Infoblox

VLAN Management in NIOS 8.4
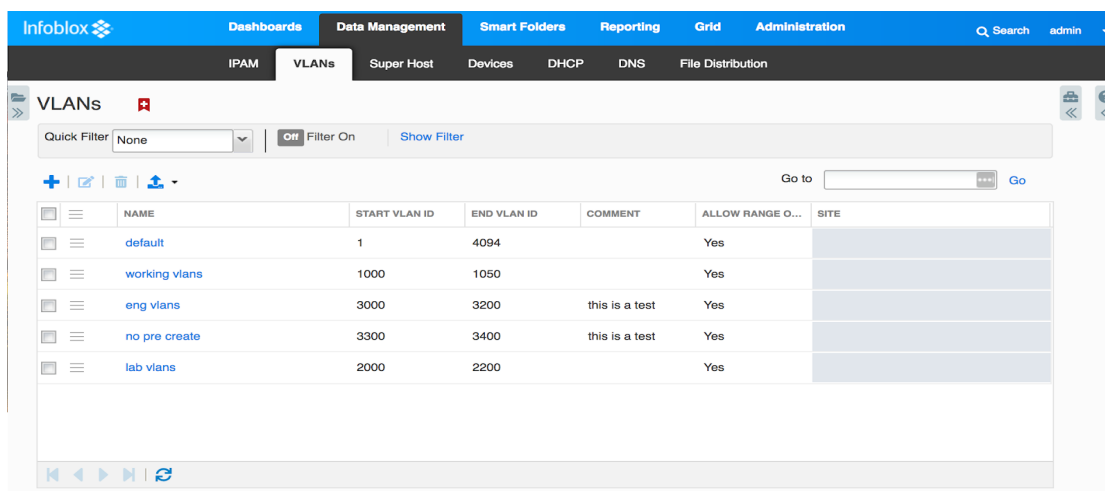
Table of Contents

Executive Summary

This deployment guide shows how to implement VLAN Management on NIOS 8.4.   This feature allows the administrator to compare assigned/unassigned VLANs with Network Insight discovered VLANs. However, you do not need Network Insight to take advantage of the VLAN Management feature

Features

- No additional licenses are needed to use this feature.
- Can be configured using the GUI or API.
- VLAN data can be exported to a .CSV file.
- There are three different constructs for VLAN Management:
    - VLAN view – container that holds VLAN ranges and/or VLAN objects.
    - VLAN range (optional) – contains VLAN objects and IDs.
    - VLAN object – contains VLAN names and IDs.
- With the new VLAN management feature, there are two new reports:
    - VLAN Conflict Report. This report details the following:
        - Assigned VLAN ID and Discovered VLAN ID are not equal.
        - Assigned VLAN name and discovered VLAN name are equal.
        - Discovered VLAN but no assigned VLAN in Network.
        - Assigned VLAN but no discovered VLAN.
    - VLAN Inventory Report.
        - Shows all existing VLANs created in NIOS

Instructions

1. Log into the GUI.
2. Navigate to Data Management   VLANs. By default there is a view called "default".

3. To create a VLAN view, click on the '+' button to add a view in the View wizard

Add VLAN View Wizard > Step 1 of 2

*VLAN View Name	eng vlans
*Start VLAN ID	3000
*End VLAN ID	3200
Pre-create VLANs	☑
VLAN Name Prefix	engvlan
Allow VLAN Range overlapping	☑
Comment	this is a test

Cancel   Previous   Next   Save & Close ▾

4. Type in the VLAN view name, starting VLAN ID, and end VLAN ID.

5. When selecting pre-create vlans, the system will create the VLAN names, type, VLAN ID, and the status of unassigned. Otherwise, the system will just create the view with nothing populated.

6. VLAN ranges are used to group VLAN objects. For example, if you have VLANs for your IT department, you could group VLANs for the network engineering department and group other VLANs for IT applications group. Click Save and Close after adding VLAN Range Name, Start VLAN ID and End VLAN ID.

7. To assign a VLAN ID to a network, navigate to Data Management ▸ IPAM.
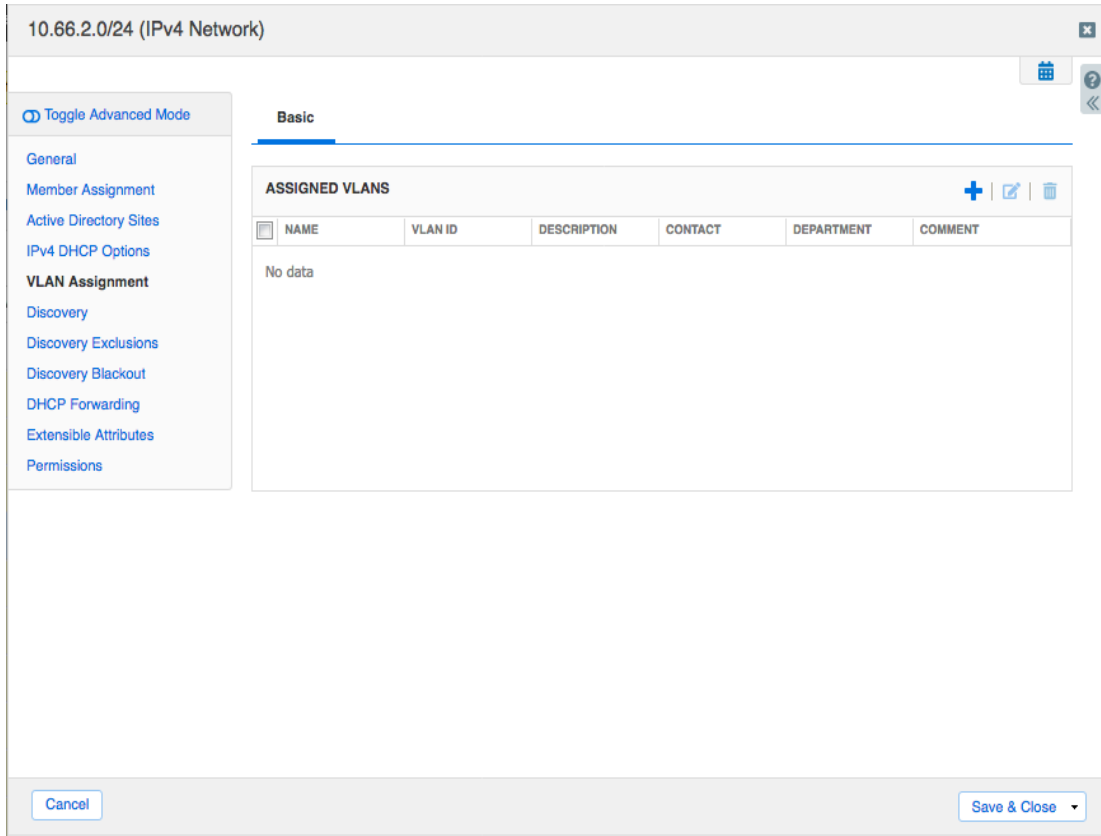
8. Select a network by clicking on a check box.
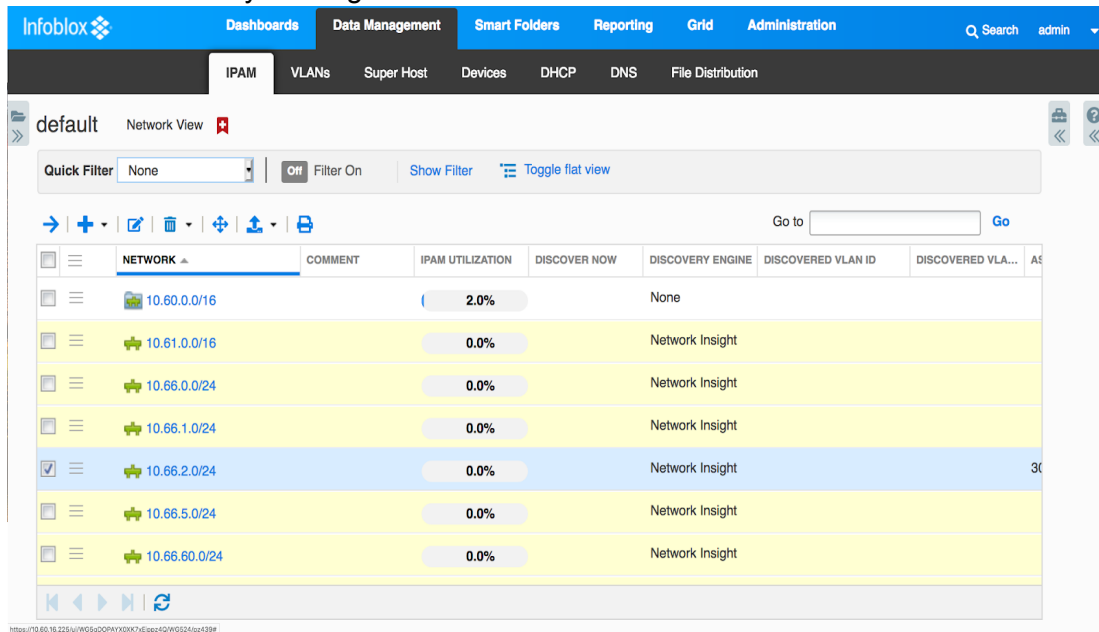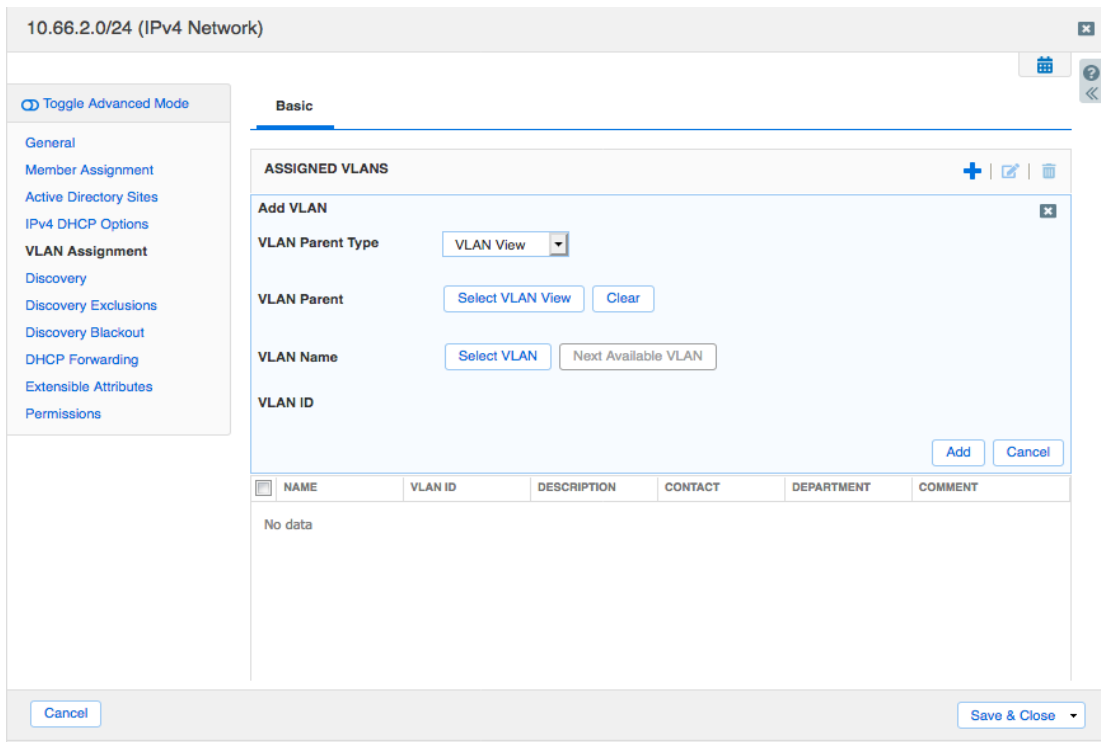

9. Click on the menu button and select Edit or Convert.
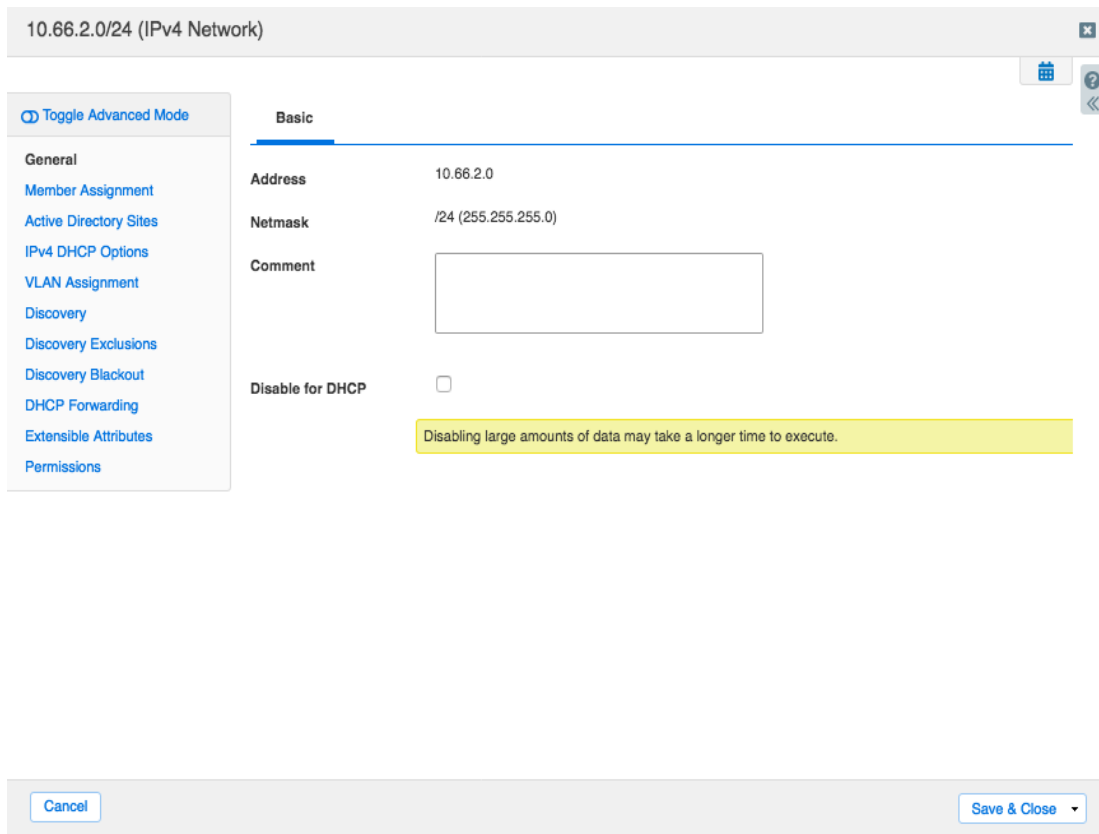
10. Select VLAN Assignment.

11. Click on the '+' button to add a VLAN.

12. Select the parent type. Your choices are VLAN View or VLAN Range.

13. In this example, we will use VLAN view. Depending upon your selection the VLAN parent will show 'Select VLAN View' or 'Select VLAN Range'. Click on 'Select VLAN View and the following screen will appear. Click on the VLAN view name and click OK.

14. Click on 'Select VLAN' or 'Next Available VLAN'.

15. Click on the VLAN name.

16. Click on the 'Add' button to add the VLAN to the subnet.

17. Click on 'Save & Close'.

18. The VLAN name and the VLAN ID has been added to the subnet.
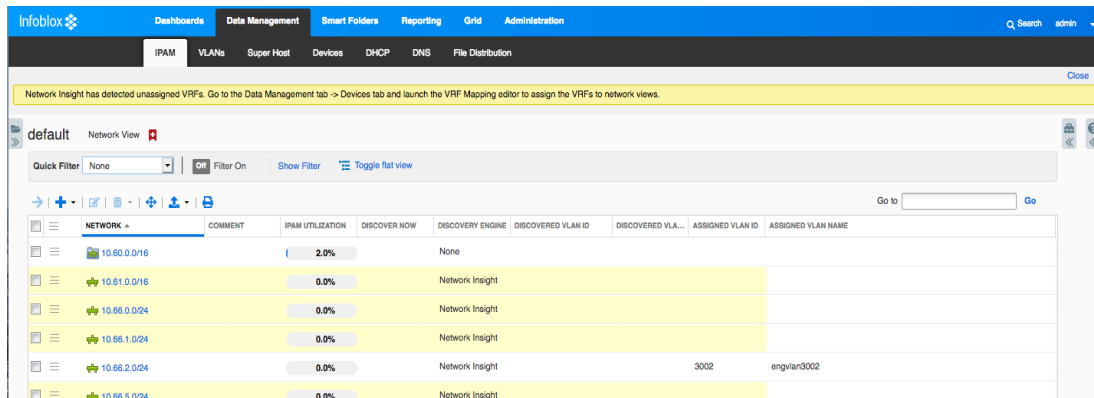
19. On the VLANs page, the VLAN ID will show it is assigned.
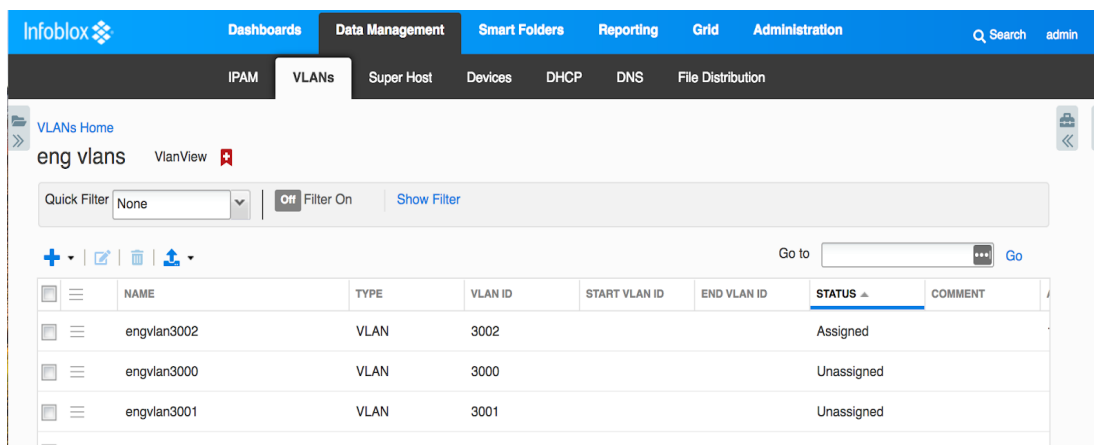
API Calls

The following is a list of API calls that can be used to configure the VLAN management feature:

- Creating VLAN view

    o curl -H "Content-Type: application/json" -k1 -u admin:infoblox -X POST https://10.35.117.6/wapi/v2.10/vlanview -d '{"name":"wapi_command","start_vlan_id":100,"end_vlan_id":200,"vlan_name_prefix":"shekhar@123","pre_create_vlan":true}'

- Creating VLAN range

    o curl -H "Content-Type: application/json" -k1 -u admin:infoblox -X POST https://10.35.132.2/wapi/v2.10/vlanrange -d '{"vlan_view":"vlanview/ZG5zLnZsYW5fdmlldyR3YXBpX3ZsYW5fdmlldy4xMDAuMjAw","name":"wapi_range-2","start_vlan_id":151,"end_vlan_id":155,"pre_create_vlan":true,"vlan_name_prefix":"","comment":"test comment"}'

- Creating VLAN object

- o   curl -H "Content-Type: application/json" -k1 -u admin:infoblox -X POST https://10.35.147.19/wapi/v2.10/vlan -d '{"parent":"vlanview/ZG5zLnZsYW5fdmlldyRzaGVraGFyLjEuMjAw:shekhar/1/200","id":"func:nextavailablevlanid:vlanview/ZG5zLnZsYW5fdmlldyRzaGVraGFyLjEuMjAw:shekhar/1/200","name":"vlan"}'

- Assign VLAN information to IPAM network

  - o   curl -H "Content-Type: application/json" -k1 -u admin:infoblox -X POST https://10.35.147.19/wapi/v2.10/network -d '{"network_view":"default","network":"61.0.0.0/24","vlans":[{"vlan": "vlan/ZG5zLnZsYW4kLmNvbS5pbmZvYmxveC5kbnMudmxhbl92aWV3JHNpbmdoLjEuMTAwMC4z:singh/0003/3" }] }'

Reports

The VLAN management feature comes with two reports and one enhanced report: VLAN Conflict, VLAN Inventory and Network Inventory.

The VLAN Inventory database shows all of the VLANs that are created and discovered. Here is an example of the VLAN Inventory report.

The VLAN Conflict report shows VLAN assignment conflicts and VLAN Name conflicts

The Network Inventory report has two new columns: Assigned VLAN Name and Assigned VLAN ID.

Infoblox