Routing-demos.com tutorials

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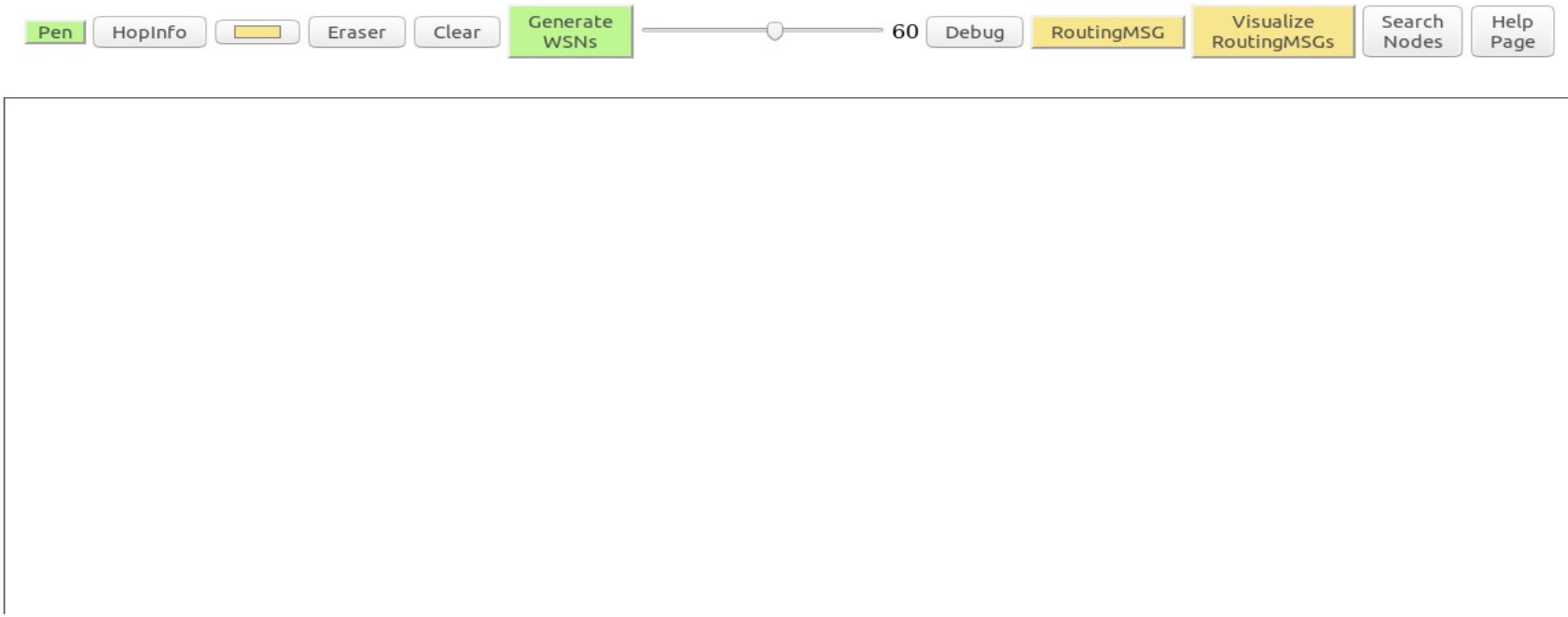
Web address

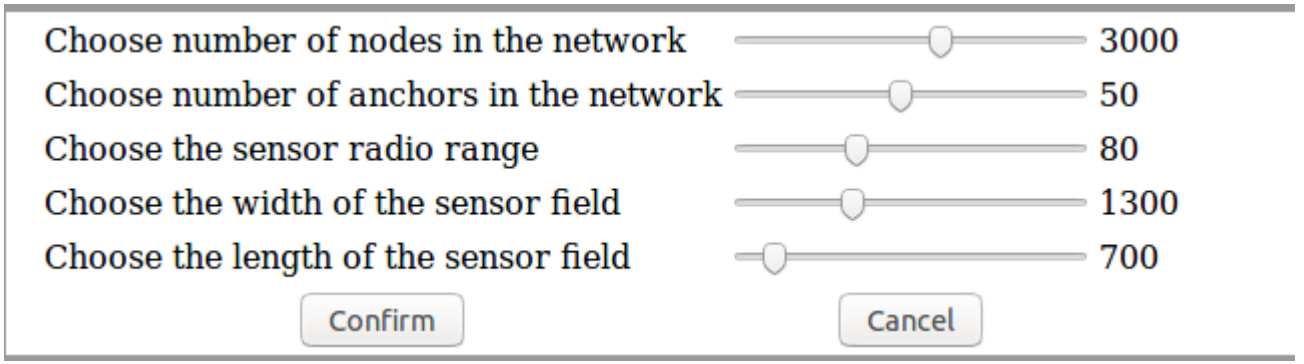
www.routing-demos.com:8080

- Please note the :8080 is the port number which is necessary to connect to the server.



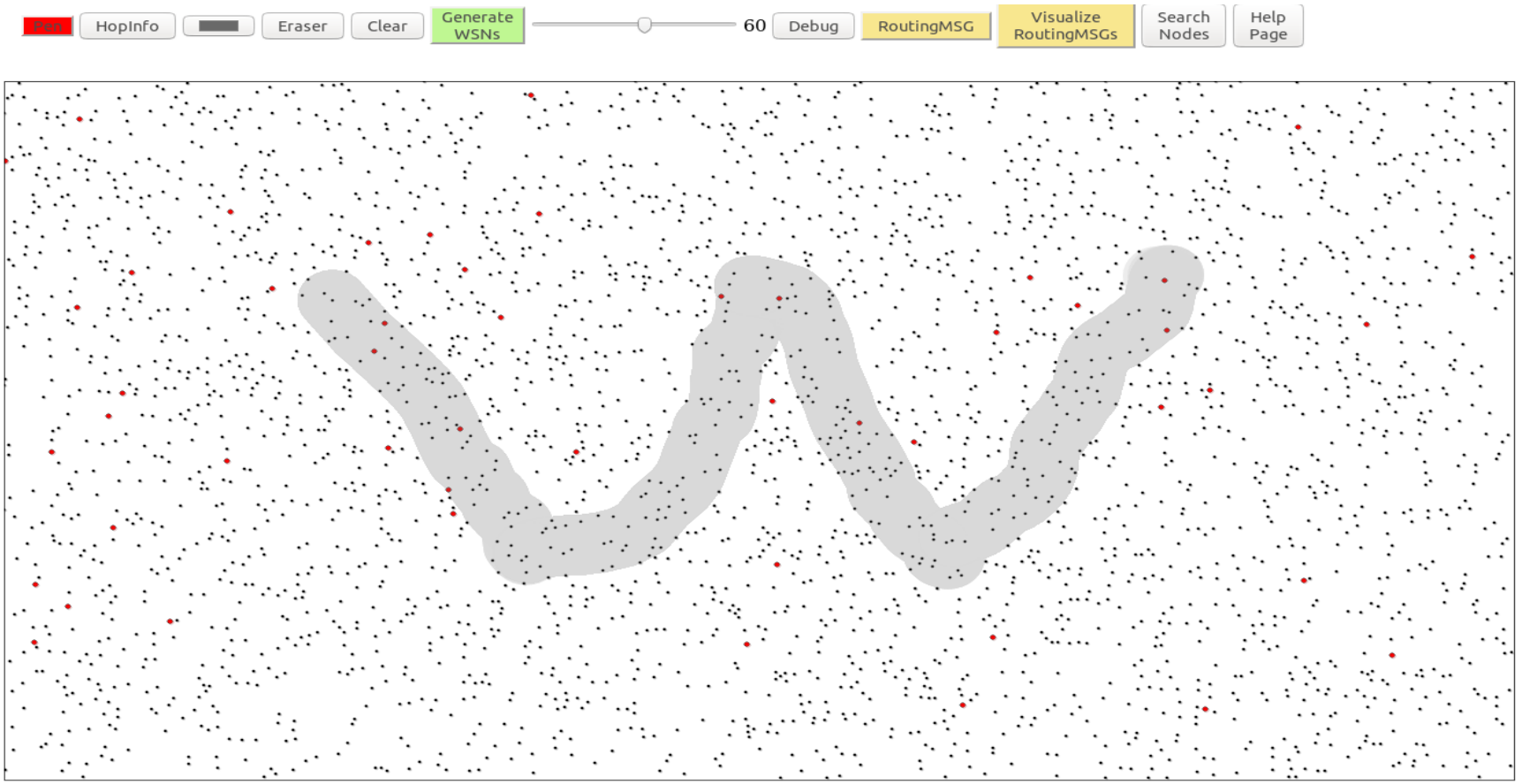
Step 1: generate the WSNs

- Click the 'Generate WSNs' Button and select the network parameters of your prefer.



Step 2: Draw trajectory

- Select 'Pen' Button and draw the trajectory you want to encode and routing on.

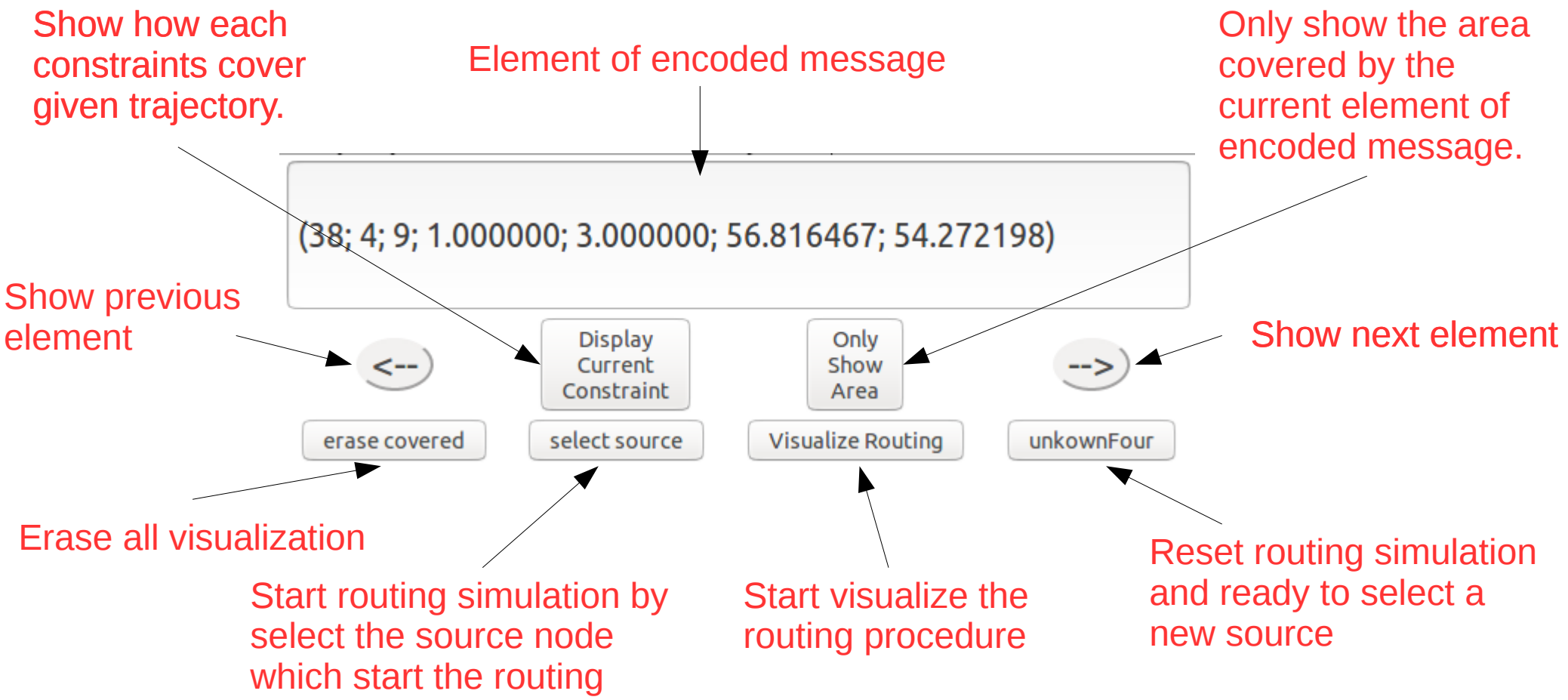


Step 3: encode the trajectory

- Click 'RoutingMSG' button to generate the encoded routing message for the trajectory.
- The calculation happens in the remote server and will take about 1 min.
- A list of routing constraints are generated from the remote server. Each of them represent a basic 2d shapes: Arc and hyperbola segment.

Step 4: Visualize Routing Message

- Click 'Visualize RoutingMSGs' will pop up the data visualization menu shown below:

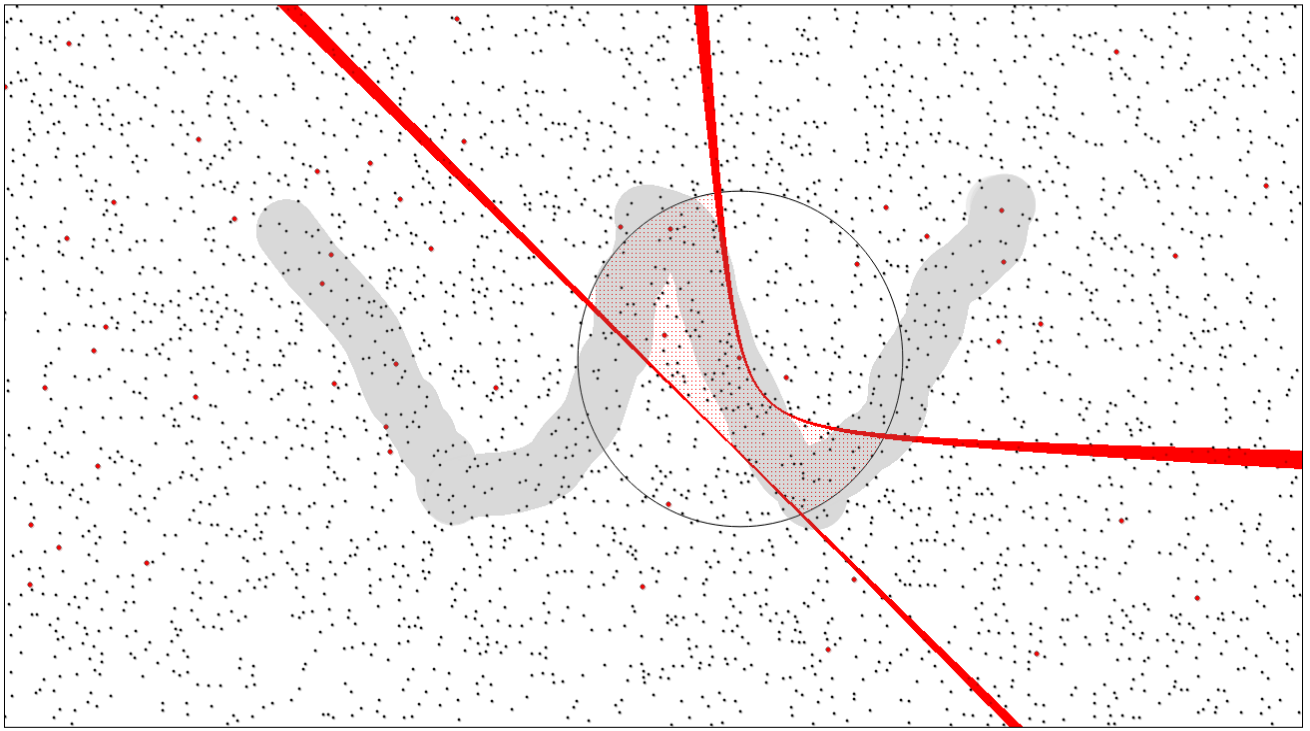


Hyperbola segment

- It includes three integer value, four float value:
- First two integer is the nodes ID of two foci of the hyperbola. Third is the circle's center node's ID

First float value is the hops difference between the nodes in the area to the two different foci.
D1 – D2 = 2 * a.
Second float is the radius(in hops) of the circle.
Third float is the average one hop distance of foci.
Fourth float is the average one hop distance for the circle center.

(38; 4; 9; 1.000000; 3.000000; 56.816467; 54.272198)

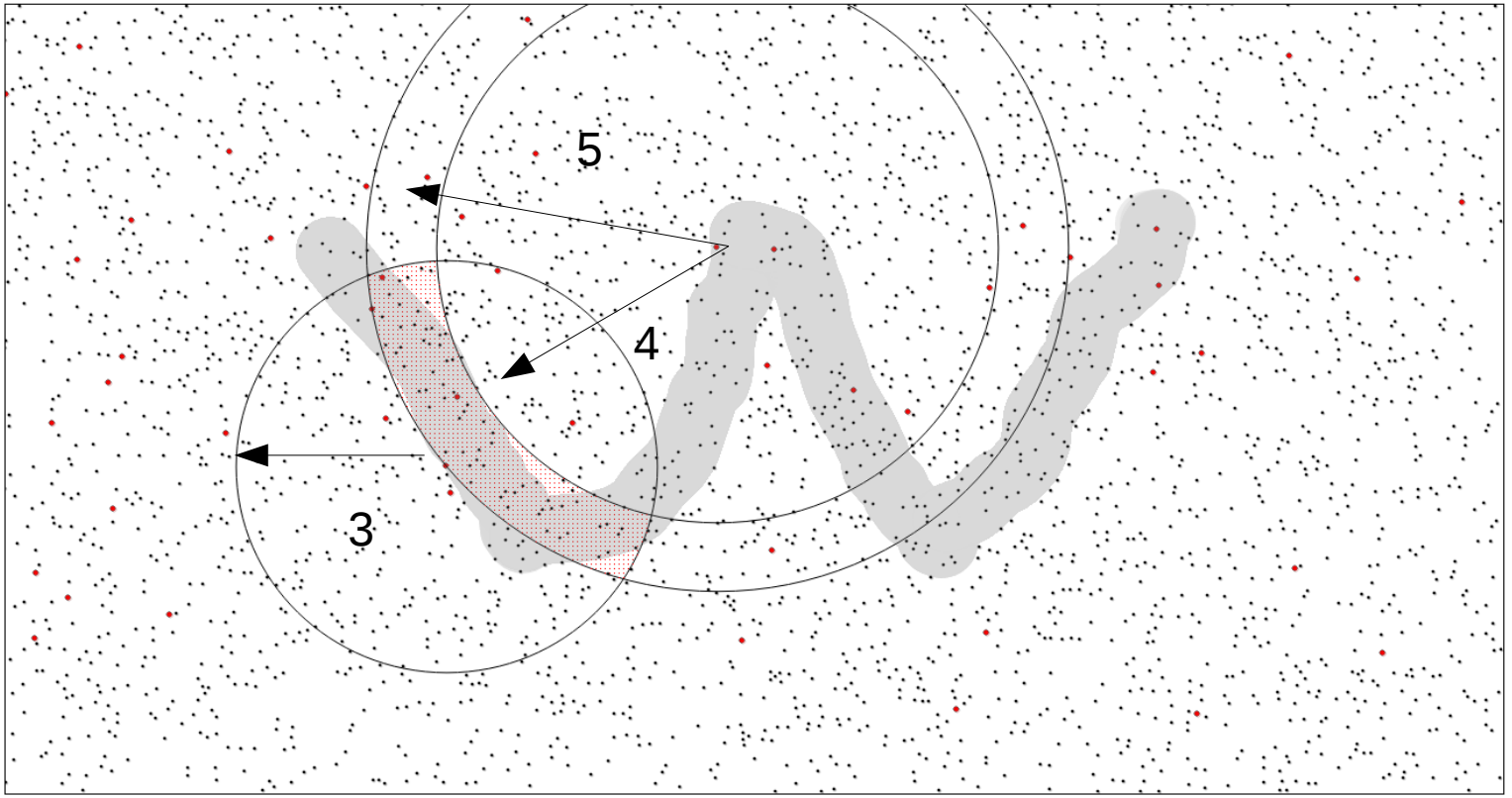


Arch of two circles

- It includes two integer value, three float value:
- First two integer is the nodes ID of two intersected circle's center point.

(32; 46; 5.000000; 3.000000; 60.946205)

First two float value is the radius (In hops) of first circle and the second circle. The last float value is the average hops distance of two circle centers.



Step 5: the routing simulation

- Click 'select source' under 'visualize routingMSGs' menu and select a source nodes in the Canvas. Wait for the simulation happens in the server.
- Note if the simulation waiting bar is not popped out, that means you not successfully selected a nodes. You can repeat the above procedure to choose another source node

Step 6: visualize routing

- Click 'Visualize routing' button under 'visualize routingMSGs' menu. We use red to indicate the nodes receive and rebroadcast the data and use green to indicate any nodes received the routing packets but not rebroadcasting.