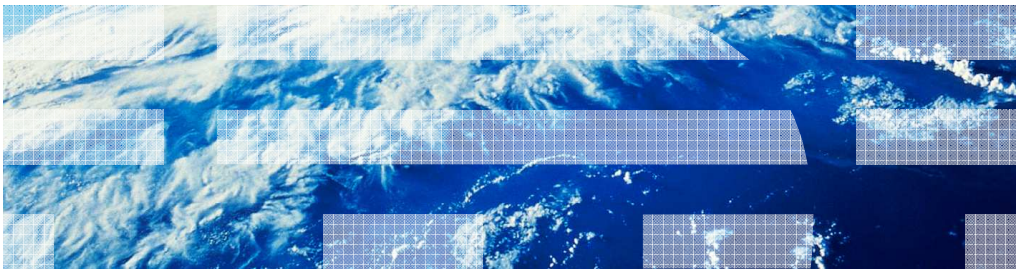
IBM WebSphere Application Server V8.5

Health management



This presentation describes support for creating Health Policies included in IBM WebSphere Application Server V8.5

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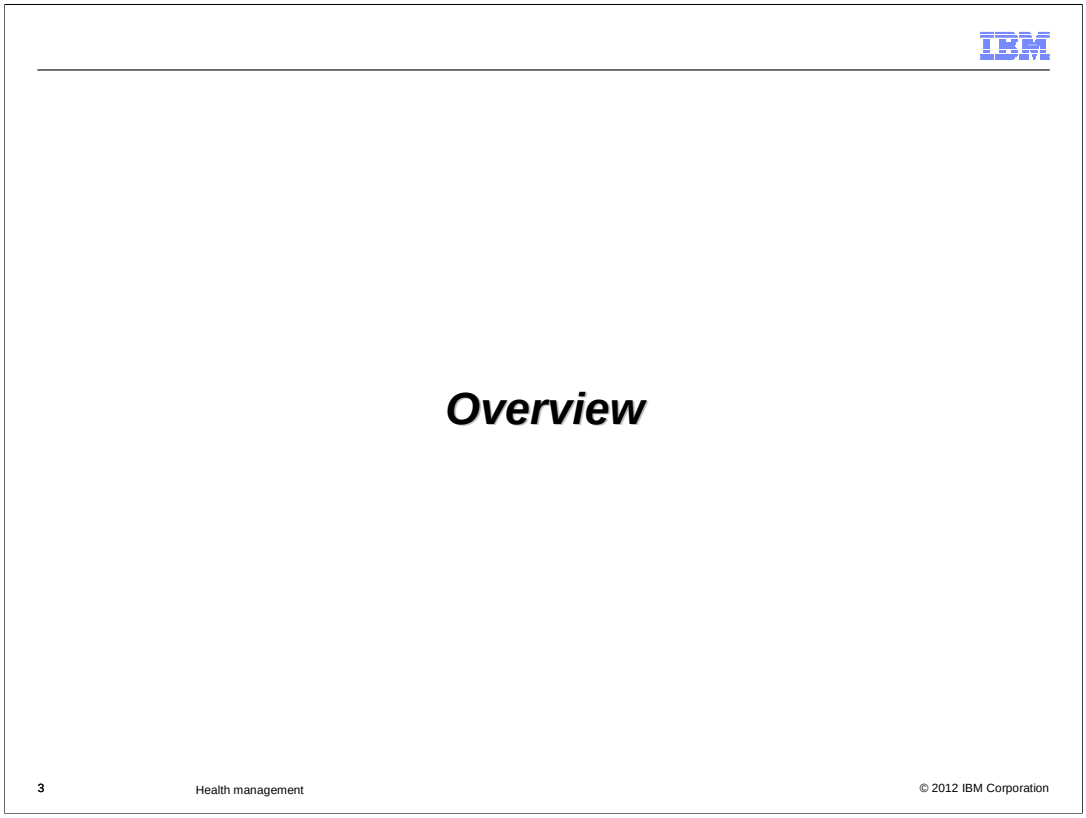
These are the topics that are covered in this presentation.



This presentation will cover configuring health policies in WebSphere Application Server version 8.5

Health management

- Policy driven approach to monitoring and managing servers in an enterprise environment
- Health Policy
  - Health conditions define what needs to be monitored
  - Health actions are actions that need to be taken when health conditions are not met
- Uses Health controller to check environment at every control cycle

Health management is the process by which Intelligent Management dynamic operations monitor and manage servers to preserve an optimal server environment.

The application server health management feature is used to monitor the status of your application servers, and detect and respond to problem areas before an outage occurs. You can manage the health of your application serving environment with a policy-driven approach that enables specific actions to occur when monitored criteria is met. For example, when memory usage exceeds a percentage of the heap size for a specified time, health actions can run to correct the situation.

The health management subsystem continuously monitors the state of servers and the work that is performed by the servers in your environment. The health management subsystem consists of two main elements: the health controller and health policies.

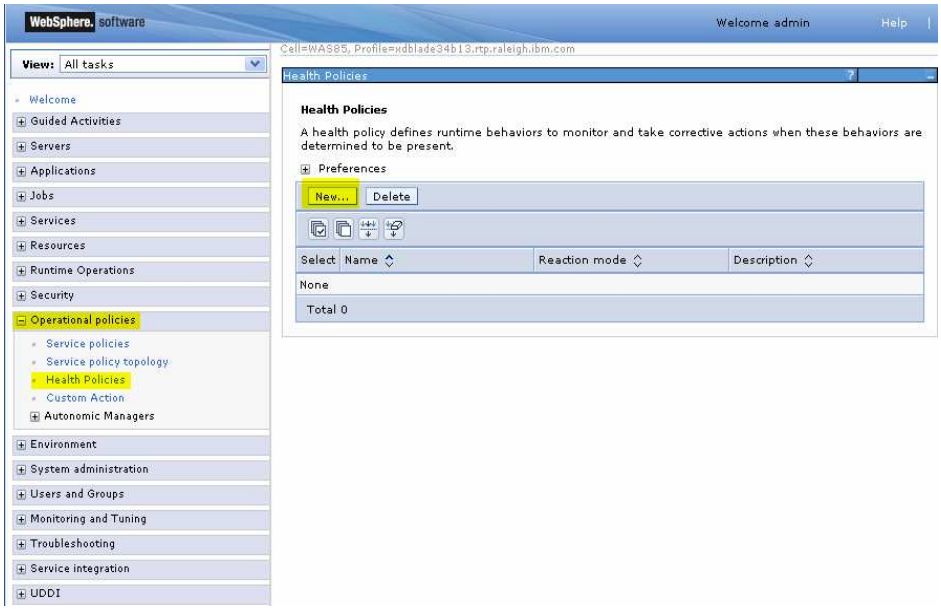
The health controller runs on a control cycle. The control cycle length defines the amount of time between environment checks initiated by the health controller. At the end of the control cycle, the health controller checks the environment and generates runtime tasks to resolve any breaches in the health conditions.

You define the health policies, which include the health conditions that you want to monitor in your environment and the health actions to take if these conditions are not met.

This presentation discusses how to create a Health Policy which can then be monitored by Intelligent Management.

This scenario will focus on configuring health policies and configuring the health controller.

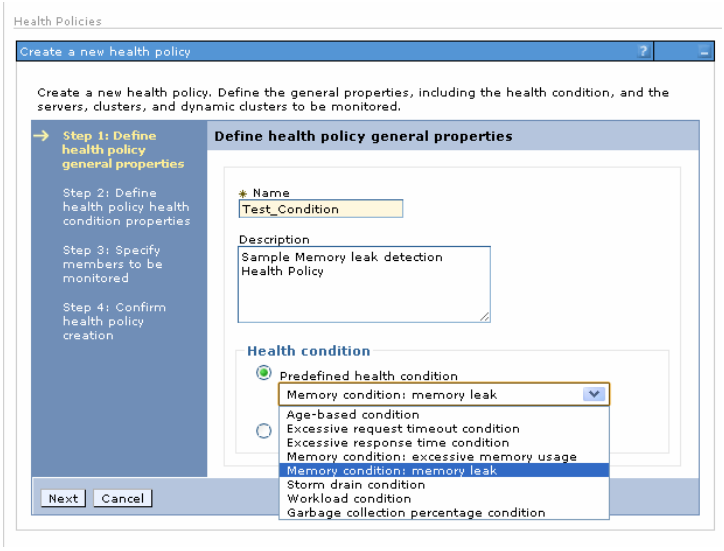
Creating a health policy



Health policies can be created and modified in the administrative console under the ‘operational policies’ menu item.

Use the ‘New’ button to configure a new health policy.

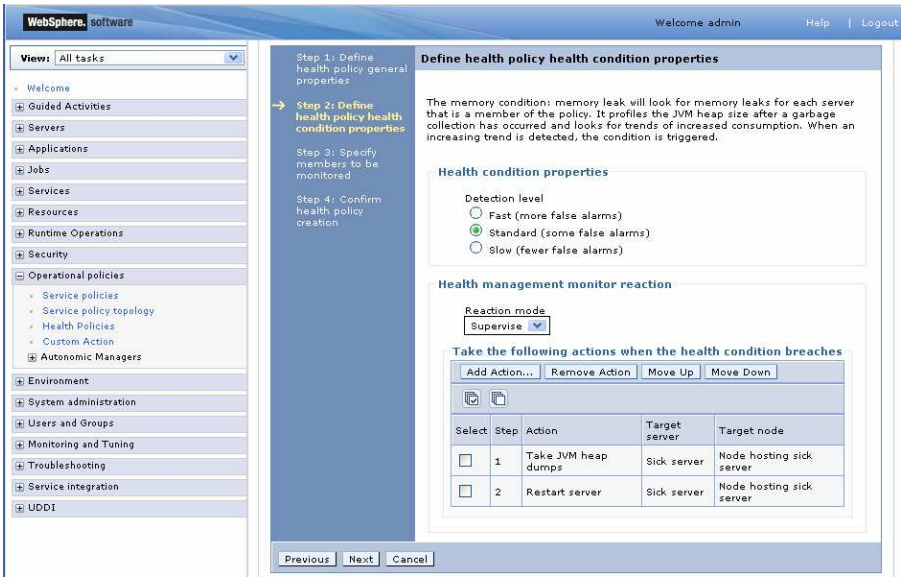
Creating a health policy: step one



Health policies can be created and modified in the administrative console under the ‘operational policies’ menu item.

When creating a new health policy, you first specify a name and choose the type of condition for which you want to monitor. In this example, a memory leak condition is configured.

Creating a health policy: step two

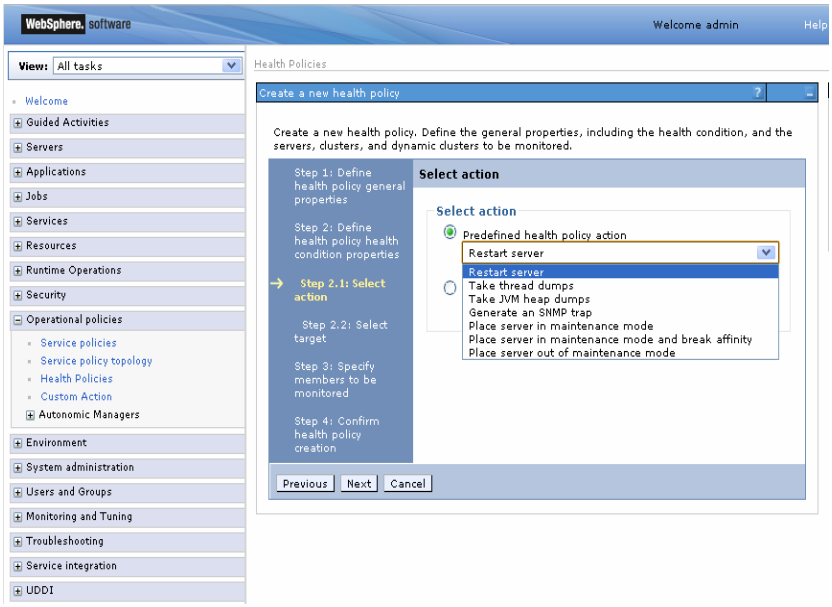


This step shows the options that are available when configuring a memory leak condition. To more accurately detect a true leak, the system must wait for a longer memory growth pattern to develop. The three available detection levels give you the choice of balancing accuracy against detection speed. The action list specifies the actions that the health controller will take when the health policy is breached. The health controller will perform the actions sequentially in the order they appear in the list. The default reaction for a memory leak condition is to trigger a Java™ heap dump, then restart the server.

The condition-specific options and default action list vary for the different standard conditions. All health policy types allow you to select between Automatic and Supervised Reaction mode, add additional actions, and reorder the action list.

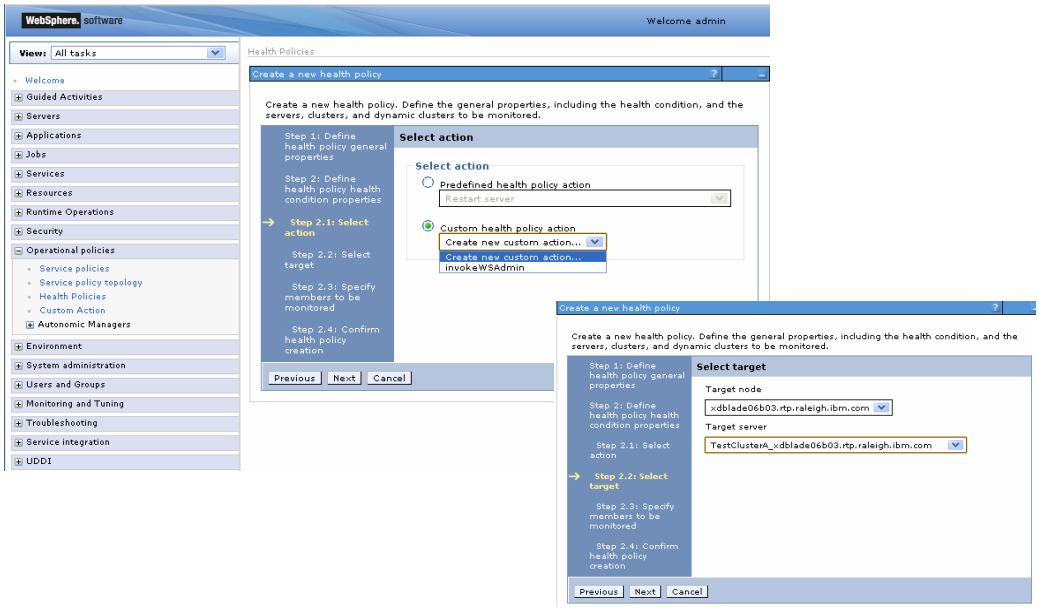
To add an additional action to the action list, select “Add Action.”

Add custom action: step two A



You can specify one of the predefined health policy actions, or you can choose from the list of custom actions that have been defined. Predefined actions are always performed on the sick server.

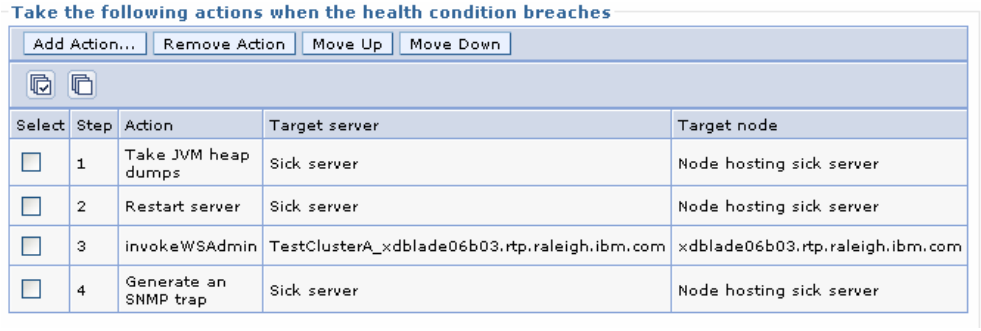
Add custom action: step two A



10 Health management

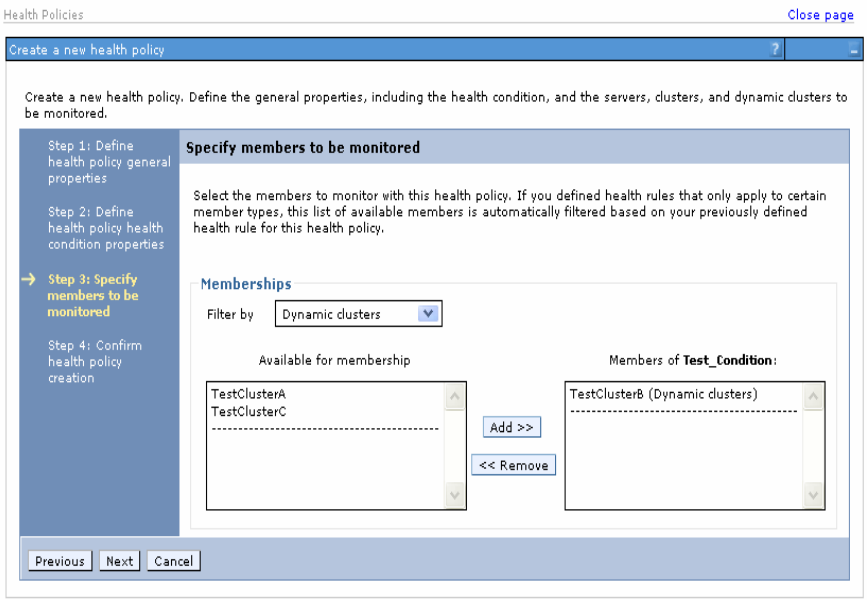
If you have defined custom health policy actions, you can select one from the custom action list. For custom health policy actions you must also specify which specific server is the target of the action.

Creating a health policy: step two



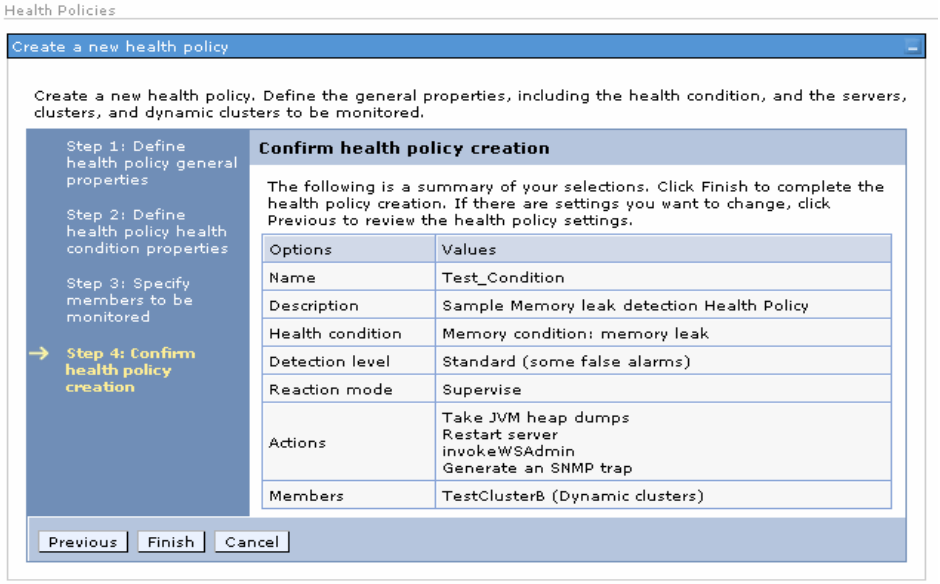
You can create complex action plans with numerous steps which occur sequentially in the order specified.

Creating a health policy: step three



After defining the condition and the reaction list, choose the members of your cell that should be monitored for this condition. The pop-up menu labeled ‘Filter by’ populates the ‘Available for Membership’ list with all resources of the chosen type. Use the ‘Add’ and ‘Remove’ buttons to choose which members should be monitored.

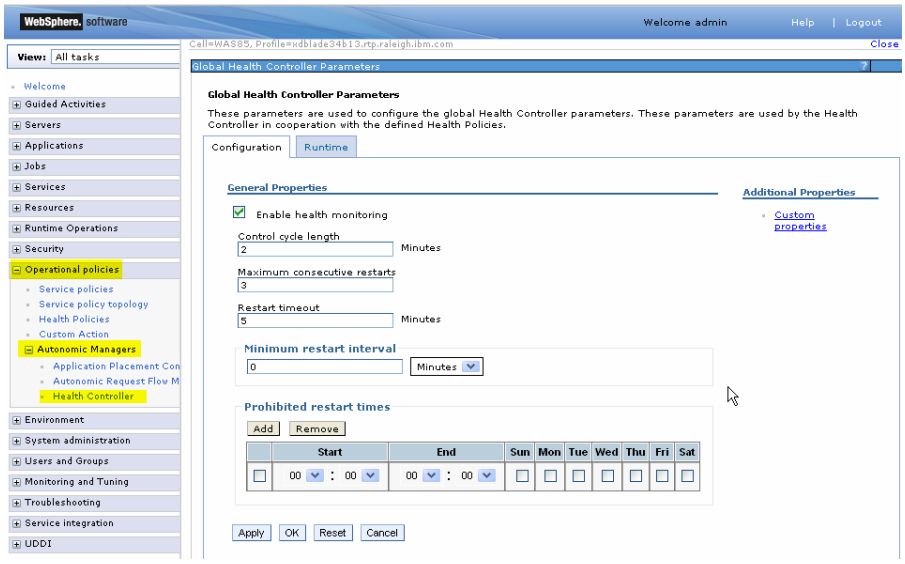
Creating a health policy: step four



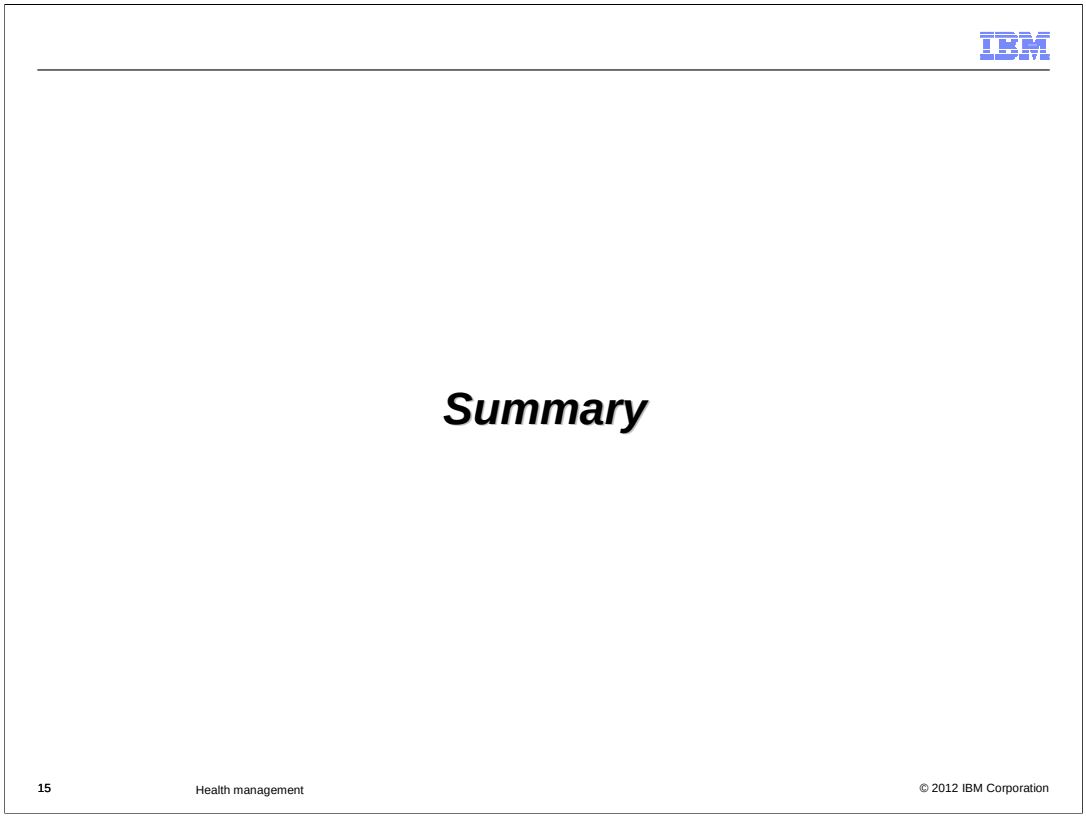
Step four displays the options you have chosen for this health policy. Click finish to create the policy. Remember that you must save your changes before this policy will take effect.

Configuring the health controller

Operational Policies → Autonomic Managers → Health Controller



The health controller itself also has configurable properties, including how often it should run, and how many times in a row a server can be restarted. You can also define 'prohibited restart times', during which the health controller will not restart servers, even if they are in violation of a health policy. This can be useful for restricting restarts to non-peak times.



To summarize creating health policies…

Summary

- A health policy define a group of servers, a health condition, and a reaction
  - The reaction is triggered if a server reaches the defined condition
- Health policies are easily configured using a wizard in the administrative console

A health policy makes administering a group of servers easier by defining a health condition for which a group of servers should be monitored. A health policy can notify the operator or take automatic corrective action when the condition is detected. Health policies can be easily created using a wizard in the administrative console.

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