Oracle AI Database Security 26ai New Features

Focusing on Major Security Enhancements

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- Focus: Protecting data and operating databases securely
  - Security assessments and reviews
  - Database security concepts and their implementation
  - Oracle Backup & Recovery concepts and troubleshooting
  - Oracle Enterprise User and Advanced Security, DB Vault, …
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Oracle AI Database 26ai

What about the Security Features in 26ai?

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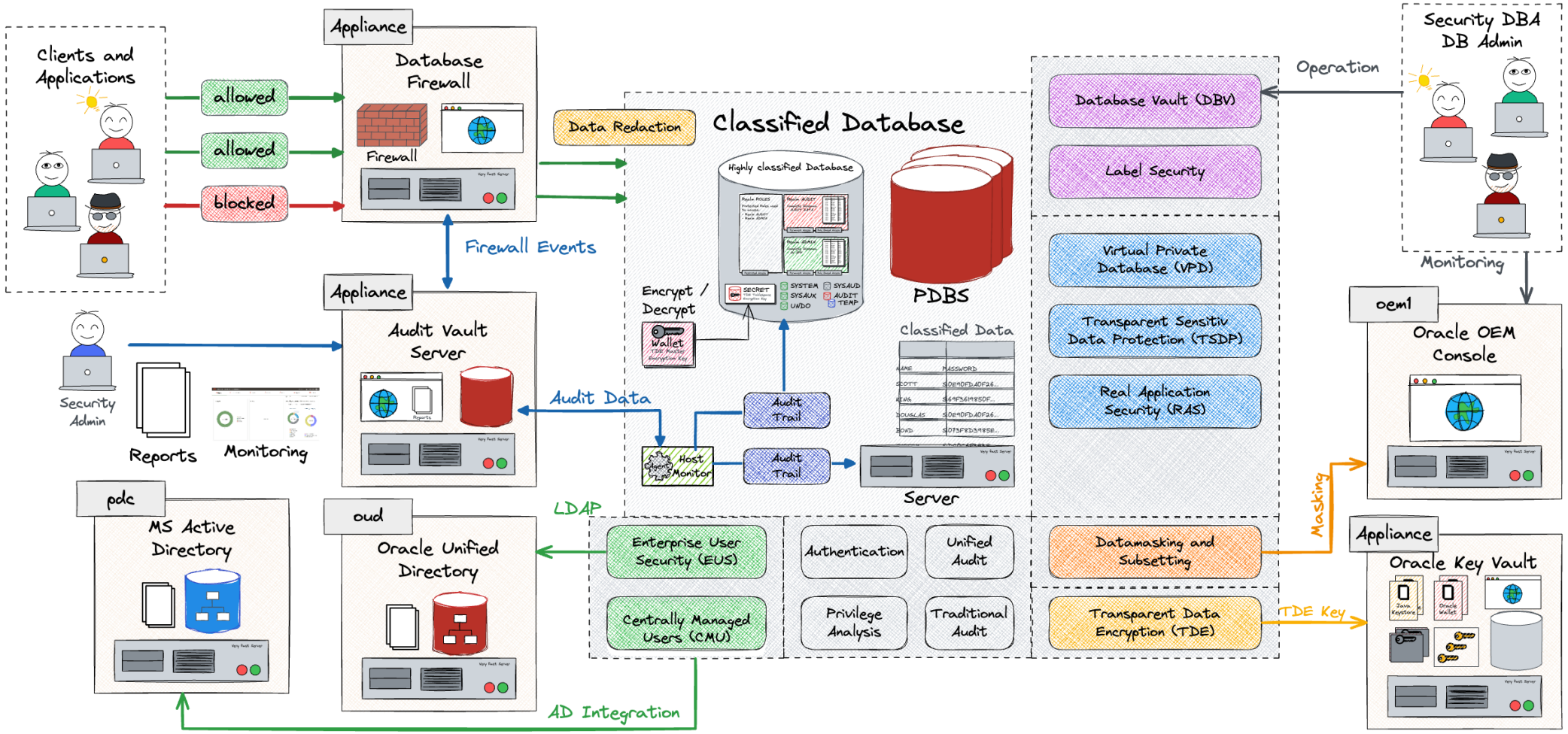
Introduction

What about the Security Features in 26ai?

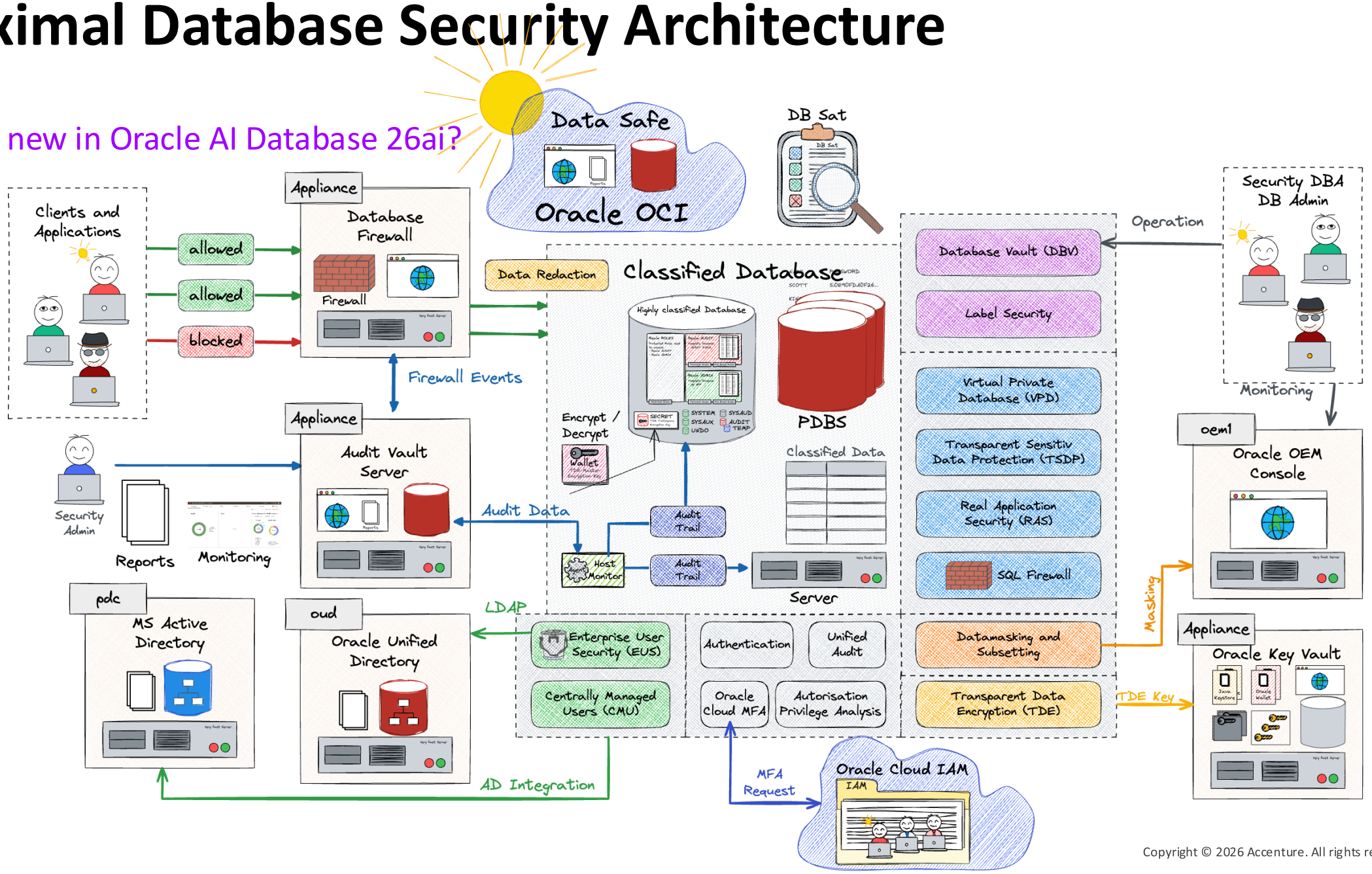
Maximal Database Security Architecture

What's new in Oracle AI Database 26ai?



Maximal Database Security Architecture

What's new in Oracle AI Database 26ai?



In a Nutshell

New Security Features in Oracle AI Database 26ai on the Hori

Exploring New Frontiers

- SQL Firewall: A Major Leap in Database Security

Doing the Housework

- Adapting to new standards for enhanced security
- Incremental upgrades in auth, audit, and encryption

Saying Farewell to Familiar Features

- Deprecation of Enterprise User Security (EUS)
- Desupport of Traditional Auditing
- Desupport of Case Insensitive Passwords

Areas of Continued Development

- Oracle AI Database specific features!?

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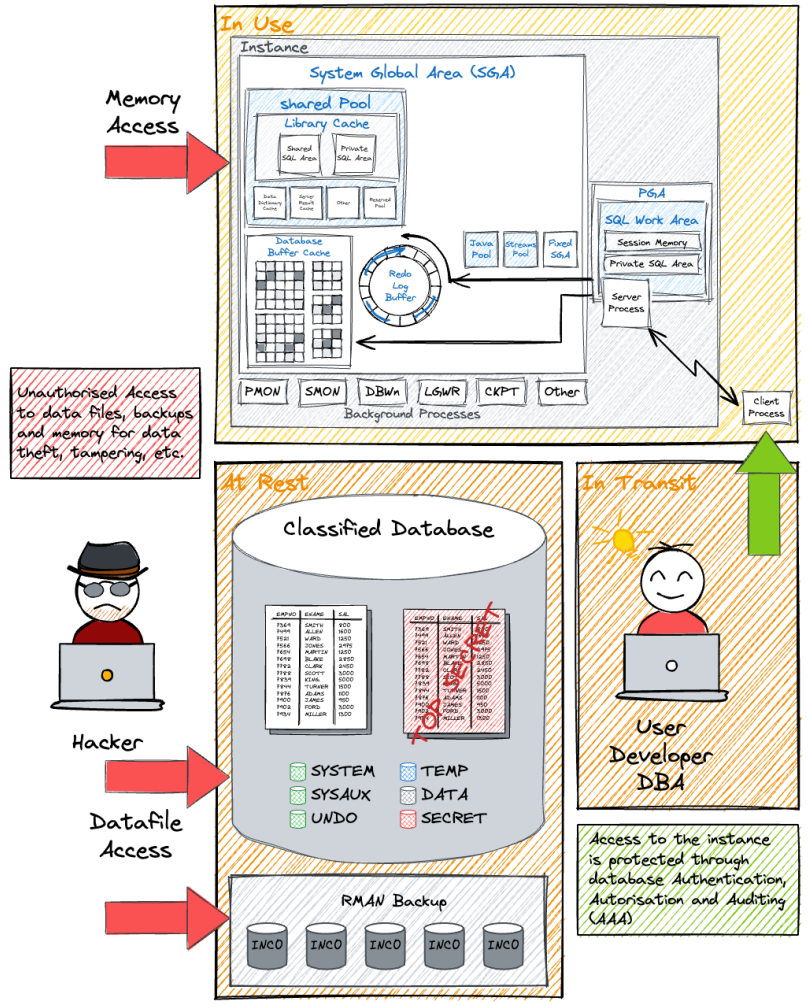
SQL Firewall

The latest Security Achievement

The Security Challenges of a Database

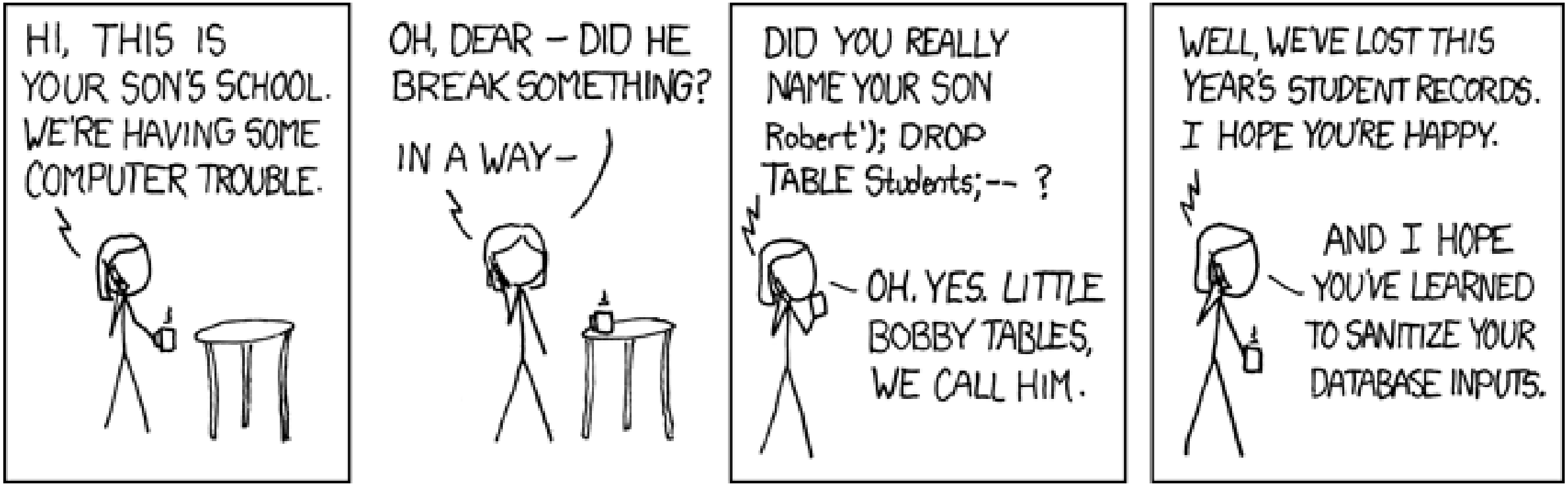
The dirty dozen…

- **Access Bypass**: Unpatched or misconfigured database vulnerabilities.
- **Privilege Abuse**: Exploiting application vulnerabilities for higher access.
- **Sensitive Data Search**: In unprotected systems and databases.
- **Credential Theft**: Via phishing, social engineering, or malware.
- **System Bridging**: Using less secure systems to target secure ones.
- **Password Exploitation**: Guessing or poor management.
- **SQL Injection**: Manipulating user input to exploit applications.
- **Rogue Accounts**: For reconnaissance and access escalation.
- **Non-Production Data Risks**: Targeting less secure dev/test environments.
- **Unencrypted Data Exposure**: Accessing or stealing files from disk or backups.



SQL Injection

Exploits of a Mom

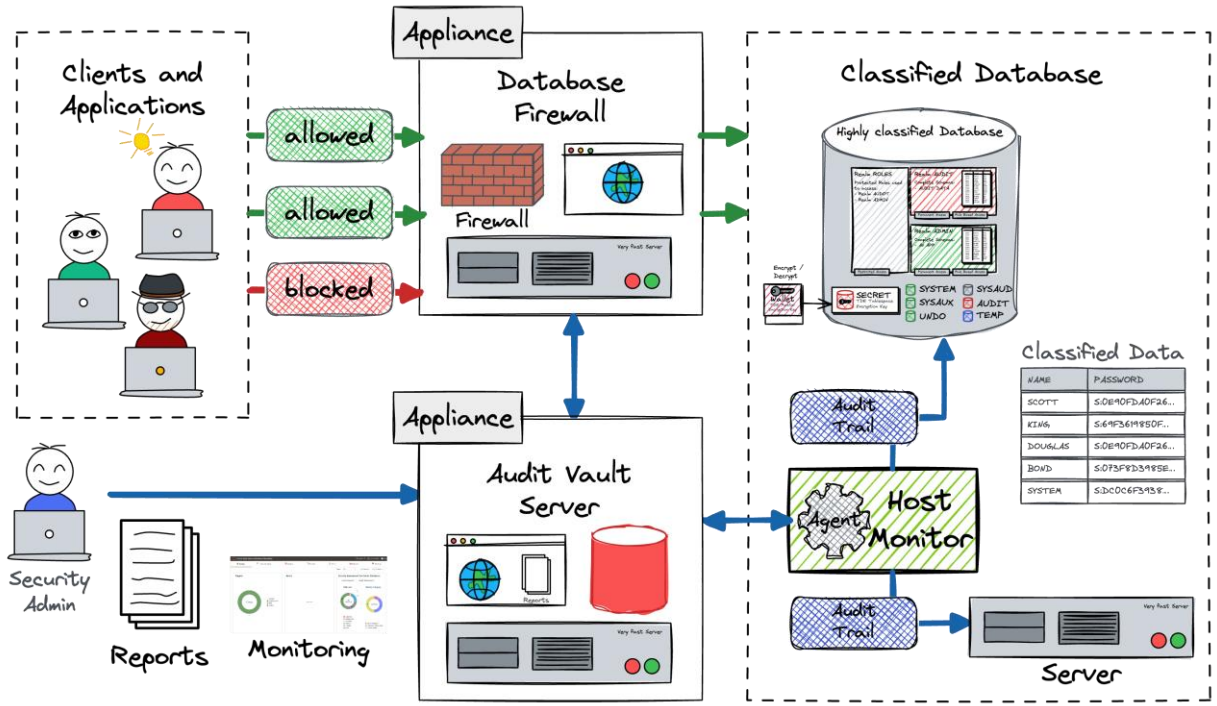


xkcd: https://xkcd.com/327

But we already have it, don't we?

Some kind of SQL firewall functionality

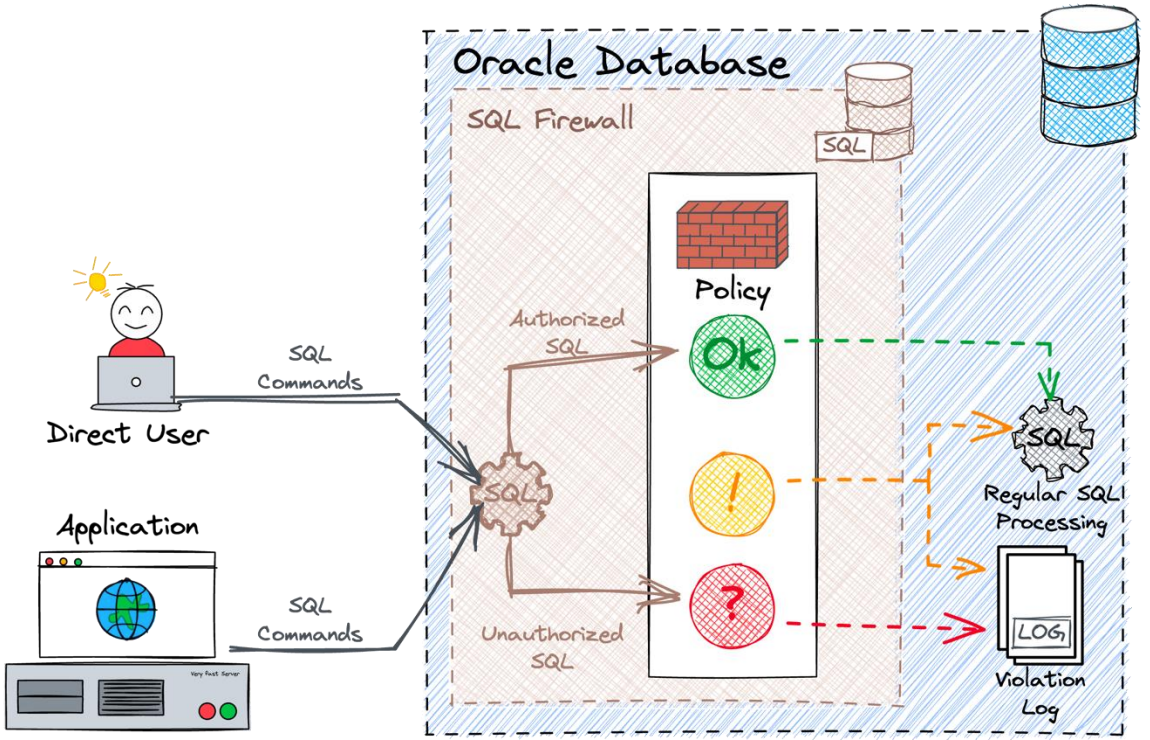
Oracle Audit Vault and Database Firewall



- Dedicated Product for central Audit Management and Reporting
- Two main Features
  - **Audit Vault Server** to control, manage, report
  - **Database Firewall** to monitors data access, enforces access policies
- Support a **wide range** of targets / databases
  - Oracle AI Database
  - Microsoft SQL Server
  - MySQL, PostgreSQL, MongoDB, IBM DB2
- Able to **log** and **block** database activities
- **Dedicate** Infrastructure
  - Requires corresponding system architecture

SQL Firewall Overview

What exactly is it about?



Real-Time Protection

- Blocks unauthorized SQL and preventing SQL injection and access anomalies

Customizable Allow-Lists

- Create specific SQL permissions for each user, with logging of unusual activities

Connection and **Statement** Control

- Manages **allowed** SQL **statements** and **connection** paths, e.g. IP addresses, context etc.

Integrated into Oracle AI Database

- Ensures inspection of all SQL activities, including encrypted and network SQL

Flexible Policy Application

- Tailored policies for different database accounts, enhancing gradual security improvement

Navigating SQL Firewall – Processes

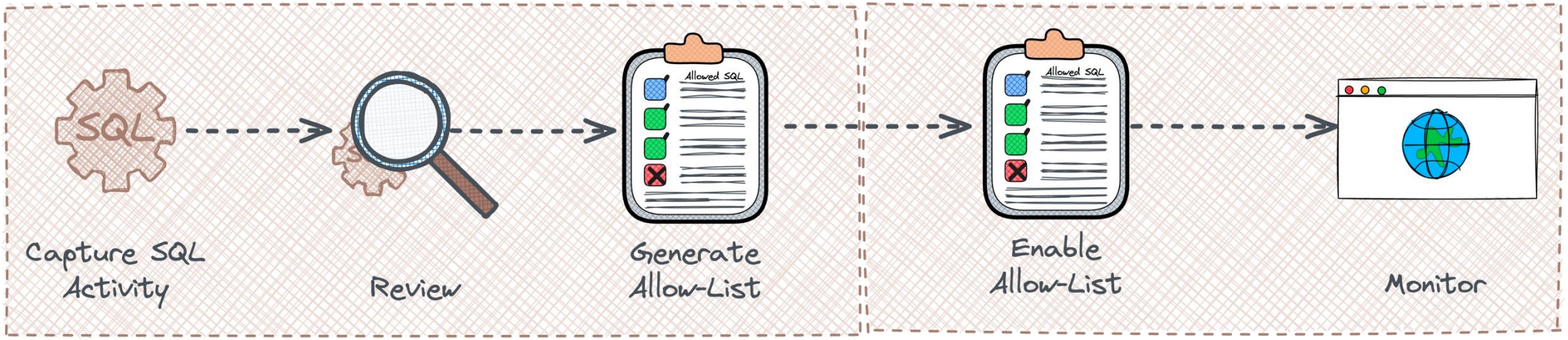
Understanding the Mechanics and Strategies for Optimal Deployment

Learning Stage

- **Capture** the user's SQL activities
- **Review** the capture
- **Generate** an allow-list

Protecting Stage

- **Enable** the allow-list
- **Monitor violations** SQL Firewall raises violation for any unexpected access patterns.



Navigating SQL Firewall - Usage

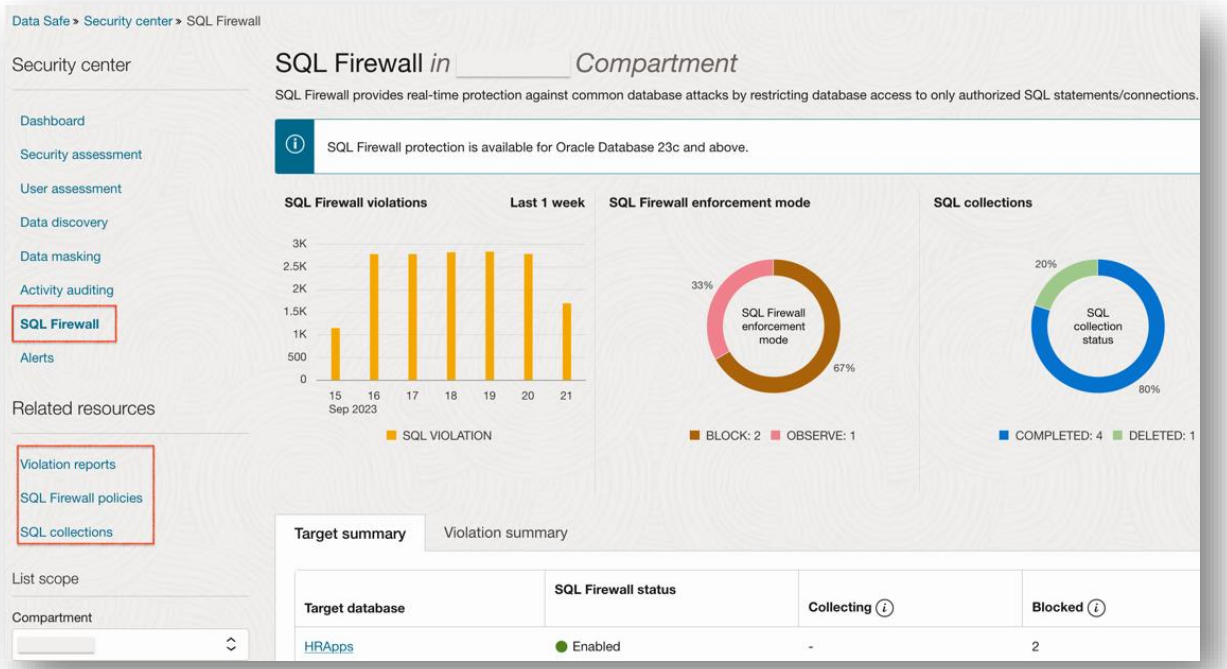
CLI or GUI you choose...

SQL Interface for the brave DBA

- System Privilege `ADMINISTER SQL FIREWALL`
- Predefined Roles
  - `SQL_FIREWALL_ADMIN`
  - `SQL_FIREWALL_VIEWER`
- Data Dictionary Views
- Violation Log `DBA_SQL_FIREWALL_VIOLATIONS`
- Capture Log `DBA_SQL_FIREWALL_CAPTURE_LOGS`
- A couple more `DBA_SQL_FIREWALL_%`
- Several base table in SYSAUX i.e. `FW_CAPTURE$, FW_ALLOW_LIST$, VIOLATION_LOG$, …`

Oracle Data Safe on Oracle Cloud

- Manage multiple SQL Firewalls centrally
- Comprehensive view of SQL Firewall violations



SQL Firewall - Quick start

Short Journey through the SQL Firewall Configuration

- Connect as user with `SQL_FIREWALL_ADMIN` role
- Enable SQL Firewall

```
EXEC DBMS_SQL_FIREWALL.ENABLE;
```

- Check the status of the SQL Firewall

```
SELECT * FROM dba_sql_firewall_status;

STATUS   STATUS_UPDATED_ON                    EXCLUDE_JOBS
-------- ------------------------------------ ------------
ENABLED  21.11.23 06:30:01.430118000 +01:00 Y
```

SQL Firewall - Quick start

Short Journey through the SQL Firewall Configuration

- Enable a capture for the user SCOTT

```
BEGIN
  DBMS_SQL_FIREWALL.CREATE_CAPTURE (
    username          => 'SCOTT',
    top_level_only    => TRUE,
    start_capture     => TRUE);
END;
/
```

- Verify what SCOTT is doing

```
SELECT sql_text FROM dba_sql_firewall_capture_logs
WHERE username = 'SCOTT';
```

SQL Firewall - Quick start

Short Journey through the SQL Firewall Configuration

- Disable capture for user SCOTT

```
EXEC DBMS_SQL_FIREWALL.STOP_CAPTURE ('SCOTT');
```

- Generate an allow-list for user SCOTT

```
EXEC DBMS_SQL_FIREWALL.GENERATE_ALLOW_LIST ('SCOTT');
```

- Query the allowed activity for user SCOTT
  - DBA_SQL_FIREWALL_ALLOWED_IP_ADDR
  - DBA_SQL_FIREWALL_ALLOWED_OS_PROG
  - DBA_SQL_FIREWALL_ALLOWED_OS_USER
  - DBA_SQL_FIREWALL_ALLOWED_SQL

SQL Firewall - Quick start

Short Journey through the SQL Firewall Configuration

- Customize the allow-list e.g. `DBMS_SQL_FIREWALL.ADD_ALLOWED_CONTEXT` and `DBMS_SQL_FIREWALL.DELETE_ALLOWED_CONTEXT`
- Enable the allow-list using `DBMS_SQL_FIREWALL.ENABLE_ALLOW_LIST`

```
BEGIN
  DBMS_SQL_FIREWALL.ENABLE_ALLOW_LIST (
    username        => 'SCOTT',
    enforce         => DBMS_SQL_FIREWALL.ENFORCE_SQL,
    block           => TRUE);
END;
/
```

- Start having fun with the protected Database…

SQL Firewall - Quick start

Short Journey through the SQL Firewall Configuration

- Limited availability of SCOTT

```
SQL> SELECT ename,sal FROM scott.emp  WHERE ename='SCOTT';
SELECT ename,sal FROM scott.emp  WHERE ename='SCOTT'
                              *
ERROR at line 1:
ORA-47605: SQL Firewall violation
```

- Chooses wisely what and when to capture application activity

Beyond the Basics - SQL Firewall Insights

Key Considerations and Advanced Knowledge

Smooth integration with other Oracle products

- **Multitenant Environment** both the CDB root and the individual PDB levels are affected
- **Oracle Centrally Managed Users** capture global user's activities is supported
- **Oracle Scheduler** jobs are excluded by default
- **Oracle Database Vault** not verified
- **Oracle Data Pump** Export and Import supports different use cases
  - Export and import SQL Firewall captures and allow-lists metadata e.g. `INCLUDE=SQL_FIREWALL`
  - Consider Procedures `DBMS_SQL_FIREWALL.EXPORT_ALLOW_LIST` or `DBMS_SQL_FIREWALL.IMPORT_ALLOW_LIST` to transfer allow-list

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Authentication

The "*Who's Who*" in the database

Authentication

No breaking news, just continuous improvement

- Increased **Maximum** Password Length
  - Passwords now can have up to 1024 bytes used to be 30 bytes
- **Desupport** of Case Insensitive Passwords i.e. legacy 10g Password hash
  - A Problem when a user only has a 10g password hash

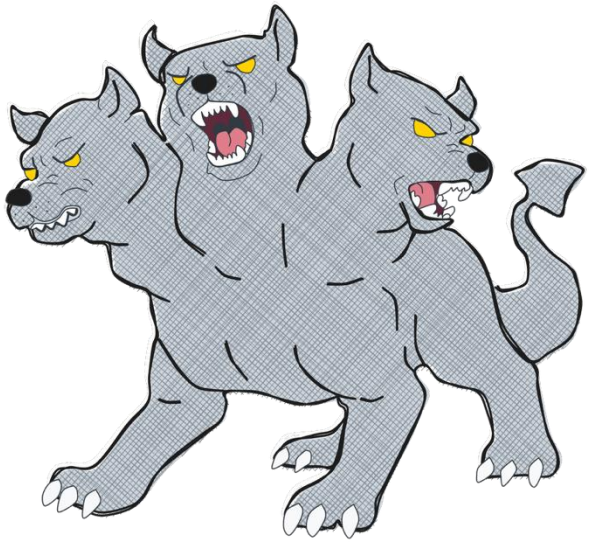
```
SELECT username FROM dba_users WHERE ( password_versions = '10G ' OR
password_versions = '10G HTTP ' )
  AND username <> 'ANONYMOUS';
```

- Clean up and adjust **Password Policies** i.e.g scripts `utlpwdmg.sql` and `catpvf.sql`
  - The Profile *ora_stig_profile* has now a password lifetime of 35days
  - Old verify function have been removed e.g. *verify_function_11G* and *verify_function*

Authentication

No breaking news, just continuous improvement

- Updated **Kerberos Library** and **Improvements**
  - KERBEROS5_CC_NAME supports multiple principals and stores in encrypted format
  - It provides cross-domain support for accessing resources in other domains.
  - It supports Windows Credential Guard
  - Kerberos on Database can search for the KERBEROS5_CC_PRINCIPAL
  - The okinit, oklist, and okdstry utilities work with encrypted cache
- **RADIUS** Configuration Enhancement
  - Supports for Requests for Comments (RFC) 6613 and 6614 guidelines



Deprecation of mkstore

Use orapki securestore for Secure External Password Store

- `mkstore` utility **deprecated**
- Previously used to manage **Secure External Password Store (SEPS)**
- SEPS functionality **remains unchanged**
- Credential management now handled by **orapki securestore**
- Aligns wallet and credential management with **Oracle PKI tools**

From mkstore to orapki securestore

Modern credential management for SEPS

- Previous approach

```
mkstore -wrl $TNS_ADMIN/wallet -create
mkstore -wrl $TNS_ADMIN/wallet -createCredential LABPDB1 soug_test manager
mkstore -wrl $TNS_ADMIN/wallet -listCredential
```

- Recommended approach

```
orapki wallet create -wallet $TNS_ADMIN/wallet -pwd LAB42SOUG -auto_login
orapki secretstore create_credential -wallet $TNS_ADMIN/wallet \
-pwd LAB42SOUG -connect_string LABPDB1 -username soug_test
-password manager
orapki secretstore list_credentials -wallet $TNS_ADMIN/wallet -pwd
LAB42SOUG
```

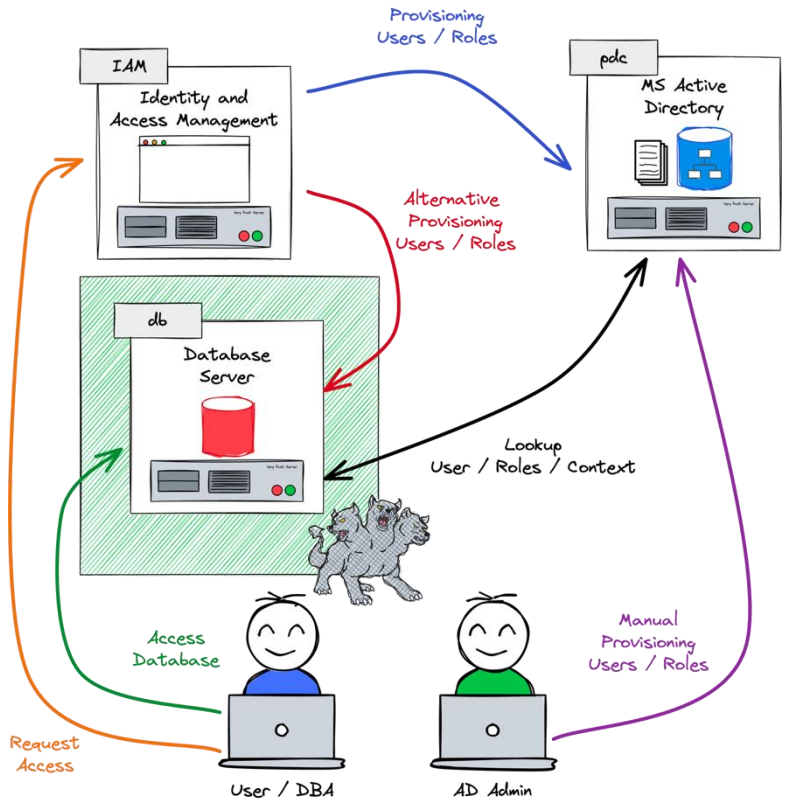
Deprecation Enterprise User Security (EUS)

It is time to say goodby…

- Enterprise User Security (EUS) has been deprecated
  - No hurry, it will not be removed immediately
  - Consider next upgrade wisely
  - Along this *mkstore* is deprecated as well
  - *mkstore* functionality has been added to **orapki**

Alternatives?

- Oracle **Centrally Managed Users** (CMU)
  - … does not require an additional Oracle directory
  - … enables the administration of users directly in MS AD
  - … does not require an additional license but
  - … Supported only by Oracle Enterprise or Free Edition
- New **Microsoft Azure Active Directory Users** for Oracle Databases



Multi-Factor Authentication for Oracle Database

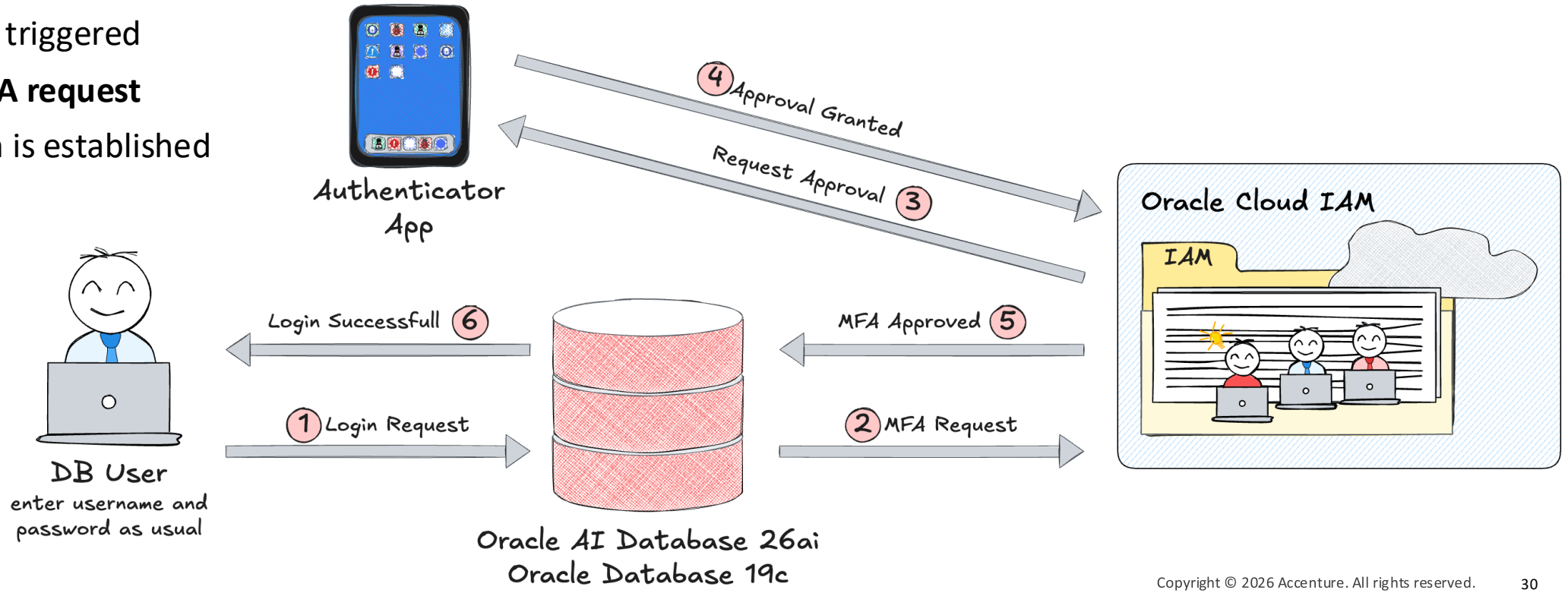
Stronger authentication for database access

- Native **Multi-Factor Authentication (MFA)** support
- Integrates with **OCI Identity Domains (IAM)**
- Adds a **second authentication factor** to database login
  - Does work for Cloud and on-premises databases as of Oracle Database 19.28 (July 2025)
- Supports **TOTP authenticator** apps. Ok the Oracle Authentication App ☺
- Protects **privileged and administrative database accounts**
- Still have a few limitations:
  - Can **not** be combined with CMU
  - Admin connections using external password file
  - Role passwords

Database Login with MFA

Authentication flow with OCI Identity Domains

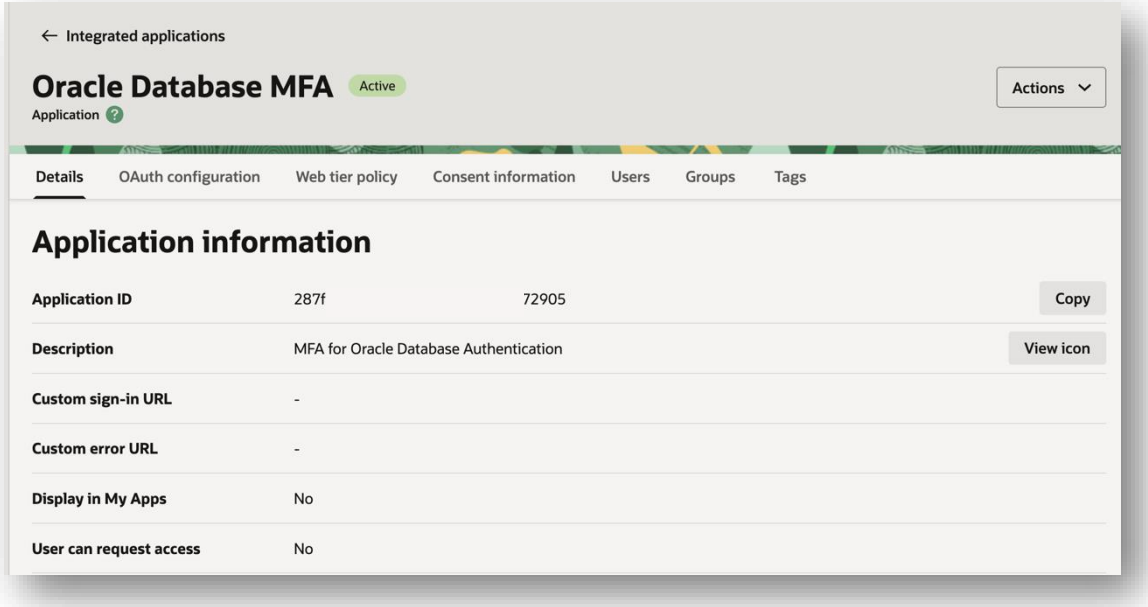
- User connects to the database client (SQL*Plus, SQLcl, tools)
- Database redirects authentication to **OCI Identity Domain**
- Identity Domain validates **password**
- MFA challenge is triggered
- User confirm **MFA request**
- Database session is established



Example Configuration

Enabling MFA authentication for a database user

- User mapped to OCI IAM identity
- Authentication managed by Identity Domain
- MFA policy configured in IAM
- Database trusts IAM authentication



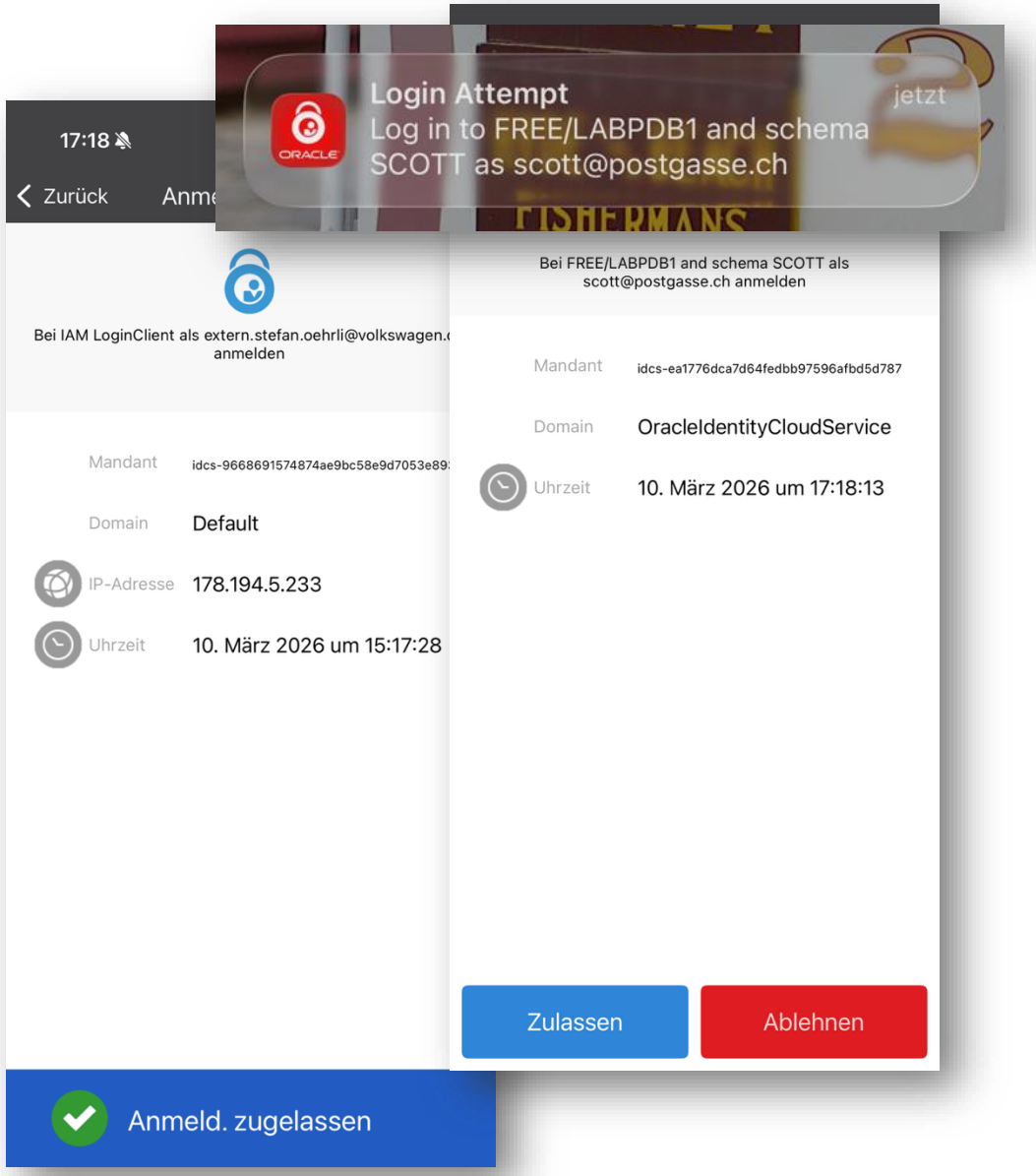

```
ALTER SYSTEM SET MFA_OMA_IAM_DOMAIN_URL ='https://idcs...oraclecloud.com';
ALTER SYSTEM SET MFA_SMTP_HOST ='smtp.email.eu-zurich-
1.oci.oraclecloud.com';
ALTER SYSTEM SET MFA_SMTP_PORT = 587;
ALTER SYSTEM SET MFA_SENDER_EMAIL_ID ="labdb.cdbfree@oradba.ch";
ALTER SYSTEM SET MFA_SENDER_EMAIL_DISPLAYNAME = 'LAB DB Admin';
```

Demo: Database Login with MFA

Authenticating with password and verification code

- Connect to the database client
- Enter database password
- MFA challenge appears
- Confirm the Login Request in Authenticator App
- Database session is established

- A few notes:
  - New column MFA in *dba_users*
  - New *USERENV* Variable *MULTIFACTOR_AUTHENTICATION_METHODS*
  - Configuration based on DB, PDB Level => highly flexible



4

Authorization

Who can do what in the Database…

Authorization - Privileges

Simplified Operation and increased Security

Have you ever seen a database with **SELECT ANY** privileges?

- I.e. because someone needs access to the application schema
- Or tons of GRANT SELECT ON…

Oracle Database now does support schema privileges

- Grant access to a whole schema rather to individual objects

```
GRANT READ ANY TABLE ON SCHEMA SCOTT TO oehrli;
```

Introduction of new Views as part of this new privilege?

- `DBA_SCHEMA_PRIVS`, `ROLE_SCHEMA_PRIVS`, `USER_SCHEMA_PRIVS`, `SESSION_SCHEMA_PRIVS`, `V$ENABLEDSCHEMAPRIVS`

Authorization – READ Only

Allow restricted access to data

- Configure a user as **read only** user
  - override the privileges and roles that **have been** granted
  - allows `SELECT` operations but not `CREATE`, `INSERT`, `UPDATE`, or `DELETE`
- Create a read only user or alter

```
CREATE USER oehrli READ ONLY;
```

- Finding Information about read only user in …
  - …DBA_USERS

```
SELECT USERNAME, READ_ONLY from DBA_USERS
WHERE USERNAME = 'OEHRLI';
```

- Granting **read only** access for maintenance or investigative reasons
- read-only access to parts of an application

Authorization – READ Only

Read-only access for local PDB users

- Test the READ only access as SCOTT

```
SQL> UPDATE emp SET sal=sal*1.2 WHERE ename='SCOTT';
UPDATE emp SET sal=sal*1.2 WHERE ename='SCOTT'
       *
ERROR at line 1:

ORA-28194: Can perform read operations only
```

Schema-Only Accounts

Secure database schemas without login capability

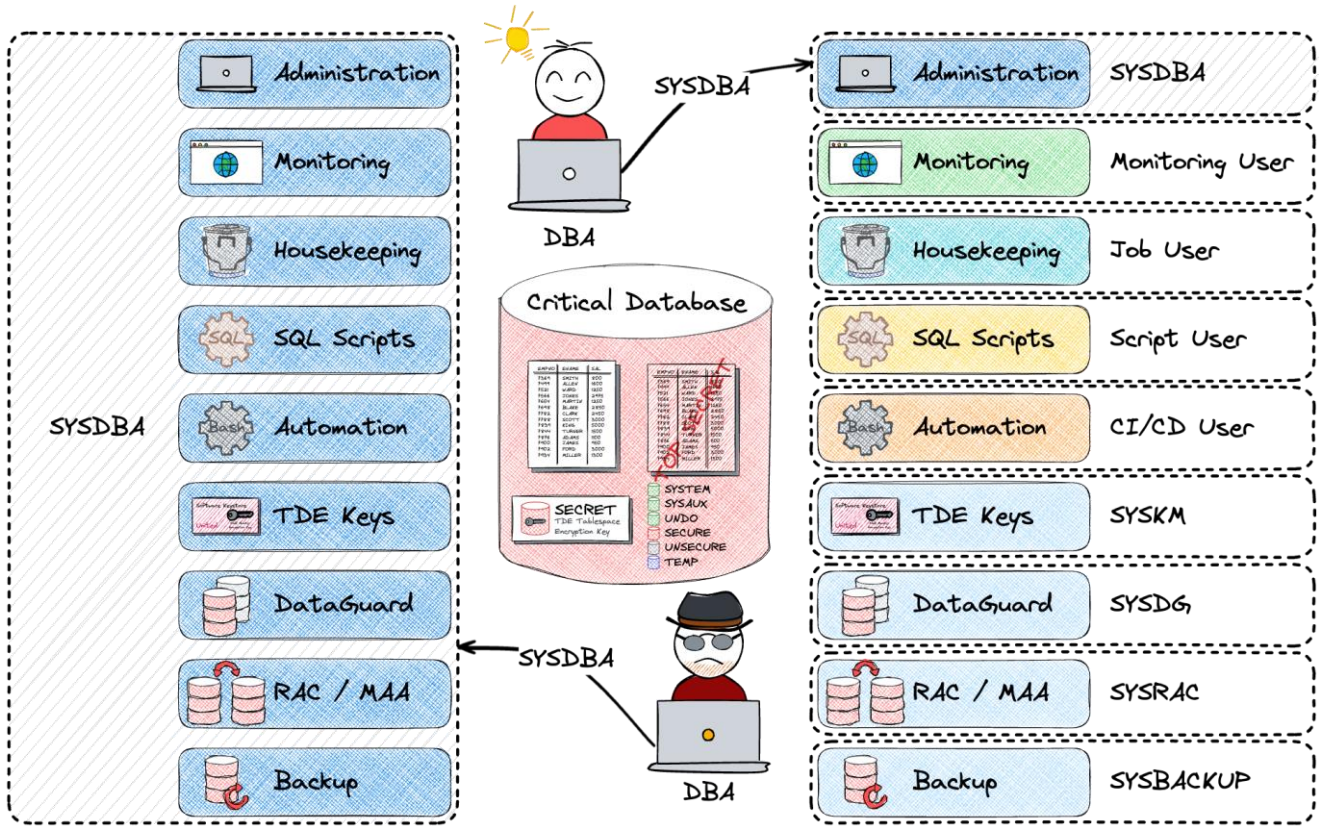
- Account owns database objects but **cannot log in**
- Created **without password or authentication method**
- Reduces attack surface for **application schemas**
- Common for **Oracle sample schemas (e.g. HR)**
- Recommended replacement for deprecated `PROXY_ONLY_CONNECT`

```
CREATE USER hr_app NO AUTHENTICATION;
ALTER USER scott NO AUTHENTICATION;
```

Authorization – Developer Role

Simple role to start with application development

- New, ready-to-use role for developers e.g. necessary privileges for application development
- Previous **DBA role** - with many more rights than required for development
- Oracle will update the permissions in the role
- Highly recommended to implement the least privilege model
- Consider use of privilege analysis
  - E.g. dynamically identify used and unused privileges and roles.



Other Stuff

What else has been improved?

New database role for developers `DB_DEVELOPER_ROLE`

- **least-privilege** principles for application developer DBA role is not required
- **provides most of** the system and object privileges as well predefined roles, PL/SQL package privileges required for application development

Oracle Data **Dictionary Protection**

- Extended to **Non-SYS** Oracle schemas with separation of duties protection
- Other users cannot use system privileges e.g. ANY privileges) on the schema
- Can be enabled/disabled if required

```
SELECT username, dictionary_protected FROM dba_users
WHERE dictionary_protected='YES';
```

5

Auditing

The DB is whatching you…

Desupport of Traditional Auditing

Long announced and now finally implemented…

- Traditional Auditing not available any more
- Auditing as to be defined using audit policies
- Oracle Support Note 2909718.1 *Traditional to Unified Audit Syntax Converter - Generate Unified Audit Policies from Current Traditional Audit Configuration*
- Be carefull when upgrading Databases
  - Review your audit setting and concept

```
SQL> AUDIT CREATE TABLE;
AUDIT CREATE TABLE
      *
ERROR at line 1:
ORA-46401: No new traditional AUDIT configuration is allowed. Traditional auditing is
desupported, and you should use unified auditing in its place.
```

Oracle Default Audit Policies

Extension and supplementation of existing Oracle policies

Policy Name	Comment
ORA_SECURECONFIG	Audit policy containing audit options as per database security best practices
ORA_CIS_RECOMMENDATIONS	Audit policy containing audit options as per CIS recommendations
ORA_STIG_RECOMMENDATIONS	Audit policy to implement auditing recommendations from STIG v1 (4 Jan 2019)
ORA_ACCOUNT_MGMT	Audit policy containing audit options for auditing account management actions
ORA_DATABASE_PARAMETER	Audit policy containing audit options to audit changes in database parameters
ORA_LOGON_FAILURES	Audit policy containing audit options to capture logon failures
ORA_ALL_TOPLEVEL_ACTIONS	Audit policy to track all top level actions to help comply with STIG v1 (4 Jan 2019). It should be enabled only on privileged users;
ORA_LOGON_LOGOFF	Audit policy to track session logon and logoff actions to help comply with STIG v1 (4 Jan 2019) and CIS V2.0.0 (12-28-2016) It should be enabled only on privileged users;
ORA$DICTIONARY_SENS_COL_ACCESS	Audit policy to audit access to dictionary sensitive columns (01 Jun 2022)

- Consider using *AUDIT_UNIFIED_POLICY_COMMENTS* for your own policies
- Bug 32694238: unified_audit_policies column should clearly indicate mandatory audit records

Audit Use Cases

It is time to define / implement a decent audit concept

Other Audit Enhancements

Small but helpful improvements…

- Column Level Audit for Tables and Views
  - Allow to specify a column for action UPDATE
  - Create more granular and focused audit policies
  - Does not make audit concept easier ☺

```
CREATE AUDIT POLICY scott_sal ACTIONS UPDATE(sal) ON scott.emp;
```

- Behaviour change for AUDIT POLICY statement
  - Changes made to the audit policy become effective **immediately**…
  - …in the current session
  - …in all active sessions without re-login
  - Audit deployment is therefore **much** easier => no downtime

Just one more thing…

It seems that there are new functions in the queue.

- New hidden parameter related to audit

```
SQL> @hip prote%audit

Parameter                      Session Instance S I D Description
------------------------------ ------- -------- - - - ----------------------------------------------
_enable_protected_audit_policy  FALSE                  Allow Protected Unified Audit Policy Enforcement
```

- Allong with a new undocumented column in AUDIT_UNIFIED_POLICIES

```
SQL> desc AUDIT_UNIFIED_POLICIES
Name             Null?  Type
---------------- ------ -------------
POLICY_NAME             VARCHAR2(128)
...
ORACLE_SUPPLIED         VARCHAR2(3)
PROTECTED               VARCHAR2(3)
COLUMN_NAME             VARCHAR2(128)
```

- Possibility to enforce audit policies in PDBs

6

Encryption

At REST and in transition

Encryption at REST

Changes around Transparent Data Encryption (TDE)

Encryption **Algorithm** changes

- The default encryption algorithm for TDE Column and Tablespace is now **AES256**
- Decryption libraries for the GOST and SEED are desupported

Changed Encryption **Modes**

- **TDE Column** Galois/Counter mode (GCM) instead of Cipher Block Chaining (CBC),
- **TDE Tablespace** Tweakable Block Ciphertext Stealing (XTS) operating mode or cipher feedback (CFB) whereby XTS is the default mode.

```
CREATE TABLESPACE users_enc DATAFILE
'/u02/oradata/CDB23A/users_enc01CDB23A.dbf' SIZE 100M
ENCRYPTION USING AES256 MODE 'XTS' ENCRYPT;
```

Encryption at REST

Changes around Transparent Data Encryption (TDE)

Broader use of **SHA256**

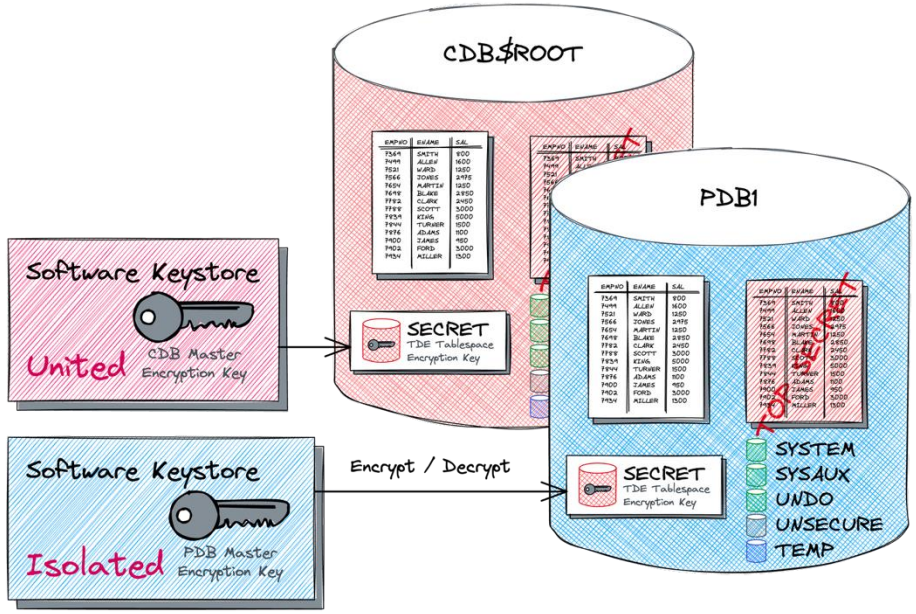
- Oracle Recovery Manager (Oracle RMAN) integrity check now uses SHA512
- Oracle RMAN and column keys are now derived from SHA512/AES for key generation

Improved Local **Auto-Login** Wallets

- Wallet is now more tightly bound to the host
- Support both bare metal and virtual environments
- Mmh, so in the past this was not so good in this case?

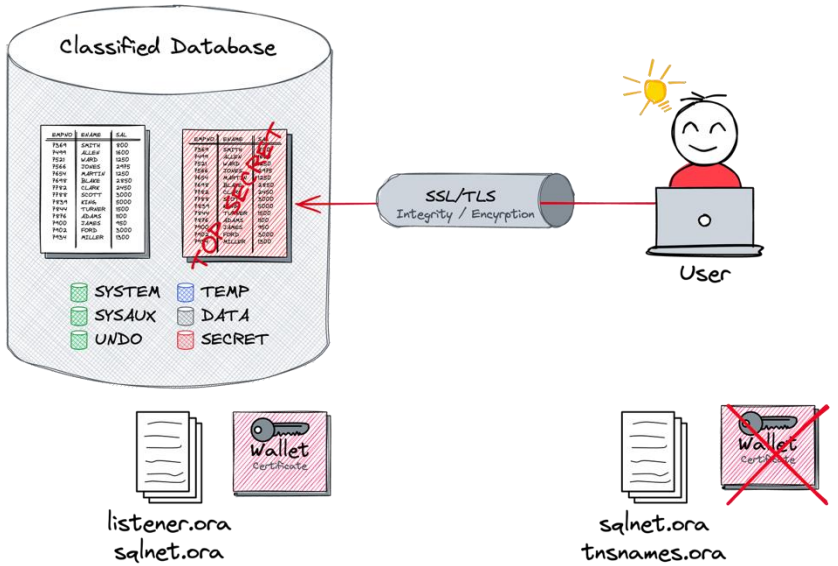
New parameter to Control the TDE Rekey Operations

- **DB_RECOVERY_AUTO_REKEY** controls whether an Oracle Data Guard standby database recovery operation



Encryption in Transition

Changes related to Network Encryption, Certificates, TLS



TLS 1.3 finally arrived in Oracle AI Database

- Oracle AI Database 26ai Transport Layer Security (TLS) version 1.3
- Initial session setup more efficiently than earlier TLS versions
- Configure in *sqlnet.ora* using `SSL_VERSION` and `SSL_CIPHER_SUITES`

Simplified Transport Layer Security Configuration

- Ability to Configure Transport Layer Security Connections **without Client Wallets**
- `SSL_VERSION` parameter does accept a comma-separated list e.g. TLSv1.3, TLSv1.2
- Introduction of the `ALLOWED_WEAK_CERT_ALGORITHMS` parameter
- Modifications to how wallets are loaded
  - **Server-side wallets** `WALLET_LOCATION` deprecated use `WALLET_ROOT` from init.ora
  - **Client-side wallets** Still use `WALLET_LOCATION` parameter, now defaults to `TNS_ADMIN`

7

Further Innovations

What else?

Further Innovations

What else…

A bunch of new SQLNet Parameter to control **weak**, **deprecated** ciphers

- e.g. SSL_ALLOW_WEAK_DN_MATCH

Azure Active Directory Integration

- Autonomous Database now can accept Azure AD **OAuth2** tokens to access the database

Authenticating and Authorizing IAM Users for Autonomous Database on dedicated Exadata

- **Enhanced Connection** Options:
  - Applications connect using end-user, instance, and resource principals.
- **Proxy Capabilities** for IAM Users:
  - IAM users can proxy via database user schema.
- **Database Link** Support:
  - IAM connections now support database links.

Database Security Assessment Tool (DBSat)

Latest Release Ready for Oracle 26ai – Version 4.2.0 February 2026

STIG 19c V1R1 compliance

- includes 30 new STIG findings and revised STIG group IDs

Enhanced Auditing and Security

- New auditing results, overall, up to 120 Security checks
- Support for Oracle AI Database 26ai SQL Firewall

Sensitive Data Discovery

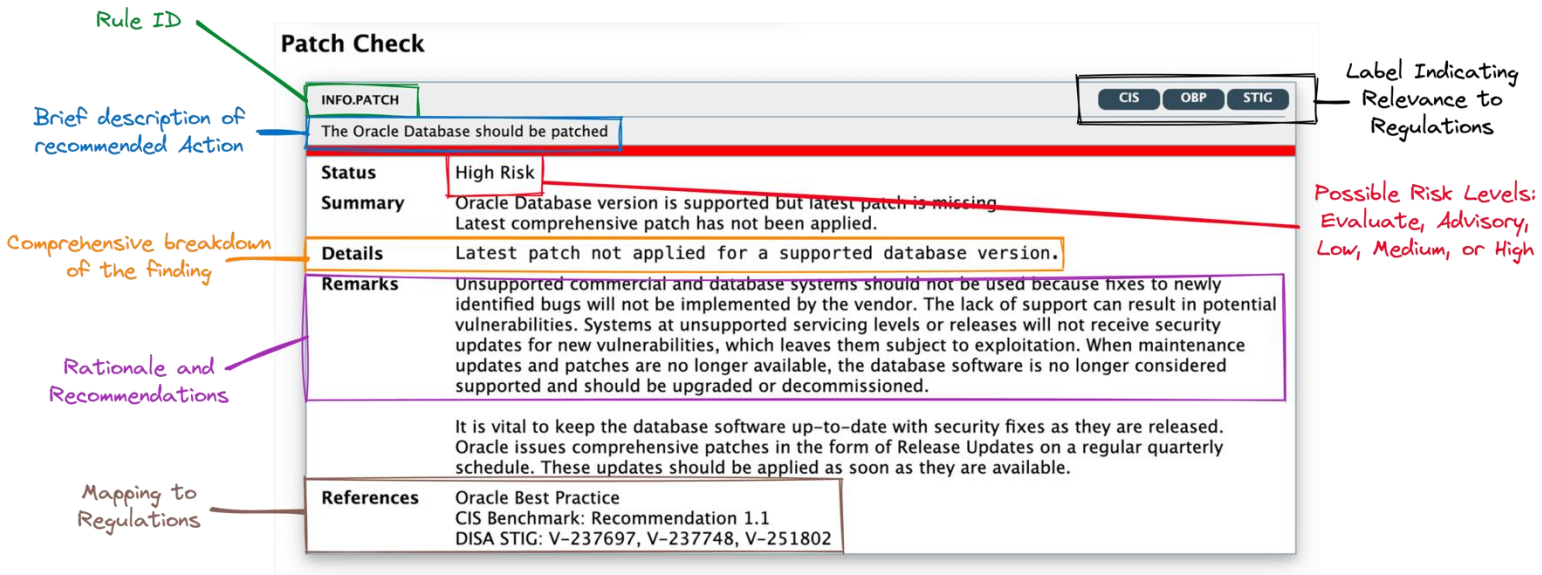
- Indian PAN and Aadhaar numbers

Improved Clarity and Quality

- one-line summary outlin
- Compliance labels

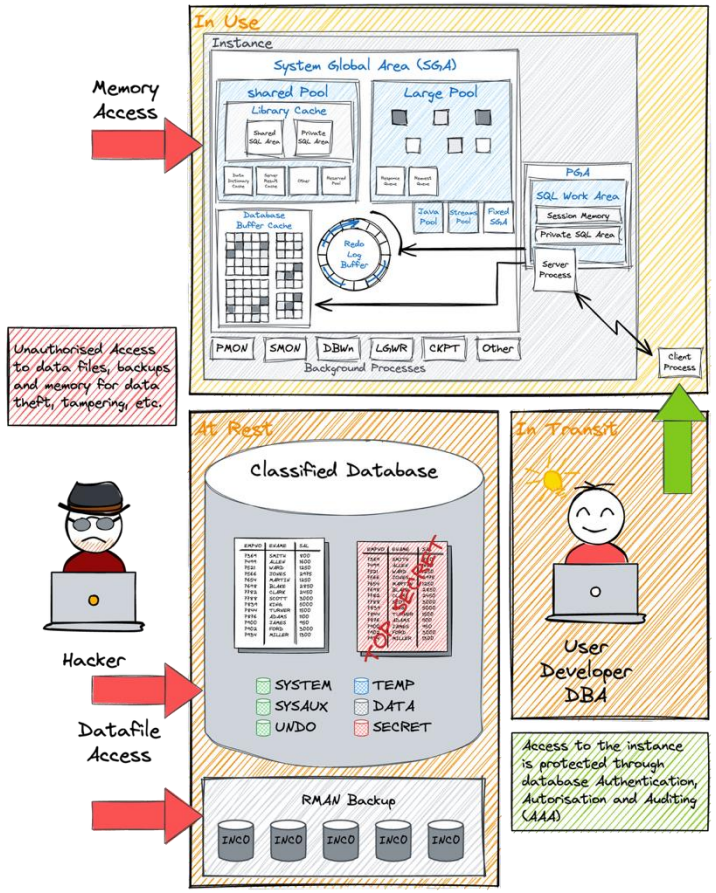
Operational Enhancements

- New parameter
- Linux 64-bit ARM Support



Why Oracle Data Safe?

Beyond Encryption and Patching – Comprehensive Database Security



More Than Basic Security – Encryption and patching are crucial but incomplete.

Key Security Focus Areas:

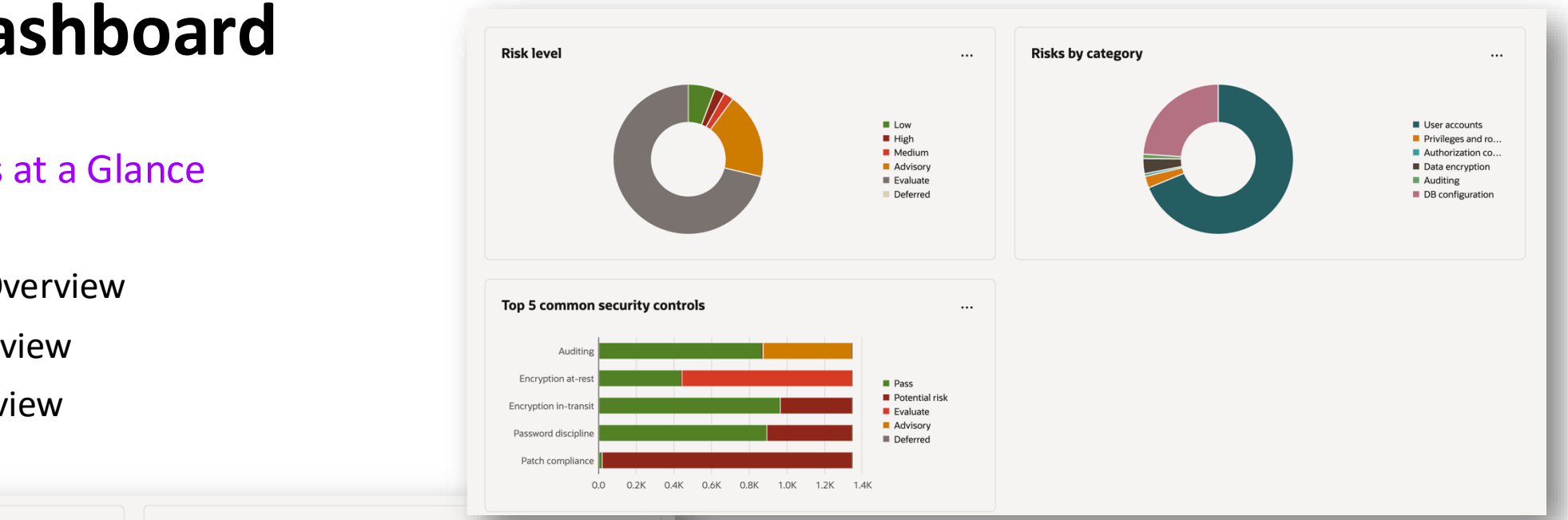
- **Configuration Compliance** – Is the database securely configured?
- **User Risk & Monitoring** – Who are the highest-risk users, and what actions are they performing?
- **Audit & Compliance** – Which activities should be audited, and how do we manage and protect the audit logs effectively?
- **Sensitive Data Control** – What sensitive data is stored, and can exposure be minimized?

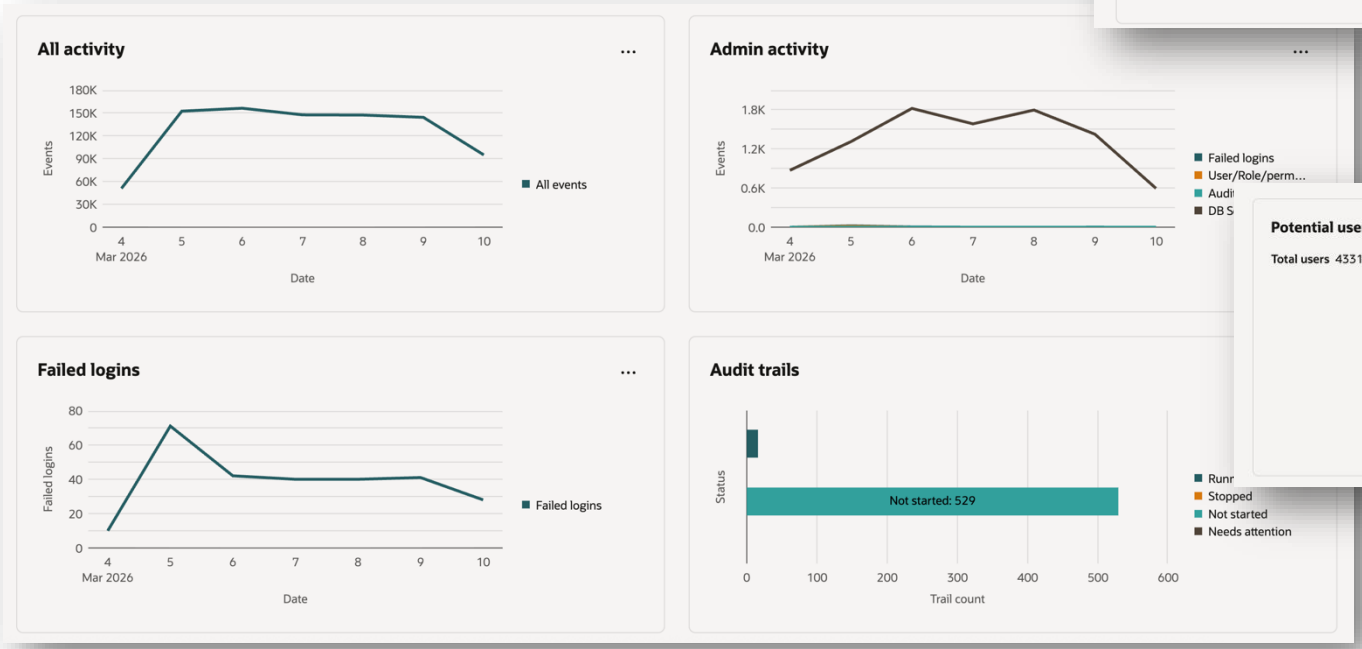
Holistic Security Management *– Oracle Data Safe offers centralized tools to address these areas, enhancing control, visibility, and compliance.*

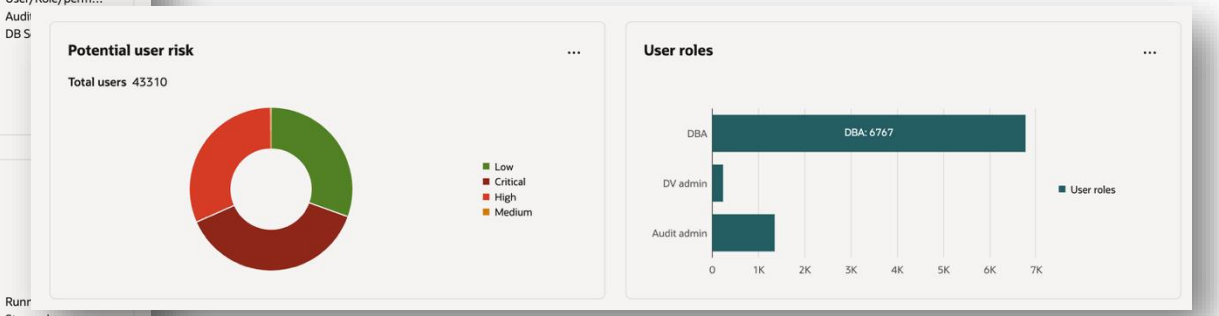
Data Safe Dashboard

Key Security Indicators at a Glance

- Security Assessment Overview
- User Assessment Overview
- Activity Auditing Overview







Securing Data Access in the AI Era

New approaches to enforce user-level data boundaries

- AI agents may operate with **broader database privileges**
- Risk: users access **more data via AI than they are normally allowed**
- Need to enforce **user-level data boundaries inside the database**
- Combines concepts similar to **VPD, Database Vault, and other controls**
- Goal: each user effectively sees **only their permitted data**
- **Currently under development**

Simplifying Database Security

Fewer Complex Queries, More Actionable Insights

What if…

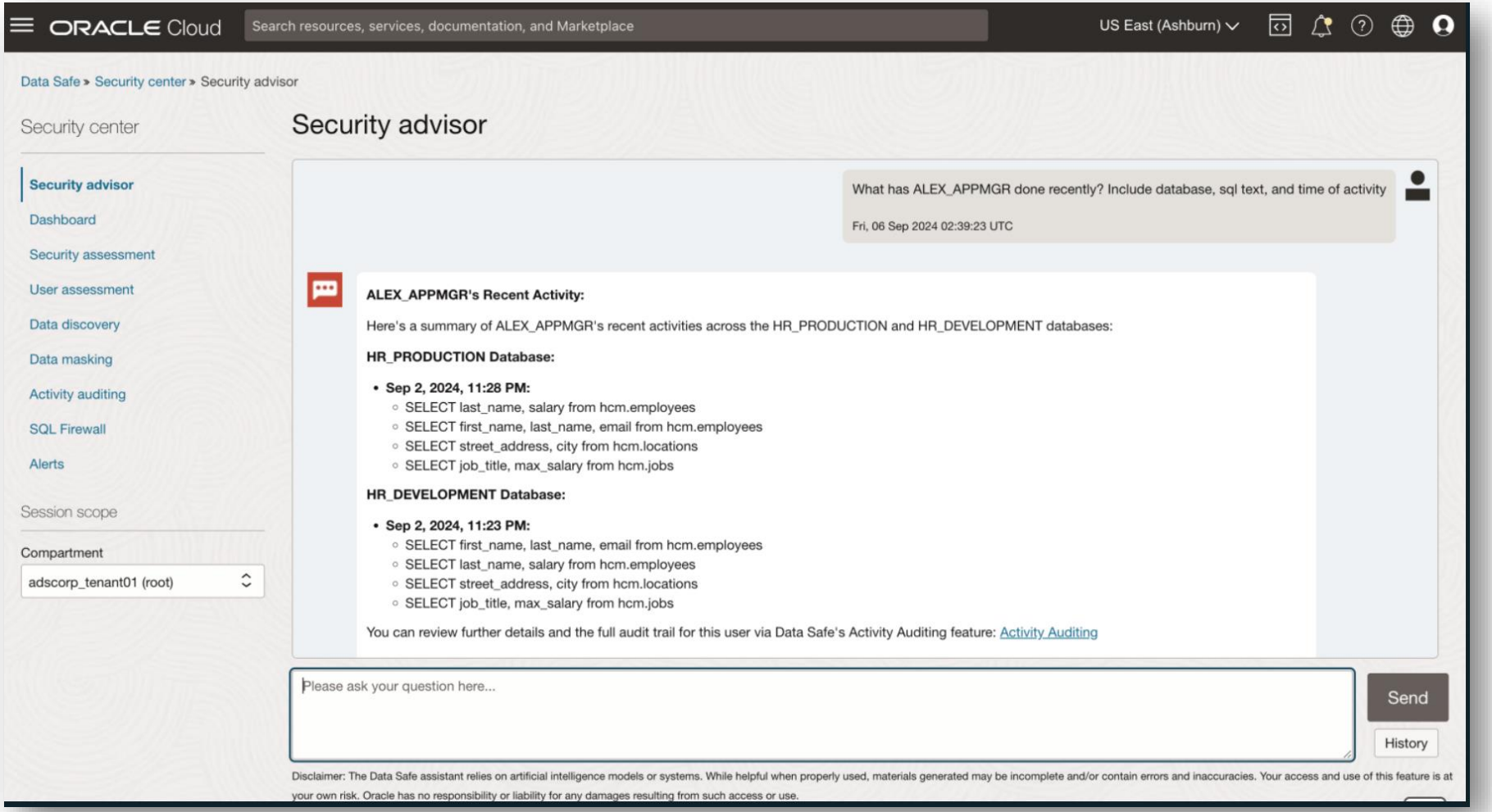
- You could instantly know the security status of your database?
- Get insights into unusual or risky activity inside your DB?
- Simplify the work of a security operator or analyst?
- All this could be achieved without the need for complex SQL queries or in-depth technical know-how?

A Preview

- A future feature currently in highly alpha state
- Still uncertain on final capabilities and release dates
- All information subject to change

Data Safe – Security Advisory

Preview of Future Data Safe Feature – Highly Experimental, Subject to Change



Conclusion

Database Security with Oracle 26ai: Not Just a Simple Maintenance Update

SQL Firewall: A Major Milestone

- The SQL Firewall stands out as a pivotal feature in Oracle 26ai

Continuous Enhancement, Not Just Maintenance

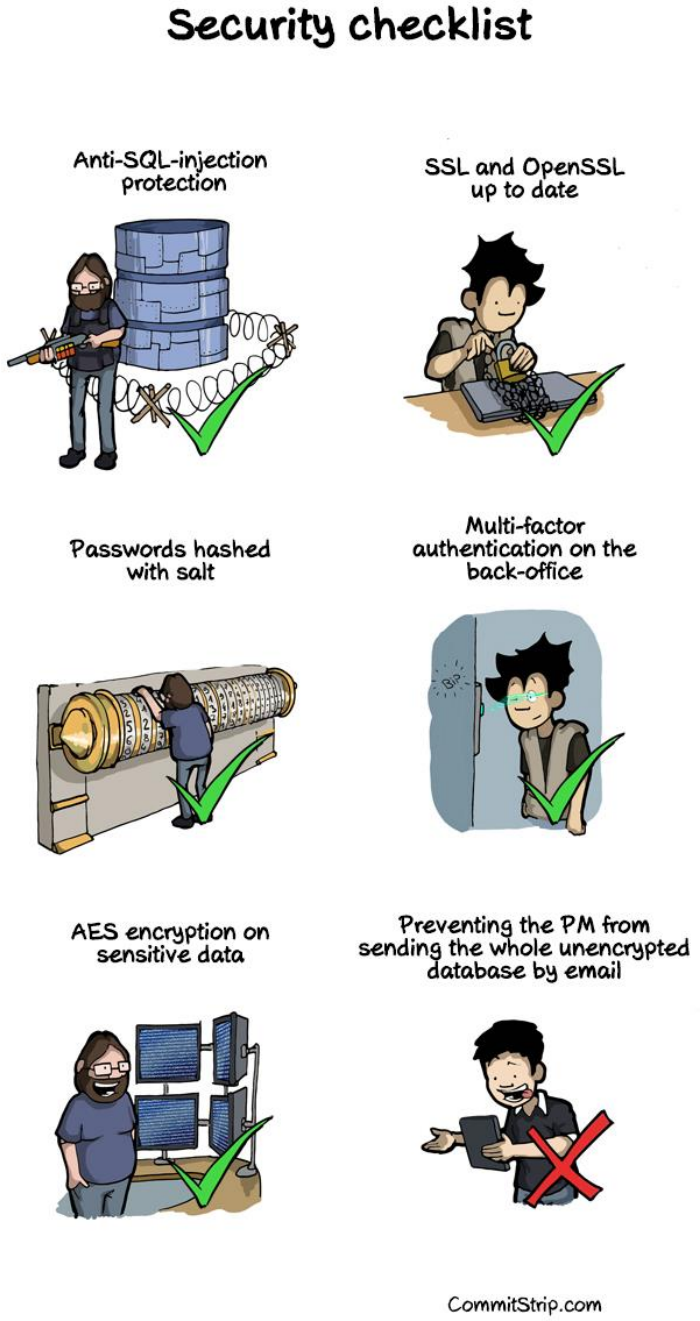
- Impactful improvements beyond routine updates
- Enhancements integral to ongoing security evolution

Assessing with the Latest Tools

- Utilize latest DB Sat for 26ai security assessment
- Advanced tool alignment with Oracle 26ai capabilities

Personal Favorite Immediate Audit Policy Implementation

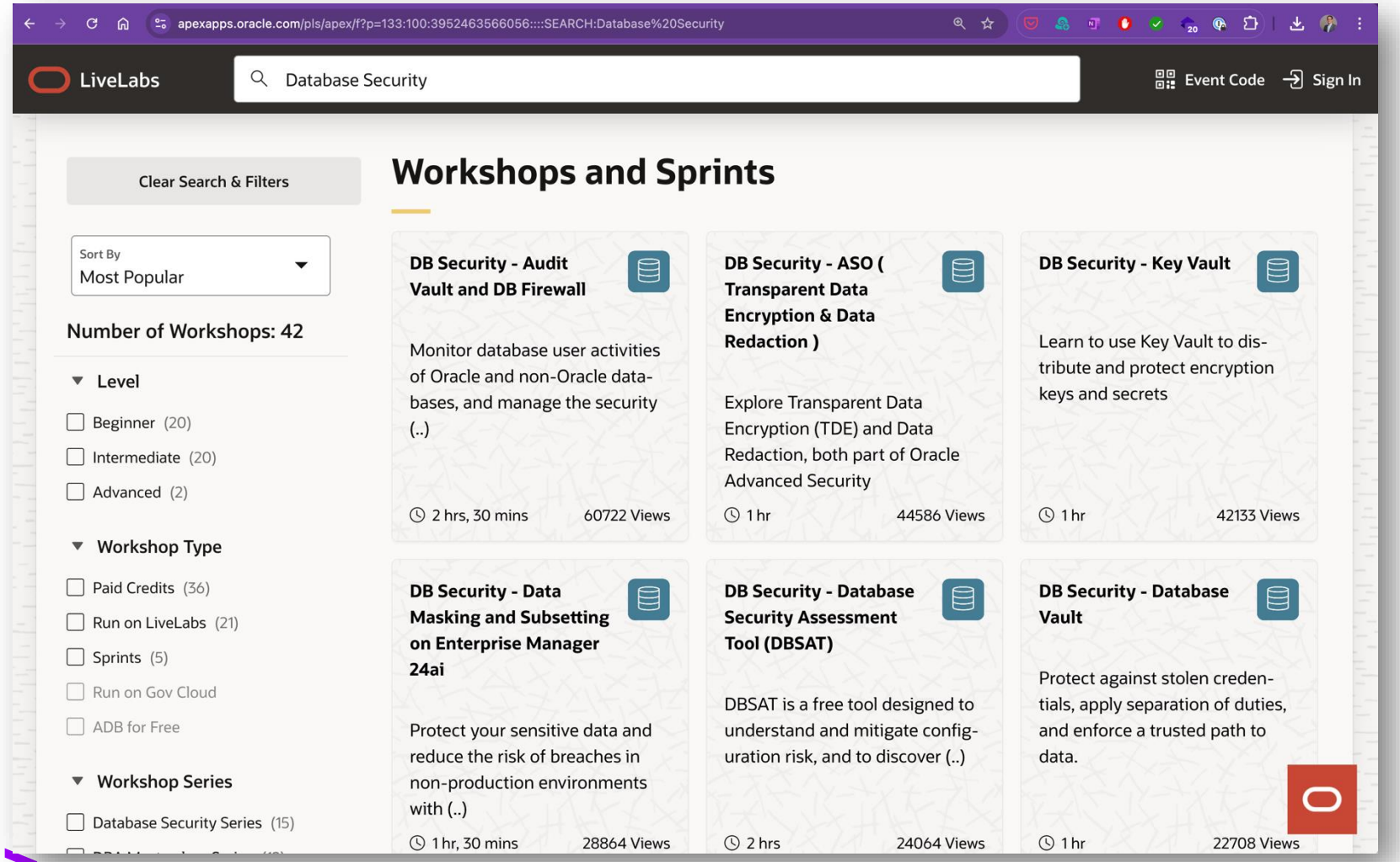
- Simplifies and enhances audit processes



Oracle 26ai new security features demand a strategic approach to unlock their full potential

Oracle LiveLabs

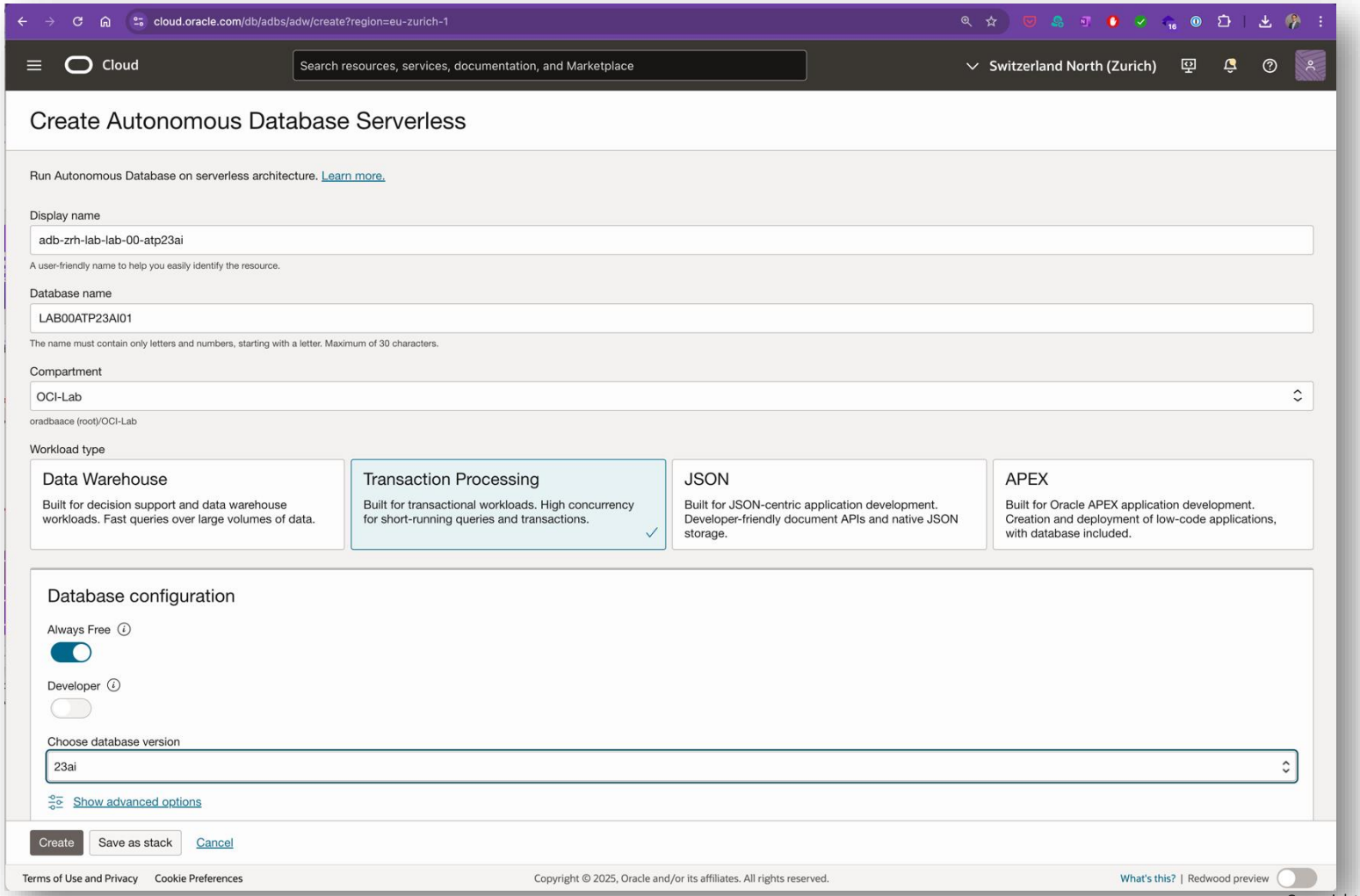
Test the functions of the Oracle AI Database without having to worry about setting up the infrastructure.



http://livelabs.oracle.com

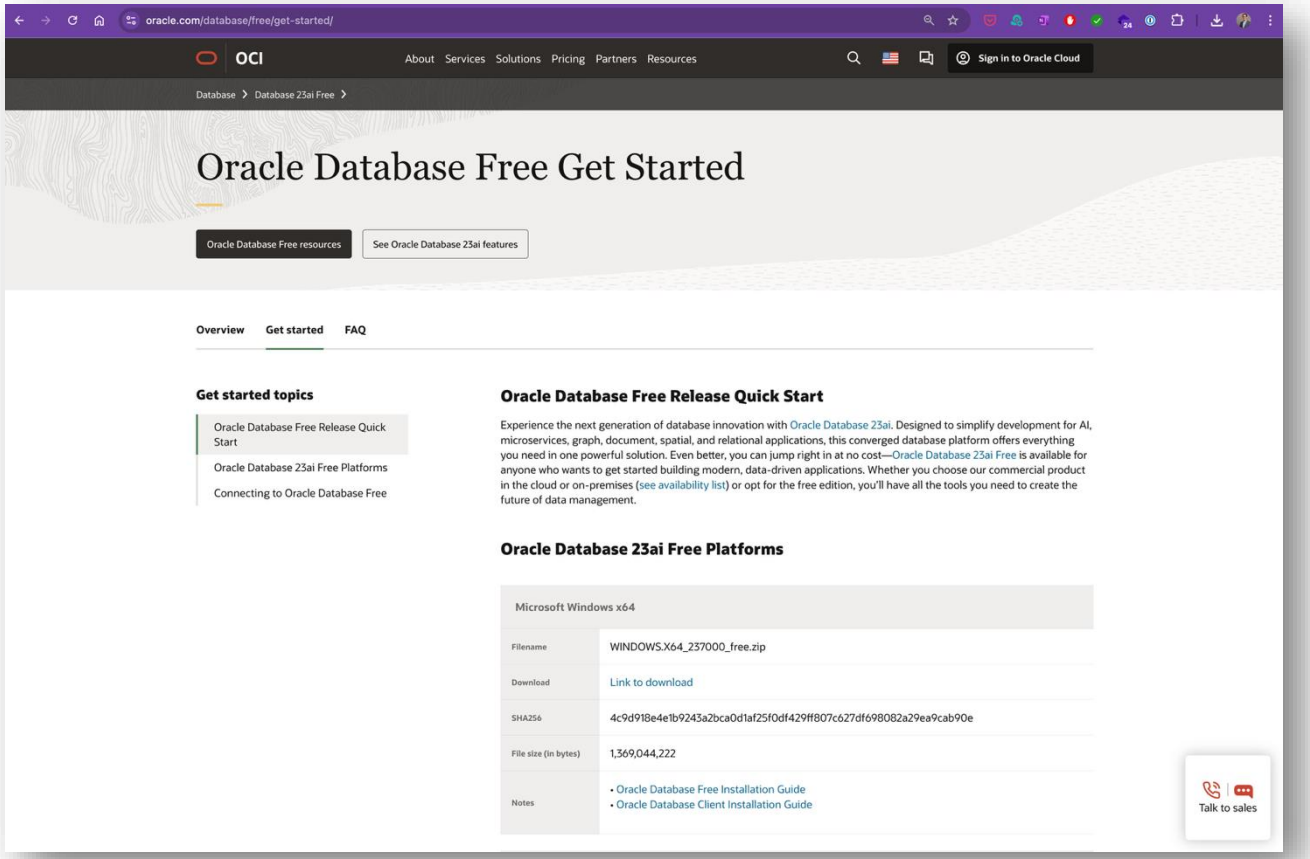
Oracle Cloud

Create you own Autonomous Database 26ai => Developer Edition



Oracle 26ai locally

Either setup Oracle 26ai youself or use a precreated VM or container



RPM package available for Platforms / OS

- Oracle Linux / Enterprise Linux 8 x86_64
- Oracle Linux / Enterprise Linux 9 x86_64
- Oracle Linux 8 arm / aarch64
- Microsoft Windows x64

Pre-Configured Installations

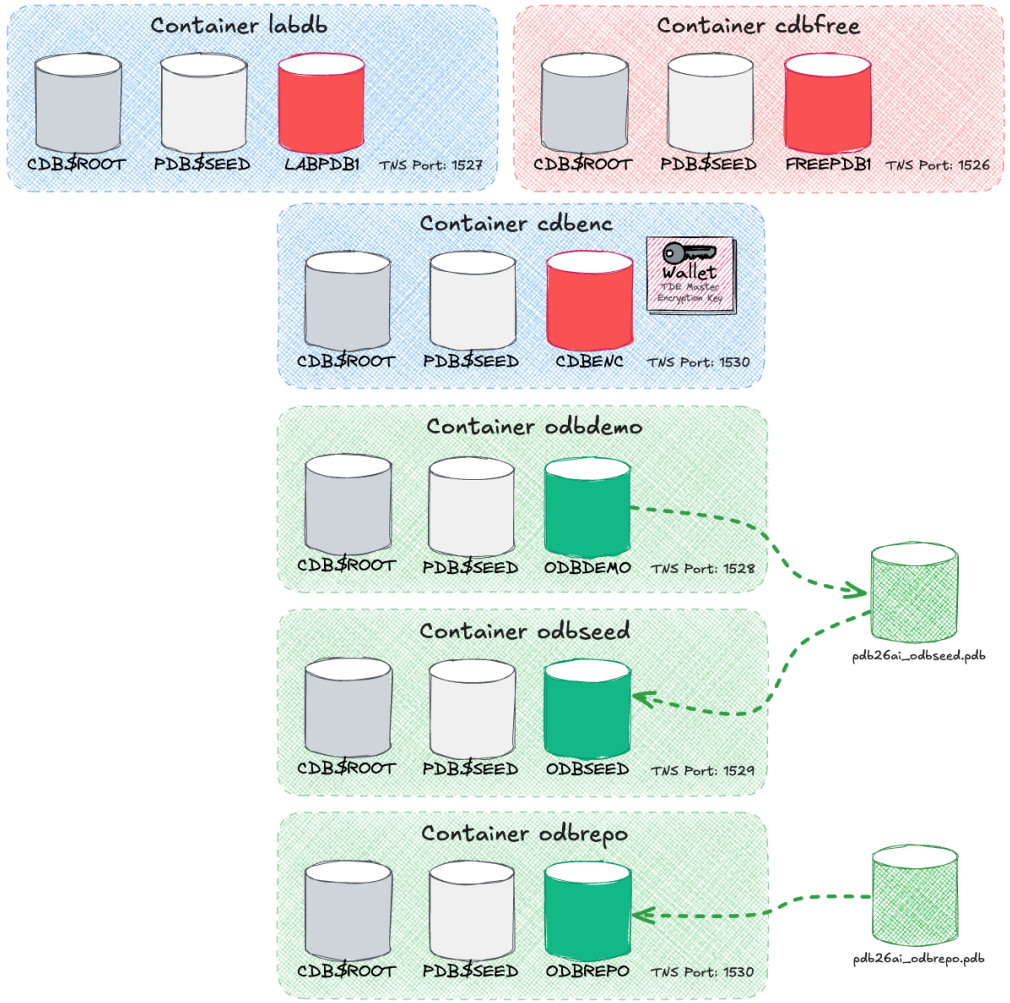
- Docker / Podman
  https://container-registry.oracle.com/
- Oracle Virtualbox
  https://download.oracle.com/otn_software/virtualbox/dd/Oracle_Database_26ai_Free_Developer.ova

Local Oracle Security Lab in Minutes

Oracle AI Database 26ai Free – Reproducible Container Lab Environment

- Container-based lab using **Docker or Podman**
- Runs **Oracle AI Database 26ai Free** locally
- Multiple ready-to-use scenarios (test DB, security lab, demo environments)
- **Preconfigured scripts and PDB archives** for fast setup
- **Reproducible environments** – reset, clone, or rebuild easily
- Ideal for **testing security features, demos, and training**

https://github.com/oehrlis/oracle-free-labs/tree/main



Thank You