

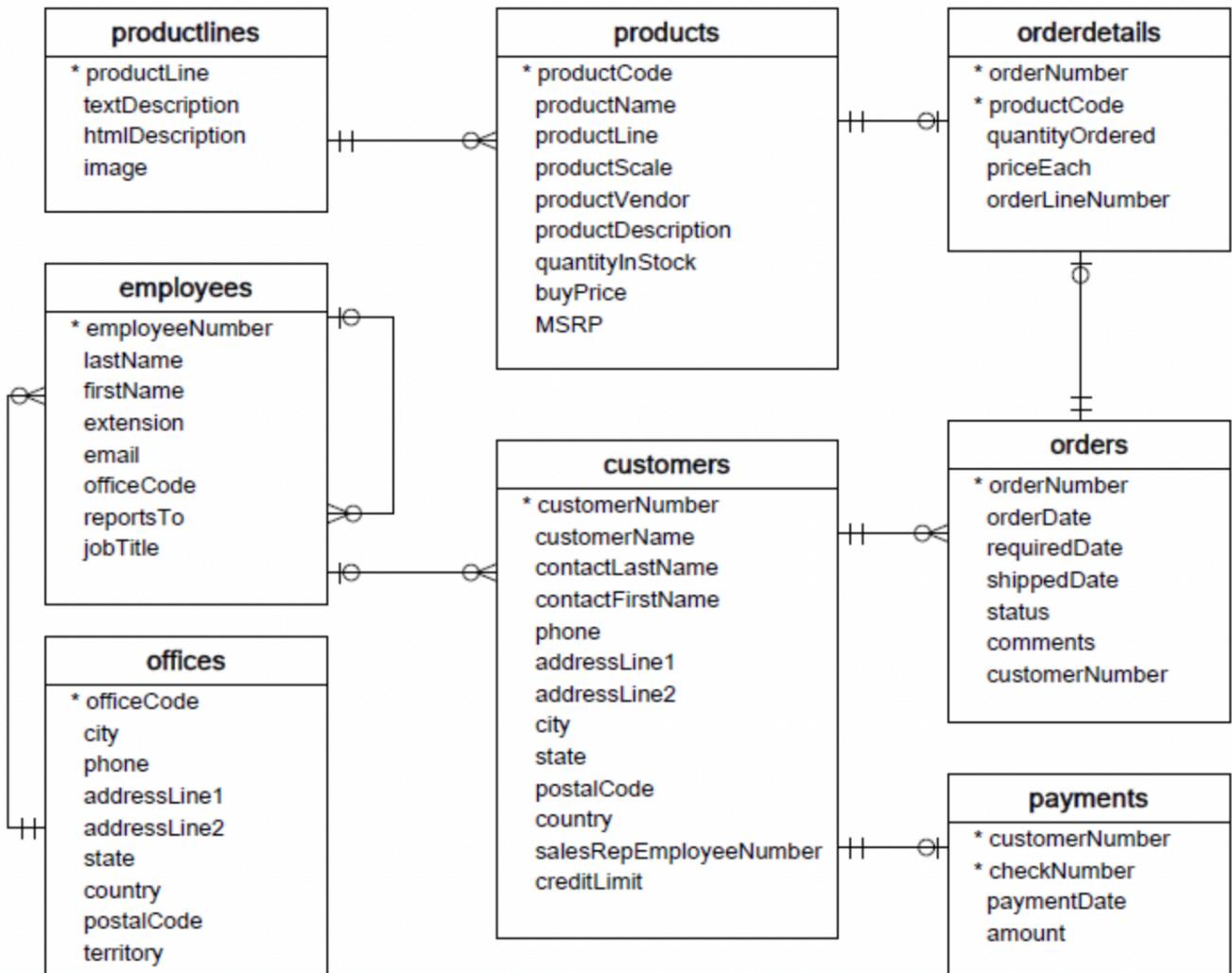
Using Sqldeveloper Offline Mode Migrate MySQL to ADW

先决条件

1. 创建ADW实例
2. 创建MySQL实例，本文是利用OCI上的Marketplace创建的的MySQL8.0实例，创建好后需要创建和配置远程连接

```
create user root@'%' identified by "WelcomePTS_2022#";
GRANT ALL PRIVILEGES ON *.* TO root@'%';
```

3. 在源端MySQL创建sample数据库（[sample数据下载地址](#)）。sample表的ER图如下：



4. 配置好SQLDeveloper，连接ADW和MySQL
5. 如果SQLDeveloper，不能直接连到MySQL，可以参考附录，脱机捕获源数据库的元数据。

迁移步骤

Task 1: 生成脱机迁移脚本

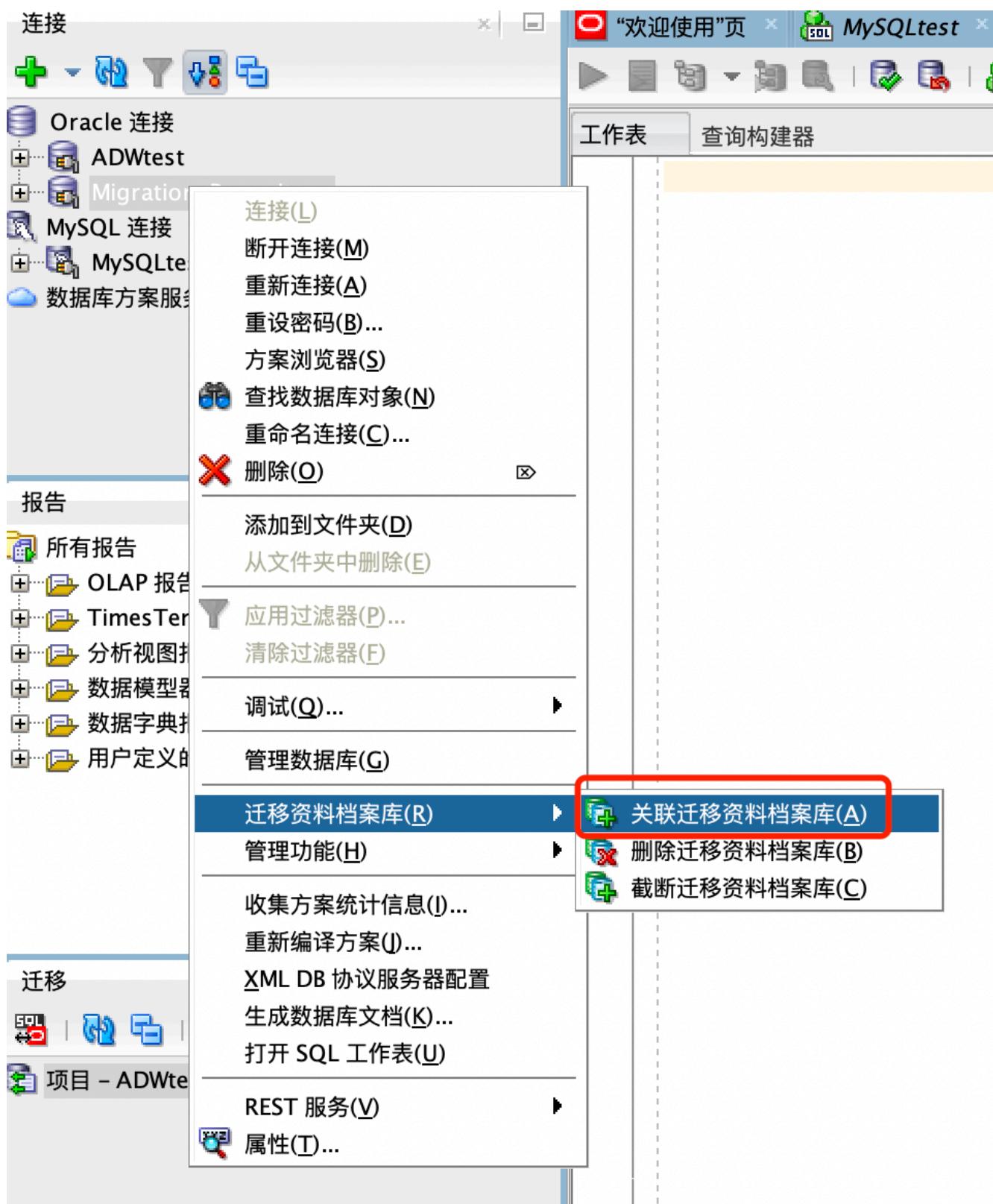
- 在ADW中创建用户migrators，用于存放迁移资料库

```
create user migrations identified by WelcomePTS_2022#;
GRANT DWROLE to migrations;
GRANT UNLIMITED TABLESPACE to migrations;
```

- 创建一个新连接到ADW，用migrations用户。



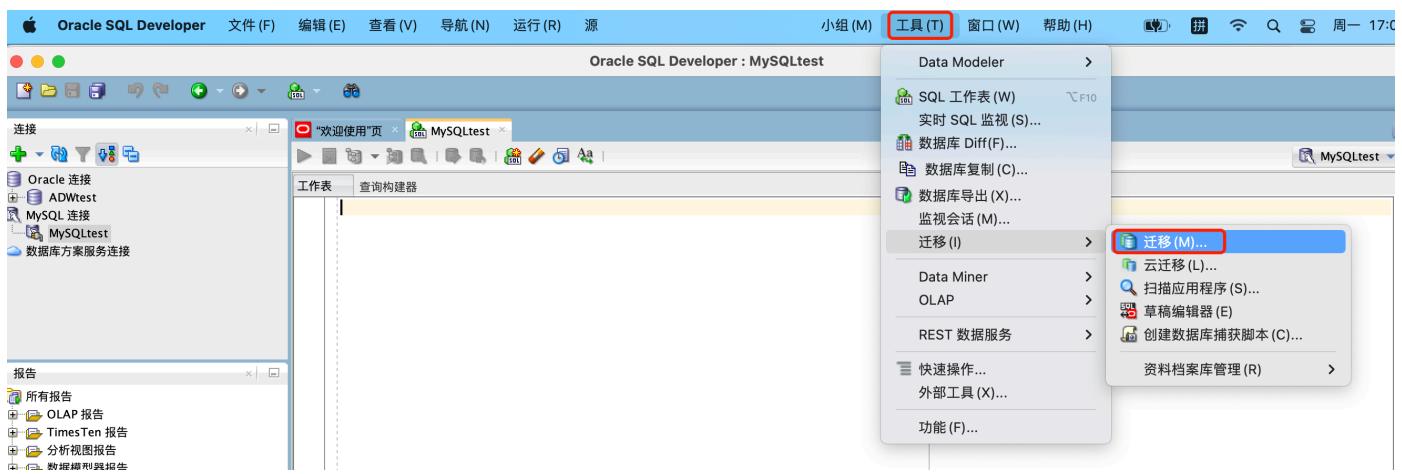
- 右键点击新建的链接，选择关联迁移资料档案库。



4. 开始安装资料档案库



1. 资料档案库安装成功后，选择菜单栏工具->迁移(I)->迁移(M)



5. 进入迁移向导

迁移向导 - 步骤 1/10

简介



将第三方数据库迁移到 Oracle。

迁移过程涉及以下步骤。

1. 创建迁移资料档案库以便保存有关迁移项目的信息。
2. 创建用作迁移容器的迁移项目。
3. 选择第三方数据库连接。
4. 将第三方元信息捕获至迁移资料档案库。
5. 将捕获的元信息转换为 Oracle 特定的元信息。
6. 将存储程序, 触发器, 视图等翻译为 Oracle 形式。
7. 生成 Oracle 数据库创建脚本。
8. 将数据从第三方数据库移到 Oracle 数据库。

下次启动时跳过此页(S)。

帮助(H)

< 上一步(B)

下一步(N) >

完成(F)

取消

6. 选择迁移资料库的链接



7. 命名一个迁移项目，选择存放脚本的目录。

迁移向导 - 步骤 3/10

项目

项目是迁移实体的容器。所有脚本都将保存到输出目录。

名称(A): mysqltoadw

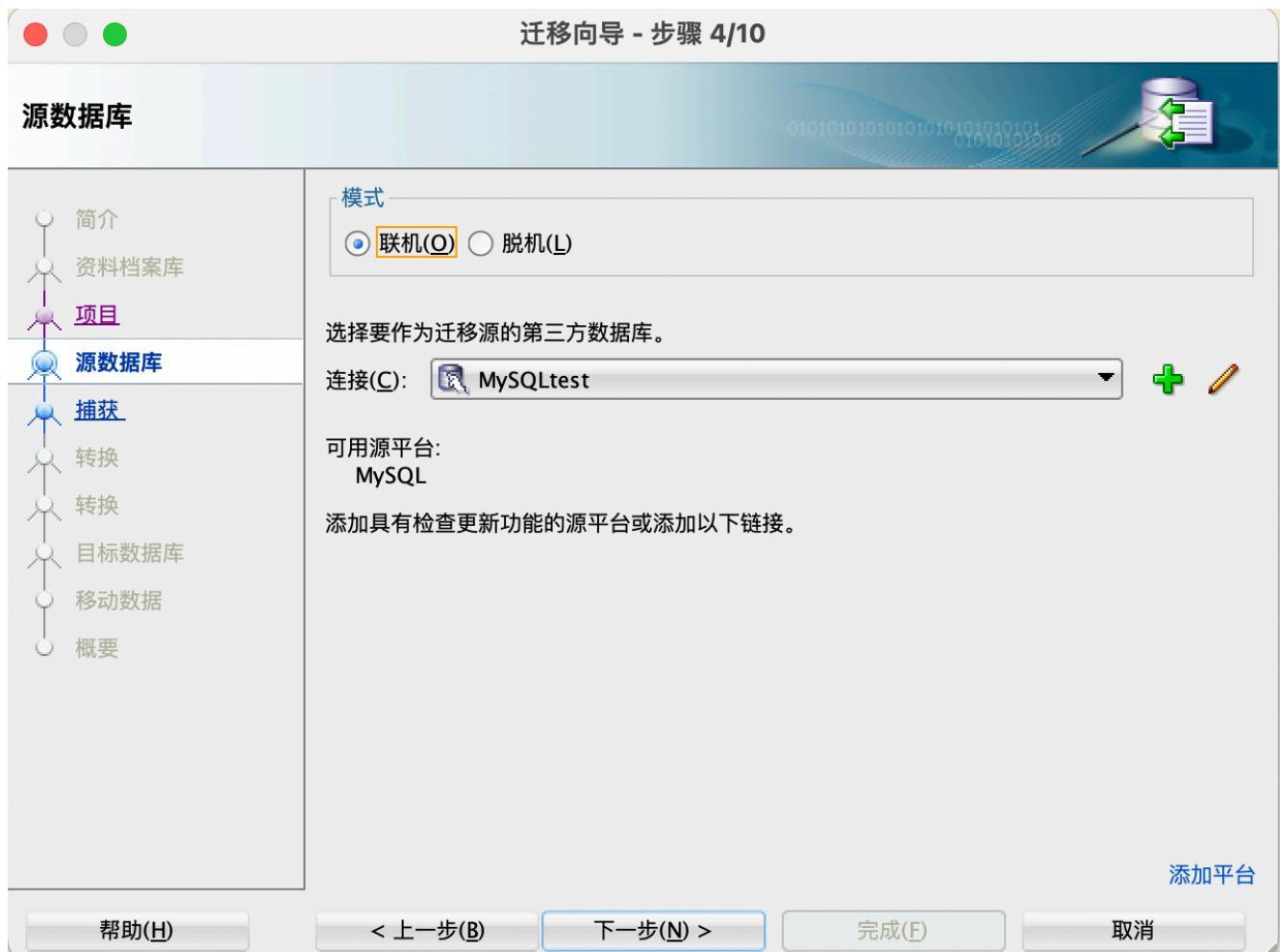
说明(D):

输出目录(O): 选择(S)...

转到概要页(P)

帮助(H) < 上一步(B) 下一步(N) > 完成(E) 取消

8. 选择联机方式获取源端MySQL的元数据。



9. 选择sample数据库

迁移向导 - 步骤 5/10

捕获

为定义捕获选择数据库。

可用数据库

performance_schema
sys

所选数据库

classicmodels

帮助(H) < 上一步(B) 下一步(N) > 完成(F) 取消



10. 可以在这里修改字段类型的转换。

迁移向导 - 步骤 6/10

转换

- 简介
- 资料档案库
- 项目
- 源数据库
- 捕获
- 转换**
- 转换
- 目标数据库
- 移动数据
- 概要

指定转换选项。

源数据类型(S)	Oracle 数据类型(O)	类型
BIGINT	NUMBER[24,0]	系统
BINARY	BLOB	系统
BIT	RAW[10]	系统
BIT[1]	CHAR[1]	系统
BLOB	BLOB	系统
CHAR	CHAR	系统
DATE	DATE	系统
DATETIME	DATE	系统
DECIMAL	FLOAT[24,0]	系统
DOUBLE	FLOAT[24,0]	系统
ENUM	VARCHAR2[4000,0]	系统
FLOAT	FLOAT[0,0]	系统
INT	NUMBER[10,0]	系统
INTEGER	NUMBER[10,0]	系统
LONGBLOB	BLOB	系统
LONGTEXT	CLOB	系统
MEDIUMBLOB	BLOB	系统

[添加新规则\(A\)](#)

[编辑规则\(E\)](#)

[删除规则\(R\)](#)

转到概要页(P)

[高级选项](#)

[帮助\(H\)](#)

[< 上一步\(B\)](#)

[下一步\(N\) >](#)

[完成\(F\)](#)

[取消](#)

11. 可以选择是否要迁移其它数据库对象，如：视图、触发器、存储过程等等。

迁移向导 - 步骤 7/10

转换

010101010101010101010101
010101010101010101010101



- [简介](#)
- [资料档案库](#)
- [项目](#)
- [源数据库](#)
- [捕获](#)
- [转换](#)
- [转换](#)
- [目标数据库](#)
- [移动数据](#)
- [概要](#)

选择要翻译的 SQL 对象。

可用 SQL 对象

所选 SQL 对象

ALL_CONSTRAINTS
ALL_FUNCTIONS
ALL PROCEDURES
ALL_TRIGGERS
ALL_VIEWS



转到概要页(P)

帮助(H)

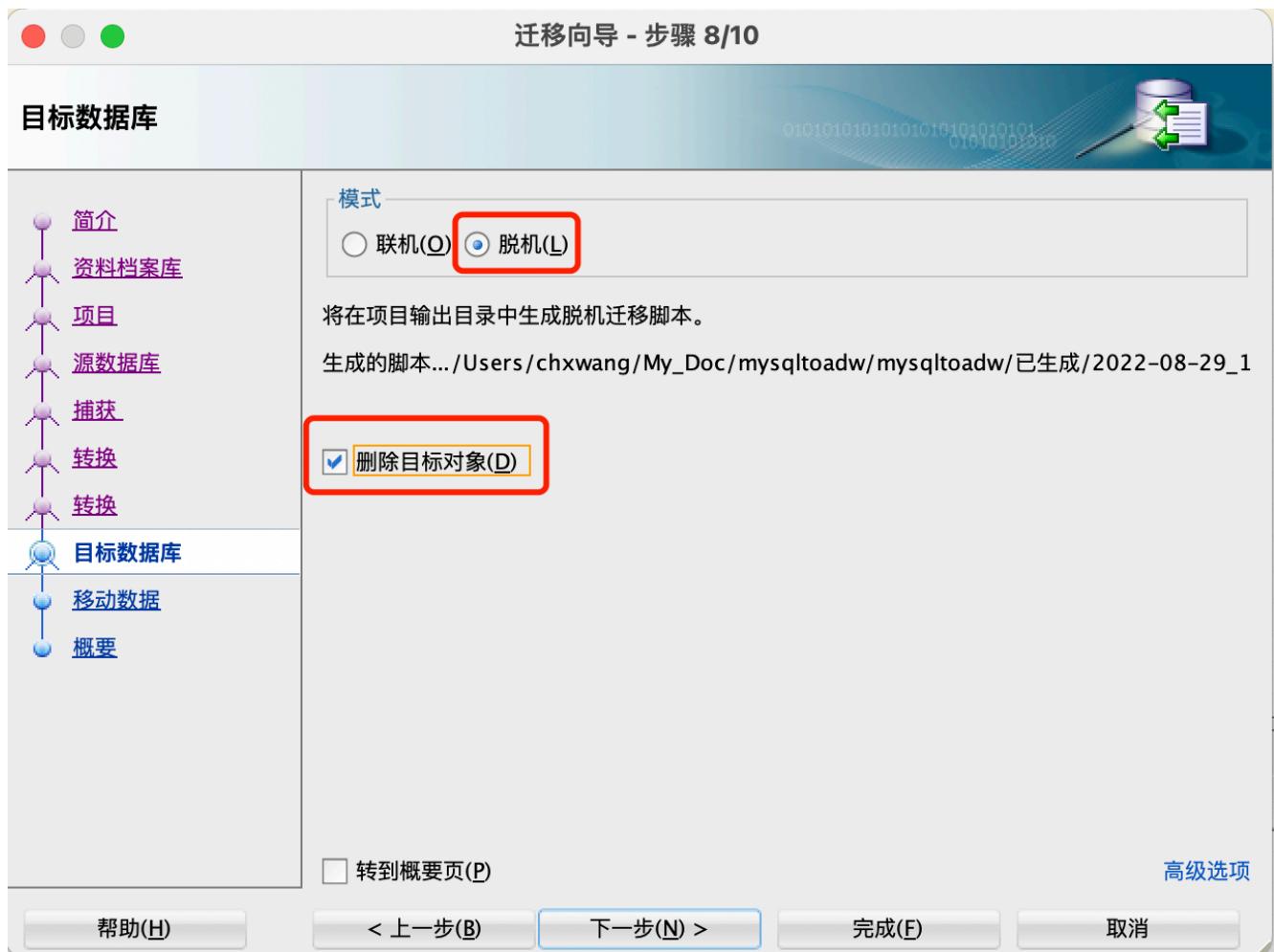
< 上一步(B)

下一步(N) >

完成(F)

取消

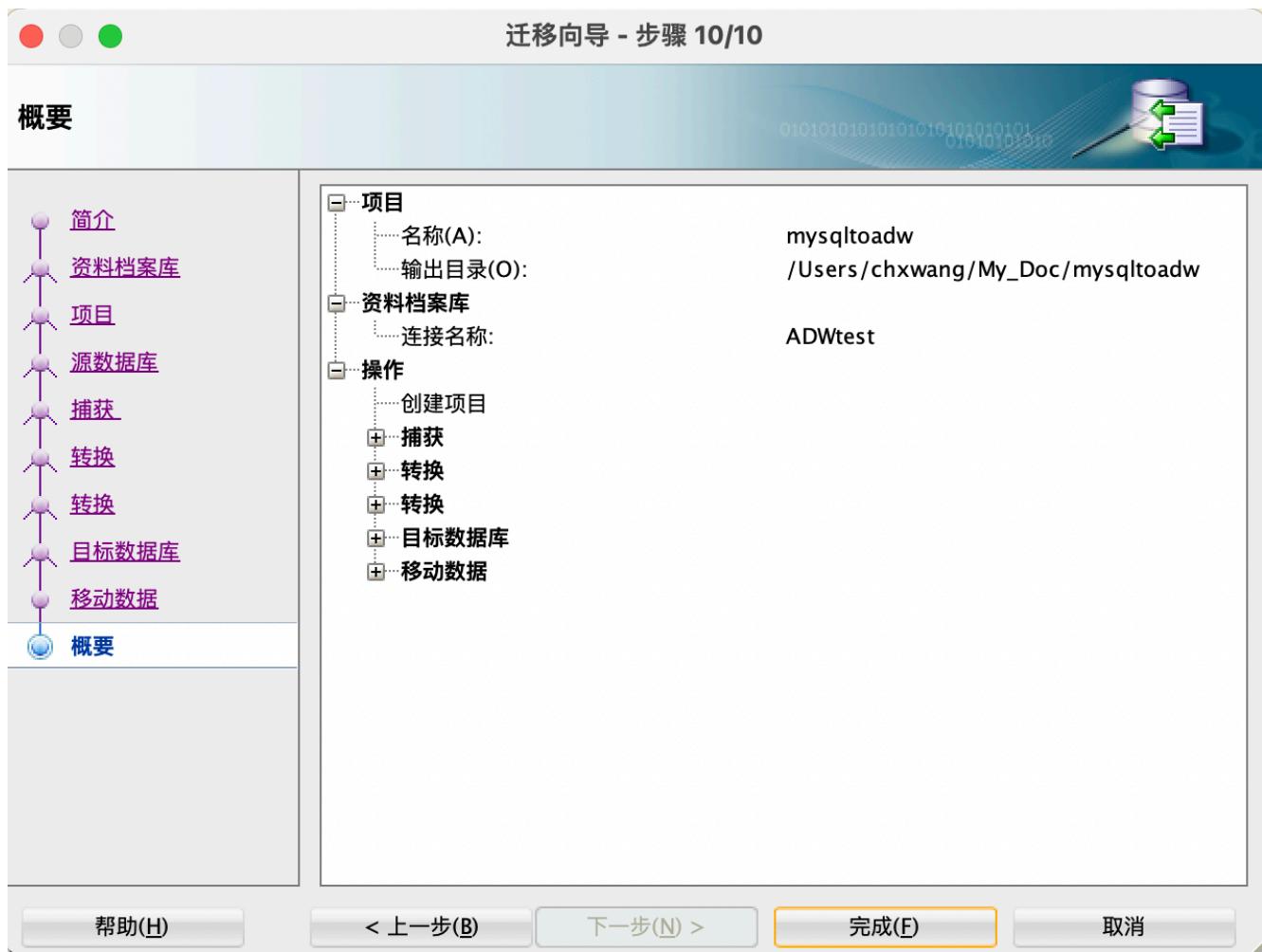
12. 选择脱机生成目标对象，同时可以生成创建drop对象脚本。



13. 选择脱机进行数据迁移，生成脱机数据迁移脚本。如果选择截断数据 (D)，会生成相应的truncate table脚本。



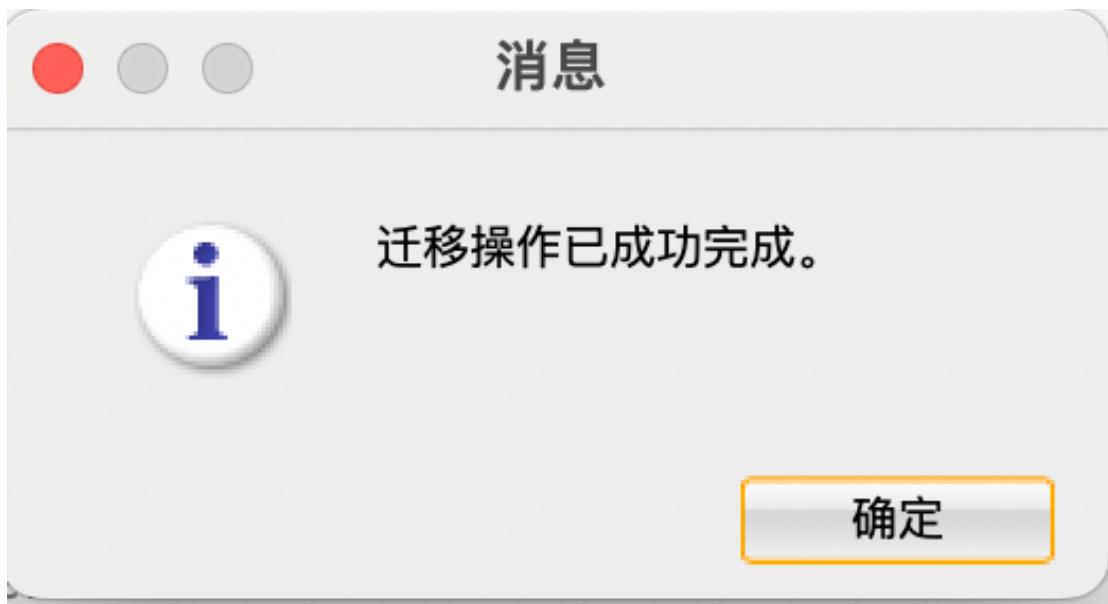
14. 向导总结



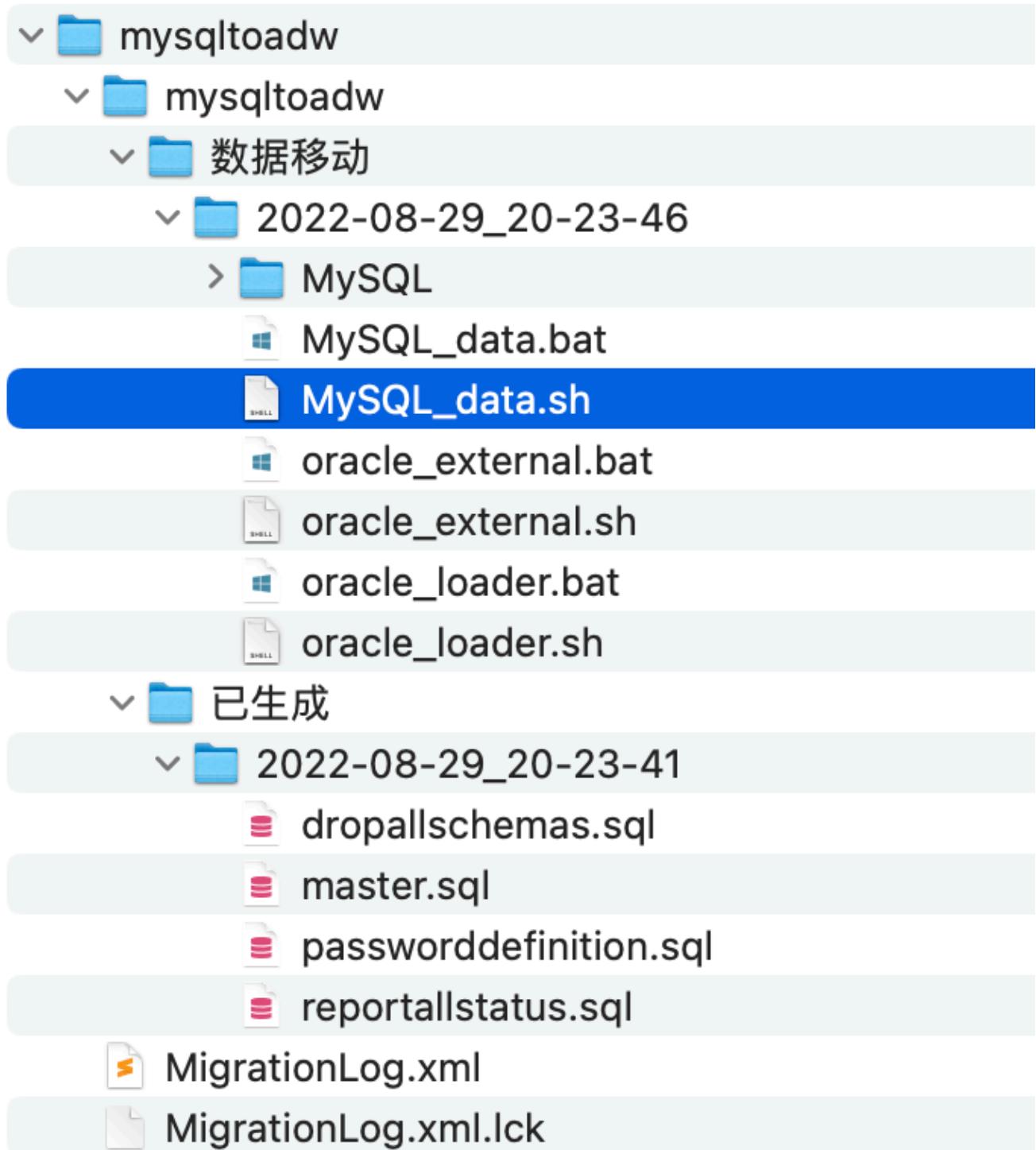
15. 开始生成脚本



16. 脚本生成成功



17. 可以查看生成脚本的目录结构



18. dasf

Task 2: 导出源端MySQL数据

- 将脚本拷贝到能连接MySQL的虚机上，在"数据移动\时间"目录下修改执行权限，运行命令导出MySQL数据。

```
$ chmod 755 MySQL_data.sh
$ sh ./MySQL_data.sh 146.56.132.167 root WelcomePTS_2022#
```

2. 数据缺省导出到"MySQL\schemaname\data"下。但是MySQL设置了安全权限secure_file_priv。可以有两个选择: a) disable secure_file_priv. b) 将数据导出到对应的 /var/lib/mysql-files/ 目录下, 然后再拷贝到data目录下。 (本文是用的b方案)

```
mysql> SHOW VARIABLES LIKE "secure_file_priv";
+-----+-----+
| Variable_name      | Value          |
+-----+-----+
| secure_file_priv  | /var/lib/mysql-files/ |
+-----+-----+
1 row in set (0.01 sec)
```

3. 导出时的输出, 可以忽略警告信息

```
$ sh ./MySQL_data.sh 146.56.132.167 root WelcomePTS_2022#
mysqldump: [Warning] Using a password on the command line interface can be
insecure.
mysqldump: [Warning] Using a password on the command line interface can be
insecure.
mysqldump: [Warning] Using a password on the command line interface can be
insecure.
mysqldump: [Warning] Using a password on the command line interface can be
insecure.
mysqldump: [Warning] Using a password on the command line interface can be
insecure.
mysqldump: [Warning] Using a password on the command line interface can be
insecure.
mysqldump: [Warning] Using a password on the command line interface can be
insecure.
```

4. 可以看到生成的数据文件

```
$ ls MySQL/classicmodels/data
customers.sql    employees.txt    orderdetails.sql    orders.txt      productlines.sql
products.txt
customers.txt    offices.sql     orderdetails.txt   payments.sql   productlines.txt
employees.sql    offices.txt     orders.sql       payments.txt   products.sql
```

5. 在本文的环境中, 生成的文件字符集是iso-8859-1, 需要转换为utf8, 否则导入到ADW的字符有的会显示成"??"。

```
$ file -i customers.txt  
customers.txt: text/plain; charset=iso-8859-1
```

6. 转换命名如下，转化完成后再拷回到txt文件，或修改control文件指定到out文件。

```
$ iconv -f iso-8859-1 -t UTF-8//TRANSLIT customers.source -o customers.out  
$ file -i customers.out  
customers.out: text/plain; charset=utf-8
```

7. ssdf

Task3: 生成目标对象

1. 将数据文件拷贝到可以连接ADW的虚机中对应的data目录下，目录结构不要改变，修改文件权限

```
chmod 777 *
```

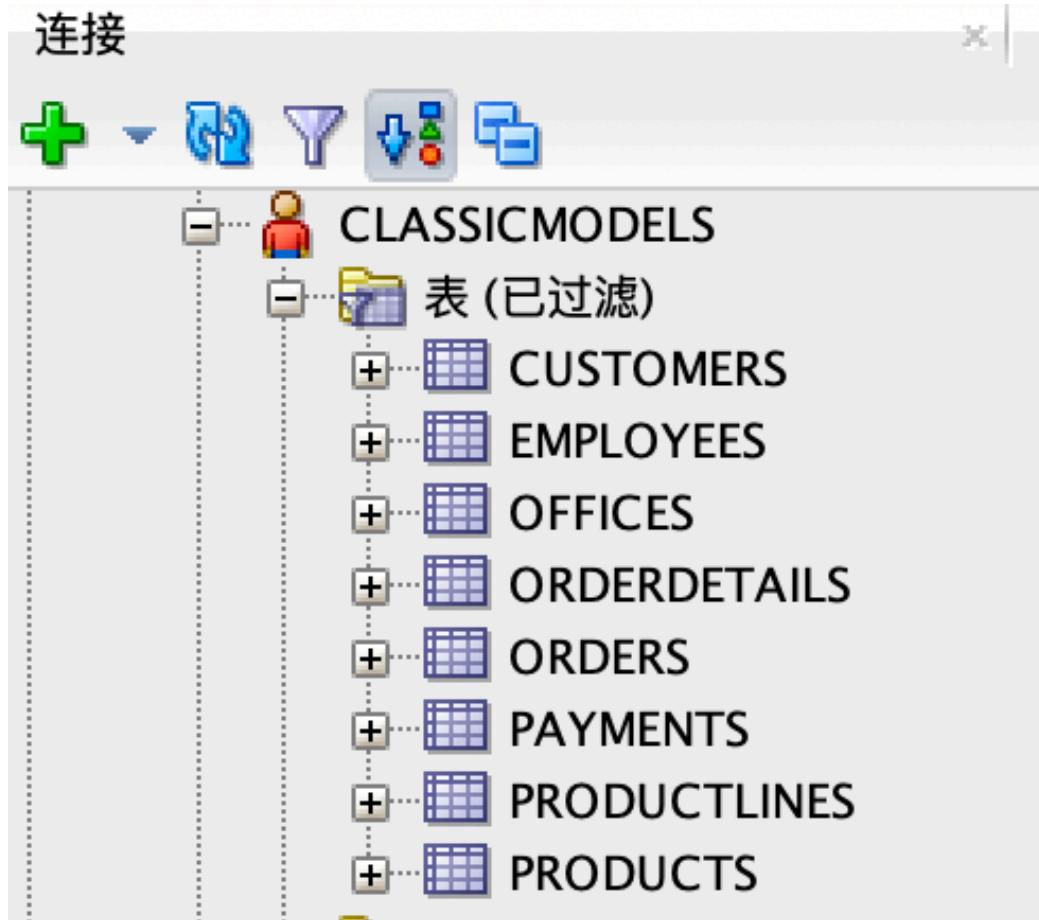
2. 连接ADW数据库

```
sqlplus admin/WelcomePTS_2022#@adwtest_high
```

3. 在已生成的目录下运行master.sql脚本，按提示输入classicmodels和Emulation的密码后开始创建ADW对象

```
SQL> @master.sql  
SQL> spool "mysqlloadw_&filename..log"  
SQL>  
SQL> -- Password file execution  
SQL> @passworddefinition.sql  
SQL> /* 此文件用于提示方案密码 */  
SQL> -- Password for 'classicmodels' user ...  
SQL> ACCEPT classicmodels_password PROMPT "Provide the password for classicmodels:  
"HIDE  
Provide the password for classicmodels:  
SQL>  
SQL> -- Password for 'Emulation' user ...  
SQL> ACCEPT Emulation_password PROMPT "Provide the password for Emulation: "HIDE  
Provide the password for Emulation:
```

4. 在SQLDeveloper中可以查看到创建的对象



5. 在数据移动的目录下运行sql loader脚本。

```
chmod 755 oracle_loader.sh
sh ./oracle_loader.sh adwtest_high admin WelcomePTS_2022#
```

6. 运行时的输出。

```
$ sh ./oracle_loader.sh adwtest_high admin WelcomePTS_2022#
SQL*Plus: Release 19.0.0.0.0 - Production on Tue Aug 30 02:47:42 2022
Version 19.15.0.0.0

Copyright (c) 1982, 2022, Oracle. All rights reserved.

Last Successful login time: Tue Aug 30 2022 02:45:54 +00:00

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.16.0.1.0

SQL> SQL> SQL> SQL> SQL>
```

```
Table altered.
```

```
SQL>  
Table altered.
```

```
SQL> SQL> Disconnected from Oracle Database 19c Enterprise Edition Release  
19.0.0.0.0 - Production
```

```
Version 19.16.0.1.0
```

```
SQL*Loader: Release 19.0.0.0.0 - Production on Tue Aug 30 02:47:42 2022
Version 19.15.0.0.0
```

```
Copyright (c) 1982, 2022, Oracle and/or its affiliates. All rights reserved.
```

```
Path used:      Conventional
Commit point reached - logical record count 122
```

```
Table CLASSICMODELS.CUSTOMERS:
  122 Rows successfully loaded.
```

```
Check the log file:
```

```
  log/classicmodels.customers.log
for more information about the load.
```

```
SQL*Loader: Release 19.0.0.0.0 - Production on Tue Aug 30 02:47:45 2022
Version 19.15.0.0.0
```

```
Copyright (c) 1982, 2022, Oracle and/or its affiliates. All rights reserved.
```

```
Path used:      Conventional
Commit point reached - logical record count 23
```

```
Table CLASSICMODELS.EMPLOYEES:
  23 Rows successfully loaded.
```

```
Check the log file:
```

```
  log/classicmodels.employees.log
for more information about the load.
```

```
SQL*Loader: Release 19.0.0.0.0 - Production on Tue Aug 30 02:47:45 2022
Version 19.15.0.0.0
```

```
Copyright (c) 1982, 2022, Oracle and/or its affiliates. All rights reserved.
```

```
Path used:      Conventional
Commit point reached - logical record count 7
```

```
Table CLASSICMODELS.OFFICES:
  7 Rows successfully loaded.
```

```
Check the log file:
```

```
  log/classicmodels.offices.log
for more information about the load.
```

```
SQL*Loader: Release 19.0.0.0.0 - Production on Tue Aug 30 02:47:46 2022
Version 19.15.0.0.0
```

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Path used: Conventional

Commit point reached - logical record count 1
Commit point reached - logical record count 2
Commit point reached - logical record count 3
Commit point reached - logical record count 4
Commit point reached - logical record count 5
Commit point reached - logical record count 6
Commit point reached - logical record count 7
Commit point reached - logical record count 8
Commit point reached - logical record count 9
Commit point reached - logical record count 10
Commit point reached - logical record count 11
Commit point reached - logical record count 12
Commit point reached - logical record count 13
Commit point reached - logical record count 14
Commit point reached - logical record count 15
Commit point reached - logical record count 16
Commit point reached - logical record count 17
Commit point reached - logical record count 18
Commit point reached - logical record count 19
Commit point reached - logical record count 20
Commit point reached - logical record count 21
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Commit point reached - logical record count 23
Commit point reached - logical record count 24
Commit point reached - logical record count 25
Commit point reached - logical record count 26
Commit point reached - logical record count 27
Commit point reached - logical record count 28
Commit point reached - logical record count 29
Commit point reached - logical record count 30
Commit point reached - logical record count 31
Commit point reached - logical record count 32
Commit point reached - logical record count 33
Commit point reached - logical record count 34
Commit point reached - logical record count 35
Commit point reached - logical record count 36
Commit point reached - logical record count 37
Commit point reached - logical record count 38
Commit point reached - logical record count 39
Commit point reached - logical record count 40
Commit point reached - logical record count 41
Commit point reached - logical record count 42
Commit point reached - logical record count 43
Commit point reached - logical record count 44
Commit point reached - logical record count 45


```

Commit point reached - logical record count 95
Commit point reached - logical record count 96
Commit point reached - logical record count 97
Commit point reached - logical record count 98
Commit point reached - logical record count 99
Commit point reached - logical record count 100
Commit point reached - logical record count 101
Commit point reached - logical record count 102
Commit point reached - logical record count 103
Commit point reached - logical record count 104
Commit point reached - logical record count 105
Commit point reached - logical record count 106
Commit point reached - logical record count 107
Commit point reached - logical record count 108
Commit point reached - logical record count 109
Commit point reached - logical record count 110

```

Table CLASSICMODELS.PRODUCTS:

110 Rows successfully loaded.

Check the log file:

log/classicmodels.products.log

for more information about the load.

.....

.....

.....

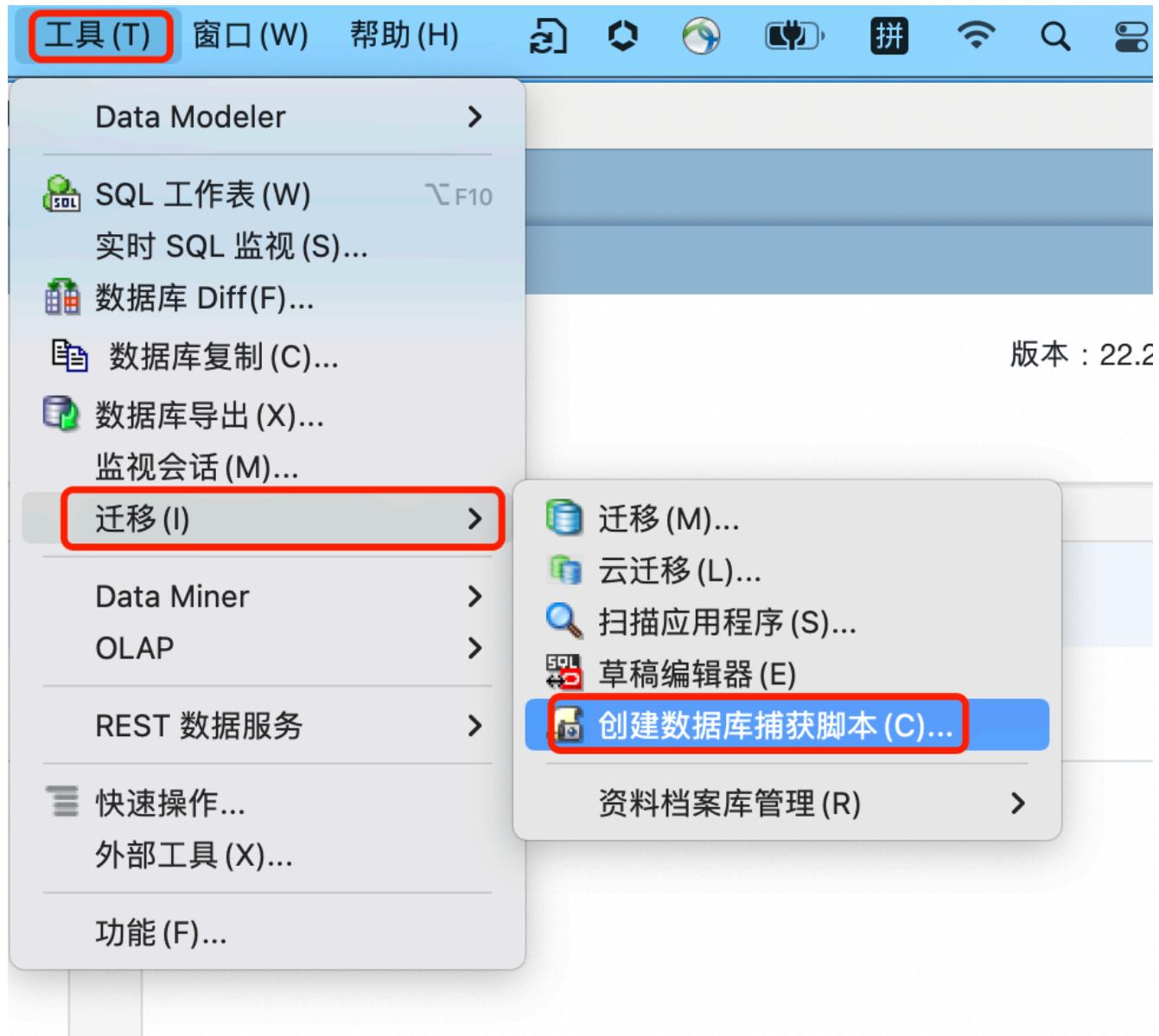
7. 结束后可以查看导入的数据（字符集好像不对，需要实行按照第5步做一下字符集转换，或者MySQL导出是指定字符集。设置操作系统变量LANG不知有用不）

	CUSTOMERNUMBER	CUSTOMERNAME	CONTACTLASTNAME	CONTACTFIRSTNAME	PHONE	ADDRESSLINE1	ADDRESSL2
1	103	Atelier graphique	Schmitt	Carine	40.32.2555	54, rue Royale	(null)
2	112	Signal Gift Stores	King	Jean	7025551838	8489 Strong St.	(null)
3	114	Australian Collectors, Co.	Ferguson	Peter	03 9520 4555	636 St Kilda Road	Level 3
4	119	La Rochelle Gifts	Labrunne	Janine	40.67.8555	67, rue des Cinquante Otages	(null)
5	121	Baane Mini Imports	Bergulfsen	Jonas	07-98 9555	Erling Skakkes gate 78	(null)
6	124	Mini Gifts Distributors Ltd.	Nelson	Susan	4155551450	5677 Strong St.	(null)
7	125	Havel & Zbyszek Co	Piestrzenniewicz	Zbyszek	(26) 642-7555	ul. Filtrowa 68	(null)
8	128	Blauer See Auto, Co.	Keitel	Roland	+49 66 66 98 2555	Lyonerstr. 34	(null)
9	129	Mini Wheels Co.	Murphy	Julie	6505555787	5557 North Pendale Street	(null)
10	131	Land of Toys Inc.	Lee	Kwai	2125557818	897 Long Airport Avenue	(null)
11	141	Euro+ Shopping Channel	Freyre	Diego	(91) 555 94 44	C/ Moralzarzal, 86	(null)
12	144	Volvo Model Replicas, Co	Berglund	Christina	0921-12 3555	Bergugv�gen 8	(null)
13	145	Danish Wholesale Imports	Petersen	Jytte	31 12 3555	Vinb�ltet 34	(null)
14	146	Saveley & Henriot, Co.	Saveley	Mary	78.32.5555	2, rue du Commerce	(null)
15	148	Dragon Souvenirs, Ltd.	Natividad	Eric	+65 221 7555	Bronz Sok.	Bronz Apt.
16	151	Muscle Machine Inc	Young	Jeff	2125557413	4092 Furth Circle	Suite 400
17	157	Diecast Classics Inc.	Leong	Kelvin	2155551555	7586 Pompton St.	(null)
18	161	Technics Stores Inc.	Hashimoto	Juri	6505556809	9408 Furth Circle	(null)
19	166	Handji Gifts & Co	Victorino	Wendy	+65 224 1555	106 Linden Road Sandown	2nd Floor
20	167	Herku Gifts	Oeztan	Veysel	+47 2267 3215	Bremen St. 121	PR 334 Ser
21	168	American Souvenirs Inc	Franco	Keith	2035557845	149 Spinnaker Dr.	Suite 101
22	169	Porto Imports Co.	de Castro	Isabel	(1) 356-5555	Estrada da sa�de n. 58	(null)
23	171	Daedalus Designs Imports	Ranc�	Martine	20.16.1555	184, chauss�e de Tournai	(null)
24	172	La Corne D'abondance, Co.	Bertrand	Marie	(1) 42.34.2555	265, boulevard Charonne	(null)
25	173	Cambridge Collectables Co.	Tseng	Jerry	6175555555	4658 Baden Av.	(null)

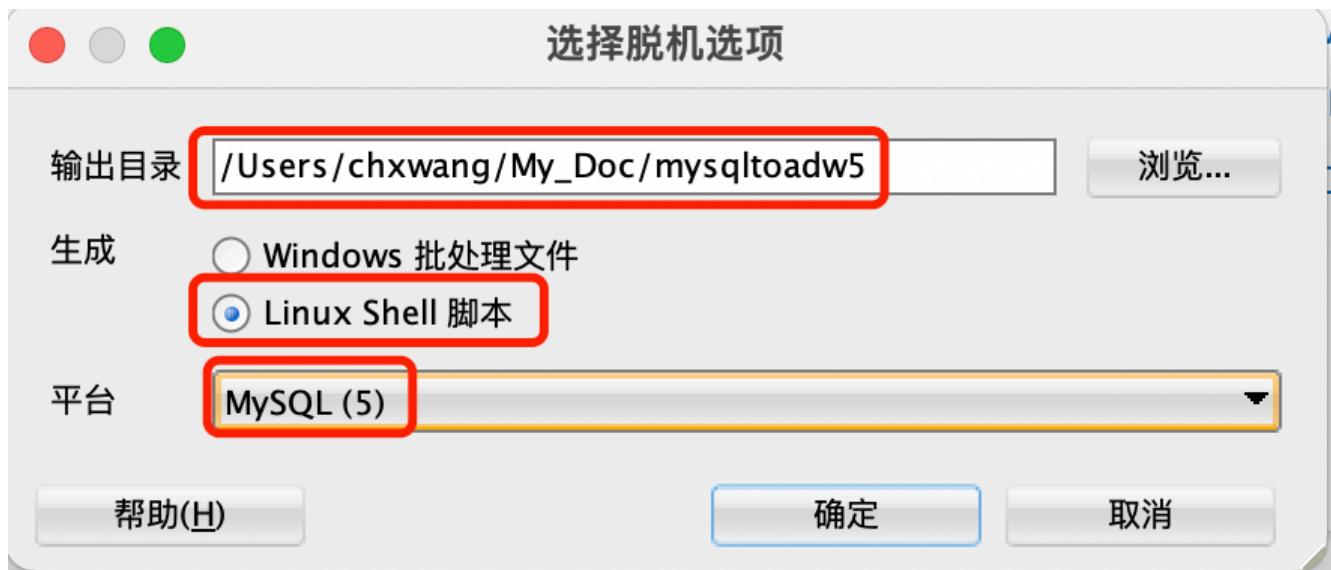
8. sadf

附录：脱机抓取MySQL源数据库的元数据

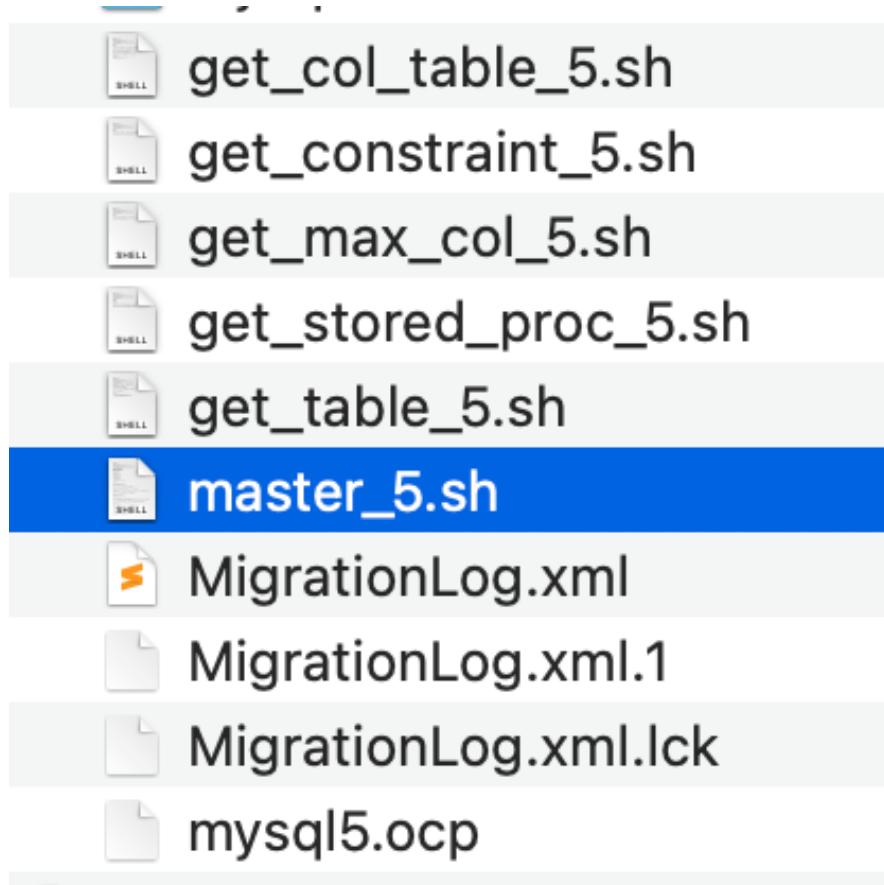
- 如果SQLDeveloper不能直接访问源数据库，我们可以先生成脱机抓取元数据的脚本。



- 指定生成脚本的目录，文件格式及源数据库类别和版本。



3. 生成好的脚本如下

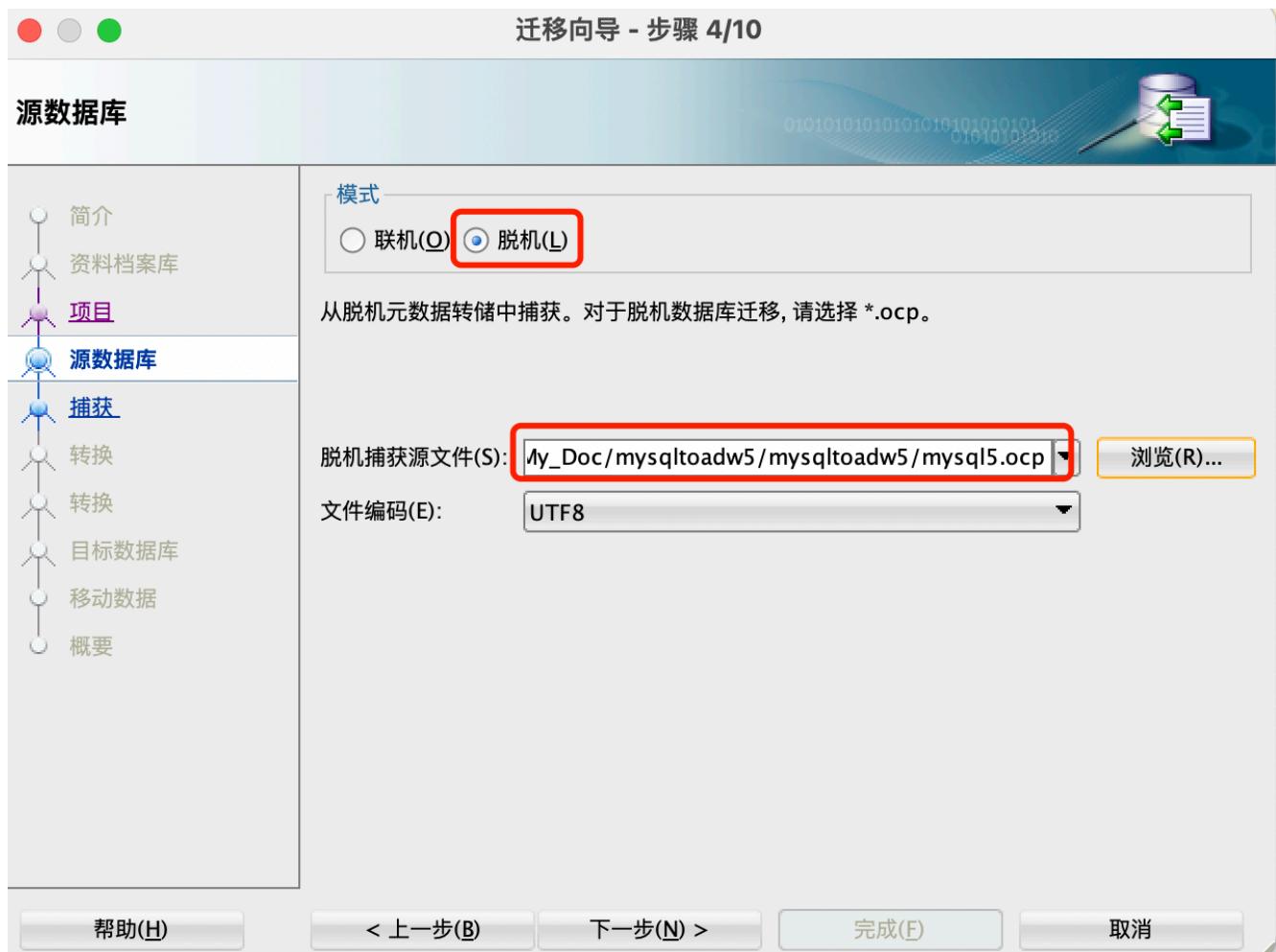


4. 将脚本拷贝到能连接MySQL的虚机上。

```
chmod 755 *.sh  
sh master_5.sh root WelcomePTS_2022# 146.56.132.167
```

5. 生成好的元数据文件再全部拷贝到SQLDeveloper所在节点

6. 在迁移向导捕获源数据库的步骤中选择脱机模式，脱机捕获源文件选择.ocp文件



7. 其它步骤一样。