Edge router 1 config for IPSLA

enable

configure terminal

ip sla 1

icmp-echo 5.0.0.2 source-interface GigabitEthernet1

timeout 500

frequency 10

exit

ip sla 2

icmp-echo 5.0.0.6 source-interface GigabitEthernet2

timeout 500

frequency 10

exit

ip sla schedule 1 life forever start-time now

ip sla schedule 2 life forever start-time now

track 1 ip sla 1 reachability

track 2 ip sla 2 reachability

ip route 0.0.0.0 0.0.0.0 5.0.0.2 track 1

ip route 0.0.0.0 0.0.0.0 5.0.0.6 10

end

write memory

### Explanation of IP SLA Configuration for Edge-R1

The IP SLA configuration on Edge-R1 is designed to monitor the connectivity of its upstream ISPs (ISP1 and ISP2) and dynamically adjust routing to ensure uninterrupted network access.

1. IP SLA Operations
   1. Two ICMP Echo (Ping) probes are configured to periodically test the reachability of ISP1 (5.0.0.2) via GigabitEthernet1 and ISP2 (5.0.0.6) via GigabitEthernet2.
   2. If a probe fails to receive a response within 500 milliseconds, it is considered a failure.
   3. Probes run at 10-second intervals to provide real-time monitoring.
2. IP SLA Scheduling
   1. Both SLA operations are scheduled to run indefinitely, ensuring continuous ISP monitoring.
3. Tracking Objects for Failover
   1. track 1 is linked to IP SLA 1, monitoring ISP1's availability.
   2. track 2 is linked to IP SLA 2, monitoring ISP2's availability.
   3. If an ISP becomes unreachable, its associated tracking object will indicate failure.
4. Dynamic Routing with Failover
   1. A primary default route directs internet traffic to ISP1 (5.0.0.2) if it is reachable.
   2. A backup route to ISP2 (5.0.0.6) is configured with a higher administrative distance (10).
   3. If ISP1 fails, the router automatically switches to ISP2.
   4. When ISP1 restores connectivity, traffic automatically reverts to the preferred route.

### Summary

This configuration ensures automated ISP failover, reducing manual intervention and minimizing network downtime. The use of IP SLA and tracking objects allows for dynamic route adjustments based on real-time connectivity status.