

NAME -ANKUR SEHRAWAT

ROLL NO- 23

BATCH -DEVOPS B1

EXPERIMENT 8

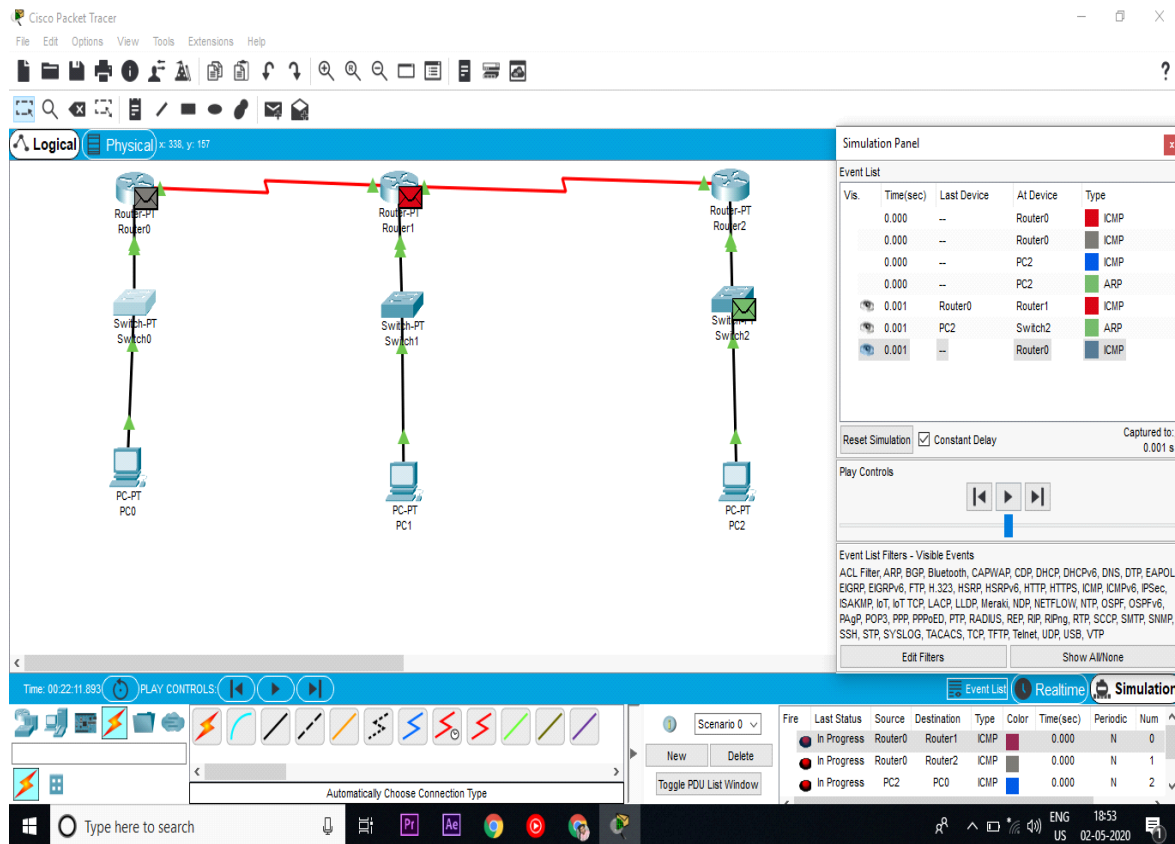
AIM - Configure a Network using Distance Vector Routing protocol.

- RIP

Theory: In computer communication theory relating to packet-switched networks, a distance-vector routing protocol is one of the two major classes of routing protocols, the other major class being the link-state protocol. Distance-vector routing protocols use the Bellman–Ford algorithm, Ford–Fulkerson algorithm, or DUAL FSM (in the case of Cisco Systems’s protocols) to calculate paths. A distance-vector routing protocol requires that a router informs its neighbors of topology changes periodically. Compared to link-state protocols, which require a router to inform all the nodes in a network of topology changes, distance-vector routing protocols have less computational complexity

The Routing Information Protocol (RIP) is one of the oldest distance-vector routing protocols, which employs the hop count as a routing metric. RIP prevents routing loops by implementing a limit on the number of hops allowed in a path from the source to a destination. The maximum number of hops allowed for RIP is 15. This hop limit, however, also limits the size of networks

that RIP can support. A hop count of 16 is considered an infinite distance, in other words the route is considered unreachable.



Above experiment is following RIP protocol.

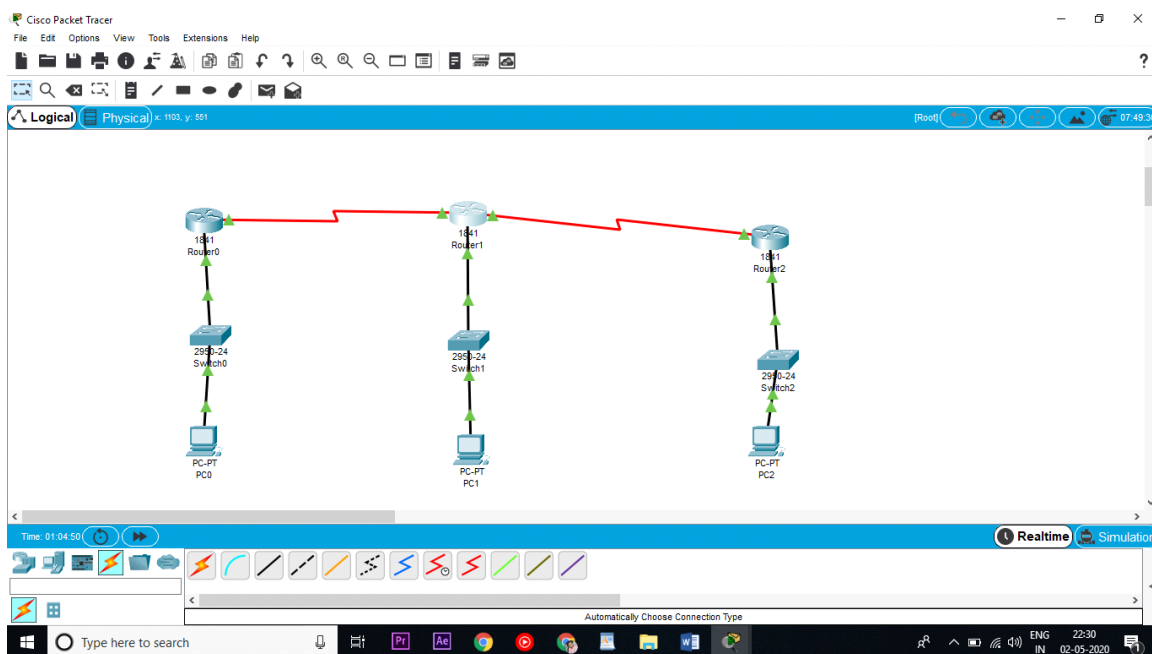
EXPERIMENT - 9

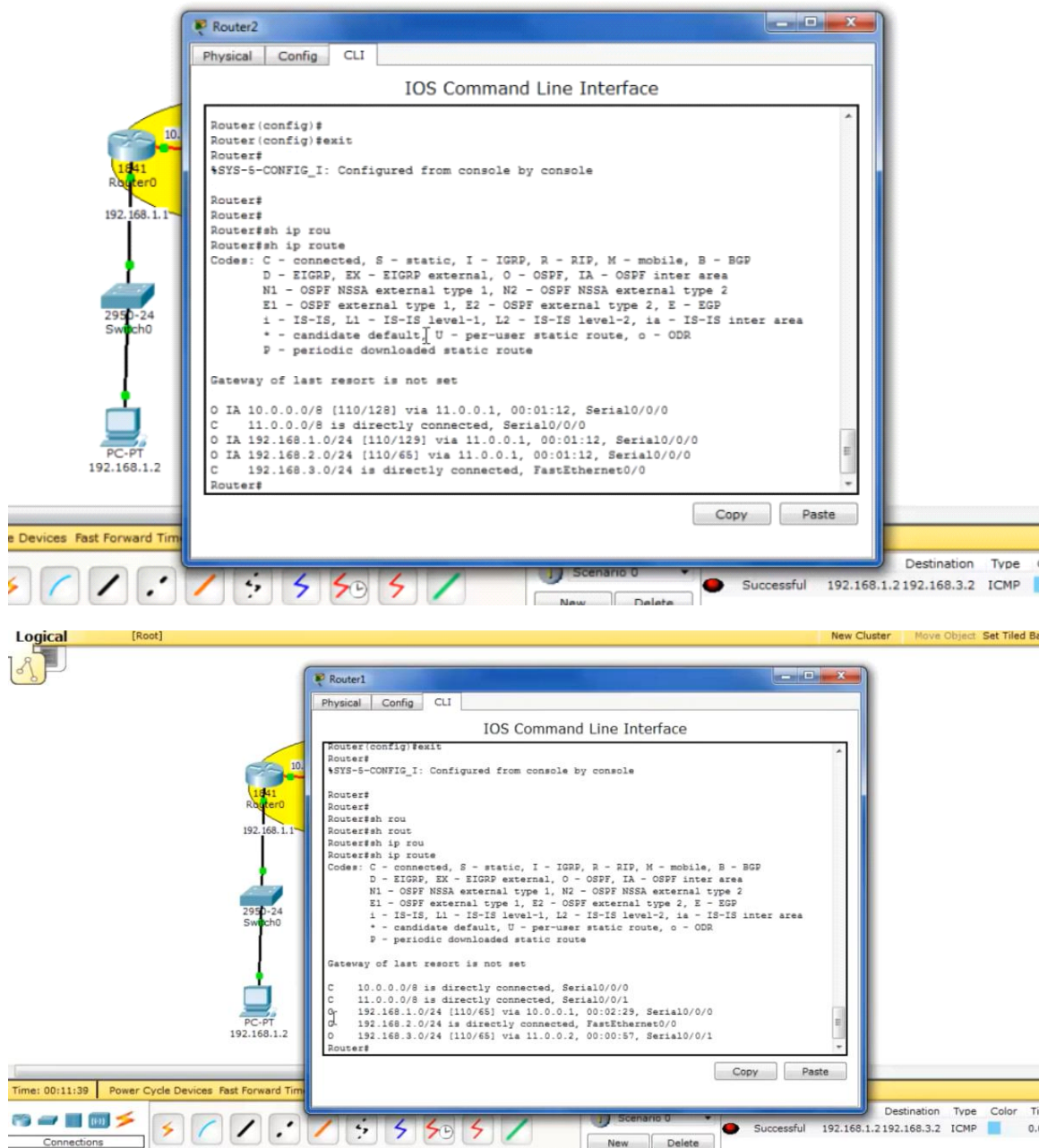
Aim - : Configure Network using Link State Vector Routing protocol.

- OSPF

Theory: Open Shortest Path First (OSPF) is a link-state routing protocol for Internet Protocol (IP) networks. It uses a link state routing algorithm and falls into the group of interior routing protocols, operating within a single autonomous system (AS). It is defined as OSPF Version 2 in RFC 2328 (1998) for IPv4. The updates for IPv6 are specified as OSPF Version 3 in RFC 5340(2008).

OSPF is perhaps the most widely used interior gateway protocol (IGP) in large enterprise networks. IS-IS, another link-state dynamic routing protocol, is more common in large service provider networks. The most widely used exterior gateway protocol is the Border Gateway Protocol (BGP), the principal routing protocol between autonomous systems on the Internet.

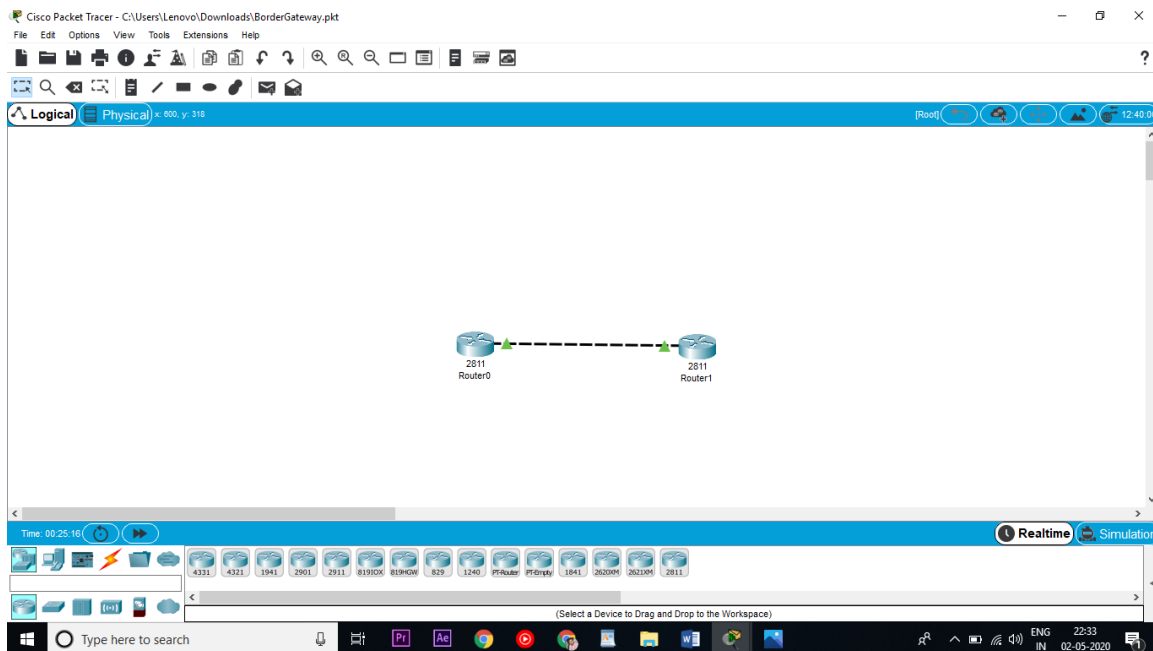




EXPERIMENT10

AIM - : Configure Network using Border gateway protocol.

Theory: Border Gateway Protocol (BGP) is a standardized exterior gateway protocol designed to exchange routing and reachability information between autonomous systems (AS) on the Internet. The protocol is often classified as a path vector protocol, but is sometimes also classed as a distance vector routing protocol. The Border Gateway Protocol does not use Interior Gateway Protocol (IGP) metrics, but makes routing decisions based on paths, network policies and/or rule-sets configured by a network administrator. The Border Gateway Protocol plays a key role in the overall operation of the Internet and is involved in making core routing decisions.



Cisco Packet Tracer - C:\Users\Lenovo\Downloads\BorderGateway.pkt

File Edit Options View Tools Extensions Help

Logical Physical x 935, y 329

Simulation Panel

Event List

Vis.	Time(sec)	Last Device	At Device	Type
	0.000	--	Router0	ICMP
	0.001	Router0	Router1	ICMP
	0.002	Router1	Router0	ICMP

Reset Simulation ☒ Constant Delay Capturing...

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, NDP, NETFLOW, NTP, OSPF, OSPFv6, R4gP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Time: 00:28:01.200 PLAY CONTROLS

4331 4321 1941 2901 2911 8191OX 8191OW 829 1240 PTrouter PTdryg 1841 262006 262104 2811

(Select a Device to Drag and Drop to the Workspace)

Type here to search

ENG IN 22:34 02-05-2020