

18.11.2025

Oracle APEX Basics: An Overview for Beginners

Timo Herwix, Senior Consultant

code of change

 **Hyand** by
GOD | MT

Who am I?



Timo Herwix
Senior Consultant



Senior Consultant at Hyand Solutions since 2019

Previously worked as a Data Warehouse Developer

Oracle APEX since 2016

Oracle Databases since 2008

Blog author, conference speaker

Born in 1983, two children and living in Germany



Our key facts



Germany

- Brunswick
- Ratingen
- Hamburg
- Dortmund
- Cologne
- Frankfurt
- Munich
- Berlin

Poland

- Warsaw

Romania

- Cluj-Napoca

Lithuania

- Vilnius
- Kaunas

India

- Pune

850+

Employees

150+

Customers

110+

million €
turnover

1

Introduction

2

Demo

3

Get Started

What is a Low-Code Application Platform?

A Low-Code Application Platform (LCAP) lets you build apps using visual interfaces, drag-and-drop tools and automation with minimal coding. This allows both professional developers and less technical "citizen developers" to quickly create business apps, focusing on design and business needs, speeding up app deployment and adapting to changes.

Why Low-Code?



Speed

- Easy to learn
- Faster development



Innovation

- More time to focus on making better apps



Agility

- Respond to user requests more quickly

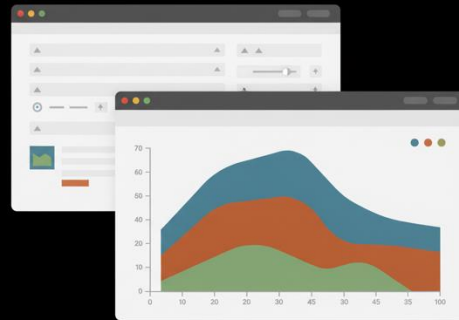
What is Oracle APEX?

Oracle APEX is a Low-Code platform for creating individual, data-centric web applications. It simplifies programming, allowing software development without deep IT knowledge. The specialist department is involved early to improve workflows. APEX displays on desktops or mobile devices and is **free** with an Oracle database.

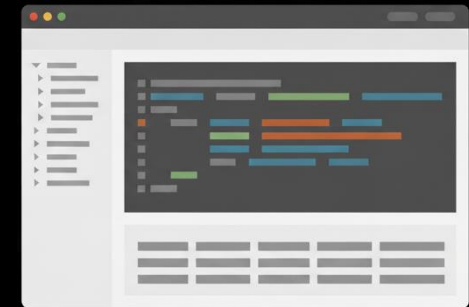
Database-centric web application development framework.



Develop desktop and
mobile web apps



Visualize and maintain
database data

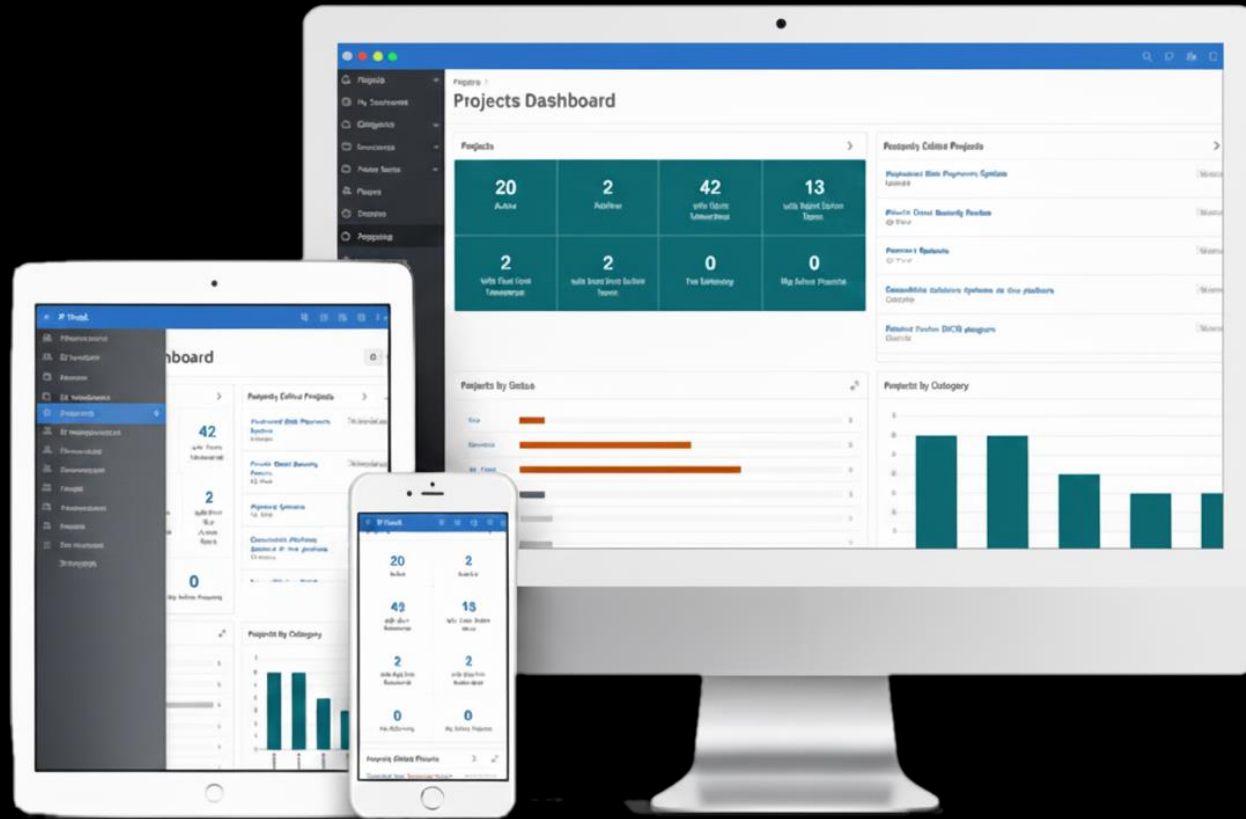


Leverage SQL Skills and
database capabilities



No client software needed!

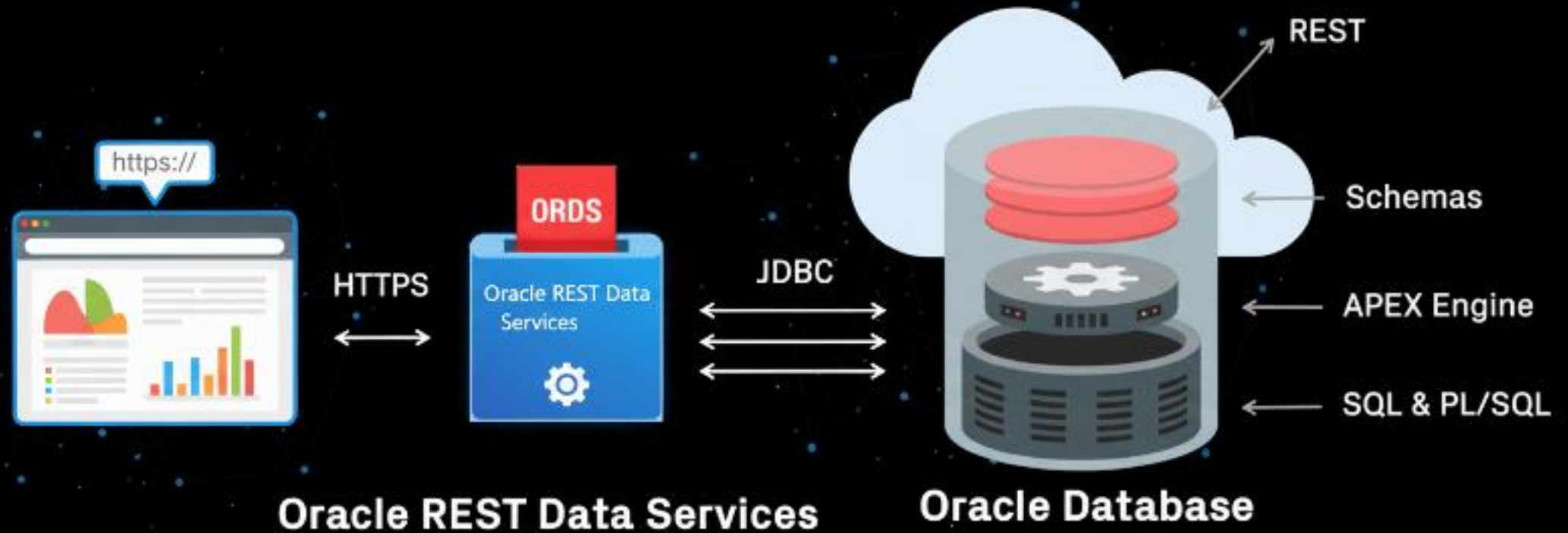
App Development IDE is a web browser



User Interface for Any Device

Modern, intuitive, accessible UI for any device
fully customizable and responsive apps

Three-Tier Architecture



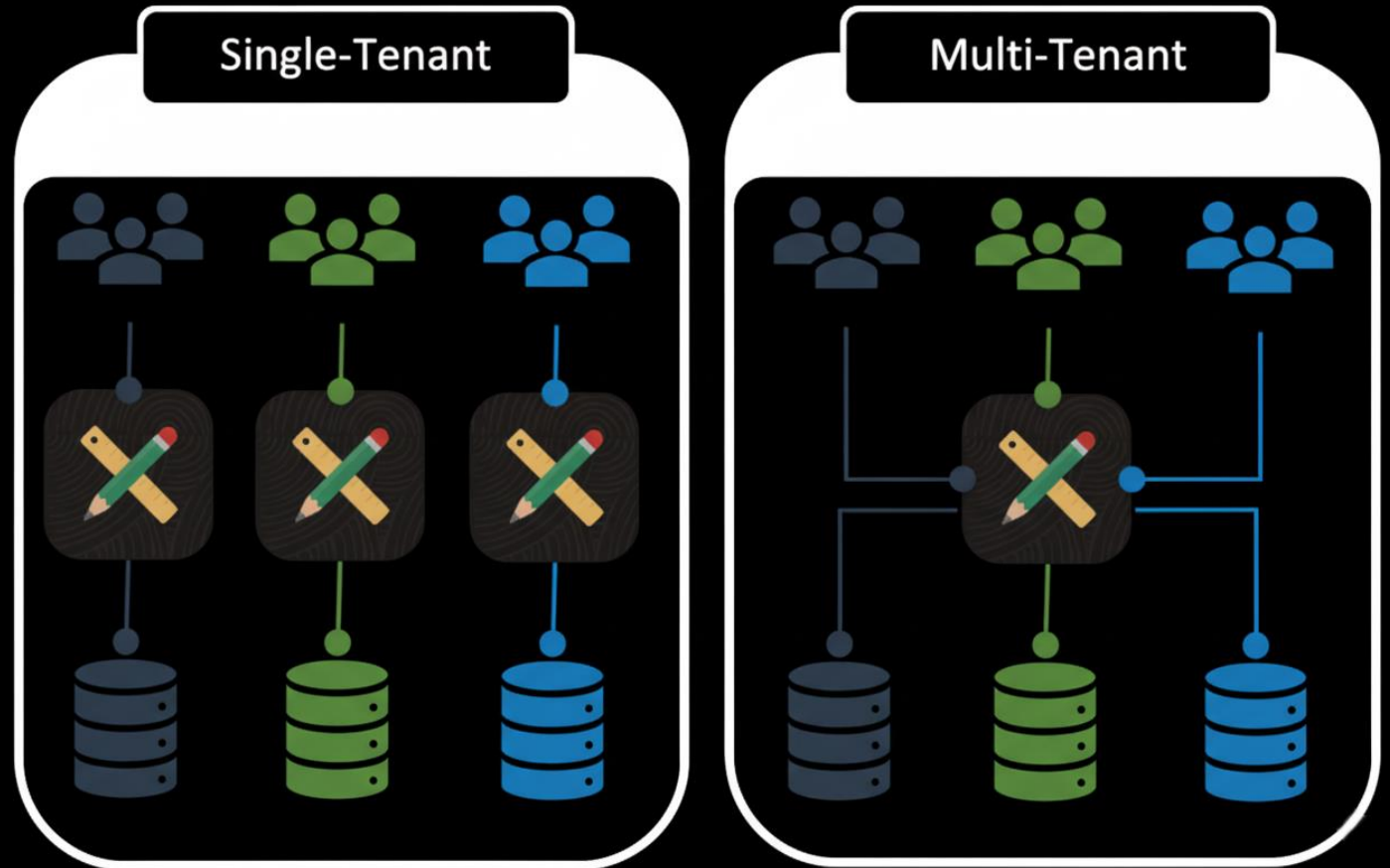
Multi-Tenant Hosting

Independent, private workspaces

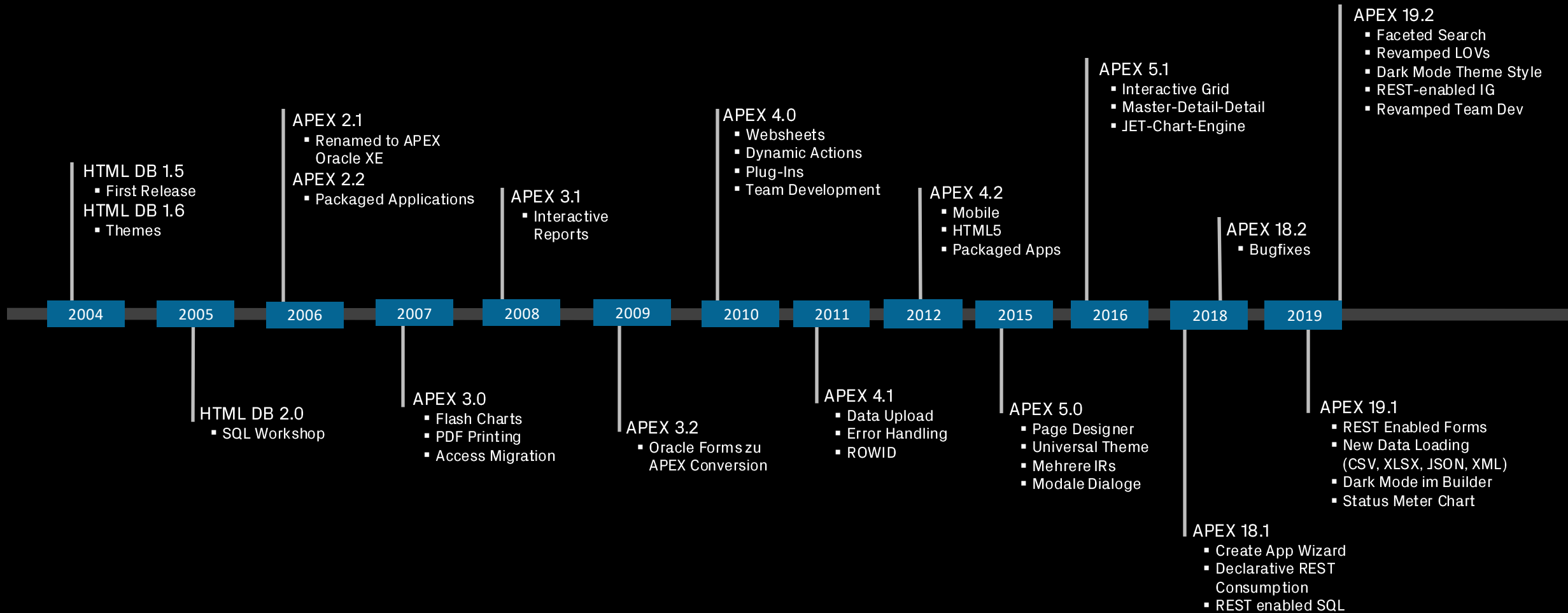
- Independent development and administration
- Own application administration
- Own user administration

Centralized database

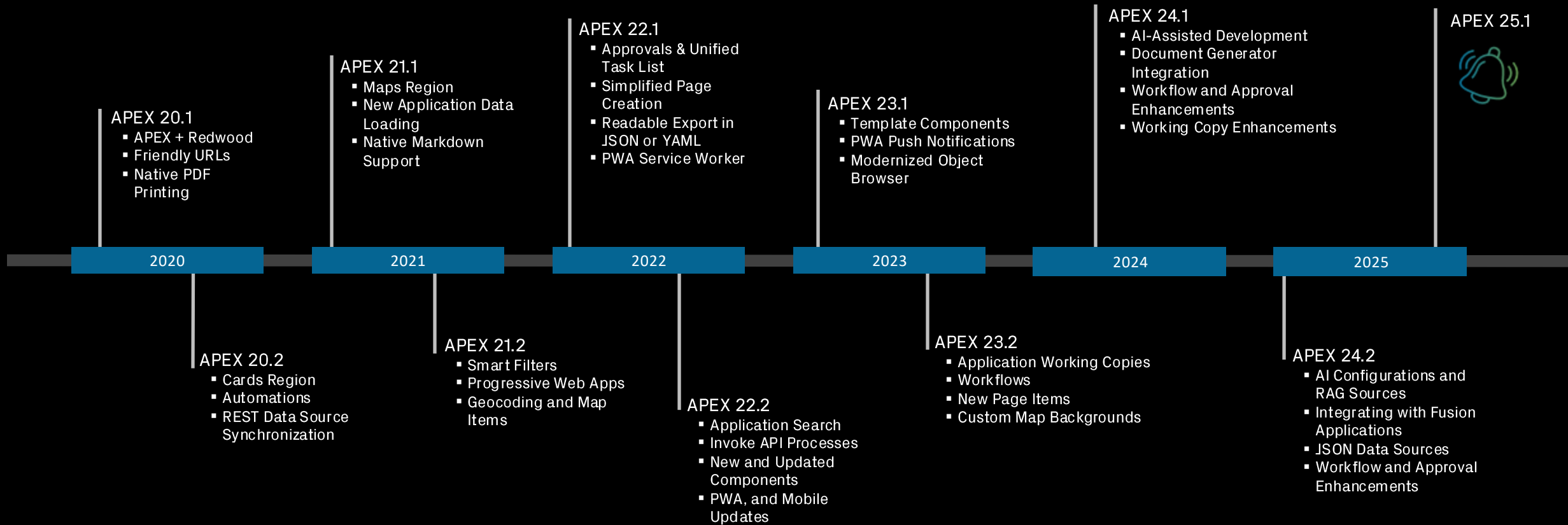
- Centralized maintenance
- Central data storage



History of APEX



History of APEX - 5Year Review



Oracle APEX is Available Everywhere!



Oracle Cloud

- APEX Service
- All workload types of Autonomous Database
- Oracle Base Database Service
- Oracle Exadata Cloud Service
- Always Free APEX Service
- Always Free Autonomous Database



On-Premises

- All Oracle editions
- Oracle Exadata
- Oracle Database Free



Other Clouds

- Autonomous Database on Azure
- Amazon RDS for Oracle Database
- All other major clouds via VM

Product Components.

Home Page

Comprehensive Development IDE, Web Application Development, and SQL Database Development

The screenshot displays the Oracle APEX Home Page. The top navigation bar includes the APEX logo, links to App Builder, SQL Workshop, Team Development, and Gallery, a search bar, and a user profile for Timo Herwix. The main content area features four large tiles: App Builder (with a blue icon), SQL Workshop (with a green icon), Team Development (with an orange icon), and Gallery (with a red icon). Below these tiles, the interface is divided into three columns. The left column, titled 'Top Apps', is currently empty. The middle column, titled 'Top Users', shows a list with 'Timo Herwix' at the top, accompanied by a green progress bar and the number '1'. The right column, titled 'Summary', displays statistics: '9 Applications', '4 Tables', and '2 Developers'. Below the summary, there is a 'Workspace Message' section with the text 'No Workspaces Message'. On the far right, a sidebar contains an 'About' section describing Oracle APEX as a low-code development platform, a 'Learn More' section with links to the APEX Website, Blog, Tutorials, Videos, Educational Resources, and Ideas & Feature Requests, and a 'Social' section with icons for X, LinkedIn, Facebook, and YouTube.

APEX App Builder SQL Workshop Team Development Gallery

Search

Timo Herwix tm-apex

App Builder

SQL Workshop

Team Development

Gallery

Top Apps

Top Users

TH Timo Herwix 1

Summary

9 Applications 4 Tables 2 Developers

Workspace Message

No Workspaces Message

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](#)

[Blog](#)

[Tutorials](#)

[Videos](#)

[Educational Resources](#)

[Ideas & Feature Requests](#)

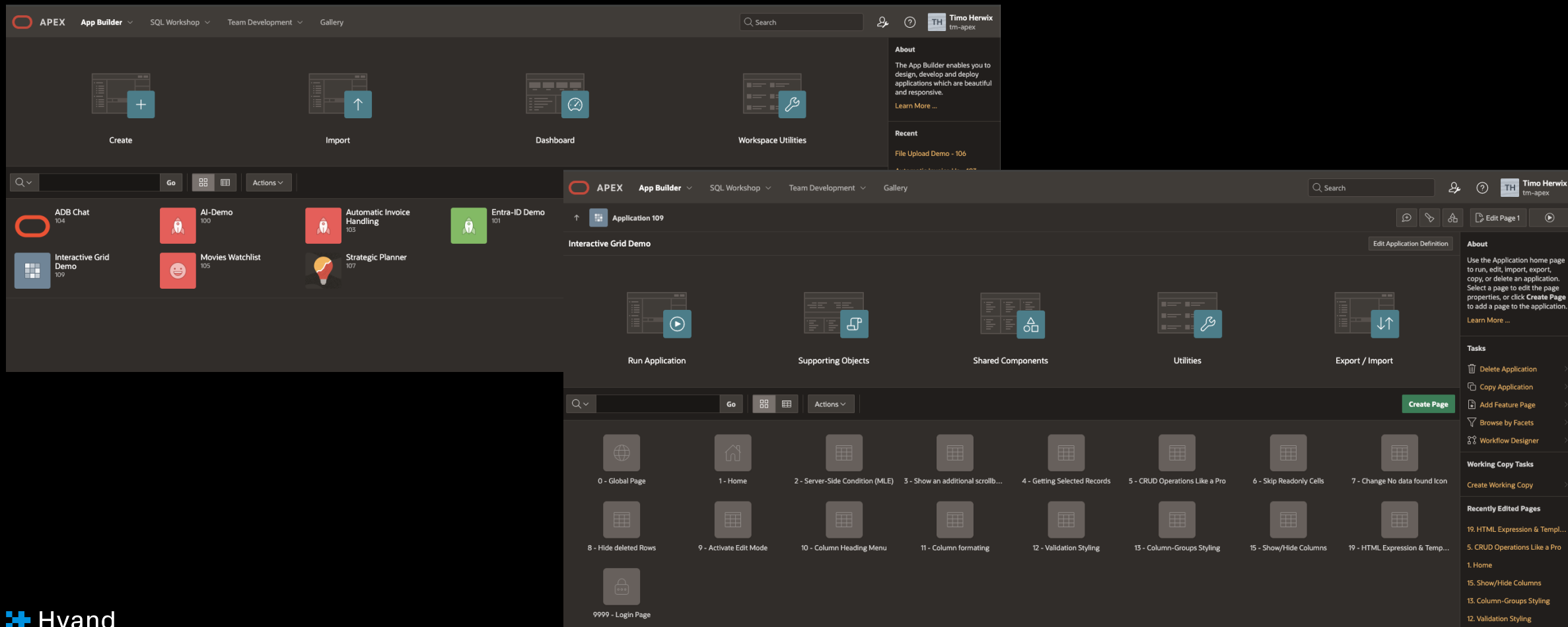
[apex.world](#)

Social

X LinkedIn Facebook YouTube

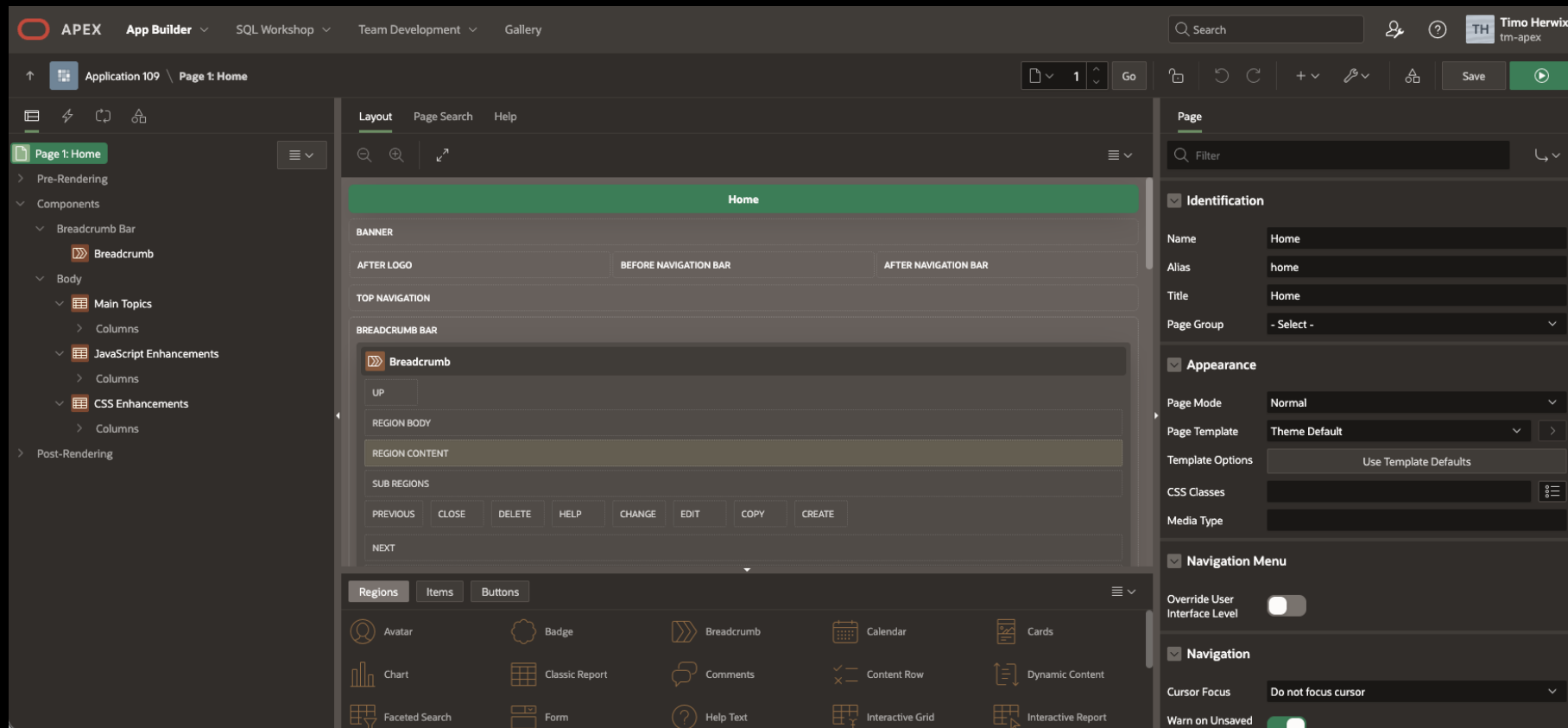
Application Builder

Integrated Development Environment (IDE) with Application Development Graphical "Page Designer" Features
tight SQL and PL/SQL integration



Page Designer

Page Designer is a comprehensive Integrated Development Environment (IDE) equipped with a toolbar and multiple panes, offering a full range of features for efficient development.



SQL Workshop

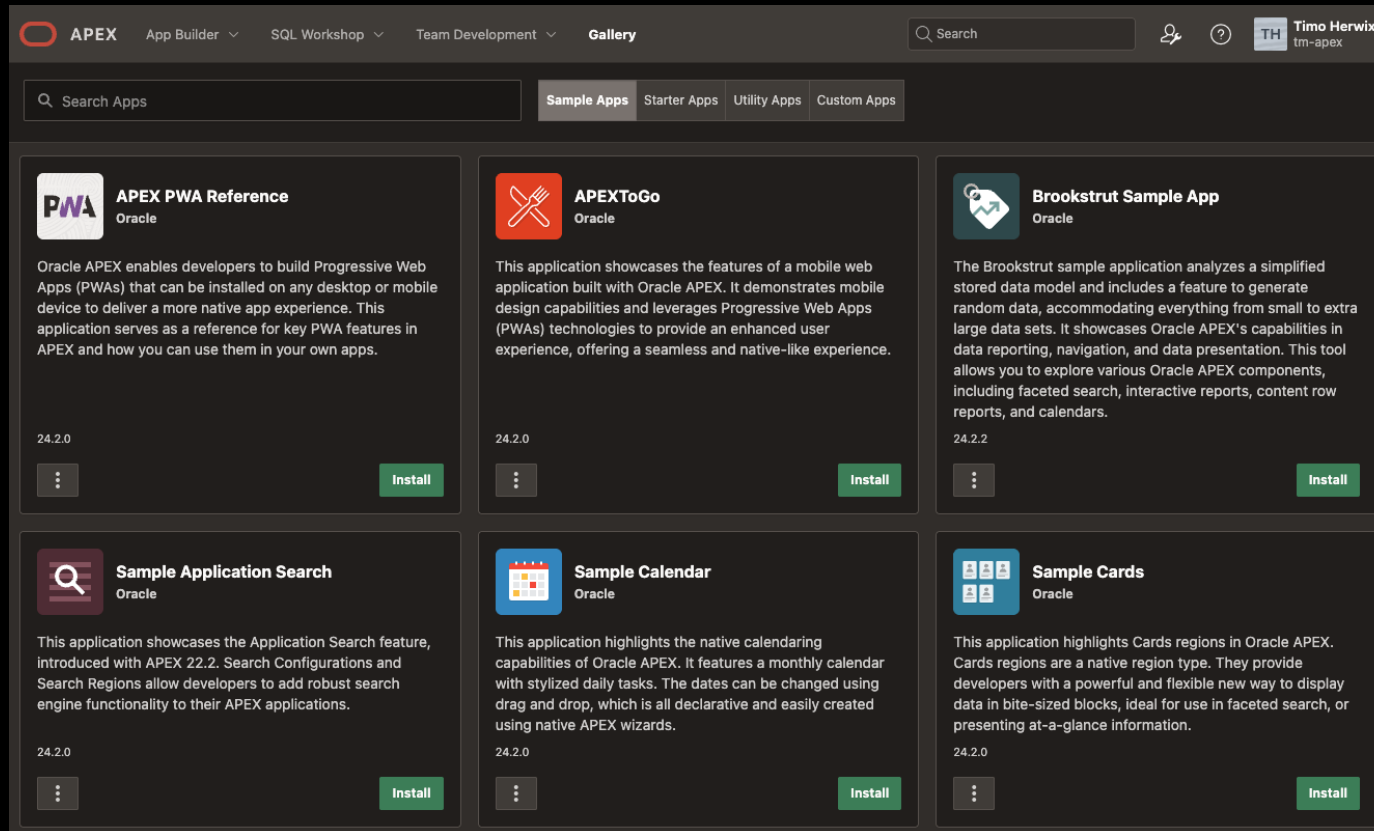
Browser-based maintenance of database objects and data Designed to meet application developers' needs, especially in hosted environments

The screenshot displays the SQL Workshop interface, which is a browser-based tool for managing database objects and data. The interface is divided into several sections:

- Navigation Tabs:** APEX, App Builder, SQL Workshop (selected), Team Development, and Gallery.
- Search Bar:** A search bar with the text "Search" and a magnifying glass icon.
- User Profile:** A profile icon, a question mark icon, and the user name "Timo Herwig tm-apeX".
- Tool Icons:** Five icons representing different tools: Object Browser, SQL Commands, SQL Scripts, Utilities, and RESTful Services.
- About Section:** A section titled "About" with the text "The SQL Workshop is a collection of tools to manage database objects." and a "Learn More ..." link.
- Schema Section:** A section titled "Schema" with the text "Select the default database schema for your SQL Workshop" and a dropdown menu showing "WKSP_TMAPEX".
- Recently Created Tables:** A table listing recently created tables with columns for table name, creation time, and SQL command.
- Recent SQL Commands:** A table listing recent SQL commands with columns for command text, creation time, and SQL command.
- Object Browser:** A sidebar with a search bar and a list of database objects: Tables, Views, Indexes, Sequences, Types, Packages, Procedures, Functions, Triggers, Materialized Views, Synonyms, SODA Collections, MLE Environments, and MLE Modules - JavaScript.
- Create Database Objects:** A section titled "Create Database Objects" with a grid of buttons for creating various database objects: Table, View, Package, Procedure, Function, Index, Sequence, Type, Trigger, Synonym, SODA Collection, MLE Environment, and MLE Module - JavaScript.

Recently Created Tables	Recent SQL Commands	
DOCAI_RESPONSE	10 months ago	DECLARE l_address VARCHAR2(...
DBTOOLS\$EXECUTION_HISTORY	12 months ago	DECLARE l_address VARCHAR2(...
INV_UPLOAD	1.3 years ago	select a.ID, a.FILE_...
EMPLOYEE_DETAILS	1.3 years ago	select a.ID, a.FILE_...

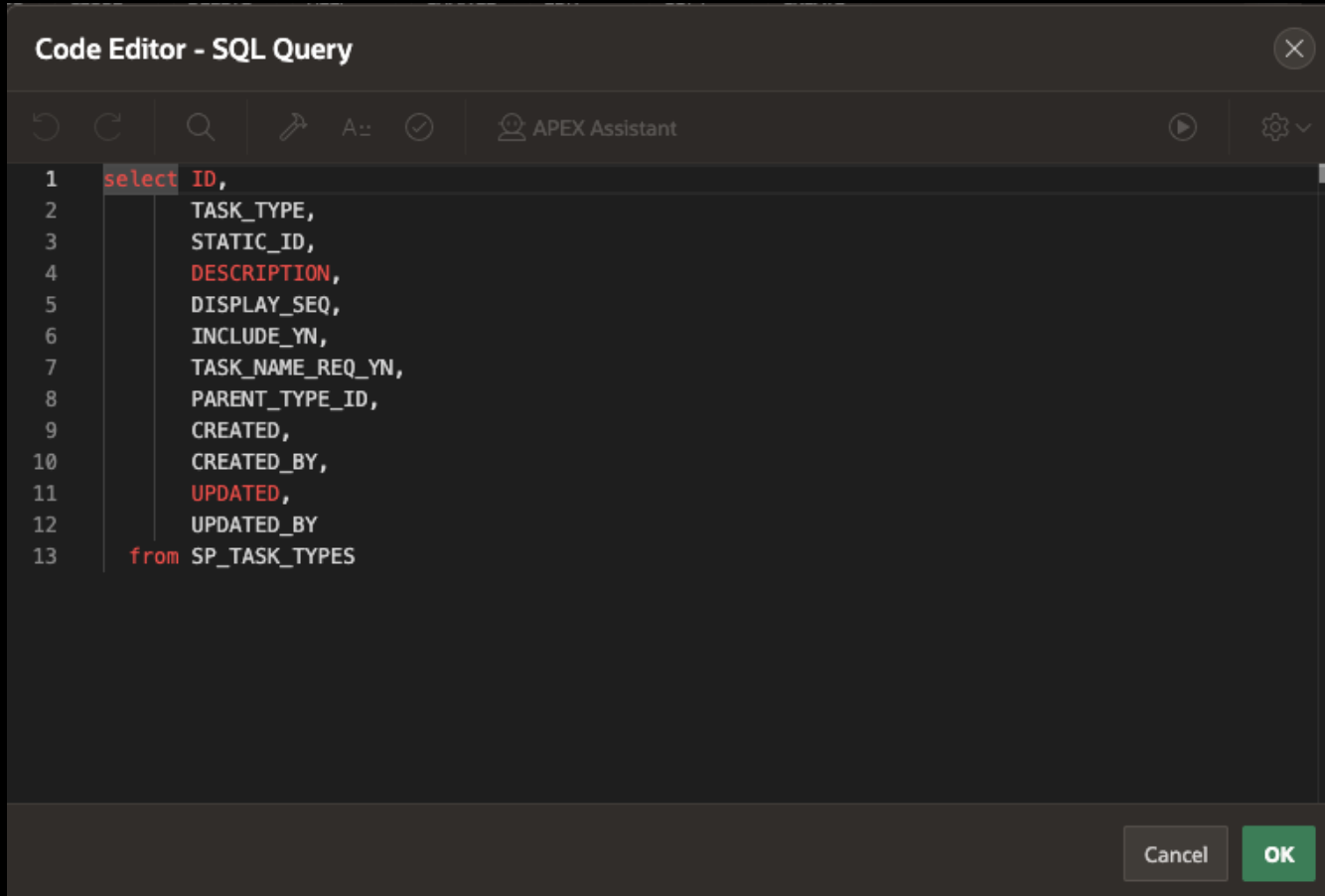
App Gallery



- Robust suite of productivity and sample applications.
- Illustrates best practices and design patterns.
- Template to start customization (e.g. unlock your packaged app).
- Upgraded with every release

Code Editor

Available for maintaining SQL, PL/SQL, JavaScript, HTML, CSS and large text sections



The screenshot shows a window titled "Code Editor - SQL Query". The window has a toolbar with icons for undo, redo, search, find and replace, APEX Assistant, and a play button. The main area contains a SQL query with line numbers 1 through 13. The query is:
1 select ID,
2 TASK_TYPE,
3 STATIC_ID,
4 DESCRIPTION,
5 DISPLAY_SEQ,
6 INCLUDE_YN,
7 TASK_NAME_REQ_YN,
8 PARENT_TYPE_ID,
9 CREATED,
10 CREATED_BY,
11 UPDATED,
12 UPDATED_BY
13 from SP_TASK_TYPES. The query is syntax-highlighted. At the bottom right, there are "Cancel" and "OK" buttons.

```
1 select ID,
2     TASK_TYPE,
3     STATIC_ID,
4     DESCRIPTION,
5     DISPLAY_SEQ,
6     INCLUDE_YN,
7     TASK_NAME_REQ_YN,
8     PARENT_TYPE_ID,
9     CREATED,
10    CREATED_BY,
11    UPDATED,
12    UPDATED_BY
13 from SP_TASK_TYPES
```

- APEX Assistant
- Syntax Highlighting
- Undo / Redo
- Find/Replace
- Auto completion
- Code validation
- Used in Page Designer, Component View and SQL Workshop

Features.

Application Wizard

Create an Application

Name	ID 108
------	-----------

Create Application



Use Create App Wizard

Create a new application using the full Create Application wizard with advanced options.



Create App Using Generative AI

Enter a natural language prompt to create your application.



Create App From a File

Upload a CSV, XLSX, XML or JSON file, or copy and paste data, then create your application.



Create App From Quick SQL

Build your own data model or use an existing one and create a new application from it.



Create Fusion Integration

Create a starter application with pre-configured integrations to an Oracle Fusion Applications instance.



Browse Apps in Gallery

Install one of many Sample and Starter Apps from the Gallery.



Copy Existing App

Create a new application as a copy of an existing application in your workspace.

Create an Application



Name

Appearance
Vita, Side Menu



Pages



Add Page



Home

Blank

Edit

Features

Check All



Install Progressive Web App

Give your app the ability to be installed



Push Notifications

Allow users to receive push notifications



About Page

Add about this application page



Access Control

Enable role-based user authorization



Activity Reporting

Include user activity and error reports



Configuration Options

Enable or disable application features



Feedback

Allow users to provide feedback



Theme Style Selection

Update default application look and feel

Settings

Application ID
108

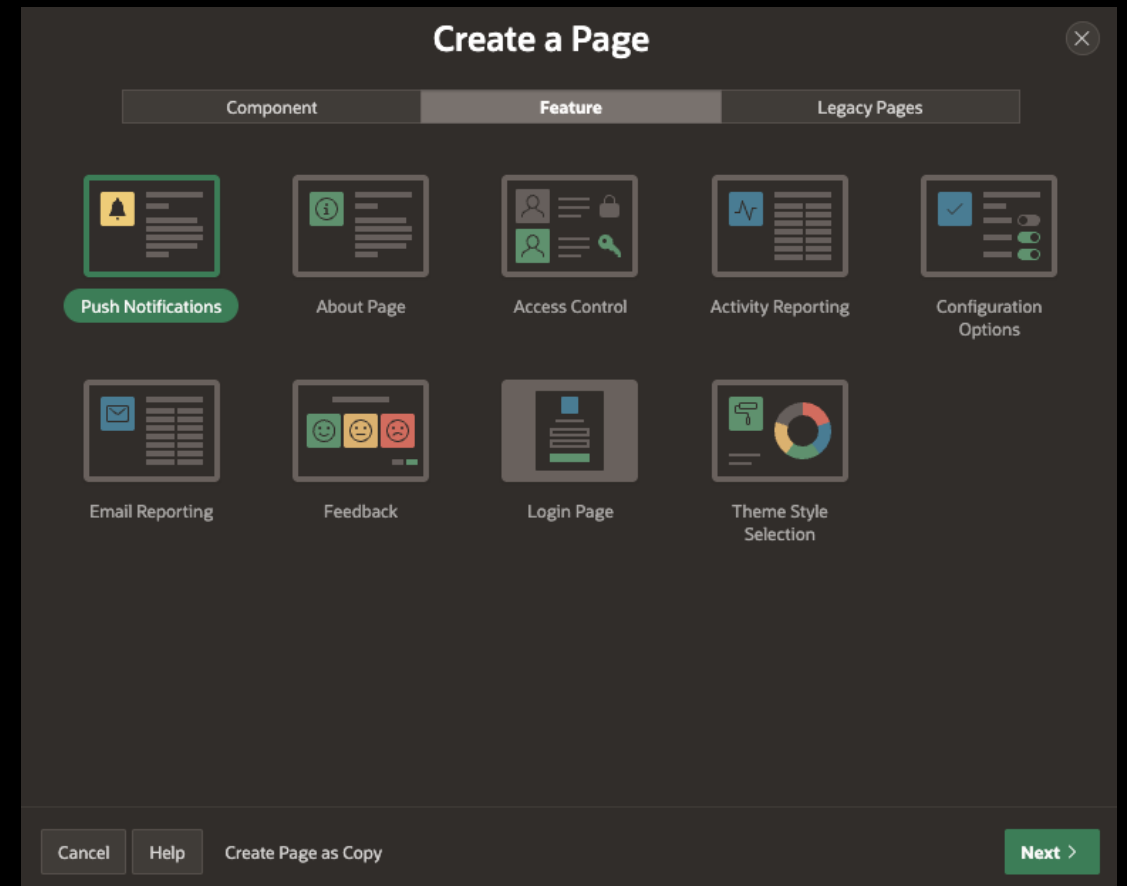
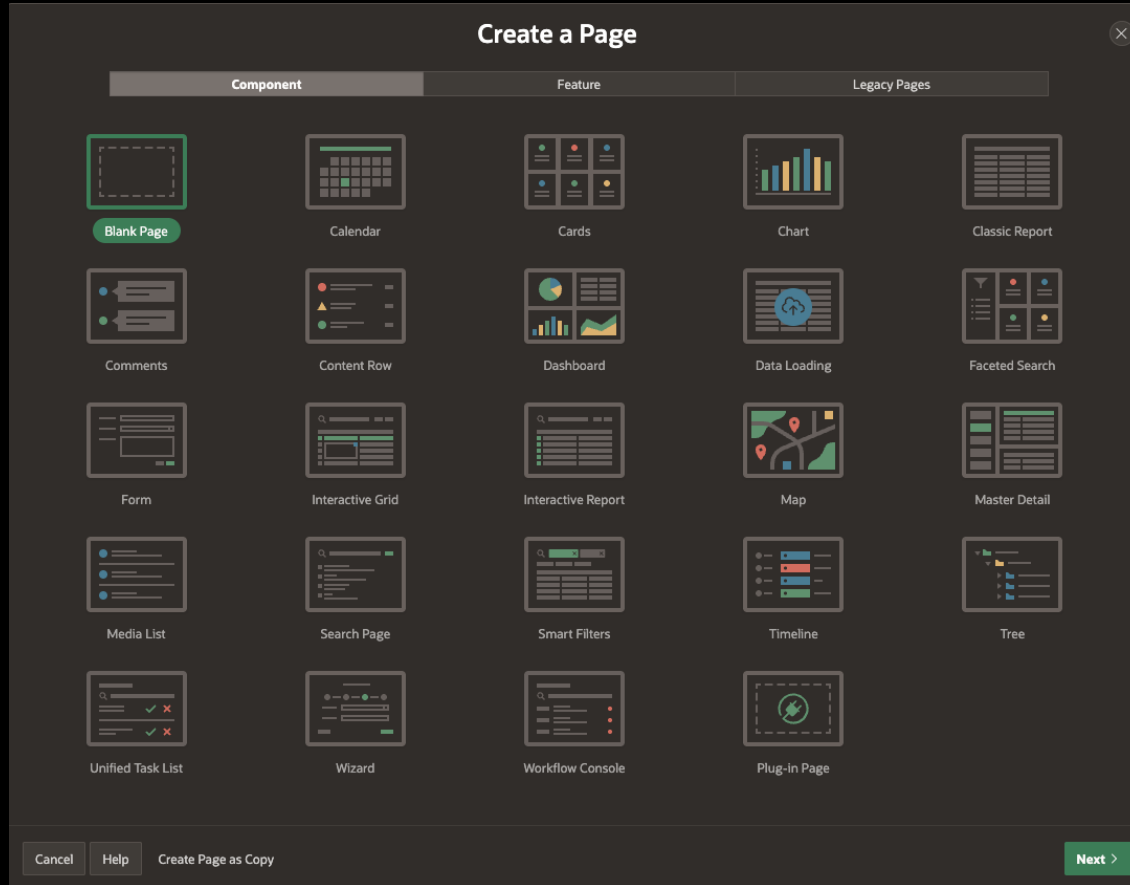
Schema
WKSP_TMAPEX

Authentication
Oracle APEX Accounts

Cancel

Create Application

Page Wizard



Classic Report

Simply a nicely formatted result of a SQL query

Classic Report					
First Name	Last Name	Created	Created By ↑≡	Updated	Updated By
Jane	Doe	3/21/2025	ADMIN	3/21/2025	ADMIN
Scott	Tiger	3/21/2025	ADMIN	3/24/2025	ADMIN
Test	Test	3/24/2025	ADMIN	4/11/2025	ADMIN
Test 2	Test2	3/24/2025	ADMIN	4/11/2025	ADMIN
Timo	Herwix	3/21/2025	ADMIN	3/24/2025	ADMIN
Timo	Doe	3/21/2025	ADMIN	9/23/2025	ADMIN

1 - 6

Interactive Report

Powerful Reporting capabilities → End-user customizable

Interactive Report									
Q Go 1. Primary Report Actions									
	Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget	Available Budget
	Bug Tracker	Document quality assurance procedures	24-MAR-24	27-MAR-24	Closed	Myra Sutcliff	3,000	2,000	-1,000
	Bug Tracker	Review automated testing tools	28-MAR-24	30-MAR-24	Closed	Myra Sutcliff	750	1,500	750
	Bug Tracker	Implement bug tracking software	12-APR-24	12-APR-24	Closed	Myra Sutcliff	100	100	0
	Discussion Forum	Identify owners	13-APR-24	13-APR-24	Closed	Hank Davis	250	300	50
	Maintain Support Systems	HR software upgrades	16-APR-24	19-APR-24	Closed	Pam King	8,000	7,000	-1,000
	Discussion Forum	Install ACME Web Express application on internet server	19-APR-24	19-APR-24	Closed	Hank Davis	100	100	0
	Bug Tracker	Train developers on tracking bugs	19-APR-24	24-APR-24	On-Hold	Myra Sutcliff	1,000	2,000	1,000
	Maintain Support Systems	Apply Billing System updates	20-APR-24	22-APR-24	Closed	Russ Saunders	9,500	7,000	-2,500
	Public Website	Determine host server	23-APR-24	23-APR-24	Closed	Tiger Scott	200	200	0
	Public Website	Check software licenses	23-APR-24	23-APR-24	Closed	Tom Suess	100	100	0

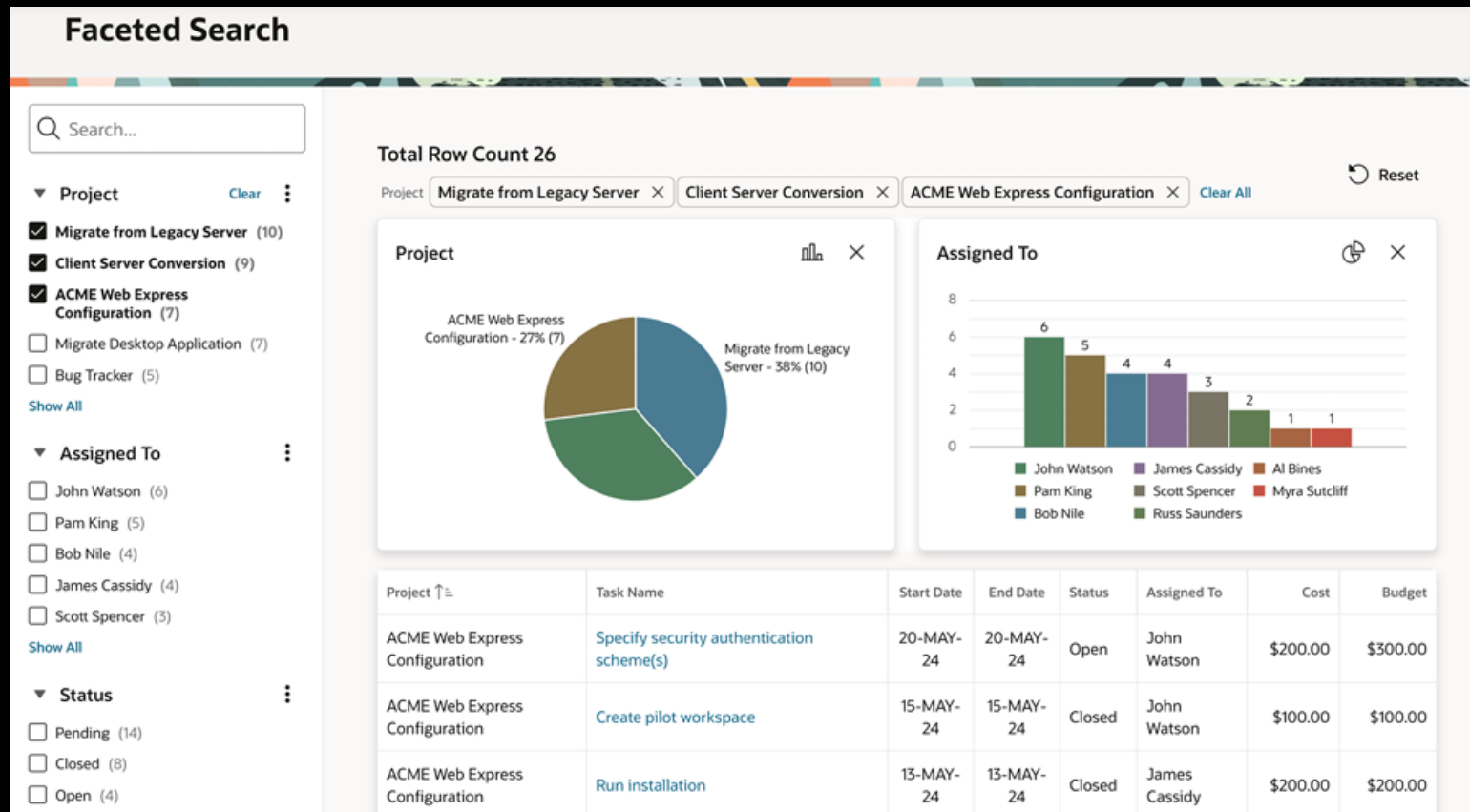
Interactive Grid

Modern, rich & interactive multi-row editing component

Interactive Grid										
Q Search: All Text Columns Go Primary Report Actions Edit Save Add Row Reset										
☐		Project	Task n	Start date ↑	End date	Status	Assigned to	Cost	Budget	Available Budget
☒		Bug Tracker	D...	24-MAR-24	27-MAR-24	Closed	Myra Sutcliff	\$3,00...	\$2,000.00	-\$1,000.00
☐		Bug Tracker	R...	28-MAR-24	30-MAR-24	Closed	Myra Sutcliff	\$750.00	\$1,500.00	\$750.00
☐		Bug Tracker	I...	12-APR-24	12-APR-24	Closed	Myra Sutcliff	\$100.00	\$100.00	\$0.00
☐		Discussion Forum	Id...	13-APR-24	13-APR-24	Closed	Hank Davis	\$250.00	\$300.00	\$50.00
☐		Maintain Support Systems	H...	16-APR-24	19-APR-24	Closed	Pam King	\$8,00...	\$7,000.00	-\$1,000.00
☐		Bug Tracker	Tr...	19-APR-24	24-APR-24	On-Hold	Myra Sutcliff	\$1,000...	\$2,000.00	\$1,000.00
☐		Discussion Forum	In...	19-APR-24	19-APR-24	Closed	Hank Davis	\$100.00	\$100.00	\$0.00
☐		Maintain Support Systems	A...	20-APR-24	22-APR-24	Closed	Russ Saunders	\$9,500...	\$7,000.00	-\$2,500.00
☐		Employee Satisfaction Survey	C...	23-APR-24	24-APR-24	Closed	Irene Jones	\$1,200...	\$800.00	-\$400.00
☐		Public Website	D...	23-APR-24	23-APR-24	Closed	Tiger Scott	\$200.00	\$200.00	\$0.00
☐		Public Website	C...	23-APR-24	23-APR-24	Closed	Tom Suess	\$100.00	\$100.00	\$0.00

Faceted Search

Faceted Search will make it easier for your users to find the data they want



Cards

Lets developers show data in cool, flexible little blocks

Cards



Big Data

Fee: 100.00

This small workshop covers data volume management, its analysis, integration and visualization. It a...



Cloud Services

Fee: 240.00

In this workshop we will cover protection of your data, containerized apps, shared block storage and...



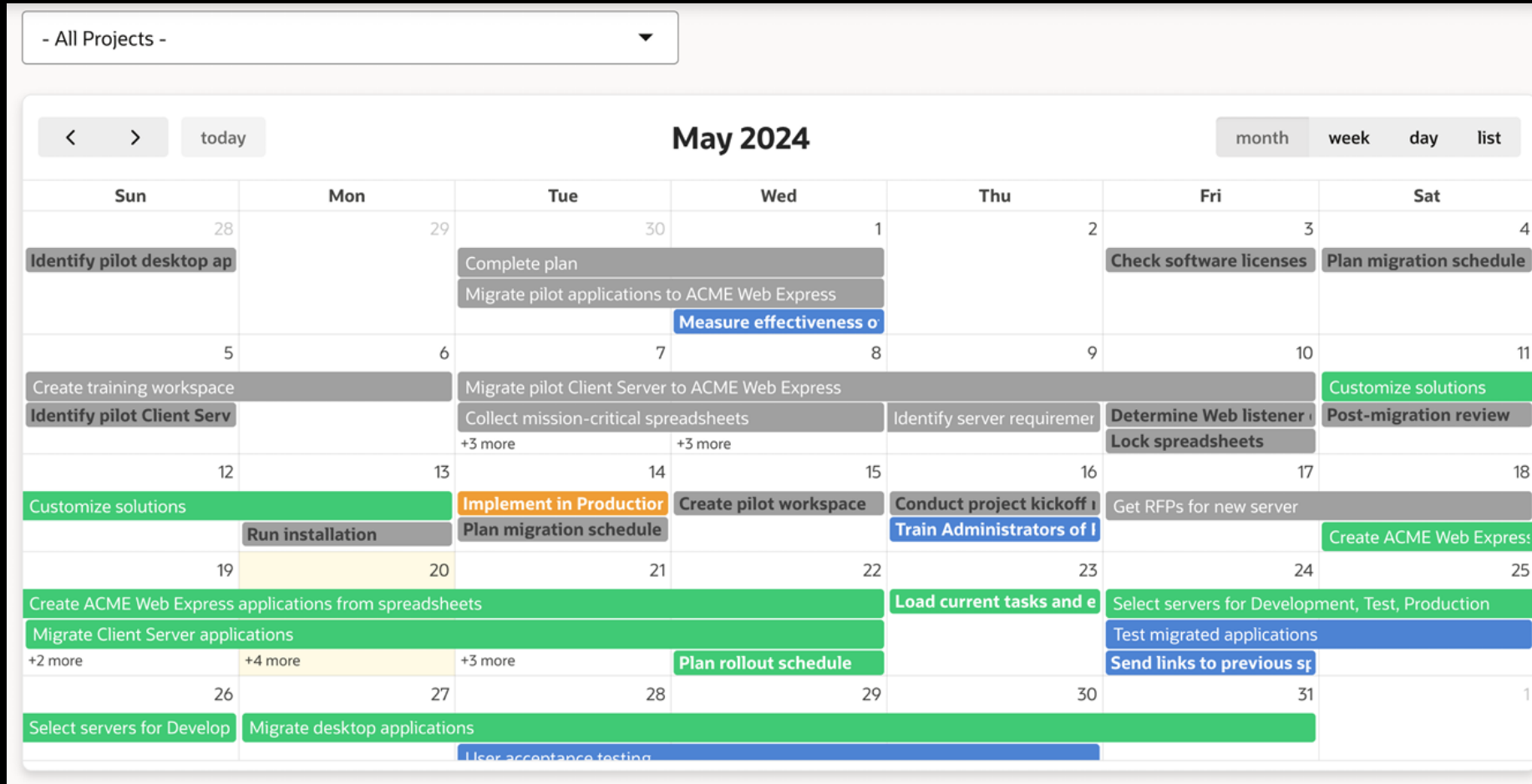
Quantum Computing

Fee: 350.00

In this workshop, the topic of Quantum Computing as a strategy for the future development of applica...

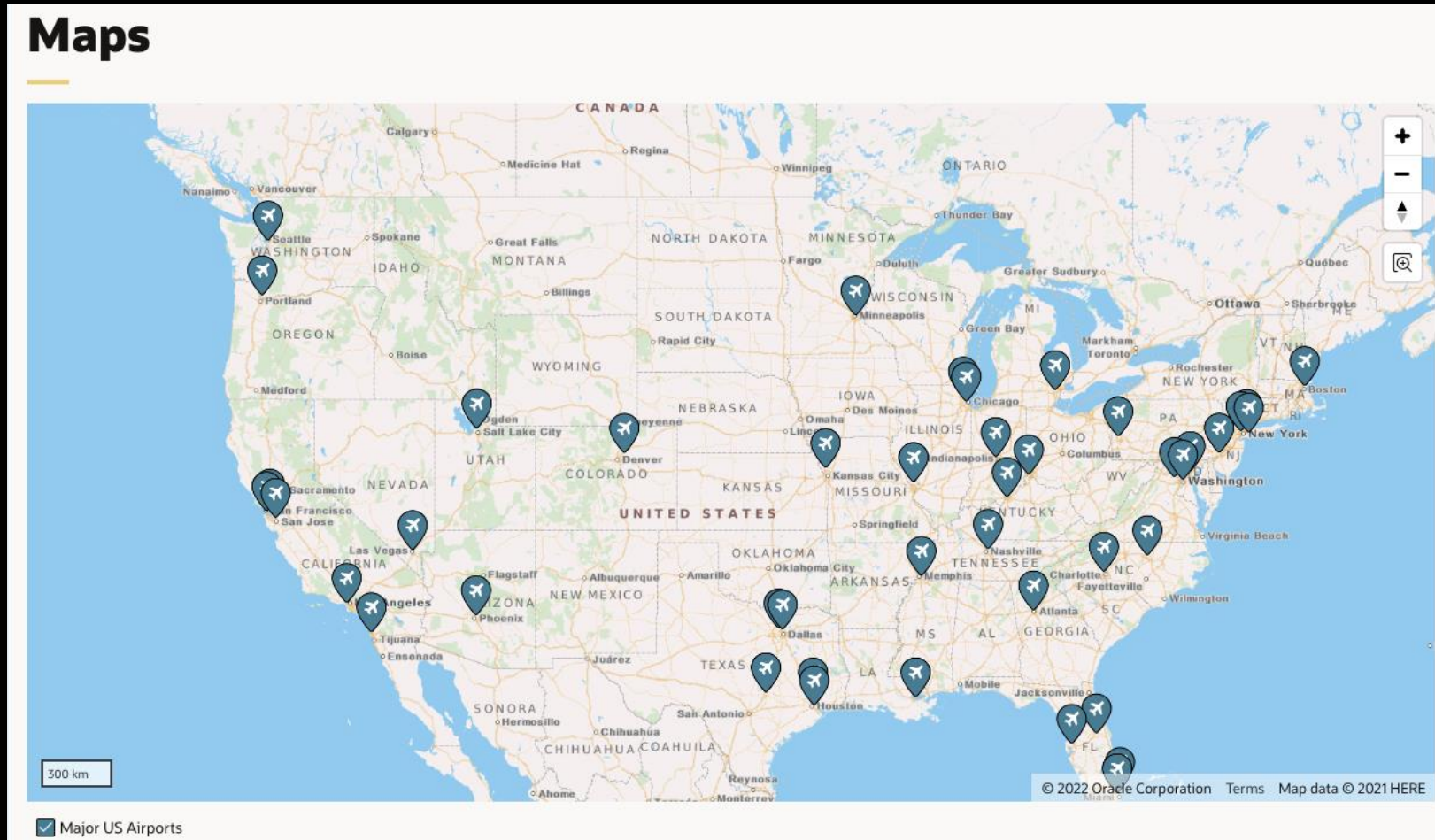
Calender

Built on the Full Calendar library and lets you drag and drop, switch between different views, and more

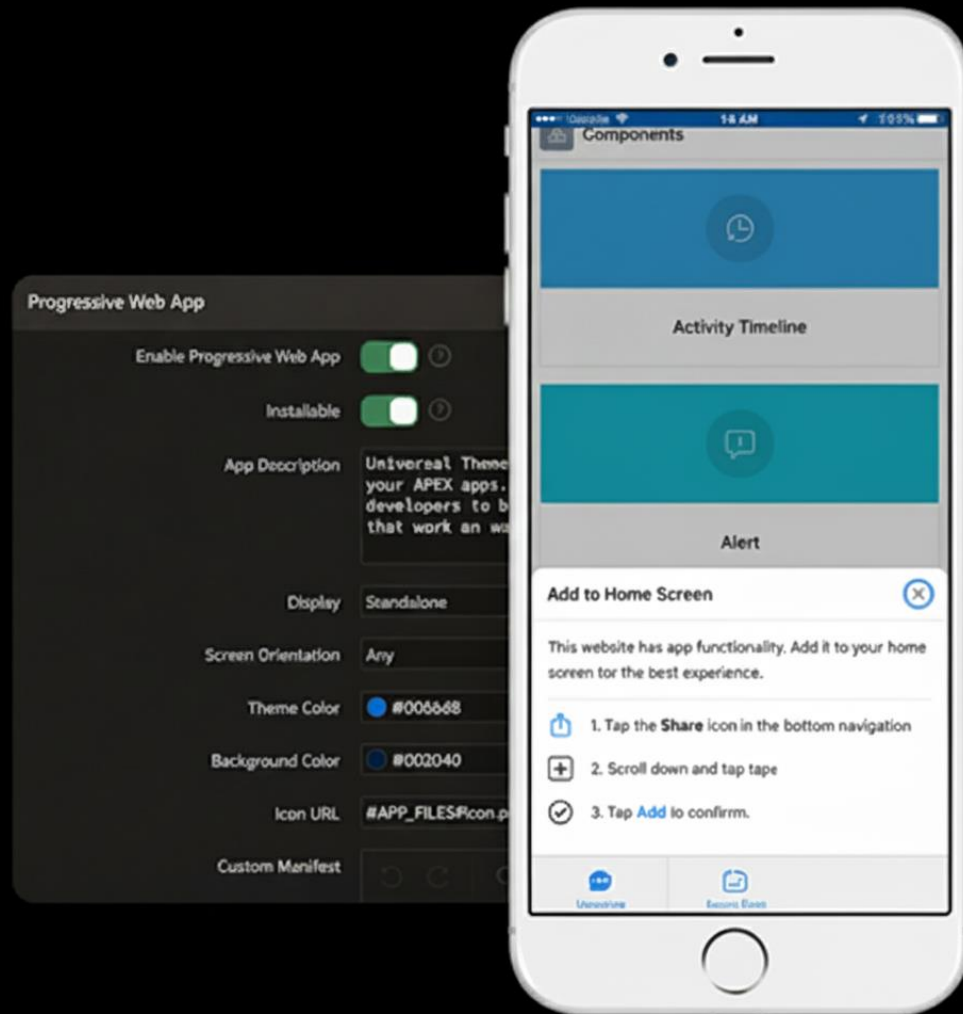


Maps

Displays coordinate data and is highly customizable. It supports points, lines, polygons and various map backgrounds



Progressive Web Applications (PWA)



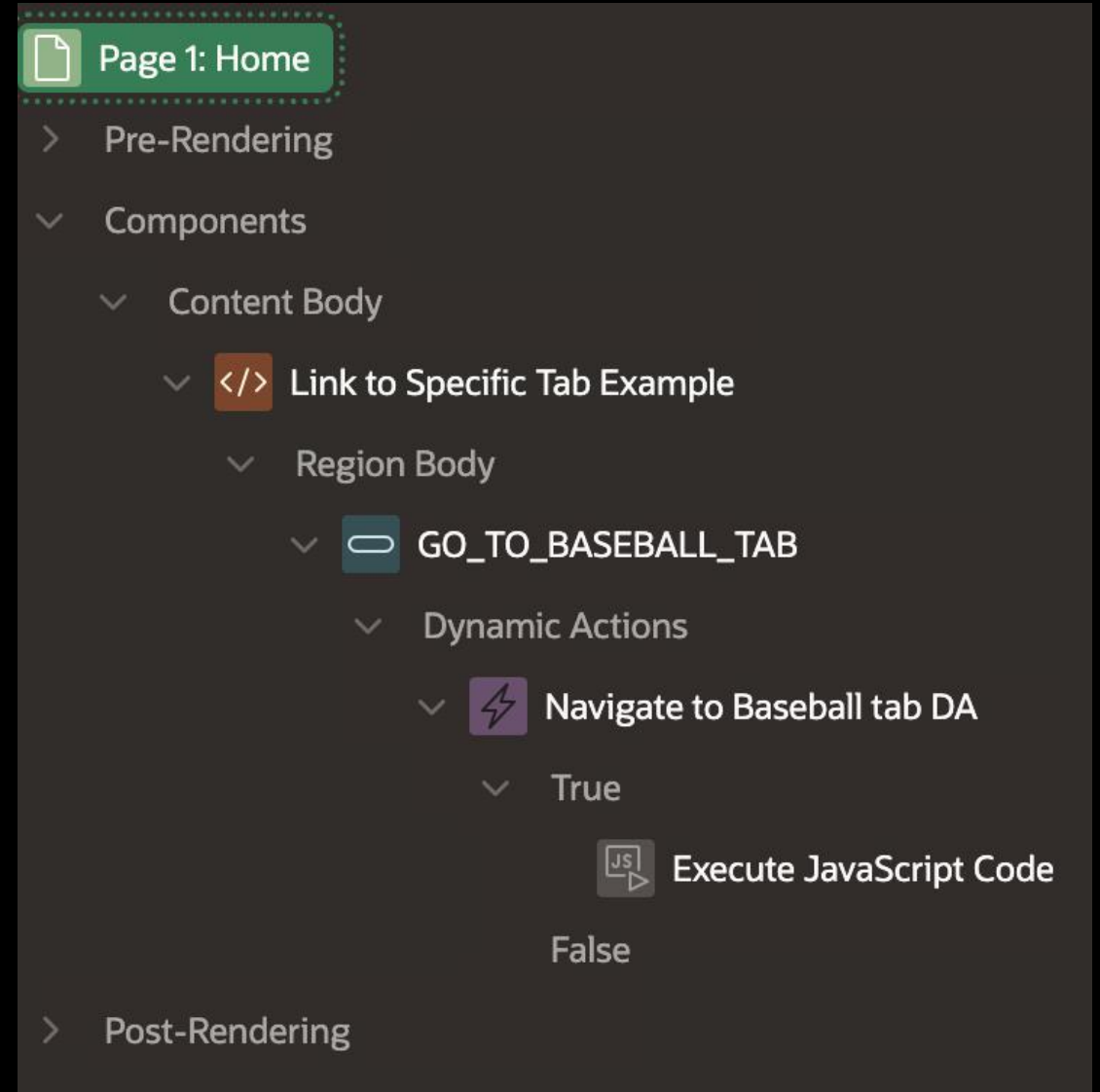
- Install an APEX app as a Progressive Web App (PWA)
- Show a customizable offline page when offline
- Improve page load time with a new cache for static files
- Send real-time notifications to devices
- Use features like geolocation, data sharing, and camera access
- Customize app appearance, including icons and color schemes

Charting

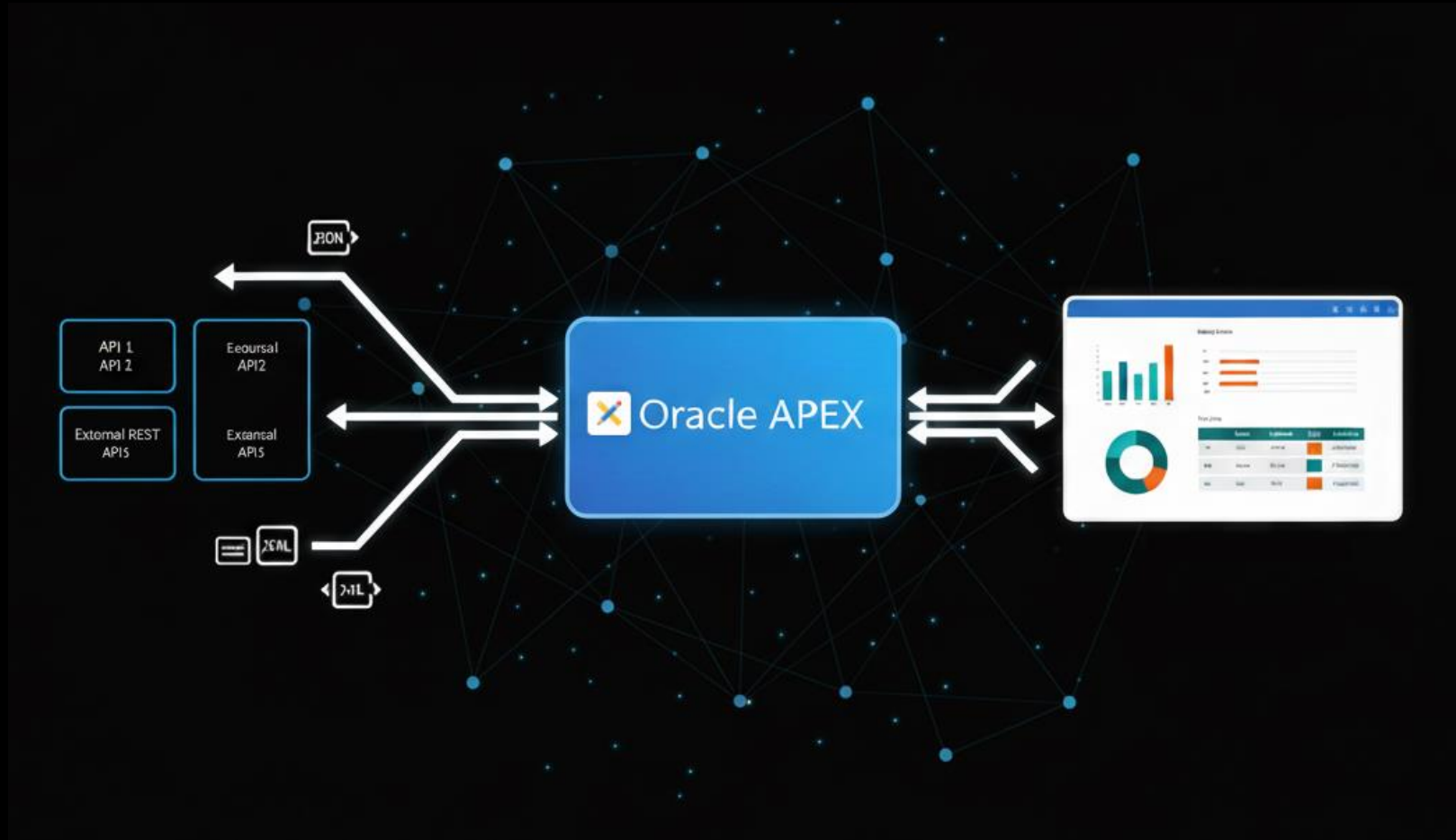


Dynamic Actions

- Use Dynamic Actions for complex client-side tasks without JavaScript
- Set conditions for actions and determine affected elements
- Create or use page components to trigger actions
- Oracle maintains the code and security of the JavaScript



Consuming External REST APIs



You can use these as data sources for Oracle APEX components, such as:
Interactive Report, Classic Report, Chart, Calendar...

Plug-ins (https://apex.world)

Extend your APEX applications with custom functionality that is not available natively in the platform.

The screenshot displays the apex.world website, which is a platform for sharing and downloading APEX plug-ins. The main navigation bar includes links for Home, Ask AI, Beginners, Post Jobs & Find Developers, Meetings & Trainings, Plug-ins (selected), and Community. A secondary navigation bar shows filters, a reset button, and a link to GitHub for Contributors.

The main content area is divided into two views: Card View (selected) and Report View. Under Card View, there is a grid of plug-in cards. Each card displays the plug-in name, type, author, added/updated dates, and a brief description. The cards shown are:

- Popup LOV Events 1.0.0**: Type: Dynamic Action, Author: Karel Ekema, Added: 30-Sep-2025, Updated: 02-Oct-2025. Description: Supports Popup LOV Open and Close events as can be used in Dynamic Actions. #lib4x
- IG Single Row 1.0.0**: Type: Region, Author: Karel Ekema, Added: 16-Sep-2025, Updated: 16-Sep-2025. Description: Region plugin to render a single row of data in a simple form layout, enabling editing, navigating and re...
- Google reCaptcha Version 3 Plugin 1.0**: Type: Item, Author: Mauricio Carlos Dias, Added: 12-Sep-2025, Updated: 13-Sep-2025. Description: This Oracle APEX CAPTCHA v3
- IR Group Headers 1.0**: Type: Dynamic Action, Author: Luis Ricardo Oliveira, Added: 12-Sep-2025, Updated: 12-Sep-2025.
- Sankey Chart Pro 25.1**: Type: Region - Commercial, Author: United Codes, Added: 10-Sep-2025, Updated: 10-Sep-2025. Description: United Codes Sankey Chart Pro: Sankey Chart Pro is a robust and user-friendly plug-in for visualizing...
- Image Edit Pro 25.1**: Type: Region - Commercial, Author: United Codes, Added: 10-Sep-2025, Updated: 10-Sep-2025. Description: United Codes Image Edit Pro: Image Edit Pro is a powerful and intuitive image editing plug-in de...
- Map Cor**: Type: Item, Author: Salah-Edd, Added: 09-Sep-2025, Updated: 09-Sep-2025. Description: A custom Oracle A developers to add cu

A modal window titled "Plug-in Details (Be aware of the security and compatibility risks when installing Plug-ins!)" is open, showing details for the "Responsive Number Counter (1.2)" plug-in. The details include:

- Template Component Plug-in** by Timo Herwix
- Description: This template component shows one (or multiple) animated counters that count up from zero to the final number. The animation will start only when the element is visible on the screen.
- DB versions: 23.2.0, 21.1.0, 19.1.0
- APEX versions: 23.2.0, 23.1.0
- Links: GitHub Project Page, Download, Demo
- Social: Homepage, @therwix

At the bottom right, there is a section for "Template Component" titled "Responsive Number Counting" with statistics: 50+ Happy Customers, 10000+ Lines of code, 20+ Projects, and 50+ Developers.

Security!

Security

Oracle APEX is designed to help you create secure web apps out of the box. As web standards keep always changing and clever attackers out there, Oracle puts a big focus on security to make sure your applications stay safe and secure.

- Authentication and Authorization
- Session Management
- Secure by Default
- Support for SSO (Single Sign-On)



Secure Access Made easy

The screenshot shows a website header for 'ā'pěks (#orclapex) with a dark background. The header includes a search icon, a sun icon, and a dropdown arrow in the top right. Below the header is a navigation bar with links: Home, Cloud Computing, Secure Access Made Easy, APEX Tips, Other Series, About Us, and Newsletter. The main content area features a series titled 'Secure Access Made easy' with a description: 'In this series read more about how you can use the OCI IAM in APEX to manage users and roles and implement advanced security features to protect applications and improve the user experience.' To the right of the text is a diagram illustrating the concept of 'Secure Access Made Easy!'. The diagram shows a 'Password' box (with a user icon) plus a 'Proof' box (with a fingerprint icon) equals a 'Secure Access' box (with a checkmark icon).

ā'pěks
(#orclapex)

Home Cloud Computing **Secure Access Made Easy** APEX Tips Other Series About Us Newsletter

SERIES

Secure Access Made easy

In this series read more about how you can use the OCI IAM in APEX to manage users and roles and implement advanced security features to protect applications and improve the user experience.

Secure Access Made Easy!

<https://tm-apex.hashnode.dev/series/secure-access>

1

Introduction

2

Demo

3

Get Started



1

Introduction

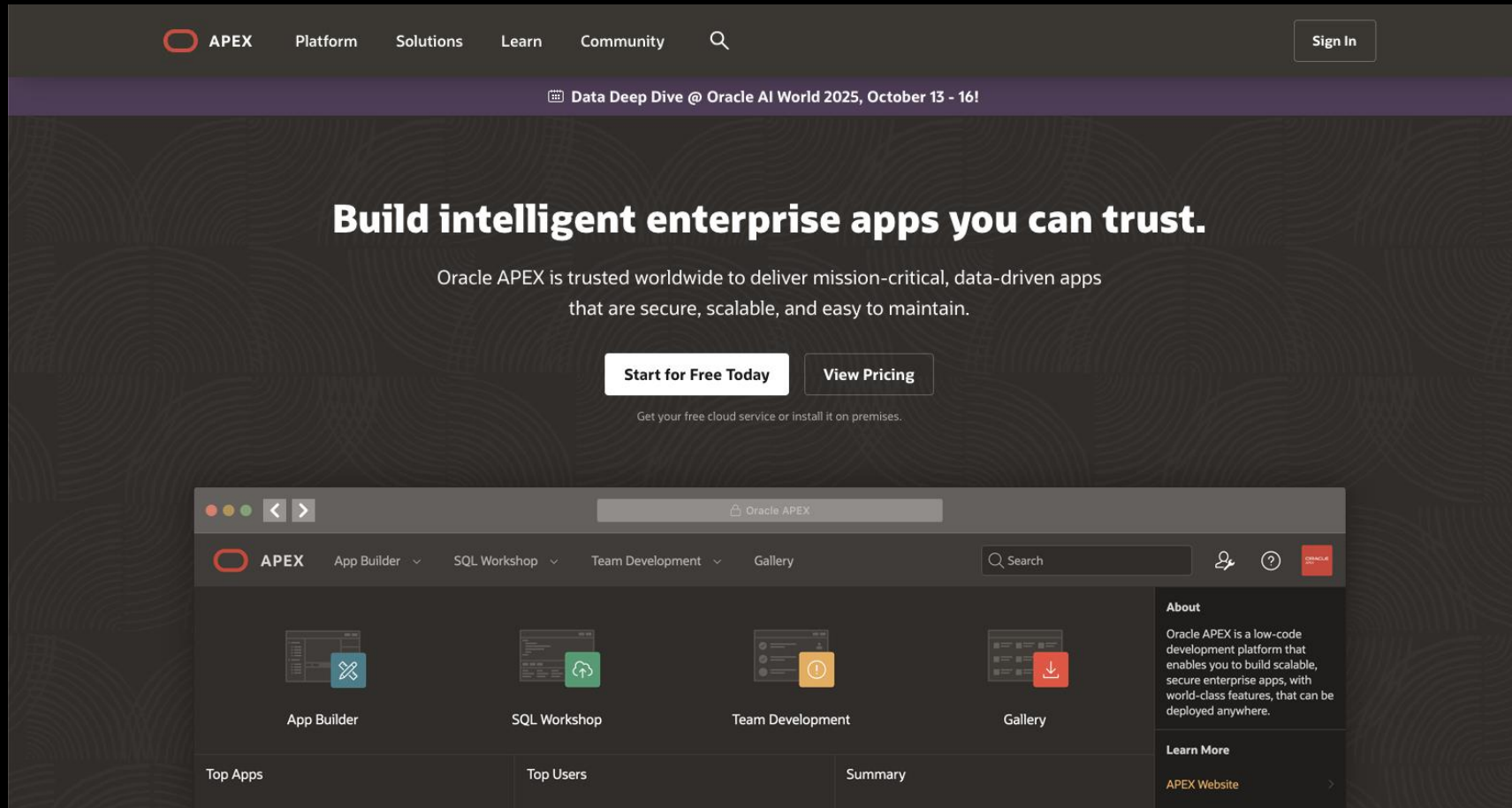
2

Demo

3

Get Started

Get Started!



<https://apex.oracle.com>

Get Started!

Free APEX Workspace

Explore the capabilities of the APEX low-code application platform and begin building your first app today. This is the fastest way to get started with APEX.

[Free Sign Up](#)[Learn More](#)[Watch Video](#)

- ✓ Ideal for evaluating APEX
- ✓ Get started within minutes
- ✓ Early access to upcoming APEX releases
- ✓ No installation or configuration needed
- ✓ Completely free, no credit card required

RECOMMENDED

APEX on Oracle Cloud

Develop and deploy low-code applications on a secure and fully managed APEX environment on the world's first and only Autonomous Infrastructure.

[View Pricing](#)[Watch Videos](#)

- ✓ Two Always Free environments, each with CPU and approximately 20 GB storage included, with one-click upgrade to unlock more resources
- ✓ No limits on apps, users, or developers
- ✓ Automatic monitoring, backups, patching, and upgrades
- ✓ Highly available with Auto Scale
- ✓ Available in 40+ public cloud regions
- ✓ Compliant with regional data regulations, including FedRAMP, HIPAA, SOC 1-3, PCI

APEX on Premises

Download and install APEX on any edition of Oracle Database. Turn your database into a low-code application platform for building web and mobile apps.

[Download](#)[Watch Video](#)

- ✓ Deploy APEX in your data center
- ✓ Fully supported no-cost feature of all Oracle Database editions
- ✓ No limits on apps, users, or developers
- ✓ Full control of your application platform - upgrades, patching, backups, tuning
- ✓ Build apps locally and deploy on cloud, or vice versa

Get Started!

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.

First name *

Timo

Last name *

Herwix

Email *

timo.herwix@hyand.com

Workspace name *

therwix

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

Your Location *

Germany

Are you new to Oracle APEX? *

☒ Yes ☐ No

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

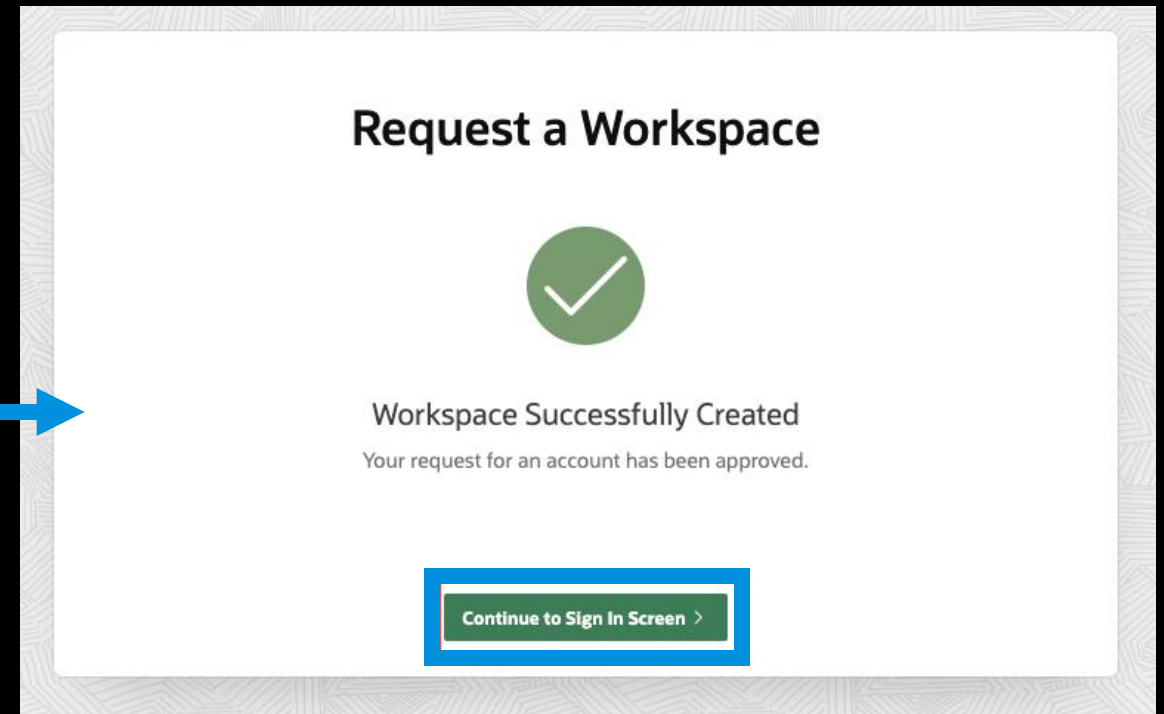
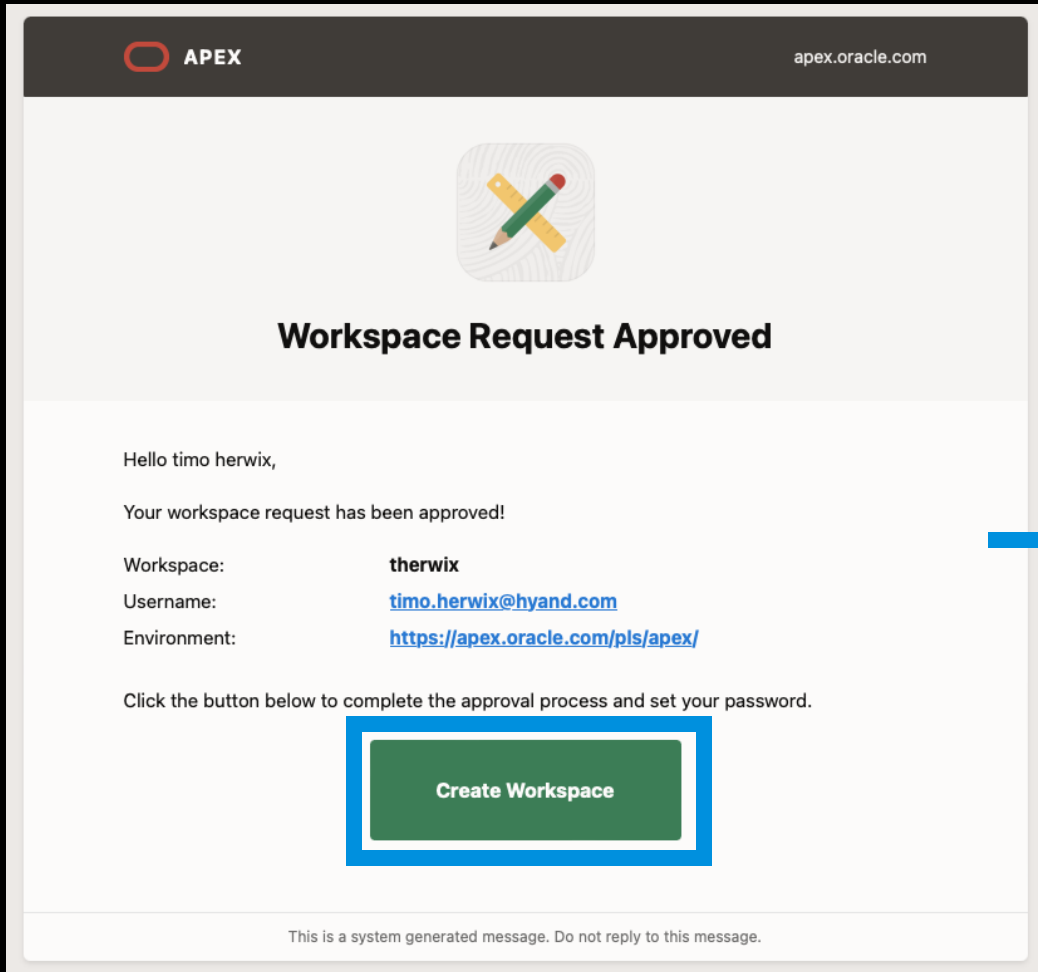
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APEX 24.2 Tutorial

Dieses Tutorial hilft Ihnen, sich in APEX zurecht zu finden und Ihre erste Anwendung zu entwickeln. Außerdem erhalten Sie einen Einblick in erweiterte Funktionen und Best Practices.

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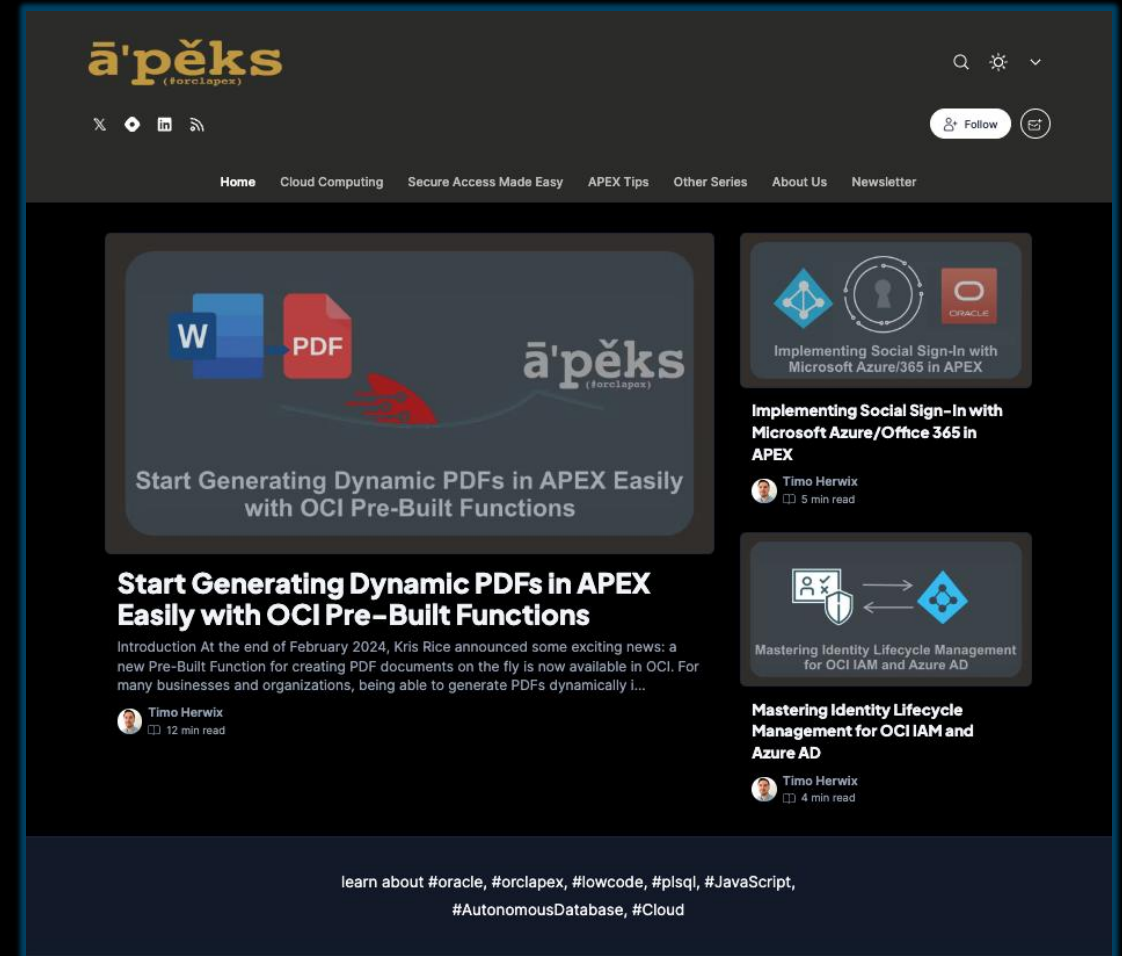


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