

Task 1 – Source Routing

In the Hands-on Activity 3 of the tutorial, we implemented source routing. In that activity, the host added the ports through which each packet should be forwarded. Now, you should change the P4 code to:

- forward IPv4 packets using destination IP address in addition to source-based forwarding. If packet has routing header at source, forward using this mechanism, otherwise forward via destination IP;

- add the ports for source routing on the first switch. Use match-action tables to add ports. Test by dynamically changing ports using the control plane for this.

Do the following logic:

- packets going from h1 to h3 must be forwarded via source routing always going through s2.

- packets going from h3 to h1 must be forwarded via source routing always going through s2.

- packets going from h2 to h1 must be forwarded via source routing always going through s3.

- packets going from h2 to h3 must be forwarded via source routing always going through s1.

- packets forwarded to h2 must be routed via destination IP.

The topology to be used is the same as in the tutorial, as shown below.

