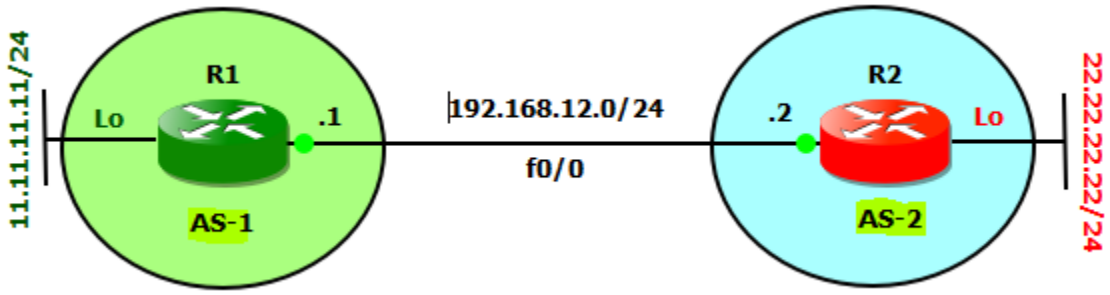
BGP Tables:



Like most routing protocols, BGP also uses three tables:

Neighbor Table:

This contains the list of all configured BGP neighbors. The 'show ip bgp summary' command would show the neighbor table.

```
R1#show ip bgp summary
BGP router identifier 11.11.11.11, local AS number 1
BGP table version is 3, main routing table version 3
2 network entries using 240 bytes of memory
2 path entries using 104 bytes of memory
2/2 BGP path/bestpath attribute entries using 248 bytes of memory
1 BGP AS-PATH entries using 24 bytes of memory
0 BGP route-map cache entries using 0 bytes of memory
0 BGP filter-list cache entries using 0 bytes of memory
BGP using 616 total bytes of memory
BGP activity 2/0 prefixes, 2/0 paths, scan interval 60 secs

Neighbor        V           AS MsgRcvd MsgSent   TblVer  InQ OutQ Up/Down  State/PfxRcd
192.168.12.2    4            2      28      28        3    0    0 00:21:15        1
```

BGP router identifier	The IP address representing this router
Local AS number	The local router's Autonomous System Number
BGP table version	Local BGP table increases when the BGP table changes
Main routing table version	Last version of BGP database in the main routing table
Neighbor	The IP address, used in the neighbor statement
V (Version)	The version of BGP this router is running
AS (Autonomous System)	The listed neighbor's Autonomous System Number
MsgRcvd (Message Received)	The number of BGP messages received from neighbor
MsgSent (Message Sent)	The number of BGP messages sent to this neighbor
TblVer (Table Version)	Last version of the BGP table that was sent to neighbor
InQ (In Queue)	In Queue input messages in Queue
OutQ (Out Queue)	Out Queue Output messages in Queue
Up/Down	Time since BGP session was established
State	The current state of the BGP session: active, idle etc
PfxRcd (Prefix Received)	Number of BGP network entries received from this neighbor

Forwarding Table:

This table contains a list of networks along their path and attributes which are known by BGP.

The 'show ip bgp' command would display the information.

```
R1#show ip bgp
BGP table version is 5, local router ID is 11.11.11.11
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete

   Network          Next Hop            Metric LocPrf Weight Path
*> 11.11.11.0/24    0.0.0.0                  0         32768 i
*> 22.22.22.0/24    192.168.12.2             0             0 2 i
```

BGP table version	Local BGP table increases when the BGP table changes
Local router ID	The IP address representing this router
Network	Learn network with subnet masks
*	This is a valid route and that BGP is able to use it
>	This entry has been selected as the best path
Next Hop	0.0.0.0 means that this network originated on this router R1 learn about this network from 192.168.12.2
Metric	BGP attributes that are used to select the best path
LocPrf	BGP attributes that are used to select the best path
Weight	BGP attributes that are used to select the best path
Path	A sequence of Autonomous Systems in the path from Left to Right
Path i	Network was advertised using the network command
Path 2	AS path 2
Path ?	Redistributed Networks

Routing Table:

This table lists the best path to the destination networks and also the next hop for each network. Like other protocols, the 'show ip route' will show the routing table.

```
R1#show ip route bgp
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP

Gateway of last resort is not set

     22.0.0.0/24 is subnetted, 1 subnets
B       22.22.22.0 [20/0] via 192.168.12.2, 01:36:07
```

B	This route was learned through BGP
22.22.22.0/24	Destination learn network and 24 is subnet mask
20	20 is the Administrative Distance of eBGP protocol
192.168.12.2	Next Hop IP Address where to send the traffic
01:36:07	Time since the route was learnt