

Using meaningful values for monitoring

- To specify meaningful values for monitoring, you must understand the systems you create the situations for.
- Specify monitoring values in situations based on:
 - Previously encountered problems.
 - Advice from experts: manufacturers, and consultants.
 - Analysis of historical data collection, thresholds, or modeling.

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51

Using meaningful values for monitoring

Specifying monitoring values can be an iterative process. After you determine that a situation event is not critical or is detected too late, you might modify the situation. You see later how to open the situation editor directly from the triggered situation event. You can modify monitoring values, states, sampling intervals, and so on.

Lesson 7. Managing situations

Lesson 7: Managing situations

- Distributing to managed systems
- Distributing to groups
- Associating with Navigator items
- Starting and stopping
- Monitoring situation status

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What this lesson is about

Managing situations means controlling when and where the situations run. It includes distributing to managed systems or groups, associating with Navigator items, and starting and stopping situations

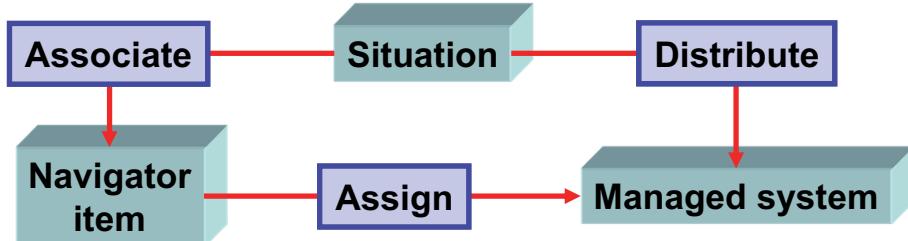
What you should be able to do

After completing this lesson, you should be able to perform the following tasks:

- Distribute situations to managed systems or groups
- Create and distribute situation groups
- Associate situations with Navigator items
- Start and stop situations.

Associate, Distribute, Assign

- Situation > **Associate** > Navigator item
 - Automatic: Access Situation editor from Navigator item
 - Manual: From Situation editor context menu
- Situation > **Distribute** > Managed system
 - Automatic: Access Situation editor from Navigator item
 - Manual: Situation editor **Distribution** tab
- Navigator item > **Assign** > Managed system
 - The Navigator item properties



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Associate, Distribute, Assign

The following actions are some you can take to manage a system:

- Associate: where you see the situation event
- Distribute: where the situation runs
- Assign: which Navigator item shows a managed system

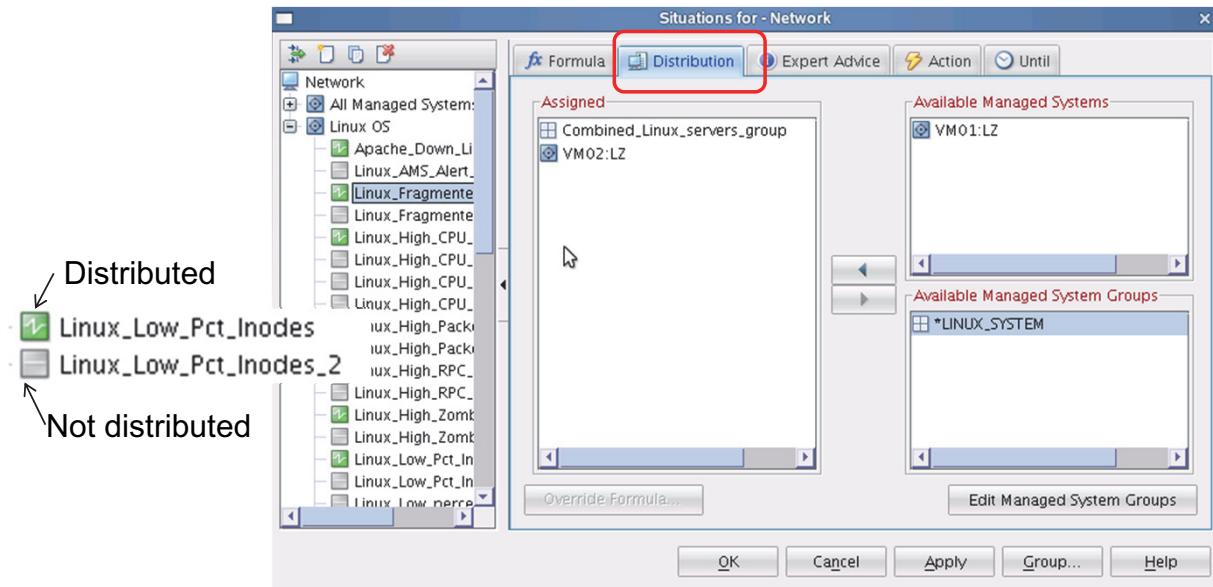
Situations are typically associated with workspaces. Situations can run without being associated with a Navigator item, but such situations cannot generate situation events. These situations might be writing information to logs or sending messages to a console.

Association happens automatically when you access the situation editor from a Navigator item. The situation is also distributed to the managed system that is assigned to the Navigator item.

Product-provided situations are already associated with Navigator items in the Navigator Physical view.

Distributing situations

- Assigns managed systems to the situation
- Defines where to evaluate the situation



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Distributing situations

You must distribute situations to managed systems before you start the situations. When you create situations after you open the situation editor from a Navigator item, both the association and the distribution are already defined. Their definitions are based on the managed systems that the Navigator item represents.

Some product-provided situations automatically distribute to default managed systems at installation time. Other situations do not automatically distribute, as indicated by the situation icon that is seen in this example.

Distributing situation groups

- Combine situations into named groups for ease of distribution.
- Manage situation groups from
 - Situation editor: Create the situation and add it to a group.
 - Group editor: Create the group and add situations to it.

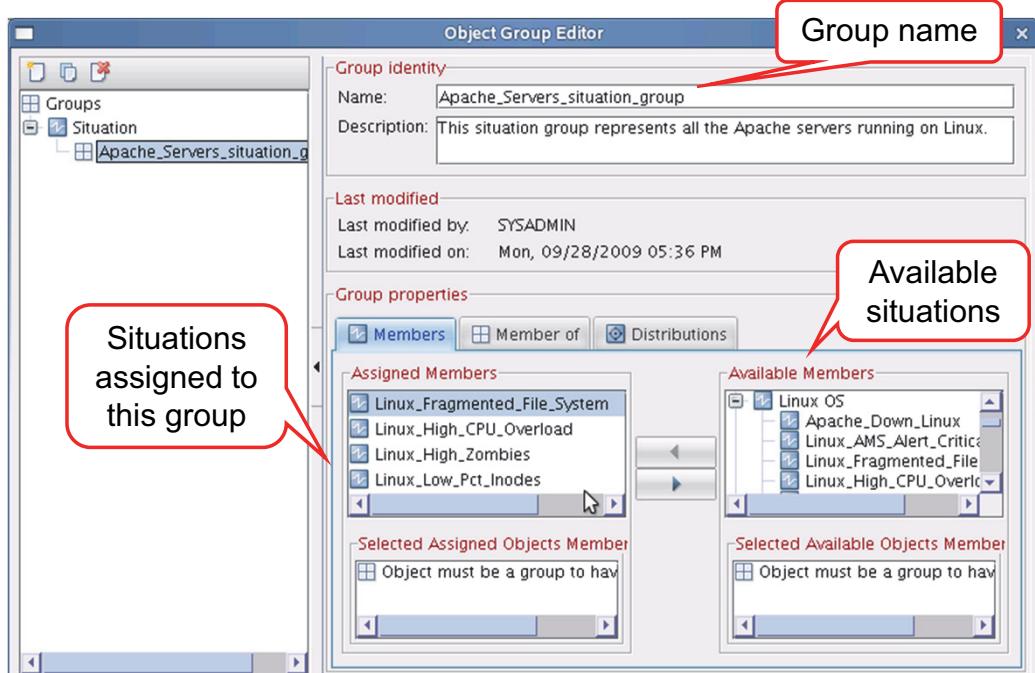
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Distributing situation groups

You can start or stop situations in groups, and you can distribute them to managed systems. You can assign managed systems as a group to custom Navigator view items, situation distribution lists, and historical collection configurations.

Creating a situation group with the Object Group editor



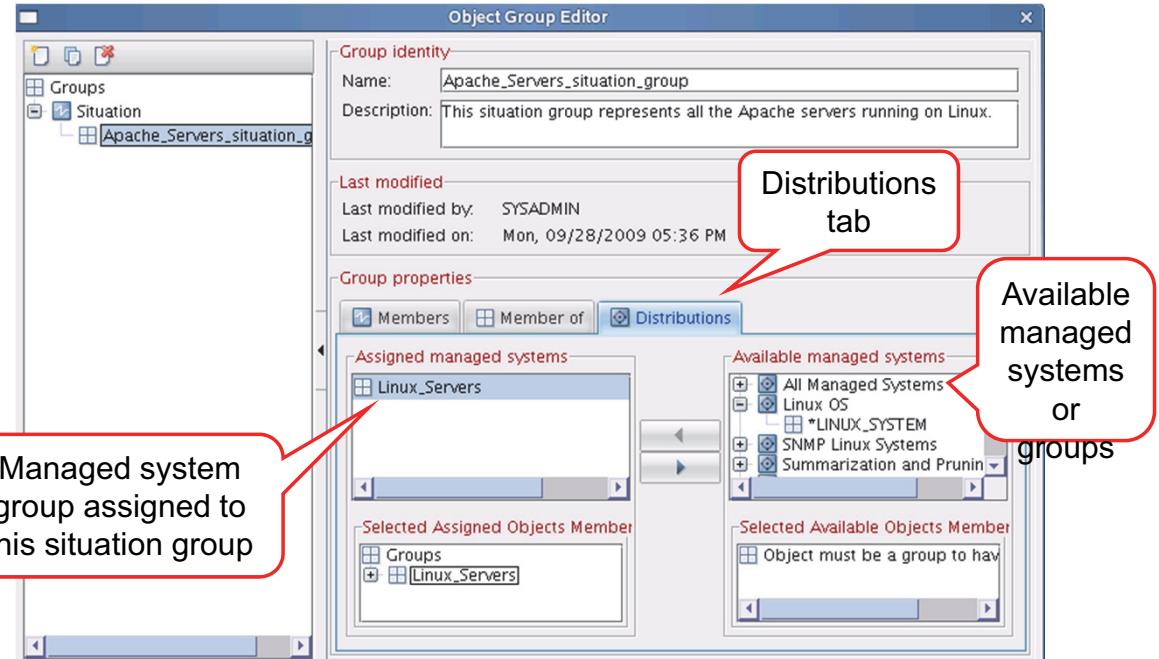
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Creating a situation group with the Group editor

Open the Object Group editor by pressing **Ctrl+O** or using the **Edit** tool.

Distributing a situation group to a managed system group



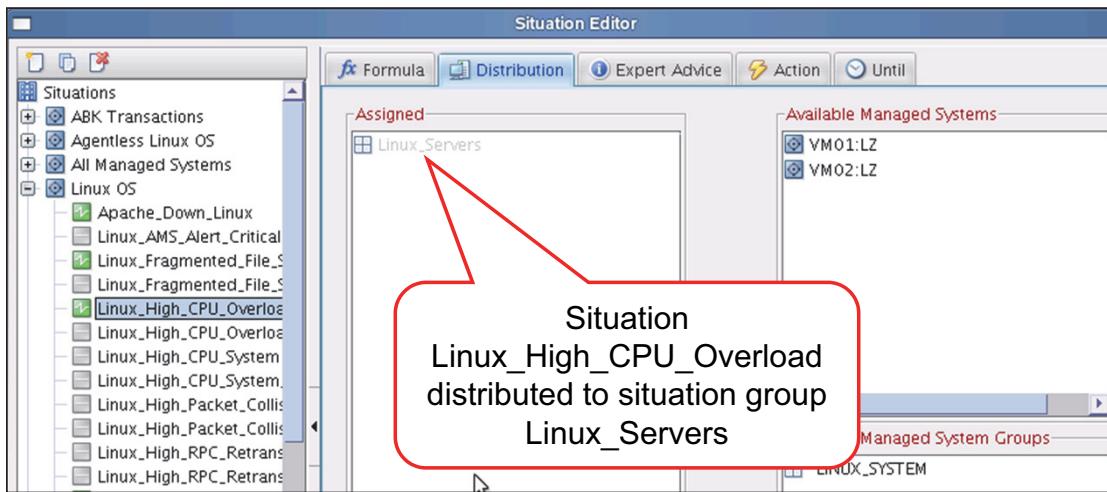
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Distributing a situation group to a managed system group

You can assign situations and situation groups to one or more managed systems or managed system groups. Groups provide better distribution performance and control than working with individual objects.

Results of situation distribution



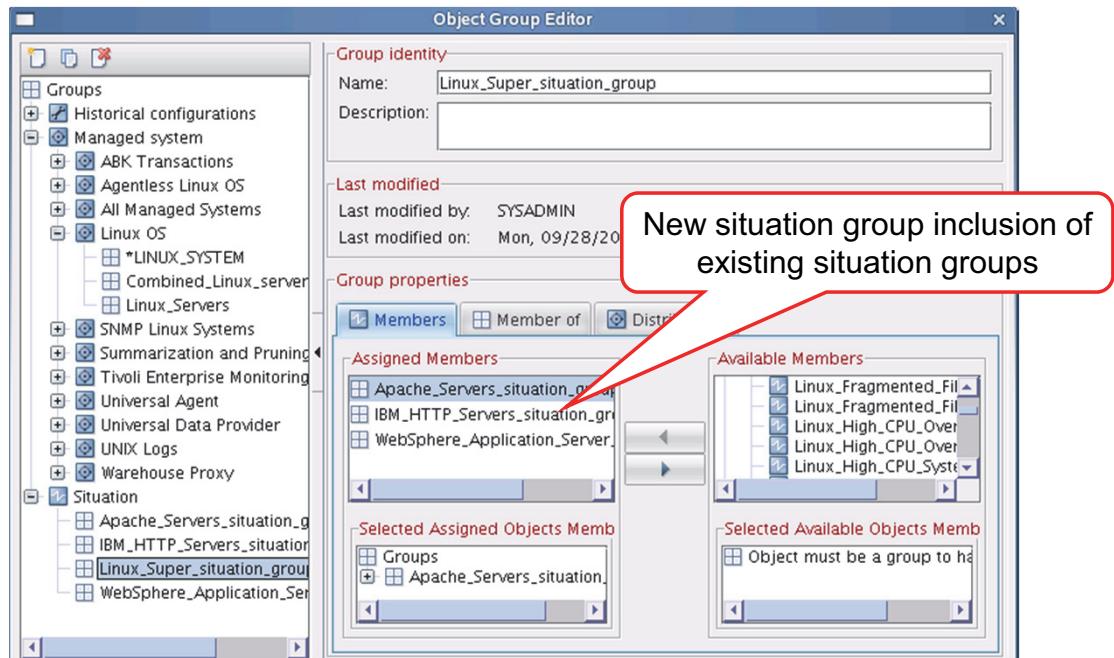
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Results of situation distribution

The assigned group shows as unavailable and is not selectable from the Situation editor. To unassign this group, you must return to the Object Group editor.

Nesting groups



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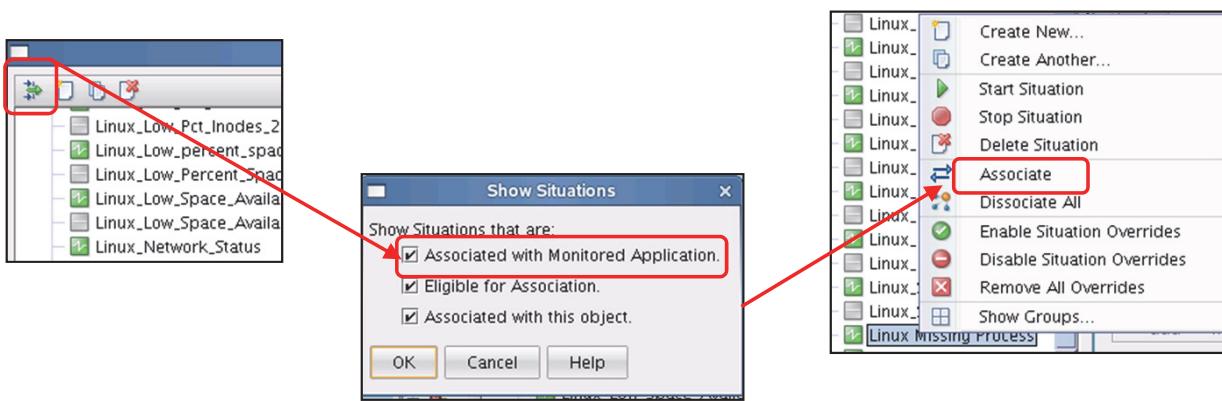
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Nesting groups

Groups can include other groups, which provides a great deal of control. Be careful when nesting groups that represent disparate monitoring agent types. Having multiple agent types could cause a situation to distribute to a system where it cannot run.

Associating situations with Navigator items

- **Associate** and **Dissociate** control whether a situation event is shown on a Navigator item or not.
- You must assign a Navigator item to one or more managed systems, and you must associate a true situation with the Navigator before a situation event is shown.



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Associating situations with Navigator items

The **Associate** and **Dissociate** options in the Situation editor control whether a situation event is shown on a Navigator item or not. Right-click the situation name and select the appropriate option.

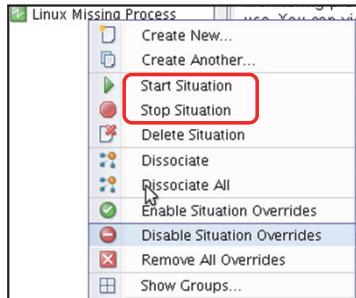
Associate means that when the situation condition is true, the situation event is shown on the Navigator item. If a situation is not associated with any Navigator item, no situation event is viewable in the portal client. Situation events are always shown as entries in the message log. This condition can be confusing if you build situations by opening the Situation editor from the toolbar. In that case, you must make the association with specific Navigator items manually.



Note: It is better to open the Situation editor from the Navigator item where you want to see the situation event.

Starting and stopping situations

Manually



Automatically



- Right-click the situation that you want to start or stop.
- Select **Start Situation** or **Stop Situation**.
- Evaluates the situation immediately.
- Does not retain this setting across agent restarts.
- Check **Run at startup** to automatically run the situation when the agent starts.
- Checking **Run at startup** and pressing **Apply** or **OK** tests the condition immediately.

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61

Starting and stopping situations

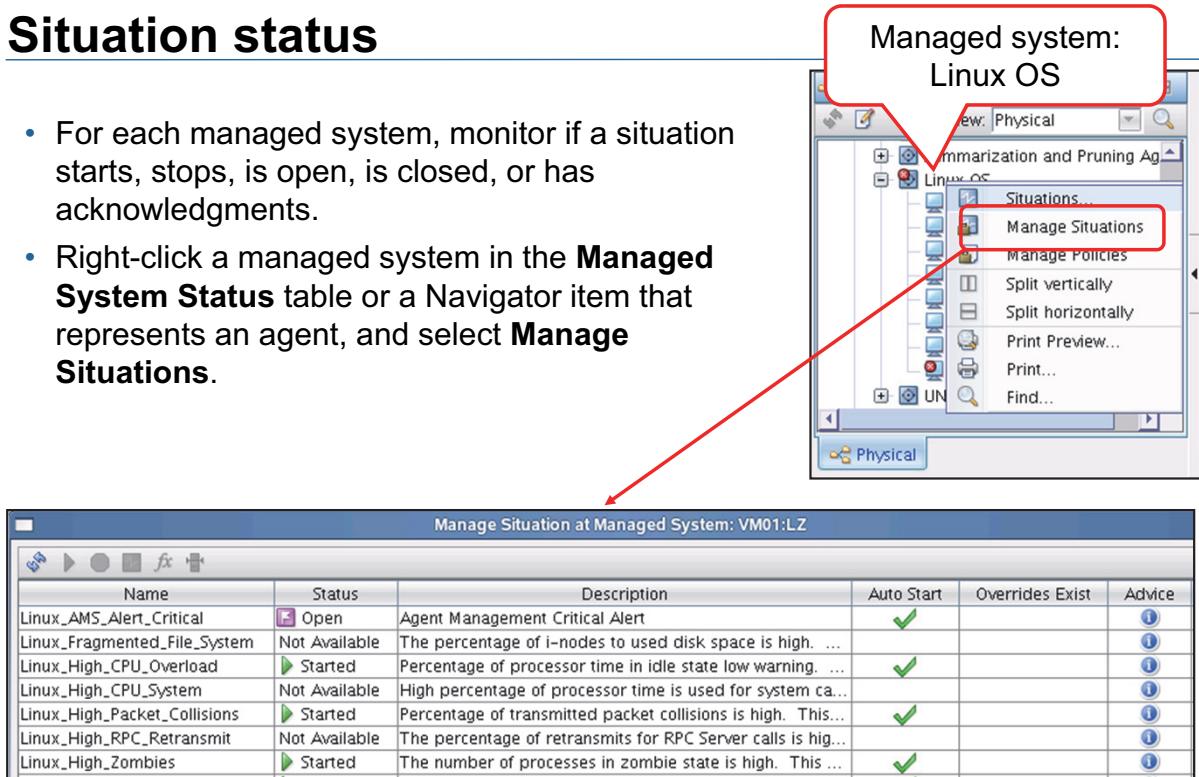
To manually stop or start a situation on all managed systems on which it is running, open the Situation editor and right-click the situation name. Situations that are set to **Run at startup** do not have to be started manually. They start automatically when they are applied or when you click **OK** in the Situation editor. They also start when the agent starts.



Note: If you start a situation that is already running, all situation events that the situation triggered are reset to **open** status.

Situation status

- For each managed system, monitor if a situation starts, stops, is open, is closed, or has acknowledgments.
- Right-click a managed system in the **Managed System Status** table or a Navigator item that represents an agent, and select **Manage Situations**.



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62

Situation status

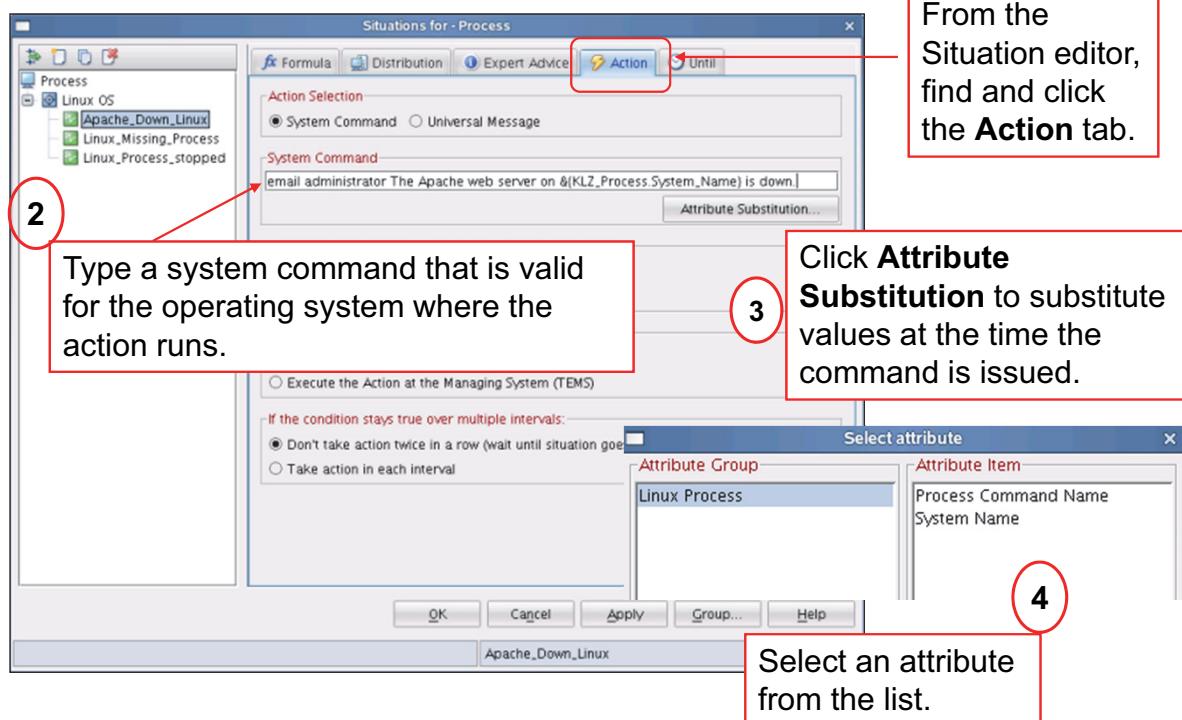
A detailed overview of situations that are active on a managed system is viewable at the Navigator item for that managed system. You can also open the overview from the **Managed System Status** table at the **Enterprise** Navigator item. The table shows the status of all distributed situations, as well as an overview of the situation settings. You can start, stop, or edit situations from this view.

Situation statuses have the following meanings:

- Not available: not distributed
- Closed: distributed, but not running
- Started: running, but not true
- Open: true

Lesson 8. Creating a situation action

Lesson 8: Creating a situation action



What this lesson is about

A situation action is the first level of true automation, also known as reflex action. Situation actions cause the application to issue a predefined system command when a situation becomes true. You can use this method to issue system commands on the specific system where a situation evaluates as true.

What you should be able to do

After completing this lesson, you should be able to perform the following tasks:

- Create an action that the situation runs when the situation event is raised.
- Use attribute substitution to generalize situations.
- Describe situation usage scenarios.

You can issue situation actions where the monitoring agent runs on the system that hosts the monitoring server to which the agent connects.

You can determine whether the command is successful in solving the problem when the next situation sample is taken. This command can be one of the following types:

- A system command, applicable to the type of system
- A batch file or script
- Any other program that is available on the system

You can substitute situation attributes at execution time by accessing the Attribute Substitution button. Attribute substitution lets situation actions be dynamic by using current values at the time the action is issued.



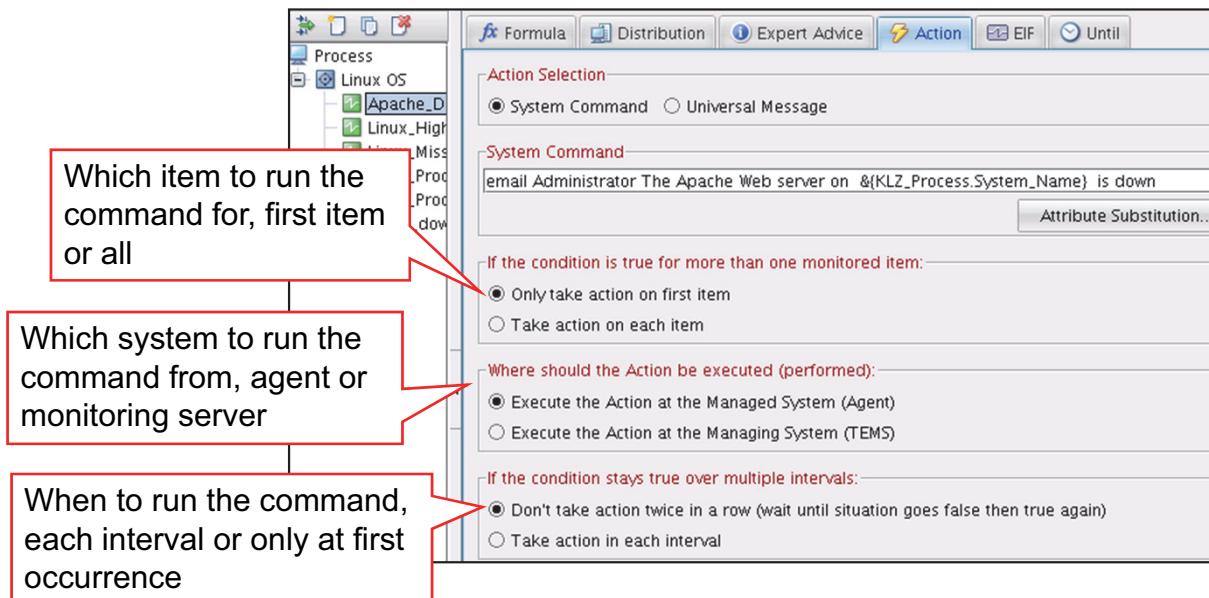
Note: You should be aware that MVS console commands issued by the OMEGAMON XE on z/OS actions are executed at the agent *and operate with z/OS supervisor authority*, by using SVC 34 and TESTAUTH facility. *They are not associated with a TSO user ID.* This condition might be a security exposure if OMEGAMON XE administration authority is granted to users who should not be permitted to perform MVS console commands.



Note: There is a solution to this security issue for those customers who are running Tivoli NetView for z/OS 5.2 or later. A technote titled *Take Action Command Security Using NetView* z/OS documents product maintenance for OMEGAMON XE on z/OS, IBM Tivoli Monitoring infrastructure, and Tivoli NetView for z/OS for z/OS. This solution routes MVS commands through Tivoli NetView for z/OS for authorization and logging.

Advanced options

You can use some system command options to control the command issuance.



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Advanced options

The **Only take action on first item** choice causes the action to issue at the first true item, even if the situation finds multiple items. The **Take action on each item** option causes the command to issue for every true condition. These multiple items can be processes, devices, logical disk drives, and so on.

The next control specifies what to do if the condition stays true over multiple intervals. The **Don't take action twice in a row** choice prevents the command from running every time that the condition is true. All intervals that do not indicate a change in the situation status are disregarded. The **Take action in each interval** option runs the command every interval that the situation is true.

You can further specify that the command is issued at the agent or at the monitoring server to which that agent connects. If you select monitoring server, remember that it can be a remote monitoring server.

Universal Messages characteristics

- A system message or one that the user composes
- A provider of monitoring and automation notifications

The screenshot shows a software interface with a toolbar at the top containing icons for Formula, Distribution, Expert Advice, Action (selected), and Until. Below the toolbar is a section titled 'Action Selection' with two radio buttons: 'System Command' and 'Universal Message' (which is selected). The main area is titled 'Universal Message' and contains fields for 'Category' (Outage), 'Severity' (Annoying), and a 'Message' box containing the text 'The webserver went down.' At the bottom right of this section is a button labeled 'Attribute Substitution...'. The entire interface has a light gray background with blue and black text.

- Can open in the Universal Message Console view

Timestamp	Message Text	Message Severity	Category	Originnode
04/10/12 10:57:56	The webserver went down	Annoying	Outage	VM01_TEMS
04/10/12 10:57:56	Enterprise situation Apache_Down_Linux:VM01:LZ<httpd2-pref...	0	K041041	VM01_TEMS
04/10/12 10:57:54	Monitoring for enterprise situation Apache_Down_Linux started.	0	K041046	VM01_TEMS

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Universal Messages characteristics

You can write system messages and user-defined messages in the **Universal Message Console** by selecting **System Command**. Although the Universal Message Console includes automatic messages from the enterprise components, you can generate user-defined messages with a situation action. You can build situations to monitor messages in the Universal Message Console and use the results for creating situation events or for automation.



Note: The hub monitoring server always receives universal messages.

Situation action usage scenarios

- Monitoring a web server, restart the web server
- Monitoring a process, restart the process
- Monitoring disk space, delete older logs, request more disk space
- Monitoring processor utilization, determine whether a process is in a loop and must be recycled
- Running a batch file or script to send email notification of an event

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Situation action usage scenarios

This slide lists several possible scenarios that might benefit from situation actions. Some of the benefits and drawbacks of using situation actions are as follows:

- Benefits
 - Ease of implementation
 - True automation that is based on a situation that is true, which means user interaction is not necessary
 - Can be run at an agent, or at a monitoring server to which the agent connects
- Drawbacks
 - No success or failure feedback is received after the issuing of a command or user notification
 - No test option
 - Command issuable only at the system that triggers the situation event or the monitoring server to which the system connects

Frequently asked questions

- Why does a situation not open?
 - The situation is not started.
 - The situation condition is specified incorrectly: case sensitivity, % value.
 - To determine whether the situation is true, verify that you see the situation status is open in the Message Log view.
- Why can a situation event be unviewable, although the situation is shown as open in the Message Log view?
 - The situation might not be associated with a Navigator item. This condition can occur if you access the Situation editor from the toolbar before you create a situation.
- Why can the severity state for a situation not be changed?
 - You cannot modify the severity state unless you open the Situation editor from the Navigator item.

Frequently asked questions

Here are some of the problems that new users can encounter. If you understand all the points that are made on these pages, you can write situations and perform simple troubleshooting steps.

Student exercises



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Student exercises

Open your *Student Exercises* book and perform the exercises for this unit.



Review questions

1. Why can you not see the state (severity) fields in the Situation editor?
2. What is different about managing OMEGAMON XE situations and Tivoli Monitoring situations?
3. How do you control what managed systems a situation runs on?

Review answers

1. What is different about managing OMEGAMON XE situations and Tivoli Monitoring situations?

If the Situation editor is not associated with a Navigator item, the state field is unavailable.

2. What is different about managing OMEGAMON XE situations and Tivoli Monitoring situations?

Nothing. The Situation editor is used to manage situations from any Tivoli Monitoring product that uses the Tivoli Enterprise Portal client.

3. How do you control what managed systems a situation runs on?

Situations are distributed to managed systems by using the Situation editor.

Summary

Now that you have completed this unit, you can perform the following tasks:

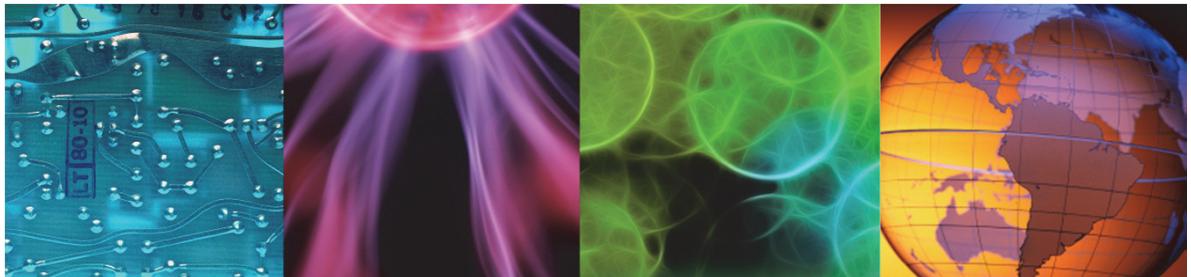
- Describe the relationship between situations and situation events.
- Use the Situation editor to generate situation events in the portal client.
- Use all situation settings.
- Describe expert advice.
- Manage where and when situations run.
- Build various situations for different types of agents.



5 Situation event management



5 Situation event management



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Note: The actions that are shown in this unit are suggestions, and you might handle situations differently at each site because of specific site requirements.

What this unit is about

This unit discusses the different situation management options as well as provides suggestions for deciding the methodology to use in various circumstances.

How you check your progress

You can check your progress in the following ways:

- Review questions
- Lab exercises

Objectives

When you complete this unit, you can perform the following tasks:

- Describe and access the event management utilities in Tivoli Enterprise Portal.
- Solve problems that cause situation events by using predefined manual system commands and expert advice.
- Acknowledge situation events.
- Verify that events close after the cause of the problem no longer exists.

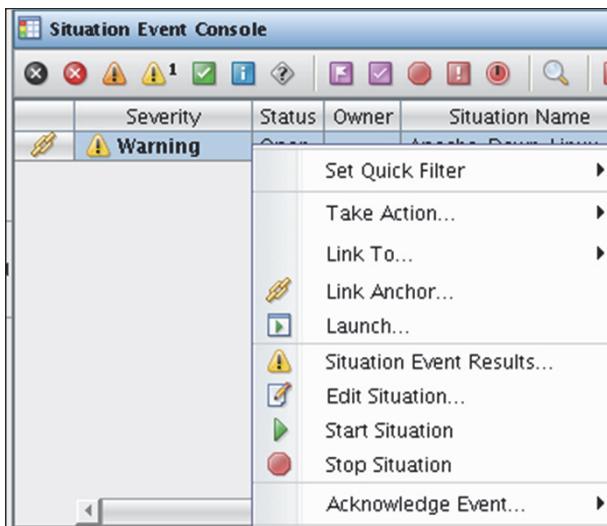
Overview

- A logical step forward from generating situation events is implementing solutions for solving problems when they occur.
- You can achieve this goal with predefined system commands, which you can issue manually or have the system automatically issue.
- The feature to manually issue system commands is called Take Action.

Lesson 1. Situation event management utilities

Lesson 1: Situation event management utilities

Several options are available to manage situation events.



- Issue a system command.
- Start a program.
- Access situation event results.
- Edit a situation.
- Start a situation.
- Stop a situation.
- Acknowledge a situation event.
- Close a situation event.
 - Not shown, applicable only for pure situation events.

What this lesson is about

This lesson introduces the facilities available to you for managing situation events.

What you should be able to do

After completing this lesson, you should be able to perform the following tasks:

- Identify the situation event facilities that you can use from the menu.
- Identify the situation event facilities that you can use from the situation flyover window.

This section is an overview of the Situation Event Console options and descriptions as follows:

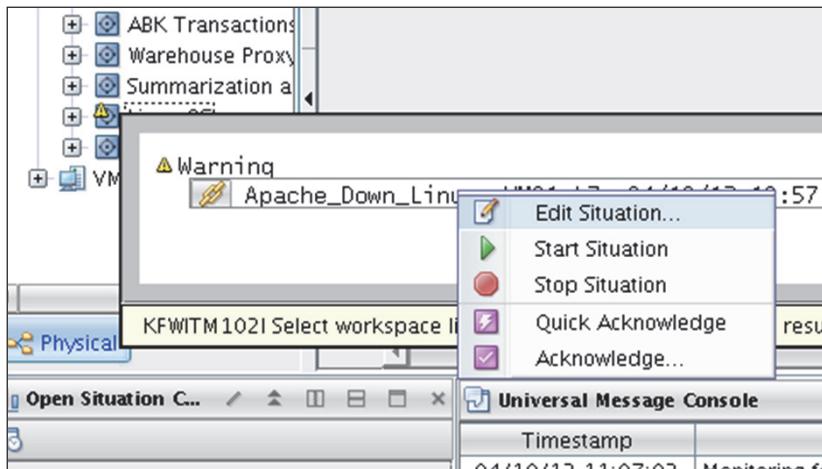
- **Situation Event Results** provides access to the Situation Event workspace.
- **Take Action** enables manually issuing system commands.

- **Launch** starts a program or opens a web page.
- **Edit Situation** enables modification of the situation or threshold.
- **Start Situation** restarts the current situation.
- **Stop Situation** deactivates a situation.
- **Acknowledge Event** takes ownership of the problem and the solution.
- **Close Event** removes the situation event from the list of current events, like closing a problem ticket.

You can access situation event management options by right-clicking an entry in the Situation Event Console.

Accessing situation event management options from a situation event flyover

- The situation event management options are also accessible from the situation event flyover.
- Only a subset of options is available.



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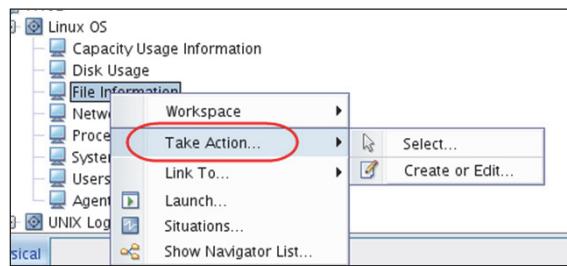
Accessing situation event management options from a situation event flyover

Only a subset of the available situation event management options are available from the flyover.

Lesson 2. Using Take Actions to resolve problems

Lesson 2: Using Take Actions to resolve problems

Take Action is a system command that the user can issue manually from the portal client.



What this lesson is about

Take Actions are predefined system commands that you can run to solve a problem that a situation is reporting.

What you should be able to do

After completing this lesson, you should be able to perform the following tasks:

- Create a Take Action.
- Run a Take Action and monitor the results.

Using Take Actions

- Benefits:

- Easy setup
- Choice of when to issue the command
- No need to know the syntax of system commands on different operating systems
- Feedback about success or failure
- Allowance for changing the command at run time
- Possibility of affecting multiple targets with one command

- Drawbacks:

- No true automation
- Executable only at monitoring agent or monitoring server

- Scenarios:

- Restarting a process
- Sending an email

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Using Take Actions

You do not have to know the command syntax to use Take Action commands. After you create one, select it by name from a list of available commands.

Take Action: Characteristics

- With the Take Action feature, you can directly interact with the application or operating system for which an agent is installed.
- You can issue a system command from a list of predefined commands.
- You can include attributes in the command to incorporate current system values in the command.
- You can create Take Action commands for many uses.
- You can direct actions to multiple target systems.

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Take Action: Characteristics

You can use Take Action commands in the following places:

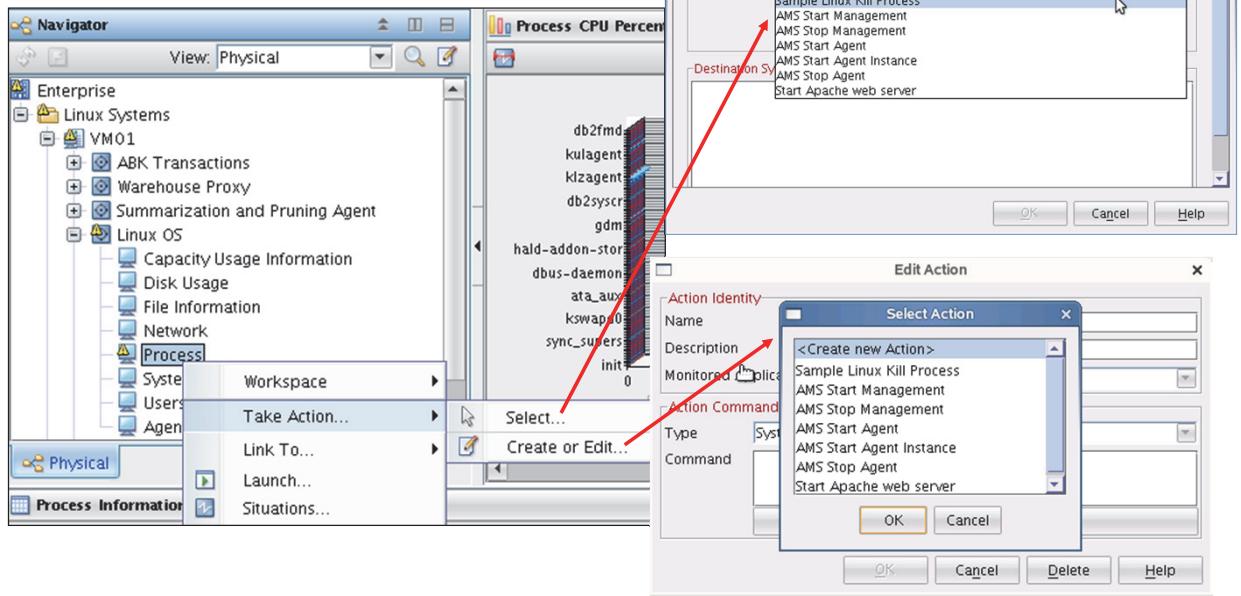
- Situation events
- Table views
- Bar chart views
- Pie chart views
- Navigator items
- Graphic view icons
- Take Action views

Creating a Take Action

1. Open the Take Action editor.
2. Specify a name and enter a system command.
3. Substitute attributes.
4. Test the new Take Action.

Opening the Take Action editor

- Available from most right-click menus.
- Select Create or Edit to create a new action.



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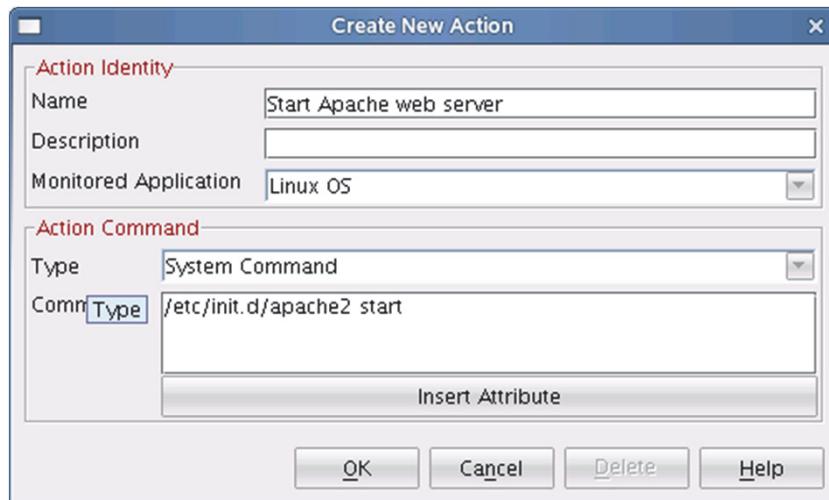
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Opening the Take Action editor

In addition to opening the take action editor, use the right-click menu to use the commands.

Specifying a name and entering a command

- Type a meaningful name, type a command.
- Some monitored applications incorporate a prefix for identifying the target system. Consider these applications as more command types.



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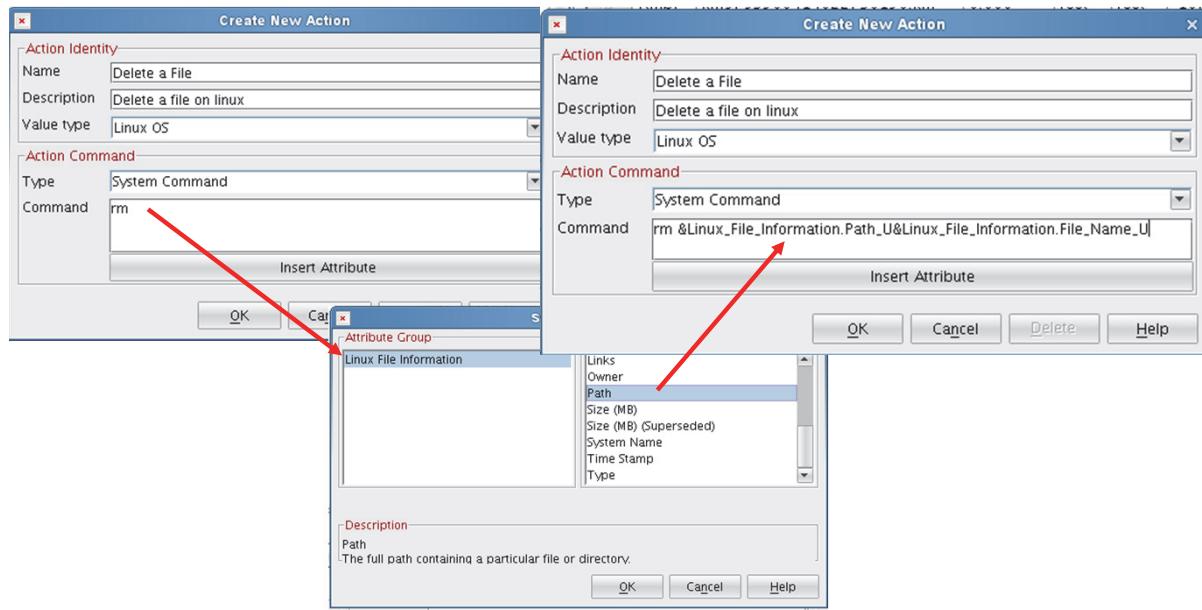
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Specifying a name and entering a command

Deciding on a meaningful name is important in organizing your commands. An example of an application that uses a prefix is the WebSphere MQ agent on z/OS. You use a command prefix when you send commands from the system console to a specific queue manager. The MQ prefix that is used on a Take Action is based on the managed system you select when you issue the command.

Substituting attributes

If you insert attributes that you want to substitute during run time, you can use the same command for multiple items.



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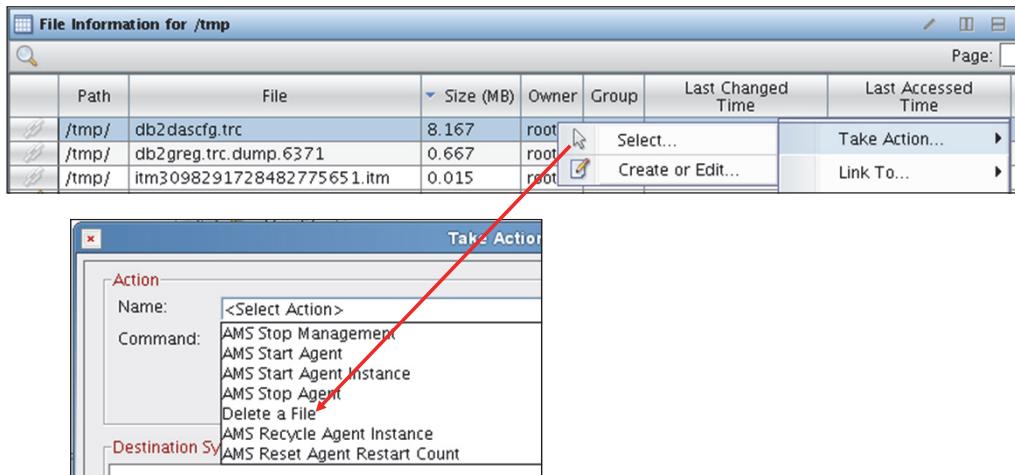
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Substituting attributes

Using attributes allows flexibility that using hardcoded values does not. You can use a script or batch file, pass attributes, and include logging of the command when the command starts.

Issuing a Take Action

1. Open the Take Action menu.
2. Select the specific Take Action.



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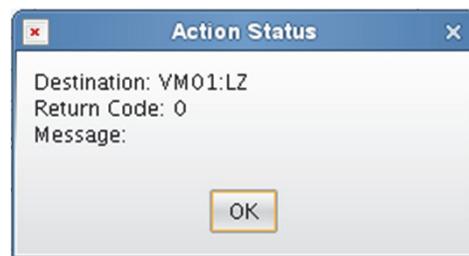
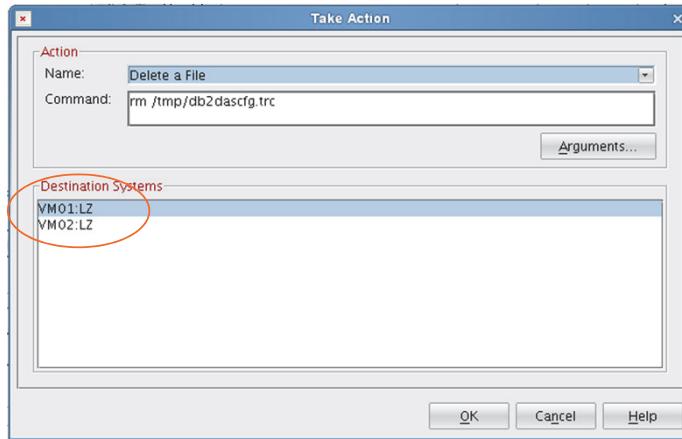
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Issuing a Take Action

Variables that are part of the command substitute automatically if they are available. If the current context does not include the variable, a pop-up window prompts for the value. After you issue the command, the return code is shown, giving an indication of the success or failure of the command.

Issuing a Take Action (continued)

3. Select the destination system.
4. Check the return code



Return codes other than **0** are failures.



Note: Take Action commands sent to z/OS monitoring agents have a security exposure similar to situation actions, which were discussed in Unit 4. You can use Tivoli NetView for z/OS 5.2 or later to validate and authorize Take Action commands. This procedure is documented in IBM Tivoli OMEGAMON XE for Messaging and Tivoli Management Services on z/OS: Common Planning and Configuration Guide.

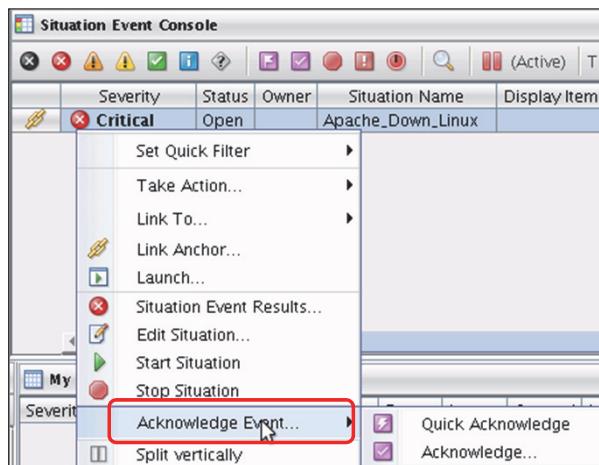
Take Action usage scenarios

- Sending an email to the administrator.
- Deleting a file.
- Stopping a process.
- Running a script.
- Starting a WebSphere MQ channel.

Lesson 3. Managing situation events effectively

Lesson 3: Managing situation events effectively

- Taking ownership: creating an acknowledgment.
- Use Acknowledge to take ownership of a situation event and inform other users that you started the process of resolving the incident.



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16

What this lesson is about

In the previous unit, you learned how and where users are notified about a situation event. When the situation event occurs, it might be visible to many users. Ensure that only one user manages each situation event to avoid wasting resources. The first user who takes on a problem uses the Acknowledge option to indicate that they are managing the problem. Acknowledging a situation event indicates to all other portal client users that someone took ownership of the problem and is working on resolving it.

What you should be able to do

After completing this lesson, you should be able to use Quick and regular acknowledgments to take ownership of a situation event.

Quick Acknowledge

The screenshot shows the Situation Event Console interface. At the top, there is a toolbar with various icons. Below the toolbar, the main window displays three views: 'Situation Event Console', 'My Acknowledged Events', and 'Message Log'. In the 'Situation Event Console' view, a table lists a single event with columns: Severity (Warning), Status (Acknowledged), Owner (SYSADMIN), and Situation (Apache_Dow). Arrows point from the 'Quick Acknowledge' option in the toolbar to the 'Acknowledged' status in the first row of the 'Situation Event Console' table, and to the 'Acknowledged' status in the first row of the 'My Acknowledged Events' table. Another arrow points from the 'Acknowledged' status in the 'Situation Event Console' table to the 'Acknowledged' status in the 'Message Log' table.

Use Quick Acknowledge for scenarios where no additional information needs entering when you acknowledge the situation event.

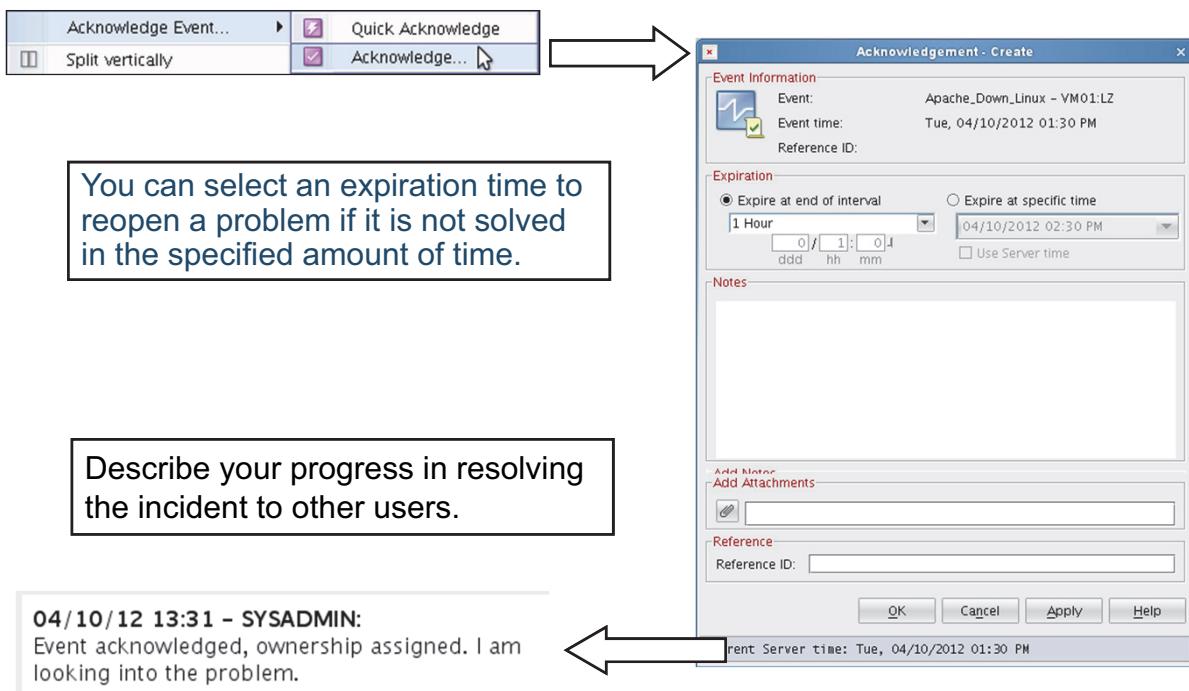
Acknowledging situation events changes the status in the **Situation Event Console**. It also adds an entry to the **My Acknowledged Events** view and to the **Message Log**.

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17

Quick Acknowledge For scenarios where you want to quickly acknowledge a situation event without adding information, use the **Quick Acknowledge** event management option. This option makes your user ID the owner of the situation event. It also adds entries to the **My Acknowledged Events** view and to the message log. The status of the Situation Event Console entry changes to Acknowledged. The Navigator item and graphical view indicator change to the **Acknowledged** check mark if no other situation events are true for that item.

Regular Acknowledgment



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18

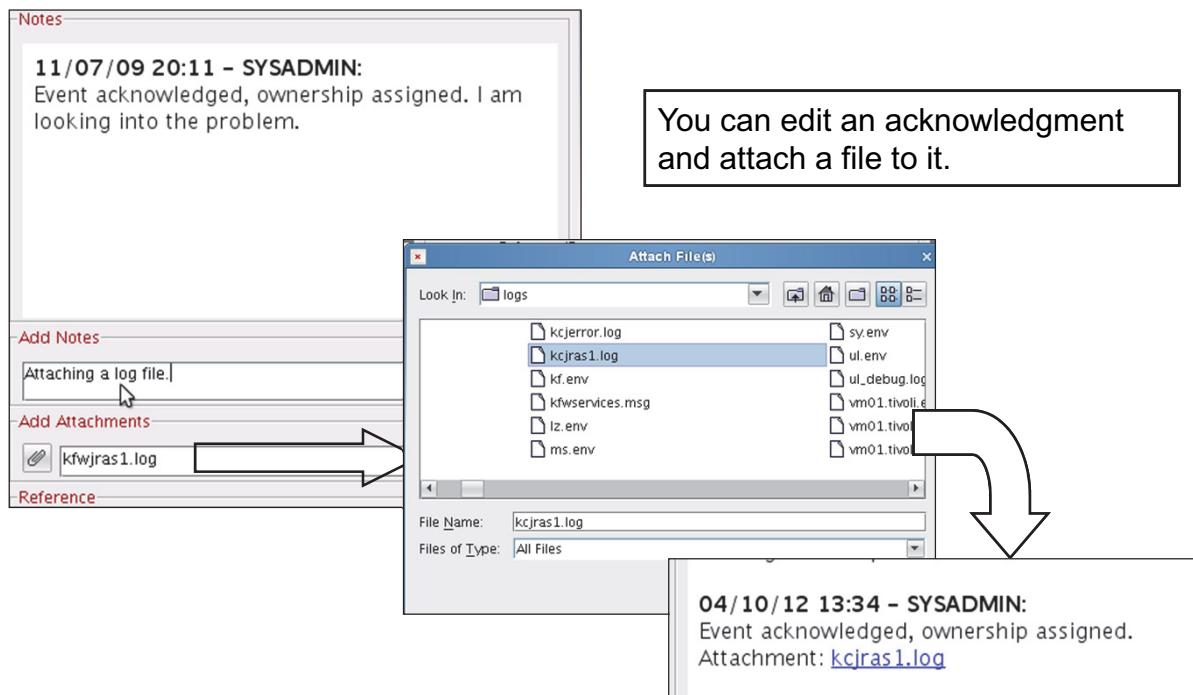
Regular Acknowledgment

For scenarios where information must be added to the acknowledgment, you can use the **Acknowledge** event management option. It provides several more options that make the acknowledgment feature useful.

One option is adding notes to specify the steps to take to resolve the issue. When someone types a note, the user ID and a time stamp automatically prepend. You or other users can edit an acknowledgment.

You can enter or select an expiration interval of time estimate to resolve the problem. You can also edit the expiration if you cannot resolve the problem in the time you originally estimate. The default expiration time is **Never**. In this case, the situation event stays in the **Acknowledged** state until the problem is resolved and the situation event no longer exists.

Regular Acknowledgment: attachments



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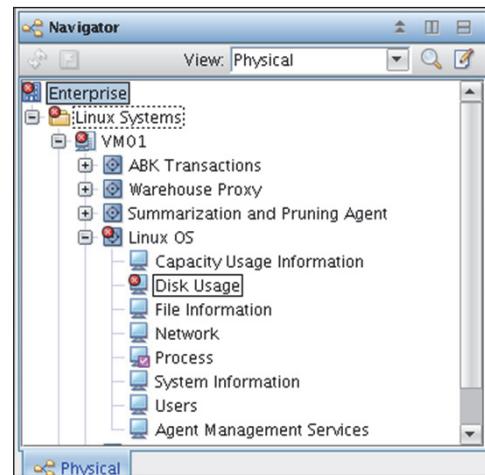
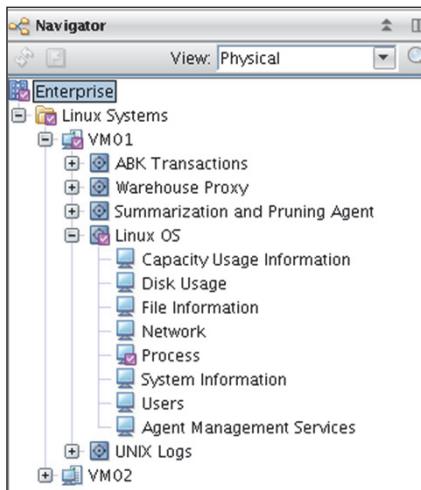
19

Regular Acknowledgment: attachments

In addition to plain text notes, you can attach files to the acknowledgment. After you create the acknowledgment, an **event notes** entry becomes available as a situation event management option for accessing the information.

Navigator item: Acknowledgment indicator

When all situation events on one Navigator item are acknowledged, the item shows a check mark.



Because acknowledgment is lower priority than open situation events, it does not show on Navigator items where other situation events are open.

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20

Navigator item: Acknowledgment indicator

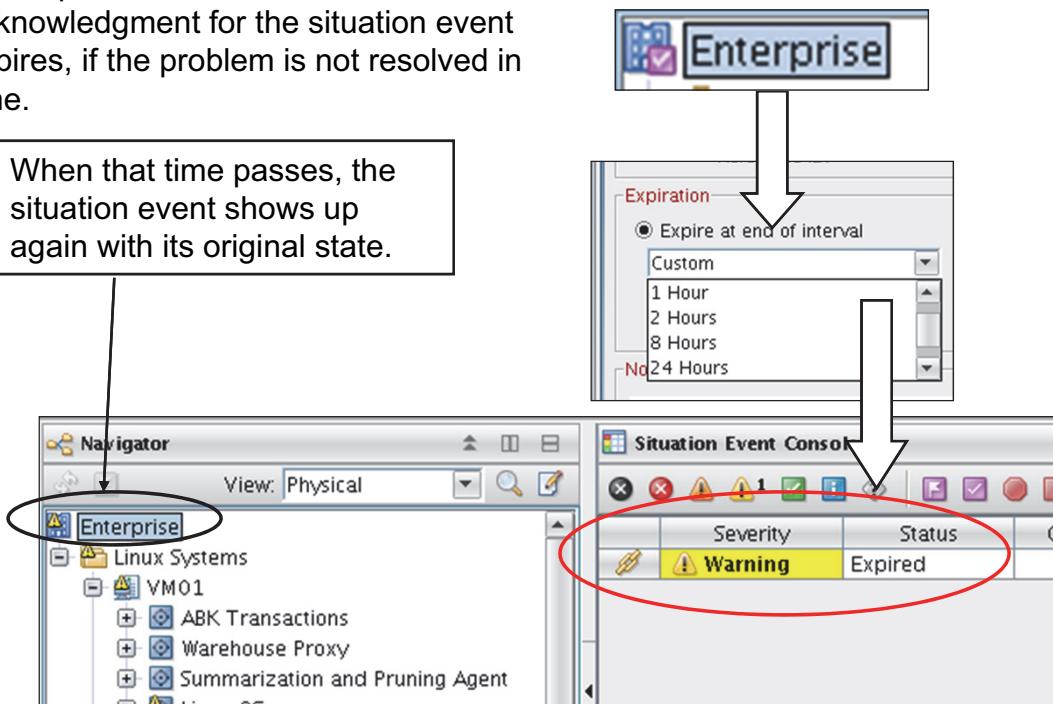
After all situation events on one Navigator item are acknowledged, the status indicator of the Navigator item changes to a blue check mark. The same is true for all items on a higher level of the Navigator that show the same situation event. This statement assumes that no other states that are not acknowledged are still active.

The Acknowledge check mark has a lower priority than any other situation event that might currently be active for a particular Navigator item. It is not visible unless all situation events are acknowledged.

Expired Acknowledgment

The expiration time defines when the acknowledgment for the situation event expires, if the problem is not resolved in time.

When that time passes, the situation event shows up again with its original state.



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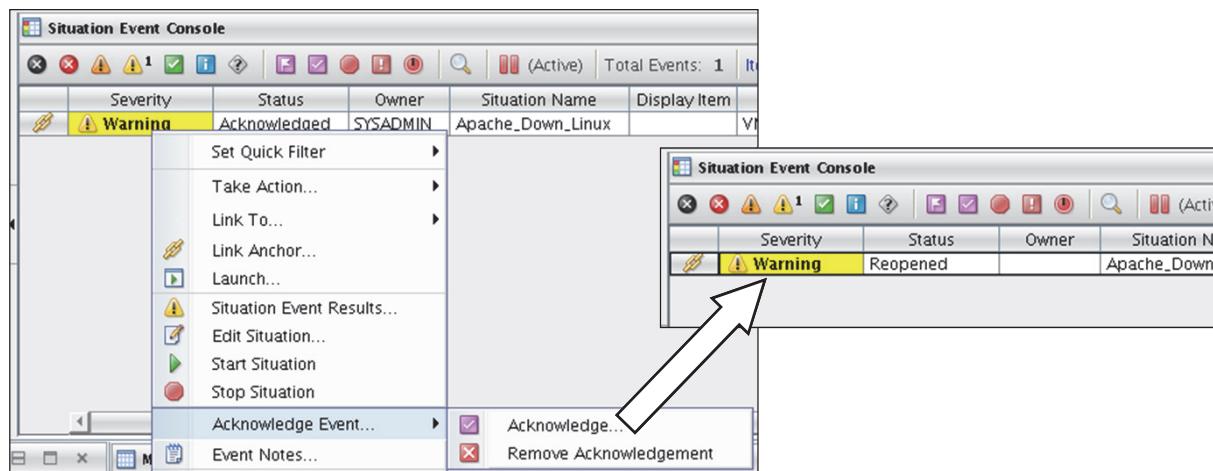
Expired Acknowledgment

If the expiration time that is set in the acknowledgment editor expires, the acknowledgment expires. The situation event is shown with its original severity on the Navigator item and in the situation event flyover. Avoid this situation by editing the acknowledgment again for the situation event, then adding a note and a new expiration time. Describe why the problem is taking longer to resolve than the original time estimate.

After a situation event expires, you can still open the acknowledgment editor to see who acknowledged the situation event and the actions taken.

Removed Acknowledgment

A user can remove an acknowledgment. Removing an acknowledgment results in a reopened situation event and an equivalent status in the Situation Event Console and Message Log.



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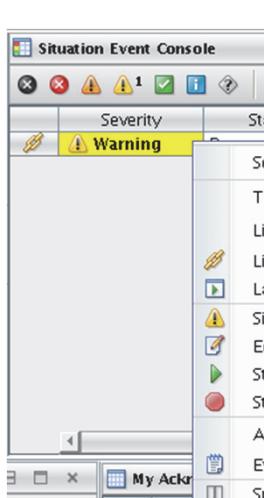
22

Removed Acknowledgment

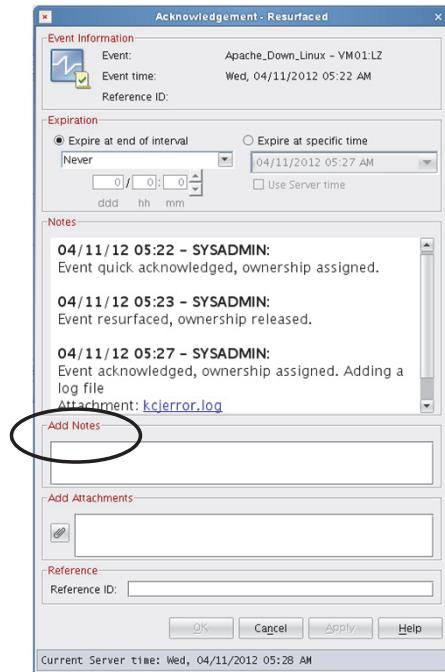
You can also manually remove the acknowledgment, which results in a **Reopened** situation event status. Other users can still open the acknowledgment details and see who removed the status.

Event notes

When a user acknowledges a situation event, others can add notes.



Users can view the notes and add more without having to edit the acknowledgment.



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23

Event notes

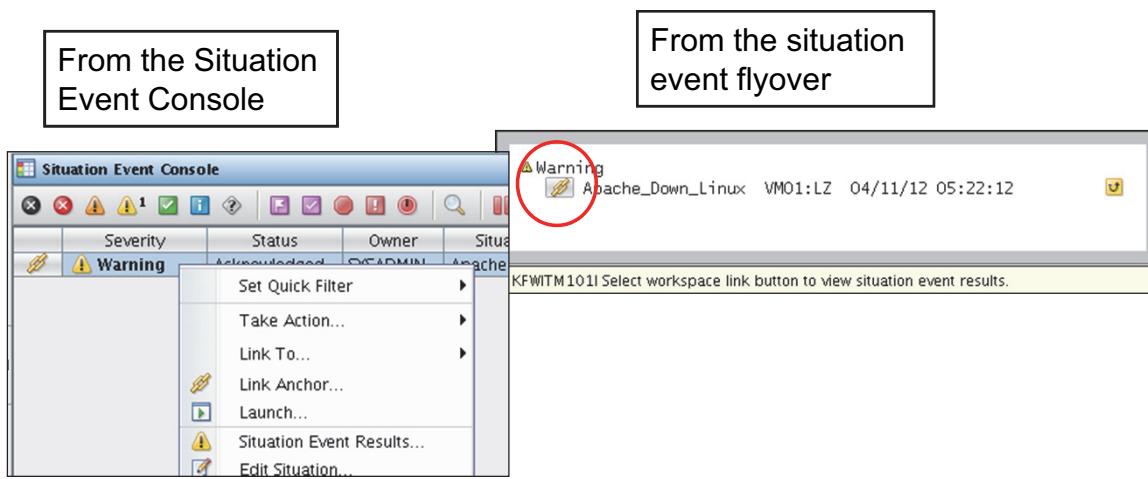
Event notes are notes that users add during acknowledgments. They can also add notes directly for events that do not have the status **Open** or **Closed**. Besides right-clicking situation events and opening event notes from the menu, you can view notes in the Situation Event Details workspace.

Notification options

- If the solution of a problem is outside your responsibility, if appropriate, notify someone about the situation event.
- Manually notify someone of a problem or escalate by using Take Action or Launch with any notification tool that supports a command-line interface.
- Always edit the acknowledgment to reflect the transfer.
- Issue any script or batch file from Take Action.

Accessing situation event results

As the next step in resolving an incident, you should determine what triggered the situation event. Open the Situation Event Results workspace to find that information.



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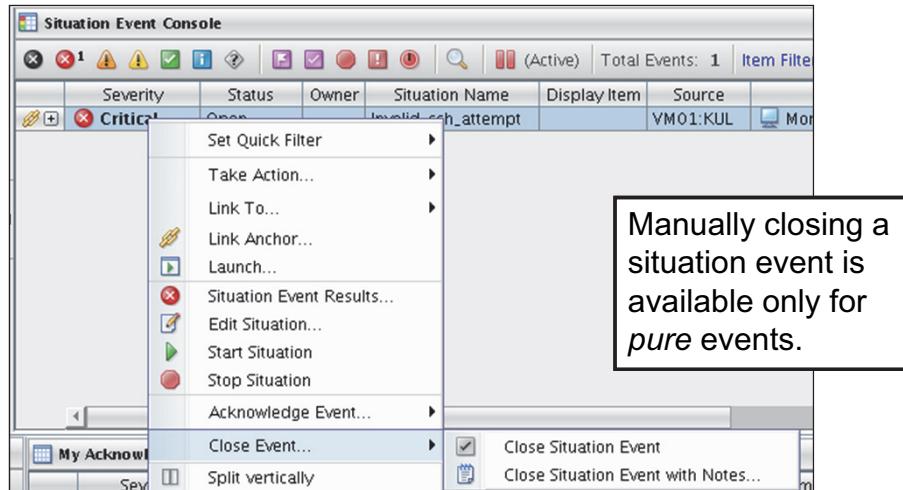
Accessing situation event results

After taking ownership for the situation event, the next step is determining what triggered it. As you learned earlier, you can open the Situation Event Results workspace to see what triggers the situation event. You can get there from the situation event flyover or from an entry in the Situation Event Console.

Lesson 4. Closing situation events

Lesson 4: Closing situation events

- When the condition that raises a *sampled situation* event no longer exists, the event closes on the next sampling interval.
- Use manual or automatic actions to close *Pure situation* events.



26

What this lesson is about

Although closing a situation event might seem simple, the task has many aspects. The consequences of closing situation events incorrectly include causing problems in other areas. This lesson describes some of the most common mistakes and misunderstandings.

What you should be able to do

After completing this lesson, you should be able to perform the following tasks:

- Describe the difference between sampled and pure situation events.
- Determine whether a problem is solved.
- Describe procedures to close pure events.
- Remove situation event results workspace items from the Navigator view.

Sampled versus pure situation events

- To determine how to close a situation event properly, you must understand the different situation event types.
- Each situation event type has its own characteristics and can either close automatically or you must close it manually.

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27

Sampled versus pure situation events Before you decide how to close a situation event, you must understand the difference between a *sampled* and a *pure* situation event. This difference determines whether a situation event closes automatically or must be closed manually.

Because of the nature of pure situation events, they do not close automatically like sampled situation events. A user must manually close the situation event. In some scenarios, you can create the situation with an **Until** clause, which closes a pure situation event automatically.

Determining the situation event type

The Situation Event Console indicates whether a situation event is sampled or pure.

A screenshot of the Situation Event Console interface. The main window title is "Situation Event Console (Paused)". It shows a table of events with columns: Situation Name, Display Item, Source, Impact, Opened, Age, Local Timestamp, Type, and Situation ID. One row is highlighted with a yellow background, and its "Type" column contains "Pure". A callout box points to this "Type" column with the text: "A plus sign (+) indicates a pure situation event." Another callout box points to the first column of the table with the text: "The Type column indicates whether it is a pure situation event or sampled situation event." There are also callouts pointing to the "Type" column in two other tables below: "Sampled Events" and "Message Log".

Situation Name	Display Item	Source	Impact	Opened	Age	Local Timestamp	Type	Situation ID
Invalid_ssh_attempt	VM01:KUL	Monitored Logs	04/11/12 05:34:58	30 Minutes	04/11/12 05:41:13		Pure	invalid_ssh_attempt

Item	Source	Impact	Opened	Local Timestamp	Type	UUID
VM01:KUL	Monitored Logs	04/11/12 05:34:58	04/11/12 05:41:19	Pure	1120411053458002-94	
VM01:LZ	Process	04/10/12 13:30:03	04/10/12 13:34:27	Sampled	1120410133003002-27	

Display Item	Origin Node	Global Timestamp	Local Timestamp	Node	Type	ID
VM01:KUL	04/11/12 05:41:19	04/11/12 05:41:19	VM01_TEMS	Pure	Invalid_ssh_attempt	
VM01:LZ	04/11/12 05:35:56	04/11/12 05:35:56	VM01_TEMS	Sampled	Apache_Down_Linux	

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28

Determining the situation event type

Before you consider the various ways to manage pure and sampled events, you must determine the type of situation event you have. View the Situation Event Console. If a situation event entry has a plus sign (+) in the first column, it is a pure event. You can also view the Type column in the Situation Event Console or in the Message Log.

Closing situation events

- Sampled situation events do not immediately go away when you resolve an incident.
- Sampled situation events do not close until the situation is reevaluated with the next situation sampling interval.
- Pure situation events do not close automatically. You can close it manually or use situation settings to close it.
- Pure situations can have a timer that closes them.
- It is important to reduce the number of open situation events that do not actually represent problems.

Closing situation events

Many operators and administrators monitor situations. A situation event indicates an existing problem and requires management as soon as it occurs. It is important to understand the different options for closing a situation event and how they affect your environment. Resolved situation events must not continue to be visible. If they are, users might become less likely to respond to actual situation event and overlook real problems.

Unfortunately, most situation events still continue to be visible immediately after resolution. Depending on the interval setting, a successful solution is not detected until the situation reaches its next sample. You must manually close the situation without sample intervals, “Closing pure situation events manually” on page 5-241 describes the process.

Closing sampled situation events automatically

- Sampled situation events close automatically when they are no longer true.
- This action happens the next time that the situation is reevaluated, which the sampling interval determines.
- The interval can be long, which might require you to indicate to other users that the underlying cause for the situation event is resolved.
- Three steps are necessary when managing sampled situation events:
 1. Determine that the problem is solved.
 2. Determine the situation sampling interval.
 3. Edit the acknowledgment or event notes.

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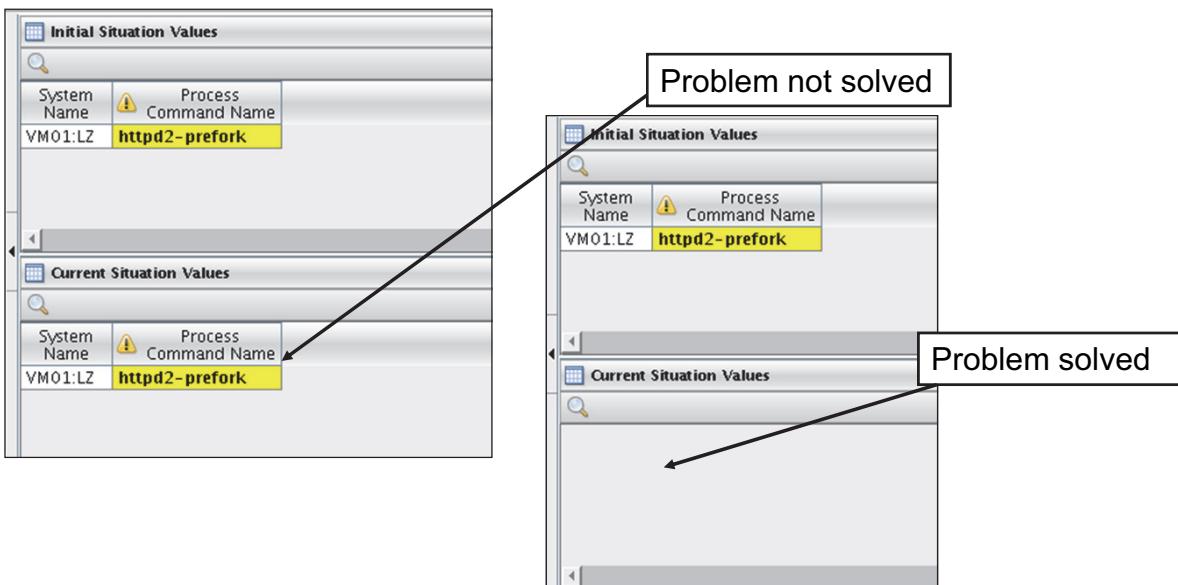
30

Closing sampled situation events automatically

Sampled situation events close automatically when the situation is no longer true. This evaluation might take a long time, as situation sampling intervals can be hours or days, depending on the type of monitoring scenario. If the situation interval is long, update the acknowledgment so that other users know that the incident is resolved.

Determining that the problem is solved

Open the Situation Event Results workspace and review the current situation values for the attributes that triggered the situation event.



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31

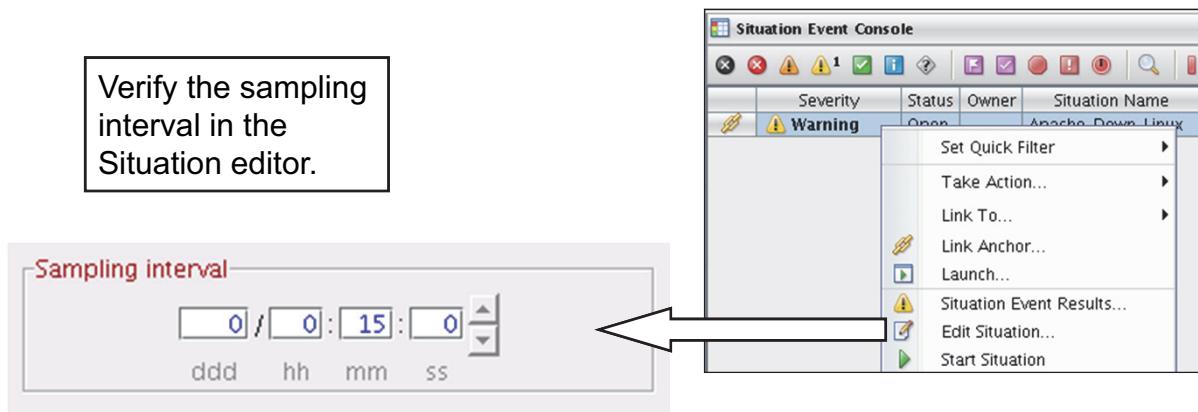
Determining if the problem is solved

This slide shows how the Situation Event Results workspace shows current situation values when the situation is still true, or when the situation is no longer true. In both cases, the situation event might still be viewable on the Navigator or in the Situation Event Console.

If the Current Situation Values view is empty, the problem that triggered the situation event is resolved. The situation event closes with the next situation sample. You now must determine the sample interval.

Determining the sampling interval

- Before you edit the acknowledgment to include a note that the problem is resolved, you should know the sampling interval of the situation.
- Determine the sampling interval by opening the Situation editor from the Situation Event Management options.



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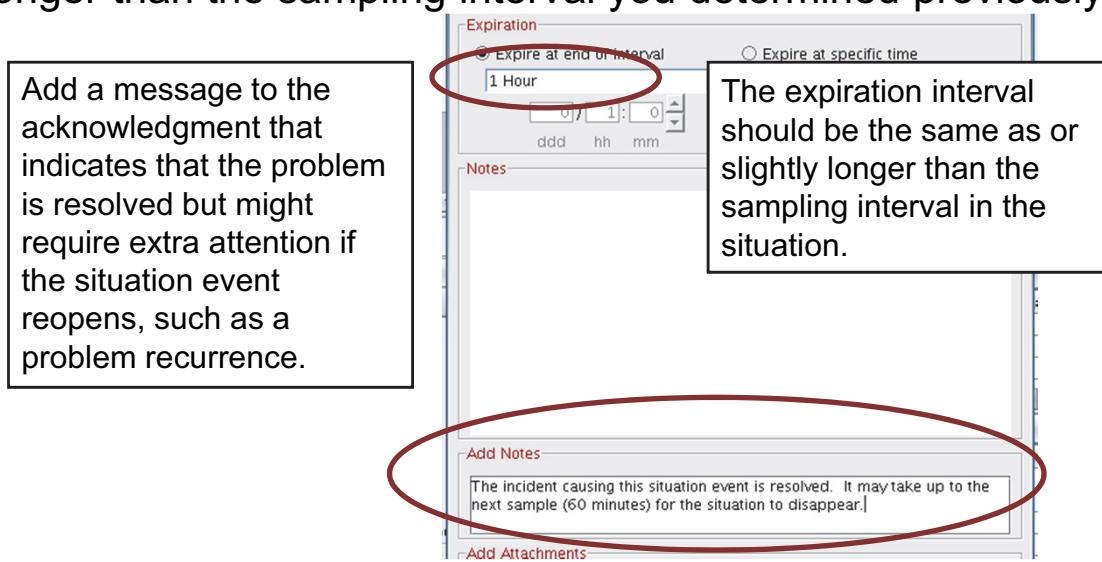
32

Determining the sampling interval

To manage this scenario effectively, check the sampling interval for the situation. Although checking the interval is not necessary, it is helpful to know what it is when you edit the acknowledgment. You can then enter an estimated expiration time for the acknowledgment. You can open the situation editor directly from the event itself. If the sampling interval is shown as unavailable, you have a pure situation event, which you must handle differently.

Editing the Acknowledgment or Event notes

- Modify the acknowledgment or event notes to notify other users that the problem is resolved.
- For acknowledgments, enter an expiration time that is slightly longer than the sampling interval you determined previously.



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33

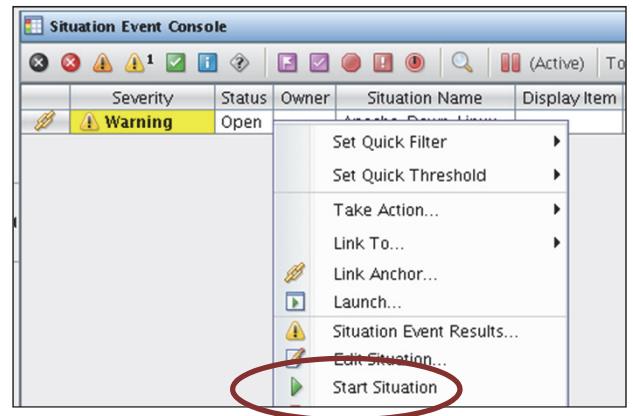
Editing the Acknowledgment or Event notes

If the sampling interval is relatively short, for instance, less than 5 minutes, add an entry to the acknowledgment that describes the problem resolution. If the sampling interval is long, also include an expiration time.

In the situation editor, set the expiration time for longer than the sampling interval so that the event is not shown before it is reevaluated. Reopening would indicate that the problem recurred and that additional action is needed.

Closing sampled situation events manually

- You can close sampled situation events manually by using the Start Situation option.
- Closing a sampled situation triggers an immediate evaluation of the situation condition to reflect the most current state of the situation event.



The drawback is that the restart takes effect on all systems to which the situation is distributed.
You might not want this to occur.

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34

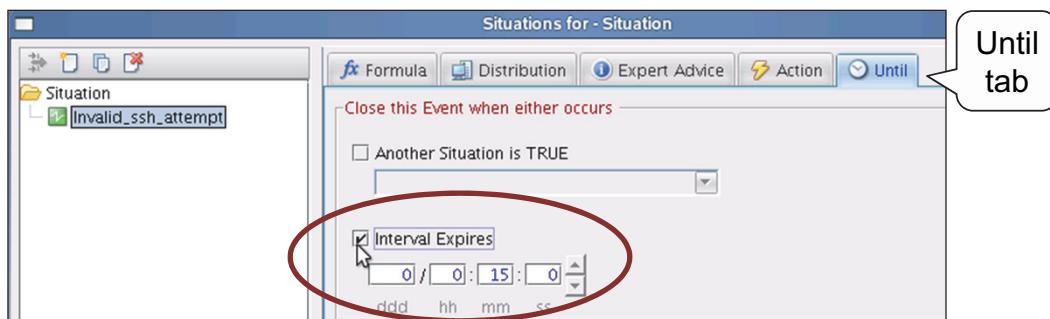
Closing sampled situation events manually

Using the **Start Situation** option is useful if you want to restart a situation immediately to verify the condition and trigger a situation event. Restarting conditions is useful if you know that it takes a long time for the situation to evaluate again after the problem resolution. This fact might be especially important if you think that the problem might recur before the next sampling interval.

Restarting a situation affects all managed systems to which the situation is distributed. Therefore, users who already acknowledged other situation events that are based on that situation see the situation event shown as a new one.

Closing pure situation events automatically

You can set a timer to automatically close a pure situation event.



If a situation is available that is true when the problem no longer exists, you can use that situation as the inverse situation on the **Until** tab of the Situation editor. This action causes the problem to automatically close because the problem no longer exists.

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35

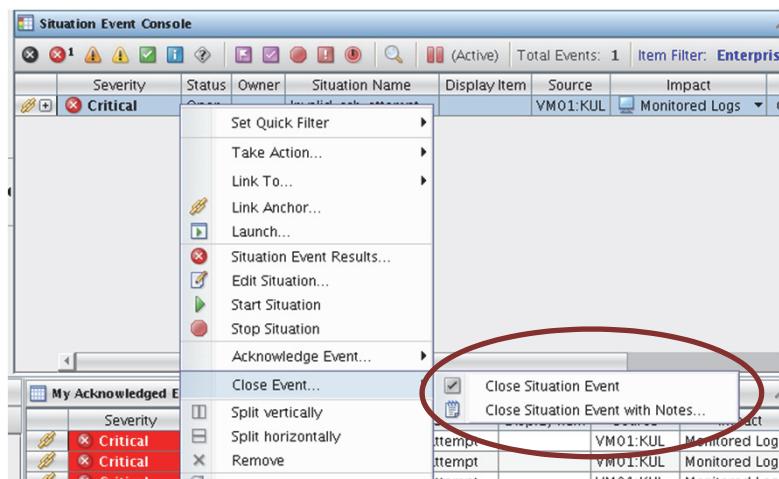
Closing pure situation events automatically

You can close most pure situation events manually. In some scenarios, however, you can use the **Until** tab in the situation editor to automatically close a pure event. This method works well if you can write an inverse situation to a situation, indicating that the problem still exists.

A good example is an entry in a log file that indicates a problem in an application. If the application also writes a message into the same log that the problem no longer exists, you can write an inverse situation against that message. Use the **Until** tab in the situation editor to close the problem situation event automatically when the inverse situation becomes true. An alternative is to reset the situation after a while. As an example, for an invalid logon attempt, you can issue a situation action to send an email and reset the situation.

Closing pure situation events manually

- Use the **Close Situation Event** option in the Situation Event Management options to manually close a pure event. This option is available for only pure situation events.
- Remember that pure situation events are one-time occurrences. If you close them, they are no longer viewable.
- Be certain that the problem is resolved before you close a pure situation event.



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36

Closing pure situation events manually

As indicated previously, you can close pure events manually. After you verify that the underlying problem no longer exists, you can manually close the event. Ensure everyone who has the authority to close situation events also understands about verifying that the problem no longer exists before closing the event.

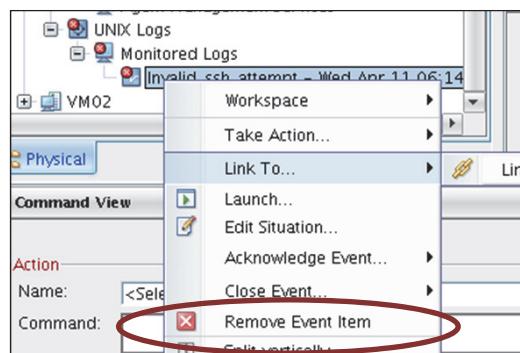
Close events manually by using the situation event management option **Close Situation Event**. You can right-click any of the previously mentioned areas to open the situation event management options and choose the **Close Event** option.



Note: If multiple pure events from the same situation exist, the event that is seen in the situation event console is the most current. You can click the plus sign and click **Expand event** to see all of the event instances. The monitoring server stores up to 10 pure events from the same situation, then it begins to discard the older instances.

Removing the Situation Event Results workspace item

- Opening a Situation Event Results workspace adds a Navigator item to the Navigator view.
- You can remove the item to remove its no-longer-needed workspace.
- With the Remove Event Item, you can delete the Navigator item from the current view.



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Removing the situation event item

You saw earlier in the course that a Navigator item is added to the Navigator when you open the Situation Event Results workspace. With this item, you can open the Situation Event Results workspace to research the cause of the issue. The item is available even after a situation event is no longer active.

Removing the situation event item has no impact on the situation event itself. It is valid for only the current portal client session and is specific to the user ID that opens the Situation Event Results workspace.

Student exercises



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38

Student exercises

Open your *Student Exercises* book and perform the exercises for this unit.

Review questions

1. Where can you access the available system management options?
2. What are three ways to issue commands from the portal client?
3. How can you cause an acknowledged situation event to reopen if it is not resolved in a reasonable amount of time?
4. How can you tell if a situation is a pure or sampled situation?

Review answers

1. Where can you access the available system management options?

From the System Event Console or the Situation Event Flyover

2. What are three ways to issue commands from the portal client?

Take Action, Launch, and situation action

3. How can you cause an acknowledged situation event to reopen if it is not resolved in a reasonable amount of time?

Set an expiration value in the acknowledgment settings.

4. How can you tell if a situation is a pure or sampled situation?

You cannot modify the sample interval in a pure situation.

Summary

Now that you have completed this unit, you can perform the following tasks:

- Describe and access the event management utilities in Tivoli Enterprise Portal.
- Solve problems that cause situation events by using predefined manual system commands and expert advice.
- Acknowledge situation events.
- Verify that events close after the cause of the problem no longer exists.



6 Visualizing monitoring data



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US Government Users Restricted Rights: Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.
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What this unit is about

During this course, you used the portal client to generate and manage situation events. This unit teaches how to visualize enterprise monitoring data, personalize workspaces, and provide the data that is needed to build workspace views. You focus on the data visualization aspects of the portal client. You also learn how to structure the workspaces in Navigators, design workspaces, and use queries.

How you check your progress

You can check your progress in the following ways:

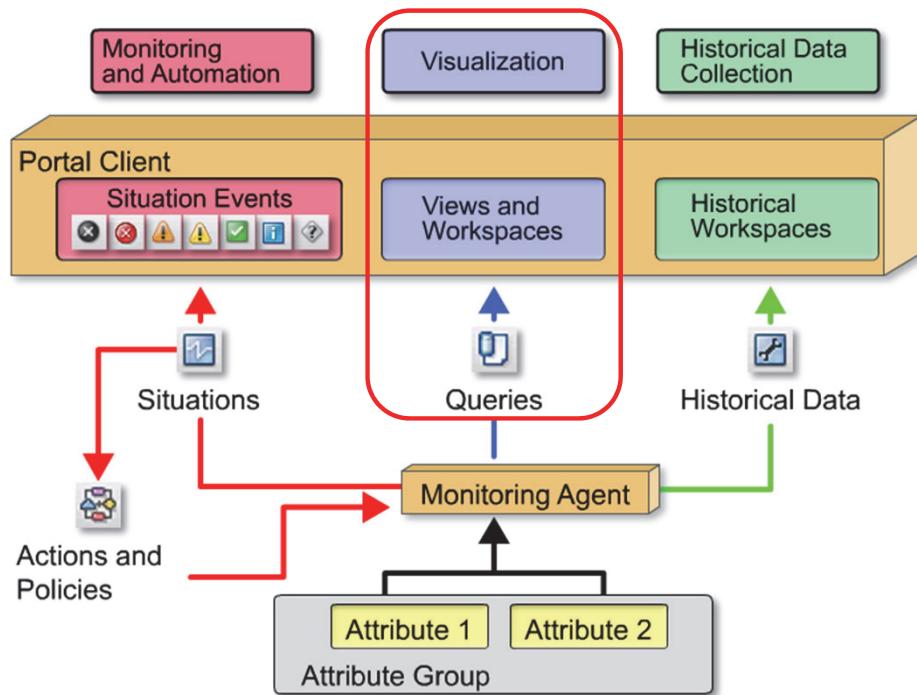
- Review questions
- Lab exercises

Objectives

When you complete this unit, you can perform the following tasks:

- Build Navigator views to structure your enterprise resources, depending on their location, their type, or their impact on applications or the business.
- Build workspaces and views to present data to your users in a meaningful way.
- Build simple links to provide navigation through an enterprise monitoring solution.

Data visualization



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3

Data visualization

Besides using the portal client to manage situation events and automate problem resolution, it enables you to visualize resource data. Visualization provides you insight into performance and availability of individual resources.

Lesson 1. Structuring the enterprise

Lesson 1: Structuring the enterprise

- Workspace views show data, and workspaces are assigned to Navigator items.
- You worked with the Navigator Physical view, which structures your enterprise in a system-specific hierarchy.
- You now learn how to customize Navigator views to structure the enterprise resources in different way.
 - Type of monitored resource
 - Geography
 - Application dependency
 - User responsibility
- You can later make these new Navigator views available to different users, depending on their responsibility and interest.

What this lesson is about

Depending on their role, different people might need to see different aspects of the enterprise monitoring solution. This lesson shows you how to create and manage Navigator views to structure your enterprise monitoring data.

What you should be able to do

After completing this lesson, you should be able to perform the following tasks:

- Use the Navigator editor to create and maintain Navigator views.
- Share existing Navigator items with new Navigator views.
- Assign managed systems to Navigator views so they can show situation event items.

In a large enterprise, people in different roles look at data in different ways. IT managers need to see a high-level overview of how their department and the systems they are responsible for are performing. They might be interested in how different geographical regions are performing. They also need to determine where more investments are necessary to keep up with growth and changing technologies. Another common requirement is to know how business-critical applications are performing and the effects of unavailable or poorly performing components.

You can meet those different requirements with Navigator views where you structure your enterprise in useful ways. During this first lesson, you customize Navigators to create different structures for your enterprise resources.

Navigator views: Description

- Use Navigator views to build different hierarchical structures of your enterprise resources that you can make available to individual users.
- Note different Navigator view types:
 - Navigator Physical view, which automatically structures every resource that is monitored through a monitoring agent when the agent connects to the hub monitoring server for the first time.
 - Navigator Logical view, which you can customize. In some cases, it already contains Navigator items that are based on previous installations.
 - Custom Navigator views, which administrators can create to represent your installed enterprise resources in different ways.
- Use the Navigator editor to create new Navigator views, or edit existing ones.

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5

Navigators views: Description

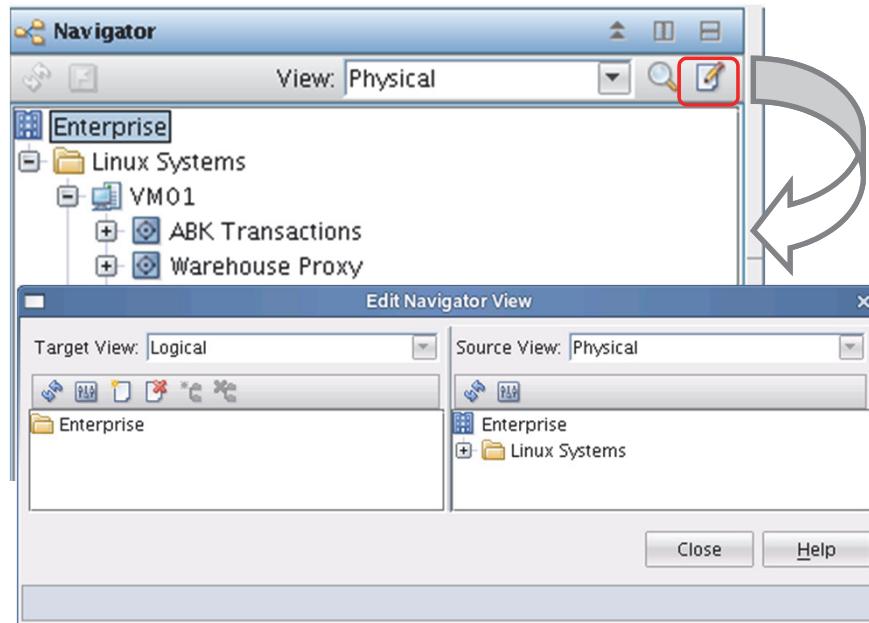
By now you have worked extensively with the Navigator Physical view. It is provided by default with Tivoli Monitoring and structures the enterprise by physical system resources. You cannot modify the structure except by adding and deleting managed systems.

Another product-provided Navigator is the Navigator Logical view. You can customize it to fit your monitoring requirements. In some cases, it already contains Navigator items that are based on previous installations.

You can add more Navigators to reflect other logical structures of your enterprise resources. Examples are mapping your resources geographically or by application dependency. For example, you can limit Navigators so only specific users can see them. You can also limit users so they can see only a subset of a Navigator topology.

Opening the Navigator editor

Open the Navigator editor from the top of the Navigator view.



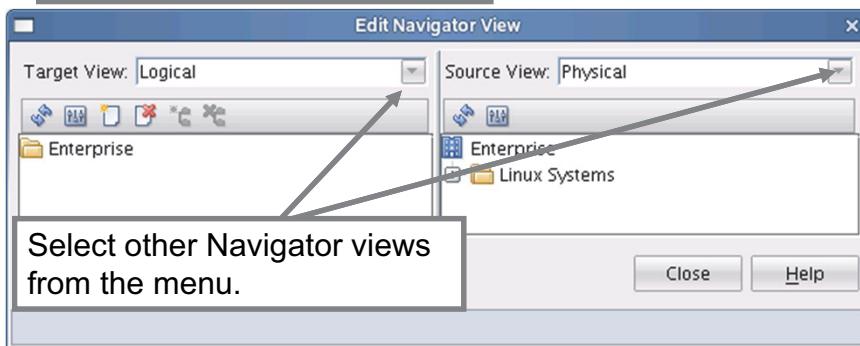
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6

Opening the Navigator editor

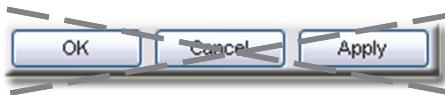
Access the Navigator editor by clicking the icon at the top of a Navigator view. The first time that you use the Navigator editor, the Physical view is in the pane to the right and the Logical view is on the left. You can modify the Navigator on the left by adding Navigator items or creating entirely new Navigators.

Using the Navigator editor



The right pane contains the Navigator views and Navigator items that you can use in other Navigator views.

Changes in the Navigator editor are immediate.



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7

Using the Navigator editor

As you see by now, the Navigator Physical view contains your installed system resources that are structured in a predefined hierarchy.

If you already have multiple Navigators available, you can select them from the pull-down menu on the top of each panel. Highlighting a different entry switches the content of the pane to the topology of the Navigator that you select.

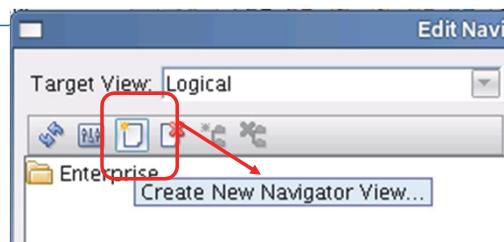


Note: Changes in the Navigator editor are immediate. The editor does not contain **OK** or **Apply** buttons. When you modify a Navigator view, it is immediately available in the Navigator area of the portal client.

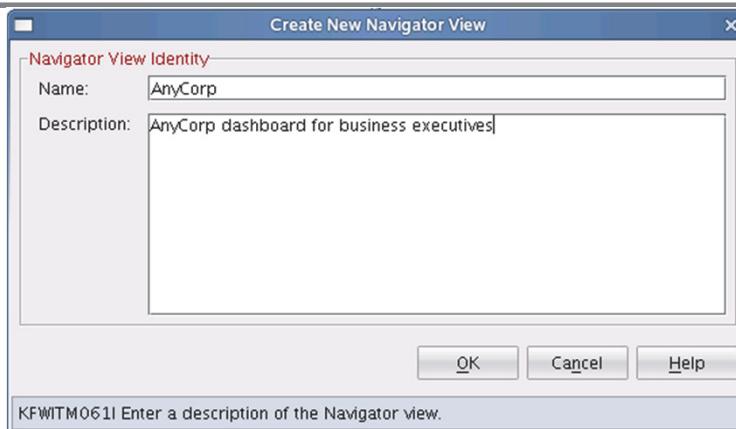
Users who are working with a Navigator when changes are implemented see update indicators for the pending changes. When they update the Navigator by clicking the indicator, the changes show in their Navigator.

Adding Navigators

To add a Navigator view, click the Create New Navigator View icon.



Type a name for the new view and an optional description.



The **Navigator** tab shows the description.

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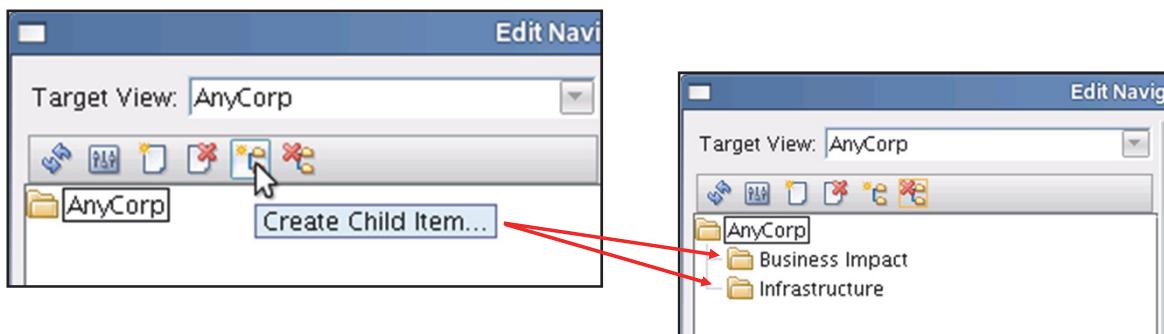
8

Adding Navigators

When you decide how your users want or need to see your enterprise components, you can start building new Navigators. Click the symbol on the top of the left pane in the Navigator editor to add a Navigator. When prompted, type a name for the Navigator and an optional description. The description is in the tab at the bottom of the Navigator view. Use these tabs to quickly switch between Navigators you open during a session.

Adding new Navigator items

1. Highlight the parent Navigator item and click Create Child Item to create a Navigator item below the highlighted one.
2. Enter a name and a description for the new item.



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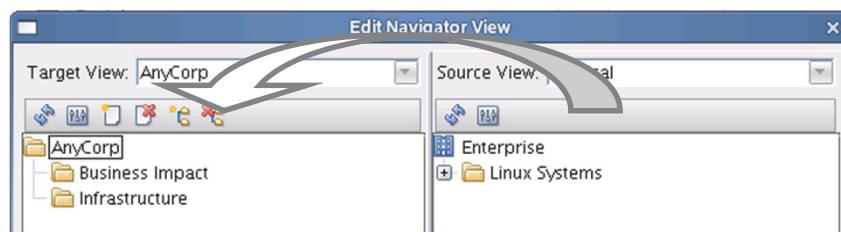
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Adding new Navigator items

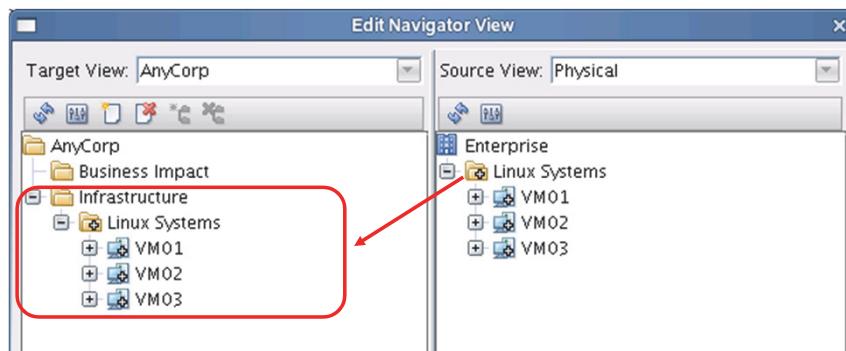
To create your topology, you must create new Navigator items. You can use the toolbar icon to create a child item, or you can right-click a Navigator item and click **Create Child Item** from the menu. Enter a name and a description for the new item.

In some cases, you must assign one or more managed systems to the new item. How to assign a managed system to a Navigator item is taught in “Monitoring managed systems” on page 260. A general rule is not to assign managed systems to Navigator items that you use for aggregating other Navigator items.

Sharing Navigator items



To share individual Navigator items or entire trees with other Navigator views, click and drag them from source to target.



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10

Sharing Navigator items

Another way of adding Navigator items to a custom Navigator is by sharing items from existing Navigators. To share a Navigator view, click and drag it from one Navigator to the other using the Navigator editor. This action creates a different instance of all the shared Navigator items.

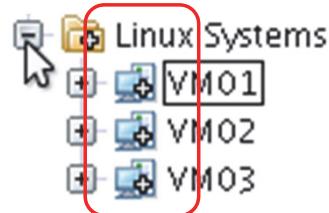


Note: Clicking and dragging does not copy the item. Rather, every modification you make to any instance of the item also affects the other instances. For example, a workspace in a shared Navigator item is available on all other instances of the Navigator item.

The only exception is deleting a shared Navigator item in one Navigator. Deleting a shared Navigator item removes only that one instance and has no affect on other instances.

Sharing Navigator items (continued)

- A plus sign (+) indicates a shared Navigator item.
- Shared Navigator items are equal versions of each other.
- Changing characteristics on an item changes them on all of its shared versions.
- Characteristics can be:
 - Workspaces.
 - Views within workspaces and assigned queries.
 - Workspace properties.
 - Links.



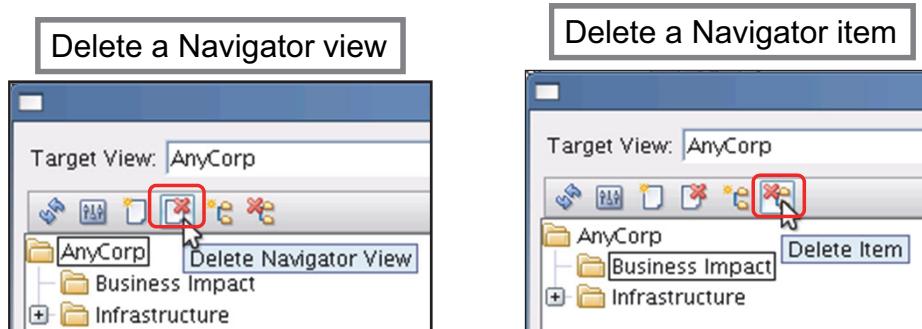
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11

A plus sign (+) on a Navigator item indicates that it is a shared item. Instances of the Navigator item occur in other Navigators.

Deleting a Navigator and Navigator items

- To delete a specific Navigator view or Navigator item, highlight it in the Navigator editor and click the appropriate delete.
- **Note:** Deleting a shared Navigator item affects only that specific item. It does not remove any other instances of the same item in other Navigators.



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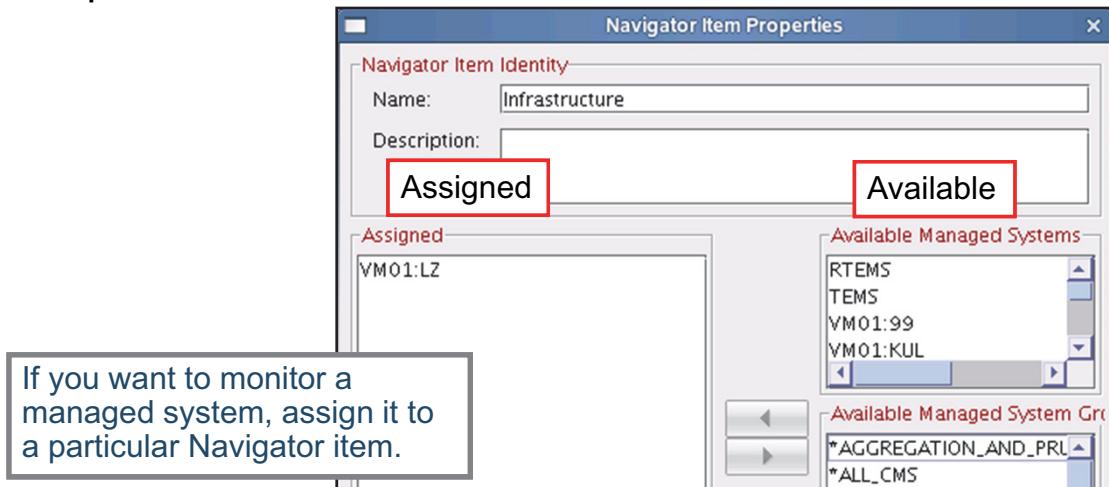
12

Deleting Navigator and Navigator items

The example on the left of this slide shows deleting an entire Navigator view. The other example shows deleting a single Navigator item. The software prompts you to confirm your action.

Monitoring managed systems

- If situations are true on managed systems, Navigator items can show them as situation events.
- You can use only Navigator items that have assigned systems, to open the situation editor.



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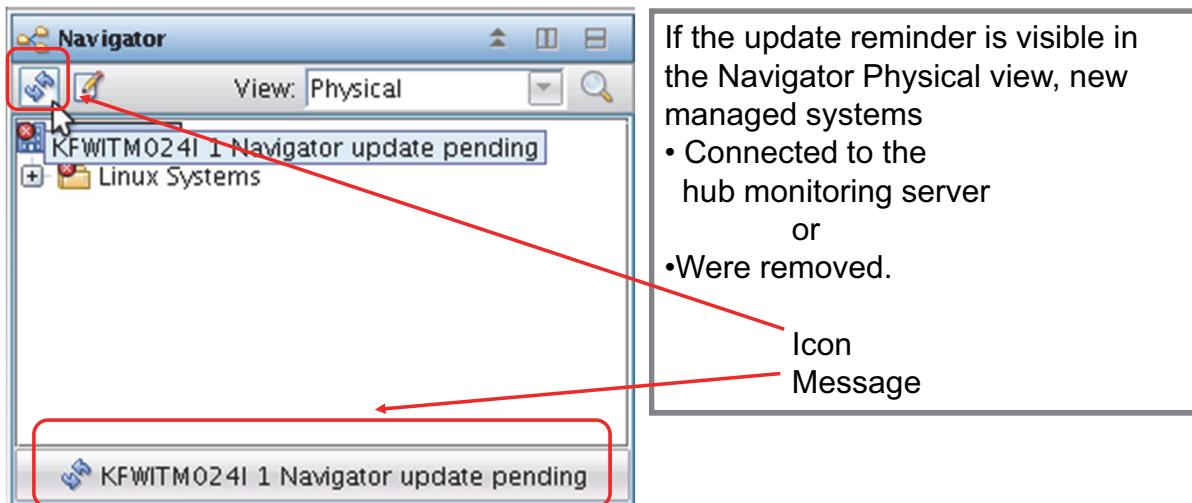
Monitoring managed systems

You can build Navigator items and assign them, or choose not to assign them, to managed systems. The main difference from a usage perspective is that the situation editor is not accessible from Navigator items that you do not assign to a managed system. Also, situation events are seen only on that particular Navigator item if situations are true in any child item. If no managed systems are assigned on or below a Navigator item, no situation events are shown there.

You cannot modify default Navigator items in the Navigator Physical view. These Navigator items are created when a managed system first connects to the monitoring server.

Updating Navigator views

- When working with a modified Navigator, refresh the Navigator view to see the changes.
- Click the update icon or the message to update the Navigator view with the pending changes.



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14

Updating Navigator views

Users often overlook the update icons that indicate pending updates for the currently open Navigator view. Both the update symbol in the upper left corner and the button on the bottom indicate pending updates. Select either one to refresh the Navigator with all pending updates. Updates are visible only for users who view a Navigator that has pending changes. If you open a modified Navigator, the software applies the changes immediately.

Hiding Navigators

You can hide Navigators from view so your workspace looks cleaner or your monitor has more space for you to work.



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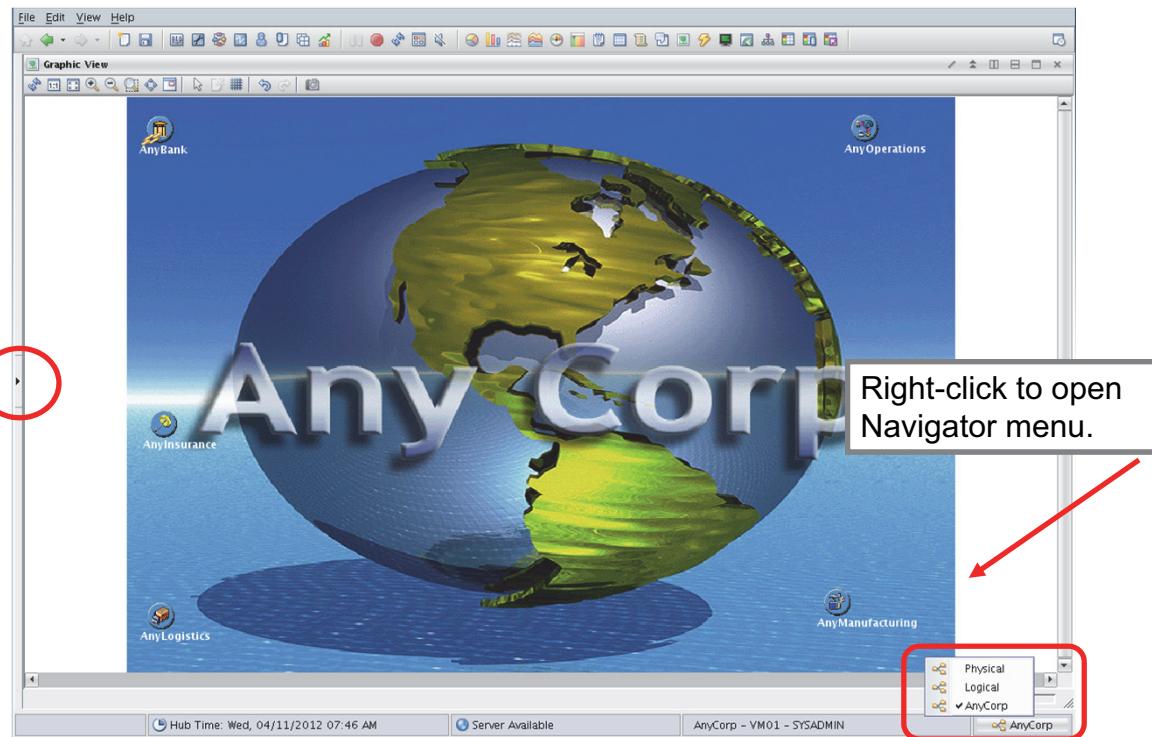
Hiding Navigators

Hiding the Navigator provides more screen space and also allows you to remove the Navigator from user workspaces if it is not needed.

The example shown represents a geographical overview that includes only a canvas with icons. The icons indicate problems, but you can also use them to drill down into the different areas to see more detailed information. The simple links that this process uses can also substitute for or eliminate the need to navigate by using the Navigator view. The portal client toolbar is hidden, and so is the graphic view toolbar.

This method is useful for providing workspaces to your business executives because they do not have to learn how to use a Navigator. Also, the dashboard looks cleaner, which might be important when showing the portal client workspace on a large screen in an executive office.

Hiding Navigators (continued)



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16

Another way of hiding the Navigator is by selecting the small button on the divider between the Navigator view and the view to the right. After you hide the Navigator, it is viewable in the lower right corner of the application window. A right-click opens a list of all available Navigators. You can restore the current selection or move to a different Navigator view.

Assigning Navigator views to users or groups

- A user or group ID controls access to Navigator views.
- Only users or groups who are assigned to Navigator views can open them.
- When a user creates a Navigator view, that view is automatically assigned to the user ID.
- An administrator can limit access to a Navigator view sublevel so that users or groups can view only a subset.

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17

Assigning Navigator views to users or groups

When you create a Navigator, your user ID is automatically assigned to it. Your user ID is the only one that can access the new Navigator view. For other users to also have access to the Navigator, someone with privileges must use the administer users editor to assign it to them.

Student exercises



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18

Student exercises

Open your *Student Exercises* book and perform Exercise 1.

Lesson 2. Defining data collection rules

Lesson 2: Defining data collection rules

- While developing a solution, you might sense you need more data to effectively monitor your applications and business areas.
- Your next task is to define data collection rules that you use for extracting needed data from your agents and other data sources.
- An important aspect of collecting information is to collect only the data you need and filter out the rest. This filtering can positively impact the system performance by reducing the amount of data that is transmitted through the network.

What this lesson is about

So far during this course, you used product-provided queries to retrieve data from the agents. The focus of this lesson is to provide more information about what the queries do.

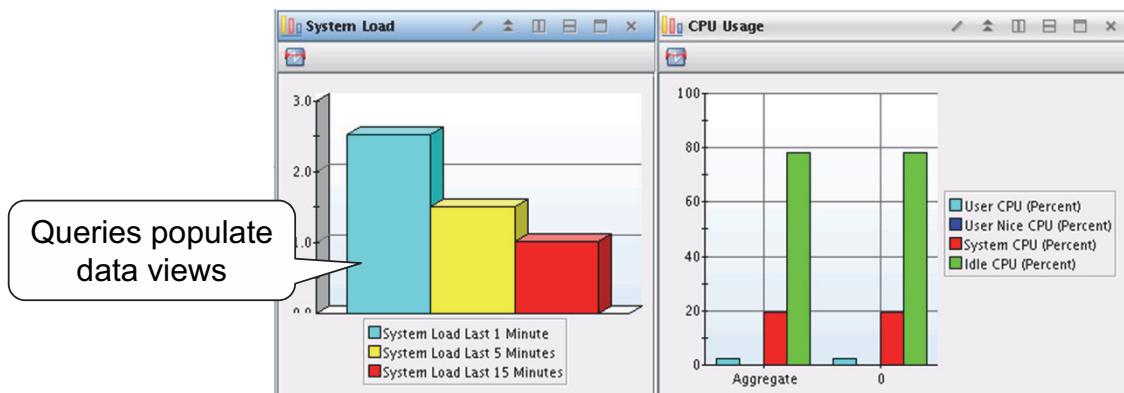
Creating custom queries is taught in the IBM Tivoli Monitoring Advanced Administration course.

What you should be able to do

After completing this lesson, you should be able to use the query editor to select product-provided queries to populate your data views.

Queries: Description

- A query defines the data that is requested from a Tivoli Enterprise Monitoring Agent or other data source when someone opens or refreshes a workspace.
- Queries are only for table views and chart views.
- Demand from the portal client drives queries.



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20

Queries: Description

All visible data in table and chart views depends on queries.

Through those queries, you define the data that comes from a data source whenever someone opens or refreshes a workspace. Most agents come with a set of predefined queries, which you can use to retrieve performance data from the agent. This data is shown in product-provided workspaces within the Navigator Physical view.

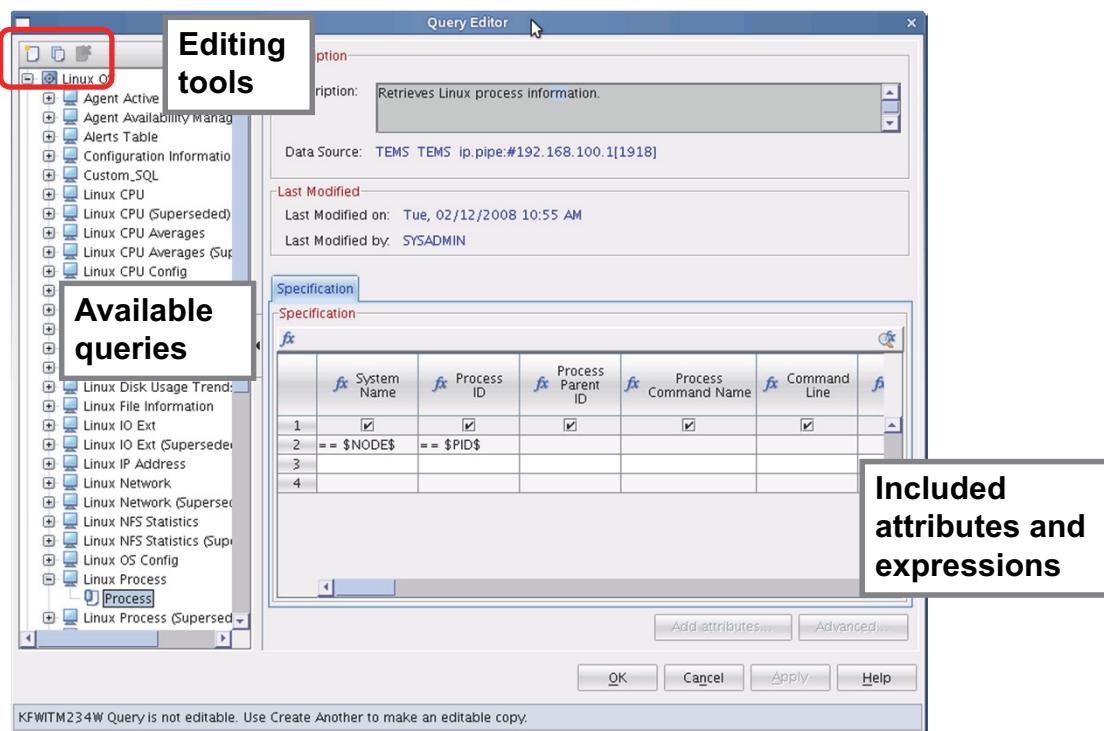
Product-provided queries

- IBM provides a set of predefined queries to retrieve all data that Tivoli Enterprise Monitoring Agents collect.
- You can control the data available in the portal by creating your own queries.
- Queries can include data from Tivoli Enterprise Monitoring Agents or other data sources.
- The portal server uses DB2 UDB or Microsoft SQL Server. You can also write queries against those tables.
- When you issue a query, you filter at the source.

Product-provided queries cannot be modified.

All agents come with a set of product-provided queries, which you use to retrieve the data that each agent collects. You cannot modify these queries. Use product-provided queries as models to create your own. You can also create queries to retrieve data from the data sources with ODBC or JDBC. Creating custom queries is taught in the IBM Tivoli Monitoring Advanced Administration course.

The Query editor



22

The Query editor

You can open the Query editor several ways:

- Click the toolbar icon.
- Click **Edit > Query**.
- Press Ctrl+Q.
- Select the editor from the view properties.

Anyone who has the authority to modify or view queries can open the Query editor. If the permissions are set to **view** queries only, the editing buttons are unavailable and you cannot change the query specifications.

The list of available queries depends on the product application support that your portal server contains.

Lesson 3. Organizing the presentation space

Lesson 3: Organizing the presentation space

- In the next step, you define what your users can see and access. You build workspaces and views that provide information in ways relevant to their interests and responsibility.
- Building workspaces includes using different types of views and arranging them to show your resource data meaningfully.

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23

What this lesson is about

This lesson teaches you how to create new workspaces from existing ones. You can assign new view types and set their properties. You can save workspaces that you create without modifying product-provided workspaces. After completing this lesson, you should be able to perform the following tasks:

- Customize workspaces and views.
- Select view types from the toolbar.
- Set view properties.
- Save workspaces.

What you should be able to do

It is up to each customer to decide whether users can change their workspaces and views or not. In either case, it is important to provide them with workspaces that show the information in a way that helps them do their job. During this lesson, you learn how to create workspaces and views.

Customizing workspaces

1. Split a view in a workspace.
2. Select a view type.
3. Modify the view properties.
 - View properties editor.
 - Assign queries.
 - Set thresholds.
 - Set filters.
 - Modify styles.
4. Rearrange views.
5. Save the workspace with a new name.

To create a new workspace, save an existing one under a new name with the **F12** function key. You cannot modify product-provided workspaces.

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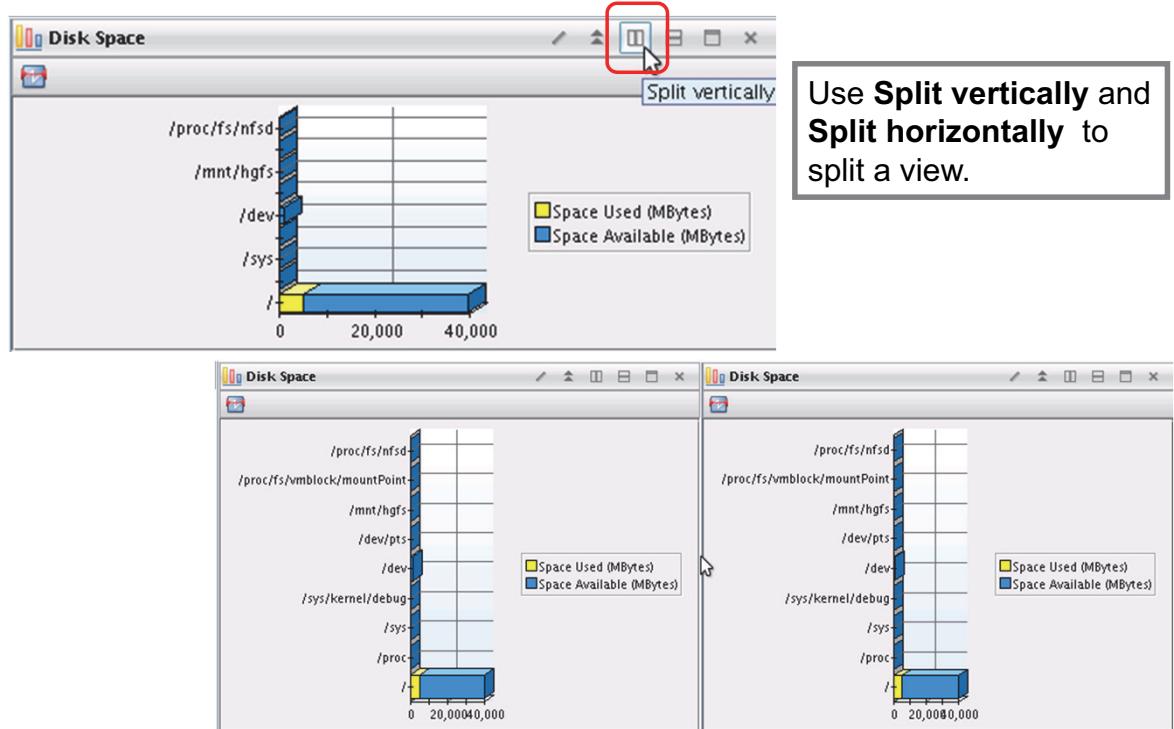
24

Customizing workspaces

This slide lists the steps necessary to create new workspaces. Besides adding new panes to the workspace, you must define the types of views you want to include. Depending on the chosen view types, you then modify the view properties to show the data meaningfully.

As a general guideline, start with a table view before including a chart. This practice ensures that you collect and show only the data that you are interested in before customizing.

Splitting a view in a workspace



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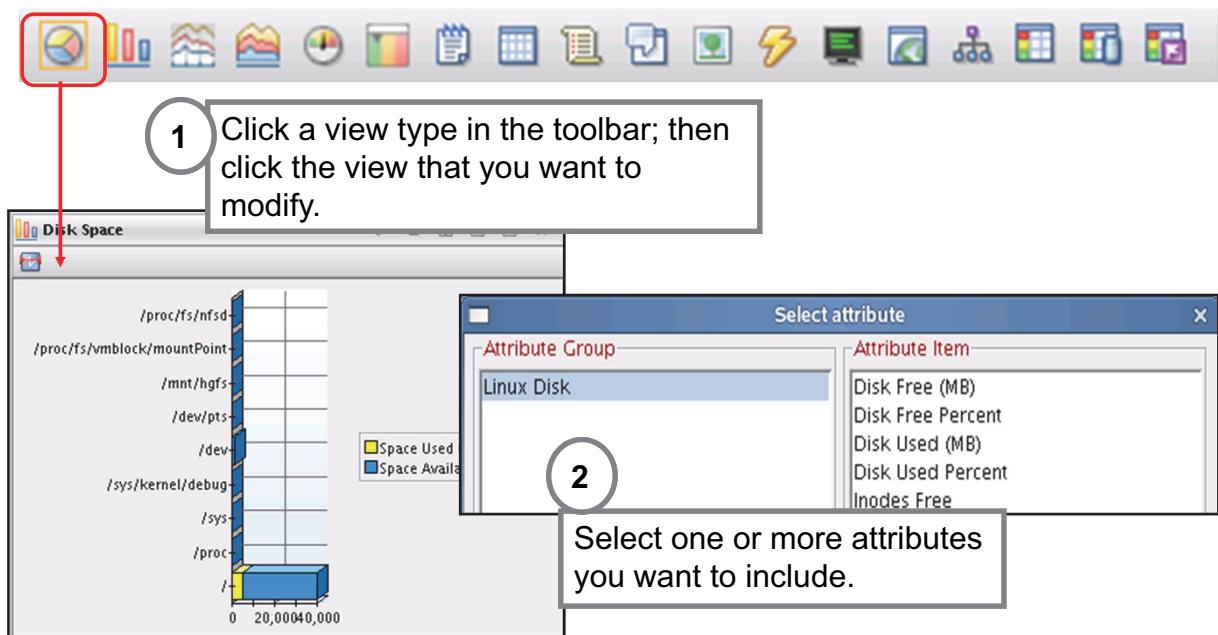
25

Splitting a view in a workspace

Creating views is a matter of splitting one view into two equal views and modifying one of them. When splitting views, both views are based on the same query and style settings. You can modify them later.

The product does not limit the number of views you can create. The size of your screen and the screen resolution determines the number views that are practical for one workspace.

Selecting a view type



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26

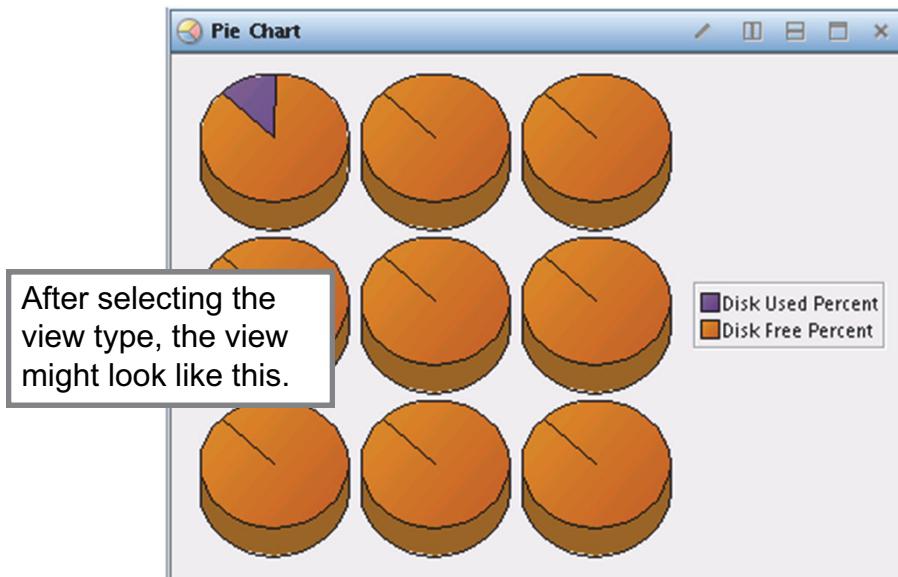
Select a view type

When you click a view type into one of the two views, a prompt opens for you to select a query. When splitting views, both views are based on the same query and style settings. You can modify them later.

Some views, for example, the Situation Event Console, browser, terminal, or notepad, are not based on queries and do not require you to select attributes.

If you decide not to keep changes, navigate to a different workspace and reply **No** to the prompt to save your changes.

Selecting a view type (continued)



- The result might not be optimal.
- The next step is to open the view properties and change the settings to show the information more meaningfully.

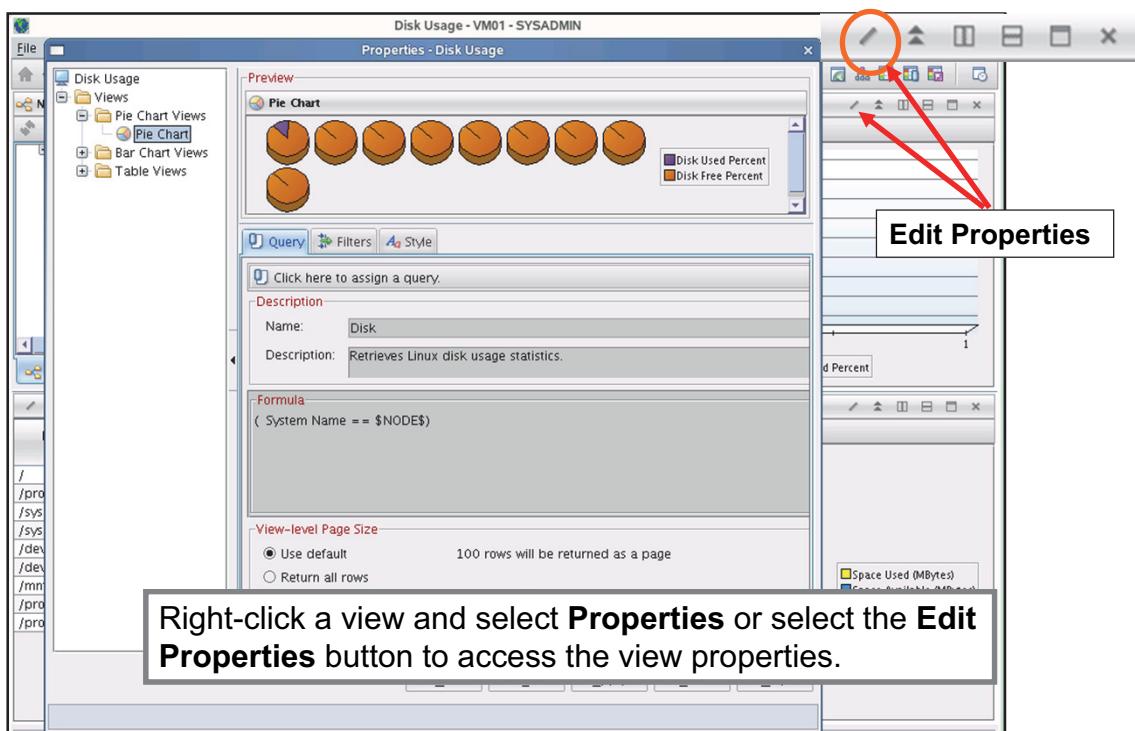
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27

After you confirm the selection of the view and the attribute group, the workplace shows the new view.

This example is the **Disk Usage** view on the **Linux OS Disk Usage** workspace, which was a bar chart. As you can see on the slide, the result might not be meaningful. To change the view to better show the data, you access the view properties and adjust the settings.

Modifying the view properties



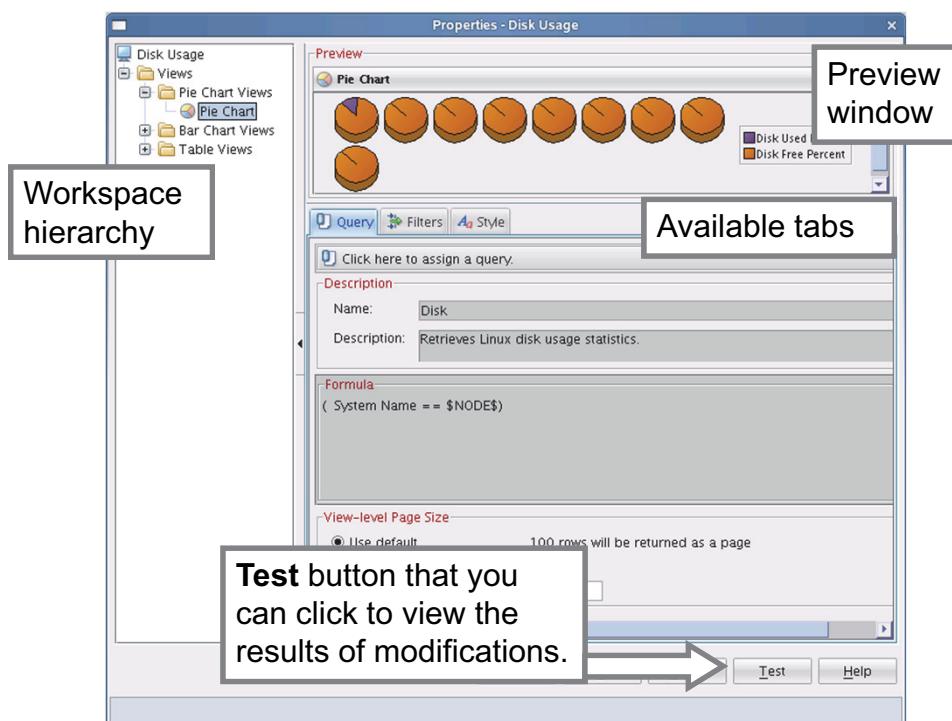
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28

Modify the view properties

To access the properties of a view, right-click in the view and click **Properties**. You can also view properties through the workspace properties by navigating to the specific view within the properties editor. The available options in the properties editor depend on the type of view you are working with.

The view properties editor



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29

The view properties editor

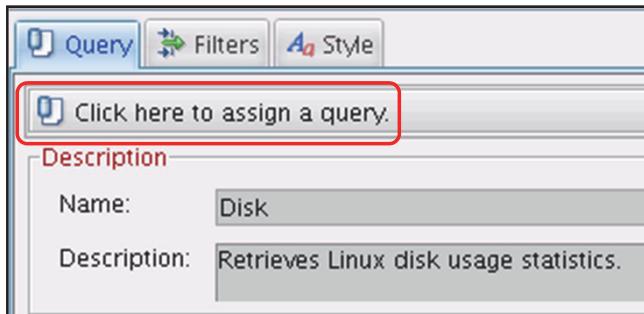
Whether you access the properties from the toolbar or from a view within the workspace, you can switch between properties. Use the Navigator on the left side of the editor to select the view that you want to modify. Use the tabs on the right side of the editor to change properties. The number and content of the available tabs depend on the type of view or workspace you select.

Use the **Test** button on the bottom of the page to validate the changes before you apply them to the view by clicking **Apply** or **OK**. The changes are visible in the **Preview** window in the upper right pane of the editor.

Some settings, such as header and footer modifications, update immediately and do not need the Test button.

View properties: Assigning queries

- To assign a new query to a view, click **Click here to assign a query**.
- The **Query** tab shows information about the currently assigned query, such as
 - Name
 - Description
 - Formula



Note: Only data views have queries.

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30

View properties: Assigning queries

When you access the view properties, the editor shows the query upon which the available data is based. Select the **Click here to assign a query** button to access the Query editor to create, modify, or select queries.

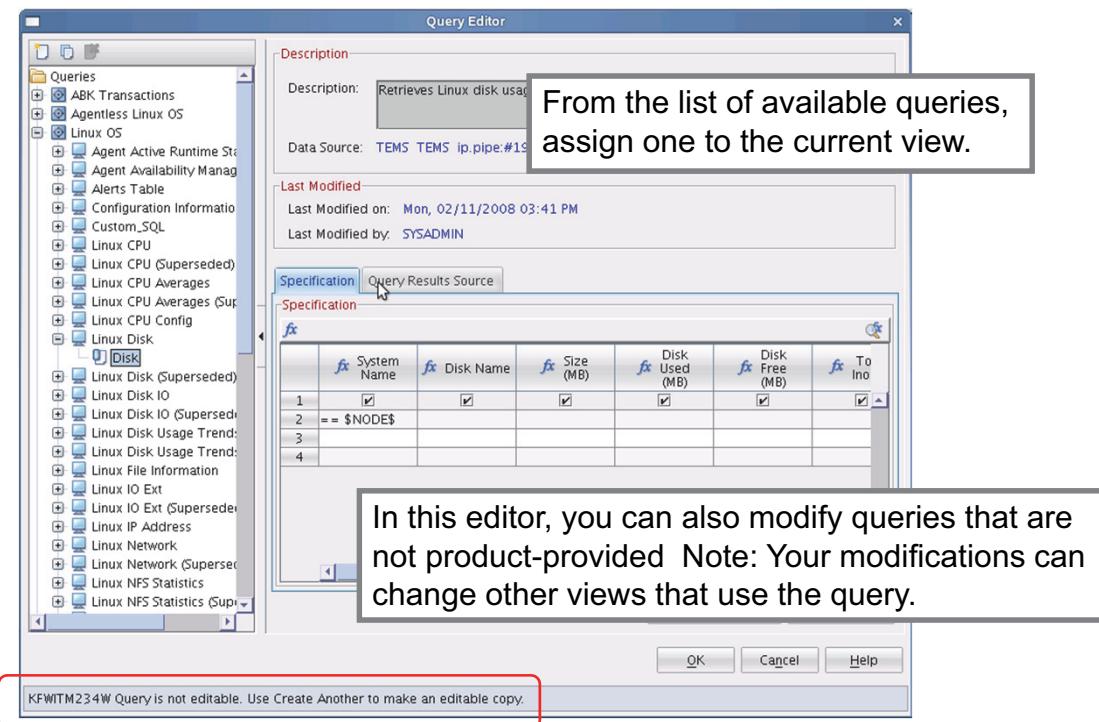


Note: You must have all necessary permissions. Any user who wants to open the Query editor and change the query that is assigned to a view must have **view** authority for queries.

You use **modify** authority to create new queries or change existing ones. Query modifications are user ID independent, so typically only administrators have **modify** permission.

In most cases, it does not make sense to open the Query editor to see what attributes the agent returns. If you want to use only a subset of the data you receive from a query, you can set your own filters.

View properties: Query editor



31

View properties: Query editor

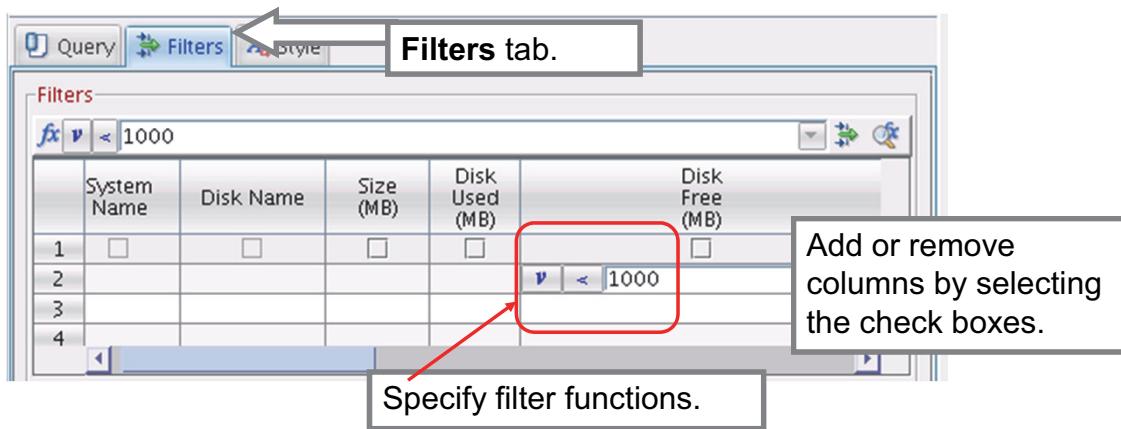
In the Query editor, you can choose different queries from the same or a different attribute group. Which queries are available depends on the assigned managed system.

Descriptions of queries are in Lesson 2, “Defining data collection rules” on page 266.

Note: Queries are not specific to a particular user ID. Changes that are made to a query can have an impact on other views that are based on it. If you are the administrator for the monitoring solution, plan carefully who in your enterprise can make this type of change.

View properties: Filters

- Filters in the view properties provide an easy way to limit the data you include in your views.
- Filters apply after the data returns from the data source. Because filters save with the workspace, they are specific to the user ID.
- You can include or exclude attributes and also use functions.



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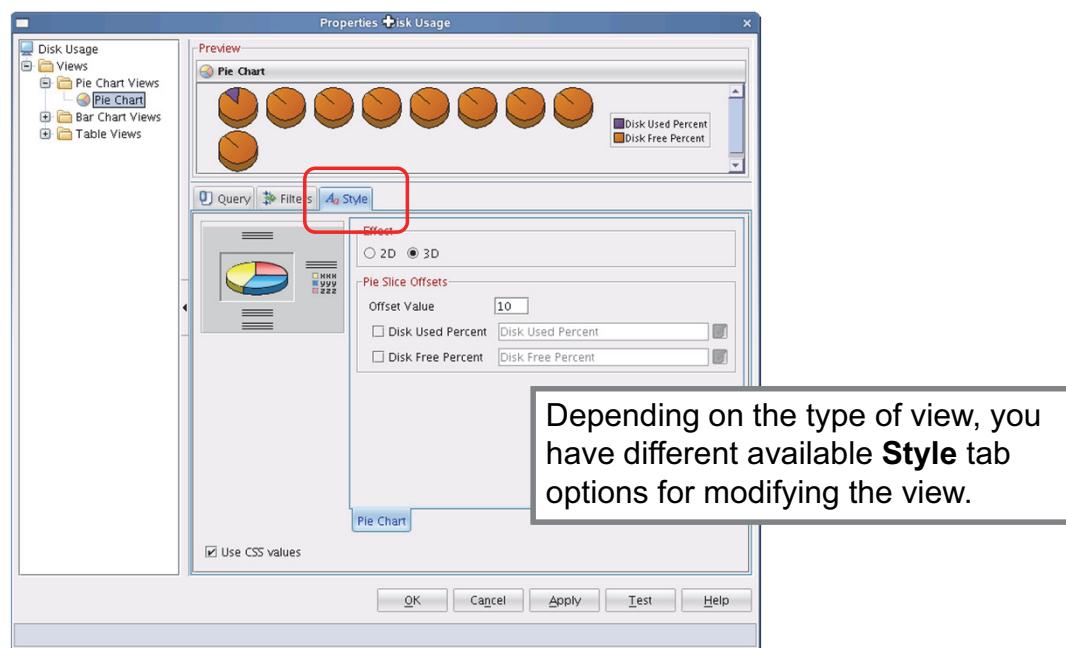
32

View properties: Filters

View properties filters are applied after the data returns from the agent. Users define their own filters, which are stored with the user data and are accessible only by that user. These filters apply to all the user's views.

View properties: Modifying styles

Styles define the visible characteristics for a view.



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33

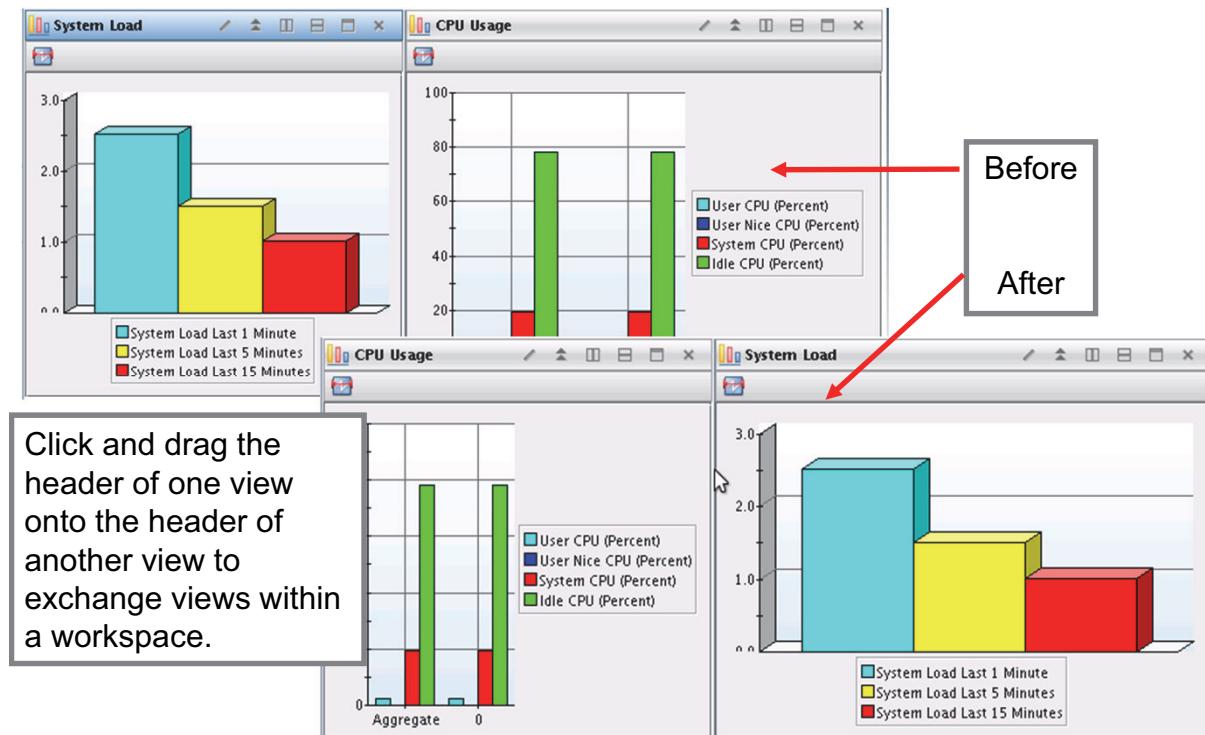
View properties: Modifying styles

Style settings depend on the type of view you specify them for. Although most views have a **Style** tab, there are major differences between the amount and type of settings that you can adjust for each one.

To view or change certain style settings, select the plot area in the left panel of the editor. Depending on the type of view, you can adjust a footer, header, value, legend, category, and the graphic itself.

After you highlight a section, you can view and change the settings in the right pane of the editor. Each setting can still have multiple tabs available, shown in the lower right pane, to adjust the appearance of the view.

Rearranging views



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34

Rearranging views

It is important to plan the layout of your workspace before including views. However, you can rearrange the locations of views in a workspace by selecting the header of one view and dragging it onto the header of another.