

ORACLE | APEX

Build an Innovative Q&A Interface Powered by Generative AI in Oracle APEX

Low Code and Generative Development – Everywhere Oracle Database is!

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What is Oracle APEX?

APEX is the **world's most popular** enterprise **low-code** application platform.

It enables you to build scalable and secure enterprise apps with world-class features **20X** faster with **100X** less code.

Oracle APEX delivers the most productive way to develop and deploy **Mobile and web** apps everywhere – cloud and on-premises.



ā'pěks
(#orclapex)

21 Million +

apps created to date

850,000+

APEX developers worldwide

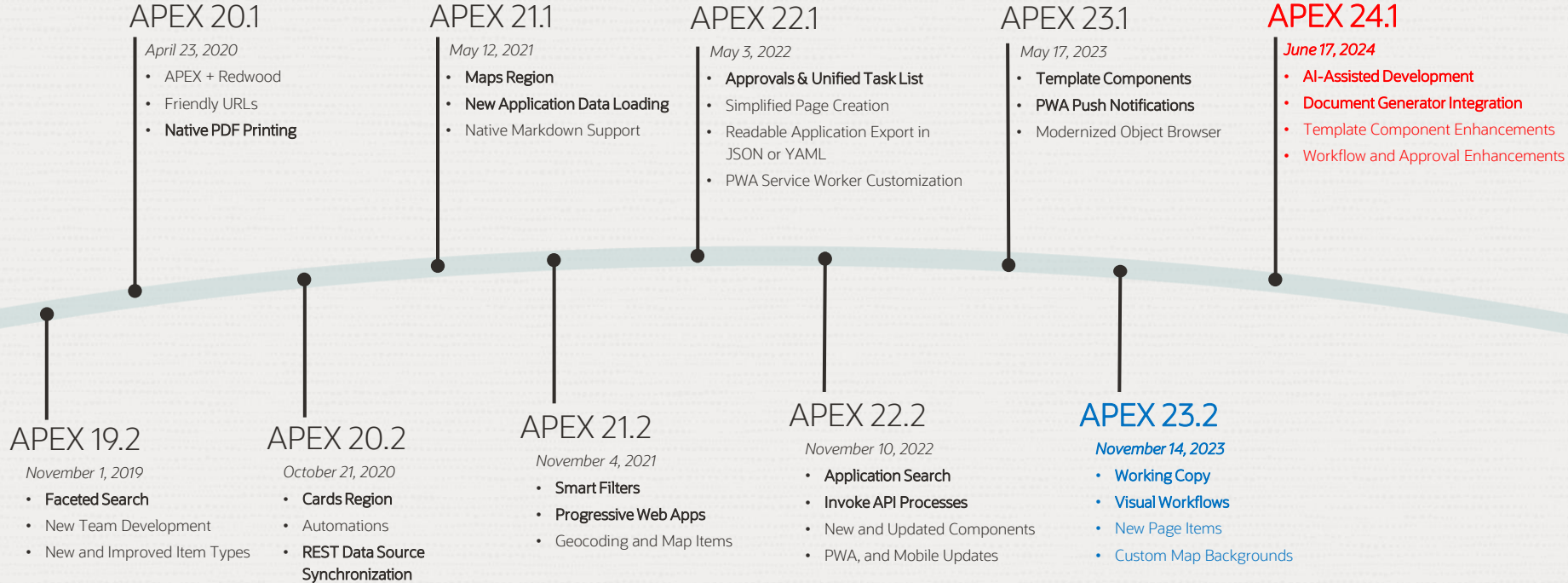
100,000+

customers across 150 countries

~75%

of Fortune 50 use Oracle APEX

Oracle APEX powered by Low Code World Class Features



High Code vs Oracle APEX Low Code



Source: Neel Shah, Visa, posted on LinkedIn



Everything about Oracle APEX

APEX.oracle.com

The screenshot shows the Oracle APEX website homepage. At the top, there is a navigation bar with the APEX logo, links for Platform, Solutions, Learn, and Community, a search icon, and a Sign In button. The main content area features a large heading: "Build enterprise apps 20x faster with 100x less code." Below this is a sub-heading: "Oracle APEX is the world's most popular enterprise low-code application platform." A prominent white button with the text "Start for Free Today" is highlighted with a red border. Below the main text, there is a section with four cards: App Builder, SQL Workshop, Team Development, and Gallery. At the bottom, there are links for Top Apps, Top Users, and Summary. On the right side, there is an "About" section and a "Learn More" link to the APEX Website.

Start for Free Today

App Builder

SQL Workshop

Team Development

Gallery

About

Oracle APEX is a low-code development platform that enables you to build scalable, secure enterprise apps, with world-class features, that can be deployed anywhere.

Learn More

APEX Website



Get started with Oracle APEX

Request a workspace

▪ Go from Zero to App in No Time

Oracle APEX is easy to use and easy to learn so you can begin to build immediately.

▪ Eliminate 98% of Hand Coding

The powerful components of Oracle APEX enable you to add a high-level of functionality to your apps with limited coding.

▪ Powerful and Proven

Oracle APEX can be used to build a wide variety of apps for any industry, from departmental apps to mission critical systems used by hundreds of thousands of users or more.

The workspace name uniquely identifies your development environment and is used when signing in.

Are you new to Oracle APEX? *

Yes No

Do you plan to use APEX for education or training? *

Yes No

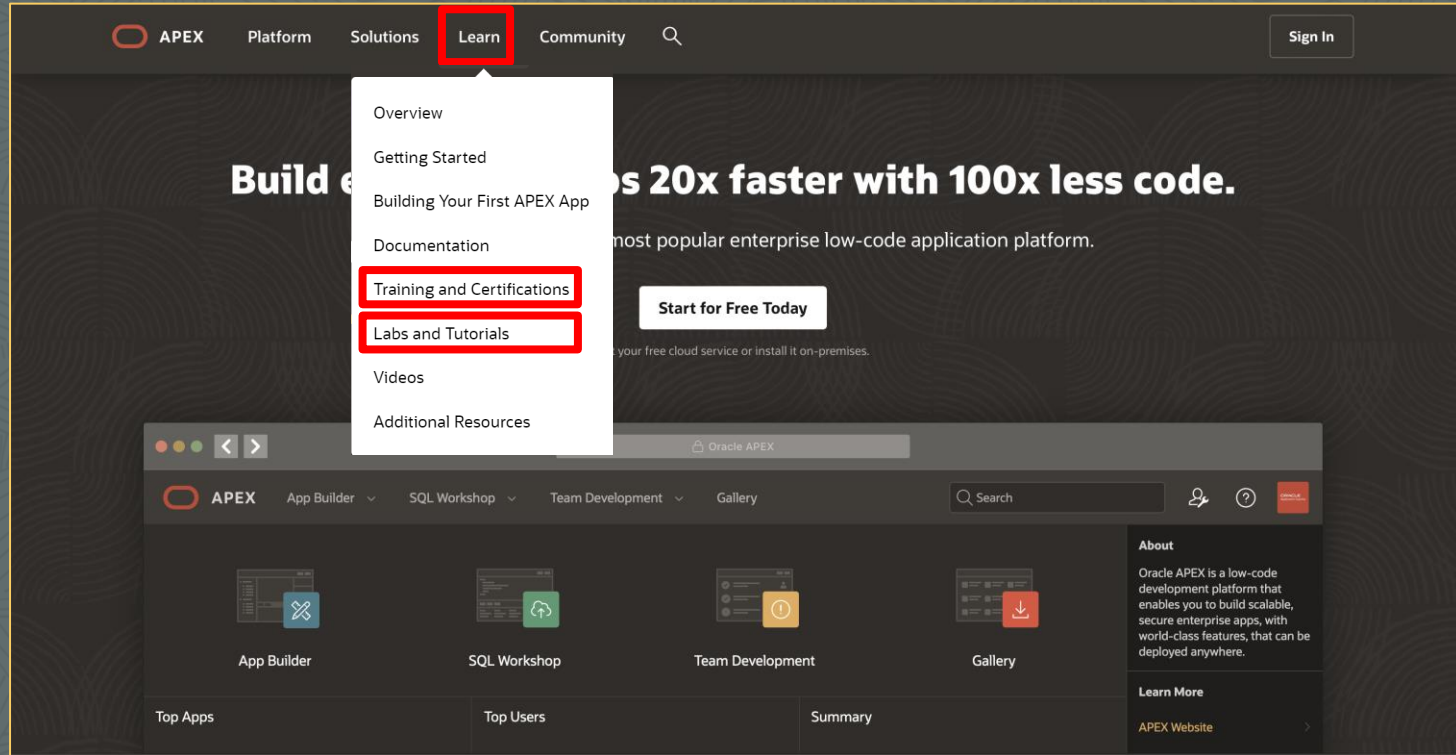
I agree to the terms of the [Oracle APEX Service Agreement](#)

Request Workspace

Already have an account? [Sign In](#)

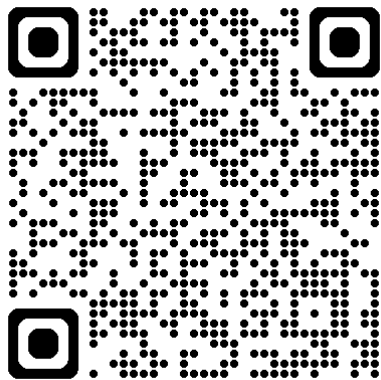
Everything about Oracle APEX

APEX.oracle.com

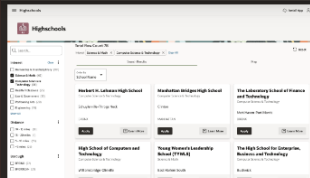


Oracle APEX Team Hands On Labs

Several focusing on APEX and AI



apex.oracle.com/hols

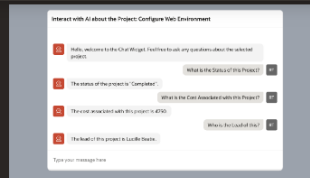


Build an Innovative Q&A Interface Powered by Generative AI

Learn how to integrate Generative AI Service and use it to develop a questions and answers feature for the New York High Schools APEX application.

Intermediate

1hr

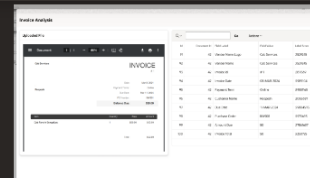


Smart Project Management with AI-Assisted Development

Build a dynamic application using the APEX AI Assistant to create the app and generate SQL queries, and implement your own version of an AI chat assistant.

Intermediate

2hrs

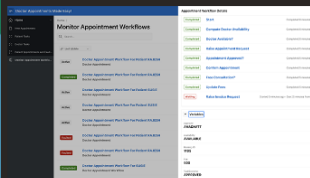


Automate Invoice Handling with OCI Document Understanding

Learn how to integrate Oracle APEX with OCI Document Understanding, and use it to process invoices and streamline expense management.

Intermediate

1hr

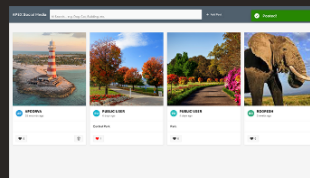


Workflow Lab

Learn all about Workflows in APEX by implementing an efficient system to schedule and manage doctor consultations.

Advanced

2hrs 35min

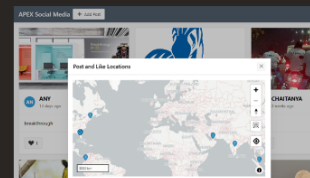


Build AI-Powered Image Search

Learn how OCI Vision is used to tap into the power of visual intelligence and enhance the Oracle APEX Social Media app for the classification of images.

Advanced

1hr



Build a Social Media App

Build a social media application in APEX using low-code practices and a simple approach to the development process.

Intermediate

1hr

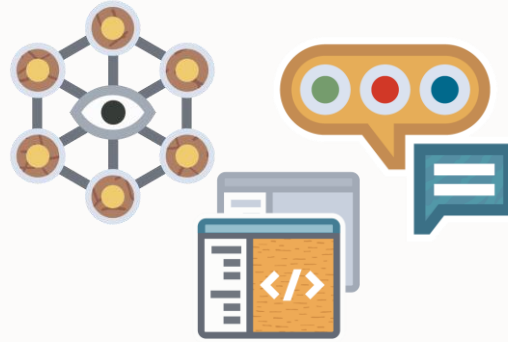


APEX AI Strategy



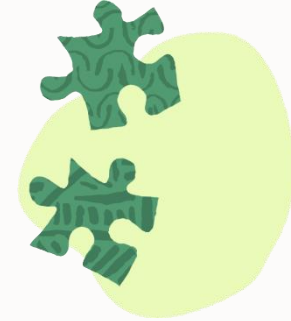
AI-Infrastructure

*First and only
Low-Code Service
on Autonomous
Infrastructure*



AI-Assisted Development

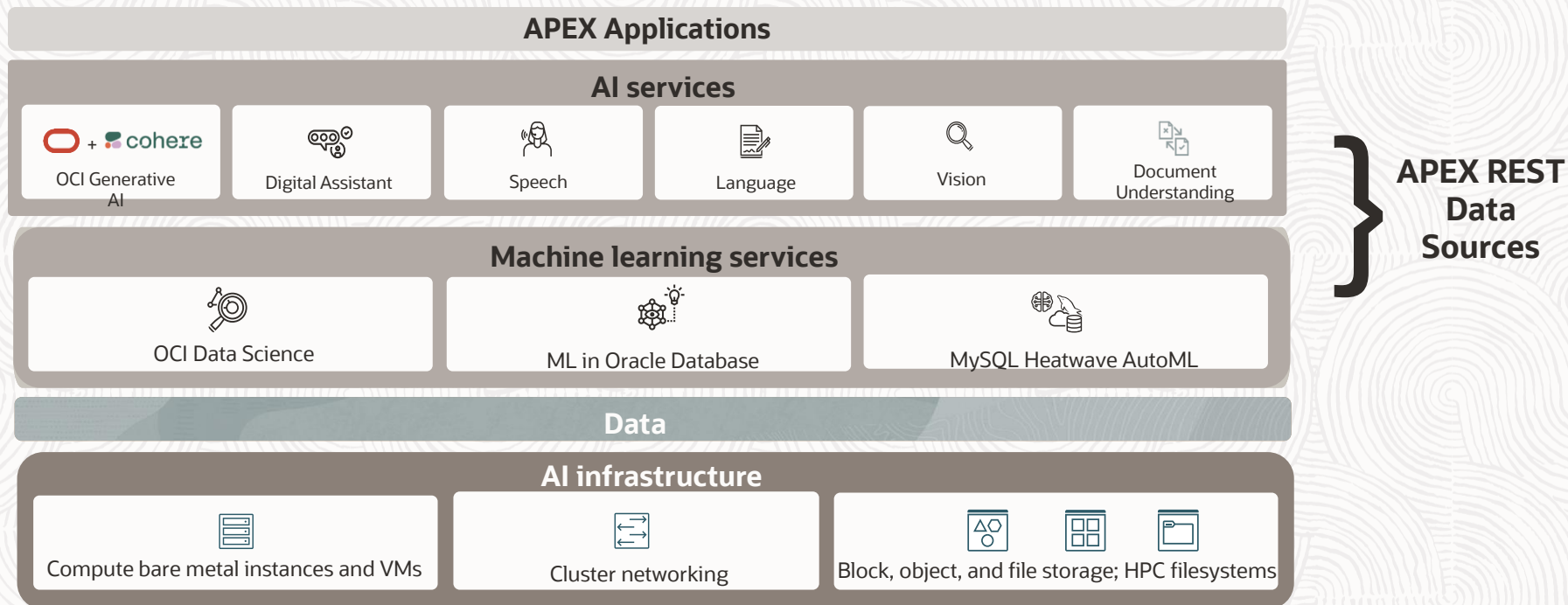
*Using GenAI (Open AI,
Cohere, and others) for Text
to SQL (NL2SQL) and prompt
based app creation*



AI-Powered Apps

*Access to broad portfolio of
AI-services: Generative AI,
Vector Search, AI Speech,
Digital Assistant, Document
Understanding,..*

The Oracle AI & ML stack on Oracle Cloud Infrastructure (OCI)



Review APEX Workspace Utilities

API KEYS for APEX + AI

- OCI GenAI – requires OCI tenancy – try the always free option!
- OpenAI
- Cohere

Review completed App from HOL



New York City

Ask a Question

NYC High Schools Assistant ✕

What would you like to know about New York City High Schools?

Type your message here

Search...

Schools: 427

Total Students Cards **Map**

Interest

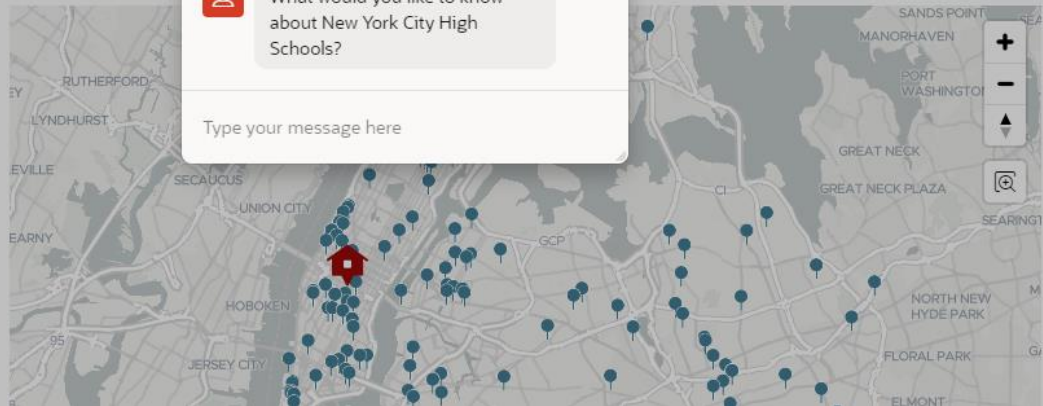
- Humanities & Interdisciplinary (181)
- Science & Math (45)
- Computer Science & Technology (33)
- Health Professions (25)
- Law & Government (23)
- Performing Arts (20)
- Engineering (18)

Show All

Distance

- <5 miles (145)
- 5 - 10 miles (205)

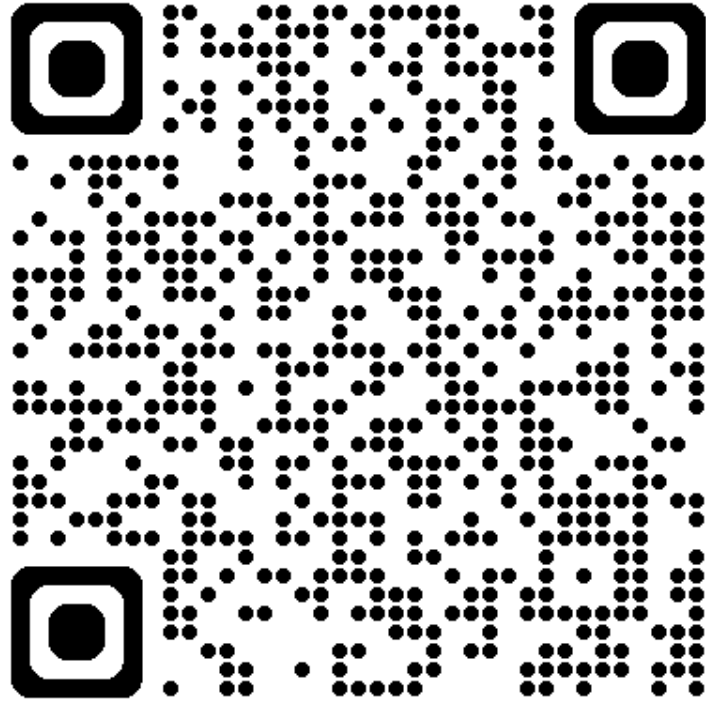
Map



Look behind the scenes

Review Workshop HOL steps

apex.oracle.com/go/nyc-genai



The Hands on Lab

Announcing Oracle APEX 24.1

APEX AI Assistant



- Create App Assistant
- APEX AI Assistant (NL2SQL)
- Conversational AI dialogs

Database 23ai Next-Gen Data Platform



- AI Vector Search
- Native Server-Side JavaScript
- JSON Relational Duality

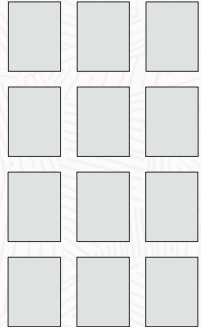
Powerful Enterprise Components




- Dynamic Data Templating
- Enhanced Workflow Engine
- Working Copy Compare

Oracle APEX Natural Language to SQL (NL2SQL) for AppDev

Database Tables



Automatic
Synchronization



Automatic
Augmentation

APEX Meta Data

- Table and Column Information
- Labels
- Primary Keys (PK)
- Foreign Keys (FK)
- Object Prefixes
- Data Types
- Average Data Length
- Distinct Value Counts
- Null Column Counts
- Facet Type (range, checkbox)
- Recommended Queries
- Primary Display Column
- UI Default Information

Meta Data Source Material

Setup

APEX NL2SQL

Identify Generative AI Service(s) per Workspace

Choose Open AI, OCI Generative AI Services, Cohere

- Click “APEX Assistant”
- Enter your query in natural language
 - You are an Oracle SQL query writer and Oracle SQL performance expert
 - Guardrails
 - Coding style
 - Instructions
 - Use only the following tables...
- Query Returned
 - Use the suggested SQL
 - Ask a follow up question with session context
 - Clear Chat and Start Fresh

APEX Assistant

New in APEX 24.1: APEX Assistant - Generate SQL from NL

The screenshot displays the APEX Assistant interface within a 'Code Editor - SQL Query' window. The interface is split into two main sections: a code editor on the left and a chat interface on the right.

Code Editor - SQL Query:

```
1 SELECT p.first_name,  
2        p.last_name,  
3        pp.medical_procedure,  
4        pp.amount_due,  
5        d.firstname,  
6        d.lastname  
7 FROM frc_patient_procedures pp  
8      JOIN frc_patients p  
9          ON pp.patient_id = p.id  
10     JOIN frc_doctors d  
11         ON pp.doctor = d.username  
12 WHERE pp.procedure_date >= SYSDATE - 60  
13 ORDER BY pp.procedure_date DESC;
```

Query Builder: Clear chat

Chat Interface:

Please note that AI-generated code may contain errors or security risks. Always review and validate all code before use.

Hi there, I can help you author SQL based on tables and views in your current schema. What can I help you query?

List of patient names, procedure descriptions, total amount, and doctor names for patient procedures in the past 60 days most recent ones first

sql Copy Inserted

```
SELECT p.first_name,  
       p.last_name,  
       pp.medical_procedure,  
       pp.amount_due,  
       d.firstname,  
       d.lastname  
FROM frc_patient_procedures pp  
JOIN frc_patients p  
    ON pp.patient_id = p.id  
JOIN frc_doctors d  
    ON pp.doctor = d.username  
WHERE pp.procedure_date >= SYSDATE - 60  
ORDER BY pp.procedure_date DESC;
```

Type your message here

Cancel OK





↑ Utilities \ Quick SQL

Quick SQL

Help

Settings



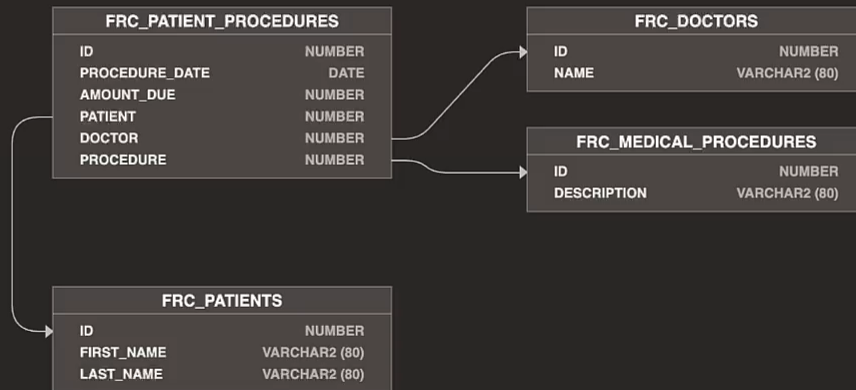
SQL

Diagram

Review and Run



```
1 #prefix: frc
2 medical_procedures
3   description vc80
4
5 doctors
6   name vc80
7
8 patients
9   first_name vc80
10  last_name vc80
11
12 patient_procedures
13  procedure_date date
14  amount_due num
15  patient /fk patients
16  doctor /fk doctors
17  procedure /fk medical_procedures
18
19
```



APEX App Builder SQL Workshop Team Development Gallery

Search

Search Apps

Sample Apps Starter Apps Utility Apps Custom Apps

APEX PWA Reference
Oracle

Oracle APEX enables developers to build Progressive Web Apps (PWAs) that can be installed on any desktop or mobile device to deliver a more native app experience. This application serves as a reference for key PWA features in APEX and how you can use them in your own apps.

241.0

Install

Brookstrut Sample App
Oracle

The Brookstrut sample application analyzes a simplified stored data model and includes a feature to generate random data, accommodating everything from small to extra large data sets. It showcases Oracle APEX's capabilities in data reporting, navigation, and data presentation. This tool allows you to explore various Oracle APEX components, including faceted search, interactive reports, content row reports, and calendars.

241.0

Install

Sample Application Search
Oracle

This application showcases the Application Search feature, introduced with APEX 22.2. Search Configurations and Search Regions allow developers to add robust search engine functionality to their APEX applications.

241.0

Install

Sample Calendar
Oracle

This application highlights the native calendaring capabilities of Oracle APEX. It features a monthly calendar with stylized daily tasks. The dates can be changed using drag and drop, which is all declarative and easily created using native APEX wizards.

241.0

Install

Sample Cards
Oracle

This application highlights Cards regions in Oracle APEX. Cards regions are a native region type. It features developers with a powerful and flexible new way to display data in bite-sized blocks, ideal for use in faceted search, or presenting at-a-glance information.

241.0

Update available: 241.0 (23.2.0)

Update

Sample Charts
Oracle

This application highlights the charting capabilities of Oracle APEX. It demonstrates how you can enhance your applications to visually represent your data, using declarative and plug-in based charting solutions.

241.0

Install

Sample Collections
Oracle

Sample Collections enables you to store rows of data for use within an Oracle APEX session. This database application illustrates how to use PL/SQL to create and manage collection-based session state.

241.0

Install

Sample Data Loading
Oracle

This application is built on simple EMP and DEPT tables to highlight how developers can define pages to allow end users to upload spreadsheet data into an existing table.

Update available: 241.0 (23.2.0)

Update

Sample Document Generator
Oracle

This application showcases the integration with the Oracle Document Generator Pre-built Function on OCI. It features examples of generating PDF documents from a combination of JSON data and MS Word templates.

241.0

Install

This application demonstrates a number of different dynamic actions that can be incorporated into an application. These declarative client-side behaviors include simple examples for manipulating the display of components, style examples for changing the appearance of components, and server-side examples which interact with the database.

241.0

Install

This application illustrates the use of email authentication. Usernames must be email addresses and tokens are emailed to users at login time to verify their identities, instead of using passwords.

241.0

Install

Learn how to create Oracle APEX applications that include file upload and download. Upload files using dialogs as well as dedicated pages. See how to download files stored in Oracle database BLOB columns within database tables. Specifically see how to produce file download links in interactive reports, classic reports, forms, and dynamically created HTML content.

241.0

Install

This application showcases the features and functionality of the Oracle APEX Interactive Grid. Through its interactive grid sample pages, users can explore its versatile capabilities, such as comprehensive reporting, seamless data editing or intuitive pagination.

241.0

Install

Sample Maps
Oracle

This application contains numerous examples of visualizing coordinate data on a map. Use Map Markers, Lines or Polygons, or the Heat Map feature. The APEX Map Region can easily be combined with Oracle Spatial functionality (which is included in every Oracle Database) to perform a 'Within Distance Search', 'Nearest Neighbor Search', or other spatial analysis.

Update available: 241.0 (23.2.0)

Update

Sample Master Detail
Oracle

This application highlights the native master detail capabilities of Oracle APEX. The application contains four different master detail page layouts. The first two layouts display master detail in a single page using editable Interactive Grids. The last two layouts display master detail in two pages with mix of editable Interactive Grids, form items, classic reports and modal popups.

241.0

Install

Sample Reporting
Oracle

This application highlights the reporting capabilities of Oracle APEX. You can create Interactive Reports, Interactive Grids, Faceted Search Reports, Cards Reports, and Classic Reports declaratively using SQL.

241.0

Install

Sample REST Services
Oracle

This application showcases how to access external REST services from Oracle APEX. The app works on the sample RESTful Service, oracle.example.hr. The examples in this application illustrate how to create a simple tabular report on REST service data, how to filter, and how to add pagination.

241.0

Install

Sample Trees
Oracle

Learn how to create a tree control using a SQL query. This application shows various methods of integrating tree controls into your Oracle APEX application.

241.0

Install

Sample Workflow, Approvals, and Tasks
Oracle

This application highlights the key features of the Workflow, Approvals, and Tasks capabilities in Oracle APEX. It lets users manage changes to employees' salaries and jobs, provision a laptop for an employee, and manage employees' self-appraisals. All use cases involve human tasks requiring an action by an appropriate individual, some of which require an approval or rejection.

241.0

Install

Universal Theme Reference
Oracle

This app introduces you to Universal Theme by providing an easy way to browse through the various templates, template options, and theme styles. The examples demonstrate how you can easily control the layout of your pages, to create a great looking application.

241.0

Install

New Gallery Apps!



ORACLE | APEX

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APEX Product Manager

