BGP and OSPF Troubleshooting Checklists

· BGP Troubleshooting Checklist

· 1. Physical and IP Connectivity
- [ ] Interfaces are up/up on both peers.
- [ ] Can ping the BGP peer IP address.
- [ ] No firewall/ACL blocking TCP port 179.
- [ ] No routing issues to the peer IP.

· 2. BGP Configuration
- [ ] Correct neighbor IP address.
- [ ] Correct local and remote AS numbers.
- [ ] Matching authentication settings (if used).
- [ ] BGP is enabled on the correct interface (for iBGP/eBGP).
- [ ] Proper update-source or ebgp-multihop settings (if needed).

· 3. BGP Session Status
- [ ] BGP session is in Established state.
- [ ] If not, check for:
  - [ ] Idle: No TCP connection.
  - [ ] Active: TCP connection attempts failing.
  - [ ] Connect: TCP connection established, waiting for BGP Open.
- [ ] Use `show ip bgp summary` or `show bgp summary`.

· 4. Logs and Debugging
- [ ] Check logs for BGP errors (authentication, resets, etc.).
- [ ] Use `debug ip bgp` or equivalent to trace session establishment.

· 5. Route Exchange
- [ ] Routes are being received from the peer.
- [ ] Routes are being advertised to the peer.
- [ ] No route filtering (prefix-lists, route-maps, policies) blocking routes.
- [ ] Check next-hop reachability.

· 6. BGP Attributes
- [ ] Verify AS_PATH, MED, LOCAL_PREF, COMMUNITY values.
- [ ] Ensure attributes are not causing route rejection.

· 7. Route Policies and Filters
- [ ] Review import/export policies.
- [ ] Confirm prefix-lists, route-maps, or policy-statements are correct.

· 8. Stability and Flapping
- [ ] Check for BGP session flaps.
- [ ] Look for route dampening suppressing updates.

· 9. Recent Changes
- [ ] Any recent config changes, upgrades, or network events?
- [ ] Roll back or verify changes if issues started recently.

· 10. Advanced Tools
- [ ] Use packet captures (e.g., Wireshark) to inspect BGP packets.
- [ ] Use traceroute to verify path to peer.

OSPF Troubleshooting Checklist

· OSPF Troubleshooting Checklist

· 1. Interface and IP Configuration
- [ ] Interfaces are up/up and in correct OSPF area.
- [ ] Correct IP addressing and subnet masks.
- [ ] No duplicate router IDs.

· 2. OSPF Neighbor Relationship
- [ ] OSPF neighbors are in Full state.
- [ ] Check for mismatched area types (e.g., stub vs. normal).
- [ ] Verify hello and dead timers match.
- [ ] Authentication settings match (if used).

· 3. OSPF Configuration
- [ ] Correct network statements or interface assignments.
- [ ] Proper area configuration.
- [ ] Router ID is manually set or correctly derived.

· 4. Logs and Debugging
- [ ] Check logs for OSPF errors or adjacency issues.
- [ ] Use `debug ip ospf adj` or equivalent to trace neighbor formation.

· 5. Route Exchange
- [ ] OSPF routes are present in the routing table.
- [ ] No route filtering or summarization issues.
- [ ] Check LSAs and SPF calculations.

· 6. OSPF Timers and MTU
- [ ] Hello and dead timers match between neighbors.
- [ ] MTU mismatch can prevent adjacency.

· 7. Network Type and Priority
- [ ] Correct OSPF network type (broadcast, point-to-point, etc.).
- [ ] Router priority set correctly for DR/BDR election.

· 8. Stability and Flapping
- [ ] Check for frequent adjacency resets.
- [ ] Investigate interface flaps or unstable links.

· 9. Recent Changes
- [ ] Any recent config changes or upgrades?
- [ ] Roll back or verify changes if issues started recently.

· 10. Advanced Tools
- [ ] Use packet captures to inspect OSPF hello and LSAs.
- [ ] Use `show ip ospf database` to verify LSA propagation.