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Migrating WebLogic applications to Cloud

Options and techniques to migrate your Application databases

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Safe harbor statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions.

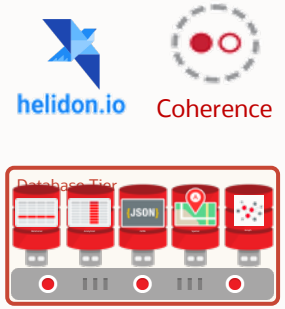
The development, release, timing, and pricing of any features or functionality described for Oracle's products may change and remains at the sole discretion of Oracle Corporation.

Introduction of WebLogic on OCI

The WebLogic Product Roadmap

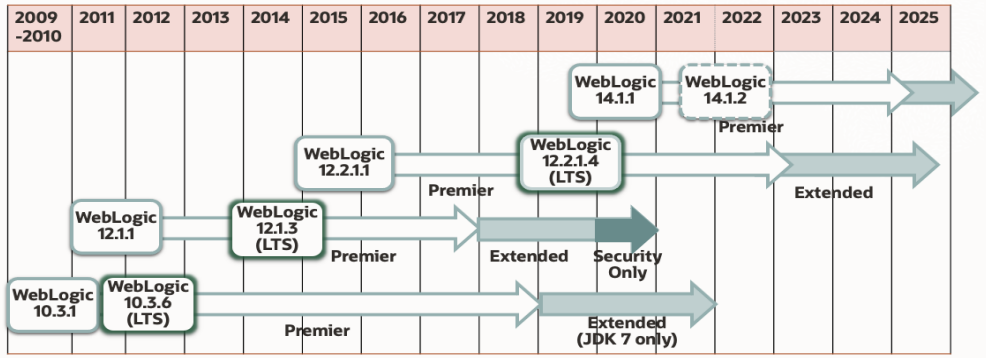
- **Embrace Cloud Native**
  - Key trend in Application Development
  - Modernize your existing applications without code changes
  - Large toolset to embrace modern development automation (CI/CD)
  - Enable Modern Monitoring and Logging tooling

- **Ongoing evolution in 14.1.x**
  - WebLogic Java EE 8 and Jakarta EE 8 Support
  - Coherence, Tracing, GraalVM polyglot
  - Java SE 8 and Java SE 11 Support
  - Generic, slim and quick installers



- **Micro Service Ready**
  - Easy adoption of Java Microservices with Helidon
  - Hybrid applications: WebLogic + Helidon combined
  - Coherence: interaction between microservices
- **Converged Database**
  - Relational, Columnar, JSON, Spatial, …

- **Extensive (long-term) Support Roadmap**



Oracle WebLogic Server for Oracle Cloud Infrastructure

Deployment Models:

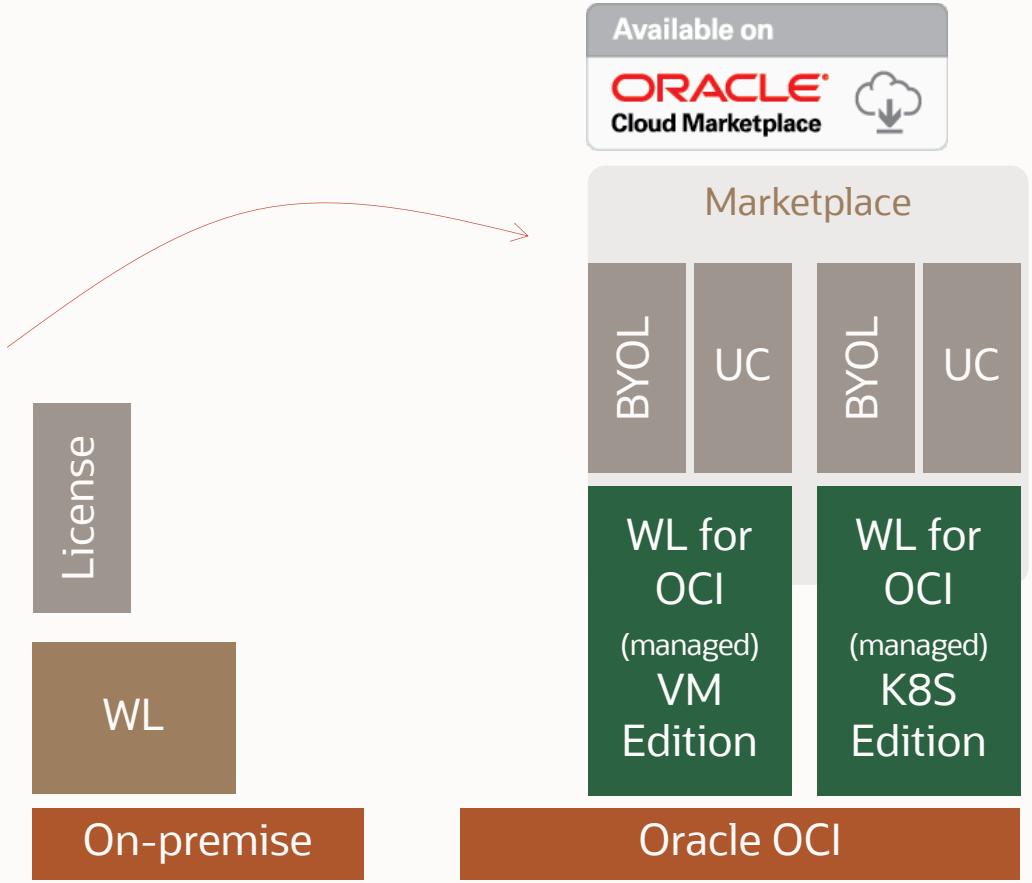
- WLS on Virtual Machines (Classic)
- WLS on Kubernetes (Cloud Native)

Commercial Models:

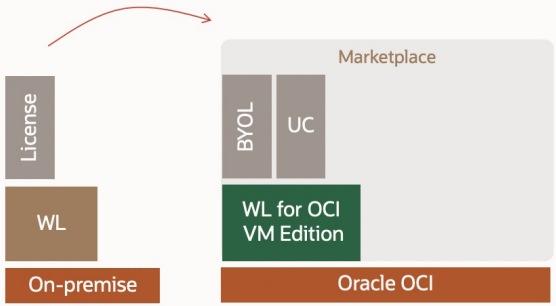
- Bring Your Own License (BYOL)
- Universal Credit (UC)

Supports

- WebLogic Server **11g** and **12c**
- Supports JRF and Non-JRF domains
- Supports ATP DB and OCI DB as infra DB

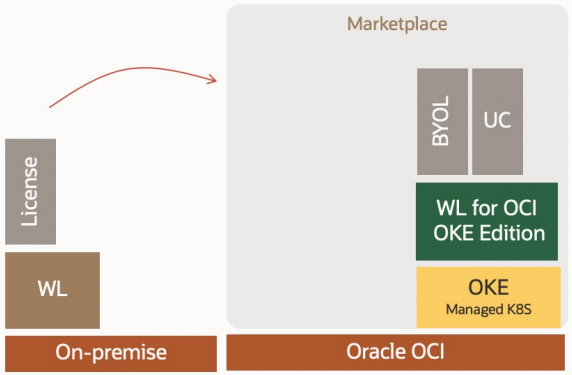


WebLogic Use-Cases



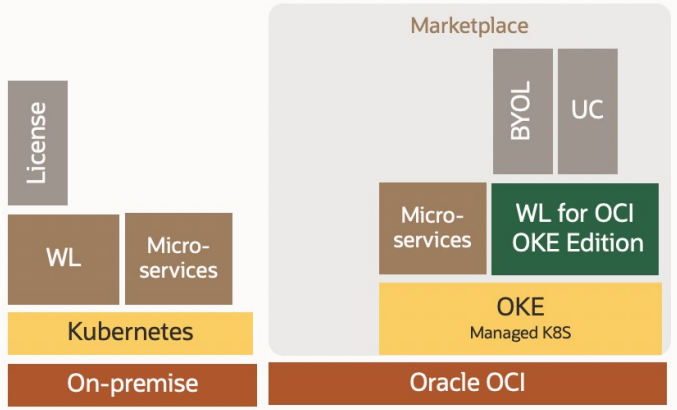
Lift & Shift

- Move on-premise Applications to OCI
- DB and WLS platform services
- Use the WLS on OCI VM flavor
- Same architecture as on-premise



Modernize with Containers

- Containerize Application Landscape
- Use DB as a PaaS service
- Run WLS for OKE flavor
- Incorporate modern DevOps



Hybrid Architectures

- Combine on-premise and Cloud
- Combine classic Java EE and Microservices
- Test & Dev / DR topologies

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Move your Databases to the Cloud

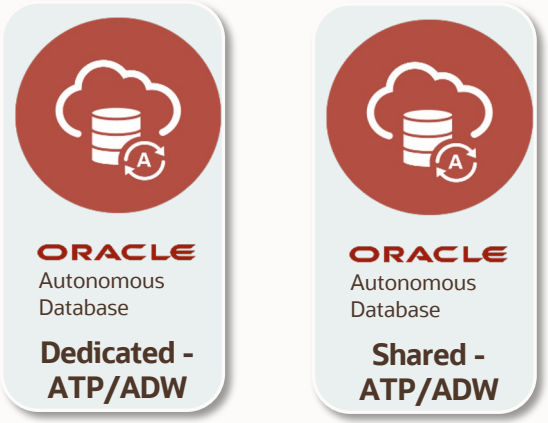
Prashant Barot
Technology Director

Oracle Database in the Cloud

- Security by default
- 100% Compatible with On-prem
- Advanced Network Architecture
- Flexible Subscription Options
- High Availability and Redundancy
- Choice of VM, Bare Metal, Exadata and Autonomous
- AI- and ML-based Automation

Oracle Cloud Database Services

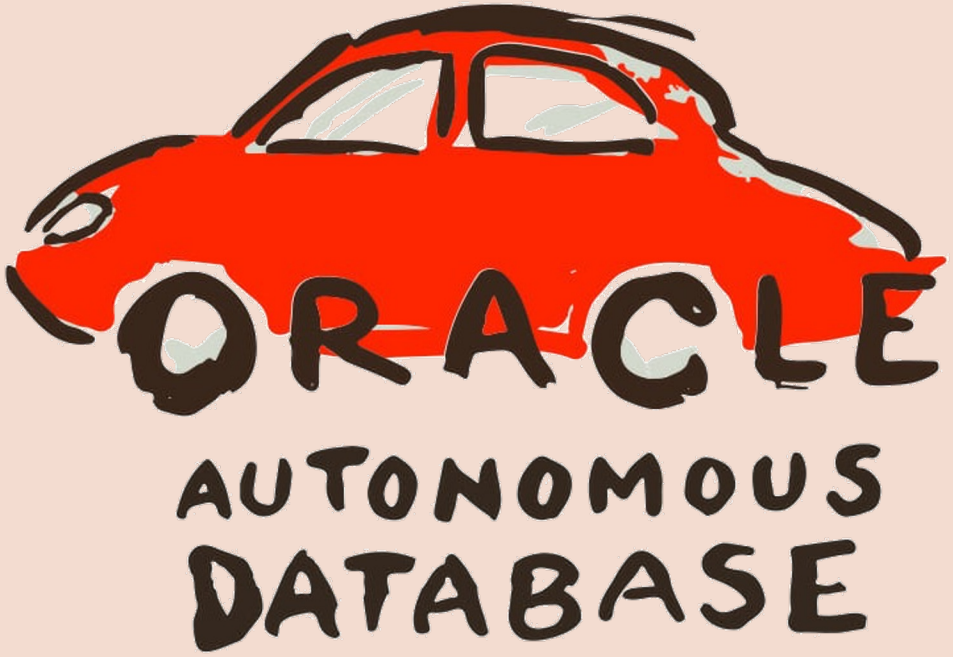
Autonomous



Co-Managed

User Managed

The Right Cloud Database for Every Use Case



Autonomous Database

How to Move Your Data into an Autonomous Database

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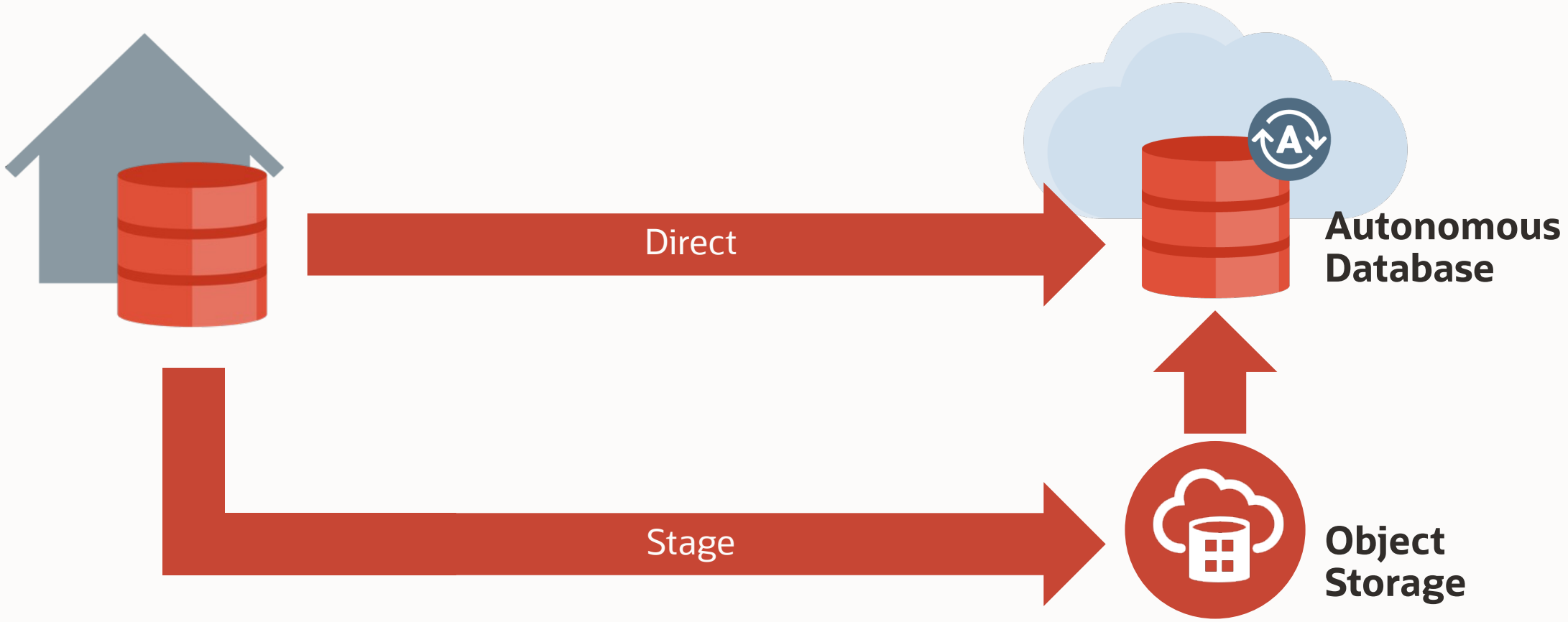
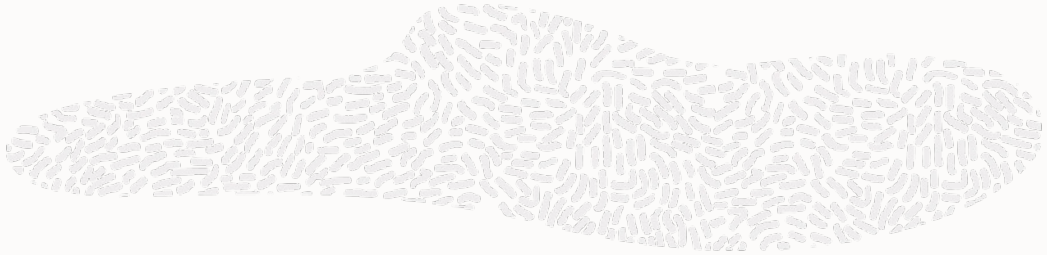
When it comes to migration, Autonomous Database differs because you will be migrating data, not databases

Autonomous Database | Migration Techniques



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

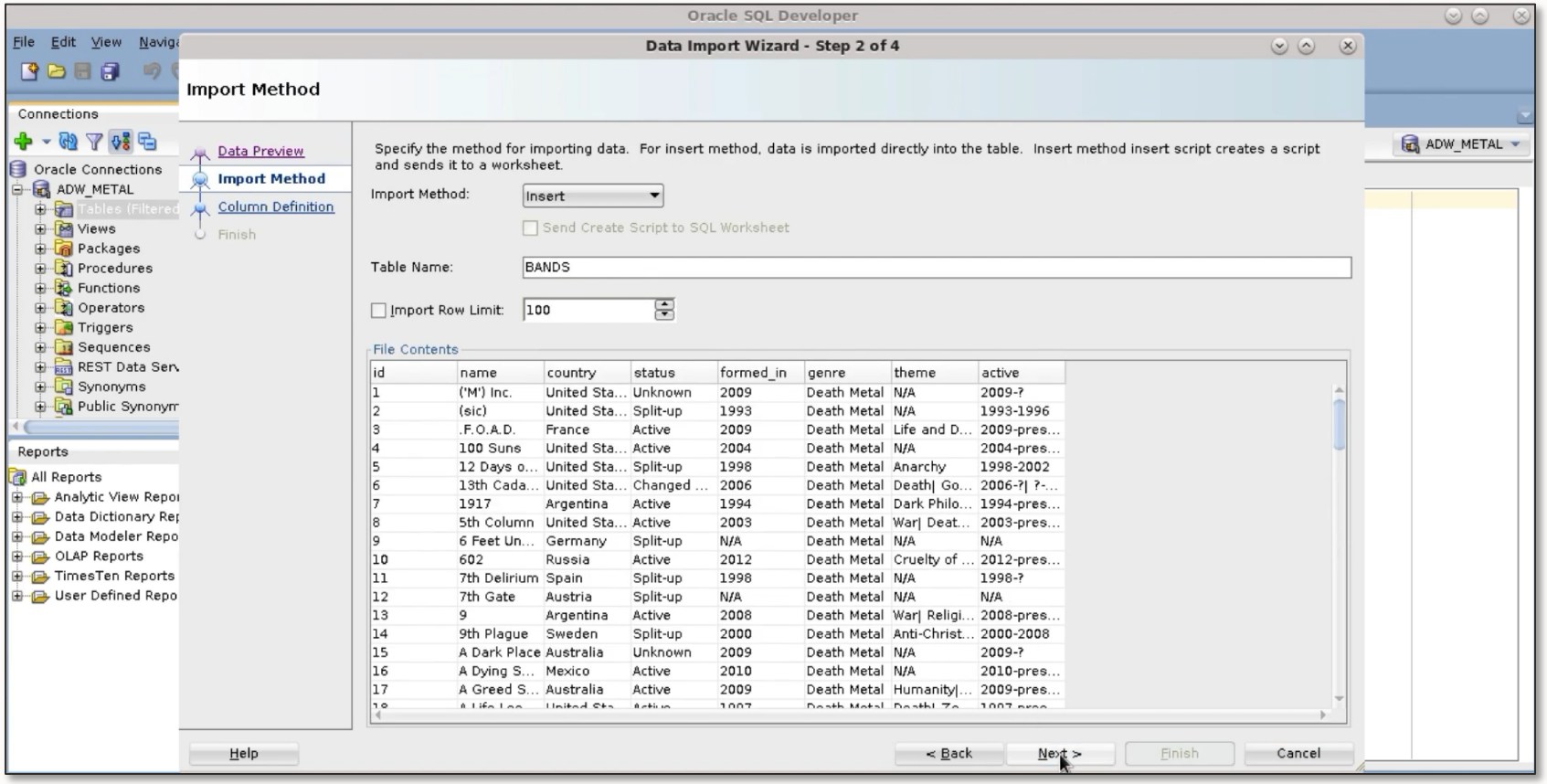
Quick and simple

Works on:

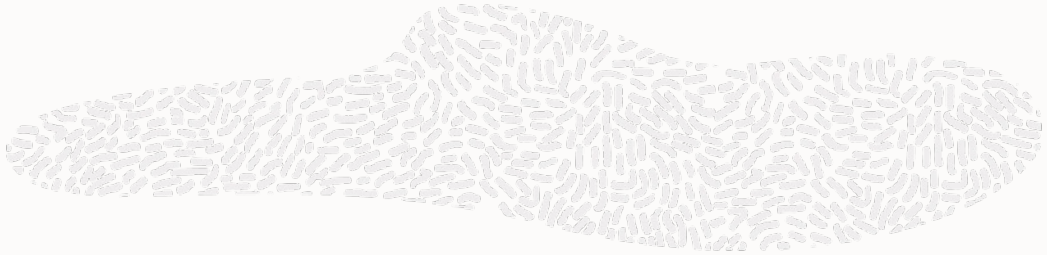
- CSV
- XML
- JSON
- XLS/XLSX
- Avro

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
```
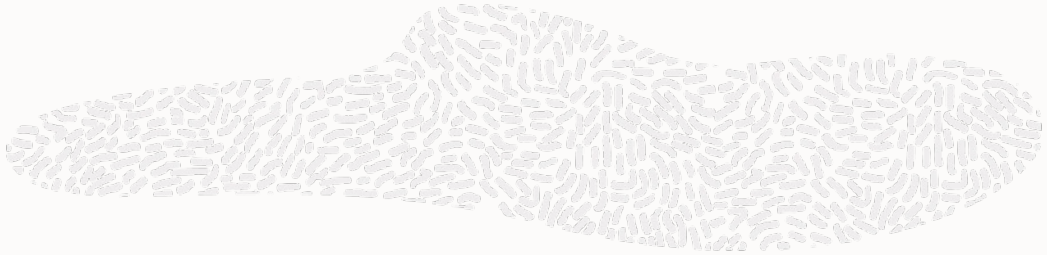

Options | Overview



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

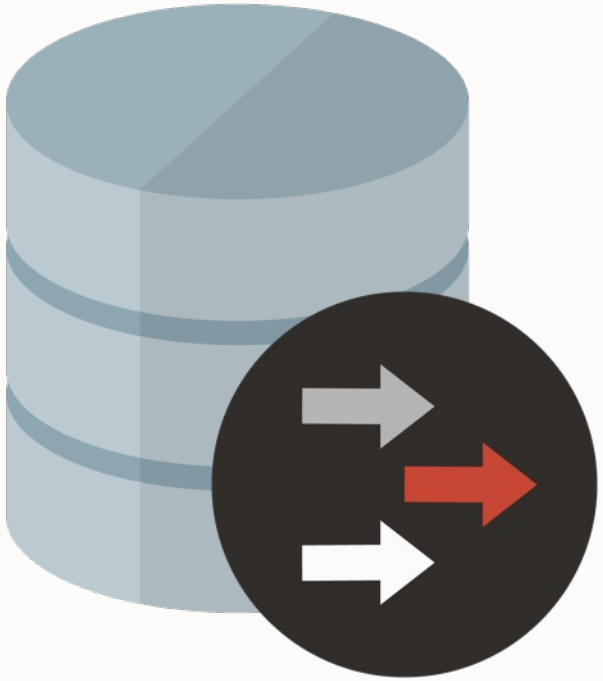
Best option for big data

Can transform metadata

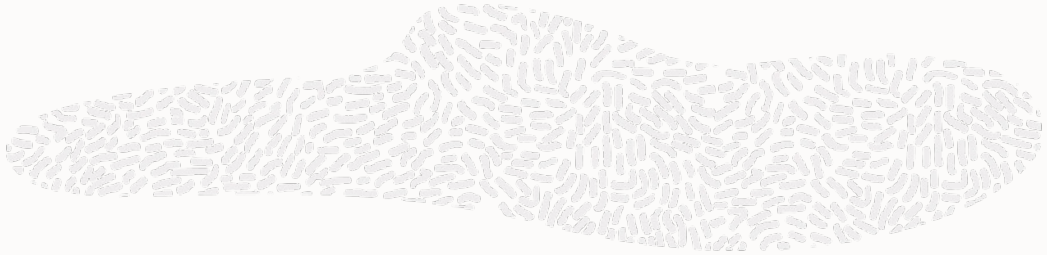
Loads from:

- Oracle Database (database link)
- OCI Object Storage

Pro tip: Use SQL Developer

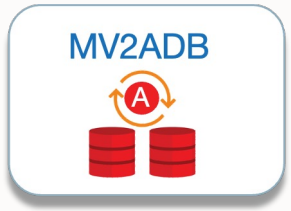


Options | Overview



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

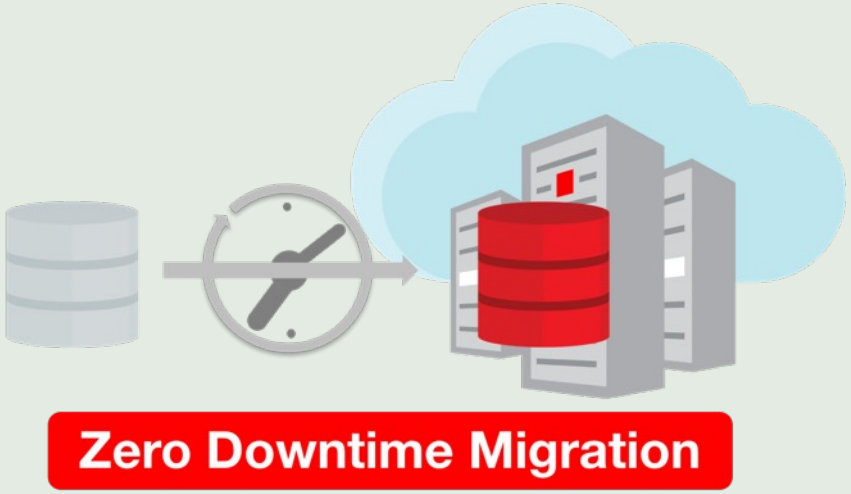
Documentation: Doc ID 2463574.1

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

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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

Location
Release
Platform
Architecture
Overview

- 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

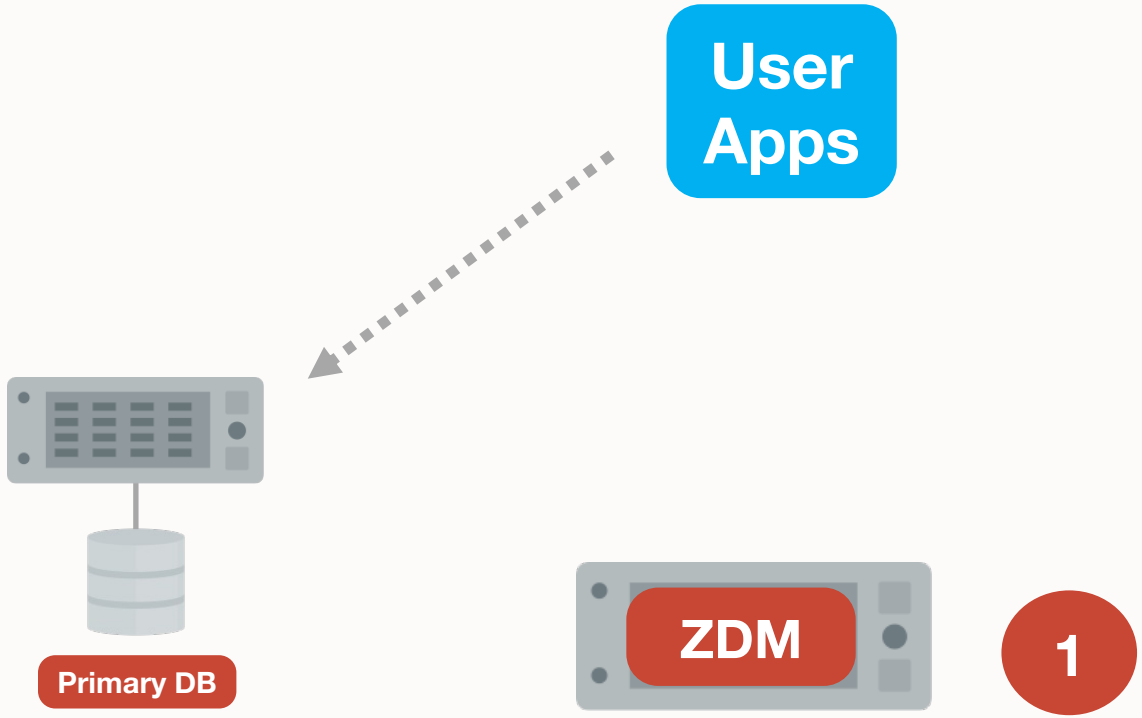
Prerequisites And Features | Architecture

- Location
- Release
- Platform
- Architecture
- Overview

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

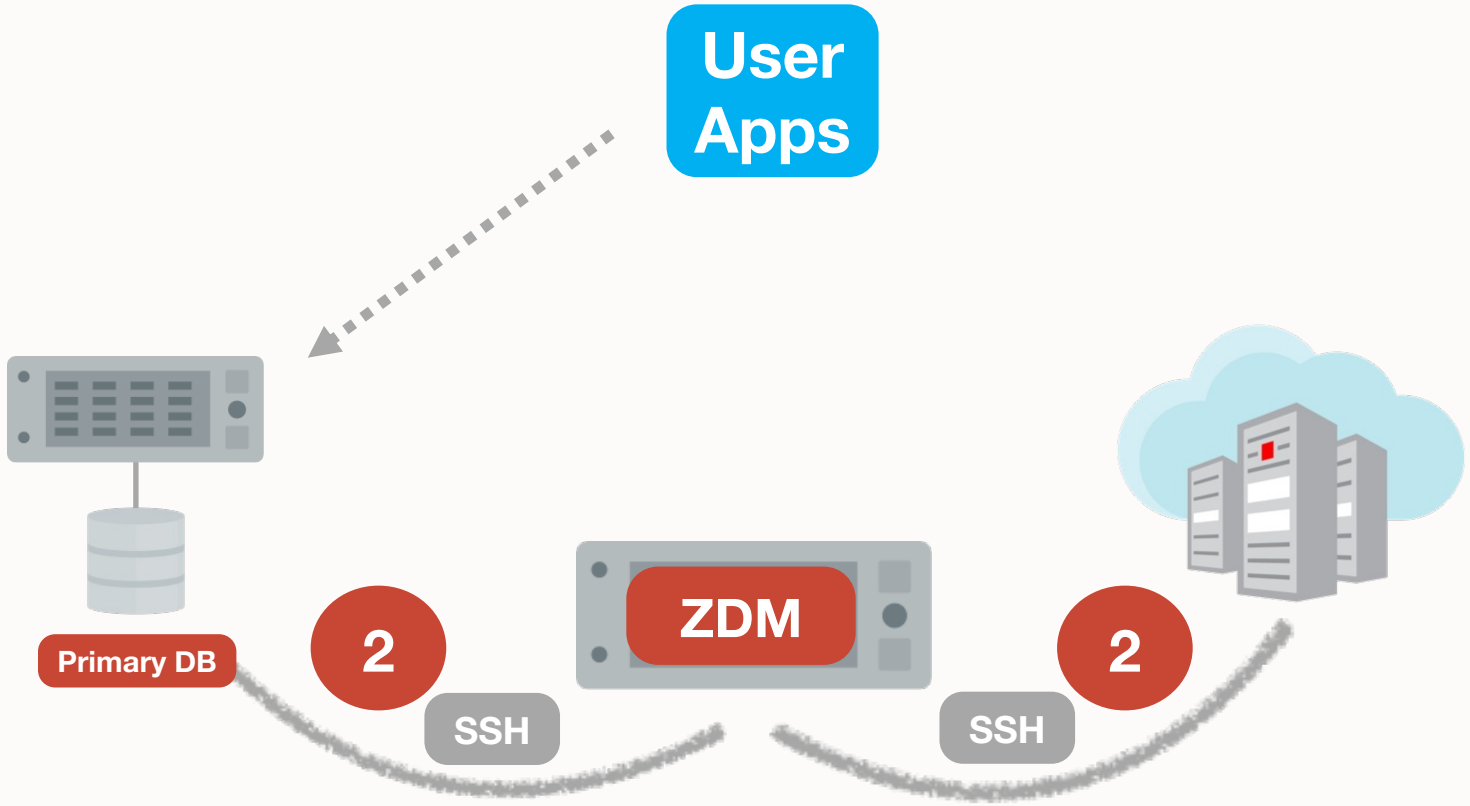
Prerequisites And Features | Download and Configuration

- Location
- Release
- Platform
- Architecture
- Overview



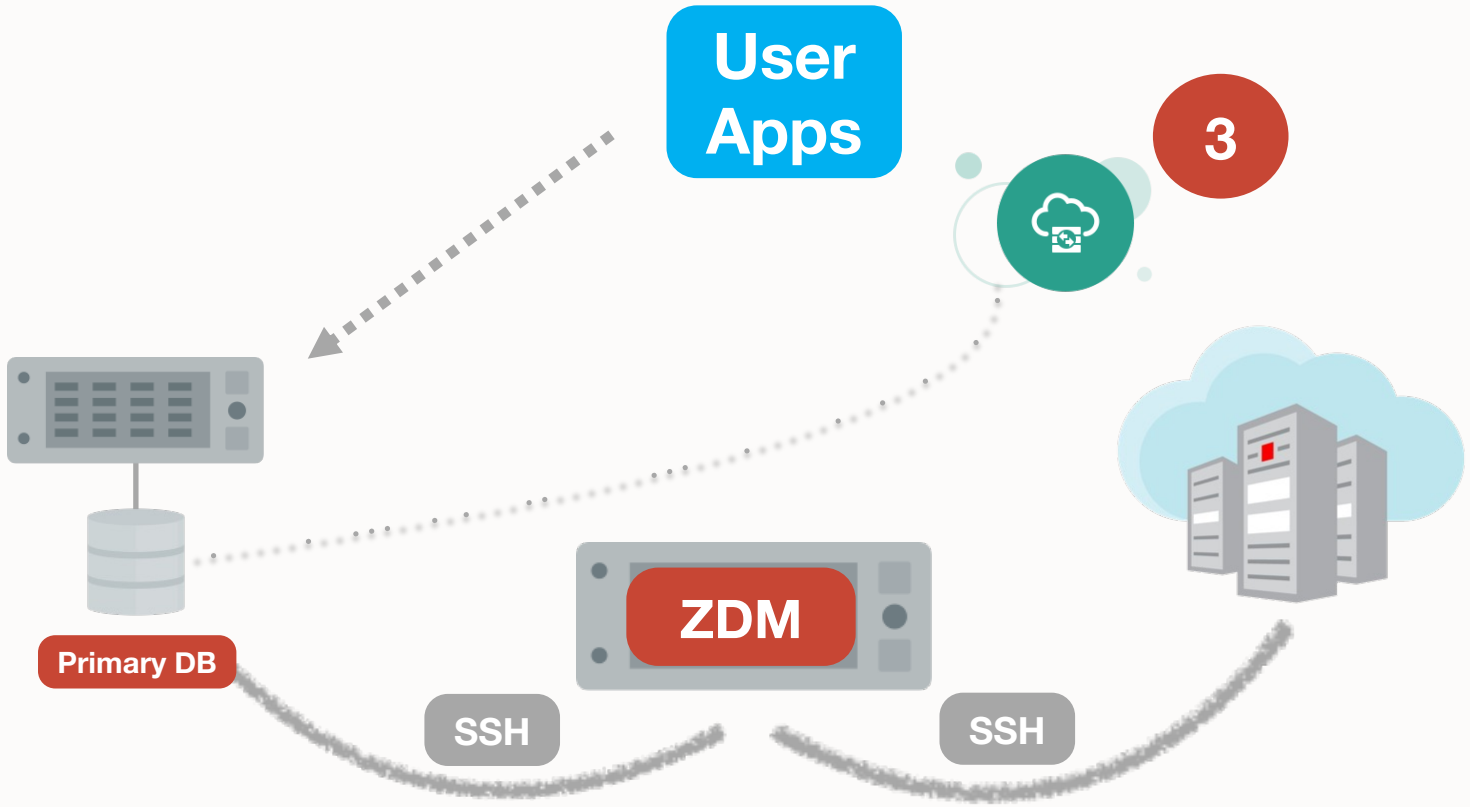
Prerequisites And Features | Start Database Migration

- Location
- Release
- Platform
- Architecture
- Overview



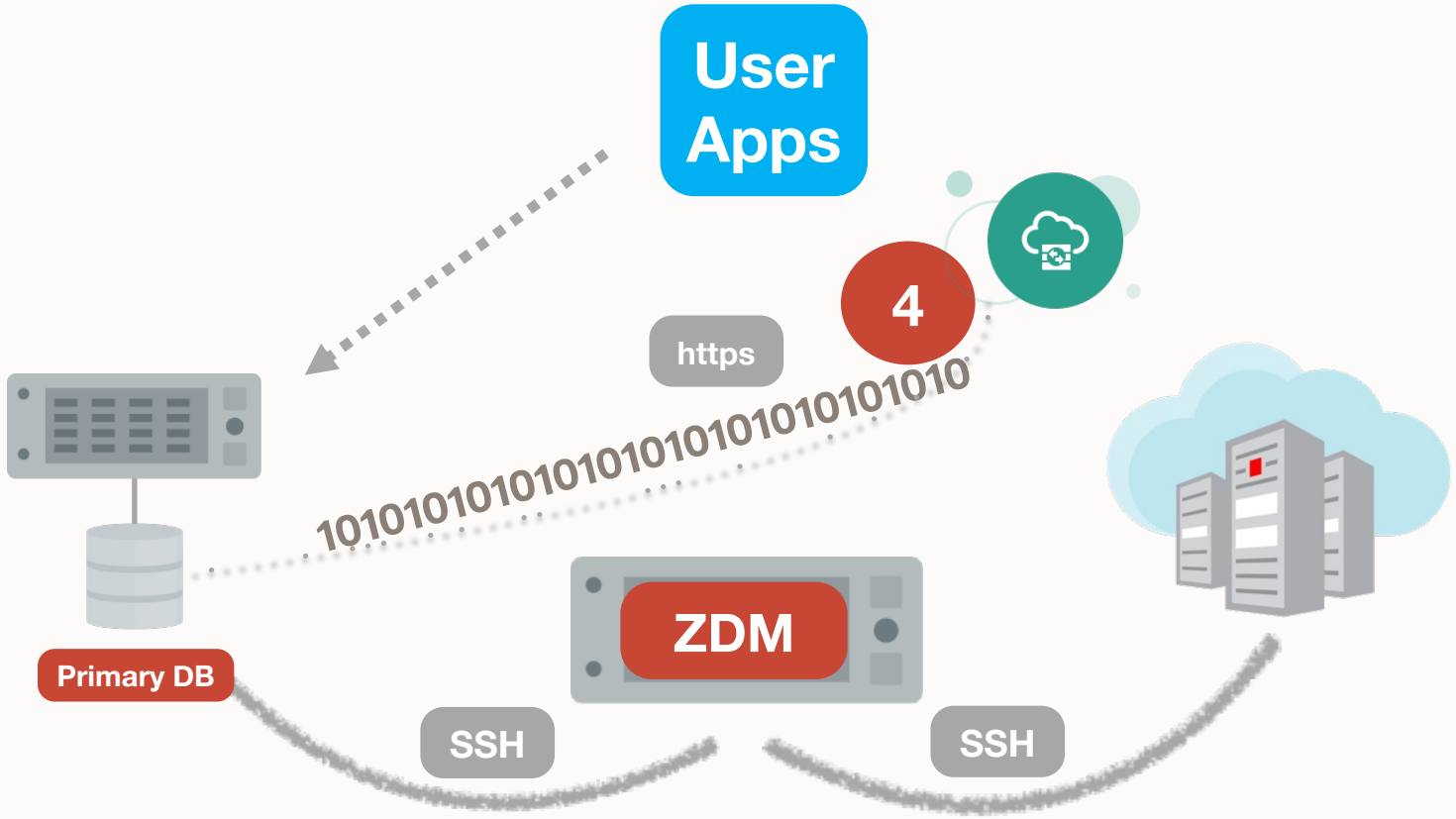
Prerequisites And Features | ZDM connects to object storage

- Location
- Release
- Platform
- Architecture
- Overview



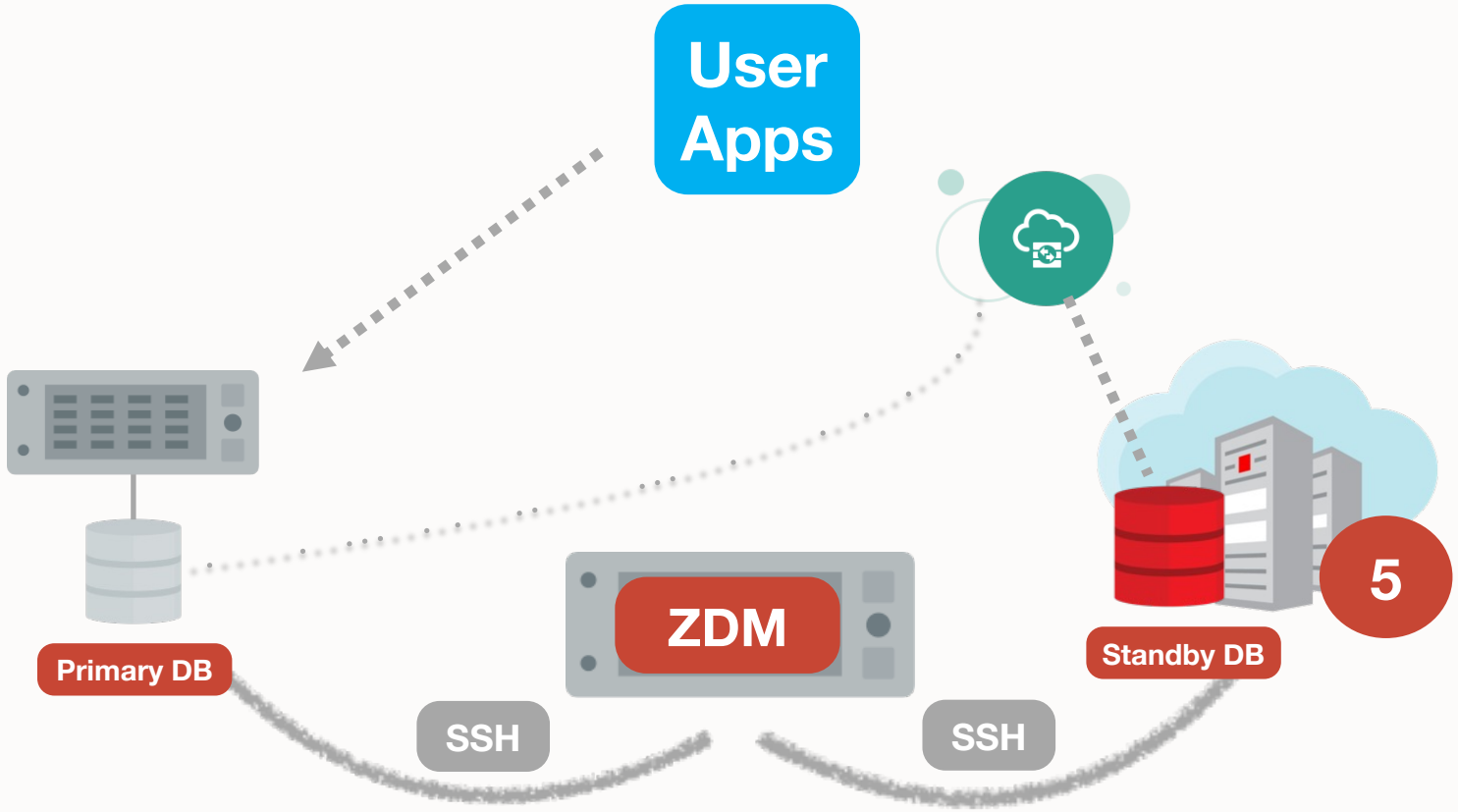
Prerequisites And Features | ZDM backups database to object storage

- Location
- Release
- Platform
- Architecture
- Overview



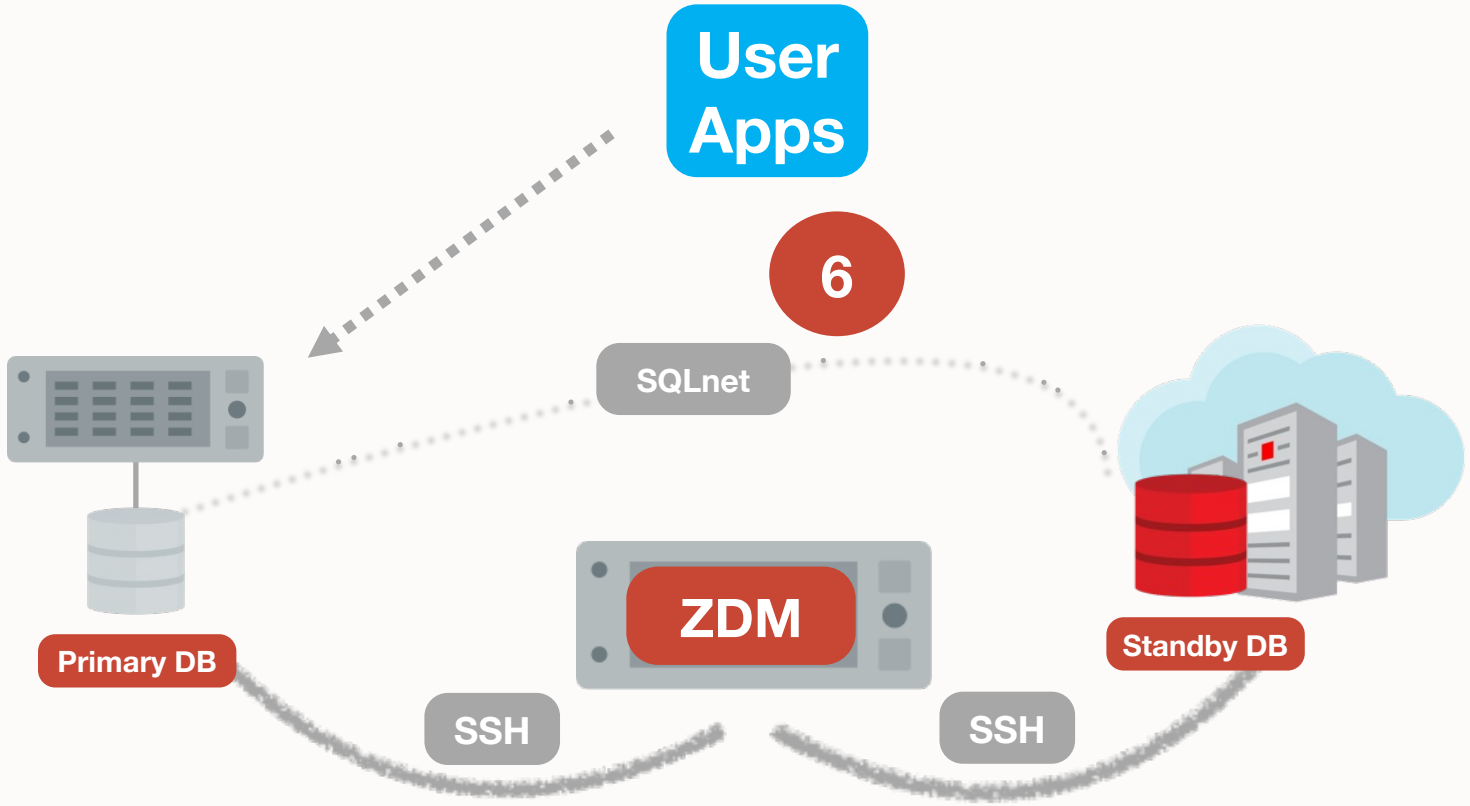
Prerequisites And Features | ZDM instantiates standby database

- Location
- Release
- Platform
- Architecture
- Overview



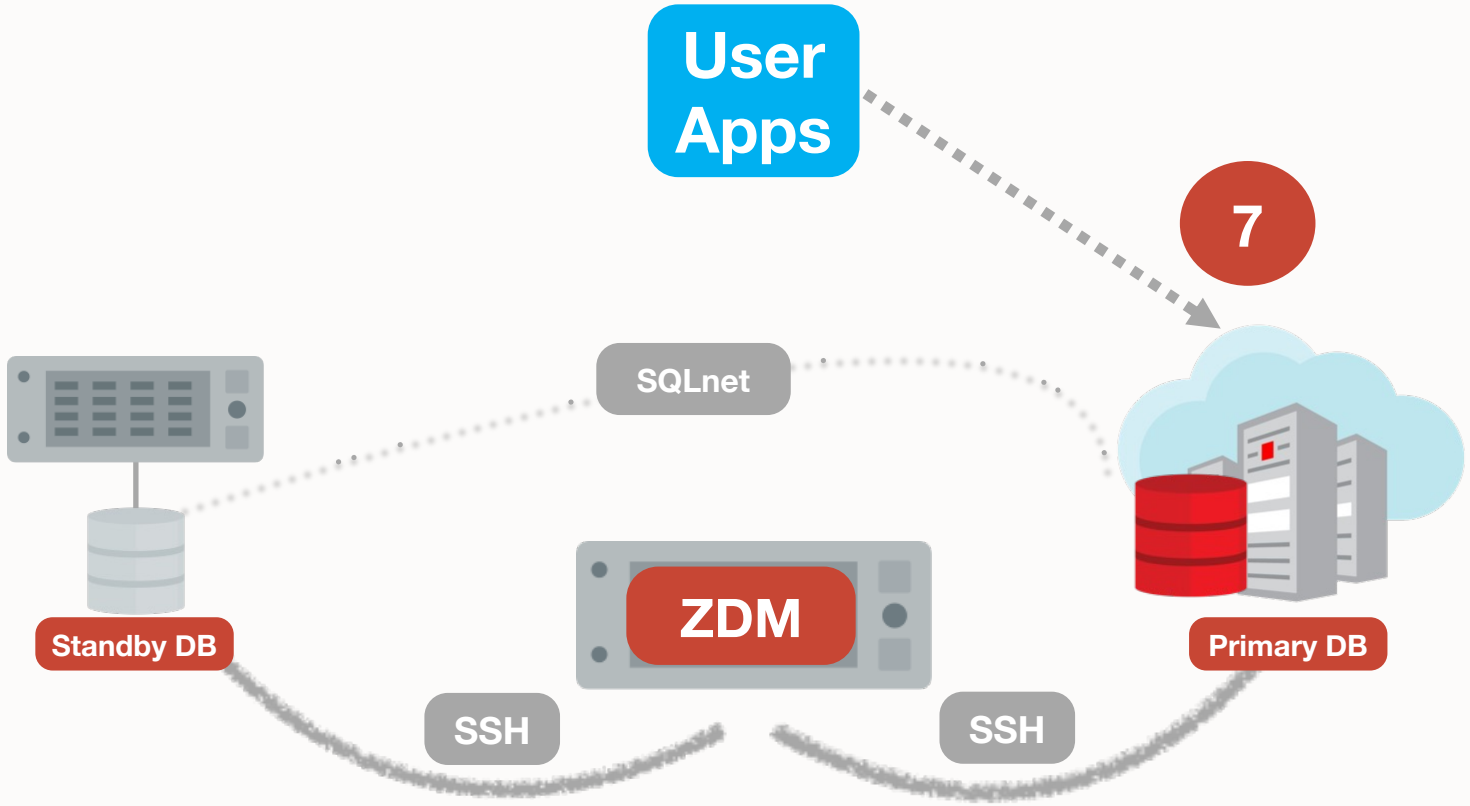
Prerequisites And Features | Synchronization Primary - Standby

- Location
- Release
- Platform
- Architecture
- Overview



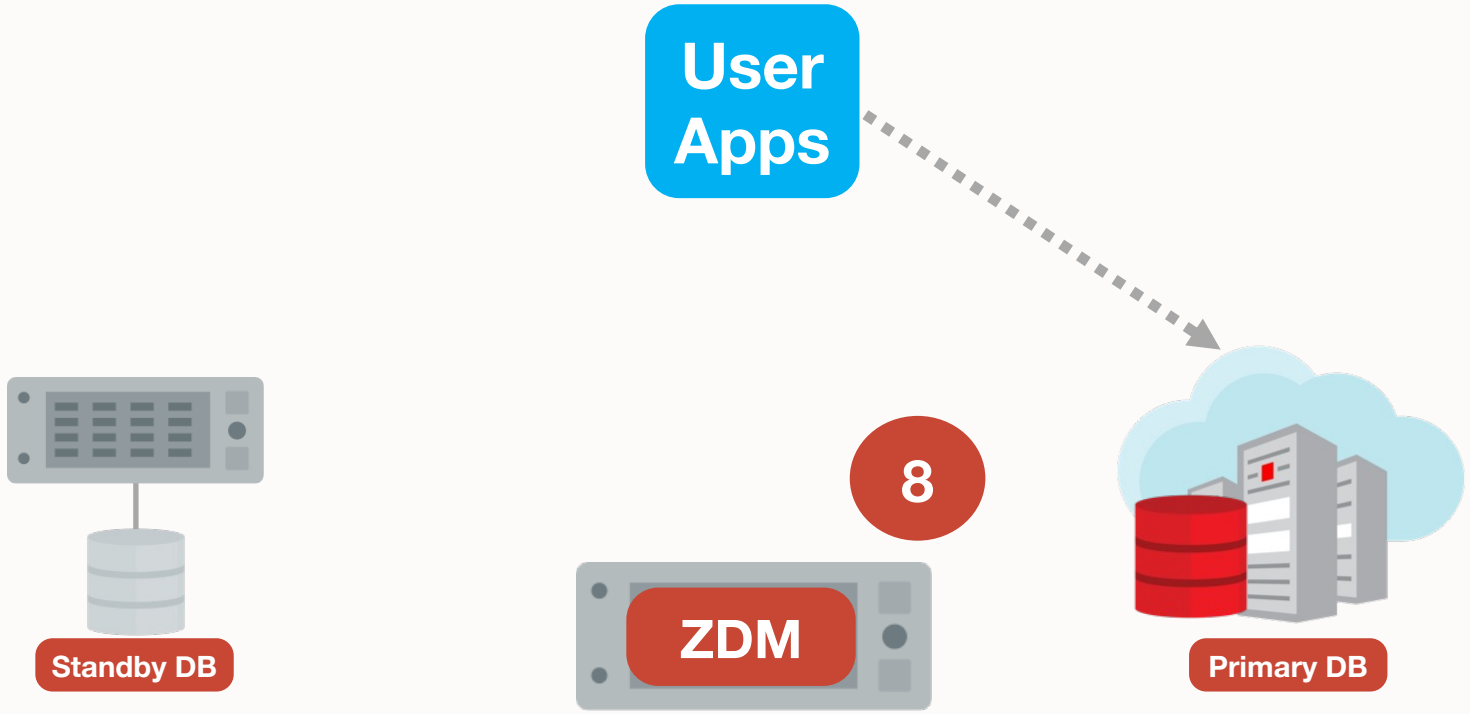
Prerequisites And Features | Switchover and Role Exchange

- Location
- Release
- Platform
- Architecture
- Overview



Prerequisites And Features | Finalize the migration

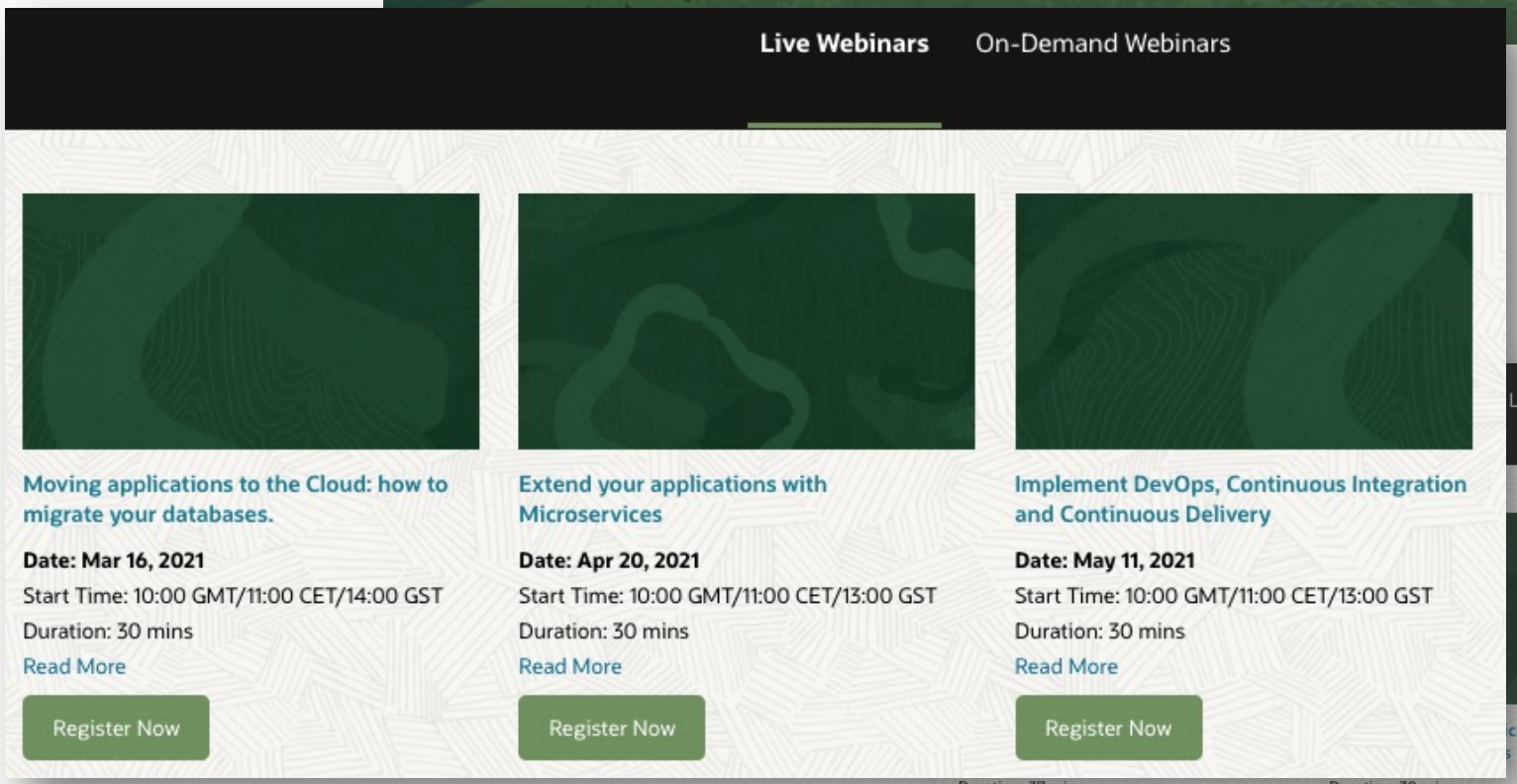
- Location
- Release
- Platform
- Architecture
- Overview

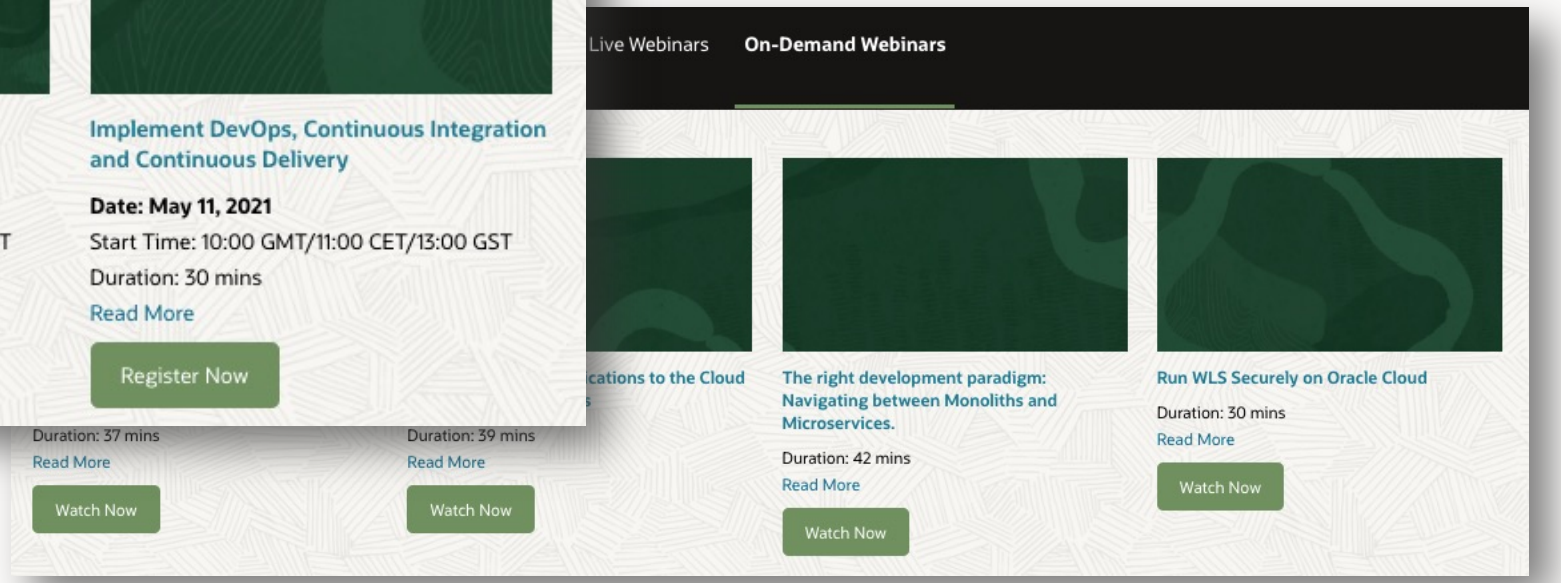


Cloud Migration Methods | www.oracle.com/goto/move

Our mission is to help people
see data in new ways, discover insights,
unlock endless possibilities.

Modernise WebLogic based applications with Oracle Cloud





Thank you

Q&A

The Oracle Team

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