

ChatBot and AI: Question your data



APEX Alpe Adria 2024

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Dimitri Gielis

- Founder & CEO of **United Codes**
- 25+ years of Oracle Experience (OCP & APEX Certified)
- Oracle ACE Director
- “APEX Developer of the year 2009” by Oracle Magazine
- “Oracle Developer Choice award (ORDS)” in 2015
- Author Expert **Oracle APEX**
- Presenter at Conferences



www.united-codes.com



APEX Office Print



APEX Media Extension



APEX Office Edit



APEX Project Eye



Plug-ins Pro



APEX Message Service



APEX Office Print



 **united codes**
APEX Office Print

First Name {cust_first_name} From: {cust_city}
Last Name {cust_last_name}

Product Name	Unit Price	Quantity	Large Quantity	Tot.
{#orders}{order_name}	{unit_price}	{quantity}	{quantity>2 ? 'X' : ''}	{unit_price*quantity}
{#product}{product_name}				

{/product}
{/orders}

 **united codes**
APEX Office Print

{cust_last_name} {cust_first_name}
{cust_city}

Your reference number: 1

Leuven, 26 January 2014

Dear {cust_first_name},

Thank you for shopping at. We have the following products reserved for you:

{#orders}
{#product}
• {product_name}
{/product}

The total amount of your order is €{order_total}.
{/orders}
Your order has reference number 1. Please keep this number and this confirmation with you when contacting us.
I am attaching a detailed summary of your order.

We hope you enjoy your purchase!

United Codes: APEX Office Print

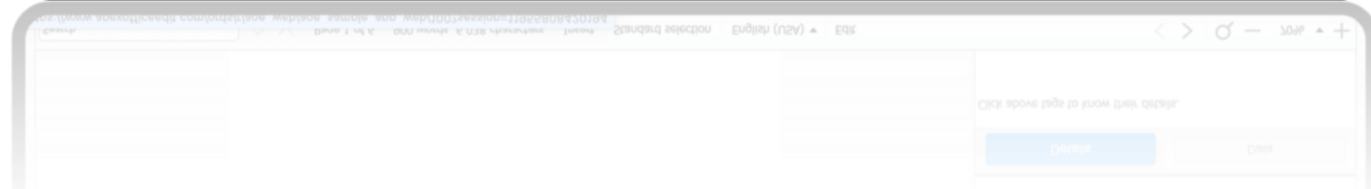
Appendix: Summary of your order with reference number 1
{#orders}

Product	Image	Unit Price in €	Quantity	Extended Price in €
{#product}{product_name}	{image}	{unit_price} {unit_price}<80 {unit_price}>80 {unit_price}<80 white {unit_price}<80 white {unit_price}>80	{quantity}	{unit_price*quantity} {unit_price}<80 {unit_price}>80 {unit_price}<80 white {unit_price}<80 white {unit_price}>80

{/orders}

(*) This product needs to be in stock, and your order may be delayed.

{order_total}





APEX Media Extension

Manipulation of image

SampleReset ↺

Resize

Width300px

Min Widthpx

Max Widthpx

Height320px

Min Heightpx

Max Heightpx

Manipulator

?

Resize Method

?

Maintain Aspect Ratio

?

Scale

Crop

X5px

Y10px

Width150px

Height140px

Flip

✓ Horizontal

☐ Vertical

Rotate

Rotate

degrees

Overlay

Text

AME is cool!

Original Image



New Image (ame_api_pkg.convert_image_b2)



11-APR-2024 07:52:39



Plug-ins Pro

All Plug-ins

Dynamic Action

Template Component

Region

Item

Process

Free!



Client-side Validation Pro



IG Checkbox Pro



IG File Download Pro



Interactive JET Charts Pro



UC Nested Reports



Guided Tour Pro



File & Image Uploader Pro



Rich Text Editor Pro

SHOW MORE...

SHOW ALL

Showing 8 out of 46 plug-ins.



APEX Message Service

Real-Time communication in APEX!

APEX Message Service (AMS) brings real-time communication to Oracle APEX. With AMS, the WebSockets are handled for you, making setup simple. Just join a room, and you'll be sending and receiving messages in no time! No more refreshing the browser to check for updates, with AMS, you'll always see the most up-to-date information.



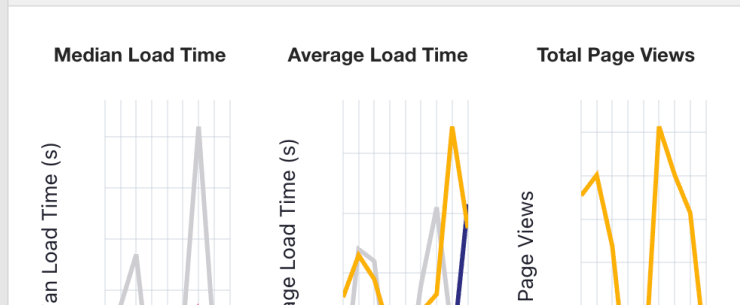
Insights v Quality Assurance v Watchtower v

Instance \ Workspace: ET_PRD

Key Figures by Day

0.06 ↑(33%) Median Elapsed Load Time	0.55 ↑(60%) Average Elapsed Load Time	4333 ↓(384%) Total Page Views
27 ↓(256%) Error Count	20 ↓(45%) User Count	197 ↓(577%) Session Count

Performances by Day



Top Applications & Overall Statistics

Project	Application	🚫	👤	📄	👁️	🕒	🗨️
My Electro-Test	140 - MyET	485	30	4,184	145,952	0.43	11.04.2024 08:00
-	130 - Customer Portal - from backup	43	76	626	1,830	0.19	11.04.2024 08:00
My Electro-Test	137 - Administration	14	6	24	295	0.35	10.04.2024 06:00

Latest Activity in Workspace

Workspace	Application	APEX User	Since
ET_PRD	140 - MyET	SARY.VANMOER@ELECTRO-TEST.BE	6 seconds ago
ET_PRD	140 - MyET	EMILIE.CAYTAN@ELECTRO-TEST.BE	13 seconds ago
ET_PRD	140 - MyET	DONATELLA.CAMMARATA@ELECTRO-TEST.BE	26 seconds ago

Filters

Date From: 03.04.2024 📅 Date To: 11.04.2024 📅

Workspace: ET_PRD x v

Interval: Hourly **Daily** Weekly

- Applications:
- 130 - Customer Portal - from backup
 - 137 - Administration
 - 140 - MyET
 - 146 - Invoice QR - Customer info
 - 153 - APEX Project Eye (APE) 23.2

🔄 Refresh Activity

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Use case

Students who search for a room...

... have so many questions in a short timeframe

- In which part of the town do you have rooms available?
- What does the room look like?
- What is the price of the room?
- Can we get more info about the room?
- Can I view/visit the room?
- What does the environment look like?
- Which other students are there?
- I want to rent ... (in email details)

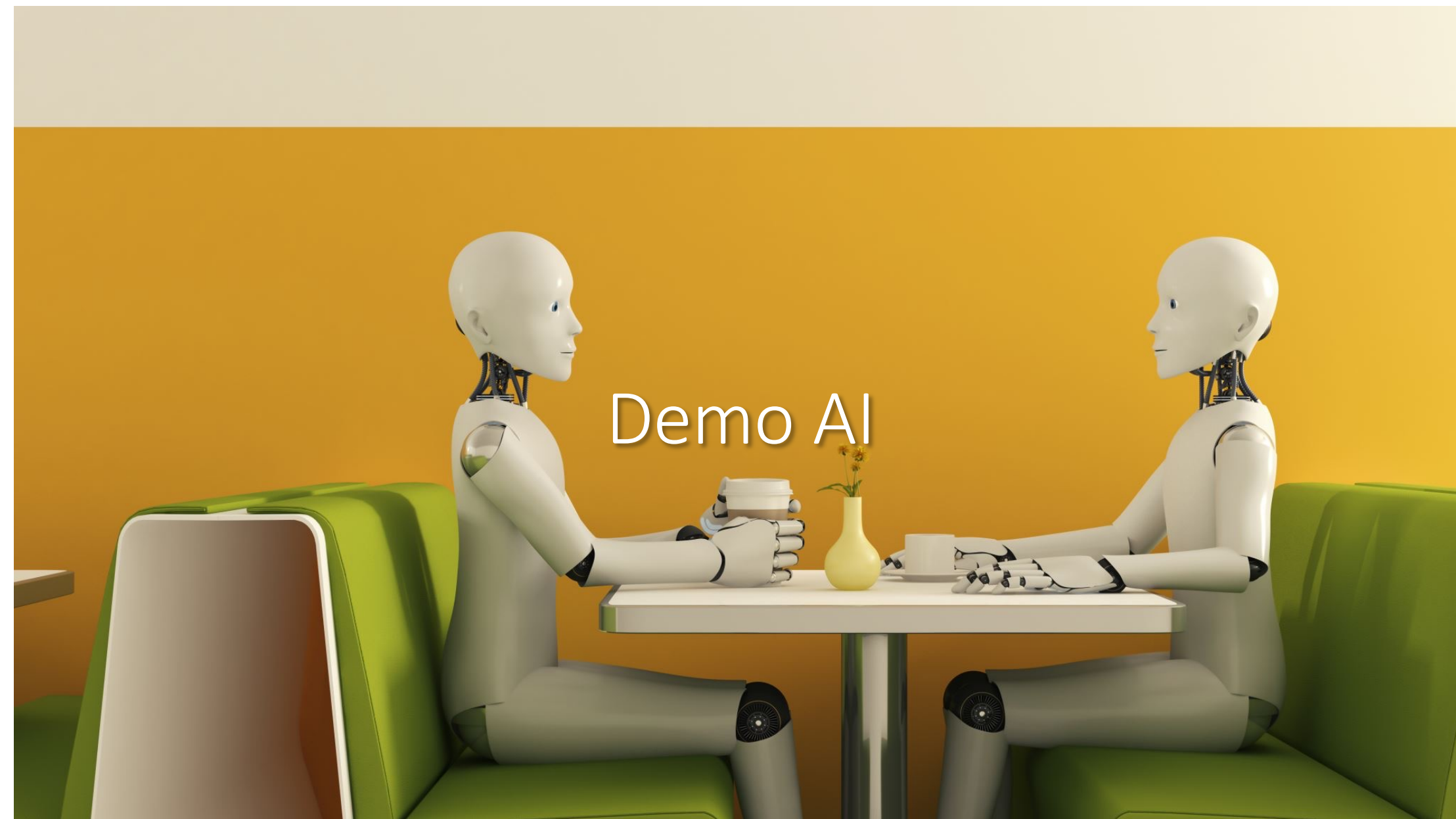


Tilen Nabernik

- APEX Developer/Consultant at
 - The **Right Thing** Solutions
 - United Codes
- JavaScript enthusiast
- Loves discovering technology
- APEX Certified
- 5 years IT experience
 - 3 years Oracle
 - 2 years **Oracle APEX**



Demo AI



AI

Oracle?

Digital Assistant best practice webcast series

Success stories from partners & customers

Schedule:

- What makes a great digital assistant
- Production quality NLP
- Why are Entities so important?
- Best practices while designing conversations
- Connect ODA with any backend application
- Expose your assistant anywhere you need

Watch on-demand:

<https://bit.ly/buildbetterbots>

<https://www.youtube.com/watch?v=fISxullOxrM>



What makes a great digital assistant - Best practice Oracle Digital Assistant Webcast part 1

Date: September 6 2022

Start Time: 16:00-17:30 CET

Duration: 90 mins

[Read More](#)

[Register Now](#)



Production quality NLP - Best practice Oracle Digital Assistant Webcast part 2

Date: September 20 2022

Start Time: 16:00-17:30 CET

Duration: 90 mins

[Read More](#)

[Register Now](#)



Why are Entities so important? - Best practice Oracle Digital Assistant Webcast part 3

Date: October 4 2022

Start Time: 16:00-17:30 CET

Duration: 90 mins

[Read More](#)

[Register Now](#)



Best practices while designing conversations - Best practice Oracle Digital Assistant Webcast part 4

Date: October 25 2022

Start Time: 16:00-17:30 CET

Duration: 90 mins

[Read More](#)

[Register Now](#)



Connect ODA with any backend application - Best practice Oracle Digital Assistant Webcast part 5

Date: November 8 2022

Start Time: 16:00-17:30 CET

Duration: 90 mins

[Read More](#)

[Register Now](#)



Expose your assistant anywhere you need - Best practice Oracle Digital Assistant Webcast part 6

Date: November 22 2022

Start Time: 16:00-17:30 CET

Duration: 90 mins

[Read More](#)

[Register Now](#)

What is Oracle Digital Assistant?

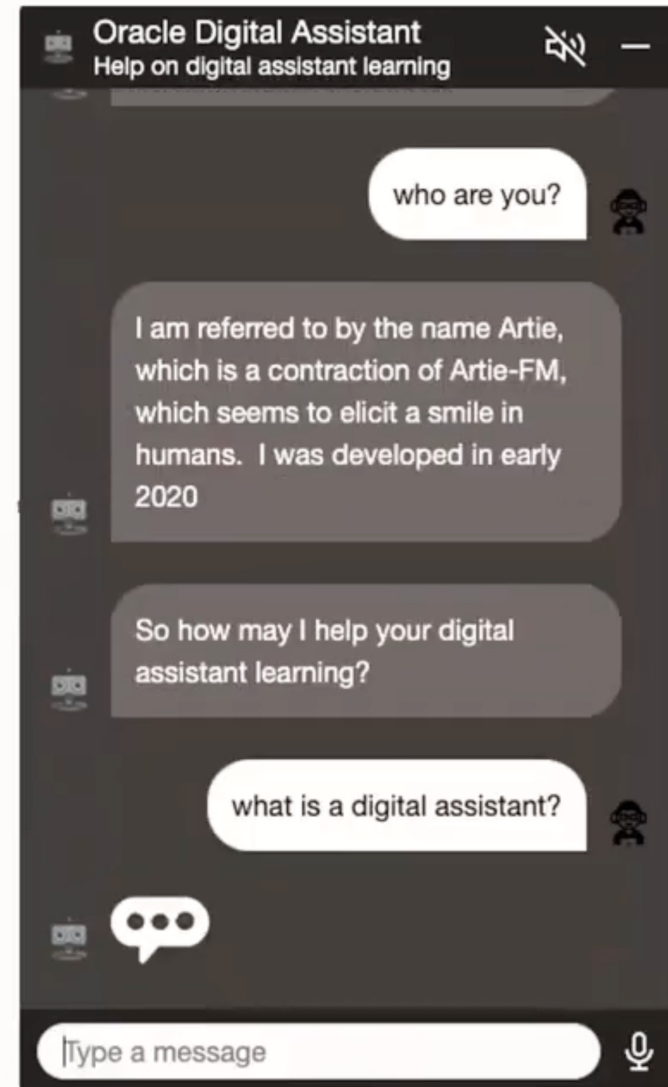
Platform to build intelligent chatbots

AI based Natural Language Processing (NLP)

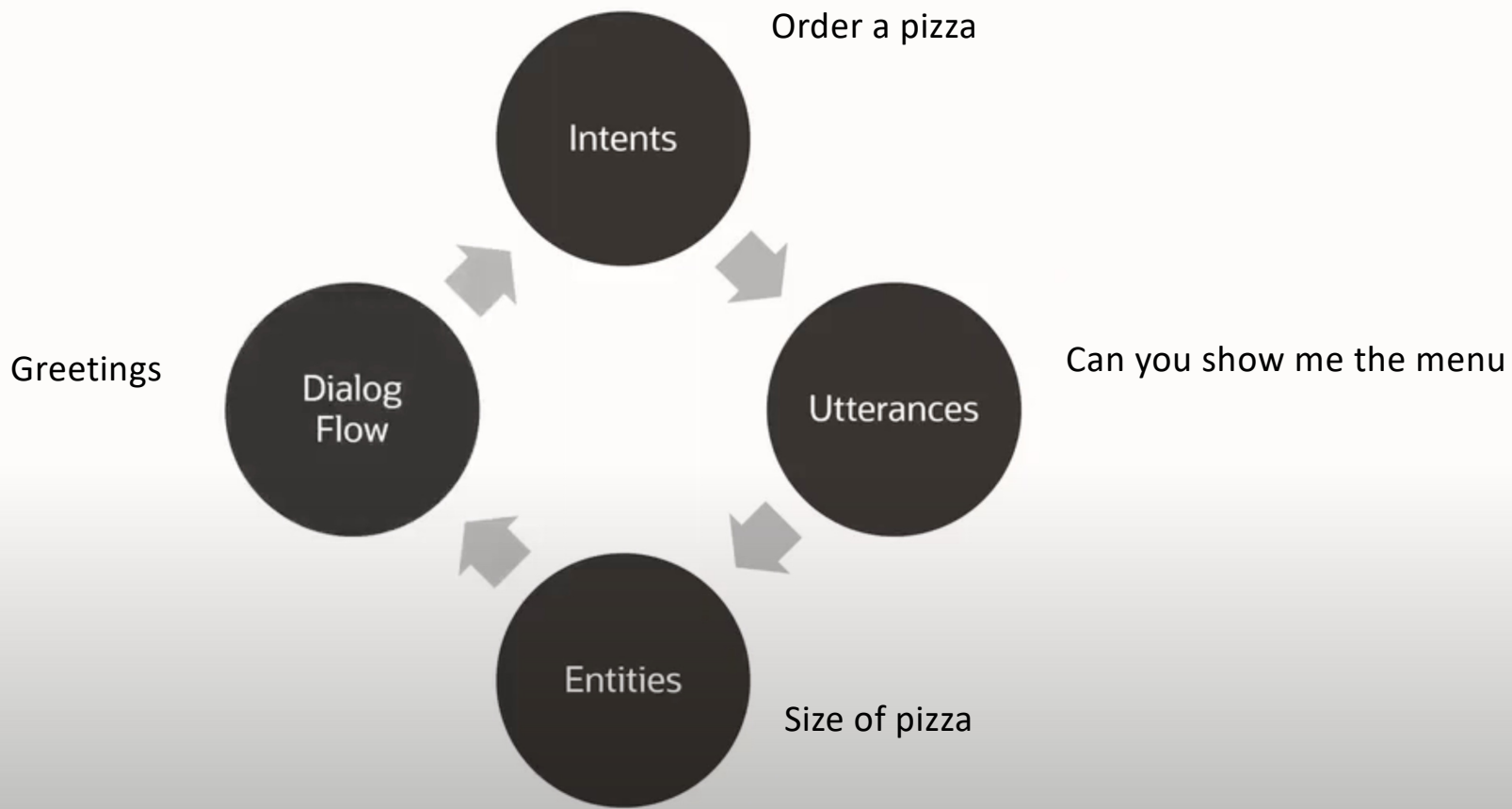
Talk or send a text for answers, process a request, drive action



<https://bit.ly/ArtieLive>



Conversational AI Building Blocks



Volledig scherm afsluiten (f)

”

SQL Dialog provides
a **natural language
conversational interface to
databases**

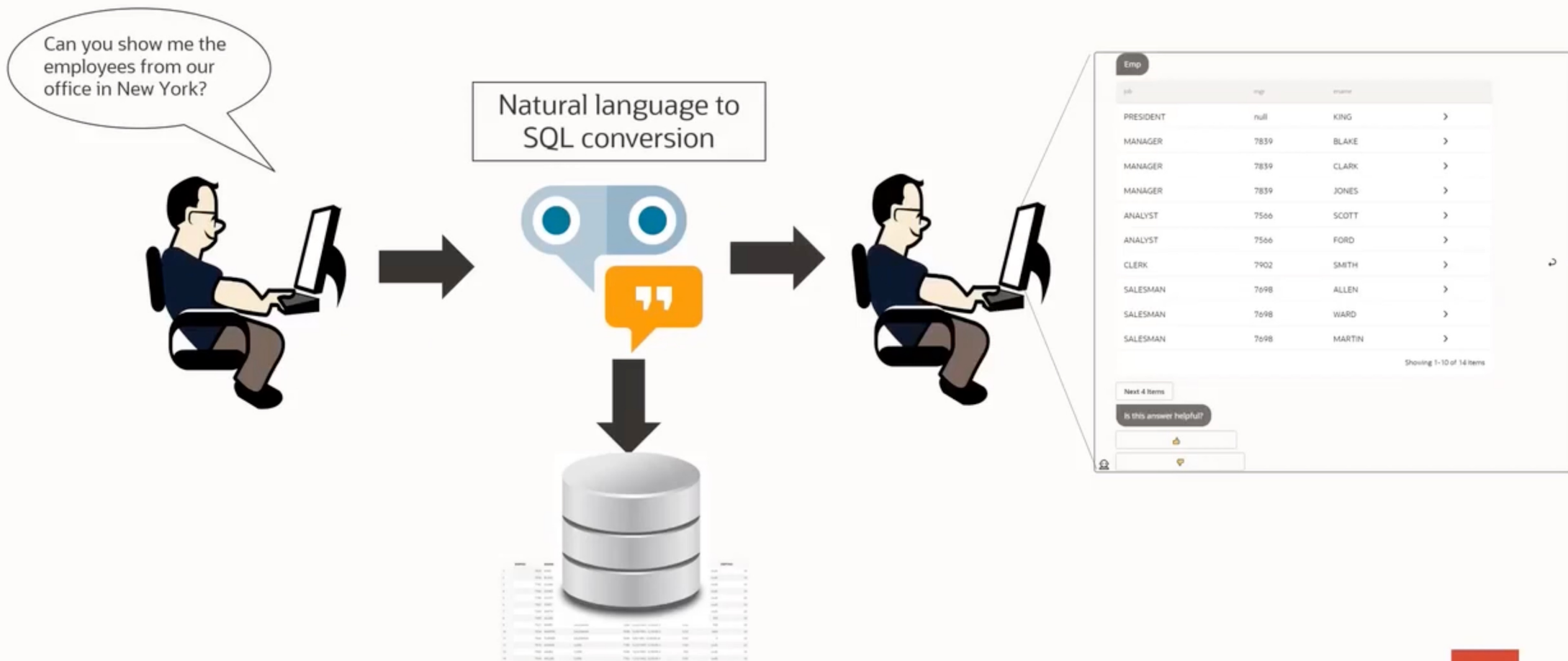


14:25 / 1:01:12

Volledig scherm afsluiten (f)



How does it work?



Steps to build a SQL Dialog

Create a data service

Create a skill

**Import entity from data
service**

Enhance the model

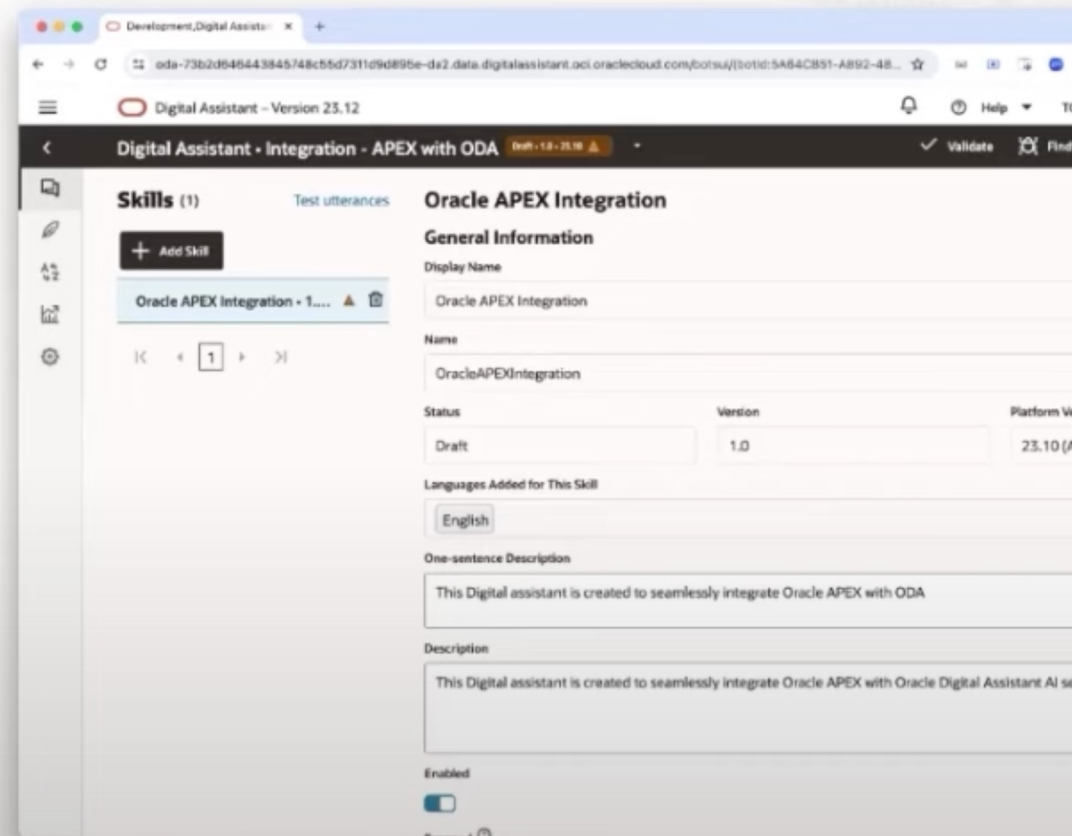
Oracle Digital Assistant

Comprehensive AI Platform to create conversational experiences

Advanced Natural Language Understanding

One assistant for all applications

Prebuilt skills and templates



Quick Projects

Install App

?

roopesh

Quick Projects

Team Members

Projects

Milestone:

To Dos

Links

Oracle APEX Assistant

CONNECTED

What is Oracle APEX

Oracle APEX is the world's most popular enterprise low-code application platform that enables you to build scalable, secure web and mobile apps with world-class features that can be deployed anywhere – cloud or on-premises.

Using APEX, developers can quickly develop and deploy compelling apps that solve real problems and provide immediate value. You don't need to be an expert in a vast array of technologies to deliver sophisticated solutions. Focus on solving the problem and let APEX take care of the rest.

A few seconds ago

Type a message

Release 1.0

Integration in Oracle APEX

<https://blogs.oracle.com/apex/post/integrating-an-oracle-digital-assistant-chatbot-in-to-your-oracle-apex-app>

Euh?



Cost details (EUR)

Cost details by date

[+ Add Tab](#)

Cost by Date (UTC)

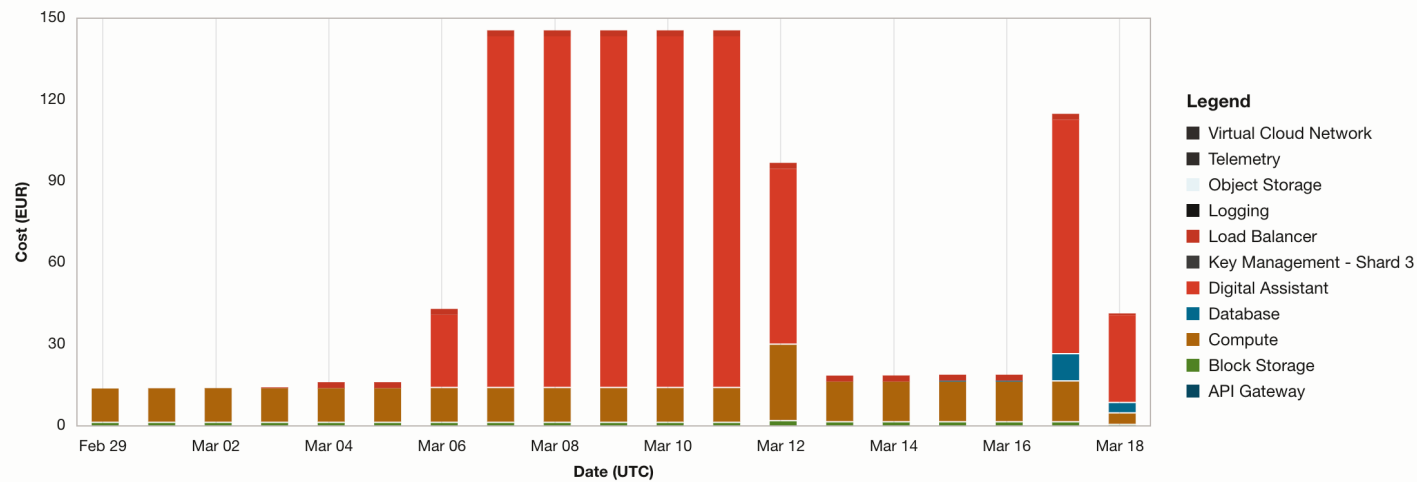
Time Period : Mar 1, 2024-Mar 19, 2024 | Cost To Date : €1,187.87 (EUR) ⓘ

Bars

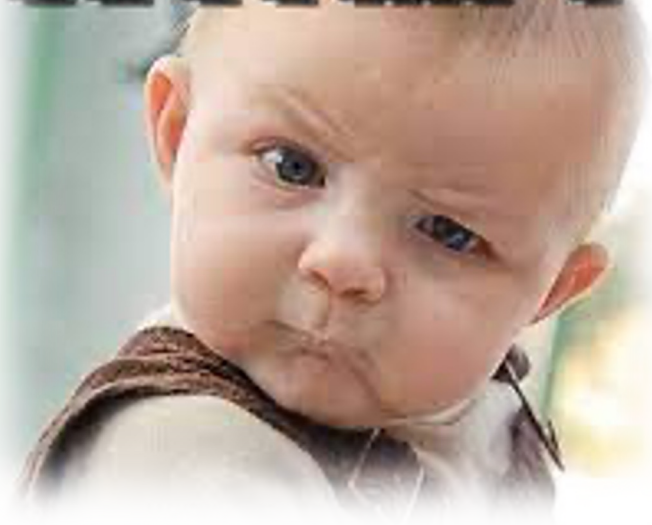


☐ Cumulative

Tab actions ▼



WTF...???



Pricing

Oracle Digital Assistant

Product	Unit Price (Request)	Minimum (Requests per hour)
Oracle Digital Assistant Cloud Service	0,021576 €	250

Let's do the math!

- 0.021576 / request
- 250 minimum requests per hour
- 24 hours in a day

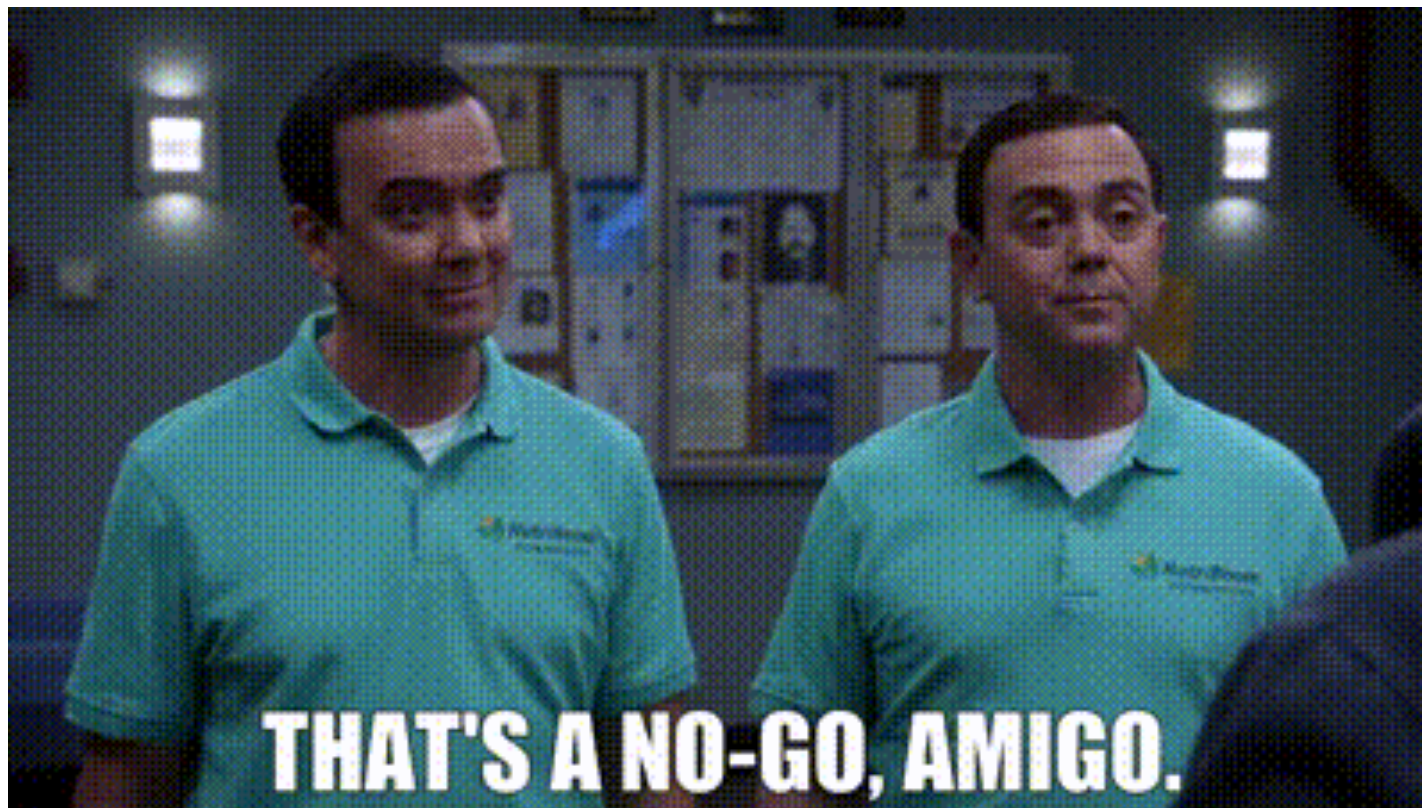
= $0.021576 * 250 * 24$

= 130 EUR/day

= 130 EUR * 30 days

= 3900 EUR/month !?!

Oracle Digital Assistant

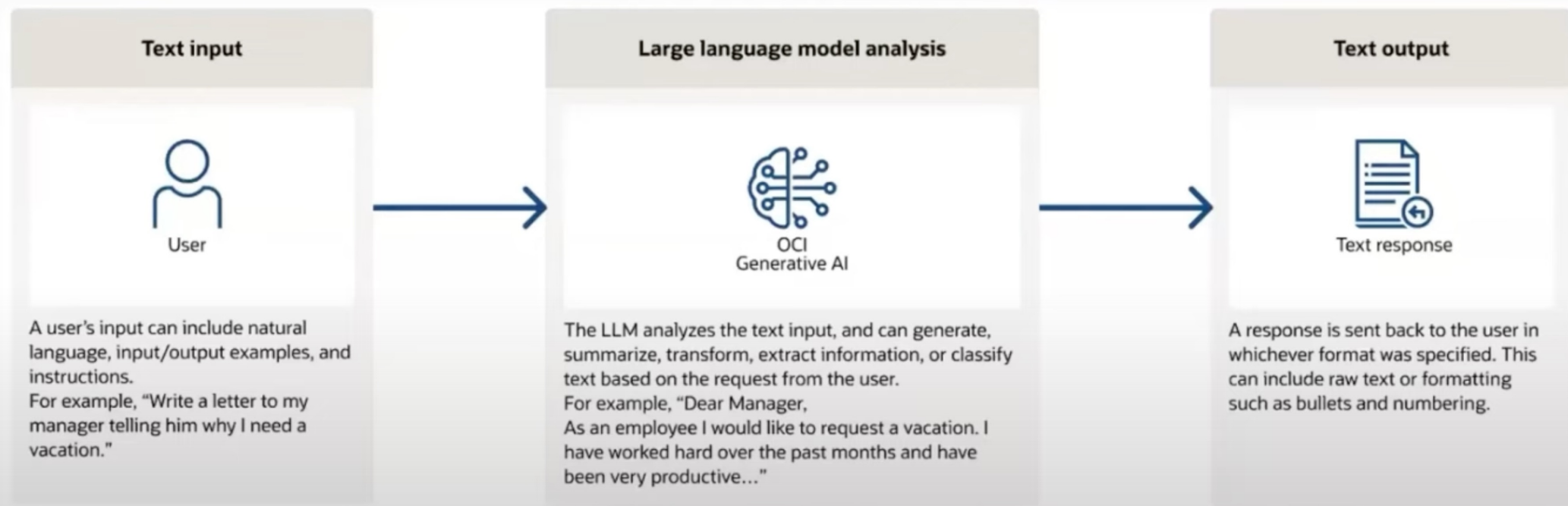


What else?

- Generative AI
- Select AI

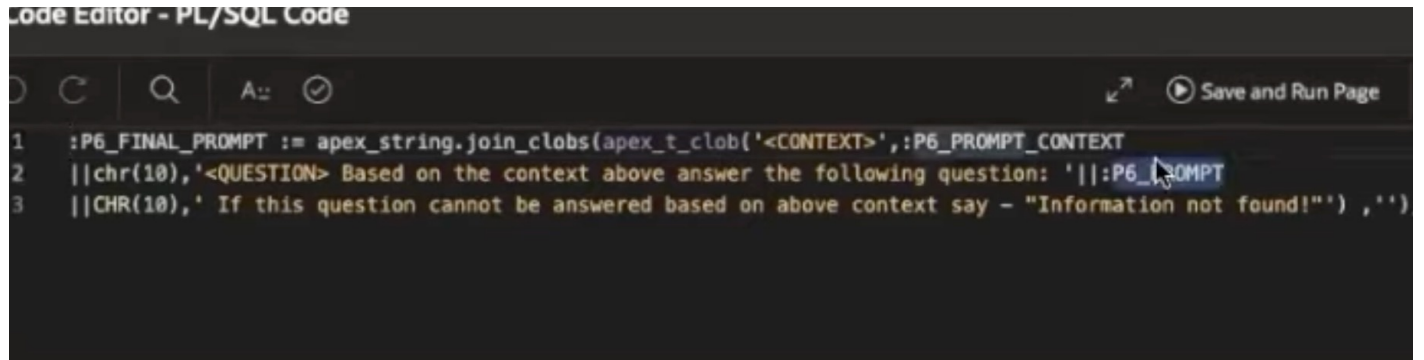


How Generative AI Works?



Generative AI

- LLM
- Get info based on provided prompts (context)

A screenshot of a PL/SQL Code Editor window. The title bar reads "Code Editor - PL/SQL Code". The editor contains three lines of PL/SQL code. Line 1: `:P6_FINAL_PROMPT := apex_string.join_clobs(apex_t_clob('<CONTEXT>',:P6_PROMPT_CONTEXT`. Line 2: `||chr(10),'<QUESTION> Based on the context above answer the following question: '||:P6_PROMPT`. Line 3: `||CHR(10),' If this question cannot be answered based on above context say - "Information not found!") , ''`. The code is syntax-highlighted. A mouse cursor is visible over the text `:P6_PROMPT` on line 2. The editor has a toolbar at the top with icons for undo, redo, search, and a "Save and Run Page" button.

<https://blogs.oracle.com/apex/post/building-innovative-qa-experiences-oracle-apex-meets-oci-generative-ai>

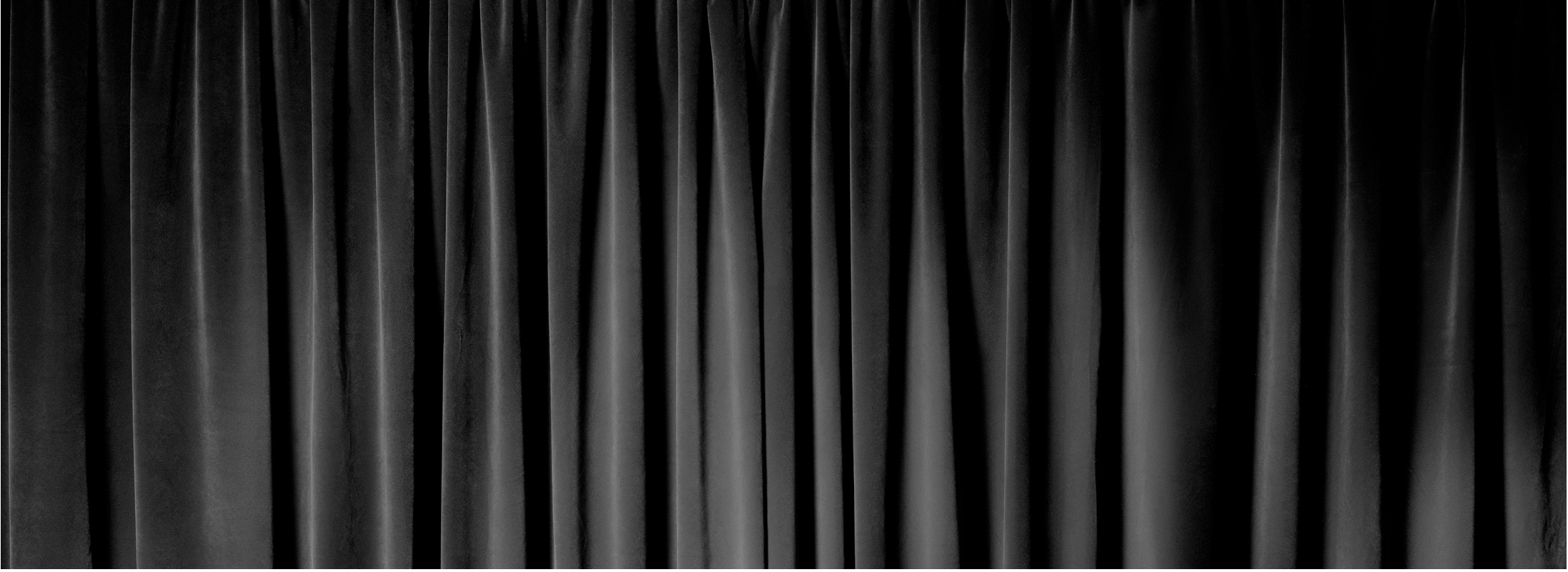
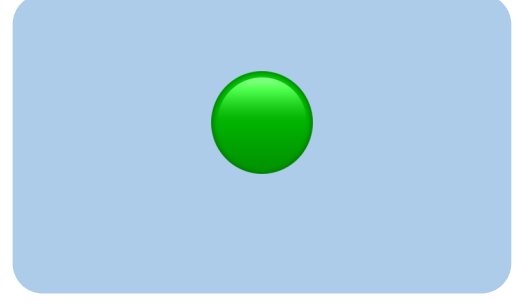
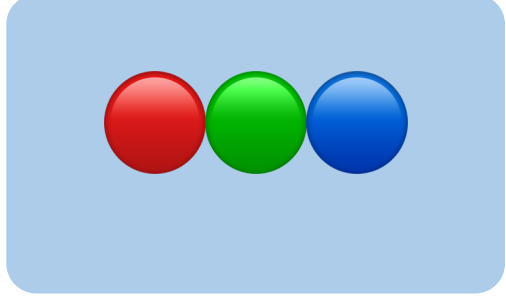
Prompt Engineering

- Zero-shot
- Few-shot
- Chain-of-Thought
- Self-Consistency
- Generate Knowledge
- Chaining
- ...

<https://www.promptingguide.ai/techniques/>



Zero-shot

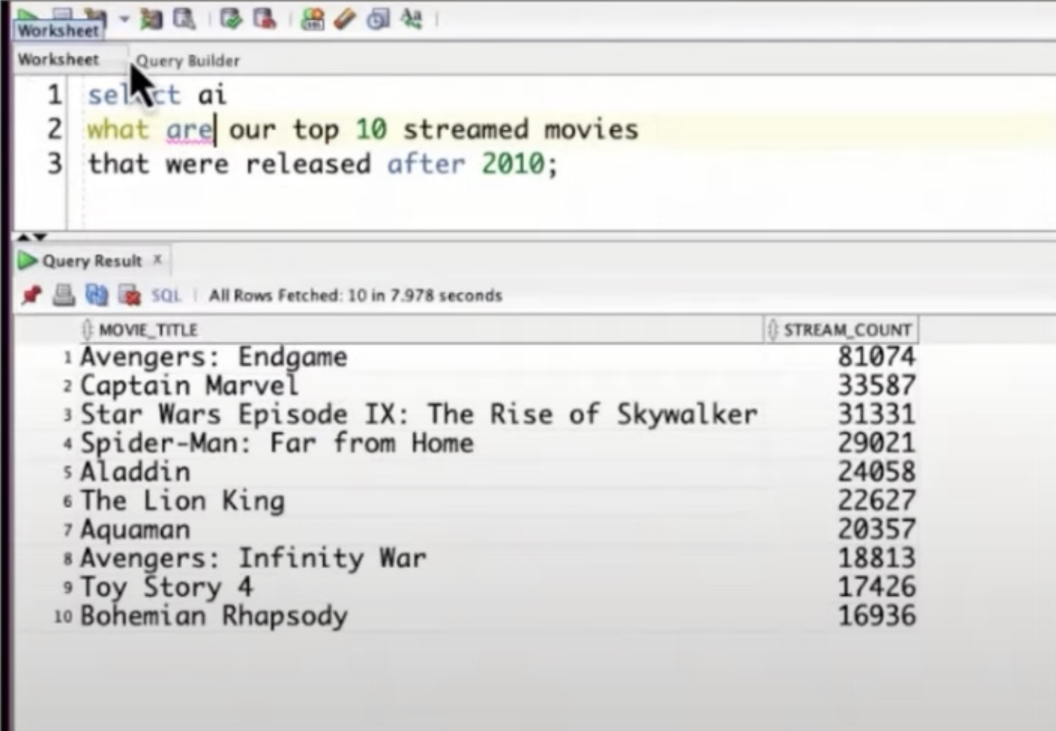


Autonomous Database Select AI

Capability of **Autonomous Database**

Use **human language** to query data

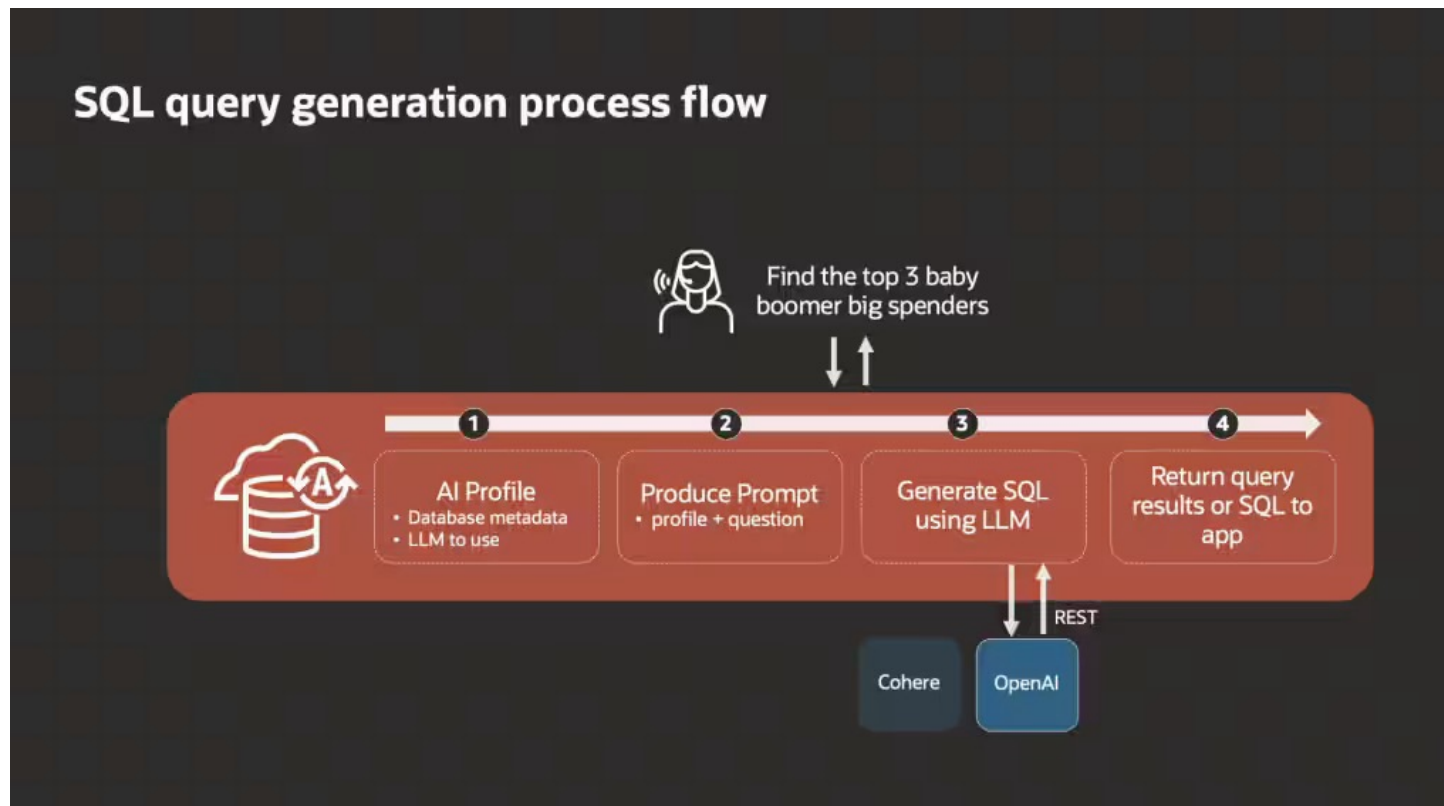
Generates SQL Queries using Natural language



The screenshot displays a software interface with two main sections. The top section, titled 'Query Builder', contains a text area with a natural language query: 'select ai what are our top 10 streamed movies that were released after 2010;'. The bottom section, titled 'Query Result', shows the results of the query. It includes a status bar indicating 'All Rows Fetched: 10 in 7.978 seconds' and a table with two columns: 'MOVIE_TITLE' and 'STREAM_COUNT'.

MOVIE_TITLE	STREAM_COUNT
1 Avengers: Endgame	81074
2 Captain Marvel	33587
3 Star Wars Episode IX: The Rise of Skywalker	31331
4 Spider-Man: Far from Home	29021
5 Aladdin	24058
6 The Lion King	22627
7 Aquaman	20357
8 Avengers: Infinity War	18813
9 Toy Story 4	17426
10 Bohemian Rhapsody	16936

Select AI



<https://blogs.oracle.com/apex/post/configuring-generative-ai-in-oracle-apex-using-select-ai>

Configure Select AI



DBMS_CLOUD_AI

GENERATE

```
l_response := DBMS_CLOUD_AI.GENERATE (  
    prompt => '<task + data>',  
    profile_name => 'openai',  
    action => 'showsql' / chat  
);
```

Challenges



**How do you switch between
Generative AI and Select AI?**



Text only



How do you

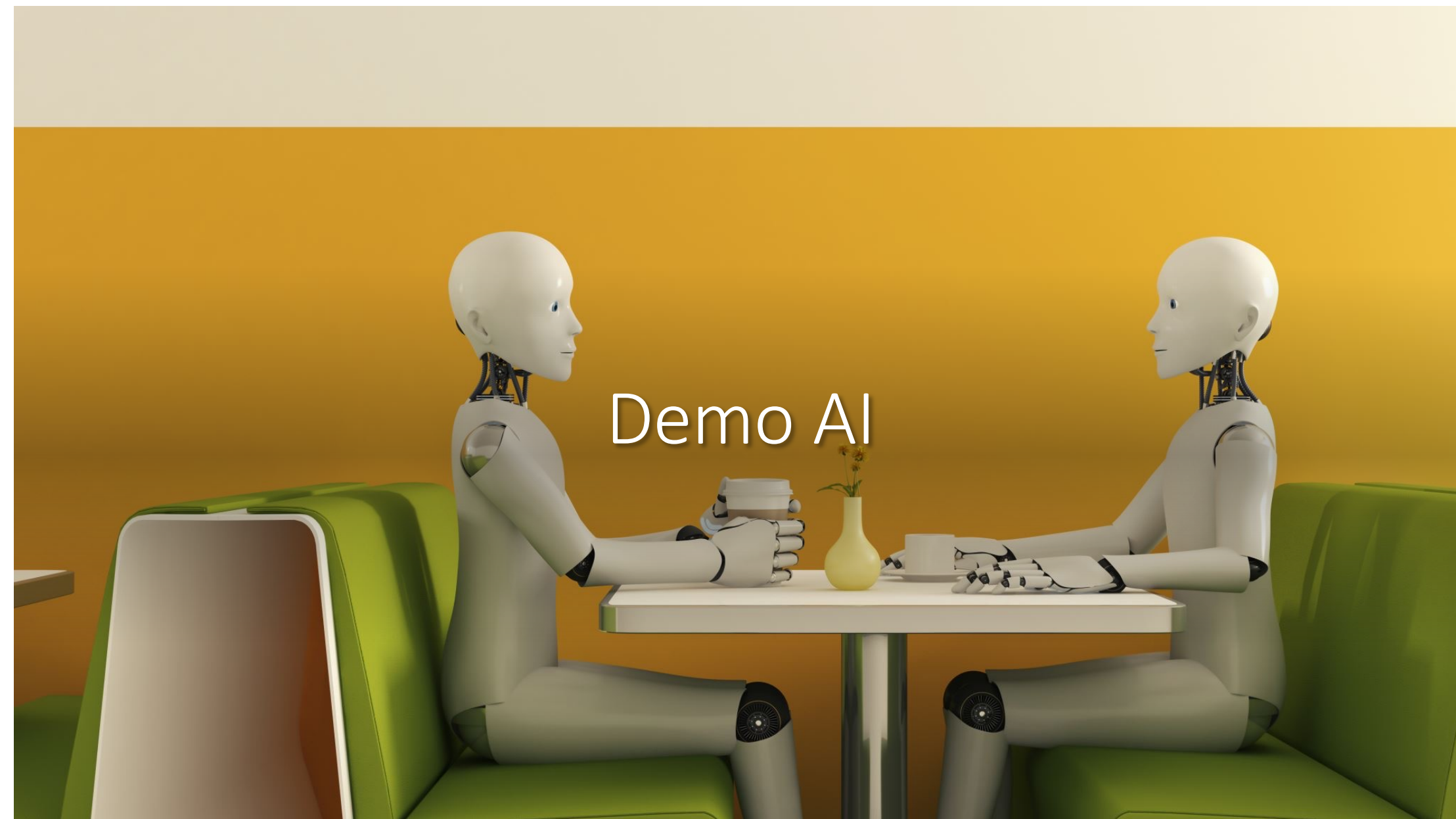
show images
show a map
create links

Q&A

Twitter: @dgielis
Blog: dgielis.com
Email: dgielis@united-codes.com

Twitter: @united_codes
Website: www.united-codes.com

Demo AI





Demonstration - Customer Orders



Dashboard



Order Search



Orders



Customers



Customer Orders



Product Orders



Product Reviews



Store Orders



≡ Demonstration - Customer Orders

 **Demonstration - Customer Orders**

 Dashboard

 Order Search

 Customer Orders

 Product Orders

Release 1.0

 App 102

 Page 16

 Session

 Debug

 Quick Edit

 Customize





Chat

 No questions have been asked!



 App 102

 Page 16

 Session

 Debug

 Quick Edit

 Customize



