

Link State Routing Protocol Simulator Project Manual

Link State Routing Project

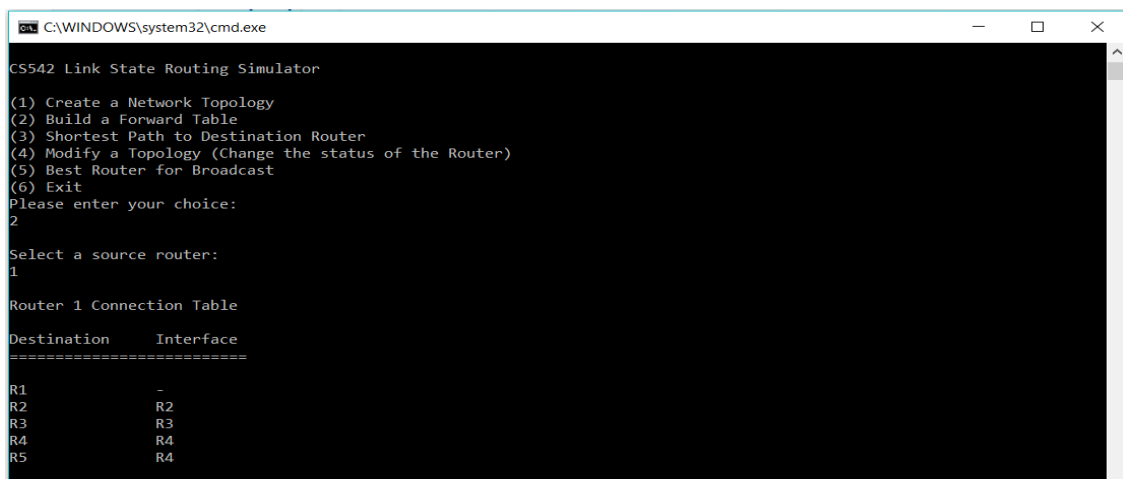
To Run Program in Eclipse:

- Open the Eclipse.
- Go to File->Import ->Existing Project into Workspace and click o next.
- Go to archive file of the project using Browse option and set it as path for 'select archive file'.
- Click on open button and project name will appear in the Project section.
- Click on finish button to complete the import.
- Go to LinkStateRoutingSim.java file and run this file in eclipse. (Topology file must be present inside the project directory)

To Run program using the JAR file:

- Extract the jar file from archived project.
- There will be Execute.bat and LinkStateRouting.jar files. Place both the files in the same directory.
- Place the Topology.txt file in the same directory as of Execute.bat and LinkStateRouting.jar files.
- Double click on the Execute.bat file and you will get the Menu option for the program.
- Below are the screen shots if program is run using jar file

a. Selecting option (2) Build a Forward Table



```
C:\WINDOWS\system32\cmd.exe
CS542 Link State Routing Simulator
(1) Create a Network Topology
(2) Build a Forward Table
(3) Shortest Path to Destination Router
(4) Modify a Topology (Change the status of the Router)
(5) Best Router for Broadcast
(6) Exit
Please enter your choice:
2
Select a source router:
1
Router 1 Connection Table
Destination      Interface
=====
R1                -
R2                R2
R3                R3
R4                R4
R5                R4
```

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b. Selecting option (3) Shortest Path to Destination Router

```
C:\WINDOWS\system32\cmd.exe

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(4) Modify a Topology (Change the status of the Router)
(5) Best Router for Broadcast
(6) Exit
Please enter your choice:
3

Select a source router:
5

Select a destination router:
1

Shortest Path from R5 to R1 is: R5->R4->R1,the total cost is 3.
```

c. Selecting option (4) Modify a Topology (Change the status of the Router)

```
C:\WINDOWS\system32\cmd.exe

CS542 Link State Routing Simulator

(1) Create a Network Topology
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(4) Modify a Topology (Change the status of the Router)
(5) Best Router for Broadcast
(6) Exit
Please enter your choice:
4

Delete a router from this network topology
Enter the router that you want to removed:
4

The router is down and all the connections are set to -1.
The Topology is updated as below
0      2      5      -1      -1
2      0      8      -1      9
5      8      0      -1      4
-1     -1     -1     0      -1
-1     9      4      -1     0

Select a source router:
5

Select a destination router:
2

Shortest Path from R5 to R2 is: R5->R2,the total cost is 9.
```

d. Selecting option (5) Best Router for Broadcast

```
C:\WINDOWS\system32\cmd.exe

CS542 Link State Routing Simulator

(1) Create a Network Topology
(2) Build a Forward Table
(3) Shortest Path to Destination Router
(4) Modify a Topology (Change the status of the Router)
(5) Best Router for Broadcast
(6) Exit
Please enter your choice:
5

The Best Router for broadcasting is : R1

The Path from R1 to R1 is: R1    Cost=0
The Path from R1 to R2 is: R1->R2    Cost=2
The Path from R1 to R3 is: R1->R3    Cost=5
The Path from R1 to R4 is: R1->R3->R4    Cost=32767
The Path from R1 to R5 is: R1->R3->R5    Cost=9

The total costs of broadcast from this router to all other routers is :16
```