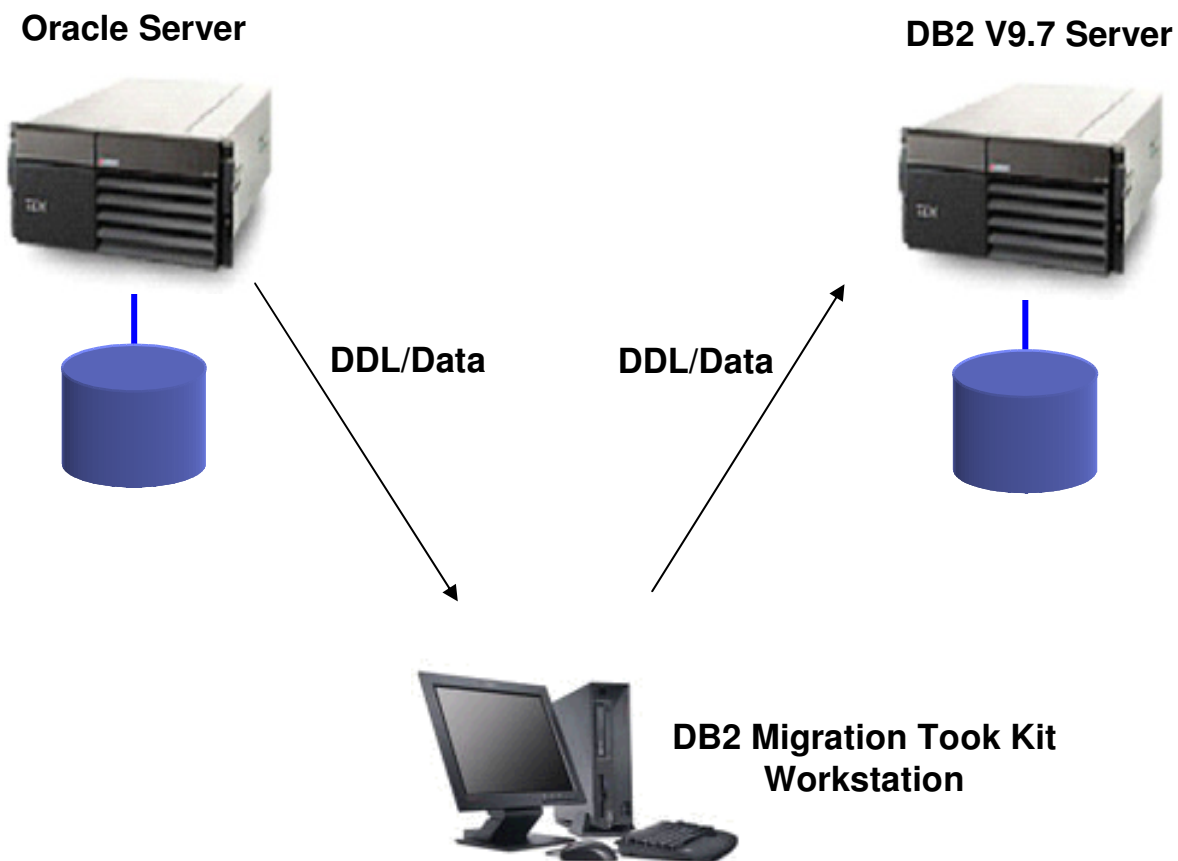




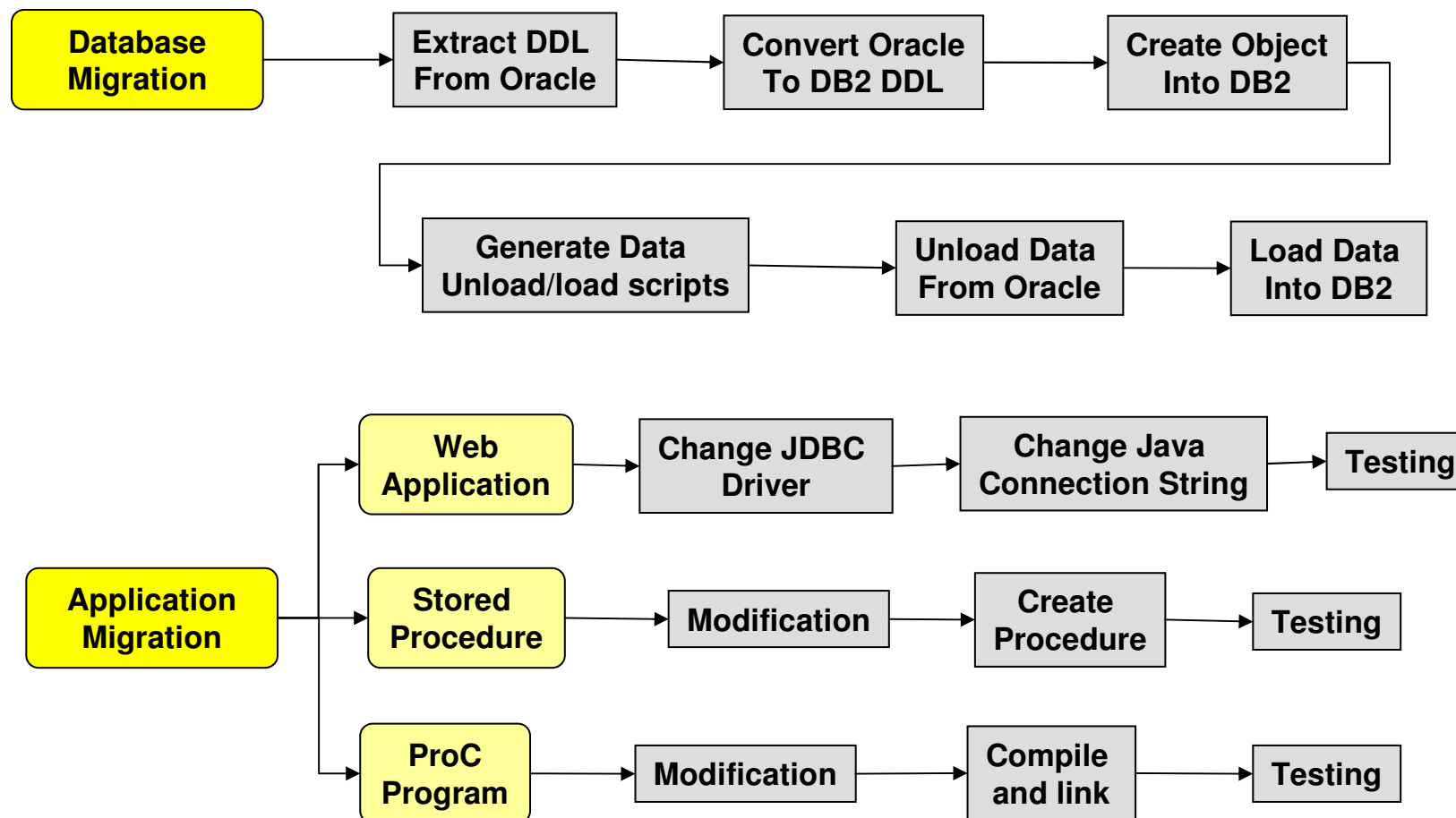
Customer migration Prove of Concept

- Customer background

Oracle migration to DB2 – POC Environment



Oracle migration to DB2 - Flow



Oracle migration to DB2

- **Migration Steps (with flow chart, and changes needed)**
 - Tables other objects (Indexes, Reviews, Triggers, ...)
 - Extract Oracle DDLs (with DB2 MTK)
 - Convert to DB2 DDLs (with DB2 MTK)
 - Modify DDLs for ASCII -> UTF-8 issues
 - Deploy to DB2
 - Validation
 - Check deployment messages
 - Number of objects
 - Data
 - Generate data unload/load scripts (with DB2 MTK)
 - Unload data from Oracle
 - Load data into DB2
 - Validation
 - Check load message files
 - Record counts

Oracle migration to DB2

- **Migration Steps (continue)**
 - Applications
 - Web applications
 - Change JDBC connection string
 - Test data access
 - Test Chinese data
 - Stored Procedure
 - Modification
 - goto logic (will be fixed in GA code)
 - Substrb
 - rtrim
 - Compile
 - Testing
 - ProC programs
 - Modification
 - VARCHAR declaration
 - Connection string
 - Call statement (will be fixed in GA code)
 - Change makefile
 - Compile and link
 - Testing

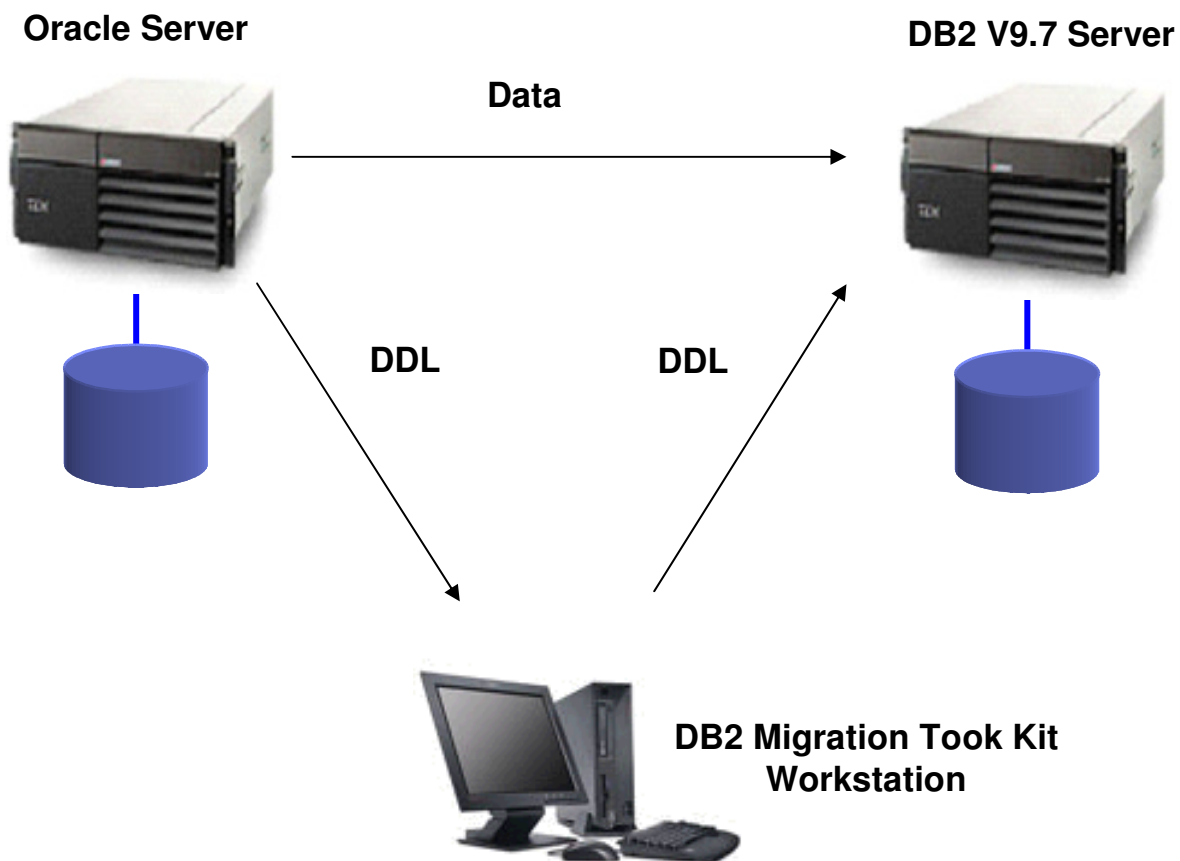
AP移轉環境評估

- DB change (For DB2)
 - Modify VARCHAR2 length for UTF8
 - Define Tablespace (Disk Storage) for DB2
 - Define Group and Users
- AP change (For DB2)
 - Web Application
 - Change JDBC driver
 - Change DB connection string
 - Stored Procedure
 - Change GOTO logic (will be fixed in DB2 V97 GA code)
 - Substrb
 - rtrim
 - ProC
 - Change DB Connection command
 - Change VARCHAR definition
 - Change procedure call statement
 - Change compile/link scripts

AP Migration Lesson Learn

- Lesson Learned – DB2
 - ASC 轉 UTF8
 - Oracle data extracted to text file (big5 code)
 - Load data from big5 client to UTF8 DB
 - DB2 automatically convert big5 code to UTF8 code in DB
 - Query from big5 client
 - DB2 automatically convert UTF8 code to Big5 code
 - Query from Java client
 - Java client access UTF8 from DB
 - UTF8 code is wider than ASC (big5) code
 - Need to double the width of VARCHAR2 columns
 - “Carriage Return” code in “remark” columns
 - Need to extract Oracle data to “FIXED LENGTH” text file then load into DB2
 - If use “DELIMITED” text file, record will be truncated when encounter the “Carriage Return” code
 - Run the extract/load job from DB servers to speed up
 - Need to have systematic and repeatable method to verify program (Stored Procedure or ProC) result or output,

Oracle migration to DB2 – For better performance with large data volume



Using DB2 Migration ToolKit

Migration ToolKit - Project management

New Project | Open a Project

Specify project characteristics. You can modify the project definition at any time by viewing it in the project menu.

Project name: TradeVan_New

Project path: C:\MTK\projects

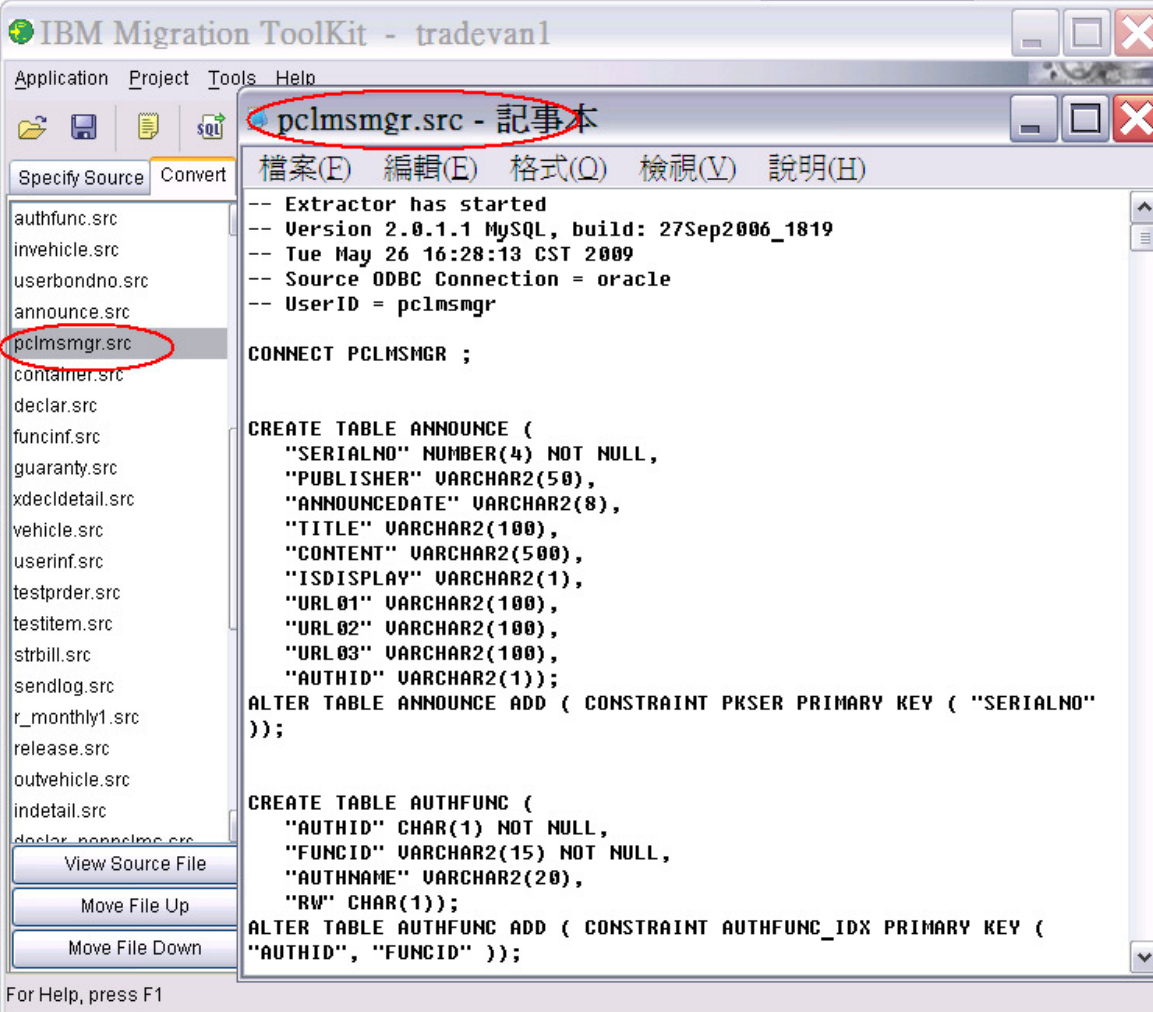
Project description: TradeVan POC

Source database: Select source database version you want to migrate. Oracle

IBM Target Database: Target Platform and Version. DB2 UDB 9 for Linux, UNIX, and Windows

OK | Cancel | Help

Extracting DDL from Oracle



The screenshot shows the IBM Migration ToolKit interface. The window title is "IBM Migration ToolKit - tradevan1". The menu bar includes "Application", "Project", "Tools", and "Help". The toolbar contains icons for file operations and a "SQL" icon. The main window is titled "pclmsmgr.src - 記事本" and has a menu bar with "檔案(E)", "編輯(E)", "格式(O)", "檢視(V)", and "說明(H)". The left pane shows a list of source files, with "pclmsmgr.src" selected and circled in red. The right pane displays the extracted DDL for the "pclmsmgr.src" file. The DDL includes a header section with version and connection information, followed by SQL statements for creating and altering tables.

```
-- Extractor has started
-- Version 2.0.1.1 MySQL, build: 27Sep2006_1819
-- Tue May 26 16:28:13 CST 2009
-- Source ODBC Connection = oracle
-- UserID = pclmsmgr

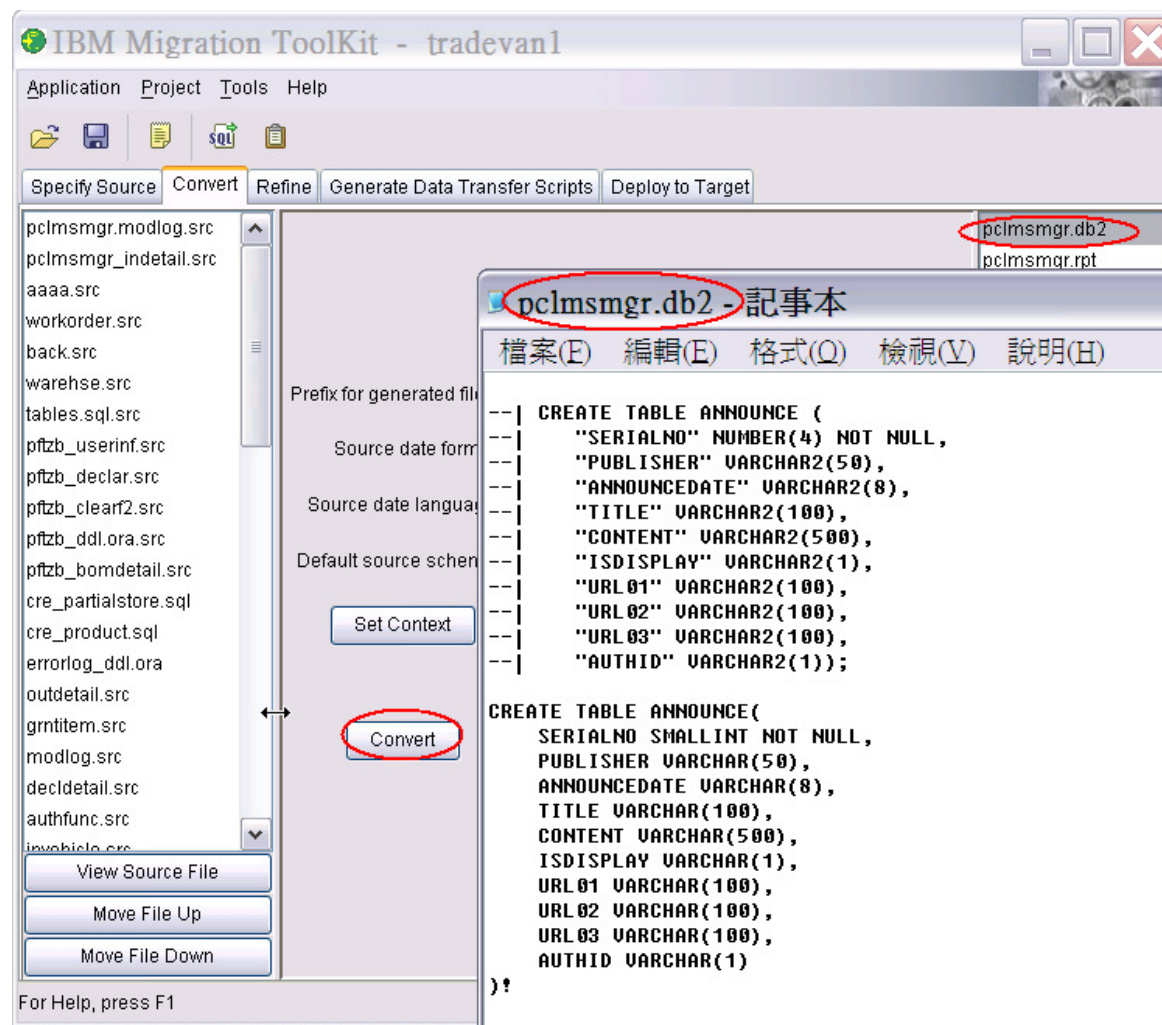
CONNECT PCLMSMGR ;

CREATE TABLE ANNOUNCE (
  "SERIALNO" NUMBER(4) NOT NULL,
  "PUBLISHER" VARCHAR2(50),
  "ANNOUNCEDATE" VARCHAR2(8),
  "TITLE" VARCHAR2(100),
  "CONTENT" VARCHAR2(500),
  "ISDISPLAY" VARCHAR2(1),
  "URL01" VARCHAR2(100),
  "URL02" VARCHAR2(100),
  "URL03" VARCHAR2(100),
  "AUTHID" VARCHAR2(1));
ALTER TABLE ANNOUNCE ADD ( CONSTRAINT PKSER PRIMARY KEY ( "SERIALNO"
));

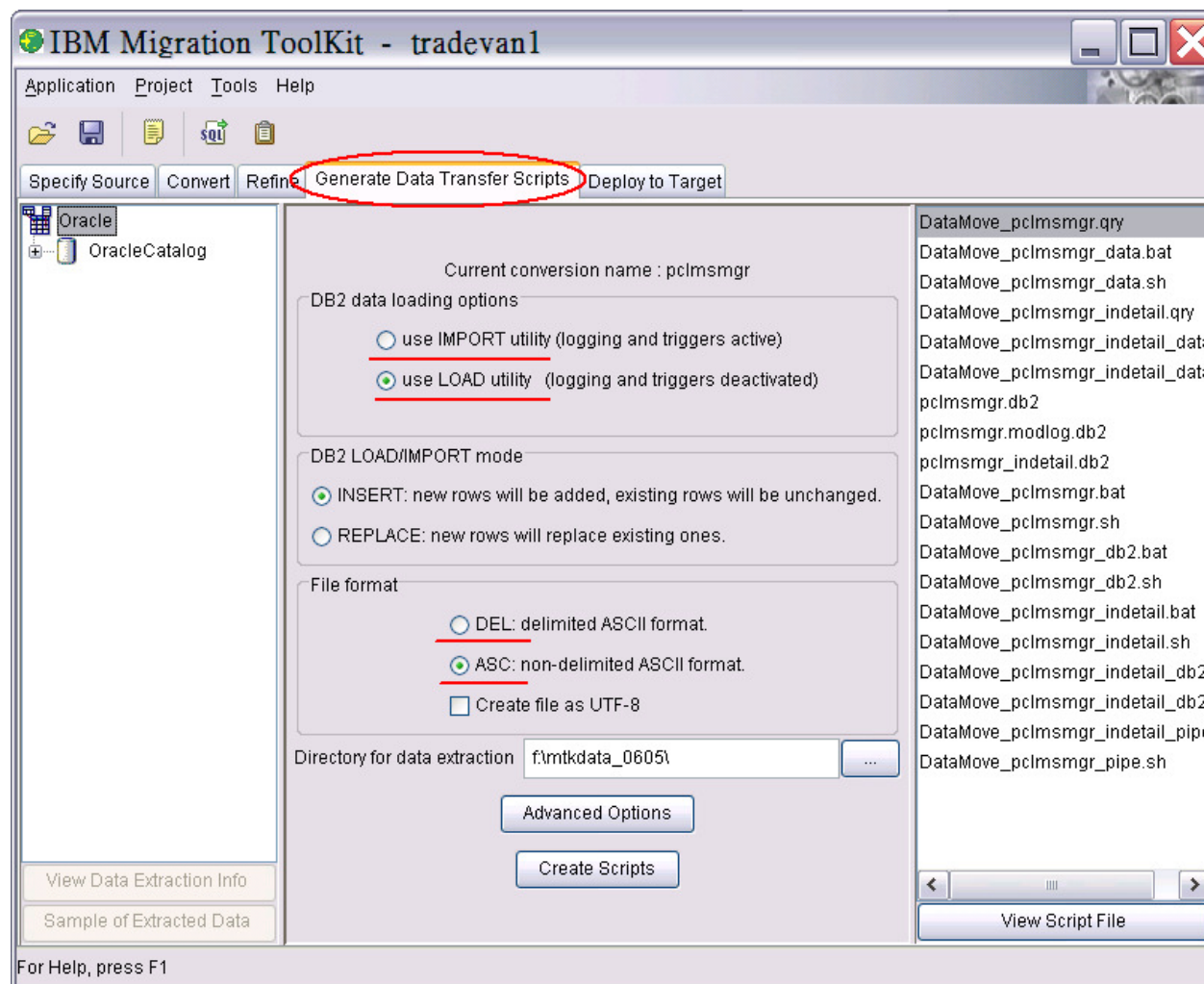
CREATE TABLE AUTHFUNC (
  "AUTHID" CHAR(1) NOT NULL,
  "FUNCID" VARCHAR2(15) NOT NULL,
  "AUTHNAME" VARCHAR2(20),
  "RW" CHAR(1));
ALTER TABLE AUTHFUNC ADD ( CONSTRAINT AUTHFUNC_IDX PRIMARY KEY (
"AUTHID", "FUNCID" ));
```

For Help, press F1

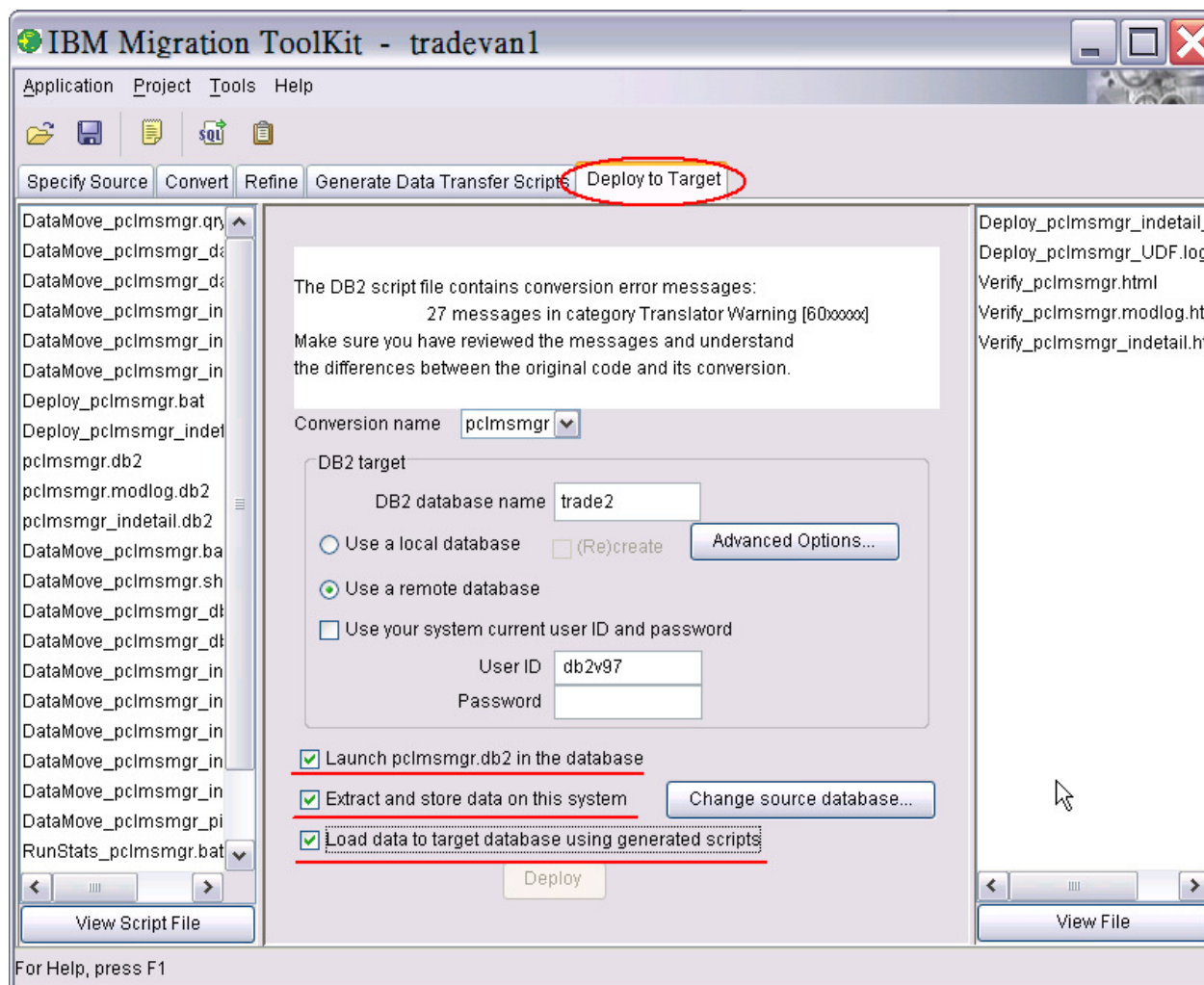
Convert DDLs into DB2



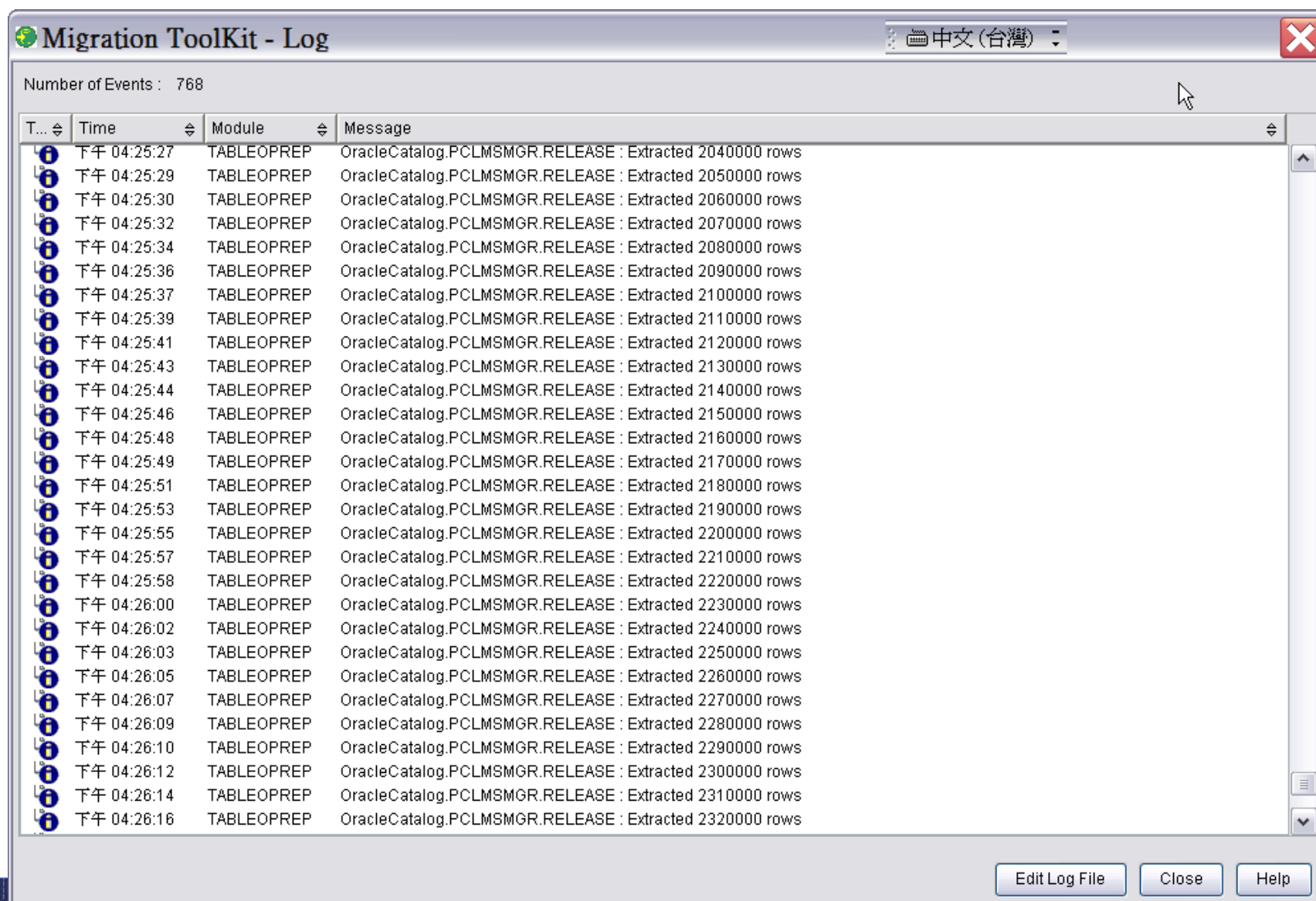
Generate Data Transfer Scripts



Deploy to DB2



Extracting Data From Oracle



Migration ToolKit - Log

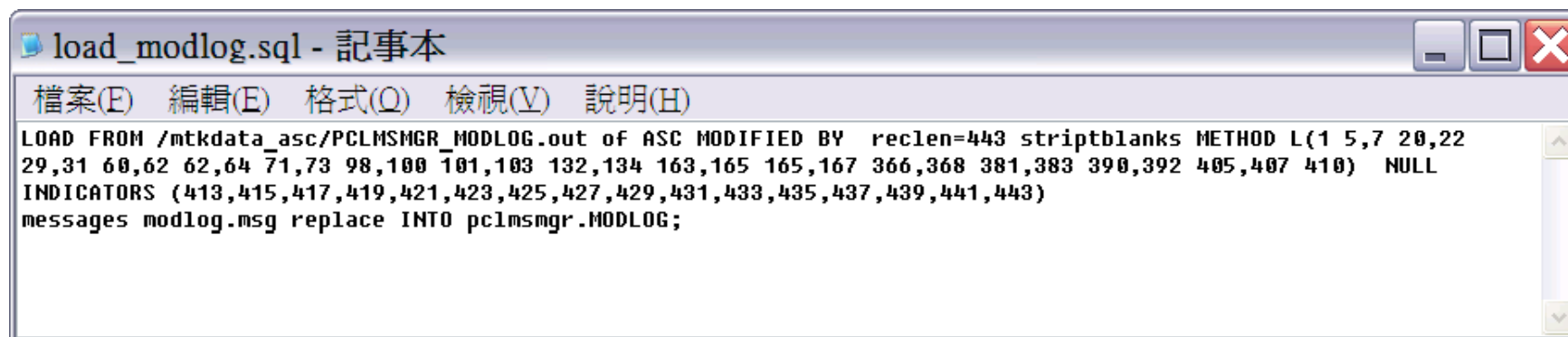
Number of Events : 768

中文(台灣)

T...	Time	Module	Message
Log	下午 04:25:27	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2040000 rows
Log	下午 04:25:29	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2050000 rows
Log	下午 04:25:30	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2060000 rows
Log	下午 04:25:32	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2070000 rows
Log	下午 04:25:34	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2080000 rows
Log	下午 04:25:36	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2090000 rows
Log	下午 04:25:37	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2100000 rows
Log	下午 04:25:39	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2110000 rows
Log	下午 04:25:41	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2120000 rows
Log	下午 04:25:43	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2130000 rows
Log	下午 04:25:44	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2140000 rows
Log	下午 04:25:46	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2150000 rows
Log	下午 04:25:48	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2160000 rows
Log	下午 04:25:49	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2170000 rows
Log	下午 04:25:51	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2180000 rows
Log	下午 04:25:53	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2190000 rows
Log	下午 04:25:55	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2200000 rows
Log	下午 04:25:57	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2210000 rows
Log	下午 04:25:58	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2220000 rows
Log	下午 04:26:00	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2230000 rows
Log	下午 04:26:02	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2240000 rows
Log	下午 04:26:03	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2250000 rows
Log	下午 04:26:05	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2260000 rows
Log	下午 04:26:07	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2270000 rows
Log	下午 04:26:09	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2280000 rows
Log	下午 04:26:10	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2290000 rows
Log	下午 04:26:12	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2300000 rows
Log	下午 04:26:14	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2310000 rows
Log	下午 04:26:16	TABLEOPREP	OracleCatalog.PCLMSMGR.RELEASE : Extracted 2320000 rows

Edit Log File Close Help

Load script generated by DB2 MTK



The screenshot shows a Notepad window titled "load_modlog.sql - 記事本". The window contains the following SQL script:

```
LOAD FROM /mtkdata_asc/PCLMSMGR_MODLOG.out of ASC MODIFIED BY reclen=443 striptblanks METHOD L(1 5,7 20,22  
29,31 60,62 62,64 71,73 98,100 101,103 132,134 163,165 165,167 366,368 381,383 390,392 405,407 410) NULL  
INDICATORS (413,415,417,419,421,423,425,427,429,431,433,435,437,439,441,443)  
messages modlog.msg replace INTO pclsmgr.MODLOG;
```