ROUTING

- Advantages of static Routing : -

  -> Router doesn’t have to process the route.

  -> Network admin has full control over the routing.

- Disadvantages : -

  -> Network admin has to do huge task to configure all the possible route.

  -> Admin must be active every time to monitor the network if the topology changes.

ROUTING

- Dynamic Routing : -

  Here the Admin doesn’t have to specify the route for different remote network. Here different “Routing Protocol” are used and the routers using same protocol and in the same network segment exchange their own network information with each other. So, the routers come to know about different remote network and necessary next “hop”. This information exchange is called exchanging routing updates. There are some certain methods of routing update exchange.

ROUTING

- Periodic update : - In this case the routers exchange their routing updates after a fixed time and interval even if the network remains same.
- Triggered update : - Routers exchange their routing updates only when there is a network change.

ROUTING

- How router forwards a packet?

  -> Every router maintains a Routing Table consisting of the best routes for all possible destinations. Best route contains their next Hops. And Exit Interfaces. When a router gets a packet it finds out the destination network from the packet and then finds out best route for the destination network. That best route instructs the router to deliver the packet to the perfect next hop through its perfect exit interface.

ROUTING

- How it decides best route?

  If there are multiple best routes then the best route selection uses the following logic.

  -> If the routes are different types then compare their AD value and go for the routing having lowest AD.

  -> If the router are same type then compare their costs and go for the route having lowest cost.

  -> If the routes are same type and same cost then compare their subnet masks and go for the route having longest subnet mask.

  -> When all the previous routes are same in all aspects, then goes for load balancing.

ROUTING

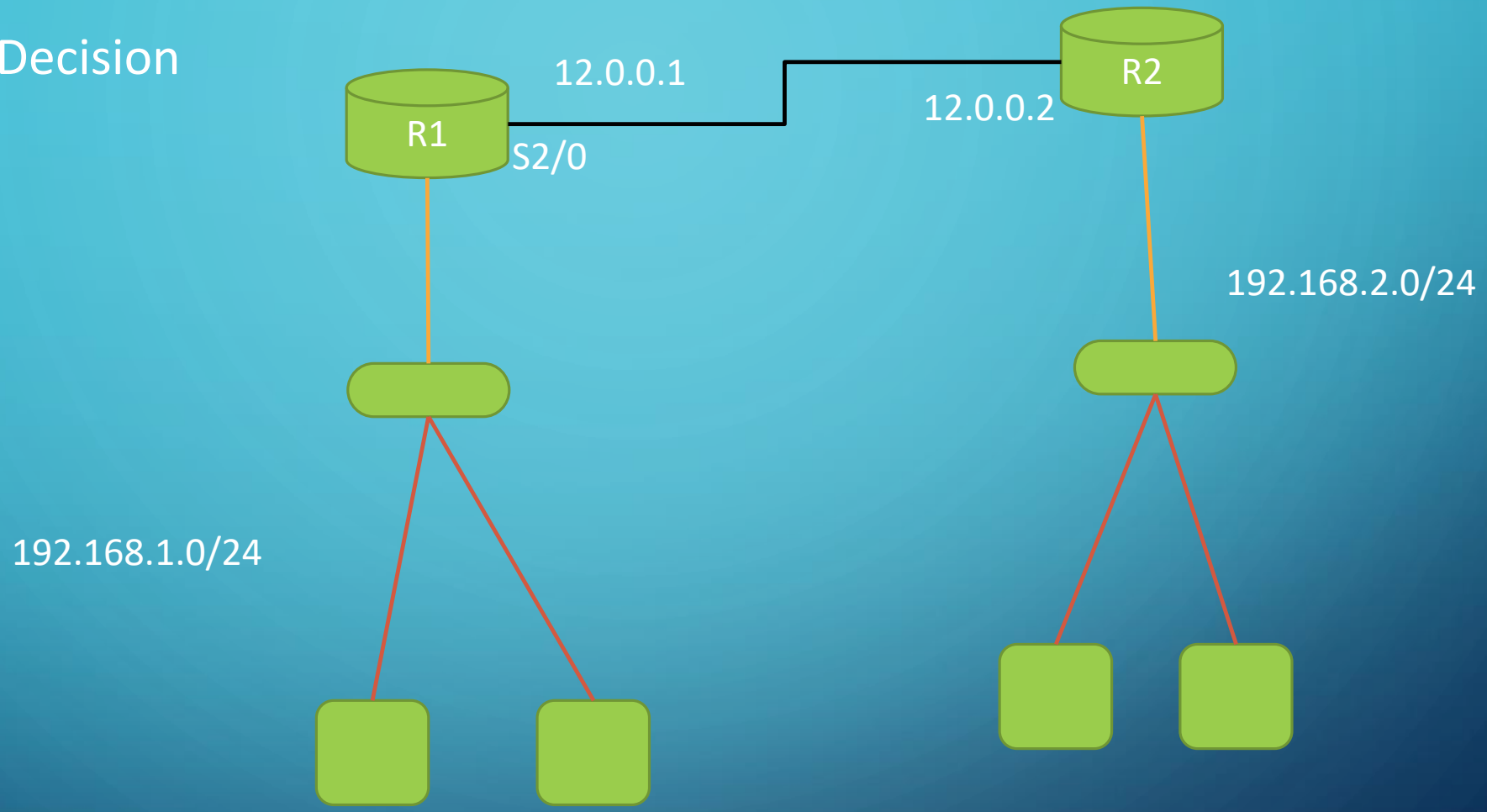
- AD (Administrative Distance) : - This is predefined value that decides the believability of a route. The value ranges between 0-255 and lower values are preferred. It is used to compare between same types of routes.
- Cost : - This is the labour of using a particular route. Different routing protocols have different logics to calculate the route cost. Lower values are preferred.

ROUTING

Types Of Route	AD Value
Static Route	1
RIP	120
OSPF	110
EIGRP	90

ROUTING

- Routing Decision



ROUTING

Network	Next Hop	Exit
192.168.2.0/24	12.0.0.2	S2/0
192.168.1.0/24	Connected	
12.0.0.0	Connected	

END OF DAY 8

NETWORKING (CCNA TRAINING)

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