
Step-by-Step Guide to Monitoring Interfaces Using Interface Groups

This document describes how to configure monitoring to include interfaces that are not polled by default. To do so, it uses the following two scenarios:

- Change Monitoring Settings for a group of interfaces with common attributes
- Change Monitoring Settings for a group of interfaces without common attributes

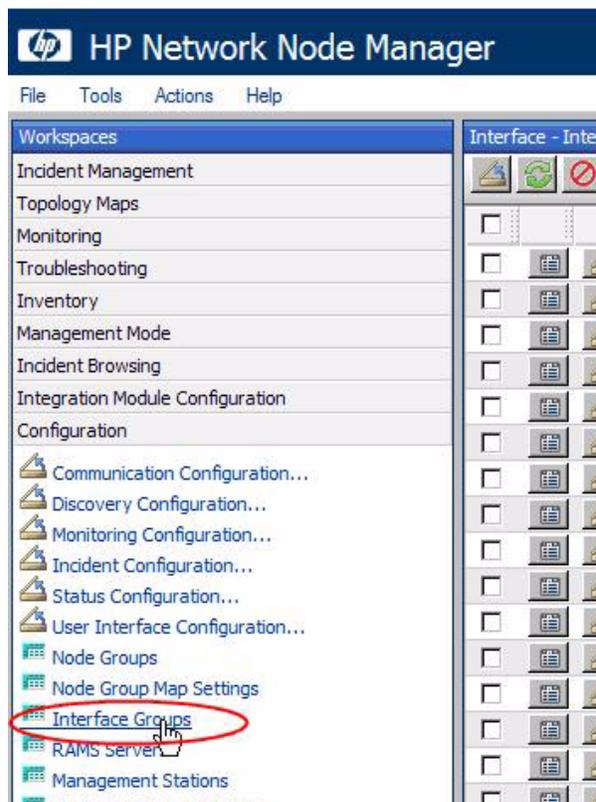


To exclude interfaces from being monitored, you can set the Management Mode to **Not Managed** or **Out of Service**. See the *NNMi Help for Administrators* for more information about Management Mode.

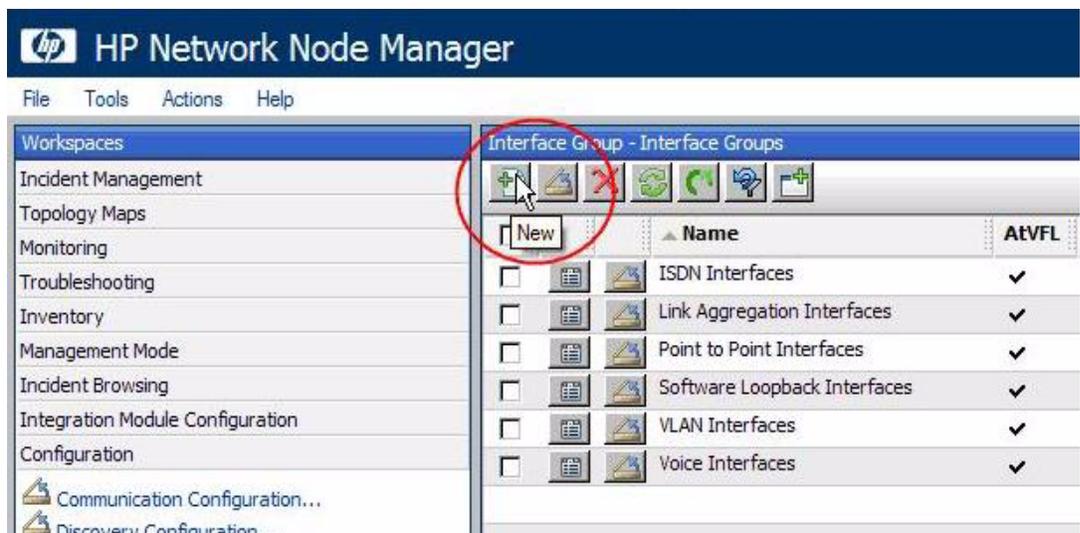
Note that some screen captures might be different from those that appear in the most recent NNMi console.

Change Monitoring Settings for a Group of Interfaces with Common Attributes

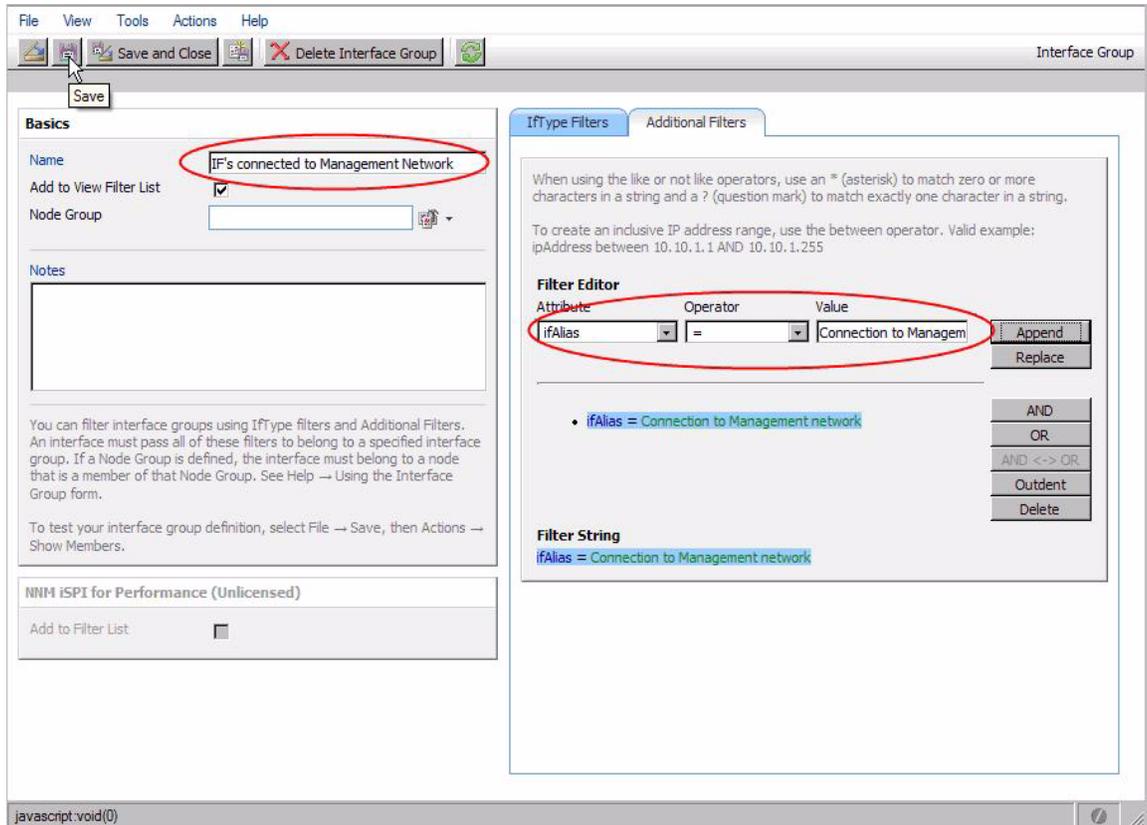
This scenario describes how to change the monitoring settings for interfaces that share the common `ifAlias`: **Connection to Management network**.



3 Click  **New**.



- 4 In the **Name** attribute, enter: **IFs connected to Management Network**.
- 5 Select the **Additional Filters** tab.
- 6 In the **Attribute** field, select **ifAlias** from the drop down menu.
- 7 In the **Operator** field, select **=** from the drop down menu.
- 8 In the **Value** field, enter: **Connection to Management**.
- 9 Click **Save** to save the configuration.



To examine the results of the interface group filter, use the **Actions** menu.

10 Select **Actions->Show Members**.

NNMi displays the list of interfaces that matched the filter.

	Stat	AS	OS	Hosted On Node	Ifname	IfType	IfSpeed	IfDescription	IfAlias
<input type="checkbox"/>				internet_switch-2	Vl1	propVirtual	1 Gbps	Vlan1	Connection to Management network
<input type="checkbox"/>				dave_test	Vl1	ethernetCsmacd	10 Mbps	VLAN1	Connection to Management network
<input type="checkbox"/>				core_6509-1	Vl1	propVirtual	1 Gbps	Vlan1	Connection to Management network
<input type="checkbox"/>				WAN_router-1	Fa0/0/1	ethernetCsmacd	100 Mbps	FastEthernet0/0/1	Connection to Management network
<input type="checkbox"/>				WAN_switch-1	Vl1	propVirtual	1 Gbps	Vlan1	Connection to Management network
<input type="checkbox"/>				VWAN_switch-1	Vl1	propVirtual	1 Gbps	Vlan1	Connection to Management network

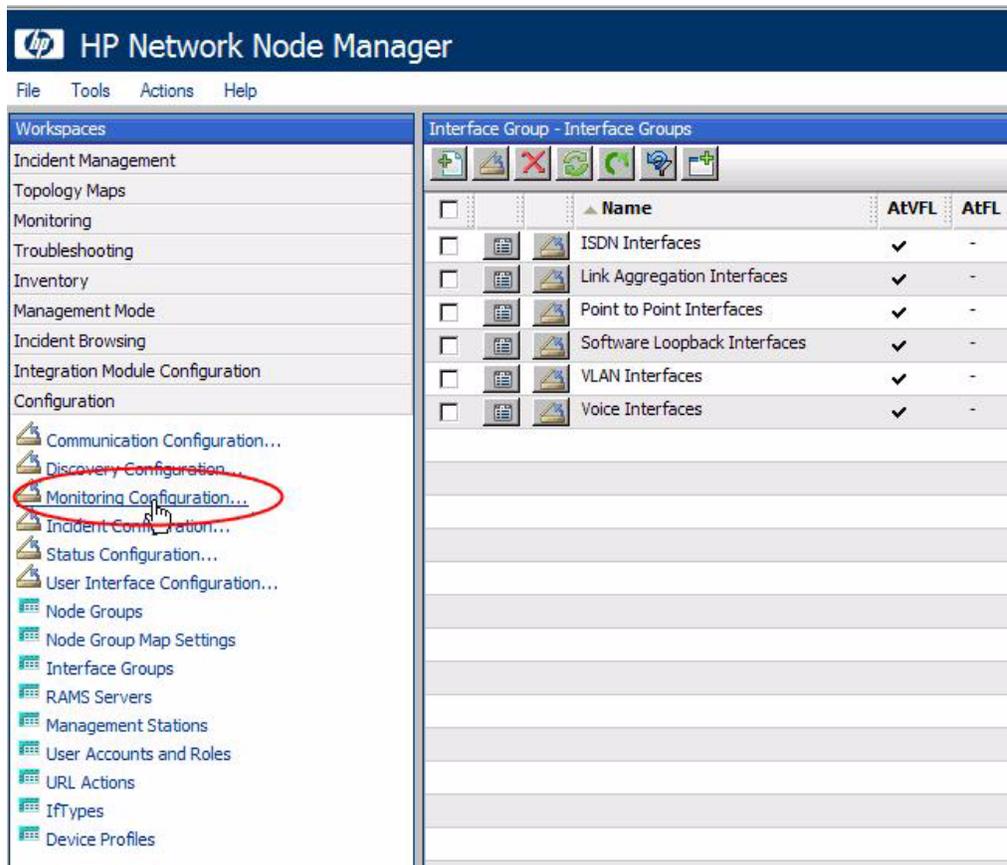
11 Close the **Interface Group** form.

Next, we apply a polling policy to monitor all of these interfaces.

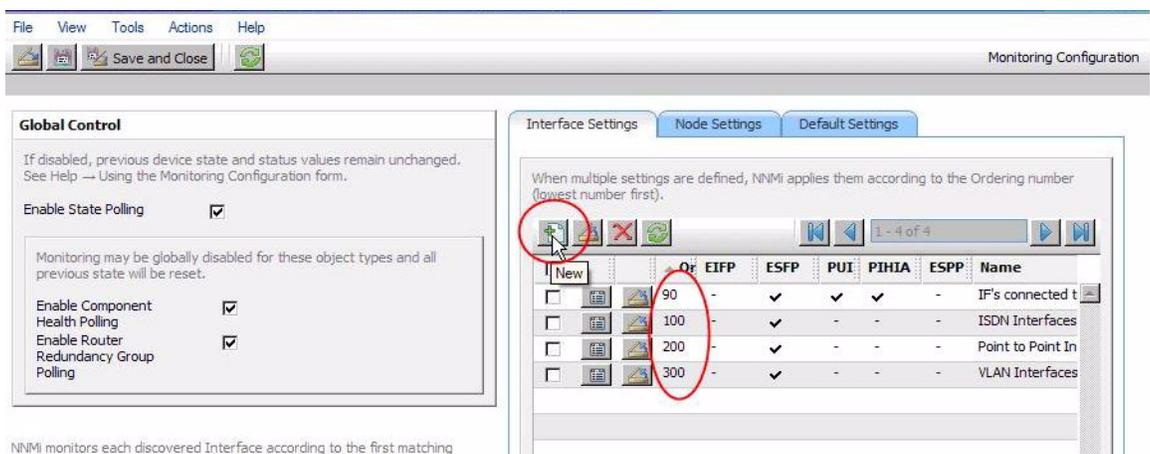
Step 2: Apply a Polling Policy to the Interface Group

To apply a polling policy, use the **Monitoring Configuration** option in the **Configuration** workspace.

- 1 Navigate to the **Configuration** workspace.
- 2 Select **Monitoring** Configuration.

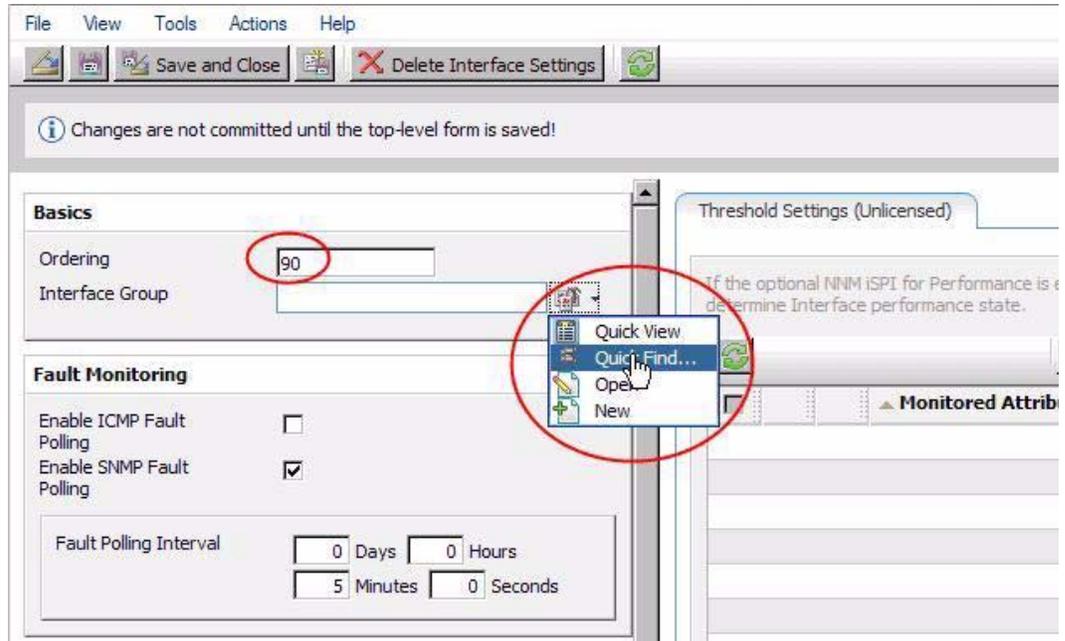


- 3 Click  **New** to create a new **Interface Settings** entry.
- 4 Take note of the current ordering values. The new entry must be a higher priority (lower number) than other polling policies in this list.



- 5 In the **Ordering** attribute, enter **90**.

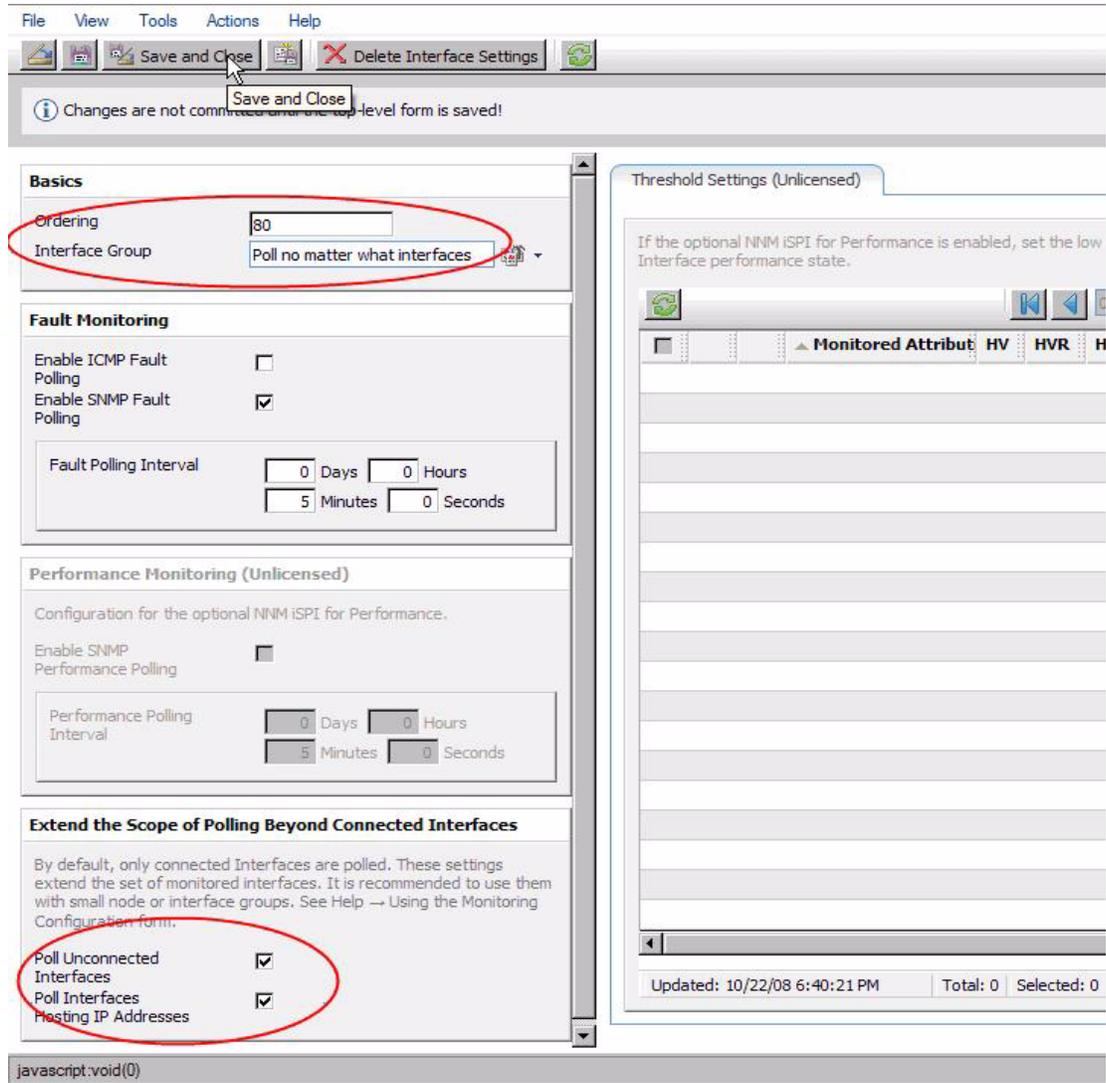
- 6 Click  **Lookup** and then **Quick Find** to select the newly created interface group.



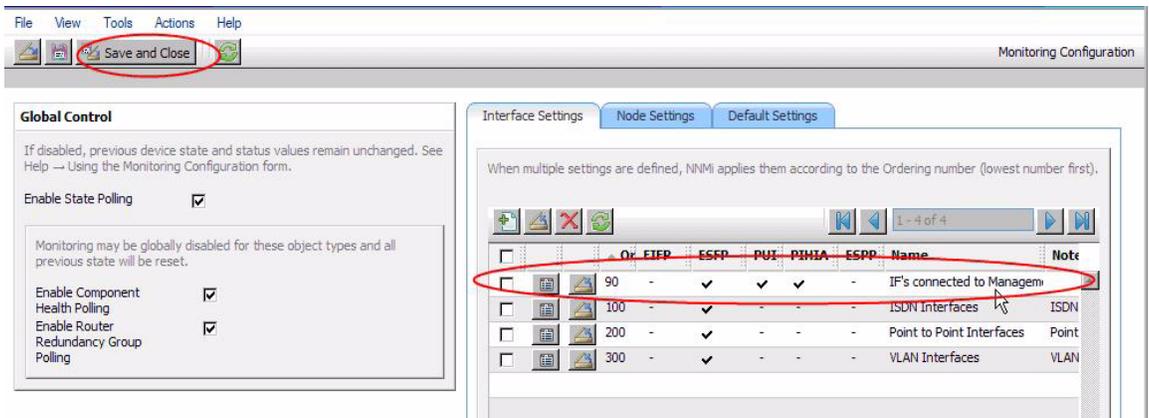
Next, extend the scope of the default polling so that NNMi always polls these interfaces.

- 7 Click **Enable SNMP Fault Polling**.
- 8 Click **Poll Unconnected Interfaces**.
- 9 Click **Poll Interfaces Hosting IP Addresses**.

10 Click **Save and Close** to save the configuration and close the form.



In the table view on the **Interface Settings** tab you should see the new interface settings value.



11 Click **Save and Close** to save the configuration and close the form.

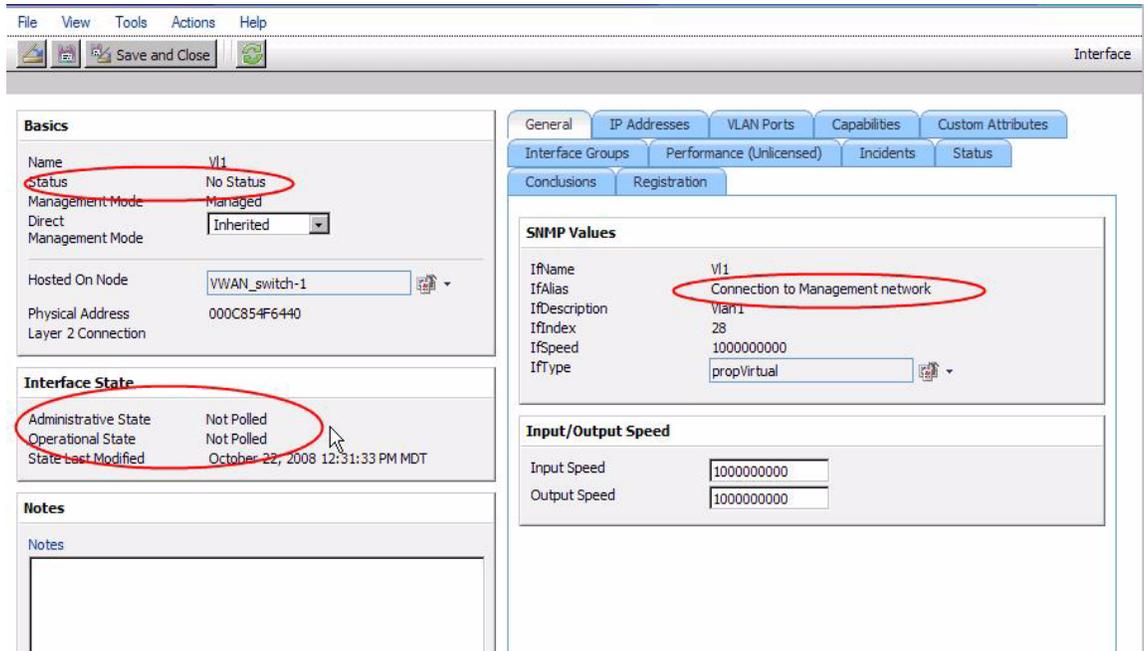
Next, we will verify that the interfaces are being polled.

Step 3: Verify the Interfaces are Polled

- 1 Navigate to an Interfaces view; for example **Inventory --> Interfaces**.
- 2 Click the  **Open** icon that precedes an interface whose ifAlias is Connection to Management Network.

▶ If the NNMi console indicates **No Status** for an interface, this most likely indicates a delay in the Status update.

In the following example the interface Status still displays **No Status**.



The screenshot shows the NNMi console interface for a specific interface. The 'Basics' section displays the following information:

Name	V11
Status	No Status
Management Mode	Managed
Direct Management Mode	Inherited
Hosted On Node	VWAN_switch-1
Physical Address	000C854F6440

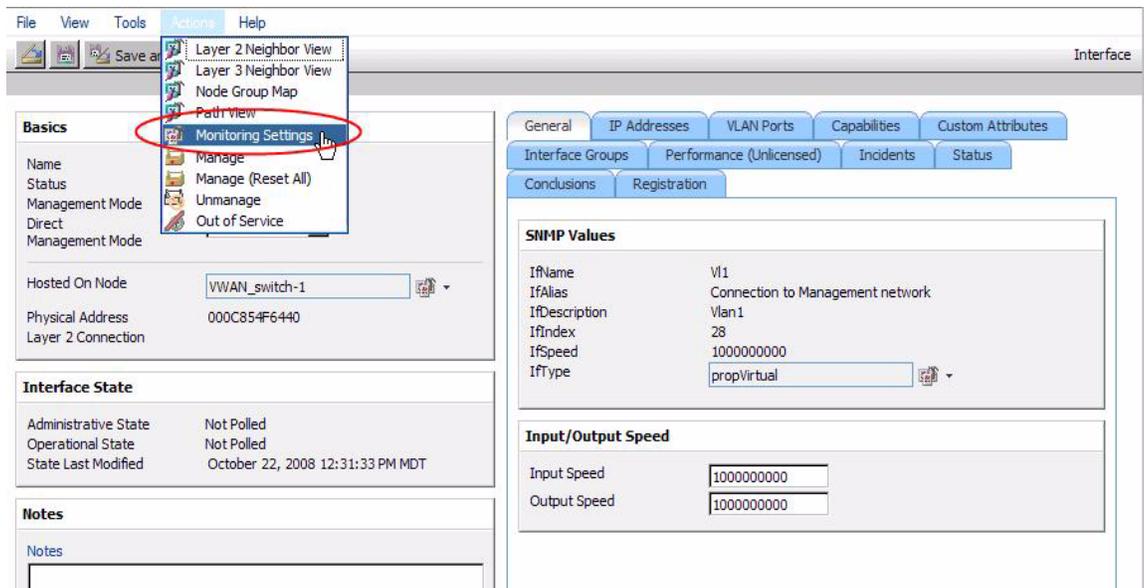
The 'Interface State' section shows:

Administrative State	Not Polled
Operational State	Not Polled
State Last Modified	October 22, 2008 12:31:33 PM MDT

The 'SNMP Values' section shows:

IfName	V11
IfAlias	Connection to Management network
IfDescription	Vlan1
IfIndex	28
IfSpeed	1000000000
IfType	propVirtual

- 3 To more quickly resolve the Status on the selected interface, perform a status poll on the node by selecting **Actions --> Monitoring Settings**.



The screenshot shows the NNMi console interface with the 'Actions' menu open. The 'Monitoring Settings' option is highlighted. The 'Basics' section displays the following information:

Name	V11
Status	No Status
Management Mode	Managed
Direct Management Mode	Inherited
Hosted On Node	VWAN_switch-1
Physical Address	000C854F6440

The 'Interface State' section shows:

Administrative State	Not Polled
Operational State	Not Polled
State Last Modified	October 22, 2008 12:31:33 PM MDT

The 'SNMP Values' section shows:

IfName	V11
IfAlias	Connection to Management network
IfDescription	Vlan1
IfIndex	28
IfSpeed	1000000000
IfType	propVirtual

As shown in the following example output, the interface is part of the interface group we created and **Enable SNMP Fault Polling** is selected.

Monitoring Configuration for V11 on node VWAN_switch-1

SNMP Monitoring Summary	
Fault SNMP Polling Enabled	true
Fault Polling Interval	0 days 0 hours 5 minutes 0 seconds
Performance Polling Enabled	false
Performance Polling Interval	0 days 0 hours 5 minutes 0 seconds
Management Mode	Managed

Monitoring Settings Applied	
Type	Interface Settings
Interface Group	IF's connected to Management Network
Node Group	None
Fault SNMP Polling Enabled	true
Fault Polling Interval	0 days 0 hours 5 minutes 0 seconds
Performance Polling Enabled	false
Performance Polling Interval	0 days 0 hours 5 minutes 0 seconds
Poll Unconnected Interfaces	true
<i>Is this interface connected?</i>	<i>no</i>
Poll Interfaces Hosting IP Addresses	true
<i>Does this interface host IP addresses?</i>	<i>yes</i>

The following table view indicates NNMi is polling all interfaces in the group.

	Stat	AS	OS	Hosted On Node	IfName	IfType	IfSpeed	IfDescription	IfAlias
<input type="checkbox"/>				internet_switch-2	V11	propVirtual	1 Gbps	Vlan1	Connection to Management network
<input type="checkbox"/>				dave_test	VL1	ethernetCsmacd	10 Mbps	VLAN1	Connection to Management network
<input type="checkbox"/>				core_6509-1	V11	propVirtual	1 Gbps	Vlan1	Connection to Management network
<input type="checkbox"/>				WAN_router-1	Fa0/0/1	ethernetCsmacd	100 Mbps	FastEthernet0/0/1	Connection to Management network
<input type="checkbox"/>				WAN_switch-1	V11	propVirtual	1 Gbps	Vlan1	Connection to Management network
<input type="checkbox"/>				VWAN_switch-1	V11	propVirtual	1 Gbps	Vlan1	Connection to Management network

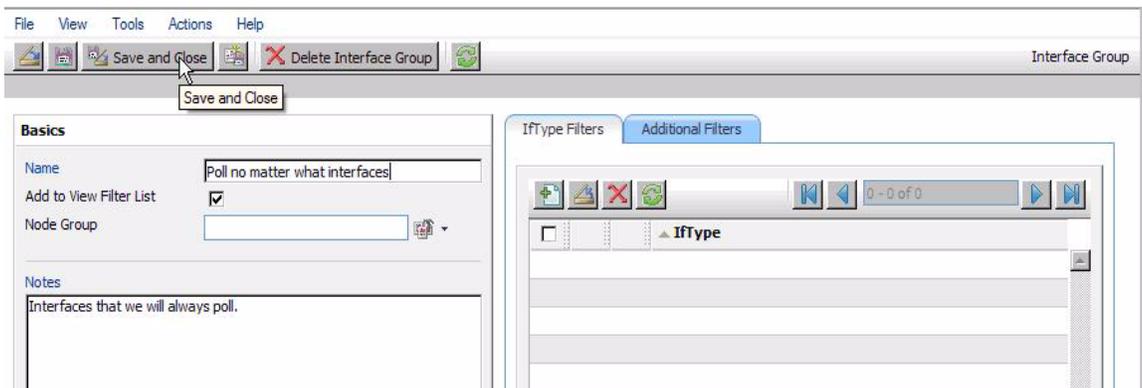
Change Monitoring Settings for a Group of Interfaces that Do Not Have Common Attributes

In this example, the interfaces do not have one common attribute. To force these interfaces polled to be polled, we create an interface group that is based on a combination of attributes.

Step 1: Create an Interface Group

In this step create an interface group named **Poll no matter what interfaces**.

- 1 Navigate to the **Configuration** workspace.
- 2 Select **Interface Groups**.
- 3 Click  **New**.
- 4 In the **Name** attribute, enter: **Poll no matter what interfaces**.
- 5 Click **Save and Close** to save the configuration.

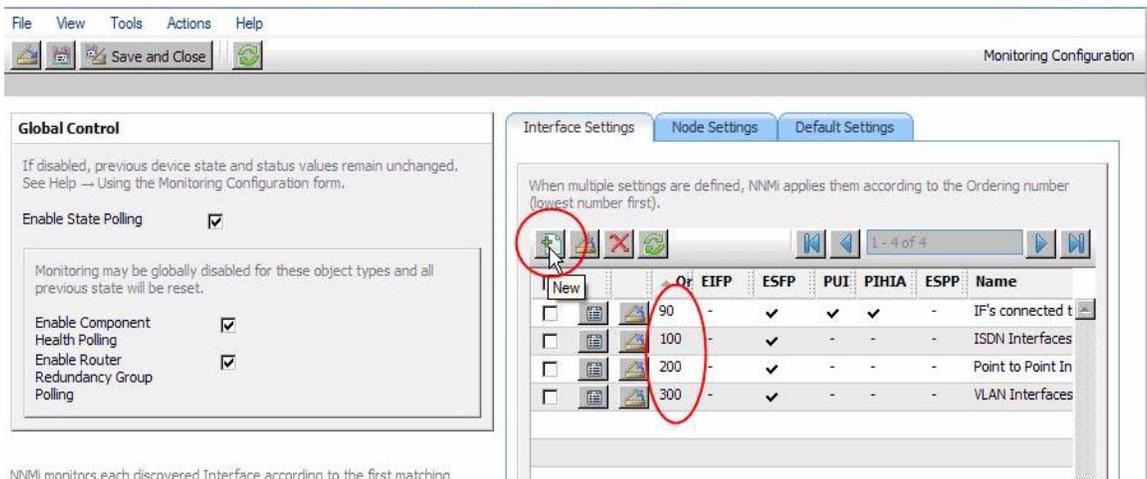


Next, navigate to **Monitoring Configuration** and apply a polling policy to this interface group.

Step 2: Apply a Polling Policy to the Interface Group

- 1 Navigate to the **Configuration** workspace
- 2 Select **Monitoring Configuration**.
- 3 Navigate to the **Interface Settings** tab.
- 4 Click  **New**.

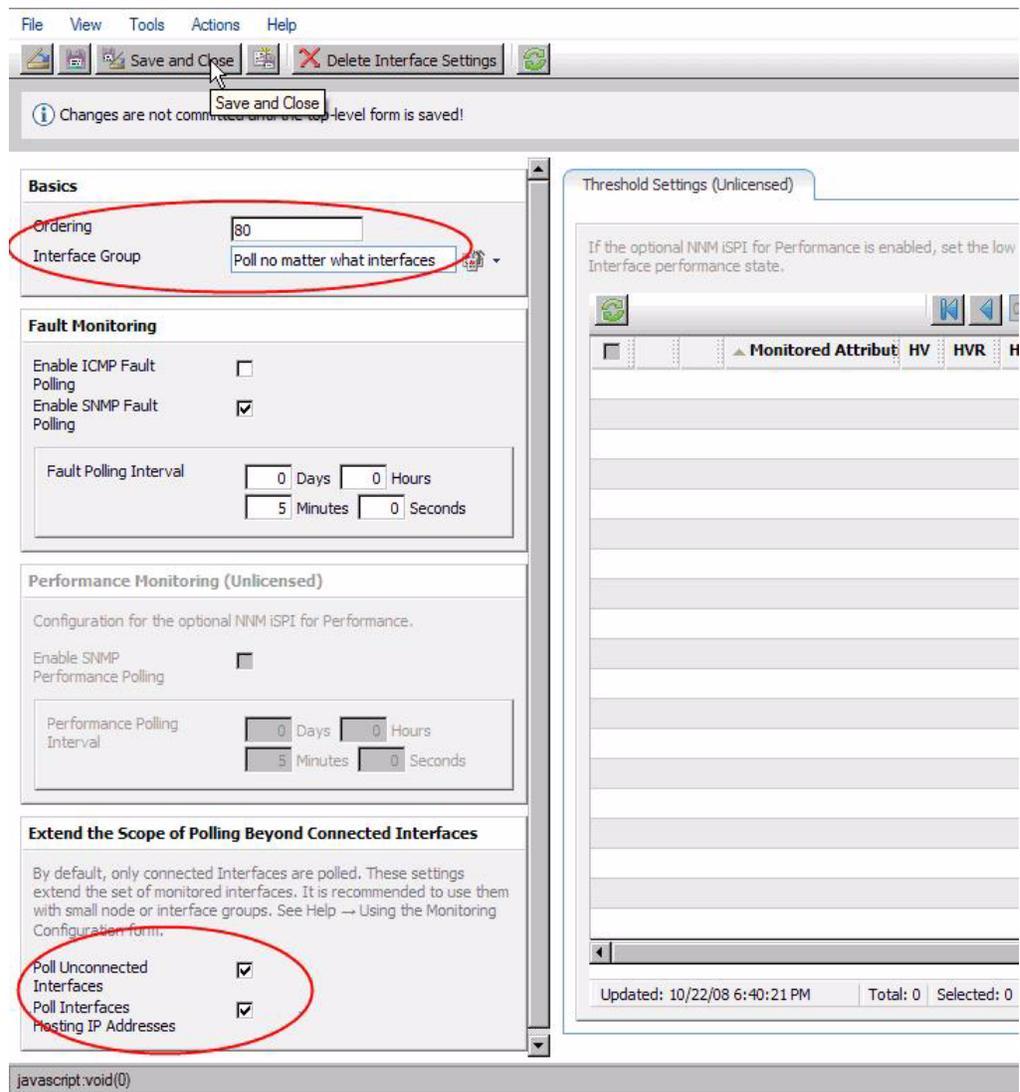
Note the **Ordering** values so we can make this interface group a higher priority.



NNMi monitors each discovered Interface according to the first matching

Next, configure the **Ordering** value, and extend the scope of polling.

- 5 In the **Ordering** attribute, enter **80**.
- 6 Click  **Lookup** and then **Quick Find** to select the newly created interface group.
- 7 Click **Enable SNMP Fault Polling**.
- 8 Click **Poll Unconnected Interfaces**.
- 9 Click **Poll Interfaces Hosting IP Addresses**.
- 10 Click **Save and Close** to save the changes and close the **Interface Settings** form.
- 11 Click **Save and Close** to save the configuration and close the **Monitoring Settings** form.

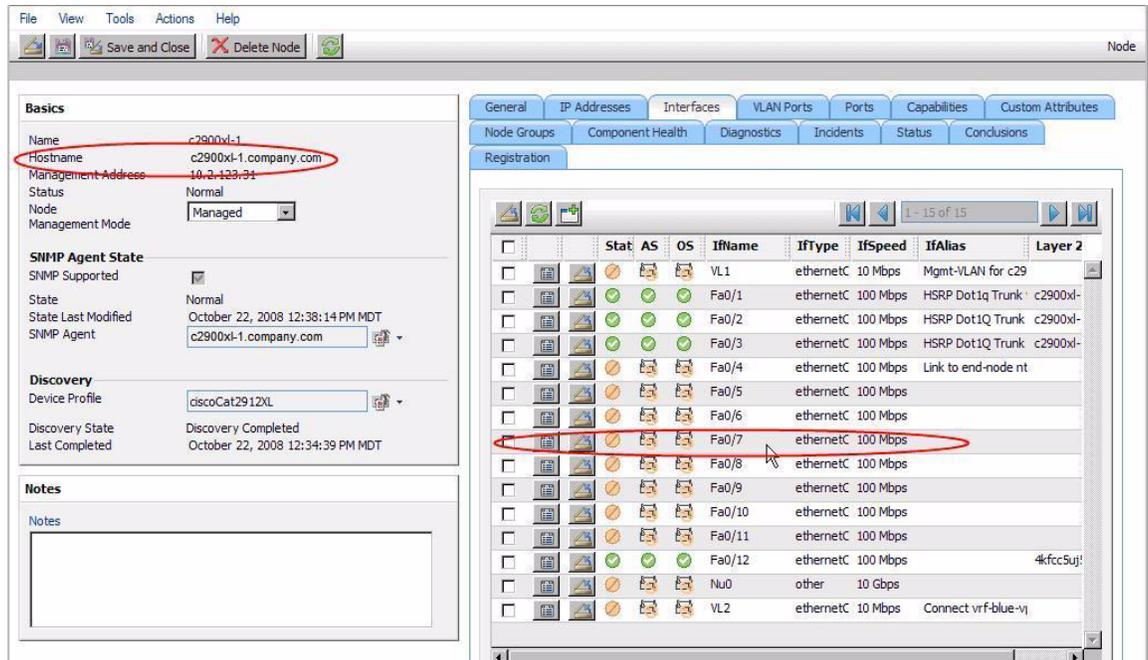


The screenshot shows the NCM configuration window for an interface group. The 'Basics' section has 'Ordering' set to 80 and 'Interface Group' set to 'Poll no matter what interfaces'. The 'Fault Monitoring' section has 'Enable SNMP Fault Polling' checked. The 'Performance Monitoring (Unlicensed)' section has 'Enable SNMP Performance Polling' unchecked. The 'Extend the Scope of Polling Beyond Connected Interfaces' section has 'Poll Unconnected Interfaces' and 'Poll Interfaces Hosting IP Addresses' checked. The 'Threshold Settings (Unlicensed)' section is also visible.

Step 3: Add Interfaces to the Interface Group

Now we are ready to add interfaces to the interface group we just created.

Suppose you are looking at a node and want to force an interface to be polled on the node shown in the following example.



The example node has an interface Fa0/7 that is not polled. There is nothing unique about this interface other than its name and that it is on this node.

- 1 Note the interface name and node name (IfName and Hostname).
- 2 Navigate to the **Configuration** workspace.
- 3 Select **Interface Groups** to view the list of interface groups.
- 4 Click the  **Open** icon that precedes the Poll no matter what interfaces interface group.



Monitoring Configuration for Fa0/7 on node c2900xl-1

SNMP Monitoring Summary	
Fault SNMP Polling Enabled	true
Fault Polling Interval	0 days 0 hours 5 minutes 0 seconds
Performance Polling Enabled	false
Performance Polling Interval	0 days 0 hours 5 minutes 0 seconds
Management Mode	Managed

Monitoring Settings Applied	
Type	Interface Settings
Interface Group	Poll no matter what interfaces
Node Group	None
Fault SNMP Polling Enabled	true
Fault Polling Interval	0 days 0 hours 5 minutes 0 seconds
Performance Polling Enabled	false
Performance Polling Interval	0 days 0 hours 5 minutes 0 seconds
Poll Unconnected Interfaces	true
<i>Is this interface connected?</i>	<i>no</i>
Poll Interfaces Hosting IP Addresses	true

As you encounter other interfaces that you want to force to be polled, you can add them to this interface group.

To add another interface to the group we add an outer OR condition to the original filter as shown in the following example. Then, you can continue adding interfaces using nested AND expression underneath the OR condition.

The screenshot shows the 'Interface Group' configuration window. In the 'Basics' section, the name is 'Poll no matter what interfaces' and 'Add to View Filter List' is checked. The 'Additional Filters' section shows a filter editor with the following configuration:

Attribute	Operator	Value
ifName	=	Fa0/7

The filter is structured as follows:

- OR
 - AND
 - ifName = Ethernet13/0/0
 - hostedOn = c5500asp.example.com
 - AND
 - hostedOn = c2900xl-1.example.com
 - ifName = Fa0/7

The resulting Filter String is: `((ifName = Ethernet13/0/0 AND hostedOn = c5500asp.example.com) OR (hostedOn = c2900xl-1.example.com AND ifName = Fa0/7))`

When using the Additional Filter Editor note the following:

- Place the cursor at the location in the Filter String where you want to append or replace the contents.
- Save your changes often.
- When you need to start over, exit the configuration form without saving your changes. This returns the Filter Expression to the last saved state.
- To determine which interfaces are forced to be polled, use **Actions --> Show Members**.

Continue to use this interface group to poll any interfaces that cannot be selected using a general purpose filter.

