

CS3DB3 / SE4DB3 / SE6M03 TUTORIAL

Mei Jiang

Jan 16/18, 2013

Introduction

- Tutorial Time
 - Wednesday/Friday 10:30 – 11:20, JHE A102
- Office Hours
 - Friday 11:30-12:30, ITB116
- Email
 - jiangm5@mcmaster.ca

Outline

- Environment
- Basic DB2 Commands
- Example
- Using DB2
- More Help

Environment

- IBM DB2 v9.7 under Linux operating system
- Two database instances:
 - CS3DB3
db2srv2.mcmaster.ca
 - SE4DB3
db2srv3.mcmaster.ca
- Connect to db server through SSH
- Use VPN if you are off campus
- Make sure you have access to these servers

Basic DB2 Commands

- Write a comment

-- *this is a comment*

- Make a connection

CONNECT TO DBNAME

- Terminate a connection

TERMINATE

Basic Commands (cont.)

- Create a table

```
CREATE TABLE TABLENAME(  
    ATTRIBUTE1 DOMAIN1 NOT NULL,  
    ATTRIBUTE2 DOMAIN2,  
    ...  
    ATTRIBUTEx DOMAINx,  
    PRIMARY KEY (ATTRIBUTE1),  
    FOREIGN KEY (ATTRIBUTEx) REFERENCES TABLENAME2 (ATTRIBUTEy)  
)
```

- Drop a table

```
DROP TABLE TABLENAME
```

- Alter a table

```
ALTER TABLE TABLENAME ADD ATTRIBUTE3 DOMAIN3
```

```
ALTER TABLE TABLENAME DROP ATTRIBUTE3
```

Basic Commands (cont.)

□ Domain types

□ CHAR(n)

- Fixed length character strings with length n

□ VARCHAR(n)

- Variable length of character strings with maximum length n

□ INTEGER

□ DECIMAL(p , d)

- Fixed point number with precision of p digits and d digits to the right of decimal point

Basic Commands (cont.)

- Insert a row

INSERT INTO TABLENAME VALUES (VALUE1, VALUE2,...)

- Delete all rows

DELETE FROM TABLENAME

- Delete a specific row

DELETE FROM TABLENAME WHERE CONDITION

- Update a row

UPDATE TABLENAME

SET ATTRIBUTE = VALUE

WHERE CONDITION

Basic Commands (cont.)

- List all tables in database

LIST TABLES

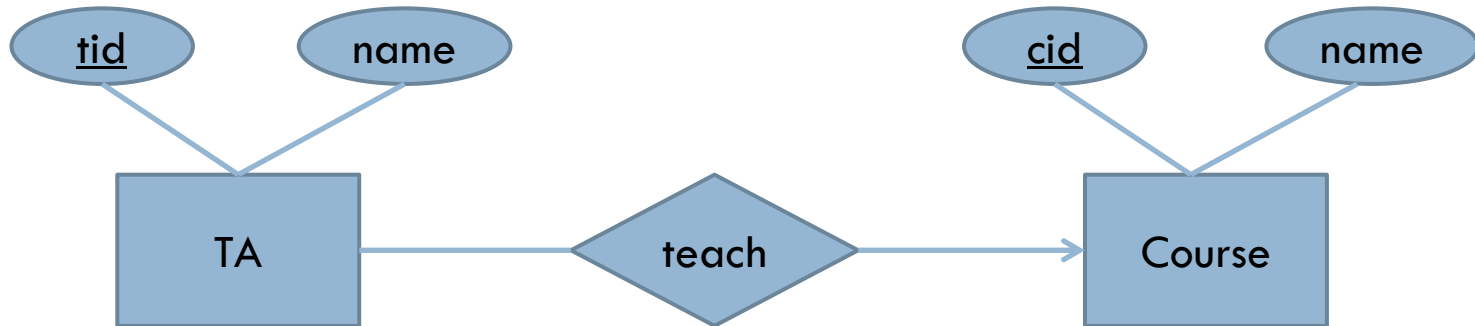
- List information about a table

DESCRIBE TABLE TABLENAME

- List all records of a table

SELECT * FROM TABLENAME

Example



- TA(tid, name, cid)
- Course(cid, name)

tid	name	cid
t1	John	c1
t2	Smith	c1
t3	Mary	c2

ref. →

cid	name
c1	Database
c2	Math

The diagram shows two tables. The first table has columns 'tid', 'name', and 'cid'. The 'cid' column is circled in red. The second table has columns 'cid' and 'name'. The 'cid' column is also circled in red. A red arrow labeled 'ref.' points from the 'cid' column of the first table to the 'cid' column of the second table, indicating a reference relationship.

Example (cont.)

- ❑ CREATE TABLE **Course**(
 cid CHAR(2) NOT NULL,
 name CHAR(10),
 PRIMARY KEY (**cid**)
)

- ❑ CREATE TABLE **TA**(
 tid CHAR(2) NOT NULL,
 name CHAR(10),
 cid CHAR(2) NOT NULL,
 PRIMARY KEY (**tid**),
 FOREIGN KEY (**cid**) REFERENCES **COURSE**
)

Example (cont.)

- --Populates Course table

```
INSERT INTO Course VALUES ('c1', 'Database')
```

```
INSERT INTO Course VALUES ('c2', 'Math')
```

- --Populate TA table

```
INSERT INTO TA VALUES ('t1', 'John', 'c1')
```

```
INSERT INTO TA VALUES ('t2', 'Smith', 'c1')
```

```
INSERT INTO TA VALUES ('t3', 'Mary', 'c2')
```

Using DB2 (Interactive Mode)

- Login to the server
- Use command **db2** to bring up db2 front end
- Directly execute db2 commands or SQL statements
- Each command is terminated by a new line
- Use the line continuation character \

Using DB2 (Script)

- Login to the server
- Upload your script
- Remove the line continuation character \
- Add ; as terminator for each statement
- Use command **db2 -n -t -f FILENAME** to execute the script

More Help

- [More help](#) on db2 can be found through the link on the course webpage under the Assignment tab.