



# Oracle Database In-Memory

AskTOM Office Hours – Autonomous Database Dedicated

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ADB-D and ADB-ExaC@C PM

# Autonomous Database Dedicated

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# Database In-Memory on ADB-Dedicated

- Blog Post: [Database In-Memory now supported on Autonomous Database on Dedicated Exadata Infrastructure!](#)
- Includes both ATP and ADW
- Supported as of Oracle Database 19.20.0.1.0
- Requires 4 or more OCPUs or 16 or more ECPUs
- Can enable between 5 and 70 percent of available SGA per ADB
- Larger numbers of OCPUs/ECPUs will allow more memory to be allocated to the IM column store
- Once enabled, Database In-Memory acts the same as it does on-premises
  - Enable or disable objects for INMEMORY
  - Fast Start features are not available
  - See [In-Memory Overview and Requirements on ADB-D](#) for more information

# Enabling Database In-Memory on ADB-Dedicated Demo

- Our demo will follow the [Lab 16: Database In-Memory on Autonomous Database Dedicated LiveLab](#) so you can try this on your own if you have an ADB-Dedicated tenancy
- We will configure an ADB database and show you how to allocate OCPUs and memory for Database In-Memory
- We will verify the creation of the IM column store
- We will then run through Lab 16 above and demonstrate the use of the Database In-Memory [Simple Demo](#)
  - The Database In-Memory Simple Demo creates a single ORDERS\_TAB table that is then populated in the IM column store and can be queried to show Database In-Memory benefits
  - In our demo, we have already created the ORDERS\_TAB table to save time
  - See the link above if you want to try it for yourself

# Example: Database In-Memory Not Enabled

Overview > Autonomous Database > Autonomous Database details

## IMADWD

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

Autonomous Database information Tools Tags

**General information**

Database name: IMADWD  
Workload type: Data Warehouse  
Compartment: atpdpreview2 (root)/IM\_Lab  
OCID: ...3yvaq [Show](#) [Copy](#)  
Created: Thu, Aug 17, 2023, 19:24:58 UTC  
Database version: 19.20.0.1.0  
Lifecycle state: Available  
Instance type: Paid  
Character set: AL32UTF8  
National character set: AL16UTF16

**Resources**

Storage allocated: 1 TB  
Storage used: 13 GB  
OCPU count: 4  
OCPU auto scaling: Disabled ⓘ  
Database memory per CPU: 10 GB per OCPU  
Database In-Memory area: 0 GB [Enable](#)

**Associated services**

Database management: Not enabled [Enable](#) ⓘ  
Operations Insights: Not enabled [Enable](#)

**Infrastructure**

Dedicated infrastructure: Yes  
Autonomous Container Database: [ACDJCM](#)

**Network**

Access control list: Disabled [Edit](#)

**Backup**

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

**Encryption**

Encryption key: Oracle-managed key

**Autonomous Data Guard**

Status: Disabled

**Data Safe** ⓘ

Status: Not registered [Register](#)



# Example: Sizing the IM column store to enable Database In-Memory

Manage scaling Help

OCPUs count  
4  
You can enable up to 4 OCPUs. Available cores are subject to compartment quotas and existing core allocation. [Learn more](#).

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

Storage (GB)  
250  
Current allocation is 250 GB. Minimum: 32 GB. You can allocate up to 19030 GB. [Learn more](#).

Enable Database In-Memory  
Enabling Database In-Memory requires a percentage of the system global area (SGA) to be allocated to the task and a minimum of four (4) enabled OCPUs. Select the percentage of the SGA to allocate. [Learn more](#).

Percentage(% of SGA)  
30 5 70  
Allocating too much memory or disabling the Database In-Memory option will impact Autonomous Database performance. [Learn more](#).



**Apply** [Cancel](#)



# Example: Database In-Memory Enabled with a 6GB IM Column Store

Overview > Autonomous Database > Autonomous Database details

## IMADWD

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

Autonomous Database information Tools Tags

**General information**

**Database name:** IMADWD  
**Workload type:** Data Warehouse  
**Compartment:** atpdpreview2 (root)/IM\_Lab  
**OCID:** ...3yyaoq [Show Copy](#)  
**Created:** Thu, Aug 17, 2023, 19:24:58 UTC  
**Database version:** 19.20.0.1.0  
**Lifecycle state:** Available  
**Instance type:** Paid  
**Character set:** AL32UTF8  
**National character set:** AL16UTF16

**Resources**

**Storage allocated:** 1 TB  
**Storage used:** 13 GB  
**OCPUs count:** 4  
**OCPUs auto scaling:** Disabled ⓘ  
**Database memory per CPU:** 10 GB per OCPU  
**Database In-Memory area:** 6 GB [Edit](#)

**Associated services**

**Database management:** Not enabled [Enable](#) ⓘ  
**Operations Insights:** Not enabled [Enable](#)

**Infrastructure**

**Dedicated infrastructure:** Yes  
**Autonomous Container Database:** [ACD1CIM](#)

**Network**

**Access control list:** Disabled [Edit](#)

**Backup**

**Last automatic backup:** No active backups exist for this database.  
**Last long-term backup:** No long-term backups exist for this database.

**Encryption**

**Encryption key:** Oracle-managed key

**Autonomous Data Guard**

**Status:** Disabled

**Data Safe** ⓘ

**Status:** Not registered [Register](#)



# Where Can You Get More Information?

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**Learn More**

**Database In-Memory Blog**

**Database In-Memory Ask TOM Office Hours**

**Database In-Memory Hands-on-Lab**

**Autonomous Database Dedicated Hands-on-Lab**

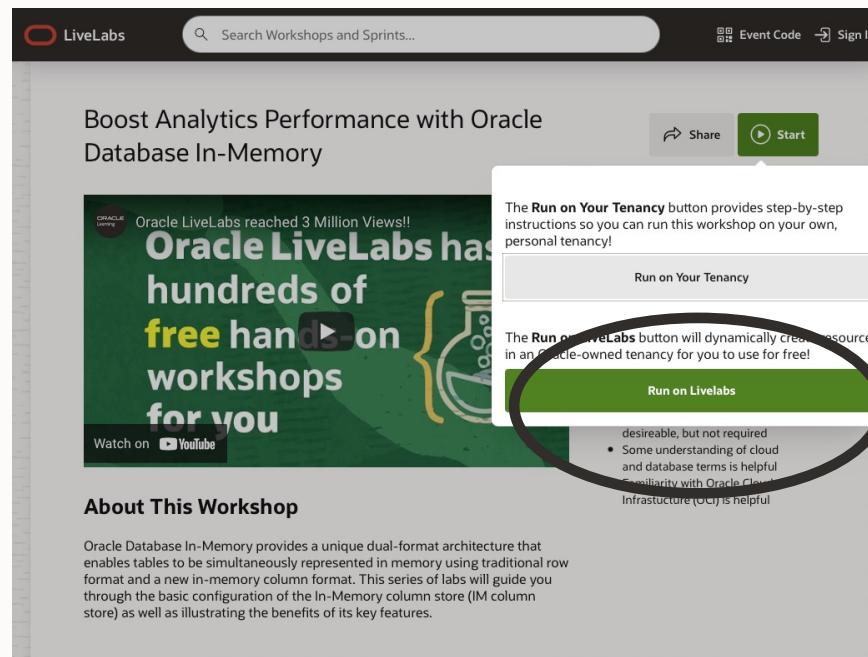
**Database In-Memory Documentation**

# Database In-Memory LiveLabs

<http://bit.ly/golivelabs>

## Boost Analytics Performance with Oracle Database In-Memory

### Database In-Memory Advanced Features



The screenshot shows the Oracle LiveLabs website. At the top, there's a navigation bar with the 'LiveLabs' logo, a search bar, and a 'Sign In' button. Below the header, a banner announces 'Boost Analytics Performance with Oracle Database In-Memory'. A callout box highlights the 'Run on Your Tenancy' button, which provides step-by-step instructions for running the workshop on personal tenancy. Another callout box highlights the 'Run on LiveLabs' button, which creates resources in a Oracle-owned tenancy for free. An arrow points from the 'Run on LiveLabs' button towards the 'Free Tenancy Reservation' section on the right.

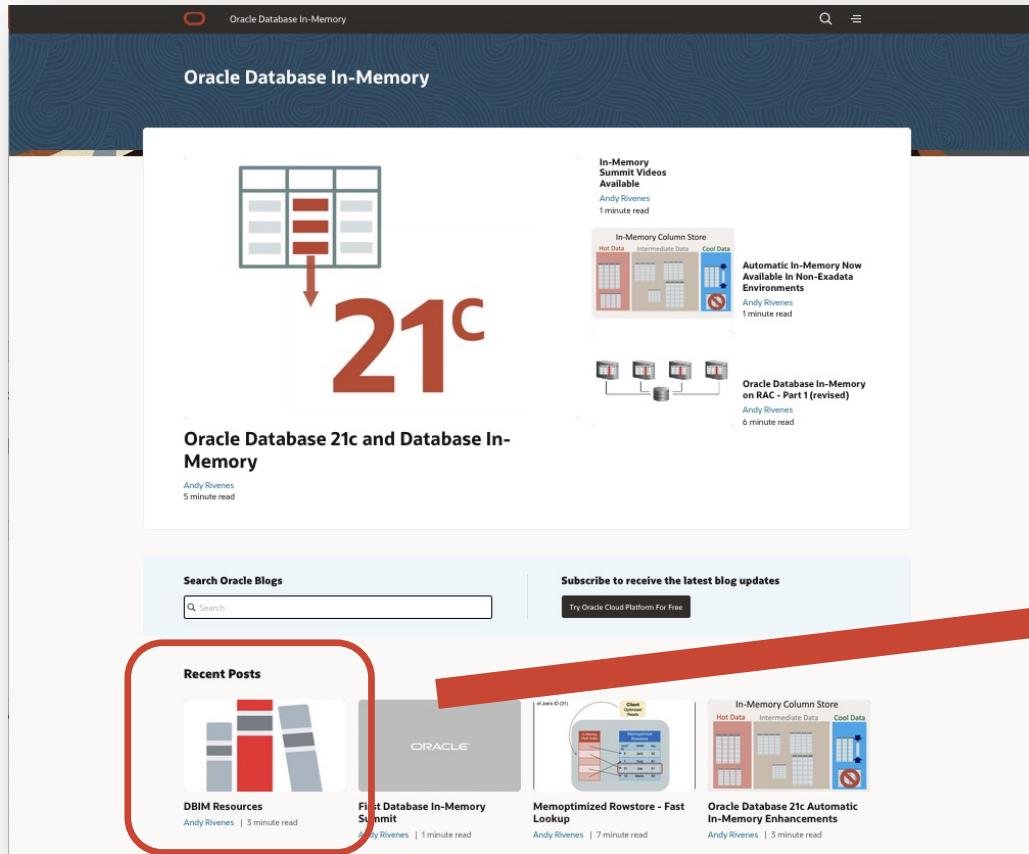
### Free Tenancy Reservation

Try it out

No requirement to sign up  
for the Cloud!



# <https://blogs.oracle.com/in-memory/dbim-resources>



Oracle Database In-Memory

## Oracle Database 21c and Database In-Memory

Andy Rivenes | 5 minute read

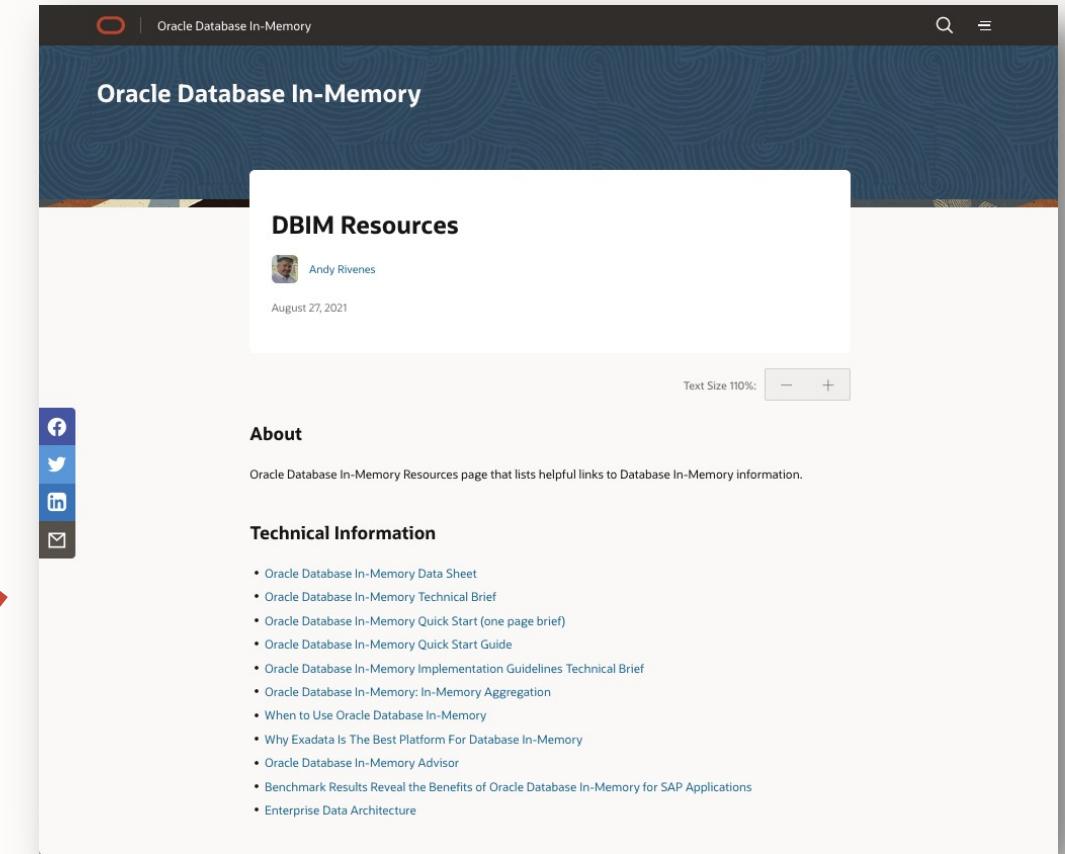
### Recent Posts

- DBIM Resources (Red Box)
- First Database In-Memory Summit
- Memoptimized Rowstore - Fast Lookup
- In-Memory Column Store

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## Oracle Database In-Memory

### DBIM Resources

Andy Rivenes | August 27, 2021

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#### About

Oracle Database In-Memory Resources page that lists helpful links to Database In-Memory information.

#### Technical Information

- Oracle Database In-Memory Data Sheet
- Oracle Database In-Memory Technical Brief
- Oracle Database In-Memory Quick Start (one page brief)
- Oracle Database In-Memory Quick Start Guide
- Oracle Database In-Memory Implementation Guidelines Technical Brief
- Oracle Database In-Memory: In-Memory Aggregation
- When to Use Oracle Database In-Memory
- Why Exadata Is the Best Platform For Database In-Memory
- Oracle Database In-Memory Advisor
- Benchmark Results Reveal the Benefits of Oracle Database In-Memory for SAP Applications
- Enterprise Data Architecture