Networks are Natural Graphs

..... Many other types of data can be expressed as graphs as well, for new insights

Analyze product dependencies in Manufacturing



Find anomalous patterns in financial transactions

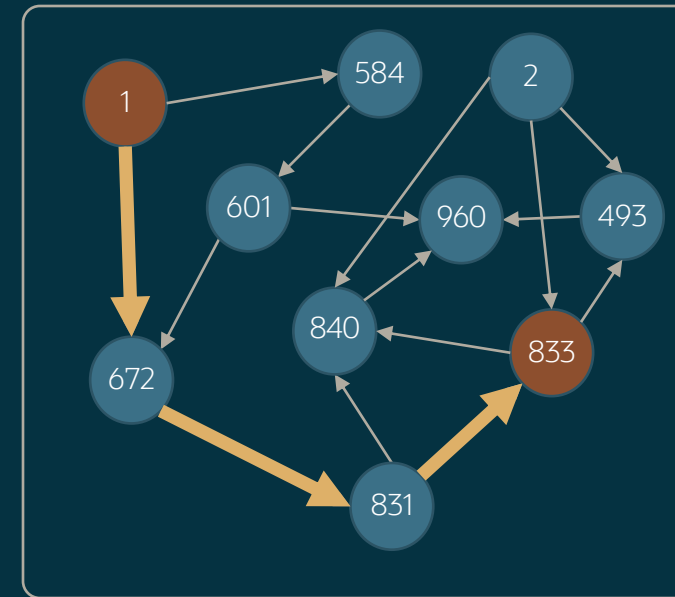


Ex: Are there money transfer patterns that are cycles?

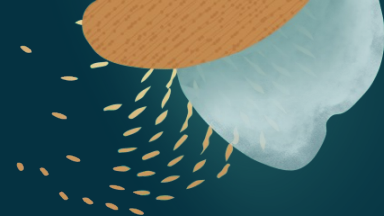
In Oracle Database a Graph is like a **View** on Relational Tables

- **No data copy** – graph is a view on relational tables
- Insert/update/delete in underlying tables instantly available in a graph
- Fast, concurrent updates

BANK_ACCOUNTS		BANK_TRANSFERS		
ID	NAME	SRC_ACCT_ID	DST_ACCT_ID	AMOUNT
1		1	672	1000
2		1	584	1000
3		1	259	100000
...		2	833	5001
672		2	840	7050
673		2	493	4363
674	
...		672	831	5425
831	
832		831	833	256
833	
...	



Graph Queries using SQL in Oracle Database 23ai



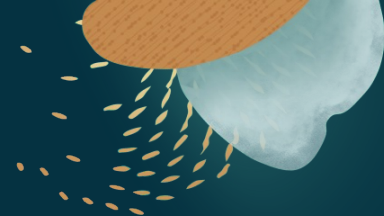
Find all accounts 934 has transferred cash to

```
SELECT * from GRAPH_TABLE(bank_graph  
MATCH (a) -[]->(b)  
COLUMNS (a.id as acct_id, b.id as dst_id))  
WHERE acct_id = 934;
```

Find all paths between 934 and 387,
via 1 to 4 cash transfers

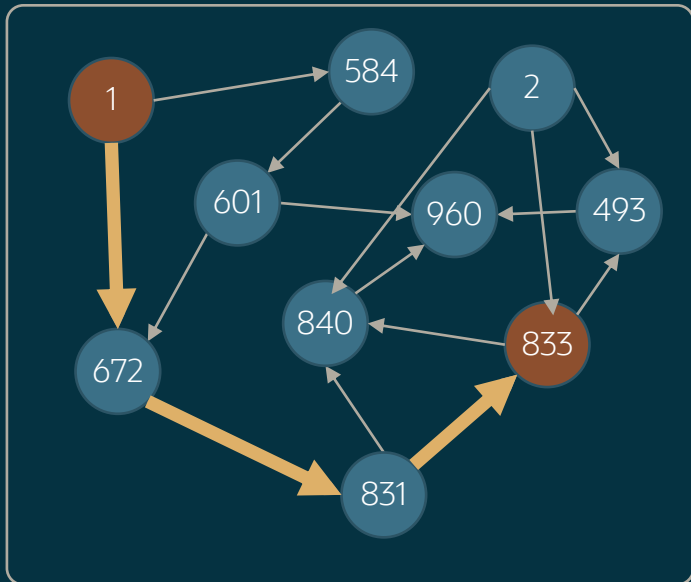
```
SELECT * from GRAPH_TABLE(bank_graph  
MATCH (a) -[]->{1,4}(b)  
COLUMNS (a.id as acct_id, b.id as dst_id))  
WHERE acct_id = 934 and dst_id = 387;
```


Is ID <src> connected to ID <dst> in 1 to 3 hops?



-- With new GRAPH_TABLE and MATCH syntax

```
SELECT account_id
FROM GRAPH_TABLE(bank_graph
MATCH (src)-[is bank_transfers]->{1,3}(dst)
COLUMNS (src.id as account_id) );
```

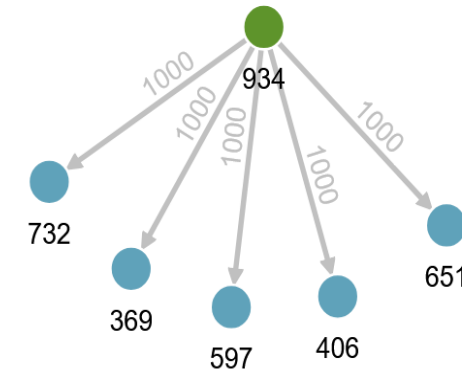


-- SQL without new syntax (12 joins and 3 UNION ALLs)

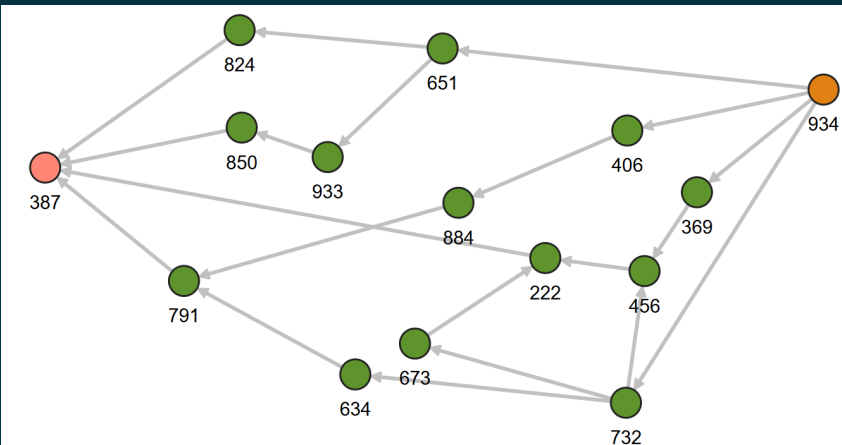
```
SELECT v1.id as account_id1 , v2.id as account_id2
FROM   bank_accounts v1 ,
       bank_transfers btx,
       bank_accounts v2
WHERE  (v1.id = btx.src_acct_id AND v2.id = btx.dst_acct_id)
AND    v1.id= <src> AND v2.id= <dst>
UNION ALL
SELECT v1.id as account_id1 , v2.id as account_id2
FROM   bank_accounts v1 ,
       bank_transfers btx,
       bank_accounts bc2,
       bank_transfers btx2 ,
       bank_accounts v2
WHERE  (v1.id = btx.src_acct_id AND bc2.id = btx.dst_acct_id AND
        bc2.id = btx2.src_acct_id AND v2.id = btx2.dst_acct_id )
AND    v1.id= <src> AND v2.id= <dst>
UNION ALL
SELECT v1.id as account_id1 ,v2.id as account_id2
FROM   bank_accounts v1 ,
       bank_transfers btx,
       bank_accounts bc2,
       bank_transfers btx2 ,
       bank_accounts bac4,
       bank_transfers btx5 ,
       bank_accounts v2
WHERE  (v1.id = btx.src_acct_id AND bc2.id = btx.dst_acct_id AND
        bc2.id = btx2.src_acct_id AND bac4.id = btx2.dst_acct_id AND
        bac4.id = btx5.src_acct_id AND v2.id = btx5.dst_acct_id )
AND    v1.id= <src> AND v2.id= <dst>
;
```

Graph Visualization

Find all accounts 934 has transferred cash to



Find all paths between 934 and 387, via 1 to 4 cash transfers

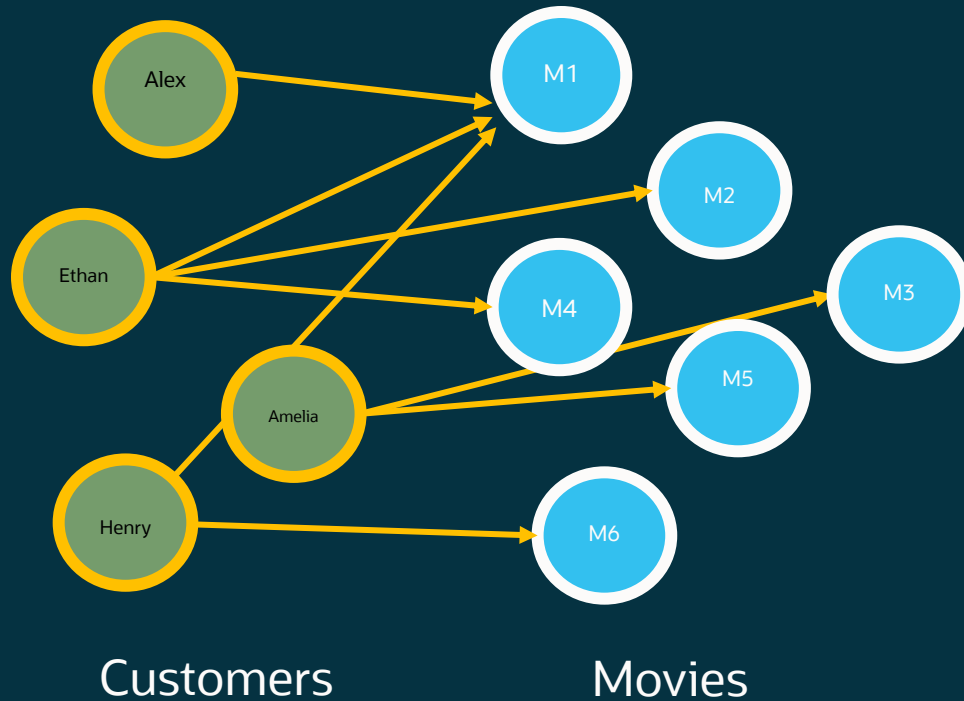


The MOVIEGRAPH Example



—
We will use this for some of our Graph RAG examples

Example Graph: Customers Watch Movies

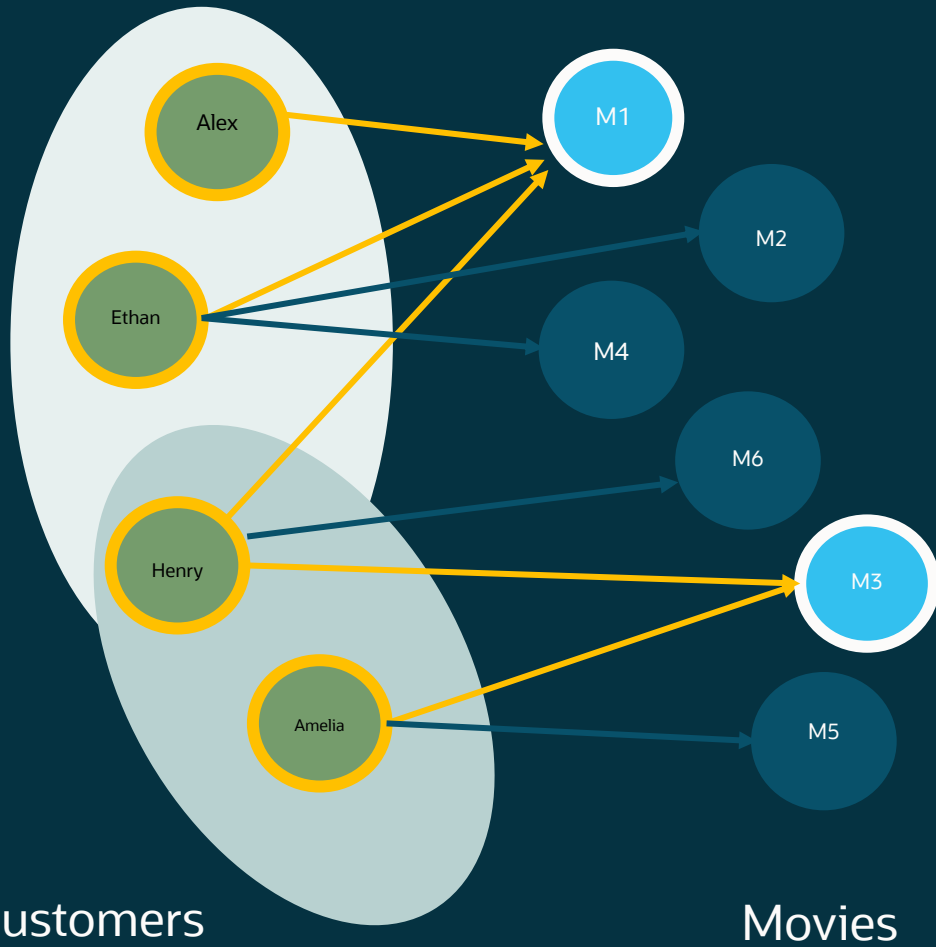


Relationship 1:
(CUSTOMER) -> (MOVIE)

Questions

- Which customers have similar movie watching patterns?

Customers Have Watch Parties



Relationship 2:
(CUSTOMER) -> (CUSTOMER) -> (MOVIE)

Questions

- Which customers are connected by watch parties?

Creating a graph is very easy with Autonomous Database



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.

Welcome to Oracle Graph

[Simplify Graph Analytics with Autonomous Database](#)

Learn More

[Documentation](#)

[Blog](#)

[Tutorials](#)

Graphs

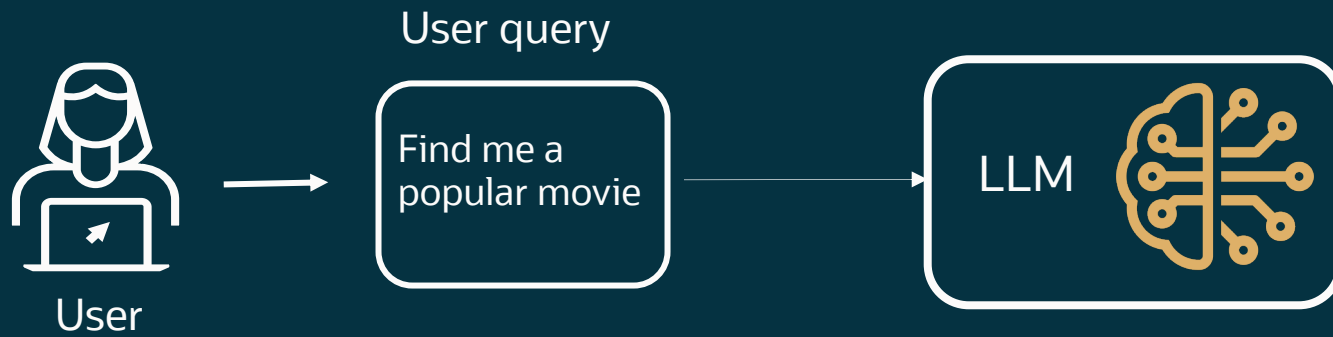
[View All](#)

MOVIE RECOMMENDATIONS PG RAG

Graph RAG

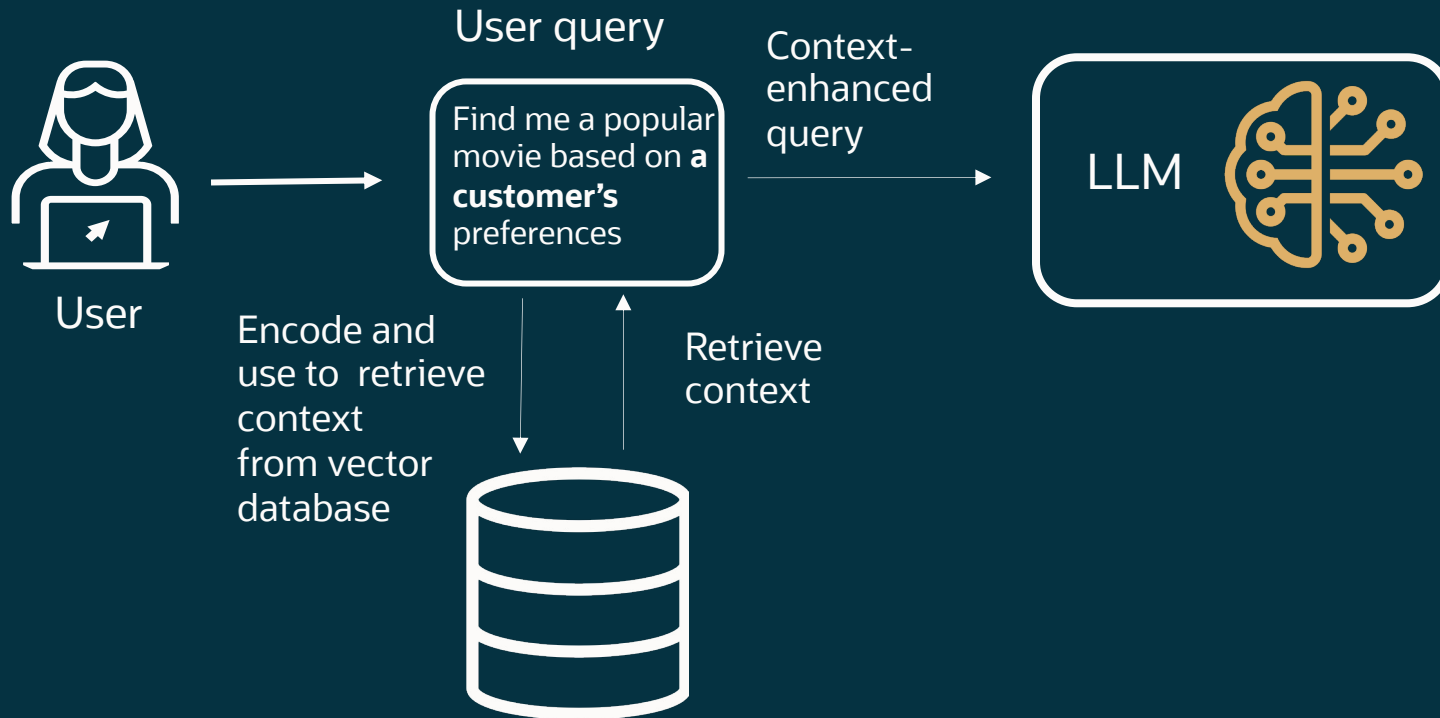
—
First, a RAG recap

Asking an LLM a Question



RAG: Retrieval Augmented Generation

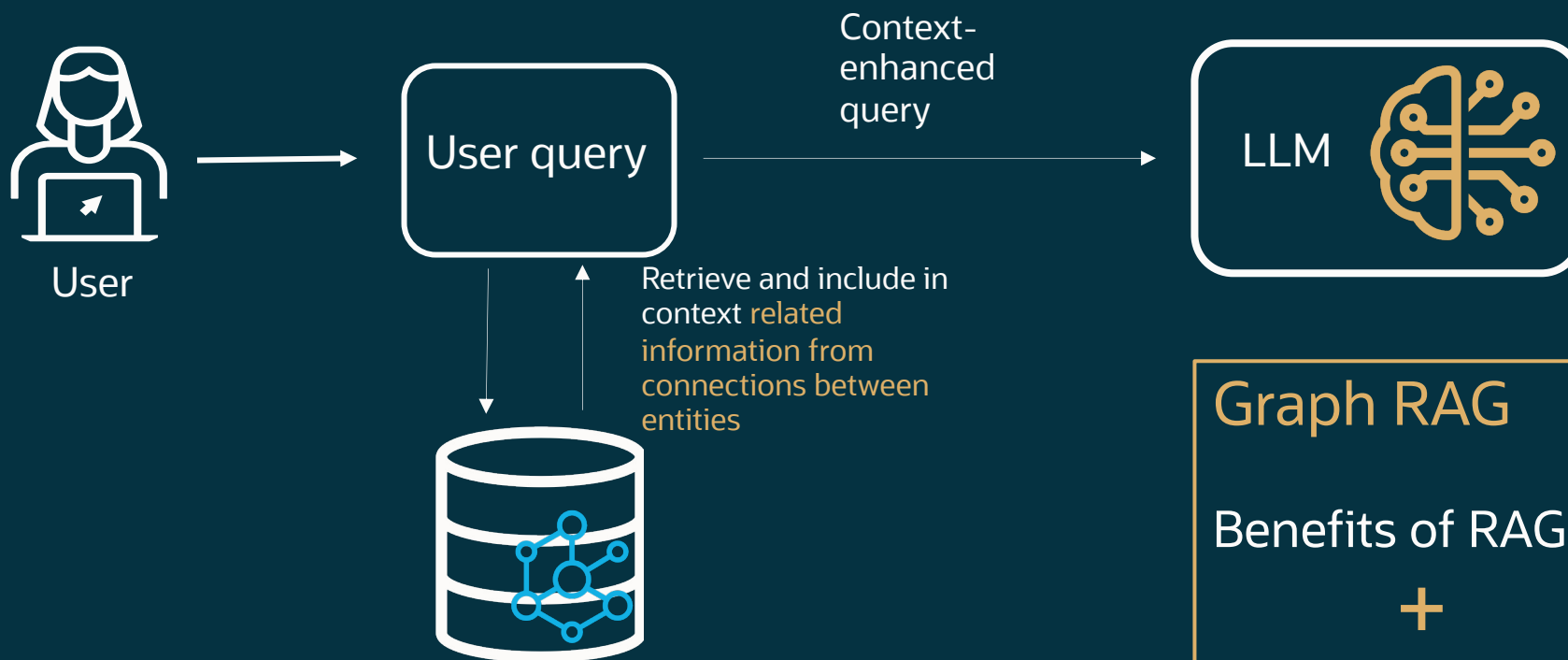
Enhance user query with data in the database



- Use **latest** and **private** data from a database to provide context to LLM
- Typically use vector search to find matching data in a database to provide as context to an LLM
 - Create embeddings for data and store as vectors in a vector database
 - Vectorize **user's natural language** query and match with stored vectors
 - Augment user query with top matches from the database

Graph RAG: Adding Graph Relationships to RAG

Enhance user query with data in the database



Graph RAG

Benefits of RAG

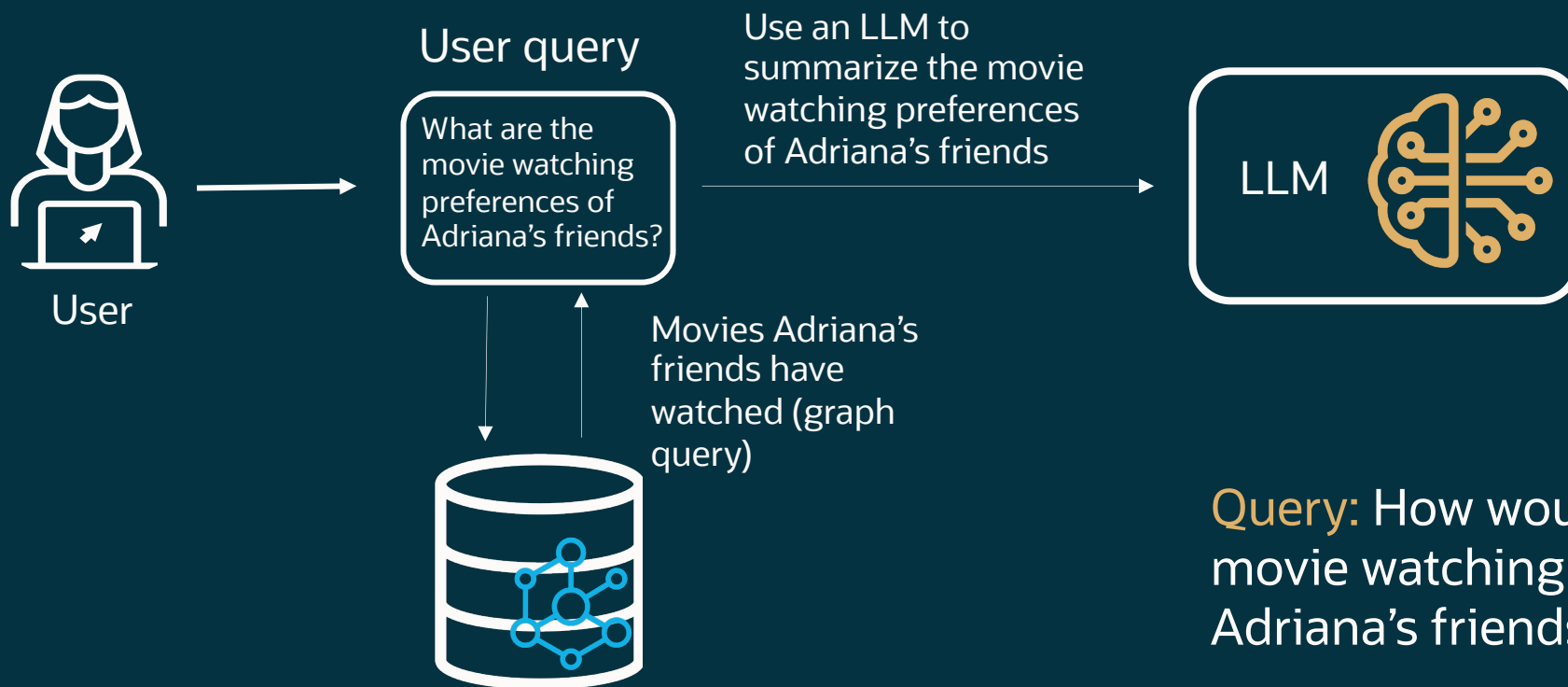
+

Information on how data is connected

Example 1

Graph queries in LangChain

Summarizing Movie Watching Preferences with an LLM's help



Query: How would you describe the movie watching preferences of Adriana's friends?

GraphRag-Example1

localhost:8888/notebooks/GraphRag-Example1.ipynb

Graph Graph Feature Requ... Oracle Property Gra... Graph Studio: Intera... Oracle Support Portal Graph Studio - 23ai SQLDatabaseAction... Graph Size Estimator

jupyter GraphRag-Example1 Last Checkpoint: 17 minutes ago

File Edit View Run Kernel Settings Help Trusted

JupyterLab Python 3 (ipykernel)

```
[ ]: from langchain_openai import ChatOpenAI

# Set up OpenAI LLM
print("WARNING: The step will fail if the API key is not present or is incorrect.")
print("Please update the OpenAI_API_key before calling the llm the next step.")

# set the LLM to get response
llm_gr = ChatOpenAI(
    model_name='gpt-3.5-turbo',
    temperature = 0.1,
    openai_api_key=".....",
    max_tokens=2000
)
print("The LLM model you will use is OpenAI ChatGPT 3.5")

[2]: import oracledb

[3]: import langchain_openai

[4]: connection_gr = oracledb.connect(
    config_dir=r"C:\Users\Public\Downloads\Wallet_GraphRAG",
    user="graphuser",
    password="....",
    dsn="graphrag_medium",
    wallet_location=r"C:\Users\Public\Downloads\Wallet_GraphRAG",
    wallet_password="....")

[5]: cursorgr = connection_gr.cursor()

[12]: from langchain_core.prompts import PromptTemplate

# Create a prompt template
template = "What is the genre of {movie} based on this summary: {summary}?"
prompt = PromptTemplate.from_template(template)

# Create a chain with the prompt and LLM
chain = prompt | llm_gr

[ ]: # Define your SQL query
sql = """
SELECT DISTINCT MOVIE_TITLE, MOVIE_SUMMARY
```

3:27 PM

Using LangChain

GraphRAG using Langchain and Oracle Graph on Oracle Database 23ai (Part 1)



Rahul Tasker · Following
9 min read · Draft

Blog post on Medium.com

Use graph query in
Autonomous Database
with LangChain

```
# Define your SQL query
sql = """
SELECT DISTINCT MOVIE_TITLE, MOVIE_SUMMARY
FROM GRAPH_TABLE( MOVIE_RECOMMENDATIONS
    MATCH (c1 is CUSTOMER) -[e is WATCHED_WITH]-> (c2 is CUSTOMER)-[w is WATCHED]-> (m is MOVIE)
    WHERE c1.FIRST_NAME = 'Adriana' and c1.LAST_NAME = 'Osborne'
    COLUMNS (m.title as MOVIE_TITLE, m.summary as MOVIE_SUMMARY)
) FETCH FIRST 3 ROWS ONLY
"""

# Execute the SQL query

cursor2.execute(sql)

#for row in cursor2.execute(sql):
#    print(row)

# Fetch all rows from the executed query
rows = cursor2.fetchall()
# print(rows)

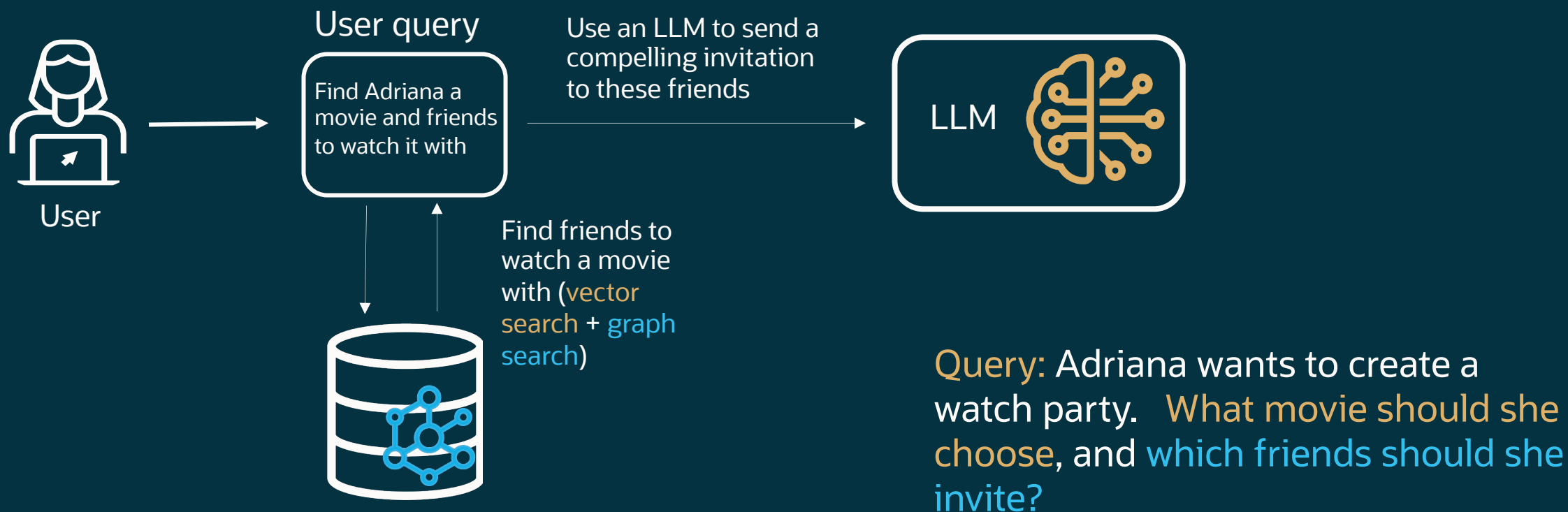
# Print the results
for row in rows:
#    Run the chain and print the output
    result = chain.invoke({'movie': row[0], 'summary': row[1]})
    print(result.content)
```

Example 2

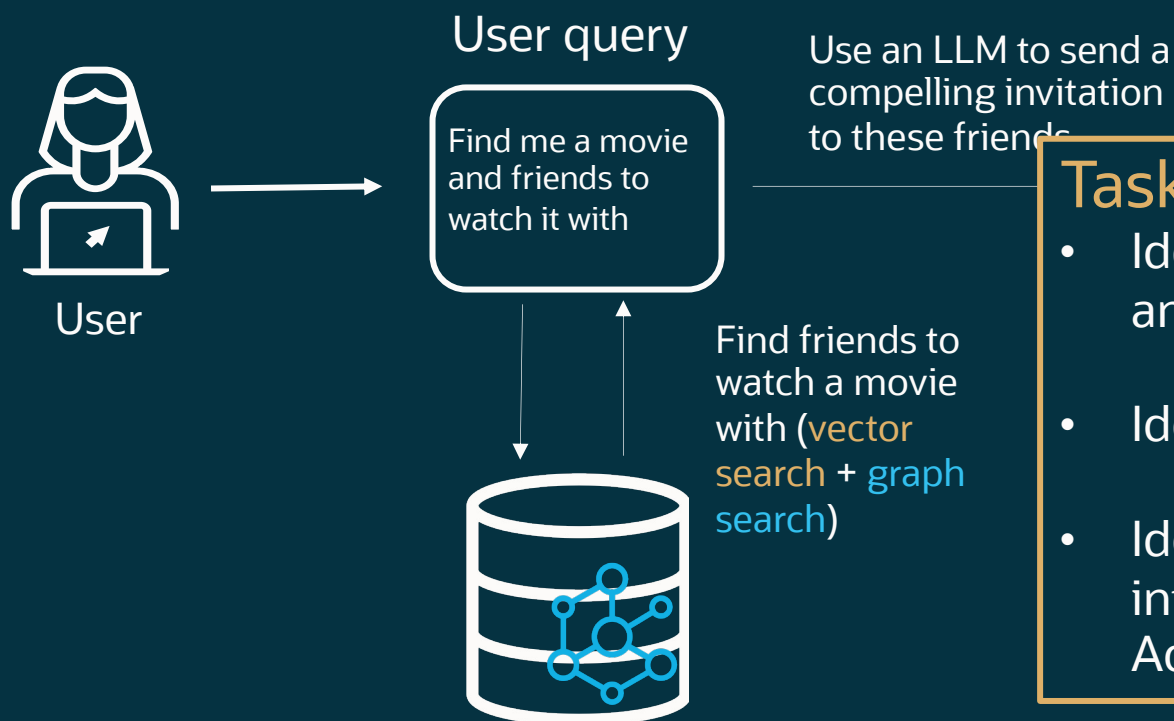


Combining Vector and Graph Search

Combining Vector and Graph Search



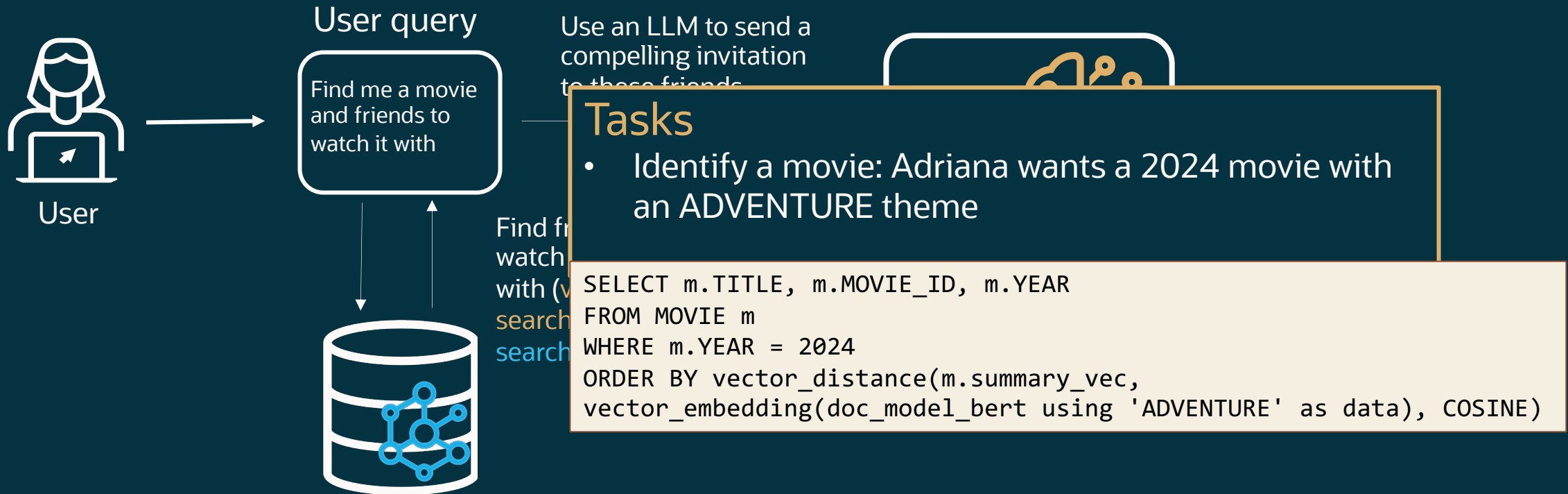
Combining Vector and Graph Search



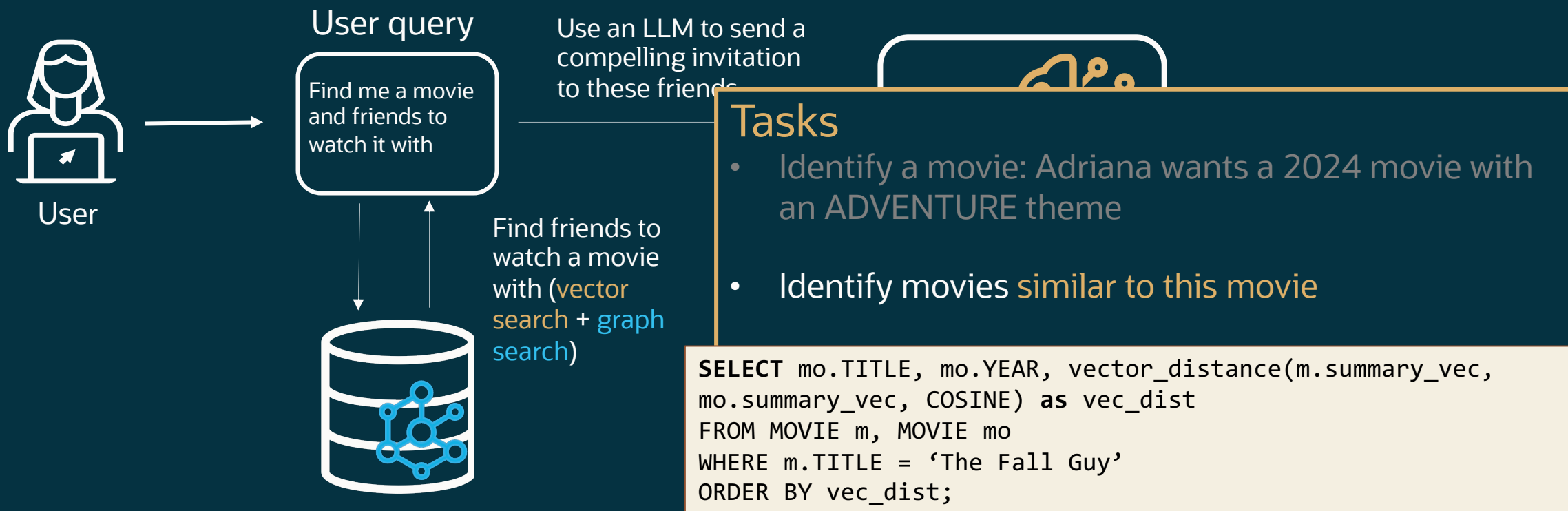
Tasks

- Identify a movie: Adriana wants a 2024 movie with an ADVENTURE theme
- Identify movies **similar to this movies**
- Identify **Adriana's friends** who are likely to be interested in this movie based on **similar movies** Adriana and her friends have watched together

Combining Vector and Graph Search



Combining Vector and Graph Search



Combining Vector and Graph Search



User

User query

Find me a movie
and friends to
watch it with

Use an LLM
compelling
to these fri

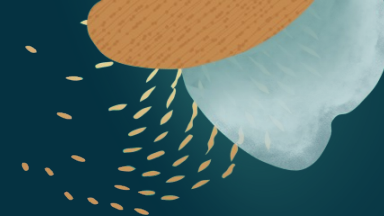
Find friends to
watch a movie
with (vector
search + graph

Tasks

- Identify a movie: Adriana wants a 2024 movie with an ADVENTURE theme
- Identify similar movies to this movie
- Identify **Adriana's friends** who are likely to be interested in this movie based on **similar movies** Adriana and her friends have watched together

```
SELECT C1NAME, C2NAME, MOVIE TITLE,
vector_distance(svec, (SELECT summary_vec from MOVIE WHERE title = 'The Fall Guy'), COSINE) as vec_dist
FROM (
  SELECT C1NAME, C2NAME, MOVIE TITLE, svec
  FROM GRAPH_TABLE(MOVIE_RECOMMENDATIONS
    MATCH (c1 is CUSTOMER) -[e is WATCHED_WITH]-> (c2 is CUSTOMER)-[w is WATCHED]-> (m is MOVIE)
    WHERE e.MOVIE_ID = m.MOVIE_ID AND c1.FIRST_NAME = 'Adriana' AND c1.LAST_NAME = 'Osborne'
    COLUMNS (...))
)
ORDER BY vec_dist;
```


Send the invitee list to an LLM to generate invitations



New Message

To

carmine.fields@oracle.com

Cc Bcc

Subject

Join us for a Watch Party Tonight - The Fall Guy at 8pm!

Dear Carmine,

Hope this email finds you well! I'm excited to invite you to a watch party tonight on the MovieStream platform, where we'll be screening the classic action-comedy film, The Fall Guy.

The watch party is schedule to start at 8pm tonight, and I'd love for you to join us for an evening of entertainment and fun. All you need to do it log into your MovieStream account and join the watch party at the designated time.

If you are new to MovieStream, don't worry! It's easy to sign up and join the party. Just head to the MovieStream website, create an account if you don't have one already, and search the watch party invite.

We're really looking forward to watching The Fall Guy together and sharing our thoughts and reactions in real-time. It's going to be a blast!

Hope to see you tonight at 8pm on MovieStream!

Best regards,

[Your Name]

Find movies with genre type Adventure for the watch party.

```
%sql
SELECT m.TITLE, m.MOVIE_ID, m.YEAR
FROM MOVIE m
WHERE m.YEAR = 2024
ORDER BY vector_distance(m.summary_vec,
vector_embedding(doc_model_bert using 'ADVENTURE' as data), COSINE)
```



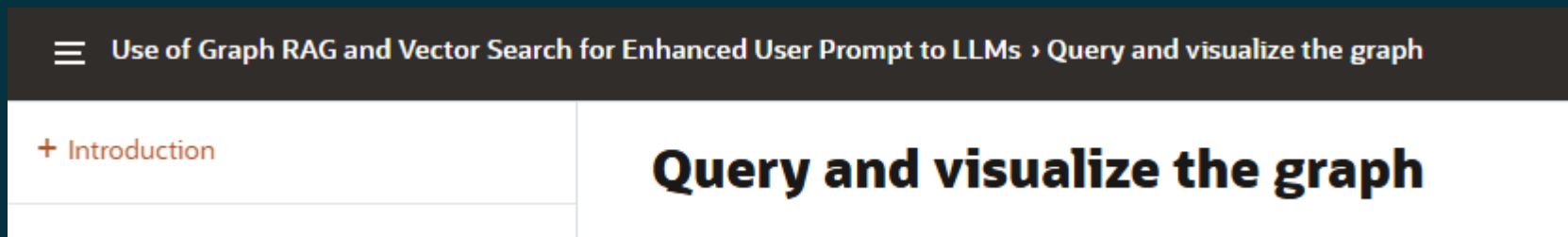
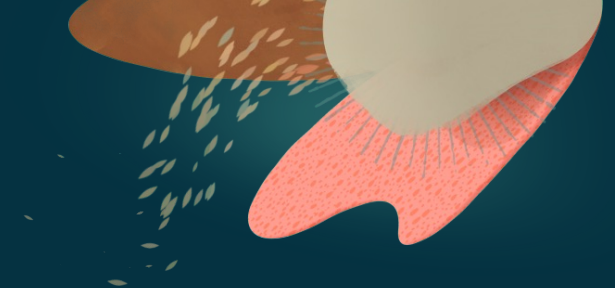
Our search result gives 'The Fall Guy' the highest score for 'Adventure' movies in 2024 that we have available for our customers to watch. Adriana wants to know which movies it's similar to to help her decide if she'd like to watch it. Let's run another vector search to find out.

```
%sql
SELECT mo.TITLE, mo.YEAR, vector_distance(m.summary_vec, mo.summary_vec, COSINE) as vec_dist
FROM MOVIE m, MOVIE mo
WHERE m.TITLE = 'The Fall Guy'
ORDER BY vec_dist;
```



Task 2: Create and query a Property Graph using SQL

LiveLab: Combining Vector and Graph Search



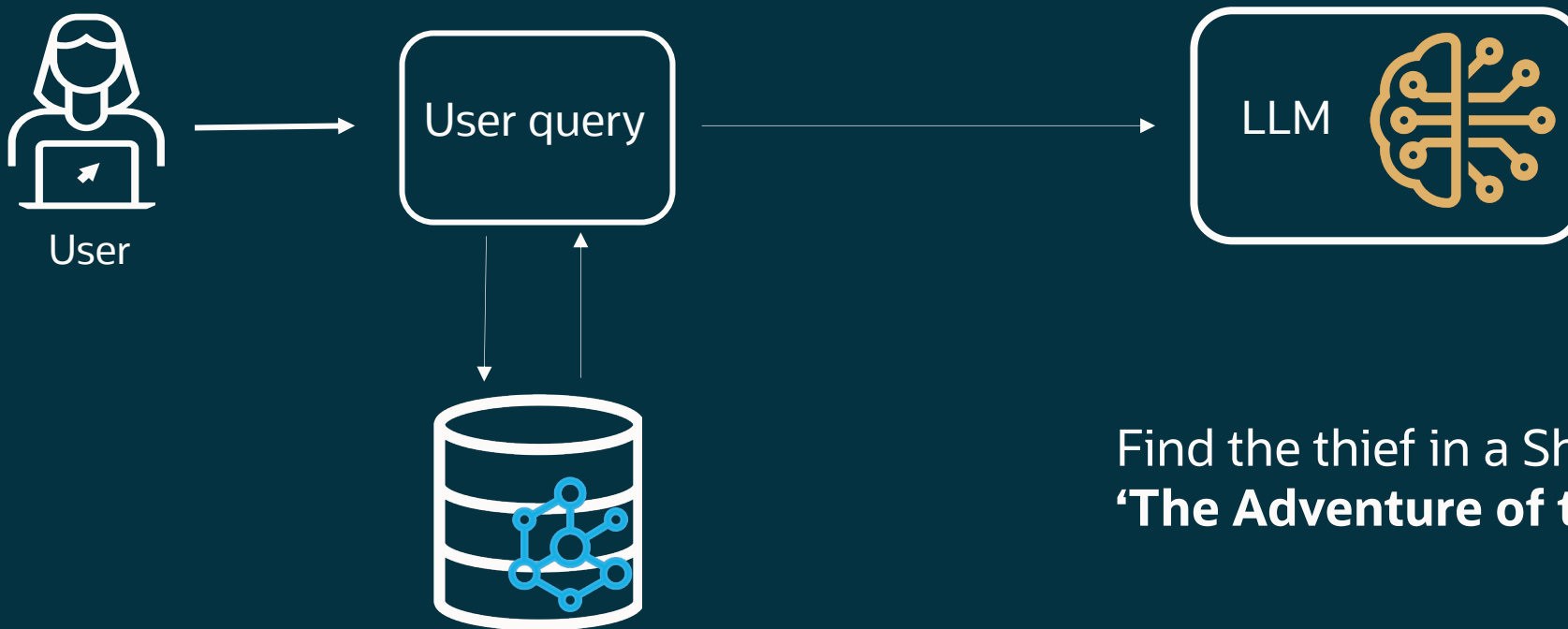
LiveLab: Visit livelabs.oracle.com and search for 'graph rag'

Combine Vector and Graph search and call out to OCI gen AI service from Graph Studio in Autonomous Database

Example 3

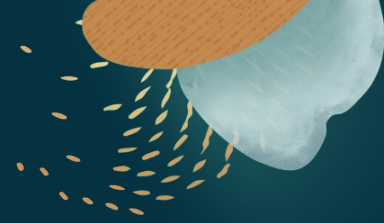
Possibilities with Graph RAG

Example 3: Using Graph RAG to Improve gen AI Answers



Find the thief in a Sherlock Holmes Story
‘The Adventure of the Blue Carbuncle’

The Adventure of the Blue Carbuncle



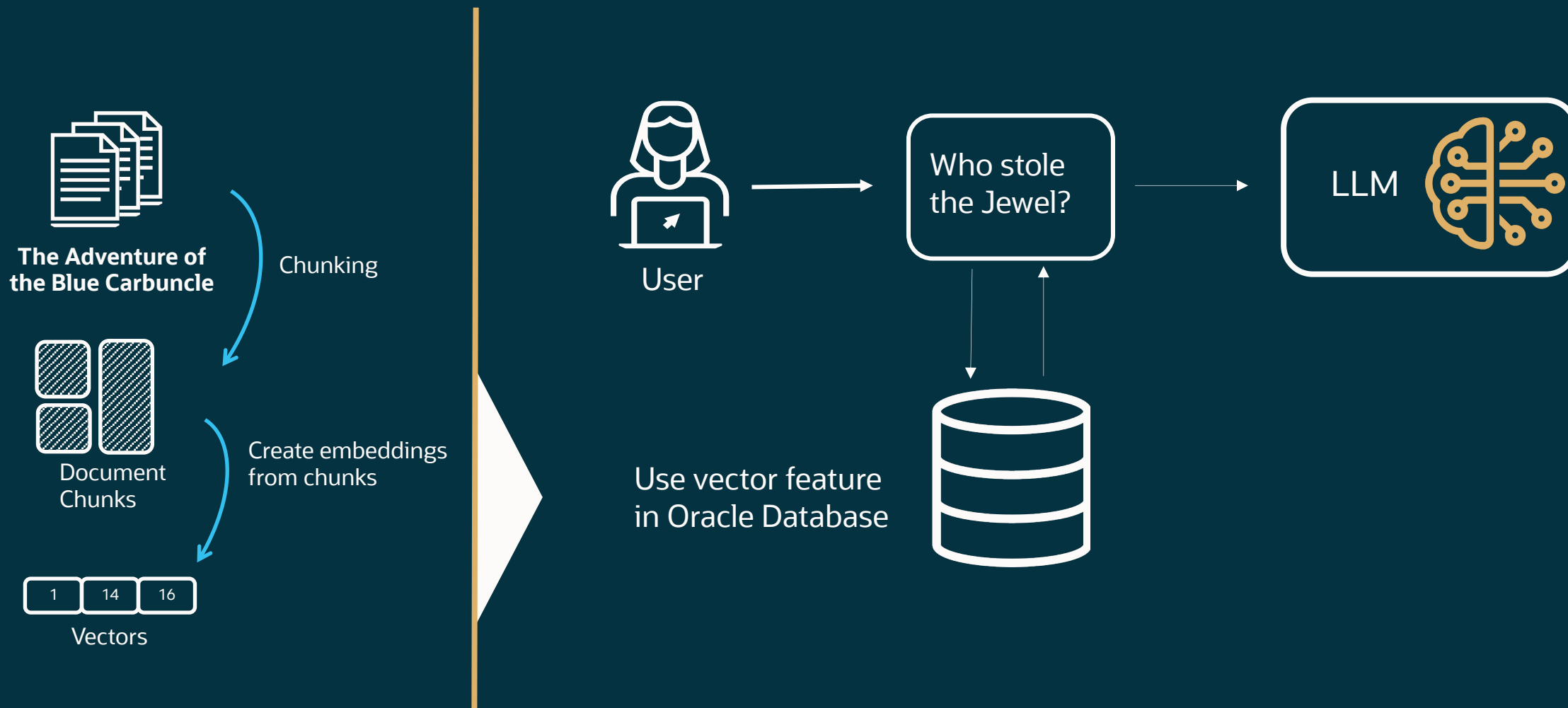
I had called upon my friend Sherlock Holmes upon the second morning after Christmas, with the intention of wishing him the compliments of the season. He was lounging upon the sofa in a purple dressing-gown, a pipe-rack within his reach upon the right, and a pile of crumpled morning papers, evidently newly studied, near at hand. Beside the couch was a wooden chair, and on the angle of the back hung a very seedy and disreputable hard-felt hat, much the worse for wear, and cracked in several places. A lens and a forceps lying upon the seat of the chair suggested that the hat had been suspended in this manner for the purpose of examination.

"You are engaged," said I; "perhaps I interrupt you."

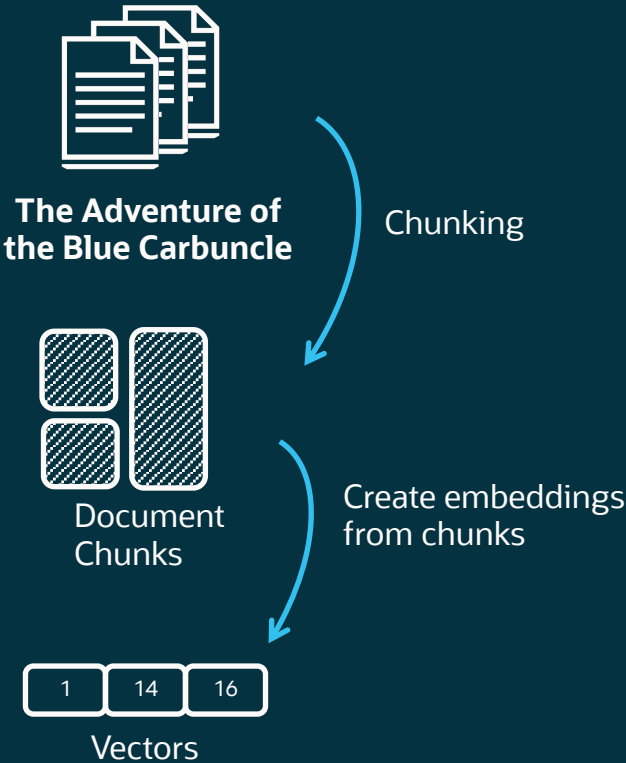
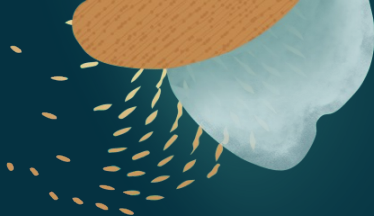
"Not at all. I am glad to have a friend with whom I can discuss my results. The matter is a perfectly trivial one" -- he jerked his thumb in the direction of the old hat -- "but there are points in connection with it which are not entirely devoid of interest and even of instruction."

I seated myself in his armchair and warmed my hands before his crackling fire, for a sharp frost had set in, and the windows were thick with the ice crystals. "I suppose," I remarked, "that, homely as it looks, this thing has some deadly story linked on to it -- that it is the clew which will guide you in the solution of some mystery and the punishment of some crime."

Create Text Chunks and Vector Embeddings for RAG



Query Text Chunks with Vector Search



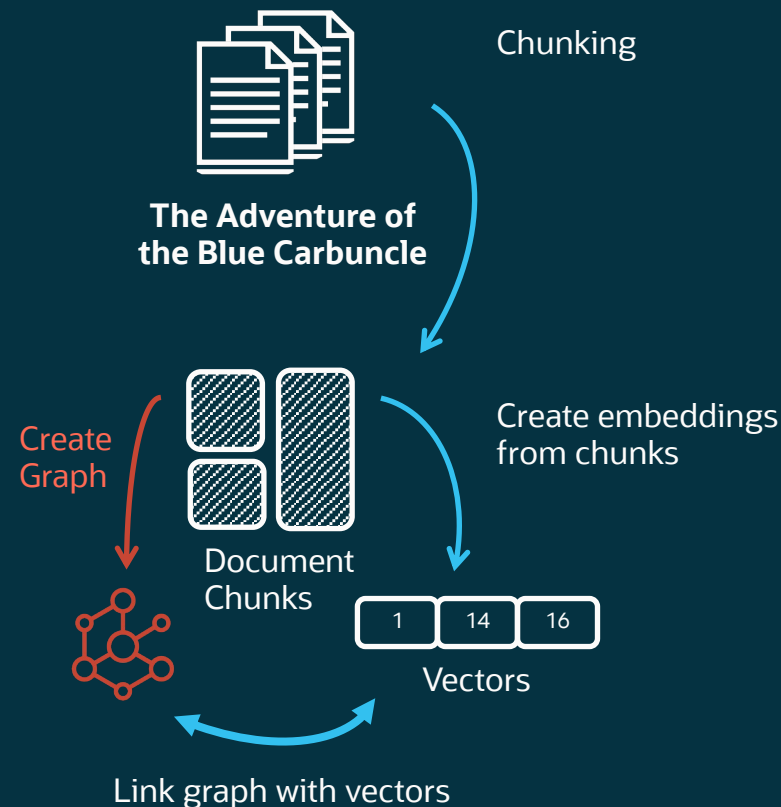
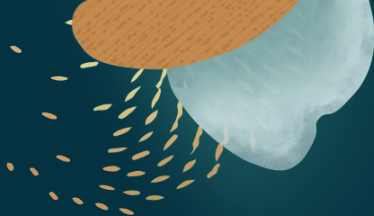
The evidence against him was so strong that the case has been referred to the Assizes.

John Horner, 26, plumber, was brought up upon the charge of having upon the 22d inst., abstracted from the jewel-case of the Countess of Morcar the valuable gem known as the blue carbuncle.

Question: Who stole the Jewel? **Answer:** The jewel was stolen by John Horner, a plumber, who was accused of ...



Extract Graph and Link with Text Chunks



"That is the reward, and I have reason to know that there are sentimental considerations in the background which would induce the Countess to part with half her fortune if she could but recover the **gem**."

"It **was lost,** **at the Hotel Cosmopolitan,**" I remarked.

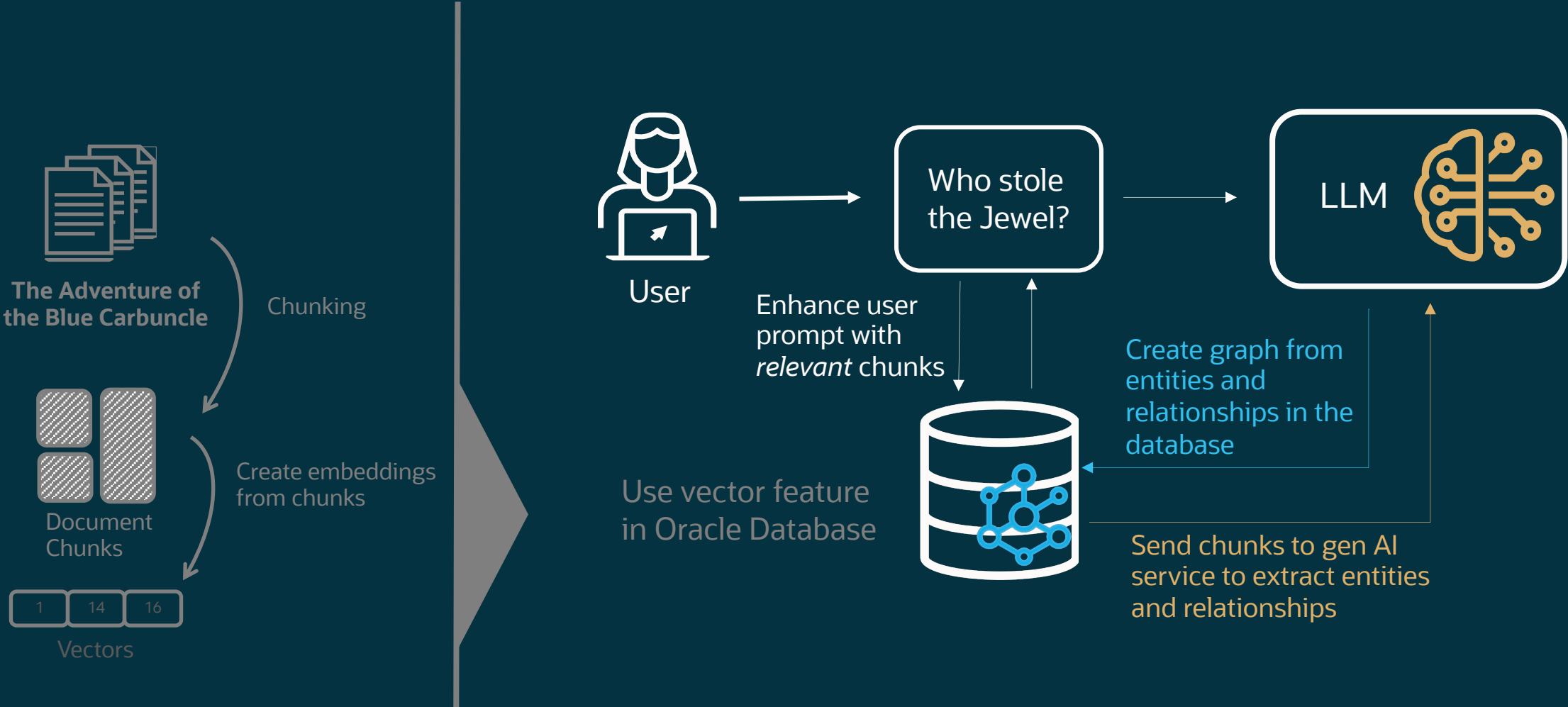
"Precisely so, on December 22d, just five days ago. John Horner, a plumber, was accused of having abstracted it from the lady's jewel-case. The evidence against him was so strong that the case has been referred to the Assizes. I have some account of the matter here, I believe." He rummaged amid his newspapers, glancing over the dates, until at last he smoothed one out, doubled it over, and read the following paragraph:

"Hotel Cosmopolitan Jewel Robbery. John Horner, 26, plumber, was brought up upon the charge of having upon the 22d inst., abstracted from the jewel-case of the Countess of Morcar the valuable gem known as the blue carbuncle. James Ryder, upper-attendant at the hotel, gave his evidence to the effect that he had shown Horner up to the dressing-room of the Countess of Morcar upon the day of the robbery in order that he might solder the second bar of the grate, which was loose. He had remained with Horner some little time, but had finally been called away. On returning, he found that Horner had disappeared, that the bureau had been forced open, and that the small morocco casket in which, as it afterwards transpired, the Countess was accustomed to keep her jewel, was lying empty upon the dressing-table. Ryder in-

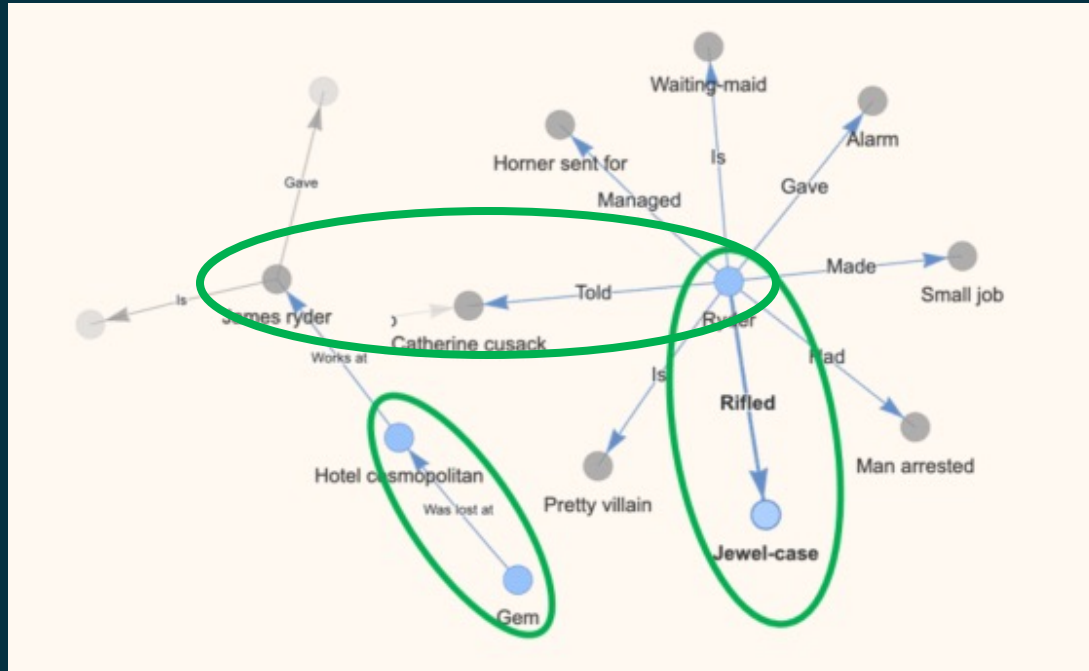
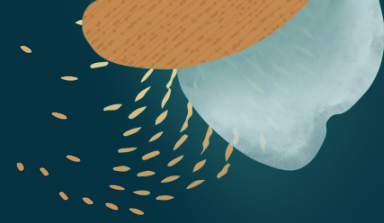
"I see -- her ladyship's waiting-maid. Well, the temptation of sudden wealth so easily acquired was too much for you, as it has been for better men before you; but you were not very scrupulous in the means you used. It seems to me that there is the making of a very pretty villain in you. You knew that this man Horner, the plumber, had been concerned in some such matter before, and that suspicion would rest the more readily upon him. What did you do, then? You made some small job in my lady's room -- you and your confederate Cusack -- and you managed that he should be the man sent for. Then, when he had left, you **rifled the jewel-case,** and the alarm, and had this unfortunate man arrested. You then --"



Extract Entities and Relationships for each Text Chunk



Graphs Connect Entities Across Text Chunks



Graph RAG

1. Find entities related to **'Who Stole the Jewel?'**
2. Retrieve text chunks associated to those entities

(**The jewel robbery** -> LOCATION_OF -> Hotel cosmopolitan)

(**Ryder** -> EMPLOYED_BY -> Hotel cosmopolitan)

(**Ryder** -> RIFLED -> The jewel case)

Answer: **James Ryder**, the hotel attendant, is implicated in the theft of the jewel.

ORACLE Database Actions | SQL

Search Database (Ctrl+K)

GRAPHUSER

Navigator

Files

GRAPHUSER

Tables

Search...

CUSTOMER

DBTOOLS\$EXECUTION_H

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DM\$P8DOC_MODEL_BER

DM\$P9DOC_MODEL_BER

DM\$PADOC_MODEL_BER

GRAPH_ENTITIES

GRAPH_EXTRACTION_STA

GRAPH_RELATIONS

GRAPH_RELATIONS_STG

GRAPH_TEXT_STORE

MOVIE

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PG_RAG_PGQL_ELEM_TAE

PG_RAG_PGQL_KEY\$

PG_RAG_PGQL_LABEL\$

GraphRAG*

Consumer group: LOW

Data Load

```
23
24 create table sholmes_tab_chunks (doc_id number, chunk_id number, chunk_data varchar2(4000), chunk_embedding vector);
25
26
27 insert into sholmes_tab_chunks
28 select dt.id doc_id, et.embed_id chunk_id, et.embed_data chunk_data, to_vector(et.embed_vector) chunk_embedding
29 from
30 sholmes_tab_clob dt,
31 dbms_vector_chain.utl_to_embeddings(
32 dbms_vector_chain.utl_to_chunks(dbms_vector_chain.utl_to_text(dt.data), json('{"normalize":"all"}')),
33 json('{"provider":"database", "model":"doc_model_bert"}')) t,
34 JSON_TABLE(t.column_value, '$[*]' COLUMNS (embed_id NUMBER PATH '$.embed_id', embed_data VARCHAR2(4000) PATH '$.embed_data', embed_vector CLOB PATH '$.embed_vector')) et;
35
36 commit;
37
38 -- Get entities and relationships for text chunks from the LLM
39 SELECT DBMS_CLOUD_AI.GENERATE(
40 prompt => '<<...examples of sentences and entities and relationships extracted from the sentences .... >>',
41
```

Query Result

Script Output

DBMS Output

Explain Plan

Autotrace

SQL History

Download

1

0

0

3:19:12 AM - 256 rows fetched, more to get

Powered by ORDS

10:34 PM

Graph RAG is an active topic of research

Ideas we are exploring

Use Select AI for graph queries

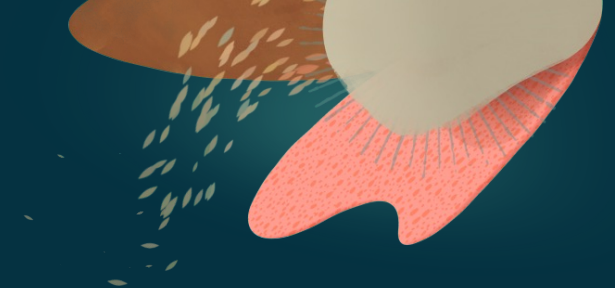
- Will enable translation of natural language queries into SQL/PGQ standard syntax

Options to automate extraction of entities and relationships from text data

Options for entity resolution of extracted entities

Graphs are good at capturing complex interactions of the real world

- **Enable enterprises to use graphs to provide an LLM facts about its business**



Key Takeaways

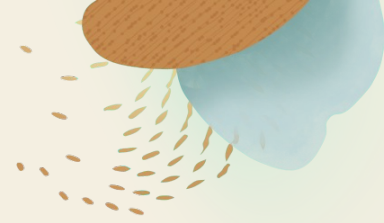
Graphs provide new insights by helping you capture and navigate relationships in data

New SQL syntax in Oracle Database 23ai makes it easy to write queries to query data based on these connections

Graphs add value to AI by enabling algorithms to be grounded in facts

- Graphs provide a natural way to model complex real-world data

Resources



oracle.com/database/graph/



oracle.com/livelabs search for 'graph'



YouTube search for 'oracle spatial and graph'



blogs.oracle.com/database/category/db-graph



medium.com/tag/oracle-graph/latest

Thank you

linkedin.com/in/melliyal

Melliyal.Annamalai@oracle.com

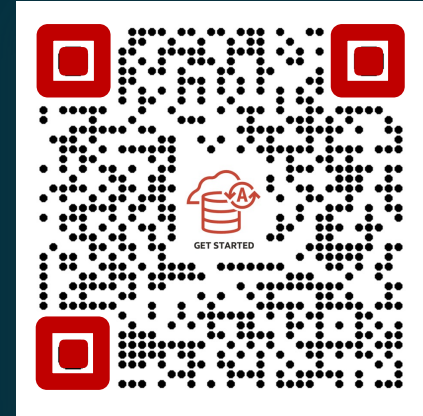
ORACLE

Q&A Open



Important links to bookmark

Links to get you started and to keep up to date with Autonomous Database



1 New Get Started page:
oracle.com/autonomous-database/get-started/

2 Join us: **LinkedIn**
bit.ly/adb-linkedln-grp   [@AutonomousDW](https://twitter.com/AutonomousDW)

3 Got a question?
We are on stackoverflow
bit.ly/adb-stackoverflow

Join us on Developers Slack
(search #oracle-autonomous-database)
bit.ly/odevrel_slack (odevrel_slack)

Final Thoughts

oracle.com/goto/adb-learning-lounge

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For more information on all things **Autonomous Database**, make sure to go to our site for **Get Started with Autonomous Database** at: <https://www.oracle.com/autonomous-database/get-started/>


The listing below shows the Autonomous Database Learning Lounge sessions, their recordings, links to other important resources on each subject.

Show All

Upcoming

Replays

Upcoming



Migration to ADB Part I: Visualize and Evaluate your entire database estate with Oracle Estate Explorer


12 November 2024 09:00 AM US/Pacific

Marcos Arancibia, Paul Brankin, Simon Griffiths

English

1 Hour

Log In To Register



Migration to ADB Part II: Easily migrate from previous database releases with DMS

19 November 2024 09:00 AM US/Pacific

Marcos Arancibia


English

1 Hour

Log In To Register

Replays

Sort By: Newest




George Lumpkin

Unlock modern analytics and AI with Oracle's converged platform

Unlock modern analytics and AI with Oracle's converged platform


Marcos Arancibia, George Lumpkin



Marty Guber, Keith Laker, Marcos Arancibia

What a week! Recapping Autonomous Database at Oracle CloudWorld'24


What a week! Recapping Autonomous Database at CloudWorld'24



Robert Greene

The new way to manage Oracle Databases on Microsoft Azure for Oracle DBAs

The new way to manage Oracle Databases on Microsoft Azure for Oracle DBAs



Marty Guber, Domenick Picarella

Ten ways you can use your Azure services with Oracle Database@Azure

Ten ways you can use your Azure services with Oracle Database@Azure


Links

Upcoming

Replays

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