Laboratory 3: Routing Information Protocol (RIP)- II

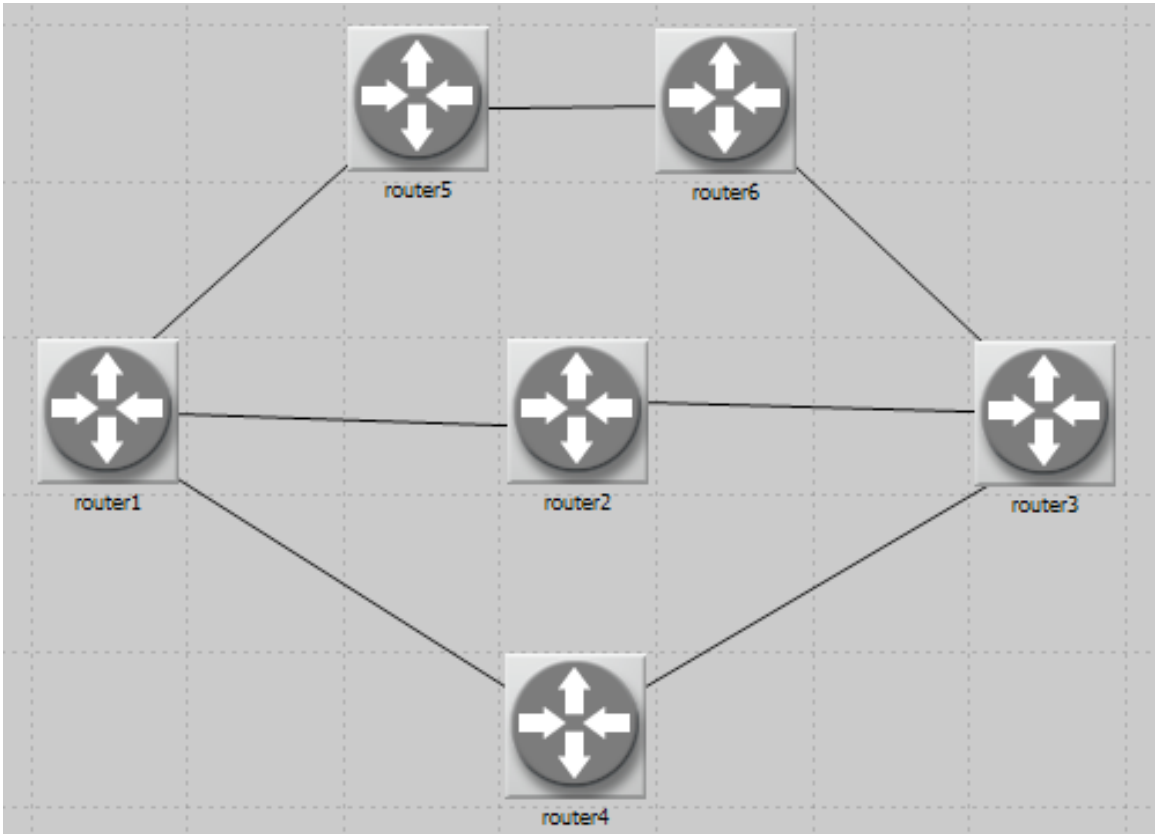
Use Network model (router) of Lab2 for doing this exercise.

Objective:

- To determine the path from one router to another router
- To determine the routing table convergence after a link is failed.
- To determine a new path after the failed/broken link is recovered.

Task 1:

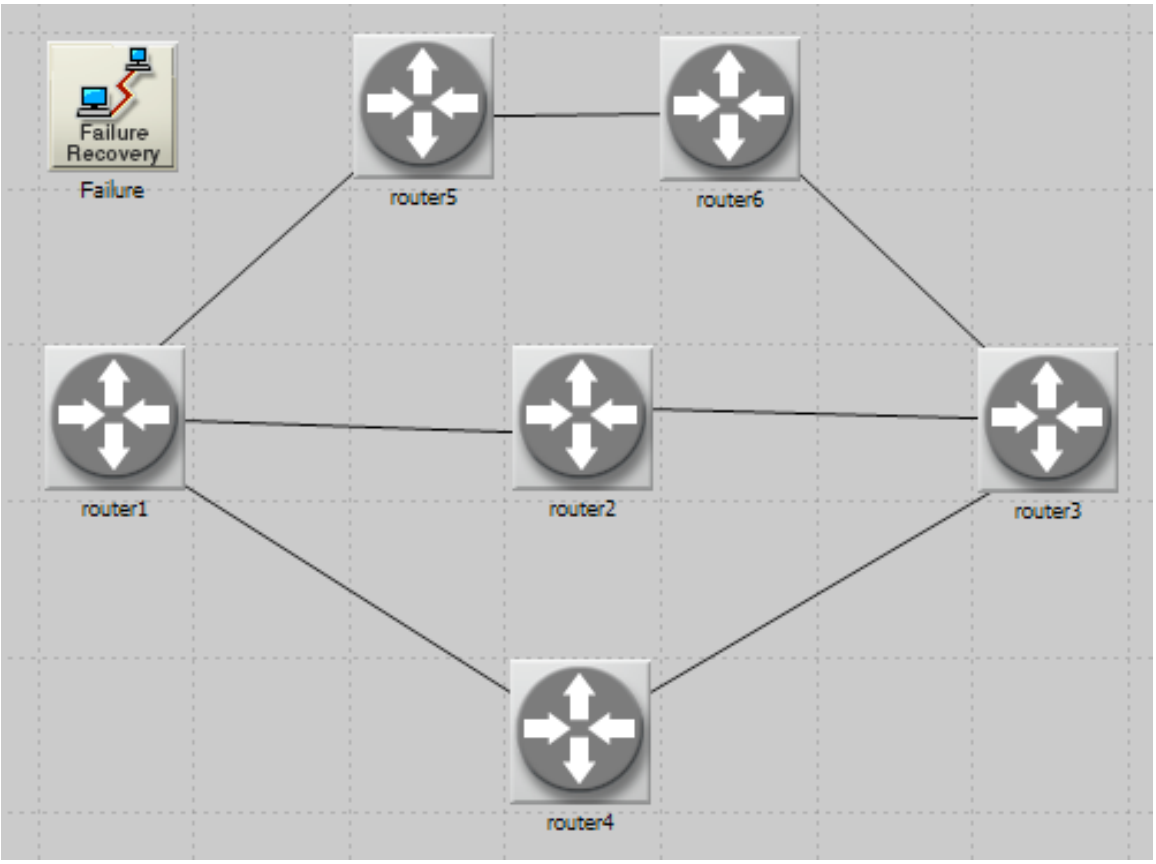
Open the project created in lab 2



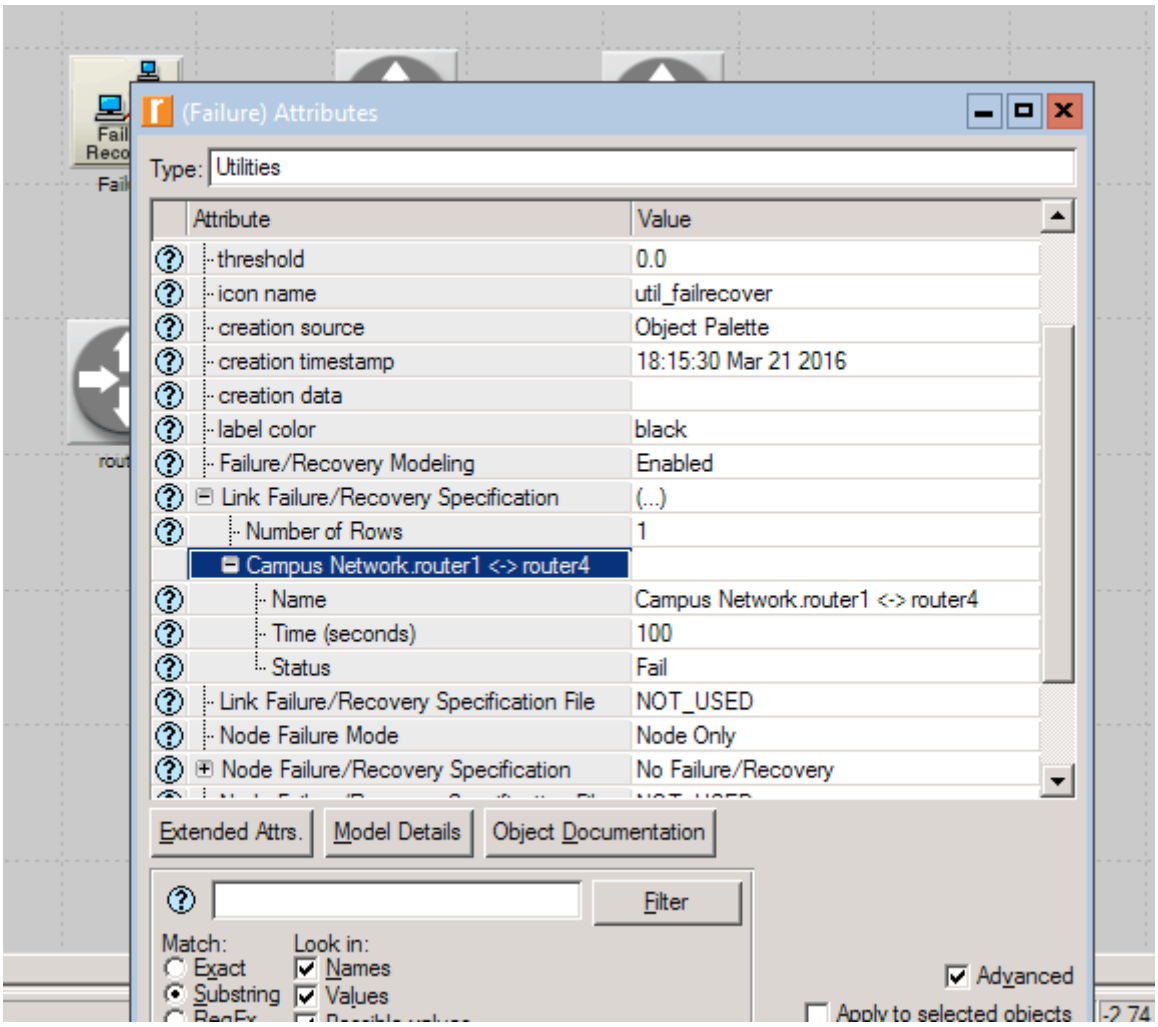
Create another Scenario (failure):

Here you have to create a new scenario where one of the links will be broken after certain time. Then you will be able to compare the routing table of failure scenario with first scenario.

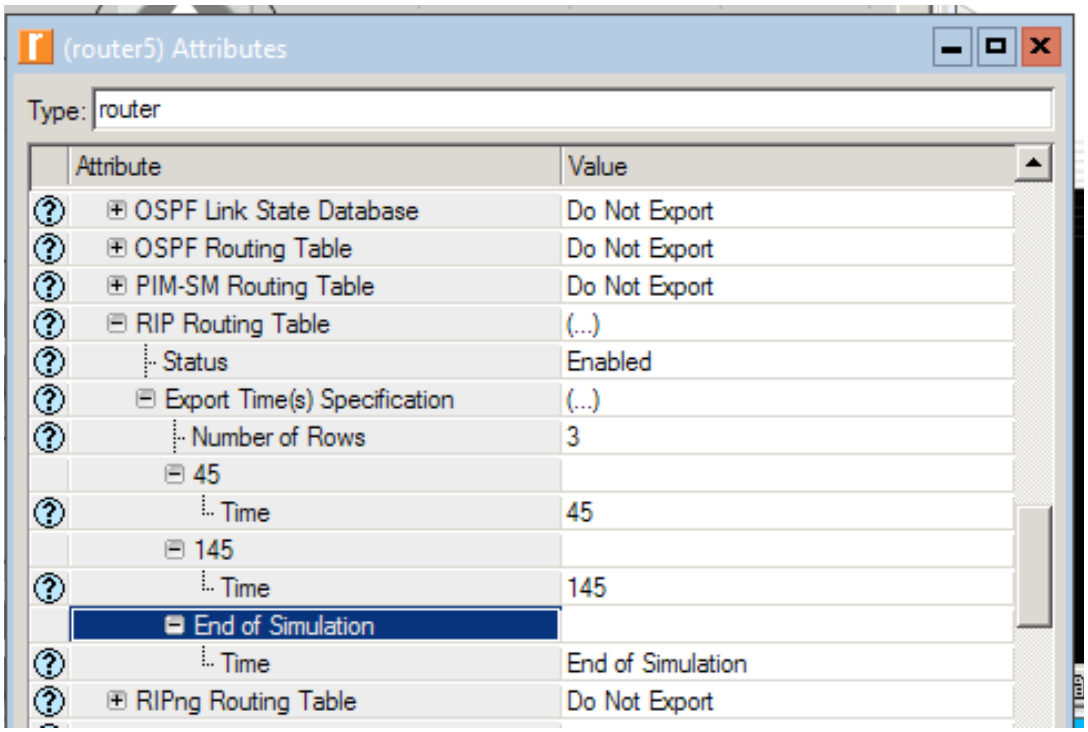
1. Select **Scenario/Duplicate Scenario.** Set the scenario name: **failure**
2. Select **Object Palette/Utilities** and bring **Failure Recovery** object from object palette to your workspace.



3. Now **Edit Attributes** of **Failure object**. Select **Link Failure/Recovery** Specification. Add a new row to make the link between router1 and router4 fails after 100 sec.



4. Now click one of the routers (say router1) and right click and **select similar nodes** from pull-down menu. Now right click one of the routers again and choose **Edit Attributes.** Click the box **Apply changes to selected objects.** Select and expand the **Report/ RIP Routing Table.** Now add two more rows and set as 45 and 145 seconds.



5. In **DES** menu **choose Individual Statics** expand **node statics\RIP** and select **Router Convergence Activity** and **Router Convergence Duration.**
6. Save the project
7. Run the second scenario for 200 sec.
8. View the results (Total number of updates). Analyze the routing table of each router at 45, 145 and 200 seconds.

Task 2:

1. Find the route from router1 to router3 at 45, 145 and 200 seconds.
2. Try to understand what is the metric column in routing table and what happens to metrics after link failure.
3. In **DES** menu choose **Open DES Log** and check the **Failure** messages.

Task 3:

Create another scenario (recovery) by duplicating the failure scenario where the link between router1 and router4 is recovered after 150sec. Run the simulation and analyze the result and routing table. Find the new path between router1 and router3. Compare the result with start and failure scenario.