ORACLE

Oracle Database Security Assessment Tool 4.1

Learn how secure your databases are with DBSAT

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Product Management

Oracle AI Database Security

December 2025

Risks to your databases can come from many directions

- Unauthorized data access
- Data leakage while training
- Data privacy

AI

- Cloud
- Network, DMZ
- Hardware
- VM or OS
- Backup
- Unauthorized key access

Deployment

- SQL injection attacks
- Sensitive data exposure
- Bypass app access control

Applications

Configuration

- 125+ parameters
- Unpatched CVEs
- Drift in configuration

- Data copies
- Data privacy
- Huge volume of data
- Admin access to data

Sensitive Data

Users

- Stolen or weak credentials
- Compromised insiders
- Overprivileged users
- Mistakes and errors
- Expired or shared accounts

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AI

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- Cloud
- Network, DMZ
- Hardware
- VM or OS
- Backup
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- SQL injection attacks
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Every database comes with its own flavors of risks

Risks become intractable with scale

125+ parameters
Unpatched CVEs
Drift in configuration

- Data copies
- Data privacy
- Huge volume of data
- Admin access to data

Sensitive Data

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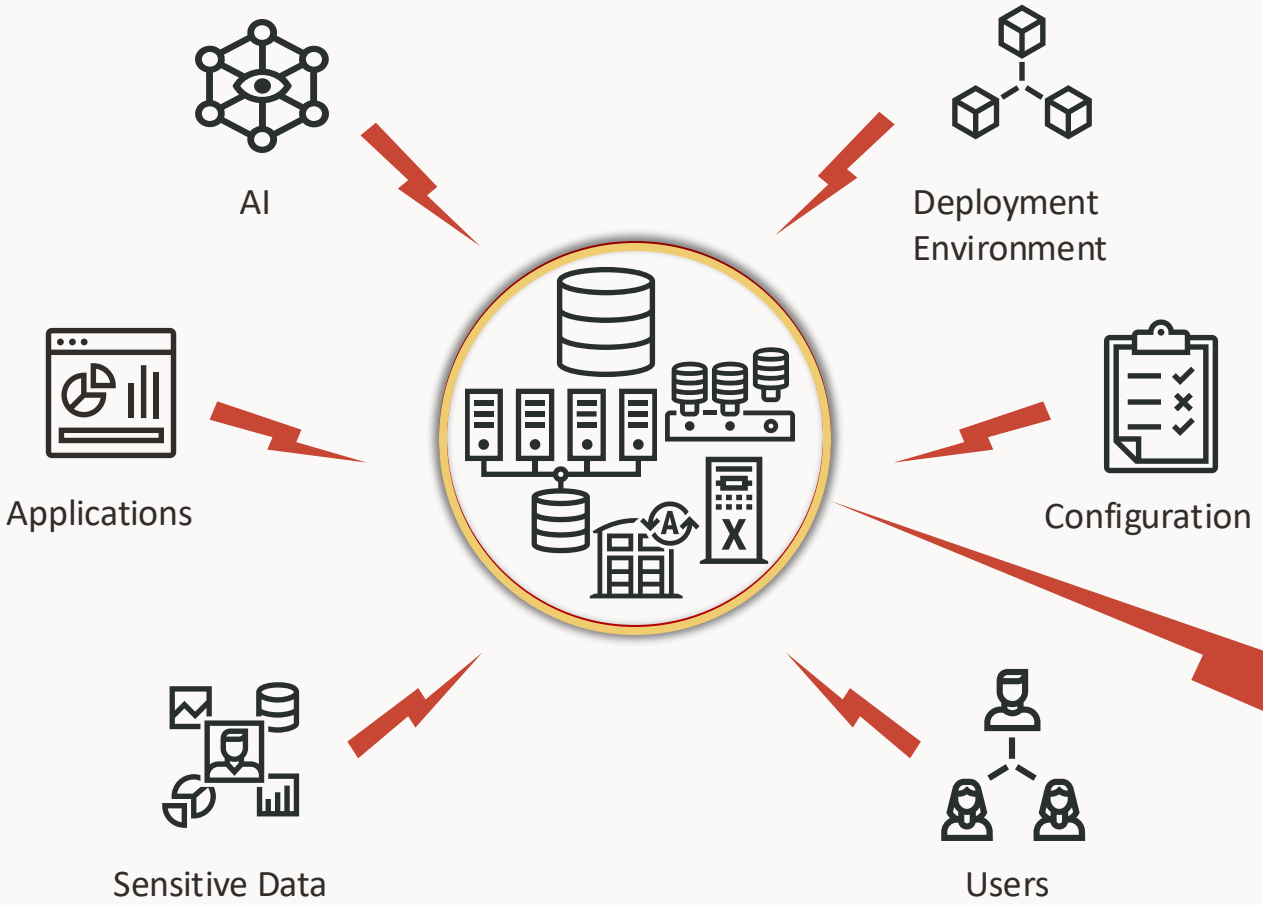
ALL risks need to be mitigated or managed



Skipping a control or implementing controls inconsistently introduces risks, and opens an opportunity for the hacker

Hackers just need to find one hole to get in, but we need to **protect against all attack vectors** to keep the hackers out

What is DBSAT?

Assess your database security before hackers come knocking

Assess Configuration

Patches

Data Encryption

Auditing policies

OS file permissions

Database configuration

Listener configuration

Fine-grained access control

Identify Risky Users

Database accounts

User privileges

User roles

Discover Sensitive Data

What type, where, and how much?

Sample pattern files for Greek, German, Dutch, French, Spanish, Italian, and Portuguese based data models as well.

Assessment Reports

Summary and detailed information

Prioritized, actionable and target specific recommendations

Mapping to EU GDPR, STIG and CIS Benchmark

Runs on 11g to 26ai Oracle Databases.

New in DBSAT 4.0

July 2025

Expanded Compliance

- Updated for STIG 19c V1R1. New STIG-related checks
- References updated to match new numbering scheme
- DISA highlights DBSAT's value in official Oracle Database 19c STIG

Improved User & Entitlement Assessment

- Identifies stale user accounts (no recent logins)
- Flags users with passwords expiring in 30 days
- Locally managed user checks
- Proxy users in DBA/PDB_DBA check
- Database Vault SoD and integrity checks
- Improved Data Redaction checks
- **Expanded Container Database Coverage**
- Checks for users with SET CONTAINER privilege
- Lists PDB lockdown profiles

Better CVE Visibility

- INFO.PATCH now covers unpatched CVEs

Smarter, Streamlined Findings

- Documentation links next to findings for Oracle Database 19c and 26ai assessments

Better Usability & Advanced Options

- Specify output format for DBSAT report [-f]
- Generate a log file for troubleshooting [-d]
- Limit number of rows collected [-r]

Discoverer Enhancements

- New JSON output
- Improved English pattern matching
- Report includes Views and View columns

DBSAT Extract

- New compression/encryption utility (no zip/unzip needed)

To learn more, please check the release notes.

New in DBSAT 4.1

Dec 2025

Support for Oracle AI Database 26ai

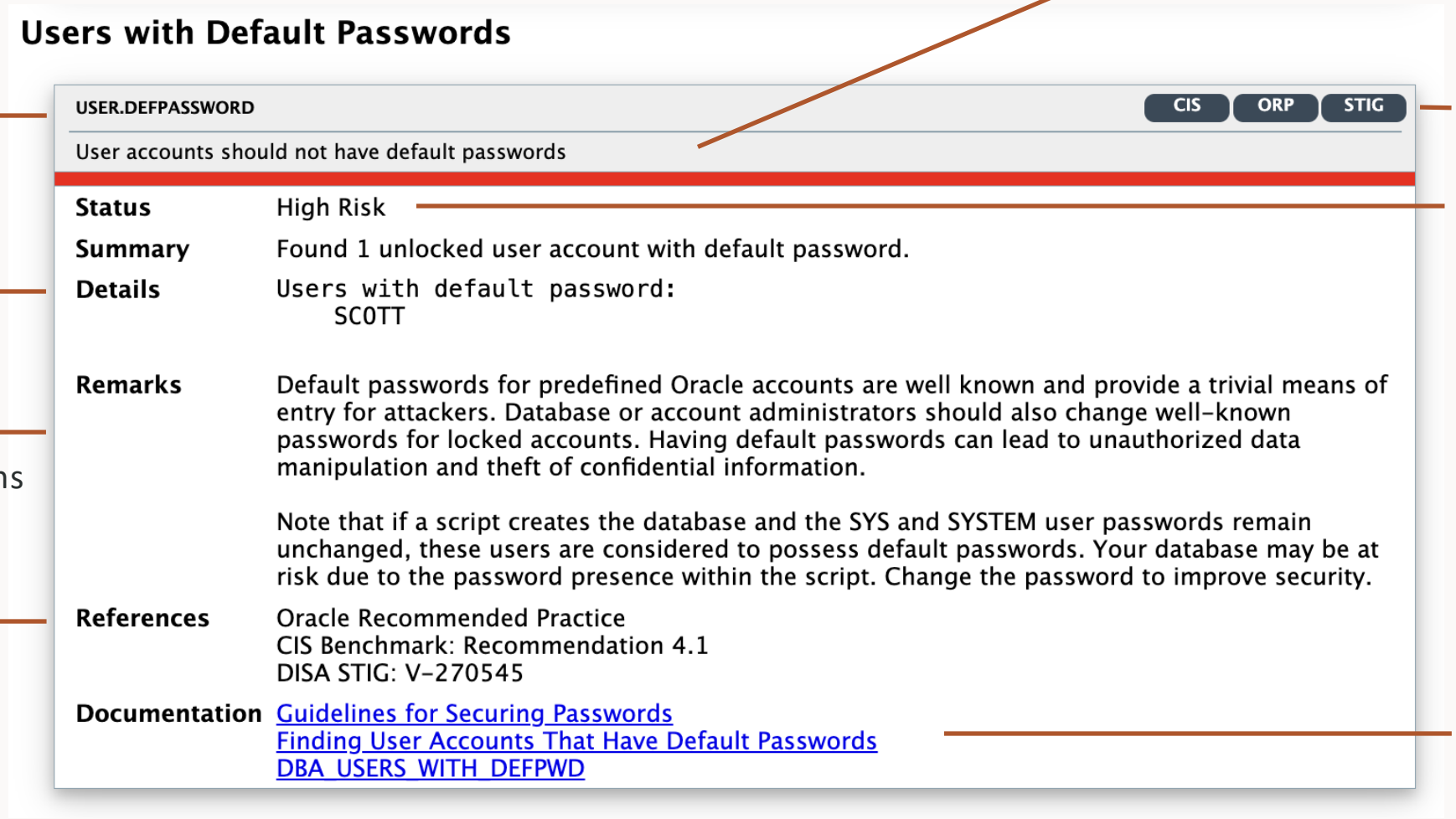
- DBSAT now supports Oracle AI Database 26ai and Oracle Autonomous AI Databases

Updated CVEs from Oct 2025 CPU

- INFO.PATCH now covers unpatched CVEs from Critical Patch Update - October 2025 for Oracle Database 19c, 21c, and 23ai

To learn more, please check the release notes.

Sample finding



Sentence outlining the recommended action

Rule ID

Tag with applicable standards

Can be High risk, Medium risk, Low risk, Pass Advisory, or Evaluate

Detail of the Finding

Rationale and Recommendations

Mapping to Regulations

NEW

Documentation links

New STIG checks in DBSAT (1/5)

NEW in 4.0

Locally Managed Accounts

USER.LOCALAUTH STIG

Locally managed users

Status	Evaluate
Summary	Found 42 accounts managed by the Oracle Database.
Details	Locally managed accounts: APPDEV_USER1, APPDEV_USER2, APPDEV_USER3, AVAUDITUSER, BACKUP_ADMIN, BA_BETTY, DBA_DEBRA, DBA_HARVEY, DBA_NICOLE, DBSAT_ADMIN, DBV_ACCTMGR_PDB1, DBV_OWNER_PDB1, DMS_ADMIN, DSCS_ADMIN, EMPLOYEESEARCH_DEV, EMPLOYEESEARCH_PROD, ERP_DATA, EVIL_RICH, FINACME, HCM1, HR_JOE_MGR, HR_TIM, JACK, JIM, JOSEPH_D, JSCHAFFER, JTAYLOR, LOOKUPS, MASKING_ADMIN, MIKE, NY_NICK, PA_ADMIN, PDBADMIN, PLOPES, PU_PETE, RMTUSR, SECURE_STEVE, SEC_ADMIN_OWEN, SOE, TA_TAMMY, TESTDBONE, XAS_CONSULTING
Remarks	Centralized user authentication and authorization is a security best practice to minimize rogue database user accounts that remain active after someone has left the organization. Oracle database can be directly configured with enterprise identity services such as Microsoft Entra-ID, Oracle Cloud Infrastructure Identity and Access Management, and Microsoft Active Directory using various authentication methods. Under STIG, all user accounts managed by the database need to have explicit approval and be in the system documentation. Please review the system documentation for justification and approval of the accounts listed.
References	DISA STIG: V-270499
Documentation	None

Supports efforts to review locally managed accounts

New STIG checks in DBSAT (2/5)

NEW in 4.0

New Users Who Need to Reset Password

USER.NEW ORP STIG

New users requiring password to be reset

Status	Evaluate
Summary	Found 38 users who have not logged in since account creation.
Details	New users who need to login and change their password: APPDEV_USER1, APPDEV_USER2, APPDEV_USER3, AVAUDITUSER, BACKUP_ADMIN, BA_BETTY, DBA_HARVEY, DBA_NICOLE, DBV_ACCTMGR_PDB1, DBV_OWNER_PDB1, DMS_ADMIN, DSCS_ADMIN, EMPLOYEESEARCH_DEV, EMPLOYEESEARCH_PROD, EVIL_RICH, HCM1, HR_JOE_MGR, HR_TIM, JACK, JIM, JOSEPH_D, JSCHAFFER, JTAYLOR, LOOKUPS, MASKING_ADMIN, MIKE, NY_NICK, PA_ADMIN, PDBADMIN, PLOPES, PU_PETE, RMTUSR, SECURE_STEVE, SEC_ADMIN_OWEN, SOE, TA_TAMMY, TESTDBONE, XAS_CONSULTING
Remarks	Enforcing password reset for all the newly created accounts at the time of first login ensures replacing commonly used or default passwords with unique passwords. You should verify the database management system is configured to require immediate selection of a new password upon account creation or recovery.
References	Oracle Recommended Practice DISA STIG: V-270588
Documentation	ALTER USER PASSWORD EXPIRE

Identified users who haven't logged in since account creation

New STIG checks in DBSAT (3/5)

NEW in 4.0

Security Assessment

CONF.ASSESSMENT ORP STIG

Review security assessment report findings

Status	Evaluate
Summary	Security Assessment was run on the current database. 10 sections in assessment report needs to be reviewed.
Details	Section Database Security Basics needs to be reviewed for 1 checks. Section User Accounts needs to be reviewed for 20 checks. Section Privileges and Roles needs to be reviewed for 29 checks. Section Auditing needs to be reviewed for 17 checks. Section Encryption needs to be reviewed for 3 checks. Section Authorization Control needs to be reviewed for 5 checks. Section Fine-Grained Access Control needs to be reviewed for 5 checks. Section Database Configuration needs to be reviewed for 16 checks. Section Network Configuration needs to be reviewed for 2 checks. Section Operating System needs to be reviewed for 6 checks.
Remarks	For each finding, DBSAT recommends remediation activities that follow best practices to reduce or mitigate risk. Review the security status provided by the DBSAT report, check the categories (sections), and review the findings by risk level and recommendations.
References	Oracle Recommended Practice DISA STIG: V-270520
Documentation	None

Highlight the need to review all findings

New STIG checks in DBSAT (4/5)

NEW in 4.0

Directory Separation for Multi-applications

CONF.DIRECTORYSEPARATION ORP STIG

Ensure separation of directories for multiple applications

Status	Evaluate
Summary	Found 8 paths for data files. Found 8 paths for redo log files. AUDIT_FILE_DEST is configured.
Details	Data files are present in current locations: /u01/oradata/FREE/FREEPDB1/dbsec_tbs_dms.dbf, /u01/oradata/FREE/FREEPDB1/empdata_dev.dbf, /u01/oradata/FREE/FREEPDB1/empdata_prod.dbf, /u01/oradata/FREE/FREEPDB1/lookups1.dbf, /u01/oradata/FREE/FREEPDB1/sysaux01.dbf, /u01/oradata/FREE/FREEPDB1/system01.dbf, /u01/oradata/FREE/FREEPDB1/undotbs01.dbf, /u01/oradata/FREE/FREEPDB1/users01.dbf Redo log files are present in current locations: /u01/oradata/FREE/redo01.log, /u01/oradata/FREE/redo02.log, /u01/oradata/FREE/redo03.log AUDIT_FILE_DEST: /u01/app/oracle/admin/FREE/adump ORACLE_BASE: /u01/app/oracle ORACLE_HOME: /u01/app/oracle/product/23ai/dbhome_1
Remarks	Within Oracle databases, data files, transaction logs, and audit records are stored either on the host operating system's file system or in Oracle ASM (Automatic Storage Management). These files depend on OS- level access controls for protection. When multiple applications share the same database, it's essential to maintain data isolation and manage resource contention. To reduce risk and ensure proper separation, configure the database so that each application's files are stored in separate directories or ASM disk groups, depending on your storage architecture. This separation supports clearer access controls, simplifies auditing and monitoring, and limits the impact of misconfigurations or unauthorized access.
References	Oracle Recommended Practice DISA STIG: V-270538, V-270578
Documentation	None

Checks for the location of data files, redo logs, and audit file destination

New STIG checks in DBSAT (5/5)

NEW in 4.0

Listener Ports

OS.LISTENERPORTS STIG

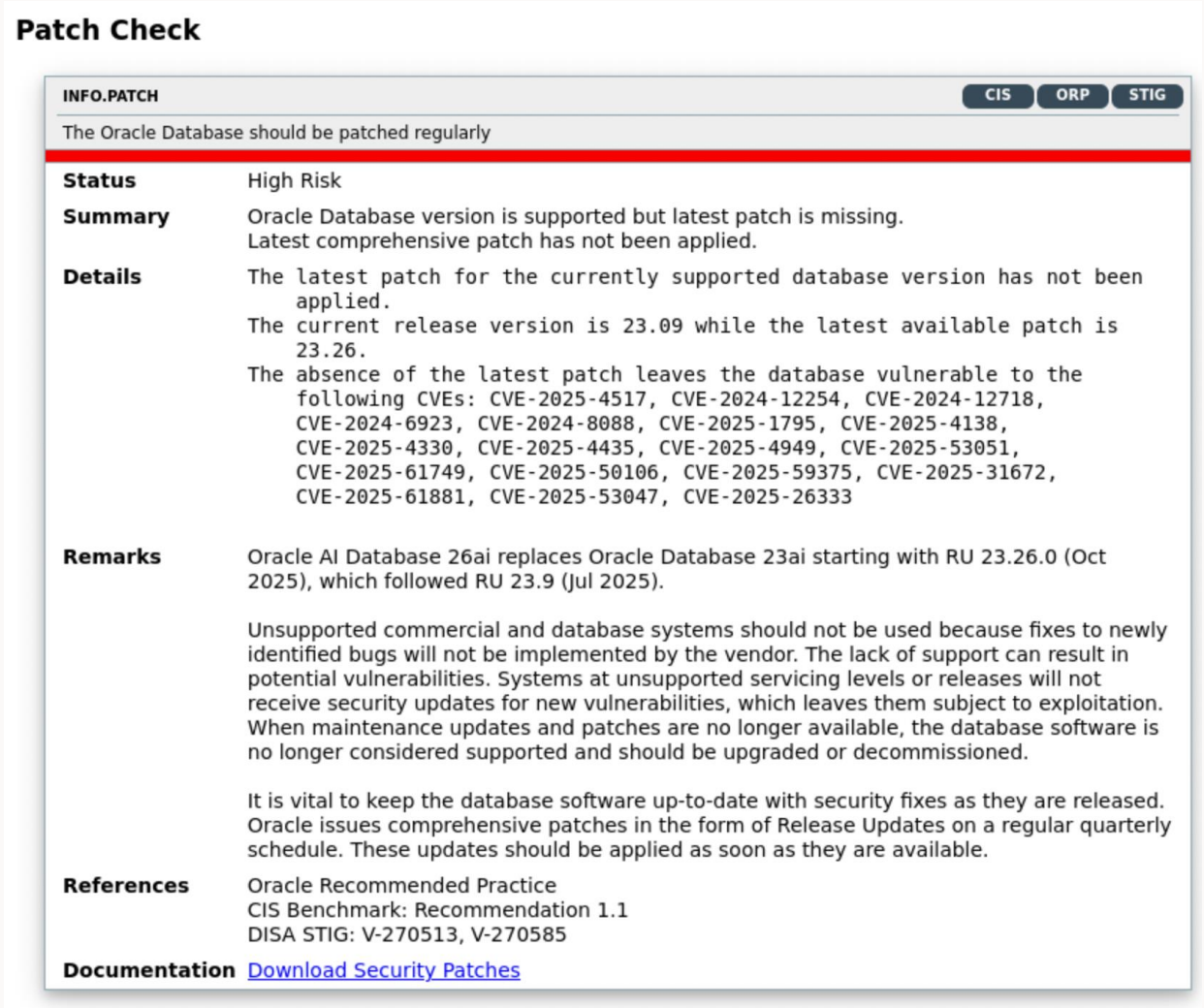
Check all ports defined in Oracle configuration files

Status	Evaluate
Summary	Found 1 port configured in sqlnet.ora. Found 1 port configured in listener.ora.
Details	port configured in sqlnet.ora is: 5678 port configured in listener.ora is: 14081
Remarks	Ports are configured across various Oracle files, including SQLNET.ora, LISTENER.ora, CMAN.ora, and TNSNAMES.ora. It is essential to regularly review these configurations to identify and, if necessary, disable or restrict any unused, unauthorized, or unnecessary ports, protocols, or services. Please review these ports' use and ensure they align with your organization's security policies. Always limit the use of ports, protocols, and services to only those that are required, authorized, and explicitly approved.
References	DISA STIG: V-270558
Documentation	Parameters for listener.ora Parameters in tnsnames.ora Parameters for sqlnet.ora

Checks for known listener ports.

Better CVE Visibility

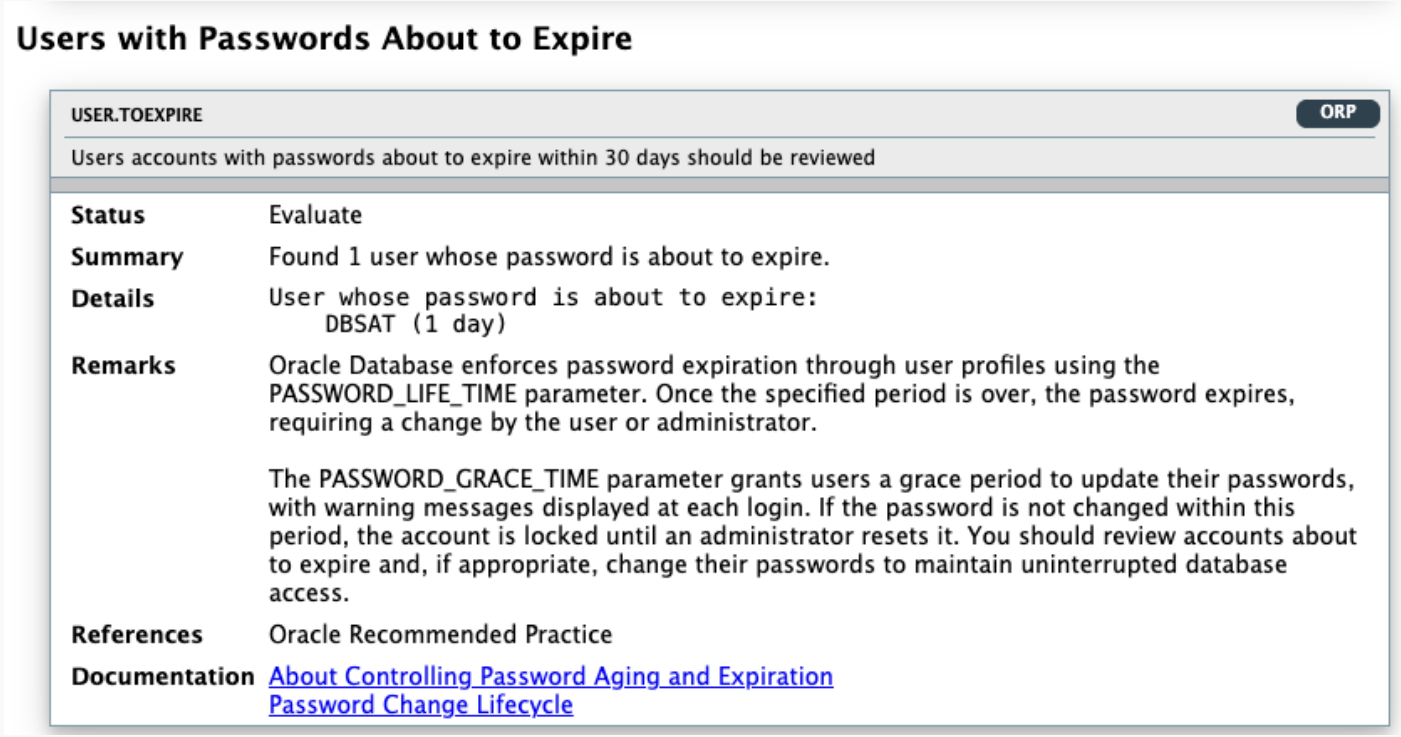
Updated in 4.1



Unpatched CVEs are now highlighted

Users with passwords about to expire

NEW in 4.0



Users with Passwords About to Expire

USER.TOEXPIRE — ORP

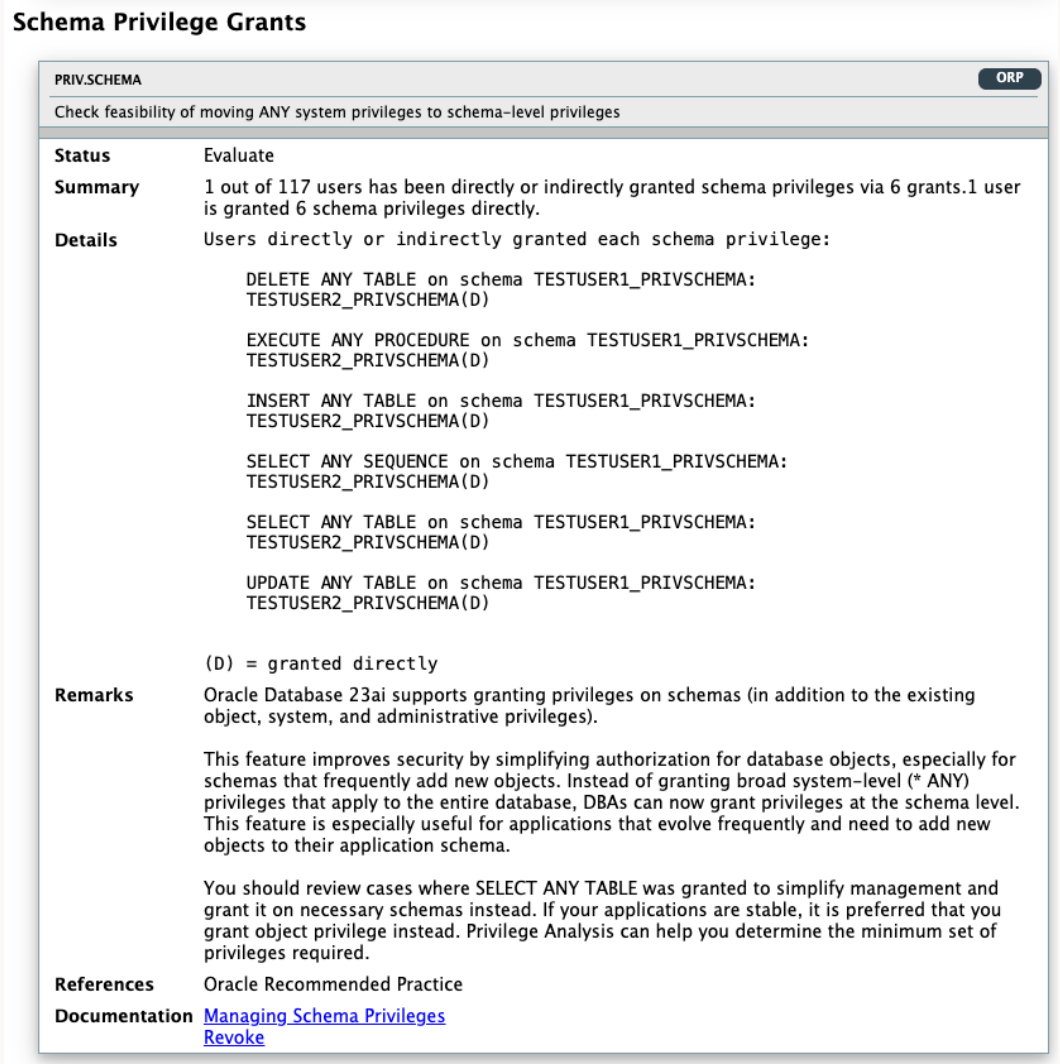
Users accounts with passwords about to expire within 30 days should be reviewed

Status	Evaluate
Summary	Found 1 user whose password is about to expire.
Details	User whose password is about to expire: DBSAT (1 day)
Remarks	Oracle Database enforces password expiration through user profiles using the PASSWORD_LIFE_TIME parameter. Once the specified period is over, the password expires, requiring a change by the user or administrator. The PASSWORD_GRACE_TIME parameter grants users a grace period to update their passwords, with warning messages displayed at each login. If the password is not changed within this period, the account is locked until an administrator resets it. You should review accounts about to expire and, if appropriate, change their passwords to maintain uninterrupted database access.
References	Oracle Recommended Practice
Documentation	About Controlling Password Aging and Expiration Password Change Lifecycle

Displays information about user accounts that will expire their passwords within 30 days.

Schema Privileges

NEW in 4.0



Schema Privilege Grants

PRIV.SCHEMA — ORP

Check feasibility of moving ANY system privileges to schema-level privileges

Status	Evaluate
Summary	1 out of 117 users has been directly or indirectly granted schema privileges via 6 grants.1 user is granted 6 schema privileges directly.
Details	Users directly or indirectly granted each schema privilege: DELETE ANY TABLE on schema TESTUSER1_PRIVSCHEMA: TESTUSER2_PRIVSCHEMA(D) EXECUTE ANY PROCEDURE on schema TESTUSER1_PRIVSCHEMA: TESTUSER2_PRIVSCHEMA(D) INSERT ANY TABLE on schema TESTUSER1_PRIVSCHEMA: TESTUSER2_PRIVSCHEMA(D) SELECT ANY SEQUENCE on schema TESTUSER1_PRIVSCHEMA: TESTUSER2_PRIVSCHEMA(D) SELECT ANY TABLE on schema TESTUSER1_PRIVSCHEMA: TESTUSER2_PRIVSCHEMA(D) UPDATE ANY TABLE on schema TESTUSER1_PRIVSCHEMA: TESTUSER2_PRIVSCHEMA(D) (D) = granted directly
Remarks	Oracle Database 23ai supports granting privileges on schemas (in addition to the existing object, system, and administrative privileges). This feature improves security by simplifying authorization for database objects, especially for schemas that frequently add new objects. Instead of granting broad system-level (* ANY) privileges that apply to the entire database, DBAs can now grant privileges at the schema level. This feature is especially useful for applications that evolve frequently and need to add new objects to their application schema. You should review cases where SELECT ANY TABLE was granted to simplify management and grant it on necessary schemas instead. If your applications are stable, it is preferred that you grant object privilege instead. Privilege Analysis can help you determine the minimum set of privileges required.
References	Oracle Recommended Practice
Documentation	Managing Schema Privileges Revoke

Displays information about user accounts with ANY system privileges and schema-level grants.

This will allow reviewing cases where SELECT ANY TABLE system privilege was granted to simplify management and replace them with schema-level grants instead.

Database Vault (1/3)

Updated in 4.0

Database Vault

AUTHZ.DATABASEVAULT — GDPR | ORP | STIG

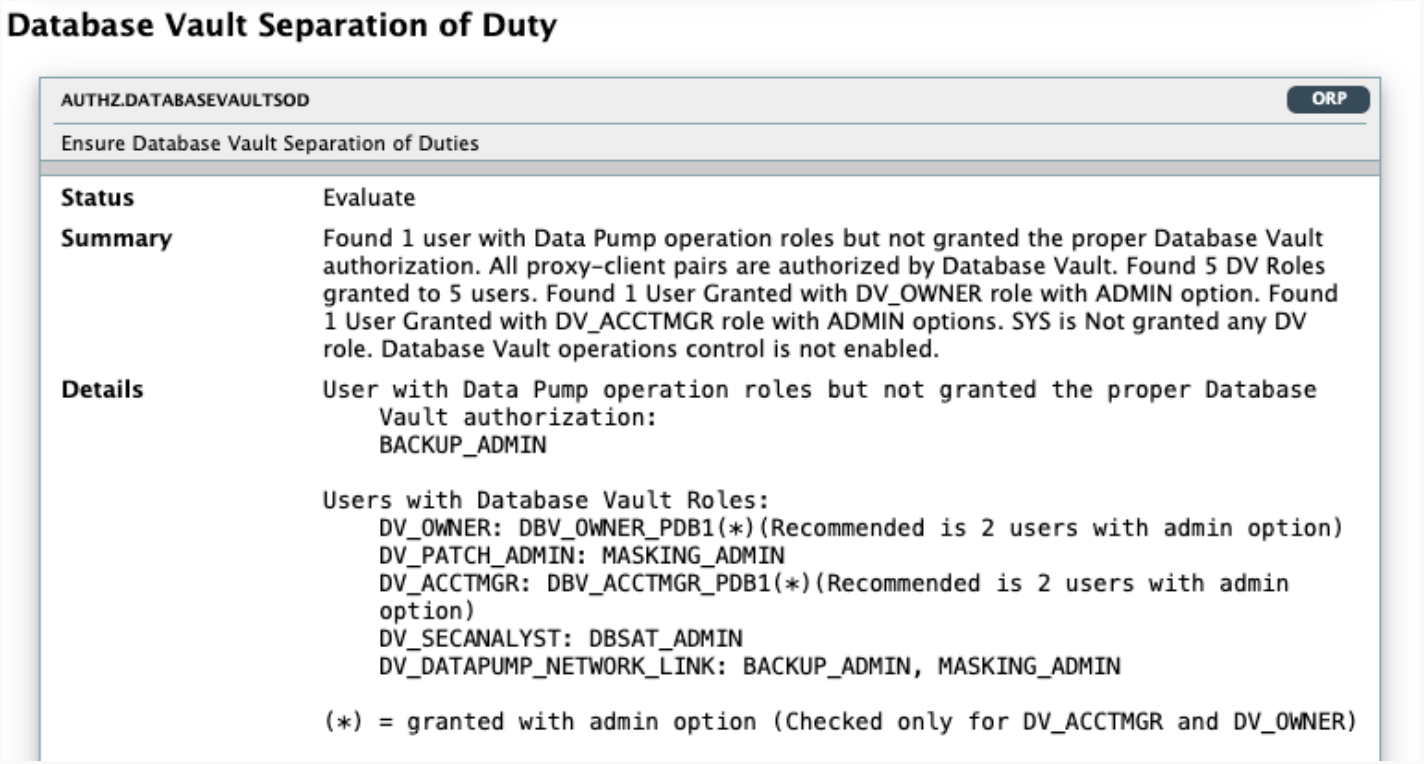
Ensure proper configuration of Database Vault command rules and realms

Status	Evaluate
Summary	Database vault is enabled in 1 PDB (CDB1_PDB1). Found 5 Database Vault realms and 5 command rules.
Details	Realms: HR.EMPLOYEES_Realm (Simulation mode) OBJECTS Protected: HR.EMPLOYEES (TABLE) Realm (Enabled) Realm1 (Disabled) OBJECTS Protected: DV_TEST_SCHEMA1.<Any Object> (Any Type) Realm2 (Disabled) Realm3 (Disabled) Command Rules: CREATE PLUGGABLE DATABASE (Enabled) CREATE TABLE on DV_TEST_SCHEMA1.<Any Object> (Enabled) DROP TABLE on DV_TEST_SCHEMA1.<Any Object> (Disabled) INSERT on DV_TEST_SCHEMA1.<Any Object> (Enabled) SELECT on DV_TEST_SCHEMA1.<Any Object> (Enabled)
Remarks	Database Vault offers customizable policies to regulate the actions of privileged database accounts, such as those used by administrative users, applications, and utilities. Internal and external threats can exploit privileged account credentials to access sensitive information. Database Vault realms protect sensitive data from unauthorized access, even by users with system privileges. Command rules in Database Vault limit accidental or malicious execution of SQL commands.
References	Oracle Recommended Practice EU GDPR: Article 6, 25, 29, 32, 34, 89; Recital 28, 29, 78, 156 DISA STIG: V-270500, V-270572
Documentation	What is Oracle Database Vault Restrict common users from seeing PDB data Database Vault roles DBA Operations in an Oracle Database Vault Environment AUTHORIZE_PROXY_USER Procedure

Displays whether Oracle Database Vault is enabled, details realms, command rules, their status, and protected objects.

Database Vault (2/3)

NEW in 4.0



Database Vault Separation of Duty

AUTHZ.DATABASEVAULTSOD — ORP

Ensure Database Vault Separation of Duties

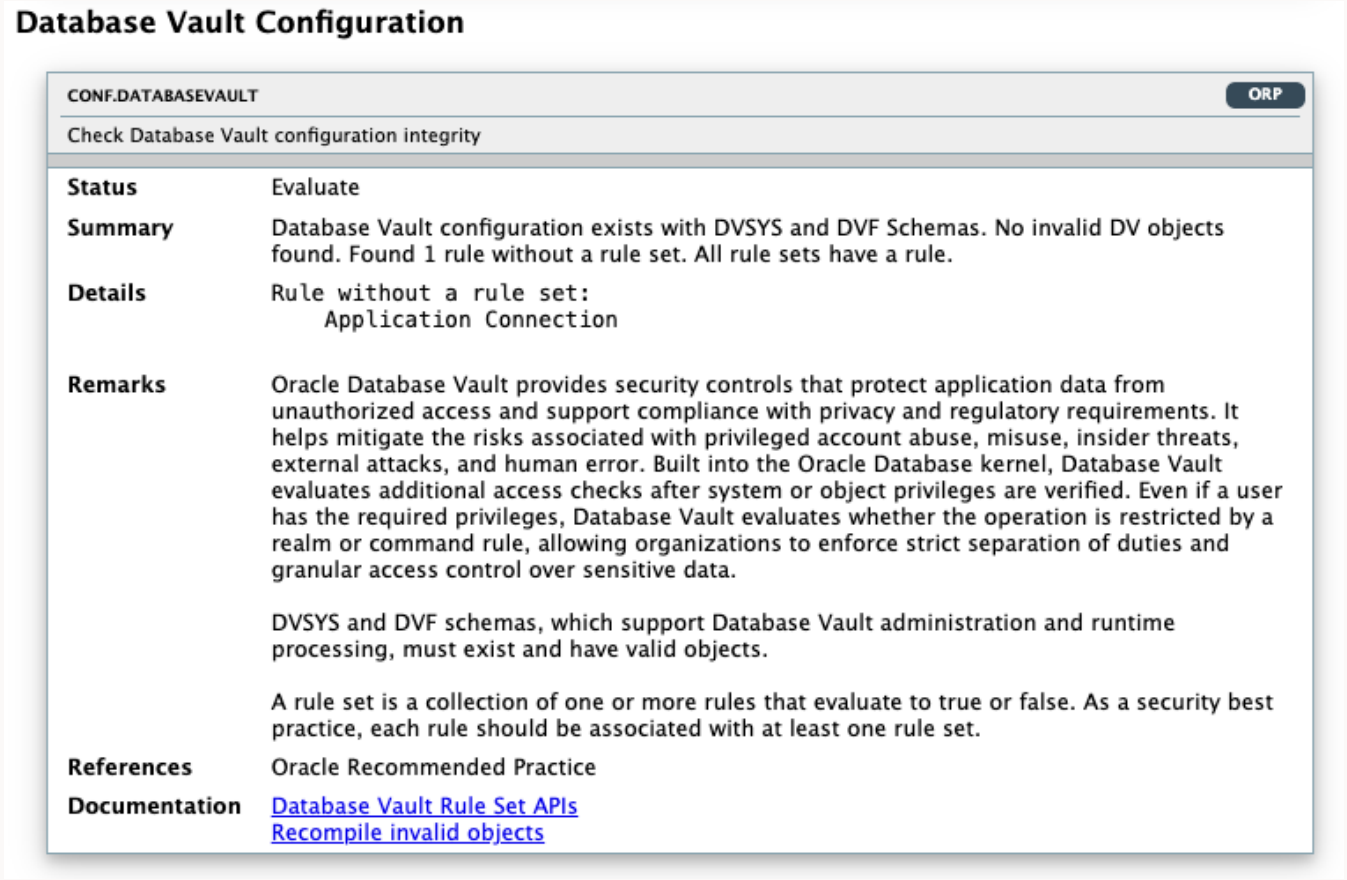
Status	Evaluate
Summary	Found 1 user with Data Pump operation roles but not granted the proper Database Vault authorization. All proxy-client pairs are authorized by Database Vault. Found 5 DV Roles granted to 5 users. Found 1 User Granted with DV_OWNER role with ADMIN option. Found 1 User Granted with DV_ACCTMGR role with ADMIN options. SYS is Not granted any DV role. Database Vault operations control is not enabled.
Details	User with Data Pump operation roles but not granted the proper Database Vault authorization: BACKUP_ADMIN Users with Database Vault Roles: DV_OWNER: DBV_OWNER_PDB1(*)(Recommended is 2 users with admin option) DV_PATCH_ADMIN: MASKING_ADMIN DV_ACCTMGR: DBV_ACCTMGR_PDB1(*)(Recommended is 2 users with admin option) DV_SECANALYST: DBSAT_ADMIN DV_DATAPUMP_NETWORK_LINK: BACKUP_ADMIN, MASKING_ADMIN (*) = granted with admin option (Checked only for DV_ACCTMGR and DV_OWNER)

Displays information about users with Database Vault-specific roles, including DV_OWER, DV_ACCTMGR, DV_PATCH_ADMIN, and others.

It also verifies if users have been properly authorized for specific operations (e.g., Data Pump export/import requires roles and a specific Database Vault authorization) and checks if Database Vault operation control is enabled.

Database Vault (3/3)

NEW in 4.0



Checks for Database Vault integrity. Validates the presence of both the DVSYS and DVF schemas, checks for invalid Database Vault objects, identifies rules that are not associated with any rule sets, and flags any empty rule sets.

Resource Manager Plans

NEW in 4.0

Database Resource Plans

CONF.RESOURCEMANAGER ORP

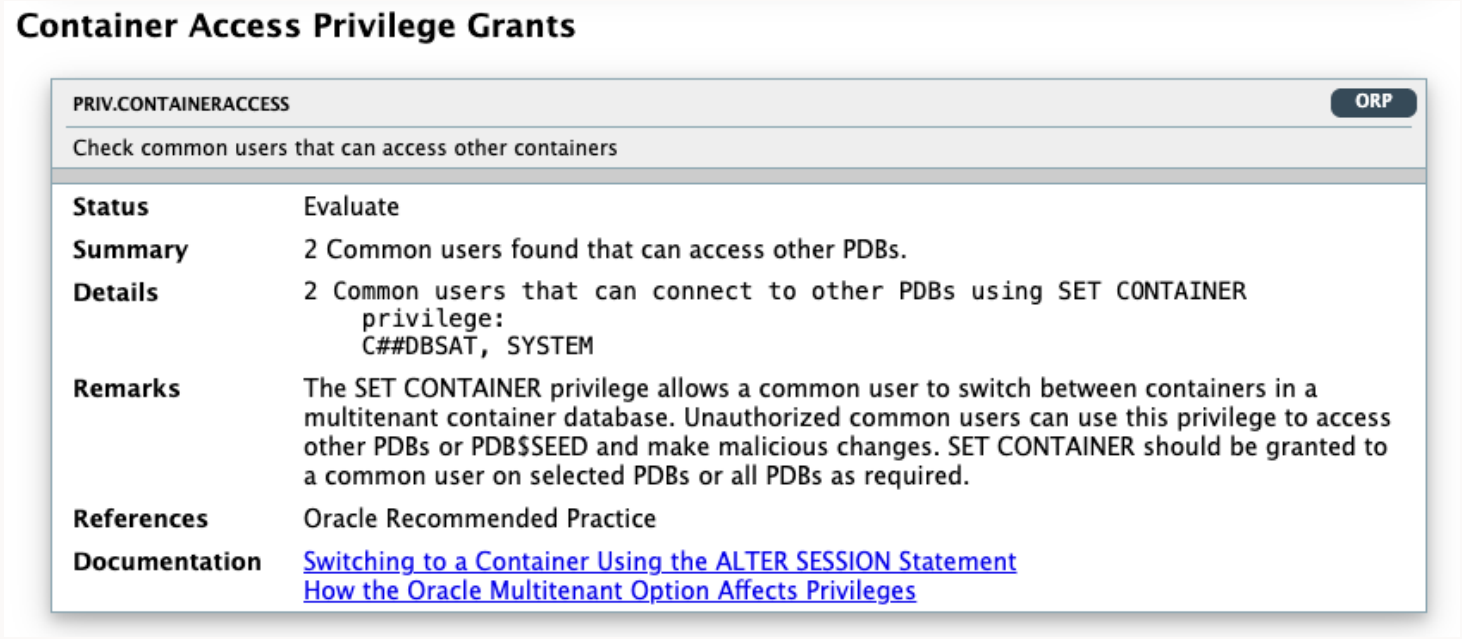
Check enabled resource manager plans

Status	Evaluate
Summary	Found 11 users with EXECUTE on DBMS_RESOURCE_MANAGER package and a system privilege that allows them to create and manage resources in the database using DBMS_RESOURCE_MANAGER package. Found 1 enabled plan in the database.
Details	Users with system privilege (ADMINISTER RESOURCE MANAGER) and EXECUTE on DBMS_RESOURCE_MANAGER package: BACKUP_ADMIN, C##ZEUS, DBA_DEBRA, DBA_HARVEY, DBA_NICOLE, DMS_ADMIN, EVIL_RICH, JSCHAFFER, JTAYLOR, MASKING_ADMIN, SCOTT SHARES: 1 PLAN NAME: INTERNAL_PLAN UTILIZATION_LIMIT: 100% CPU_COUNT: 4 CPU_MIN_COUNT: 4 PARALLEL_SERVER_LIMIT: 100% PARALLEL_SERVERS_ACTIVE: 0 PARALLEL_SERVERS_TOTAL: 32 PARALLEL_EXECUTION_MANAGED: FIFO
Remarks	The DBMS_RESOURCE_MANAGER package is used to create and maintain resource plans, consumer groups, and plan directives. With the DBMS_RESOURCE_MANAGER package, you can control resource allocation, ensuring critical workloads get the necessary resources. Users with EXECUTE on the package and ADMINISTER RESOURCE MANAGER system privilege can manage resource plans. You should review the existing plans to validate they are set to meet your organization's needs and control who has EXECUTE privilege on DBMS_RESOURCE_MANAGER and has ADMINISTER RESOURCE MANAGER. Users with these privileges can create and modify resource plans, potentially disrupting database operations or causing performance degradation. You can limit CPU threads for a PDB by setting the initialization parameters CPU_COUNT (upper limit) and CPU_MIN_COUNT (lower limit).
References	Oracle Recommended Practice
Documentation	Managing Resources with Oracle Database Resource Manager About Resource Manager Administration Privileges DBMS_RESOURCE_MANAGER

Checks for users with EXECUTE on DBMS_RESOURCE_MANAGER package and with ADMINISTER RESOURCE MANAGER system privilege. Also lists the existing resource plans.

Container Access

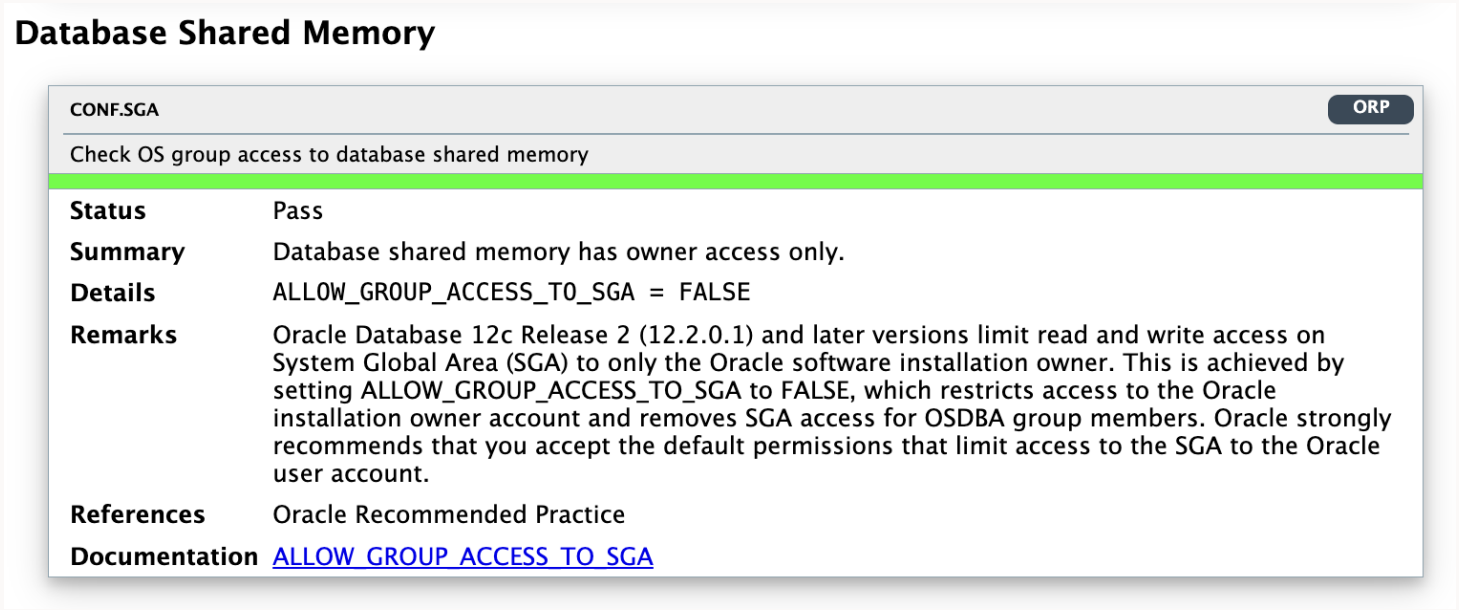
NEW in 4.0



Displays information about common users with set container privilege grants.
This is a CDB check.

Database Shared Memory Access

NEW in 4.0



Checks if only the Oracle software installation owner have read and write access to the SGA.

PDB Lockdown Profiles

NEW in 4.0

Lockdown Profiles

CONF.LOCKDOWNPROFILES ORP

Configure PDB Lockdown profile to restrict the operations available in a PDB

Status	Pass
Summary	PDB Lockdown Profile is set for the current PDB.
Details	PDB Lockdown profile is configured for current PDB and is set to DEFAULT_PDB_LOCKDOWN Operations restricted by enabled Lockdown profile: (none) Operations restricted by disabled Lockdown profile: (none)
Remarks	A PDB lockdown profile is a mechanism to restrict operations (such as setting values of specific parameters and using certain options) that users connected to a given PDB can perform. You can also restrict the execution of any packages allowing network access, such as UTL_SMTP. This feature is managed by a CDB administrator by creating Lockdown profiles in the Root container, setting a default for all the PDBs, or allowing PDBs to choose specific Lockdown profiles from the ones defined at the CDB level. PDB lockdown profiles enable you to define custom security policies that control network access features, common user or object access, operating system access, connections, administrative features, and use of database options. At PDB level, one can use the default Lockdown profile configured at CDB level or set its own specific Lockdown profile using one of the profiles present at CDB level.
References	Oracle Recommended Practice
Documentation	Restricting Operations on PDBs Using PDB Lockdown Profiles PDB_LOCKDOWN

Checks whether a PDB lockdown profile is configured for the current PDB. If a profile is set, it lists the restricted functionalities along with their current status. Also verifies if the PDB_LOCKDOWN parameter is set and displays its value.

Better Usability & Advanced Options

Collect just X rows.

```
./dbsat collect -r 16000 dbsat_admin@freepdb1 pdb1
```

Show warning and generate collector.log file.

```
./dbsat collect -d dbsat_admin@freepdb1 pdb1
```

Generate the report just in HTML format.

```
./dbsat report -f html pdb1
```

Extract report from .dbsat encrypted output files

```
./dbsat extract pdb1
```

How can DBSAT Help?

Assess your database security before hackers come knocking

How to Get Started?

Quick & Simple!

3-Step flow

1 Run
./dbsat collect

2 Run
./dbsat report

3 Run
./dbsat discover

Collector & Reporter

Collects metadata information on users, roles, privileges, security configuration, and policies in place. Generates a Security Assessment report.

Generates summary output with prioritized findings

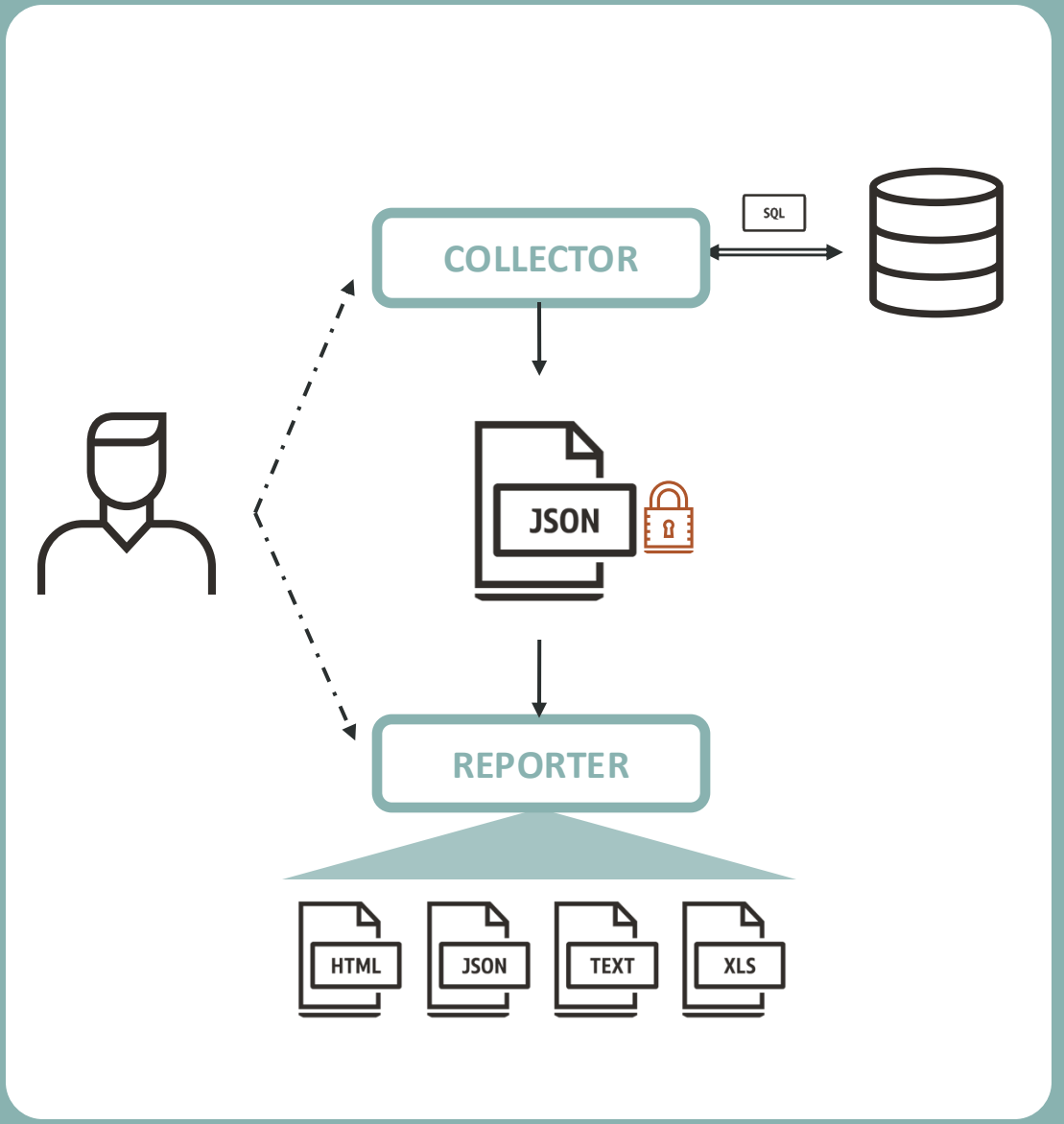
Summary table with identified risks organized by domains: Basic information, user accounts, privileges and roles, authorization control, fine-grained access control, auditing, encryption, config, etc.

Over 140 detailed findings with remarks

Each finding contains a one line explanation of what is expected, a risk level, details, remarks, and documentation links..

References to Oracle Best Practices, CIS Benchmark, STIG Rules and GDPR articles/recitals

Along with Oracle Database security development organization recommended practices, there is a mapping to CIS, STIG rules, and EU GDPR articles and recitals.



Discoverer

Scan column names and comments metadata to discover sensitive data. Generates a Sensitive Data Assessment report.

Discovers sensitive data

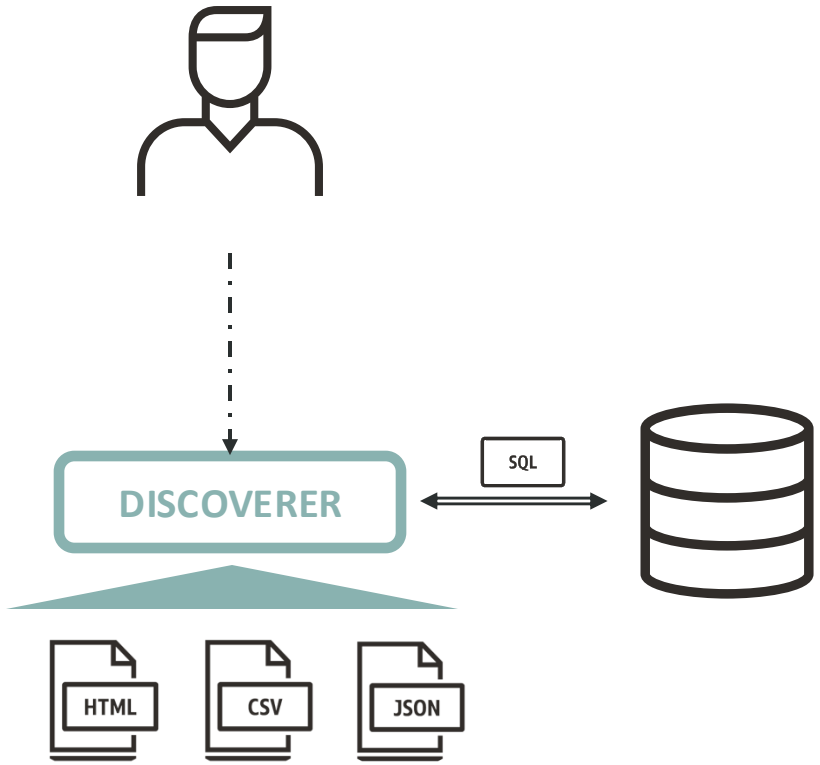
Get summary and details on Sensitive Data Categories and Types (125+), tables, columns, rows, and risk levels.

Provides recommendations on security controls

Get recommendations on which security controls to put in place to protect your sensitive data.

Customizable

Leverage the existing sample files to expand or adapt to your specific needs.



What else?

Periodic scheduled assessments, baselining, assessment history, drift report, user risk assessment

Data Safe helps secure Oracle database targets everywhere

Security Assessment

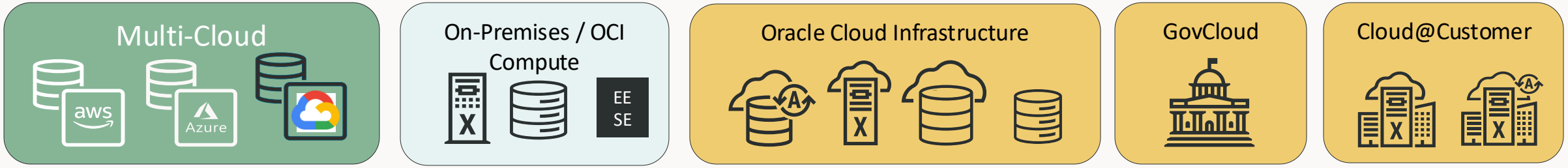
User Assessment

Activity Auditing

Data Masking

Sensitive Data Discovery

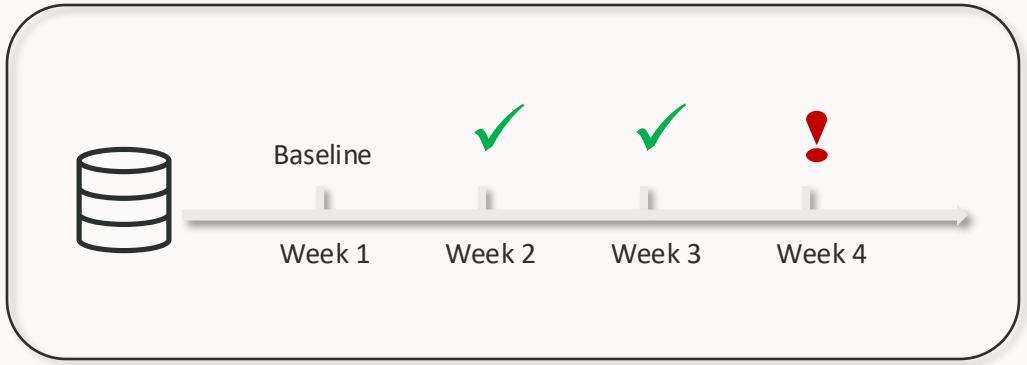
SQL Firewall



Get instant insights into database security configuration

Data Safe Security Assessment

- Assess security configurations
- Fleet-wide view of risks and
- Detect configuration drifts



Latest assessment for target database: angdbpmazure1

Refresh now | Set as baseline | View history | Update schedule | More actions

Assessment summary | Assessment information | Tags

Top 5 common security controls

PASS	PASS	PASS	PASS	PASS
Users with no Password Complexity Requirements All user accounts are using password verification function.	**Network Encryption** Network traffic is encrypted.	**Patch Check** Maintenance updates applied during last 90 days.	**Transparent Data Encryption** Found 6 encrypted tablespaces. No unencrypted tablespaces found. No encrypted columns found.	**Audit User Logon and Logoff** Database connection events are audited for all users.

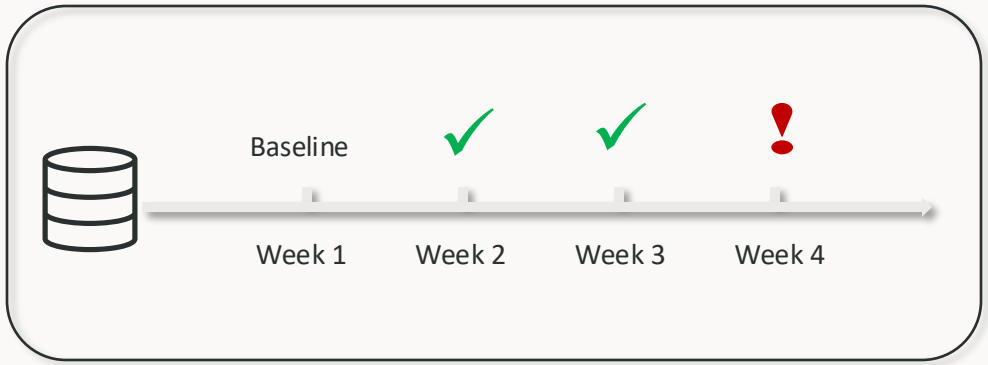
Summary

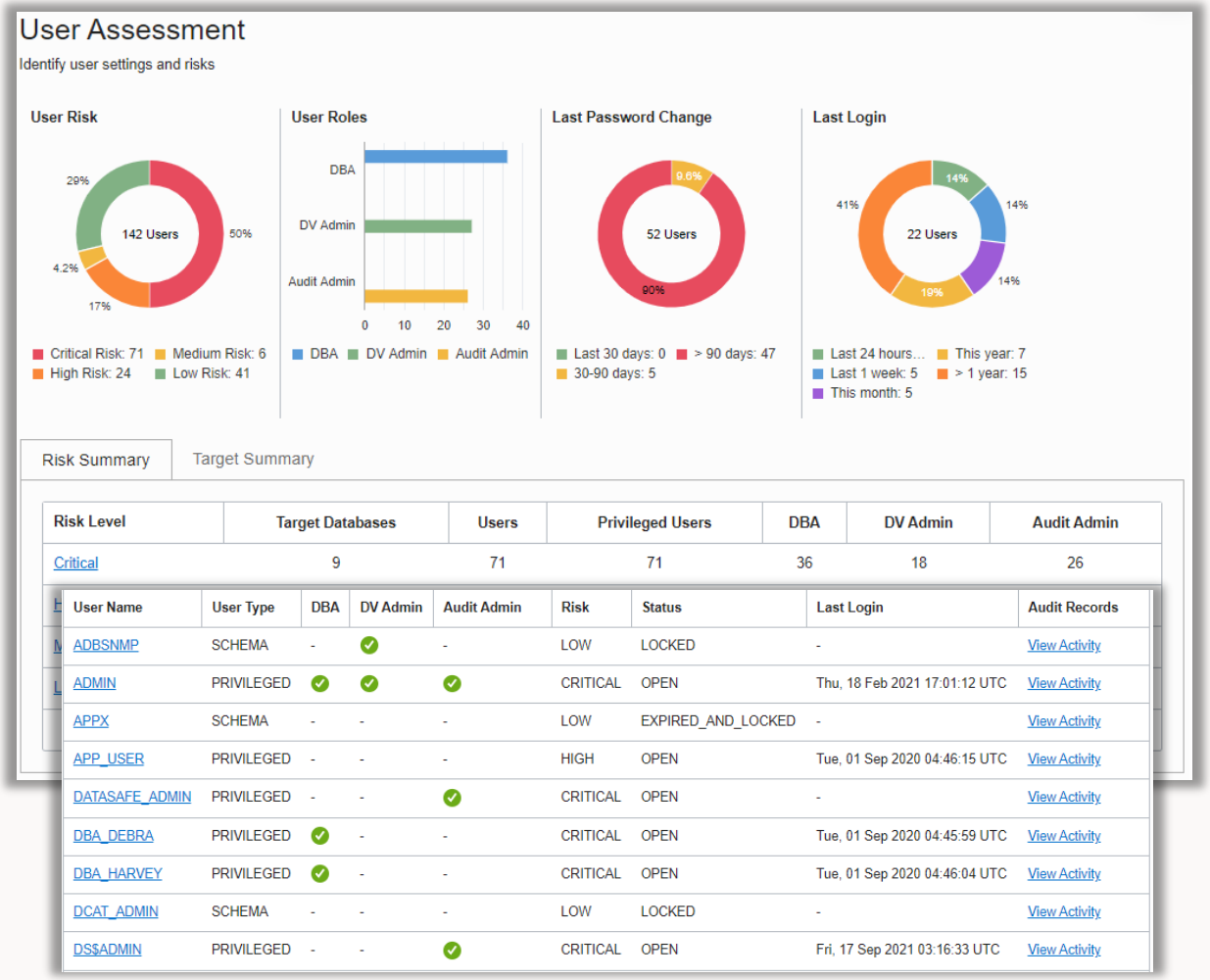
Category	High risk	Medium risk	Low risk	Advisory	Evaluate	Pass	Deferred	Total findings
User accounts	-	-	4	-	9	8	-	**21**
Privileges and roles	-	-	-	-	23	5	-	**28**
Authorization control	-	-	-	2	3	-	-	**5**
Fine-grained access control	-	-	-	4	1	-	-	**5**
Auditing	-	-	-	6	7	4	-	**17**
Encryption	-	-	-	-	1	2	-	**3**
Database configuration	-	-	1	1	4	9	-	**15**
Total risks	**-**	**-**	**5**	**13**	**48**	**28**	**-**	**94**

Reduce risk from users by managing roles/privileges and policies

Data Safe User Risk Assessment

- Identify highly privileged users
- Reduce user account risks
- Spot user and entitlement changes
- Review who can access specific data and how access was granted





Audit Vault and Database Firewall for Oracle Database

Database Security Posture Management (DSPM)

- ✓ Database Discovery
- ✓ Privileged User Discovery
- ✓ Sensitive Data Discovery
- ✓ Security Assessment

- ✓ Audit Policy Management
- ✓ Report Before/After Values*
- ✓ Audit reports for Key Vault, Database Vault, SQL Firewall

Best Auditing, Activity Monitoring, and Posture Management for Oracle databases

*Also available for SQL Server and MySQL

DBSAT vs. Data Safe vs. AVDF capabilities (2/2)

Capabilities	Data Safe	AVDF	DBSAT
Overall security configuration status	Yes	Yes	Yes
Configuration drift detection and reporting	Yes	Yes	-
User Risk Assessment/User Entitlement Reporting	Yes	Yes+	-
Sensitive Data Discovery	Yes	Yes*	Yes*
Centralized management of assessment on multiple targets	Yes	Yes	-
Historical reports and management	Yes	Yes	-
Supports cloud, on-premises and Cloud@Customer targets	Yes	Yes	Yes
Available as	OCI Cloud Service	OCI Marketplace image or on-premises installation	Command line

+ No risk scoring; AVDF entitlement report includes user role and privilege grants, system privilege grants, object privilege grants - with drift.
** Checks only for column names and comments, but not data*

DBSAT vs. Data Safe vs. AVDF capabilities (2/2)

Capabilities	Data Safe	AVDF	DBSAT
Configure deferred risks	Yes	Yes	-
Top 5 common control deficiencies	Yes	-	-
Security Controls in use	Yes	Yes	Yes

Summary

Get Started with DBSAT 4.0

Easy to install and run

Download:

- oracle.com/security/database-security/assessment-tool/

Generate Reports:

- Security assessment:
  - Run `dbsat collect` on your target database
  - Run `dbsat report` to create the assessment report

- Sensitive data discovery:
  - Run `dbsat discover` (no collect step required)

Documentation:

- Release notes
- User's Guide

DBSAT is free for customers with an active support contract.

Action plan

Monday Morning

Run DBSAT to assess your current database security state.

What is measured gets done!

Next 30 days

Fix obvious mistakes and high-risk findings.

Evaluate **Data Safe** or **Audit Vault and Database Firewall**.

A data breach impacts your business.

Next 90 days

Update Data Security strategy to include database security best practices.

Plan. Trust is hard to build and easy to lose.

Want to learn more?

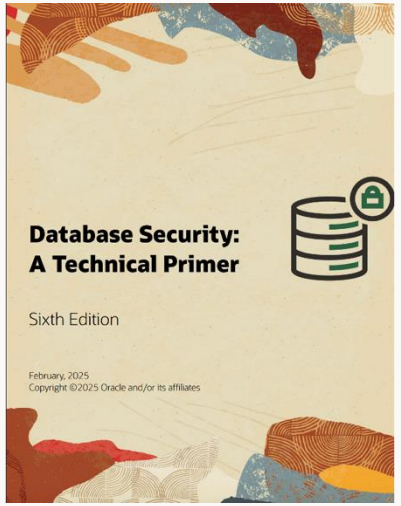
Free hands-on labs that help you learn how to use the different security features and options

livelabs.oracle.com

Database Security office hours – second Wednesday of each month

asktom.oracle.com

Securing the Oracle Database – a technical primer (6th edition)



oracle.com/securingthedatabase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