ORACLE

Move to the Cloud

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Database Upgrade and Migrations

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Autonomous Database

How to Move Your Data into an
Autonomous Database

"

When it comes to migration, Autonomous Database differs because you will be migrating data, not databases

Autonomous Database | Migration Techniques
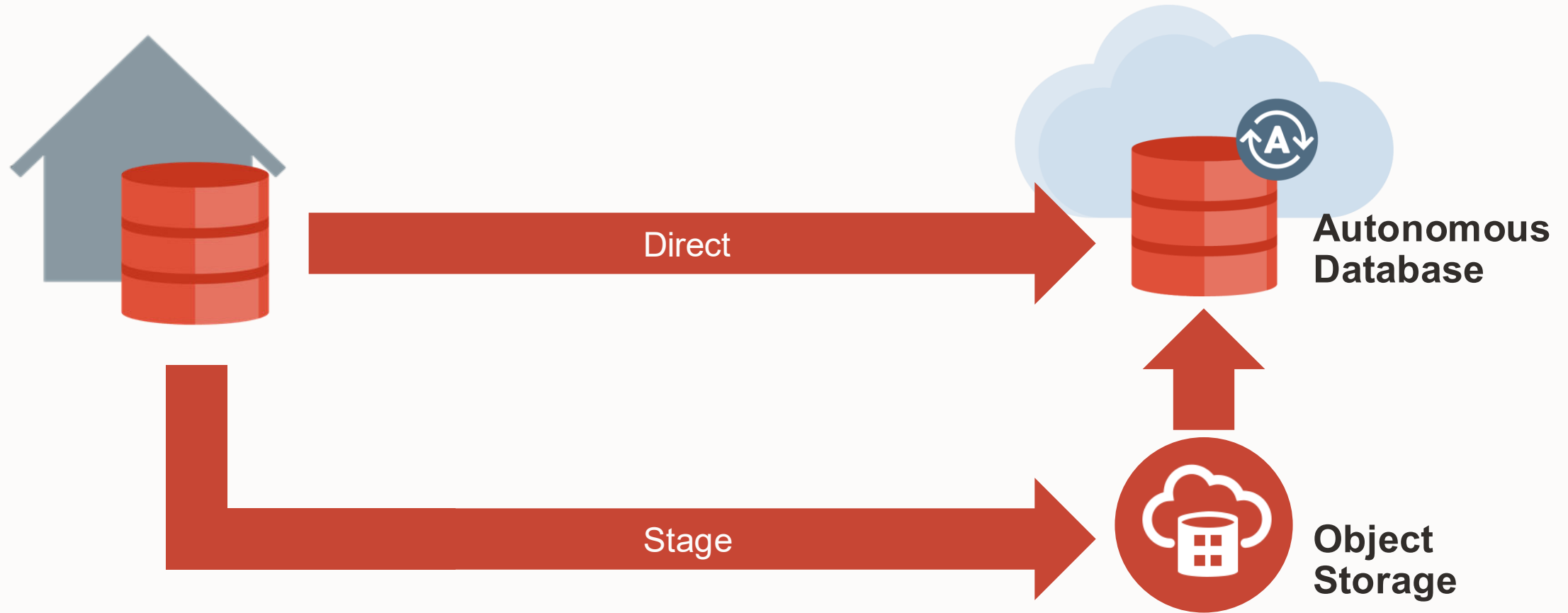
Direct

Stage

Autonomous Database

Object Storage

Options | Overview

1. SQL Developer Web	2. **SQL Developer**	3. SQL*Loader	4. Data Pump	5. DBMS_CLOUD	6. MV2ADB

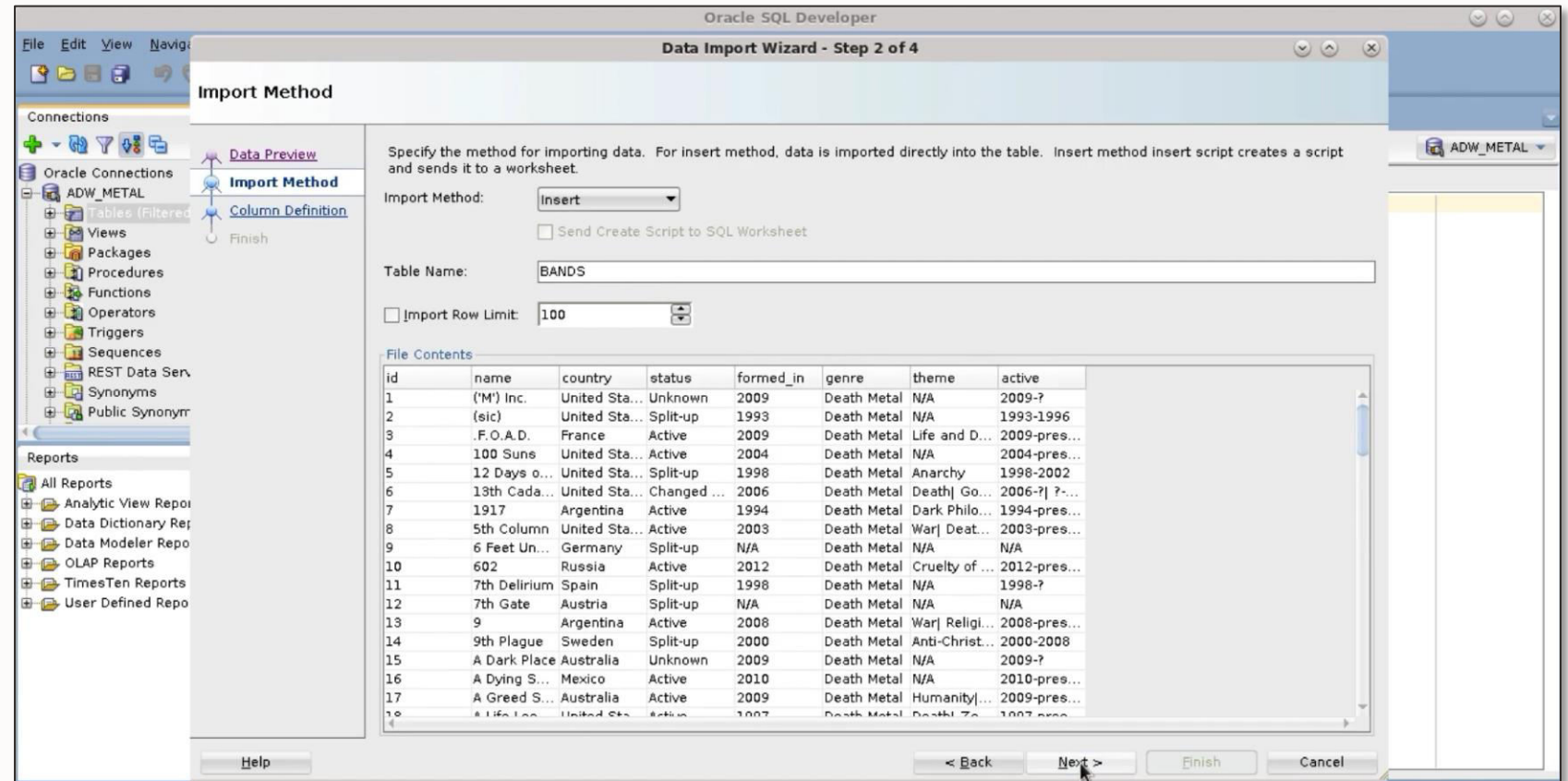# Options | SQL Developer

Local installation

Quick and simple

Works on:

- CSV
- XML
- JSON
- XLS/XLSX
- Avro

Loads from:

- Local file
- OCI object stage

Options | Overview

1. SQL Developer Web	2. SQL Developer	3. SQL*Loader	4. Data Pump	5. DBMS_CLOUD	6. MV2ADB

Options | SQL*Loader

Highly configurable

Can transform data

Loads from:

- Local file

Works on:

- CSV
- Text

```
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.5.0.0.0
[oracle@hol ~]$ sqlldr admin@metal_high \
>      table=albums \
>      data=albums.csv \
>      external_table=not_used \
>      field_names=all
Password:

SQL*Loader: Release 19.0.0.0.0 - Production on Sun Oct 11 12:05:13 2020
Version 19.7.0.0.0

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Express Mode Load, Table: ALBUMS
Path used:      Conventional
Commit point reached - logical record count 123
Commit point reached - logical record count 246
Commit point reached - logical record count 369
Commit point reached - logical record count 492
Commit point reached - logical record count 615
Commit point reached - logical record count 738
```

Options | Overview

1. SQL Developer Web	2. SQL Developer	3. SQL*Loader	4. **Data Pump**	5. DBMS_CLOUD	6. MV2ADB

Options | Data Pump

Fast unload and load

All or selected data

Best option for big data

Can transform metadata

Loads from:

- Oracle Database (database link)
- OCI Object Storage

Pro tip: Use SQL Developer

Options | Overview

1. SQL Developer Web	2. SQL Developer	3. SQL*Loader	4. Data Pump	5. DBMS_CLOUD	6. MV2ADB

Options | **MV2ADB**

"One button approach"

Uses Data Pump

Loads from:

- Oracle Database

Documentation: Doc ID 2463574.1

Runs on Linux / Solaris

```
[oracle@hol ~]$ more mv2adb_metal.cfg
#---------------------------------------------------#
# DB Parameters #
#---------------------------------------------------#
DB_CONSTRING=//localhost/DB19.localdomain
SYSTEM_DB_PASSWORD=
SCHEMAS=METAL
DUMP_NAME=metal.dmp
DUMP_PATH=/tmp
OHOME=/u01/app/oracle/product/19
ICHOME=/u01/app/oracle/product/19
#---------------------------------------------------
# ADB Properties #
#---------------------------------------------------
ADB_NAME=METAL
ADB_TARGET=ADW
ADB_PASSWORD=
ADB_CFILE=/home/oracle/Wallet_METAL/Wa
#---------------------------------------------------
# Object Store Properties #
#---------------------------------------------------
OCI_REGION=eu-frankfurt-1
OCI_NAMESPACE=oradbclouducm
OCI_BUCKET=METAL
OCI_ID=daniel.overby.hansen@oracle.com
OCI_PASSWORD=
[oracle@hol ~]$
```

```
INFO: 2020-10-02 12:19:33: Reading the configuration file 'mv2adb_metal.cfg'
INFO: 2020-10-02 12:19:34: Checking schemas on source DB
INFO: 2020-10-02 12:19:35: Performing schema expdp for 'METAL' from source DB..
INFO: 2020-10-02 12:19:35: Step 1 - ...getting ADB parallelism
INFO: 2020-10-02 12:19:36: Step 2 - ...getting source DB version
INFO: 2020-10-02 12:19:37: Step 3 - ...creating expdp directory 'MV2ADB_EXPDP_D
INFO: 2020-10-02 12:19:38: Step 4 - ...getting latest SCN
INFO: 2020-10-02 12:19:39: Step 5 - ...checking Cloud Service Type
INFO: 2020-10-02 12:19:41: Step 6 - ...executing export datapump as jobname 'MV
INFO: 2020-10-02 12:19:41: Expdp log location available at the end of the proce
expdp_5444.log'

Starting "SYSTEM"."MV2ADB_JOB":  system/********@//localhost/DB19.localdomain S
CHEMAS=METAL VERSION=19.0.0 DIRECTORY=MV2ADB_EXPDP_DIR DUMPFILE=metal_%u.dmp PA
E=index,cluster,indextype,materialized_view,materialized_view_log,materialized_
dp_5444.log FLASHBACK_SCN=4010150 FILESIZE=5GB
Processing object type SCHEMA_EXPORT/DEFAULT_ROLE
Processing object type SCHEMA_EXPORT/SYSTEM_GRANT
Processing object type SCHEMA_EXPORT/ROLE_GRANT
Processing object type SCHEMA_EXPORT/USER
Processing object type SCHEMA_EXPORT/TABLESPACE_QUOTA
Processing object type SCHEMA_EXPORT/TABLE/STATISTICS/TABLE_STATISTICS
Processing object type SCHEMA_EXPORT/PRE_SCHEMA/PROCACT_SCHEMA
Processing object type SCHEMA_EXPORT/TABLE/TABLE_DATA
. . exported "METAL"."ALBUMS"                          988.8 KB   28069 rows
. . exported "METAL"."BANDS"                          3.444 MB   37723 rows
. . exported "METAL"."REVIEWS"                        66.47 MB   21510 rows
```
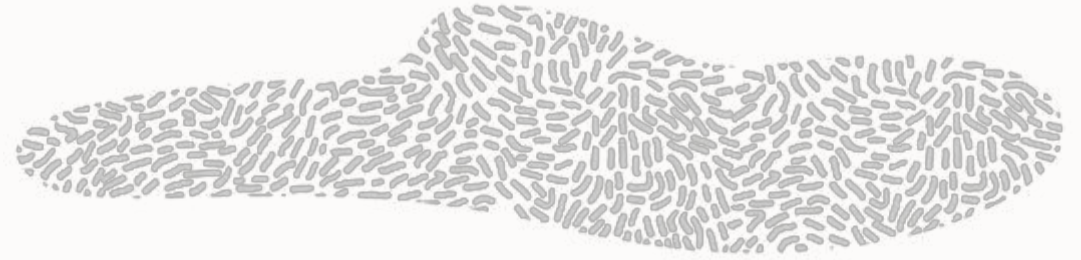
Database Cloud Service

Zero Downtime Migration

"

ZDM is a free tool that you can use to migrate Linux databases into OCI with zero downtime

Prerequisites And Features | Location

Location
Release
Platform
Architecture
Overview

- Source database can be located
  - On-premises
  - Oracle Cloud Infrastructure Classic (OCI-C)
  - Oracle Cloud Infrastructure (OCI)

Prerequisites And Features | Release

- Supported database releases:
  - 11.2.0.4
  - And anything newer

- Target database release must be the same

Prerequisites And Features | **Platform**

Location
Release
Platform
Architecture
Overview

- Supported source platform
  - Linux

Prerequisites And Features | Architecture
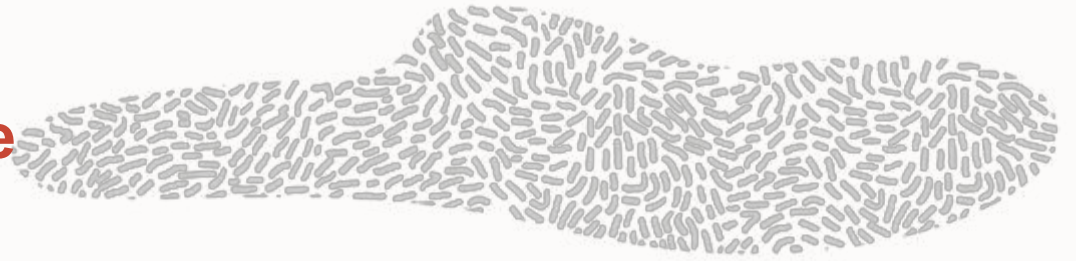
Location

Release

Platform

Architecture

Overview

- Any architecture supported (non-CDB and CDB)
  - Migrated "as-is"
  - No PDB conversion
  - All PDBs included

Prerequisites And Features | Download and Configuration

Location
Release
Platform
Architecture
Overview
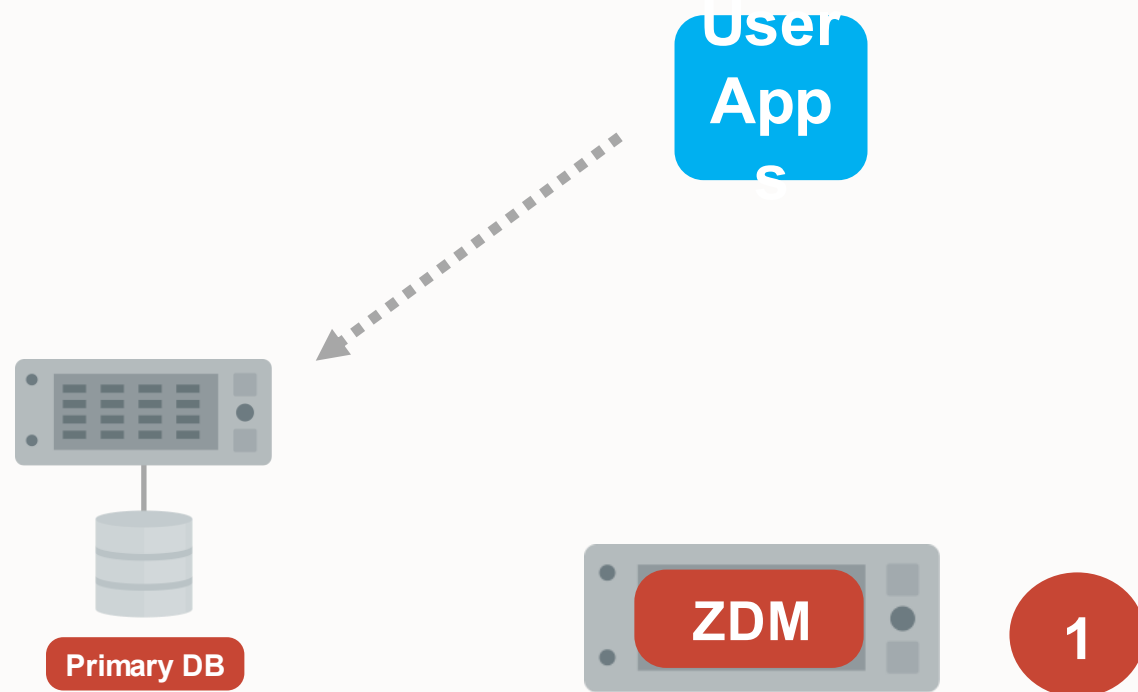
Prerequisites And Features | Start Database Migration
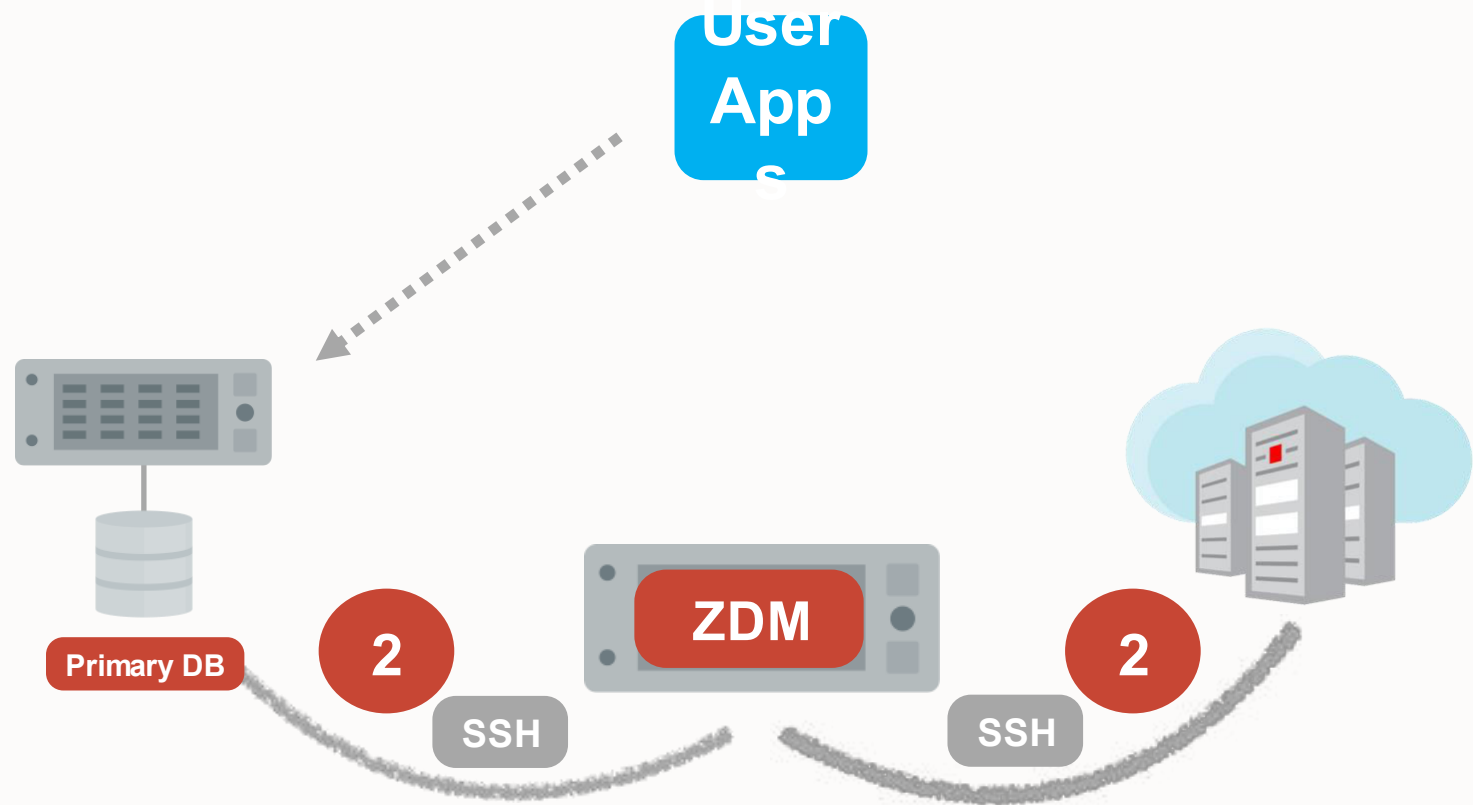
Prerequisites And Features | ZDM connects to object storage
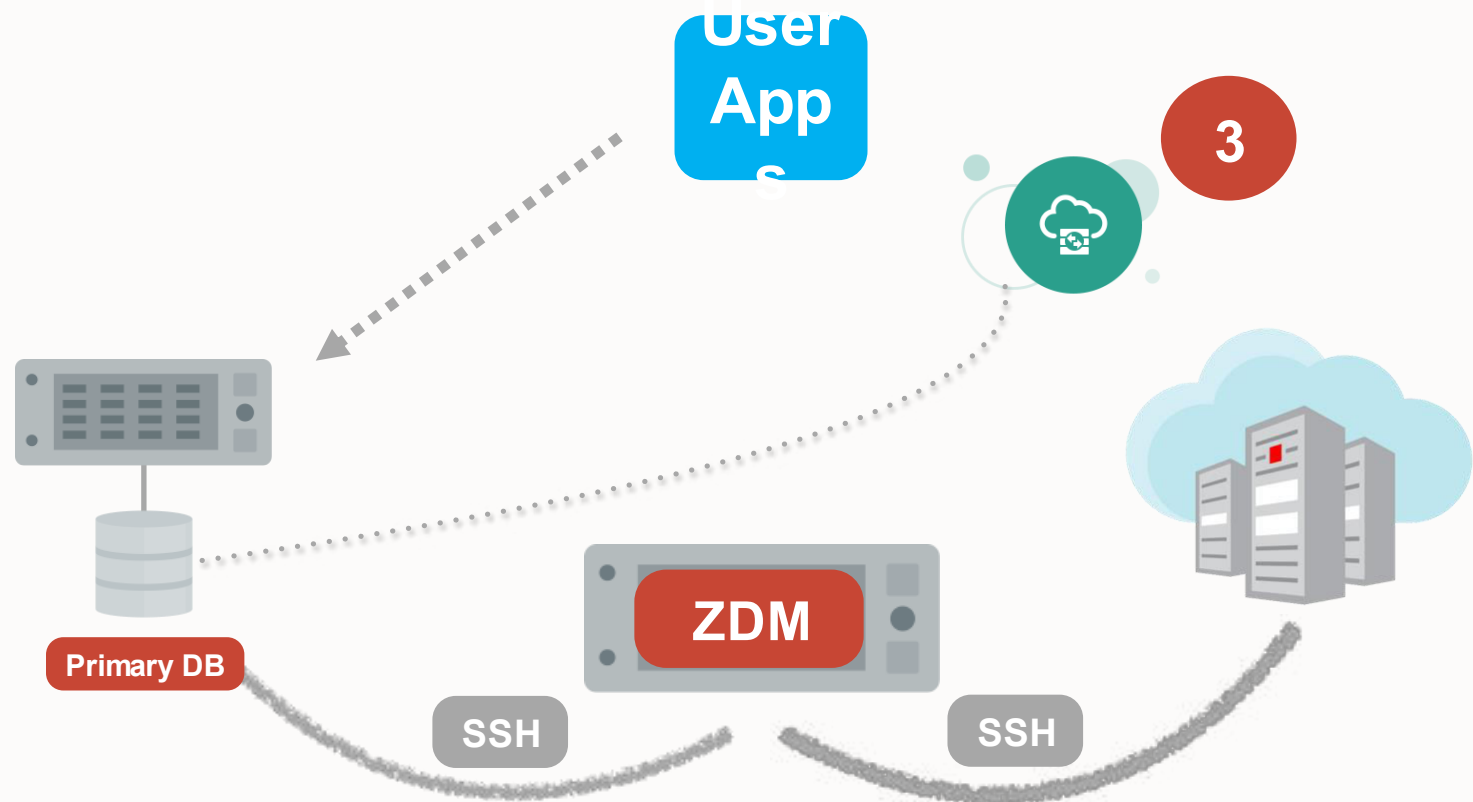
Prerequisites And Features | ZDM backups database to object storage
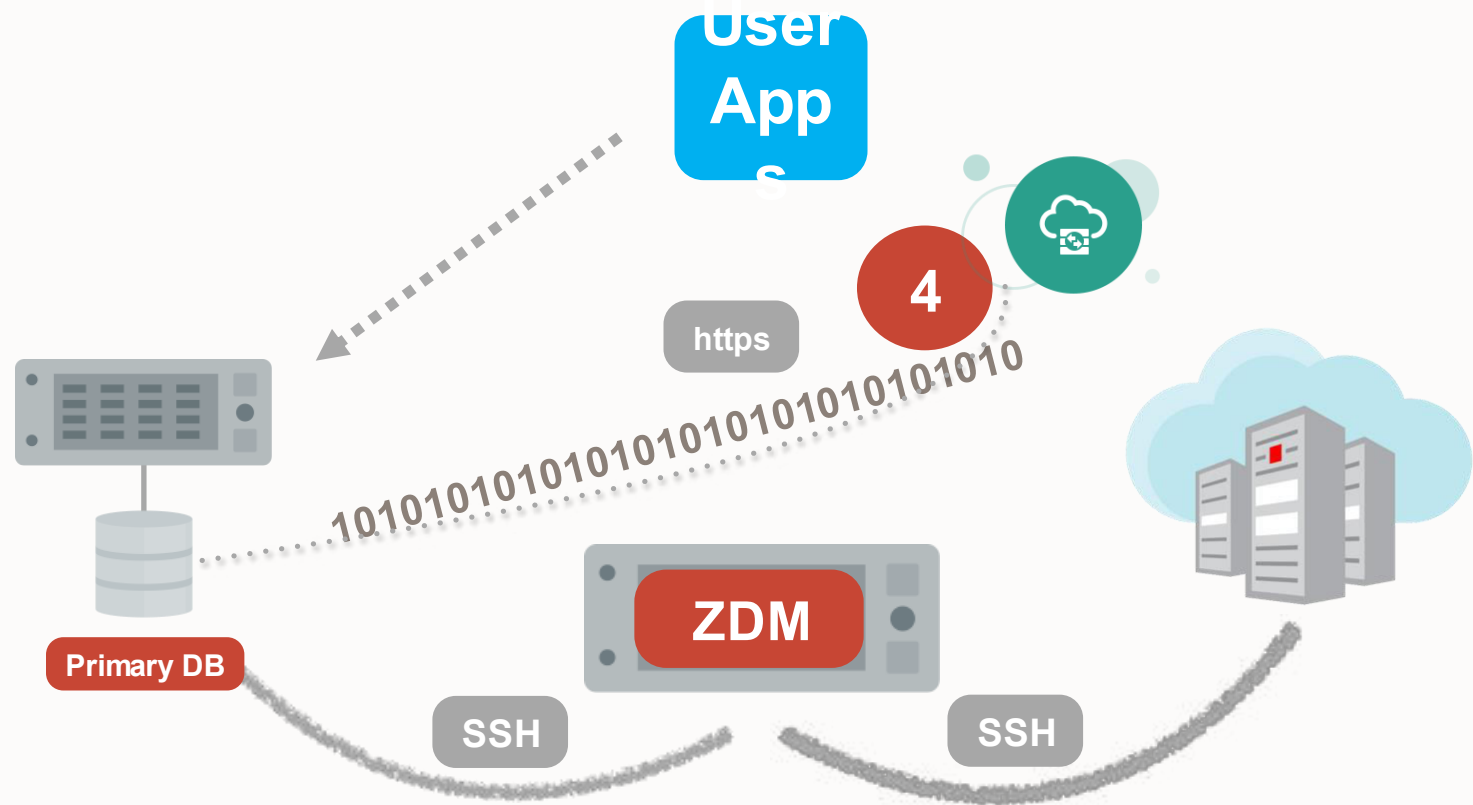
Prerequisites And Features | ZDM instantiates standby database

User Apps

ZDM

Primary DB

SSH

SSH

Standby DB

5
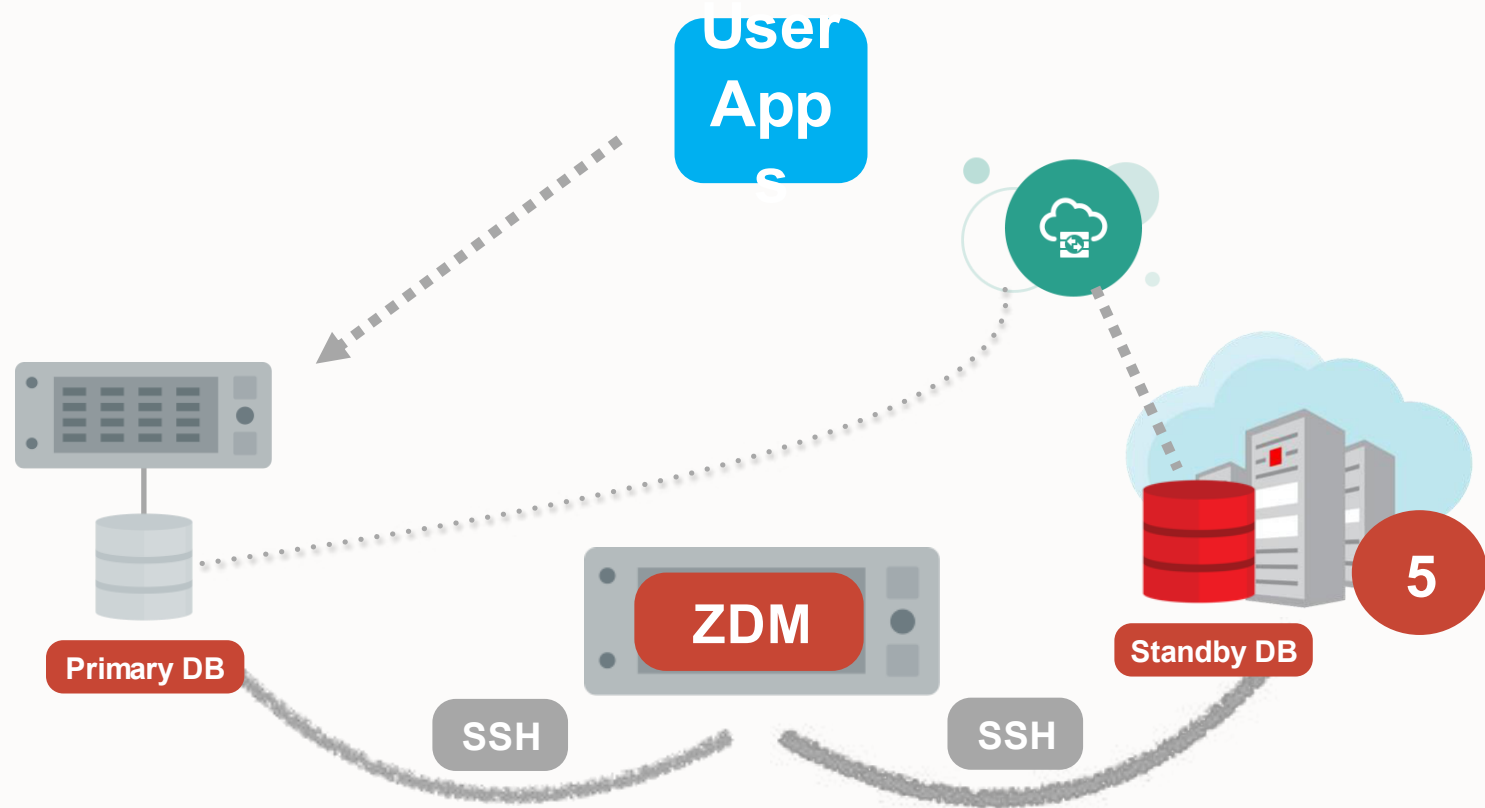
Prerequisites And Features | Synchronization Primary - Standby

Location

Release

Platform

Architecture
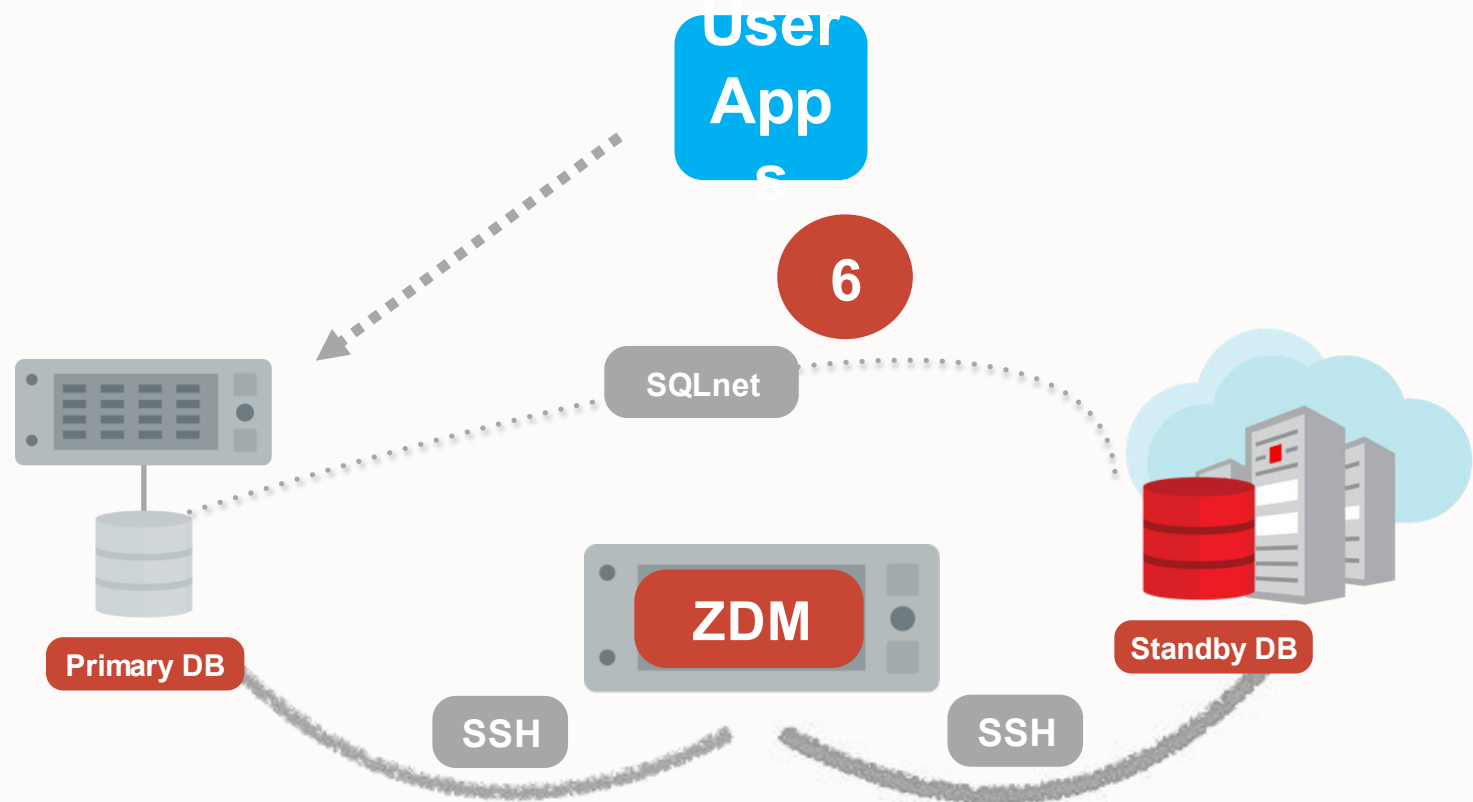
Overview

Prerequisites And Features | Switchover and Role Exchange
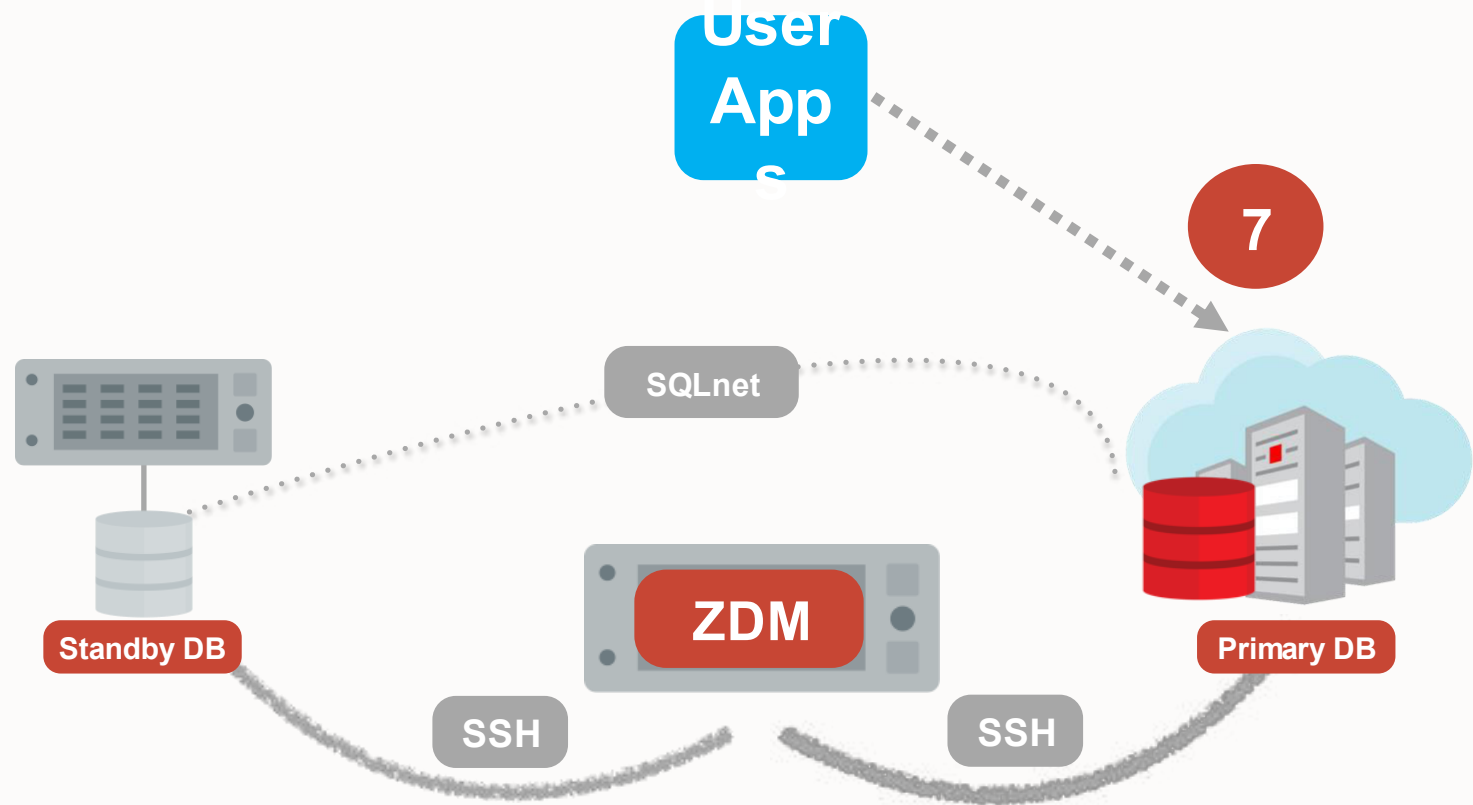
Prerequisites And Features | Finalize the migration

Location
Release
Platform
Architecture
Overview
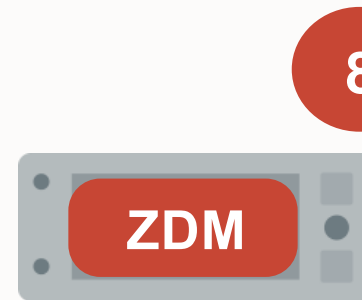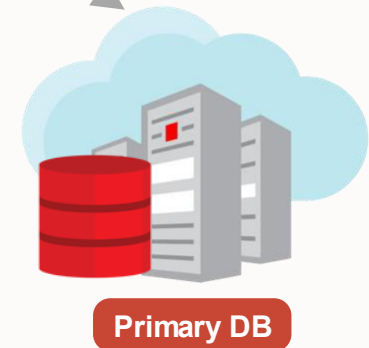
Standby DB

User App s

8

ZDM

Primary DB
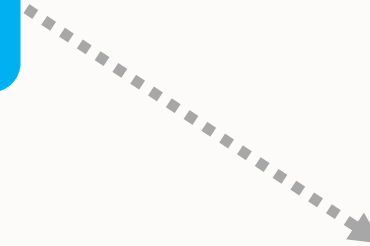
Cloud Migration Methods | www.oracle.com/goto/move

Cloud Migration Advisor
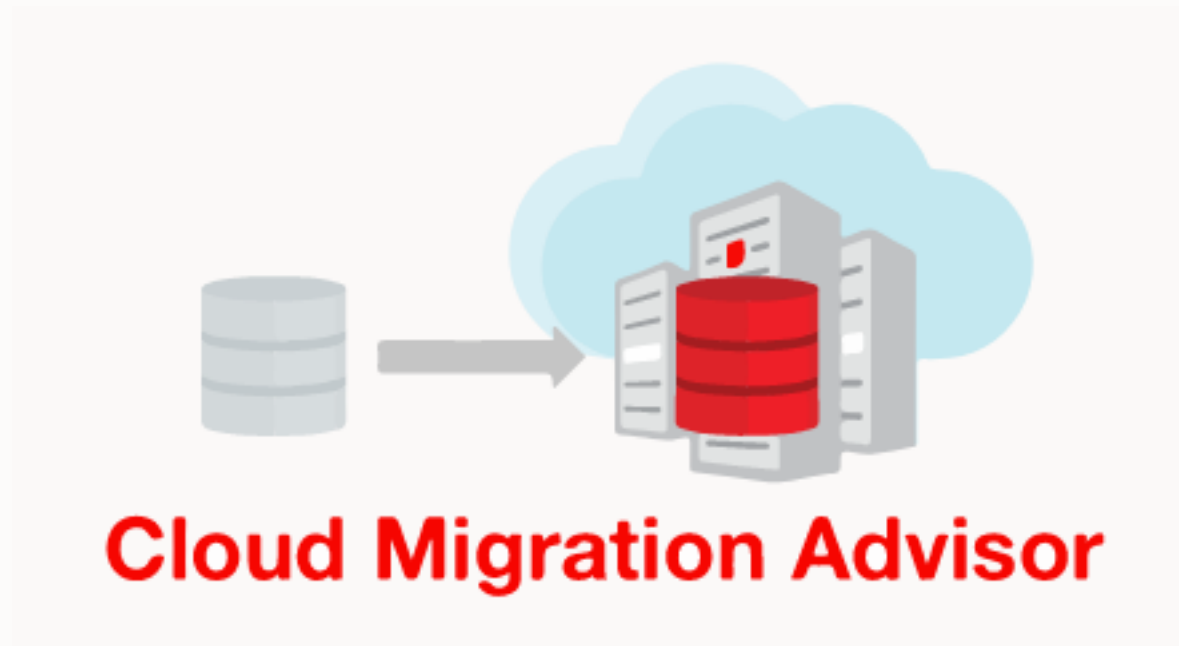
Thank you!

It is time to wrap up