TP

Backup and Recovery

Objective: practice how to

- Perform physical backup and recovery
- Perform full logical backup and recovery
- Perform incremental backup and recovery

Work

1. Physical backup: can use Mysql Enterprise Backup or doing the below alternative
   Connect to mysql server using the command line mysql client. Follow the instruction below to perform physical backup.
   - Find the directory where mysql stores database
     show variables like '%dir%';
     - basedir: where mysql core code is.
     - Datadir: where data is stored.
   - Backup the data directory
     - for online backup only:
       - lock tables before copy data directory
         flush tables with read lock;
     - copy the data directory to a preferable place by using file system; command such as cp or rsync or xcopy (windows). For more information about the file system command use *command --help* or *help command* for windows.
     - For online backup only:
       - unlock tables after backup.
         Unlock tables;
2. logical backup using mysqldump. For more information see the lesson.
   You can choose to perform the backup of a local server or a remote server (172.16.206.130).
   a) Write mysqldump command for backup all databases on server
   b) Write mysqldump command for backup a database on server.
   c) Write mysqldump command for backup a few tables of database.
   d) Write command to backup some rows.
      >*mysql -u username -h hostname -e 'sql_select_statement' -p dbname > path/outputfile.txt*

   - load data from a text file that is the result of 2.d)

     LOAD DATA LOCAL INFILE '/path/data.txt' INTO TABLE table_name;

3. Incremental backup
   - enable binary log
     - check if the server is run with binary log or not
       show variable like'log-bin';
   - **if it is not run with binary log** enable it by changing configuration file my.ini or my.cnf. *Run mysqld --verbose --help* to find the file. Look for the line containing *log-bin;* uncomment it and change it to *log-bin=log.bin*
4. Recovery using full physical backup
   a) make some change to a database; such as inserting a new row to any table;
   b) stop mysql server.
   c) rename the current data directory to *previousname1*.
   d) copy the backup directory to mysql data directory.
   e) Start mysql server.
      Check if the change in a. is still there.

f) If the change is not there, redo it by using the binary log in *previousname1* directory. See lesson on how to use the binary log file.