



Configuring Network-Related Settings

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Examples of Network Related Tasks

The examples in this section show how to use the Cisco IMC XML API to configure network related tasks. Each example shows the XML API request followed by the response from Cisco IMC.

This section includes the following examples:

- [Configuring BMC Static IPv6, on page 1](#)
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- [Configuring Static IPv4, on page 2](#)
- [Configuring DHCPv4, on page 2](#)
- [Configuring Network Interface Card Mode, on page 3](#)

Configuring BMC Static IPv6

Request

```
<configConfMo cookie="0956648424/5a81f826-1166-1611-8003-82f92a02b884"
  dn="sys/chassis-1/server-1/mgmt/if-1">
<inConfig>
  <mgmtIf dn="sys/chassis-1/server-1/mgmt/if-1" v6IPAddr="2100:200::125" />
</inConfig>
</configConfMo>
```

Response

```
<configConfMo cookie="0956648424/5a81f826-1166-1611-8003-82f92a02b884"
  response="yes" dn="sys/chassis-1/server-1/mgmt/if-1">
  <outConfig>
    <mgmtIf dn="sys/chassis-1/server-1/mgmt/if-1"
      description="CIMC Interface Network Settings"
```

```

id="1" v4IPAddr="10.104.255.181" mac="F4:0F:1B:FA:48:3C"
hostname="server-FCH1821JAV4" v6extEnabled="yes"
v6IPAddr="2002:200::125" v6prefix="64" v6extGw="::"
v6linkLocal="fe80::f60f:1bff:fe80:483c"
subject="blade" status="modified"/>
</outConfig>
</configConfMo>

```

Configuring Static IPv4

Request

```

<configConfMo cookie="0956722178/02141d24-2366-1623-8002-82f92a02b884"
dn="sys/chassis-1/if-1">
<inConfig>
<mgmtIf dn="sys/chassis-1/if-1" dhcpEnable="no"
extMask="255.255.255.128" extGw="10.104.255.129"
v4IPAddrBmc1="10.104.255.246" v4IPAddrCmc2="10.104.255.247"
v4IPAddrCmc1="10.104.255.248" extIp="10.104.255.245" />
</inConfig>
</configConfMo>

```



Note

There is no response because the IPv4 configuration terminates all the SSH/WebUI/XMLAPI sessions. You need to reconnect to the server with the new IPv4 address configuration.

Configuring DHCPv4

Request

```

<configConfMo cookie="0956737017/af85c151-2666-1626-8002-82f92a02b884"
dn="sys/chassis-1/if-1">
<inConfig>
<mgmtIf dn="sys/chassis-1/if-1"
dhcpEnable="yes" extMask="255.255.255.128" extGw="10.104.255.129" />
</inConfig>
</configConfMo>

```



Note

There is no response because the IPv4 configuration terminates all the SSH/WebUI/XMLAPI sessions. You need to reconnect to the server with the new IPv4 address configuration.

Configuring Static IPv6 and IPv4

Request

```

<configConfMoconfigConfMo cookie="0956739710/edb4ef0e-2766-1627-8003-82f92a02b884"
dn="sys/chassis-1/if-1">
<inConfig>
<mgmtIf dn="sys/chassis-1/if-1" dhcpEnable="no"
extMask="255.255.255.128" extGw="10.104.255.129"
v4IPAddrBmc1="10.104.255.246" v4IPAddrCmc2="10.104.255.247"
v4IPAddrCmc1="10.104.255.248" extIp="10.104.255.245"
v6dhcpEnable="no" v6prefix="64" v6extIp="2001:200::125"
v6extGw="2000:200::125" v6extEnabled="yes" v6IPAddrBmc1="2002:200::125"
v6IPAddrCmc1="2004:200::125" v6IPAddrCmc2="2005:200::125"/>
</inConfig>
</configConfMo>

```

**Note**

There is no response because the IPv4 configuration terminates all the SSH/WebUI/XMLAPI sessions. You need to reconnect to the server with the new IPv4 address configuration.

Configuring Network Interface Card Mode

Request

```
<configConfMo cookie='0949273658/385bfaaf-5c5f-1f5c-8004-d37c77e2cff4'
dn='sys/chassis-1/if-1'>
  <inConfig>
    <mgmtIf nicMode="cisco_card" nicRedundancy="active-active"/>
  </inConfig>
</configConfMo>
```

**Note**

There is no response due to a valid change in the card mode. You can verify the NIC mode and NIC redundancy values (4 and 1 respectively) by using the command **nicMode="cisco_card" nicRedundancy="active-active"** from the CMC command line. CMC1, CMC2, Cisco IMC 1 and Cisco IMC 2 must reflect the same values (4 and 1).

Examples of Virtual Interface Tasks

The examples in this section show how to use the Cisco IMC XML API to retrieve and perform virtual interface tasks. Each example shows the XML API request followed by the response from Cisco IMC.

This section includes the following examples:

- [Retrieving Virtual Interface Configuration, on page 3](#)
- [Enabling IPv6 Using DHCPv6, on page 4](#)
- [Enabling IPv6 Using DHCPv6, on page 4](#)
- [Disabling IPv6, on page 4](#)
- [Enabling Static IPv6 on Virtual Interface, on page 5](#)
- [Configuring DNS servers, on page 5](#)
- [Configuring Static IPv6, on page 6](#)

Retrieving Virtual Interface Configuration

Request

```
<configResolveDn cookie='0956568556/dd519b64-ff65-15ff-8003-82f92a02b884'
inHierarchical='false' dn='sys/chassis-1/if-1'>
```

Response

```
<configResolveDn cookie="0956568556/dd519b64-ff65-15ff-8003-82f92a02b884"
response="yes" dn="sys/chassis-1/if-1">
  <outConfig>
    <mgmtIf dn="sys/chassis-1/if-1"
```

```

description="Virtual Management Interface Network Settings"
id="1" extEnabled="yes" extIp="" v4IPAddrCmc1="0.0.0.0"
v4IPAddrCmc2="0.0.0.0" v4IPAddrBmc1="0.0.0.0" v4IPAddrBmc2="0.0.0.0"
extMask="255.255.255.128" extGw="10.104.255.129" ifType="virtual"
mac="84:B8:02:2A:F9:82" vHostname="" dhcpEnable="yes" dnsUsingDhcp="no"
ddnsEnable="yes" ddnsDomain="" dnsPreferred="171.68.226.120"
dnsAlternate="0.0.0.0" nicMode="dedicated" vicSlot="1" nicRedundancy="none"
vlanEnable="no" vlanId="1" vlanPriority="2" portProfile=""
v6extEnabled="yes" v6extIp="::" v6extGw="::" v6prefix="64"
v6linkLocal="fe80::86b8:2ff:fe2a:f982" v6SlaacIp="::"
v6dhcpEnable="yes" v6dnsUsingDhcp="no" v6dnsPreferred="::"
v6dnsAlternate="::" v6IPAddrCmc1="::" v6IPAddrCmc2="::"
v6IPAddrBmc1="::" v6IPAddrBmc2="::" subject="virtual"/>
</outConfig>
</configResolveDn>

```

Enabling IPv6 Using DHCPv6

Request

```

<configConfMo cookie="1435897051/c7da4b34-f119-19f1-8002-838077e2cff4"
dn="sys/chassis-1/if-1">
<inConfig>
<mgmtIf dn="sys/chassis-1/if-1" v6extEnabled="yes" v6dhcpEnable="yes"/>
</inConfig>
</configConfMo>

```

Response

```

<configConfMo cookie="1435897051/c7da4b34-f119-19f1-8002-838077e2cff4"
response="yes" dn="sys/chassis-1/if-1" >
<outConfig>
<mgmtIf dn="sys/chassis-1/if-1"
description="Virtual Management Interface Network Settings"
id="1" extEnabled="yes" extIp="10.106.145.166" v4IPAddrCmc1="0.0.0.0"
v4IPAddrCmc2="0.0.0.0" v4IPAddrBmc1="0.0.0.0" v4IPAddrBmc2="0.0.0.0"
extMask="255.255.255.0" extGw="10.106.145.1" ifType="virtual"
mac="F4:CF:E2:77:80:83" vHostname="server-FCH18207WF3"
dhcpEnable="yes" dnsUsingDhcp="yes" ddnsEnable="yes"
ddnsDomain="" dnsPreferred="171.70.168.183" dnsAlternate="0.0.0.0"
nicMode="dedicated" vicSlot="2" nicRedundancy="none" vlanEnable="no"
vlanId="1" vlanPriority="0" portProfile="" v6extEnabled="no"
v6extIp="::" v6extGw="::" v6prefix="64" v6linkLocal="::" v6SlaacIp="::"
v6dhcpEnable="no" v6dnsUsingDhcp="no" v6dnsPreferred="::"
v6dnsAlternate="::" v6IPAddrCmc1="::" v6IPAddrCmc2="::"
v6IPAddrBmc1="::" v6IPAddrBmc2="::" subject="virtual" status="modified"/>
</outConfig>
</configConfMo>

```



Note

The **v6extEnabled** is a common attribute and it is applied to the network interfaces of all the components. So, in the above response this attribute is shown as **No**. However, if you perform Get operation or use CLI to verify this attribute, the IPv6 is shown as **Enabled**.

Disabling IPv6

Request

```

<configConfMo cookie="1435897793/485b3ad8-f119-19f1-8003-838077e2cff4"
dn="sys/chassis-1/if-1">
<inConfig>
<mgmtIf dn="sys/chassis-1/if-1" v6extEnabled="no"/>
</inConfig>
</configConfMo>

```

Response

```
<configConfMo cookie="1435897793/485b3ad8-f119-19f1-8003-838077e2cff4"
response="yes" dn="sys/chassis-1/if-1" >
  <outConfig>
    <mgmtIf dn="sys/chassis-1/if-1"
description="Virtual Management Interface Network Settings" id="1"
extEnabled="yes" extIp="10.106.145.166" v4IPAddrCmc1="0.0.0.0"
v4IPAddrCmc2="0.0.0.0" v4IPAddrBmc1="0.0.0.0" v4IPAddrBmc2="0.0.0.0"
extMask="255.255.255.0" extGw="10.106.145.1" ifType="virtual"
mac="F4:CF:E2:77:80:83" vHostname="server-FCH18207WF3" dhcpEnable="yes"
dnsUsingDhcp="yes" ddnsEnable="yes" ddnsDomain=""
dnsPreferred="171.70.168.183" dnsAlternate="0.0.0.0"
nicMode="dedicated" vicSlot="2" nicRedundancy="none"
vlanEnable="no" vlanId="1" vlanPriority="0" portProfile=""
v6extEnabled="no" v6extIp="2010:201::283"
v6extGw="fe80::5e50:15ff:fe70:b042" v6prefix="119"
v6linkLocal="fe80::f6cf:e2ff:fe77:8083"
v6SlaacIp="2010:201::f6cf:e2ff:fe77:8083" v6dhcpEnable="yes"
v6dnsUsingDhcp="no" v6dnsPreferred="::" v6dnsAlternate="::"
v6IPAddrCmc1="::" v6IPAddrCmc2="::" v6IPAddrBmc1="::"
v6IPAddrBmc2="::" subject="virtual" status="modified"/>
  </outConfig>
</configConfMo>
```

**Note**

The **v6extEnabled** is a common attribute and it is applied to the network interfaces of all the components. So, in the above response this attribute is shown as **Yes**. However, if you perform Get operation or use CLI to verify this attribute, the IPv6 is shown as **Disabled**.

Enabling Static IPv6 on Virtual Interface

Request

```
<configConfMo cookie="1435898185/7cbeb77f-f119-19f1-8004-838077e2cff4"
dn="sys/chassis-1/if-1">
<inConfig>
  <mgmtIf dn="sys/chassis-1/if-1" v6extEnabled="yes"
v6prefix="64" v6dnsUsingDhcp="no" v6dhcpEnable="no"
v6extIp="2010:201::97" v6extGw="2010:201::1"/>
</inConfig>
</configConfMo>
```

Response

```
<configConfMo cookie="1435898185/7cbeb77f-f119-19f1-8004-838077e2cff4"
response="yes" dn="sys/chassis-1/if-1"
errorCode="2999" invocationResult="unidentified-fail"
errorDescr="Invalid request - component bmc1 - Missing or invalid IPv6 address provided"/>
```

**Note**

When you configure static IPv6, provide static IPv6 addresses for all the CMC-X, BMC-X and virtual interface.

Configuring DNS servers

Request

```
<configConfMo cookie="0956619238/87045c2f-0b66-160b-8003-82f92a02b884"
dn="sys/chassis-1/if-1">
<inConfig>
```

```

<mgmtIf dn="sys/chassis-1/if-1" v6extEnabled="yes"
v6dnsPreferred="2005:420:54ff:74::204:6120" v6dnsAlternate="2005:201::200"/>
</inConfig>
</configConfMo>
Response

<configConfMo cookie="0956619238/87045c2f-0b66-160b-8003-82f92a02b884"
response="yes" dn="sys/chassis-1/if-1">
<outConfig>
<mgmtIf dn="sys/chassis-1/if-1"
description="Virtual Management Interface Network Settings"
id="1" extEnabled="yes" extIp="" v4IPAddrCmc1="0.0.0.0"
v4IPAddrCmc2="0.0.0.0" v4IPAddrBmc1="0.0.0.0"
v4IPAddrBmc2="0.0.0.0" extMask="255.255.255.128"
extGw="10.104.255.129" ifType="virtual" mac="84:B8:02:2A:F9:82"
vHostname="" dhcpEnable="yes" dnsUsingDhcp="no" ddnsEnable="yes"
ddnsDomain="" dnsPreferred="171.68.226.120" dnsAlternate="0.0.0.0"
nicMode="dedicated" vicSlot="1" nicRedundancy="none"
vlanEnable="no" vlanId="1" vlanPriority="2" portProfile=""
v6extEnabled="yes" v6extIp="::" v6extGw="::" v6prefix="64"
v6linkLocal="fe80::86b8:2ff:fe2a:f982" v6SlaacIp="::"
v6dhcpEnable="yes" v6dnsUsingDhcp="no"
v6dnsPreferred="2010:420:54ff:74::204:6120" v6dnsAlternate="2010:201::200"
v6IPAddrCmc1="::" v6IPAddrCmc2="::" v6IPAddrBmc1="::"
v6IPAddrBmc2="::" subject="virtual" status="modified"/>
</outConfig>
</configConfMo>

```

Configuring Static IPv6

The following example shows how to configure static IPv6 on a UCS-S3260 M4 server with 2 SIOCs and a server node.

Request

```

<configConfMo cookie="0956641159/6f8470a7-0f66-160f-8002-82f92a02b884"
dn="sys/chassis-1/if-1">
<inConfig>
<mgmtIf dn="sys/chassis-1/if-1" v6dhcpEnable="no"
v6prefix="64" v6extIp="2001:200::125"
v6extGw="2000:200::125" v6extEnabled="yes"
v6IPAddrBmc1="2002:200::125" v6IPAddrCmc1="2004:200::125"
v6IPAddrCmc2="2005:200::125"/>
</inConfig>
</configConfMo>

```

Response

```

<configConfMo cookie="0956641159/6f8470a7-0f66-160f-8002-82f92a02b884"
response="yes" dn="sys/chassis-1/if-1" >
<outConfig>
<mgmtIf dn="sys/chassis-1/if-1"
description="Virtual Management Interface Network Settings"
id="1" extEnabled="yes" extIp="" v4IPAddrCmc1="0.0.0.0"
v4IPAddrCmc2="0.0.0.0" v4IPAddrBmc1="0.0.0.0"
v4IPAddrBmc2="0.0.0.0" extMask="" extGw="" ifType="virtual"
mac="84:B8:02:2A:F9:82" vHostname="" dhcpEnable="yes" dnsUsingDhcp="no"
ddnsEnable="yes" ddnsDomain="" dnsPreferred="171.68.226.120"
dnsAlternate="0.0.0.0" nicMode="dedicated" vicSlot="1"
nicRedundancy="none" vlanEnable="no" vlanId="1" vlanPriority="2"
portProfile="" v6extEnabled="yes" v6extIp="::" v6extGw="::"
v6prefix="64" v6linkLocal="fe80::86b8:2ff:fe2a:f982" v6SlaacIp="::"
v6dhcpEnable="yes" v6dnsUsingDhcp="no" v6dnsPreferred="2005:420:54ff:74::204:6120"
v6dnsAlternate="2005:201::200" v6IPAddrCmc1="::"
v6IPAddrCmc2="::" v6IPAddrBmc1="::" v6IPAddrBmc2="::"
subject="virtual" status="modified"/>
</outConfig>
</configConfMo>

```

Configuring IP Filtering Tasks

The examples in this section show how to use the Cisco IMC XML API to configure IP filtering. Each example shows the XML API request followed by the response from Cisco IMC.

This section includes the following examples:

- [Enabling and Setting IP Filtering for Secure BMC Access, on page 7](#)
- [Disabling IP Filtering, on page 7](#)
- [Clearing a Specific IP Filter, on page 8](#)
- [Clearing all IP Filters, on page 8](#)

To provide secure access to BMC, you can now set a filter to allow only a selected set of IPs to access it. This option provides four slots for storing IP addresses. You can either assign a single IP address or a range of IP addresses while setting the IP filters. Access to BMC or CMC is not secure if IP Filtering is not enabled (or it is enabled but you have not set filters) and can be accessed by anyone.

The following examples show how to enable and set the IP filtering for a single IP address and a range of IP addresses:

Enabling and Setting IP Filtering for Secure BMC Access

Request:

```
<configConfMo cookie="1452215343/72eabb72-28c8-18c8-8002-9a6ae7925a88"
inHierarchical="false" dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter">
  <inConfig>
    <ipFiltering dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter" enable="yes"
      filter1="10.104.255.160-10.104.255.170"
      filter2="10.106.145.33-10.106.150.32"
      filter3="10.104.255.161-10.104.255.163"
      filter4="2001:db8::-2001:db8::0001"/>
    </inConfig>
  </configConfMo>
```

Response:

```
<configConfMo dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter"
cookie="1452215343/72eabb72-28c8-18c8-8002-9a6ae7925a88" response="yes">
  <outConfig>
    <ipFiltering dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter" enable="yes"
      filter1="10.104.255.160-10.104.255.170"
      filter2="10.106.145.33-10.106.150.32"
      filter3="10.104.255.161-10.104.255.163"
      filter4="2001:db8::- 2001:db8::0001" adminAction="no-op"
      status="modified"/>
    </outConfig>
  </configConfMo>
```

Disabling IP Filtering

Request:

```
<configConfMo cookie="1452215343/72eabb72-28c8-18c8-8002-9a6ae7925a88"
inHierarchical="false" dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter">
  <inConfig>
    <ipFiltering dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter" enable="no"/>
  </inConfig>
</configConfMo>
```

Response:

```
<configConfMo dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter"
  cookie="1452215343/72eabb72-28c8-18c8-8002-9a6ae7925a88" response="yes">
<outConfig>
  <ipFiltering dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter"
    enable="no" filter1="10.104.255.160-10.104.255.170"
    filter2="10.106.145.33-10.106.150.32" filter3="10.104.255.161-10.104.255.163"
    filter4="2001:db8::-2001:db8::0001" adminAction="no-op"
    status="modified"/>
  </outConfig>
</configConfMo>
```

Clearing a Specific IP Filter

Request:

```
<configConfMo cookie="1452215343/72eabb72-28c8-18c8-8002-9a6ae7925a88"
  inHierarchical="false" dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter">
<inConfig>
  <ipFiltering dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter" adminAction="clearFilter1"/>
</inConfig>
</configConfMo>
```

Response:

```
<configConfMo dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter"
  cookie="1452215343/72eabb72-28c8-18c8-8002-9a6ae7925a88" response="yes">
<outConfig>
  <ipFiltering dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter" enable="no"
    filter1="" filter2="10.106.145.33-10.106.150.32"
    filter3="10.104.255.161-10.104.255.163" filter4="2001:db8::-2001:db8::0001"
    adminAction="no-op" status="modified"/>
  </outConfig>
</configConfMo>
```

Clearing all IP Filters

Request:

```
<configConfMo cookie="1452215343/72eabb72-28c8-18c8-8002-9a6ae7925a88"
  inHierarchical="false" dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter">
<inConfig>
  <ipFiltering dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter" adminAction="clearAll"/>
</inConfig>
</configConfMo>
```

Response:

```
<configConfMo dn="sys/rchassis-1/server-1/mgmt/if-1/ip-filter"
  cookie="1452215343/72eabb72-28c8-18c8-8002-9a6ae7925a88" response="yes">
<outConfig>
  <ipFiltering dn="sys/chassis-1/server-1/mgmt/if-1/ip-filter"
    enable="no" filter1="" filter2="" filter3="" filter4=""
    adminAction="no-op" status="modified"/>
  </outConfig>
</configConfMo>
```