Create a new Network Load Balancing Port Rule

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Applies To: Windows Server 2008 R2

Port rules control how a Network Load Balancing (NLB) cluster functions. To maximize control of various types of TCP/IP traffic, you can set up port rules to control how each port's cluster-network traffic is handled. The method by which a port's network traffic is handled is called its filtering mode. There are three possible filtering modes: **Multiple hosts**, **Single host**, and **Disabled**.

You can also specify that a filtering mode apply to a numerical range of ports. You do this by defining a port rule with a set of configuration parameters that define the filtering mode. Each rule consists of the following configuration parameters:

- The virtual IP address that the rule should apply to
- The TCP or UDP port range that this rule should apply to
- The protocols that this rule should apply to, including TCP, UDP, or both
- The filtering mode that specifies how the cluster handles traffic, which is described by the port range and the protocols

In addition, you can select one of three options for client affinity: **None**, **Single**, or **Network**. **Single** and **Network** are used to ensure that all network traffic from a particular client is directed to the same cluster host. To allow NLB to properly handle IP fragments, you should avoid using **None** when you select **UDP** or **Both** for your protocol setting. As an extension to the **Single** and **Network** options, you can configure a time-out setting to preserve client affinity when the configuration of an NLB cluster is changed. This extension also allows clients to keep affinity to a cluster host even if there are no active, existing connections from the client to the host.

Note
By default, all cluster network traffic that is not governed by port rules is handled by the host with the highest host priority among the current membe

the cluster. This single host handles all of the cluster network traffic, with another host taking over the traffic if the highest priority host fails or goes offline. This default behavior ensures that NLB does not affect cluster network traffic for ports that you do not specifically manage with the NLB loa balancing mechanisms. It also provides high availability in handling your cluster network traffic.

You can also perform the task described in this procedure by using Windows PowerShell. For more information about using Windows PowerShell for NLB clusters, seehttp://go.microsoft.com/fwlink/?LinkId=140180.

When you are using Network Load Balancing (NLB) Manager, you must be a member of the Administrators group on the host that you are configuring, or you must have been delegated the appropriate authority. If you are configuring a cluster or host by running NLB Manager from a computer that is not part of the cluster, you do not have to be a member of the Administrators group on that computer.

To ensure that Network Load Balancing Manager is displaying the most recent host information, right-click the cluster and click **Refresh**. This step is necessary because the host properties that Network Load Balancing Manager displays are a copy of the host properties that were configured the last time Network Load Balancing Manager connected to that host. When you click **Refresh**, Network Load Balancing Manager reconnects to the cluster and displays updated information.

To create a new Network Load Balancing port rule

1. To open NLB Manager, click **Start**, click **Administrative Tools**, and then click **Network Load Balancing Manager**. You can also open NLB Manager by typing **Nlbmgr** at a command prompt.
2. If NLB Manager does not list the cluster, connect to the cluster.
3. Right-click the cluster, and then click **Cluster Properties**.
4. Click the **Port Rules** tab, and then click **Add**. Using information from the checklist for configuring NLB, specify values for the following:
    - **Cluster IP address**, which is the virtual IP address that you want this rule to apply to. Enter a specific virtual IP address to create a virtual cluster, or check **All** to apply the rule to all virtual IP addresses.
    - **Port range**
    - **Protocols**
    - **Filtering mode**
    - **Affinity** and **Load weight** (as appropriate)
5. In **Timeout**, set the value you want to extend the **Single** or **Network** affinity option. This preserves client affinity when the configuration of an NLB cluster is changed. Time-out settings are available only for **Single** and **Network** options.
6. Click **OK**. This applies changes to the NLB parameters, stops NLB (if it is running), reloads the parameters, and then restarts cluster operations.

Edit a Network Load Balancing Port Rule

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Applies To: Windows Server 2008 R2

Use the following procedure to edit an existing Network Load Balancing (NLB) port rule.

You can also perform the task described in this procedure by using Windows PowerShell. For more information about using Windows PowerShell for NLB clusters, seehttp://go.microsoft.com/fwlink/?LinkId=140180.

When you are using Network Load Balancing (NLB) Manager, you must be a member of the Administrators group on the host that you are configuring, or you must have been delegated the appropriate authority. If you are configuring a cluster or host by running NLB Manager from a computer that is not part of the cluster, you do not have to be a member of the Administrators group on that computer.

To ensure that Network Load Balancing Manager is displaying the most recent host information, right-click the cluster and click **Refresh**. This step is necessary because the host properties that Network Load Balancing Manager displays are a copy of the host properties that were configured the last time Network Load Balancing Manager connected to that host. When you click **Refresh**, Network Load Balancing Manager reconnects to the cluster and displays updated information.

To edit a Network Load Balancing port rule

1. To open NLB Manager, click **Start**, click **Administrative Tools**, and then click **Network Load Balancing Manager**. You can also open NLB Manager by typing **Nlbmgr** at a command prompt.
2. Right-click the cluster, and then click **Cluster Properties**.
3. Click the **Port Rules** tab.
4. In the **Defined port rules** list, click a rule, and then click **Edit**.
5. Modify the cluster IP address that you want this rule to apply to, the port range, protocols and filtering mode parameters as required, and then click **OK**.

6. In the **Properties** dialog box, click **OK**. This applies changes to the NLB parameters, stops NLB (if it is running), reloads the parameters, and then restarts cluster operations.