

ORACLE

# Vibe Data Engineering: Months to minutes with ADB and Select AI

Autonomous Database Learning Lounge

---

Hosted by Marcos Arancibia

Autonomous Database Product Management

***AUTONOMOUS  
DATABASE  
LEARNING  
LOUNGE***

# Agenda



**Javier de  
la Torre  
Medina**

**Vibe Data Engineering**, with Oracle Autonomous Database and Data Studio, **bridges the gap** between business ideas and engineering execution with unprecedented speed, backed by **enterprise-grade security** and **governance**.

## Topics

- Explore Data with **Natural Language**: Ask business questions in plain English and get instant, actionable data using Select AI.
- **AI-Accelerate Your Data Lifecycle**: Generate & enrich Data effortlessly using simple prompts to **create synthetic data** or add **insights like sentiment** during data loading directly in Data Studio.
- **Transform Data with Ease**: Modify data structures using natural language prompts in **Table AI Assist**, which auto-generates and applies proper SQL.
- **Uncover Deeper Insights, Faster**: Let AI identify anomalies and patterns, empowering business users to build **intelligent data products**.

## Q&A

- **Product Managers** will answer any questions

# Before we begin...

**This session is for you !!!**

**Ask your questions using Q&A**

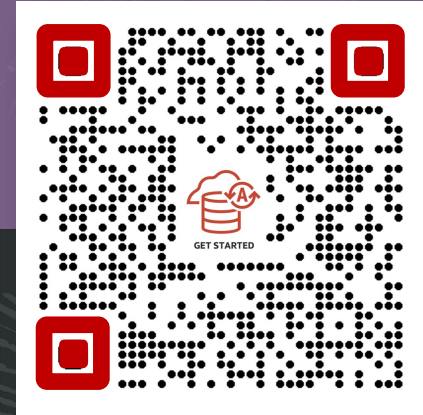
**Product Managers are monitoring your questions**

**We will share links in Chat**

**The recording will be made available in a few days at  
[oracle.com/goto/adb-learning-lounge](https://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** Get Started with ADB:  
[oracle.com/autonomous-database/get-started/](https://oracle.com/autonomous-database/get-started/)

**2** Join us:  [bit.ly/adb-linked-in-grp](https://bit.ly/adb-linked-in-grp)  [@AutonomousDW](https://twitter.com/AutonomousDW)  
 [Bluesky  
autonomousedb.bsky.social](https://autonomousedb.bsky.social)

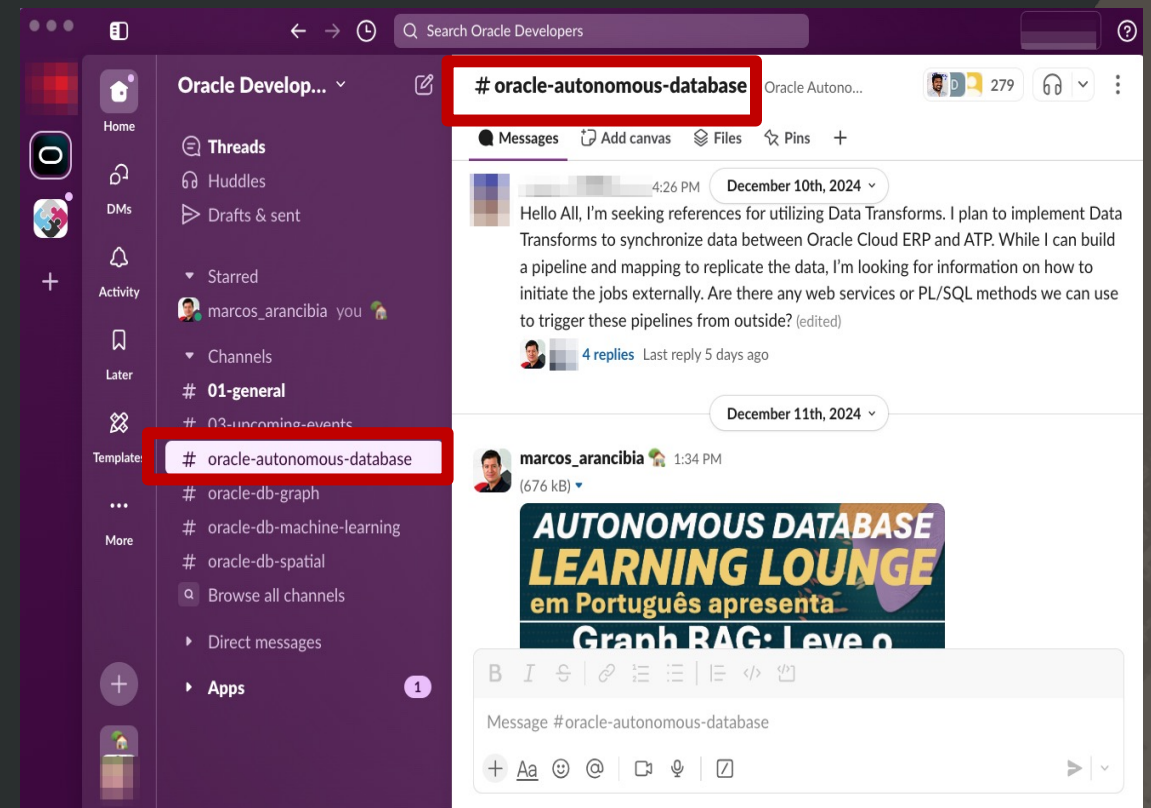
**3** Got a question?  
We are on stackoverflow  
[bit.ly/adb-stackoverflow](https://bit.ly/adb-stackoverflow)

Join us on Developers Slack  
(search #oracle-autonomous-database)  
[bit.ly/odevrel\\_slack](https://bit.ly/odevrel_slack)

# Join our External Slack

STEP 1: Join our Slack workspace at:  
[bit.ly/odevrel\\_slack](https://bit.ly/odevrel_slack)

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



# Speaker



**Javier de la Torre Medina**



ORACLE

# Vibe Data Engineering

Months to minutes with ADB and Select AI

---

**Javier de la Torre**

Autonomous Data Warehouse Black Belt

# All Started with Vibe Coding

**Vibe coding** (or **vibecoding**) is an approach **to producing software by using artificial intelligence (AI)**, where a person describes a problem in a few natural language sentences as a **prompt** to a large language model (LLM) tuned for coding. The LLM generates software based on the description, shifting the programmer's role from manual coding to guiding, testing, and refining the AI-generated source code.



# LLMs are getting better at Code Generation

Text Arena

View rankings across various LLMs on their versatility, linguistic precision, and cultural context across text.

Last Updated  
Jun 5, 2025

Total Votes  
597,826





Total Models  
247

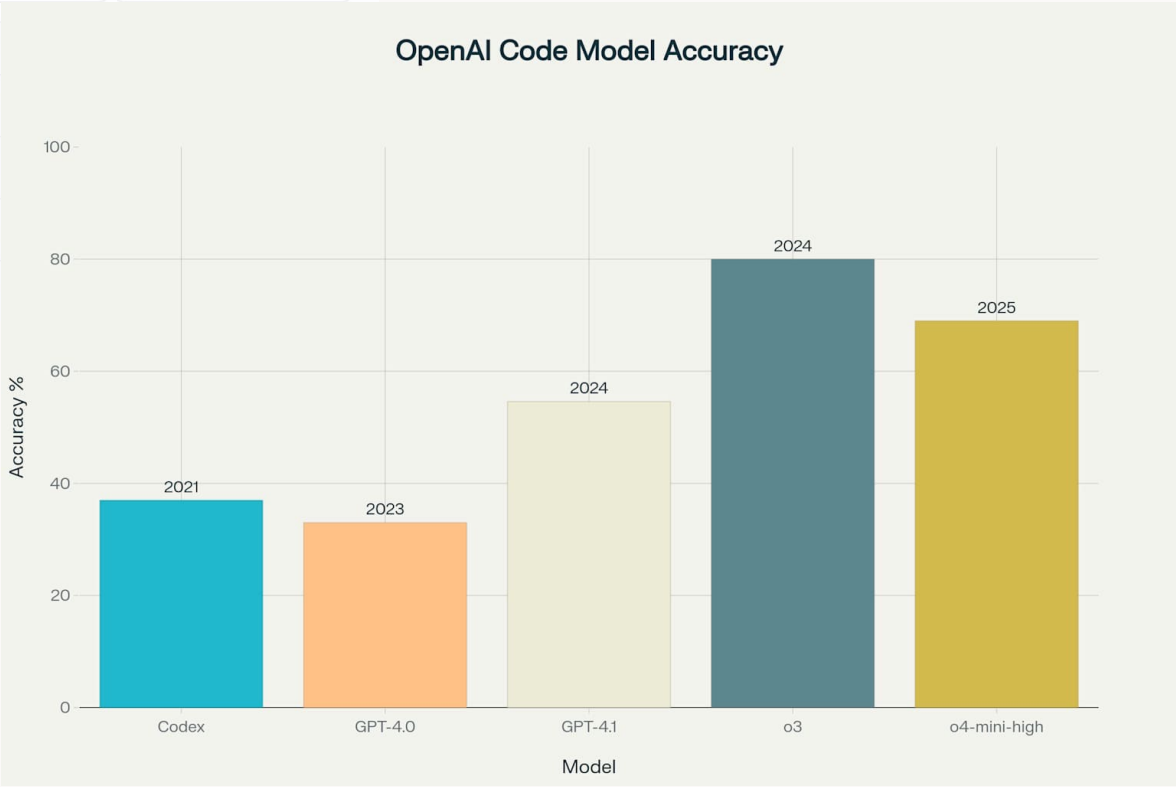
Coding

Search by model name...

/

Default

Rank (UB) ↑	Model ↓	Score ↑↓	95% CI (±) ↑↓	Votes ↑↓
1	 gemini-2.5-pro-preview-06-05	1496	+18/-17	1,152
2	 o3-2025-04-16	1460	+11/-9	3,642
2	 chatgpt-4o-latest-20250326	1457	+10/-10	4,455
2	 claude-opus-4-20250514	1456	+13/-13	2,497



# And SQL is not an exception!

## About BIRD

Page Views 232425

BIRD (**B**ig Bench for **L**a**R**ge-scale **D**atabase Grounded Text-to-SQL Evaluation) represents a pioneering, cross-domain dataset that examines the impact of extensive database contents on text-to-SQL parsing. BIRD contains over **12,751** unique question-SQL pairs, **95** big databases with a total size of **33.4 GB**. It also covers more than **37** professional domains, such as blockchain, hockey, healthcare and education, etc.

Paper



Code

Mini-Paper (500)

Overall Leaderboard

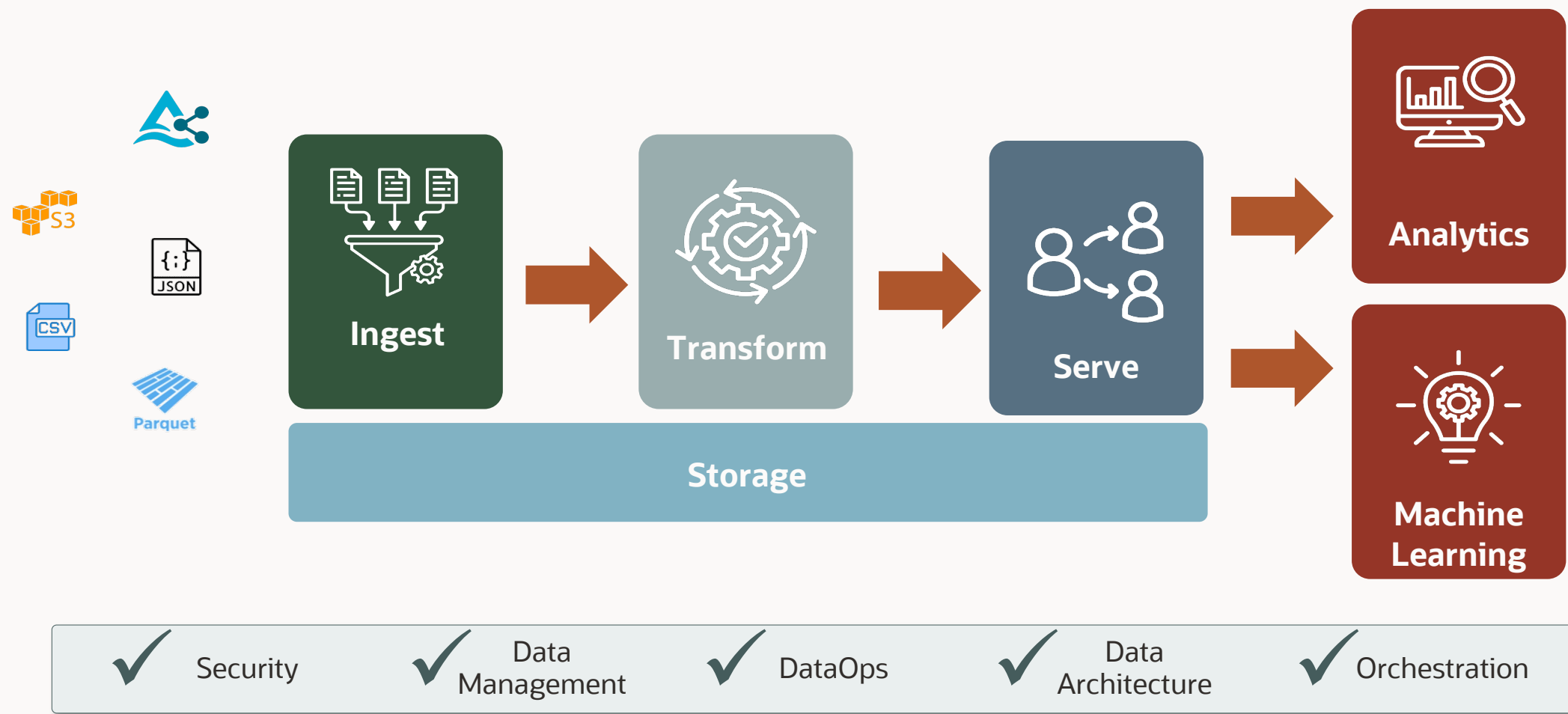
Single-Model Leaderboard

### Leaderboard - Execution Accuracy (EX)

	Model	Code	Size	Oracle Knowledge	Dev (%)	Test (%)
	Human Performance <i>Data Engineers + DB Students</i>			✓		<b>92.96</b>
 1 Mar 11, 2025	AskData + GPT-4o AT&T CDO - DSAIR [Shkapenyuk et al. '25]		UNK	✓	75.36	<b>77.14</b>
 2 Apr 16, 2025	CHASE-SQL + Gemini Google Cloud [Pourreza et al. '24]		UNK	✓	74.90	76.02

# Data Engineer Lifecycle

SQL is Everywhere!! Let's use **AI** to boost productivity!



# Which is the Secret Sauce?

# Select AI

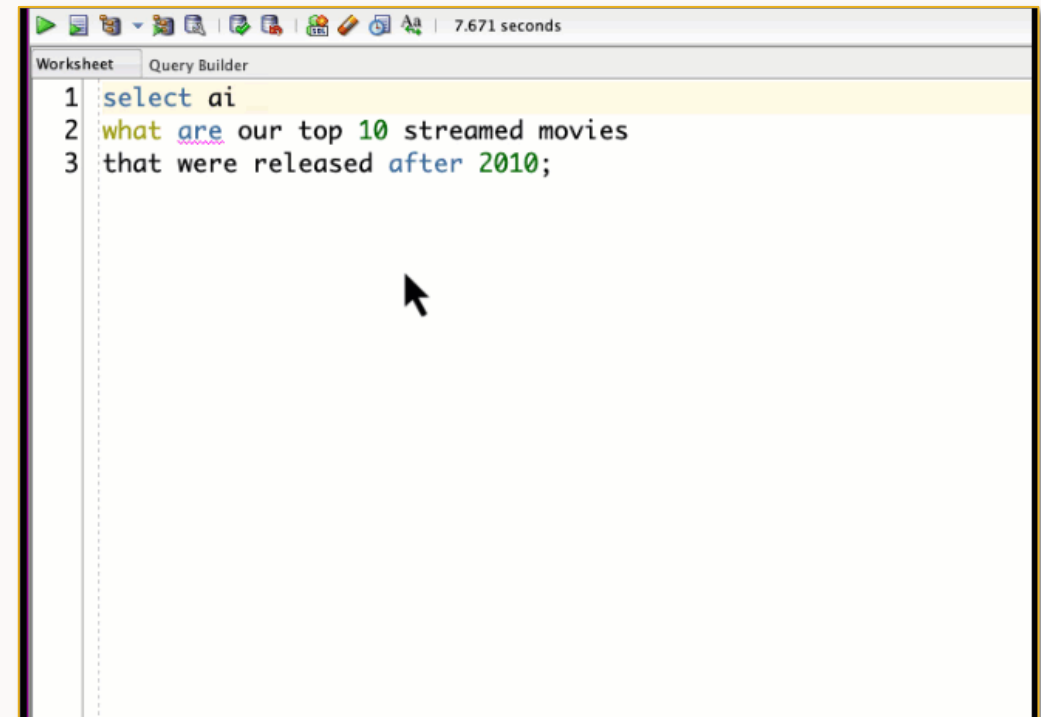
Use Natural Language to query data and get responses using Gen AI

Easily access LLMs from multiple providers

- OCI GenAI Service
- OpenAI
- Azure OpenAI Service
- Cohere
- Google
- Anthropic
- Hugging Face
- OpenAWS Bedrock
- AI API-compatible providers

## Actions

- **runsql** - (default) return SQL result set for NL2SQL  
return vector result set for RAG
- **showsql** – return the generated query
- **explainsql** – explain generated SQL query
- **narrate** – return a conversational result for NL2SQL/RAG
- **chat** – return LLM response to prompt – a general AI chat



# Select AI

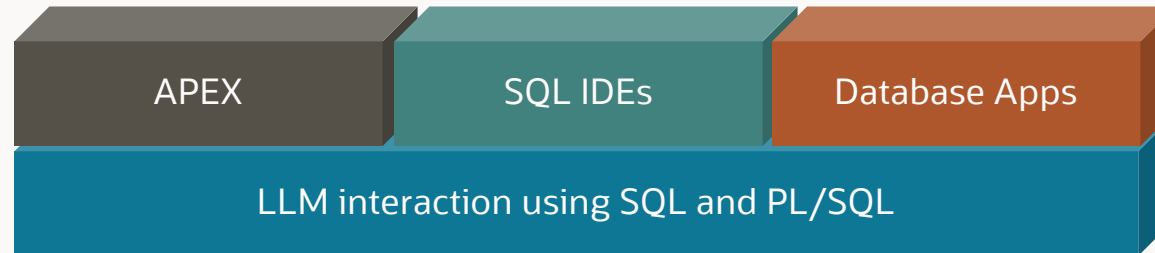
## Fully integrated in Autonomous Database

### Use cases

- Get help writing SQL to support your applications using **your** database
- Build applications that enable users to interact with their data *without* SQL
- Address business problems using generative AI:  
customer email generation, recommendations, sentiment analysis, document summarization, etc.

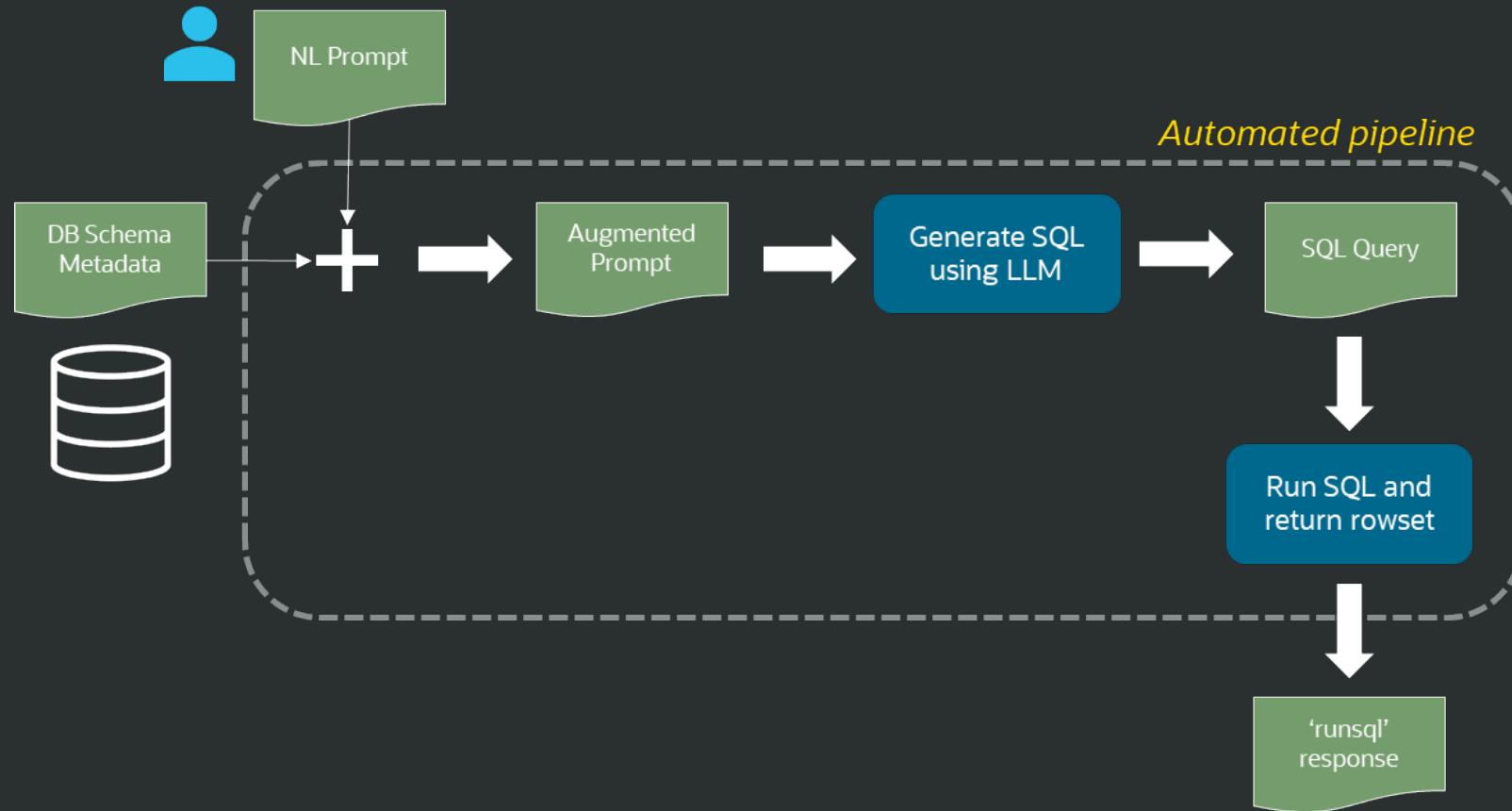
Leverage the data security and user authentication of the database

Easily select and switch between large language models (LLMs)





# SQL Query generation pipeline with 'runsql' action



# Synthetic Data Generation (SDG)

Realistic test data generated by LLMs

Support multiple use cases

- Jumpstart a new project
- Validate the user experience
- Integrate with Autonomous Database Metadata Clone for test-dev scenarios

Simple and Scalable



# Example of synthetic data generation for multiple tables

```
-- Create new/use existing tables with
-- optional referential integrity constraints

BEGIN
  DBMS_CLOUD_AI.generate_synthetic_data(
    profile_name => 'GENAI',
    object_list =>
      '[{"owner": "SELECT_AI_USER",
        "name": "Director", "record_count":5},

        {"owner": "SELECT_AI_USER",
        "name": "Movie_Actor", "record_count":5},

        {"owner": "SELECT_AI_USER",
        "name": "Actor", "record_count":10},

        {"owner": "SELECT_AI_USER",
        "name": "Movie", "record_count":5,
        "additional_prompt":
        "all movies are released in 2009"}]'
  );
END;
```

```
-- Query the table to see results
```

```
SQL> SELECT * FROM SELECT_AI_USER.Movie
```

MOVIE_ID	TITLE	RELEASE_D	GENRE	DIR_ID
1	The Dark Knight	15-JUL-09	Action	8
2	Inglourious Basterds	21-AUG-09	War	3
3	Up in the Air	04-SEP-09	Drama	6
4	The Hangover	05-JUN-09	Comedy	1
5	District 9	14-AUG-09	Sci fi	10

```
-- Or ask select ai to show the results
```

```
SQL> SELECT AI how many actors are there
```

```
Number of Actors
-----
                10
```

# Innovation with AI

## Using Data Studio



### Select AI: Accelerate application development

Natural  
Language  
to SQL

AI SQL  
Functions

Retrieval  
Augmented  
Generation

Synthetic  
Data  
Generation

APEX AI  
Assistant

### AI Assistants for Data Management

AI Assist  
for  
Transformations

AI Assist  
for  
Data Loading

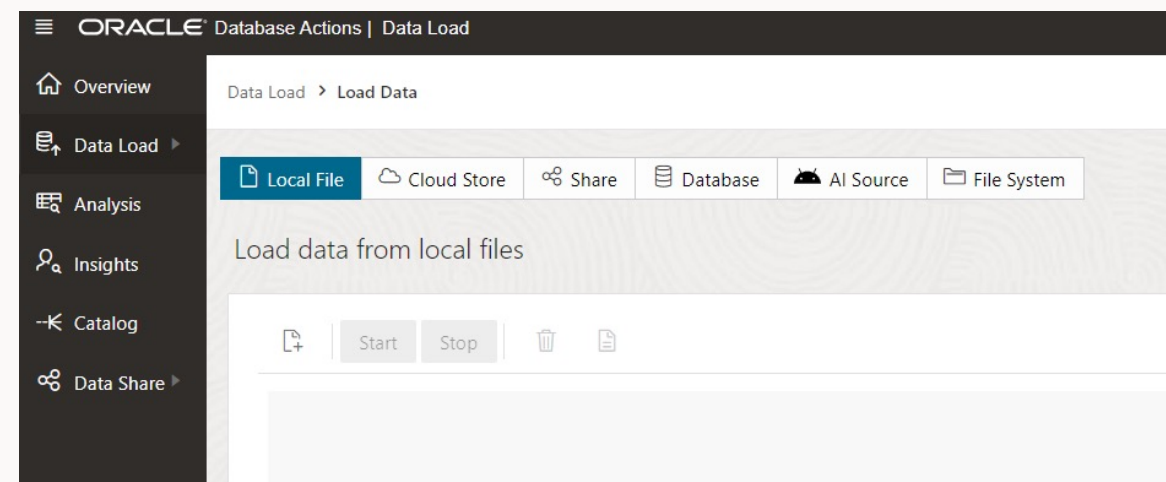
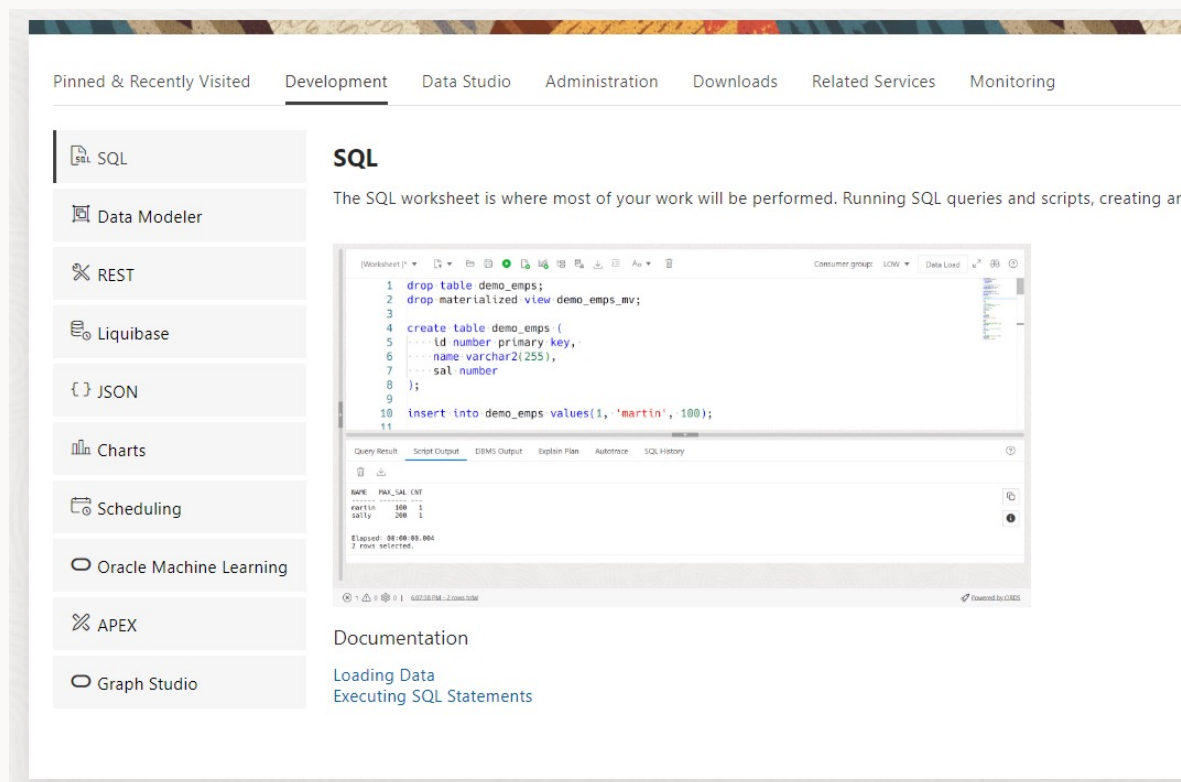
AI Assist  
for  
Table Definitions

### Multicloud-Native: Leverage AI services in every cloud



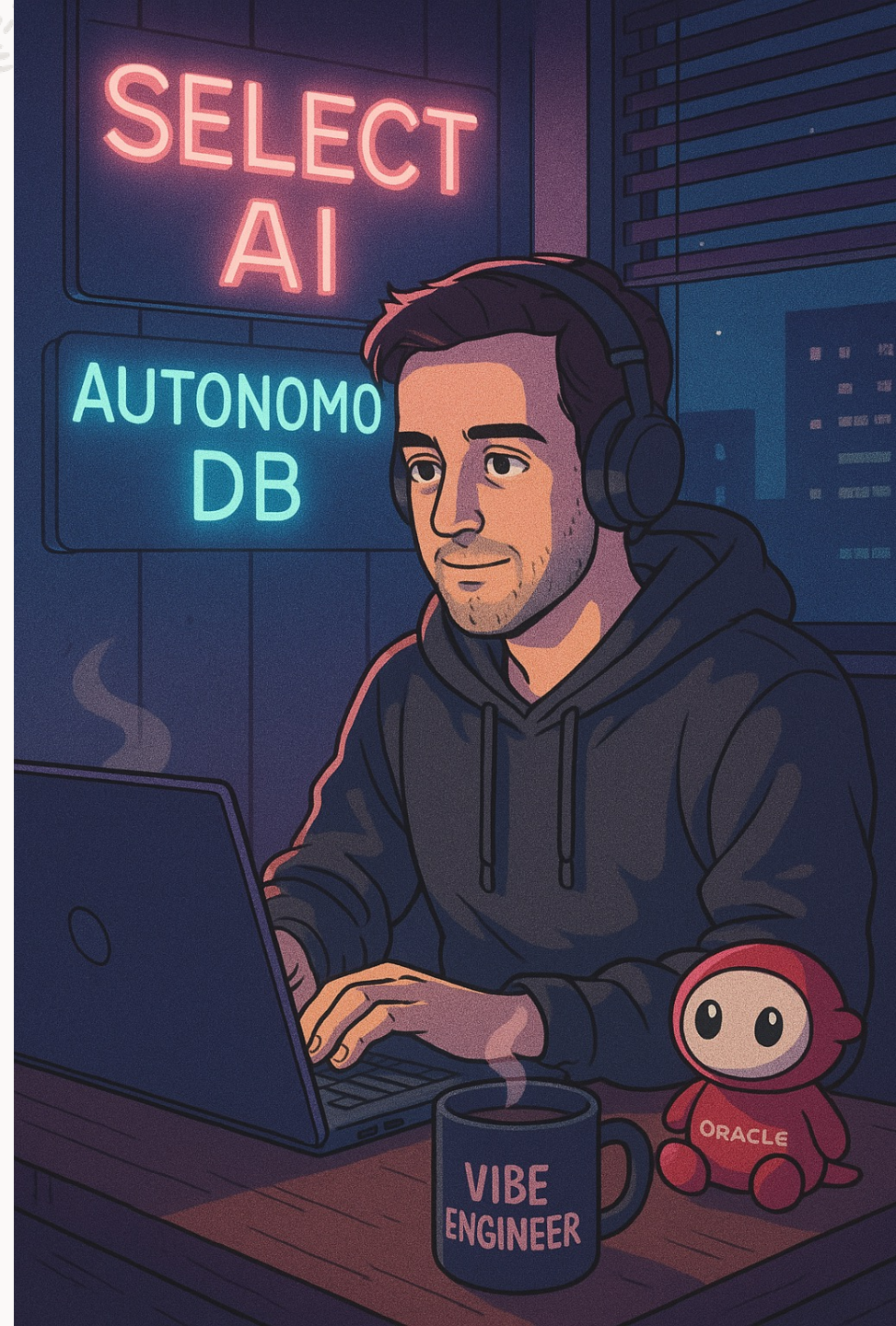
# Powerful built-in self-service tool

## For Data Engineers and Data Analysts





# Let's start!





## Demo Objective

We are going to start collecting customer feedback from our application.  
Does it have any impact in our sales?

- Generate **synthetic data** to prepare pipelines
- **Sentiment Analysis** using AI
- **Data Quality** using AI
- **Understand** data
- Prepare Analytical View for **AI insights**

# Thank you

---

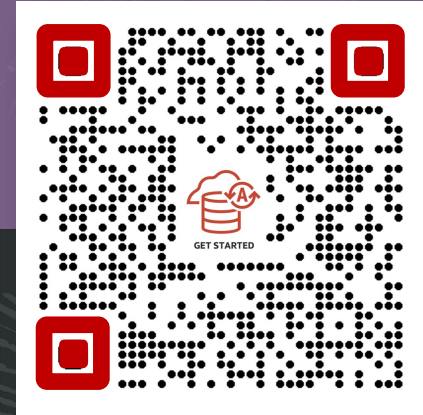


Q&A is open

---

# Important links to bookmark

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



**1** Get Started with ADB:  
[oracle.com/autonomous-database/get-started/](https://oracle.com/autonomous-database/get-started/)

**2** Join us:  [bit.ly/adb-linkedin-grp](https://bit.ly/adb-linkedin-grp)  [@AutonomousDW](https://twitter.com/AutonomousDW)  
 [Bluesky  
autonomousedb.bsky.social](https://autonomousedb.bsky.social)

**3** Got a question?  
We are on stackoverflow  
[bit.ly/adb-stackoverflow](https://bit.ly/adb-stackoverflow)

Join us on Developers Slack  
(search #oracle-autonomous-database)  
[bit.ly/odevrel\\_slack](https://bit.ly/odevrel_slack)

# Final Thoughts

[oracle.com/goto/adb-learning-lounge](https://oracle.com/goto/adb-learning-lounge)

The screenshot shows the Oracle Autonomous Database Learning Lounge website. The header includes the 'ASK TOM' logo, a search bar, and navigation links for Questions, Office Hours, Videos, Resources, and Classes. The main content area is titled 'Autonomous Database Learning Lounge' and includes a 'Share' button and a 'Register for Series' button. The text describes the lounge series, offering free bi-weekly live webinars. It provides links for more information and lists other lounge series in different languages. The 'Upcoming' section features three upcoming sessions: 'Build AI-powered apps: A Step-by-Step Guide to Autonomous Database and GenAI', 'Developer's nirvana with Autonomous Database: JSON-Relational Duality in Oracle Database 23ai', and 'Autonomous Database: SQL Firewall, because hackers deserve 404s'. The 'Replays' section shows four previous sessions: 'Migration to ADB Part III: OCI Database Management, the Swiss Army knife for databases', 'Graph RAG: Bring the Power of Graphs to Generative AI', 'Migration to ADB Part II: Easily migrate from previous database releases with DMS', and 'Migration to ADB Part I: Visualize and Evaluate your entire database estate with Oracle Estate Explorer'. Red arrows point from the text 'Links', 'Upcoming', and 'Replays' to their respective sections on the website.

**Links**

**Upcoming**

**Replays**



**Thank you for joining !!!**

**AUTONOMOUS  
DATABASE  
LEARNING  
LOUNGE**