

Tutorial – 3DB3

1st week

Jongjun Park

Introduction

- TAs
 - Jongjun Park
 - Email: parkj182@mcmaster.ca
 - Office hours: Tue 1:00pm - 2:00pm (ITB 208)
 - Nishtha Sharma
 - Email: sharmn99@mcmaster.ca
 - Office hours: Thu 2:00pm - 3:00pm (ITB 208)
 - Wongyu Kim
 - Email: kimw30@mcmaster.ca
 - Office hours: Mon 2:00pm - 3:00pm (ITB 208)
 - Seaya Liu
 - Email: liu1150@mcmaster.ca
 - Office hours: Tue 10:30am - 11:30am (ITB 242)
 - Anjola Adewale
 - Email: adewaa1@mcmaster.ca
 - Office hours: Wed 3:00pm - 4:00pm (ITB 242)

Introduction

- Tutorials time

- (T02) Tue 2:30pm – 3:20pm, T13 107
- (T04) Fri 9:30am – 10:20am, CNH 102
- (T03) Fri 11:30am – 12:20pm, T13 105
- (T01) Fri 2:30pm – 3:20pm, T13 106

Agenda

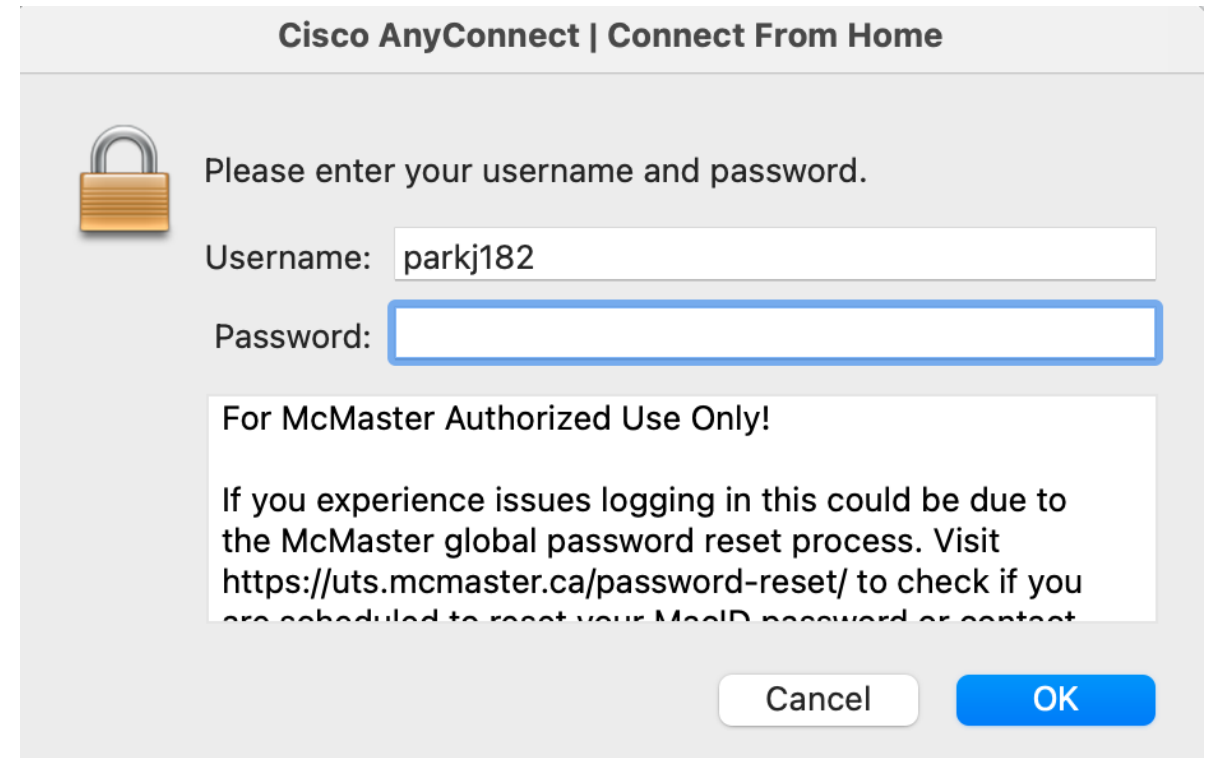
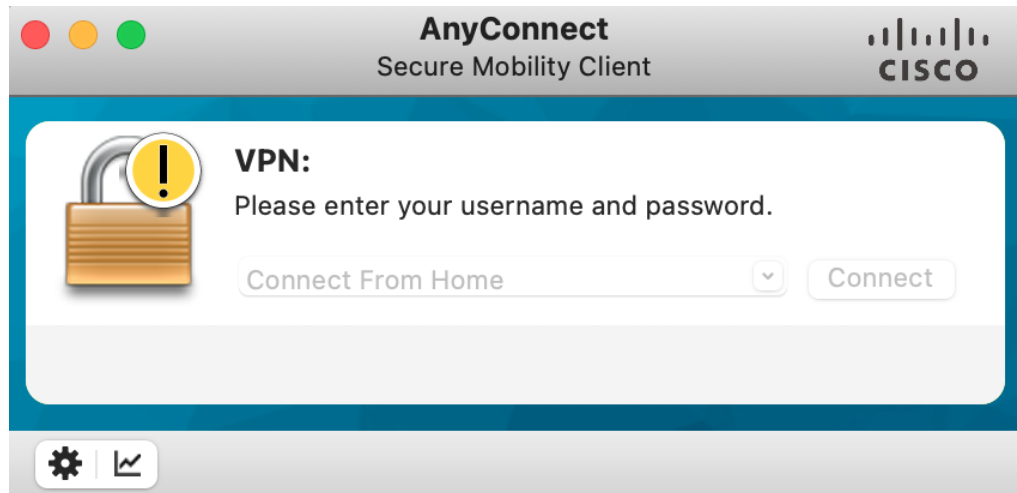
- How to use DB2
 - Try to connect to DB2 of your account
 - All the log in issues should be resolved until Sep. 17th
- Create Tables

Environments

- Then connect to DB2 server
 - WindowsOS: use Putty, Xshell or other SSH client.
 - MacOS/Linux: use Terminal, `$ ssh <macid>@se3db3.cas.mcmaster.ca`
- All the login issues should be fixed before Sep. 17th
- ✓ **VPN:** If you're off-campus, you need VPN,
using [CISCO AnyConnect](#),
<https://uts.mcmaster.ca/services/computers-printers-and-software/virtual-private-networking/>

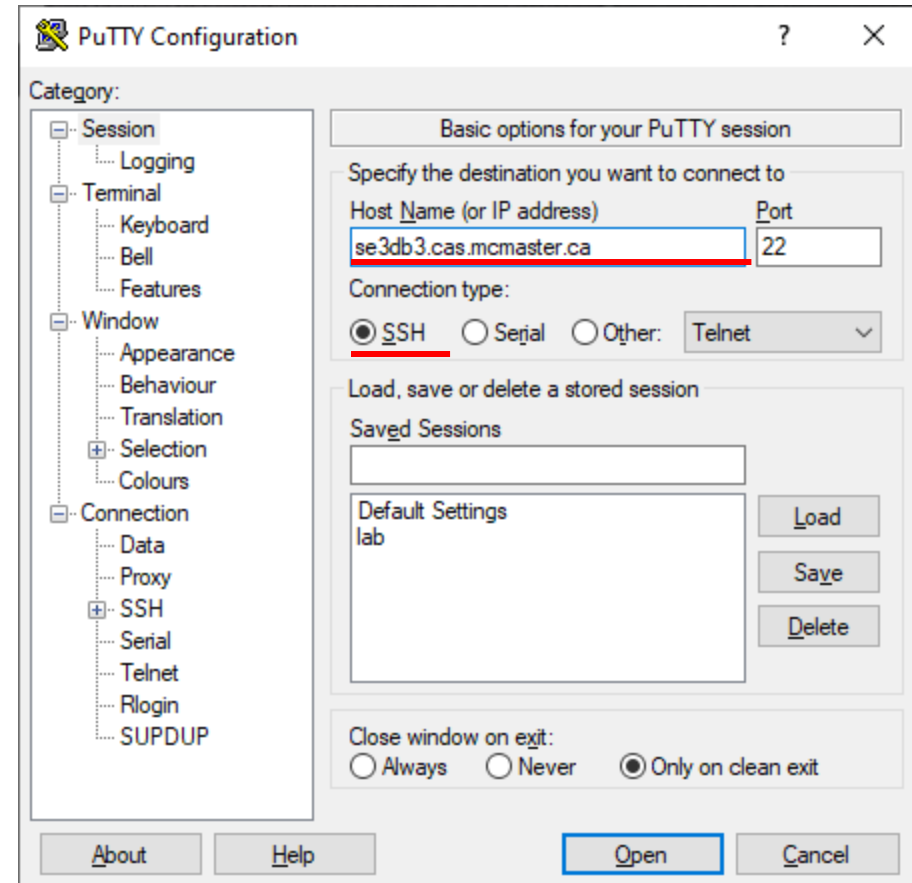
VPN Connect – AnyConnect

- Connect to McMaster VPN
 - Use your MacID and password



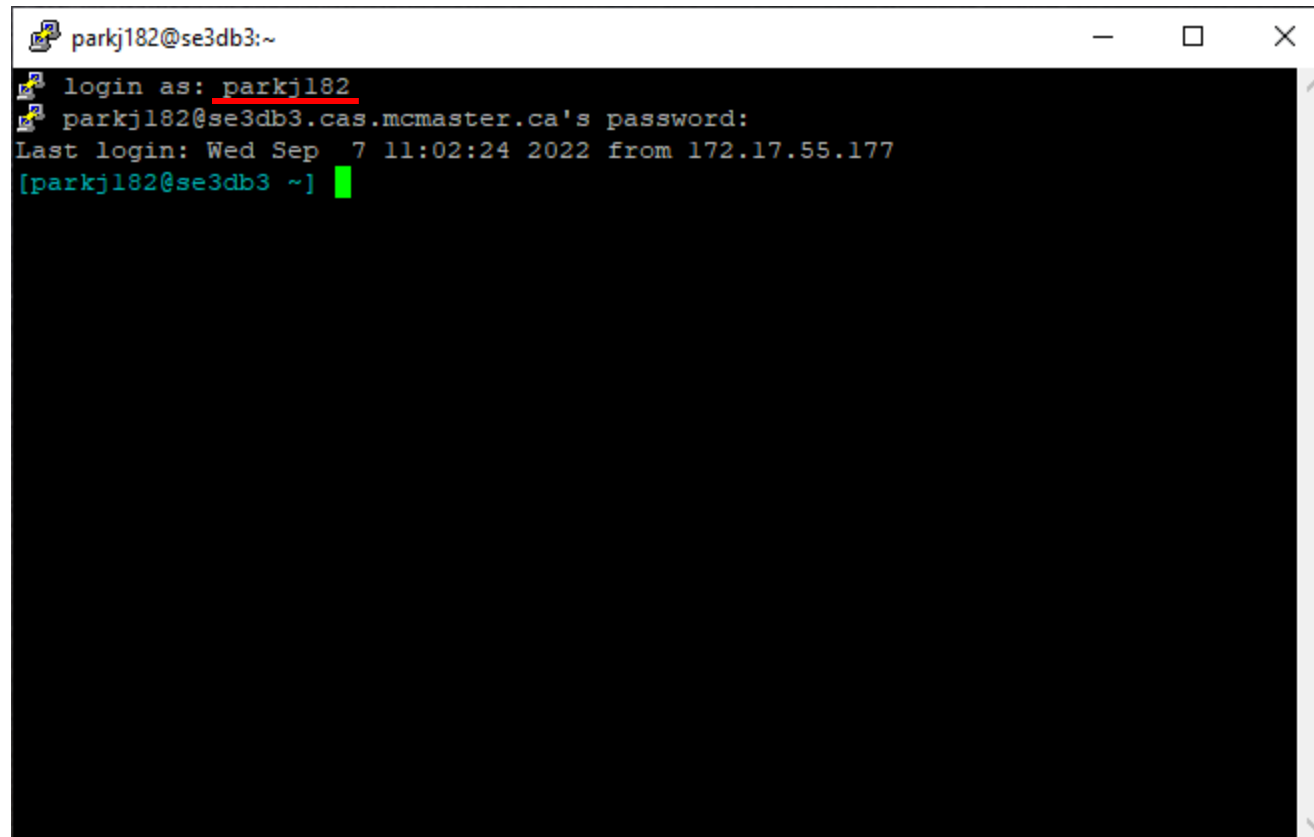
Connect to DB2 – Windows (putty)

- Using connect type: SSH
- se3db3.cas.mcmaster.ca



Connect to DB2 – Windows (putty)

- Use your MacID and password



```
parkj182@se3db3:~  
login as: parkj182  
parkj182@se3db3.cas.mcmaster.ca's password:  
Last login: Wed Sep  7 11:02:24 2022 from 172.17.55.177  
[parkj182@se3db3 ~] █
```


Connect to DB2 – Mac or Linux

- Connect to se3db3
 - `$ ssh <macID>@se3db3.cas.mcmaster.ca`
 - Use your MacID and password

```
Connection to se3db3.cas.mcmaster.ca closed.
MacBook-JP:~ ssh jongjunPark$ ssh parkj182@se3db3.cas.mcmaster.ca
parkj182@se3db3.cas.mcmaster.ca's password:
Last login: Thu Sep  7 14:02:09 2023 from lap-parkj.cas.mcmaster.ca
-bash: warning: setlocale: LC_CTYPE: cannot change locale (UTF-8): No such file or directory
[parkj182@se3db3 ~] █
```

Connect to DB2

- Type “db2” on the terminal
 - `$ db2`

```
[MacBook-Air:~ jongjunPark$ ssh parkj182@se3db3.cas.mcmaster.ca
[ parkj182@se3db3.cas.mcmaster.ca's password:
Last login: Thu Sep  8 11:57:42 2022 from 172.17.55.177
-bash: warning: setlocale: LC_CTYPE: cannot change locale (UTF-8): No such file or directory
[ parkj182@se3db3 ~] db2
(c) Copyright IBM Corporation 1993,2007
Command Line Processor for DB2 Client 11.5.6.0

You can issue database manager commands and SQL statements from the command
prompt. For example:
    db2 => connect to sample
    db2 => bind sample.bnd

For general help, type: ?.
For command help, type: ? command, where command can be
the first few keywords of a database manager command. For example:
    ? CATALOG DATABASE for help on the CATALOG DATABASE command
    ? CATALOG           for help on all of the CATALOG commands.

To exit db2 interactive mode, type QUIT at the command prompt. Outside
interactive mode, all commands must be prefixed with 'db2'.
To list the current command option settings, type LIST COMMAND OPTIONS.

For more detailed help, refer to the Online Reference Manual.

db2 => █
```

Connect to se3db3

- Type “connect to se3db3” on the terminal
 - **\$ connect to se3db3**
- Well Done!

```
MacBook-Air:~ jongjunPark$ ssh parkj182@se3db3.cas.mcmaster.ca
parkj182@se3db3.cas.mcmaster.ca's password:
Last login: Thu Sep  8 11:57:42 2022 from 172.17.55.177
-bash: warning: setlocale: LC_CTYPE: cannot change locale (UTF-8): No such file or directory
[parkj182@se3db3 ~] db2
(c) Copyright IBM Corporation 1993,2007
Command Line Processor for DB2 Client 11.5.6.0

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  db2 => connect to sample
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? CATALOG DATABASE for help on the CATALOG DATABASE command
? CATALOG           for help on all of the CATALOG commands.

To exit db2 interactive mode, type QUIT at the command prompt. Outside
interactive mode, all commands must be prefixed with 'db2'.
To list the current command option settings, type LIST COMMAND OPTIONS.

For more detailed help, refer to the Online Reference Manual.

db2 => connect to se3db3

      Database Connection Information

Database server      = DB2/LINUX8664 11.5.6.0
SQL authorization ID = PARKJ182
Local database alias = SE3DB3

db2 => █
```

Basic Commands

- Write a comment: `-- this is a comment`
- List tables: `$ list tables`

```
db2 => list tables
Table/View          Schema          Type  Creation time
-----
0 record(s) selected.
db2 => █
```

- `quit`

(cf) Basic linux commands

- \$ man *[command]* (help of [command])
 - \$ pwd (print working directory)
 - \$ cd *[directory]* (change directory)
 - \$ ls (list)
 - \$ cp *[A] [B]* (copy A to B)
 - \$ mv *[A] [B]* (move A to B)
 - \$ mkdir *[A]* (make directory)
 - \$ rm *[A]* (delete file)
- Practice yourself
- Also, you may practice (vi / vim / emacs) text editor on the terminal

Basic SQL (or DB2) command

- You can find out on the website and textbook
 - \$ connect to *[db name]*
 - \$ list tables
 - \$ create table *[table name]*(*[name]* *[type]*)
 - Create table in the database
 - (ex) \$ create table cellphone(maker char(20), model char(20), version int)
 - \$ insert into *[table name]* values(*[values w.r.t. table]*)
 - Insert values to the table
 - (ex) \$ insert into cellphone values('Apple', 'iPhone', 13)
 - \$ drop table *[table name]*
 - Delete table
 - \$ quit
 - Disconnect

Home directory

- Use the command 'pwd' on the terminal
- `/u40/<macID>/`
 - *“u40” may appear differently*

```
[parkj182@se3db3 ~] pwd
/u40/parkj182
[parkj182@se3db3 ~] █
```

Upload Script

- Windows: use WINSCP client if you use Putty; use Xftp client if you use Xshell.
- Mac, Linux: use scp command
 - `$ scp [file_src_path] <MacID>@se3db3.cas.mcmaster.ca:[dest_path]`
 - (ex) `$ scp script.ddl parkj182@se3db3.cas.mcmaster.ca:/u40/parkj182/`
- Run your script in server
 - `$ db2 -tnf script.ddl`

Example

```
[MacBook-Air:db2 jongjunPark$ ls ]
script.ddl ]
[MacBook-Air:db2 jongjunPark$ scp script.ddl parkj182@se3db3.cas.mcmaster.ca:/u40/parkj182/3DB3/ ]
parkj182@se3db3.cas.mcmaster.ca's password: ]
[/etc/profile.d/lang.sh: line 19: warning: setlocale: LC_CTYPE: cannot change locale (UTF-8): No such file or directory ]
script.ddl 100% 912 137.3KB/s 00:00 ]
[MacBook-Air:db2 jongjunPark$ █ ]
```

Example - Script

```
connect to se3db3;

-- table about cell phone
create table cellphone(
    maker char(20),
    model char(20),
    version int,
    price decimal(10,2)
);

-- table for playlist
create table playlist(
    artist char(20),
    album char(20),
    song char(20),
    released int
);

insert into cellphone values('Apple', 'iPhone', '13', 1099.99);
insert into cellphone values('Apple', 'iPhone', '12', 899.99);
insert into cellphone values('Samsung', 'Galaxy Fold', '3', 2399.99);
insert into cellphone values('Samsung', 'Galaxy A', '6', 599.99);

insert into playlist values('Coldplay', 'Music of the Spheres', 'My Universe', 2021);
insert into playlist values('Adele', '30', 'Easy On Me', 2021);
insert into playlist values('Adele', '21', 'Someone Like You', 2011);
insert into playlist values('Justin Bieber', 'Purpose', 'Love Yourself', 2015);
insert into playlist values('Billie Eilish', 'Happier Than Ever', 'Getting Older', 2021);

~
~
~
~
~
```

CREATE TABLE

- Command

- \$ create table *[table name]([name] [type])*

- \$ create table cellphone (
 maker char(20),
 model char(20),
 version int
);

- Create table into Database

- Key constraints

- Primary key
 - Foreign key
 - Unique / not null (key)

```
create table Employee (  
    ID integer not null,  
    deptID integer,  
    primary key (ID),  
    foreign key (deptID) references  
Department(Department_ID) on delete cascade  
);
```

Questions?

- You can ask any TAs
- You also can use office hours of any TAs
- Important!
 - All the login issues should be fixed before Sep. 17th
 - Related to the 1st and 2nd assignments
- Using e-mail for any questions (may not get answer through MS Teams)
- Office hour preferred