

# cnMatrix IP Routing Parameters and Commands

Commands	Description	CLI Mode
<code>ip routing</code>	Enables IP routing.	Global Configuration
<code>ip route &lt;prefix&gt; &lt;mask&gt; {&lt;next-hop&gt;   Vlan &lt;vlan-id/vfi-id&gt;   Mgmt0} [&lt;distance (1-255)&gt;]</code>	This command adds a static route. The Route defines the IP address or interface through which the destination can be reached.  Note: If the static route is configured without any metric value, then the route will be configured with metric value 1.	Global Configuration
<code>ip address &lt;ip-address&gt; &lt;subnet-mask&gt;</code>	This command sets the IP address for an interface.	Interface Configuration
<code>no switchport</code>	This command sets the port as router port. Only router port Related Command are made available for the interface, when the port is configured as router port.	Interface Configuration (Physical interface)
<code>ip default-ttl &lt;value (1-255)&gt;</code>	This command sets the Time-To-Live (TTL) value. TTL is the time set for a unit of data (a packet) to remain in the network or computer before it could be discarded. This value ranges from 1 to 255 seconds.	Global Configuration
<code>arp timeout &lt;seconds (30-86400)&gt;</code>	This command sets the ARP (Address Resolution Protocol) cache timeout. The arp timeout defines the time period an arp entry remains in the cache. When a new timeout value is assigned, it only affects the new arp entries. All the older entries retain their old timeout values.	Global Configuration
<code>ip arp max-retries &lt;value (2-10)&gt;</code>	This command sets the maximum number of ARP request retries. The maximum number of ARP requests that the switch generates before deleting an un-resolved ARP entry is defined.	Global Configuration
<code>clear ip arp</code>	This command clears dynamically learnt ARP entries.	Global Configuration
<code>ip proxy-arp</code>	This command enables proxy ARP for the IPv4 interface.	Interface Configuration
<code>ip redirects</code>	This command enables sending ICMP Redirect messages. The Redirect Message is an ICMP message which informs a host to update its routing information to send packets on an alternate route when a packet enters an IP interface and exits the same interface. The redirect message is sent to inform the host of the presence of alternative route.	Global Configuration
<code>ip unreachable</code>	This command enables the router to send an ICMP unreachable message to the source if the router receives a packet that has an unrecognized protocol or no route to the destination address. ICMP provides a mechanism that enables a router or destination host to report an error in data traffic processing to the original source of the packet. This informs the source that the packet is dropped.	Global Configuration

Commands	Description	CLI Mode
<code>ip mask-reply</code>	This command enables sending ICMP Mask Reply messages. The IP mask reply is an ICMP message sent by the router to the host informing the subnet mask of the network. This reply is in correspondence to a request sent by the host seeking the subnet mask of the network.	Global Configuration
<code>ip echo-reply</code>	This command enables sending ICMP Echo Reply messages. The ip echo reply is a message sent by a device, in response to a request sent by another device. This message is used to check if device is able to communicate (send and receive data) with the destination device.	Global Configuration
<code>ip path mtu &lt;dest ip&gt; &lt;tos(0-255)&gt; &lt;mtu(68-65535)&gt;</code>	This command sets the Maximum Transmission Unit (MTU) for usage in PMTU discovery. The transmission of packets from source to destination has many networks to pass through. Each network has its own Maximum transmission unit. The smallest MTU of all the links is the path MTU. This PMTU can be manually configured by the administrator.	Global Configuration
<code>ip path mtu discover</code>	This command initiates path MTU (Maximum Transmission Unit) discovery.	Global Configuration
<code>show ip route [ { &lt;ip-address&gt; [&lt;mask&gt;]   connected   static   summary   details   failed} ]</code> Available options: <ul style="list-style-type: none"> <li>• <b>&lt;ip-address&gt;</b> - Displays the IP routing table for the specified destination IP Address.</li> <li>• <b>details</b> - Displays the information about route status (Route in Hardware, Route Reachable, Best route)</li> <li>• <b>failed</b> - Displays the information about the routes that failed to be programmed in hardware.</li> <li>• <b>static</b> - Displays the Static Routes in the table.</li> <li>• <b>summary</b> - Displays the Summary of all routes.</li> </ul>	Displays the IP routing table.	Privileged EXEC
<code>show ip default-distance</code>	Displays the detailed information of the default administrative distance for static IPv4 routes.	Privileged EXEC
<code>show ip traffic [ interface { Vlan&lt;vlan-id&gt;   &lt;interface-type&gt; &lt;interface-id&gt; } ] [hc]</code>	This command displays the IP protocol statistics.	Privileged EXEC
<code>show ip information</code>	This command displays IP configuration information.	Privileged EXEC
<code>show ip arp [ { Vlan &lt;vlan-id&gt;   &lt;interface-type&gt; &lt;interface-id&gt;   &lt;ip-address&gt;   &lt;mac-address&gt;   summary   information   statistics } ]</code>	This command displays IP ARP table.	Privileged EXEC
<code>show ip proxy-arp</code>	This command displays the status of the proxy ARP for all the created interfaces.	Privileged EXEC
<code>traceroute {&lt;ip-address&gt;   ipv6</code>	This command traces route to the destination IP.	Privileged EXEC

Commands	Description	CLI Mode
<code>&lt;prefix&gt; [min-ttl &lt;value (1-15)&gt;] [max-ttl &lt;value (1-99)&gt;]</code>		