Monitoring services on clustered virtual machines

Windows Server 2012 introduces the ability for a Hyper-V host to monitor the health of chosen services running on a clustered virtual machine (VM). If the Hyper-V host determines that a monitored service in a guest VM is in a critical state, the host is able to trigger a recovery. The Cluster Service first attempts to recover the VM by restarting it gracefully. Then, if the monitored service is still in a critical state after the VM has restarted, the Cluster Service fails the VM over to another node.

To monitor VM services with the VM Monitoring feature in Windows Server 2012 or Windows Server 2012 R2, the following requirements must be met:

- Both the Hyper-V host and its guest VM must be running Windows Server 2012 or Windows Server 2012 R2.

- The guest VM must belong to a domain that trusts the host's domain.

- The Failover Clustering feature must be installed on the Hyper-V host. The guest VM must also be configured as a role in a failover cluster on the Hyper-V host.

- The administrator connecting to the guest through Failover Cluster Manager must be a member of the local administrators group on that guest.

- All firewall rules in the Virtual Machine Monitoring group must be enabled on the guest, as shown in Figure 1-38.
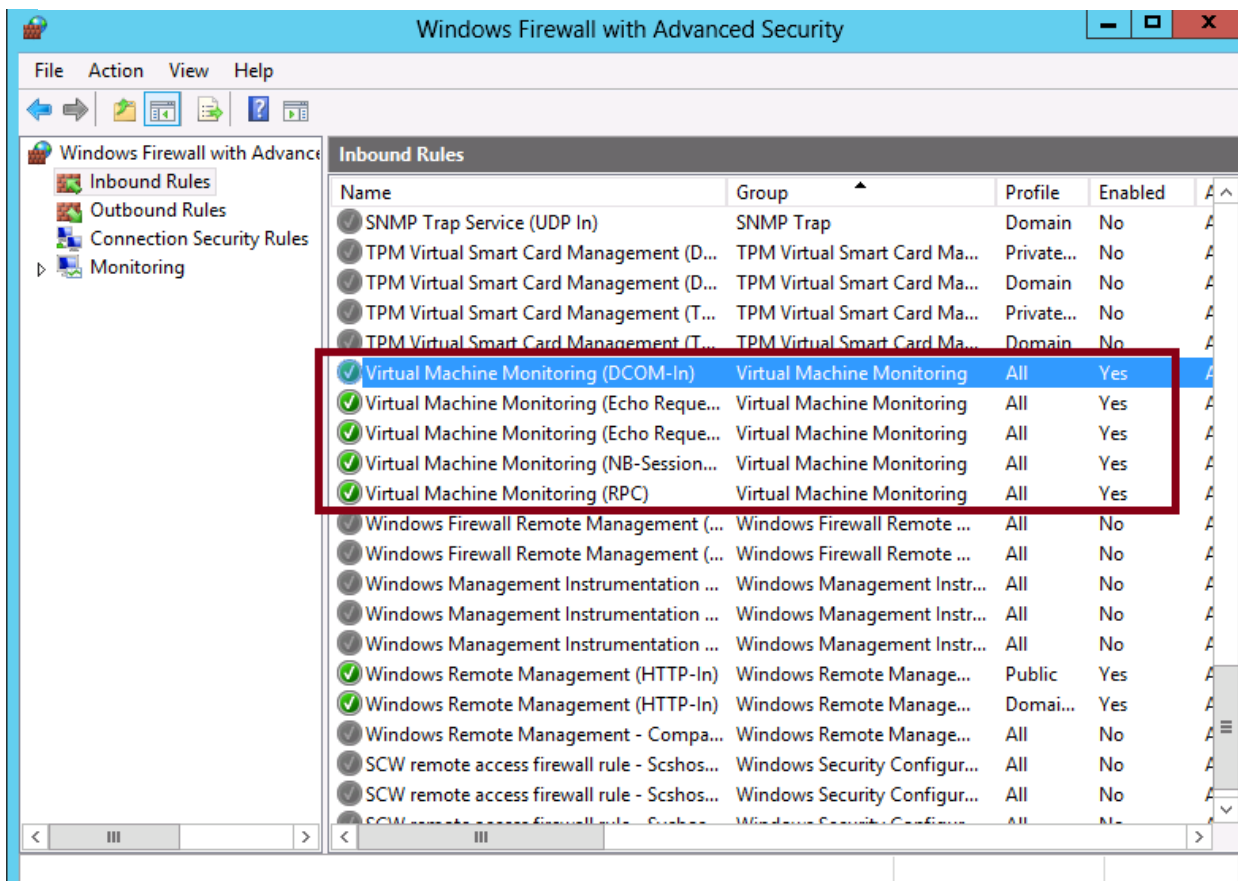

FIGURE 1-38 Enabling firewall rules for VM monitoring

To configure VM monitoring, right-click the VM in Failover Cluster Manager, point to More Actions, and then select Configure Monitoring, as shown in Figure 1-39.
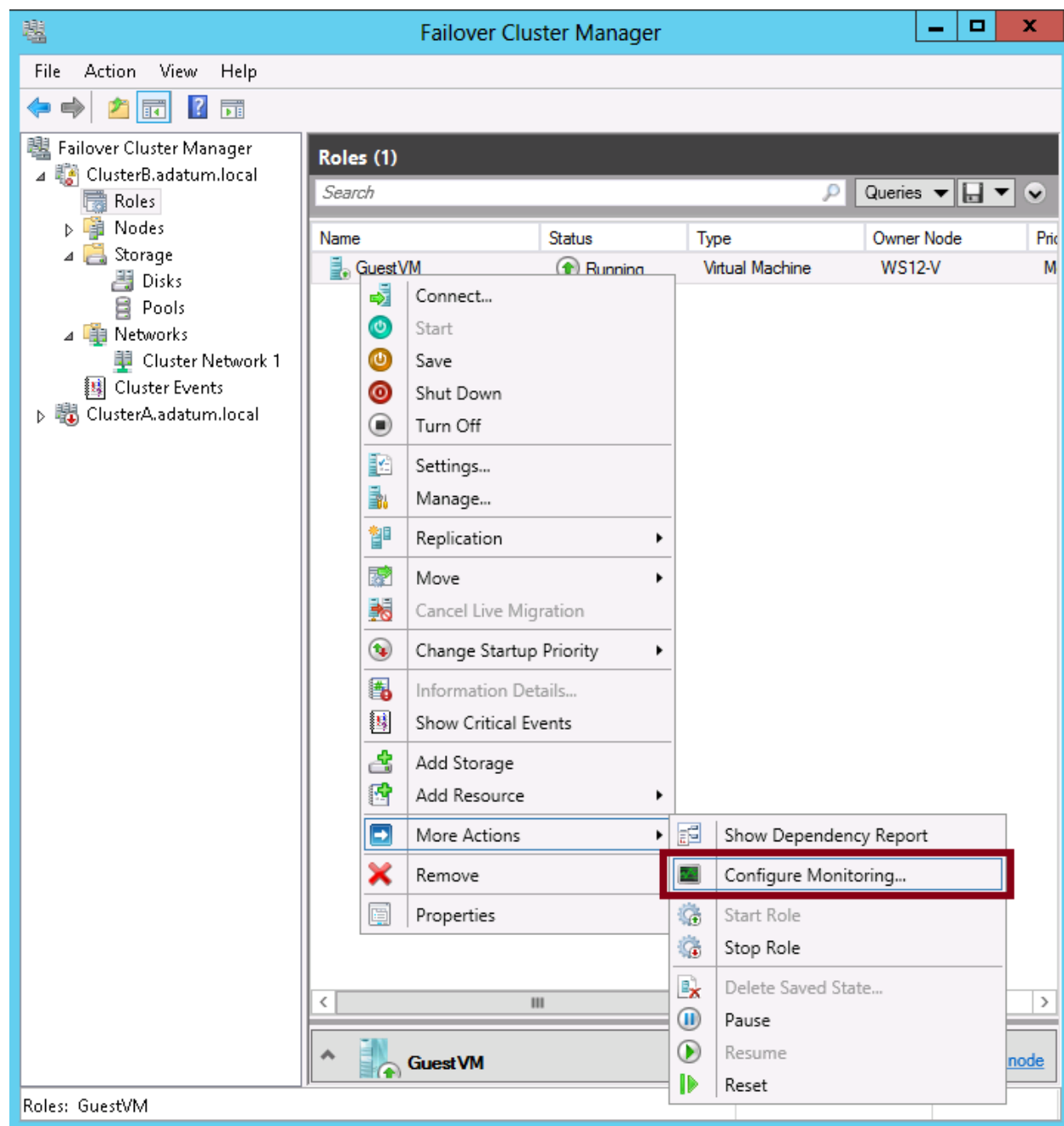

FIGURE 1-39 Configuring monitoring of a VM application

In the Select Services dialog box that opens, select the services that you want to monitor, as shown in Figure 1-40.
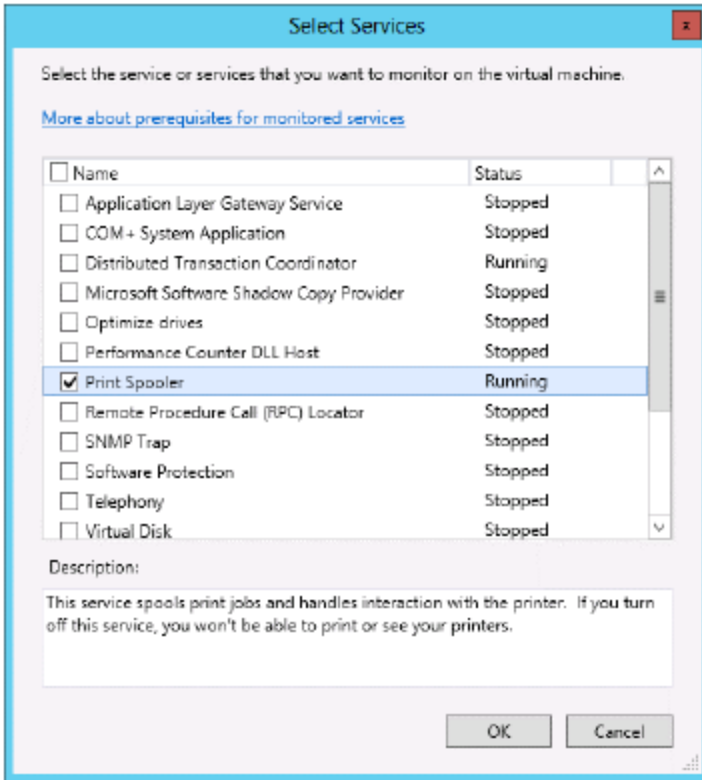
FIGURE 1-40 Selecting services to be monitored in a VM

By default, the recovery properties for a service are configured so that it will automatically attempt to restart the first and second time after it fails. After the third failure, however, the Cluster Service running in the Hyper-V host takes over recovery of the service if you have configured it to do so by selecting the service in the dialog box shown in Figure 1-41.

In some circumstances, you might want to redirect the Cluster Service recovery to a third-party application that allows you more control over the recovery process. In this case, you can disable the default behavior to restart and fail over the virtual machine.
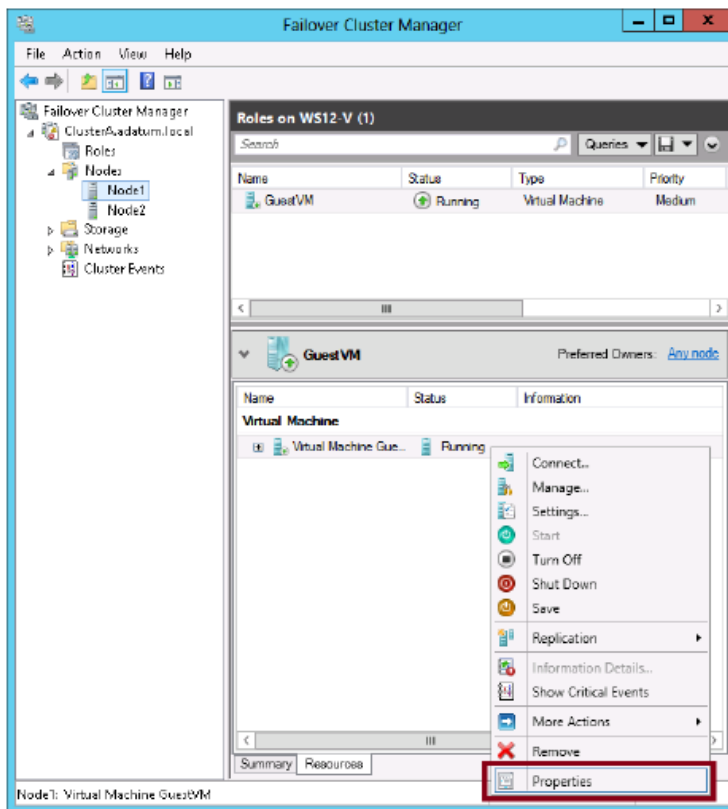

FIGURE 1-41 Modifying properties of a clustered VM

Then on the Settings tab of the properties dialog box shown in Figure 1-42, clear the Enable Automatic Recovery For Application Health Monitoring option. The Cluster Service will still log an error when a monitored service is in a critical state, but it will no longer attempt to restart or fail over the virtual machine.
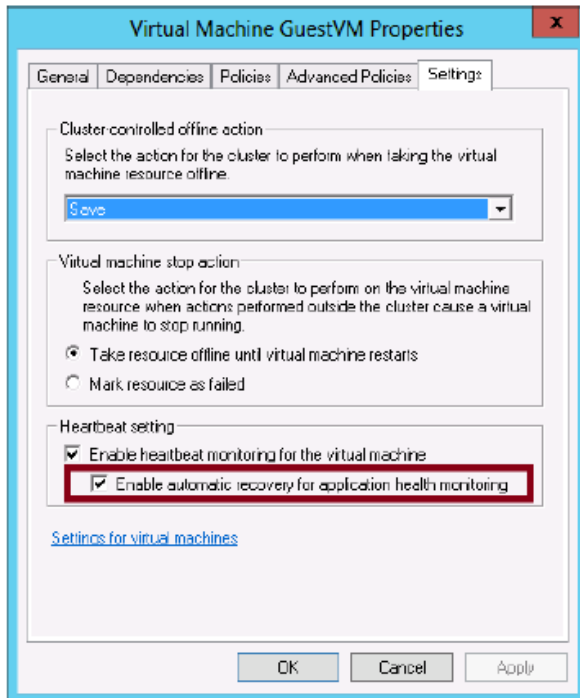

FIGURE 1-42 The setting to enable automatic recovery for a monitored VM application