

Understanding Oracle Data Pump

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Module Overview

Features

Scenario
introduction

Data access
methods

Components

Data Pump modes

Data movement
between database
versions

Features

Performance

Reduced network data transfer

Interactive command line mode

Better monitoring and control

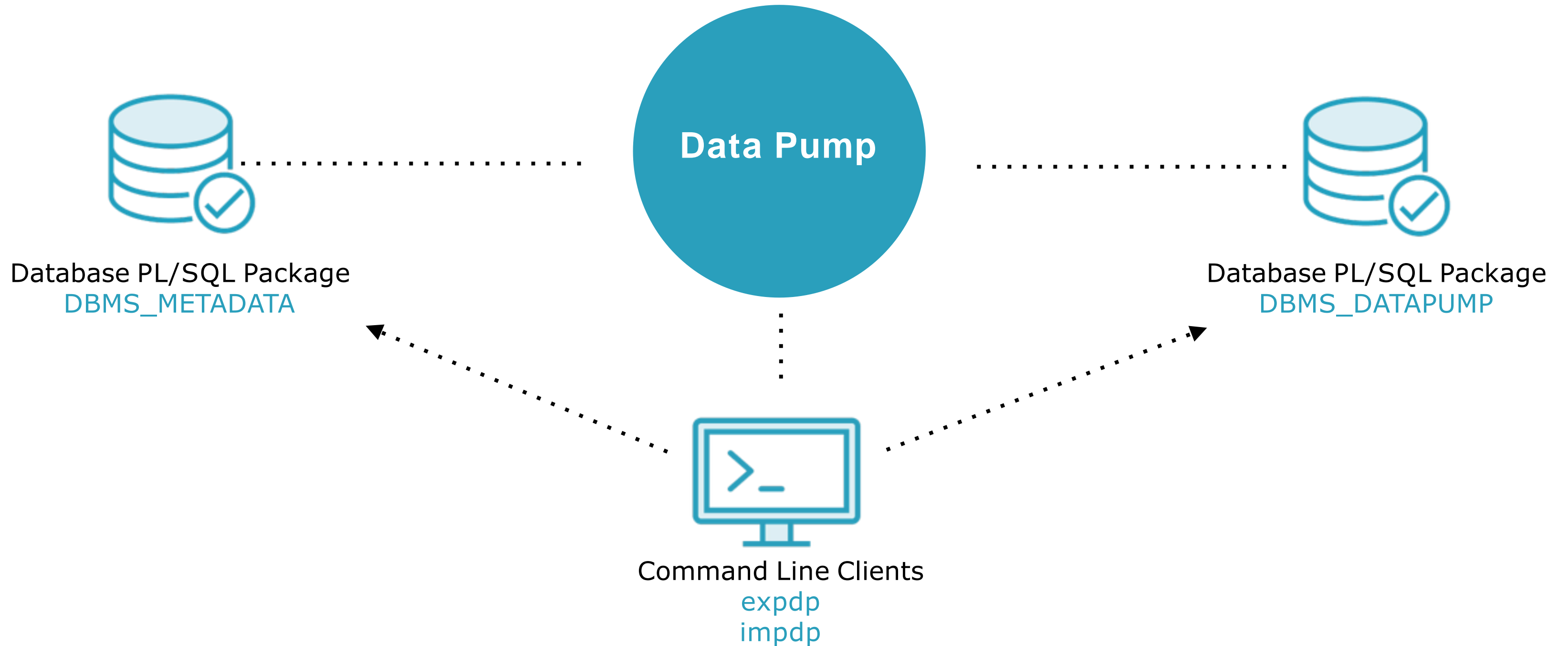
Stop and restart jobs

Network import and export

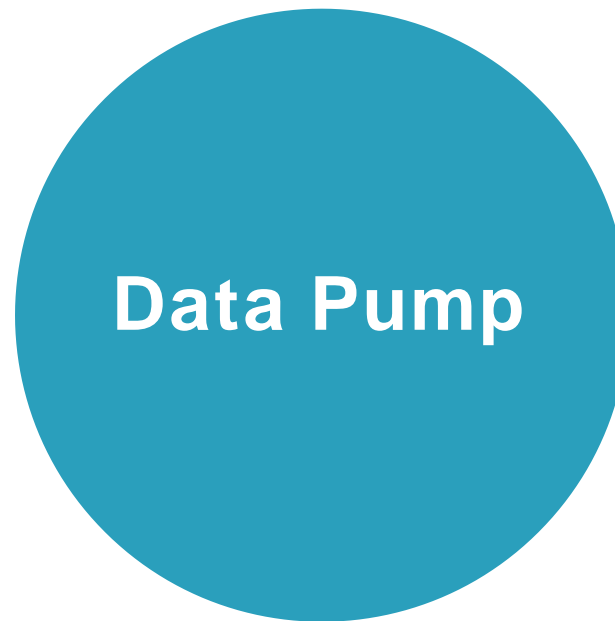
Fine-grain object selection

Better planning and estimation

Components



Data Pump Job Execution



Worker Processes



Master Process



Master Table



PARALLEL parameter

Unloading and Loading

Type completion rows

Execution & Sequencing

Controls & Creates Worker Processes

Logging

Job Details & Tracking Progress

Worker Status

Output File Information

Data Pump Directories & Files

Directory Object

```
DATA_PUMP_DIR
```

AS A DBA user or user with CREATE ANY DIRECTORY privilege:

```
CREATE OR REPLACE DIRECTORY mydir AS 'C:\extdir';
```

```
CREATE OR REPLACE DIRECTORY mydir AS '/files/extdir';
```

```
GRANT READ, WRITE ON DIRECTORY mydir TO demo;
```

Dump Files



**Data & Metadata
being moved**

SQLFILE



**SQL DDL
for Import**

Log File



**Record
messages**

Master Table

Created in user schema

Dropped



Successful completion



KILL_JOB

Retained



Successful completion
KEEP_MASTER=YES



STOP_JOB



Unsuccessful completion

Master Table

Export

Location of objects in dump file set

Content written to dump file

Import

Content loaded from dump file set

Controls creation and sequencing

Client Utilities

expdp

```
expdp demo/demo@xe DIRECTORY=datadir DUMPFILE=data.dmp LOGFILE=data.log
      DUMPFILE=datadir:data1.dmp,datadir:data2.dmp
      DUMPFILE=data%U.dmp

expdp help=yes
```

impdp

```
impdp demo/demo@xe DIRECTORY=datadir DUMPFILE=data.dmp LOGFILE=data.log

impdp help=yes
```

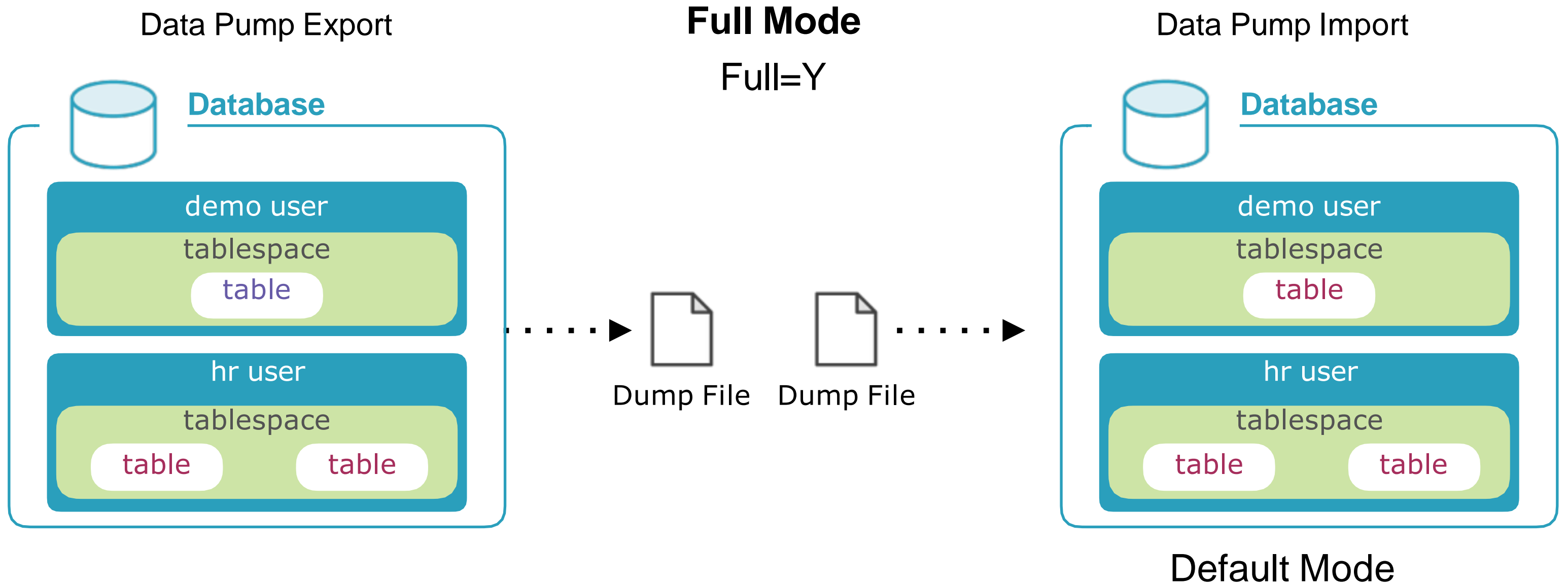
Demo

Look at the sample database

Creating directory object

Invoking command line utilities

Data Pump Modes



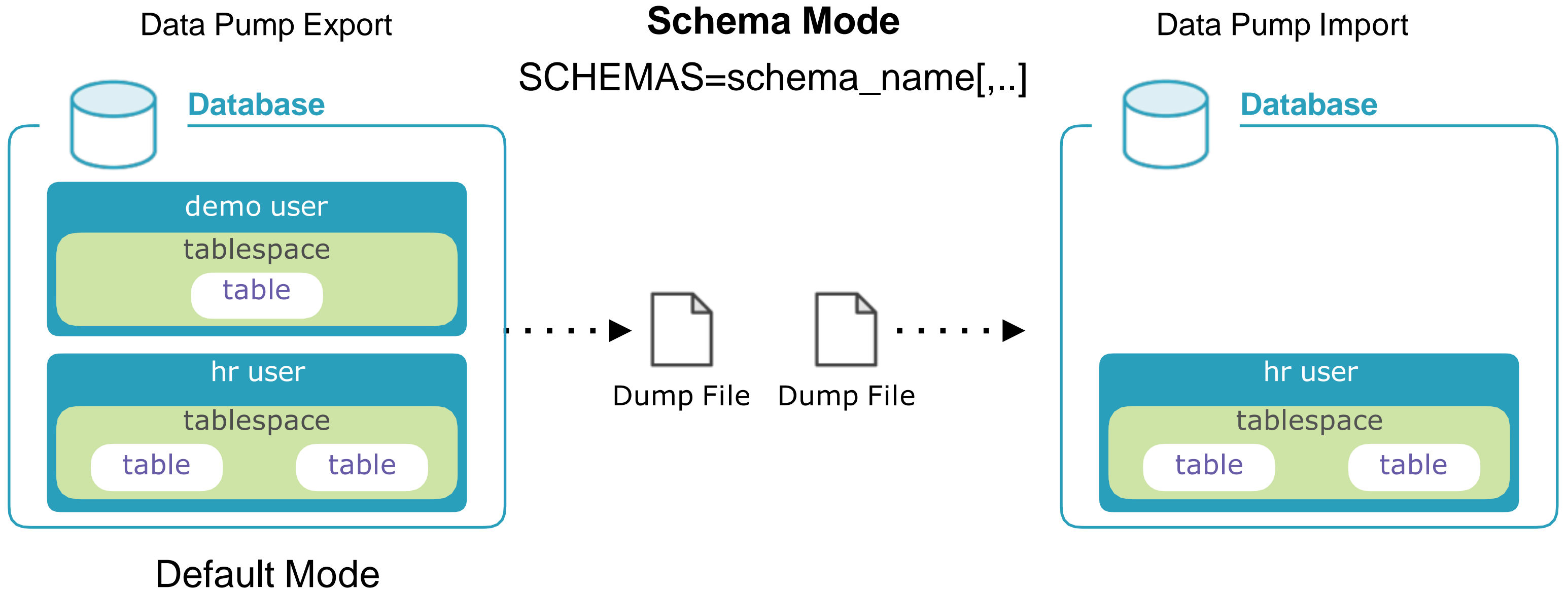
```
expdp hr/hr@xe DIRECTORY=datadir DUMPFILE=data.dmp FULL=Y
```

DATAPUMP_EXP_FULL_DATABASE Role

```
impdp hr/hr@xe DIRECTORY=datadir DUMPFILE=data.dmp FULL=Y
```

DATAPUMP_IMP_FULL_DATABASE Role

Data Pump Modes



```
expdp hr/hr@xe DIRECTORY=datadir DUMPFILE=data.dmp SCHEMAS=hr
```

```
impdp hr/hr@xe DIRECTORY=datadir DUMPFILE=data.dmp SCHEMAS=hr
```

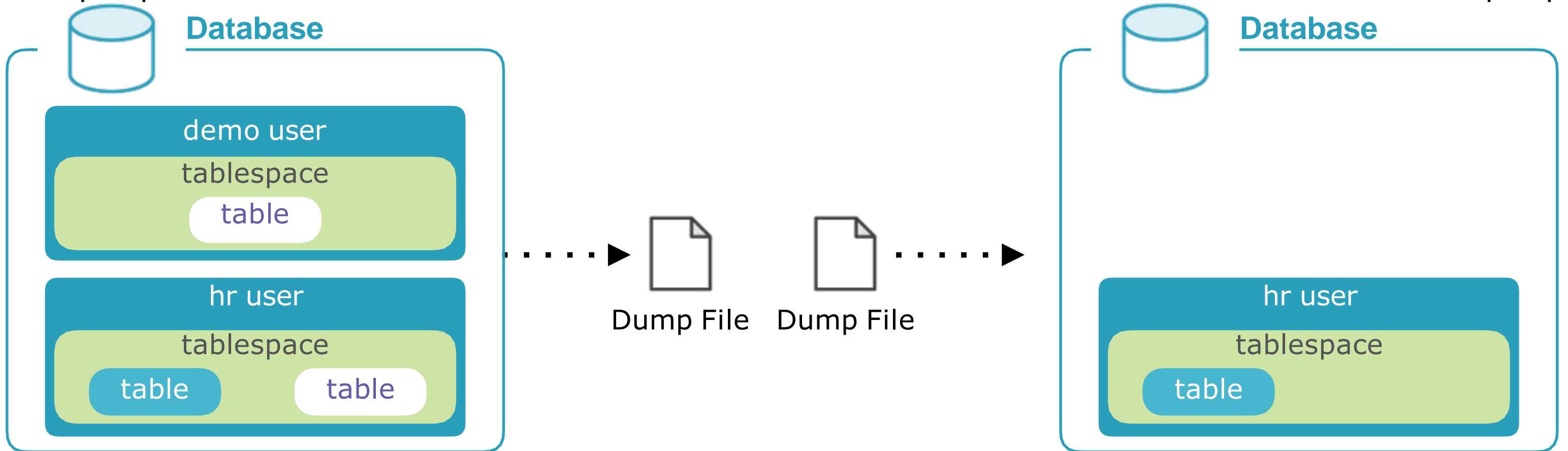
Data Pump Modes

Table Mode

`TABLES=[schema_name.]table_name[:partition_name] [, ...]`

Data Pump Export

Data Pump Import



```
expdp hr/hr@xe DIRECTORY=datadir DUMPFILE=data.dmp  
TABLES=hr.dept
```

```
impdp hr/hr@xe DIRECTORY=datadir DUMPFILE=data.dmp  
TABLES=hr.dept
```

`DATAPUMP_EXP_FULL_DATABASE` Role

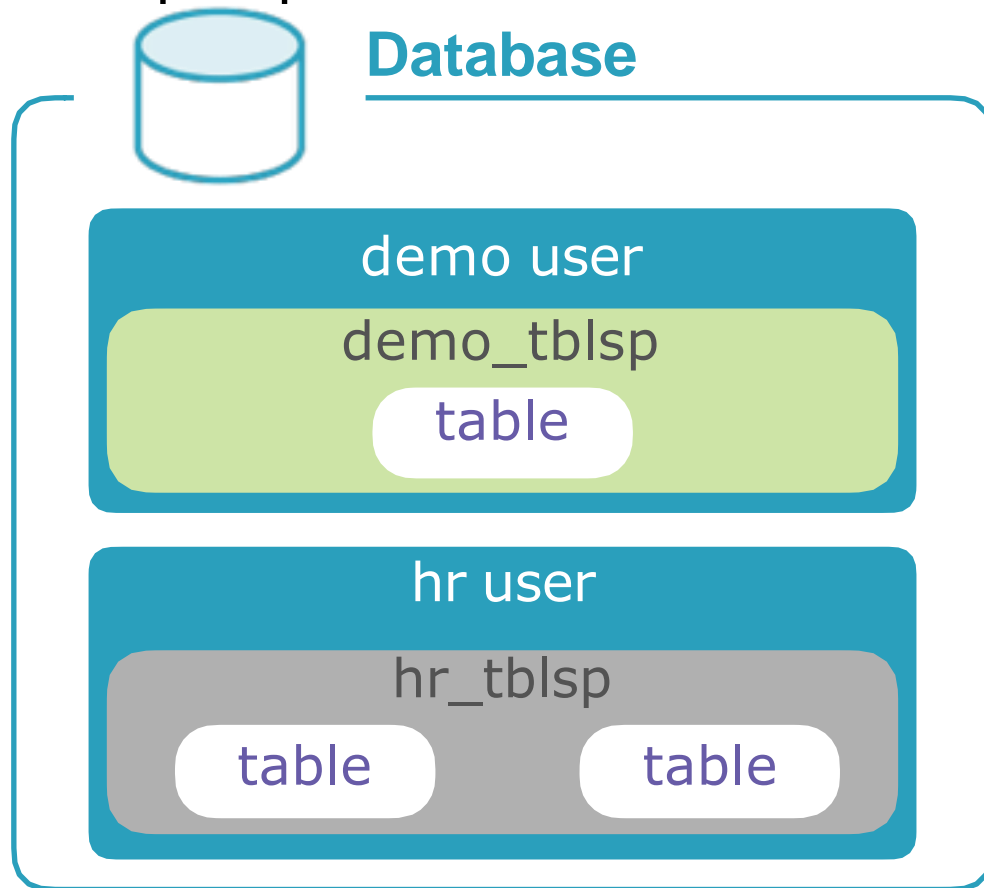
`DATAPUMP_IMP_FULL_DATABASE` Role

Data Pump Modes

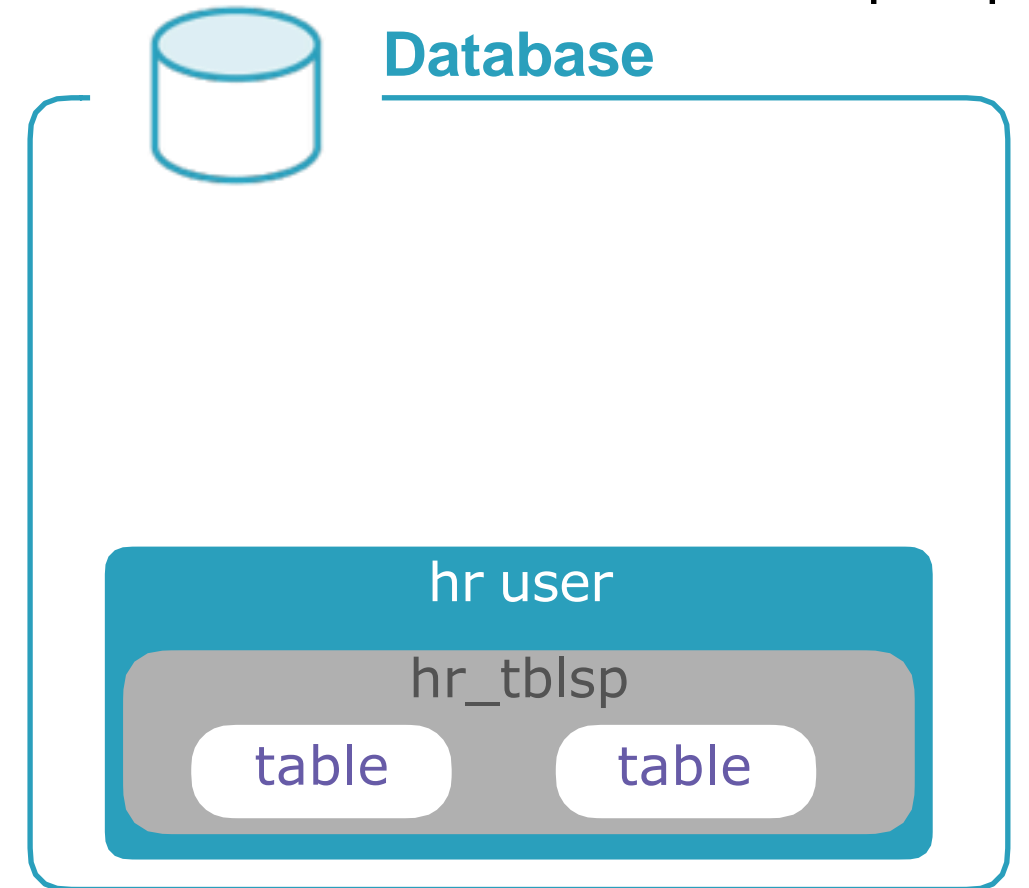
Tablespace Mode

TABLESPACES

Data Pump Export



Data Pump Import



```
expdp hr/hr@xe DIRECTORY=datadir DUMPFILE=data.dmp  
TABLESPACE=hr_tblsp
```

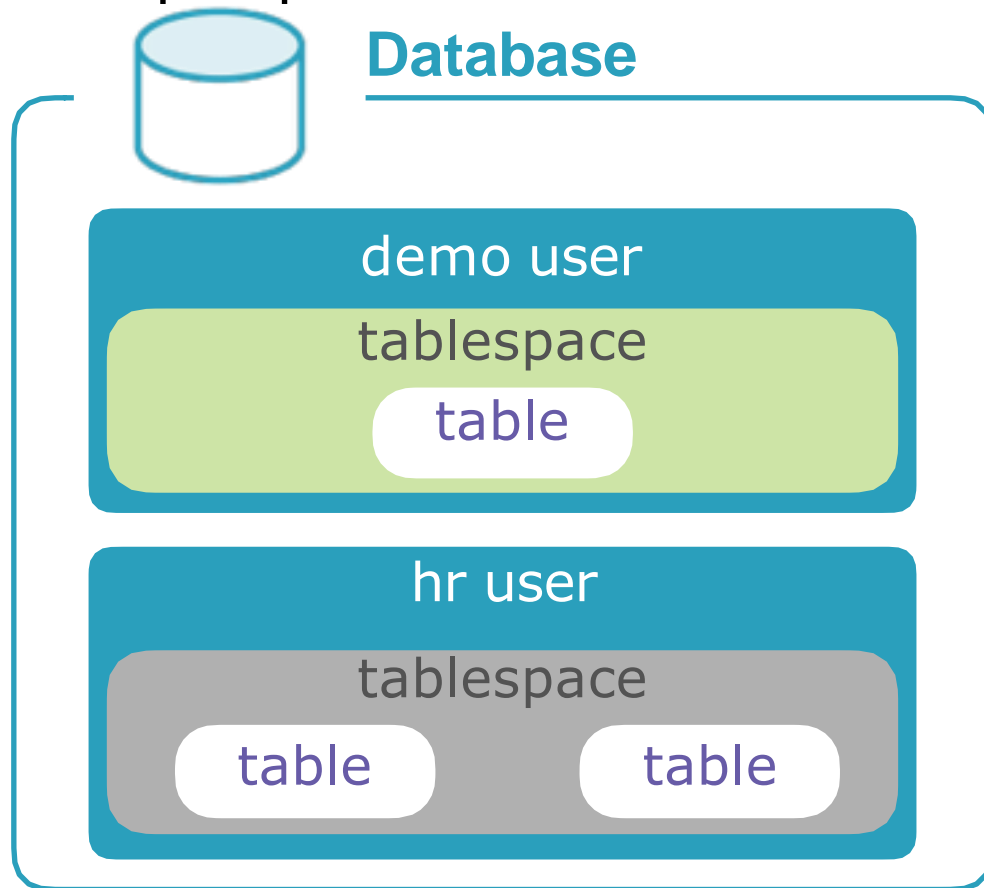
```
impdp hr/hr@xe DIRECTORY=datadir DUMPFILE=data.dmp  
TABLESPACE=hr_tblsp
```

Data Pump Modes

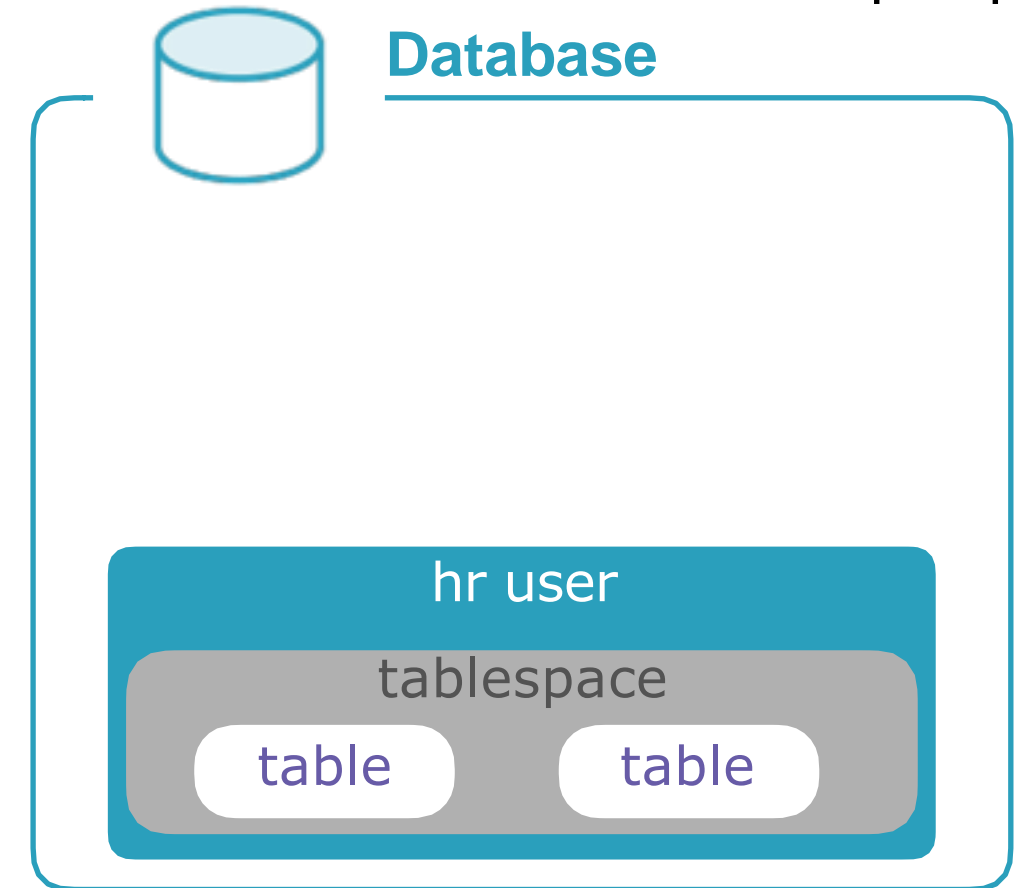
Transportable Tablespace Mode

TRANSPORT_TABLESPACES

Data Pump Export



Data Pump Import



```
expdp hr/hr@xe DIRECTORY=datadir DUMPFILE=data.dmp  
TRANSPORT_TABLESPACES=hr_tblsp
```

```
impdp hr/hr@xe DIRECTORY=datadir DUMPFILE=data.dmp  
TRANSPORT_DATAFILES=<list_of_comma_separated_files>
```

DATAPUMP_EXP_FULL_DATABASE Role

DATAPUMP_IMP_FULL_DATABASE Role

Data Movement

Data Pump Export



Source Database



Dump File



Data File



Data File

Data File Copying



Data Pump Import



Target Database



Dump File



Data File



Data File

Data Movement

Data Pump Export



Source Database



Dump File

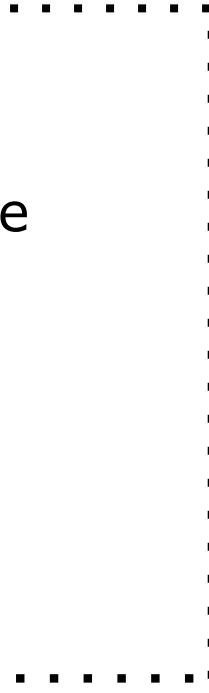
SQL Loader Direct Path



Data Pump Import



Target Database



Dump File

Data Movement

SQL Loader Conventional Path

Data Pump Export



Source Database



Dump File



Data Pump Import



Target Database

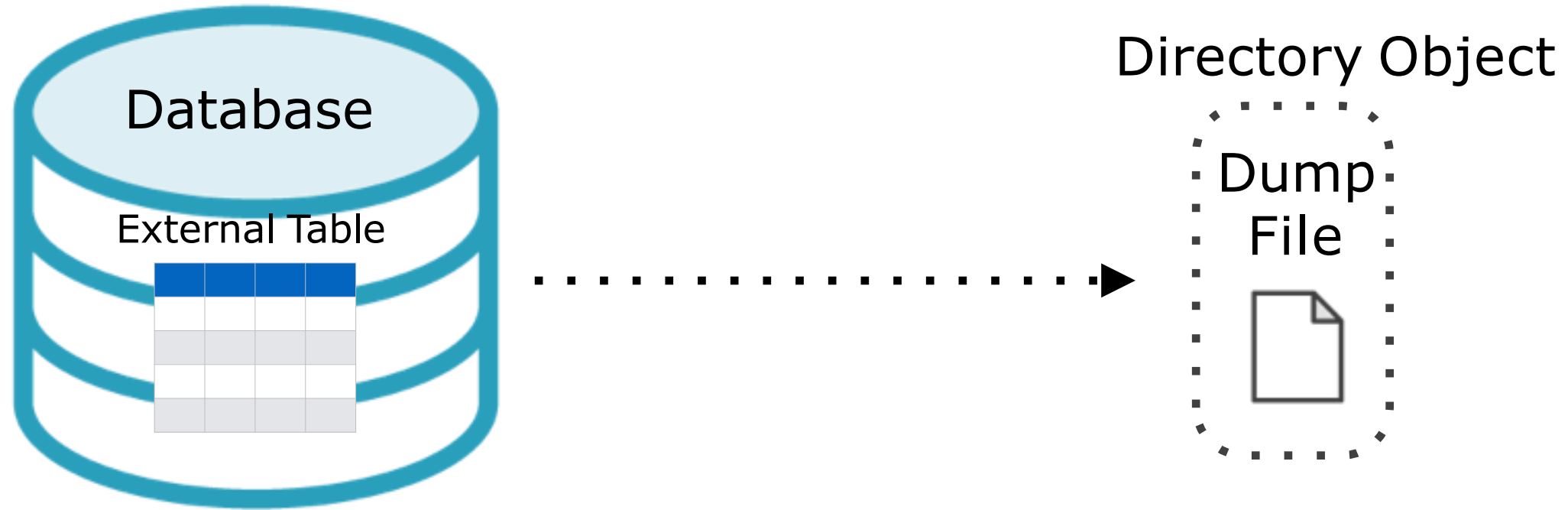


Dump File

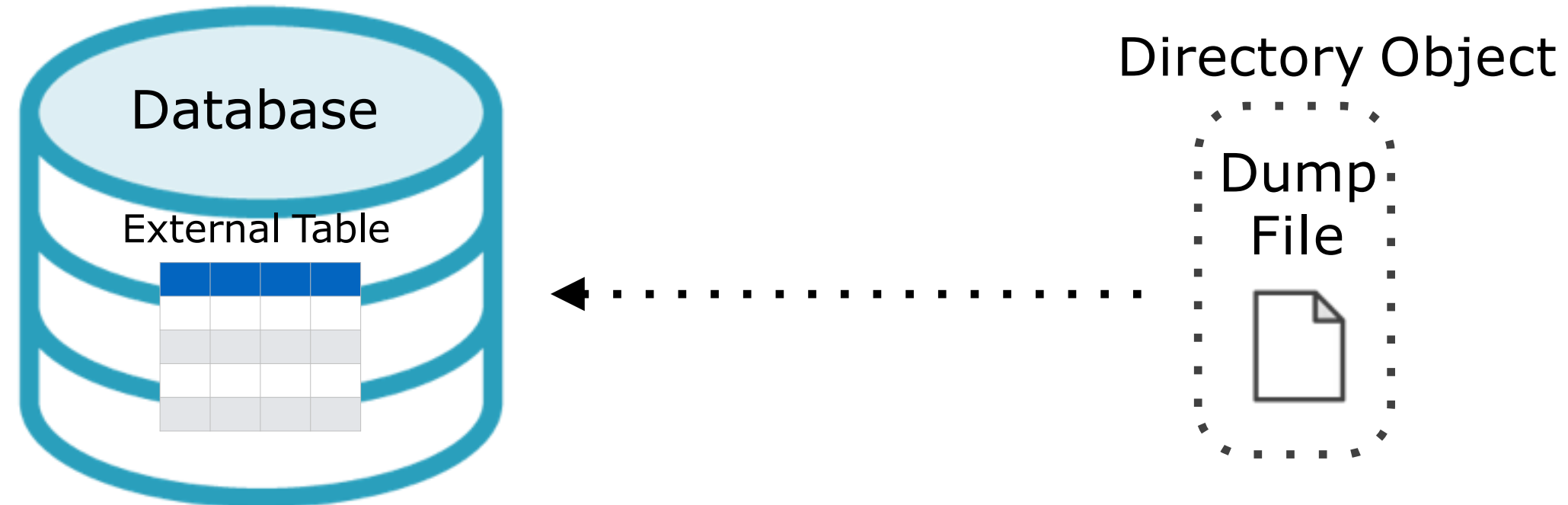


External Table

Export Operation



Import Operation



Using Network Link

Slowest

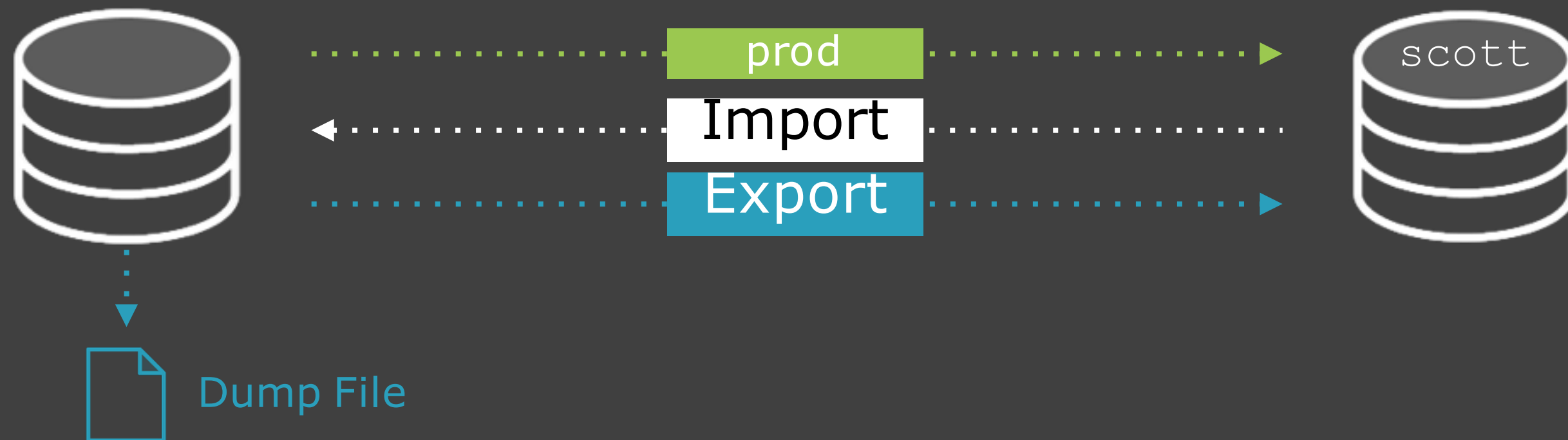
No dump files for Import

Database link to the source database

create database link prod connect to scott identified by tiger using 'production';

Connected / Target Database

Source Database



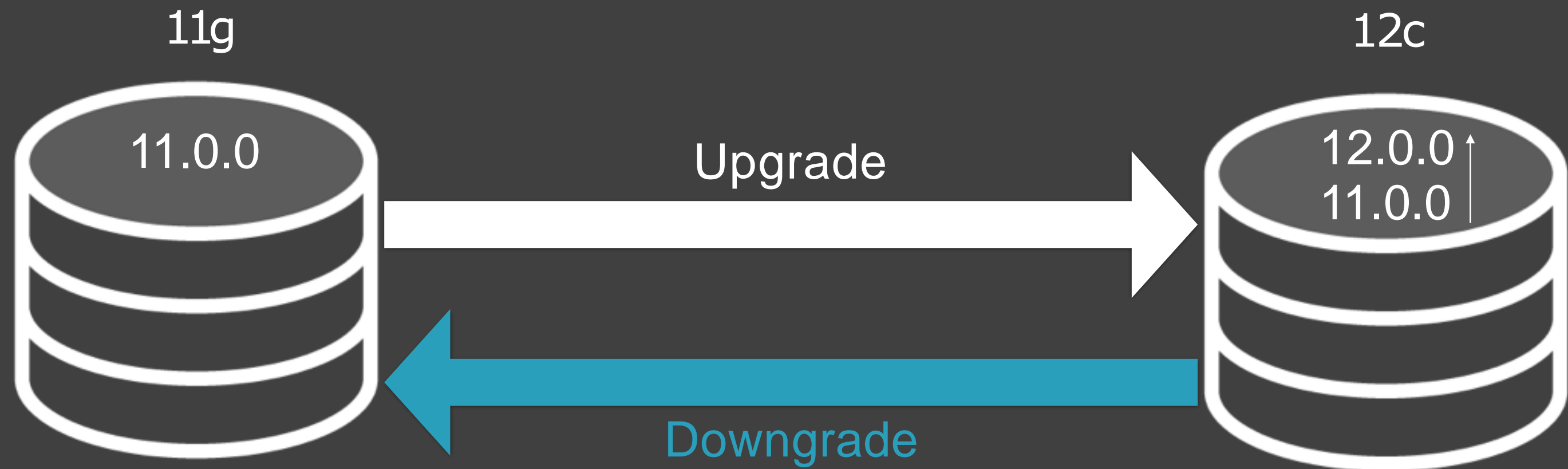
Moving Data Between Different Database Versions

Data Pump Export & Import work with Oracle Database 10g Release 1 (10.1) or later

COMPATIBLE Parameter

Upgrades

Distributed databases



Moving Data Between Different Database Versions

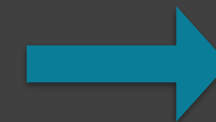
VERSION Parameter

{**COMPATIBLE** | **LATEST** | `version_string`}

Source Database
12c



Dump File



Target Database
11g



```
expdp hr/hr@xe DIRECTORY=datadir DUMPFILE=data.dmp VERSION=11.0.0
```

```
impdp hr/hr@xe DIRECTORY=datadir DUMPFILE=data.dmp
```