



University

Oracle Autonomous Database Auto Scaling

Kamryn Vinson

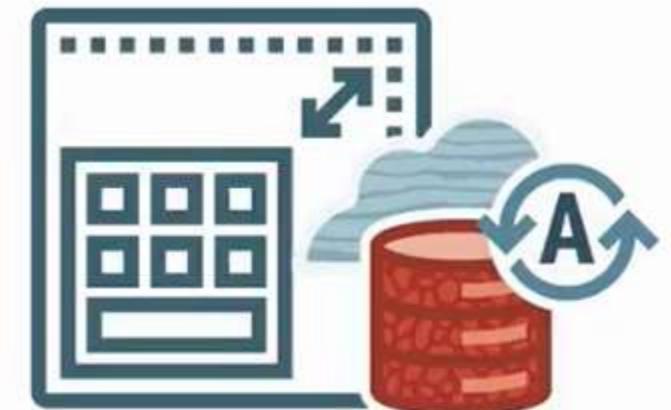
SENIOR PRODUCT MANAGER, DATABASE
ORACLE

Objectives



Scaling the Autonomous Database

Autonomous Database Serverless: Auto Scaling



ADB autonomously and continuously monitors the overall system performance.



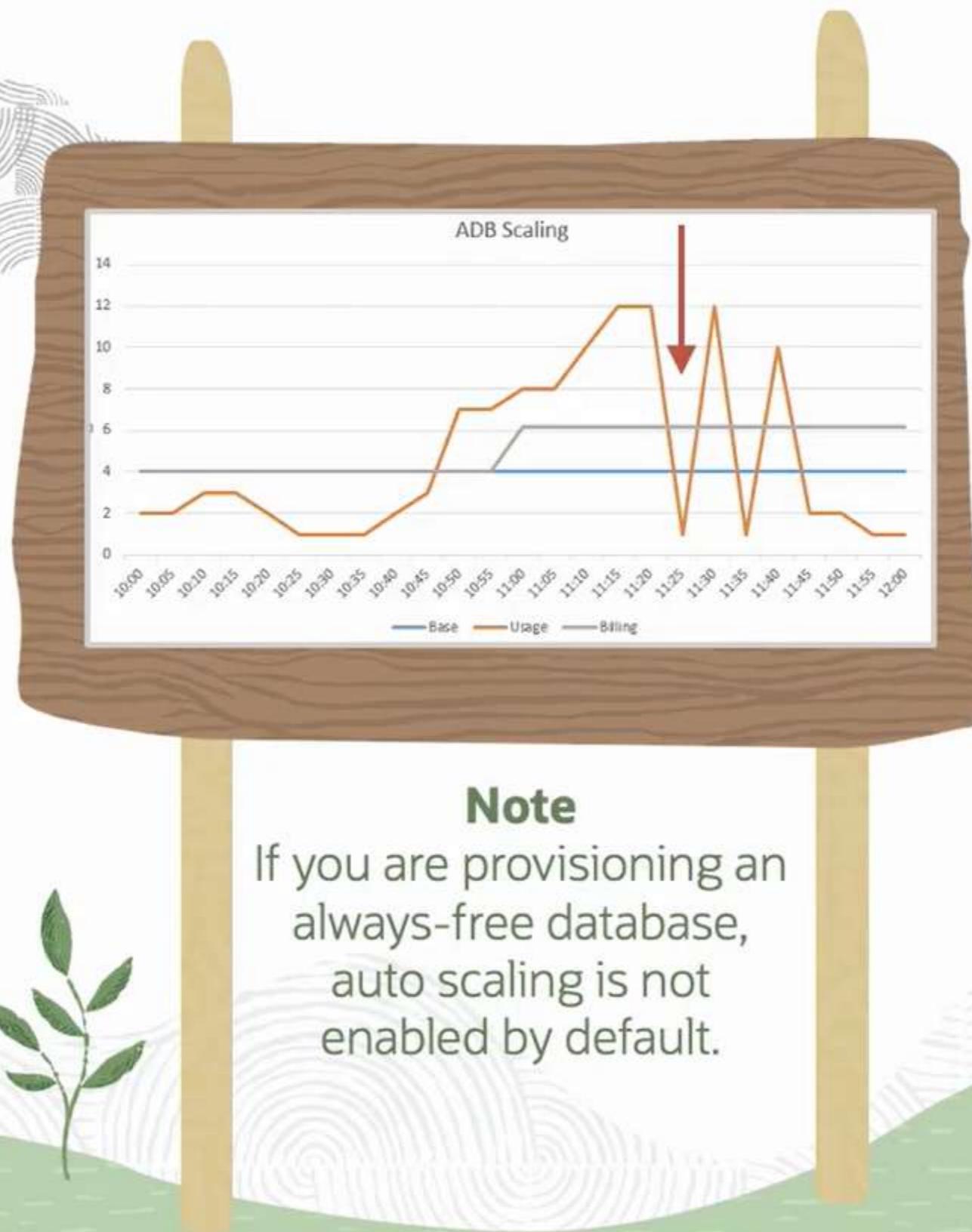
ADB scales CPU and IO resources.

Scaling up 3x

Auto scaling can be enabled when provisioning an ADB instance or any time using **Scale Up/Down** on the Oracle Cloud Infrastructure Console.

Enabling auto scaling does not change the concurrency and parallelism settings for the predefined services.

Auto Scaling



Enabled by default*

Can be disabled at any time

3x base number of active ECUs

ECUs auto scale back down to the base number.

Changing the setting does not require database downtime.

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

Oracle Cloud Infrastructure

cloud.oracle.com/db/adw/create?region=us-ashburn-1

ORACLE Cloud Search resources, services, documentation, and Marketplace US East (Ashburn) Help

Create Autonomous Database

Provide basic information for the Autonomous Database

Compartment: vinsonk211 (root)

Display name: ATPDEMO

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

Database name: ATPDEMO

The name must contain only letters and numbers, starting with a letter. Maximum of 30 characters.

Choose a workload type

Data Warehouse (selected) 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

Serverless Run Autonomous Database on serverless architecture. (selected)

Dedicated infrastructure Run Autonomous Database on Dedicated Exadata Infrastructure.

Configure the database

Always Free ⓘ Show only Always Free configuration options

Create Autonomous Database Save as stack Cancel

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Setting Up Auto Scaling: When Provisioning

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

- Serverless**
Run Autonomous Database on serverless architecture.
- Dedicated infrastructure**
Run Autonomous Database on Dedicated Exadata infrastructure.

Configure the database

Always Free i
 Show only Always Free configuration options

Choose database version
19c

ECPUs count i
2
Select an ECPUs count. ECPUs counts are multiples of 2.

Storage (TB)
1
The amount of storage to allocate. Max storage allowed is 384 TB.

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

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

[Show advanced options](#)

[Create Autonomous Database](#) [Save as stack](#) [Cancel](#)

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Setting Up Auto Scaling: When Provisioning

Setting Up Auto Scaling: Any Time

ATPDEMO • Primary

Database actions ▾ Database connection Performance hub Manage resource allocation More actions ▾

Autonomous Database information Tool configuration Tags

General information

Database name: ATPDEMO
Workload type: Transaction Processing
Compartment: vinsonk211 (root)
OCID: ...dpgmhq [Show](#) [Copy](#)
Created: Fri, Aug 18, 2023, 20:02:04 UTC
License type: License included
Database version: 19c
Lifecycle state: Available [Check database availability](#).
Instance type: Paid
Character set: AL32UTF8
National character set: AL16UTF16
Auto start/stop schedule: Disabled [Schedule](#)
Mode: Read/write [Edit](#)

Resource allocation

ECPU count: 2
Compute auto scaling: Enabled [i](#)
Storage: 1 TB
Storage auto scaling: Disabled [i](#)

Disaster recovery [i](#)

Role: Primary
Local: Backup-based [Upgrade to Autonomous Data Guard](#) [Switchover](#)
Cross-region: Not enabled

Backup

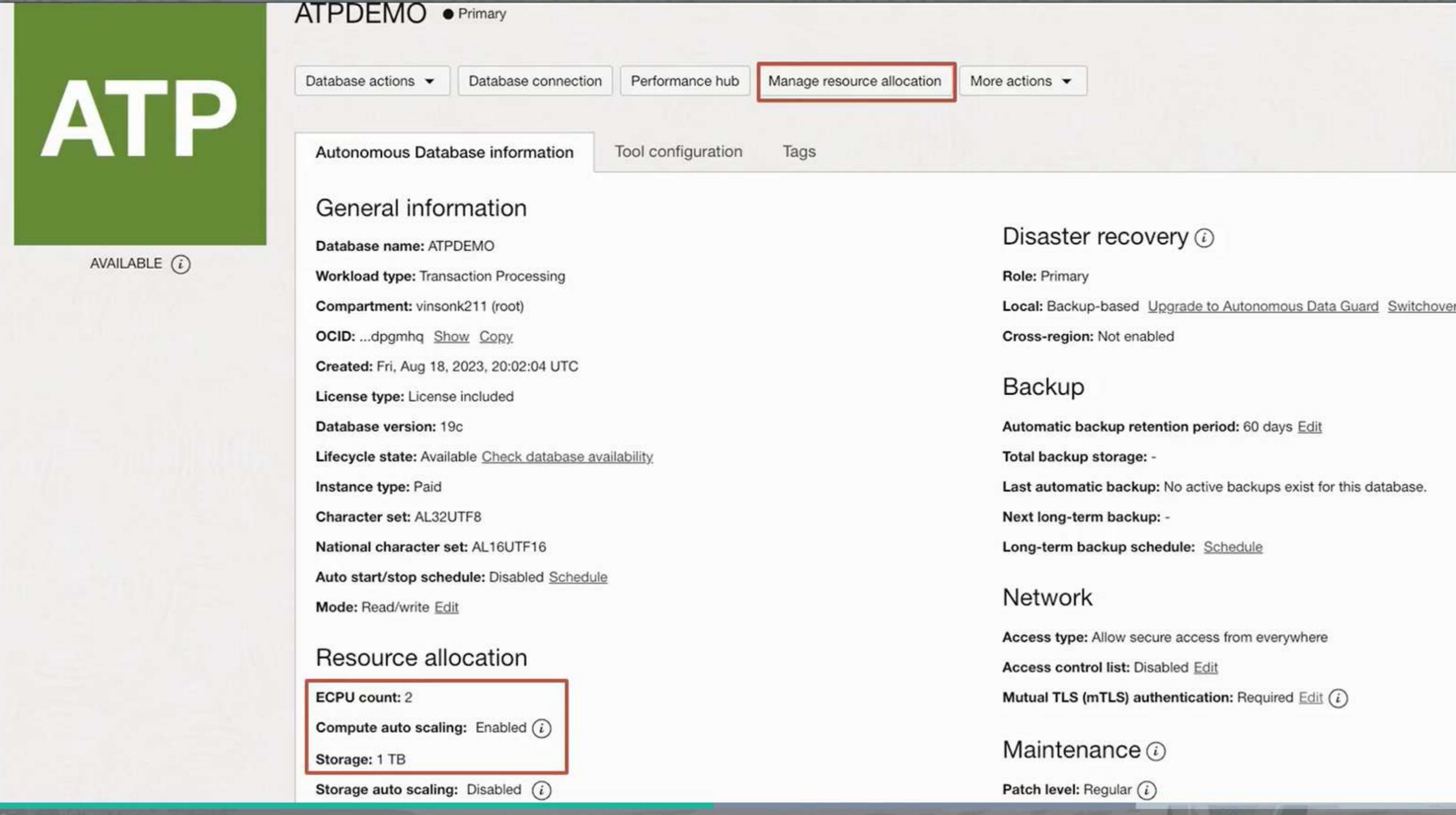
Automatic backup retention period: 60 days [Edit](#)
Total backup storage: -
Last automatic backup: No active backups exist for this database.
Next long-term backup: -
Long-term backup schedule: [Schedule](#)

Network

Access type: Allow secure access from everywhere
Access control list: Disabled [Edit](#)
Mutual TLS (mTLS) authentication: Required [Edit](#) [i](#)

Maintenance [i](#)

Patch level: Regular [i](#)



AVAILABLE [i](#)

ATP

2:17 / 4:39 1x HD

Setting Up Auto Scaling: Any Time

The screenshot shows the Oracle Cloud interface for managing an Autonomous Database (ATP) named "ATPDEMO". The main view displays general information about the database, including its name, workload type (Transaction), compartment, OCID, creation date, license type, version, lifecycle state, instance type, character set, national character set, auto start/stop schedule, and mode.

In the top right corner, there is a "Manage scaling" button, which is highlighted in this view. The scaling configuration dialog is open, showing the following settings:

- ECPUs:** Set to 6. A note indicates that ECPUs are multiples of 2.
- Compute auto scaling:** This option is checked, allowing the system to expand up to three times the specified ECPU count as demand increases. A link to learn more about auto scaling is provided.
- Storage (TB):** Set to 1. A note states that the amount of storage allocated is up to 384 TB.
- Storage auto scaling:** This option is unchecked, preventing the system from expanding storage automatically.
- Allocated storage:** Shows a value of "-".
- Shrink:** A button to manually shrink storage after significant data deletion.

At the bottom of the dialog, there are "Apply" and "Cancel" buttons. The status bar at the bottom of the screen shows playback controls, a progress bar (2.49 / 4.39), and other system icons.

Setting Up Auto Scaling: Any Time

ATPDEMO • Primary

Database actions ▾ Database connection Performance hub Manage resource allocation More actions ▾

Autonomous Database information Tool configuration Tags

General information

Database name: ATPDEMO
Workload type: Transaction Processing
Compartment: vinsonk211 (root)
OCID: ...dpgmhq [Show](#) [Copy](#)
Created: Fri, Aug 18, 2023, 20:02:04 UTC
License type: License included
Database version: 19c
Lifecycle state: Scaling In Progress [Check database availability](#)
Instance type: Paid
Character set: AL32UTF8
National character set: AL16UTF16
Auto start/stop schedule: Disabled [Schedule](#)
Mode: Read/write [Edit](#)

Resource allocation

ECPU count: 2
Compute auto scaling: Enabled [i](#)
Storage: 1 TB
Storage auto scaling: Disabled [i](#)

Disaster recovery [i](#)

Role: Primary
Local: Backup-based [Upgrade to Autonomous Data Guard](#) [Switchover](#)
Cross-region: Not enabled

Backup

Automatic backup retention period: 60 days [Edit](#)
Total backup storage: -
Last automatic backup: No active backups exist for this database.
Next long-term backup: -
Long-term backup schedule: [Schedule](#)

Network

Access type: Allow secure access from everywhere
Access control list: Disabled [Edit](#)
Mutual TLS (mTLS) authentication: Required [Edit](#) [i](#)

Maintenance [i](#)

Patch level: Regular [i](#)

SCALING IN PROGRESS

Setting Up Auto Scaling: Any Time

ATPDEMO • Primary

Database actions ▾ Database connection Performance hub Manage resource allocation More actions ▾

Autonomous Database information Tool configuration Tags

General information

Database name: ATPDEMO

Workload type: Transaction Processing

Compartment: vinsonk211 (root)

OCID: ...dpgmhq [Show](#) [Copy](#)

Created: Fri, Aug 18, 2023, 20:02:04 UTC

License type: License included

Database version: 19c

Lifecycle state: Available [Check database availability](#)

Instance type: Paid

Character set: AL32UTF8

National character set: AL16UTF16

Auto start/stop schedule: Disabled [Schedule](#)

Mode: Read/write [Edit](#)

Resource allocation

ECPU count: 6

Compute auto scaling: Enabled [i](#)

Storage: 1 TB

Storage auto scaling: Disabled [i](#)

Disaster recovery [i](#)

Role: Primary

Local: Backup-based [Upgrade to Autonomous Data Guard](#) [Switchover](#)

Cross-region: Not enabled

Backup

Automatic backup retention period: 60 days [Edit](#)

Total backup storage: -

Last automatic backup: No active backups exist for this database.

Next long-term backup: -

Long-term backup schedule: [Schedule](#)

Network

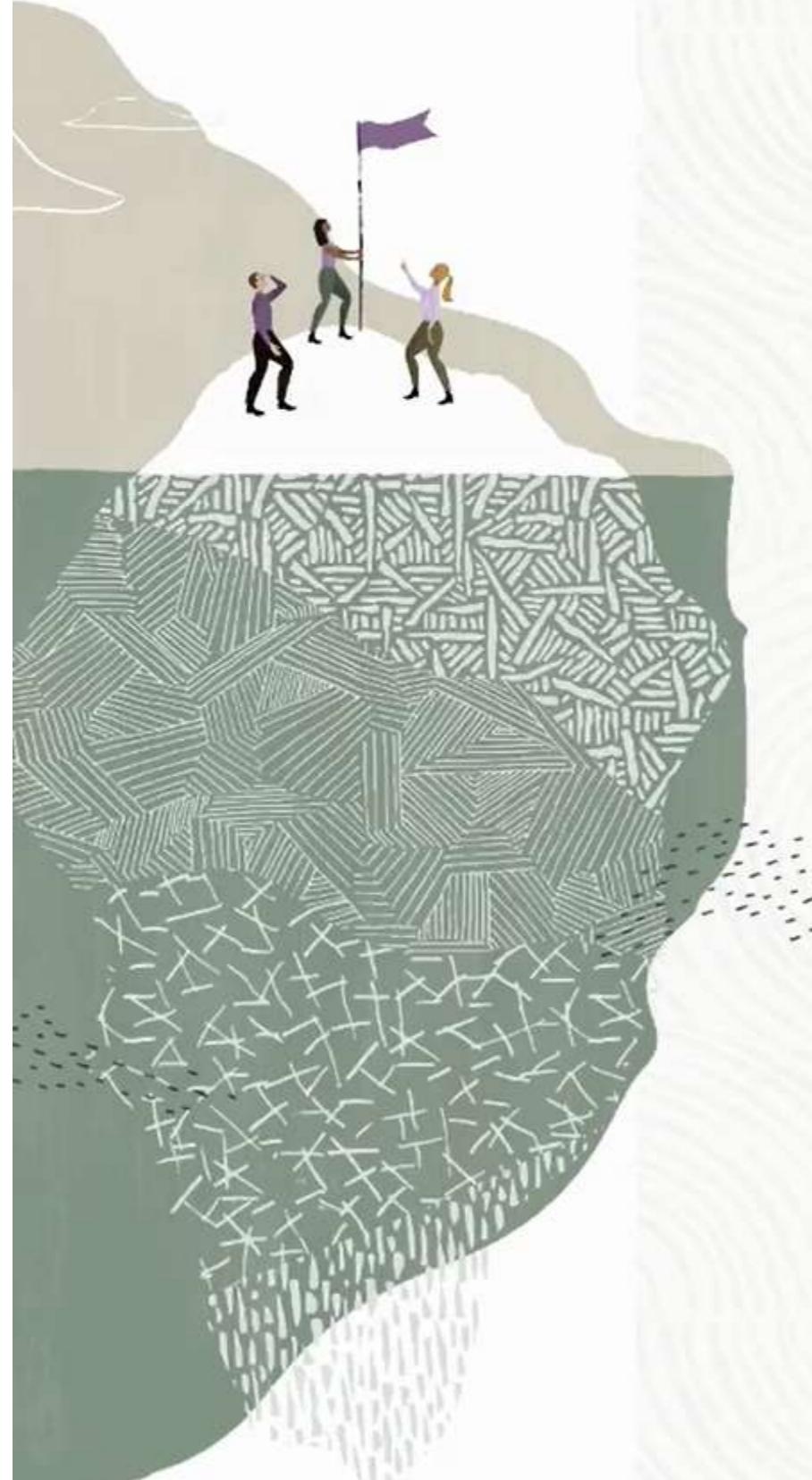
Access type: Allow secure access from everywhere

Access control list: Disabled [Edit](#)

Mutual TLS (mTLS) authentication: Required [Edit](#) [i](#)

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To wrap up...