



Tecnologías de desarrollo con Low-Code en la Comunidad de Madrid

Nube, recursos, cuentas y tutoriales en línea

Recursos para aprender
y entornos para construir

Óscar Sánchez Baeza
Principal Account Cloud Engineer
Database Platform



El recorrido de hoy



Aprender

Oracle Cloud Infrastructure
Recursos e itinerarios

Experimentar

Entornos en la nube
Servicios de OCI

Construir

Base de datos 26ai
APEX y herramientas visuales



Recursos de Oracle Academy



La universidad da acceso a formación y práctica, según su acuerdo y activación

Planes de estudio

Bases de datos, Java y computación en la nube.

Education Bytes

Laboratorios breves, proyectos y retos.

Centro de desarrollo profesional

Contenido para seguir aprendiendo.

Espacios de trabajo APEX

Desarrollo de aplicaciones en el navegador.

Programa de acceso a la nube

Recursos en la nube para practicar.

Portal del estudiante

Acceso del alumno vinculado al centro.



Cuatro rutas para empezar



Cada equipo puede elegir la que mejor encaje con su proyecto

Datos	Diseño de datos y SQL. IA como copiloto para definir el modelo de datos.
Programación	APEX y una aplicación que utiliza servicios y datos.
Nube	Fundamentos de OCI y una primera práctica de despliegue.
Inteligencia artificial	Education Bytes sobre lenguaje natural, Select AI, RAG y vectores.

Modalidades de acceso a la nube



Modalidad	Crédito publicado o confirmado	Plazo
Nivel gratuito público	Servicios Always Free	Hasta fin del entorno de pruebas
Dotación del evento	Por equipos, según Compartimento, 250 USD	Hasta fin de periodo de vida del entorno



Servicios gratuitos de Oracle Cloud



Always Free: recursos sin límite de tiempo, dentro de las cuotas publicadas

Cómputo

2 VM AMD con 1 GB de RAM cada una.
Ampere A1: 2 OCPU y 12 GB de RAM
en total para cuentas Always Free.

Bases de datos y APEX

2 Autonomous de 20 GB, con APEX.

Almacenamiento

200 GB de volúmenes y 5 copias.
20 GB de objetos y archivo en total.

Redes y tráfico

2 VCN, balanceador de 10 Mbps y NLB.
VPN y 10 TB/mes de tráfico de salida.

Supervisión e integración

Monitoring, Logging, APM y Connector Hub.
Email Delivery: 3.000 correos/mes.

Seguridad y automatización

Vault, Bastion, certificados y
Resource Manager (Terraform).

Prueba inicial: 300 USD durante un máximo de 30 días. Always Free continúa después.

Disponibilidad según región, capacidad y límites de la cuenta. Consultar las cuotas en la consola.



Cómo aprovechar los entornos



Organización por equipos

Organización por compartimentos.
Cada equipo en un compartimento.
Métricas de consumo, avisos
Acceso a recursos mediante políticas de acceso en OCI

Datos, inteligencia artificial y desarrollo

Autonomous DB, SQL
APEX
Búsqueda semántica
Preguntas sobre datos (Select AI)
Experimentos por equipos
Prácticas guiadas (Livelabs)

Cada equipo y participantes conocen sus recursos y revisan su consumo

Los presupuestos de OCI generan avisos.

OCI: las piezas de una solución cloud



Oracle Cloud Infrastructure

Pieza	Para qué sirve	Ejemplo
Identidad y acceso	Quién puede hacer qué	Permisos de vuestro equipo
Cómputo y red	Ejecutar y conectar programas	VMs Computo, VCNs
Almacenamiento	Conservar ficheros	Imágenes y documentos
Base de datos	Organizar y consultar información	Proyectos de datos
Observabilidad	Entender lo que ocurre	Métricas y errores



Acceso OCI





Q Search



Oracle Cloud Infrastructure (OCI)

The next-generation cloud designed to run any application with strong performance, security, and cost efficiency.

[Try OCI for free](#)[Chat with Oracle Sales](#)

Cloud Account

[Sign in to Cloud](#)

[Sign Up for Free Cloud Tier](#)

Oracle Account

[Sign-In](#)

[Create an Account](#)

[What is Oracle Cloud Infrastructure? \(2:15\)](#)

See AI deliver business outcomes

Join us at Oracle AI World in Las Vegas from October 25 to 28 to see how Oracle's AI and other technology innovations are helping organizations solve challenges across industries. Hear from Oracle leaders, explore demos and case studies, and connect with experts and peers.

[Register today](#)





Acceso OCI



Search



ORACLE Cloud

Cloud Account Name ?

emeas

Next

Forgot your cloud account name? [Open a live chat](#)

Not an Oracle Cloud customer yet?

Sign Up

Oracle Cloud Infrastructure virtual events

Maximize your Oracle Cloud Infrastructure (OCI) experience by participating in an extensive selection of live and on-demand events. Hear from OCI experts, discover how customers are innovating with OCI, and gain practical hands-on experience.

Explore OCI events

Run Oracle AI Database in the cloud of your choice

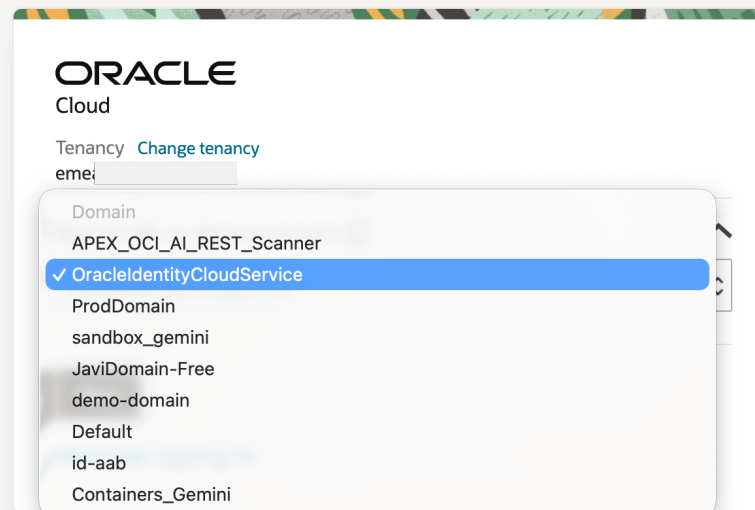
Connect with experts from Oracle and our hyperscaler partners at info sessions where you can learn more and get your questions answered about starting your Oracle database migration to AWS, Google Cloud, Microsoft Azure, and Oracle Cloud Infrastructure.

Register today

Acceso OCI



 Cloud Infrastructure



Acceso OCI



ORACLE Cloud

eme

Oracle Cloud Account Sign In

Identity domain ⓘ
OracleIdentityCloudService

User Name

ⓘ

Unlock your account to view autofill suggestions

[Unlock account](#)

Or sign in with

 Oracle SSO

[Need help signing in?](#)

ORACLE Cloud

emeas

dasd

Identity domain ⓘ
OracleIdentityCloudService



Password

Enter your password

[Forgot Password?](#)

[Show alternative login methods](#)



Acceso OCI



Sign in to Oracle

Enter your Oracle email address

oscar.x.sanchez@oracle.com



Next

Use of the Oracle network and applications is intended solely for Oracle's authorized users. By accessing the network and/or applications, you agree that (i) you will comply with Company policies including the [Code of Conduct](#), [Acceptable Use Policy](#) and [Information Protection Policy](#) (ii) Oracle may transfer and store information internationally, including in the United States, and (iii) to the extent consistent with applicable law, Oracle may monitor use of the network and applications and may transfer and disclose information as required for legal and other purposes, as specified in the [Internal Privacy Policy](#).

Acceso OCI



Cloud

Search resources, services, documentation, and Marketplace

Germany Central (Frankfurt)

AI

Home

Tenancy: emea

Normal performance

[View service health](#)

Customize

Get more done with Console AI

Get contextual guidance, troubleshoot issues, and take supported actions based on your OCI resources and activity.

Open Console AI

Resources

My recently viewed

Recently created

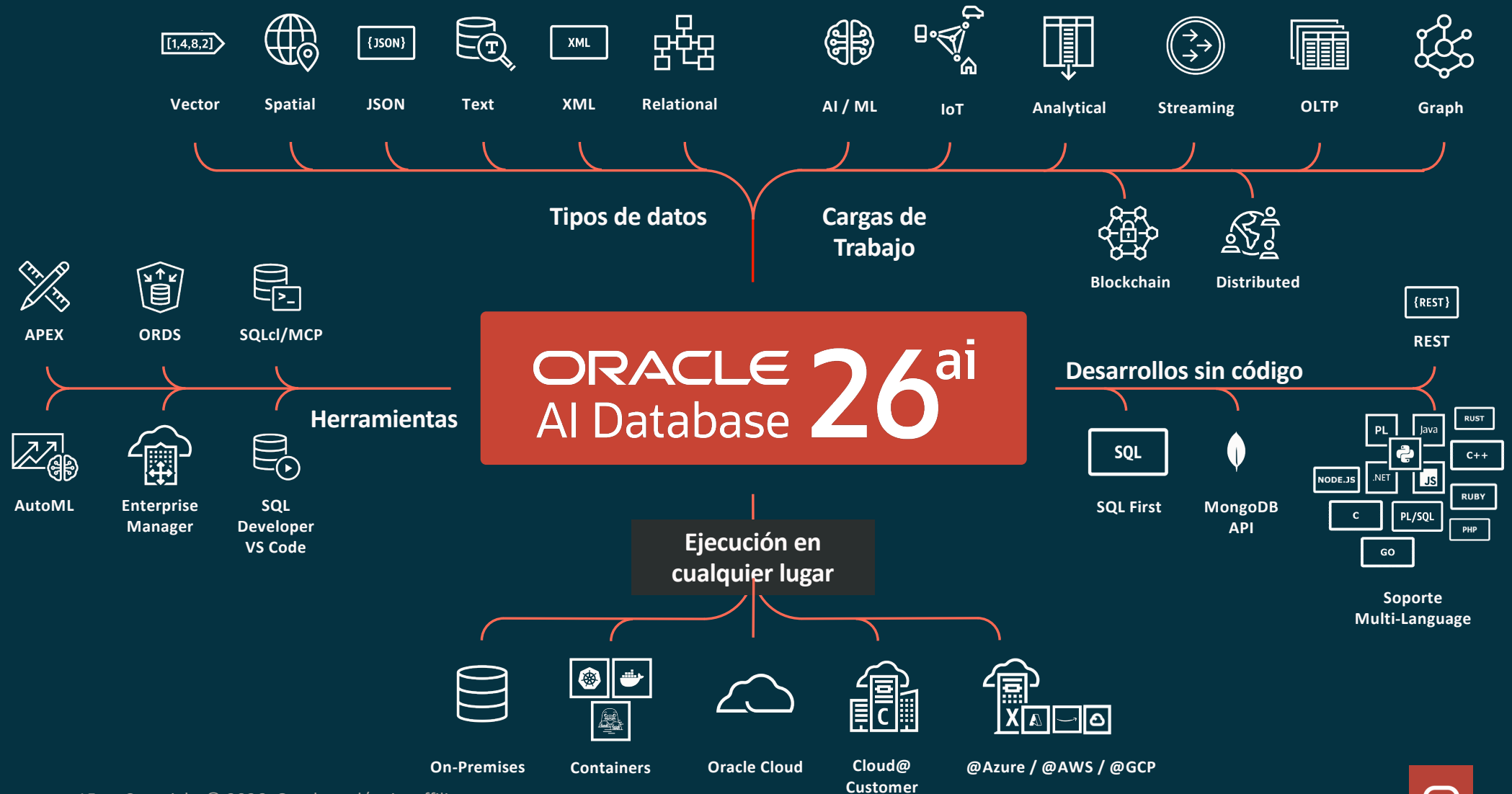
Resource collections

Germany Central (Frankfurt)

View all Resources

As you view and work with infrastructure resources in the tenancy, you can see them listed here.





Autonomous AI Database y 26ai



26ai

Base de datos multimodelo

Autonomous AI Database

El servicio que automatiza
la operación de la base de datos



Qué automatiza la base de datos autónoma



El servicio

Aprovisionamiento
Copias de seguridad
Parches y actualizaciones
Capacidades de escalado

Vuestro equipo

Modelo de datos
Permisos de la aplicación
Reglas y consultas
Comprobación de resultados

La automatización permite dedicar más tiempo al proyecto.



Creacion Autonomous DB



Oracle AI Database

Overview

- Autonomous AI Database** (highlighted)
- Autonomous AI Database on Dedicated Infrastructure
- Globally Distributed Autonomous AI Database
- Globally Distributed Exadata Database on Exascale Infrastructure
- Oracle Base Database Service
- Oracle Exadata Database Service on Dedicated Infrastructure
- Oracle Exadata Database Service on Exascale Infrastructure

Oracle Base Database Cloud@Customer

Oracle Exadata Database Service on Cloud@Customer

Exadata Fleet Update

External Database

Database Multicloud Integrations

Data Safe - Database Security

- [Overview](#)
- [Security assessment](#)
- [User assessment](#)
- [Data discovery](#)
- [Data masking](#)

Database Backups

GoldenGate

API Access Control

- [API Controls](#)
- [Access Requests](#)

Delegate Access Control

- [Delegation Controls](#)
- [Access Requests](#)

Operator Access Control

- [Operator Controls](#)
- [Access Requests](#)



Creacion Autonomous DB



☰ Cloud

Q Search resources, services, documentation, and Marketplace

▼ Germany Central (Frankfurt)

🔍 🔔 ⓘ

🧑 AI

Oracle AI Database

< Autonomous AI Database

Autonomous AI Database

Autonomous AI Databases

Autonomous AI Database delivers fast performance and requires no database administration. It performs all routine database maintenance tasks without human intervention while the system is running. [Learn more](#)

Q Search and Filter

Search

Applied filters

Compartment oscar.x.sanchez

Create Autonomous AI Database

☰

Display name	State	Compute	Storage	Workload type	Disaster recovery	Elastic pool	
MJusticiaRAG	Available	8 ECPU's	1 TB	Lakehouse	Primary	—	...
OSB_AI_DEMOS	Available	4 ECPU's	1 TB	Transaction Processing	Primary	—	...
OSB-IcebergTests	Stopped	2 ECPU's	1 TB	Lakehouse	Primary	—	...
Clone-of-OSB_Playgroud_mcp_LHR	Available	2 ECPU's	300 GB	Transaction Processing	Primary	—	...

◀ ▶

Page 1 of 1 (1 - 4 of 4 total items)

Items per page 25 ▼



Creacion Autonomous DB



Create Autonomous AI Database Serverless

Run Autonomous AI Database on serverless architecture. [Learn more](#)

Display name
Autonomous-Test

Database name
AutonomousTest

Compartment
oscar.x.sanchez

Workload type

Lakehouse

Built for analytics and AI. Fast insights from a single lakehouse for all your data.

Transaction Processing

Built for transactional workloads. High concurrency for short-running queries and transactions.

JSON

Built for JSON-centric application development. Developer-friendly document APIs and native JSON storage.

APEX

Built for Oracle APEX application development. Creation and deployment of low-code applications, with database included.

Cancel

Save as stack

Create



Creacion Autonomous DB



Database configuration

Always Free

☐

Always Free resources can be created in both Free Tier and paid accounts. You will never be charged for these resources. [Learn more](#) about the Always Free Autonomous AI Database.

Developer

☐

An Autonomous AI Database for Developers is a low-cost, fixed-shape instance intended for development and testing. When a database is ready for production, you may upgrade your developer database to a full paid database that can be scaled up when needed. [Learn more](#)

Choose database version

26ai



ECPU count

2



Compute auto scaling

☒

Allows system to expand up to three times the specified ECPU count as demand increases. [Learn more](#) about auto scaling.

Create

Cancel

Save as stack

Create

Creacion Autonomous DB



Compute auto scaling



Allows system to expand up to three times the specified ECPU count as demand increases. [Learn more](#) about auto scaling.

Storage
1024



Storage unit size
GB



Storage auto scaling



Allows system to expand up to three times the reserved storage.

> Advanced options

Automatic backup retention period in days
60



Cancel

Save as stack

Create

Creacion Autonomous DB



Create Autonomous AI Database Serverless

Run Autonomous AI Database on serverless architecture. [Learn more](#)

Backup retention lock



Enabling this option locks the backup retention period, making the retention period immutable and preventing changes to it. Use this lock as a security measure to protect the backup retention period from accidental changes or ransomware.

Warning

Automatic backups are managed by Oracle. Backup storage is billed separately and in addition to database storage. When a backup ages beyond the backup retention setting, it is deleted. [Learn more](#)

Administrator credentials creation

Set the password for your Autonomous AI Database ADMIN user here.

Username ADMIN

Password



Required

Confirm password



Required

Cancel

Save as stack

Create

Creacion Autonomous DB



Create Autonomous AI Database Serverless

Run Autonomous AI Database on serverless architecture. [Learn more](#)

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Username

ADMIN

Password



Required

Confirm password



Required

Cancel

Save as stack

Create

Creacion Autonomous DB



Cloud

Search resources, services, documentation, and Marketplace

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AI

Oracle AI Database

Autonomous AI Database

Autonomous AI Database

Autonomous AI Databases

Autonomous-Test

Provisioning

Always Free

Database actions

Database connection

Performance Hub

More actions

Autonomous AI Database information

Tool configuration

Backups

Key history

Disaster recovery

Security

Monitoring

Work requests

Tags

General information

Database name

AutonomousTest

Workload type

APEX

Compartment

emeasespainsandbox (root)/Presales_Spain/Cloud/os car.x.sanchez

OCID

...hgc7ysfhvkanwrznbh5k5uj4q

Copy

Created

Oct 13, 2026, 1:50:14 PM UTC

Database version

26ai

Database availability

Provisioning

Disaster recovery

Disaster recovery protects your database instance by providing peer databases in a different availability domain or region. [Learn more](#)

Role

—

Local

Not enabled

Cross-region

Not enabled

Enable

Full Stack DR

Configure

The list of DR protection groups that have this database as a member. This list may be incomplete due to insufficient policy permissions to access.

Backup

Automatic backup retention period

60 days

Edit

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Demo Acceso OCI



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Cloud

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👤

AI

Oracle AI Database

Autonomous AI Database

Autonomous AI Database

Autonomous-Test

Available

Always Free

Database actions

Database connect

More actions

Autonomous AI Database information

Tool configuration

Backups

Key history

Disaster recovery

Security

Monitoring

General information

Database name	AutonomousTest	
Workload type	APEX	
Compartment	emeasespainsandbox (root)/Presales_Spain/Cloud/os car.x.sanchez	
OCID	...hgc7ysfhvkanwrznbh5k5uj4q	Copy
Created	Oct 13, 2026, 1:50:14 PM UTC	
Database version	26ai	
Database availability	Available	
Instance type	Free	Upgrade to paid

Disaster recovery

Disaster recovery protects your database availability domain or region. [Learn more](#)

Role

Local

Cross-region

Full Stack DR

Backup

Automatic backup retention period

Manage resource allocation

Edit tool configuration

Stop

Restart

Restore

Create clone

Administrator password

Manage encryption key

Migrate Data

Rename database

Update display name

Upgrade instance to paid

Move resource

Add security attributes

Manage tags

Terminate

Enable

Edit

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Select AI: preguntas sobre vuestros datos

«¿Qué departamentos tienen más proyectos disponibles este curso?»

La pregunta

Lenguaje natural
y contexto del proyecto

La consulta

SQL generado
que se puede revisar

El resultado

Datos que responden
a la pregunta

Búsqueda por palabras y por significado



Coincidencia textual

«energía»

Busca esa palabra
en el título o el texto.

Similitud semántica

«reducir el consumo
eléctrico de edificios»

Busca descripciones relacionadas.

Vectors are used in AI to encode unstructured data

Such as images, documents, videos, etc.

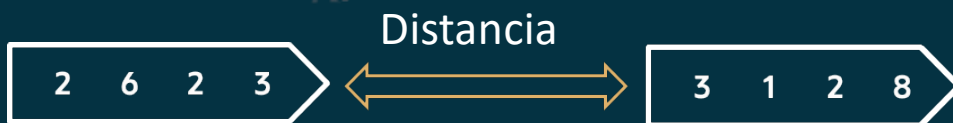


Un Vector es una secuencia de números, llamada dimensiones, que representan las características más importantes de un objeto.

Los vectores representan el contenido semántico de los datos. No las palabras exactas de un documento, o los pixels de una imagen

Los vectores son producidos desde datos desestructurados por modelos de inteligencia artificial como redes neuronales.

La operación principal sobre vectores es la distancia matemática entre ellos.



RAG: respuestas con vuestros documentos



- | | |
|-----------------------|--|
| 1 Pregunta | El alumno plantea lo que necesita saber. |
| 2 Recuperación | El sistema localiza fragmentos relevantes. |
| 3 Generación | El modelo utiliza esos fragmentos como contexto. |
| 4 Comprobación | La aplicación facilita revisar la respuesta y sus fuentes. |



Recursos para aprender y practicar

1. Oracle LiveLabs

Laboratorios prácticos de búsqueda vectorial, Select AI, agentes de IA y otros temas de la charla.



2. Oracle Database Free

Oracle AI Database 26ai Free permite practicar gratuitamente con hasta 2 CPU, 2 GB de RAM y 12 GB de almacenamiento para datos, en un paquete listo para utilizar.





Laboratorio práctico

Ejemplo de RAG con Oracle AI Vector Search



Oracle LiveLabs

<https://livelabs.oracle.com/pls/apex/dbpm/r/livelabs/view-workshop?wid=4127>



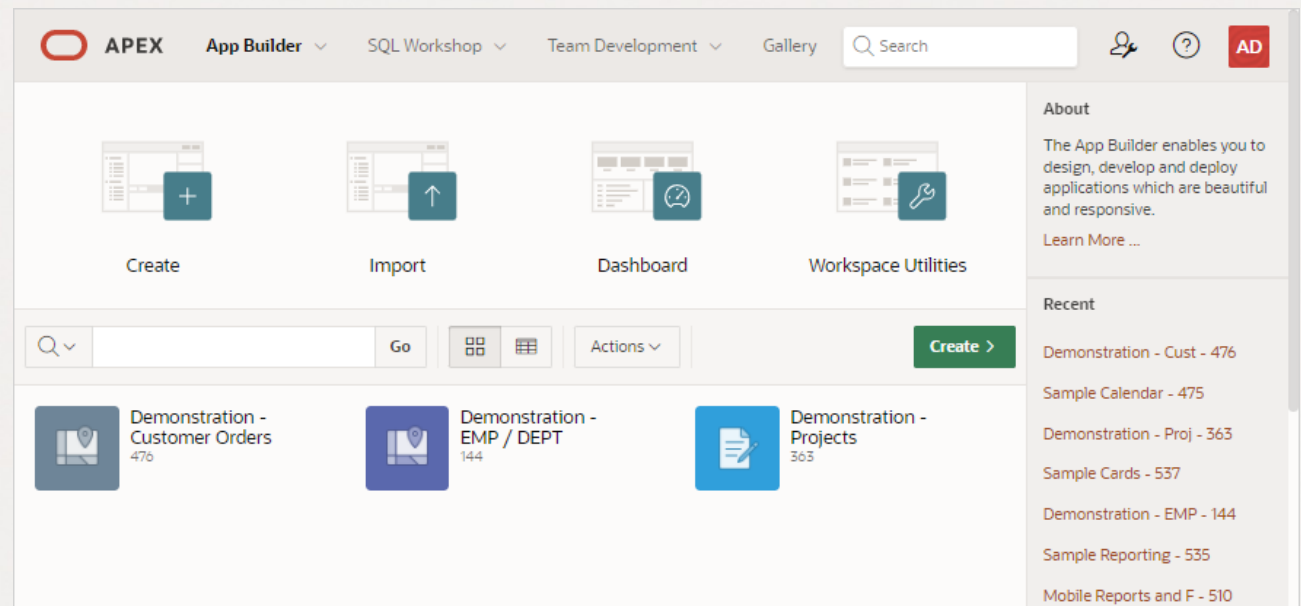
Oracle APEX



CSV o Excel

Tabla de datos

Formularios
e informes



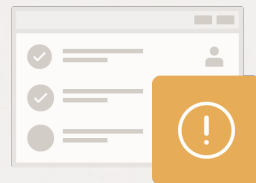
Funcionalidades de APEX



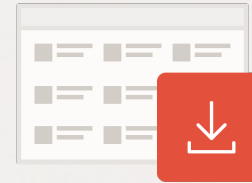
Constructor de aplicaciones



Taller SQL



Desarrollo en equipo



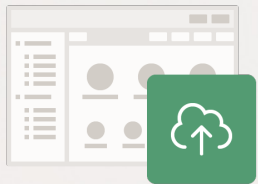
Galería de aplicaciones

Crear aplicaciones web adaptables desde el navegador

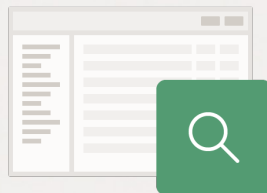
Importar y exportar datos

Publicar API REST

Integrar datos locales y remotos



Servicios REST



Explorador de objetos



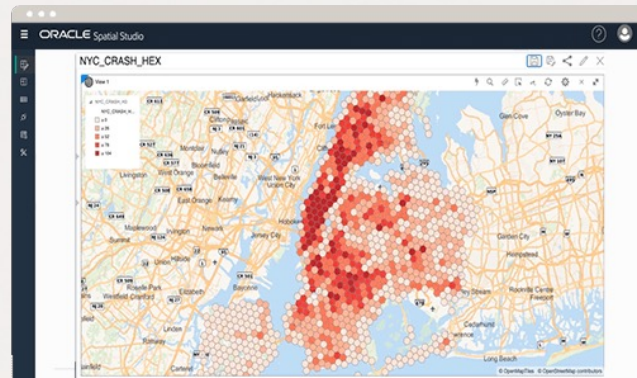
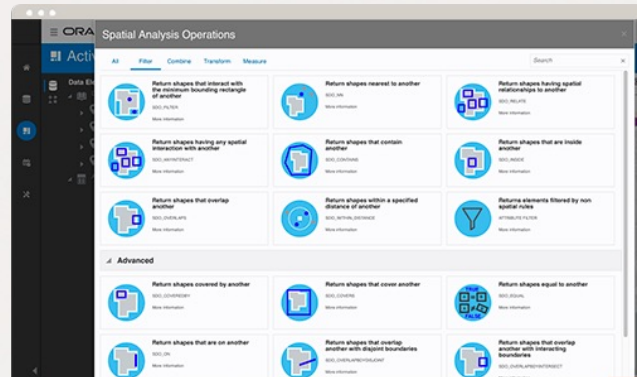
Carga de datos



Supervisión



Aplicaciones con datos espaciales



- Oracle facilita el análisis de ubicación y los servicios de mapas.
 - Calcular distancias entre lugares, activos y personas.
 - Analizar redes de transporte, telecomunicaciones y servicios, o territorios comerciales.
- Cientos de operadores y funciones espaciales dentro de la base de datos.
 - Más de 60 funciones y procedimientos de topología espacial.
 - Más de 125 funciones y procedimientos para redes espaciales.



Configuración APEX en Autonomous



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Cloud

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AI

Oracle AI Database

< Autonomous AI Database

Autonomous AI Database

Autonomous-Test

Available

Always Free

Database actions

Database connection

Performance Hub

More actions

Autonomous AI Database information

Tool configuration

Backups

Key history

Security

Monitoring

Work requests

Tags

General information

Database name

AutonomousTest

Workload type

APEX

Compartment

emeasespainsandbox
(root)/Presales_Spain/Cloud/os
car.x.sanchez

OCID

...hgc7ysfhvkanwrznbh5k5uj4q

Copy

Created

Oct 13, 2026, 1:50:14 PM UTC

Database version

26ai

Database availability

Available

Instance type

Free

Upgrade to paid

Database actions

SQL

REST

Database Users

Data Load

View all database actions

Role

Local

Not enabled

Cross-region

Not enabled

Enable

Full Stack DR

Configure

The list of DR protection groups that have this database as a member. This list may be incomplete due to insufficient policy permissions to access.

Backup

Automatic backup retention period

60 days

Edit

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Configuración APEX en Autonomous



ORACLE Database Actions | Usuarios de base de datos | Gestión de Usuarios

Buscar en base de datos (F+K)

ADMIN

Usuario actual

ADMIN REST Activado Gráfico Activado
Alias ORDS: admin
La contraseña caduca dentro de 359 días
https://owtgidf73ypj7j-autonomoustest.adb.eu-frankfurt-1.oraclecloudapps.com/ords/admin/_sdw/

+ Crear usuario

Buscar por Nombre de usuario

Filtrar por

Ordenar por

Tamaño de página: 20

Ordenar por Nombre de usuario: ASC

	ADBSNMP		ADB_APP_STORE
	ADMIN REST Activado Gráfico Activado Alias ORDS: admin La contraseña caduca dentro de 359 días https://owtgidf73ypj7j-autonomoustest.adb.eu-frankfurt-1.oraclecloudapps.com/ords/admin/_sdw/		DCAT_ADMIN
	GGADMIN		RMAN\$CATALOG
	RMAN\$VPC		

14:12:29 - La llamada de REST se ha resuelto correctamente.

Basado en ORDS





Configuración APEX en Autonomous

ORACLE Database Actions | Usuarios de base de datos | Gestión de Usuarios

Usuario actual

ADMIN

REST Activado

Gráfico Activado

Alias ORDS: admin

La contraseña caduca dentro de 359 días

https://owtgidf73ypj7j-autonomoustest.adb.eu-frankfurt-1.oraclecloudapps.com/ords/admin/_sdw/

Todos los usuarios

Buscar por Nombre de usuario

Filtrar por

Ordenar por

ADBSNMP

ADMIN

GGADMIN

RMAN\$VPC

Crear usuario

Usuario

6 Roles Otorgados

Nombre de usuario

APEX_USER

Contraseña

Confirmar contraseña

Cuota en tablespace DATA

UNLIMITED

Contraseña caducada (usuario debe cambiar)

La cuenta está bloqueada

REST, API de GraphQL y MongoDB, y acceso web

Funciones avanzadas de acceso web

Gráfico

OML

Espacial

Mostrar código

Crear usuario

Cancelar



Configuración APEX en Autonomous



Editar usuario

Usuario

8 Roles Otorgados

apex



Rol	Otorgado 	Administrar 	Por defecto 
APEX_ADMINISTRATOR_READ_ROLE	☒	☐	☐
APEX_ADMINISTRATOR_ROLE	☒	☐	☐
APEX_GRANTS_FOR_NEW_USERS_ROLE	☐	☐	☐

Demo Acceso OCI



Oracle AI Database

< Autonomous AI Database

Autonomous AI Database

Autonomous AI Database information

Tool configuration

Backups

Key history

Disaster recovery

Security

Monitoring

Work requests

Tags

Compute

Included

There will be no charges for CPU in an Always Free database.

Storage

Included

There will be no charges for storage in an Always Free database.

Associated services

Database Management

Not enabled

Database Management provides comprehensive database performance diagnostics and management capabilities to monitor and manage Oracle AI Databases. [Learn more](#)

...

APEX instance

Instance name

Autonomous-Test

Network

Access type

Allow secure access from everywhere

Access control list

Disabled

Edit

Availability domain

pMmi:EU-FRANKFURT-1-AD-3

Maintenance

You can obtain information about system events, maintenance, and other important information for the operation of your Autonomous AI Database instance. [Learn more](#)

Patch level

Regular

Your database will be patched on a regular schedule.

Next maintenance

Oct 17, 2026, 10:00 AM UTC - 12:00 PM UTC

View history

Target component

Database

Customer contacts

None

Oracle only sends notifications for service-related operational issues to these email addresses.

Manage



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Demo Acceso OCI



Cloud

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Developer Services

APEX Application Development

APEX Instances

← APEX Instances

Autonomous-Test

Available Always free

APEX instance

Details

Monitoring

Tags

General information

OCID

...urt-1.antheljsht5jzvaakgrnysz7anbtjlkxreehgc7ysfhvkanwrznbh5k5uj4q

Copy

Compartment

emeasespainsandbox (root)/Presales_Spain/Cloud/oscar.x.sanchez

Created

Oct 13, 2026, 1:50:14 PM UTC

ORDS version

26.3.0.272.1811

Instance details

Database

Autonomous-Test

Additional operations found in the database details page.

Database type

APEX

Database name

AutonomousTest

Instance type

Free

Upgrade instance

Compute

Included

There will be no charges for CPU in an Always Free database.

Compute auto scaling

Disabled

Enabling auto scaling allows Oracle to use up to three times the number of EC2s for processing workload if required. [Learn more](#)

Storage

Included

There will be no charges for storage in an Always Free database.

Storage auto scaling

Disabled

Allows system to expand up to three times the reserved storage.

Actions

Launch APEX

Launch Database Actions

Stop

Restart

Upgrade instance to paid

Scale

Move resource

Terminate

09

Demo Acceso OCI



Elementos anclados y visitas recientes

Desarrollo

Data Studio

Administración

Descargas

Supervisión

Vector Database

Servicios relacionados

👤 Usuarios de base de datos

🔗 Espacios de trabajo de APEX

↕ Pump de Datos

📄 Captura/Reproducción de carga de trabajo

🔧 Definir reglas del gestor de recursos

Usuarios de base de datos

REST activa esquemas, cambia contraseñas, asigna cuotas de almacenamiento, gestiona solicitudes de esquema e identifica cuentas con contraseñas que caducarán pronto.

Current User

ADMIN

ORDS Alias: admin

Last Login: 2/21/2024, 9:25:19 PM

Password Expires in 30 days

https://adb-us-east-1.us-east-1.oraclecloudapps.com/ords/admin

All Users

Search by User Name

Filter by

	USER NAME	ALIAS	STATUS	ROLES	DEFAULT ROLES
1	ADBSNMP	null	LOCKED	ADB_MONITOR, DV_MONITOR, ADB_MONITOR	
2	ADMIN	admin	OPEN	ACCH_READ, ADB_MONITOR, ACCH_READ, ADB_MONITOR	
3	BEERS	work_stuff	OPEN	CONNECT_RESOURCE, SDOV	null
4	BUILD_STUFF	build_stuff	OPEN	CONNECT_RESOURCE	CONNECT_RESOURCE
5	CHECK_QUOTA	check_quota	OPEN	CONNECT_RESOURCE	CONNECT_RESOURCE
6	CSV	csv	OPEN	CONNECT_RESOURCE	CONNECT_RESOURCE
7	DERMLOGIN_PUBS	null	OPEN	RESOURCE	RESOURCE
8	...	...	...	...	...

Create User

User

Granted Roles

User Name

Quota on tablespace DATA

100M

Password

Password Expired (user must change)

Confirm Password

Account is Locked

Web Access

Web access advanced features

Show code

Create User

Cancel

Documentación

[Usuarios de base de datos](#)

Abrir

09

Demo Acceso OCI



 ORACLE Database Actions | Espacios de trabajo de APEX

Buscar en base de datos (%+K) 

  ADMIN 

Espacios de trabajo de APEX

  Ordenar por Tamaño de página: 20  |< < > >   Ordenar por 

No se han encontrado resultados que coincidan con los criterios de búsqueda.



Demo Acceso OCI



ORACLE Database Actions | Pantalla de inicio

Buscar en base de datos (3%+K)

APEX_USER

Elementos anclados y visitas recientes

Desarrollo

Data Studio

Administración

Descargas

Supervisión

Servicios relacionados

Usuarios de base de datos

Espacios de trabajo de APEX

Pump de Datos

Pump de Datos

Vea trabajos de pump de datos y utilice nuestro asistente para crear y ejecutar rápidamente trabajos de importación.

0

EXECUTING

0

STOP

IMP_SD_31776-14_15_43

IMPORT

Completed in 00:00:08.000

https://adb.us-east-1.amazonaws.com/...

adb.us-east-1.amazonaws.com/...

Import

Source

Import

Filter

Mapping

Options

Summary

Bucket Name Source

Bucket List

Manual Search

Bucket Name

Bucket Objects

DUMP NAME

SIZE

1

adb_demo.dump

1.13 MB

Import Pattern

Dump Files

Show code

Back

Next

Import

Cancel

Documentación

Pump de Datos

Abrir



Demo Acceso OCI



ORACLE Database Actions | Espacios de trabajo de APEX

Espacios de trabajo de APEX

Buscar por Nombre de espa...

Ordenar por

No se han encontrado resultados que c

14:40:53 - La llamada de REST se ha resuelto correctamente.

Crear Espacio de Trabajo

Espacio de trabajo APEX

Nombre de espacio de trabajo

APEX_WORKSPACE

Esquema de base de datos

Usar esquema existente

Usuario de base de datos (esquema)

APEX_USER

Usuario de espacio de trabajo

Nombre de usuario del espacio de trabajo

APEX_USER

Contraseña de espacio de trabajo

.....

Confirmar contraseña de espacio de trabajo

.....

Correo electrónico

Avanzado

Mostrar código

Crear

Cancelar



Demo Acceso OCI



ORACLE Database Actions | Espacios de trabajo de APEX

Buscar en base de datos (F5+K)

ADMIN

Espacios de trabajo de APEX

+ Crear Espacio de Trabajo

Buscar por Nombre de espa...

Ordenar por

Tamaño de página: 20

Ordenar por Nombre de espacio de trabajo: ASC

APEX_WORKSPACE

Nombre mostrado: APEX_WORKSPACE

Aplicaciones: 0

Desarrolladores: 0

Administradores: 1

.../ords/f?p=4550:1:::::F4550_P1_COMPANY:APEX_WORKSPACE



Demo Acceso OCI



Cloud

Search resources, services, documentation, and Marketplace

Germany Central (Frankfurt)

Icons: Help, Notifications, Profile, AI

Developer Services

APEX Application Development

APEX Instances

← APEX Instances

Autonomous-Test

Available Always free

Actions Launch APEX

Details Monitoring Tags

General information

OCID

...anbtjlkxreehgc7ysfhvkanwrznbh5k5uj4q

Copy

Compartment

emeasespainsandbox (root)/Presales_Spain/Cloud/oscar.x.sanchez

Created

Oct 13, 2026, 1:50:14 PM UTC

ORDS version

26.3.0.272.1811

Instance details

Database

Autonomous-Test

Additional operations found in the database details page.

Database type

APEX

Database name

AutonomousTest

Instance type

Free

Upgrade instance

Compute

Included

There will be no charges for CPU in an Always Free database.

Compute auto scaling

Disabled

Enabling auto scaling allows Oracle to use up to three times the number of CPUs for processing.

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Demo Acceso OCI





Oracle APEX

Build intelligent enterprise apps you can trust

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Welcome APEX_USER

Please select a workspace from the list below

 **APEX_WORKSPACE**
Last login 24 seconds ago

Administrator

Sign Out

Deutsch · **English** · Español · Français · Italiano · Português (Brasil) ·
中文 (简体) · 中文 (繁體) · 日本語 · 한국어







APEXlang: definición abierta de aplicaciones

Integración con el entorno de desarrollo

- Spec Driven Development
- APEXlang tiene soporte nativo en Oracle SQL Developer para VS Code, con herramientas de control de versiones, edición e IA.
- Oracle SQLcl aporta línea de comandos y automatización para procesos CI/CD y entornos sin interfaz gráfica.

The screenshot shows the VS Code interface with the Explorer view on the left and the Editor view on the right. The Explorer view shows a file tree with a folder named 'p00001-home-dashboard.apx' selected. The Editor view shows the configuration for the 'page 1' of the 'p00001-home-dashboard.apx' file. The configuration is in APEXlang format, which is a JSON-like structure. The configuration includes fields for 'name', 'alias', 'title', 'pageGroup', 'appearance', 'navigation', 'security', 'advanced', 'comments', and a 'region' for 'active-customers-last-30-days-kpi'. The 'region' configuration includes a 'name', 'type', and a 'source' block containing a SQL query.

```
1 page 1 {
2   name: Home Dashboard
3   alias: HOME-DASHBOARD
4   title: Home Dashboard
5   pageGroup: @dashboard
6   appearance {
7     pageTemplate: @/standard
8     templateOptions: #DEFAULT#
9   }
10  navigation {
11    cursorFocus: doNotFocusCursor
12  }
13  security {
14    authorizationScheme: mustNotBePublicUser
15    pageAccessProtection: argumentsMustHaveChecksum
16    formAutoComplete: false
17  }
18  advanced {
19    enableDuplicatePageSubmissions: false
20  }
21  comments {
22    comments: Provides executive order-entry analytics using KPI, chart,
23  }
24
25  region active-customers-last-30-days-kpi {
26    name: name: Active Customers Last 30 Days KPI
27    type: themeTemplateComponent/metricCard
28    source {
29      location: localDatabase
30      type: sqlQuery
31      sqlQuery:
32        ```sql
33        select count(distinct o.CUSTOMER_ID) as value
34        from OREN_ORDERS o
35        where o.CUSTOMER_ID is not null
36        and o.ORDER_DATETIME >= SYSTIMESTAMP - interval '30' day
37        ```
38    }
39  }
```



Creación de una aplicación APEX





**Create**
Create a new application in this workspace.

**Import**
Import an existing application into this workspace.

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View workspace usage, activity, and health metrics.

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[Create Library Application](#) >





Creación de una aplicación APEX

```
operard@Oliviers-MacBook-Pro apex_demo % ls ~/.claude/skills/
db          find-skills  graal
operard@Oliviers-MacBook-Pro apex_demo % claude
Claude Code v2.1.152
Opus 4.7 (1M context) · Claude Max
~/Desktop/dev/apex_demo

> /skills
  Skills dialog dismissed

> Build an Oracle APEX Employee Leave Management System. Generate the schema with employees, leave requests, and status tracking (Pending, Approved, Rejected

Read 2 files, listed 7 directories (ctrl+o to expand)

• Got it. Big scope. Before I run full APEX generation workflow (Draft→Critique→Revision, multi-agent), clarify a few things.

←  Scope  Approval  Leave types  Submit →

Review your answers

• Scope of build?
  → Schema + full APEX app
• Approval workflow needed?
  → Manager column on EMP
• Leave types tracked?
  → Type + balance

Ready to submit your answers?

> 1. Submit answers
  2. Cancel
```



Creación de una aplicación APEX

```
operard@Oliviers-MacBook-Pro apex_demo % ls ~/.claude/skills/
db          find-skills  graal
operard@Oliviers-MacBook-Pro apex_demo % claude
Claude Code v2.1.152
Opus 4.7 (1M context) · Claude Max
~/Desktop/dev/apex_demo

/skills
└─ Skills dialog dismissed

> Build an Oracle APEX Employee Leave Management System. Generate the schema with employees, leave requests, and status tracking (Pending, Approved, Rejected

Read 2 files, listed 7 directories (ctrl+o to expand)

• Got it. Big scope. Before I run full APEX generation workflow (Draft→Critique→Revision, multi-agent), clarify a few things.

• User answered Claude's questions:
  └─ Scope of build? → Schema + full APEX app
     └─ Approval workflow needed? → Manager column on EMP
     └─ Leave types tracked? → Type + balance

Searched for 2 patterns, read 6 files, listed 4 directories (ctrl+o to expand)

• Reading 5 files... (ctrl+o to expand)
  └─ apex-skills/apex/apexlang/templates/page-examples/form-page/form-page.example.md

* Designing schema DDL... (3m 32s · ↑ 5.5k tokens)
  └─ Design schema DDL
     └─ Write PL/SQL package leave_pkg
     └─ Generate APEX app via master workflow
```

Creación de una aplicación APEX



```
operard@Oliviers-MacBook-Pro apex_demo % claude
Claude Code v2.1.152
Opus 4.7 (1M context) · Claude Max
~/Desktop/dev/apex_demo

> /skills
└─ Skills dialog dismissed

> Build an Oracle APEX Employee Leave Management System. Generate the schema with employees, leave requests, and status tracking (Pending, Approved, Rejected)

Read 2 files, listed 7 directories (ctrl+o to expand)

• Got it. Big scope. Before I run full APEX generation workflow (Draft→Critique→Revision, multi-agent), clarify a few things.

• User answered Claude's questions:
  └─ Scope of build? → Schema + full APEX app
    └─ Approval workflow needed? → Manager column on EMP
    └─ Leave types tracked? → Type + balance

Searched for 2 patterns, read 6 files, listed 4 directories (ctrl+o to expand)

Read 21 files, listed 3 directories (ctrl+o to expand)

• Schema first. Writing DDL + seed.

• Bash(mkdir -p /Users/operard/Desktop/dev/apex_demo/db)
  └─ Waiting...

Bash command

mkdir -p /Users/operard/Desktop/dev/apex_demo/db
Ensure db dir

Do you want to proceed?
> 1. Yes
  2. Yes, and always allow access to db/ from this project
  3. No

Esc to cancel · Tab to amend · ctrl+e to explain

3 tasks (0 done, 1 in progress, 2 open)
■ Design schema DDL
□ Write PL/SQL package leave_pkg
□ Generate APEX app via master workflow
```

Creación de una aplicación APEX



```
37 ## Pages
38
39 | ID | Name | Notes
40 |----|-----|-----
41 | 0 | Global Page |
42 | 1 | Home | KPI tiles + pie/bar charts
43 | 9999 | Login |
44 | 10 | My Leave Requests | IR on caller's requests; link to modal 11
45 | 11 | Request Form | Modal CRUD; 'invokeApi LEAVE_PKG.SUBMIT_REQUEST'
46 | 12 | My Balances | IR on 'LEAVE_BALANCES' for 'APP_USER'
47 | 20 | Approvals | Pending requests for caller's direct reports; auth '@is-manager'
48 | 21 | Decide | Modal Approve/Reject; calls 'LEAVE_PKG.APPROVE_REQUEST' / 'REJECT_*'
49 | 30 | Employees (admin) | IR on 'EMP'; link to modal 31
50 | 31 | Employee Form | Modal CRUD on 'EMP'
51 | 32 | Leave Types | IR on 'LEAVE_TYPES'
```

```
53 ## Install + Validate
54
55 ```bash
56 # 1. install DB objects
57 sql your-user/your-pwd@//your-db-host:1521/your-service @db/install.sql
58
59 # 2. validate APEXlang
60 apex validate -input apex-lang/leave_mgmt_app
61
62 # 3. import to APEX workspace
63 apex import -input apex-lang/leave_mgmt_app
64 ```
65
66 Edit 'apex-lang/leave_mgmt_app/deployments/default.json' and set the workspace
67 name before import.
```

```
68
69 ## Authorization
70
71 - '@is-manager' - true when 'APP_USER' is the 'manager_id' of any active emp.
72 - '@administration-rights' - placeholder 'RETURN TRUE'; wire to ACL roles before prod.
73
74 ## Compatibility Notes
75
76 - APEX 26.1.0 ('compatibilityMode: 24.2').
77 - Universal Theme; no custom CSS.
78 - All SQL uses bind variables; no string concatenation.
```

```
Do you want to create README.md?
> 1. Yes
2. Yes, allow all edits during this session (shift+tab)
3. No

Esc to cancel · Tab to amend

3 tasks (2 done, 1 in progress, 0 open)
✓ Design schema DDL
✓ Write PL/SQL package leave_pkg
■ Generate APEX app via master workflow
```

Creación de una aplicación APEX



```
1 page 32 (
2   name: Leave Types
3   alias: LEAVE_TYPES_ADMIN
4   title: Leave Types
5   pageGroup: @administration
6   appearance {
7     pageTemplate: @/standard
8     templateOptions: #DEFAULT#
9   }
10  security {
... +114 lines (ctrl+o to expand)

• Write(apex-lang/leave_mgmt_app/README.md)
  Wrote 78 lines to apex-lang/leave_mgmt_app/README.md
  1 # Employee Leave Management - APEX App
  2
  3 ## Layout
  4
  5 ...
  6 db/
  7 install.sql -- runs 01..03 in order
  8 01_schema.sql -- tables, sequences, triggers, view
  9 02_seed.sql -- leave types, sample employees + balances
10 03_leave_pkg.sql -- submit / approve / reject / cancel
... +68 lines (ctrl+o to expand)

Searched for 1 pattern (ctrl+o to expand)

• Done. Caveman summary:

Schema (db/) - EMP (self-FK manager_id), LEAVE_TYPES, LEAVE_BALANCES, LEAVE_REQUESTS with STATUS CHECK ('Pending','Approved','Rejected','Cancelled'). Sequences + triggers. View V_PENDING_APPROVALS. Seed: 4 leave types
+ 6 employees + balances.

PL/SQL (db/03_leave_pkg.sql) - leave_pkg.submit_request / approve_request / reject_request / cancel_request. Manager check, balance hold via pending_days, deduct on approve. Custom errors -20001..-20005. All bind
vars. EXCEPTION blocks with rollback + re-raise.

APEX app (apex-lang/leave_mgmt_app/) - App LEAVE-MGMT. Pages: 0 global, 1 home (KPI tiles + pie/bar charts), 9999 login, 10 My Requests IR, 11 modal request form (invokeApi LEAVE_PKG.SUBMIT_REQUEST), 12 My Balances,
20 Approvals (auth @is-manager), 21 modal Approve/Reject, 30/31 Employees admin CRUD, 32 Leave Types IR. Shared LOVs: LEAVE_TYPES, EMPLOYEES, REQUEST_STATUS. Authorization scheme is-manager resolves manager via
leave_pkg.emp_id_for_user(:APP_USER).

Install
sql user/pwd@//your-db-host:1521/your-service @db/install.sql
apex validate -input apex-lang/leave_mgmt_app
apex import -input apex-lang/leave_mgmt_app

Edit deployments/default.json workspace before import. Connection placeholders in CLAUDE.md not real DB - runtime validate skipped.

* Brewed for 10m 11s

> Validate the apex app
```



Creación de una aplicación APEX



«Genera SQL para un gráfico circular de solicitudes de ausencia por estado, un gráfico de barras de días de ausencia por departamento e indicadores con el recuento de cada estado».



Oracle LiveLabs: APEX



<https://apexapps.oracle.com/pls/apex/r/dbpm/livelabs/livelabs-workshop-cards?session=17355293067754>

Workshops and Sprints

Clear Search & Filters

Sort By: Most Popular

Number of Workshops: 30

Role: Low Code Developer

Product: Oracle APEX

Clear All

Level

- ☐ Beginner (15)
- ☐ Intermediate (15)
- ☐ Advanced

Workshop Type

- ☐ Paid Credits (29)
- ☐ Run on LiveLabs (11)
- ☐ Sprints
- ☐ Run on Gov Cloud
- ☐ ADB for Free

Workshop Series

- ☐ OCW 2023 (6)
- ☐ Autonomous DB Serverless (3)
- ☐ MovieStream Series (3)
- ☐ In-database Machine Learning Series (1)
- ☐ DBA Masterclass Series

Show All

Workshop Cards:

- Converting your Spreadsheet into a Cloud App using Oracle APEX**
Create an application in minutes by simply uploading a spreadsheet!
45 mins | 77254 Views
- Build a Starter Online Shopping App using Oracle APEX**
In this workshop, developers will learn how to take advantage of Oracle APEX components to create a (...)
2 hrs | 73843 Views
- Build a Movies Watchlist Application using Oracle APEX**
Quickly develop a high-quality application to discover movies and create a personal watchlist.
2 hrs | 54815 Views
- Build a Social Media App Using Oracle APEX**
In this workshop, the developers learn to use the different components of Oracle APEX by building a (...)
1 hr | 39930 Views
- Building an App using REST Data Sources for Oracle Autonomous Cloud Services**
You will build an APEX application using REST Data Sources for Oracle Autonomous Cloud Services.
50 mins | 23249 Views
- Get Started with Maps and Spatial in APEX**
Introduction to the use of Map Regions and Spatial features of Oracle Database in APEX.
1 hr, 15 mins | 9870 Views
- Chat with Your Data in Autonomous Database Using Generative AI**
Have you ever wished users could verbally ask a question of your organization's data and just get (...)
1 hr | 9153 Views
- Simplify Event-driven Apps with TxEventQ in Oracle Database (with Kafka interoperability)**
Transactional Events are key to event-driven and data-driven microservices. Oracle TxEventQ is the (...)
1 hr | 8135 Views
- Build an Expense Tracker Application using Oracle APEX**
In this workshop, you will create an application that allows you to manage expenses using the (...)
1 hr | 7071 Views
- Get started with Oracle AQ and Oracle TEQ events and messaging**
- Getting started with Oracle Content Management and integrated with Oracle APEX**
- Build AI-Powered Image Search into your Oracle APEX App**



Opciones para empezar con APEX



Espacio de trabajo APEX gratuito

<https://apex.oracle.com/pls/apex/r/apex/quick-sign-up/request-workspace>

APEX local

<https://www.oracle.com/tools/downloads/apex-downloads/>

Contenedor gratuito de Oracle Autonomous Database

<https://github.com/oracle/adb-free/pkgs/container/adb-free>

APEX en una máquina virtual

<https://www.oracle.com/database/technologies/databaseappdev-vm.html>

APEX en Oracle Cloud Autonomous Database y DBCS

<https://www.oracle.com/cloud/free/>





Disponibilidad de Oracle APEX 26.1

- Descarga disponible en Oracle Technology Network (OTN).
- [Prueba gratuita de Oracle APEX 26.1 en oracletapex.com](https://oracletapex.com)
- Despliegue en las regiones de OCI y en los entornos multinube de Oracle previsto a partir de las próximas semanas.
- [Novedades de Oracle APEX 26.1: oracle.com/apex/whats-new](https://oracle.com/apex/whats-new)
- [Documentación, notas de versión, recursos de APEXlang, vídeos y detalles de funcionalidades en oracle.com/apex](https://oracle.com/apex)



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Serie de artículos



apex.oracle.com/go/apexlang-blog-series

Lista de vídeos en YouTube



apex.oracle.com/go/apexlang-yt



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[APEX: crear una aplicación desde un fichero](#)

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