

Chapter 1: Introduction to Oracle's Autonomous Database

Create Autonomous Database

Always Free ⓘ

Show only Always Free configuration options

! Always Free Autonomous Databases can only be created in your account's home region. To proceed, first switch to your home region. [Learn more](#)

Choose database version

Select a database version

OCPU count READ-ONLY

Always Free Autonomous databases can utilize up to 1 core. The CPU core count cannot be adjusted.

Storage (TB) READ-ONLY

Always Free Autonomous databases can utilize up to 0.02 TB (20 GB) of storage. The storage size cannot be adjusted.

Auto scaling

Allows system to use up to three times the provisioned number of cores as the workload increases. [Learn more](#).

The screenshot shows the Oracle Cloud interface for Autonomous Databases. The top navigation bar includes the Oracle Cloud logo, a search bar, and a region selector for US West (Phoenix). Below the navigation, a breadcrumb trail indicates the user is in the 'Autonomous Database' section under 'Autonomous Databases'. On the left, a sidebar lists database types: Autonomous Database, Autonomous Database (selected), Dedicated Infrastructure, Autonomous Container Database, Autonomous Exadata VM Cluster, and Exadata Infrastructure. The main content area features a title 'Autonomous Databases in observability Compartment' and a brief description of the service's self-managing capabilities. A 'Create Autonomous Database' button is prominently displayed. Below it, a table lists an existing database entry: ADWCLUS1, which is currently available with 1 OCPU, 20 GB storage, and a Data Warehouse workload type, created on Dec 16, 2021.

Display Name	State	Dedicated	OCPUs	Storage	Workload Type	Autonomous Data Guard	Created
ADWCLUS1 <small>(already provisioned)</small>	Available	No	1	20 GB	Data Warehouse	—	Thu, Dec 16, 2021, 16:22:21 UTC

Allowed Parameters for modification	
CURSOR_SHARING	OPTIMIZER_CAPTURE_SQL_PLAN_BASELINES (Allowed only with ALTER SESSION)
DDL_LOCK_TIMEOUT	OPTIMIZER_IGNORE_HINTS
FIXED_DATE	OPTIMIZER_IGNORE_PARALLEL_HINTS
LDAP_DIRECTORY_ACCESS	OPTIMIZER_MODE
MAX_IDLE_TIME	PLSCOPE_SETTINGS
MAX_STRING_SIZE	PLSQL_CCFLAGS
NLS_CALENDAR	PLSQL_DEBUG
NLS_COMP	PLSQL_OPTIMIZE_LEVEL
NLS_CURRENCY	PLSQL_WARNINGS
NLS_DATE_FORMAT	QUERY_REWRITE_INTEGRITY
NLS_DATE_LANGUAGE	RESULT_CACHE_MODE
NLS_DUAL_CURRENCY	STATISTICS_LEVEL (Allowed only with ALTER SESSION)
NLS_ISO_CURRENCY	TIME_ZONE (Allowed only with ALTER SESSION)
NLS_LANGUAGE	APPROX_FOR_AGGREGATION
NLS_LENGTH_SEMANTICS	APPROX_FOR_COUNT_DISTINCT
NLS_NCHAR_CONV_EXCP	APPROX_FOR_PERCENTILE
NLS_NUMERIC_CHARACTERS	AWR_PDB_AUTOFLUSH_ENABLED
NLS_SORT	CONTAINER_DATA
NLS_TERRITORY	CURRENT_SCHEMA (Allowed only with ALTER SESSION)
NLS_TIME_FORMAT	
NLS_TIME_TZ_FORMAT	
NLS_TIMESTAMP_FORMAT	
NLS_TIMESTAMP_TZ_FORMAT	

Autonomous Database » Autonomous Exadata Infrastructure » Autonomous Exadata Infrastructure Details » Maintenance

Maintenance

Autono

Maintenance in Demo (Prod) Compartment

Run Maintenance Help Cancel

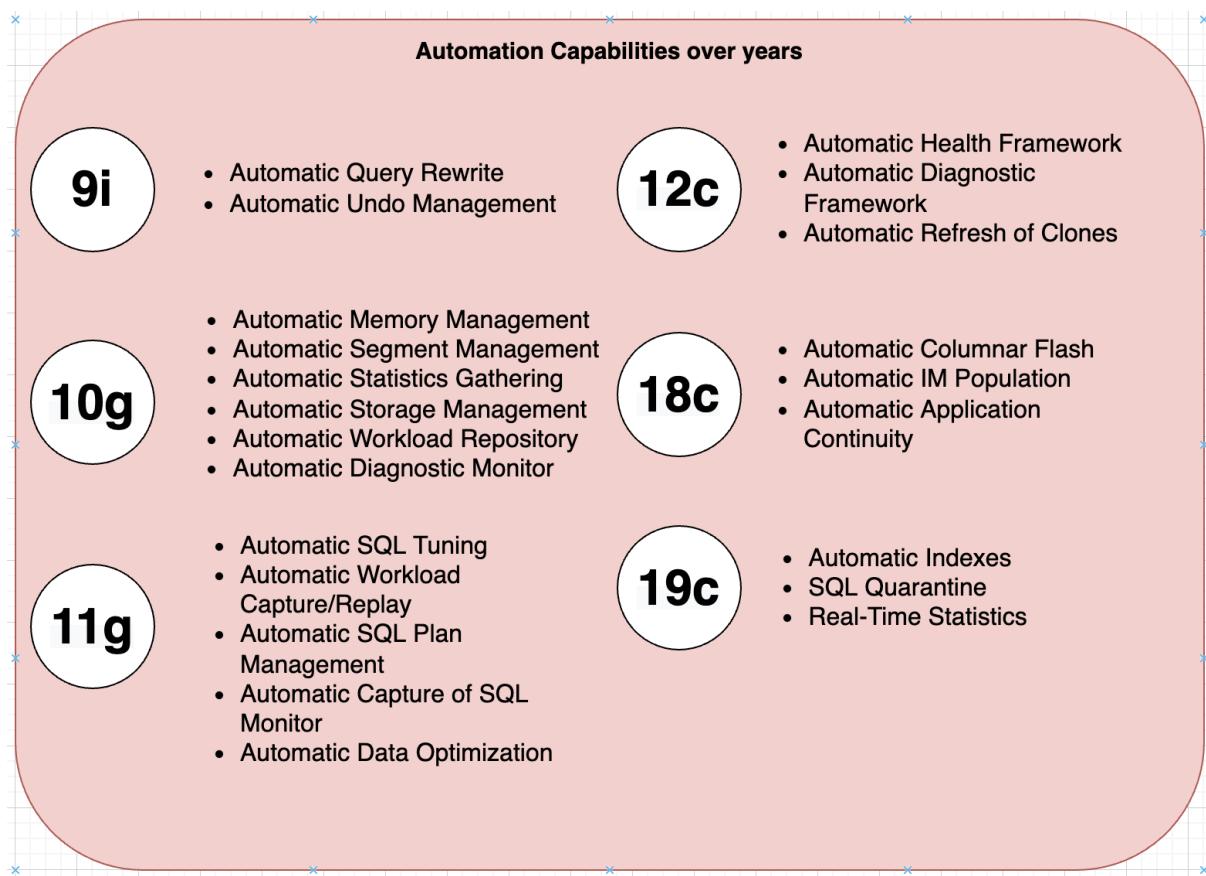
Do you want to run your scheduled maintenance now ... lorem ipsum?

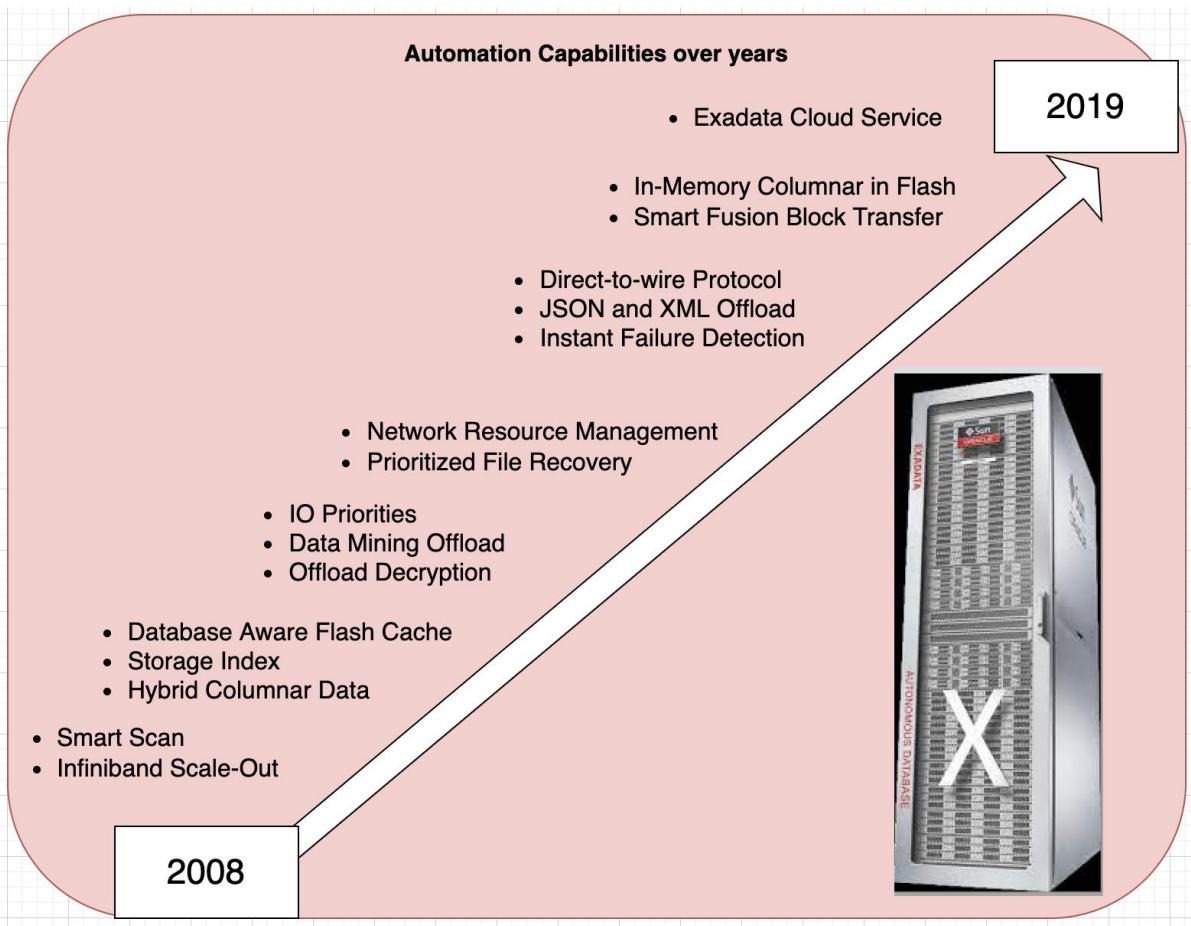
Regular Run Maintenance Cancel

Your Exadata infrastructure is scheduled for maintenance at 2020-06-07T04:00. The patch contains Exadata software update for Q2 2020.

Status: Scheduled Type: Quarterly OCID: ...Urk94c0 Show Copy Scheduled Start Time: Wed, May 21, 2020 18:00 UTC Edit Skip Patch Now

List Scope Select a compartment Demo (Prod) Autonomous Exadata Infrastructure demo-atpd Autonomous Container Database Select a container





https://valuenavigator.oracle.com/benefitcalculator/faces/inputs

ORACLE

Your Company Your Figures Your Savings Download Results

Calculate your savings with Oracle Autonomous Data Warehouse

Two minutes. Four simple steps. That's all it takes for us to show you how Oracle's autonomous data management can help your company make quicker decisions and derive more value from your data. This calculator is for approximation purposes only.

Step 1: Enter a few details about your company to help us estimate your potential savings.

Enter Company Name

United States

USD - USA - Dollar

Review your figures

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https://valuenavigator.oracle.com/benefitcalculator/faces/figures

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Your Company Your Figures Your Savings Download Results Chat Call

Step 2: Refine Your Inputs

We've calculated the values below based on your inputs, industry benchmarks, and typical workload performance improvement estimates. Edit our assumptions for a more customized look into your potential savings.

3 Year TCO Savings with Autonomous Data Warehouse:
73% cost reduction = USD 625 K

On-Premises Cores: 24
On-Premises Storage TBs: 12
Total: 96

852 K
227 K

On-Premises Oracle Cloud

↑ Edit assumptions

View detailed TCO savings

Back

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https://valuenavigator.oracle.com/benefitcalculator/faces/TCOSavings

ORACLE

Your Company Your Figures Your Savings Download Results Chat Call

Step 3: View Your Savings

3 Year TCO Savings with Autonomous Data Warehouse: 70% cost reduction = USD 594K

Here are the potential savings for **CloudPiker**. Below is further detailed listing of your savings.

852 K
258 K

TCO	On-Premises	Oracle Cloud
Software Cost	728,256	0
Labor Cost	75,582	29,448
Storage Cost	24,348	16,992
Compute Cost	14,520	211,896
Network Cost	9,282	0
Total	851,988	258,336

Environment

Environment	On-Premises	Oracle Cloud
Cores/OCPUs	24	6
Storage TBs	12	4

*Click bar element or cost element in the table to view and edit details as needed

Back Download Full Proposal

Download Full Proposal

https://valuenavigator.oracle.com/benefitscalculator/faces/nextSteps

Your Company Your Figures Your Savings Download Results

Download your Personalized Proposal

Need a conversation starter? Using the information you provided, we built a comprehensive benefits presentation to help you make a business case for joining the 430,000 organizations that rely on Oracle to provide innovative solutions to everyday problems.

Step 4: Enter a few details to receive your personalized proposal and access a variety of other resources.

Email Address _____

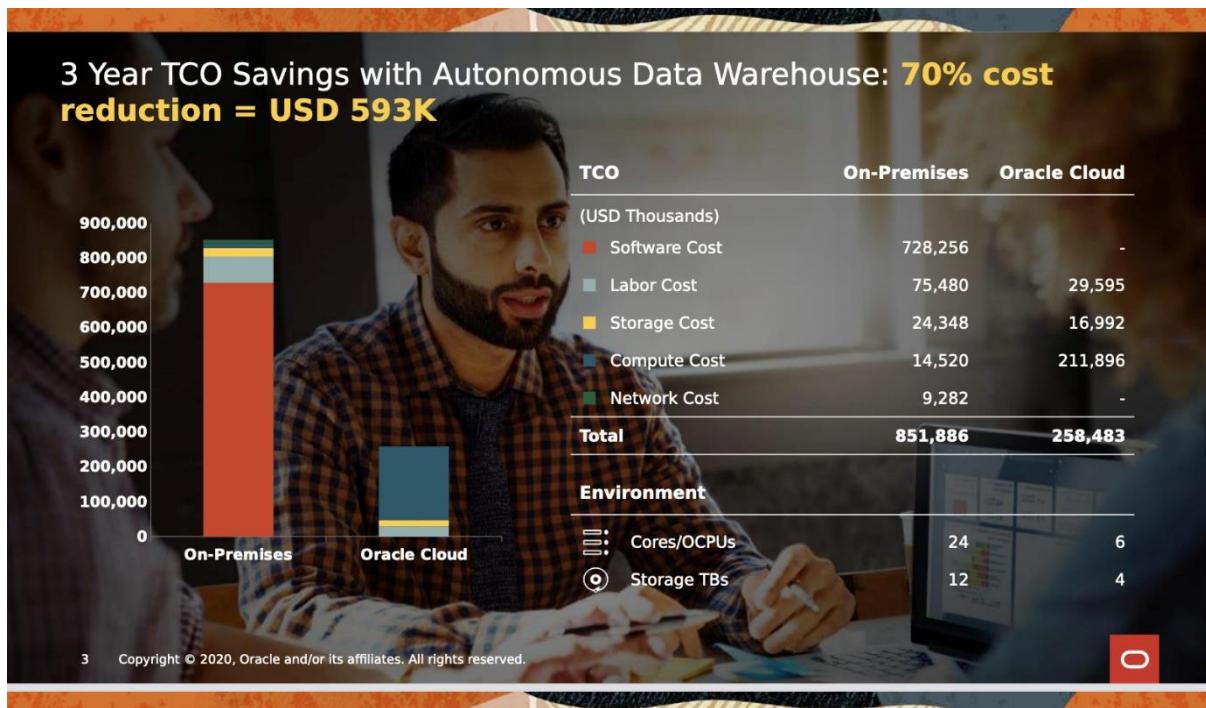
First Name _____ Last Name _____

Job Title _____ City _____

Zip/Postal Code _____ Phone Number _____

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Chapter 2: Autonomous Database Deployment Options in OCI

The screenshot displays three main pages from the Oracle Cloud Infrastructure (OCI) console:

- Limits, Quotas and Usage:** This page shows resource limits for a compartment named "cloudpikr (root)". It lists three items: "Custom Image Count" (limit 0, usage 0, available 0), "Cores for Standard A1 based VM and BM Instances" (limit 4, usage 0, available 4), and "Memory for Standard A1 based VM and BM Instances" (limit 24, usage 0, available 24). The table has columns for Description, Limit Name, Service Limit, Usage, Available, and Actions.
- Autonomous Databases:** This page shows the "Autonomous Databases in cloudpikr (root) Compartment". It indicates "No items" and "Displaying 0 Autonomous Databases". The table has columns for Display Name, State, Dedicated, OCPUs, Storage, Workload Type, Autonomous Data Guard, and Created.
- Create Autonomous Database:** This page is a form for creating a new autonomous database. It asks for basic information: Compartment (selected "observability"), Display name ("CP-ADB-DWH"), and Database name ("PRODDB"). A note states: "The name must contain only letters and numbers, starting with a letter. Maximum of 14 characters."

Choose a workload type

Data Warehouse

Built for decision support and data warehouse workloads. Fast queries over large volumes of 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.

Choose a deployment type

Shared Infrastructure

Run Autonomous Database on shared Exadata infrastructure.

Dedicated Infrastructure

Run Autonomous Database on dedicated Exadata infrastructure.

Dedicated Exadata infrastructure is not available for Always Free Oracle Autonomous Database.

Configure the database

Always Free ⓘ Show only Always Free configuration options

ⓘ If your Always Free Autonomous Database has no activity for 7 consecutive days, the database will be automatically stopped. Your data will be preserved, and you can restart the database to continue using it. If the database remains stopped for 3 months, it will be reclaimed. [Learn more](#).

Choose database version ▼

19c

OCPU count *Read-Only*

1

Always Free Autonomous databases can utilize up to 1 core. The CPU core count cannot be adjusted.

Storage (TB) *Read-Only*

0.02

Always Free Autonomous databases can utilize up to 0.02 TB (20 GB) of storage. The storage size cannot be adjusted.

OCPU auto scaling
Allows system to use up to three times the provisioned number of cores as the workload increases. [Learn more](#).

Storage auto scaling
Allows system to expand up to three times the reserved storage.

Create administrator credentials ⓘ

Username *Read-Only*

ADMIN

ADMIN username cannot be edited.

Password

Confirm password

Choose network access

Access Type

Secure access from everywhere

Allow users with database credentials to access the database from the internet.

Secure access from allowed IPs and VCNs only

Restrict access to specified IP addresses and VCNs.

Private endpoint access only

Restrict access to a private endpoint within an OCI VCN.

The virtual cloud network option is not available for OCI Free Tier accounts.

IP notation type

IP Address ▼

Values
137.254.7.168

Require mutual TLS (mTLS) authentication ⓘ
If you select this option, mTLS will be required to authenticate connections to your Autonomous Database.

[Add My IP Address](#) [+ Access Control Rule](#)

Choose a license type

Bring Your Own License (BYOL)

Bring your organization's Oracle Database software licenses to the Oracle Database Service. [Learn more.](#)

License Included

Subscribe to new Oracle Database software licenses and the Database service.

Provide contacts for operational notifications and announcements ⓘ

Contact Email

[Add Contact](#)

[Hide Advanced Options](#)

Encryption Key Maintenance Tags

Choose encryption management settings

Encrypt using Oracle-managed keys
Oracle manages encryption.

Encrypt using customer-managed keys
You must have access to a valid encryption key. [Learn more.](#)

[Create Autonomous Database](#) [Cancel](#)

Overview > Autonomous Database > Autonomous Database Details

CP-ADB-DWH Always Free

[Database Actions](#) [DB Connection](#) [Performance Hub](#) [Service Console](#) [More Actions](#)

Autonomous Database Information Tools Tags

General Information

Database Name: PRODDB
Workload Type: Data Warehouse
Compartment: cloudpkr (root)/observability
OCID: ...gfyfia [Show](#) [Copy](#)
Created: Sun, Mar 13, 2022, 17:05:08 UTC
OCPU count: 1
OCPU auto scaling: Disabled ⓘ
Storage: 20 GB
Storage auto scaling: Disabled ⓘ
License Type: License included
Database Version: 19c
Lifecycle State: Provisioning
Instance Type: Free [Upgrade to Paid](#)
Mode: Read/Write [Edit](#)

APEX Instance

Instance Name: CP-ADB-DWH

Infrastructure

Dedicated Infrastructure: No

Autonomous Data Guard ⓘ

Status: Disabled ⓘ

Backup

Last Automatic Backup: No active backups exist for this database.
Manual Backup Store: Not Configured

Network

Access Type: Allow secure access from specified IPs and VCNs
Access Control List: Enabled [Edit](#)
Mutual TLS (mTLS) Authentication: Required [Edit](#)

Maintenance ⓘ

Patch Level: Regular ⓘ
Customer Contacts: Configured ⓘ [Manage](#)

Encryption

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CP-ADB-DWH [Edit Info](#)

Database Actions DB Connection Performance Hub Service Console More Actions ▾

ADW

AVAILABLE

Autonomous Database Information Tools Tags

General Information

Database Name: PRDCEB
Workload Type: Data Warehouse
Compartment: clouddbs (read/observability)
OCID: g7yvda Show Copy
Created: Sun, Mar 13, 2022, 17:05:08 UTC
OCPU count: 1
OCPU auto scaling: Enabled ⓘ
Storage: 20 GB
Storage auto scaling: Drafted ⓘ
Licence Type: Licence included
Database Version: 19c
Lifecycle State: Available
Instance Type: Free [Upgrade to Paid](#)
Mode: Read/Write ⓘ

APEX Instance

Instance Name: CP-ADB-DWH

Infrastructure

Dedicated Infrastructure: No

Autonomous Data Guard ⓘ

Status: Disabled ⓘ

Backup

Last Automatic Backup: No active backups exist for this database.
Manual Backup Store: Not Configured

Network

Access Type: Allow secure access from specified IPs and VCNs
Access Control List: Enabled ⓘ
Mutual TLS (mTLS) Authentication: Required ⓘ

Maintenance ⓘ

Patch Level: Required ⓘ
Next Maintenance: Sat, Mar 19, 2022, 19:00:00 UTC [View History](#)
Customer Contact: Configured ⓘ [Manage](#)

Encryption

Encryption Key: Oracle-managed key

Metrics

Start time: Mar 13, 2022 3:14:15 PM End time: Mar 13, 2022 4:14:15 PM Quick Selects: Last hour ⓘ

CPU Utilization ⓘ Options ⓘ Storage Utilization ⓘ Options ⓘ

Autonomous Data Guard ⓘ Key History ⓘ Reproducible Queries ⓘ

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Create Exadata Infrastructure

Provide basic information for the Exadata Infrastructure

Choose a compartment

bmsharma

orasenatdoracledigital04 (root)/kmcgowanOrg/bmsharma

Display name

Exadata-Infra-202209062236

A user-friendly name to help you easily identify the resource. Display name can be changed at any time.

Select an availability domain

AD-1

liKv:US-ASHBURN-AD-1

AD-2

liKv:US-ASHBURN-AD-2

AD-3

liKv:US-ASHBURN-AD-3

Select the Exadata system model (i)

X9M-2

Compute and storage configuration

Database Servers

2

Storage servers

3

Resource Totals

OCPUs: 252

Storage: 192 TB

Provide maintenance details

Configure automatic maintenance (i)

Custom schedule

Modify Maintenance

Provide contacts for operational notifications and announcements

Contact Email

Enter a valid email ID

Add Contact

[Create Exadata Infrastructure](#)

[Cancel](#)

Overview > Autonomous Database > Autonomous Exadata VM Clusters

Autonomous Database

Dedicated Infrastructure

Autonomous Container Database

Autonomous Exadata VM Cluster

Exadata Infrastructure

Autonomous Exadata VM Clusters in bal-security Compartment

[Create Autonomous Exadata VM Cluster](#)

Display Name	State	Availability Domain	CPU Core Count	Exadata Storage (TB)	Created
No items found.					

Showing 0 Items < 1 of 1 >

List Scope

Compartment

bal-security

Create Autonomous Exadata VM Cluster

Provide basic information for the Autonomous Exadata VM Cluster

Choose a compartment
bal-security
atteambs (root)/bal-security

Display name
VMCluster-202204270019
A user-friendly name to help you easily identify the resource. Display name can be changed at any time.

Select an Exadata Infrastructure

Select an Exadata Infrastructure in **bal-security** ([Change Compartment](#))

No data available

Note: All Exadata Infrastructure resources will be allocated to this Autonomous VM cluster. Only one Autonomous Exadata VM cluster can exist within an Exadata Infrastructure.

ⓘ There is no Cloud Exadata Infrastructure instance available. To create an Autonomous Exadata VM Cluster, you must first provision an Cloud Exadata Infrastructure.

[Overview](#) > [Autonomous Database](#) > [Autonomous Container Databases](#)

Autonomous Container Databases in **bal-security** Compartment

The Autonomous Container Database contains one or more Autonomous Databases running on dedicated infrastructure. Autonomous Data Guard associations for Autonomous Databases running on dedicated infrastructure are configured at this resource level. [Learn more](#).

Create Autonomous Container Database				
Display Name	State	Availability Domain	Autonomous Data Guard	Created
No items				

Displaying 0 Autonomous Container Databases < 1 of 1 >

Create Autonomous Container Database

Provide basic information for the Autonomous Container Database

Select a compartment
bal-security
atteambs (root)/bal-security

Display name
ACD-PROD

Select an Autonomous Exadata VM Cluster

Select an Exadata Infrastructure in **gpitchai_test** Optional ([Change Compartment](#))

None Available

Select an Autonomous Exadata VM Cluster in **bal-security** ([Change Compartment](#))

None Available

Configure Autonomous Data Guard

Enable Autonomous Data Guard

Configure automatic maintenance ⓘ

No scheduling preference specified.

[Modify Maintenance](#)

[Show Advanced Options](#)

Configure Autonomous Data Guard

Enable Autonomous Data Guard

Select a compartment for Standby Container Database

bal-security

attnetne (root)/bal-security

Display name

Standby-ACD-202204270016

Region

US West (Phoenix)

Primary Autonomous Exadata Infrastructure is in US West (Phoenix).

Select a peer Exadata Infrastructure in **bal-security** Optional [\(Change Compartment\)](#)

None Available

Select a peer Autonomous Exadata VM Cluster in **bal-security** [\(Change Compartment\)](#)

None Available

Protection mode

Maximum performance

Enable automatic failover

Configure automatic maintenance [\(i\)](#)

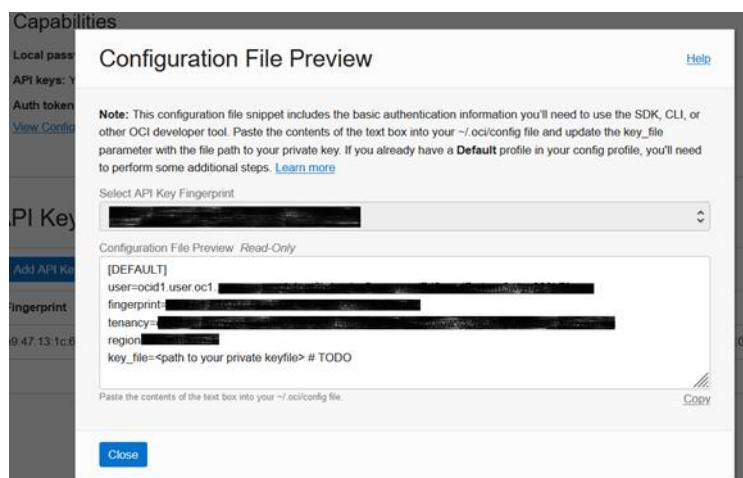
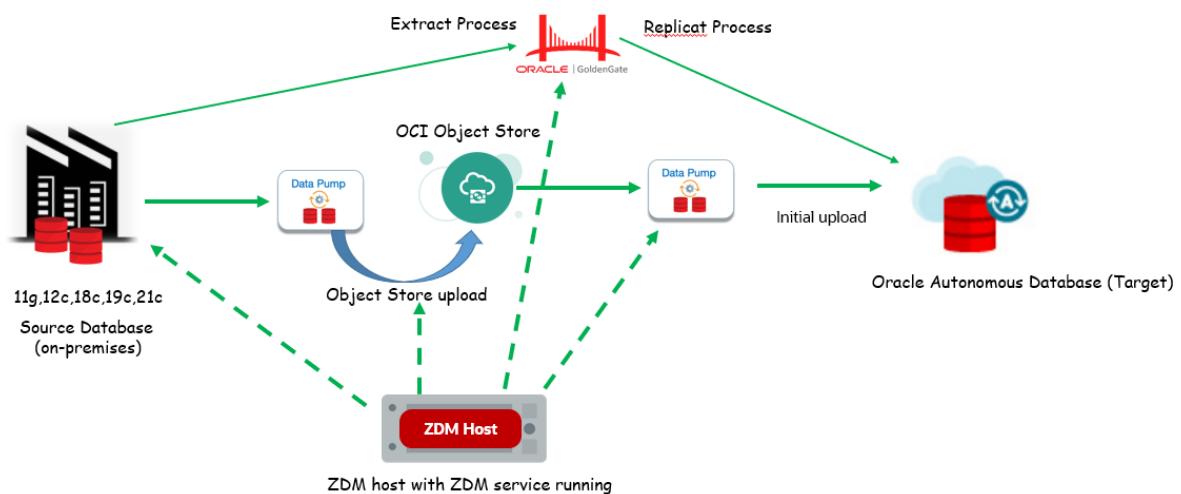
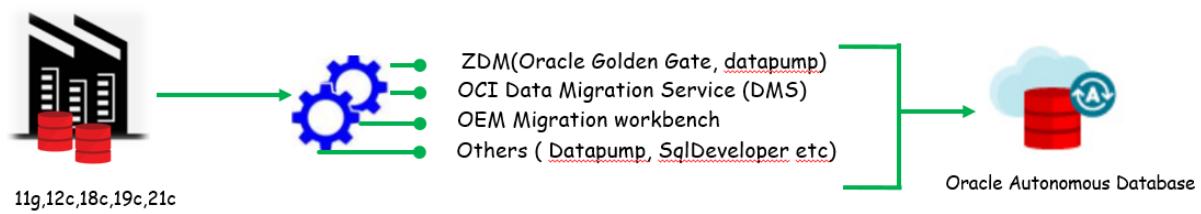
No scheduling preference specified.

[Modify Maintenance](#)

 [Show Advanced Options](#)

[Create Autonomous Container Database](#) [Cancel](#)

Chapter 3: Migration to Autonomous Databases



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Capabilities

Local password: Yes API keys: Yes Auth tokens: Yes View Configuration file

SMTP credentials: Yes Customer secret keys: Yes OAuth 2.0 Client Credentials: Yes Database Passwords: Yes

Resources

Groups API Keys Auth Tokens Customer Secret Keys Database Passwords OAuth 2.0 Client Credentials SMTP Credentials

API Keys

Add API Key Fingerprint e9:47:13:1c:67:7a:a3:06:40:9d:f5:6c:af:43:1c:35 Created Mon, Mar 28, 2022, 15:32:02 UTC

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Storage

Block Storage File Storage Object Storage & Archive... Related Services

Block Volumes File Systems Mount Targets Buckets Data Transfer Limits, Quotas and Usage

Block Volume Backups Block Volume Replicas Volume Groups Volume Group Backups Volume Group Replicas Backup Policies Help Getting Started on OCI

Object Storage & Archive... Buckets Block Storage File Storage Object Storage Archive Storage Storage Gateways Service Limits

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Object Storage & Archive Storage

Buckets in Rashmi Compartment Object Storage provides unlimited, high-performance, durable, and secure data storage. Data is uploaded as objects that are more

Create Bucket

Name	Default Storage Tier	Visibility	Created
zdm_bucket	Standard	Private	Thu, Feb 24, 2022, 15:32:02 UTC

List Scope Compartments Tag filters add | clear

US East (Ashburn) ▾

Profile All s [REDACTED] Tenancy: intoraclerohit Change Password User Settings Account Console Settings Sign Out

Deployments

OCI I Opt-in

User Management Add a user to your compartment

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ACTIVE

OCID: h7fcmq_28oi_02dy
Created: Tue, Oct 12, 2021, 06:26:31 UTC
Multi-factor authentication: Disabled
Email: [REDACTED]

Federated: No
My Oracle Support account: -

Capabilities

Local password: Yes
API keys: Yes
Auth tokens: Yes
View Configuration file ⓘ

SMTP credentials: Yes
Customer secret keys: Yes
OAuth 2.0 Client Credentials: Yes
Database Passwords: Yes

Resources

Groups
API Keys
Auth Tokens
Customer Secret Keys
Database Passwords
OAuth 2.0 Client Credentials
SMTP Credentials

Auth Tokens

Generate Token

Description	Created
No items found.	No Token to display

Displaying 1 Token

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Search

Databases
Analytics & AI
Developer Services
Identity & Security
Observability & Management
Hybrid
Migration
Billing & Cost Management
Governance & Administration

Marketplace

Marketplace

All Applications

Community Applications
Accepted Agreements

Service Catalog

Applications
Catalog Manager
Private Applications

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Marketplace

All Applications

Community Applications
Accepted Agreements

Filters Clear

Type: Any
Architecture: Any
Publisher: Any
Category: Any
Price: Any

Clear search results

Search: goldenGate

All Applications

ORACLE GoldenGate	ORACLE GoldenGate	ORACLE GoldenGate	ORACLE GoldenGate	ORACLE GoldenGate
Oracle GoldenGate for Oracle Type: Stack Price: BYOL	Oracle GoldenGate for Non-Oracle Type: Stack Price: BYOL	Oracle GoldenGate for Big Data Type: Stack Price: BYOL	Oracle GoldenGate Stream Analytics – UCM Type: Stack Price: BYOL	Oracle GoldenGate Stream Analytics – UCM Type: Stack Price: BYOL
Oracle GoldenGate for Oracle – Database Migrations Type: Stack Price: Paid				

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Marketplace » Oracle GoldenGate for Oracle – Database Migrations

Oracle GoldenGate for Oracle – Database Migrations

Oracle GoldenGate for Oracle for use with Oracle Database Migration Tools

Oracle GoldenGate 19c for Oracle Database for use with Oracle Database Migration Tools (19.1.0.0.211019)

Categories: Migration, Data Integration

Type: Stack
Version: 19.1.0.0.211019 (Microservices Edition -v1.1 - Promotional) (12/22/2021) - default

Select compartment from drop down: intracloud:root (root)

Software price per OCPU: \$0.00/hr

I have reviewed and accept the [Oracle terms of use](#).

Launch Stack

Reminder: Patch the instance once installed.

ORACLE Cloud Search for resources, services, and documentation US East (Ashburn) ▾

Marketplace » Oracle GoldenGate for Oracle – Database Migrations

Oracle GoldenGate for Oracle – Database Migrations

Oracle GoldenGate for Oracle for use with Oracle Database Migration Tools

Oracle GoldenGate 19c for Oracle Database for use with Oracle Database Migration Tools (19.1.0.0.211019)

Categories: Migration, Data Integration

Type: Stack
Version: 19.1.0.0.211019 (Microservices Edition -v1.1 - Promotional) (12/22/2021) - default

Compartment: intracloud:root (root)

Software price per OCPU: \$0.00/hr

I have reviewed and accept the [Oracle terms of use](#).

Launch Stack

Reminder: Patch the instance once installed.

Overview **Provider** **More apps** **Usage instructions**

App by Oracle
 Oracle GoldenGate is a comprehensive software package for real-time data integration and replication in database environments. The product enables high availability solutions, real-time data integration, transactional change data capture, data replication, and basic transformations between operational and analytical enterprise systems. Oracle GoldenGate brings extreme performance with simplified configuration and management, tighter integration with Oracle Database, support for cloud environments, expanded heterogeneity, and enhanced security.

Oracle GoldenGate for Oracle – Database Migrations enables migrations from Oracle Databases on-premise, in third-party or legacy clouds into databases on Oracle Cloud Infrastructure. It is used as part of Oracle database migration tools Oracle Zero Downtime Migration or Oracle Cloud Infrastructure Database Migration.

[More about this Marketplace Release](#)

Support
 Contacts:
 Linux:
[My Oracle Support \(MOU\)](#)

Version Details
 Version: 19.1.0.0.211019, v1.1
 Release Date: Dec 16, 2021, 00:00 UTC
 Oracle GoldenGate for Oracle – Database Migrations can be used for 180 days to perform migrations. Info

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Create Stack

Stack Information

Your application will launch as part of a stack that includes the infrastructure resources required to ensure that the application deploys and runs properly.

Stack Information

Oracle GoldenGate Microservices Edition for Oracle 19.1.0.0.211019

Name: ZDM_OGGMA

Description: Optional
OGG instance for ZDM logical migration

Create in compartment: Rashmi
intracloud:root(Rashmi)

Terraform version: 0.12.x

Note: 0.11.x is no longer supported. [What Terraform versions are supported by Resource Manager?](#)

Next **Cancel**

Network Settings

Create New Network
Use this field to indicate whether you want to create new network resources or use existing ones

VCN Network Compartment *Optional*
 [REDACTED] ←

VCN
 [REDACTED] ←
Existing VCN to use for new instance if not creating a new network

Subnet Network Compartment *Optional*
 [REDACTED] ←
Compartment for new or existing Subnet

Subnet ⓘ
 Public Subnet-VCN-[REDACTED] (Regional) ←
Existing Subnet to use for new instance if not creating a new network

Create Stack

Stack Information
Configure Variables
Review

Instance Settings

Availability Domain
 d1KYS-US-ASHBURN-AD-1
The availability domain for the new Oracle GoldenGate Instance

Compute Shape
 VM.Standard2.4
Shape of new compute instance. Supported shapes are VM.Standard2.1, VM.Standard2.4, VM.Standard2.8, VM.Standard2.16 and VM.Standard2.24

Assign Public IP
Indicates if the new VM should have a public IP address

Custom Volume Sizes
Use this field to customize the size of new block storage volumes

Create Stack

Stack Information
Configure Variables
Review

Create OGG Deployments

Deployment 1 - Name
 Source
Name for OGG deployment 1

Deployment 1 - Database
 Oracle 19c (19.x)
Oracle RDBMS Version for deployment 1

Deployment 2 - Name - Optional
 Target
Name for OGG deployment 2

Deployment 2 - Database - Optional
 Oracle 19c (19.x)
Oracle RDBMS Version for deployment 2

Deployment 2 - Autonomous Database
Select if deployment 2 replicates to an Autonomous Database

Deployment 2 - Autonomous Database Compartment
 [REDACTED] ←
Compartment that existing Autonomous Database resides in

Deployment 2 - Autonomous Database Instance
 ATP08
Choose an Autonomous Database instance

Create Stack

- 1 Stack Information
- 2 Configure Variables
- 3 Review

Verify your configuration variables, and then create your stack. The apply job will automatically run to create resources specified in the configuration. Due to limited space, we show only variables without default values or that you edited.

Stack Information

Name	ZDM_OGGMA
Description	OGG instance for ZDM logical migration
Compartment	...dialpq Show Copy
Terraform version	0.12.x

Name for New Resources

Display Name	zdm_oggma
Host DNS Name	oggmahost

Network Settings

VCN Network Compartment	...dialpq Show Copy
VCN	...3jcxwa Show Copy

[Previous](#) [Create](#) [Cancel](#)

ORACLE Cloud Search for resources, services, and documentation US East (Ashburn) ▾

Create Stack

Stack Information

Configure Variables

Review

Create OGG Deployments

Deployment 1 - Database	Oracle 19c (19.x)
Deployment 2 - Database	Oracle 19c (19.x)
Deployment 2 - Autonomous Database	true
Deployment 2 - Autonomous Database Compartment	...dialpq Show Copy
Deployment 2 - Autonomous Database Instance	...hafwq Show Copy

Shell Access

SSH Public Key	...fmcUEJ Show Copy
----------------	---

Run Apply on the created stack?

Immediately provision the resources defined in the Terraform configuration by running the Apply action on the new stack.

Run Apply

[Previous](#) [Create](#) [Cancel](#)

ORACLE Cloud Search for resources, services, and documentation US East (Ashburn) ▾

Resource Manager > Stacks > Stack Details > Job Details

RMJ
ACCEPTED

While this job is running, only partial logs are available. You can get a complete log when the job is finished.

ormjob20220314155528

[Edit Job](#) [Download Terraform Configuration](#) [Cancel Job](#) [Add Tags](#)

Job Information

To connect to the application running on this stack, see the Usage instructions.

OCID: ...wdx05q [Show](#) [Copy](#) Compartment: intraracerohit (root)
 Job Type: Apply Plan Job ID: Automatically approved
 State: Accepted Working Directory: Not specified
 Start Time: Mon, Mar 14, 2022, 16:55:29 UTC End Time: N/A

Resources

Logs

[Download Logs](#) [Show Timestamps](#)

ORACLE Cloud Search for resources, services, and documentation US East (Ashburn) ▾

SUCCEEDED

OCI: whois_ip_2022_COPY Job Type: Appy Status: Succeeded Start Time: Mon, Mar 14, 2022, 15:55:28 UTC Compartment: intrarouter (root@ashburn)

Plan Job ID: Automatically approved Working Directory: Not specified End Time: Mon, Mar 14, 2022, 15:57:20 UTC

Resources Logs

Logs Download Log Show Timestamps

Variables Job Resources Outputs

```
module.exports = (context) => { context.log.info(`Refreshing state...`); module.exports.compute.data.ecu.core.private_ip.private_ip.Refreshing state... module.exports.compute.data.ecu.core.private_ip.private_ip[0].Creating... module.exports.compute.data.ecu.core.private_ip.private_ip[0].Creation complete after 1 [id=ociid.volumentracking.oc1.iad.usw1jnf2f1nqgk1jwvve7xextndmugzgldzgtrtjwylia] module.exports.compute.data.ecu.core.private_ip.private_ip[1].Creating... module.exports.compute.data.ecu.core.private_ip.private_ip[1].Creation complete after 1 [id=ociid.volumentracking.oc1.iad.usw1jnf2f1nqgk1jwvve7xextndmugzgldzgtrtjwylia] module.exports.compute.data.ecu.core.volume.attachment.deployments.volume.attachment.Still creating... [idle elapsed] module.exports.compute.data.ecu.core.volume.attachment.deployments.volume.attachment[0].Creating... [idle elapsed] module.exports.compute.data.ecu.core.volume.attachment.deployments.volume.attachment.Creation complete after 16s [id=ociid.volumentracking.oc1.iad.usw1jnf2f1nqgk1jwvve7xextndmugzgldzgtrtjwylia] module.exports.compute.data.ecu.core.volume.attachment.deployments.volume.attachment[1].Creating... [idle elapsed] module.exports.compute.data.ecu.core.volume.attachment.deployments.volume.attachment[1].Creation complete after 16s [id=ociid.volumentracking.oc1.iad.usw1jnf2f1nqgk1jwvve7xextndmugzgldzgtrtjwylia] module.exports.compute.data.ecu.core.volume.attachment.deployments.volume.attachment[2].Creating... [idle elapsed] module.exports.compute.data.ecu.core.volume.attachment.deployments.volume.attachment[2].Creation complete after 16s [id=ociid.volumentracking.oc1.iad.usw1jnf2f1nqgk1jwvve7xextndmugzgldzgtrtjwylia] module.exports.compute.data.ecu.core.volume.attachment.deployments.volume.attachment[3].Creating... [idle elapsed] module.exports.compute.data.ecu.core.volume.attachment.deployments.volume.attachment[3].Creation complete after 16s [id=ociid.volumentracking.oc1.iad.usw1jnf2f1nqgk1jwvve7xextndmugzgldzgtrtjwylia]
```

Apply complete! Resources: 14 added, 0 changed, 0 destroyed.

Outputs:

```
copy_image_id = ${oldImage.oc1.iad.usw1jnf2f1nqgk1jwvve7xextndmugzgldzgtrtjwylia}copy_image_id = ${oldImage.oc1.iad.usw1jnf2f1nqgk1jwvve7xextndmugzgldzgtrtjwylia}copy_image_id = ${oldImage.oc1.iad.usw1jnf2f1nqgk1jwvve7xextndmugzgldzgtrtjwylia}
```

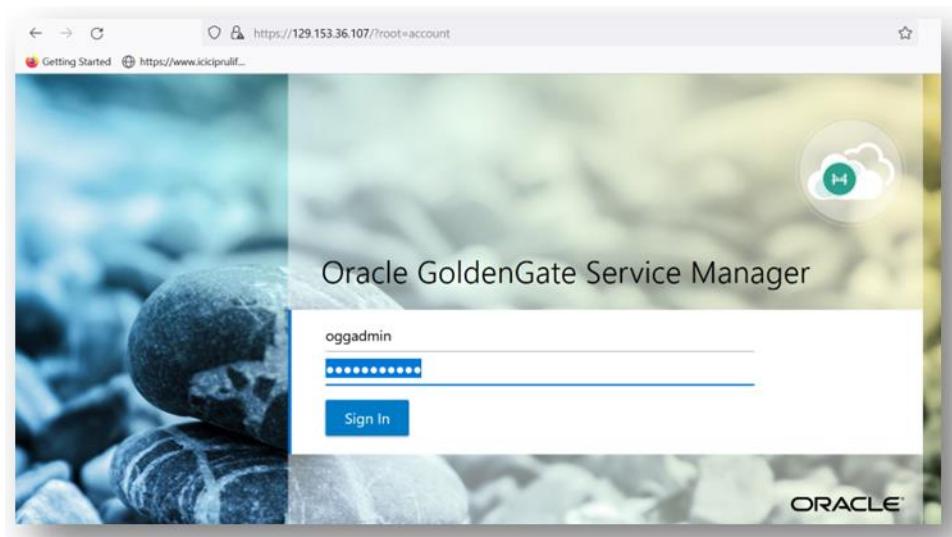
The screenshot shows the Oracle Cloud Instances page. On the left, a sidebar lists compute-related services: Overview, Instances (selected), Dedicated Virtual Machine Hosts, Instance Configurations, Instance Pools, Cluster Networks, Autoscaling Configurations, Capacity Reservations, and Custom Images. Below this is a List Scope section with a Compartments dropdown and a 'Create compartment' button. The main content area has tabs for 'Instances' and 'Compartment'. The 'Instances' tab is selected, displaying a table of VM instances. The first instance, 'inst0_000001', is highlighted with a red box around its name. The table columns are Name, State, Public IP, Private IP, Shape, OCPU count, Memory (GB), Availability domain, Fault domain, and Created. The 'Compartment' tab is also visible. A large callout box highlights the 'inst0_000001' row, showing its detailed configuration: Name inst0_000001, State Running, Public IP 129.153.36.107, Private IP 10.2.0.247, Shape VM.Standard2.4, OCPU count 4, Memory (GB) 60, Availability domain AD-1, Fault domain FD-2, and Created Mon, Mar 14, 2022, 15:55:47 UTC. The status is shown as green with a green dot icon.

Name	State	Public IP	Private IP	Shape	OCPUs	Memory (GB)	Availability domain	Fault domain	Created
inst0_000001	Running	129.153.36.107	10.2.0.247	VM.Standard2.4	4	60	AD-1	FD-2	Mon, Mar 14, 2022, 15:55:47 UTC
inst0_000002	Running	132.145.145.154	10.2.0.76	VM.Standard.E4.Flex	1	16	AD-2	FD-1	Fri, Jan 7, 2022, 08:13:22 UTC
inst0_000003	Running	159.136.167.213	10.2.0.43	VM.Standard.E4.Flex	1	16	AD-1	FD-1	Fri, Jan 7, 2022, 06:45:30 UTC

Showing 3 items < 1 of 1 >

The screenshot shows the Oracle Cloud Instance Details page for an instance named 'zdm_oggma'. The instance is currently running. The General information section displays details such as Availability domain (AD-1), Fault domain (FO-2), Region (iad), OCID (ydzkgz...), Launched date (Mon, Mar 14, 2022, 15:55:47 UTC), Compartment (intravcdev01), and Capacity type (On-demand). The Instance access section provides the Public IP address (129.153.36.107) and Username (opc). The Primary VNIC section lists the Private IP address (10.2.0.247), Network security group (None), Subnet (PubSub-VNC-Subnet), Private DNS record (Enabled), and Hostname (oggman01). The Launch options section includes links for Launch instance and Create image. The Instance details section shows the Virtual cloud network (VCD-...), Maintenance reboot status, Image (Oracle_GoldenGate_Microservices_12.1.0.0.211019_1st_Oracle_on_Linux_OGGCORE_19.1.0.0.0GGDBP_15_ATFORMB_2109220756_8d5fc150), and Launch mode (PARAVIRTUALIZED). The Instance metadata service section indicates Version 1 and 2 are available. The top navigation bar includes links for Compute, Instances, and Instance details, along with a search bar for resources, services, and documentation. The top right corner shows the region as US East (Ashburn).

```
ogg-credentials.json ora21c-21.3.0.0.0.tar
-bash-4.2$ pwd
/home/opc
-bash-4.2$ ls
ogg-credentials.json ora21c-21.3.0.0.0.tar
-bash-4.2$ cat ogg-credentials.json
{"username": "oggadmin", "credential": "9ixYWqNEAI-g0E3g"}
```



The screenshot shows the Oracle GoldenGate Service Manager interface. The top bar displays the title 'ORACLE® Oracle GoldenGate Service Manager 19.1.0.0.211019 (ServiceManager)' and various navigation icons. Below this is a summary bar with service counts: Running (8), Failed (0), and Other (0). A dropdown menu 'Deployment: All' is open. The main content area is a table listing services across different deployments:

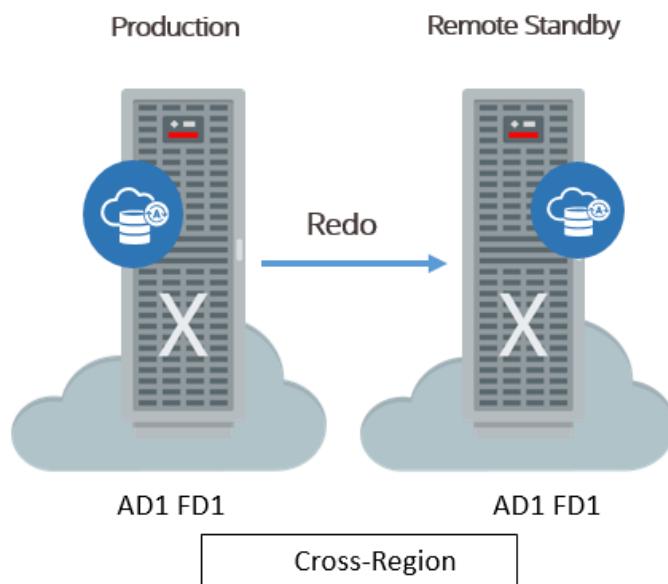
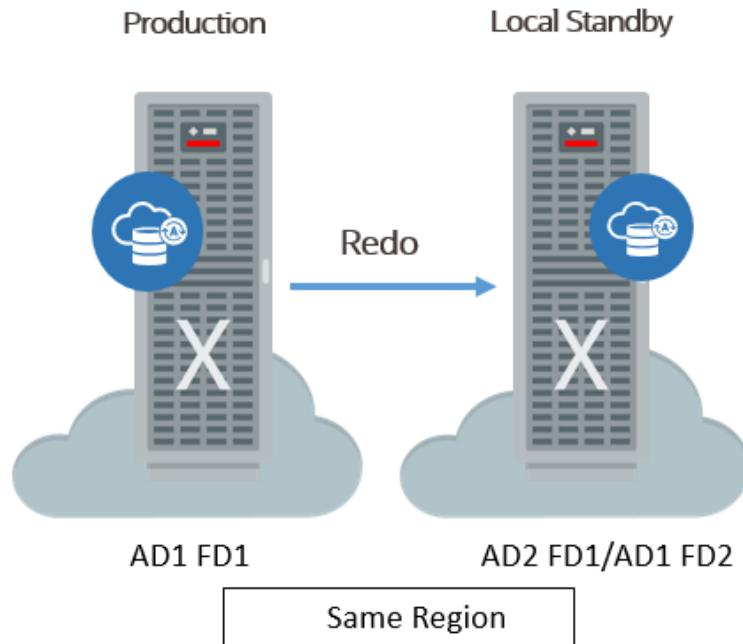
Deployment	Service	Port	Status	Action	Details
Source	Administration Server	9011 ⓘ	Running	Action ▾	⚙️
Source	Distribution Server	9012 ⓘ	Running	Action ▾	⚙️
Source	Performance Metrics Server	9014 ⓘ	Running	Action ▾	⚙️
Source	Receiver Server	9013 ⓘ	Running	Action ▾	⚙️
Target	Administration Server	9021 ⓘ	Running	Action ▾	⚙️
Target	Distribution Server	9022 ⓘ	Running	Action ▾	⚙️
Target	Performance Metrics Server	9024 ⓘ	Running	Action ▾	⚙️
Target	Receiver Server	9023 ⓘ	Running	Action ▾	⚙️

This screenshot is similar to the one above, showing the main dashboard of the Oracle GoldenGate Service Manager. The top bar, service summary, and deployment dropdown are identical. The main table shows the same list of services. However, there is a semi-transparent overlay in the top right corner containing three links: 'About', 'Change Password', and 'Sign Out'. The 'Sign Out' link is highlighted with a blue border.

```
-bash-4.2$ hostname
oggmahost
-bash-4.2$
-bash-4.2$ cd /u02/deployments/Target/etc/adb/
-bash-4.2$
-bash-4.2$ ls -ltrh
total 40K
-rw-r--r--. 1 opc opc 3.3K Mar 14 15:55 truststore.jks
-rw-r--r--. 1 opc opc 1.8K Mar 14 15:55 tnsnames.ora
-rw-r--r--. 1 opc opc 114 Mar 14 15:55 sqlnet.ora
-rw-r--r--. 1 opc opc 3.1K Mar 14 15:55 README
-rw-r--r--. 1 opc opc 691 Mar 14 15:55 ojdbc.properties
-rw-r--r--. 1 opc opc 3.2K Mar 14 15:55 keystore.jks
-rw-r--r--. 1 opc opc 6.5K Mar 14 15:55 ewallet.p12
-rw-r--r--. 1 opc opc 6.5K Mar 14 15:55 cwallet.sso
-bash-4.2$
```

```
[zdmuser@zdmhost bin]$ ./zdmcli migrate database -rsp /home/zdmuser/zdmhome/rhp/zdm/template/zdm_logical_online.rsp \
> -sourcesid orcl \
> -sourcenode [REDACTED] \
> -srcauth zdmauth \
> -srcarg1 user:opc \
> -srcarg2 identity_file:/home/zdmuser/.ssh/privateKey \
> -srcarg3 sudo location:/bin/sudo \
> -eval -skipadvisor
zdmhost.[REDACTED] Audit ID: 2
Enter source database administrative user "system" password:
Enter source database administrative user "ggadmin" password:
Enter source container database administrative user "system" password:
Enter source container database administrative user "c##ggadmin" password:
Enter target database administrative user "admin" password:
Enter target database administrative user "ggadmin" password:
Enter Oracle GoldenGate hub administrative user "oggadmin" password:
Enter Authentication Token for OCI user "ocid1:[REDACTED]":
Operation "zdmcli migrate database" scheduled with the job ID "1".
[zdmuser@zdmhost bin]$
```

Chapter 4: ADB Disaster Protection with Autonomous Data Guard



ORACLE Cloud Search for resources, services, and documentation US East (Ashburn) ▾

Overview > Autonomous Database > Autonomous Database Details

ATPDB • Primary

DB Connection Performance Hub Service Console Scale Up/Down More Actions ▾

Autonomous Database Information Tools Tags

General Information Infrastructure

Database Name: ATPDB Dedicated Infrastructure: No

Resources Autonomous Data Guard

Local standby : 0. Cross region standby : 1. You can create up to 1 local and 1 cross region standby databases.

Add Standby Database

Peer Autonomous Database	Peer Role	State	Region
ATPDB_Remote	Standby	Available	US West (Phoenix)

Metrics Backups (9) Key History (1) Autonomous Data Guard (1) Refreshable Clones (0)



Overview > Autonomous Database > Autonomous Database Details

ATP AVAILABLE

Database Actions DB Connection Performance Hub Service Console More Actions ▾

Autonomous Database Information Tools Tags

General Information Infrastructure

Database Name: ATPDB Dedicated Infrastructure: No

Workload Type: Transaction Processing Compartment: OCID: jhfcia-sh0t-00yj Created: 0CPU count: 1 0CPU auto scaling: Disabled Storage: 1 TB License Type: Bring Your Own License (BYOL) Database Version: 19c Lifecycle State: Available Instance Time: 0d 0h 0m 0s

Autonomous Data Guard

Status: Enabled [Disable](#)

Backup

Last Automatic Backup: Manual Backup Store: Not Configured

Network

Access Type: Allow secure access from everywhere Access Control List: Unrestricted Edit

Autonomous Data Guard provides a standby database instance in a different region or domain than a primary database instance in a different region. With a standby database in the current region, if the primary instance becomes unavailable, Autonomous Database automatically switches the role of the standby database to primary and begins recreating a new standby database. With a cross-region standby database, you can perform a manual failover to the standby database if the current region goes down.

Overview > Autonomous Database > Autonomous Database Details

ATPDB • Primary

Database Actions DB Connection Performance Hub Service Console More Actions ▾

Autonomous Database Information Tools Tags

General Information

Database Name: ATPDB
Workload Type: Transaction Processing
Compartment: ...
OCID: ...hbffwq Show Copy
Created: ...
OCPU count: 1

Infrastructure

Dedicated Infrastructure: No
Autonomous Data Guard ⓘ
Status: Enabled Disable
Role: Primary Swithchover
Region: Primary

ORACLE Cloud Search for resources, services, and documentation US East (Ashburn) ⚙️ 🔍 🌐

Instance Type: RAC Mode: ReadWrite Edit
Associated Services Database Management: Not Enabled Enable ⓘ Operation Insights: Not Enabled Enable ⓘ
APEX Instance Instance Name: ATPDB

Resources Autonomous Data Guard Local standby: 0, Cross region standby: 1. You can create a local standby database.
Add Standby Database

Peer Autonomous Database Peer Role Error retrieving values. Standby

Add Standby Database Cancel

Confirm Switchover to Standby

! Cross-region switchover from the primary database ATPDB is not supported. Perform the switchover operation on standby database ATPDB_Remote.

Close

ORACLE Cloud Search for resources, services, and documentation US East (Ashburn) ⚙️ 🔍 🌐

Instance Type: RAC Mode: ReadWrite Edit
Associated Services Database Management: Not Enabled Enable ⓘ Operation Insights: Not Enabled Enable ⓘ
APEX Instance Instance Name: ATPDB

Resources Autonomous Data Guard Local standby: 0, Cross region standby: 1. You can create a local standby database.
Add Standby Database

Peer Autonomous Database Peer Role Error retrieving values. Standby

Add Standby Database Cancel

instance name: `ATPDB`

Encryption
Encryption Key: Oracle-managed key

Resources

Autonomous Data Guard

Local standby : 1, Cross region standby : 0. You can create up to 1 local and 1 cross region standby databases.

Add Standby Database

Peer Autonomous Database	Peer Role	State	Region	Role Changed On	Created
ATPDB	Standby	Available	US East (Ashburn)	Tue, Dec 7, 2021, 02:10:41 UTC	Fri, Dec 10, 2021, 19:53:26

Show | Disable standby >

Overview > Autonomous Database > Autonomous Database Details

ATPDB

Database Actions DB Connection Performance Hub Service Console More Actions ▾

Autonomous Database Information Tools Tags

General Information

Database Name: ATPDB
Workload Type: Transaction Processing
Compartment:
OCID: `...hbwq Show Copy`
Created: Sat, Oct 30, 2021, 13:18:52 UTC
OCPU count: 1
OCPU Auto scaling: Enabled ⓘ
Storage: 1 TB
License Type: License included
Database Version: 19c
Lifecycle State: Available ⓘ
Instance Type: Paid
Mode: ReadWrite ⓘ

Infrastructure

Dedicated Infrastructure: No

Autonomous Data Guard ⓘ

Status: Disabled ⓘ 2

Backup

Last Automatic Backup: Fri, Dec 10, 2021, 01:45:26
Manual Backup Store: Not Configured

Network

Access Type: Allow secure access from everywhere
Access Control List: Disabled ⓘ
Mutual TLS (mTLS) Authentication: Required ⓘ ⓘ

Informational

ORACLE CLOUD Search for resources, services, and documentation US East (Ashburn) ▾

Overview > Autonomous Database > Autonomous Database Detail

ATPDB

Database Actions

Autonomous Database Information

General Information

Database Name: ATPDB
Workload Type: Transaction Processing
Compartment: int
OCID: `...hbwq Show Copy`
Created: Sat, Oct 30, 2021, 13:18:52 UTC

Enable Autonomous Data Guard

Enabling Autonomous Data Guard creates a peer database, and impacts database billing. Do you want to enable Autonomous Data Guard?

Your tenancy must be subscribed to the paired region for it to display in the list.

Region

US East (Ashburn) - Current Region ⓘ

Select region for Autonomous Data Guard.

You have selected a local standby database. Local standby databases incur additional costs of the base OCPUs of your primary database and the reserved storage of your primary database.

Local standby databases provide protection against outages in the same region as the primary and with a faster recovery time objective (RTO) than cross-region standby databases. [Learn more](#)

Enable Autonomous Data Guard Cancel

Overview > Autonomous Database > Autonomous Database Details

ATPDB

Database Actions DB Connection Performance Hub Service Console More Actions ▾

Autonomous Database Information Tools Tags

General Information

Database Name: ATPDB
Workload Type: Transaction Processing
Compartment:
OCID: `...hbwq Show Copy`
Created: Sat, Oct 30, 2021, 13:18:52 UTC
OCPU count: 1
OCPU auto scaling: Enabled ⓘ
Storage: 1 TB
License Type: License included
Database Version: 19c
Lifecycle State: Available
Instance Type: Paid
Mode: ReadWrite ⓘ

Enable Autonomous Data Guard

Enabling Autonomous Data Guard creates a peer database, and impacts database billing. Do you want to enable Autonomous Data Guard?

Your tenancy must be subscribed to the paired region for it to display in the list.

Region

US East (Ashburn) - Current Region

Select a Region
Brazil East (Sao Paulo)
UK South (London)
US East (Ashburn) - Current Region
US West (Phoenix) ⚠️
US West (San Jose)

ATPDB

Database Actions DB Connection Performance Hub Tools

General Information

- Database Name: ATPDB
- Workload Type: Transaction Processing
- Compartment: US West (Phoenix)
- OCID: hbfwqg-shor-copy
- Created: Sat, Oct 30, 2021, 13:18:52 UTC
- OCPU count: 1
- OCPU Auto Scaling: Enabled
- Storage: 1 TB
- License Type: License Included
- Database Version: 19
- Lifecycle State: Available
- Instance Type: PDB
- Mode: ReadWrite

Enable Autonomous Data Guard

Enabling Autonomous Data Guard creates a peer database, and impacts database billing. Do you want to enable Autonomous Data Guard?

Your tenancy must be subscribed to the paired region for it to display in the list.

Region: US West (Phoenix)

Select a compartment: [Select a compartment]

You have selected a cross-region standby database. Cross-region standby databases incur additional costs of the base OCPUs of your primary database and twice the reserved storage of your primary database.

Cross-region standby databases provide protection against regional outages, but have longer recovery time objective (RTO) than local region standby databases. [Learn more](#)

ATPDB

Database Actions DB Connection Performance Hub Service Console More Actions

Autonomous Database Information

Tools Tags

General Information

- Database Name: ATPDB
- Workload Type: Transaction Processing
- Compartment: [Select a compartment]
- OCID: hbfwqg-shor-copy
- Created: Sat, Oct 30, 2021, 13:18:52 UTC
- OCPU count: 1

Infrastructure

- Dedicated Infrastructure: No
- Autonomous Data Guard: Disabled
- Status: Disabled

Backup

ATPDB • Primary

Database Actions DB Connection Performance Hub Service Console More Actions

Autonomous Database Information

Tools Tags

General Information

- Database Name: ATPDB
- Workload Type: Transaction Processing
- Compartment: [Select a compartment]
- OCID: hbfwqg-shor-copy
- Created: Sat, Oct 30, 2021, 13:18:52 UTC
- OCPU count: 1

Infrastructure

- Dedicated Infrastructure: No
- Autonomous Data Guard: Enabled
- Status: Enabled
- Role: Primary

Encryption

Encryption Key: Oracle-managed key

Autonomous Data Guard

Local standby: 1, Cross region standby: 0. You can create up to 1 local and 1 cross region standby databases.

Add Standby Database

Peer Autonomous Database	Peer Role	State	Region	Role Changed On	Created
ATPDB	Standby	Available	US East (Ashburn)	Tue, Dec 7, 2021, 02:10:41 UTC	Fri, Dec 10, 2021, 19:53:26

Show Details Disable standby

Resources

- Metrics
- Backups (23)
- Key History (1)
- Autonomous Data Guard (1)**
- Refreshable Clones (0)
- Waits (Standby) (1)

Instance Name: ATPDB

Encryption

Encryption Key: Oracle-managed key

Operation	State	% Complete	Accepted	Started	Finished
Enable Autonomous Data Guard	Succeeded	100%		Fri, Dec 10, 2021, 19:53:12 UTC	Fri, Dec 10, 2021, 19:58:01 UTC

Showing 1 Item < 1 of 1 >

Resources

Work Requests

Metric	State	% Complete	Accepted	Started	Finished
Backups (23)					
Key History (1)					
Autonomous Data Guard (1)					
Refreshable Clones (0)					
Work Requests (1)					

Resources

AUTONOMOUS DATA GUARD

Local standby : 1, Cross region standby : 0. You can create up to 1 local and 1 cross region standby databases.

Add Standby Database

Peer Autonomous Database	Peer Role	State	Region	Role Changed On	Created
ATPDB	Standby	Available	US East (Ashburn)	Tue, Dec 7, 2021, 02:10:41 UTC	Fri, Dec 10, 2021, 19:53:26 UTC

Showing 1 Item < 1 of 1 >

Associated Services

Database Management: Not Enabled [Enable](#) ⓘ
Operation Insights: Not Enabled [Enable](#)

APEX Instance

Instance Name: ATPDB

Resources

Autonomous Data Guard

Local standby : 1, Cross region standby : 0. You can create up to 1 local and 1 cross region standby databases.

Add Standby Database

Peer Autonomous Database	Peer Role
ATPDB	Standby

Associated Services

Database Management: Not Enabled [Enable](#) ⓘ
Operation Insights: Not Enabled [Enable](#)

APEX Instance

Instance Name: ATPDB

Resources

Autonomous Data Guard

Local standby : 1, Cross region standby : 0. You can create up to 1 local and 1 cross region standby databases.

Add Standby Database

Enabling Autonomous Data Guard creates a peer database, and impacts database billing. Do you want to enable Autonomous Data Guard? Your tenancy must be subscribed to the paired region for it to display in the list.

Region

Select a Region
Brazil East (Sao Paulo)
UK South (London)
US West (Phoenix)
US West (San Jose)

Compartments

OCID: oc1:16hwq:share:0000
Created: Sat, Oct 30, 2021, 13:18:52 UTC
OCPU count: 1
OCPU auto scaling: Enabled ⓘ
Storage: 1 TB
License Type: License included
Database Version: 19c
Lifecycle State: Available
Instance Type: Pad
Auto Start/Stop Schedule: Disabled [Schedule](#)
Mode: Read/Write [Edit](#)

Autonomous Data Guard

Local standby : 1, Cross region standby : 0. You can create up to 1 local and 1 cross region standby databases.

Add Standby Database

Enabling Autonomous Data Guard creates a peer database, and impacts database billing. Do you want to enable Autonomous Data Guard? Your tenancy must be subscribed to the paired region for it to display in the list.

Region

US West (Phoenix)
Select a Compartments
Regions

You have selected a cross-region standby database. Cross-region standby databases incur additional costs of the base OCPU of your primary database and twice the reserved storage of your primary database. Cross-region standby databases provide protection against regional outages, but have longer recovery time objective (RTO) than local region standby databases [Learn more](#)

Peer Autonomous Database	Peer Role
ATPDB	Standby

ATPDB • Primary

Autonomous Database Information

Peer Autonomous Database	Peer Role	State	Region	Role Changed On	Created
ATPDB_Remote	Standby	Processing	US West (Oregon)	-	Fri, Dec 17, 2021, 16:25:02 UTC
ATPDB	Standby	Available	US East (Ashburn)	Tue, Dec 7, 2021, 02:18:41 UTC	Fri, Dec 10, 2021, 19:53:26 UTC

ATPDB • Primary

Autonomous Database Information

Peer Autonomous Database	Peer Role	State	Region	Role Changed On	Created
ATPDB_Remote	Standby	Processing	US West (Oregon)	-	Fri, Dec 17, 2021, 16:25:02 UTC
ATPDB	Standby	Available	US East (Ashburn)	Tue, Dec 7, 2021, 02:18:41 UTC	Fri, Dec 10, 2021, 19:53:26 UTC

ATPDB_Remote • Standby

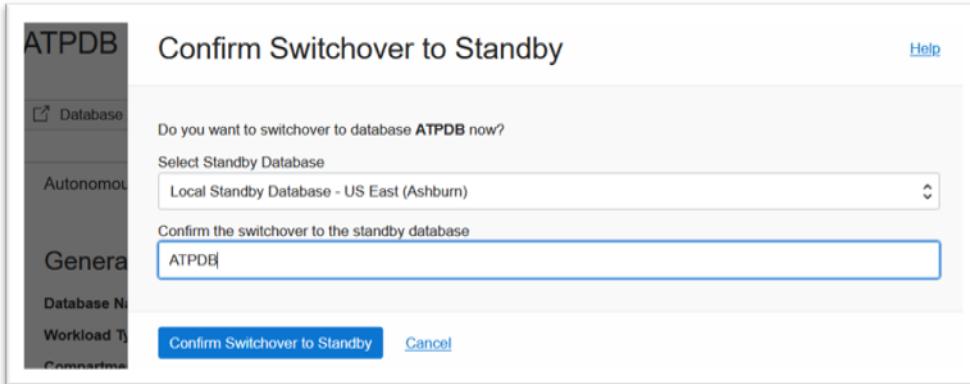
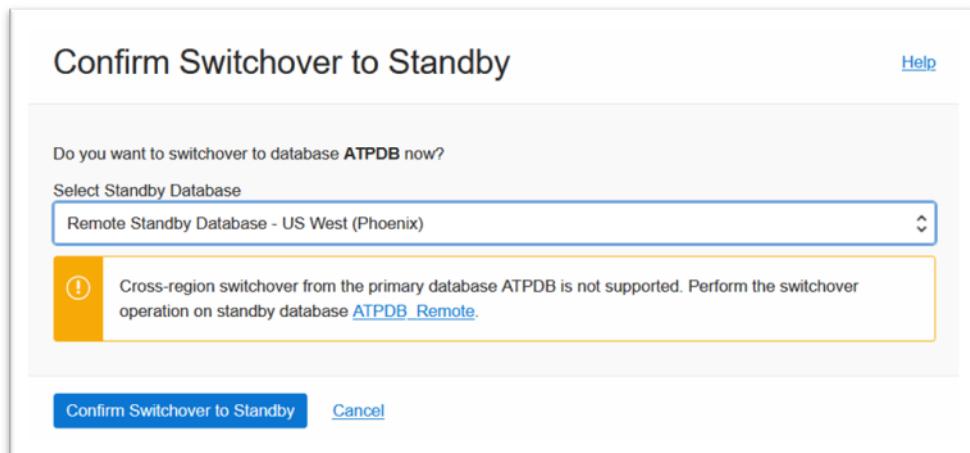
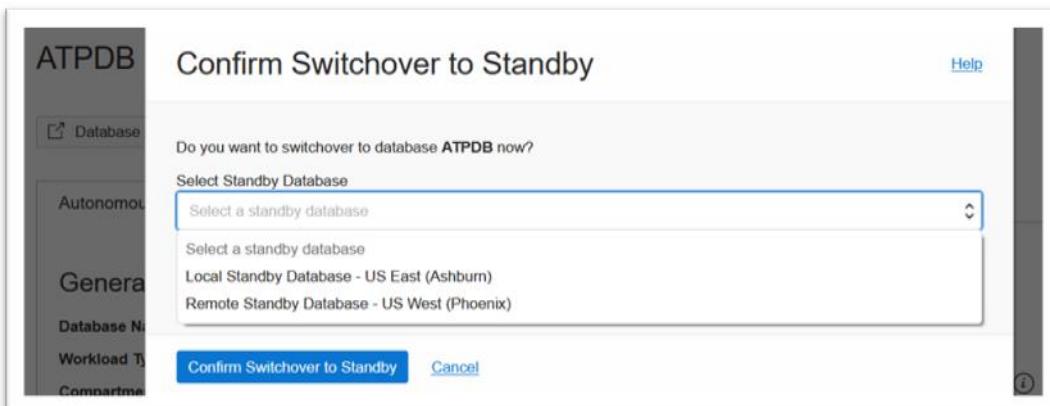
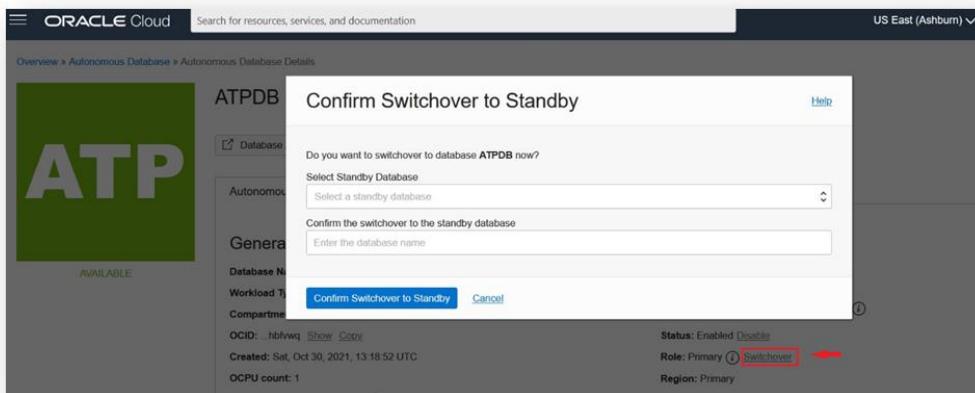
Autonomous Database Information

Peer Autonomous Database	Peer Role	State	Region	Role Changed On	Created
ATPDB	Primary	Available	US West (Oregon)	Fri, Dec 17, 2021, 16:25:02 UTC	Fri, Dec 17, 2021, 16:25:02 UTC
ATPDB_Remote	Standby	Available	US East (Ashburn)	Tue, Dec 7, 2021, 02:18:41 UTC	Fri, Dec 10, 2021, 19:53:26 UTC

Encryption
Encryption Key: Oracle-managed key

Work Requests

Operation	State	% Complete	Accepted	Started	Finished
Create Autonomous Database	Succeeded	100%	Fri, Dec 17, 2021, 16:25:02 UTC	Fri, Dec 17, 2021, 16:25:11 UTC	Fri, Dec 17, 2021, 16:49:30 UTC



ATPDB • Primary

Autonomous Data Guard

Local standby : 1, Cross region standby : 1, You can create up to 1 local and 1 cross region standby databases.

Peer Autonomous Database	Peer Role	State	Region	Role Changed On	Created
ATPDB_Remote	Standby	Available	US West (Phoenix)	Fri, Dec 17, 2021, 16:49:28 UTC	Fri, Dec 17, 2021, 16:25:02 UTC
ATPDB	Standby	Role Change In Progress	US East (Ashburn)	Tue, Dec 7, 2021, 02:10:41 UTC	Fri, Dec 10, 2021, 19:53:26 UTC

ATPDB Operation happening in ATPDB, the new primary after switchover

Encryption
Encryption Key: Oracle-managed key

1

Autonomous Data Guard

Local standby : 1, Cross region standby : 1, You can create up to 1 local and 1 cross region standby databases.

Peer Autonomous Database	Peer Role	State	Region	Role Changed On	Created
ATPDB_Remote	Standby	Provisioning	US West (Phoenix)	Fri, Dec 17, 2021, 16:49:28 UTC	Fri, Dec 17, 2021, 16:25:02 UTC
ATPDB	Standby	Available	US East (Ashburn)	Fri, Dec 17, 2021, 19:48:00 UTC	Fri, Dec 10, 2021, 19:53:26 UTC

ATPDB_Remote Operation happening in the cross-region standby where a works requests was submitted for "create Autonomous Database"

Encryption
Encryption Key: Oracle-managed key

2

Work Requests

Operation	Status	% Complete	Accepted	Started	Finished
Create Autonomous Database	Success	100%	Fri, Dec 17, 2021, 16:26:02 UTC	Fri, Dec 17, 2021, 16:25:11 UTC	Fri, Dec 17, 2021, 16:40:38 UTC

ATPDB • Primary

Autonomous Database Information

General Information

- Database Name: ATPDB
- Workload Type: Transaction Processing
- Compartment:
- OCID: 1tWvz-5t8e-C0yI
- Created: Sat, Oct 30, 2021, 13:18:52 UTC
- OCPU count: 1

Infrastructure

- Dedicated Infrastructure: No
- Autonomous Data Guard
- Status: Enabled
- Role: Primary (1 Standby)
- Region: Primary

Autonomous Data Guard

Local standby : 1, Cross region standby : 1, You can create up to 1 local and 1 cross region standby databases.

Peer Autonomous Database	Peer Role	State	Region
ATPDB_Remote	Standby	Available	US West (Phoenix)
ATPDB	Standby	Available	US East (Ashburn)

OVERVIEW

Autonomous Database Details

ATPDB_Remote Standby

Database Actions DB Connection Performance Hub Service Console More Actions

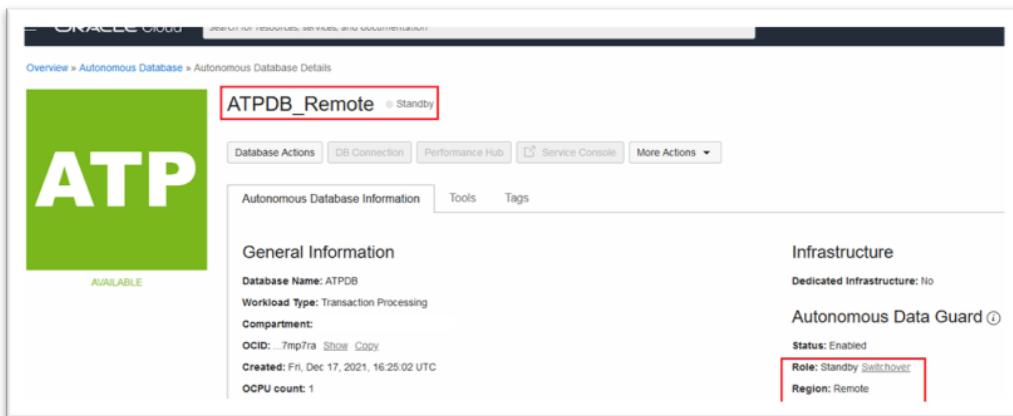
Autonomous Database Information Tools Tags

General Information

Database Name: ATPDB
Workload Type: Transaction Processing
Compartment:
OCID: .7mp7ra Show Copy
Created: Fri, Dec 17, 2021, 16:25:02 UTC
OCPU count: 1

Infrastructure

Dedicated Infrastructure: No
Autonomous Data Guard ⓘ
Status: Enabled
Role: Standby Switchover
Region: Remote



ATPDB_Remote Confirm Switchover to Standby Help

Do you want to switchover to database **ATPDB** now?

Select Standby Database: Remote Standby Database - US West (Phoenix)

Confirm the switchover to the standby database: ATPDB

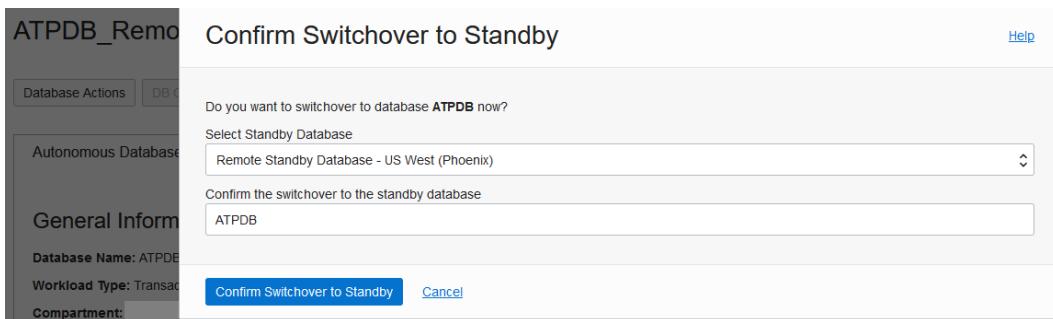
Database Actions DB Connection Performance Hub

Autonomous Database Information Tools Tags

General Information

Database Name: ATPDB
Workload Type: Transaction Processing
Compartment:

Confirm Switchover to Standby Cancel



OVERVIEW

Autonomous Database Details

ATPDB_Remote Standby

Database Actions DB Connection Performance Hub

Autonomous Database Information Tools Tags

General Information

Database Name: ATPDB
Workload Type: Transaction Processing

Resources

Metrics
Backups (25)
Key History (1)
Autonomous Data Guard (1)

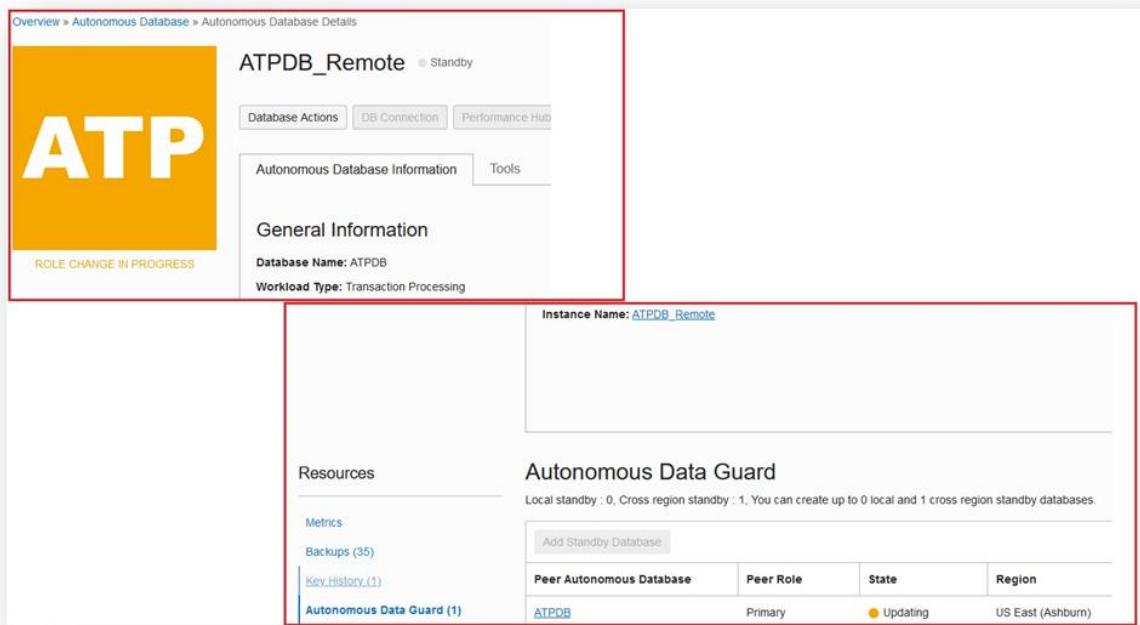
Instance Name: [ATPDB_Remote](#)

Autonomous Data Guard

Local standby : 0, Cross region standby : 1. You can create up to 0 local and 1 cross region standby databases.

Add Standby Database

Peer Autonomous Database	Peer Role	State	Region
ATPDB	Primary	● Updating	US East (Ashburn)



Overview > Autonomous Database > Autonomous Database Details

ATPDB • Primary

Autonomous Database Information Tools Tags

General Information

Database Name: ATPDB
Workload Type: Transaction Processing

Resources

Autonomous Data Guard

Local standby : 1, Cross region standby : 1, You can create up to 1 local and 1 cross region standby databases.

Peer Autonomous Database	Peer Role	State	Region
ATPDB_Remote	Standby	Role Change In Progress	US West (Phoenix)
ATPDB	Standby	Available	US East (Ashburn)

Overview > Autonomous Database > Autonomous Database Details

ATPDB_Remote • Primary

Autonomous Database Information Tools Tags

General Information

Database Name: ATPDB
Workload Type: Transaction Processing
Compartment:
OCID: ...7mp7ra Show Copy
Created: Fri, Dec 17, 2021, 16:25:02 UTC
OCPU count: 1

Infrastructure

Dedicated Infrastructure: No
Autonomous Data Guard ⓘ
Status: Enabled
Role: Primary *Switchover*
Region: Remote

ORACLE Cloud Search for resources, services, and documentation

Overview > Autonomous Database > Autonomous Database Details

ATPDB • Standby

Autonomous Database Information Tools Tags

General Information

Database Name: ATPDB
Workload Type: Transaction Processing
Compartment:
OCID: ...htwlg Show Copy
Created: Sat, Oct 30, 2021, 13:18:52 UTC
OCPU count: 1

Infrastructure

Dedicated Infrastructure: No
Autonomous Data Guard ⓘ
Status: Enabled
Role: Standby *Switchover*
Region: Primary

Instance Name: ATPDB_Remote

Autonomous Data Guard

Local standby : 0, Cross region standby : 1, You can create up to 0 local and 1 cross region standby databases.

Peer Autonomous Database	Peer Role	State	Region
ATPDB	Standby	● Available	US East (Ashburn)

Instance Name: ATPDB

Autonomous Data Guard

Local standby : 1, Cross region standby : 1, You can create up to 1 local and 1 cross region standby databases.

Peer Autonomous Database	Peer Role	State	Region
ATPDB_Remote	Standby	● Unavailable	US West (Phoenix)
ATPDB	Standby	● Provisioning	US East (Ashburn)

Overview > Autonomous Database > Autonomous Database Details

ATPDB_Remote Standby

Database Actions DB Connection Performance Hub Service Console More Actions ▾

Autonomous Database Information		Tools	Tags
General Information		Infrastructure	
Database Name: ATPDB Workload Type: Transaction Processing Compartment: OCID: ...7mp7ra Show Copy Created: Fri, Dec 17, 2021, 16:25:02 UTC OCPU count: 1		Dedicated Infrastructure: No Status: Enabled Role: Standby Switchover Region: Remote	

ATPDB • Primary

Autonomous Database Information Tools Tags

General Information

Database Name: ATPDB
Workload Type: Transaction Processing
Compartment:
OCID: ...hbfwq Show Copy
Created: Sat, Oct 30, 2021, 13:18:52 UTC
OCPU count: 1

Infrastructure

Dedicated Infrastructure: No
Autonomous Data Guard ⓘ
Status: Enabled (Disabled)
Role: Primary ⓘ Selfchover
Region: Primary

Disable Autonomous Data Guard

Disabling Autonomous Data Guard terminates the standby database. Are you sure you want to disable Autonomous Data Guard for Autonomous Database **ATPDB**?

Select Standby Database

Select a standby database
Local Standby Database - US East (Ashburn)
Remote Standby Database - US West (Phoenix)

Disable Autonomous Data Guard Cancel

ATPDB • Primary

Autonomous Database Information Tools Tags

General Information

Database Name: ATPDB
Workload Type: Transaction Processing
Compartment:
OCID: ...hbfwq Show Copy
Created: Sat, Oct 30, 2021, 13:18:52 UTC
OCPU count: 1

Infrastructure

Dedicated Infrastructure: No
Autonomous Data Guard ⓘ
Status: Enabled (Disabled)
Role: Primary ⓘ Selfchover
Region: Primary

Resources

Autonomous Data Guard

Local standby: 1, Cross region standby: 1. You can create up to 1 local and 1 cross region standby databases.

Add Standby Database	Peer Role	State	Region	Role Changed On
ATPDB_Remote	Standby	Terminating	US West (Phoenix)	Sat, Dec 18, 2021, 19:18:58 UTC
ATPDB	Standby	Terminating	US East (Ashburn)	Sat, Dec 18, 2021, 19:18:39 UTC

ATPDB • Primary

Autonomous Database Information Tools Tags

General Information

Database Name: ATPDB
Workload Type: Transaction Processing
Compartment:
OCID: ...hbfwq Show Copy
Created: Sat, Oct 30, 2021, 13:18:52 UTC

Infrastructure

Dedicated Infrastructure: No
Autonomous Data Guard ⓘ
Status: Enabled (Disabled)
Role: Primary ⓘ Selfchover

Encryption
Encryption Key: Oracle-managed key

Resources

Autonomous Data Guard

Local standby: 1, Cross region standby: 0. You can create up to 1 local and 1 cross region standby databases.

Add Standby Database	Peer Role	State	Region	Role Changed On
ATPDB	Standby	Available	US East (Ashburn)	Sat, Dec 18, 2021, 19:18:39 UTC

ORACLE Cloud Search for resources, services, and documentation Germany Central (Frankfurt)   

Created: Thu, May 13, 2021, 16:48:08 UTC
OCPU Count: 1
Storage: 1 TB
License Type: Bring Your Own License (BYOL)
Database Version: 19c
Auto Scaling: Disabled 
Lifecycle State: Available
Instance Type: Paid
Mode: ReadWrite 

Operations Insights 
Status: Not Enabled [Enable](#)

APEX Instance
Instance Name: ATPDB

Backup
Last Automatic Backup: Mon, May 17, 2021, 12:45:47 UTC
Manual Backup Store: Not Configured

Network
Access Type: Allow secure access from everywhere
Access Control List: Disabled 

Maintenance 
Next Maintenance: Sun, May 30, 2021, 04:00:00 UTC - 08:00:00 UTC [View History](#)
Customer Contacts: None  [Manage](#)

Data Safe 
Status: Not Registered [Register](#)

Resources

Work Requests

Operation	State	% Complete	Accepted	Started	Finished
Disable Autonomous Data Guard	Succeeded	100%	Tue, May 18, 2021, 04:19:06 UTC	Tue, May 18, 2021, 04:19:13 UTC	Tue, May 18, 2021, 04:19:25 UTC
Autonomous Data Guard Association - Create	Pending	0%	Tue, May 18, 2021, 04:19:13 UTC	Tue, May 18, 2021, 04:19:13 UTC	Tue, May 18, 2021, 04:19:25 UTC

ORACLE Cloud Search for resources, services, and documentation Germany Central (Frankfurt)   

Create Rule

Display Name: ADG Begin Failover Event

Description: ADG Begin Failover Event

Rule Conditions
Limit the events that trigger actions by defining conditions based on event types, attributes, and filter tags. [Learn more](#)

Condition	Service Name
Event Type	Database

Available pre-defined event types

Event Type: Autonomous Data Guard Association - Failover Begin

- Autonomous Data Guard Association - Failover End
- Autonomous Container Database - Update Begin
- Autonomous Container Database - Update End
- Autonomous Data Guard Association - Create Begin
- Autonomous Data Guard Association - Create End
- Autonomous Data Guard Association - Failover End
- Autonomous Data Guard Association - Reinflate Begin
- Autonomous Data Guard Association - Switchover Begin
- Autonomous Data Guard Association - Switchover End

Rule Logic:

```

MATCH event WHERE (
  eventType EQUALS ANY OF (
    con.oracle.influx.database.service.failoverautoguardassociation.begin
  )
)

```

[View example events \(JSON\)](#)

[Validate Rule](#)

Chapter 5: Backup and Restore with Autonomous database in OCI

Backups

Backups are automatically created daily.

Create Manual Backup						
Display Name	State	Type	Encryption Key	Started	Ended	Actions
Jun 27, 2022 01:22:47 UTC	● Active	Auto Backup	Oracle-managed key	Mon, Jun 27, 2022, 01:14:47 UTC	Mon, Jun 27, 2022,	Restore 
Jun 26, 2022 00:35:00 UTC	● Active	Auto Backup	Oracle-managed key	Sun, Jun 26, 2022, 00:30:08 UTC	Sun, Jun 26, 2022,	Create Clone 
Jun 12, 2022 13:10:35 UTC	● Active	Auto Backup	Oracle-managed key	Sun, Jun 12, 2022, 13:05:14 UTC	Sun, Jun 12, 2022, 13:10:35 UTC	
Jun 11, 2022 14:43:07 UTC	● Active	Auto Backup	Oracle-managed key	Sat, Jun 11, 2022, 14:33:54 UTC	Sat, Jun 11, 2022, 14:43:07 UTC	
Jun 04, 2022 18:32:50 UTC	● Active	Auto Backup	Oracle-managed key	Sat, Jun 4, 2022, 18:27:29 UTC	Sat, Jun 4, 2022, 18:32:50 UTC	
May 19, 2022 01:24:24 UTC	● Active	Auto Backup	Oracle-managed key	Thu, May 19, 2022, 01:14:26 UTC	Thu, May 19, 2022, 01:24:24 UTC	

Resources

Auth Tokens

Groups

API Keys

Auth Tokens

Generate Token

Description	Created
-------------	---------

Generate Token

Description

Manual_Backup

Generate Token Cancel

Generate Token

Generated Token

Copy this token for your records. It will not be shown again.

***** [Show](#) [Copy](#)

[Close](#)

The screenshot shows the Oracle Storage interface. On the left is a navigation sidebar with a search bar at the top. Below it are several menu items: Home, Compute, Storage (which is selected and highlighted in blue), Networking, Oracle Database, Databases, and Analytics & AI. The main content area is titled "Storage" and contains a list of storage-related options: Block Storage, Block Volumes, Block Volume Backups, Block Volume Replicas, Volume Groups, Volume Group Backups, Volume Group Replicas, and Backup Policies. A dropdown menu titled "Object Storage & Archive Storage" is open, showing "Buckets" as the selected item. There is also a "Buckets" button below the dropdown.

Create Bucket

[Help](#)

Bucket Name

Default Storage Tier
 Standard
 Archive

The default storage tier for a bucket can only be specified during creation. Once set, you cannot change the storage tier in which a bucket resides. [Learn more about storage tiers](#)

Enable Auto-Tiering
Automatically move infrequently accessed objects from the Standard tier to less expensive storage. [Learn more](#)

Enable Object Versioning
Create an object version when a new object is uploaded, an existing object is overwritten, or when an object is deleted. [Learn more](#)

Emit Object Events
Create automation based on object state changes using the [Events Service](#).

Uncommitted Multipart Uploads Cleanup
Create a lifecycle rule to automatically delete uncommitted multipart uploads older than 7 days. [Learn more](#)

Encryption
 Encrypt using Oracle managed keys
Leaves all encryption-related matters to Oracle.
 Encrypt using customer-managed keys
Requires a valid key from a vault that you have access to. [Learn more](#)

Tags

Tag Namespace

Tag Key

Value

[Create](#) [Cancel](#)

Resources

Backups

Backups are automatically created daily.

Metrics

Backups (6)

[Create Manual Backup](#)

Create Manual Backup

[Help](#)

Manual backups for this database are stored in the Object Storage bucket bucket-crsk-ash.

Display Name

[Create Manual Backup](#)

[Cancel](#)

Backups

Backups are automatically created daily.

Display Name	State	Type	Started	Ended	More Actions
ManualBackup	Creating	Full	Mon, Mar 29, 2021, 14:11:44 UTC		⋮

ATP
BACKUP IN PROGRESS

Autonomous Database Information

Database Name: KKATP
Workload Type: Transaction Processing

More Actions ▾

- Start
- Restart
- Restore
- Create Clone

Backups

Backups are automatically created daily.

Display Name	State	Type	Started	Ended	More Actions
ManualBackup	Active	Full	Mon, Mar 29, 2021, 14:11:44 UTC	Mon, Mar 29, 2021, 14:11:44 UTC	⋮
Mar 29, 2021 07:40:22	●	Incremental, initiated by Auto	Mon, Mar 29, 2021, 07:33:46	Mon, Mar 29, 2021, 07:33:46	⋮

DB Connection Performance Hub Service Console Scale Up/Down More Actions ▾

Autonomous Database Information Tools Tags

General Information Infrastructure

Stop
Restart
Restore

Restore

[Help](#)

Restore the Autonomous Database to a point in time or restore from a specified backup.

Enter Timestamp Select Backup

Specify a timestamp within the last 60 days to use for the point-in-time restore.

Enter Timestamp

May 2022

Su	Mo	Tu	We	Th	Fr	Sa	Time
1	2	3	4	5	6	7	15:30:00 UTC
8	9	10	11	12	13	14	16:00:00 UTC
15	16	17	18	19	20	21	16:30:00 UTC
22	23	24	25	26	27	28	17:00:00 UTC
29	30	31					17:30:00 UTC
							18:00:00 UTC

Dedicated Infrastructure: No

Autonomous Data

Status: Disabled Enable

Restore

Restore the Autonomous Database to a point in time or restore from a specified backup.

Enter Timestamp Select Backup

Specify the timestamp to use for the point-in-time restore.

Enter Timestamp

April 2021							Time
Su	Mo	Tu	We	Th	Fr	Sa	
				1	2	3	09:30:00 UTC
							10:00:00 UTC
							10:30:00 UTC
							11:00:00 UTC
							11:30:00 UTC
							12:00:00 UTC
							12:30:00 UTC

Restore

[Help](#)

Restore the Autonomous Database to a point in time or restore from a specified backup.

Enter Timestamp Select Backup

Specify the date range for the list of backups, and then select the backup.

From	To
Mar 26, 2021	Apr 2, 2021
Display Name	
<input type="checkbox"/> Mar 31, 2021 14:42:40 UTC	Wed, Mar 31, 2021, 14:42:40 UTC
<input type="checkbox"/> Mar 30, 2021 14:46:17 UTC	Tue, Mar 30, 2021, 14:46:17 UTC
<input type="checkbox"/> Mar 29, 2021 14:51:48 UTC	Mon, Mar 29, 2021, 14:51:48 UTC
<input type="checkbox"/> ManualBackup	Mon, Mar 29, 2021, 14:13:47 UTC

[Create Manual Backup](#)

Display Name	State	Type	Started	Ended	
Mar 29, 2021 14:51:48 UTC	Active	Incremental, initiated by Auto Backup	Mon, Mar 29, 2021, 14:48:09 UTC	Mon, Mar 29, 2021, 14:51:48 UTC	More
ManualBackup	Active	Full	Mon, Mar 29, 2021, 14:11:44 UTC	Mon, Mar 29, 2021, 14:13:47 UTC	Restore Create Clone
Mar 29, 2021 07:40:22	Active	Incremental, initiated by Auto	Mon, Mar 29, 2021, 07:33:46	Mon, Mar 29, 2021, 07:40:22	More

Restore

Are you sure you want to restore from "ManualBackup"?

[Restore](#)

[Cancel](#)

The screenshot shows the Oracle Autonomous Database Information page. On the left, there's a large yellow box with the letters 'ATP' in white. Below it, the text 'RESTORE IN PROGRESS' is displayed. At the top right, there are several navigation tabs: DB Connection, Performance Hub, Service Console, Scale Up/Down, and More Actions (with a dropdown menu). The More Actions menu is open, showing options like Start, Restart, Restore, Infrastructure, Dedicated, Create Clone, and others. In the center, there's a section for General Information with the Database Name set to KKATP. To the right, there's an Infrastructure section with Dedicated selected. A vertical scroll bar is visible on the right side of the page.

Work requests

Operation	State	% complete	Accepted	Started	Finished	⋮
Restore Autonomous Database	● In progress	18%	Wed, Jul 6, 2022, 12:12:50 UTC	Wed, Jul 6, 2022, 12:13:01 UTC	—	⋮

Create Bucket

Bucket Name

DBBKP

Default Storage Tier

Standard

Archive

The default storage tier for a bucket can only be specified during creation. Once set, you cannot change the storage tier in which a bucket resides. [Learn about storage tiers](#)

Enable Object Versioning

Create an object version when a new object is uploaded, an existing object is overwritten, or when an object is deleted. [Learn more](#)

Emit Object Events

Create automation based on object state changes using the [Events Service](#).

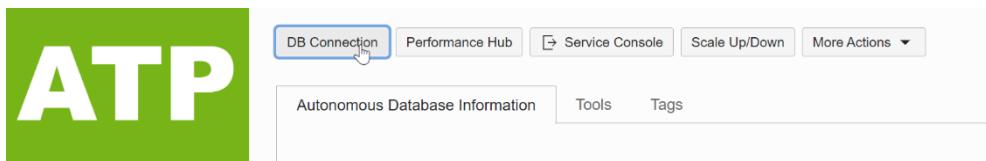
Encryption

[Create](#)

[Cancel](#)

Objects

Upload	More Actions ▾	<input type="text"/> exp		
<input type="checkbox"/>	Name	Last Modified	Size	Storage Tier
<input type="checkbox"/>	<input type="checkbox"/> exp01.dmp	Sat, Apr 3, 2021, 07:22:23 UTC	44 KiB	Standard
<input type="checkbox"/>	<input type="checkbox"/> exp02.dmp	Sat, Apr 3, 2021, 07:22:22 UTC	8.87 MiB	Standard



Database Connection

[Help](#)

You will need the client credentials and connection information to connect to your database. The client credentials include the wallet.

Download Client Credentials (Wallet)

To download your client credentials, select the type of wallet, then click **Download Wallet**. You will be asked to create a password for the wallet.

Wallet Type [\(i\)](#)

Instance Wallet



[Download Wallet](#)

[Rotate Wallet](#)

Wallet last rotated: -

[Close](#)

Download Wallet

[Help](#)

Database connections to your Autonomous Database use a secure connection. The wallet file will be required to configure your database clients and tools to access Autonomous Database.

Please create a password for this wallet. Some database clients will require that you provide both the wallet and password to connect to your database (other clients will auto-login using the wallet without a password).

Password

Confirm password

[Download](#) [Cancel](#)

```
DBMS_CLOUD_ADMIN.  
CREATE_DATABASE_LINK  
(  
    db_link_name    IN VARCHAR2,  
    hostname        IN VARCHAR2,  
    port            IN NUMBER,  
    service_name    IN VARCHAR2,  
    ssl_server_cert_dn IN VARCHAR2,  
  
    credential_name IN VARCHAR2,  
    directory_name  IN VARCHAR2,  
    gateway_link    IN BOOLEAN  
);
```



```
DBMS_CLOUD_ADMIN.  
CREATE_DATABASE_LINK  
(  
    DBlink_autonomous,  
    adb.<region>.oraclecloud.com,  
    1522,  
    lstssxuegqjldw2_<DB_name>.adb.oraclecloud.com  
    "CN=adwc.uscom-east.oraclecloud.com,OU=Oracle  
    BMCS US,O=Oracle Corporation,L=Redwood  
    City,ST=California,C=US"  
    'DB_Schema_credential',  
    'DUMP_DIR',  
    False  
);
```

Chapter 6: Managing Autonomous Databases

The screenshot shows the Oracle Cloud navigation bar with 'ORACLE Cloud' and a search bar. The main content area is titled 'Oracle Database' and contains sections for Overview, Autonomous Dedicated..., Exadata Cloud@Customer, and GoldenGate. A sub-section for Autonomous Transaction Processing is highlighted with a cursor icon pointing to it.

The screenshot shows the 'Autonomous Database Information' tab for KKATP. The 'More Actions' dropdown menu is open, showing options like Stop, Restart, Restore, Create Clone, etc. The 'General Information' section lists details such as Database Name: KKATP, Workload Type: Transaction Processing, and OCID: ...3mfvq. The 'Operations Insights' section shows a status of Not Enabled. The 'Infrastructure' section indicates Dedicated Infrastructure: No. The 'Autonomous Data Guard' section shows Status: Disabled. The 'Backup' section shows the last automatic backup was on Fri, Sep 17, 2021, 10:43:08 UTC. The 'Network' section shows Access Type: Allow secure access from everywhere. The 'Maintenance' section shows Patch Level: Regular. The 'Data Safe' section shows Status: Not Registered. The 'Encryption' section shows an Oracle-managed key.

The screenshot shows the 'Autonomous Database Information' tab for KKATP. The 'More Actions' dropdown menu is open, showing options like Start, Restart, Restore, Create Clone, etc. The 'General Information' section lists details such as Database Name: KKATP, Workload Type: Transaction Processing. The 'Infrastructure' section indicates Dedicated Infrastructure: No. The 'Autonomous Data Guard' section shows Status: Disabled.

The screenshot shows the 'Autonomous Database Information' tab for KKATP. The 'General Information' section lists details such as Database Name: KKATP. The 'Infrastructure' section indicates Dedicated Infrastructure: No.

Database Connection

[Help](#)

You will need the client credentials and connection information to connect to your database. The client credentials include the wallet.

Download Client Credentials (Wallet)

To download your client credentials, select the type of wallet, then click **Download Wallet**. You will be asked to create a password for the wallet.

Wallet Type (i)

Instance Wallet



[Download Wallet](#)

[Rotate Wallet](#)

Wallet last rotated: -

[Close](#)

Download Wallet

[Help](#)

Database connections to your Autonomous Database use a secure connection. The wallet file will be required to configure your database clients and tools to access Autonomous Database.

Please create a password for this wallet. Some database clients will require that you provide both the wallet and password to connect to your database (other clients will auto-login using the wallet without a password).

Password

Confirm password

[Download](#)

[Cancel](#)

Rotate Wallet

[Help](#)

Are you sure you want to rotate the regional wallet?



Rotating the regional wallet will invalidate all existing regional and instance wallets in the region. Certificate keys associated with the existing wallets in the region will be invalidated. All connections to databases in the region that use the existing regional wallet will be terminated over a period of time. If you need to terminate all existing connections to a database immediately, stop and restart the database.

Enter the currently selected database name (**KKATP**) to confirm the regional wallet rotation

[Rotate](#)[Cancel](#)

Database Connection

[Help](#)

You will need the client credentials and connection information to connect to your database. The client credentials include the wallet.

Download Client Credentials (Wallet)

To download your client credentials, select the type of wallet, then click **Download Wallet**. You will be asked to create a password for the wallet.

Wallet Type [\(i\)](#)

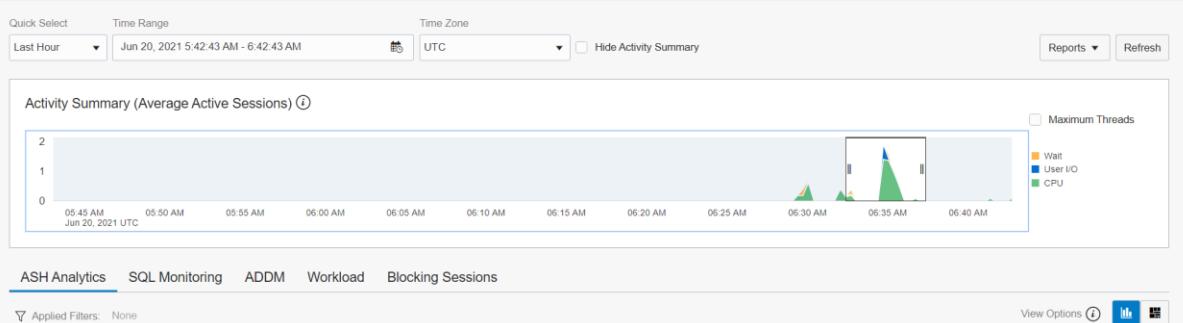
 Instance Wallet[Download Wallet](#)[Rotate Wallet](#)

Rotation In Progress

The wallet rotation process takes a few minutes. During the wallet rotation, a new wallet is generated. You cannot perform a wallet download during the rotation process. Existing connections to database will be terminated, and will need to be reestablished using the new wallet.

Wallet last rotated: -

Performance Hub - KKATP



Performance Hub - KKATP

Quick Select Time Range Time Zone
Last Hour Jun 20, 2021 5:42:43 AM - 6:42:43 AM UTC Hide Activity Summary Reports Refresh Automatic Workload Repository

Activity Summary (Average Active Sessions) ⓘ

Generate Automatic Workload Repository Report

Generate an Automatic Workload Repository (AWR) report to view additional performance statistics.

Start Snapshot ⓘ End Snapshot

Jun 19, 2021 2:00:52 PM UTC Jun 19, 2021 3:00:24 PM UTC

Snapshot ID: 106 Snapshot ID: 107

[Download](#) [Cancel](#)

Performance Hub - KKATP

ASH Analytics SQL Monitoring ADDM Workload Blocking Sessions View Options ⓘ

Applied Filters: None

Average Active Sessions

ASH Dimensions ⓘ Consumer Group ▾ Maximum Threads Total Activity Sample Resolution ⓘ Medium

2.4
2.0
1.6
1.2
0.8
0.4
0.0

07:33:00 AM 07:33:20 AM 07:33:40 AM 07:34:00 AM 07:34:20 AM 07:34:40 AM 07:35:00 AM 07:35:20 AM 07:35:40 AM 07:36:00 AM 07:36:20 AM 07:36:40 AM 07:37:00 AM 07:37:20 AM 07:37:40 AM

Internal

07:35:00 AM Jun 20, 2021 UTC

SQL ID ▾ by Consumer Group Columns ▾

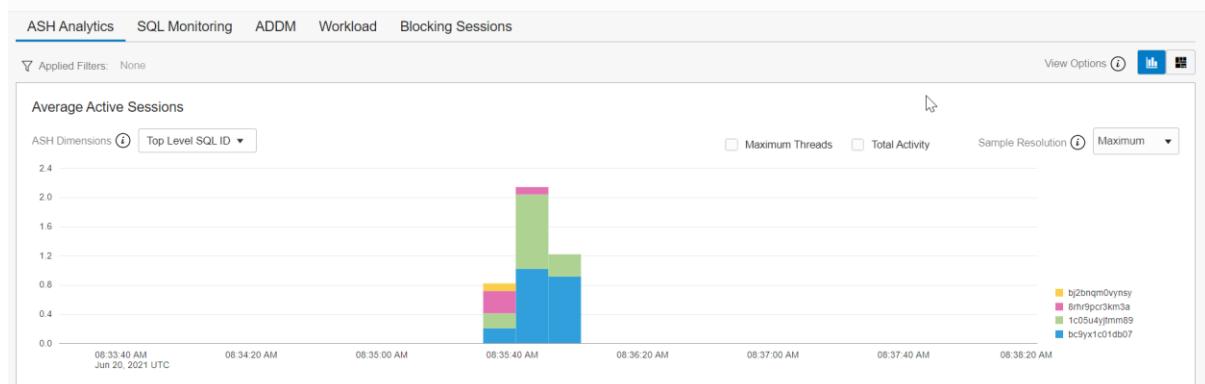
SQL ID	Activity (Average Active Sessions)	SQL Plan Hash	SQL Type
Others	0.13		

User Session ▾ by Consumer Group Columns ▾

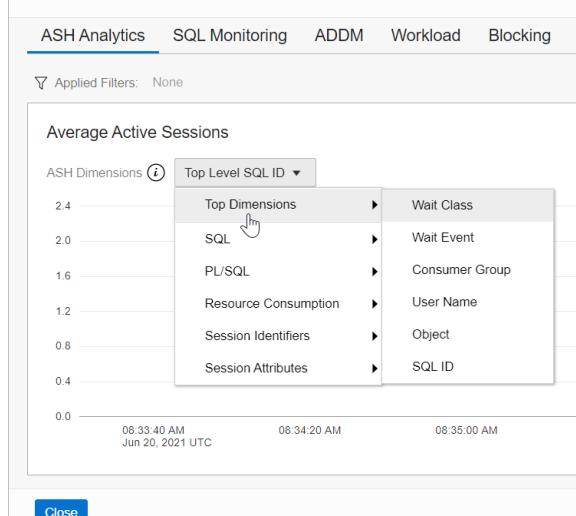
User Session	Activity (Average Active Sessions)	User Name	Program
Others	0.13		

[Close](#)

Performance Hub - KKATP

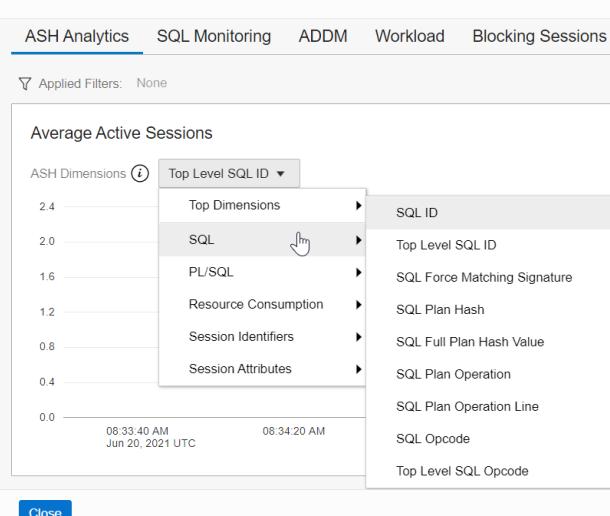


Performance Hub - KKATP



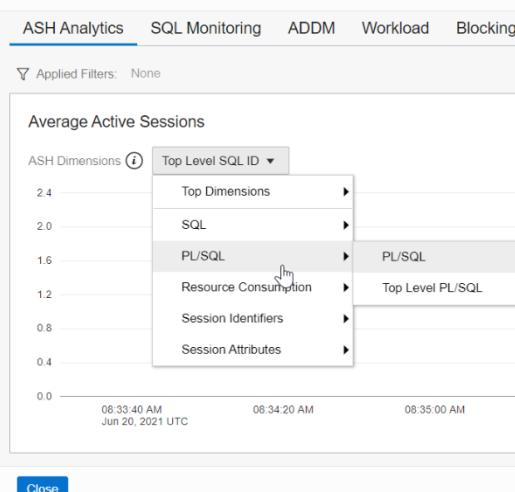
Close

Performance Hub - KKATP



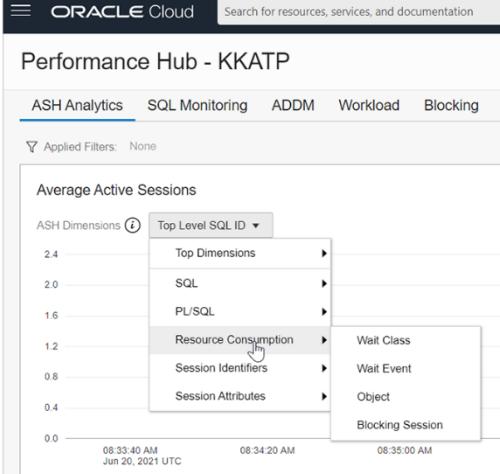
Close

Performance Hub - KKATP

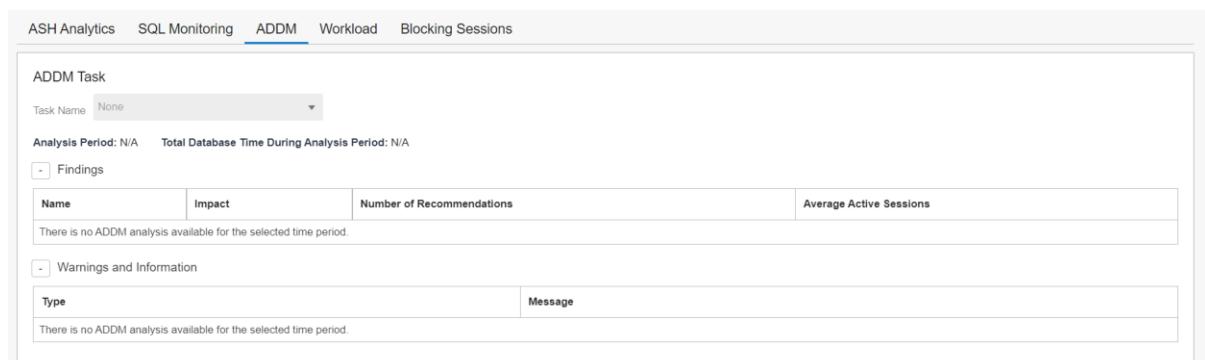
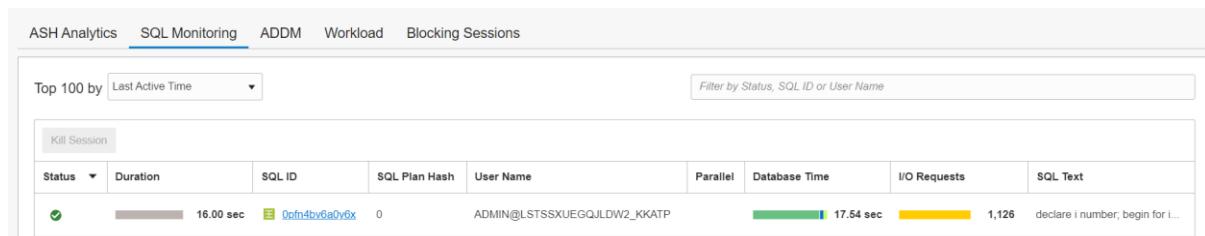
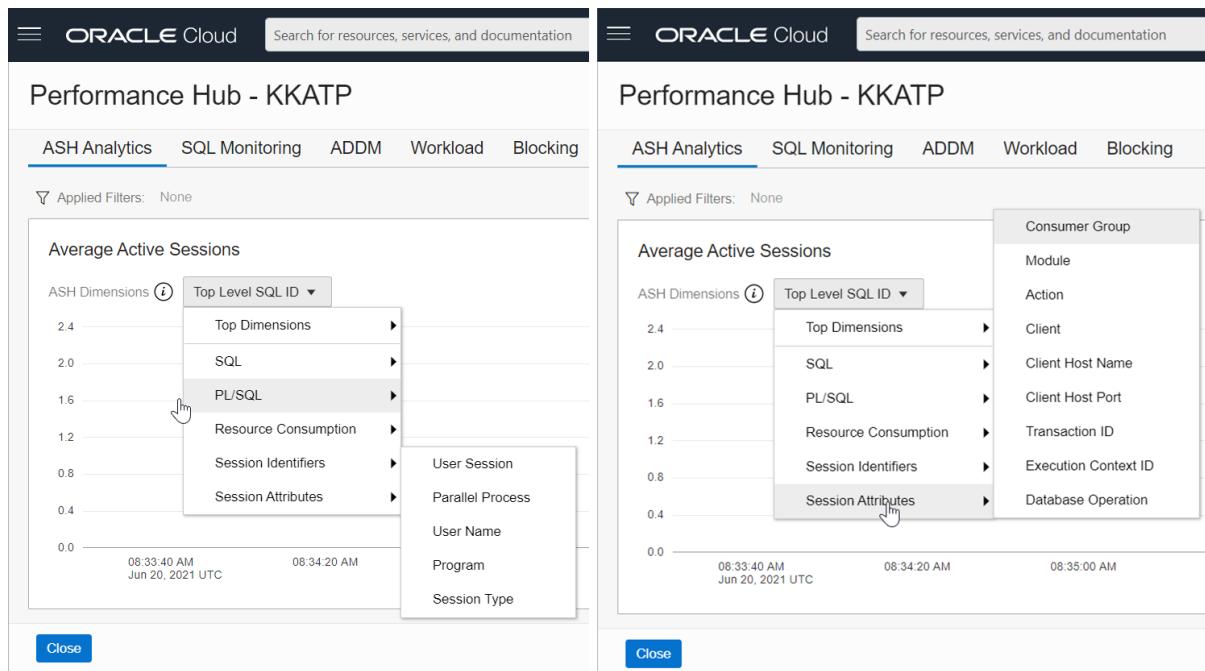


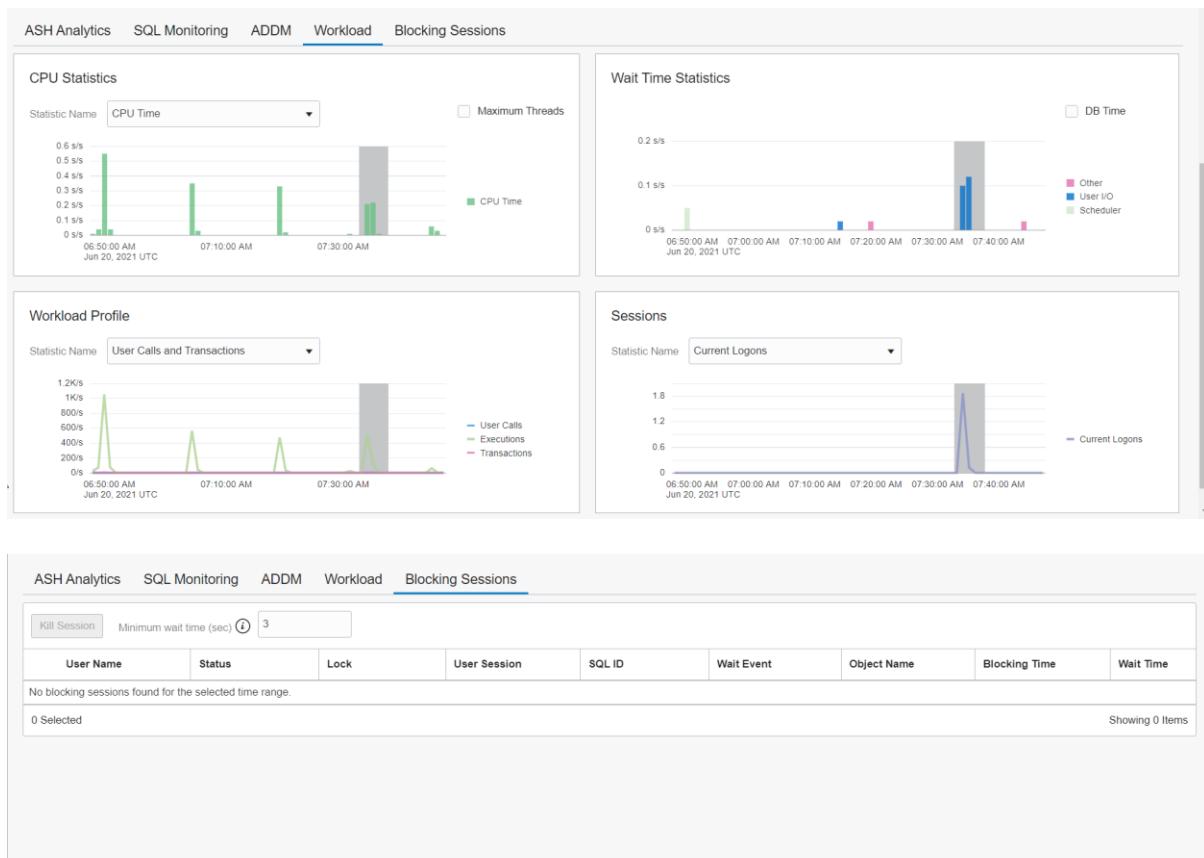
Close

ORACLE Cloud



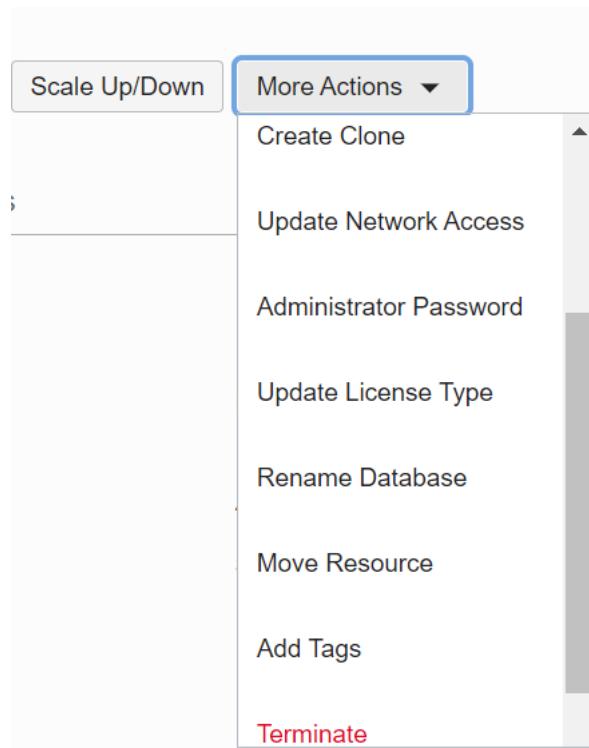
Close





ASH Analytics SQL Monitoring ADDM **Workload** Blocking Sessions

Kill Session									Minimum wait time (sec) <input type="text" value="3"/> <small>(i)</small>
User Name	Status	Lock	User Session	SQL ID	Wait Event	Object Name	Blocking Time	Wait Time	
No blocking sessions found for the selected time range.									Showing 0 items
0 Selected									



ATP
AVAILABLE

KKATP

DB Connection Performance Hub Service Console Scale Up/Down More Actions ▾

Autonomous Database Information Tools Tags

General Information Infrastructure

Database Name: KKATP Dedicated Infrastructure: No

Scale Up/Down

Help

OCPU count: 1
The number of OCPU cores to enable. Available cores are subject to your tenancy's service limits.

Storage (TB): 1
The amount of storage to allocate.

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

Update [Cancel](#)

Create Autonomous Database Clone

Choose a clone type

Full Clone
Creates a new database with source database's data and metadata.

Refreshable Clone
Creates a read-only full clone that can be easily refreshed with source database data. Must be refreshed within 7 days (168 hours) to remain connected to the source database.

Metadata Clone
Creates a new database that includes all source database schema metadata, but not the source database data.

Clone source *(i)*

- Clone from database instance**
Creates a clone of a running database as it currently exists.
- Clone from a backup**
Use to create a clone of a backup, or to create a point-in-time clone.

Backup clone type

- Point in time clone**
Specify the timestamp to use for the point-in-time restore.
- Select the backup from a list**
Specify the date range for the list of backups, and then select the backup.

Enter Timestamp



Provide basic information for the Autonomous Database clone

Create in compartment

Krishna

Source database name *Read-Only*

KKATP

Display name

Clone of ATP

A user-friendly name to help you easily identify the resource.

Database name

DBClone

The name must contain only letters and numbers, starting with a letter. 14 characters max.

Configure the database

Choose database version

19c

Cloned databases must use an Oracle Database version that is the same or higher than the source database.

OCPU count

1

The number of OCPU cores to enable. Available cores are subject to your tenancy's service limits.

Storage (TB)

1

The amount of storage to allocate.

Auto scaling

Allows system to use up to three times the provisioned number of cores as the workload increases. [Learn more](#)

Create administrator credentials *(i)*

Username *Read-Only*

ADMIN

ADMIN username cannot be edited.

Password

Confirm password

Choose network access

Access Type

Secure access from everywhere

Restrict access to specified IP addresses and VCNs.

Private endpoint access only

Restrict access to a private endpoint within an OCI VCN.

Configure access control rules *(i)*

Choose a license type

Bring Your Own License (BYOL)

Bring my organization's Oracle Database software licenses to the Database service. [Learn more](#)

License Included

Subscribe to new Oracle Database software licenses and the Database service.

Update Network Access

[Help](#)

Choose network access

Access Type

Allow secure access from everywhere

You can restrict access to specific IP addresses and VCNs.

Virtual cloud network

Private access only, using a VCN.

Configure access control rules *(i)*

IP notation type

IP Address

Values

Example: 192.1.1.1,192.1.1.2

* Required

[+ Access Control Rule](#)

Choose network access

Access Type

Secure access from everywhere

Restrict access to specified IP addresses and VCNs.

Private endpoint access only

Restrict access to a private endpoint within an OCI VCN.

Configure access control rules *(i)*

IP notation type

IP Address

IP Address

CIDR Block

Virtual Cloud Network

Virtual Cloud Network (OCID)

Values

Example: 192.1.1.1,192.1.1.2

* Required

[+ Access Control Rule](#)

License Included

Subscribe to new Oracle Database software licenses and the Database service

Network

Access Type: Allow secure access from everywhere

Access Control List: Disabled [Edit](#)

Choose network access

Access Type

Secure access from everywhere

Restrict access to specified IP addresses and VCNs.

Private endpoint access only

Restrict access to a private endpoint within an OCI VCN.

*

Virtual cloud network in Krishna [\(Change Compartment\)](#)

Select a Virtual Cloud Network

Subnet in Krishna [\(Change Compartment\)](#)

Select a Virtual Cloud Network

Host name prefix *Optional*

The name can contain only letters and numbers and a maximum of 63 characters.

Network security groups (NSGs) *(i)*

Network security group in Krishna [\(Change Compartment\)](#)

Select a Virtual cloud network first

[+ Another Network Security Group](#)

Edit Access Control List

[Help](#)

Specify the IP addresses and VCNs allowed to access this database. You can use a comma-separated list to enter multiple IP addresses. An access control list blocks all IP addresses that are not in the list from accessing the database.

IP notation type

IP Address	Values
IP Address	Example: 192.1.1.1,192.1.1.2
CIDR Block	
Virtual Cloud Network	
Virtual Cloud Network (OCID)	

[+ Access Control Rule](#)

Administrator Password

[Help](#)

Change the password for your Autonomous Database ADMIN user.

Username *Read-Only*

ADMIN

Administrator Password

Required

Confirm Administrator Password

Required

[Update](#) [Cancel](#)

Update License Type

[Help](#)

Choose a license type

Bring Your Own License (BYOL)

Bring my organization's Oracle Database software licenses to the Database service.

[Learn more](#)

License Included

Subscribe to new Oracle Database software licenses and the Database service.

[Save Changes](#) [Cancel](#)

Rename Database

[Help](#)



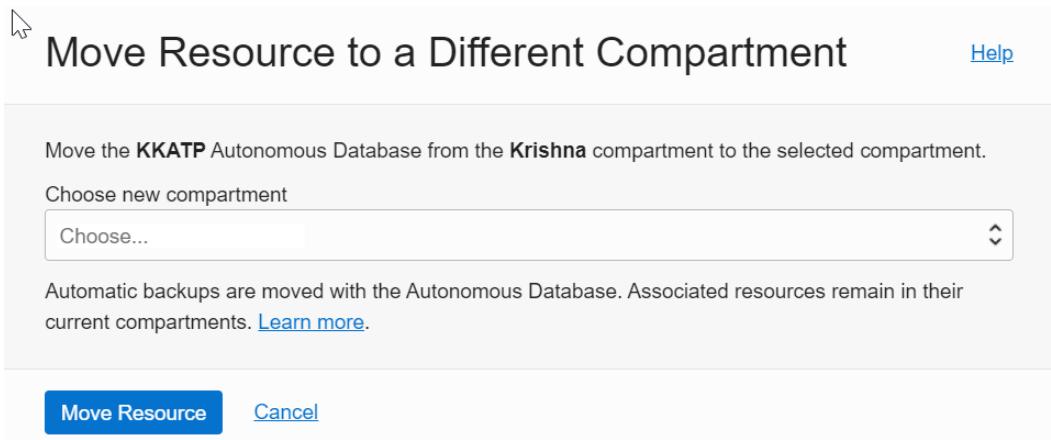
Renaming the database changes the contents of the database wallet and modifies the URLs used by the developer and administration tools. After renaming, you will need to download a new wallet and update the tools URLs in browser bookmarks and applications that connect to database tools using REST.

New database name

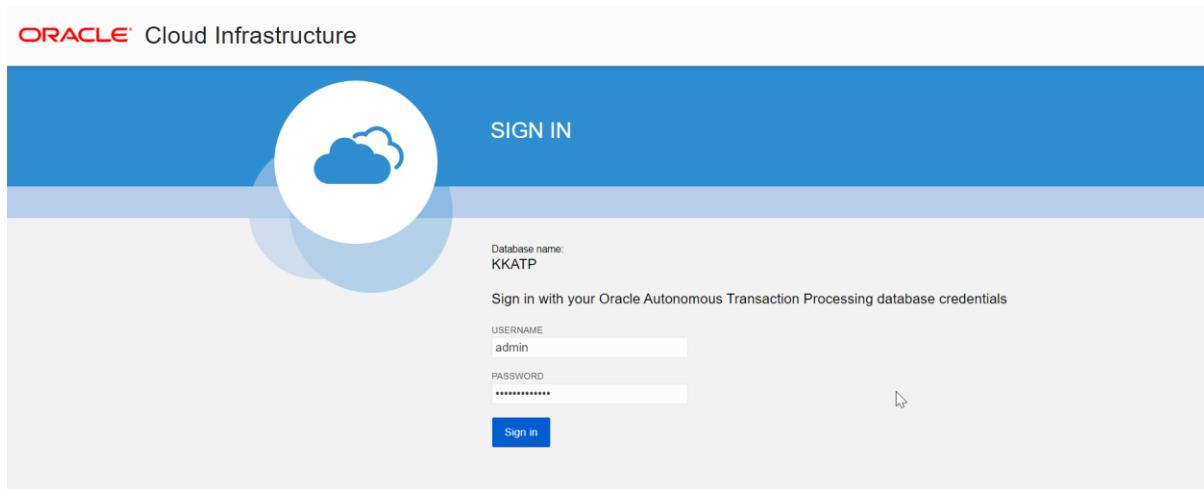
The name must contain only letters and numbers, starting with a letter. Maximum of 14 characters.

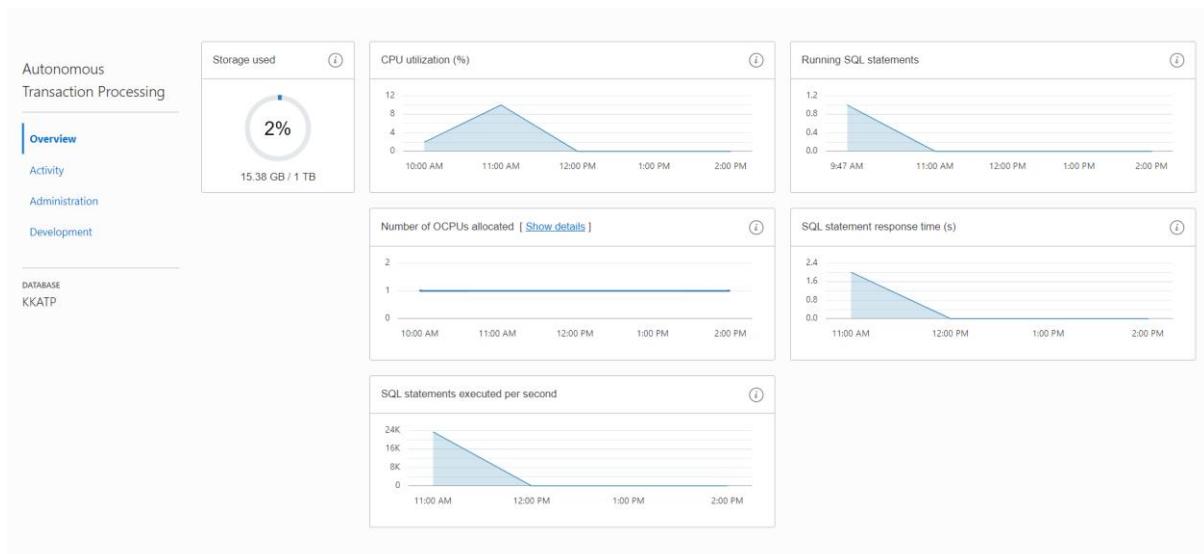
Enter the current database name KKATP to confirm the name change

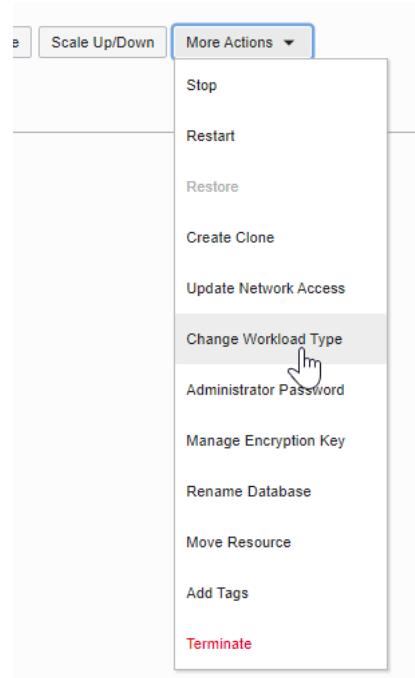
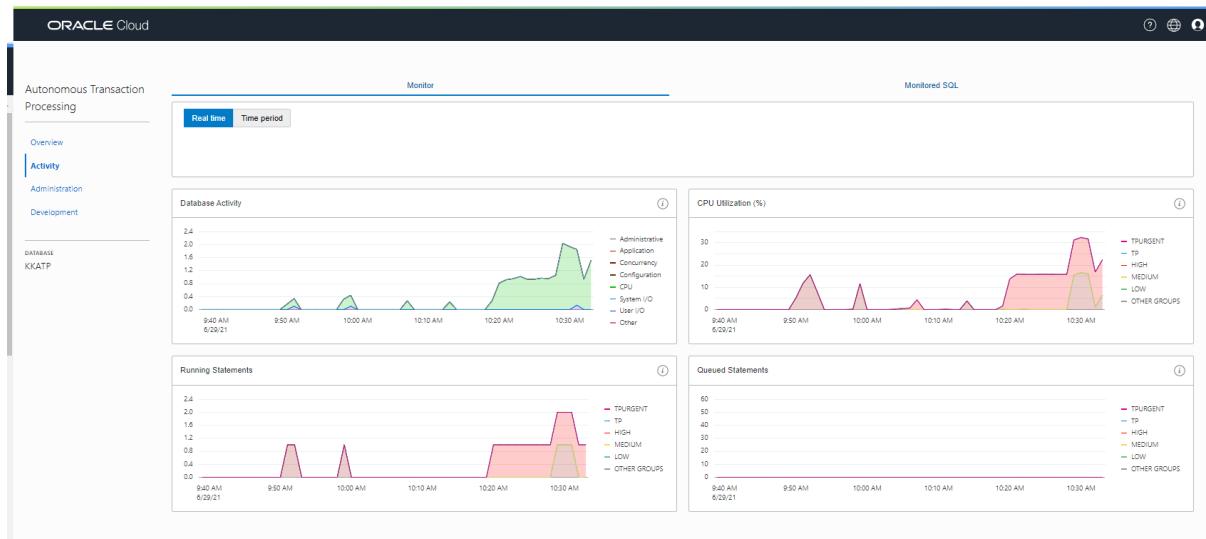
[Rename Database](#) [Cancel](#)

A screenshot of a web-based dialog box titled "Move Resource to a Different Compartment". At the top right is a "Help" link. Below the title, a message says "Move the KKATP Autonomous Database from the Krishna compartment to the selected compartment." A section titled "Choose new compartment" contains a dropdown menu with "Choose..." as the current selection. A note below states: "Automatic backups are moved with the Autonomous Database. Associated resources remain in their current compartments. [Learn more](#)". At the bottom are two buttons: a blue "Move Resource" button and a "Cancel" link.

A screenshot of an Oracle Cloud Infrastructure page for an Autonomous Database named "KKATP". The page includes a large green "ATP" logo, a navigation bar with tabs like "DB Connection", "Performance Hub", "Service Catalog", "Scale Up/Down", and "More Actions", and a main content area showing "Autonomous Database Information", "Tools", and "Tags".

A screenshot of the "SIGN IN" page for the KKATP Autonomous Transaction Processing database. It features a large cloud icon, the text "SIGN IN", and a "Database name: KKATP". It prompts the user to "Sign in with your Oracle Autonomous Transaction Processing database credentials". The "USERNAME" field is filled with "admin" and the "PASSWORD" field contains several dots. A "Sign in" button is at the bottom right, with a cursor hovering over it.





Autonomous Transaction Processing

Monitor

The Monitored SQL tab shows information about current and past monitored SQL statements. See [documentation](#) for more information.

Monitored SQL

Show Details	Download Report	Cancel Execution	Auto Refresh Off						
	Status	SQL TEXT	DURATION	START TIME	END TIME	PARALLEL	USER NAME	MODULE	
1	EXECUTING	declare i number; begin for i in 1..10000000 loop insert into test.test values(i); end loop;	13.3 min	6/29/2021, 10:19:35 AM UTC			ADMIN	SQL Developer	
2	DONE	declare i number; begin for i in 1..1000000 loop insert into test.test values(i); end loop;	16 s ±	6/29/2021, 10:19:10 AM UTC	6/29/2021, 10:19:25 AM UTC		ADMIN	SQL Developer	
3	DONE	declare i number; begin for i in 1..1000000 loop insert into test.test values(i); end loop;	17 s ±	6/29/2021, 10:19:39 AM UTC	6/29/2021, 10:19:56 AM UTC		ADMIN	SQL Developer	

(1-3 of 3 items) < > [1] > > X

Change Instance to Autonomous Transaction Processing

[Help](#)

You can convert this instance of APEX Application Development to Autonomous Transaction Processing.



This action is irrevocable.

After conversion, Oracle bills you for the following:

Oracle Autonomous Transaction Processing - OCPU per hour (B90453)

Oracle Autonomous Transaction Processing – Exadata Storage (B90455)

Note: The license type remains License Included after conversion but you can change it to BYOL at any time.

Are you sure you want to convert to Autonomous Transaction Processing?

[Convert](#) [Cancel](#)

Choose a workload type

Data Warehouse

Built for decision support and data warehouse workloads. Fast queries over large volumes of 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.

General Information

Database Name: APEX

Workload Type: APEX [Edit](#)

General Information

Database Name: APEX

Workload Type: Transaction Processing

Operations Insights

Status: Not Enabled [Enable](#)

Oracle Operations Insights combines historical trending and machine learning to enable data-driven database resource and performance management decisions.
[Learn more](#).

Enable Operations Insights

Are you sure you want to enable Operations Insights for this database?

[Enable](#)

[Cancel](#)

Operations Insights

Status: Enabled [View](#) [Disable](#)

Operations Insights

Overview for Krishna Compartment

Operations Insights

Proactive. Predictive. Insightful. Operations Insights Service enables business executives, database and IT administrators to make informed, data-driven database resource and performance management decisions.

No cost for Autonomous Database | Pricing | Documentation

GET STARTED

To enable compartment databases for Operations Insights, go to Administration. Allow at least 24 hours for initial data load.

Scope

Compartment: Krishna

Database Fleet

Databases: 1

DB Capacity Planning

Plan resources with forecasted CPU and Storage demand.

Oracle SQL Warehouse

Proactively identify enterprise-wide SQL issues such as degradation.

Host Fleet

Hosts: 0

Host Capacity Planning

Analyze host resources based on CPU and Memory demand.

What's New

Filtering by Tags for Capacity Planning and SQL Warehouse
Support for External Databases monitored by Enterprise Manager
Support for Hosts and External Databases monitored by an Agent Service

Database Capacity Planning for Krishna Compartment in Last 30 days

Databases

View by: Type (ATP-S), Version, Telemetry

1 Database (100%)

CPU

+53.58% Avg. Active CPU of 6 CPU (0.15) 2.5% 1 DB

Storage

+0.36% 0.031 of 1 TB (0.031) 3.09% 1 DB

Memory

No External DBs (No External DBs)

I/O

No External DBs (No External DBs)

CPU Insights

Utilization: High >75% (0 DBs), Low <25% (1 DB)

30 Day Utilization Forecast: High >75% (0 DBs), Low <25% (1 DB)

Top CPU Consumers

Statistic: Usage (Avg. Active CPU)

KKATP (0.15)

CPU Usage Trend

Aug 2021 - Sep 2021 (16, 18, 20, 22, 24, 26, 28, 30, Oct 2, 4, 6, 8, 10, 12, 14 UTC)

Usage (Green line), Max Allocation (Red line)

Storage Insights

Utilization: High >75% (0 DBs), Low <25% (1 DB)

30 Day Utilization Forecast: High >75% (0 DBs), Low <25% (1 DB)

Top Storage Consumers

Statistic: Usage (TB)

KKATP (0.031)

Storage Usage Trend

Aug 2021 - Sep 2021 (16, 18, 20, 22, 24, 26, 28, 30, Oct 2, 4, 6, 8, 10, 12, 14 UTC)

Usage (Blue line), Allocation (Red line)

Memory Insights

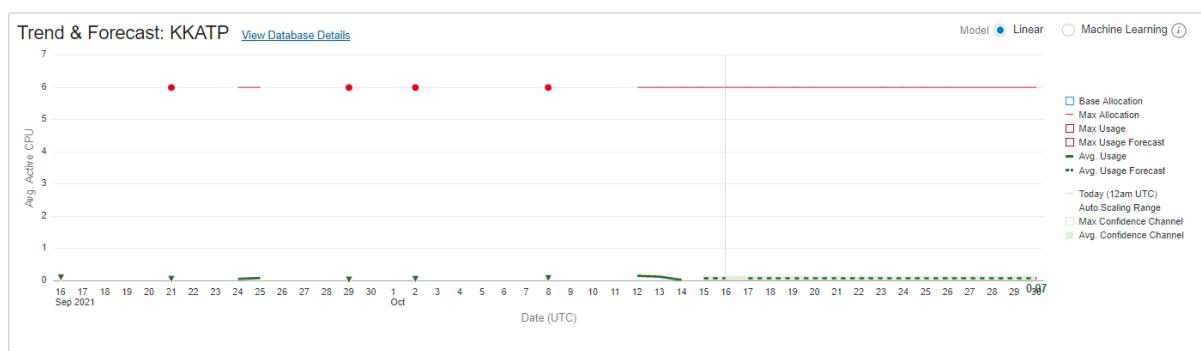
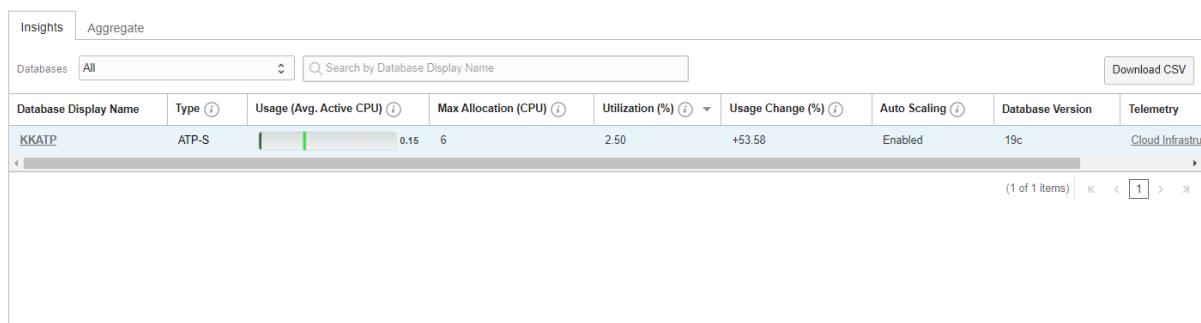
Utilization: High >75% (0 DRs), Low <25% (0 DRs)

Top Memory Consumers

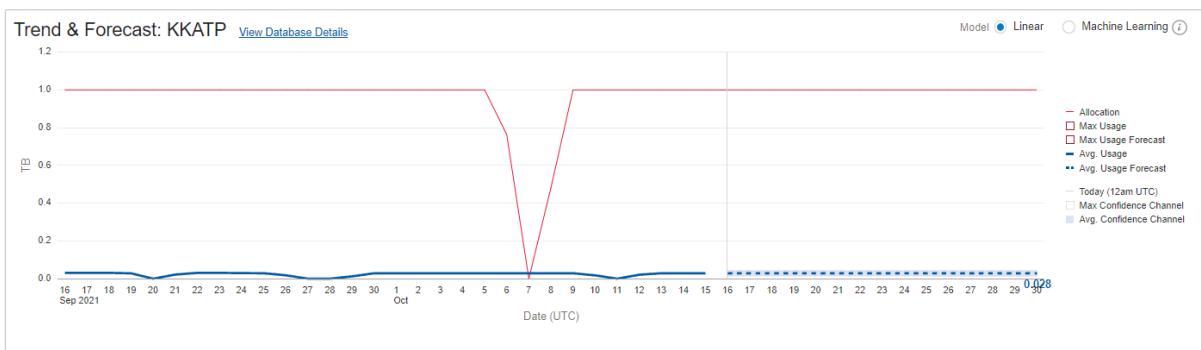
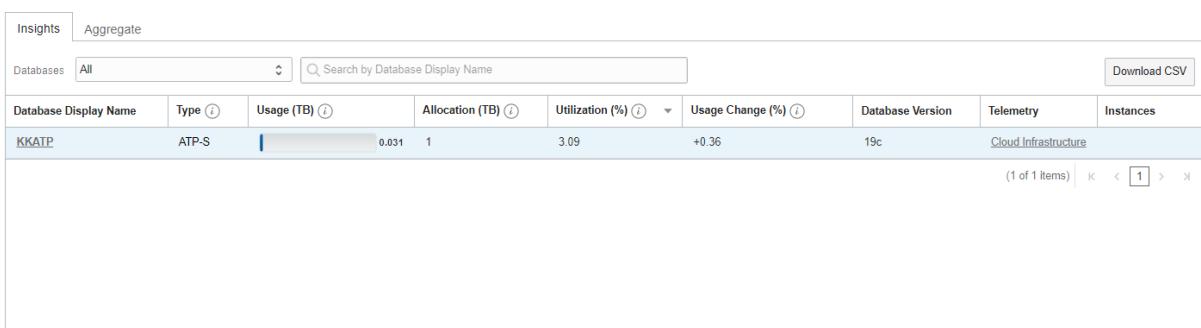
Statistic: Usage (GB)

Memory Usage Trend

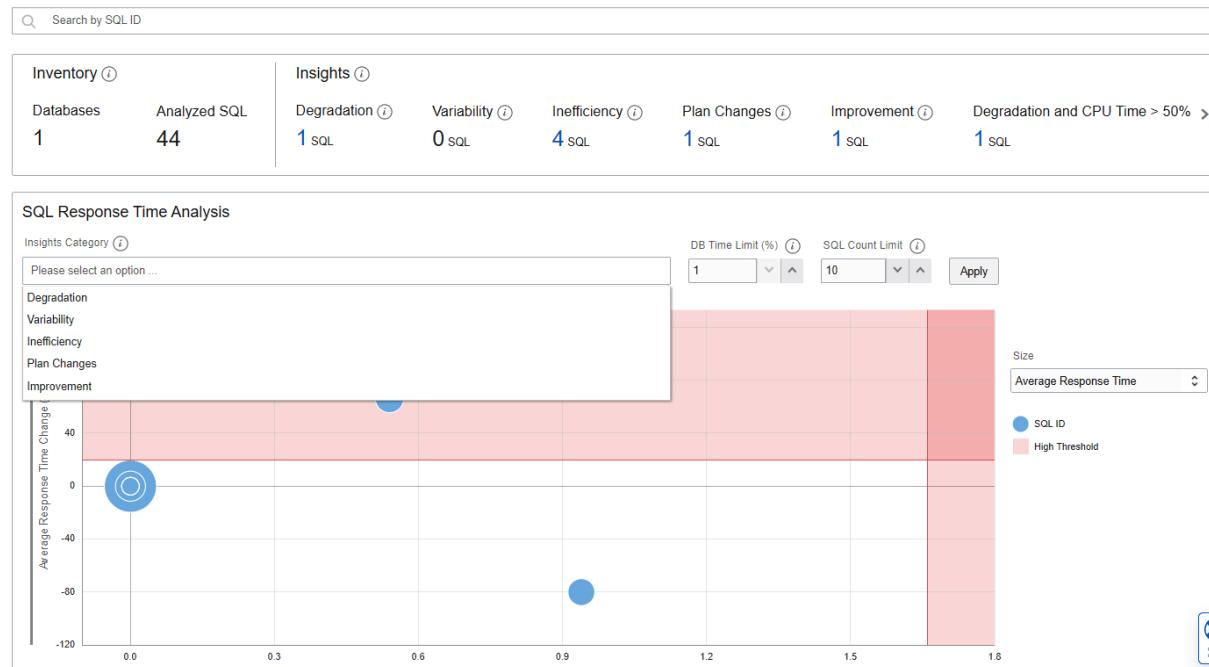
Database CPU for Krishna Compartment in Last 30 days



Database Storage for Krishna Compartiment in Last 30 days



Oracle SQL Warehouse for Krishna Compartment in Last 7 days



Create Enterprise Manager Bridge

[Help](#)

Access Required

A dynamic group needs to be created and a policy needs to be added for this bridge:

1. Create dynamic group with following matching rule: ALL [resource.type = 'ociEnterpriseManagerBridge', resource.compartment.id = 'ocid1.compartment.oc1.aaaaaaaaacd43nqjwv2lgg7rq5sablxee6k6y17q7swk426b5hnlyvpq']
2. Create an identity policy for this dynamic group: allow dynamic-group <Dynamic Group Name> to read object-family in compartment where ANY {target.bucket.name = '<Bucket Name>'}.

EM Bridge Name: em1

A user-friendly name to help you easily identify the resource.

Compartments: Krishna

sehubjapacaaas (root)@PL_INN\Krishna

Bridge Description: The name of Object Storage bucket where Enterprise manager data is uploaded.

Bucket Name:

Inventory		Insights					
Databases	Analyzed SQL	Degradation	Variability	Inefficiency	Plan Changes	Improvement	Degradation and CPU Time > 50%
1	44	1 SQL	0 SQL	4 SQL	1 SQL	1 SQL	1 SQL



Operations Insights

Overview
Capacity Planning
Oracle SQL Warehouse
Administration
Database Fleet
Host Fleet
EM Bridges
Work Requests

Database Fleet Administration for Krishna Compartment

Add new databases to Operations Insights.

Add Databases	Actions ▾	<input type="text"/> Search by Database Display Name					
Database Display Name	Operations Insights State	Type ?	Telemetry	State	Last Updated	⋮	
<input type="checkbox"/> KKATP	Enabled	ATP-S	Cloud Infrastructure	Active	Sat, Oct 16, 2021, 12:35:10 UTC	<input type="button" value="⋮"/>	
0 Selected		Showing 1 Databases <input type="button" value="K"/> <input type="button" value="<"/> <input type="button" value="1"/> <input type="button" value=">"/> <input type="button" value="X"/>					

Terminate Autonomous Database

Are you sure you want to terminate Autonomous Database KKATP? Terminating the Autonomous Database KKATP permanently deletes it. You cannot recover a terminated Autonomous Database.

To confirm, enter the name of the database that you want to terminate:

KKATP

[Terminate Autonomous Database](#)

[Cancel](#)

Operations Insights

Overview
Capacity Planning
Oracle SQL Warehouse
Administration
Database Fleet
Host Fleet
EM Bridges
Work Requests

Host Fleet Administration for Krishna Compartment

Add new hosts to Operations Insights.

Add Hosts	Actions ▾	<input type="text"/> Search by Host Display Name					
Host Display Name	Operations Insights State	Type ?	Telemetry	Platform Type ?	State	Last Updated	⋮
No hosts found.							
0 Selected		Showing 0 Hosts <input type="button" value="K"/> <input type="button" value="<"/> <input type="button" value="1"/> <input type="button" value=">"/> <input type="button" value="X"/>					

Data Safe [?](#)

Status: Not Registered [Register](#)

Register Database with Data Safe

Are you sure you want to register this database with Data Safe?

[Confirm](#)

[Cancel](#)

Data Safe ⓘ

Status: Registered [View](#) [Deregister](#)

 Data Safe

Home Targets Library Reports Alerts Jobs Help

Audit Trails Information
Targets can be managed in the OCI Console. For registering new targets or updating existing targets please use the [OCI Console](#)

Audit Policies

Retrieved Archive Data

Target Name	Lifecycle State	Registration Time	Target Type	Target Description
KKATP	ACTIVE	9/25/2021, 9:35:12 PM	Oracle Cloud Database	Oracle DBaaS Seamless Target

Page 1 of 1 (1 of 1 items) | < [1] > >

 Data Safe

Home Targets Library Reports Alerts Jobs Help

Security Assessment 1. Select Targets 2. Configure Policies 3. Configure Trails

User Assessment

Select Targets for Auditing

Data Discovery Information
Only the targets that are either in ACTIVE or in NEEDS ATTENTION status are being shown here. Please click [here](#) in order to view the lifecycle state of targets.

Data Masking

Activity Auditing [Download Privilege Script](#) ?

Data Safe

Home Targets Library Reports Alerts Jobs Security Settings Help

What's New

- Target database registration is now done in Oracle Cloud Infrastructure [Learn more](#)
- Migrate privileges for target databases to Oracle Cloud Infrastructure [Learn more](#)
- Data Safe resources are now managed in compartments. [Learn more](#)

User Assessment

Data Discovery

Data Masking

Activity Auditing

Security Assessment

Risk Level	Count
Low Risk	3
Medium Risk	1
High Risk	0

User Assessment

Risk Level	Count
Low Risk	8
Medium Risk	3
Critical Risk	0
High Risk	0

Data Discovery

No data to display

All Activity Last 1 Week

Admin Activity Last 1 Week

Open Alerts Last 1 Week

Events

Events

Open Alerts

19 Sep 2021 20 21 22 23 24 25

1. Select Targets

2. Configure Policies

3. Configure Trails

Select Targets for Auditing

Information

Only the targets that are either in ACTIVE or in NEEDS ATTENTION status are being shown here. Please [click here](#) in order to view the lifecycle state of targets.

[Download Privilege Script](#)

Search by Target Name

<input type="checkbox"/>	Target Name	Target Description	Registration Time
<input checked="" type="checkbox"/>	KKATP	Oracle DBaaS Seamless Target	9/25/2021, 9:35:12 PM

Page 1 of 1 (1 of 1 items) | K < [1] > K

Exit Continue

1. Select Targets 2. Configure Policies 3. Configure Trails

Help ?

Retrieve Audit Policies

Retrieve

Search by Target Name

<input type="checkbox"/>	Target Name	Last Retrieved Time	Retrieval Status
<input type="checkbox"/>	KKATP	10/2/2021, 3:59:58 PM	

Page 1 of 1 (1 of 1 items) | K < [1] > K

Exit Back Continue

Review and Provision Audit and Alert Policies

Search by Target Name 🔍

Target Name	Audit					Alert
	Basic	Admin Activity	All User Activity	Additional Policies	Compliance Standards	Policies
✓ KKATP	✓	✓		✓		✓
Page 1 of 1 (1 of 1 items) K < [1] > X						
Exit Back Continue						

Configure Policy ✖

Target Name : KKATP

Audit Policies
Alert Policies

Basic Auditing ?

Critical Database Activity

Login Events

Exclude Users

Database Schema Changes (DDL)

Admin Activity Auditing ?

Admin Activity

User Activity Auditing ?

All User Activity

List of Users *

Additional Audit Policies ?

Custom Policies

COMMON_USER_LOGONS

Oracle Pre-defined Policies

Audit Compliance Standards ?

Center for Internet Security (CIS) Configuration

▶

Provision Cancel

Configure Policy

X

Database Schema Changes (DDL)

Admin Activity Auditing [?](#)

Admin Activity

User Activity Auditing [?](#)

All User Activity

List of Users * [Enter Users](#)

Additional Audit Policies [?](#)

Custom Policies

COMMON_USER_LOGONS

Oracle Pre-defined Policies

- ORA_ACCOUNT_MGMT
- ORA_DATABASE_PARAMETER
- ORA_SECURECONFIG
- ORA_DV_AUDPOL
- ORA_DV_AUDPOL2
- ORA_RAS_POLICY_MGMT
- ORA_RAS_SESSION_MGMT
- ORA_LOGON_FAILURES
- SYS_USER_ACTIONS
- COMMON_USER
- ADB_ADMIN_AUDIT
- ADB_MANDATORY_AUDIT

Audit Compliance Standards [?](#)

Center for Internet Security (CIS) Configuration

[Provision](#)

[Cancel](#)

Target Name : KKATP

Audit Policies	Alert Policies	
Alert Name	Severity Level	Description
<input checked="" type="checkbox"/> Profile Changes	Critical	Changes in user profile
<input checked="" type="checkbox"/> Failed Logins by Admin User	Critical	Failed admin user login attempts
<input checked="" type="checkbox"/> Audit Policy Changes	High	Changes in audit policy
<input checked="" type="checkbox"/> Database Parameter Changes	High	Database parameter changes
<input checked="" type="checkbox"/> Database Schema Changes	Medium	Changes in database schema
<input checked="" type="checkbox"/> User Entitlement Changes	Medium	User entitlement changes
<input checked="" type="checkbox"/> User Creation/Modification	Medium	Creation or modification of users

Provision Cancel

Help

1. Select Targets 2. Configure Policies 3. Configure Trails

Start Audit Collection

<input type="checkbox"/> Start	<input type="button" value="Add"/>	Search by Target Name							
Target Name	Trail Location	Collection State	Collect Audit Data From	To Be Collected	Collected	Total	Auto Purge		
<input checked="" type="checkbox"/> KKATP	UNIFIED_AUDIT_TRAIL	Not Started	09/29/21 12:00 AM	0	0	0			

* Note: You can collect audit data that was created as far back as the data retention period. To change the data retention period, please use the settings page and change the online/archive period. [Settings page](#).

Page 1 of 1 (1 of 1 items) | < 1 >

Exit Back Done

Help

1. Select Targets 2. Configure Policies 3. Configure Trails

Start Audit Collection

<input type="checkbox"/> Start	<input type="button" value="Add"/>	Search by Target Name							
Target Name	Trail Location	Collection State	Collect Audit Data From	To Be Collected	Collected	Total	Auto Purge		
<input checked="" type="checkbox"/> KKATP	UNIFIED_AUDIT_TRAIL	Not Started	09/29/21 12:00 AM	0	0	0			

Note: You can collect audit data that was created as far back as the data retention period. To change the data retention period, please use the settings page and change the online/archive period. [Settings page](#).

Page 1 of 1 (1 of 1 items) | < 1 >

Exit Back Done

Start Audit Collection

<input type="checkbox"/>	Target Name	Trail Location	Collection State	Collect Audit Data From	To Be Collected	Collected	Total	Auto Purge
<input checked="" type="checkbox"/>	KKATP	UNIFIED_AUDIT_TRAIL	Not Started	09/29/21 12:00 AM	37	0	37	<input type="checkbox"/>

* Note: You can collect audit data that was created as far back as the data retention period. To change the data retention period, please use the settings page and change the online/archive period. [Settings page](#).

Page 1 of 1 (1 of 1 items) | < [1] > | X

[Exit](#) [Back](#) [Done](#)

Start Audit Collection



Are you sure you want to start the following trails?

- UNIFIED_AUDIT_TRAIL for target KKATP

! If you choose to proceed, this will count towards your monthly quota for this target.

[Start](#) [Cancel](#)

Start Audit Collection

<input type="checkbox"/>	Target Name	Trail Location	Collection State	Collect Audit Data From	To Be Collected	Collected	Total	Auto Purge
<input checked="" type="checkbox"/>	KKATP	UNIFIED_AUDIT_TRAIL	Not Started	09/29/21 12:00 AM	37	0	37	<input type="checkbox"/>

* Note: You can collect audit data that was created as far back as the data retention period. To change the data retention period, please use the settings page and change the online/archive period. [Settings page](#).

Page 1 of 1 (1 of 1 items) | < [1] > | X

[Exit](#) [Back](#) [Done](#)

Auto Purge confirmation



Audit records will be collected from the target database as far back as the number of months specified in the Audit Data Retention Period (under Settings). For example, if the retrieve period is 12 months, then audit records created only within the last 12 months will be collected.

Enabling auto-purge will delete all audit records in the target database after the collection has completed, including those older than the retention period and hence not collected in Data Safe.

By clicking OK, you agree to proceed with this operation.

[OK](#) [Cancel](#)

Help 

1. Select Targets 2. Configure Policies 3. Configure Trails

 Confirmation
Successfully created trail(s)
UNIFIED_AUDIT_TRAIL(KKATP)

Start Audit Collection

 Start 

Target Name	Trail Location	Collection State	Collect Audit Data From 	To Be Collected	Collected 	Total 	Auto Purge
KKATP	UNIFIED_AUDIT_TRAIL	 OK	09/29/21 09:30 PM	0	0 	0	Off 

* Note: You can collect audit data that was created as far back as the data retention period. To change the data retention period, please use the settings page and change the online/archive period. Settings page.

Page 1 of 1 (1 of 1 items)   

Comprehensive Assessment

High Risk	Medium Risk	Low Risk	Advisory	Evaluate	Pass	Security Controls	User Security	Security Configurations
0	1	3	8	28	18	19	31	8

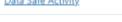
 Summary

Category	High Risk	Medium Risk	Low Risk	Advisory	Evaluate	Pass	Total Findings
User Accounts	0	0	3	0	1	7	11
Privileges and Roles	0	0	0	0	15	5	20
Authorization Control	0	0	0	2	0	0	2
Fine-Grained Access Control	0	0	0	4	1	0	5
Auditing	0	0	0	2	8	1	11
Encryption	0	1	0	0	0	0	1
Database Configuration	0	0	0	0	3	5	8
Total	0	1	3	8	28	18	58

 Data Safe 

Home Targets Library Reports Alerts Jobs

 Summary 

Activity Auditing	Reports	Description	Last Generated PDF/XLS Report
Activity Auditing	 Summary	Summary Reports	
Data Discovery	 Audit Summary	Shows summary of events collected and alerts raised	
Data Masking	 Activity Auditing	Reports based on User activities and audits	
Security Assessment	 All Activity	All audited activities	
User Assessment	 Admin Activity	Activities by admin users	
Service Activity	 User/Entitlement Changes	User creation, deletion, privilege and role changes	
	 Audit Policy Changes	All changes in audit policies	
	 Login Activity	Database login attempts	
	 Data Access	Database query operations	
	 Data Modification	Data modification activities	
	 Database Schema Changes	Database schema changes (DDLs)	
	 Data Safe Activity	Activity by Data Safe	
	 Database Vault Activity	All Database Vault Activity	
	 Data Discovery	Reports based on data discovery and classification	
	 Data Discovery	Shows details of discovered sensitive data	

User Details			
User Name	ADMIN	Roles	Privileges
Target Name	KKATP	ADB_MONITOR	System Privileges
Created At	1/28/2020, 5:04:18 AM	ADM_PARALLEL_EXECUTE_TASK	ADMINISTER ANY SQL TUNING SET
User Type	Privileged	ADPADMIN	ADMINISTER DATABASE TRIGGER
User Status	OPEN	ADPUSER	ADMINISTER RESOURCE MANAGER
Privileged Roles ⓘ	DBA, DV Admin, Audit Admin	APEX_ADMINISTRATOR_ROLE	ADMINISTER SQL MANAGEMENT OBJECT
Risk ⓘ	Critical	AQ_ADMINISTRATOR_ROLE	ADMINISTER SQL TUNING SET
Last Login	9/21/2021, 3:39:00 PM	AQ_USER_ROLE	ADVISOR
Audit Records	21	AUDIT_ADMIN	ALTER ANY ANALYTIC VIEW
		AUDIT_VIEWER	ALTER ANY ASSEMBLY

inactive Users STIG

Status Low Risk

Summary Found 12 user accounts that would remain open even if inactive. Found 8 unlocked users inactive for more than 30 days.

Details Users with unlimited INACTIVE_ACCOUNT_TIME: ADMIN, DEMO, DS\$ADMIN, GRAPH\$METADATA, GRAPH\$PROXY_USER, OML\$MODELS, OML\$PROXY, ORDS_PUBLIC_USER, SCOTT, TEST, TEST290321, TEST300421
Inactive users: GRAPH\$METADATA, GRAPH\$PROXY_USER, OML\$MODELS, OML\$PROXY, SCOTT, TEST, TEST, TEST290321, TEST300421

Remarks If a user account is no longer in use, it increases the attack surface of the system unnecessarily while providing no corresponding benefit. Furthermore, unauthorized use is less likely to be noticed when no one is regularly using the account. Accounts that have been unused for more than 30 days should be investigated to determine whether they should remain active. A solution is to set INACTIVE_ACCOUNT_TIME in the profiles assigned to users to automatically lock accounts that have not logged in to the database instance in a specified number of days. It is also recommended to audit infrequently used accounts for unauthorized activities.

References

- Oracle Database 12c STIG v1 r10: Rule SV-76207r2

Target	DB User	Client Host	Event	Object	Operation Status	Operation Time
KKATP	ADMIN	wls-5	LOGON		FAILURE	9/21/2021, 10:08:52 AM
KKATP	ADMIN	wls-2	LOGON		FAILURE	9/21/2021, 6:40:20 AM

Home Targets Library Reports Alerts Jobs Help

Summary > All Activity

Activity Auditing > 1 Targets 7 DB Users 19 Client Hosts 16 Login Success 3 Login Failures 5 User Changes 172 Privilege Changes 456 DDLs 0 DMLs 763 Total Events

All Activity Filters Report Definition Generate Report Target: KKATP + Filter Apply

User/Entitlement Changes

Target	DB User	Client Host	Event	Object
KKATP	C##CLOUD\$SERVICE	e22pod-t9j9pg3.subdb1.vnprod.oraclevcn.com	ALTER TRIGGER	VPC_CONTEXT_TRG
KKATP	C##CLOUD\$SERVICE	e22pod-t9j9pg3.subdb1.vnprod.oraclevcn.com	ALTER PLUGGABLE DATABASE	LSTSSXUEGQJLDW2_KKATP
KKATP	C##CLOUD\$SERVICE	e22pod-t9j9pg3.subdb1.vnprod.oraclevcn.com	ALTER SESSION	
KKATP	C##CLOUD\$SERVICE	e22pod-t9j9pg3.subdb1.vnprod.oraclevcn.com	ALTER SESSION	
KKATP	C##CLOUD\$SERVICE	e22pod-t9j9pg7.subdb1.vnprod.oraclevcn.com	ALTER SYSTEM	

Audit Policy Changes

Login Activity

Data Access

Activity Auditing

Data Discovery

Data Masking

Security Assessment

User Assessment > User Risk: No data to display

User Roles: DBA: 2, DV Admin: 3, Audit Admin: 2

Last Password Change: 7 Users (37% Last 30 days, 43% 30-90 days, 21% > 90 days)

Users Search by User Name

User Name	Target Name	User Type	DBA	DV Admin	Audit Admin	Risk	Status	Last Login	Audit Recor
ADMIN	KKATP	Privileged	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Critical	OPEN	9/21/2021, 3:39:00 PM	View Activity
DS\$ADMIN	KKATP	Privileged			<input checked="" type="checkbox"/>	Critical	OPEN	9/25/2021, 9:36:33 PM	View Activity

All Alerts

All Alerts

Targets	Critical	High	Medium	Open	Closed	Active Filters
1	0	57	34	91	0	

Mark As | Summary | Filters | Report Definition | Generate Report | Alert Status | + Filter | Open Alerts only

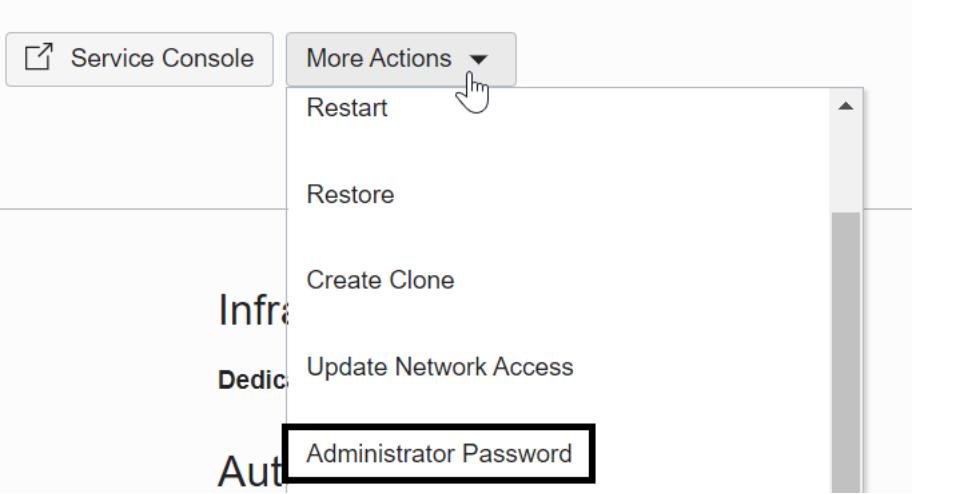
Alert ID	Alert Status	Alert	Target	DB User	Operation	Object	Alert Severity	Operat
694	Open	Database Schema Changes	KKATP	C##CLOUD\$SERVICE	ALTER	VPC_CONTEXT_TRG	Medium	9/29/2021, 11:45:00 AM
682	Open	Database Parameter Changes	KKATP	C##CLOUD\$SERVICE	ALTER		High	9/29/2021, 11:45:00 AM
688	Open	Database Parameter Changes	KKATP	C##CLOUD\$SERVICE	ALTER		High	9/29/2021, 11:45:00 AM
687	Open	Database Parameter Changes	KKATP	C##CLOUD\$SERVICE	ALTER		High	9/29/2021, 11:45:00 AM

Alert Details

 Show Fields With No Data

Target	KKATP
Target Type	Oracle Cloud Database
Target Class	Database
Location	Audit Table
DB User	C##CLOUD\$SERVICE
OS User	oracle
Client Host	e22pod-t9jpg3.subdb1.vcnprod.oraclevcn.com
Client IP	192.168.136.31
Client Program	oracle@e22pod-t9jpg3 (J000)
Terminal	UNKNOWN
Event	ALTER TRIGGER
Operation	ALTER
Object	VPC_CONTEXT_TRG
Object Type	TRIGGER
Object Owner	RMAN\$CATALOG
Operation Status	SUCCESS

Chapter 7: Security Features with Autonomous Database



The screenshot shows a user interface for managing a database instance. At the top left is a "Service Console" button. To its right is a "More Actions" button with a downward arrow, which is currently expanded to show a list of options: "Restart", "Restore", "Create Clone", "Update Network Access", and "Administrator Password". The "Administrator Password" option is highlighted with a black rectangle. Below this, there is a modal dialog titled "Administrator password". The dialog contains instructions: "Change your administrator's password." It has three input fields: "Username" (labeled "Read-Only" and containing "ADMIN"), "Password", and "Confirm password". At the bottom of the dialog are two buttons: a blue "Change" button and a white "Cancel" button with blue text.

Administrator password

Change your administrator's password.

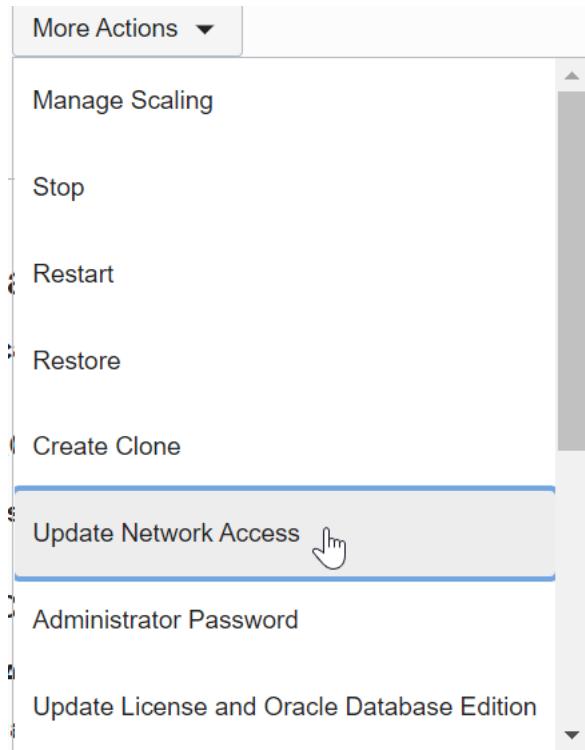
Username Read-Only

ADMIN

Password

Confirm password

[Change](#) [Cancel](#)



Update Network Access

Help

Choose network access

Access Type

Secure access from everywhere
Allow users with database credentials to access the database from the internet.

Secure access from allowed IPs and VCNs only
Restrict access to specified IP addresses and VCNs.

Private endpoint access only
Restrict access to a private endpoint within an OCI VCN. ✓

Virtual cloud network in Krishna ([Change Compartment](#))
Select a Virtual Cloud Network

Subnet in Krishna ([Change Compartment](#))
Select a Virtual Cloud Network

[Update](#) [Cancel](#)

Resources

Subnets (3)

CIDR Blocks/Prefixes (1)

Route Tables (2)

Internet Gateways (1)

Dynamic Routing Gateways

Attachments (0)

Network Security Groups (0)

A network security group consists of a set of VNICs and a set of security rules that apply to those VNICs. For example: you create a network security group for all the instances in the VCN that have the same security posture. For comparison, a VCN security list consists of a set of security rules that apply to all the VNICs in the subnets that the security list is associated with. [Learn more about network security groups](#).

Create Network Security Group		
Name	State	Created
No items found.		
Showing 0 Items < 1 of 1 >		

Create Network Security Group

Help

1 Basic Info

2 Security Rules

First, provide basic information about the group. Next, you will add security rules

Name (1)

NSG_ATP

Create In Compartment

Krishna

sehub@apaciasa (root)@iPl_IN/Krishna

Show Advanced Options

Next

Cancel



Create Network Security Group

Help

1 Basic Info

2 Security Rules

Add Security Rules

Optionally add one or more rules to the network security group. [Learn more about security rules](#).

Rule

Stateless (1)

Direction

Ingress

Source Type (1)

CIDR

Source CIDR (1)

192.168.1.0/24

Specified IP addresses: 192.168.1.0-192.168.1.255 (256 IP addresses)

IP Protocol (1)

TCP

Source Port Range Optional (1)

20

Destination Port Range Optional (1)

All

Allows: Allows TCP traffic

Description Optional

Previous Create Cancel



Update Network Access

Help

Virtual cloud network in **Krishna** ([Change Compartment](#))

TestVCN

Subnet in **Krishna** ([Change Compartment](#))

Pvtsubnet

Host name prefix *Optional*

The name can contain only letters and numbers and a maximum of 63 characters.

Network security groups (NSGs) *(i)*

Network Security Groups in **Krishna** *Optional* ([Change Compartment](#))

NSG_ATP

+ Another Network Security Group

[Update](#) [Cancel](#)

Search

Oracle Database

Home

Compute

Storage

Networking

Oracle Database

Databases

Analytics & AI

Developer Services

Identity & Security

Overview

Autonomous Database

Autonomous Data Warehouse

Autonomous JSON Database

Autonomous Transaction Processing

Autonomous Dedicated...

Bare Metal, VM, and Exadata

Exadata on Oracle Public Cloud

Exadata Cloud@Customer

External Database

Data Safe

Overview

Target Databases

Security Center

GoldenGate

Operator Access Control

Data Safe

[Overview](#)

[Target Databases](#)

[Settings](#)

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[Data Discovery](#)

[Data Masking](#)

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Simplify Security for your Oracle Databases

Data Safe is a unified control center that helps you to evaluate security controls, assess user security, monitor user activity, and address data security compliance requirements for your database by evaluating the sensitivity of your data as well as masking sensitive data for non-production databases.

[Get started with Oracle Data Safe](#)

GET STARTED

Data Safe Dashboard

Register Database with Data Safe

Autonomous Databases

- Autonomous Data Warehouse, Autonomous Transaction Processing and JSON databases

[Start Wizard](#)

Oracle Cloud Databases

- Bare Metal, VM and Exadata databases
- Exadata on Oracle Public Cloud

[Start Wizard](#)

Oracle On-Premises Databases

- Installed database running on-premises

[Start Wizard](#)

Oracle Databases on Compute

- Databases in the Oracle Cloud Infrastructure
- Databases in other cloud environments

[Start Wizard](#)

Oracle Cloud@Customer Databases

- Exadata Cloud@Customer

[Start Wizard](#)

Documentation

[Data Safe Whitepaper](#)

[Register a target database](#)

[Request authorizations](#)

[Pricing Details](#)

Register Autonomous Databases

1 Select Database
2 Connectivity Option
3 Add Security Rule
4 Review and Submit
5 Registration Progress

Data Safe Target Information *i*

Select Database in Krishna ([Change Compartment](#))
KKADB

Data Safe Target Display Name
KKADB

Compartment
Krishna

Description *Optional*
Autonomous Database registration with Data Safe

The selected database is configured to be securely accessible from everywhere. Steps 2 ('Connectivity Option') and 3 ('Add Security Rule') are not necessary and will be skipped.

Database Type

Oracle On-Premises Database

Select Database Type
Autonomous Database
Oracle Cloud Database
Oracle On-Premises Database
Oracle Database on Compute
Oracle Cloud@Customer Database

Register Target Database

Database Type

Autonomous Database

Data Safe Target Information *i*

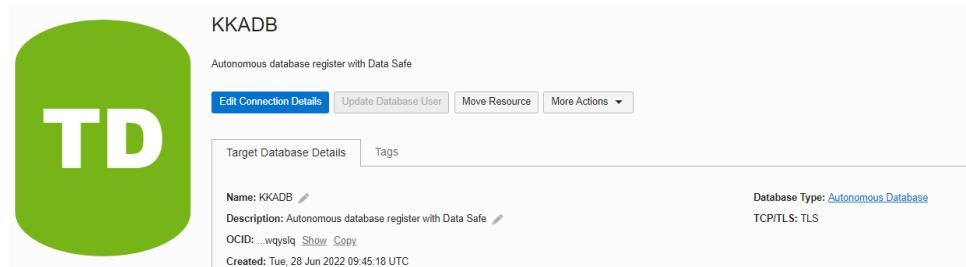
Select Database in Krishna ([Change Compartment](#))
KKADB

Data Safe Target Display Name
KKADB

Description *Optional*
Autonomous database register with Data Safe

Compartment
Krishna

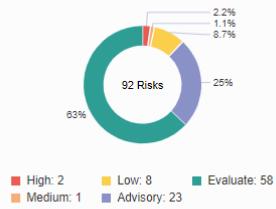
Register [Cancel](#)



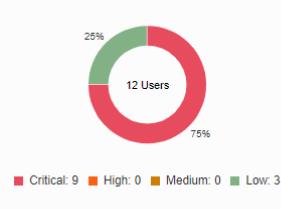
Dashboard

Key security indicators for all the registered target databases

Security Assessment



User Assessment

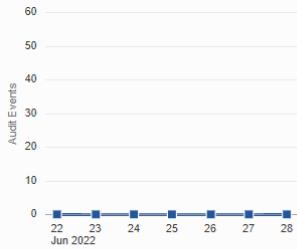


Data Discovery

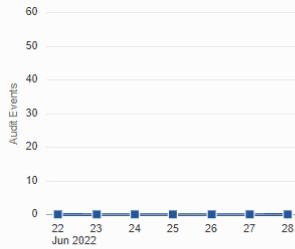
Top 5 Targets

No data to display

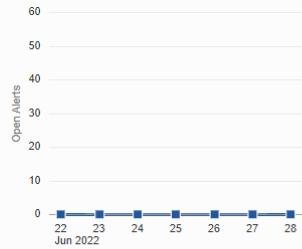
All Activity



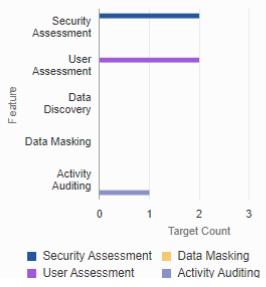
Admin Activity



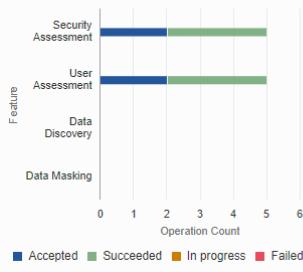
Open Alerts



Feature Usage



Operations Summary



Audit Trails



Security Center

Dashboard

[Security Assessment](#)

[User Assessment](#)

[Data Discovery](#)

[Data Masking](#)

[Activity Auditing](#)

[Alerts](#)

List Scope

Compartment

Krishna



Include child compartments

Filters

Target Databases

All



All

KKATP

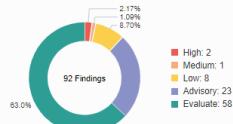
DBVM

KKADB

Security Assessment

Evaluate the security posture of your databases and receive recommendations on how to mitigate the identified risks

Risk Level



Risks by Category



Risk Summary

Target Summary

Risk Level	Target Databases	User Accounts	Privileges and Roles	Authorization Control	Fine-Grained Access Control	Data Encryption	Auditing	Database Configuration	Total Findings
High	2	-	-	-	-	-	-	2	2
Medium	1	-	-	-	-	1	-	-	1
Low	2	7	-	-	-	-	-	1	8
Advisory	2	-	1	4	10	-	8	-	23
Evaluate	2	2	32	-	-	3	15	6	58

Displaying 5 Risk Levels

High Risks

Evaluate high risks for target databases in compartment Krishna

Overview

Risks by Category

2 findings across 1 risk
100%
DB Configuration: 1

Risk Details

Expand All

- All Risks
- Database Configuration
- Patch Check

Remarks
It is vital to keep the database software up-to-date with security fixes as they are released. Autonomous Databases should perform maintenance updates and database patching for you. It looks like your database is not on the latest patch. Please contact Oracle Support for assistance.

Target Databases
[KKADB](#) [DBVM](#)

Patch Check

[Help](#)

Target Name: KKADB

Risk: ◆ HIGH

Summary: Latest comprehensive patch not found.

Details: Latest comprehensive patch: Jun 03 2021 (390 days ago)
Last SQL Patch details:
Action time: Mon Jul 05 2021 05:32:00
Action: APPLY
Version: 19.5.0.0
Description: ADW Bundle Patch - 19.0.0.0.0 (32963258)

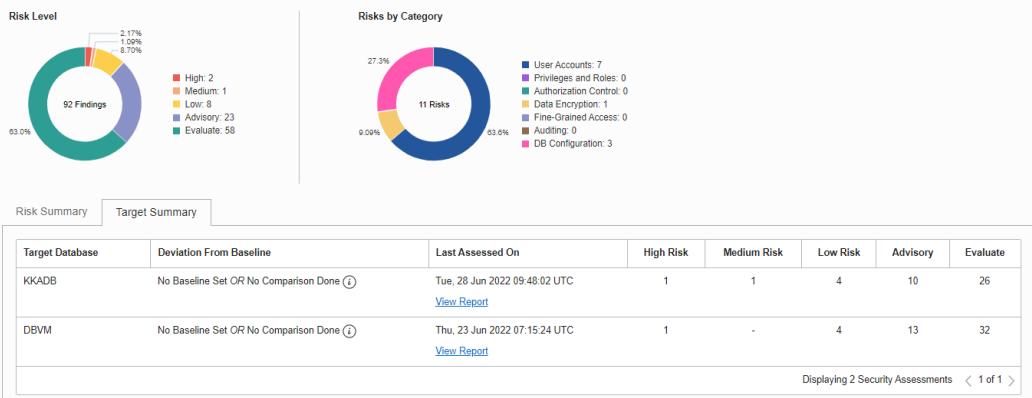
Remarks: It is vital to keep the database software up-to-date with security fixes as they are released. Autonomous Databases should perform maintenance updates and database patching for you. It looks like your database is not on the latest patch. Please contact Oracle Support for assistance.

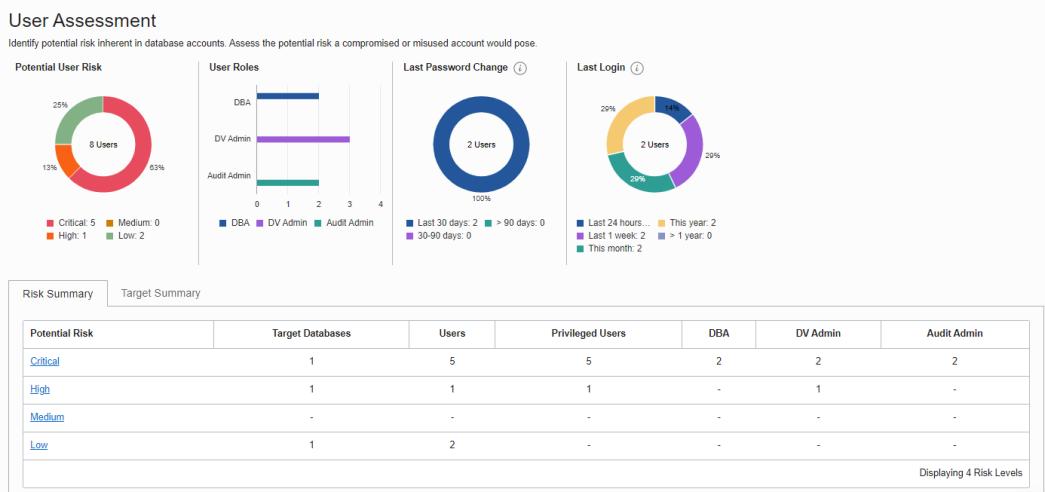
References: STIG : RULE SV-7029R2
CIS : RECOMMENDATION 1.1

ⓘ To view the latest assessment for this target please [click here](#)

Security Assessment

Evaluate the security posture of your databases and receive recommendations on how to mitigate the identified risks





User Details

User Name: SCOTT
Target Name: KKADB
Created: Tue, 23 Mar 2021 10:50:34 UTC
Potential Risk: CRITICAL ⓘ
User Type: PRIVILEGED
User Profile: DEFAULT
Privileged Roles: - ⓘ
Last Login: -

Roles	
▽	All Roles
>	DWROLE
>	OML_DEVELOPER
Privileges	
▽	All Privileges
▽	System Privileges
UNLIMITED TABLESPACE: MEDIUM	

Close

Data Safe » Security Center » Data Discovery

Security Center

- Dashboard
- Security Assessment
- User Assessment
- Data Discovery**
- Data Masking
- Activity Auditing
- Alerts

Related Resources

- Sensitive Types
- Sensitive Data Models

Data Discovery

Discover and classify sensitive data in your databases to understand the sensitive data landscape and enable security controls efficiently

Discover Sensitive Data

Sensitive Columns	Top 5 Targets	Sensitive Values	Top 5 Targets
No data to display		No data to display	

Target Databases

Create Sensitive Data Model

- 1** Provide Basic Information
- 2** Select Schemas
- 3** Select Sensitive Types
- 4** Select Discovery Options

Sensitive Data Model Information ⓘ

Name

Compartment

sehubapacasa (root)P_U_NKrishna

Description *Optional*

Target Database in Krishna ⓘ [\(Change Compartment\)](#)

KKADB

- 1** Provide Basic Information
- 2** Select Schemas
- 3** Select Sensitive Types
- 4** Select Discovery Options

Discovery can be done either on all the schemas or on specific schemas only ⓘ

Select specific schemas only All schemas

Data discovery will be done in all the schemas in target database KKADB

- 1** Provide Basic Information
- 2** Select Schemas
- 3** Select Sensitive Types
- 4** Select Discovery Options

Select Sensitive Types for Data Discovery ⓘ

Expand All

Enter full name ⓘ

Sensitive Type Name

- All
 - > Identification Information
 - > Biographic Information
 - > IT Information
 - > Financial Information
 - > Healthcare Information
 - > Employment Information
 - > Academic Information

- 1** Provide Basic Information
- 2** Select Schemas
- 3** Select Sensitive Types
- 4** Select Discovery Options

Select Discovery Options

Collect, display and store sample data ⓘ

Discover application-level (non-dictionary) referential relationships ⓘ

[Previous](#) [Create Sensitive Data Model](#) [Cancel](#)

Data Safe » Data Discovery » Sensitive Data Model » Sensitive Data Model Details

SensitiveDataModel_20220629195

[Generate Report](#) [Download Report](#) [Generate SDM](#) [Download SDM](#) [More Actions ▾](#)

Sensitive Data Model Information

Tags

Name: SensitiveDataModel_20220629195

OCID: eabu7a [Show](#) [Copy](#)

Compartment: Krishna

Created: Wed, 29 Jun 2022 13:37:01 UTC

Updated: Wed, 29 Jun 2022 13:44:42 UTC

Target Database: KKADB

Sensitive Schemas Discovered: 1

Sensitive Tables Discovered: 5

Sensitive Columns Discovered: 14

Sensitive Types Discovered: 8

Sensitive Values Discovered: 0.6M

Work Request: [View Details](#)

Sensitive Values Summary Chart ⓘ



The sensitive value percentages/distribution shown in the graph for each of the sensitive types is with respect to its parent sensitive category.

Resources

Sensitive Columns

Flat View

Schema	Table	Column	Sensitive Type	Parent Column	Data Type	Estimated Row Count	Sample Data
ADMIN	SYS_EXPORT_SCHEMA_01	USER_NAME	User ID	-	VARCHAR2	0	-
ADMIN	SYS_EXPORT_SCHEMA_02	STATE	State	-	VARCHAR2	2	STOPPED
ADMIN	SYS_EXPORT_SCHEMA_01	STATE	State	-	VARCHAR2	0	-
ADMIN	SYS_IMPORT_SCHEMA_02	USER_NAME	User ID	-	VARCHAR2	1	ADMIN
ADMIN	CREDIT_SCORING_100K	MARITAL_STATUS	Marital Status	-	VARCHAR2	98800	Married

Data Safe » Security Center » Data Discovery

Security Center

Data Discovery

Discover and classify sensitive data in your databases to understand the sensitive data landscape and enable security controls efficiently

Discover Sensitive Data

Sensitive Columns

14 Sensitive Columns

100%

Top 5 Targets

0.6M Sensitive Values

100%

Sensitive Values

0.6M Sensitive Values

100%

Top 5 Targets

0.6M Sensitive Values

100%

Related Resources

- Sensitive Types
- Sensitive Data Models

List Scope

Compartment

Sensitive Types

Sensitive types define the kinds of columns to search for. They are used for discovering and classifying sensitive columns. This page lists the user-defined sensitive types and categories in the selected compartment, along with all the predefined sensitive types and categories. [Learn more.](#)

Create Sensitive Type/Category					
Name	Description	Parent Sensitive Category	Sensitive Category	Oracle Predefined	
Academic Degree	Person's educational qualification. Examples: PhD, MBA, Master of Science.	Student Basic Data	No	Yes	
Academic Information	Education data that can potentially be used to identify an individual.	-	Yes	Yes	
Academic Level	Academic level, class, or standard. Examples: 9th Standard, Sophomore.	Performance Data	No	Yes	
Address	Physical address. Examples: Street, City, State, Country.	Biographic Information	Yes	Yes	

Data Safe » Data Masking » Masking Policies

Security Center

Masking Policies

Masking policies associate sensitive columns with the masking formats that should be used to mask data. They are used to mask target databases for non-production use. [Learn more.](#)

- Dashboard
- Security Assessment
- User Assessment
- Data Discovery
- Data Masking**
- Activity Auditing
- Alerts

Related Resources

- Masking Formats
- Masking Policies**



Create Masking Policy				
Upload Masking Policy				
Name	State	Description	Created	Updated
No Masking Policies Available				
Displaying 0 Masking Policies < 1 of 1 >				

Masking Policies

Masking policies associate sensitive columns with the masking formats that should be used to mask data. They are used to mask target databases for non-production use. [Learn more.](#)

Create Masking Policy		Upload Masking Policy		
Name	State	Description	Created	Updated
No Masking Policies Available				
Displaying 0 Masking Policies < 1 of 1 >				

Create Masking Policy

Name
MaskingPolicy_202206301616

Compartment
Krishna
sehubjapaciass (root)/PLT_IN/Krishna

Description *Optional*

Choose how you want to create the masking policy ⓘ

Using a sensitive data model
Automatically pull all the columns from the sensitive data model

Using a target database
Create an empty masking policy and associate with the selected target database

Sensitive Data Model in Krishna ([Change Compartment](#))
SensitiveDataModel_20220629195

Upload scripts ⓘ

Upload Pre-Masking Script *Optional*
Drop a file Or select one
SQL file only

Upload Post-Masking Script *Optional*
Drop a file Or select one
SQL file only

[Show Advanced Options](#)

[Create Masking Policy](#) [Close](#)

Masking Columns

Resources

Masking Columns

Masking Columns Needing Attention

Work Requests

Flat View Add Columns Remove Columns

+ Add Filter Apply

Schema	Table	Column	Sensitive Type	Data Type	Masking Format
ADMIN	SYS_EXPORT_SCHEMA_0 1	USER_NAME	User ID	VARCHAR2(128)	Format Preserving Rand... ⚙️ ⚙️ ⚙️
ADMIN	SYS_IMPORT_SCHEMA_0 2	STATE	State	VARCHAR2(12)	Random Name ⚙️ ⚙️ ⚙️
ADMIN	SYS_EXPORT_SCHEMA_0 1	STATE	State	VARCHAR2(12)	Random Name ⚙️ ⚙️ ⚙️
ADMIN	SYS_IMPORT_SCHEMA_0 2	USER_NAME	User ID	VARCHAR2(128)	Format Preserving Rand... ⚙️ ⚙️ ⚙️
ADMIN	CREDIT_SCORING_100K	MARITAL_STATUS	Marital Status	VARCHAR2(4000)	Shuffle ⚙️ ⚙️ ⚙️

Edit Masking Format

Masking Column: ADMIN.SYS_IMPORT_SCHEMA_02.STATE
 Sensitive Type: State
 Data Type: VARCHAR2(12)
 Assigned Masking Format: Random Name

Description: Replaces values with random letters of random length. Compatible with character type columns
 Examples: • 'AJ-HK123#@' could become 'Sbytud'
 • 'Michael' could become 'Ramzoni'
 • 'Richard Williams' could become 'Madpalvik'

Condition (default: 1=1)
 1=1

Masking Format Entry
 Random Name

Library Masking Format Entry	Schema Name	Package Name	Optional	Function Name
User Defined Function	MASKCS_FMTLIB			RANDOM_NAME

+ Another Format Entry

Mask Sensitive Data

[Help](#)

! Please ensure that the selected target database is not a production database.

Details for masking data

Target Database in Krishna (Change Compartment)
 KKADB

Masking Policy in Krishna (Change Compartment)
 MaskingPolicy_202206301616

To create a new masking policy please use the 'Create Masking Policy' option [available here](#).

Mask Data Close

MASKING_JOB

WR SUCCEEDED

Work Request Information

Operation: MASKING_JOB	Status: SUCCEEDED
OCID: ...scqm2q Show Copy	Accepted: Thu, 30 Jun 2022 11:44:31 UTC
Compartment: sehubjapaciaas (root)/PL_IN/Krishna	Started: Thu, 30 Jun 2022 11:44:51 UTC
Masking Policy: MaskingPolicy_202206301616	Finished: Thu, 30 Jun 2022 11:46:28 UTC
Target Database: KKADB	Masking Report: View Details

Resources

- Log Messages
- Error Messages

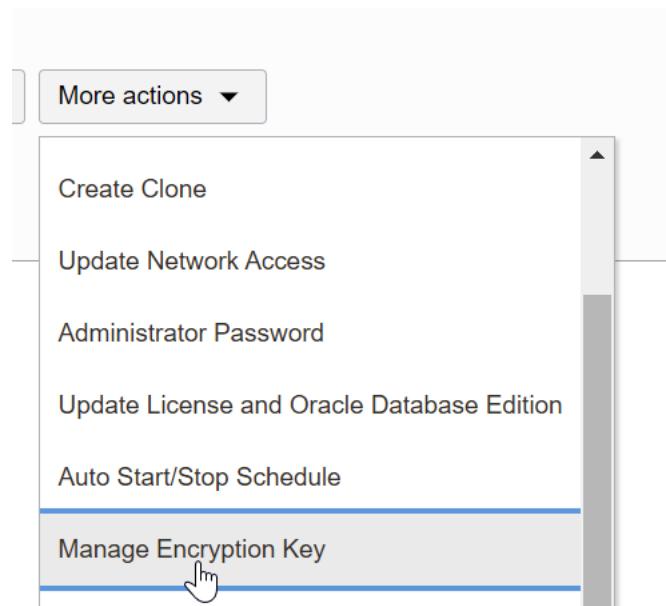
Log Messages

Message	Timestamp
Finished Cleanup	Thu, 30 Jun 2022 11:46:27

Events Summary		Targets Summary	
Event Category	Target Databases	Total Events	
Login Failures By Admin	0	0	
Schema Changes By Admin	0	0	
Entitlement Changes By Admin	0	0	
Login Failures	0	0	
Schema Changes	0	0	
Entitlement Changes	0	0	
Audit Settings Changes	0	0	
Database Vault All Violations	0	0	
Database Vault Policy Changes	0	0	
Data Access Events	0	0	
All Activity By Admin	0	0	
All Activity	0	0	

Showing 12 Items < 1 of 1 >

Report Name	Description
All Activity	All database activities will be audited.
Admin Activity	Activities performed by Administrative users
User/Entitlement Changes	User related activities like user creation/deletion/privilege and role changes
Audit Policy Changes	All changes in audit policies
Login Activity	Database login attempts
Data Access	Database query operations
Data Modification	Data modification activities (DMLs)
Database Schema Changes	Database schema changes (DDLs)
Data Safe Activity	Activity generated by the Oracle Data Safe service
Database Vault Activity	Auditable activities of enabled Oracle Database Vault policies in target databases. It includes mandatory Database Vault configuration changes, realm violations, and command rule violations



Manage Encryption Key

Choose encryption management settings

Encrypt using an Oracle-managed key
Oracle manages the encryption key.

Encrypt using a customer-managed key in this tenancy
You must have access to a valid encryption key in this tenancy. [Learn more](#).

Vault in Krishna ([Change Compartment](#))

KKKey

Master encryption key in Krishna ([Change Compartment](#))

Weblogic

Oracle supports only 256-bit encryption keys.

↶

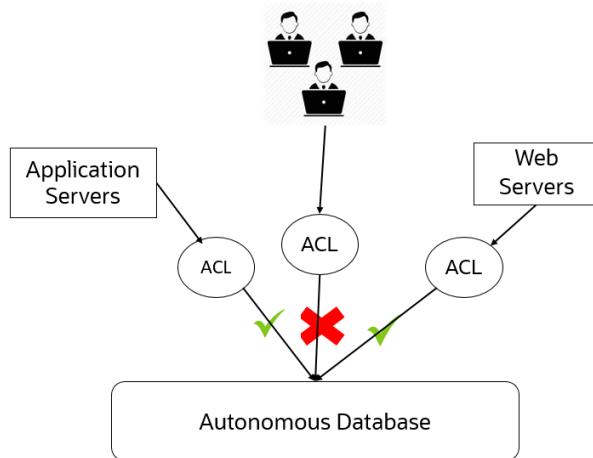
[Save Changes](#) [Cancel](#)

Network

Access Type: Allow secure access from specified IPs and VCNs

Access Control List: Enabled [Edit](#)

Mutual TLS (mTLS) Authentication: Required [Edit](#)



Network

Access Type: Allow secure access from specified IPs and VCNs

Access Control List: Enabled [Edit](#)

Mutual TLS (mTLS) Authentication: Required [Edit](#)

Edit Access Control List

[Help](#)

Specify the IP addresses and VCNs allowed to access this database. You can use a comma-separated list to enter multiple IP addresses. An access control list blocks all IP addresses that are not in the list from accessing the database.

IP notation type	Values
IP Address	192.1.1.1
IP Address	<input type="button" value="Add My IP Address"/>
CIDR Block	<input type="button" value="+ Access Control Rule"/>
Virtual Cloud Network	
Virtual Cloud Network (OCID)	



[Save Changes](#)

[Cancel](#)

Network

Access Type: Allow secure access from specified IPs and VCNs

Access Control List: Enabled [Edit](#)

Mutual TLS (mTLS) Authentication: Required [Edit](#)

Download client credentials (Wallet)

To download your client credentials, select the wallet type, and click **Download wallet**. You then enter a password for the wallet. This client credential download only contains information for mTLS connections. **You do not need a wallet for TLS connections.**

Wallet type [\(i\)](#)

Instance Wallet

[Download wallet](#)

[Rotate wallet](#)

Identity & Security

Audit Events *in Krishna Compartment*

Identity

Cloud Guard

Security Zones

Security Advisor

Threat Intelligence

Web Application Firewall

Certificates

Scanning

Vault

Managed Access

Bastion

Compliance

[Audit](#)

Start date

Jun 23, 2022 00:30 UTC

End date

Jun 27, 2022 00:00 UTC

Keywords

Autonomous

Request action types

Select types

[Search](#)

Event time	User	Event source	Event name	Resource name	Request action	Response status
Thu, Jun 23, 2022, 03:3 7:17 UTC	clouguard	DatabaseService	ListAutonomousDatabases	-	GET	Forbidden (403) 
Thu, Jun 23, 2022, 03:3 7:17 UTC	clouguard	databaseservice	ListAutonomousDatabases	-	GET	Forbidden (403) 
Thu, Jun 23, 2022, 10:0 5:23 UTC	oci-optimizer	DatabaseService	ListAutonomousDatabases	-	GET	OK (200) 