



A Framework for Benchmarking Link Quality Estimators

RadiaLE software tool installation

I. Installation of the Java ExpCtrApp under Linux:

System Requirements:

We tested ExpCtrApp on:

- ubuntu 8.10
- TinyOS 2.0.2
- MySQL server 5.0.67
- Java 1.6.0_10

Installation Steps:

1. [Install TinyOS](#)
2. [Install MySQL](#) database management system with the following settings:
 - a. User: root
 - b. Password: aaaa
3. Download the [ExpCtrApp](#) java application
4. Create two databases called: **experiment** and **backup**¹:
 - a. Logging

```
$mysql -u root -p <insert the password>
```
 - b. Databases creation

```
$create database experiment
$create database backup
```
 - c. Select the database experiment

```
$use experiment
```
 - d. Import the **db.sql** file to create the tables

```
$source <path>/db.sql
```
 - e. Select the database backup

¹Databases **experiment** and **backup** contain the same data, i.e. packet-statistics collected during the experiment . However, they are filled in different ways.

```
$use backup
```

- f. Import the **db.sql** file to create the tables

```
$ source <path>/db.sql
```

5. Save [MySQL driver](#) on: /usr/lib/jvm/default-java/jre/lib/ext
6. [Install jfreechart](#) , used by the ExpCtrApp to create graphs
7. Before running the application: You should have “mysql” installed in **/var/lib/mysql/** and you should have two folders there named: experiment and backup. If it is not the case, find the path of “mysql” and update the following java file while putting the correct path:
 - a. settings.java:

```
PROGRAMCMDL1 ="cp outputs/SD"+st1+".txt  
/var/lib/mysql/backup/";  
PROGRAMCMDL2 ="cp outputs/RC"+st1+".txt  
/var/lib/mysql/backup/";
```
8. You should have also “motelist” script under the following path: **/usr/local/bin/motelist**. If it is not the case, find the path of “motelist” and update the following java files while putting the correct path:
 - a. motelist.java:

```
MOTELISTCMDL = "/usr/local/bin/motelist -c";
```
9. Go to the folder of ExpCtrApp application
- 10.type

```
$ javac *.java  
$ java run
```
- 11.Enjoy with the application ☺

II. Installation of the Java ExpCtrApp under Windows:

System Requirements:

We tested ExpCtrApp on:

- Windows XP
- TinyOS 2.0.2
- MySQL server 5.0.81-community-nt
- Java 1.5.0_13

Installation Steps:

1. Do steps 1, 2 and 3 of Linux installation
2. Open Mysql shell window
3. Do step 4 of Linux installation starting from b
4. Save [MySQL driver](#) on:

```
C:\Program Files\Java\jdk1.5.0_13\jre\lib\ext
```

5. Do step 6 of Linux installation
6. Put ExpCtrApp application under cygwin installation folder (for example you can put it under /opt folder)
7. Before running the application: You should have “mysql” installed in **C:\Program Files\MySQL\MySQL Server 5.0** and you should have two folders in **C:\Program Files\MySQL\MySQL Server 5.0\data** named: experiment and backup. If it is not the case, find the path of “mysql” and update the following script file while putting the correct path:

- a. copyfile:

```
C:\\Program Files\\MySQL\\MySQL Server 5.0\\data\\
```

8. You should have the “bash.exe” and “motelist.exe” under the following path: **c:\tinyos\cygwin\bin**. If it is not the case, find the path of “bash.exe” and “motelist.exe”; and update the following java files while putting the correct path:

- a. setting.java:

```
PROGRAMCMDW1="c:\\tinyos\\cygwin\\bin\\bash.exe  
copyfile "+st1;
```

- b. install.java:

```
PROGRAMCMDW1="c:\\tinyos\\cygwin\\bin\\bash.exe  
programNodes "+id+" "+comport;
```

- c. motelist.java

```
MOTELISTCMDW ="c:\\tinyos\\cygwin\\bin\\motelist.exe  
-c";
```

- d. Open cygwin shell window and compile the java files, using the following command:

```
$ javac *.java  
$ java run
```

12. Enjoy with the application ☺

III. Installation of the Matlab DataAnlApp under Windows:

Note: ExpCtrApp and DataAnlApp can be installed on two different computers. If it is the case, do step 1. Otherwise, go directly to step 2

System Requirements:

We tested DataAnlApp on:

- Windows XP
- TinyOS 2.0.2
- MySQL server 5.0.81-community-nt
- Java 1.5.0_13
- Matlab 7

Installation Steps:

1. [Install MySQL](#) database management system
2. Install [MATLAB](#)
3. Download the [DataAnIApp](#) Matlab Application
4. Put libmysql.dll into C:\WINDOWS\system32
5. Click on StartInterface.m
6. Click on run button
7. Enjoy with the application 😊