



GrooveNet Quick Start Guide

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This guide describes the simple steps to install and run a GrooveNet simulation. GrooveNet requires Linux kernel 2.6.* and Qt 3.x graphics library. SUSE 10 is the preferred Linux distribution

Step 1: Installation

1.1 Un-tar the source file (e.g. *groovenet.tar.gz*) in your home directory using
`tar xzf groovenet.tar.gz`

1.2 Open the KDevelop IDE. Open the *groovenet.kdevelop* project within KDevelop and build the project. If you do not have KDevelop, just type make in the *src* directory.

1.3 Copy the map zip files from the *groovenet/mapdata/Backup* directory to *groovenet/mapdata* directory like this:

```
cp groovenet/mapdata/Backup/*.zip groovenet/mapdata/
```

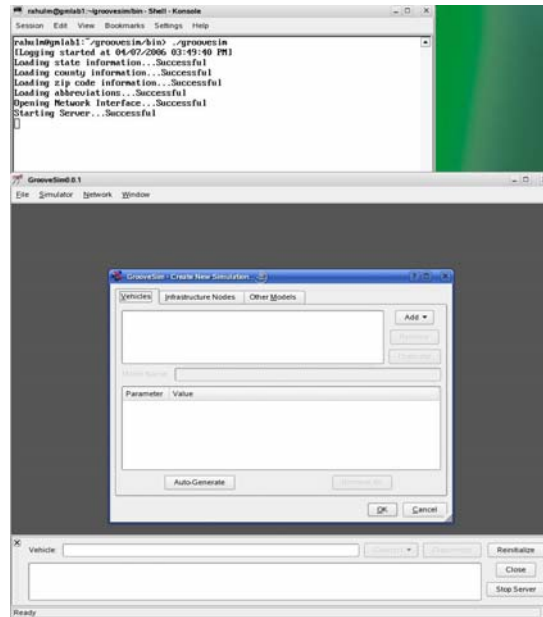
1.4 Copy the qt default settings file (you need root access for this)
`cp groovenet/docs/groovetrc /usr/lib/qt3/etc/settings`

1.5 Note the simulation test files in the *tests* directory (e.g. *pit-test-100v.sim*).

The image shows two overlapping terminal windows. The top window is titled "rahulm@gnlab1:~/groovesim/bin - Shell - Konsole" and shows the command `./groovesim` being executed. The bottom window is titled "rahulm@gnlab1:/usr/local/share/hybrid - Shell - Konsole" and shows the command `ls -l` being executed. The output of the `ls -l` command is as follows:

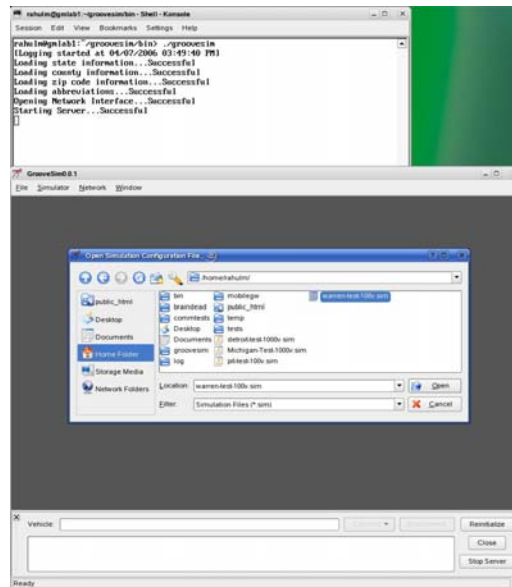
```
total 22957
-rw-r--r-- 1 rahul users 10408 2006-04-07 12:49 abbreviations.txt
-rw-r--r-- 1 rahul users 97189 2006-04-07 12:50 counties.txt
drwxr-xr-x 2 rahul users 336 2006-04-07 12:54 data
-rw-r--r-- 1 rahul users 559 2006-04-07 12:50 messages.txt
-rw-r--r-- 1 rahul users 863 2006-04-07 12:50 states.tdf
-rwxr-xr-x 1 root root 3061292 2006-04-07 15:23 tgr26099.zip
-rwxr-xr-x 1 root root 1451116 2006-04-07 15:20 tgr26115.zip
-rwxr-xr-x 1 root root 5561748 2006-04-07 15:20 tgr26125.zip
-rwxr-xr-x 1 root root 5592043 2006-04-07 15:24 tgr26163.zip
-rwxr-xr-x 1 root root 6778503 2006-04-07 15:20 tgr42003.zip
-rw-r--r-- 1 rahul users 910153 2006-04-07 12:50 zips.tdf
```

Step 2: Running GrooveNet



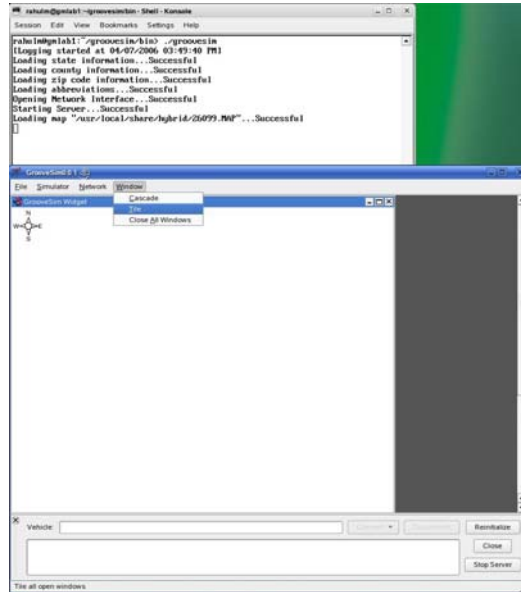
Go to the groovenet/project/bin directory and run groovenet by typing ./groovenet
This will print the messages and open the window as shown in the picture above.

Step 3: Open a test file



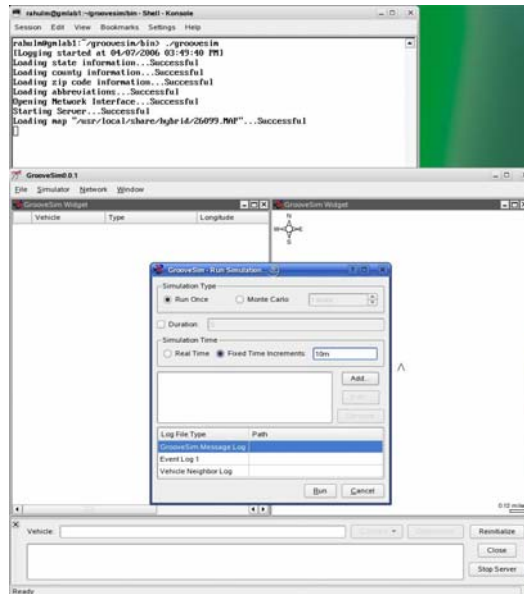
From the File menu open a new test file. Click on the downloaded test .sim file.

Step 4: Window Layout



From the Window menu, click on **Tile** to set the car-list and car-visual windows.

Step 5: Start the simulation test



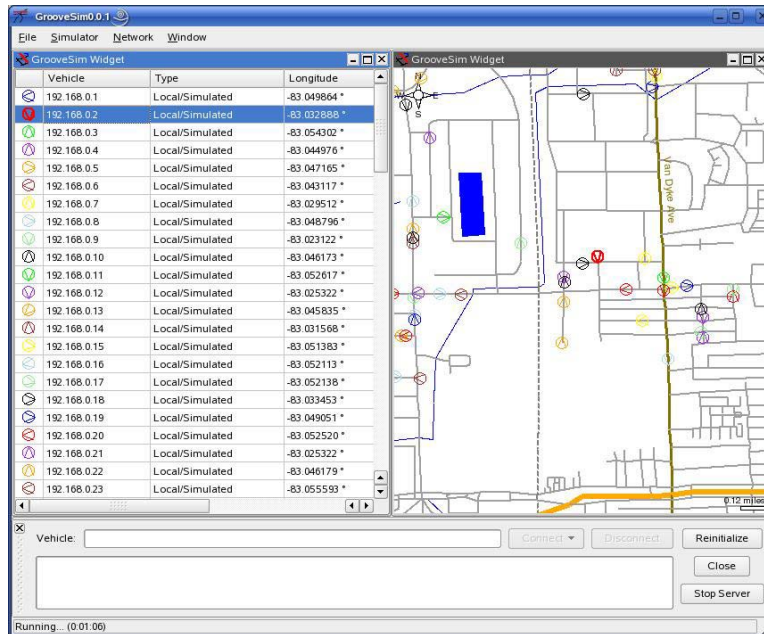
From the Simulator menu, click on **Run**

If the map files are being used for the first time, then the program will uncompress them into .MAP files as shown above. This step takes about 20-30 seconds.

In the pop-up window, click on “Fixed Time increments” and use 0.7. This is the update rate for the simulator.

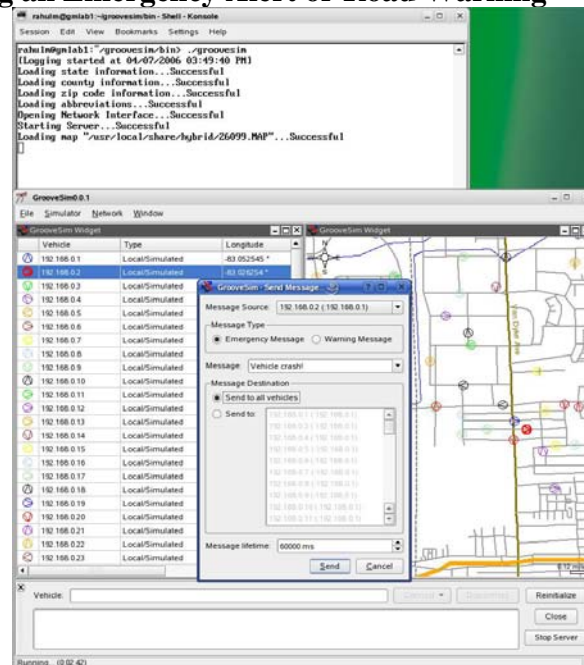
You can enter three types of logs to text files. The *event* log records the progress of the event’s messages. The messages log records all the gps messages that have been sent and received by each vehicle during every rebroadcast. Finally, the *neighbor* log records the number of neighbors at each time interval and the number of messages received successfully and number of collisions. This is useful to monitor the link utilization.

Step 6: Run the test



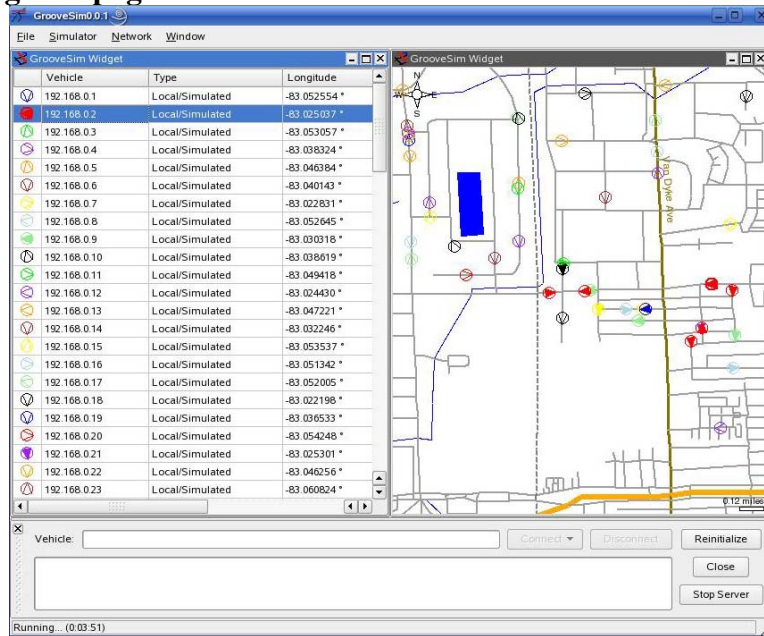
When the simulation runs, it only updates the car-list window on the left panel. You need to click on a vehicle, and then drag it to the right window to see the moving vehicles on the map. Clicking on a vehicle in the car-list, re-centers the map on the right to that vehicle. Clicking a vehicle on the map on the right displays its IP address on the bottom left status bar.

Step 7: Broadcasting an Emergency Alert or Road Warning



To send a message from a vehicle, you must right click a vehicle in the car-list. From the pop-up window, you can select the message type, message text and lifetime.

Step 8: Message Propagation



Vehicle that have received the message are displayed in solid colors. You can now see how the message diffuses from the event-origin vehicle.