

Test Report

Microsoft Windows 2003 Server Network Load Balancer Setup for SuperGIS Server 3

Published by:
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2010-11-04

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1. Summary

SuperGIS Server 3, which supports to cooperate with all load balancers on the market, is able to assist enterprises in creating the load balance mechanism to meet their needs. Meanwhile, the performance and load balance capability of the entire system can be improved so that the website system will be able to achieve the goal of high availability.

Microsoft Windows 2003 Server Network Load Balancer is a solution that can be applied to network load balance. Microsoft Windows 2003 Server Network Load Balancer can gather servers to a cluster and share a virtual IP. All of the requests sent to the virtual IP can be evenly distributed to each server to effectively balance the load of network. Also, the stability of the system can be enhanced, and overload occurring on single server can be prevented.

2. Limitations

The document only illustrates the setup of Microsoft Network Load Balancer for unicast mode and does not attempt to cover all possible configurations.

3. Software Requirements

- SuperGIS Server 3
- Microsoft Windows 2003/2008 Server

4. Hardware Requirements

- More than two network servers
- Each server is equipped with a network interface card at least.

5. Installing and Setting Microsoft Network Load Balancer

Before installing, you need to

- Make the list of the servers you want to use with load balance and write down the computer names or IP. Microsoft Network Load Balancer allows each cluster to support 32 servers at most.
- Obtain a static IP and a subnet mask for the load balancer.
- Install SuperGIS Server 3 on each server.

6. Software Installation

- Login a server which has installed SuperGIS Server 3.
- Right-click Network Connection in Control Panel, choose Open, choose a connection to be the load balance, right-click it, and click Open (figure 1).

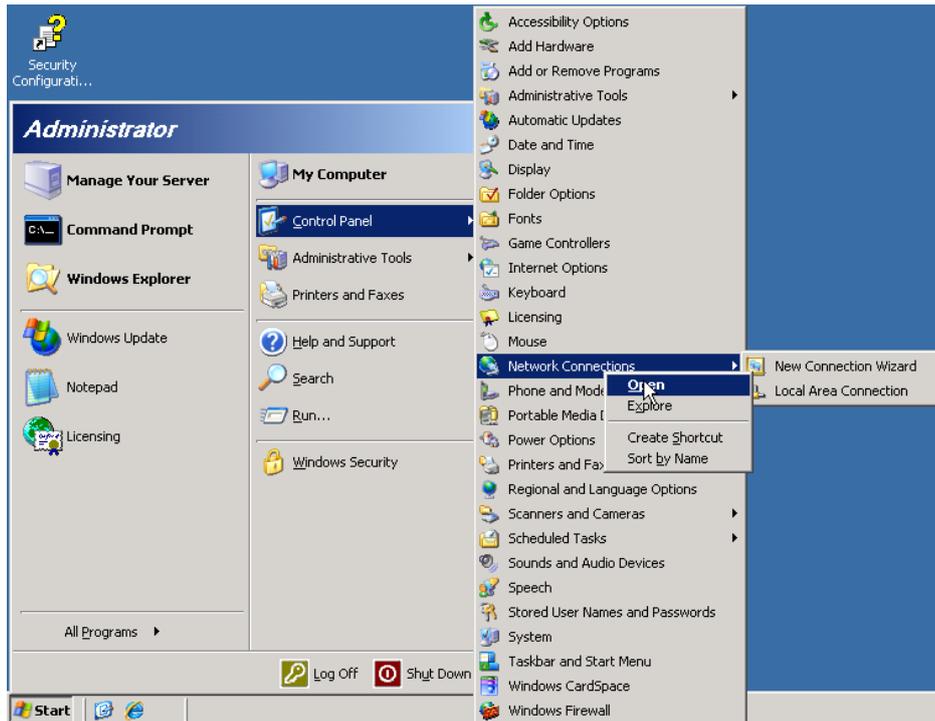


Figure 1

- Check Network Load Balancing (figure 2).

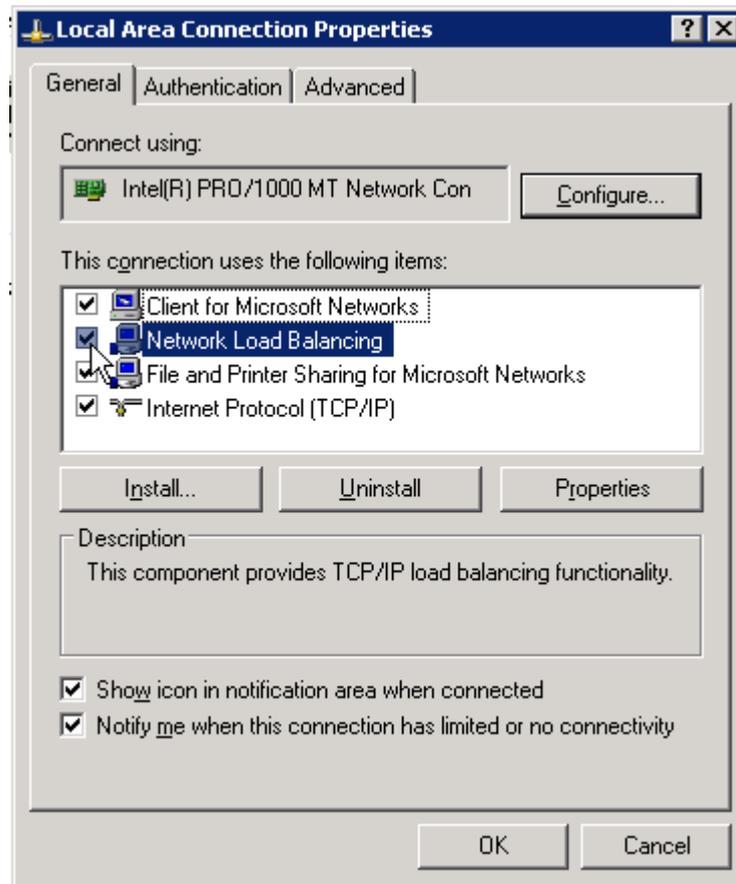


Figure 2

- Click OK and start to install Network Load Balancer. Then, you can apply the server to create and manage load balancer cluster.

6.1 Create the Cluster

- Create load balancer cluster. Firstly, click Administrative Tools in Start Menu and choose Network Load Balancing Manager (figure 3).

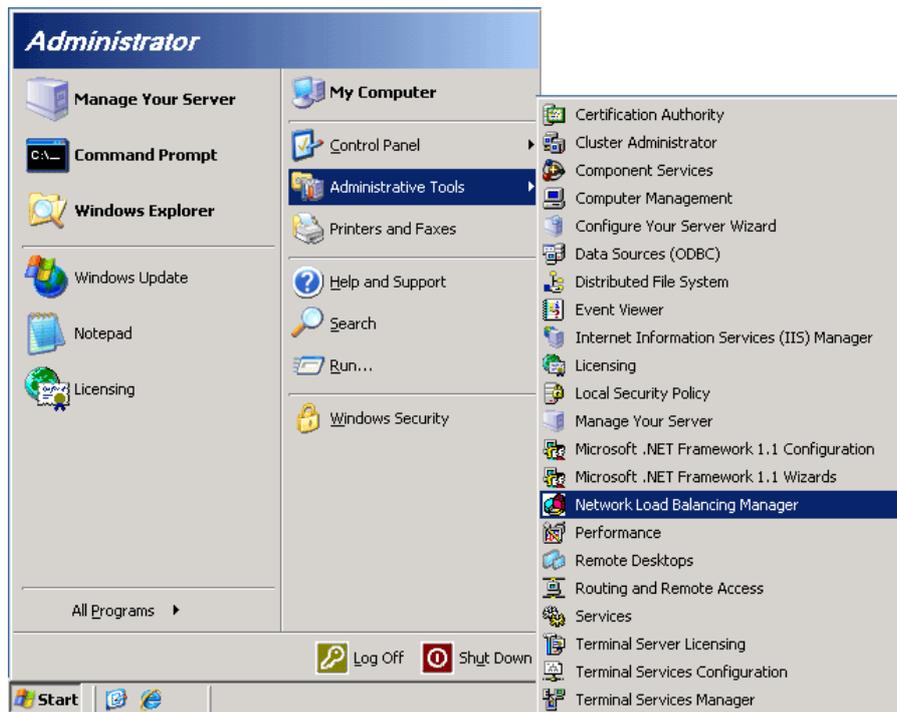


Figure 3

- Network Load Balancing Manager window appears. Here, you can manage the tasks, like start and stop load balance, create cluster, add and remove server, etc (figure 4).

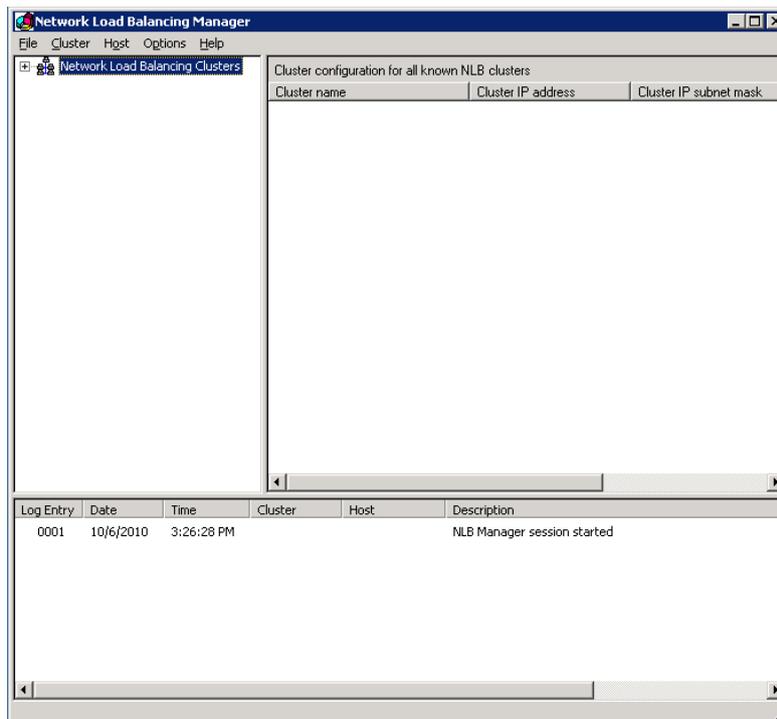


Figure 4

- Execute Add in Cluster menu to create a new cluster. Then, Cluster Parameters window appears (figure 5).

The screenshot shows a 'Cluster Parameters' dialog box with the following fields and options:

- Cluster IP configuration:**
 - IP address: 192 . 168 . 1 . 50
 - Subnet mask: 255 . 255 . 255 . 0
 - Full Internet name: (empty)
 - Network address: 02-bf-c0-a8-01-32
- Cluster operation mode:**
 - Unicast
 - Multicast
 - IGMP multicast
- Allow remote control:**
 - Allow remote control
 - Remote password: (masked with asterisks)
 - Confirm password: (masked with asterisks)

Buttons at the bottom: < Back, Next >, Cancel, Help.

Figure 5

- Input the IP Address and Subnet Mask of load balancer. (Full Internet Name is not necessary.)
- Choose Unicast.
- Click Next to open Cluster IP Addresses window (figure 6).

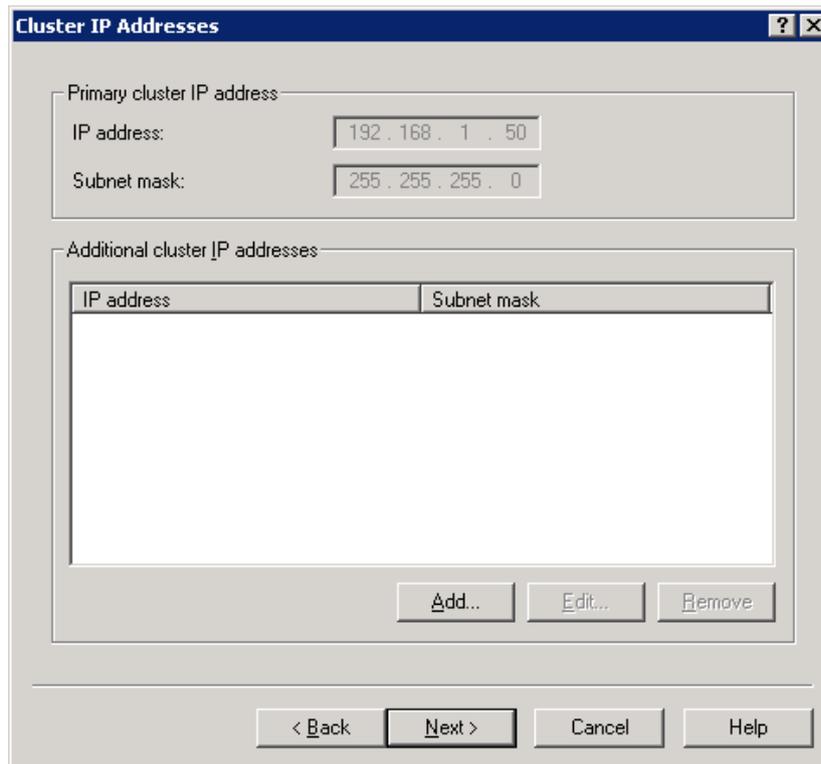


Figure 6

- Click Next to open Port Rules window (figure 7).

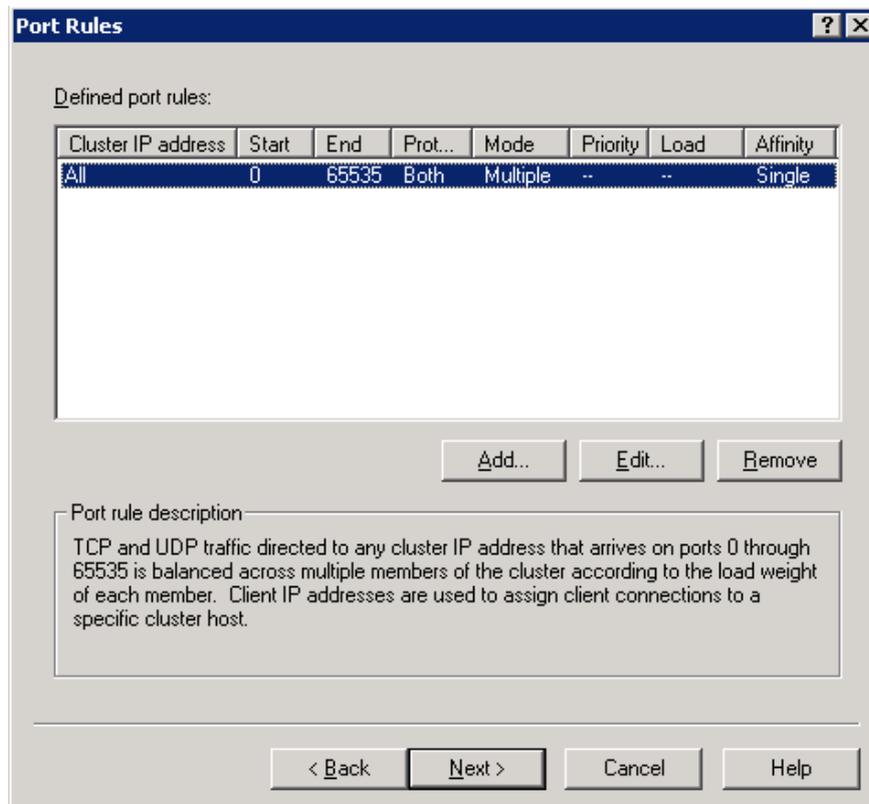


Figure 7

- There should be an item in the window at least. Choose the item and click Edit. Then, Add/Edit Port Rule window appears (figure 8).

Figure 8

- In the Filtering mode, choose Multiple host and choose either None or Single. If you use InProc, please choose Single. If your application would be required for failover, please choose None. If you are not sure, please choose Single and you can modify the settings later. Click OK to finish the settings.

6.2 Connect Hosts to the Cluster

- Then, Connect window appears.
- Input the name or IP address of the host you want to connect and click Connect. When the connection is established successfully, you can find the list of network interface cards of the host in the lower part of the window and choose the interface for load balancing. Click Next (figure 9).

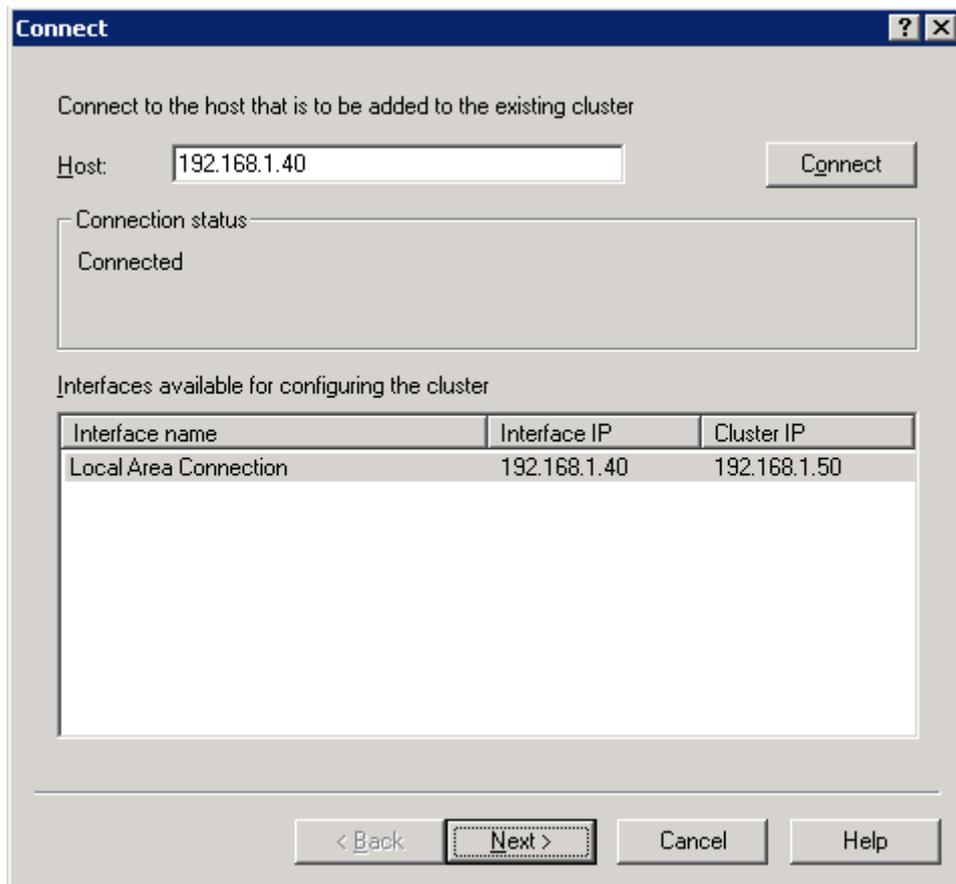
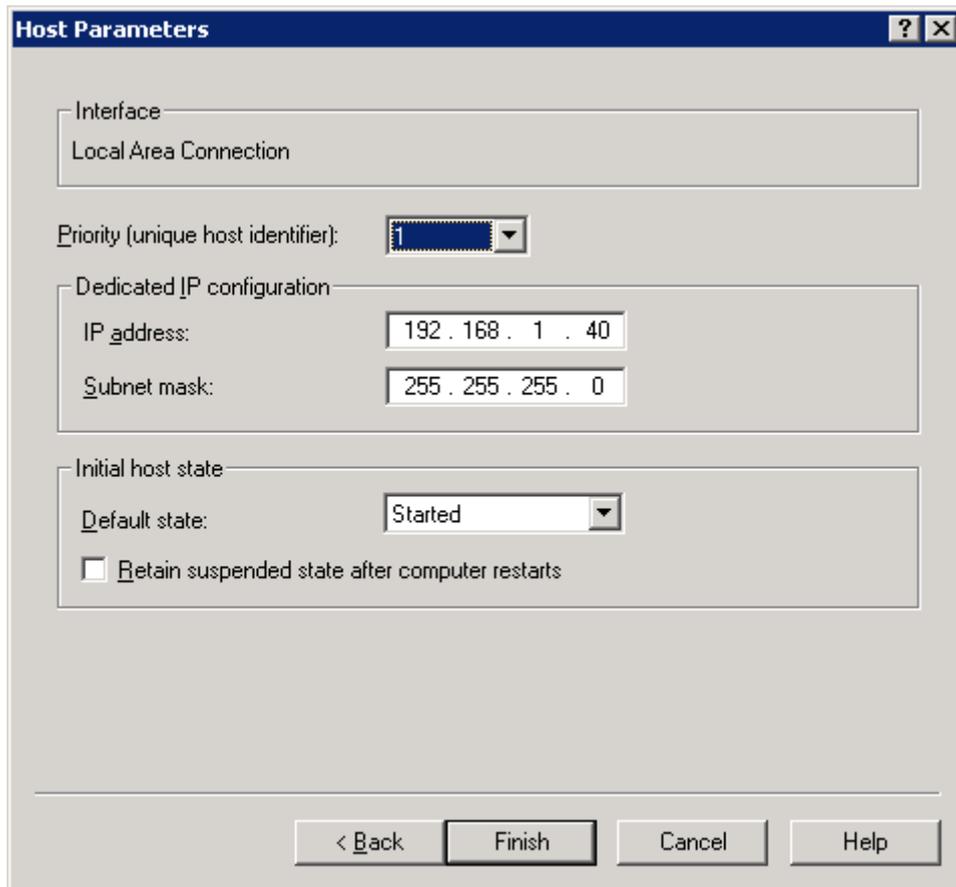


Figure 9

- Host Parameters window shows up. You can set the priority of the host which will be connected. (Unique host identifier cannot be duplicated; it supports 32 unique host identifiers at most.) Click Finish to connect to the host (figure 10).



The image shows a 'Host Parameters' dialog box with the following fields and controls:

- Interface:** Local Area Connection
- Priority (unique host identifier):** A dropdown menu with a blue icon.
- Dedicated IP configuration:**
 - IP address:** 192 . 168 . 1 . 40
 - Subnet mask:** 255 . 255 . 255 . 0
- Initial host state:**
 - Default state:** Started
 - Retain suspended state after computer restarts

At the bottom, there are four buttons: < Back, Finish, Cancel, and Help.

Figure 10

- If you want to connect to other hosts, in Network Load Balancing Manager, right-click the cluster name and choose Add Host to Cluster (figure 11).

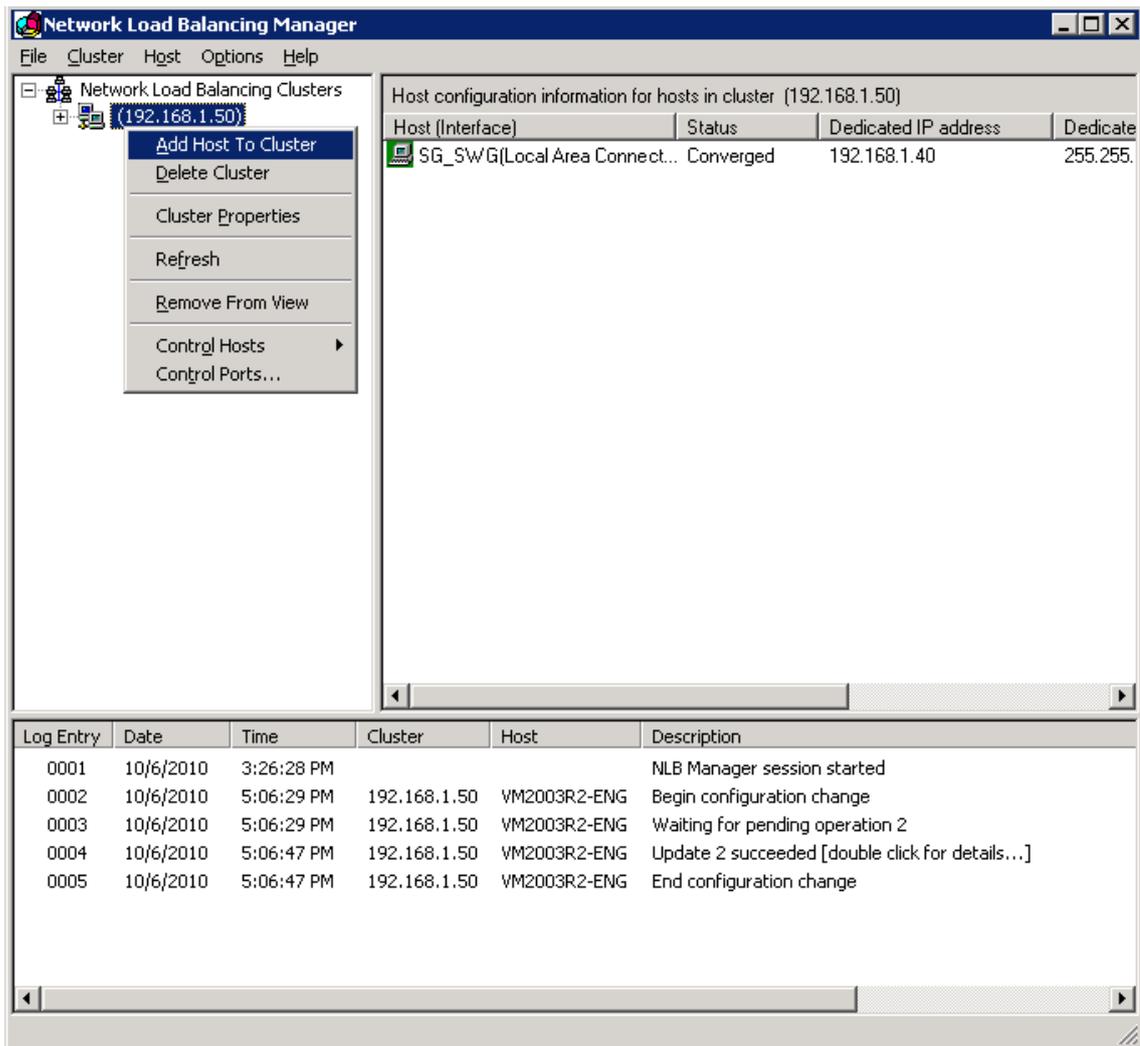


Figure 11

- Please repeat step 5.2 to set the hosts you want to use with Network Load Balance Cluster. As all of the hosts are added, you can find all of the hosts in Network Load Balancing Manager (figure 12).

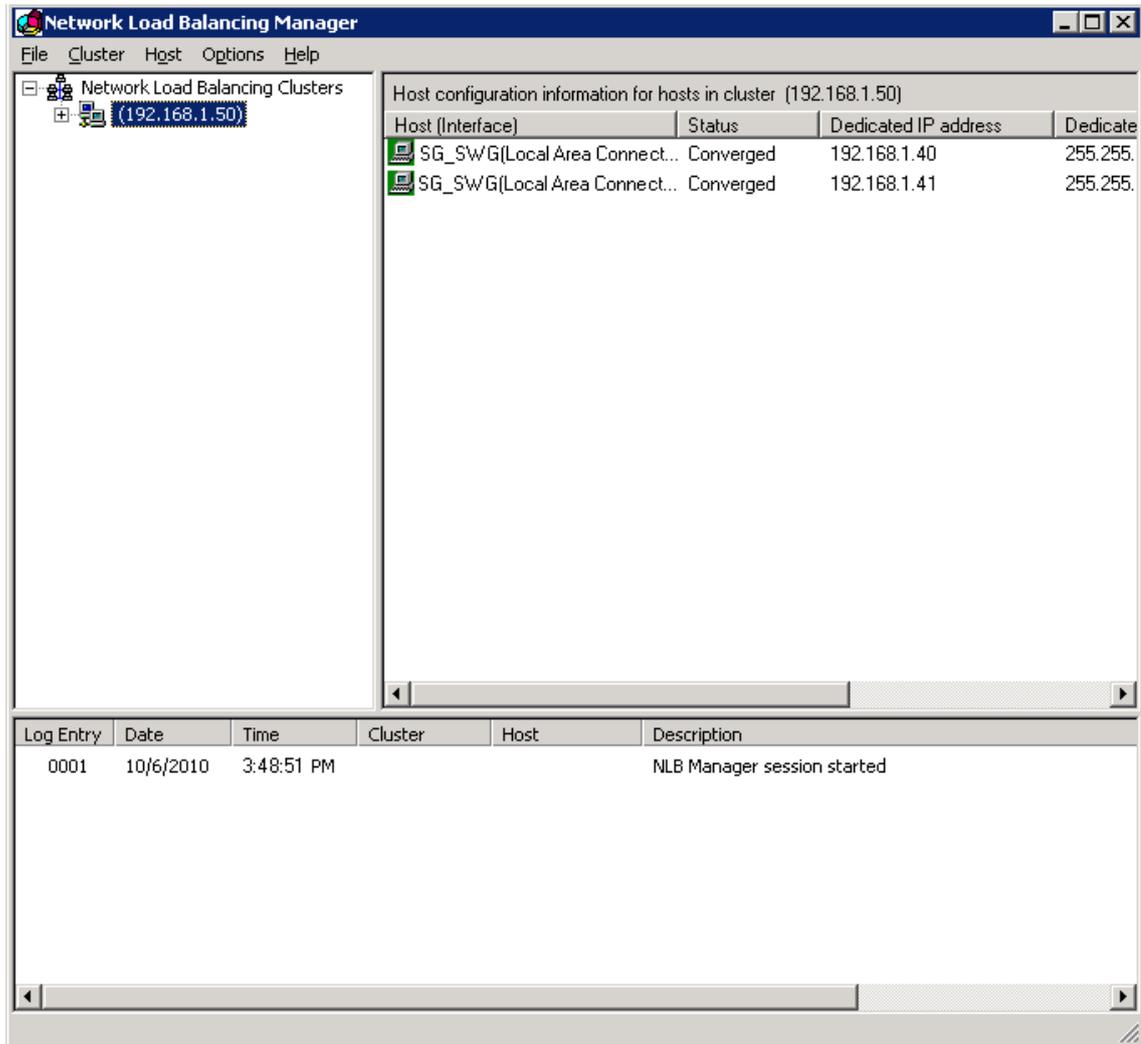


Figure 12

- The settings are completed.