Java/mySQL Server Readme File

This readme file covers the installation steps and pieces to install and configure the Java Server code and mySQL DB along with DB management tools.

## Java Server

1. Recommend download and install NetBeans IDE. Version 8.2 was used for development. Other java options are available. <https://netbeans.org/downloads/>
2. Download and import additional required packages for java development
   1. MySQL JDBC Driver: Refer to this page to retrieve required java library to communicate with the mySQL DB: <https://dev.mysql.com/downloads/connector/j/> For this project, mysql-connector-java-5.1.23-bin.jar was used.
   2. FTP import utilities: Refer to this page to retrieve the Apache Commons Net library for FTP function to move rescue dog transactions to web hosted server: <https://commons.apache.org/proper/commons-net/download_net.cgi>  
      For this project, commons-net-3.6.jar was used.
3. Project class files available from github to install as project files. These files cover all java server functionality. Here is the code repository: <https://github.com/djschlerf/Capstone_RescueDogSensorProject>  
   Reference files listed below.
   1. [RescueDogServer.java](https://github.com/djschlerf/Capstone_RescueDogSensorProject/blob/master/RescueDogServer.java)  
      This is the main class file that processes all incoming transactions. Spawns a separate process for the FTP function referencing the next class file.
      1. NOTE: Hardcoded references are in this file to a local path for saving a transaction file. This will need to be updated to run on another device or another user.
      2. NOTE: Hardcoded server port and mySQL user name was used for DB access. See step 2 below for user name for DB access. This will need to be updated dependant on which user for connecting to mySQL. If steps below followed, user: rescuedog, pass: rescuedog.
   2. [PushFTPforDogPath.java](https://github.com/djschlerf/Capstone_RescueDogSensorProject/blob/master/PushFTPforDogPath.java)  
      This process runs in a separate thread from the main server and pushes via FTP. Please note, this class file must be edited to add embedded UAA username and password to send via FTP security.

## MySQL DB Server

1. Download and install mySQLWorkbench. Version 6.3 was used for development. <https://dev.mysql.com/downloads/workbench/>
2. Create separate mySQL user (not admin) named “rescuedog” with password “rescuedog”. This user needs to be given full permissions for a new schema named “rescue\_dog”.
3. Execute DB create script. This script also creates sample data. Delete transactions if necessary to use only actual data. Run the following script as mySQL admin user: [CreateTablesRescueDogUPDATED.sql](https://github.com/djschlerf/Capstone_RescueDogSensorProject/blob/master/CreateTablesRescueDogUPDATED.sql)
4. Make sure that the mySQL DB service is up and running and set to always start on reboot. Note listening port as this must be updated for DB connect string in RescueDogServer.java file.

## Starting the Server

1. Execute at the command prompt in the installed java directory “java RescueDogServer”. Alternatively, open the file in your IDE and run the main class ResuceDogServer.