

Features of BGP:

- Open Standard Protocol
- It is a Exterior Gateway Protocol used to route the information between different Autonomous system.
- Designed for huge inter-network like Internet.
- Updates are incremental and trigger.
- **Slowest** Routing protocol in the world.
- It is an application layer protocol user **TCP Port 179**.
- It sends the update to the manually defined neighbour as **unicast**.
- Metrics – **Attributes**
- Administrative Distance :
 - 20** for External BGP (**EBGP**)
 - 200** for Internal BGP (**IBGP**).

BGP Neighbour:

- BGP Neighbour router is also known as BGP Peer.
- As Neighbour is manually defined, unlike other routing protocol it doesn't form neighbourship automatically.
- TCP Connection is formed with the manually defined neighbour using **TCP port 179**.
- TCP is used for retransmitting the lost data, to avoid duplicate data, Check summing (accurate transmission).

BGP Tables:

Neighbour Table:

Information about all the list of manually defined neighbour will be managed in the neighbour table.

#show ip bgp neighbors

#show ip bgp summary

BGP Database table:

The list of all possible network learnt by BGP will be managed along with there attributes and path.

#Show ip bgp

Routing Table:

The list of only the best path will be available in the ip routing table.

#show ip route

Basic Configuration Syntax of BGP:

Router(config)# **router bgp <Autonomous number>**

Router(config-router)# **network <network ID> [mask <subnet mask>]**

Router(config-router)# **neighbour <IP-Address> remote-as <AS number>**

BGP Message Types:

Open:

It is used to initiate a BGP session between 2 routers. Includes the below:

- BGP version
- Sender AS number
- Hold Time (Cisco default 180 seconds)
- BGP identifier
- optional parameter

Keepalive Message:

- This Message is used to maintain the BGP session between the BGP Peers
- It will be sent once in one-third the "hold time". The default timer in cisco device is 60 seconds.

Update:

If any new route added and existing route deleted.
Path Attributes

Notification:

Terminate or rejects a BGP connection.
Can include error message (" BGP version not supported")

BGP States:

