servicenow

Event Management Fundamentals

lab guide

Washington DC edition

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Contents

Overview
Event Generator and Event Test

Lab 1.1
15m

Lab Objectives

You will achieve the following objectives:

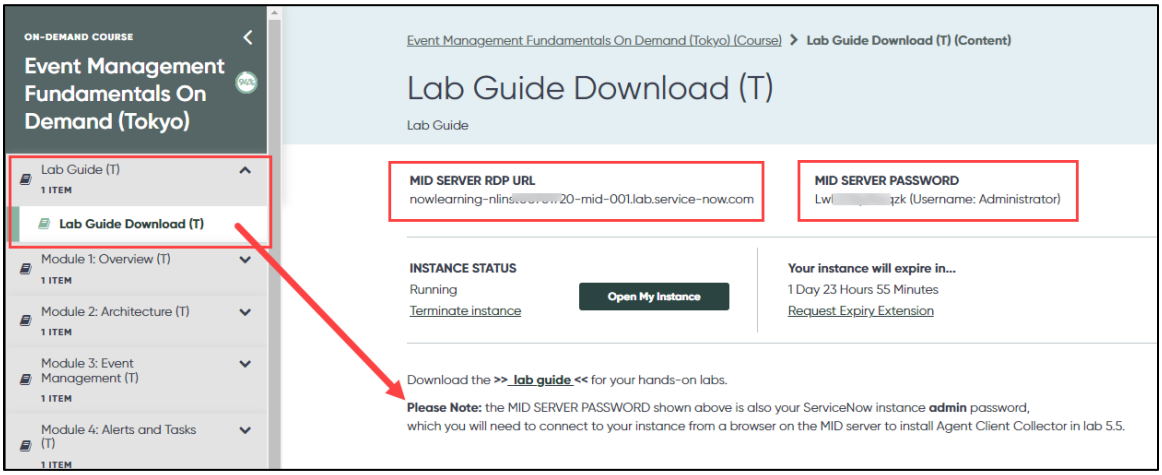
- Use the Event Generator (simulation application) to test the configuration.

Scenario

In this course, you will use the event generator to simulate the arrival of a new event. The event generator simulates various event sources providing event data directly to the event table in your ServiceNow instance.

> ***IMPORTANT NOTE:*** *Login information for your personal ServiceNow instance and Windows MID Server are found on the Now Learning course page. The MID SERVER PASSWORD shown is also your ServiceNow instance* ***admin*** *account password.*

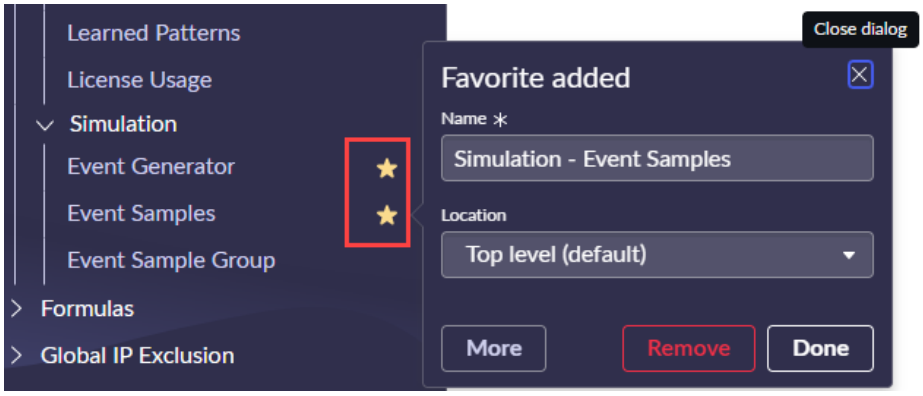
Access the course page in Now Learning to request and access your lab environment.



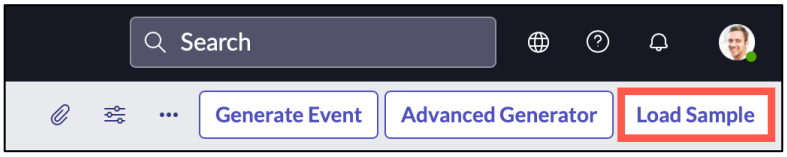
A. Confirm Event and Associated Alert are Generated in Your ServiceNow Instance

1. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator.**

Tip: *Click the star to the right of the Event Generator AND Event Samples to add them to your Favorites list for quick future access.*

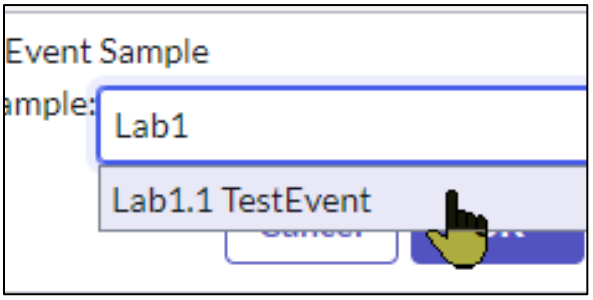


2. In the upper right, click **Load Sample**.

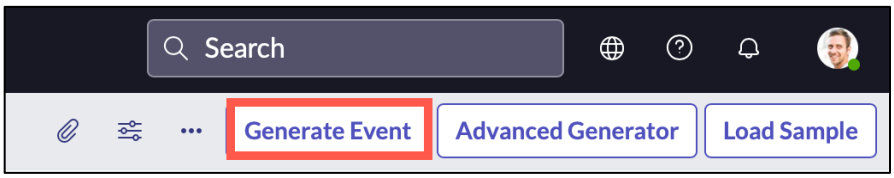


3. In the Choose Event Sample dialog box, enter **Lab1** and wait for the filtered list.

4. From the list, select **Lab1.1 TestEvent** and click **OK**.

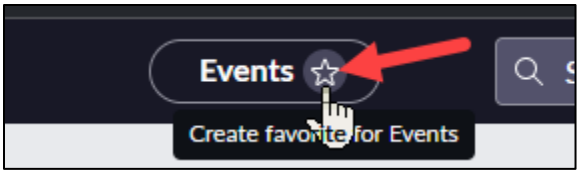


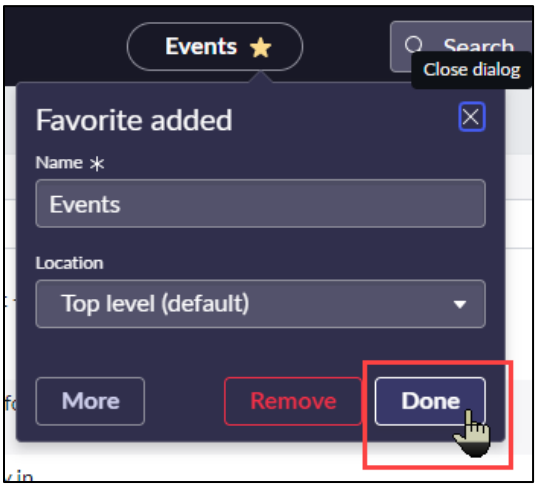
5. Review the sample event then click **Generate Event**.



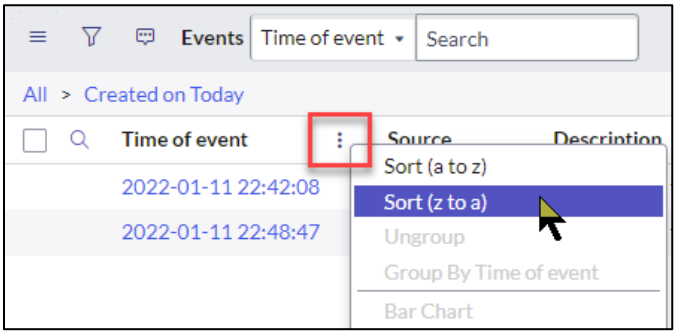
6. You are redirected to All Events. **Refresh** the list to see the event just fired.

7. Use the Contextual app pill in the menu bar to **favorite** the Events list.



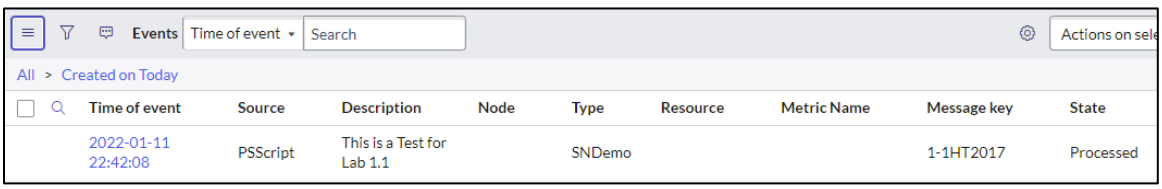


8. From the menu on the **Time of event** column, click **Sort (z to a)**.

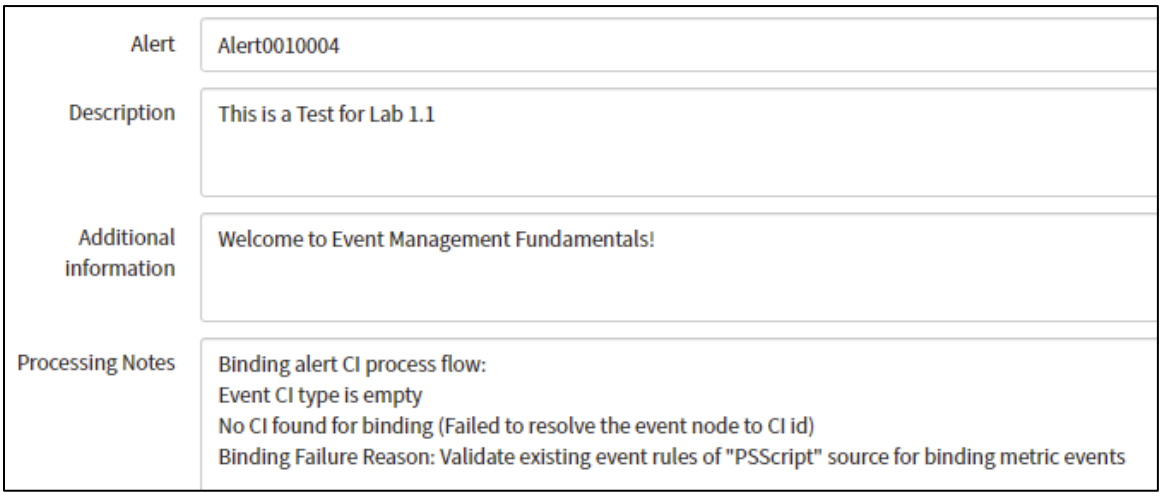


> Note: *This sorts the events list by the latest recorded event; your new event should be near the top. You may also see a series of events with a Source of EMSelfMonitoring. These are generated by Event Management self-health monitoring.*

9. Observe the created event.



10. Click on the link in the **Time of event** column to open the event and scroll down to the Alert field.

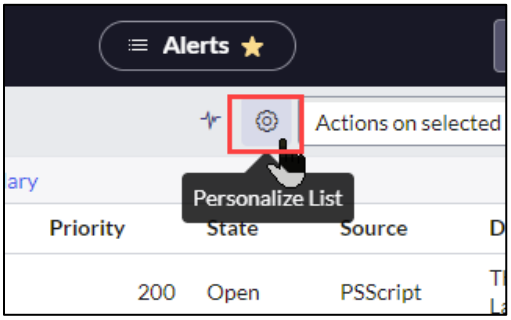


Note: *An alert generates, and the event-processing engine creates Processing Notes. The engine could not find an associated CI for the event; thus, the alert is "unbound". Your alert number may differ from that shown here.*

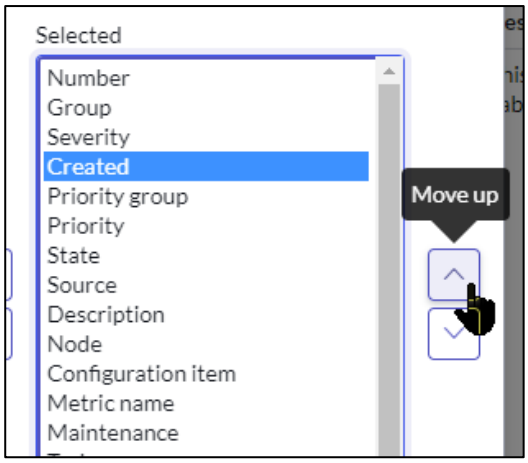
11. Navigate to **Event Management > All Alerts**.

Note: *Use the Contextual app pill in the menu bar to **favorite** the Alerts list.*

12. Click the **Personalize List** icon and add **Created** to the Selected column.

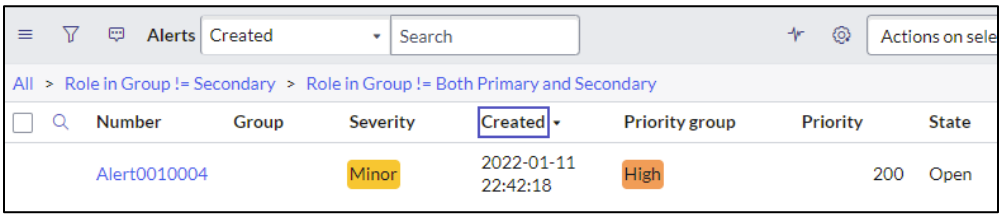


13. Using the **Move up** arrow to the right of the **Selected** pane, position **Created** after **Severity**.



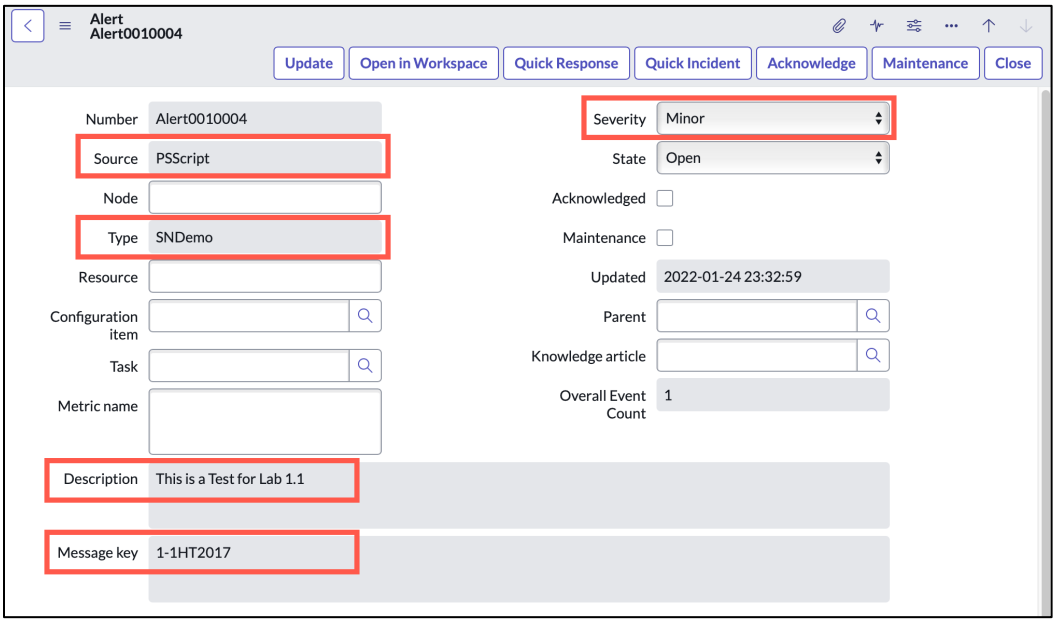
14. Click **OK.**

15. Sort the list by the **Created** column by clicking on the column header.



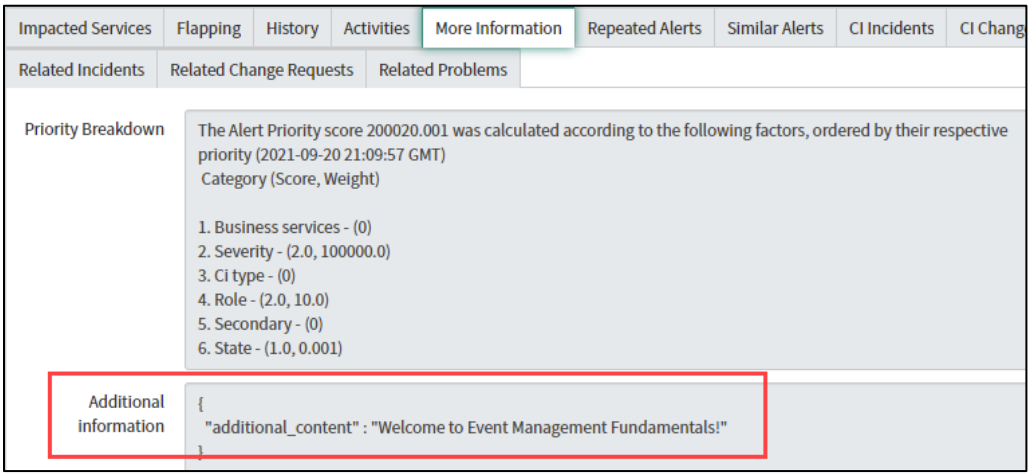
Note: *An alert generates from the event with Source **PSScript**.*

16. **Open** the alert with the source of PSScript.



Note: *Fields populated by the event include: Source, Type, Description, Message key, and Severity. An alert is the actionable piece of Event Management.*

17. Scroll down to the Related Search Results section and select the **More Information** tab.



Congratulations on completing the lab!

Overview
Explore Guided Setup
Validate the MID Server

Lab
1.2
10m

Lab Objectives

You will achieve the following objectives:

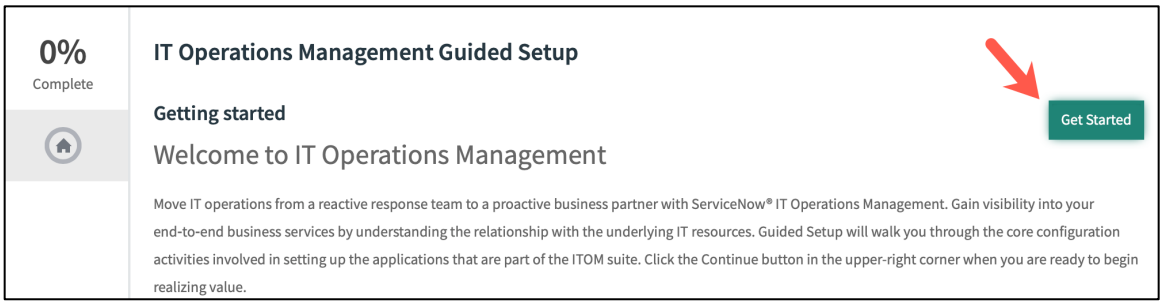
- Explore the ITOM Guided Setup application and use it to validate the MID Server

Scenario

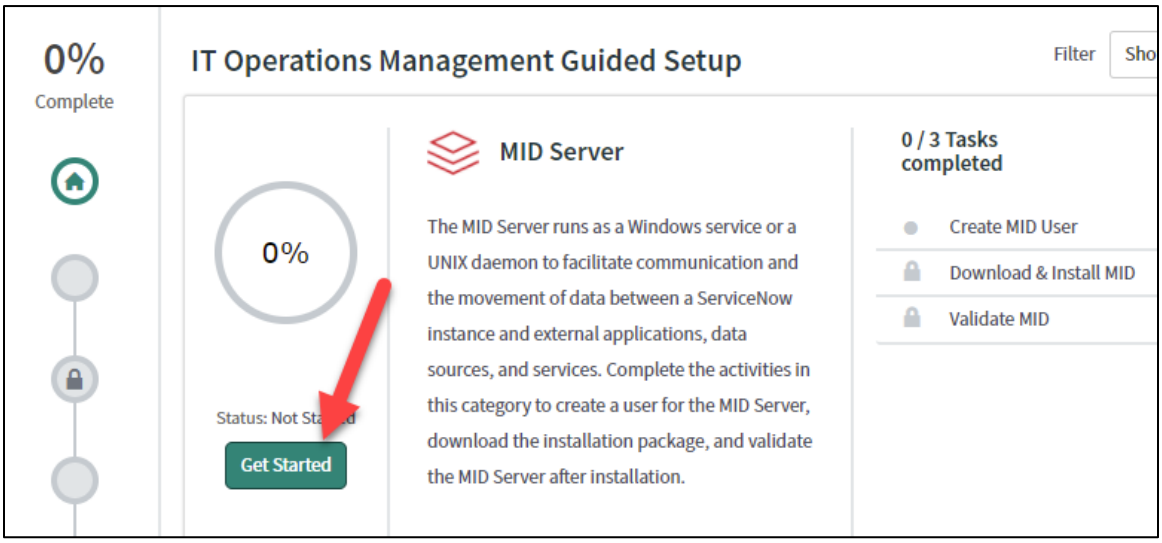
ITOM Guided Setup helps in your Event Management deployment. Explore its features and use the MID Server setup to validate the preinstalled MID Server. More information about the MID Server will be covered in the next lesson.

A. Explore ITOM Guided Setup

1. Navigate to **Guided Setup - Legacy > ITOM Guided Setup**
2. Review the landing page, then click **Get Started.**

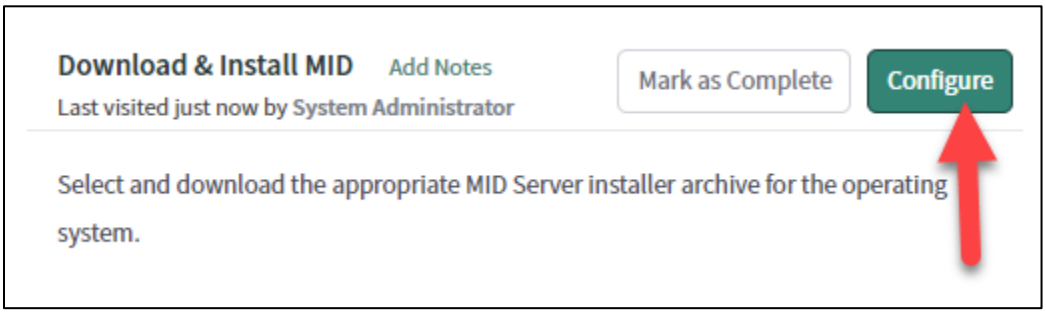


3. Since many ITOM products depend on the MID Server, it is at the top of the stack. Review the applications available for Guided Setup.
4. The MID User has already been created and the MID Server has already been installed, but the instance is not aware of this since it was done through automation of your class environment. In the MID Server section, click **Get Started**.



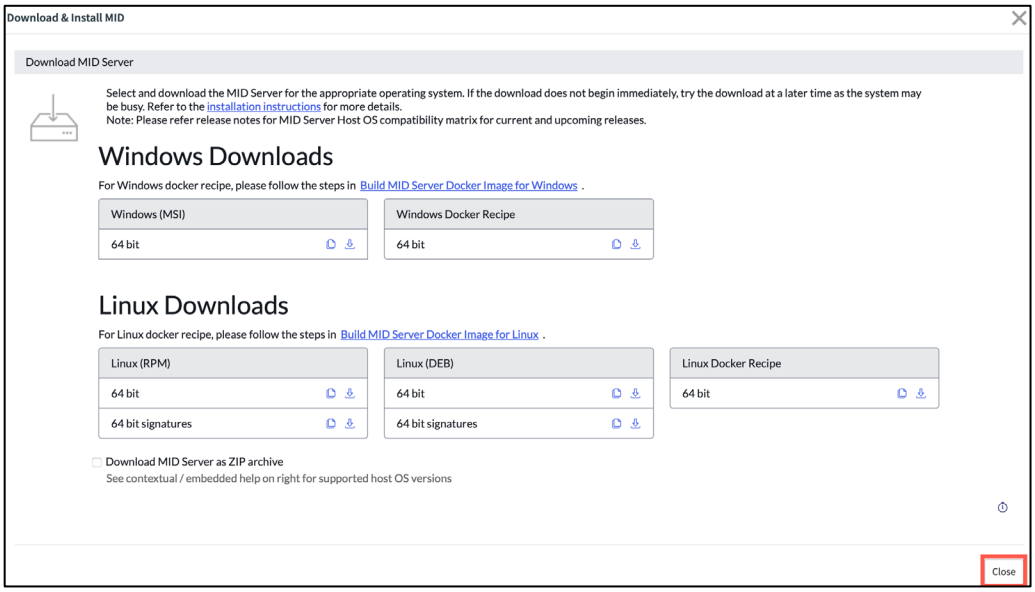
5. Next to Create MID User, click **Mark as Complete**.

6. Next to Download and Install MID, click **Configure.**

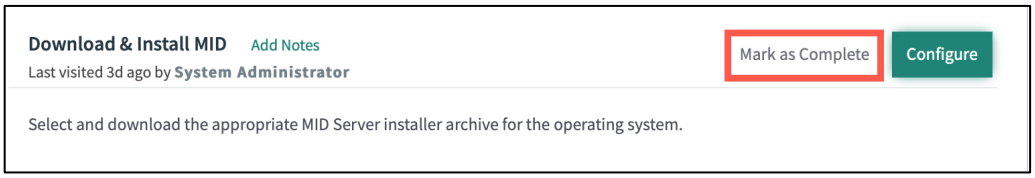


7. Review the available download packages. You can connect to this page from the server you plan to install the MID software on or download and transfer it. Click

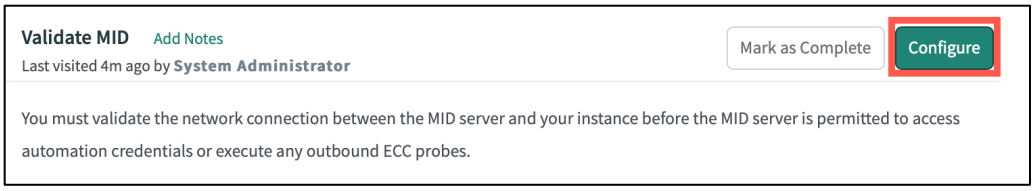
Close or browser back button.



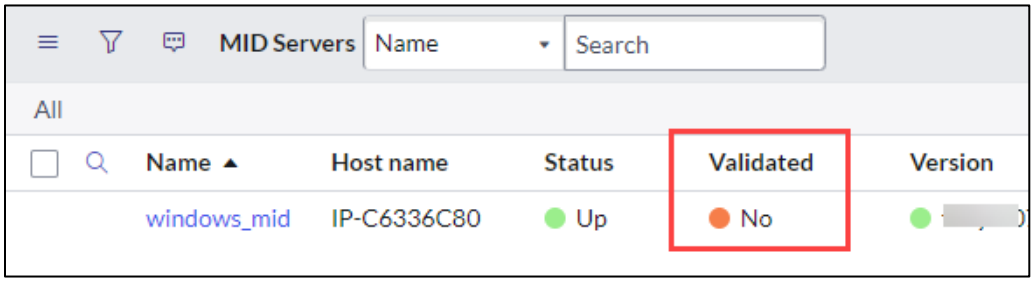
8. Click **Mark as Complete.**



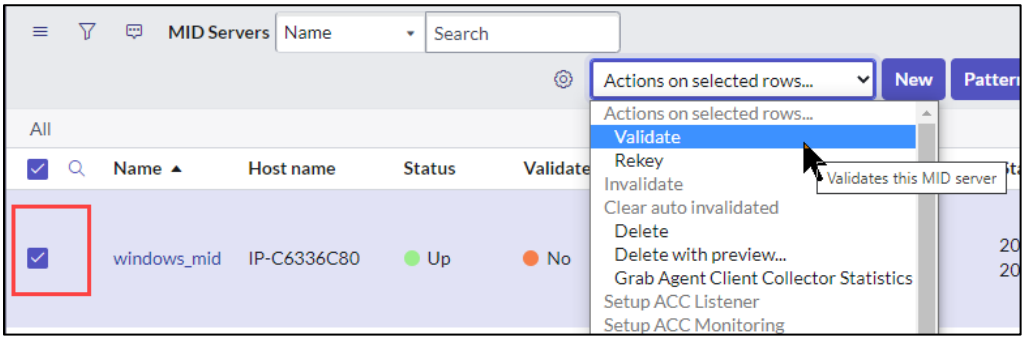
9. You should now show 2/3 tasks completed. Next to Validate MID, click **Configure**.



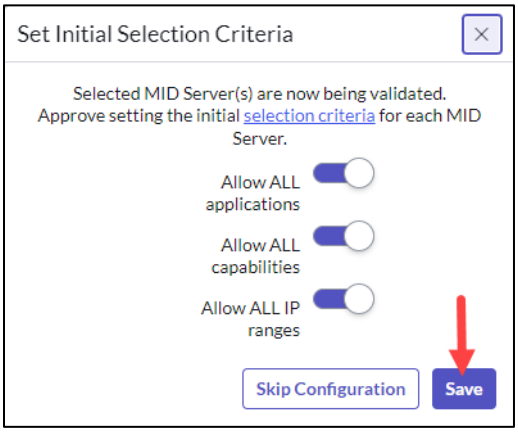
Note: *The MID server list opens showing the single MID installed named* ***windows_mid****. Note that this MID is not yet validated.*



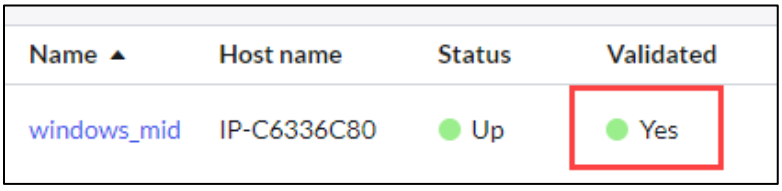
10. Check the box next to the MID (hover over to appear), and from the Actions menu, select **Validate.**



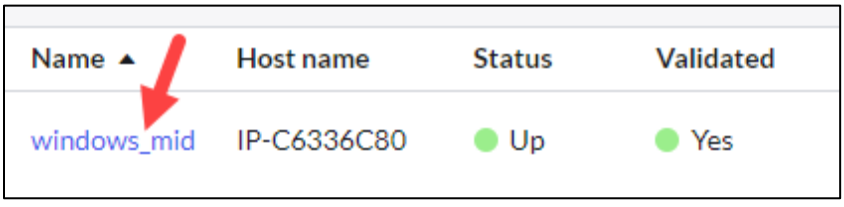
11. Leave the ALL defaults and click **Save**.



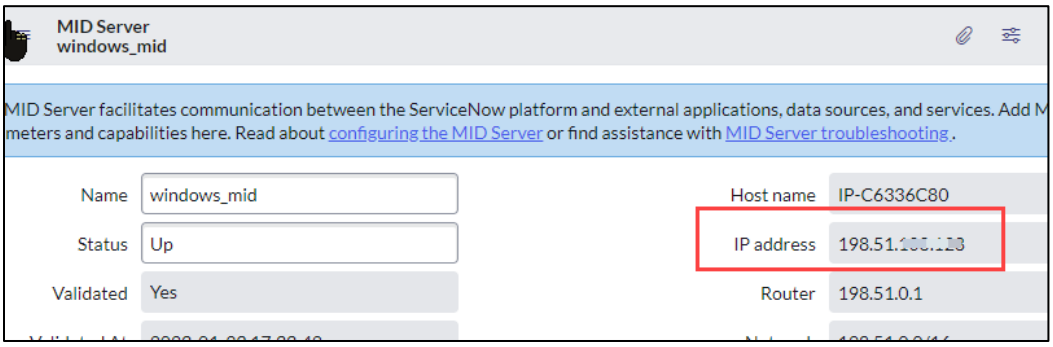
12. After about 1 minute, refresh the list. Confirm **Validated = Yes**.



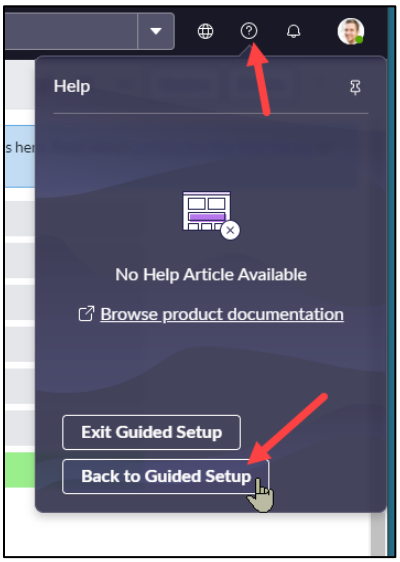
13. Open the MID record by clicking the name.



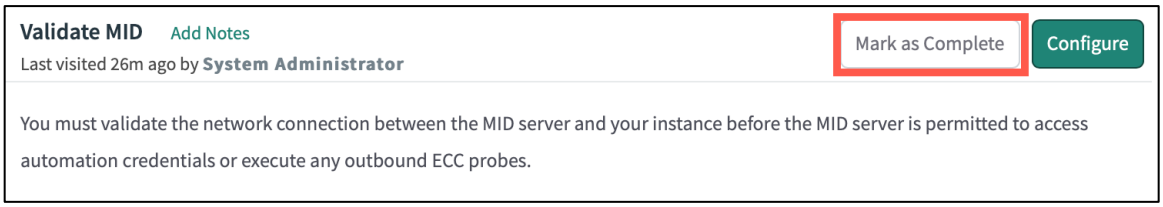
14. Locate the **IP address** field and save the private (internal) IP address of the MID for subsequent labs.



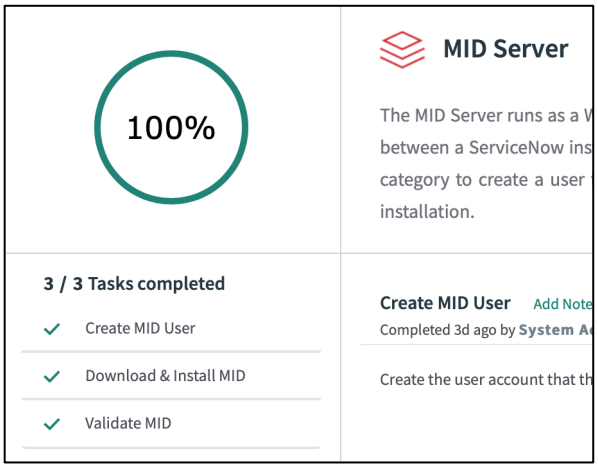
15. Click **Show Help** icon then **Back to Guided Setup**.



16. In guided setup, validate MID section, click **Mark as Complete**.

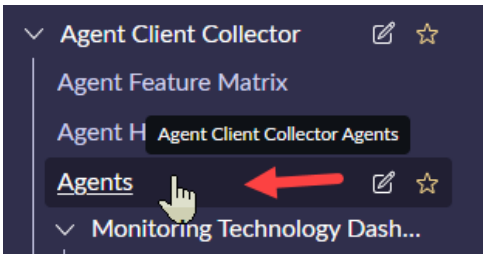


17. MID Server should now show 100%.

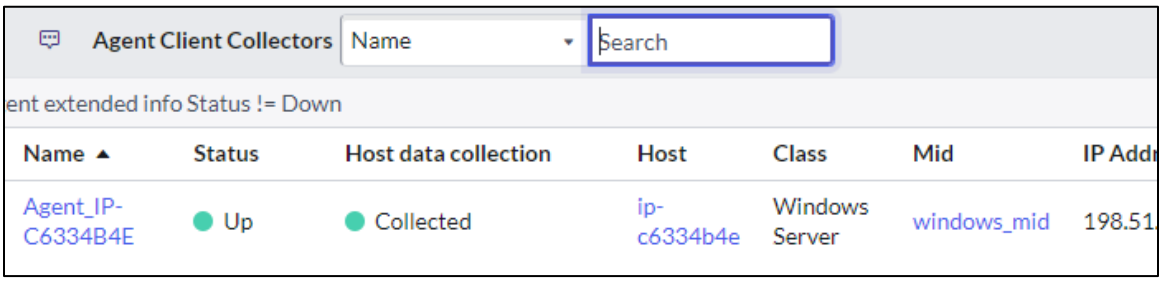


B. Validate ACC Agent Installation

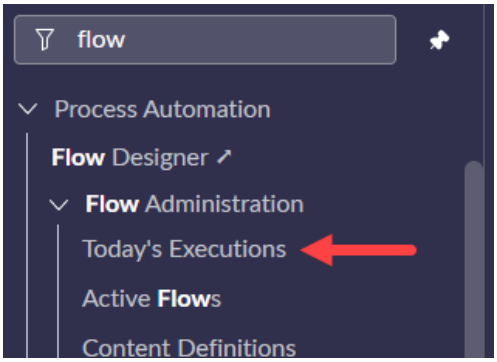
1. Navigate to **Agent Client Collector > Agents**.

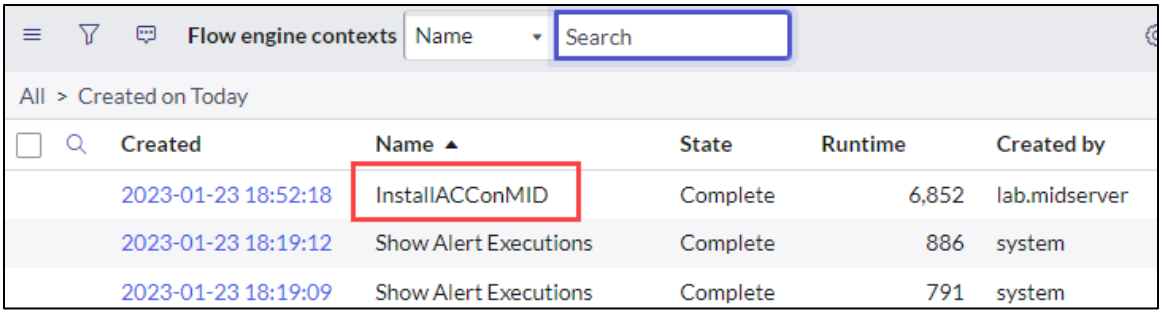


2. The ACC agent installation takes approximately 5 minutes to complete after validating the MID. You should show 1 agent **Up** with Host data **Collected** in the list.



3. You can see the flow execution that installs the ACC agent with **Process Automation > Flow Designer > Flow Administration > Today's Executions**.





Congratulations on completing the lab

Architecture
Create Application Services

Lab 2.1
30m

Lab Objectives

You will achieve the following objectives:

- Set existing application service's criticality and status
- Generate an infrastructure event against a node within an application service
- Navigate the Event Management Service Operations Workspace
- Navigate application service maps

Scenario

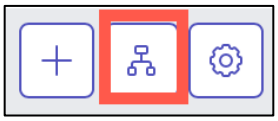
In this lab, two manually created application services have been defined on your lab instance based on CIs in your CMDB. *Business criticality* and *operational status* have not been set. Set those fields to define how the applications appear in Service Operations Workspace. Fire a sample event against a node within one of the application services to view how the overall Event Management process operates.

> Note: *These example services are used for demonstration purposes throughout the remainder of the class.*

A. Update application services for display in Service Operations Workspace

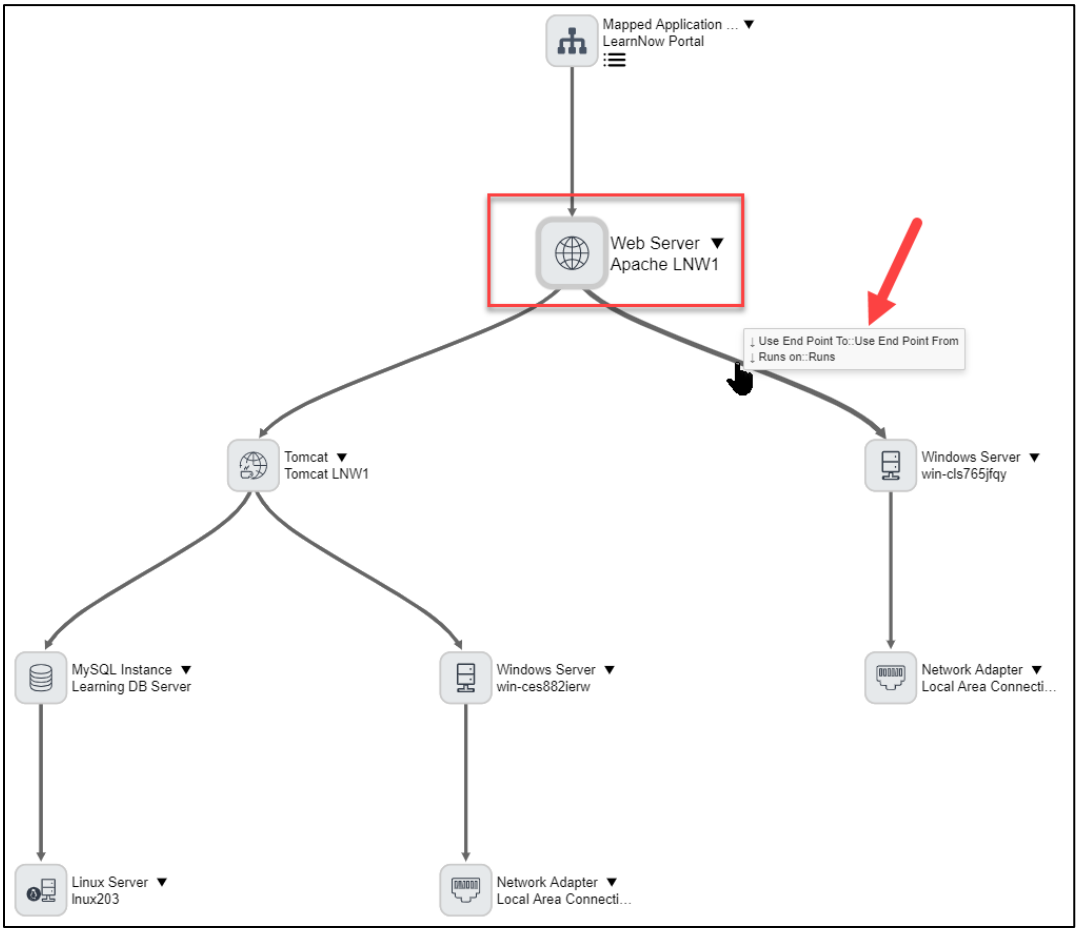
In this section, configure 2 application services for display in Service Operations Workspace.

1. In your ServiceNow instance, navigate to **Configuration > Application Servers > Web Servers**.
2. Open the Web Server **Apache LNW1**.
3. In the Related Items gray bar, click the **Show dependency views** icon.



> Note: *This opens the dependency map in a new tab.*

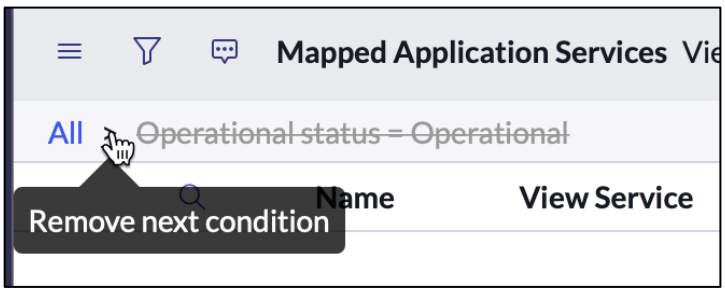
4. Observe the dependency map.



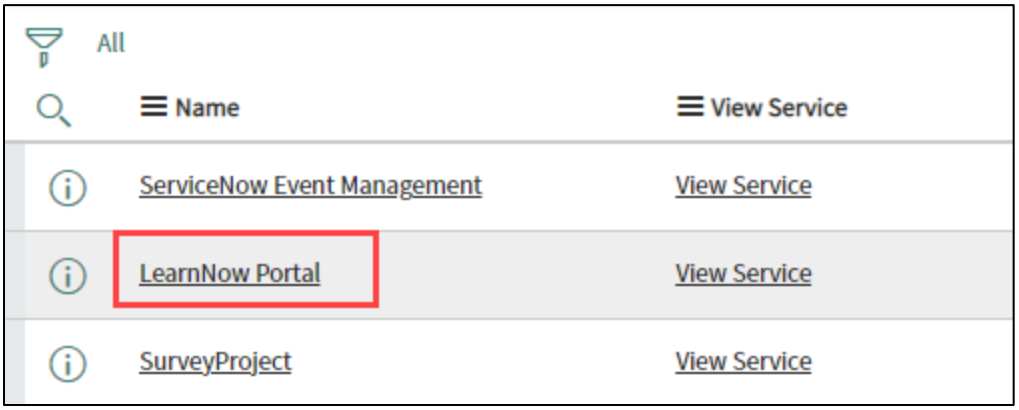
Note: *The Apache LNW1 web server runs on a Windows server with the name* ***win-cls765jfqy****.*

5. Close the map tab and navigate to **Event Management > Services > Application Services**.

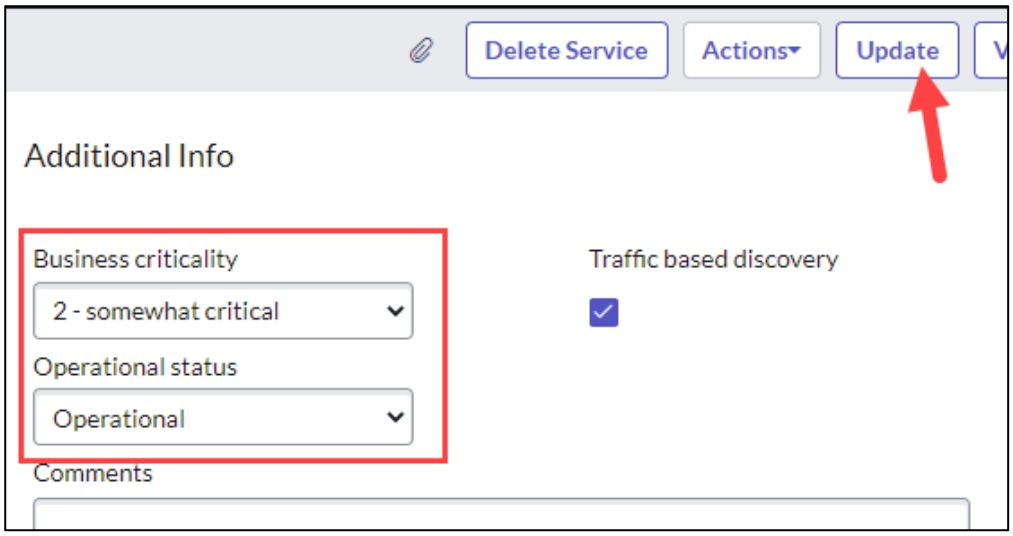
6. The default view only shows *operational* services. **Remove the filter condition** to display all services.



7. Click **LearnNow Portal** from the list.

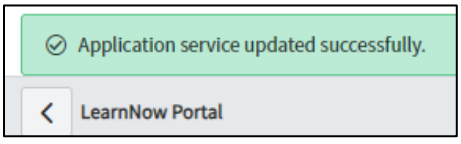


8. Update the **Additional Info** section to **2- somewhat critical** and **Operational**.

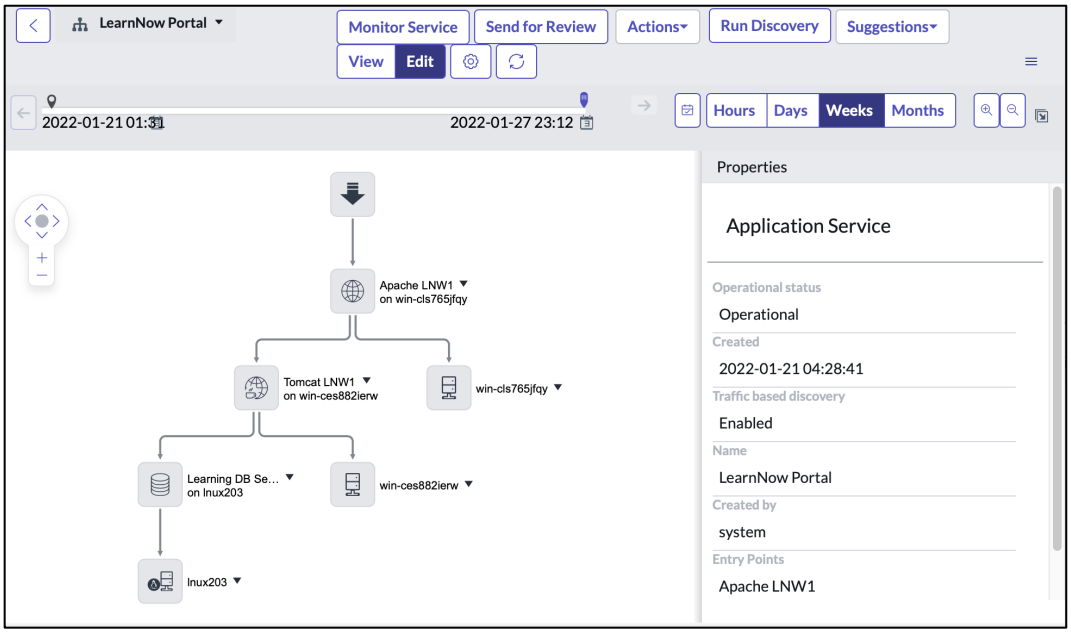


Note: *There is no mechanism or API that automatically updates application services that were created manually. You can only update application services which contain manually created entry points by using the related link "Update with changes from CMDB."*

9. Click **Update**. A success message will be presented.

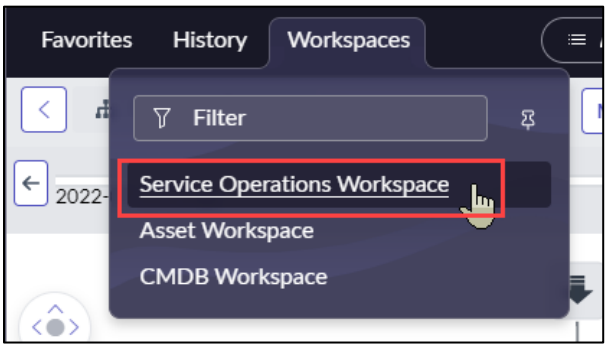


10. At the upper right of the form, select **View Map.**

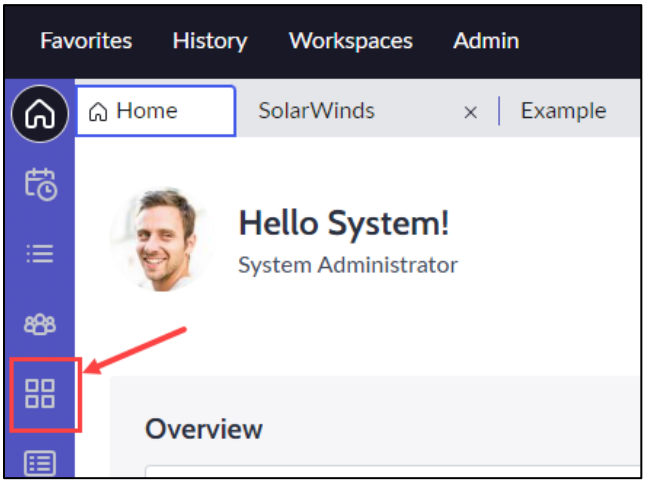


Note: *This displays the service/topology map of your application service.*

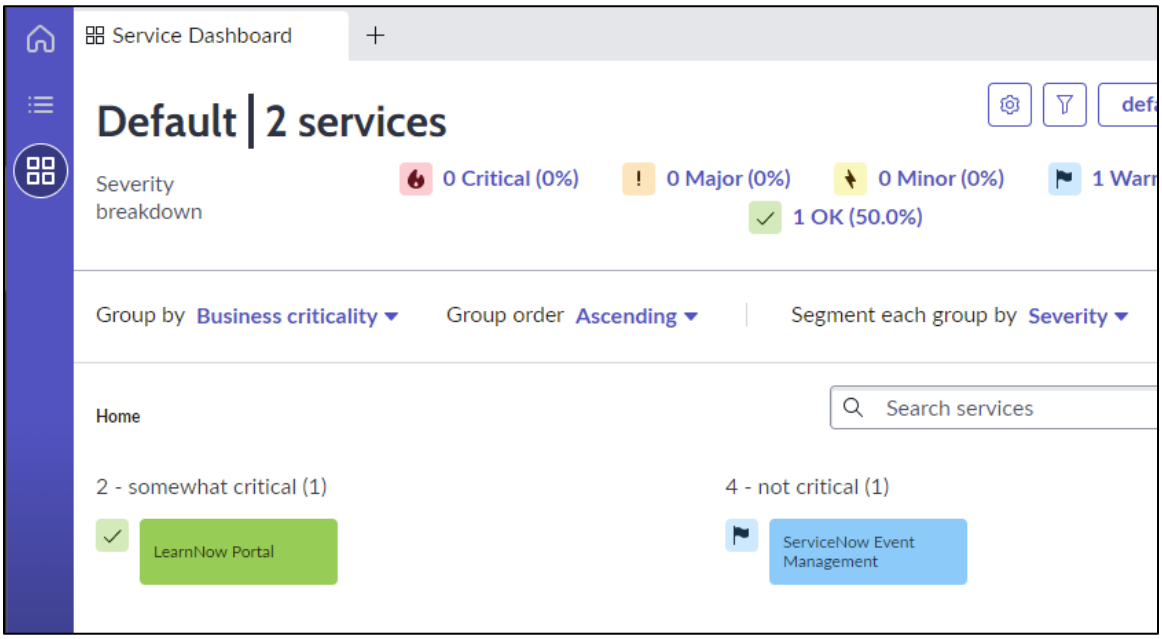
11. In the **Workspaces** menu, click **Service Operations Workspace**.



12. In Service Operations Workspace (SOW), click the **Service Dashboard** tab.

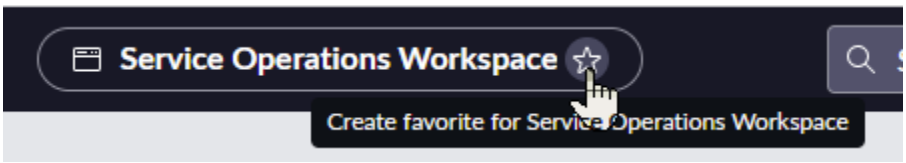


13. The service appears in SOW because its operation status is set to operational.



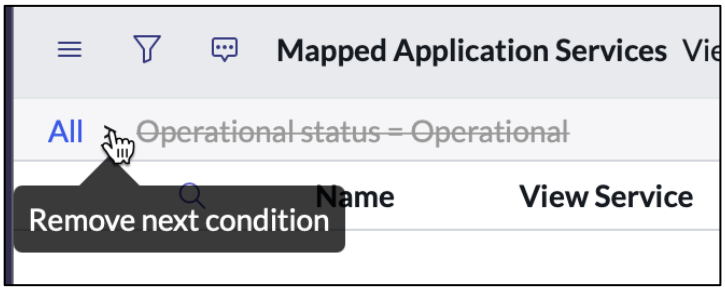
Note: *The ServiceNow Event Management service appears as part of self-health monitoring.*

14. Add the Service Operations Workspace service dashboard to your favorites for quick future access.

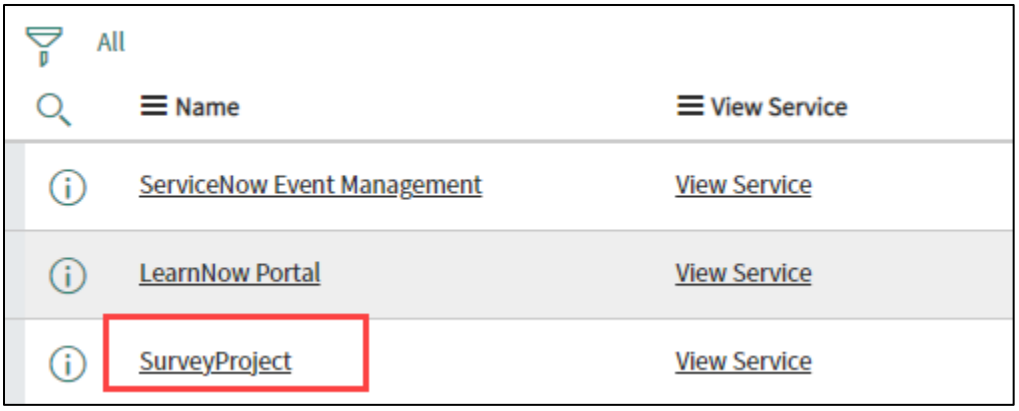


15. Navigate to **Event Management > Services > Application Services**.

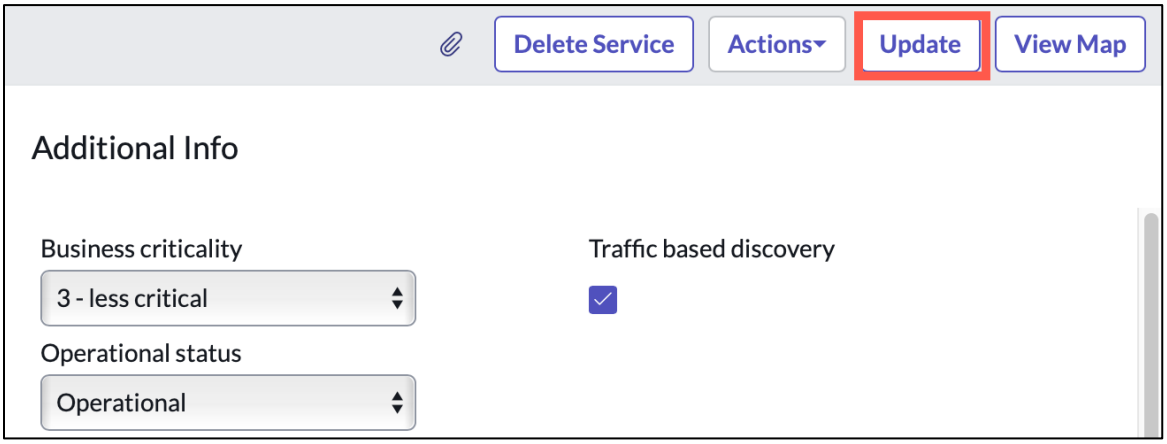
16. Remove the filter condition to display all services.



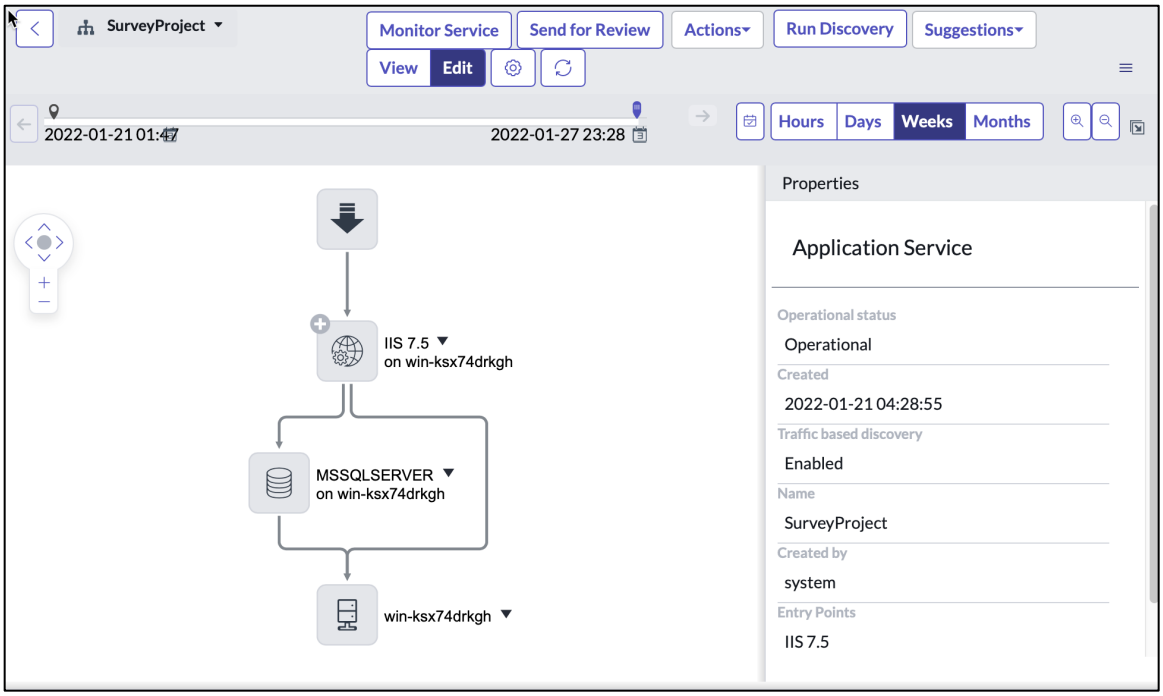
17. Click **SurveyProject** from the list.



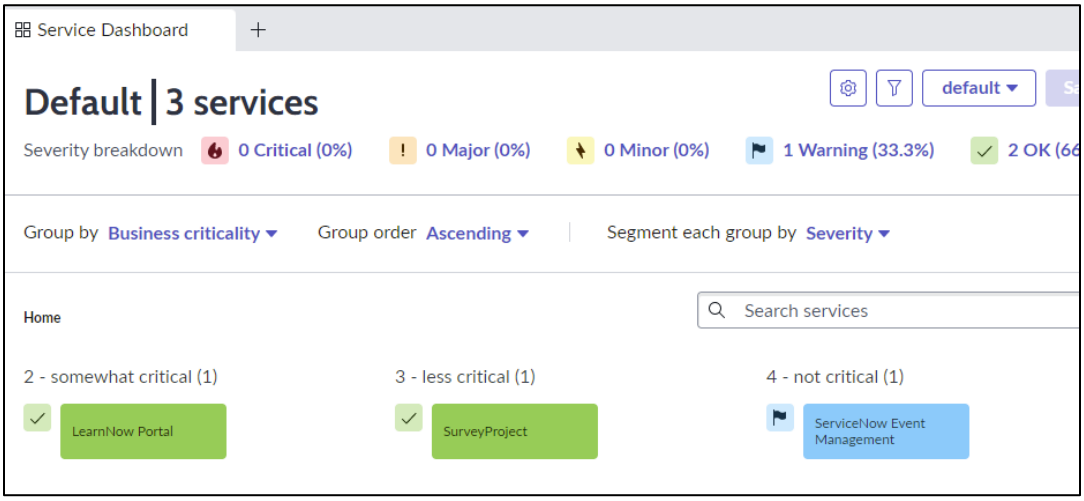
18. Update the Additional Info to **3 – less critical** and **Operational**. Click **Update**.



19. At the upper right of the form, click **View Map**.



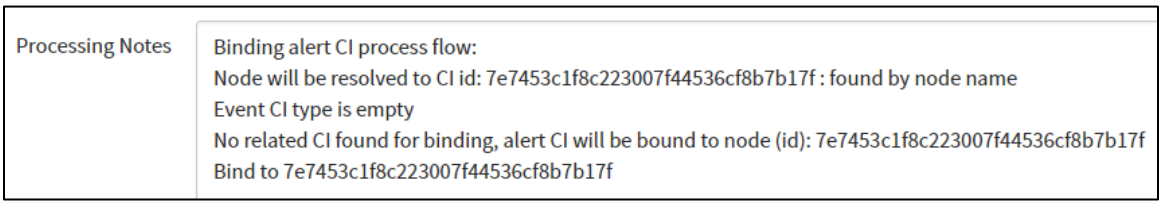
20. Return to the **Service Operations Workspace** service dashboard to view the three operational services.



B. Generate an infrastructure event against the Apache host server and the LearnNow Portal

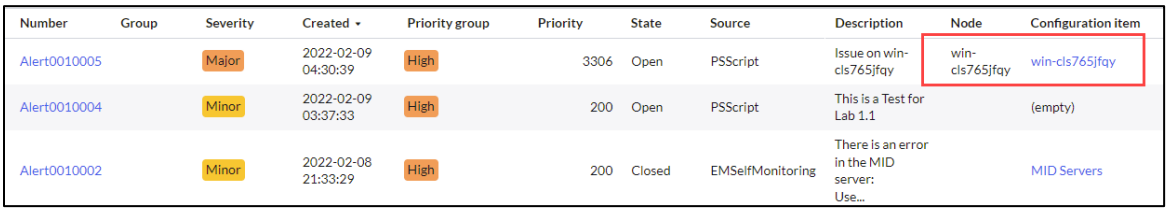
In this section, generate an infrastructure event against the Apache host server and the LearnNow Portal.

1. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator** (use your favorites).
2. In the upper right, click **Load Sample**.
3. In the Choose Event Sample dialog box, enter **Lab2** and wait for the filtered list.
4. From the list, select **Lab2.1 EventWinLNW** and click **OK**.
5. Click **Generate Event**.
6. You are redirected to All Events. **Refresh** the list until the State is **Processed**.
7. Open the latest event and observe the **Node** and **Processing Notes**.



Note: *The latest event is at the top of the list due to sorting on **Time of event**.*

8. Navigate to **Event Management > All Alerts**.

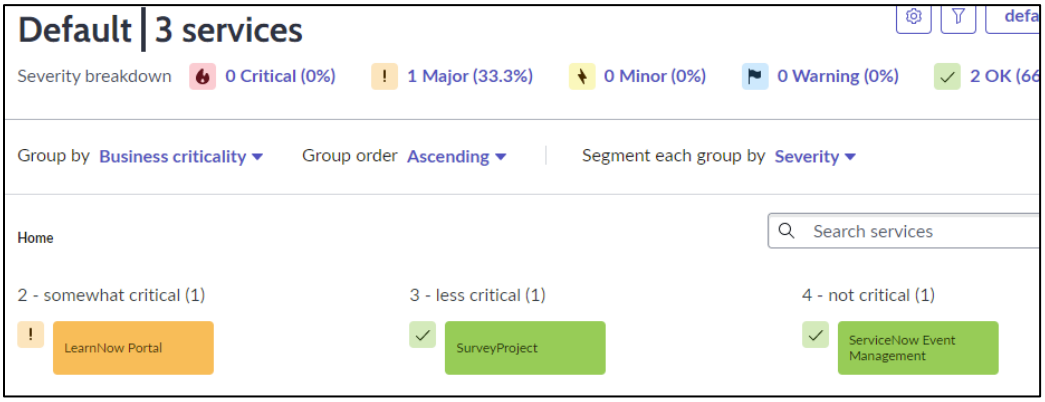


Number	Group	Severity	Created	Priority group	Priority	State	Source	Description	Node	Configuration item
Alert0010005		Major	2022-02-09 04:30:39	High	3306	Open	PSScript	Issue on win-cls765jfqy	win-cls765jfqy	win-cls765jfqy
Alert0010004		Minor	2022-02-09 03:37:33	High	200	Open	PSScript	This is a Test for Lab 1.1		(empty)
Alert0010002		Minor	2022-02-08 21:33:29	High	200	Closed	EMSelfMonitoring	There is an error in the MID server: Use...		MID Servers

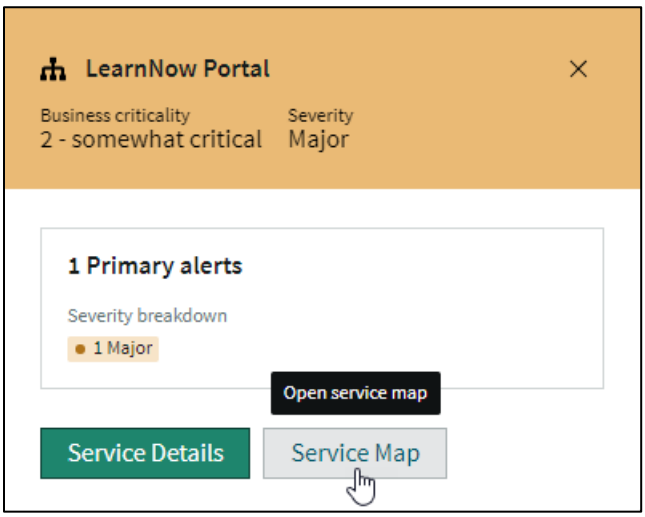
Note: *An alert generates and binds to a **Configuration Item** (CI) based upon the Node name **win-cls765jfqy**. The alert number and Priority group may differ from that shown here.*

C. Observe the Service Operations Workspace and Event Management Application Service Map

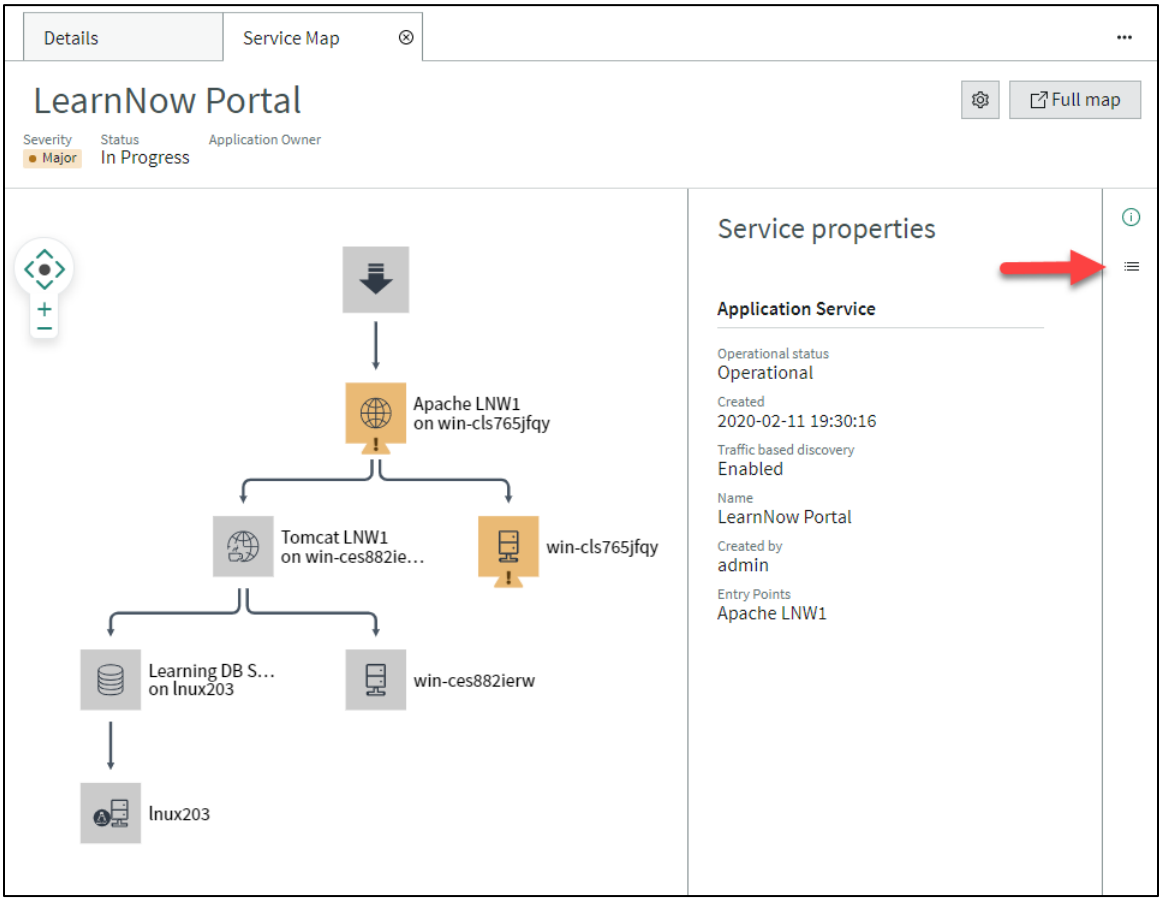
1. Navigate to **Service Operations Workspace** service dashboard.



2. Click the **LearnNow Portal** tile to open its service tab, then click **Service Map.**

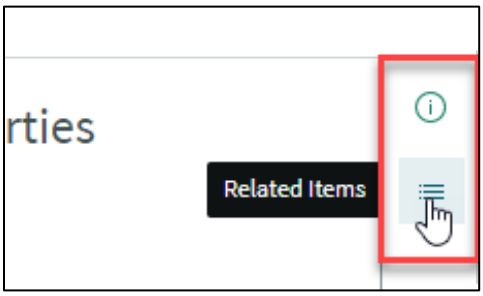


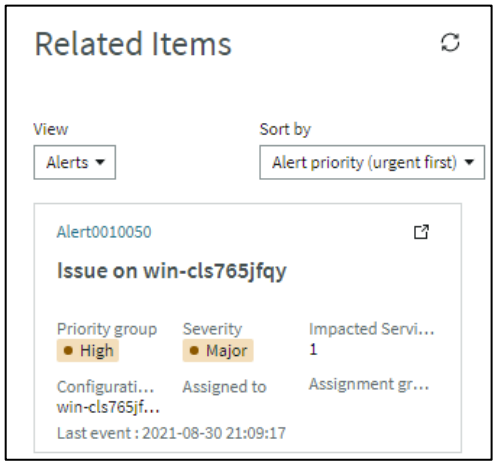
Note: *The Event Management service map opens in a new tab within Service Operations Workspace.*



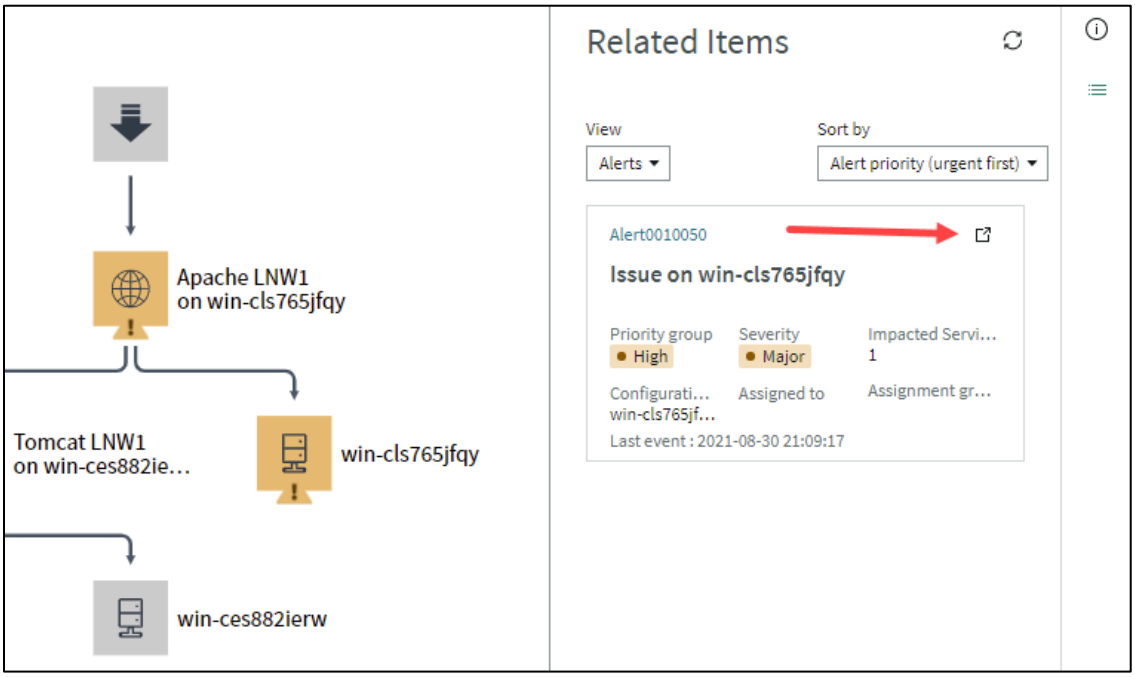
Note: *Both the Windows Server and Apache Web Server are showing in a Major state as the Apache Web Server is running on win-cls765jfqy and is directly impacted by it. Only the Event Management service maps include alert effecting CI indicators.*

3. Click **Related Items** to toggle from service properties.

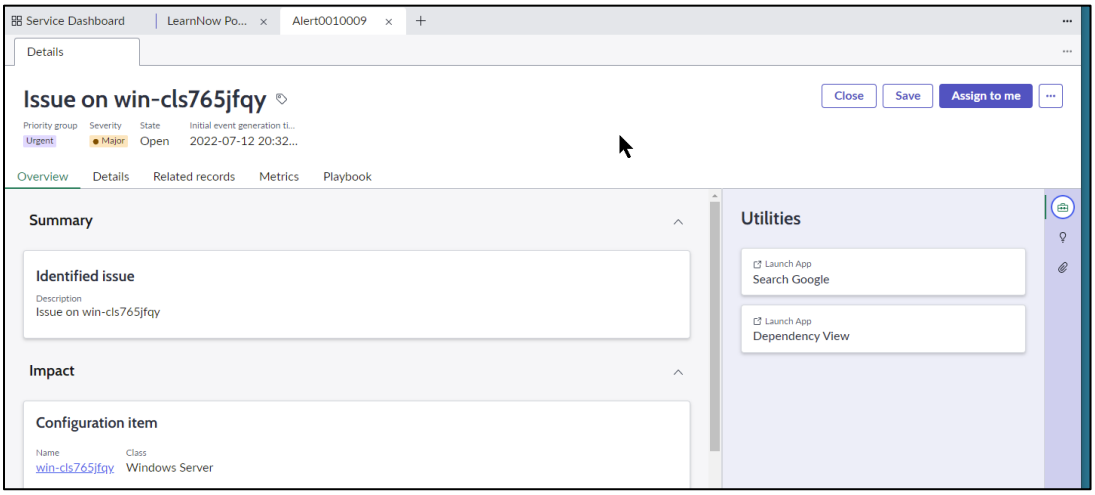




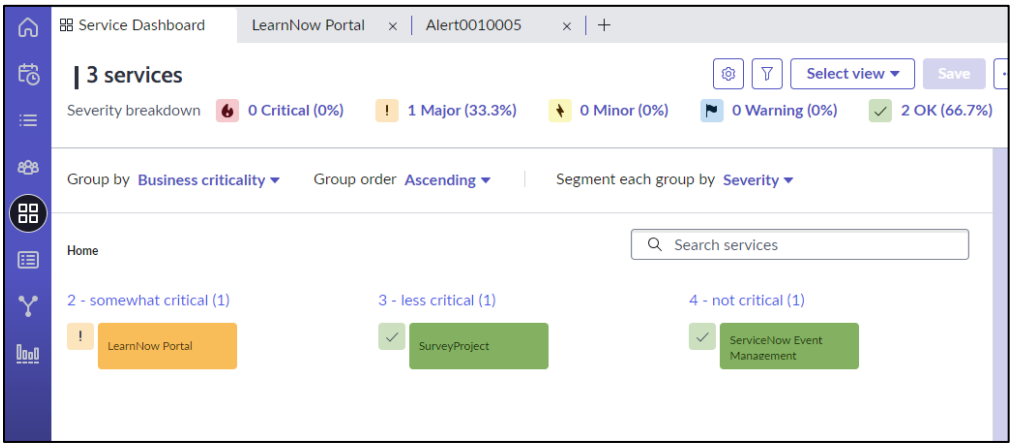
4. Investigate the **View** and **Sort by** menus, and use the **Open Record form** icon to open the alert in a new workspace tab.



5. Review the information and tabs available in alert intelligence. Metric collection is not yet enabled.



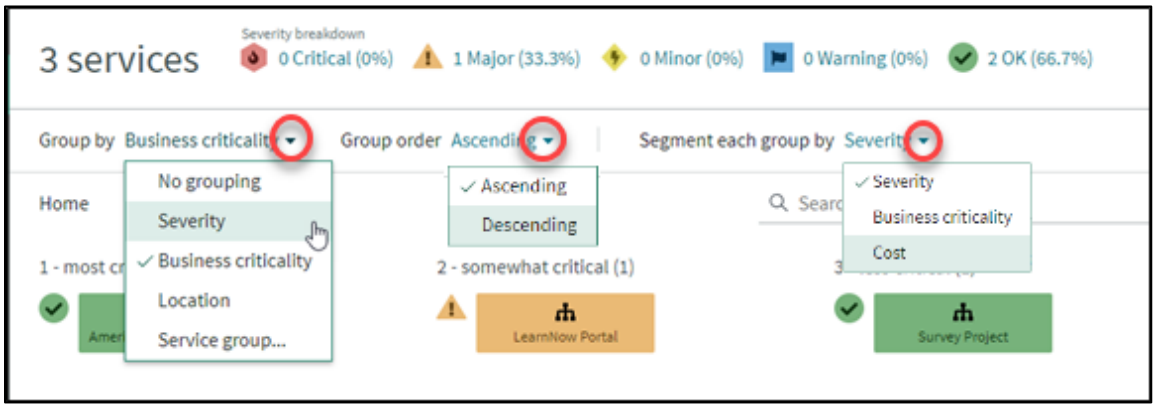
6. Return to the service dashboard tab.



Note: *The application services are displayed. They may appear differently based on your browser size.*

Challenge Task: Change Prioritization of Items on Service Operations Workspace

Use the **Group by** and **Group order** dropdowns to change the default setting of the Event Management Service Operations Workspace. How do you explain the behavior you are seeing?



Congratulations on completing the lab!

Architecture
Create a Dynamic CI Group

Lab 2.2
15m

Lab Objectives

You will achieve the following objectives:

- Create a CMDB group of database CIs
- Create a dynamic CI group technical service
- Generate a test event against the dynamic CI group

Scenario

The dynamic CI group method for populating a service is based on a CMDB group. The members of the specified CMDB group comprise the service. The dynamic CI group continuously synchronizes with the CMDB group to reflect any changes in group membership.

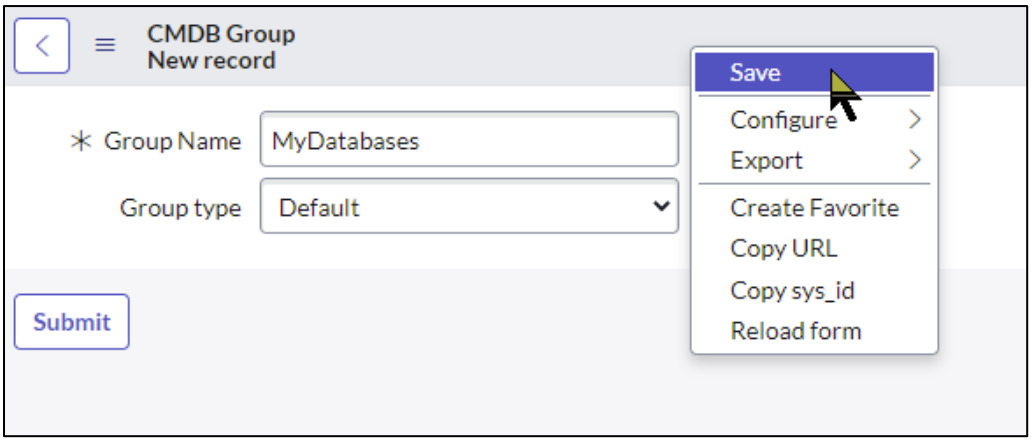
In this lab, you create a CMDB group of databases, then use that CMDB group to create a dynamic CI group. You then generate an example event against one of the database CIs to view how the overall Event Management process operates on dynamic CI groups.

> Note: *This example service is also used for demonstration purposes throughout the remainder of class and represents another common type of service you may see in your company-specific Event Management configuration.*

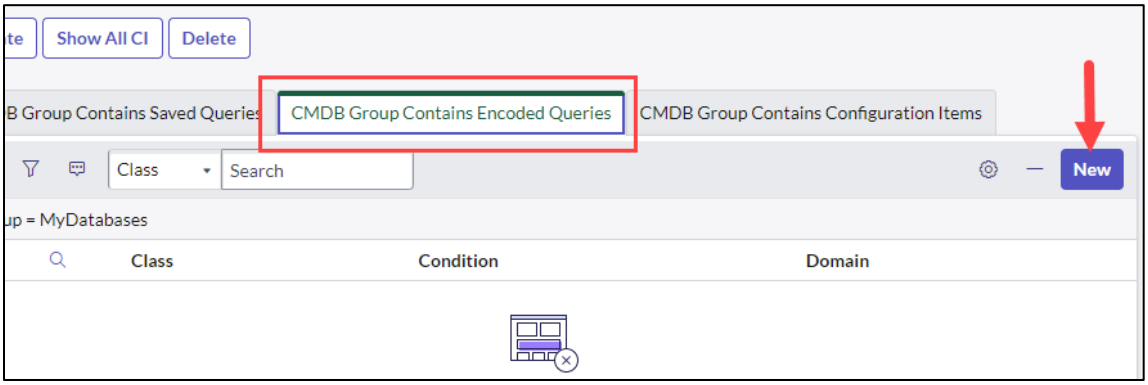
A. Create a CMDB Group

1. Navigate to **Configuration > CMDB Groups**.
2. Review the baseline CMDB groups, which are used in CI Overview in the CMDB Workspace.
3. Click **New.**

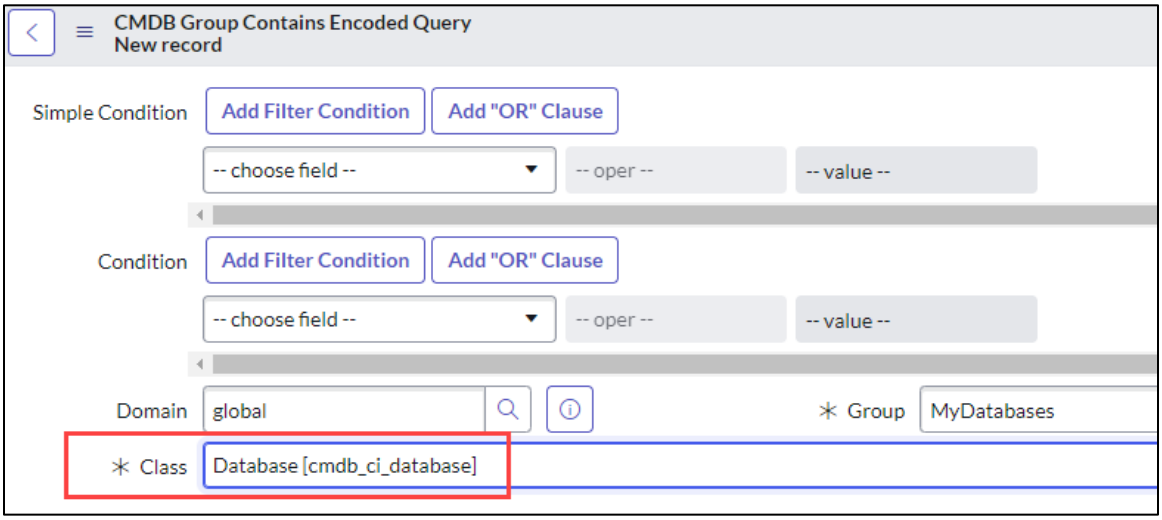
4. Set **Group Name** to **MyDatabases** and **Save.**



5. On the **CMDB Group Contains Encoded Queries** tab, click **New**.



6. In the **Class** field, select **Database [cmdb_ci_database].**

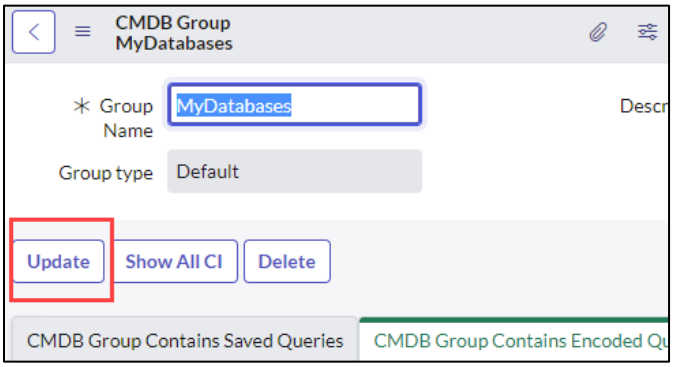


Note: *The Class field may appear in a different location on the form. Additional filter conditions are available when required.*

7. Click **Submit.**

8. Click **Show All CI**. Thirteen (13) records should be returned.

9. Click **back** icon  then click **Update**.



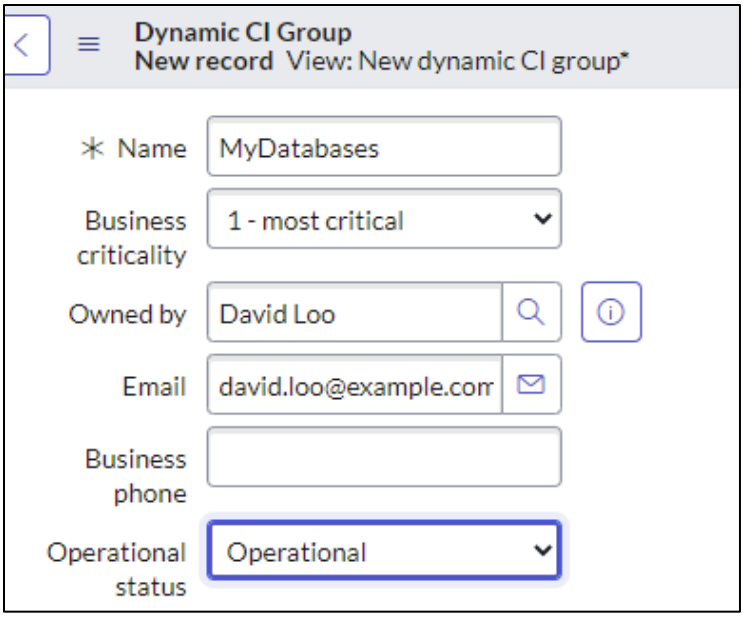
B. Create a Dynamic CI group and Display it in Service Operations Workspace

1. Navigate to **Event Management > Services > Dynamic CI Groups**.

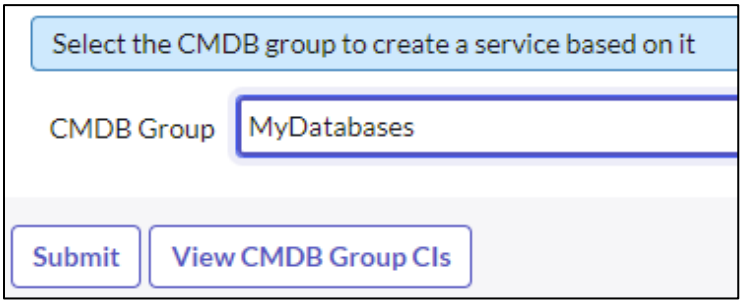
2. Click **New**.

3. On the form enter:

Name:	**MyDatabases**
Business Criticality:	**1 – most critical**
Owned By:	**David Loo**
Operational status:	**Operational**



4. In the **CMDB Group** field, select the **MyDatabases** CMDB group you just created.



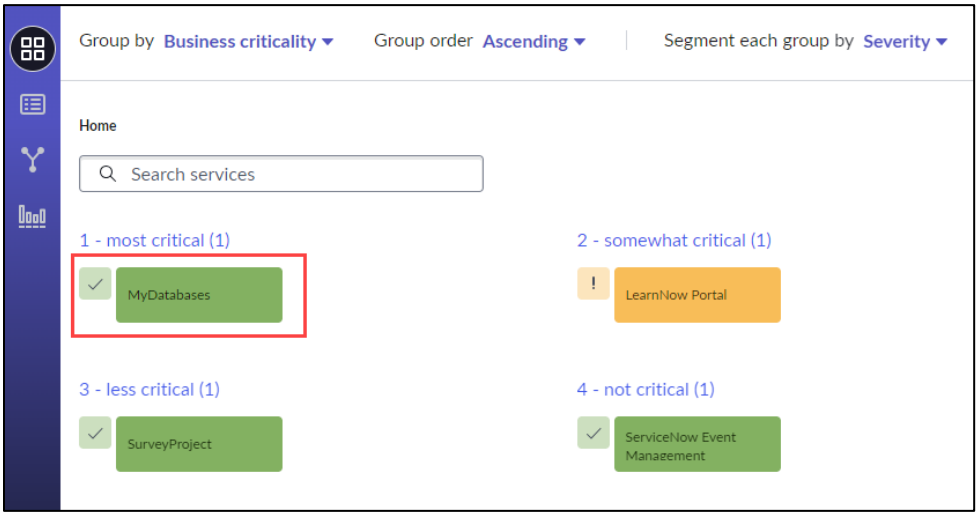
5. Click **View CMDB Group CIs**. A new tab opens showing the 13 databases in the CMDB group.

6. **Close** the tab.

7. Click **Submit.**

8. Navigate to **Service Operations Workspace** service dashboard.

9. Observe the new **MyDatabases** tile.



10. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator.**

11. Click **Load Sample**.

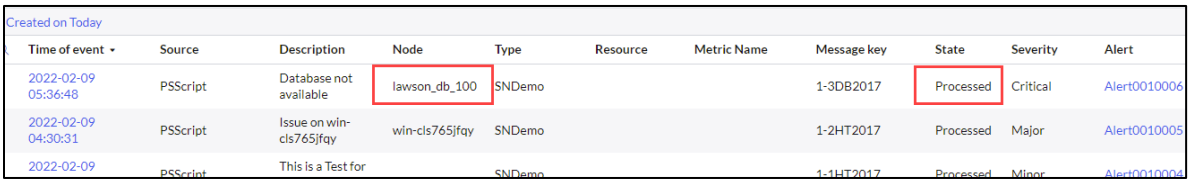
12. In the Choose Event Sample dialog box, enter **Lab2** and wait for the filtered list.

13. From the list, select **Lab2.2 DatabaseServer** and click **OK**.

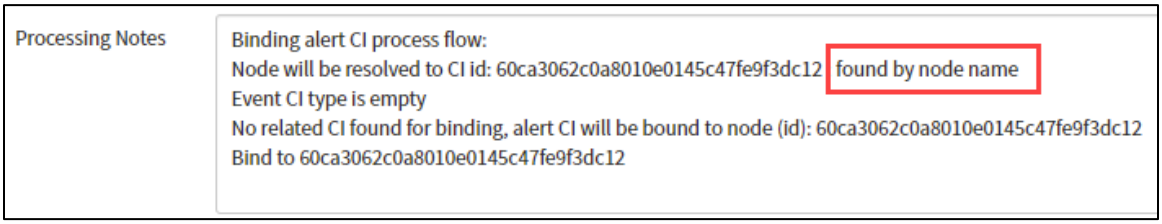
source: **PSScript**
node: **Lawson_db_100**
message_key: **1-3DB2017**
severity: **1**
description: **Database not available**
type: **SNDemo**
source instance: **PS**
additional_info: **Database Error**

14. Click **Generate Event**.

15. You are redirected to All Events. **Refresh** the list until the event is **processed**.



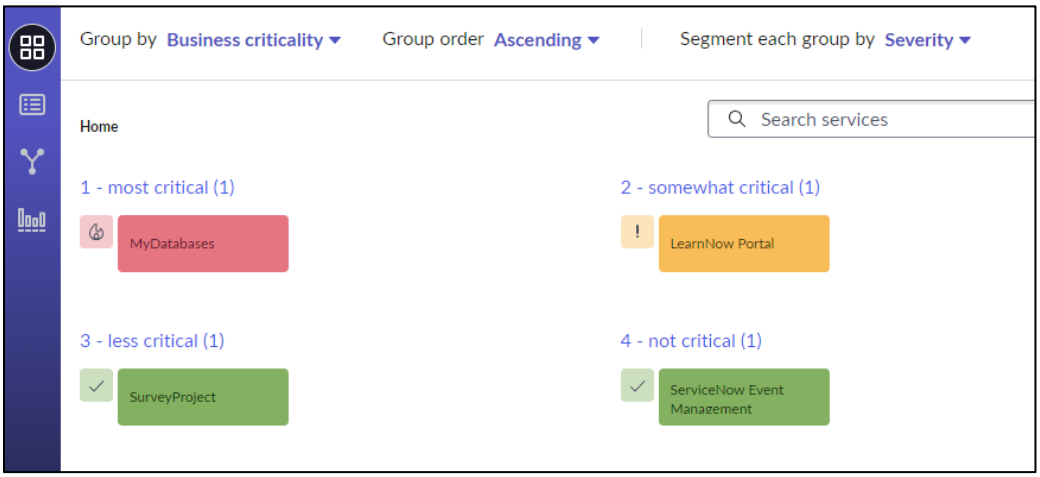
16. **Open** the event and observe the processing notes for CI binding.



17. To the right of the Alert field, click the **Preview this record** icon. Note the configuration item the alert was bound to.

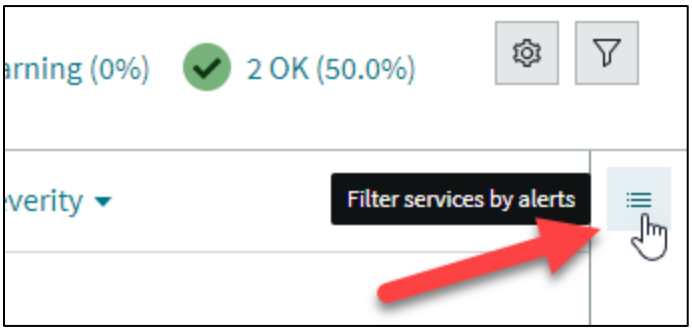
Note: *The event processing engine associated the alert with the node **lawson_db_100**. This is a Unix server in the CMDB.*

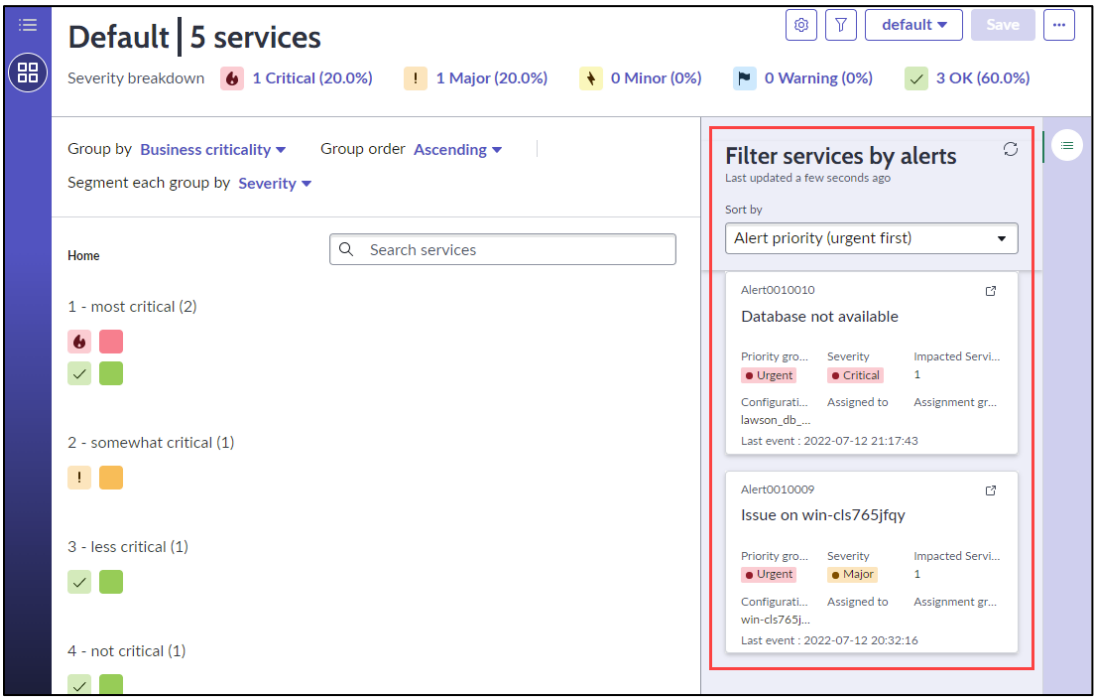
18. Return to the **Service Operations Workspace** service dashboard.



Note: *The MyDatabases tile is now red to reflect the severity of the alert. The tiles may display differently based on your browser size.*

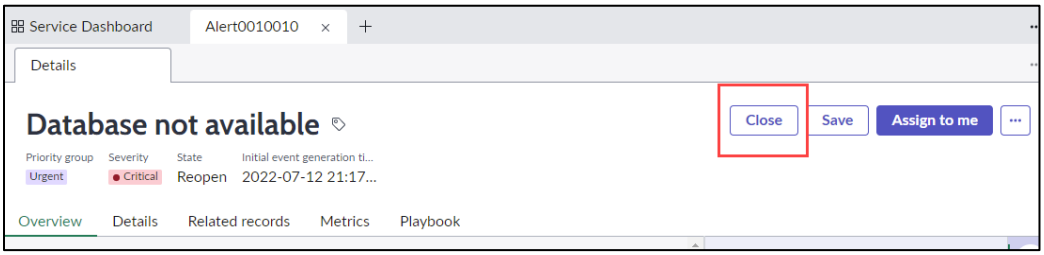
19. As a last step, clean up the Service Operations Workspace so all services are green before proceeding. Disregard any ServiceNow Event Management self-health alerts. Click the Filter services by alerts icon to display service-impacting alerts.

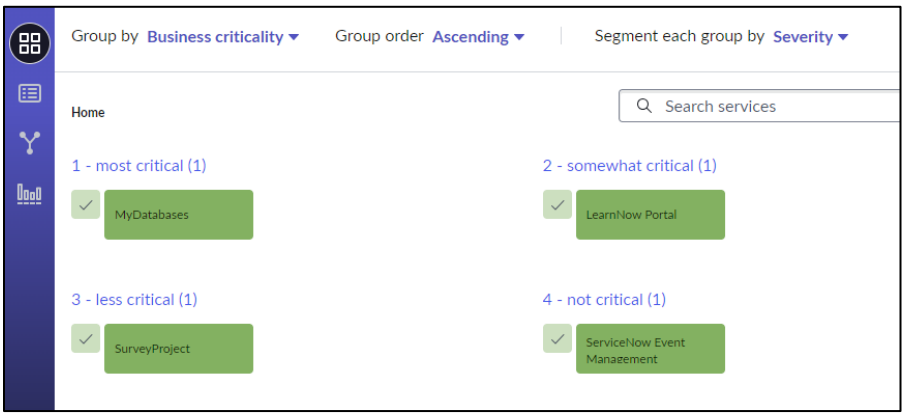




Note: *As in the screenshot, you should see that the MyDatabase Servers tile is red from the Critical alert we triggered earlier in this lab, and the LearnNow Portal tile is orange from the Major alert we triggered earlier. The associated alerts are listed.*

20. Click and open each alert in the list and click the **Close** button. The alerts open in new SOW tabs. The Close button may display as dots if the browser is not wide enough.





21. Once you have closed all open alerts on the list, your Service Operations Workspace should be completely green. Disregard any ServiceNow Event Management self-health alerts. It may take several seconds for the Service Operations Workspace to update after closing the alerts. Close the Service Operations Workspace alert tabs.

Congratulations on completing the lab!

Architecture
Execute a Discovery and Bind with IP and MAC

Lab 2.3
20m

Lab Objectives

You will achieve the following objectives:

- Run a Discovery schedule to discover your Windows Server VM
- Navigate the Discovery record
- Bind an alert to your Windows Server configuration item using the IP address
- Bind an alert to your Windows Server configuration item using the MAC address

Scenario

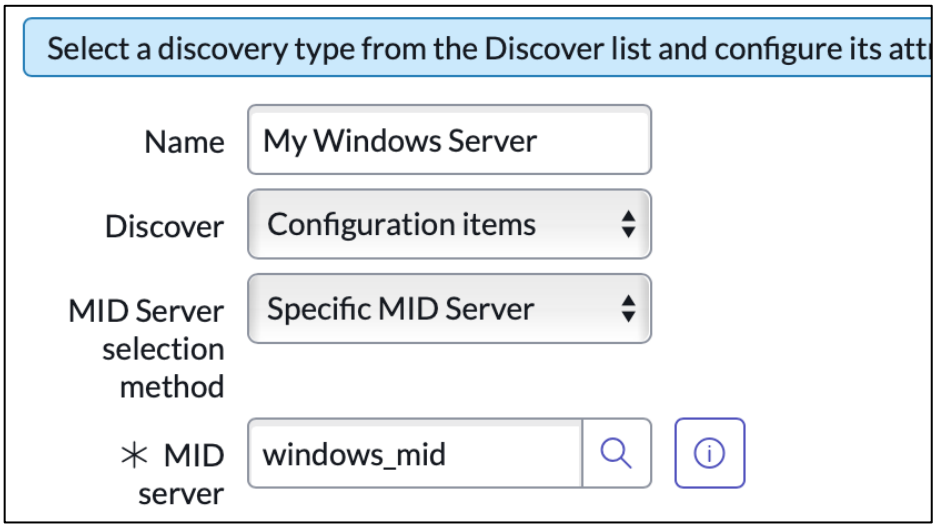
In this lab, you run Discovery on your Windows Server VM, which is also your MID server. Discovery creates a configuration item (CI) in the CMDB of your ServiceNow instance. You then fire two events to raise alerts bound to this Windows Server based on the value of the event node field.

A. Set Up a Discovery Schedule

1. From your ServiceNow instance, navigate to **Discovery > Discovery Schedules**.
2. Click **New**.

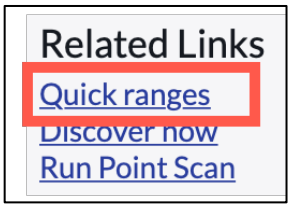
   Note: *be patient, form display may take a few seconds*

3. Configure the **Discovery Schedule** form as follows:

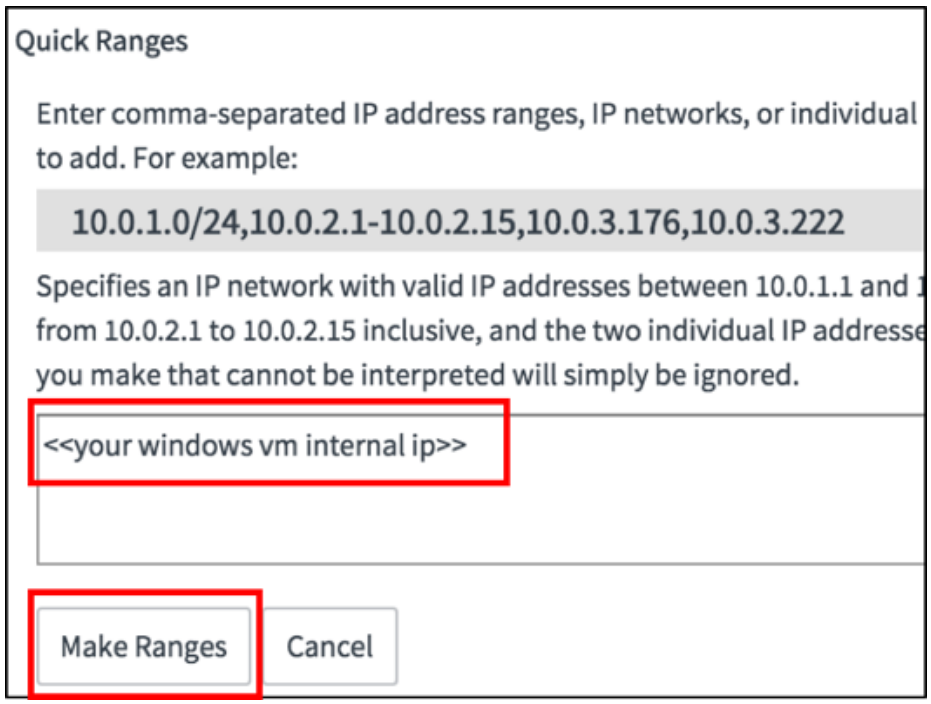


4. **Save**.

5. From Related Links, click **Quick ranges**.

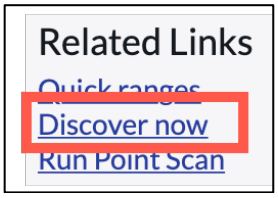


6. In the dialog box enter your Windows server VM *internal IP* (e.g., 198.51…) identified in the previous lab and click **Make Ranges**.



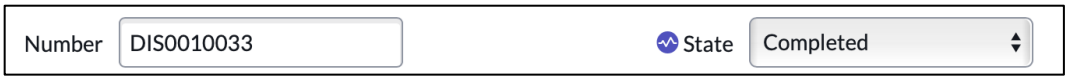
Note: *The Internal IP can be found on the MID server record on the instance since this Windows server is also your MID server.*

7. From Related Links, click **Discover now**.



B. Observe the Discovery

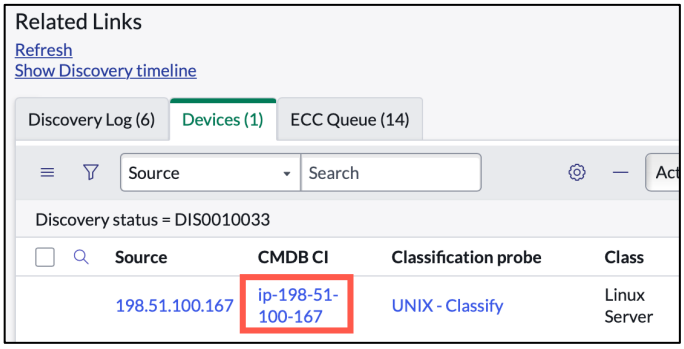
1. Open the discovery status record.
2. Wait for the **State** to change to **Completed**.



Note: *This may take up to 3 minutes.*

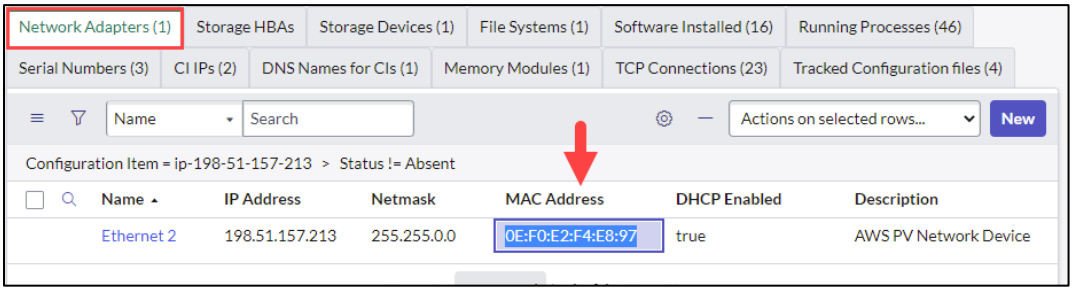
3. From the **Additional actions** menu, select **Reload form**.

4. From the **Devices** related list, click the **CMDB CI** record to open the Windows server CI.



Note: *Your Source and IP address will differ.*

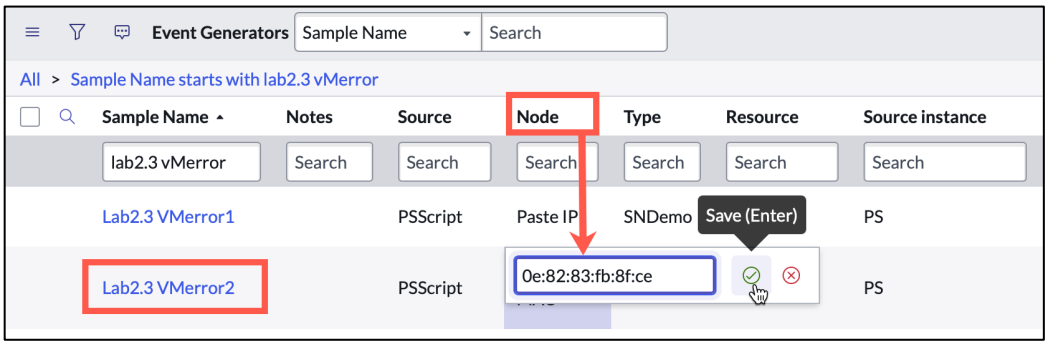
5. From the **Network Adapters** related list, **copy** the **MAC Address**.



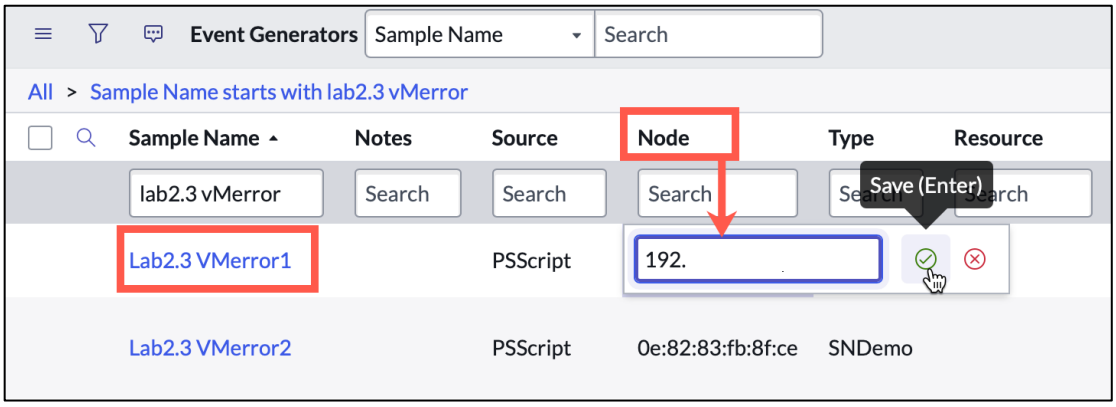
Note: *Your MAC Address will differ.*

6. Navigate to **Event Management > Simulation > Event Samples** (use your Favorites menu).

7. Locate **Lab2.3 VMerror2** in the list and paste your **MAC address** into the **node** field and **save**. Be sure to remove any leading or trailing spaces.



8. Locate **Lab2.3 VMerror1** and type or copy/paste your private **IP address** into the **node** field and **save**.



> Note: *Your IP and MAC Address will differ. You now have 2 sample events, one with IP address and one with MAC address in the node field.*

C. Fire Critical Event Against Your Windows Server VM CI Binding with IP Address

1. Navigate to **Event Management > Simulation > Event Generator** (use Favorite menu).
2. Click **Load Sample**.
3. In the Choose Event Sample dialog box, enter **Lab2** and wait for the filtered list.
4. From the list, select **Lab2.3 VMerror1** and click **OK**.

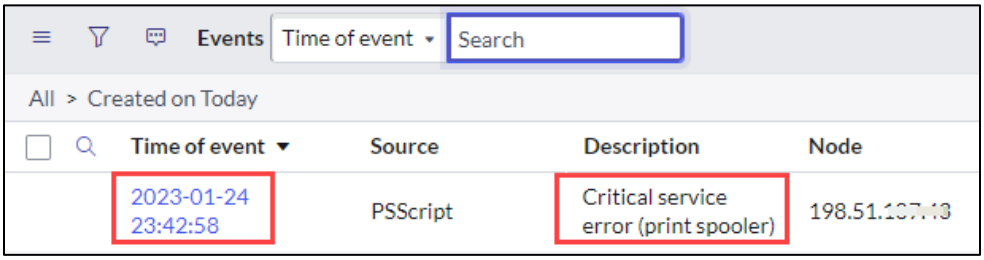
source: **PSScript**
node: {Your private **IP Address}** ← you entered this in the sample
message_key: **2-2.1WIN2017**
severity: **Critical**
description: **Critical service error (print spooler)**
type: **SNDemo**
source instance: **PS**
additional_info: **{"remediation_action_resource":"Print Spooler"}**

5. Verify the **node** field contains your Windows VM private IP address.

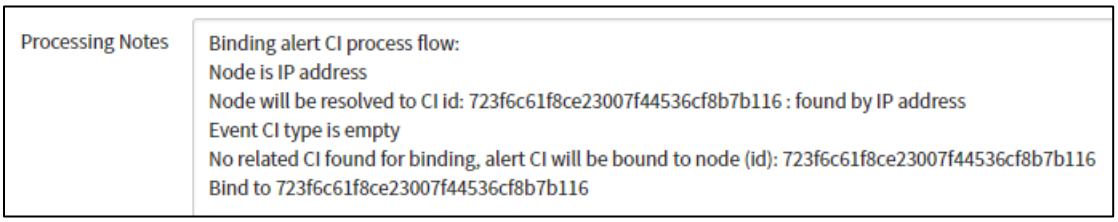
6. Click **Generate Event**.

7. You are redirected to All Events. **Refresh** the list until the event is **Processed**.

8. Open the new event.

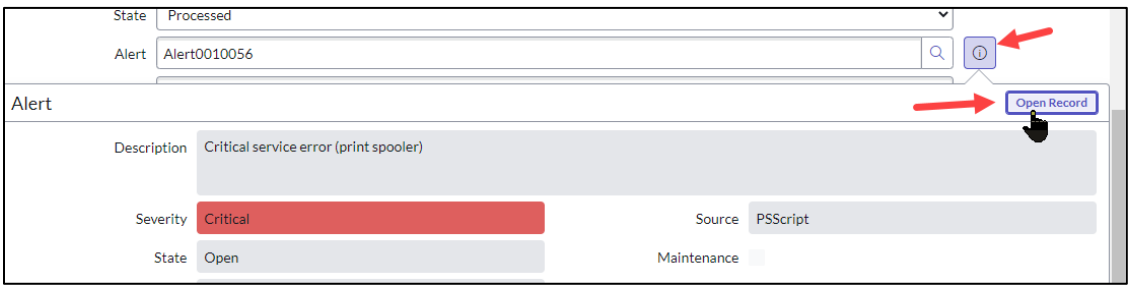


9. Observe the **Processing Notes** for the event:

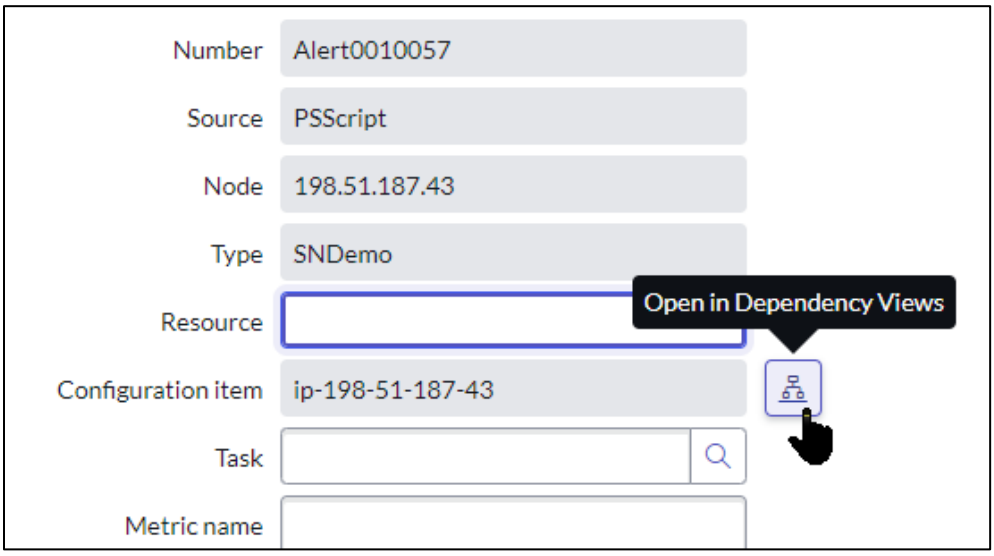


Note: *The event processing engine used the Node attribute to map the associated alert to your Windows server CI based upon a match on IP Address.*

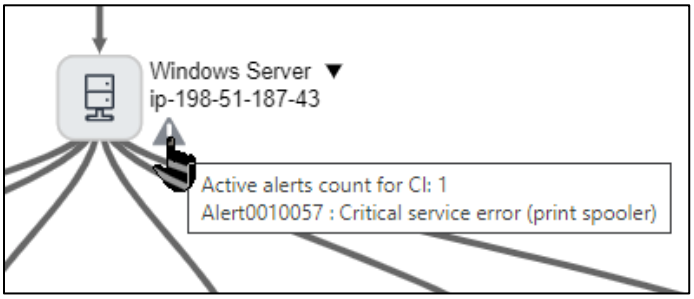
10. From the Alert field of the event, **open** the **alert**.



11. In the alert, next to the Configuration item field, click **Open in Dependency Views** icon.



12. Hover over the exclamation point triangle on the Windows server as shown.



Note: *An alert binds to your Windows server CI. Your alert number may differ.*

13. **Close** the dependency view tab to return to the alert.

14. **Close** the alert.

15. From **All Alerts** (or History), **open** the alert just closed (critical service error print spooler).

16. Click **Delete**.

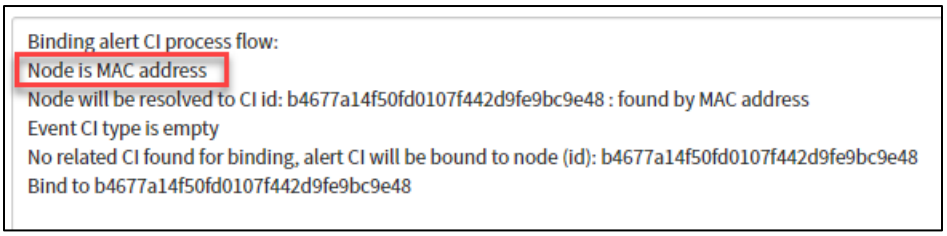
17. In the **Confirmation** window, click **Delete**.

D. Fire Major Event Against Your Windows Server CI Binding with MAC address

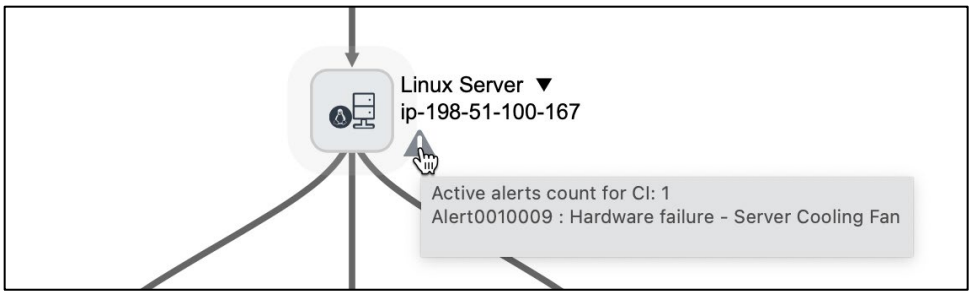
1. Navigate to **Event Management > Simulation > Event Generator**.
2. Click **Load Sample**.
3. In the Choose Event Sample dialog box, enter **Lab2** and wait for the filtered list.
4. From the list, select **Lab2.3 VMerror2** and click **OK**.

   source: **PSScript**
   node: {your **MAC address}** ← you entered this in the sample
   message_key: **2-2.1WIN2017**
   severity: **Major**
   description: **Hardware failure - Server Cooling Fan**
   type: **SNDemo**
   source instance: **PS**
   additional_info: **Cooling Fan failure**

5. Click **Generate Event**.
6. You are redirected to All Events. **Refresh** the list until the event state is **Processed**.
7. **Open** the new event.
8. Observe the **Processing Notes**.



9. **Open** the alert record.
10. **Open** the dependency view (e.g., ) and observe the active alert.



11. **Close** the dependency views tab.

12. **Close** the alert.

Number	Group	Severity	Created	Priority group	Priority	State	Source	Description	Node
Search	Search	Search	2022-02-02	Search	Search	Search	Search	Search	Search
Alert0010009		Major	2022-02-02 23:53:53	High	4306	Closed	PSScript	Hardware failure - Server Cooling Fan	0e:82:83:fb:8f:ce

Congratulations on completing the lab!

Event Management
Event Processing

Lab 3.1
25m

Lab Objectives

You will achieve the following objectives:

- Triggering multiple levels of events
- Binding events to services
- Manually create an incident and observe closed alert impact

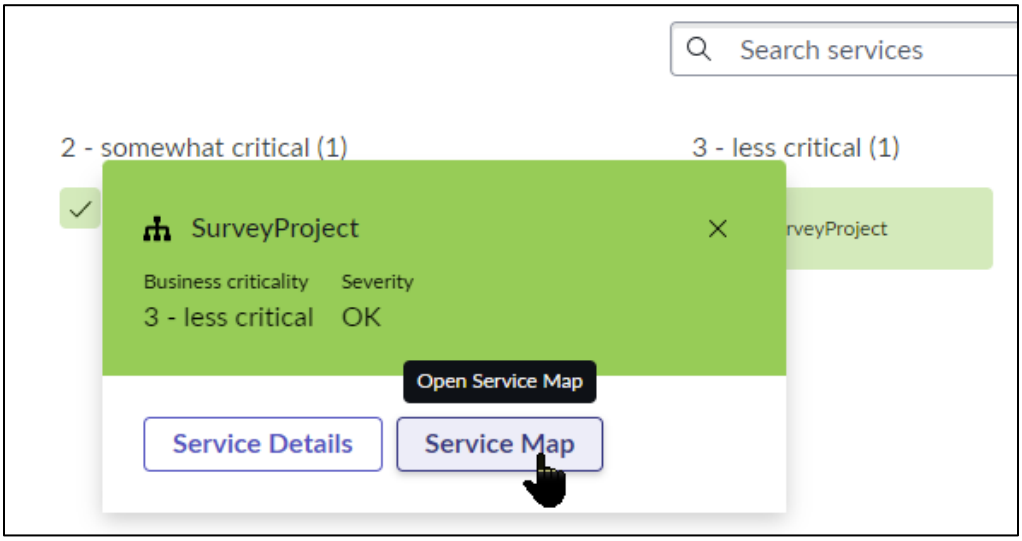
Scenario

In this lab, you will use various methods to bind events to services. The baseline engine binds alerts to CIs supporting application services, creating correlated alerts.

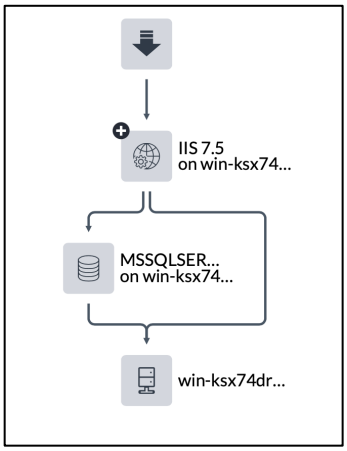
A. Trigger a Minor Event

1. Navigate to **Service Operations Workspace** service dashboard.

2. Open the survey project **Service Map**.



3. Observe the application service map:



> Note: *The map displays an IIS 7.5 Web Server connected to an MSSQL Database Server. Both IIS 7.5 and MSSQLSSERVER run on a host Windows Server with the name win-kssx74drkgh.*

4. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator.**

5. Click **Load Sample**.

6. In the Choose Event Sample dialog box, enter **Lab3.1** and wait for the filtered list.

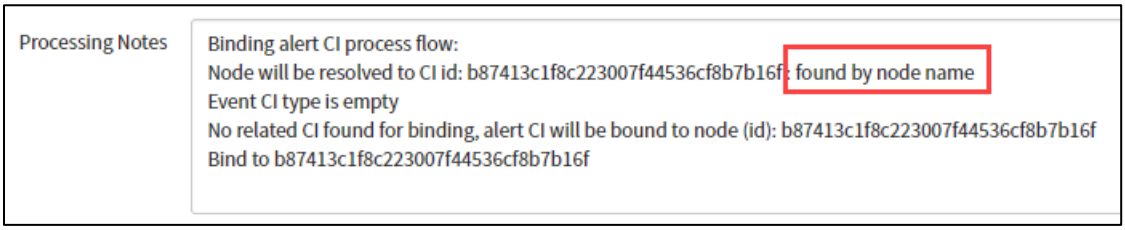
7. From the list, select **Lab3.1 EventBind1** and click **OK**.

source:	**PSScript**
node:	**win-ksx74drkgh**
message_key:	**3-1HT2017-SN1**
severity:	**Minor**
description:	**Server Minor Issue - Lab 3.1**
type:	**SNDemo**

8. Click **Generate Event**.

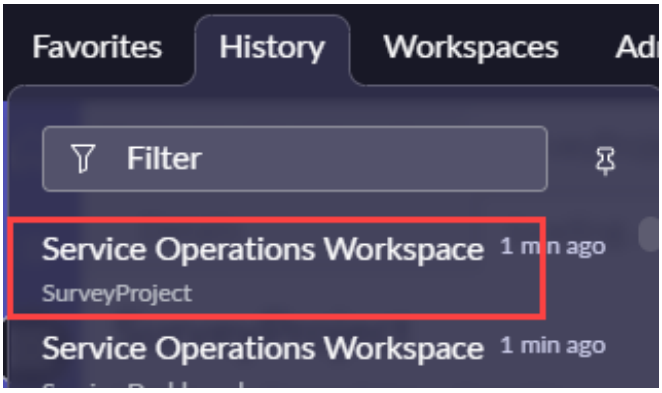
9. You are redirected to All Events. **Refresh** the list until the event is **Processed**.

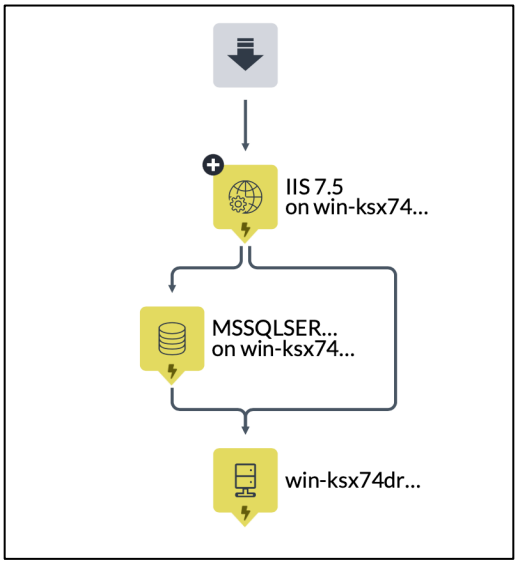
10. Open the event and observe the **Processing Notes**.



Note: *The processing engine binds the alert to an existing CI based upon the node field containing an existing server name.*

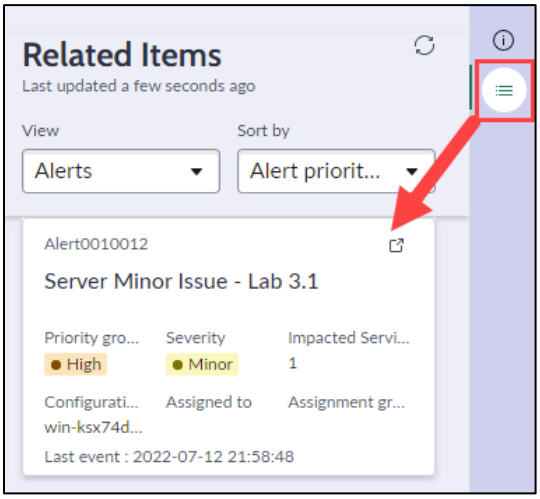
11. Return to the Service Operations Workspace **Survey Project** service map (hint: use History).





Note: *The associated alert generated from the event is bound to the Windows Server win-ksx74drkgh and both the IIS 7.5 and MSSQLSERVER CIs are affected.*

12. On the right, click the **Related Items icon** to display the associated alerts.



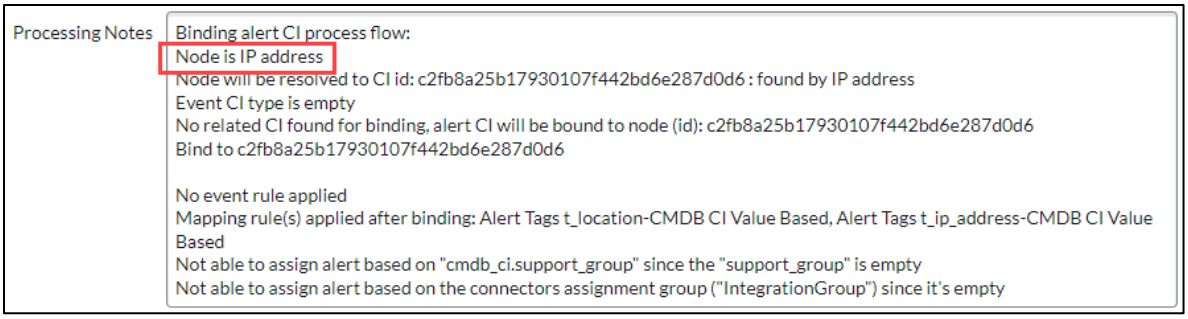
B. Trigger a Critical Event

1. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator.**
2. Click **Load Sample**.
3. In the Choose Event Sample dialog box, enter **Lab3.1** and wait for the filtered list.
4. From the list, select **Lab3.1 EventBind2** and click **OK**.

source:	**PSScript**
node:	**198.56.1.200**
message_key:	**3-1HT2017-SN2**
severity:	**Critical**
description:	**Server Critical Issue - Lab 3.1**
type:	**SNDemo**

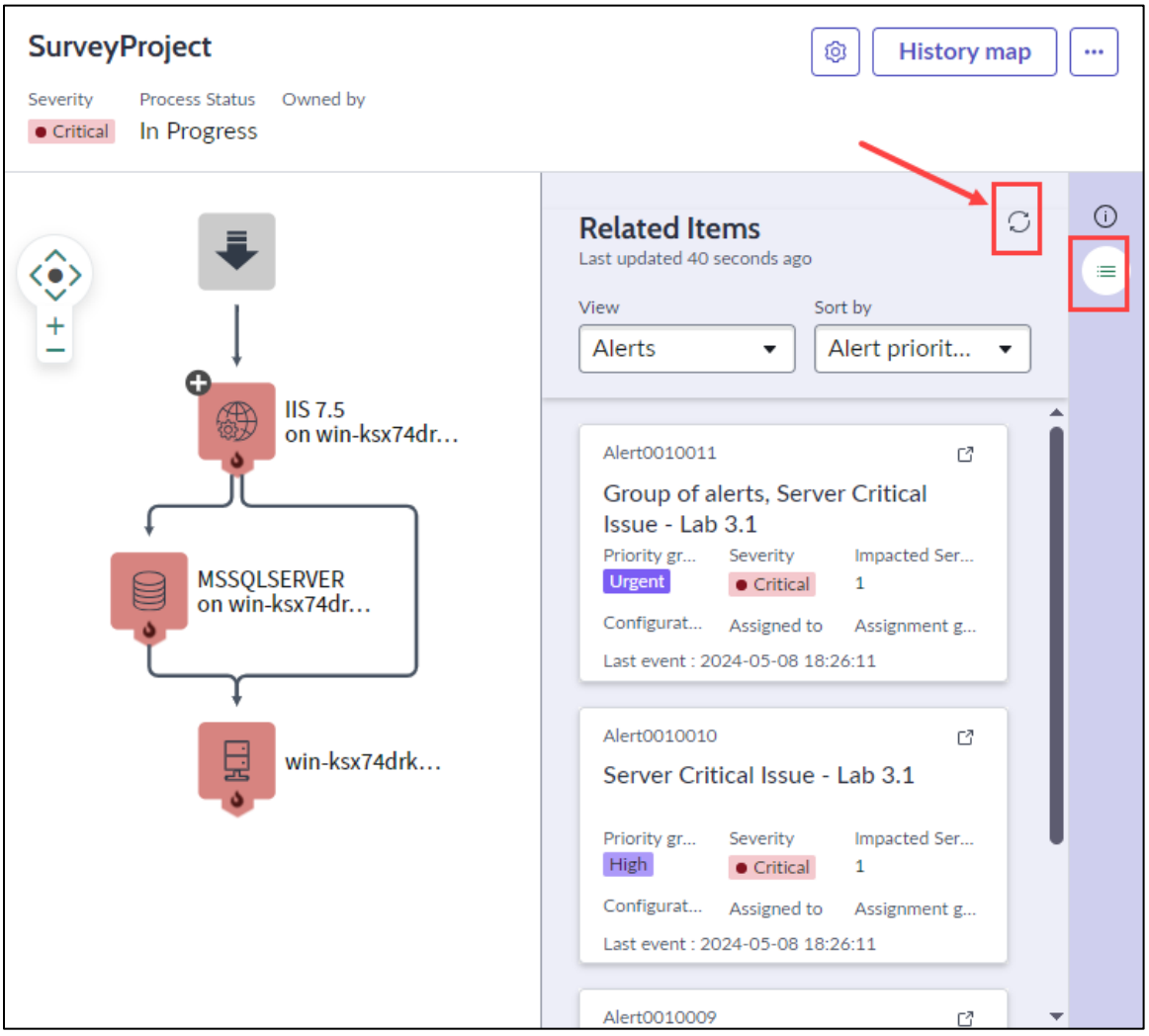
Note: *The IP address shown in the node field of the event is the IP address of win-ksx74drkgh.*

5. Click **Generate Event**.
6. You are redirected to All Events. **Refresh** the list until the event is **Processed**.
7. Open the event and observe the **Processing Notes**:



Note: *The IP address in the node field is used to identify the CI for alert binding.*

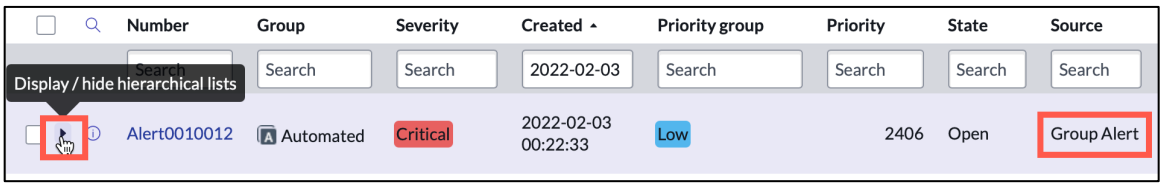
8. Return to Service Operations Workspace **Survey Project** service map. Display **Related Items** and refresh the list.



Note: *The alert binds to win-ksx74drkgh because the event Node matches the IP address of the win-ksx74drkgh Windows Server CI in the ServiceNow CMDB. Notice in the alert list a virtual alert is created for the group of alerts.*

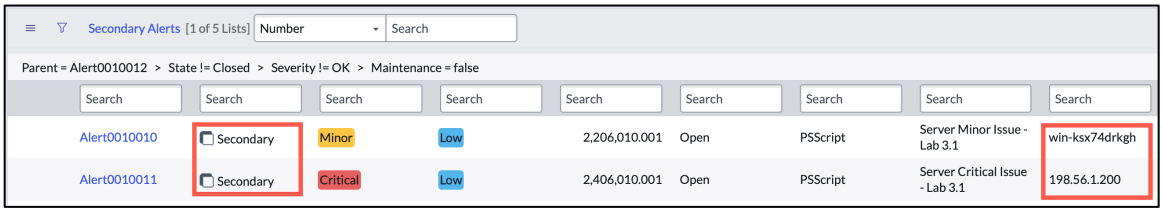
9. Navigate to **Event Management > All Alerts**.

10. On the latest alert, click to **expand** the grouped alert and display secondary alerts. It may take a minute or two for event processing to group the alerts.



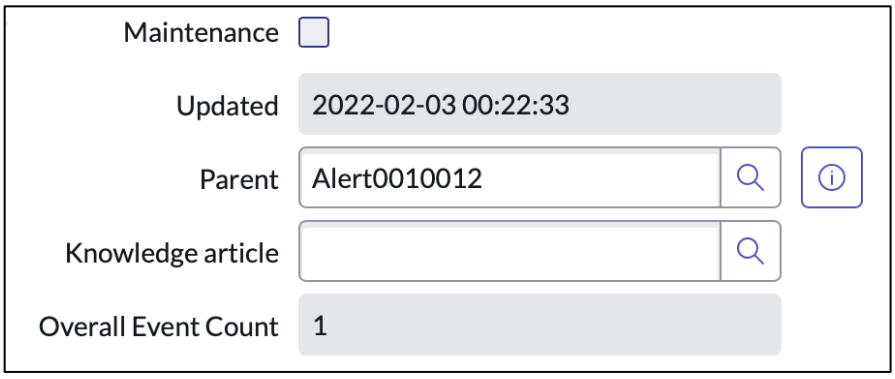
> Note: *Locate the most recent "grouped" alert listed. This new virtual, primary automated alert group has been created because the critical alert and the minor alert from prior lab steps automatically group together since they bind to the same CI. Alert grouping is covered in more detail in the next module.*

11. Scroll down to the **Secondary Alerts** section.

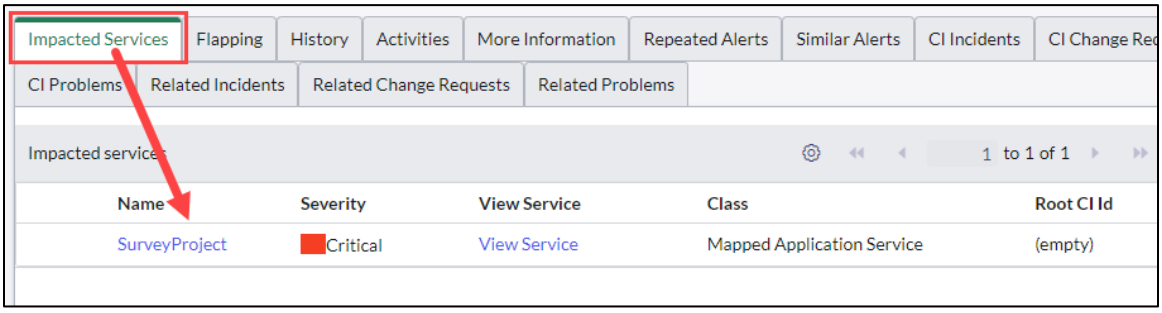


> *You can see that the virtual, primary, group alert contains both the critical alert and the minor alert as secondary alerts.*

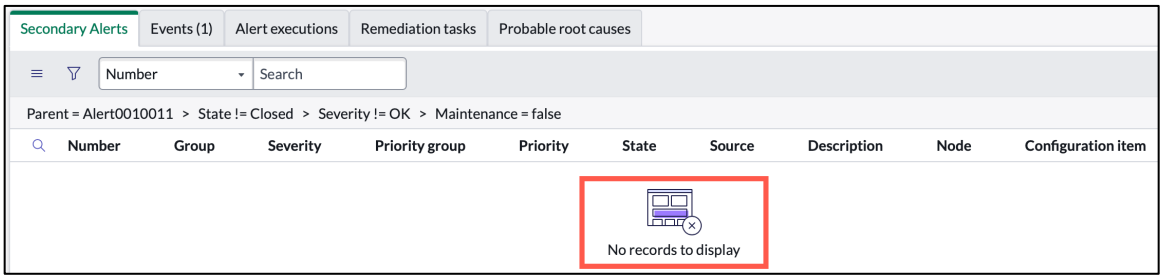
12. **Open** the critical alert. Note the Parent field: the virtual alert is listed as the parent alert for this automated group.



13. Scroll down and view the **Impacted Services** related list.

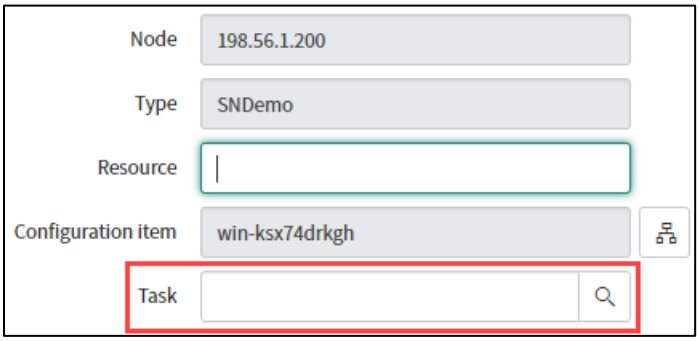


14. Scroll down to the **Secondary Alerts** related list.



Note: *The Minor alert is not listed as a Secondary alert because it is a secondary alert for the virtual grouped alert, but not this critical alert.*

15. Scroll up and observe the alert has an empty Task field.



16. At the top, click **Quick Incident**.

17. Update the incident with the following:

- Caller: **Event Management**
- Category: **Hardware**

- Assignment group: **ITSM Engineering**

Note: *The Short Description and Configuration item populate from the alert.*

18. Remember the incident **Number**.

Note: *Your incident Number may be different.*

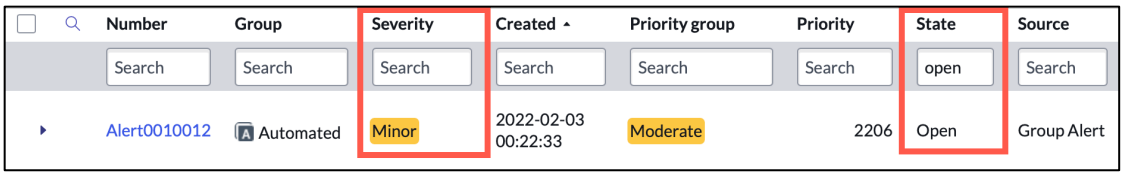
19. Click **Update**.

C. Trigger a Clear Event

1. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator.**
2. In the upper right, click **Load Sample**.
3. In the Choose Event Sample dialog box, enter **Lab3.1** and wait for the filtered list.
4. From the list, select **Lab3.1 ClearEvent** and click **OK**.
5. Click **Generate Event**.
6. You are redirected to All Events. **Refresh** the list until the event is processed.

Note: *An event is triggered with the same Message key (e.g., 3-1HT2017-SN2) as the 'Server Critical Issue' event with a severity of Clear (0). Even though the alert is part of the Alert Group, only the Critical alert closes. The associated Minor alert as well as the group alert remain open, and the severity of the group alert will be reduced to Minor.*

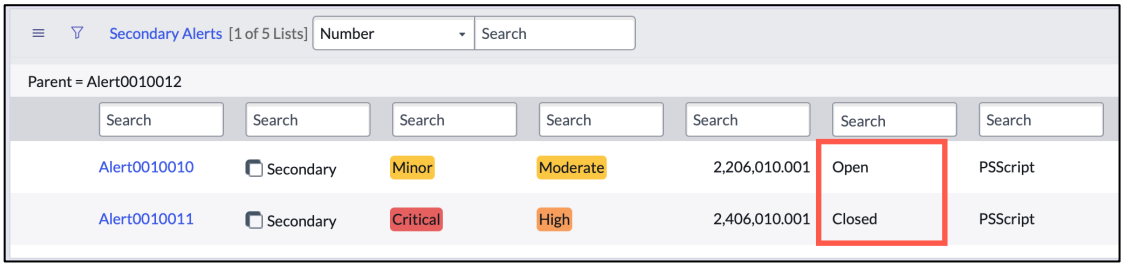
7. Navigate to **All Alerts.**



Note: *Note that the State of the alert remains as Open and the Severity has been reduced to Minor; it may take a few seconds for the Severity to update. Priority group value may differ.*

8. **Expand** the grouped alert. Notice only the open alert is listed because of the default filter.

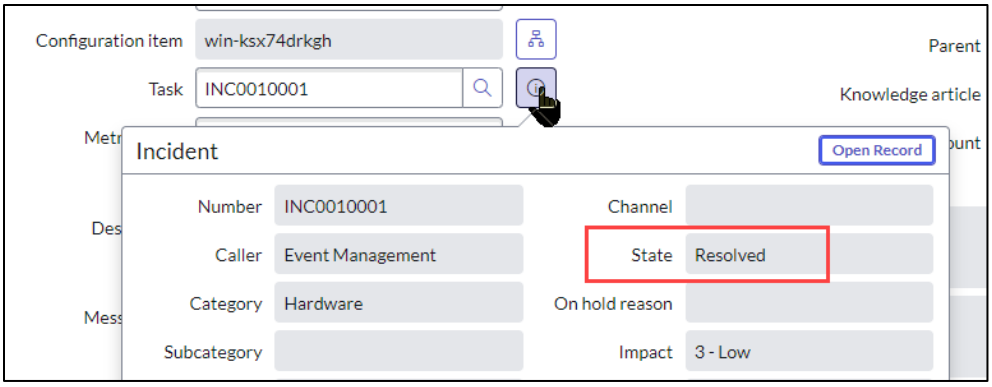
9. Scroll down to the **Secondary Alerts** related list and click on the "grouped" Parent alert link to remove subsequent conditions.



As we saw in the note above, the clear event closed the critical alert. The minor alert remains open. Priority group values may differ.

10. Open the closed **Critical** alert from the list.

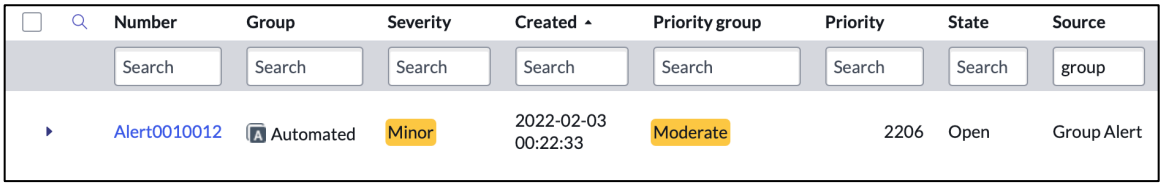
11. Click the **Preview this record** icon next to the **Task** field on the alert form.



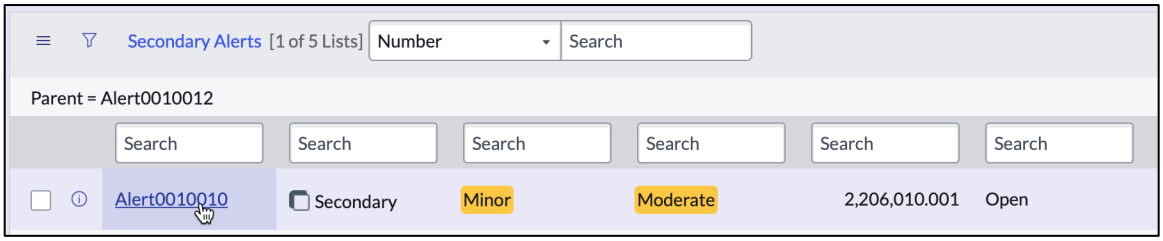
Note: *Since the associated alert closed, it resolved the incident.*

D. Manually Clear the Minor Alert

1. Navigate to **All Alerts** and expand the grouped alert.



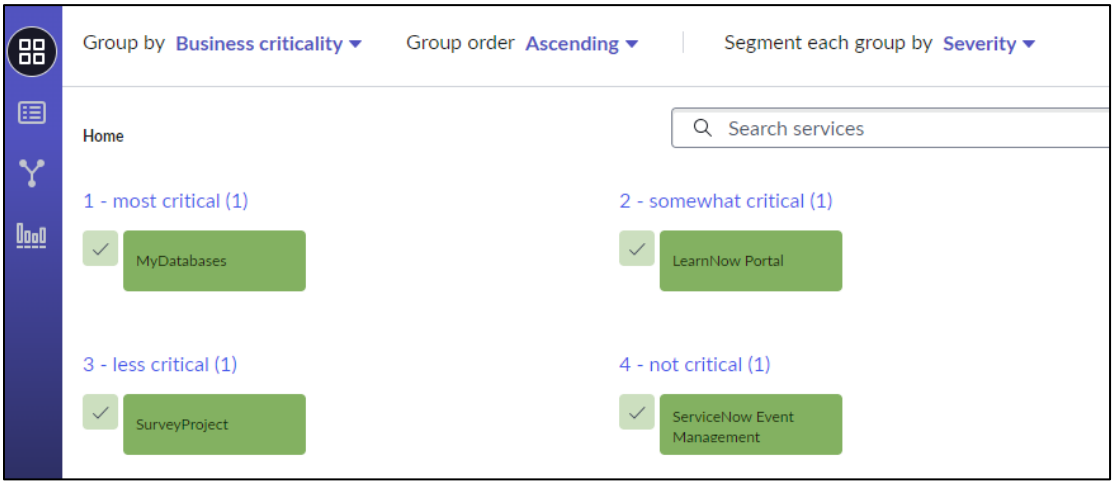
2. Scroll down to the **Secondary Alerts** related list and open the **Minor** alert.



3. Close the Minor alert by clicking on the **Close** button.

Note: *Manually closing the Minor alert also closes the Alert Group as this Minor alert was the last alert in the group. The automated alert could take a few moments to close.*

4. Return to **Service Operations Workspace** service dashboard.



***IMPORTANT NOTE**: If all the services are not green, right-click on any open alerts in the All Alerts list and close them. The Service Operations Workspace needs to be completely green before proceeding. Disregard any ServiceNow Event Management self-health alerts.*

Congratulations on completing the lab!

Event Management
CI Binding with Event Rules

Lab 3.2
20m

Lab Objectives

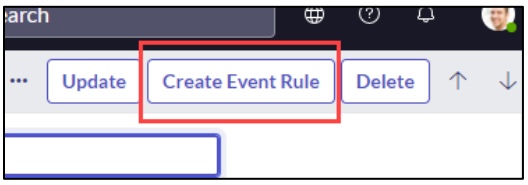
You will achieve the following objectives:

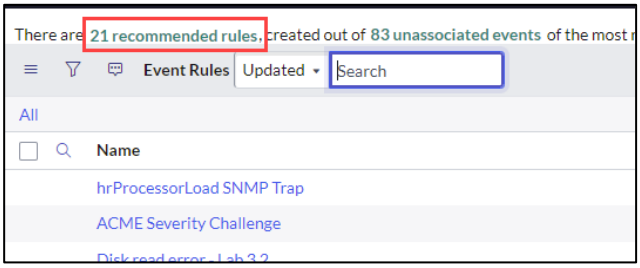
- Create event rules to populate alert fields which enables event processing to bind alerts to CIs.

Scenario

In this lab, events are fired with no automatic binding to a CI or application service because (1) the node field is empty or (2) the node and severity fields are empty. You will create event rules with regex parsing to populate those fields in the alert which will enable the correct alert to CI binding.

> ***Discussion:*** *There are two ways to create new event rules: from the* ***Create Event Rule*** *UI action button within an event and from the* ***recommended rules*** *link on the event rules list (see graphics below). The Next Experience UI has changed the automatic population of event rule fields from the event fields. You may need to manually create the event rule filter to match the graphic in these cases.*





> *Standard ServiceNow Event Management severities are:*
> *1 – Critical*
> *2 – Major*
> *3 – Minor*
> *4 – Warning*
> *5 - OK (previously Info)*
> *0 - Clear*

A. Execute an Unbound Infrastructure Event

1. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator.**

2. In the upper right, click **Load Sample**.

3. In the Choose Event Sample dialog box, enter **Lab3.2** and wait for the filtered list.

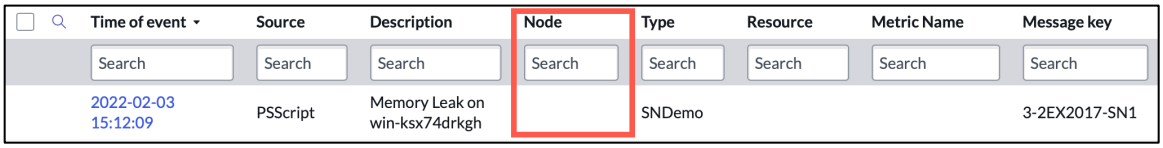
4. From the list, select **Lab3.2 UnboundEvent1** and click **OK**.

   source: **PSScript**
   message_key: **3-2EX2017-SN1**
   severity: **Critical (1)**
   description: **Memory Leak on win-ksx74drkgh**
   type: **SNDemo**
   source instance: **PS**

5. Note that the **node** field is empty.

6. Click **Generate Event.**

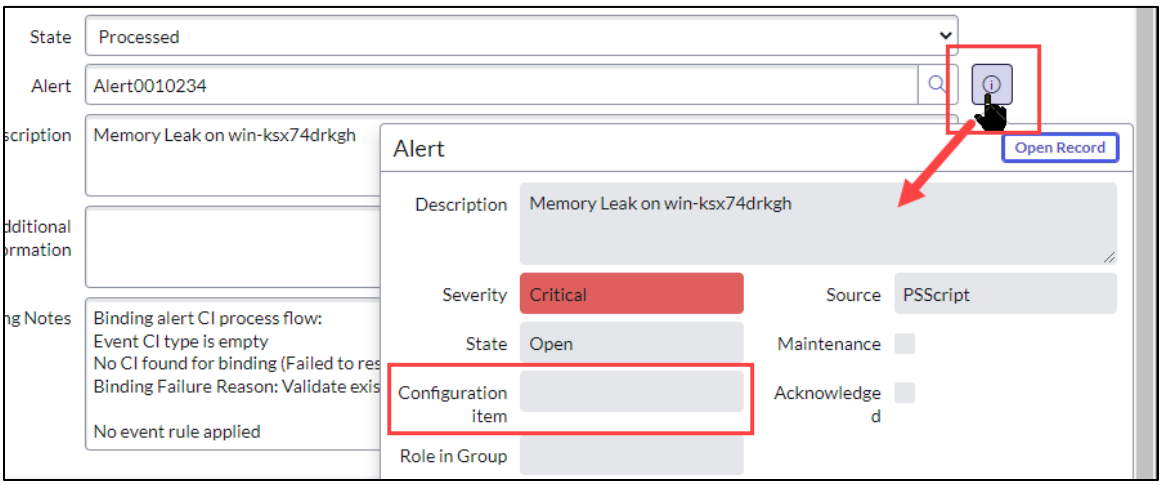
7. You are redirected to All Events. **Refresh** the list until the event is processed.



Note: *Default binding fails because the event node field is empty.*

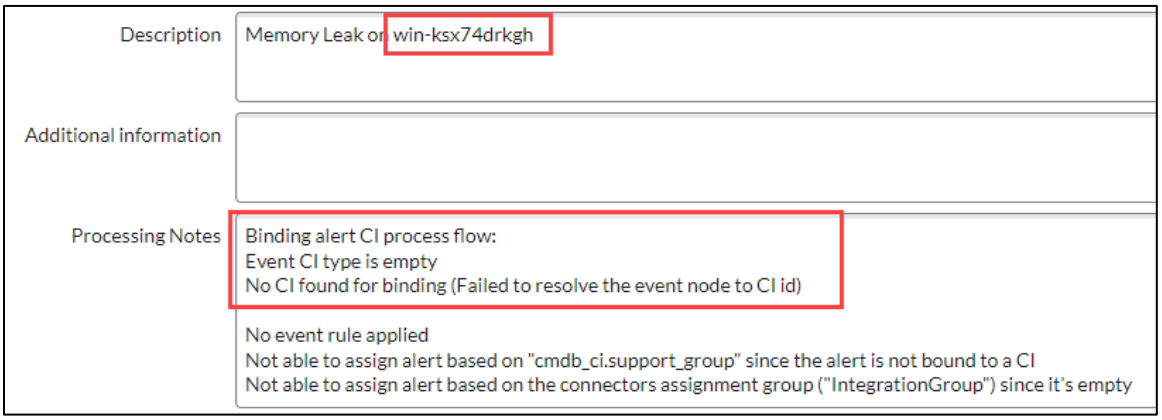
8. **Open** the event.

9. Next to the Alert field, click **Preview this record.**



Note: *The Configuration Item field in the alert is empty. The alert is unbound.*

10. Click away from the preview to return focus to the event. **Review** the description and processing notes.

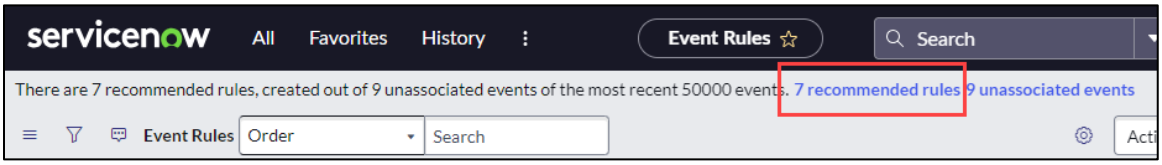


Note: *The Description contains the name of the server experiencing the memory leak. The Processing Notes explain no CI was found for binding.*

B. Configure an Event Rule for Binding

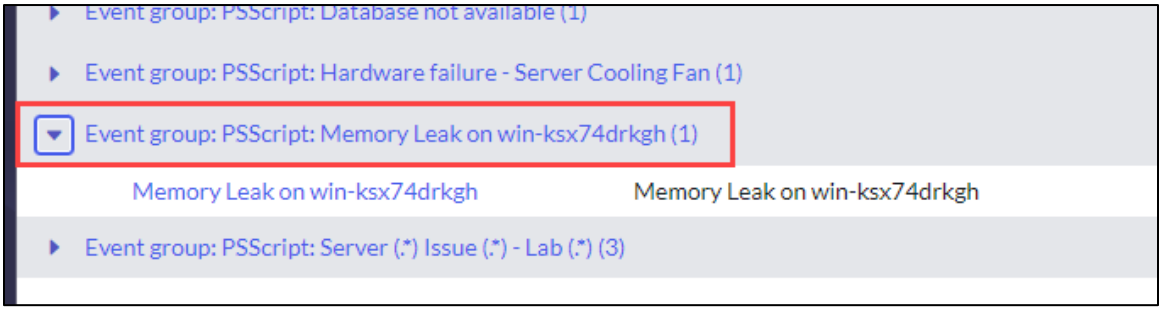
1. Navigate to **Event Management > Rules > Event Rules**.

2. At the top of the page, click **# recommended rules**.

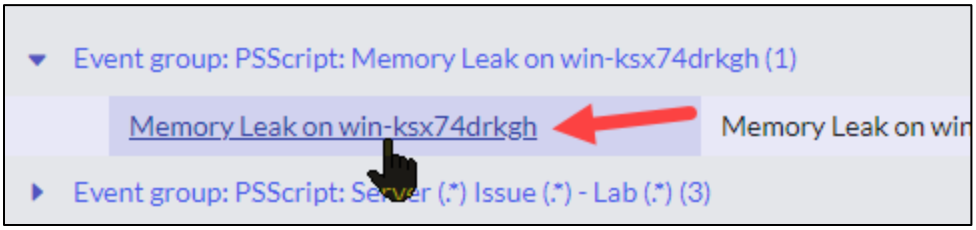


Note: *Your number of recommended rules may differ.*

3. **Locate** and **expand** the recommended event group for this event, **Memory Leak on win-ksx74drkgh**.

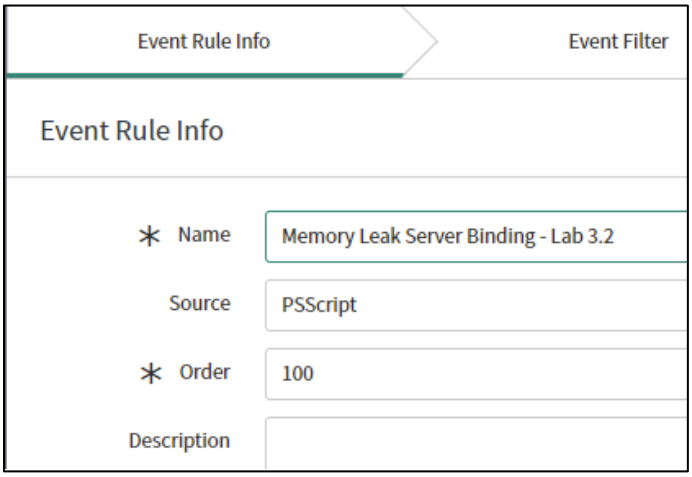


4. **Click** the recommended rule.



5. On the Event Rule Info tab, enter:

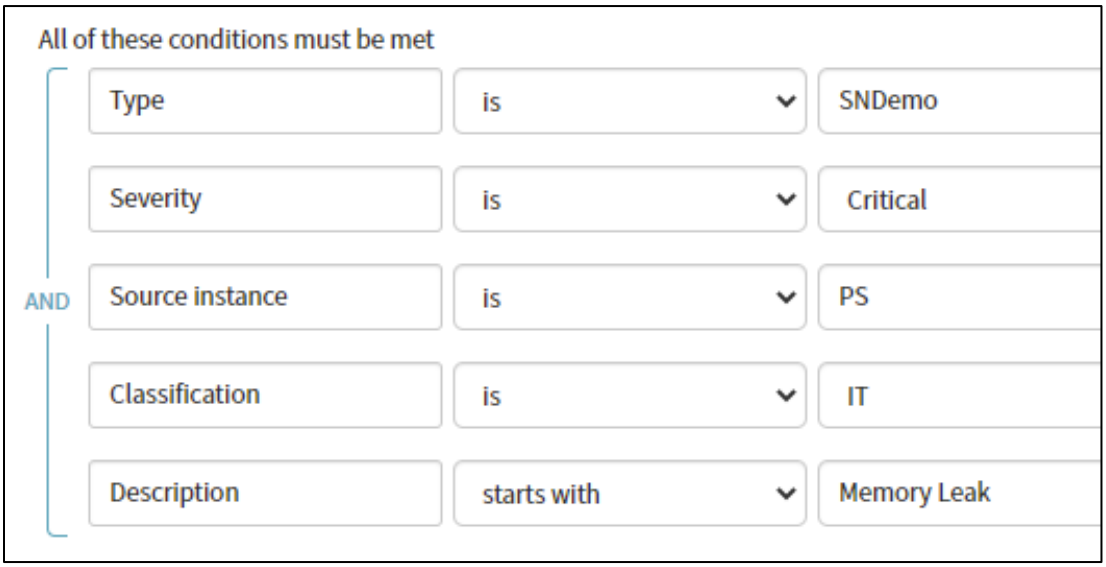
   Name **- Memory Leak Server Binding - Lab 3.2**
   Source **- PSScript**



6. Click **Event Filter**.

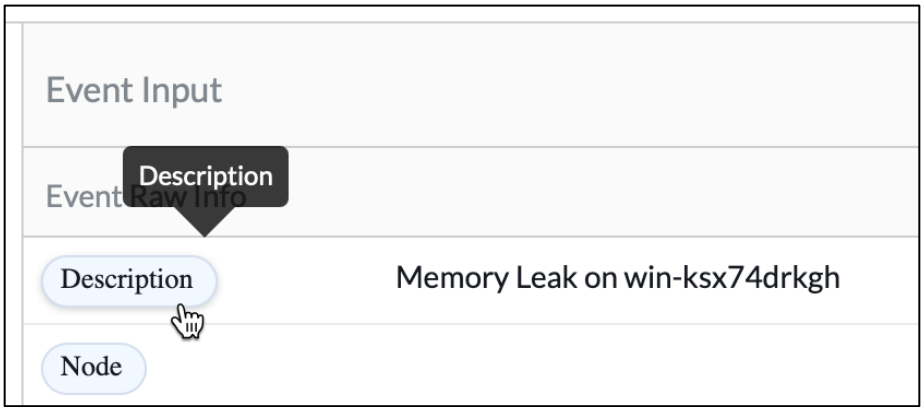
Note: *The event rule may or may not have a pre-configured filter.*

7. **Modify** the filter conditions as shown below. The order of the conditions does not matter. Modify the description to use **starts with**.



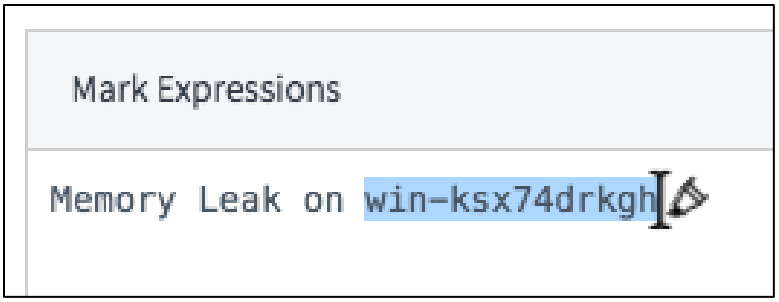
8. Click **Transform and Compose Alert Output**.

9. Click on the **Description** attribute in the **Event Raw Info** section on the right of the form to open the Edit Regex Expressions form.

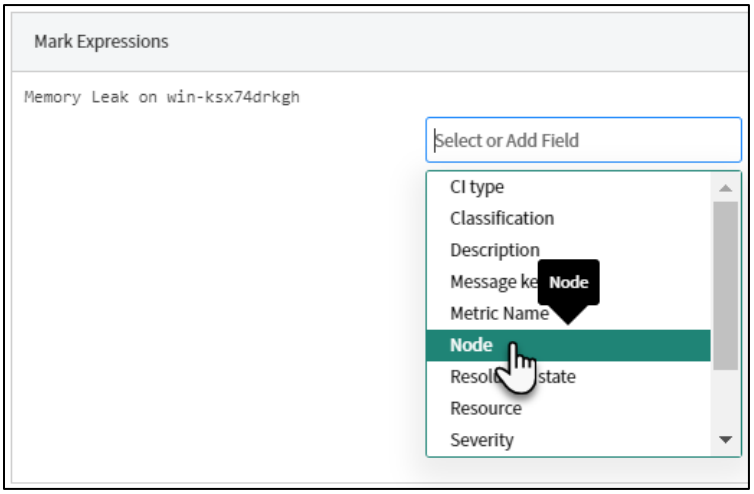


10. Standard edit mode is selected by default.

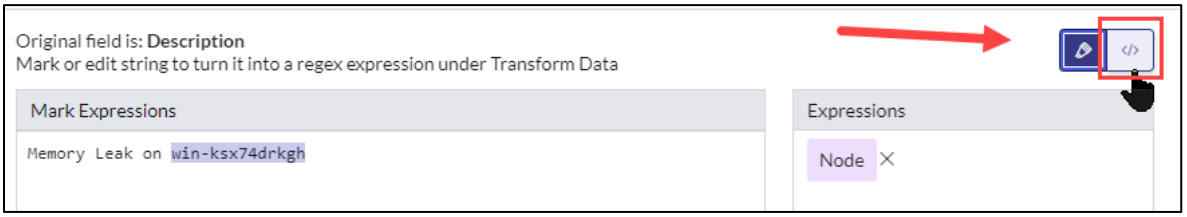
11. Left-click, drag, and highlight the server name.



12. Select **Node**.



13. Click to select **regex mode </>.**



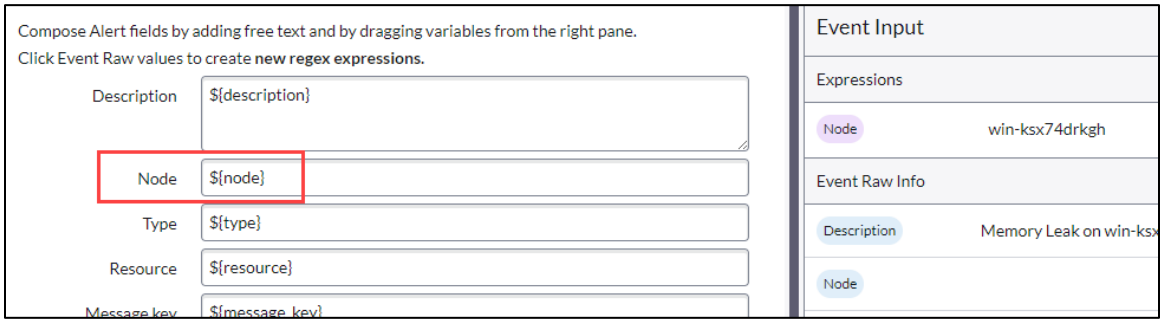
Note: *The highlighted string is mapped to the Node attribute.*

14. Observe the regular expression automatically created.

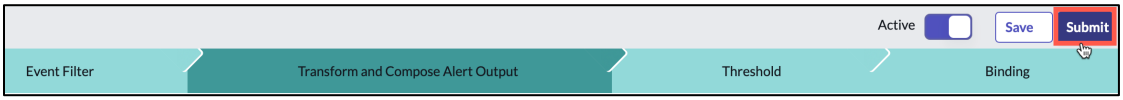
Note: *Rather than looking for the string **win-ksx74drkgh**, the regex searches for an unlimited string of any characters after '**Memory Leak on** ' in the Description field, then that string is mapped to the Node attribute of the alert.*

15. Click **Done**.

Note: *The node attribute is already the default in the Alert Node field .If it was not, you would add it.*

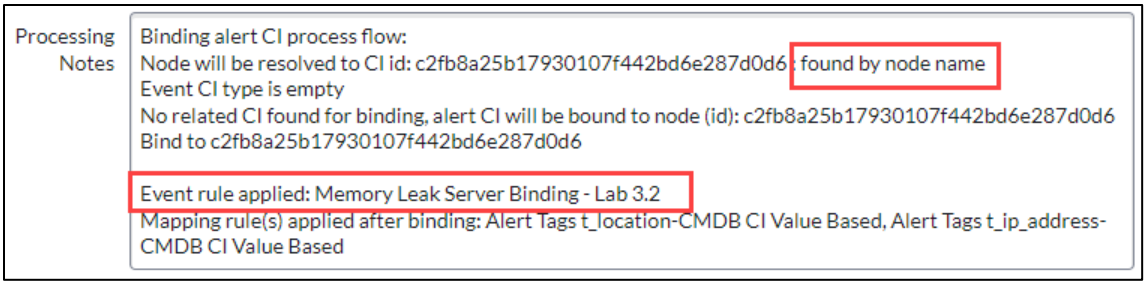


16. Click **Submit** to complete the event rule.



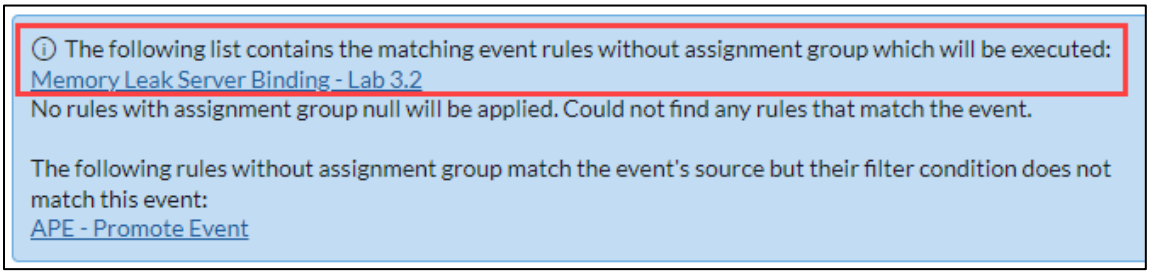
C.Test the Event Rule

1. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator.**
2. In the upper right, click **Load Sample**.
3. In the Choose Event Sample dialog box, enter **Lab3.2** and wait for the filtered list.
4. From the list, again select **Lab3.2 UnboundEvent1** and click **OK**.
5. Click **Generate Event**.
6. You are redirected to All Events. **Refresh** the list until the event is processed.
7. **Open** the new event and observe the Processing Notes.



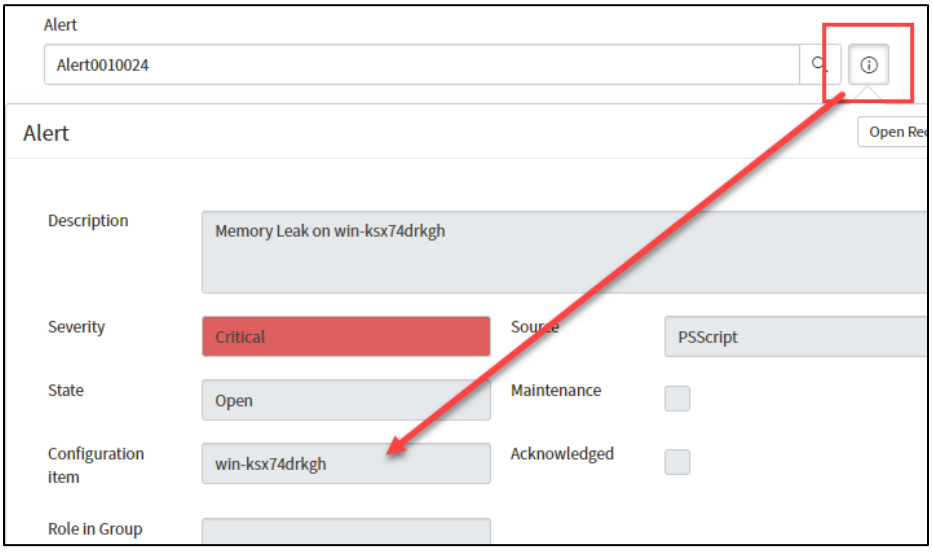
Note: *The event rule is applied and recorded in the Processing Notes.*

8. Under **Related Links**, click **Find matching rules**.

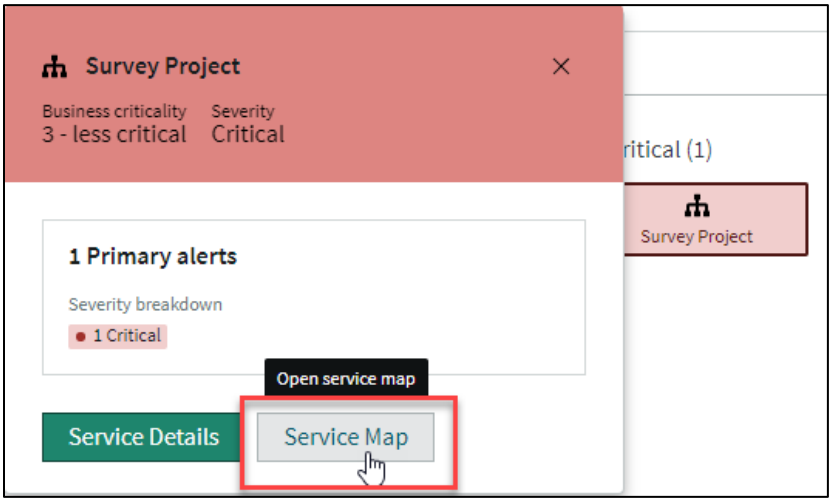


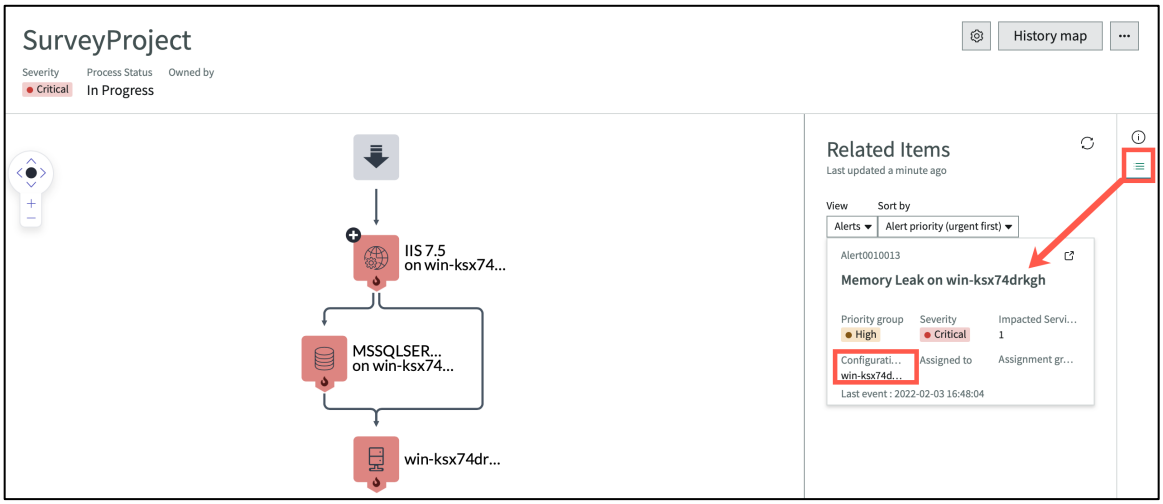
Note: *A message displays listing matching event rules.*

9. Click the **Preview this Record** icon to preview the alert. Notice the alert CI binding to the server CI.



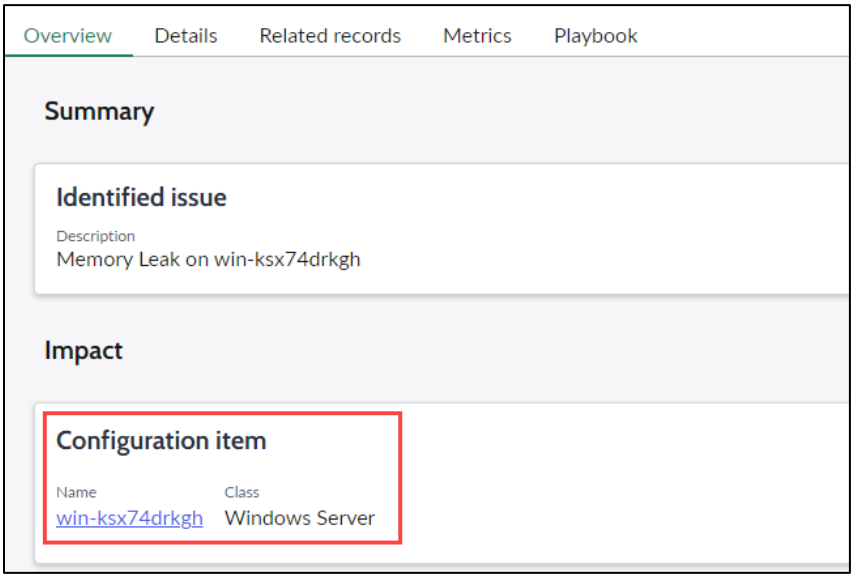
10. Return to **Service Operations Workspace** and open the **Survey Project service map**.



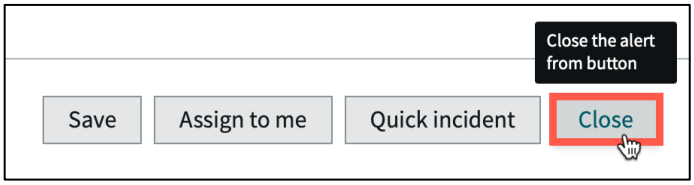


Note: *An alert is mapped to the win-ksx74drkgh Windows server CI and is affecting the IIS 7.5 and MSSQLSERVER CIs.*

11. **Open** the alert and review the configuration item server binding.



12. Select **Close**.



D. Process an Event Without a Node or Severity

1. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator.**
2. In the upper right, click **Load Sample**.
3. In the Choose Event Sample dialog box, enter **Lab3.2** and wait for the filtered list.
4. From the list, select **Lab3.2 UnboundEvent2** and click **OK**.

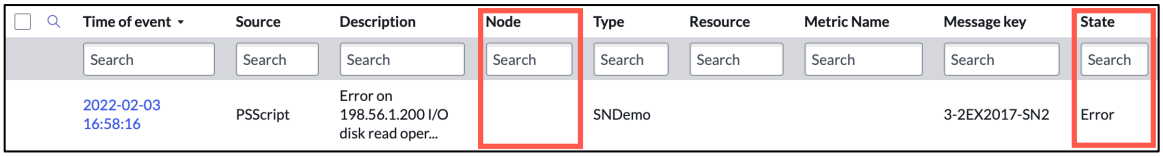
source:	**PSScript**
message_key:	**3-2EX2017-SN2**
description:	**Error on 198.56.1.200 I/O disk read operation error**
type:	**SNDemo**
source instance:	**PS**
additional_info:	**"{'status':'3'}"**

5. Note that this event has no **node** or **severity** and that **additional info** is a name-value pair. Name-value pairs are captured by event processing and available for use in event rules.

6. Click **Generate Event**.

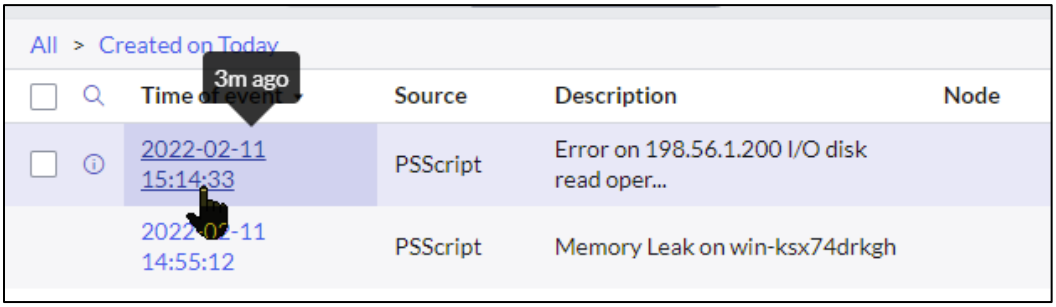
7. You are redirected to All Events. **Refresh** the list until the event is processed.

8. Locate the event. Notice the **State** field (Error).

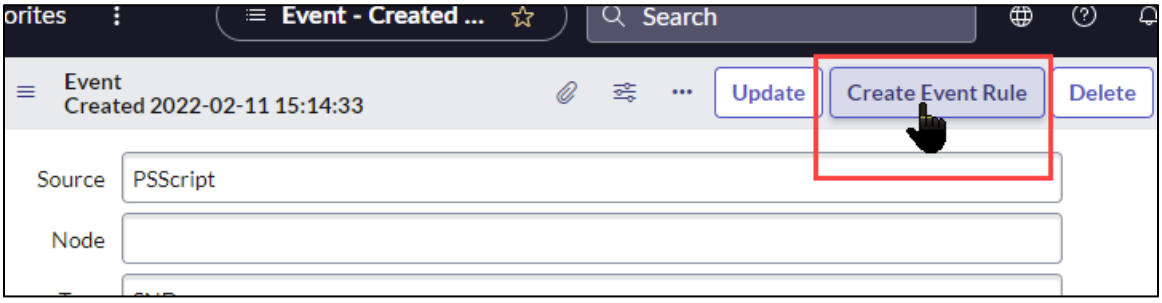


> Note: *The event is unbound because there is no Node.* ***No alert generates because there is no severity****. It may take a few seconds for the State to update to Error.*

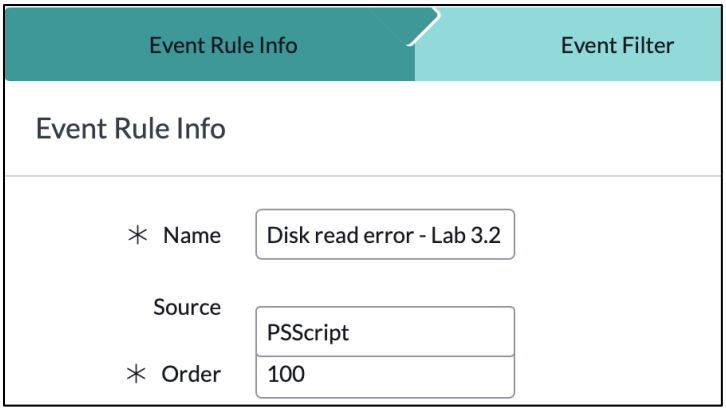
9. Open the event by clicking the **timestamp**.



10. Click **Create Event Rule**.



11. Name the event rule: **Disk read error - Lab 3.2**.

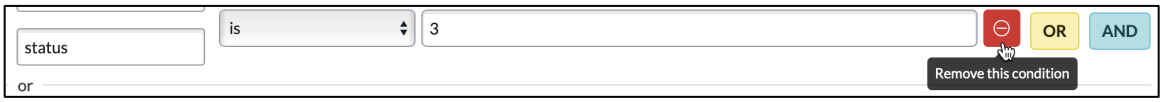


12. Click **Event Filter** at the top.

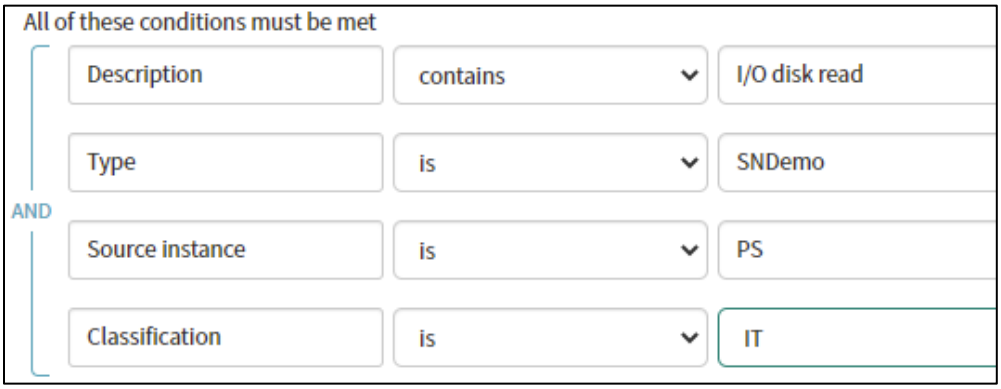
13. Modify the filter as:

    - **Description | contains | I/O disk read (AND)**
    - **Type | is | SNDemo (AND)**
    - **Source Instance | is | PS (AND)**
    - **Classification | is | IT**

14. If preset, remove the **status** condition.



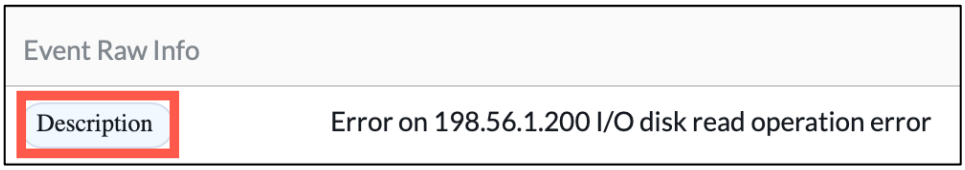
15. Ensure your conditions match as shown:



Note: *The purpose of modifying these conditions is to enable the rule to apply to any host and any status value for this type of I/O disk read error.*

16. Click **Transform and Compose Alert Output** at the top.

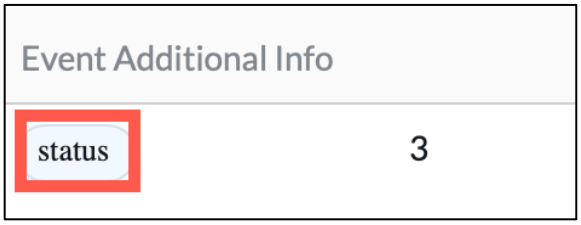
17. Click the **Description** attribute in **Event Raw Info**.



18. Highlight the IP address and bind to **Node**.

19. Click **Done**.

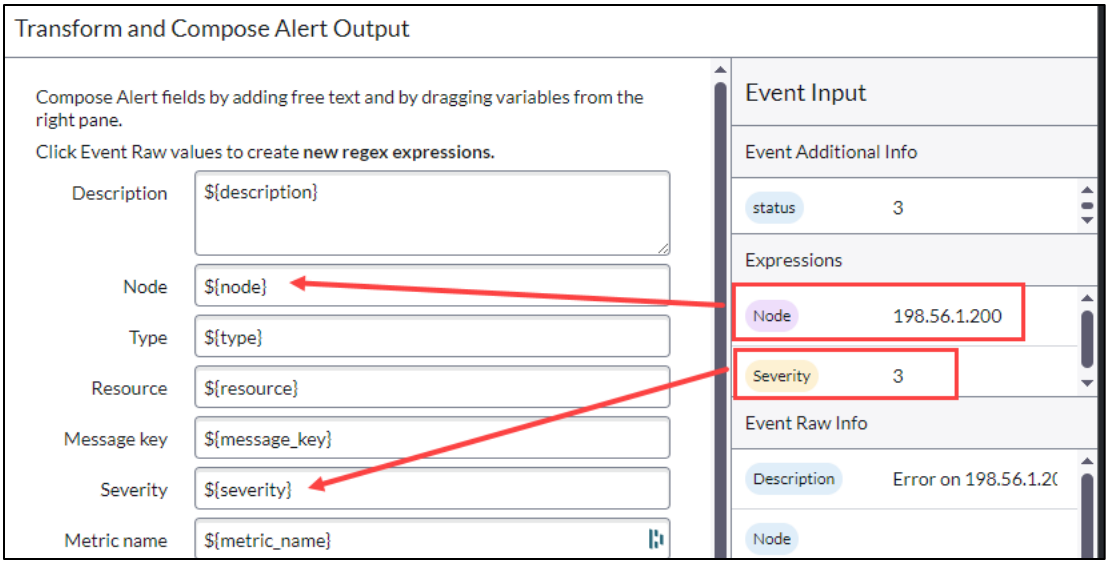
20. Under **Event Additional Info**, click **status**.



21. Highlight the status value and bind to **Severity**.

22. Click **Done**.

23. Observe the **Expressions** in the event rule and how this regex extracted data will be populated into the alert.

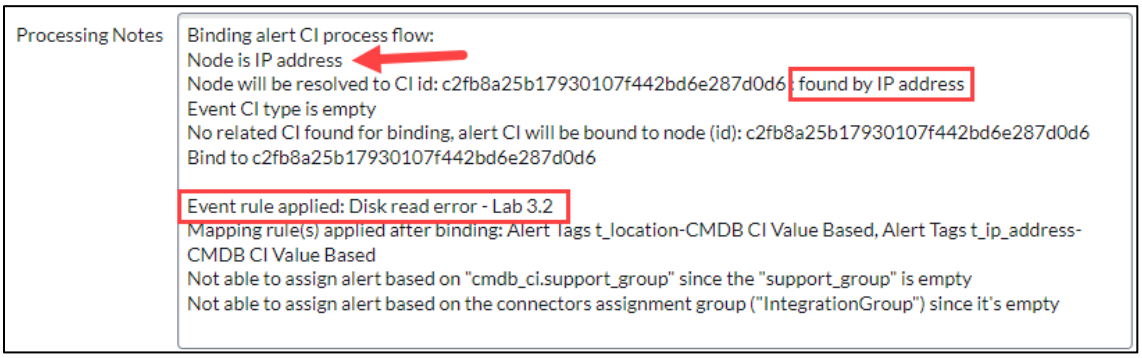


24. Click **Submit** to complete the event rule.

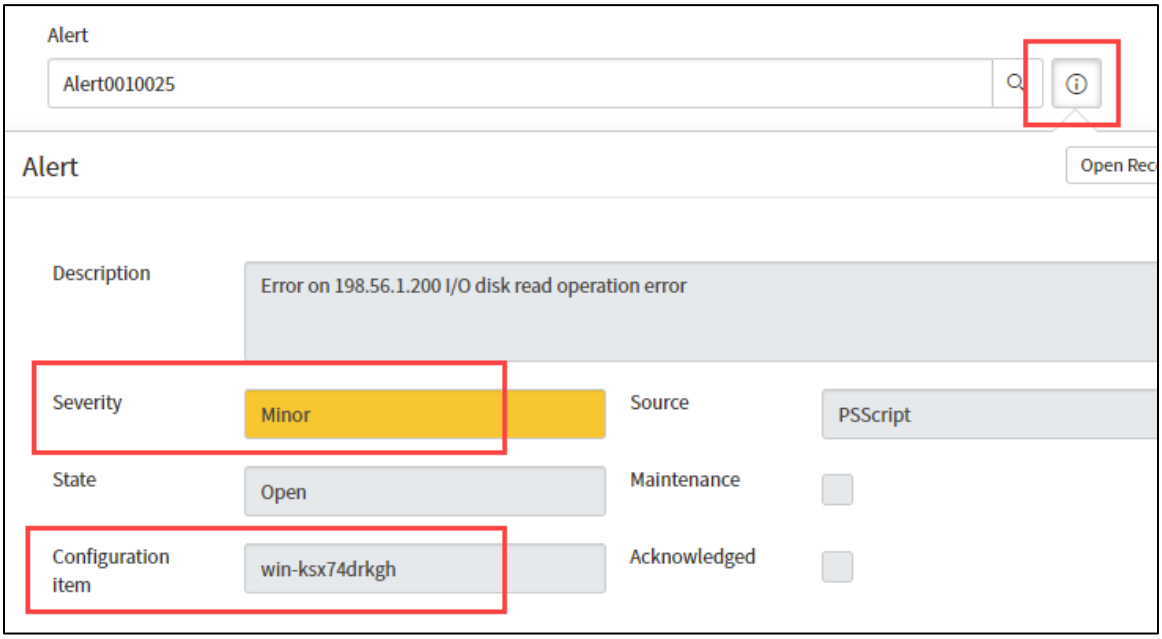
E. Test the Event Rule

1. Trigger the event **Lab3.2 UnboundEvent2** once more.

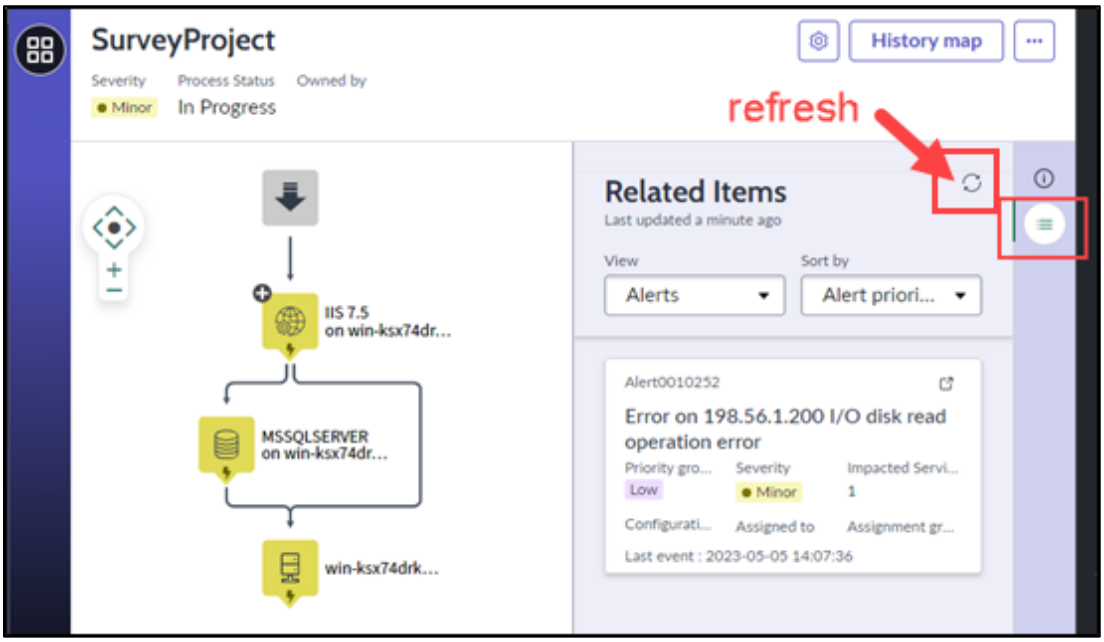
2. Find the event and observe the event **Processing Notes**.



3. **Preview the Alert**. Notice the severity = minor (3) and CI = server CI.



4. Return to the **Service Operations Workspace** service map for **Survey Project** and refresh the alert list.



Note: *The Severity of the alert is mapped based upon the status value from the event by the newly created event rule. Priority group value may vary.*

5. **Close** the alert.

Lab Verification

1. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator.**

2. In the upper right, click **Load Sample**.

3. In the Choose Event Sample dialog box, enter **Lab3.2** and wait for the filtered list.

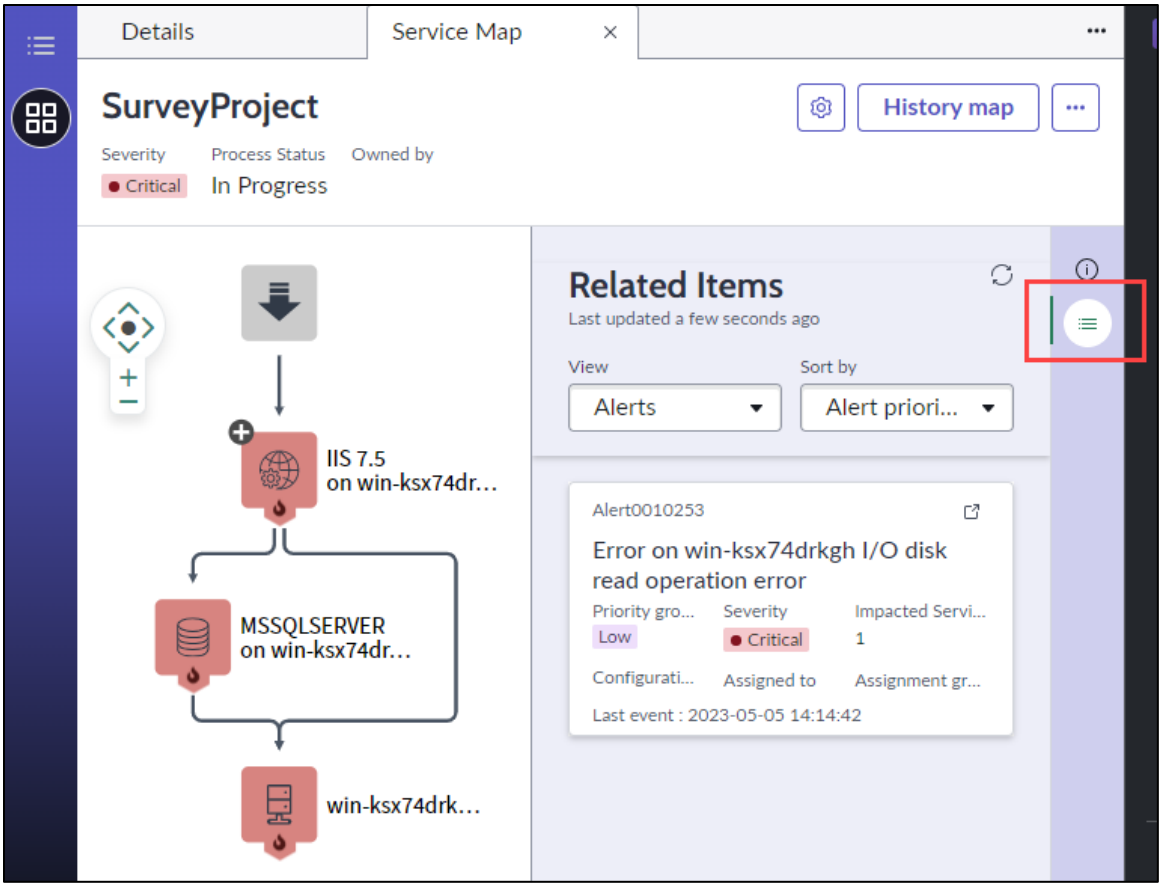
4. From the list, select **Lab3.2 UnboundEvent3** and click **OK**.

source:	**PSScript**
message_key:	**3-2EX2017-SN3**
description:	**Error on win-ksx74drkgh I/O disk read operation error**
type:	**SNDemo**
source instance:	**PS**
additional_info:	**"{'status':'1'}"**

5. Click **Generate Event**.

6. You are redirected to All Events. **Refresh** the list until the event is processed.

7. **Return** to the Survey Project service map.



> Note: *This alert binds to the win-ksx74drkgh Windows server CI based on the node extracted from the event Description. The Severity is Critical based on the status of 1 in the event Additional Info. Priority group may vary.*

8. Close the **Alert**.

> Note: *Alert aggregation group alerts bind to the same CI if they are created within 10 minutes of each other, so the last two alerts in this lab may have a parent alert automatically created. In this case, then both alerts become secondary (like what occurred toward the end of lab 3.1), because they are generated within minutes of each other. Note that this is dependent upon on the speed at which you complete the labs. If this does occur, then technically you are closing a group alert here and not the actual alert from the event. It will look the same, except the source is Group Alert.*

Congratulations on completing the lab!

Event Management
Event Rule Thresholds

Lab 3.3
40m

Lab Objectives

You will achieve the following objectives:

- Process events based on threshold values

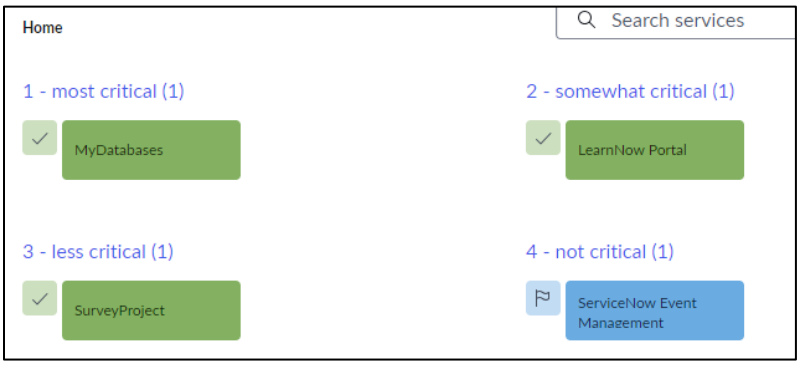
> ***Lab Dependency:*** *Requires the completion of Lab 3.2.*

Scenario

In this lab, you process events based on threshold values. An alert is generated from a threshold configured based on a percentage in the event. If the threshold is not met, no alert is generated.

A. Execute a CPU Event

1. **Close** all open alerts. The Service Operations Workspace service dashboard should be all green. Disregard any ServiceNow Event Management self-health alerts.



2. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator**.

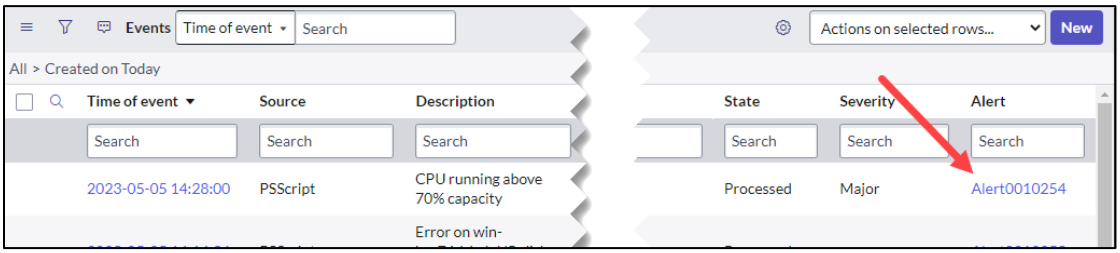
3. In the upper right, click **Load Sample**.

4. In the Choose Event Sample dialog box, enter **Lab3.3** and wait for the filtered list.

5. From the list, select **Lab3.3 CPUUsage1** and click **OK**.

source: **PSScript**
message_key: **3-5EX2017-SN1**
node: **198.56.1.200**
severity: **Major (2)**
description: **CPU running above 70% capacity**
type: **SNDemo**
source instance: **PS**

6. Click **Generate Event**.
7. You are redirected to All Events. **Refresh** the list until the event is processed. Notice an alert is generated.
8. Locate the alert.



Note: *An alert generates with a severity of Major.*

9. **Open** the alert.
10. Click **Close**.
11. **Open** the alert again.
12. Click **Delete**.
13. Click **Delete** in the confirmation window. We are deleting the alert so that it is not "reopened" by subsequent events.

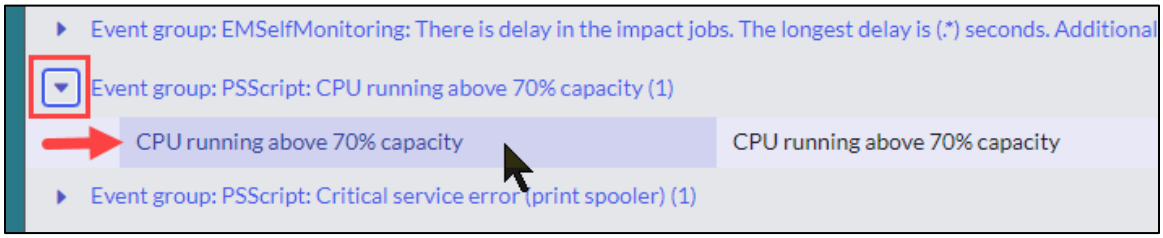
B. Create an Event Rule with Threshold

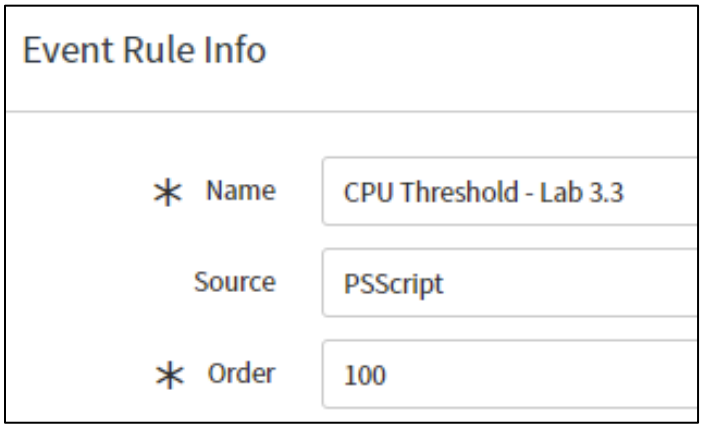
In this section, we want to generate a Major alert only if the CPU usage percentage exceeds 90% (i.e., a threshold). Note that the CPU percentage is embedded in the Description field, so we will use regex to extract the value.

1. Navigate to **Event Management > Rules > Event Rules**

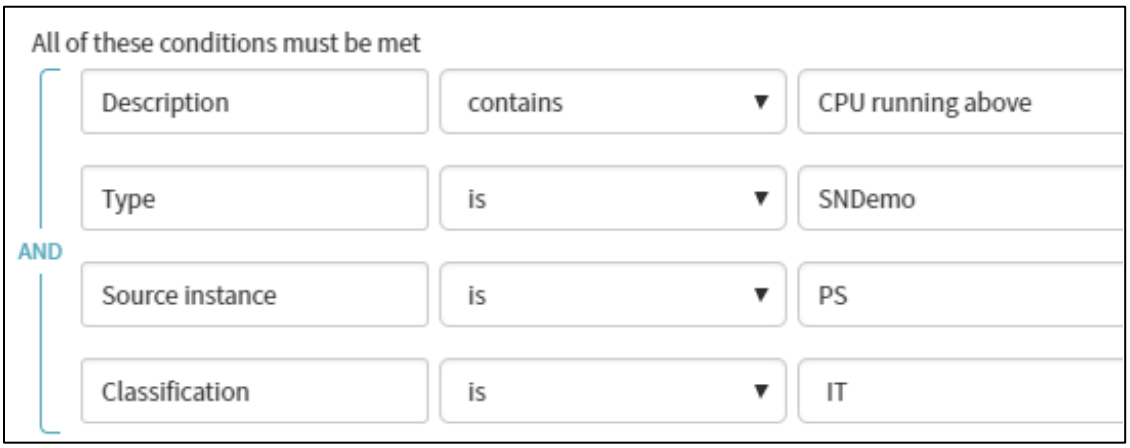
2. Using the **recommended rules** link, configure the appropriate event rule with name: **CPU Threshold - Lab 3.3.**

   Note: *Start with the rule labeled, "CPU running above 70% capacity".*

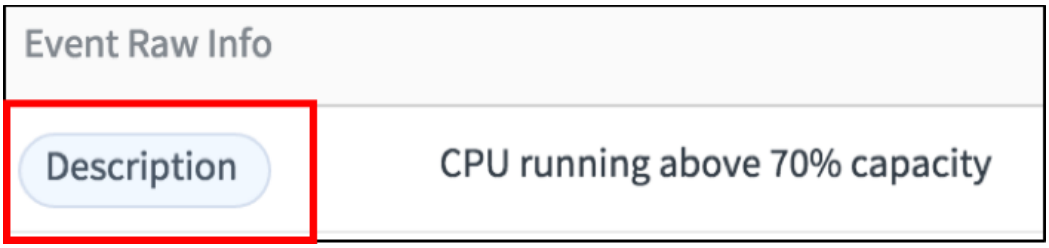




3. Configure the **Event Filter** section as shown:

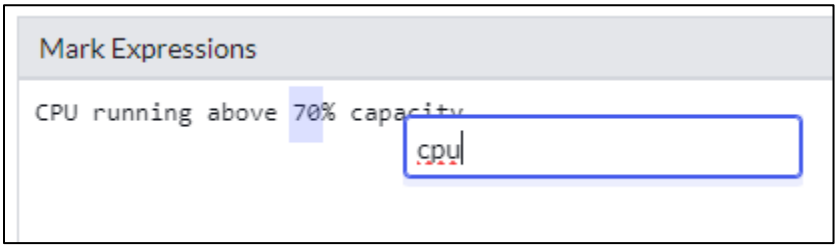


4. From the **Transform and Compose Alert Output** section, click on the **Description** attribute on the right:



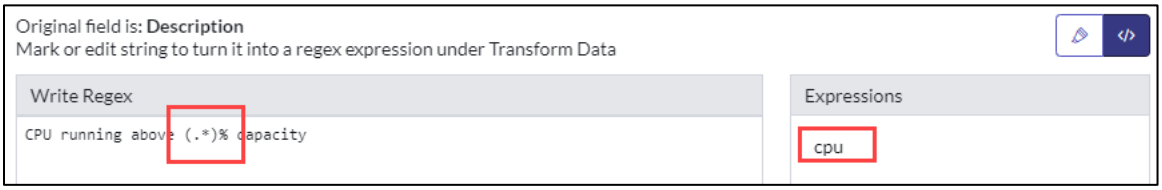
5. Left-click, drag, and highlight the value **70**. Do not include the percent symbol.

6. Enter a field name of **cpu** and then from your keypad hit **enter** (type in **cpu** and hit **ENTER**).



7. From the top right of the form, click **</>** to enter regex mode.

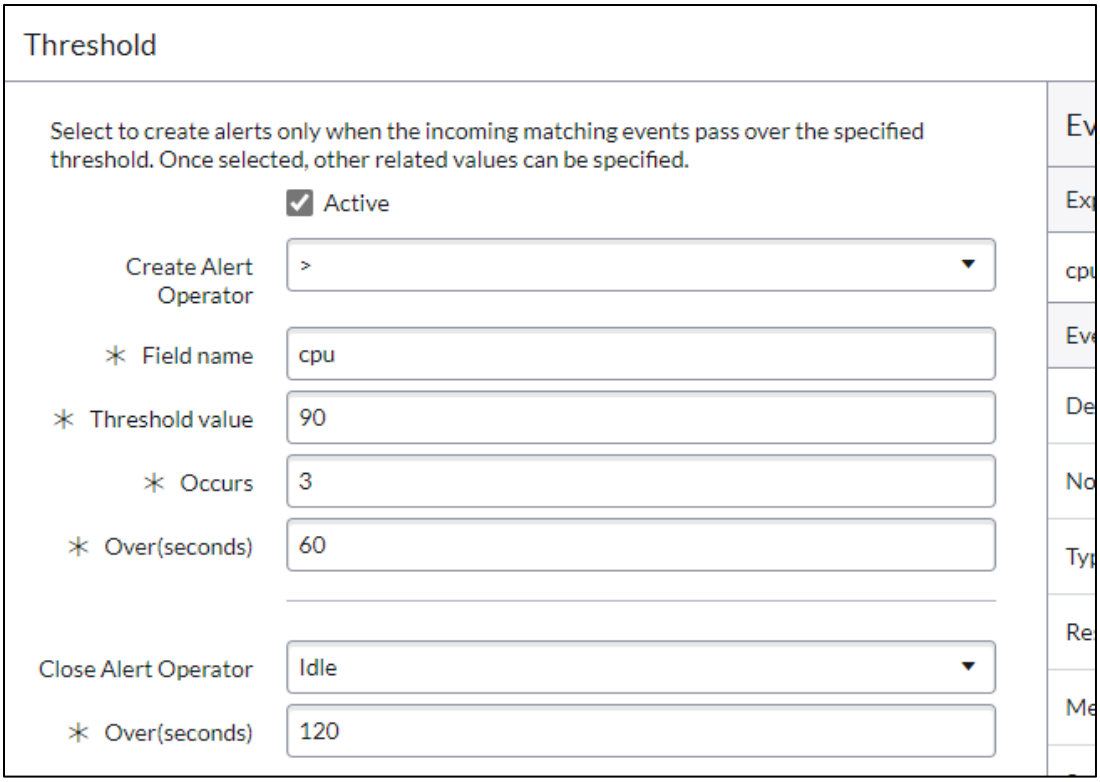
8. Observe the regular expression created.



Note: *The (.*) regex picks up any value before the **%** and after **above** to populate in the cpu attribute.*

9. Click **Done**.

10. Configure the **Threshold** section as shown:
    - Active: **checked**
    - Create Alert Operator: **>** (greater than)
    - Field name: **cpu**
    - Threshold value: **90**
    - Occurs: **3**
    - Over (seconds): **60**
    - Close Alert Operator: **Idle**
    - Over (seconds): **120**



Note: *This threshold suppresses the generation of alerts unless more than 3 events occur within 60 seconds and the value of cpu is > 90. The alert closed when no further events occur for 120 seconds.*

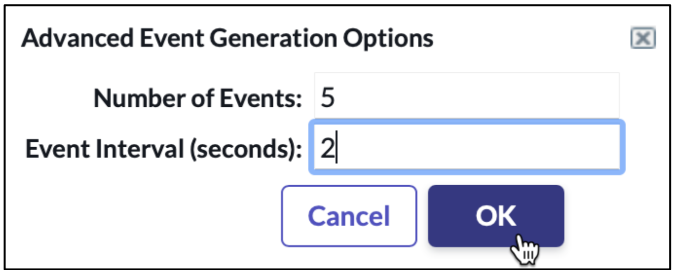
11. Click **Submit**.

C. Test the Threshold Event Rule using Advanced Event Generator

1. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator.** The last sample event **(Lab3.3 CPUUsage1)** should still be loaded.

2. In the upper right, click **Advanced Generator**.

3. In the advanced generator options window, **enter 5 and 2** to fire the event five times in two second intervals.



4. Click **OK**. This generates a sequence of CPU usage events (one event every 2 seconds, five times).

5. You are redirected to All Events. **Refresh** the list until all 5 events are processed.

Description	Node	Type	Resource	Metric Name	Message key	State	Severity	Alert
Search	Search	Search	Search	Search	Search	Search	Search	Search
CPU running above 70% capacity	198.56.1.200	SNDemo			3-5EX2017-SN1	Processed	Major	(empty)
CPU running above 70% capacity	198.56.1.200	SNDemo			3-5EX2017-SN1	Processed	Major	(empty)
CPU running above 70% capacity	198.56.1.200	SNDemo			3-5EX2017-SN1	Processed	Major	(empty)
CPU running above 70% capacity	198.56.1.200	SNDemo			3-5EX2017-SN1	Processed	Major	(empty)
CPU running above 70% capacity	198.56.1.200	SNDemo			3-5EX2017-SN1	Processed	Major	(empty)
CPU running above 70% capacity	198.56.1.200	SNDemo			3-5EX2017-SN1	Processed	Major	(empty)

Discussion: *Why is no alert generated when 5 Major events are created within approximately 10 seconds?*

Note: *Review the earlier configuration in the previous section for the answer.*

6. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator**.

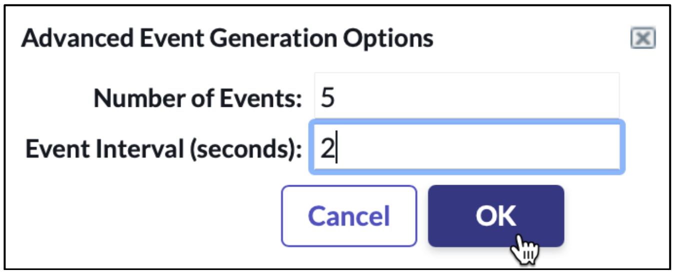
7. In the upper right, click **Load Sample**.

8. In the Choose Event Sample dialog box, enter **Lab3.3** and wait for the filtered list.

9. From the list, select **Lab3.3 CPUUsage3** and click **OK** (we are <u>not using</u> CPUUsage2). Read the event description!

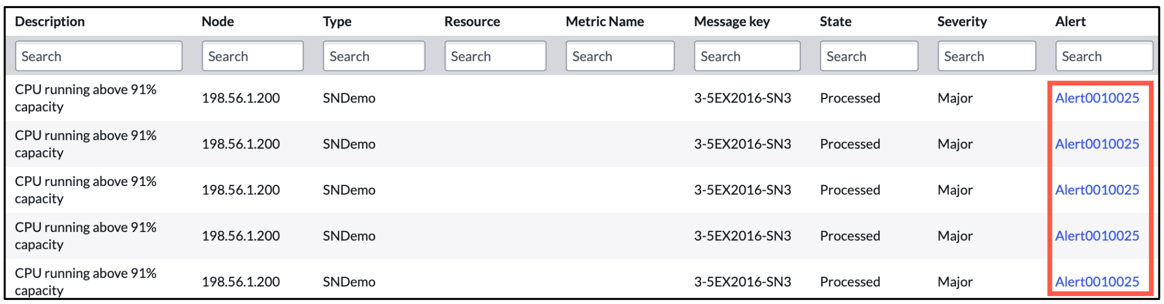
10. In the upper right, click **Advanced Generator**.

11. In the advanced generator options window, **enter 5 and 2** to fire the event five times in two second intervals.



12. Click **OK**. This generates a sequence of CPU usage events.

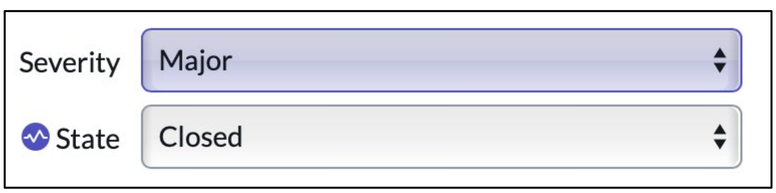
13. Observe the same number of events execute but this time a related alert is generated.



Description	Node	Type	Resource	Metric Name	Message key	State	Severity	Alert
Search	Search	Search	Search	Search	Search	Search	Search	Search
CPU running above 91% capacity	198.56.1.200	SNDemo			3-5EX2016-SN3	Processed	Major	Alert0010025
CPU running above 91% capacity	198.56.1.200	SNDemo			3-5EX2016-SN3	Processed	Major	Alert0010025
CPU running above 91% capacity	198.56.1.200	SNDemo			3-5EX2016-SN3	Processed	Major	Alert0010025
CPU running above 91% capacity	198.56.1.200	SNDemo			3-5EX2016-SN3	Processed	Major	Alert0010025
CPU running above 91% capacity	198.56.1.200	SNDemo			3-5EX2016-SN3	Processed	Major	Alert0010025

> Note: *The Event Management Service Operations Workspace will also reflect a major alert on the Survey Project service.*

14. Wait two minutes, then open the alert.



<u>*Question*</u>: Why is the alert closed when all these Major events have been generated triggering the alert?

> Note: *Review the earlier configuration in the previous section for an explanation on the alert's closure.*

Challenge Task: Create Custom Threshold

1. Fire the **Lab3.3Diskspace1** event

source: **PSScript**
message key: **3-5EX2017-SN4**

severity: **Major (2)**
description: **Disk space less than 1000MB**
type: **SNDemo**
source instance: **PS**

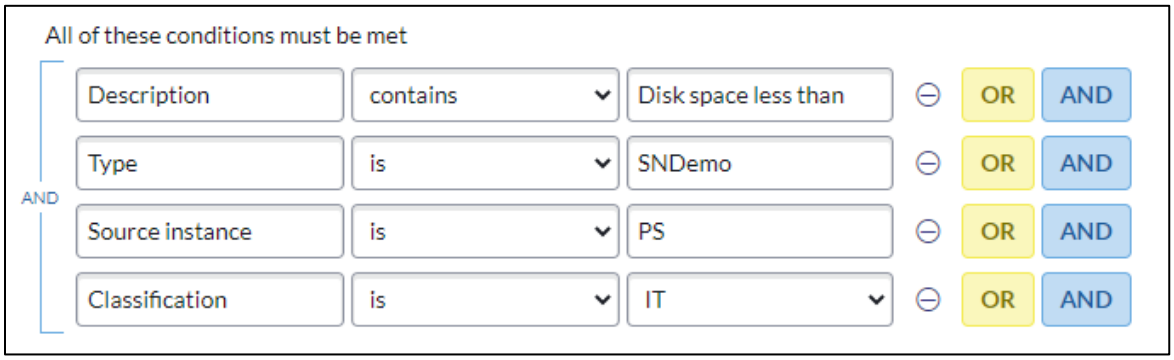
2. Set up an appropriate event rule extracting the disk space value for a threshold. An alert should only generate if the disk space falls below **700MB.** The alert should close if no further event is generated for **3 minutes.**

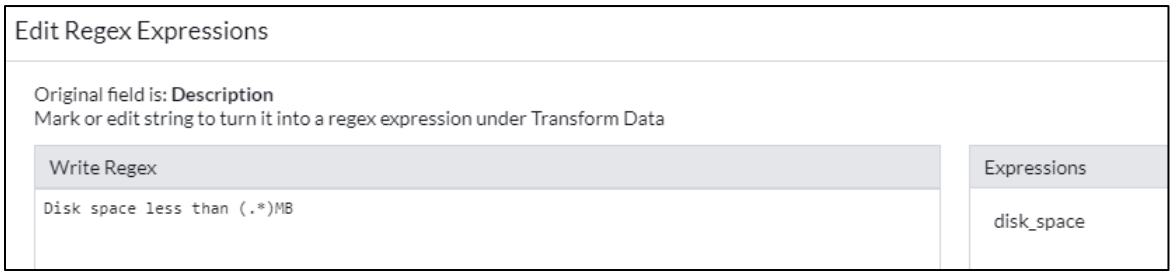
3. Test the new event rule by deleting the previously generated alert and firing both the **Lab3.3 Diskspace1** (*see above*) and the **Lab3.3 Diskspace2** (*below*) events:

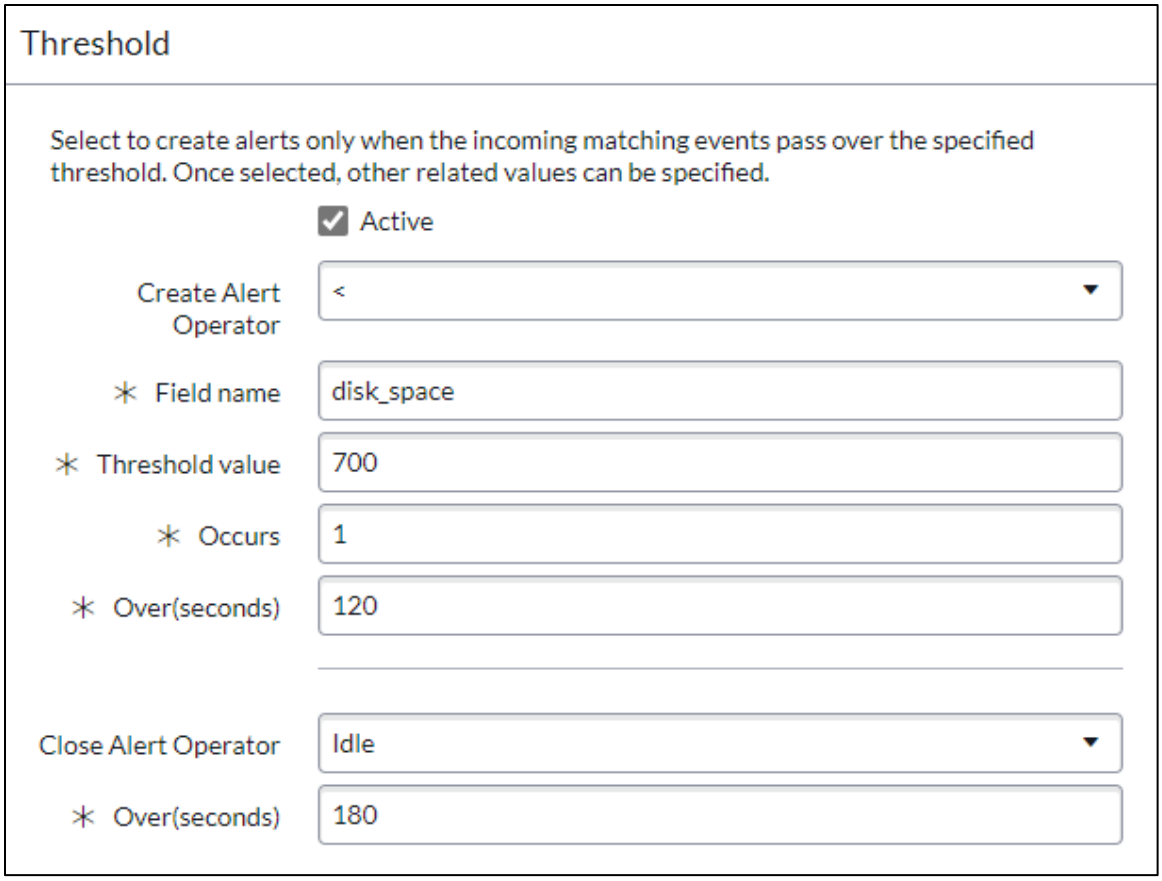
source: **PSScript**
message key: **3-5EX2017-SN5**
severity: **2**
description: **Disk space less than 600MB**
type: **SNDemo**
source instance:**PS**

Note: *An alert should only generate on the second event.*

Possible Solution







Description	Node	Type	Resource	Metric Name	Message key	State	Severity	Alert
Search	Search	Search	Search	Search	Search	Search	Search	Search
Disk space less than 600MB		SNDemo			3-5EX2017-SN5	Processed	Major	Alert0010028
Disk space less than 1000MB		SNDemo			3-5EX2017-SN4	Processed	Major	(empty)

Congratulations on completing the lab!

Event Management
Event Binding with Event Rules and CI Field Matching

Lab 3.4
35m

Lab Objectives

You will achieve the following objective:

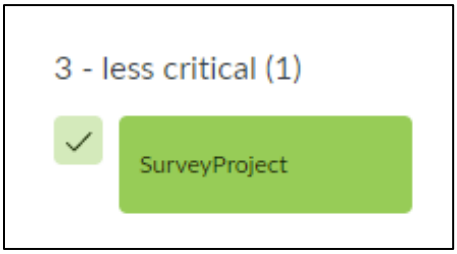
- Bind alerts using event rules and CI Field Matching

Scenario

In this lab, you fire an event that binds an alert to the host (server) CI when binding to the application CI (IIS web server) is more appropriate. You will use event rules and CI field matching to correctly configure binding of an alert to an IIS web server application CI within the Survey Project application service.

A. Execute an Unbound Infrastructure Event

1. Navigate to **Service Operations Workspace** and **close** all alerts associated with Survey Project. Ensure the service is showing green on the Service Operations Workspace.



2. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator.**

3. In the upper right, click **Load Sample**.

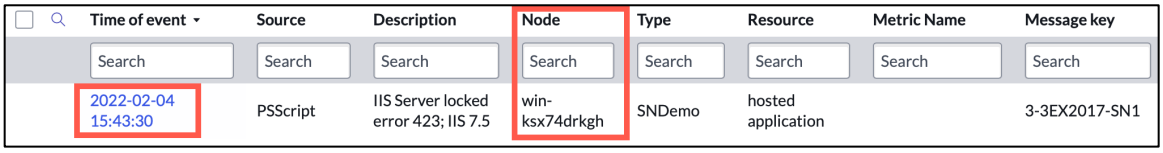
4. In the Choose Event Sample dialog box, enter **Lab3.4** and wait for the filtered list.

5. From the list, select **Lab3.4 UnboundEvent-IIS** and click **OK**.

   source: **PSScript**
   message_key: **3-3X2017-SN1**

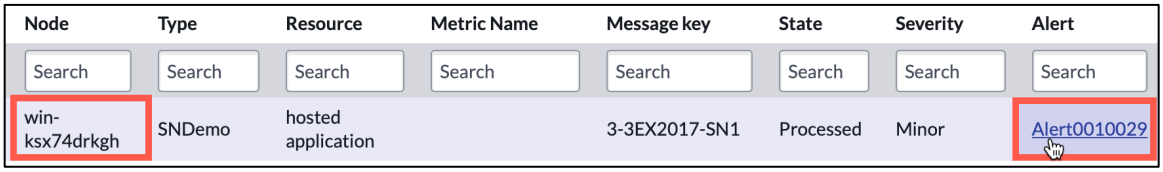
node: **win-ksx74drkgh**
severity: **Minor (3)**
resource: **hosted application**
description: **IIS Server locked error 423; IIS 7.5**
type: **SNDemo**
source instance: **PS**
additional_info: **{'version':'7.5'}**

6. Click **Generate Event**.
7. You are redirected to All Events. **Refresh** the list until the event is processed.
8. **Locate** the event.

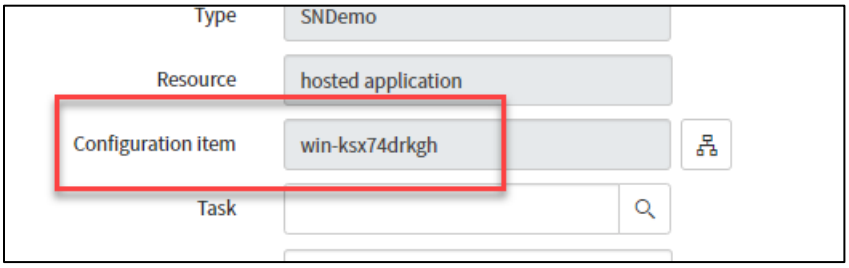


Note: *The event has a Node referring to the host CI.*

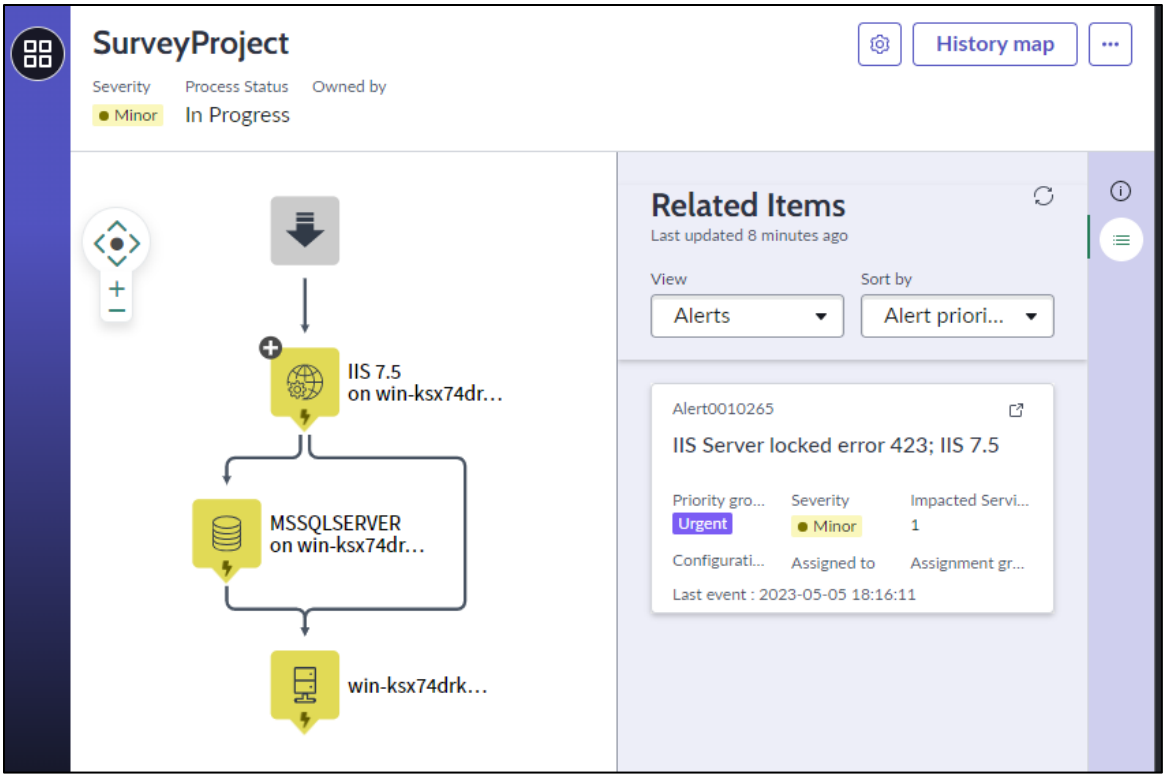
9. **Open** the alert created by the event.



10. Note the Configuration Item matched is the server CI.

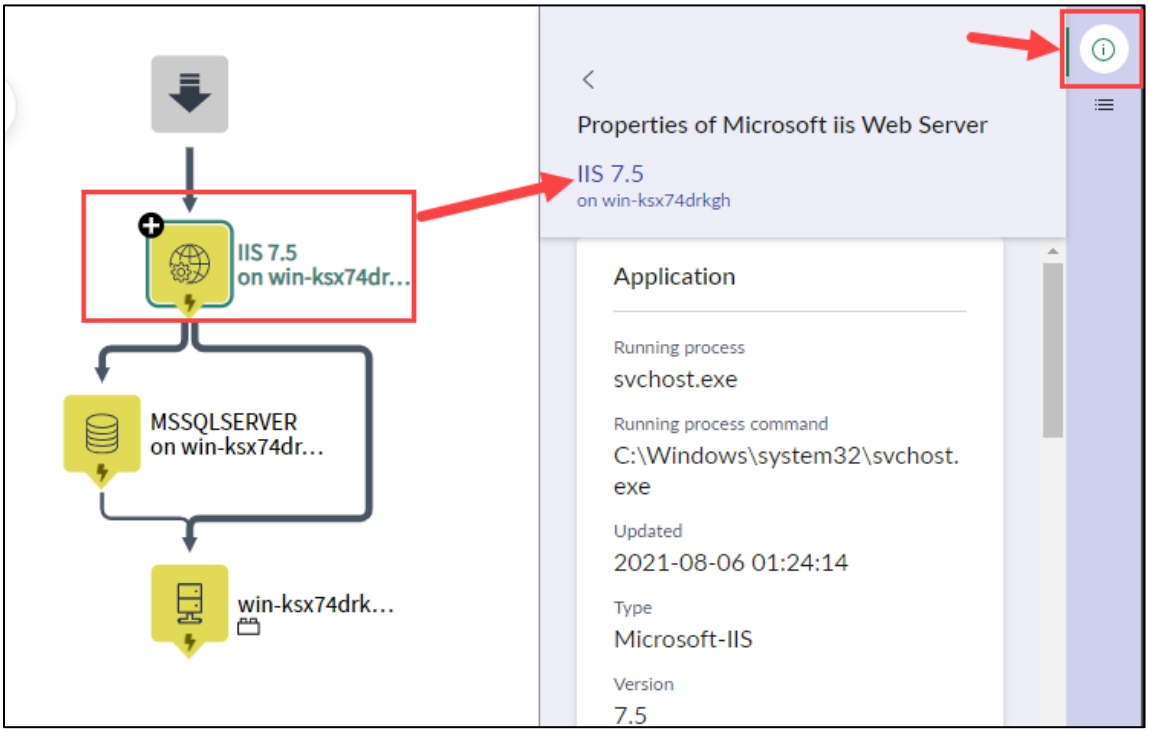


11. Open the **Survey Project** service map.



Note: *The alert binds to the host (win-ksx74drkgh Windows server), impacting all CIs in the service, but the event concerns only the application (IIS 7.5 Web Server).*

12. Click the **IIS 7.5 web server CI** then the **Properties icon** to see its properties.

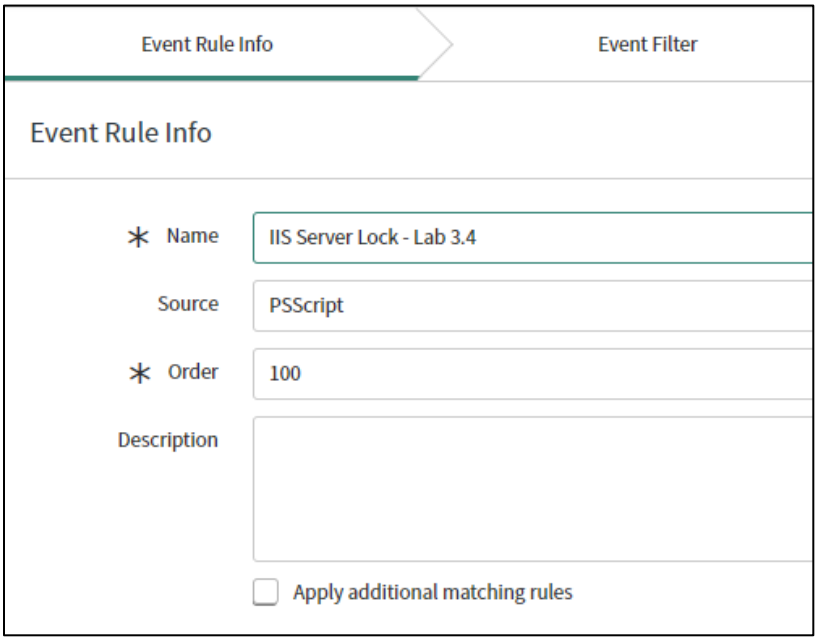


Note: *The properties pane shows the CI class attributes. Choose attributes to uniquely identify this specific CI. If the Name attribute is unique for this CI class, use it for matching.*

B. Create an Event Rule with CI Field Matching

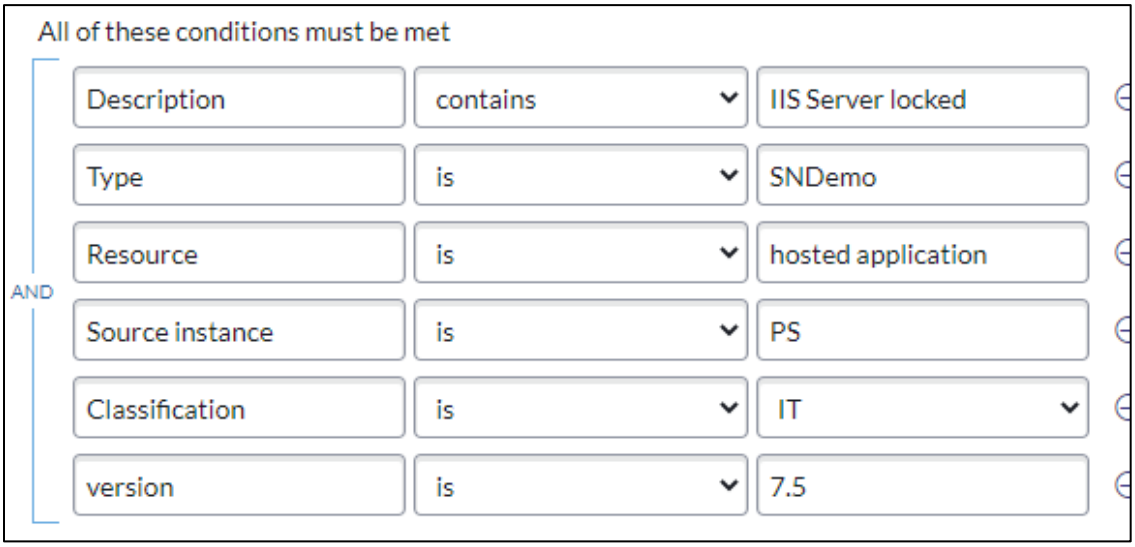
1. Navigate to **Event Management > Rules > Event Rules**.
2. Click the **recommended rules** link.
3. Expand **Event group: PSScript: IIS Server locked error 423**.
4. Click **IIS Server locked error 423**; **IIS 7.5.**

5. Name the Event Rule: **IIS Server Lock – Lab 3.4**.



6. Click **Event Filter**.

7. Populate the filter condition as follows:

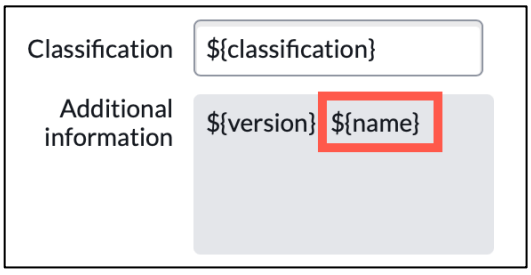


8. Click **Transform and Compose Alert Output**.

9. From the **Description** field, parse out the CI name (IIS 7.5) into a variable called **name**. Delete any auto-generated expression.

Note: *Because this is a new field (name), this is an example of transform.*

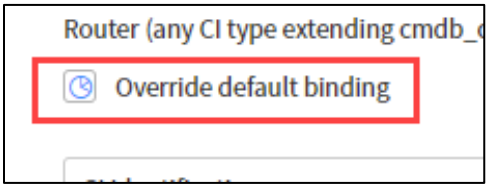
10. The new variable is automatically added to Additional Information. Notice that version is already supplied by the event.



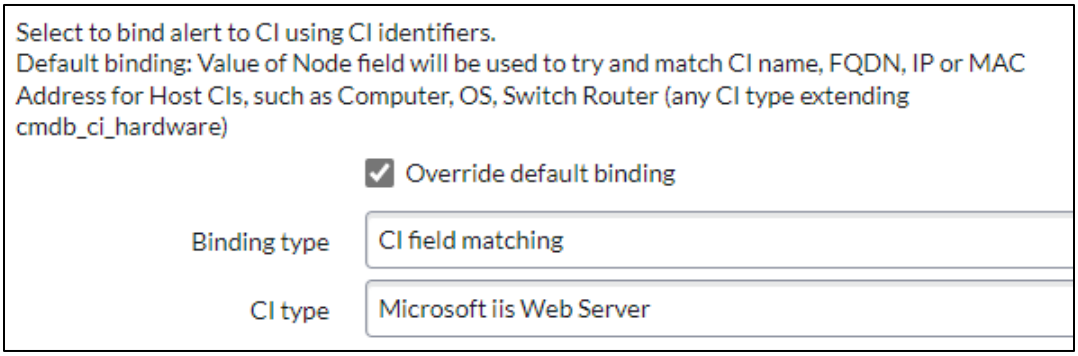
11. **Blank out** the Node field.

12. From the top, click **Binding**.

13. Check the **Override default binding** option.



14. Select Binding type of **CI field matching** and CI type of **Microsoft iis Web Server**.



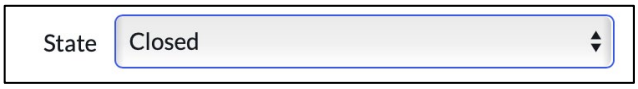
15. Click **Submit**.

> Note: *When an event matches this event rule, binding to a CI will occur only with CIs in the Microsoft IIS Web Server class, and only if the variables in Additional Information match. By clearing the Node field, alerts WILL NOT bind to the host (server) CI if a match to the web server CI fails.*

C. Delete the Previously Generated Alert

1. Navigate to **Event Management > All Alerts**.
2. Open the **IIS Server locked error 423; IIS 7.5** alert.

3. Change the State of the alert to **Closed**.



4. From **Additional actions**, select **Save**.

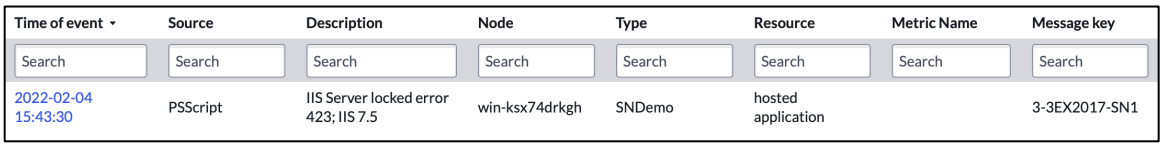
5. Click **Delete**.

6. Click **Delete** on the confirmation pop up window.

D. Trigger the IIS Error Event to Validate the Event Rule Binds Correctly

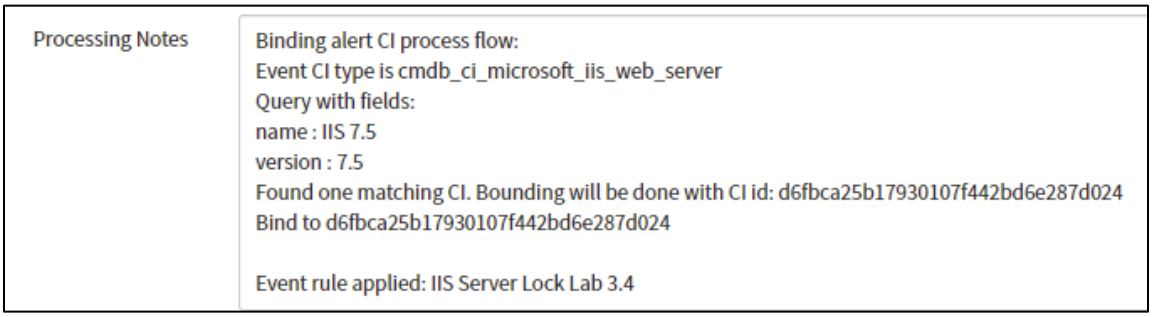
1. From the Event Generator, trigger the **Lab3.4 UnboundEvent-IIS** event once more.

2. Locate the event.

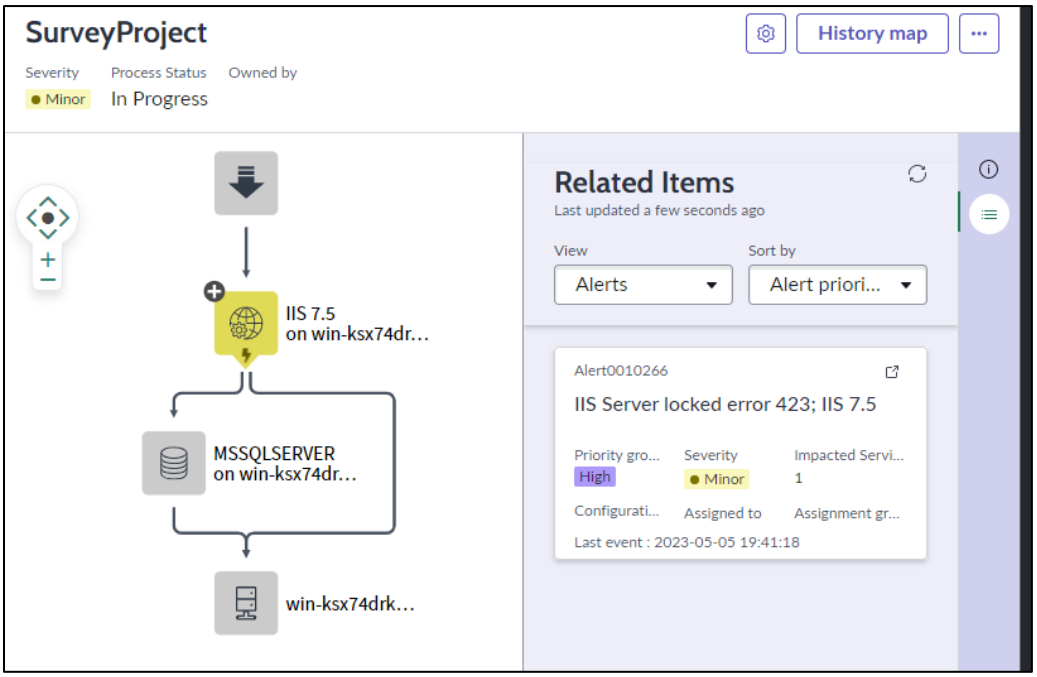


Time of event	Source	Description	Node	Type	Resource	Metric Name	Message key
Search	Search	Search	Search	Search	Search	Search	Search
2022-02-04 15:43:30	PSScript	IIS Server locked error 423; IIS 7.5	win-ksx74drkgh	SNDemo	hosted application		3-3EX2017-SN1

3. Once the event is processed, open the event and review the Processing Notes.

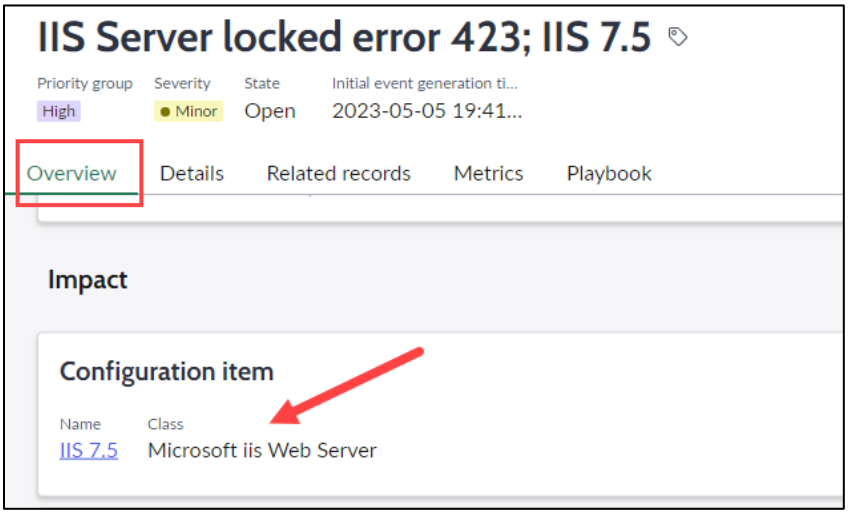


4. Open the **Survey Project** service map.



Note: *The alert binds to the application Microsoft IIS Web Server CI (IIS 7.5), not the host Windows server CI (win-ksx74drkgh) because the event matches the new event rule.*

5. Open the alert on the **Survey Project** and review the configuration item bound.



6. **Close** the alert.

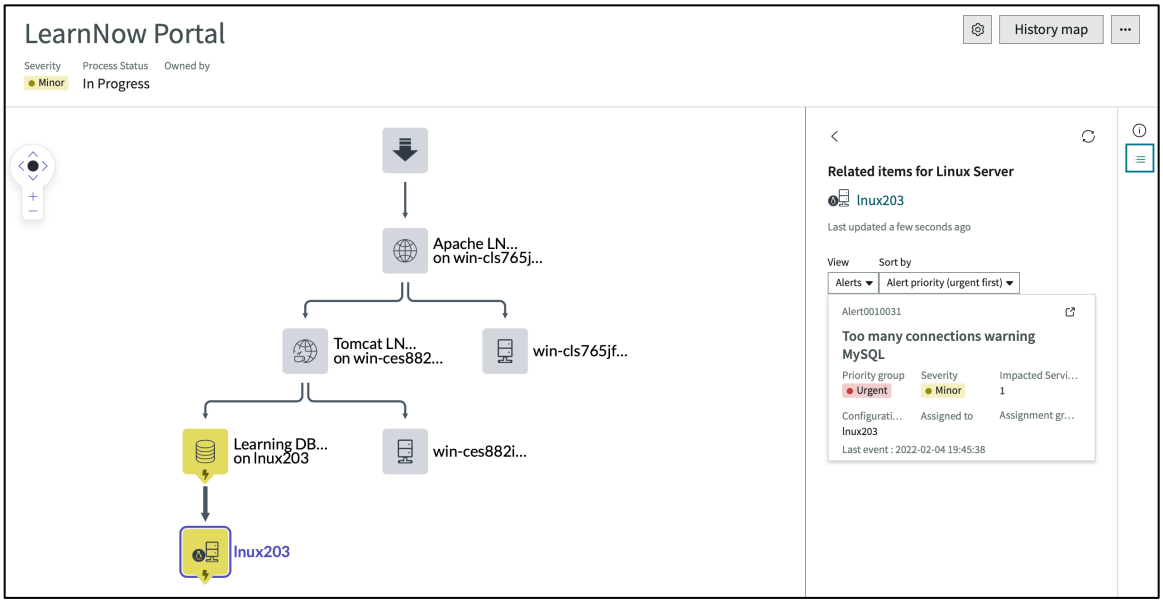
7. Validate that the Survey Project displays OK 

.

Challenge Task: Use CI Identification Criterion Attributes to Match an Unbound Event - MySQL

1. From the Event Generator, fire the **Lab3.4 UnboundEvent-mySQL**:
   Source: **PSScript**
   message_key: **3-3EX2017-SN2**
   node: **lnux203**
   severity: **Minor (3)**
   description: **Too many connections warning MySQL**
   type: **SNDemo**
   source instance: **PS**
   additional_info:
   {'data_dir':'C:\programs\mysql\data',’install_dir’:’C:\programs\mysql’}

2. Open the **LearnNow Portal** service map:



Note: *The alert binds to the host CI (lnux203) but the error only affects the MySQL Instance CI (Learning DB server).*

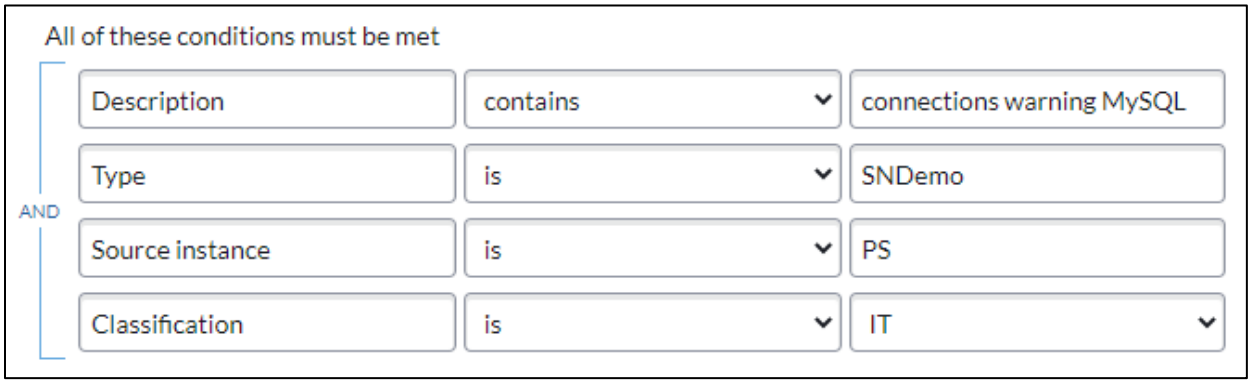
3. Create an event rule with Name **MySQL connections error - Lab 3.4**.

4. Using these CI identification criterion attributes for the MySQL instance CI class, configure the event rule to match the unbound event fired earlier and bind the alert to the Learning DB server, ***not*** lnux203.
   - **sys_class_name**
   - **data_directory**

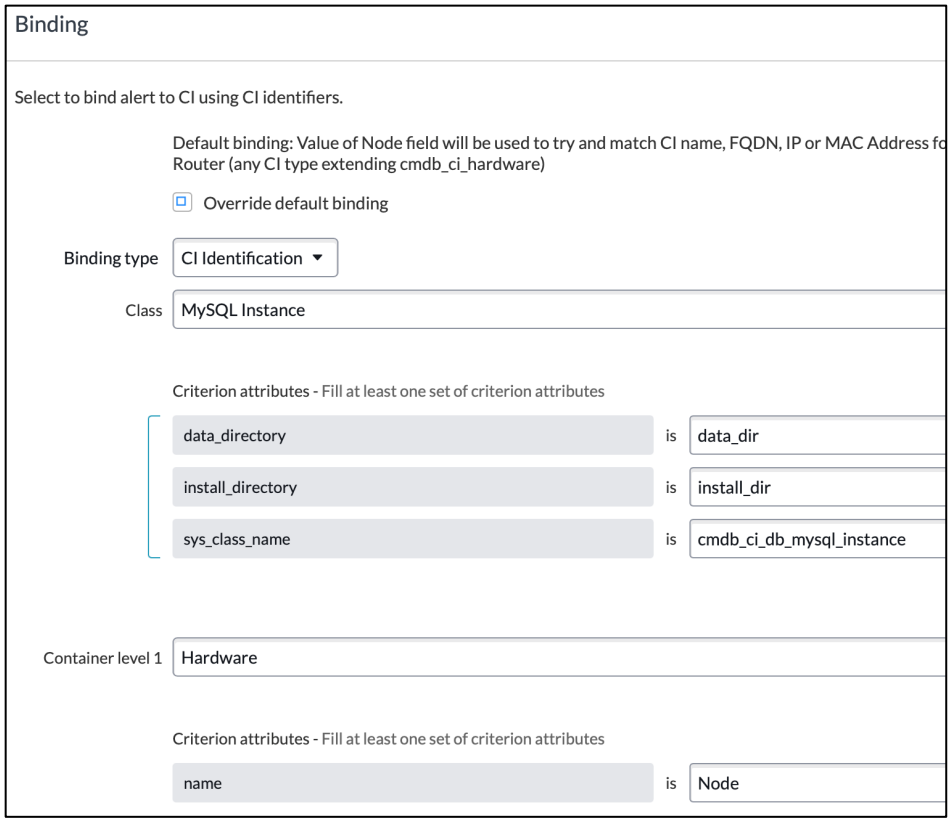
- **install_directory**

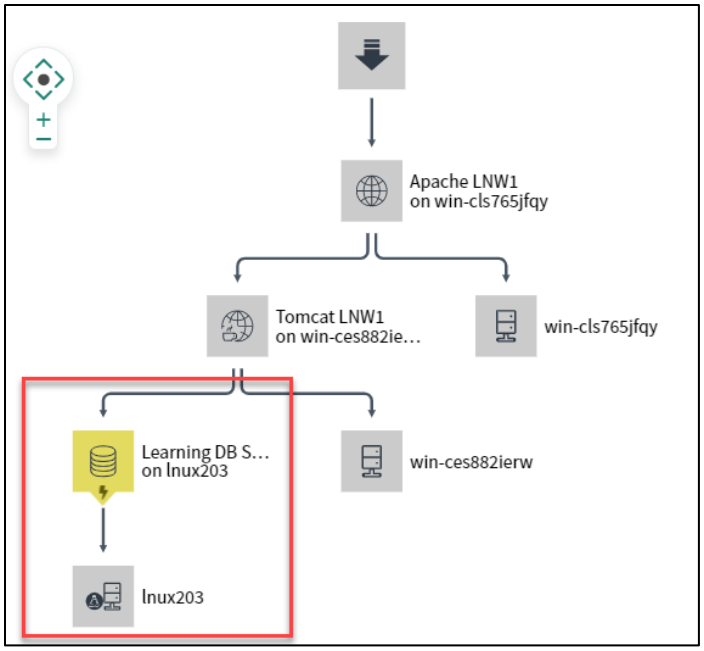
> ***IMPORTANT NOTE:*** *Before testing the event again with your event rule, ensure you have* ***deleted*** *any prior alert generated from this same event.*

Challenge Task: Possible Solution



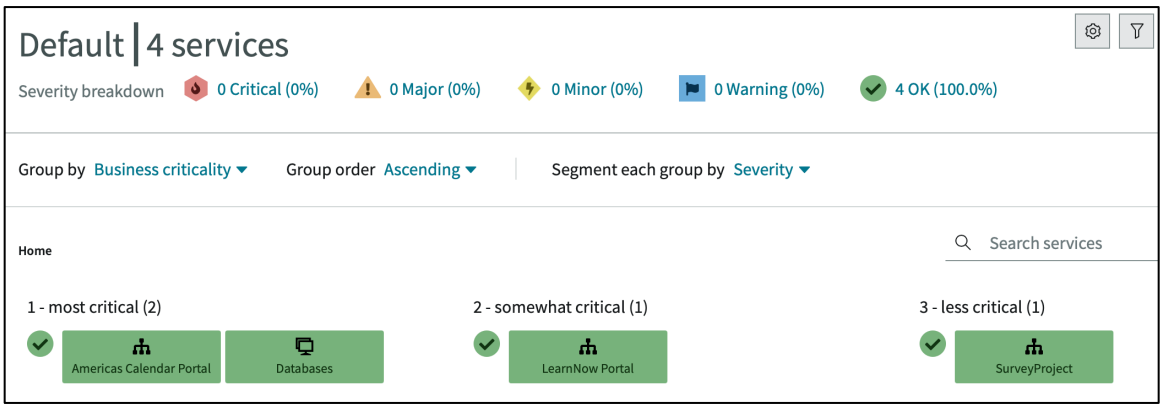
> Note: *Do not blank out the node field.*





Note: *The alert binds to the Learning DB server and it also impacts Tomcat LNW1 and Apache LNW1. This alert should not affect either of those CIs.*

5. **Close all alerts** on the LearnNow Portal.



Congratulations on completing the lab!

Event Management
Event Field Mapping Rules

Lab 3.5
20m

Lab Objectives

You will achieve the following objective:

- Use event field mapping to map nonstandard values to ServiceNow standards.

Scenario

In this lab, you fire an event with severity values that are not the ServiceNow standard. Using event field mapping, vendor severity values are mapped to appropriate ServiceNow values.

A. Execute an Infrastructure Event with a Custom Event Value

1. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator**. In the upper right, click **Load Sample**.

2. In the Choose Event Sample dialog box, enter **Lab3.5** and wait for the filtered list.

3. From the list, select **Lab3.5 CustomSeverity1** and click **OK**. Notice the Additional information field containing a name:value pair representing the vendor severity.

   source: **Acme**
   message key: **3-4EX2017-SN1**
   description: **Custom Error from ACME Monitoring**
   type: **Acme Demo**
   event class: **PS**
   additional info: **acme_severity:blue**

4. Click **Generate Event**.

5. You are redirected to All Events. **Refresh** the list until the event is processed.

6. Locate and **open** the event.

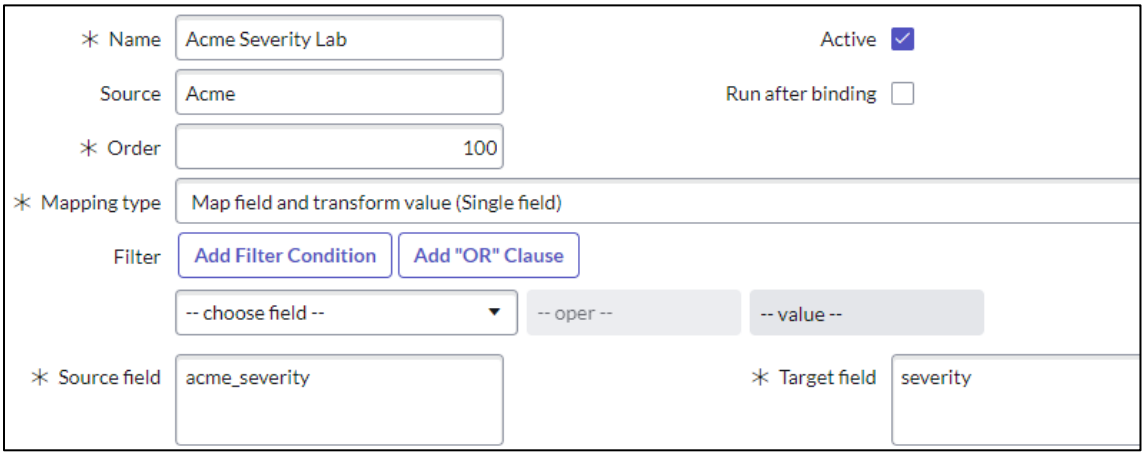
Time of event	Source	Description	Node	Type	Resource	Metric Name	Message key	State
Search	Search	Search	Search	Search	Search	Search	Search	Search
2022-02-04 22:08:29	Acme	Custom Error from ACME Monitoring		AcmeDemo			3-4EX2017-SN1	Error

Note: *The state of the event is Error. The event has no severity value to generate an alert. The event severity in **Additional information** is **blue**. This is not a standard severity value. Due to timing, the state may temporarily read as Ready; refresh to update the state.*

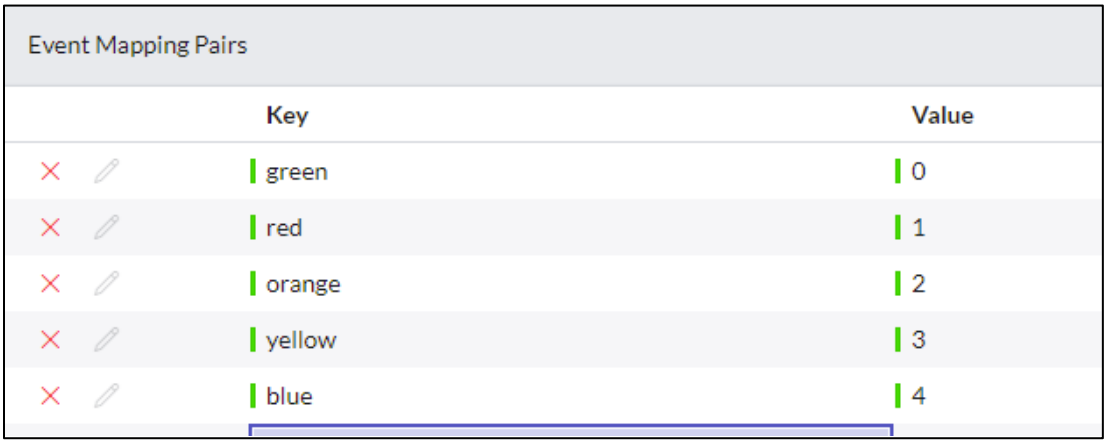
7. Navigate to **Event Management > Rules > Event Field Mapping**.

8. Create a new **Event Field Mapping** as shown:

   - Name: **Acme Severity Lab**
   - Source: **Acme**
   - Mapping type: **Map field and transform value (Single field)**
   - Source field: **acme_severity**
   - Target field: **severity**



9. Complete the **Event Mapping Pairs** section of the record as shown (use the tab key to move through the pairs).



Note: *The baseline ServiceNow severity values are: Critical = 1, Major = 2, Minor = 3, Warning = 4, OK = 5, and Clear = 0.*

10. Click **Submit**.

11. Fire the **Lab3.5 CustomSeverity1** event again.

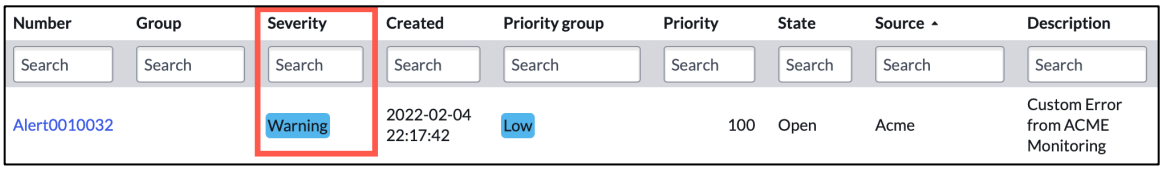
12. Locate the new event.

Time of event	Source	Description	Node	Type	Resource	Metric Name	Message key	State	Severity	Alert
2022-02-04 22:17:34	Acme	Custom Error from ACME Monitoring		AcmeDemo			3-4EX2017-SN1	Processed		Alert0010032

Note: *This time the event processed and generated an alert. Due to timing, the State may temporarily read as Ready; refresh to update the State.*

13. Navigate to **Event Management > All Alerts**.

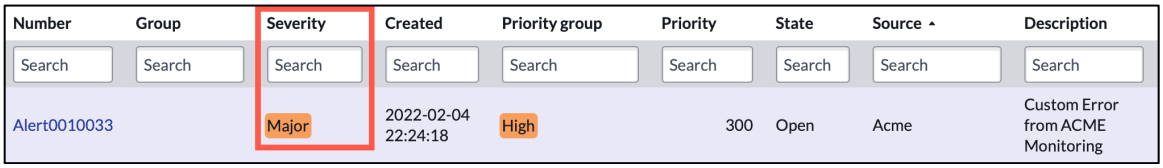
14. Observe the Severity of the new alert:



Number	Group	Severity	Created	Priority group	Priority	State	Source	Description
Alert0010032		Warning	2022-02-04 22:17:42	Low	100	Open	Acme	Custom Error from ACME Monitoring

15. Fire the **Lab3.5 CustomSeverity2** event containing "orange" severity:
    source: **Acme**
    message_key: **3-4EX2016-SN2**
    description: **Custom Error from ACME Monitoring**
    type: **AcmeDemo**
    source instance: **PS**
    additional_info: **acme_severity:orange**

16. Refresh the alerts list.



Number	Group	Severity	Created	Priority group	Priority	State	Source	Description
Alert0010033		Major	2022-02-04 22:24:18	High	300	Open	Acme	Custom Error from ACME Monitoring

Challenge Task: Process Custom Error

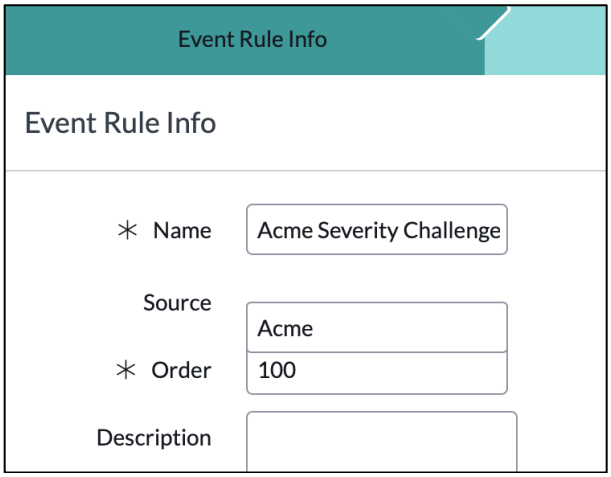
1. Fire the **Lab3.5 CustomSeverity3** event:
    source: **Acme**
    message key: **3-4EX2016-SN3**

description: **Process Error Level Red**
type: **AcmeDemo**
source instance: **PS**

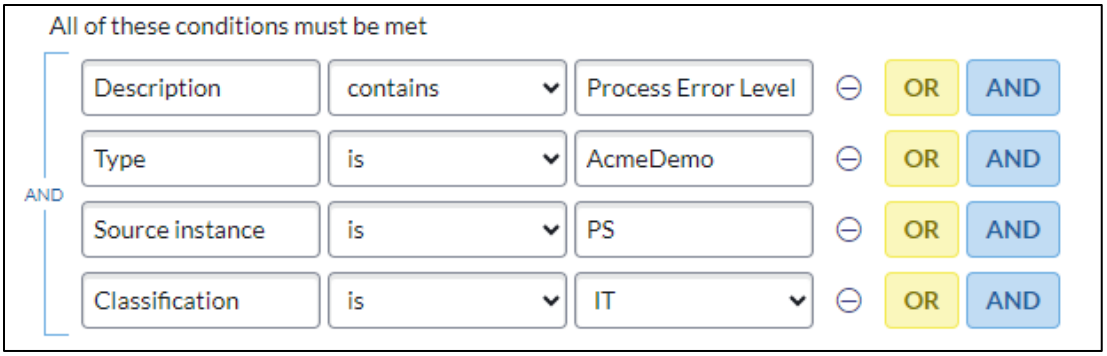
The initial event State is Error because there is no severity specified in the event data. The severity is cited in the description text of the event. Use an event rule and regex parsing to map the severity level to the appropriate variable (acme_severity) based on the previous event field mapping and generate the alert at the correct Severity and State.

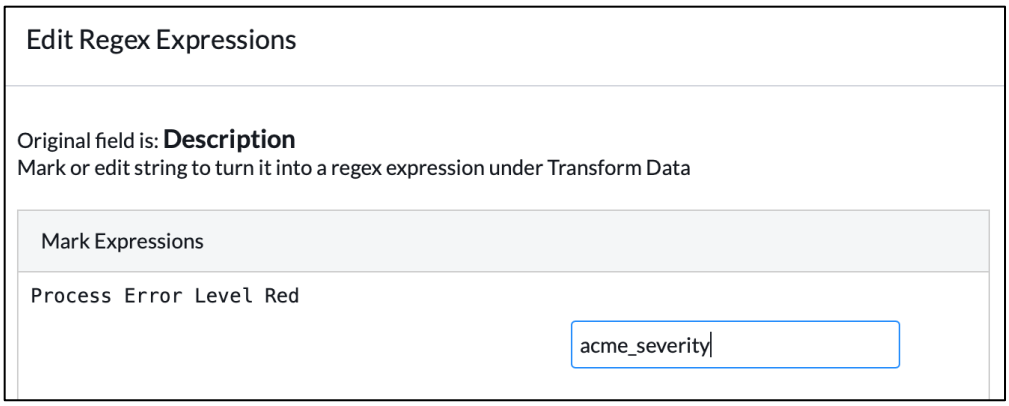
Possible Solution

For example, navigate to All Events, open the event record, click **Create Event Rule**.

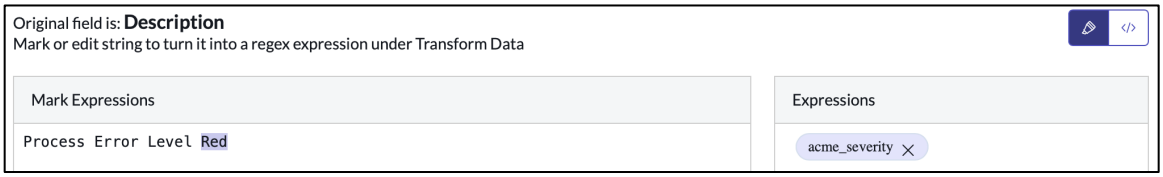


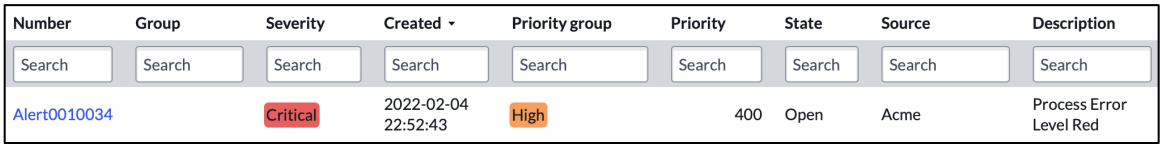
Event Filter





Hint: *Type in "acme_severity" and hit Enter (it does not appear in the list)*





Acknowledge the alert by opening it and clicking **Acknowledge**.

Congratulations on completing the lab!

Alerts and Tasks
Navigate Service Operations Workspace

Lab 4.1
⌛20m

Lab Objectives

You will achieve the following objective:

- Become familiar with the operator's experience navigating Service Operations Workspace.
- Use express list to resolve alerts
- Enable the Now Assist for ITOM skill (alert analysis)
- Review alert content in SOW.

Scenario

In this lab, navigate Service Operations Workspace to see how operators work to resolve alerts and tasks through the express list. Now Assist for ITOM is installed, but the skill is not activated. You will activate the skill then test alert analysis.

A. Explore an Alert in Service Operations Workspace

This section introduces managing alerts in Service Operations Workspace reusing a sample event from an earlier lab.

1. Navigate to **Event Management > Simulation > Event Generator**.

2. Click **Load Sample**.

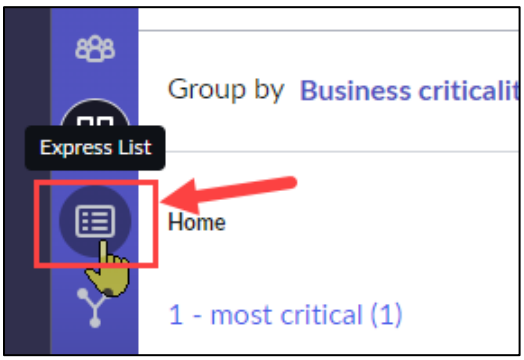
3. Select **Lab2.3 VMerror1** and click **OK**.

source:	**PSScript**
node:	{your MID private IP address entered in lab 2}
severity:	**Critical (1)**
description:	**Critical service error (print spooler)**
type:	**SNDemo**
source instance:	**PS**
additional_info:	**{"remediation_action_resource":"Print Spooler"}**

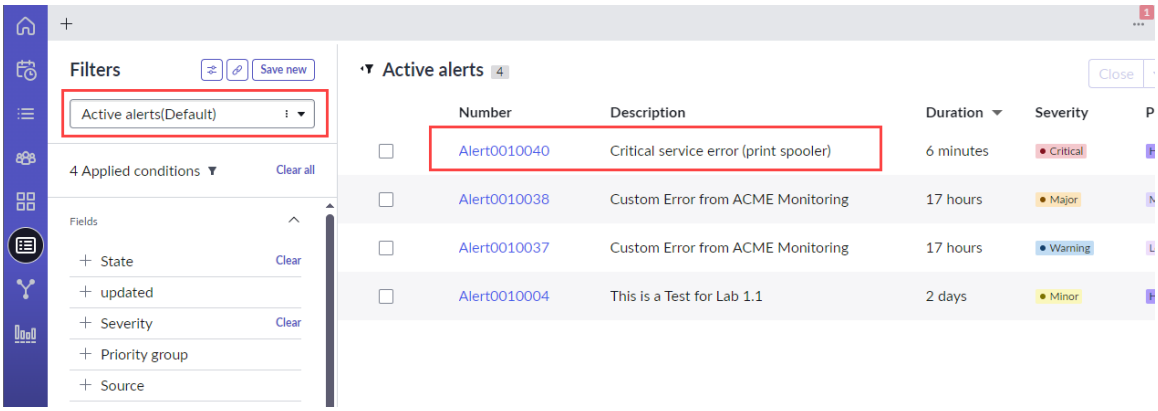
4. Click **Generate Event**.

5. You are redirected to All Events. **Refresh** the list until the event is processed.

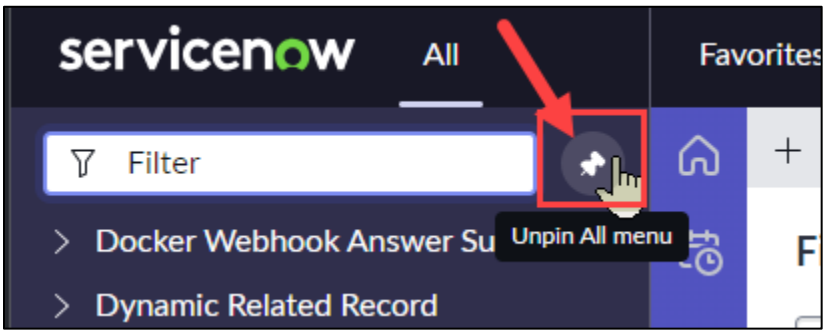
6. Navigate to **Service Operations Workspace** express list.



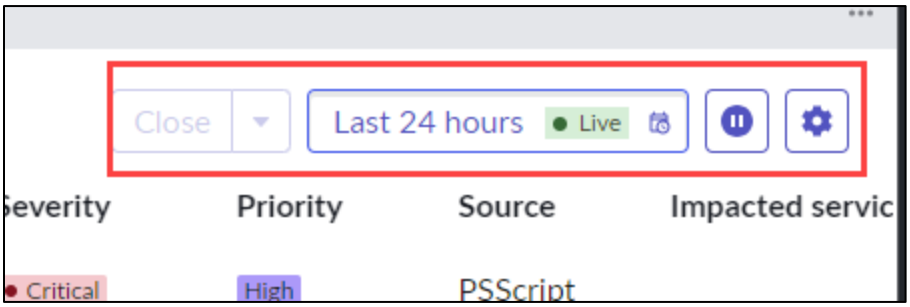
7. The Active alerts (Default) list is opened.



8. If you have the application navigator pinned, un-pin it.

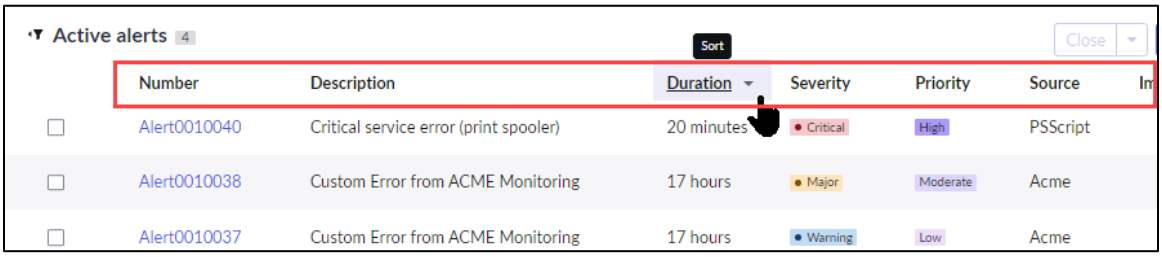


9. With the application navigator closed, express list options on the top right are visible.

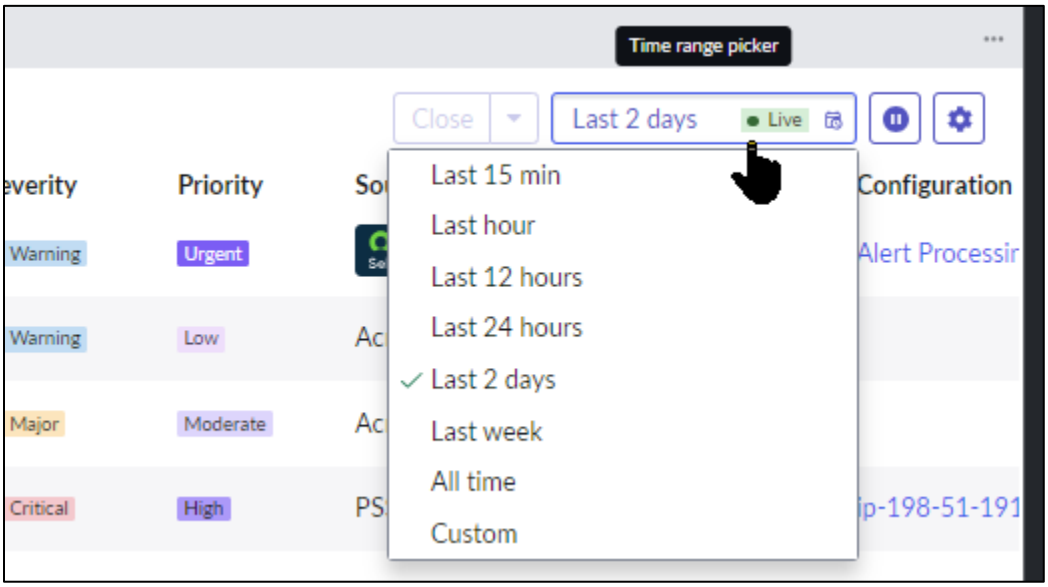


Note: *Hiding the express list filter panel also exposes these buttons.*

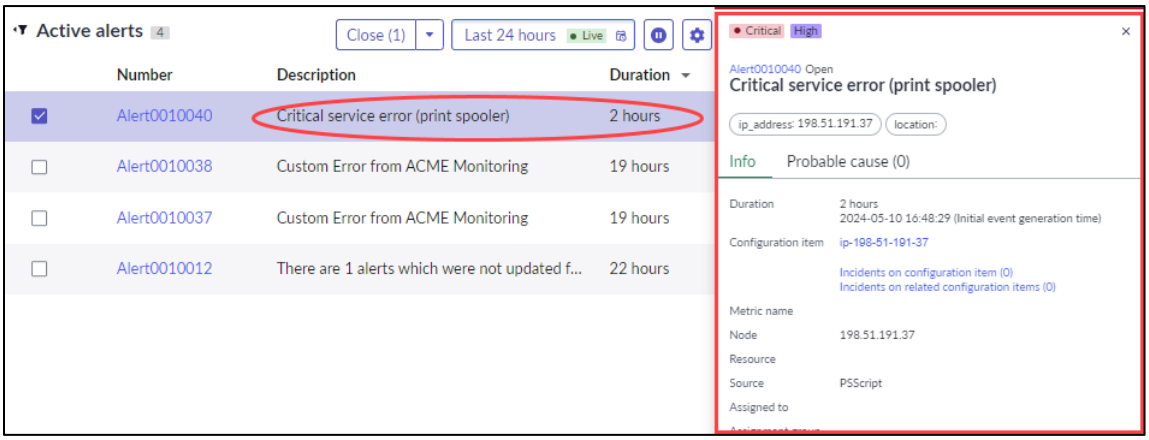
10. The list is sorted by Duration by default. Click on column headers to sort by that column.



11. Use the Time range picker in the upper right to limit the number of alerts shown.

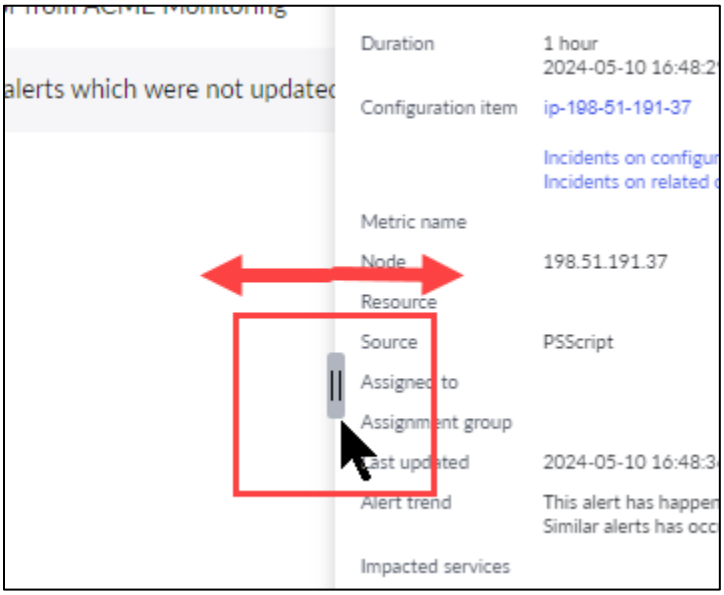


12. **Click in the row** for the latest alert (Critical service error) which will open the side panel.

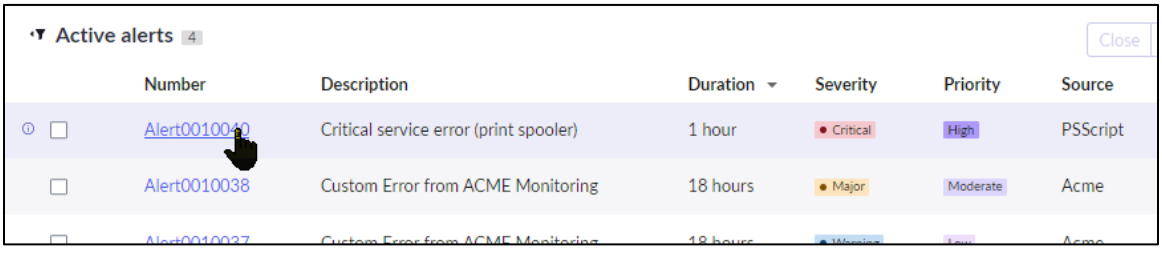


Note: *that in the side panel, there is no Now Assist feature.*

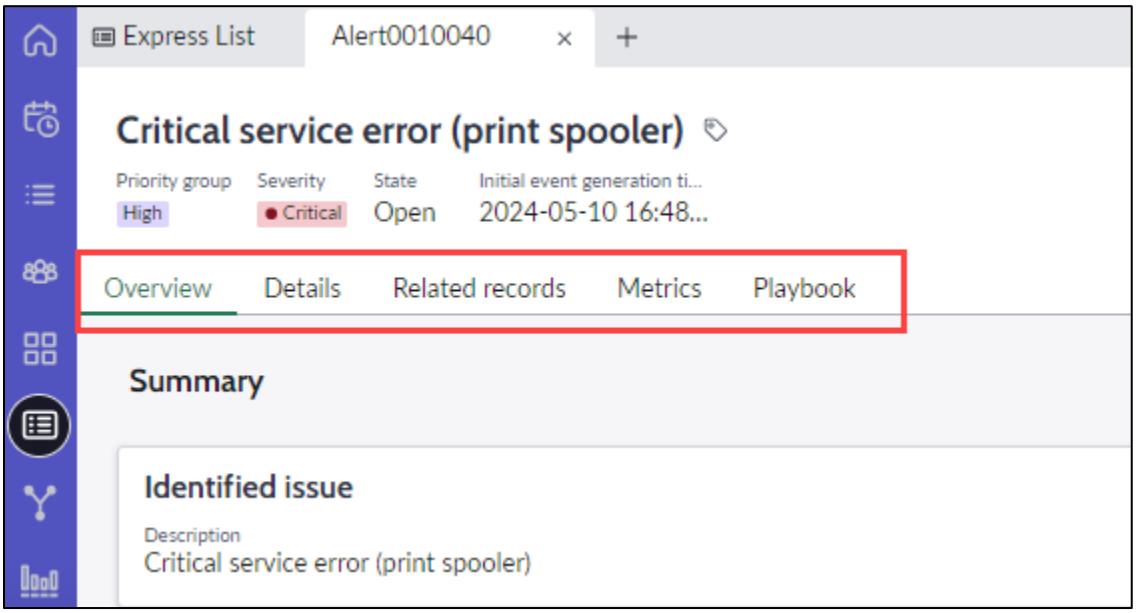
13. Hover over the left center edge of the side panel to expose the handles which allow resizing of the panel.



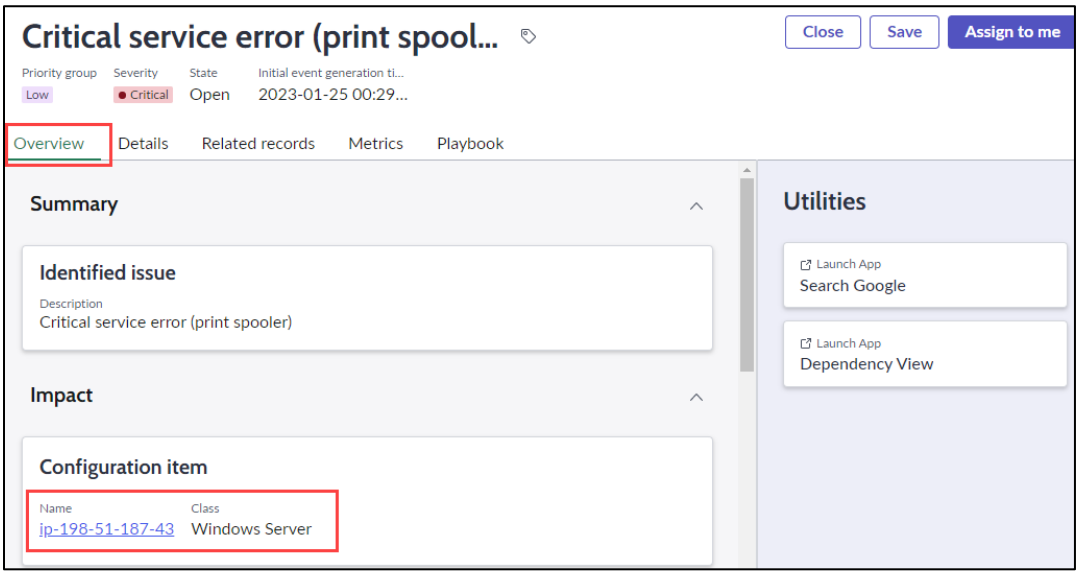
14. Open the latest alert (Critical service error (print spooler)) by clicking the alert number.



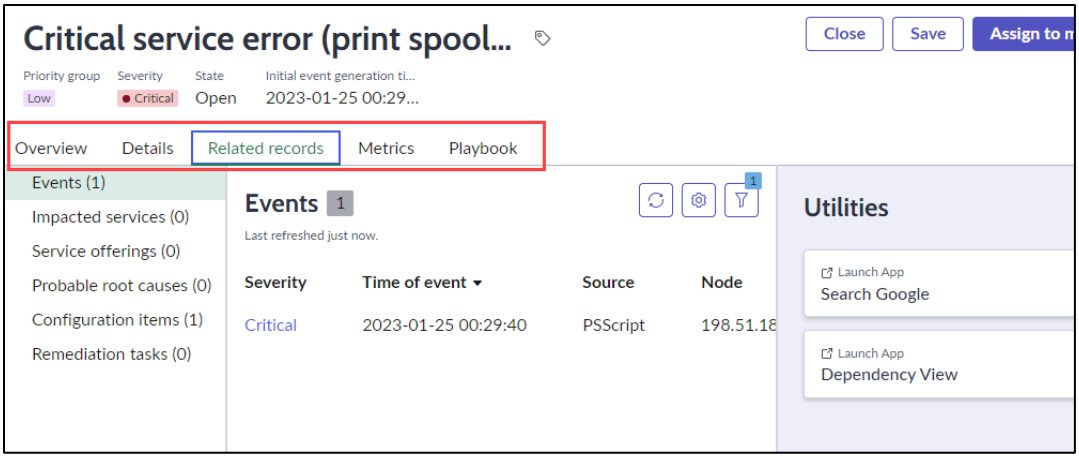
15. The alert is composed of several tabs. Note that on the Overview tab there is no Now Assist feature.



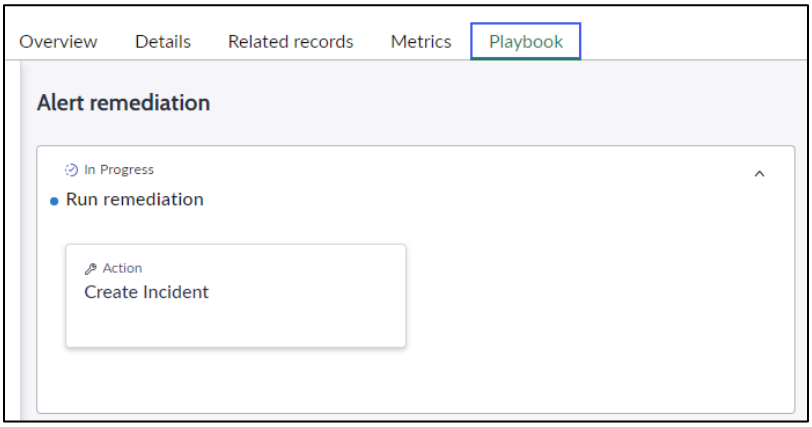
16. Note the Utilities pane on the right. Also note the bound CI is a Windows Server.



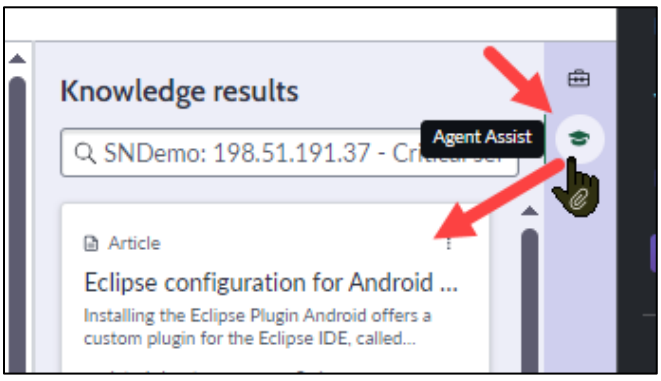
17. **Review** the information by scrolling down in each tab.



18. Click on the **Playbook** tab and note the only remediation action on this alert with a Windows server CI is Create Incident. This is due to an active alert management rule. In a later lab you will add additional baseline Windows Server remediation actions.

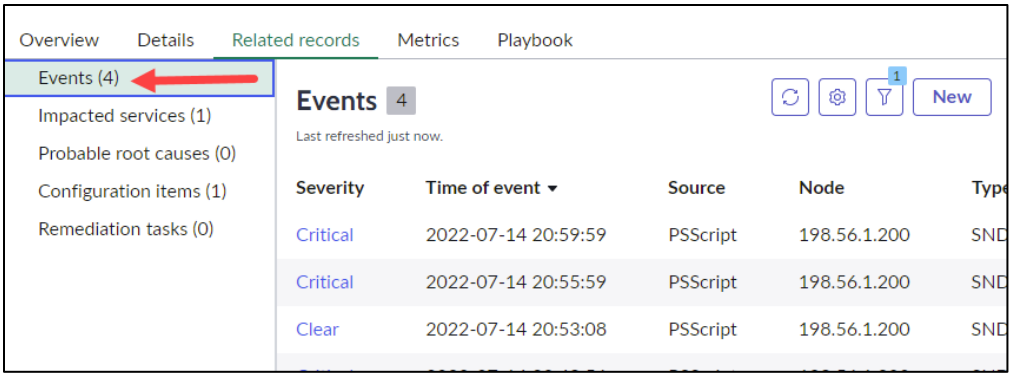


19. Click the **Agent Assist** button on the right.



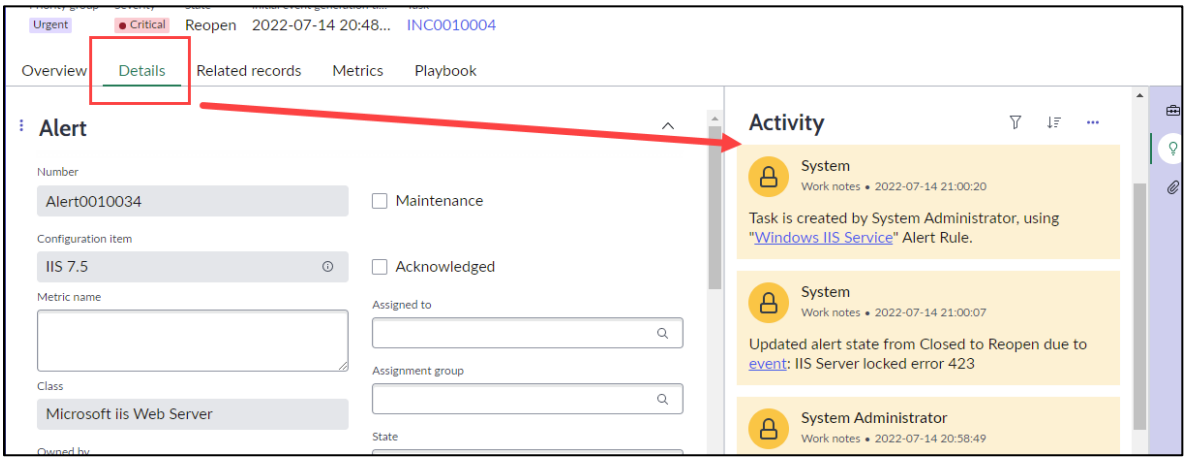
Note: *The **Knowledge Articles** section provides a list of suggested knowledge base articles that may help you resolve the current alert (based on keywords in the short description).*

20. In the **Related records** tab, click **Events**.



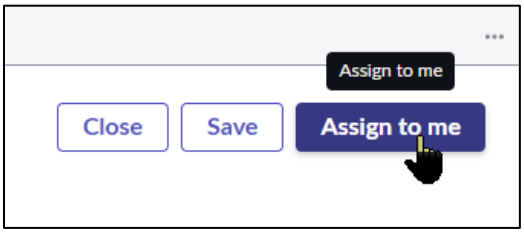
Note: *This displays all the events that either triggered or cleared the alert. Your events may differ.*

21. Click the **Details** tab and review the **Activity** stream.

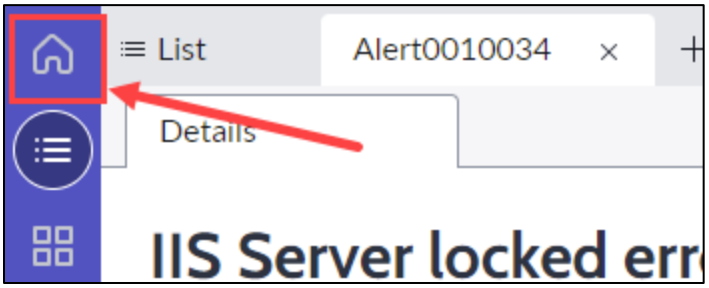


Activity provides a timeline of all actions relating to this alert. It is very helpful in understanding a sequence of events. Your number of executions and incident numbers may vary.

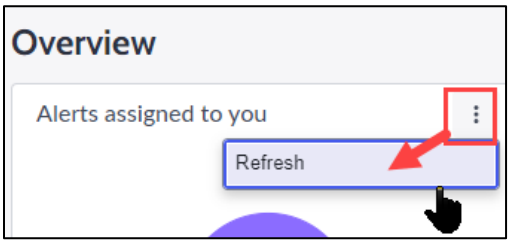
22. Click **Assign to me**.



23. Click the **Home** button

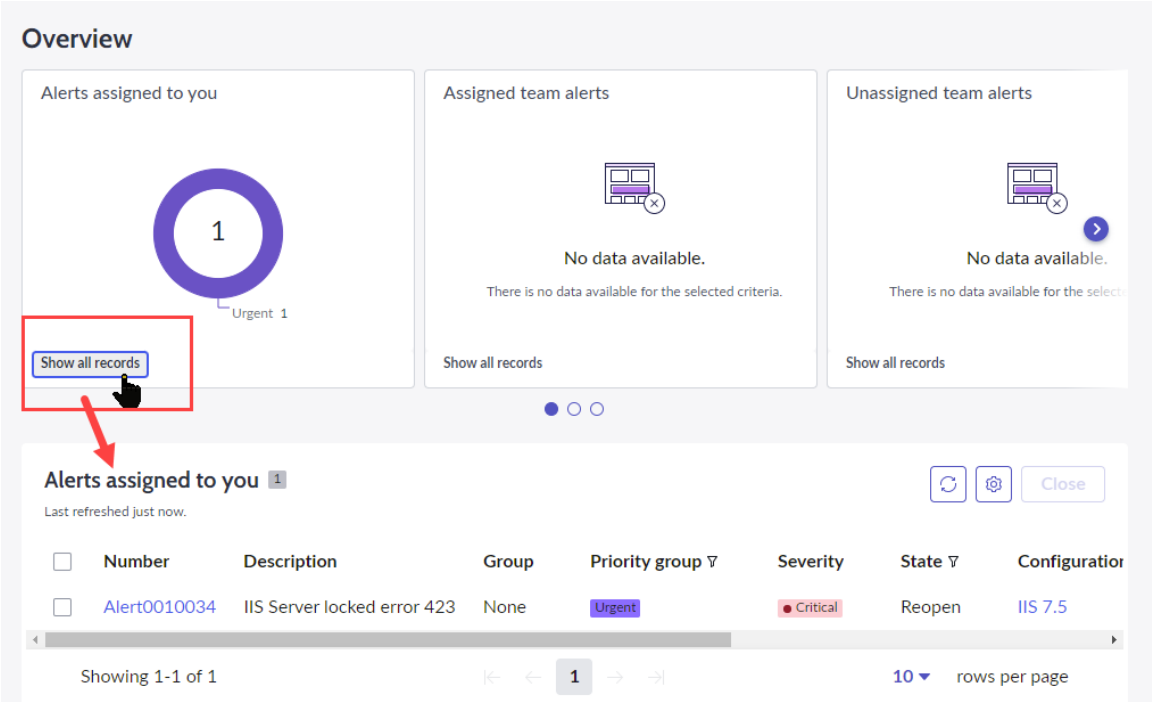


24. **Refresh** the Alerts assigned to you tile.



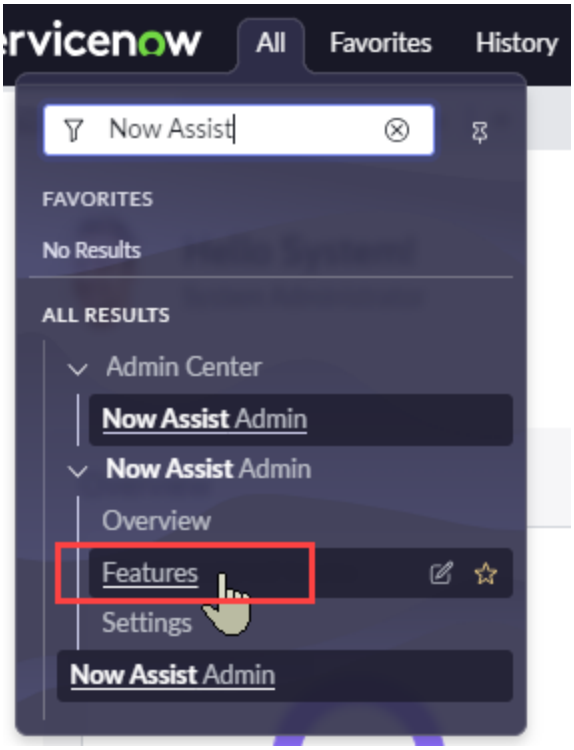
> Note: *Alert related tiles are enabled with the evt_mgmt_operator role, which has been granted to admin in this training environment.*

25. Click **Show all records** to display alerts assigned to you.

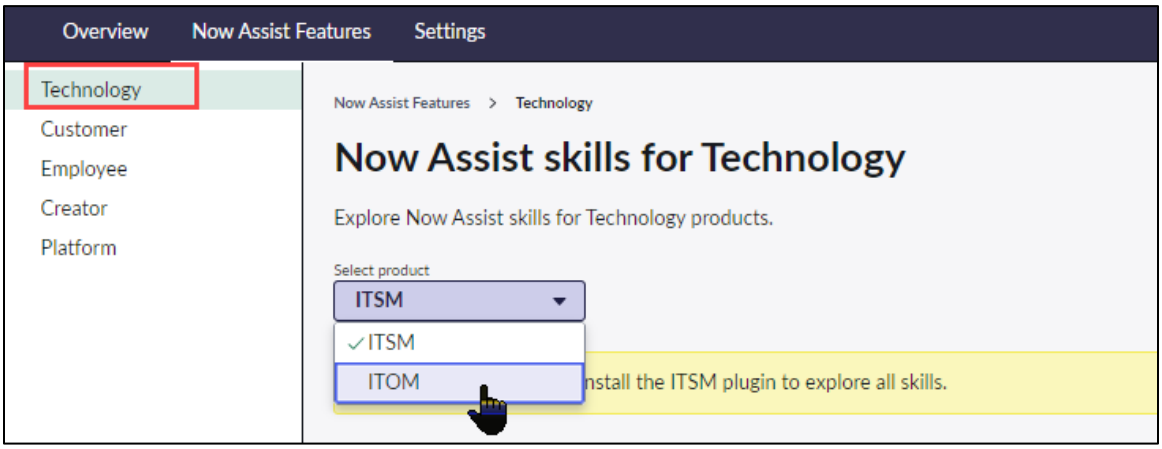


B. Enable the Now Assist alert assist skill.

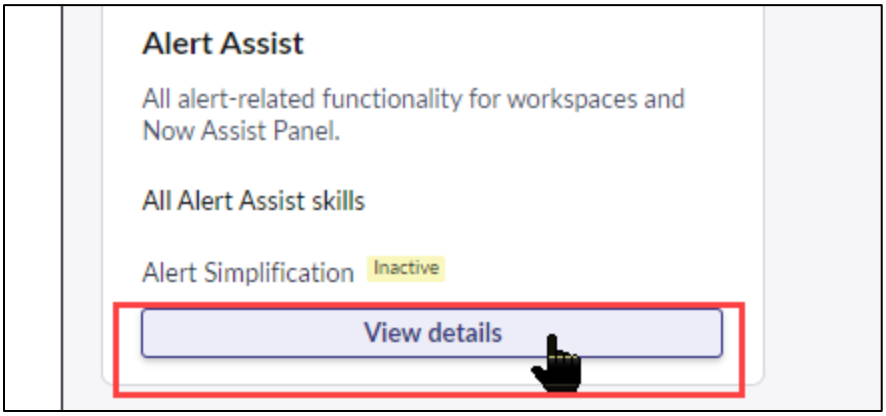
1. Navigate to **Now Assist Admin > Features**.



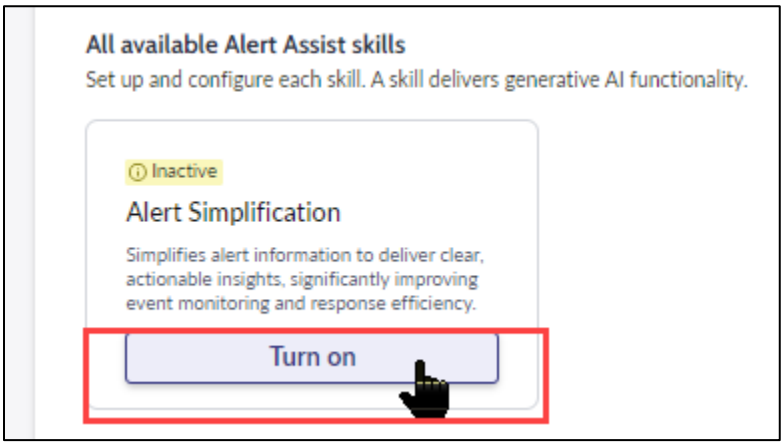
2. In the Technology flow, use the dropdown to select **ITOM**.



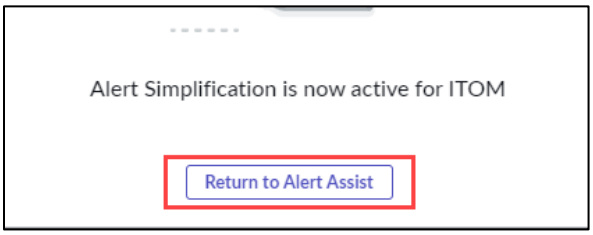
3. Click **View Details**.



4. Click Turn on.

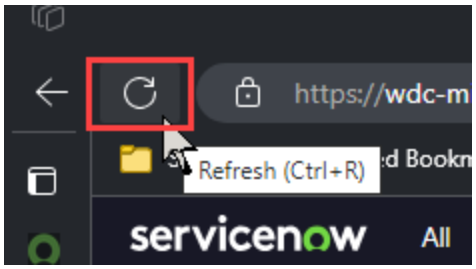


5. Close the pop-up.

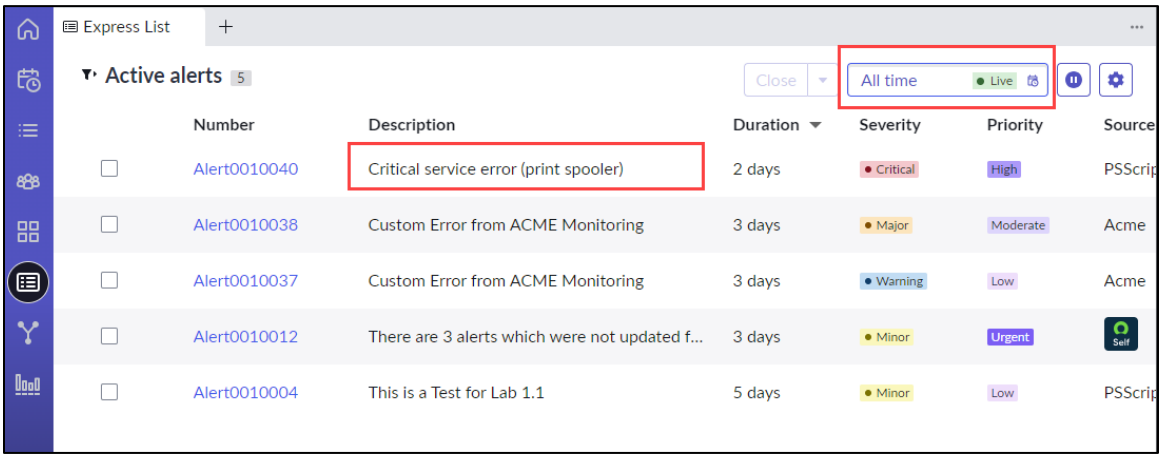


6. Return to Service Operations Workspace **express list**.

7. **Refresh** the browser tab.

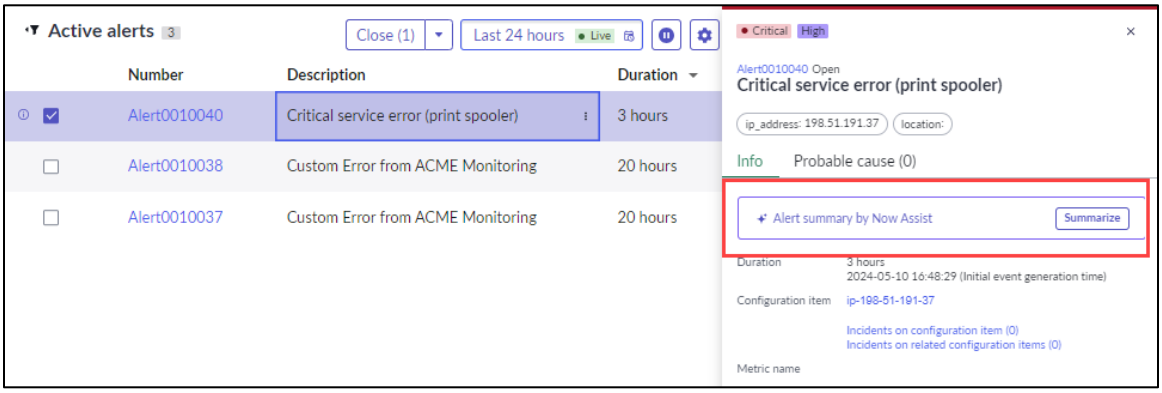


8. Wait a few seconds for the list. If necessary, use the time range picker.

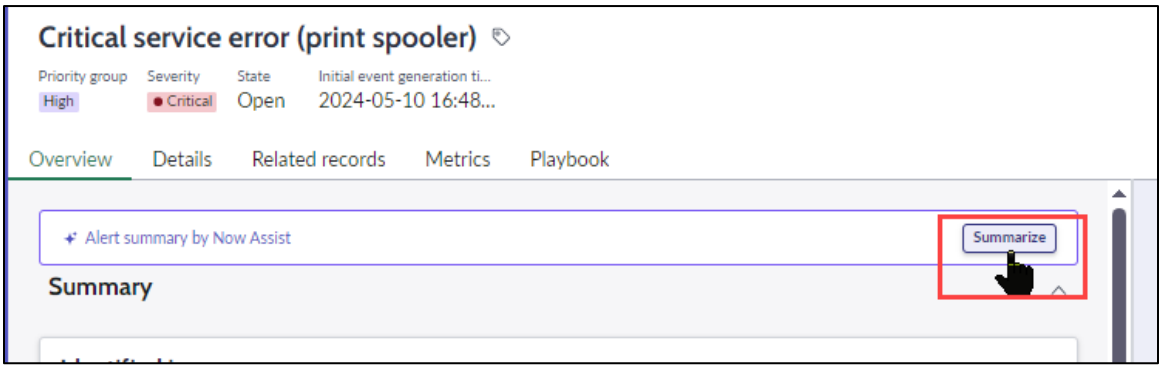


9. Click the row for your most recent alert (Critical service error).

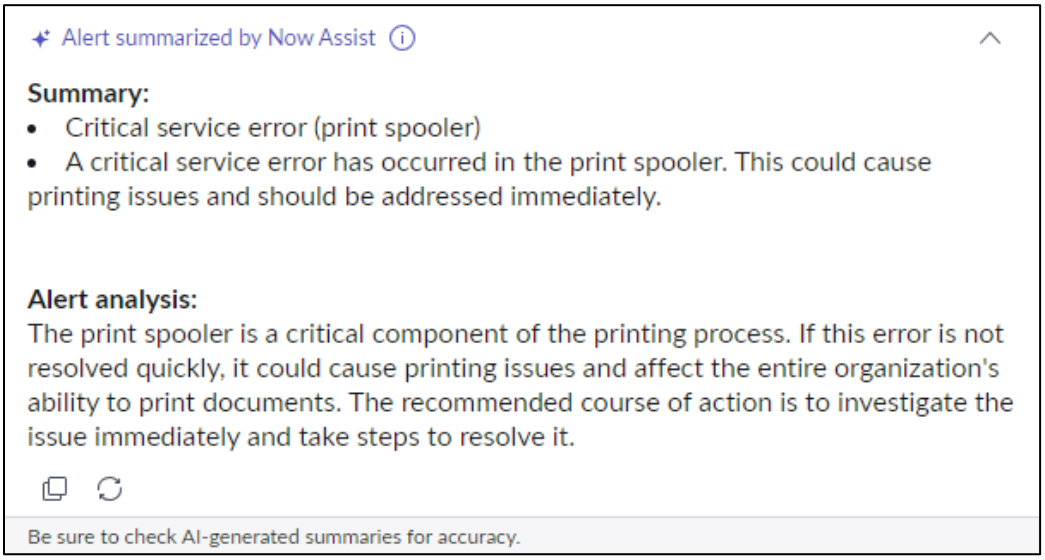
10. The Now Assist skill now appears in the side panel.



11. Open the alert by clicking the **alert number**. The Now Assist function appears on the Overview tab. Click **Summarize**.



12. Wait a few seconds for the analysis to complete.



13. **Close** the alert.

Congratulations on completing the lab!

Alerts and Tasks
Alert Management Rules

Lab 4.2
20m

Lab Objectives

You will achieve the following objectives:

- Create an alert management rule to generate an incident
- Observe automatic incident generation
- Handle an incident
- Activate a baseline alert management rule with remediation actions
- Modify a Flow Designer subflow

Scenario

In this lab, the shutdown of the IIS Web Service supporting the Survey Project service generates an event. The event generates an alert displaying the Survey Project service in a critical state which then triggers an incident to address the failed web service. Resolving the incident closes the alert.

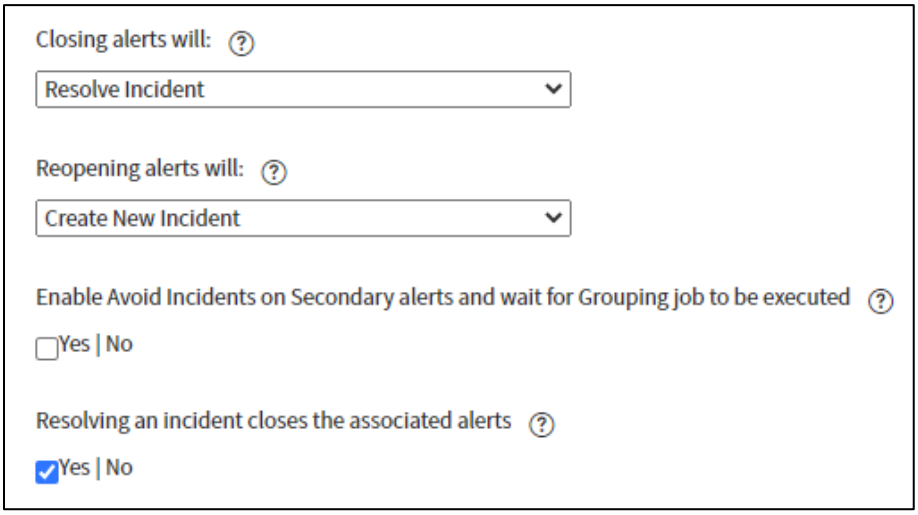
In the second half of the lab, you will activate a baseline alert management rule whose filter matches Windows Server class CIs and makes remediation actions available from the alert. To better understand Flow Designer, you will modify and republish a baseline subflow that restarts a Windows service through remote PowerShell commands.

ServiceNow Now Learning has a suite of Flow Designer courses in the learning path *Flow Designer Essentials*.

A. Confirm Incident Control Properties

1. Navigate to **Event Management > Administration > Event Management Properties**.

2. Ensure these properties are set as shown:

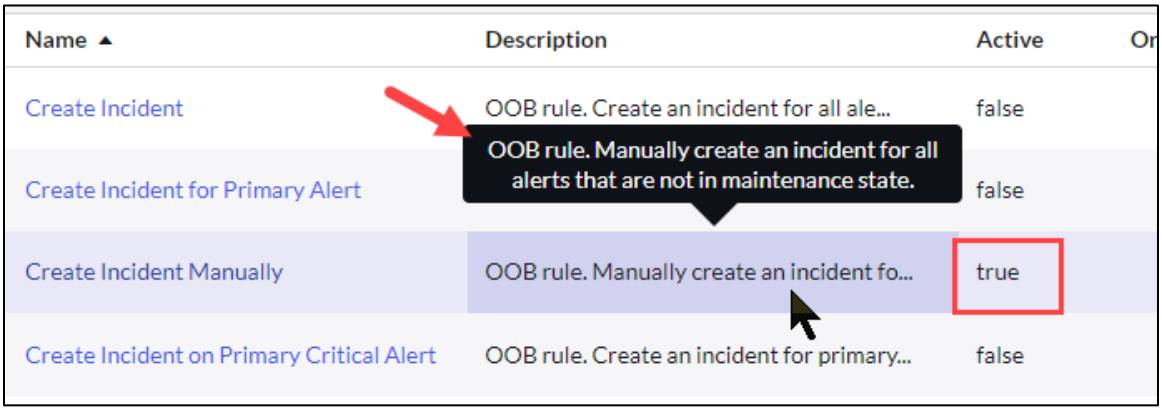


3. If not set by default, click **Save**.

B. Create an Alert Management Rule to Trigger Incidents

1. Navigate to **Event Management > Rules > Alert Management Rules**.

2. Sort the rules by name and review the baseline rules. Note that *Create Incident Manually* is active, which made the *Create Incident* playbook action available in earlier labs.



Note: *Baseline rules can be copied and customized, or new rules can be created.*

3. Create a **New** alert management rule as shown:

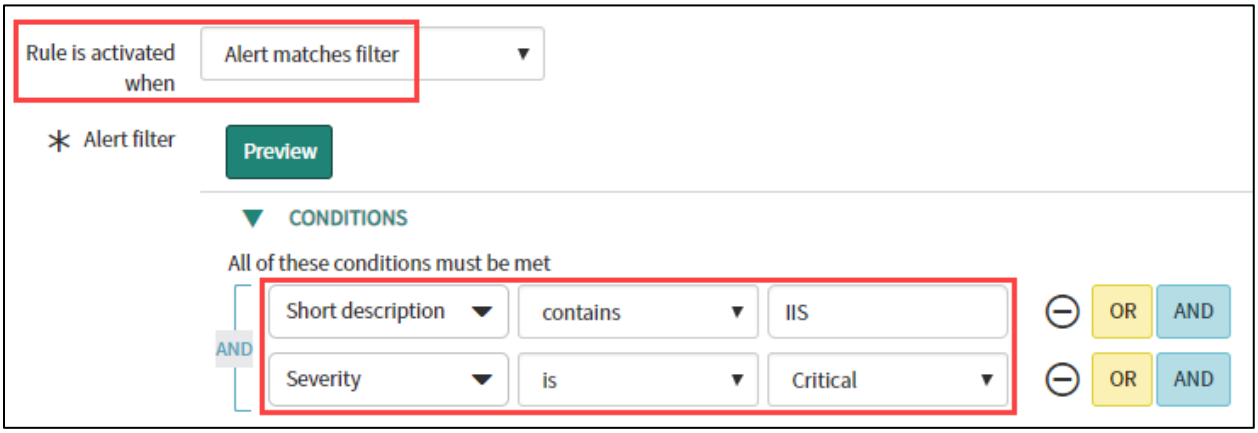
- Name: **Windows IIS Service**
- Order: **50**

4. Select the **Alert Filter** tab and enter the following information as shown:

   - Rule is activated when: **Alert matches filter**

   And alert filter **CONDITIONS** of:

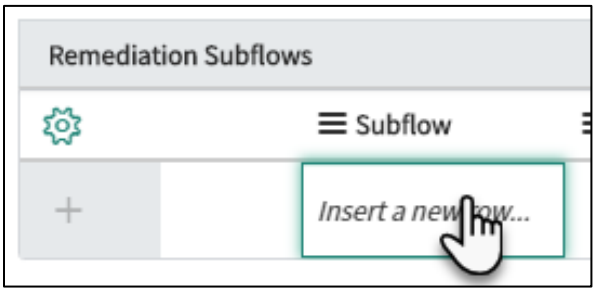
   - **Short description |contains| IIS AND**
   - **Severity |is| Critical**



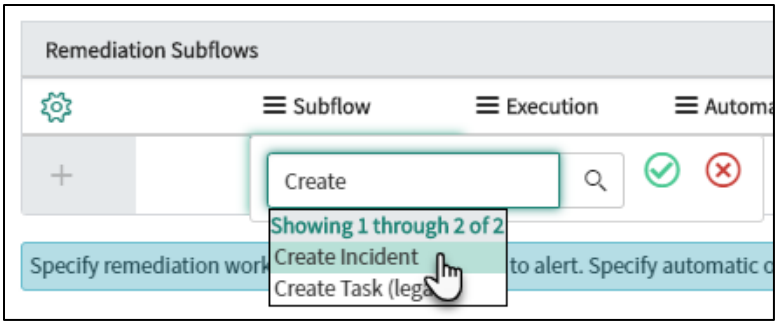
> Note: *Alert management rules with lower order values are given priority. An alert is checked against every alert management rule until a match is found.*

5. Select the **Actions** tab.

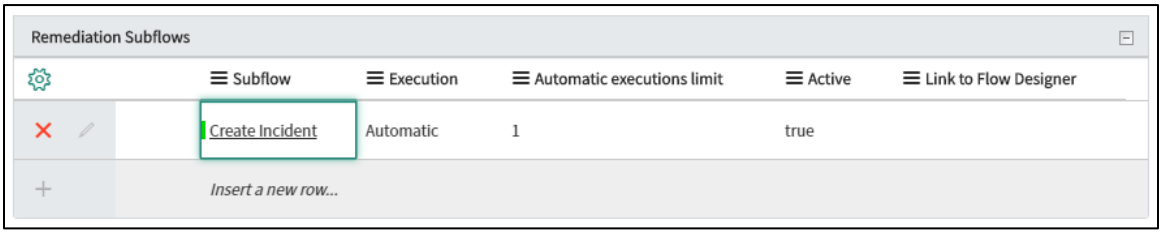
6. In the **Remediation Subflows** section, under the **Subflow** heading, double-click on **Insert a new row…**.



7. Enter/select a **Subflow** value of **Create Incident**.



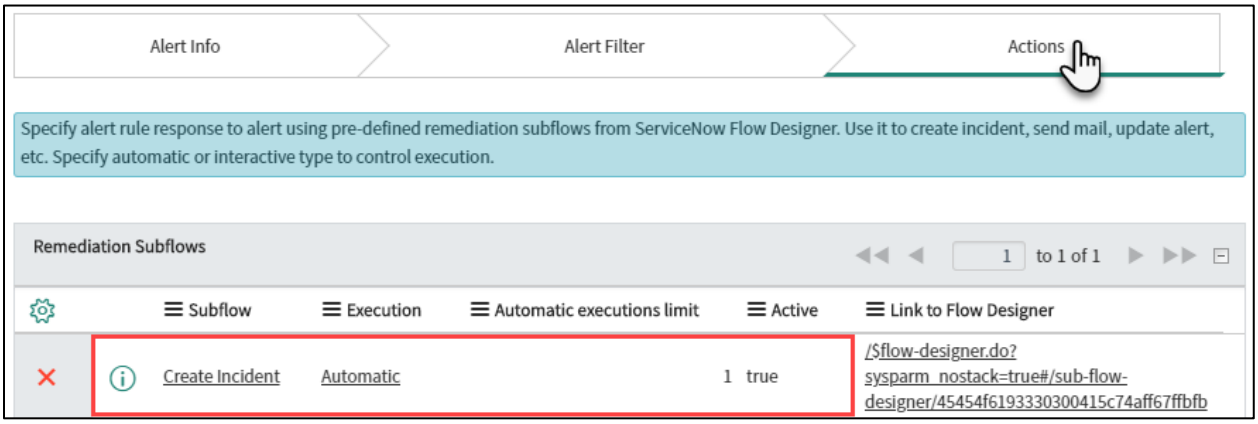
8. Click the green checkmark to set the value.



Note: *The **Execution**, **Automatic executions limit**, and **Active** fields are set to default values. The **Link to Flow Designer** is filled in once you submit the alert management rule.*

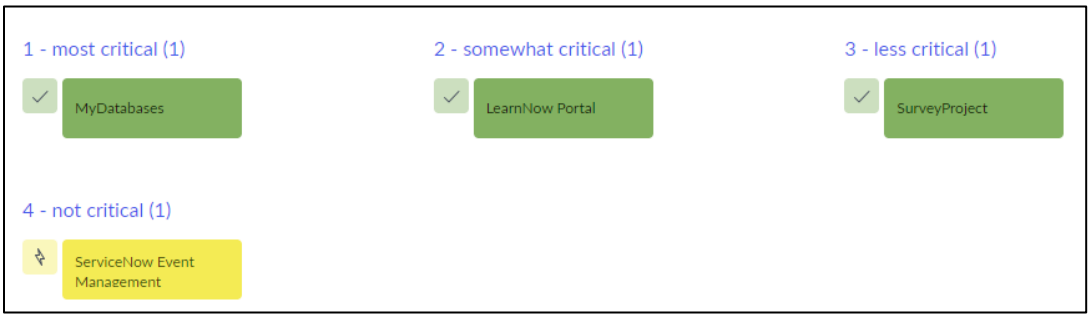
9. Click **Submit**.

10. To view the updated actions, open the rule from your list of alert management rules and click on the **Actions** tab.



C. Generate an IIS Service Down Event

1. Close any necessary alerts to make Survey Project green on the Event Management Service Operations Workspace.



2. In your ServiceNow instance, navigate to **Event Management > Simulation > Event Generator.**

3. Click **Load Sample**.

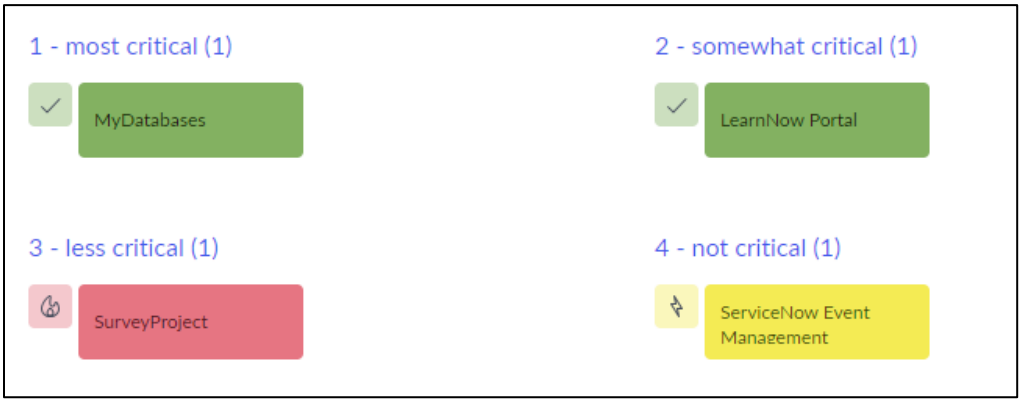
4. Select **Lab4.1 IISError** and click **OK**.

source:	**PSScript**
node:	**198.56.1.200**
message_key:	**4-1EX2017-SN1**
severity:	**Critical (1)**
description:	**IIS Server locked error 423**
type:	**SNDemo**
source instance:	**PS**
additional_info:	**{'version':'7.5'}**

5. Click **Generate Event**.

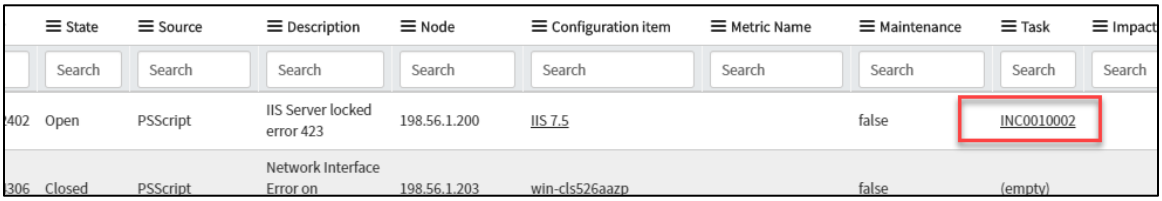
6. You are redirected to All Events. **Refresh** the list.

7. Wait for Survey Project to show critical.



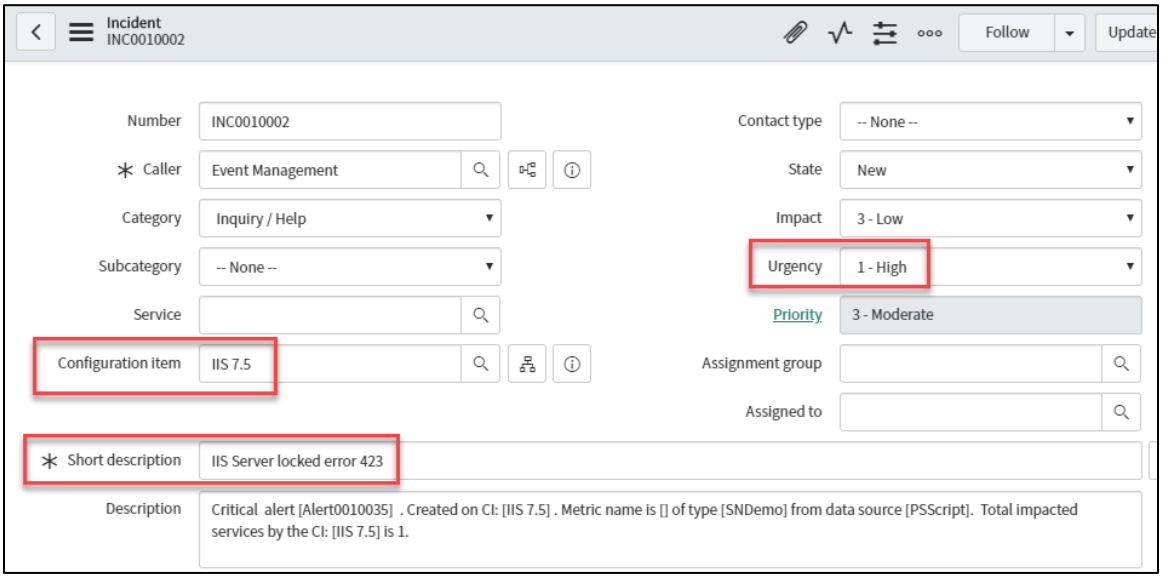
8. Navigate to **Event Management > All Alerts**.

9. Locate the alert and **open** the corresponding **incident**.



> Note: *An alert and an incident generate from the IIS Server locked error event. It may take ~45 seconds or so for the incident to display under the Task column.*
>
> *Your incident number may vary.*

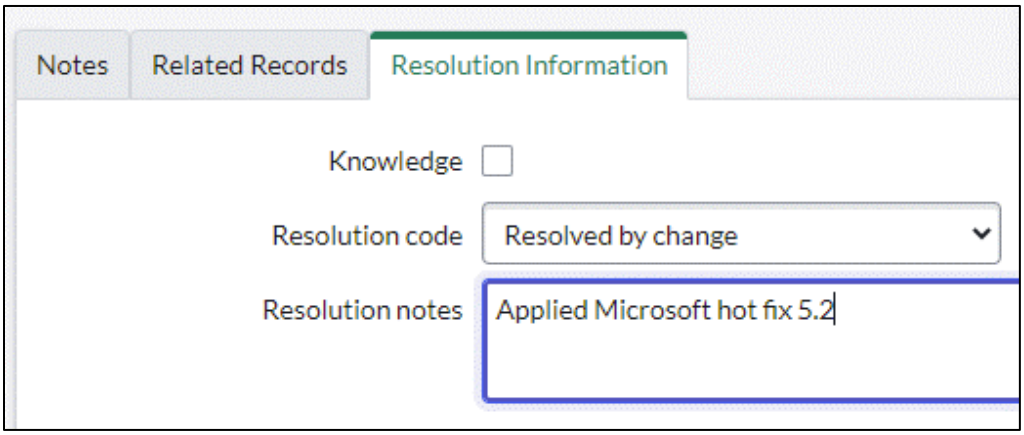
10. Observe the key values on the incident form inherited from the event: **Configuration item**, **Urgency**, and **Short description**.



D. Resolve the Incident

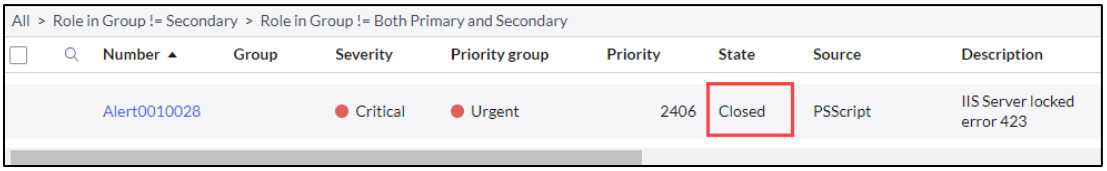
1. Scroll down to select the **Resolution Information** tab, and complete the form as shown:

   - Resolution code: **Resolved by change**
   - Resolution notes: **Applied Microsoft hot fix 5.2**



2. Click **Resolve**.

3. Return to the **All Alerts** list, locate the alert and view its current State is Closed.



Note: *The alert closed when the incident was resolved. This may take a few seconds. Refresh the list if needed.*

E. Activate a Baseline Alert Management Rule with Remediation Actions

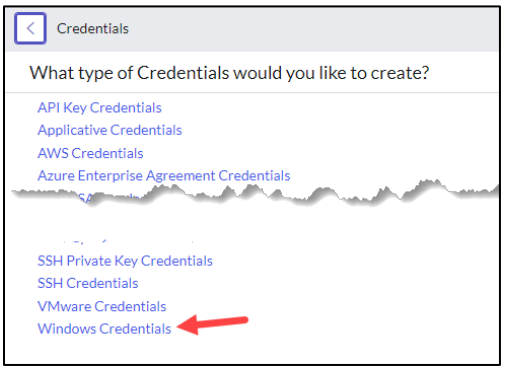
1. Before enabling baseline rules in your production environment, check the documentation for the latest requirements (*Configure alert remediation actions*). In our training environment, you will just need to add the credential and credential

alias, as that is unique to each student environment. In this lab, the credential is the Windows Server Administrator account and the alias makes that credential available to the baseline flows.

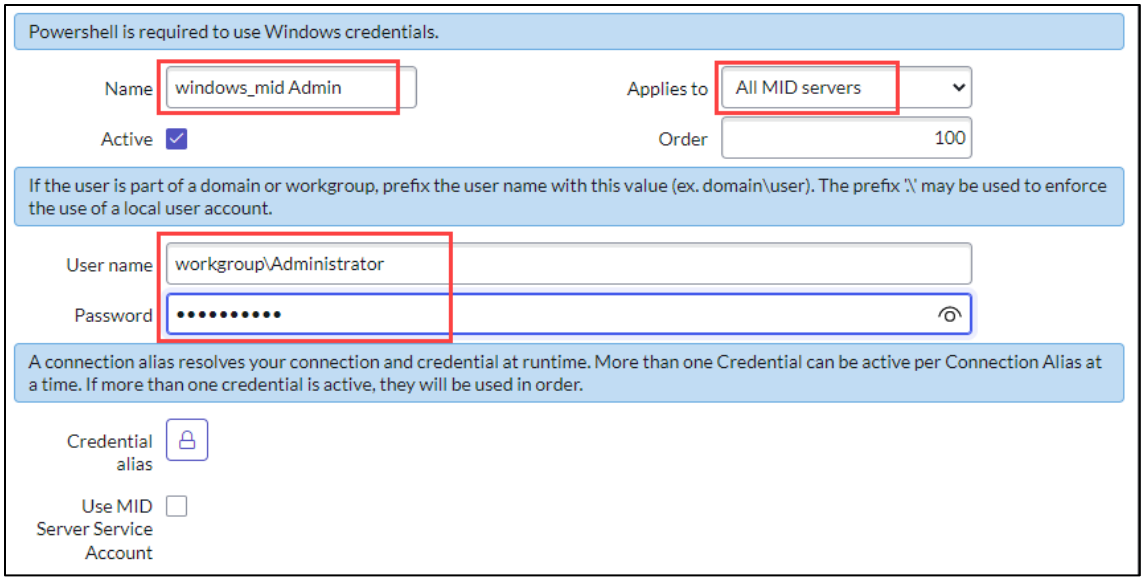
Documentation excerpt (do not perform the following bullets):

> **Before you begin**
> Install the `IntegrationHub Enterprise spokes` plugin.
> For Linux: Ensure that the remote Linux host is reachable using the MID Server IP address that runs action scripts.
> For Windows:
> - Ensure that Powershell v3.0 - 5.0 are supported and installed on the Windows target servers.
> - Enable Powershell remoting on the remote Windows host.
> - Ensure that the remote Windows host is reachable using the MID Server FQDN that runs action scripts.
>
> Add credentials to the credential aliases that come with the base system:
> - linuxAdmin
> - windowsAdmin
>
> Role required: evt_mgmt_admin or flow_designer

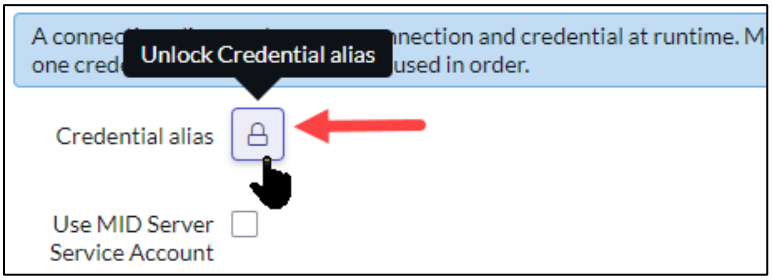
2. Create the credential and alias: Navigate to **Service Mapping > Credentials**.
3. Click **New**.
4. Click **Windows Credentials**.



5. Fill in the form with:
   - Name = **windows_mid Admin**
   - Applies to = **All MID servers**
   - User name = **workgroup\Administrator**
   - Password = copy/past your Windows Server password from your Now Learning landing page. Ensure you do not copy any extra spaces.

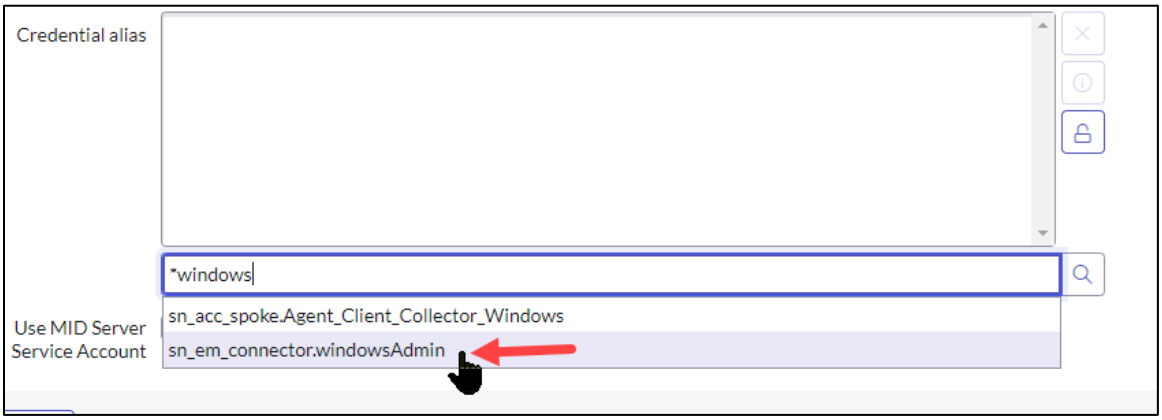


6. Click the icon to unlock credential alias.

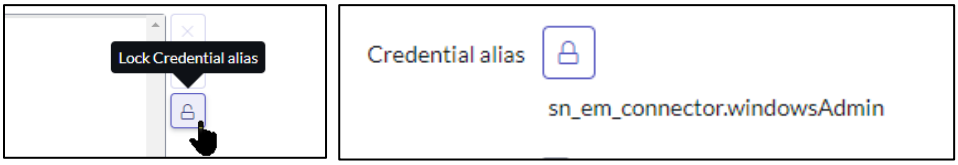


Note: *Credential alias field appears on the Default view of the Windows Credentials form.*

7. Search for ***windows** and select **sn_em_connector.windowsAdmin**.

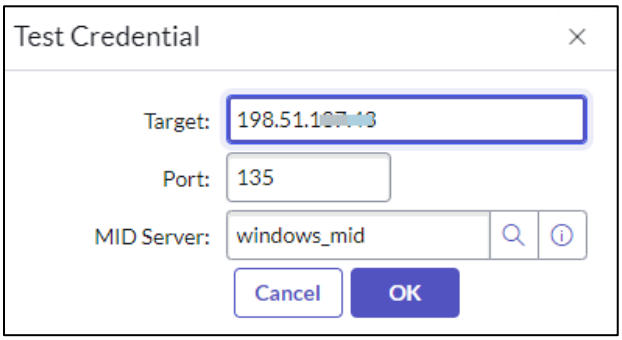


8. Click the icon to **Lock Credential alias**.

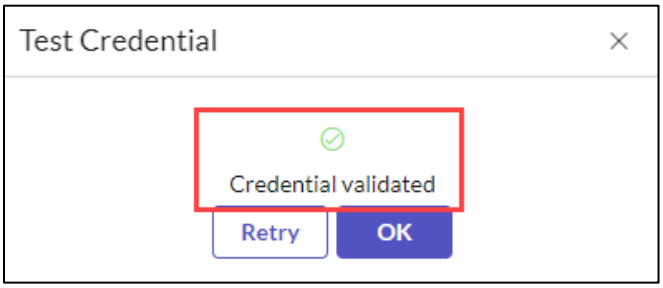


9. In Related Links, click **Test credential**.

10. In the pop-up window, enter your Windows MID Server **private IP address**.



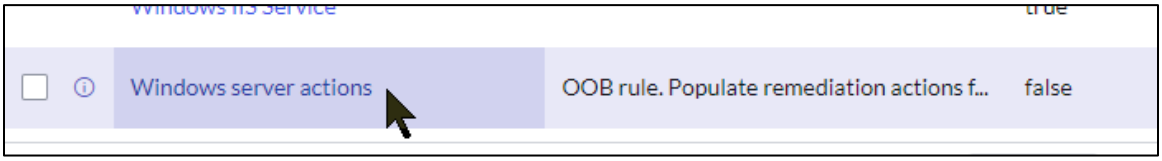
11. Click **OK**. **ENSURE THE CREDENTIAL WORKS** (is validated). If it fails, return to the credential record, delete and re-add the password. Ensure you do not copy/paste any extra space characters. The credential must work before proceeding. If necessary, carefully type it in.



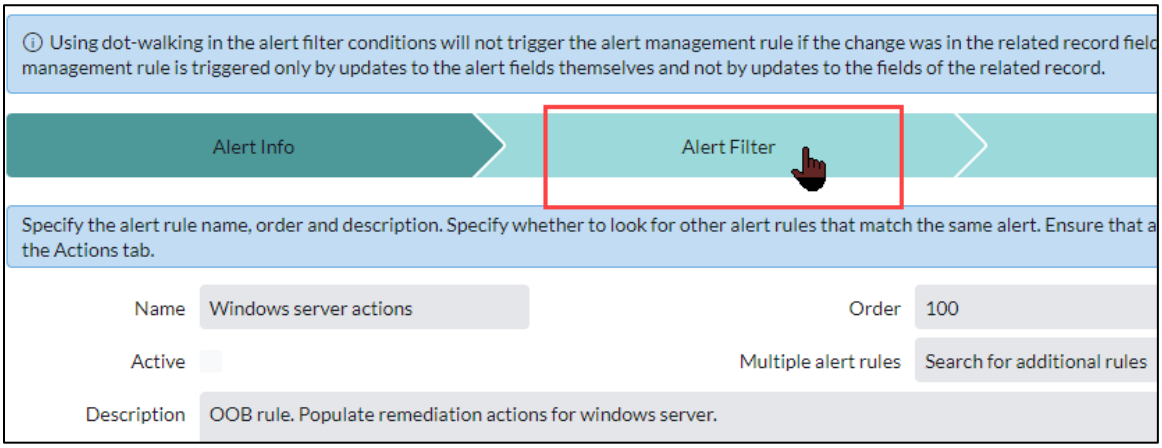
12. Once your credential tests successfully, click **Submit**. Your credential alias is ready to be used by the baseline remediation subflows.

13. Navigate to **Event Management > Rules > Alert Management Rules**.

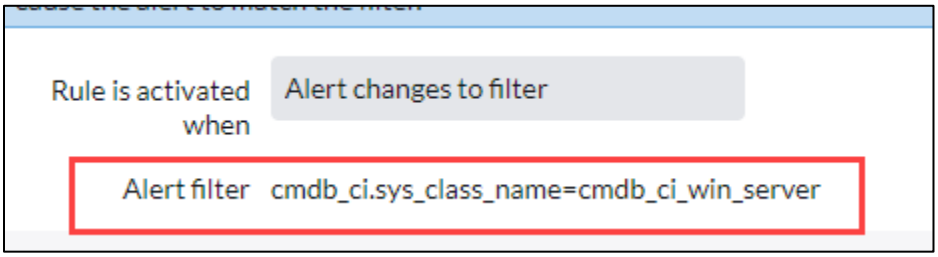
14. Locate and open the **Windows server actions** rule.



15. Review the Alert Info tab and click **Alert Filter**.



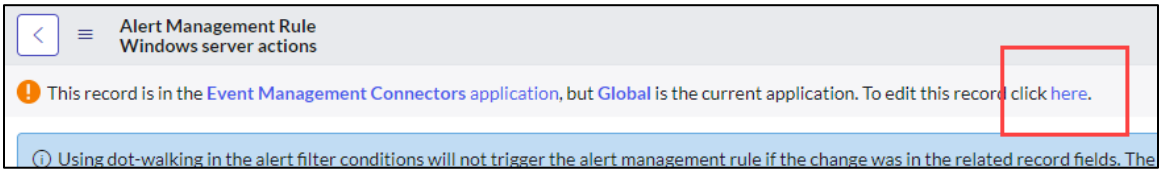
Note: *The filter applies the rule to all windows server CIs.*



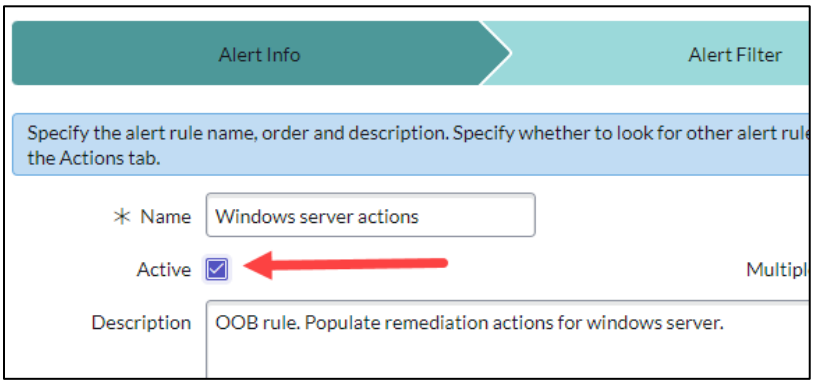
16. Click **Actions**. Review the list of included baseline Flow Designer subflows made available to alerts matching the filter.

Subflow	Execution	Automatic executions limit	Active	Link to Flow Designer
Get Windows Processes	Manual	1	true	/$flow-designer.do?sysp
Start Windows Service	Manual	1	true	/$flow-designer.do?sysp
Stop Windows Service	Manual	1	true	/$flow-designer.do?sysp
Suspend Windows Service	Manual	1	true	/$flow-designer.do?sysp
Stop Windows Process	Manual	1	true	/$flow-designer.do?sysp
Get Windows Services	Manual	1	true	/$flow-designer.do?sysp
Restart Windows Service	Manual	1	true	/$flow-designer.do?sysp

17. In the notification line, click to edit the record.



18. On the Alert Info tab, select **Active**.



19. Click **Update** to activate the rule.

20. Navigate to **Event Management > Simulation > Event Generator**.

21. Click **Load Sample**.

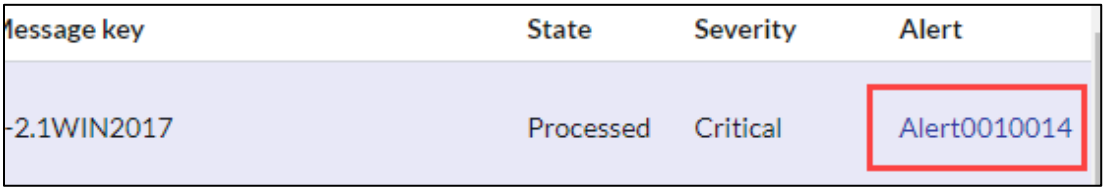
22. Select **Lab2.3 VMerror1** and click **OK**.

source: **PSScript**
node: {your MID private IP address entered in lab 2}
severity: **Critical (1)**
description: **Critical service error (print spooler)**
type: **SNDemo**
source instance: **PS**
additional_info: **{"remediation_action_resource":"Print Spooler"}**

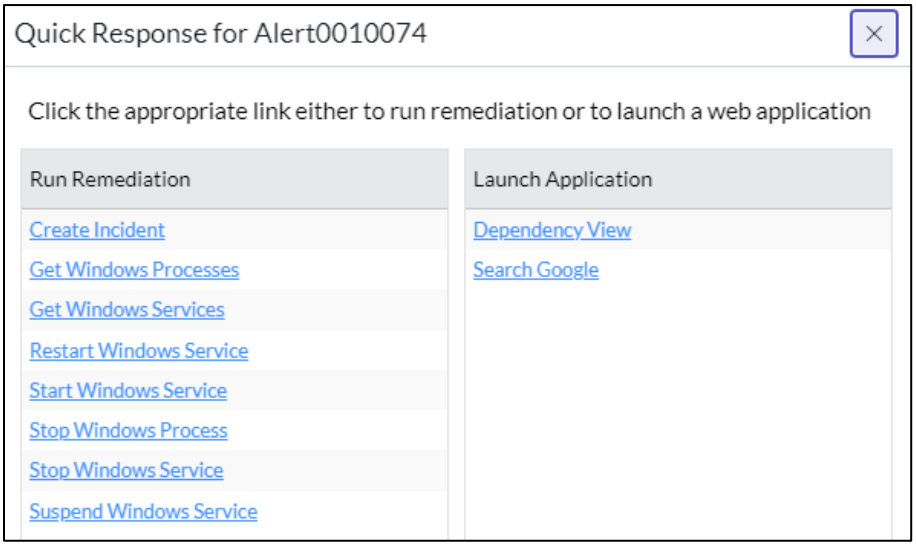
23. Click **Generate Event**.

24. You are redirected to All Events. **Refresh** the list until the event is processed.

25. Click to **open** the alert. Make a note of the alert number as you will come back to it later.



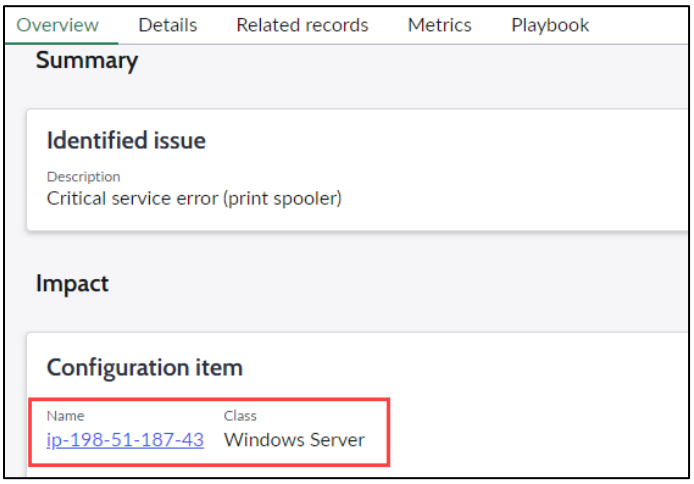
26. In the menu bar or Related Links, click **Quick Response**. Note the remediation actions made available by the alert rules. It may take a minute for the form to render.



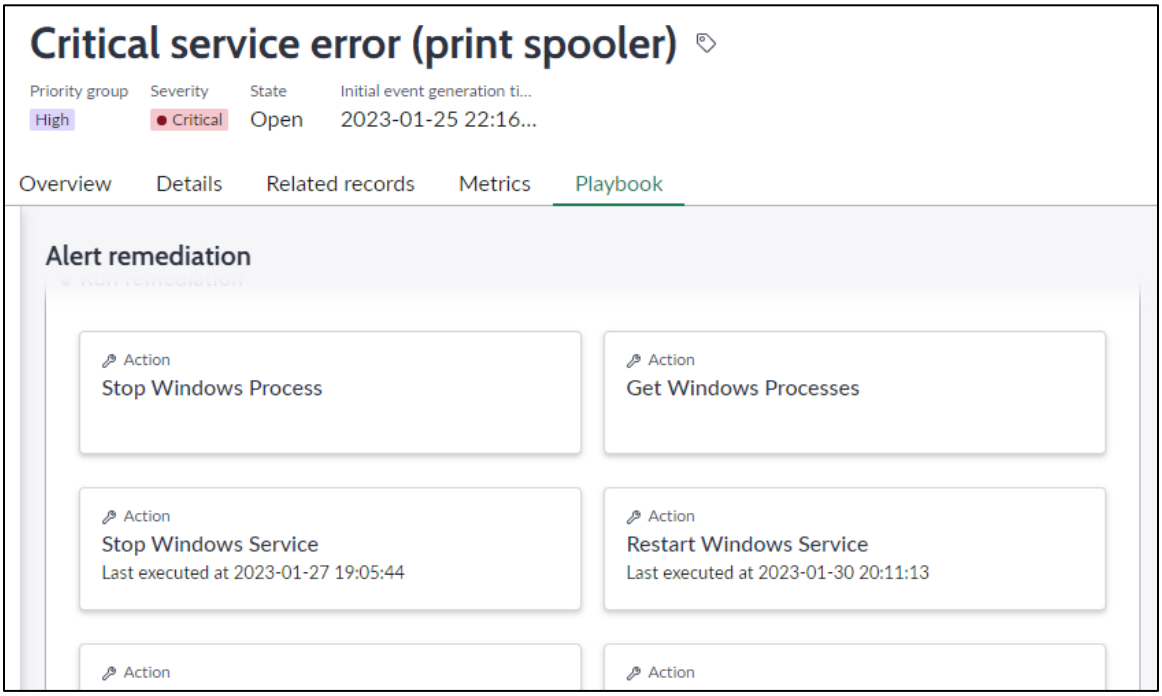
27. Click **X** to close the popup.

28. Click **Open in Workspace**.

29. Review the alert in Service Operations Workspace. Note the CI class is Windows Server.



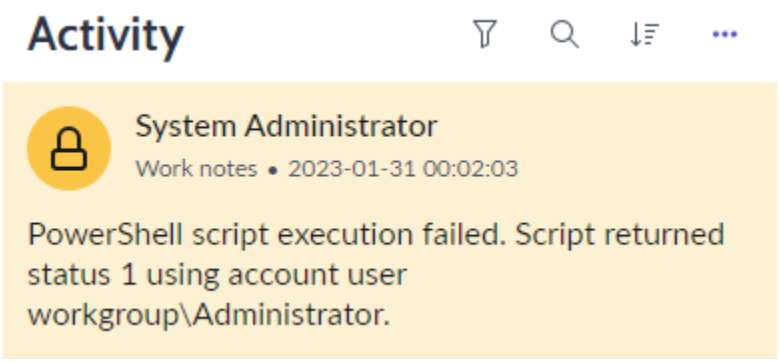
30. Click the **Playbook** tab. The same remediation actions appear here.



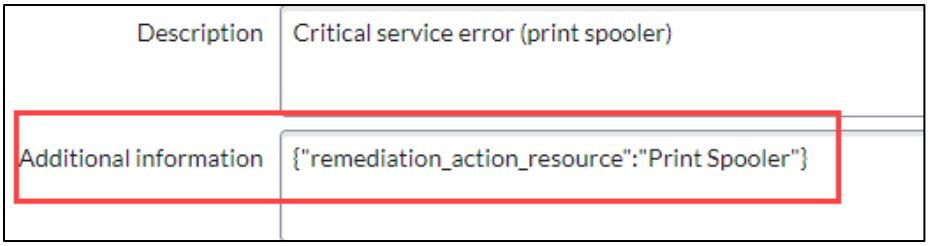
F. Modify a Flow Designer Subflow

This section will introduce you to Flow Designer. Flow Designer is the engine for the remediation actions made available by alert management rules. The baseline remediation subflows for Windows Servers use remote PowerShell to execute commands on target servers.

Note: *The Restart Windows Service subflow, as well as the other Windows remediation subflows, retrieves the fully qualified domain name from the CI record and uses it as the target computer for the PowerShell script. In our training environment, the Windows MID Server is not joined to a domain. The resulting FQDN created by Discovery is not resolvable by PowerShell. You will need to modify the subflow to use IP address instead. Here is an example of the resulting error using FQDN:*



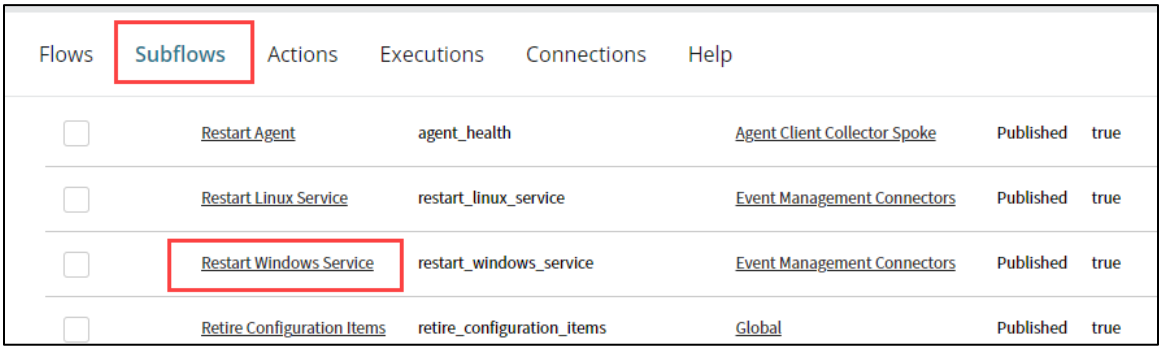
Note: *The event produced from the event source should contain the Windows service in trouble. Use event rules to parse the service into the alert additional information field in the form "remediation_action_resource":"<service display name>" for the remediation action to act on that service.*



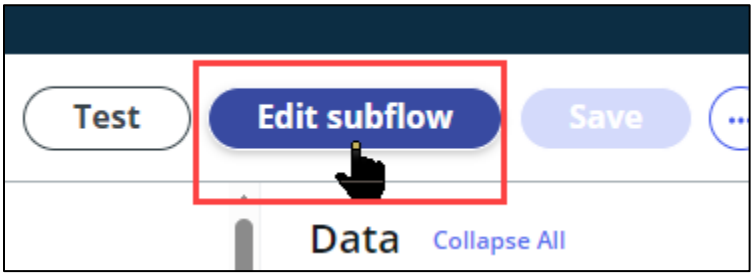
In this lab, you will edit the subflow and replace the FQDN with IP address.

1. Navigate to **Process Automation > Flow Designer**.
2. Click **Subflows**.

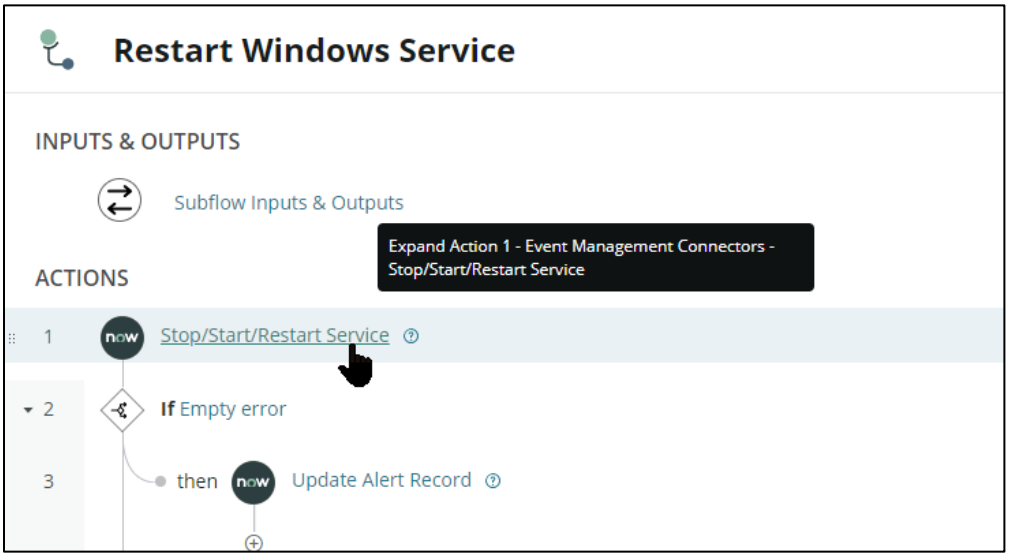
3. Open the **Restart Windows Service** subflow.



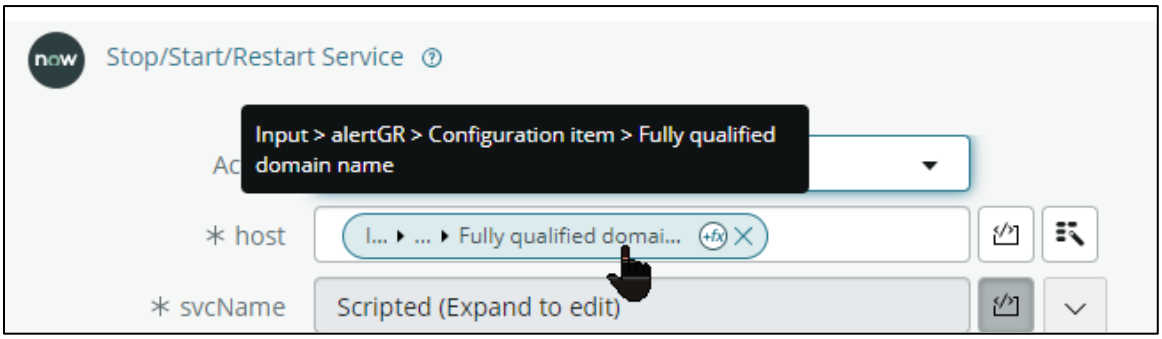
4. In the upper right, click **Edit subflow**.



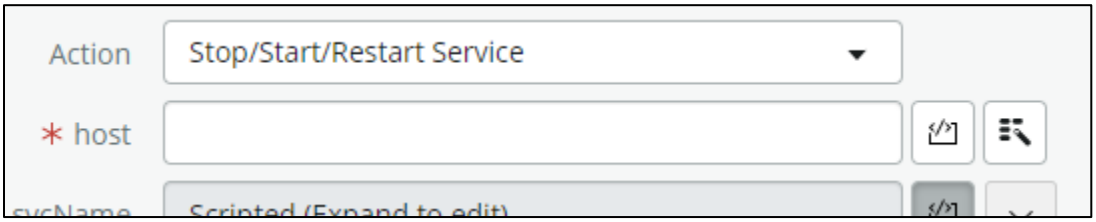
5. In Actions, expand **Stop/Start/Restart Service**.



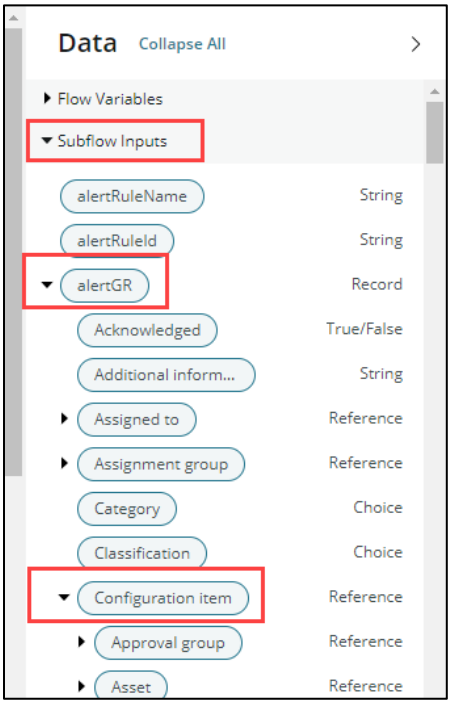
6. Hover over the host data pill to reveal the full path. Notice the FQDN comes from the configuration item record.



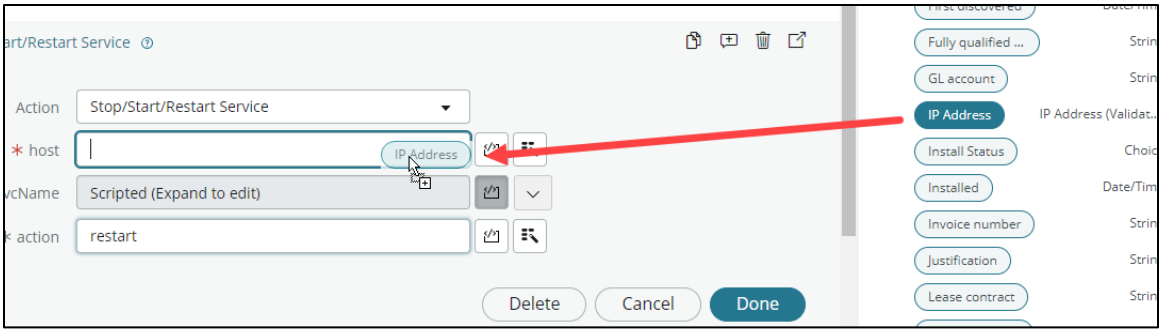
7. Click the **X** in the data pill to remove Fully qualified domain name.

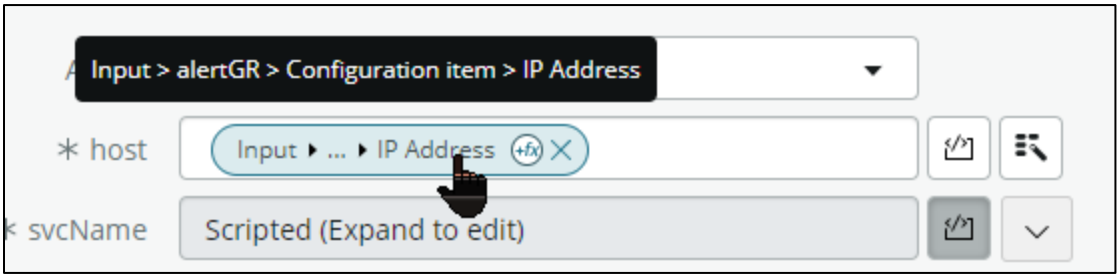


8. In the Data pane, drill down to **Subflow Inputs > alertGR > Configuration item** and locate **IP Address**.



9. Click, hold, and **drag** the IP Address data pill into the **host** field.



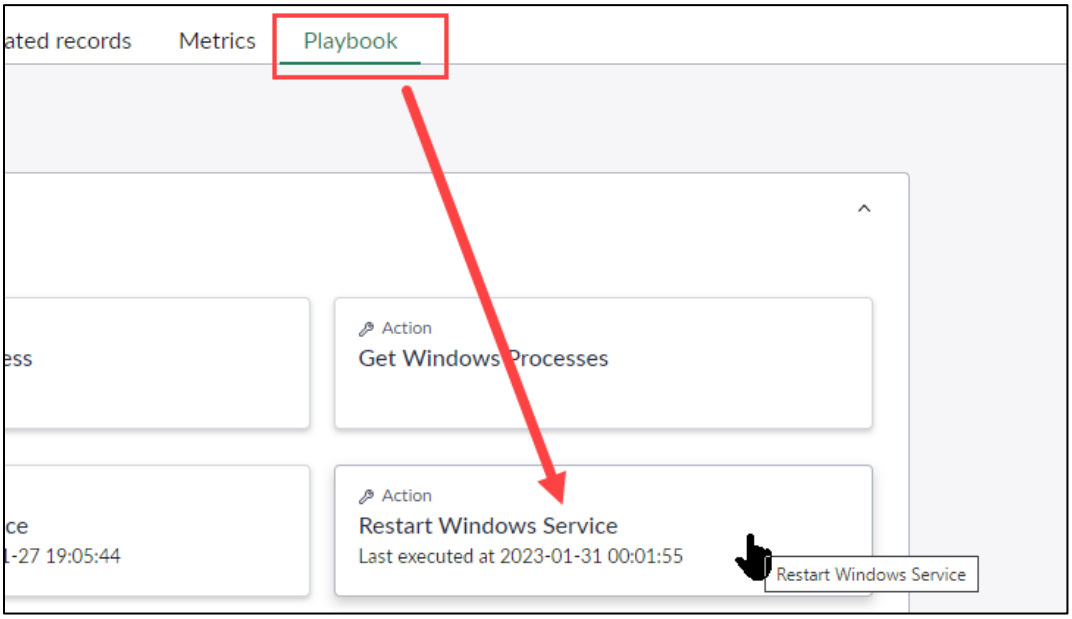


10. In the Actions area, click **Done.**

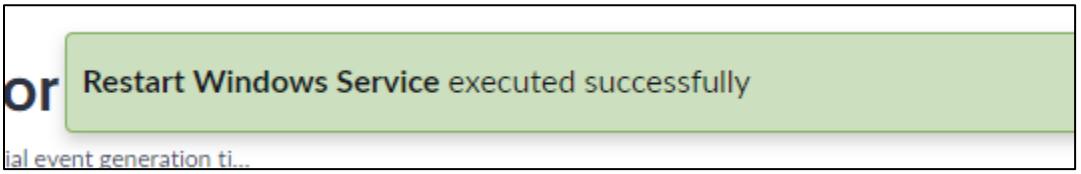
11. In the menu bar, click **Publish**.

12. Return to **Service Operations Workspace** and open (if not already) the previous alert (print spooler).

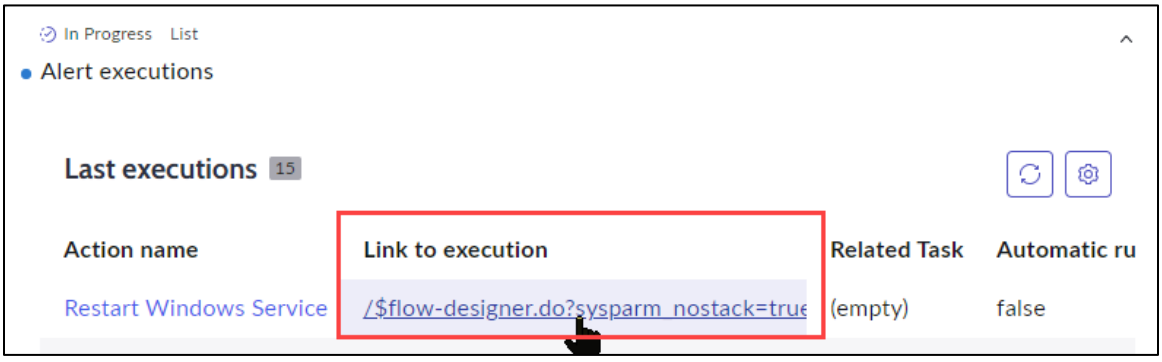
13. On the Playbook tab, click **Restart Windows Service**.



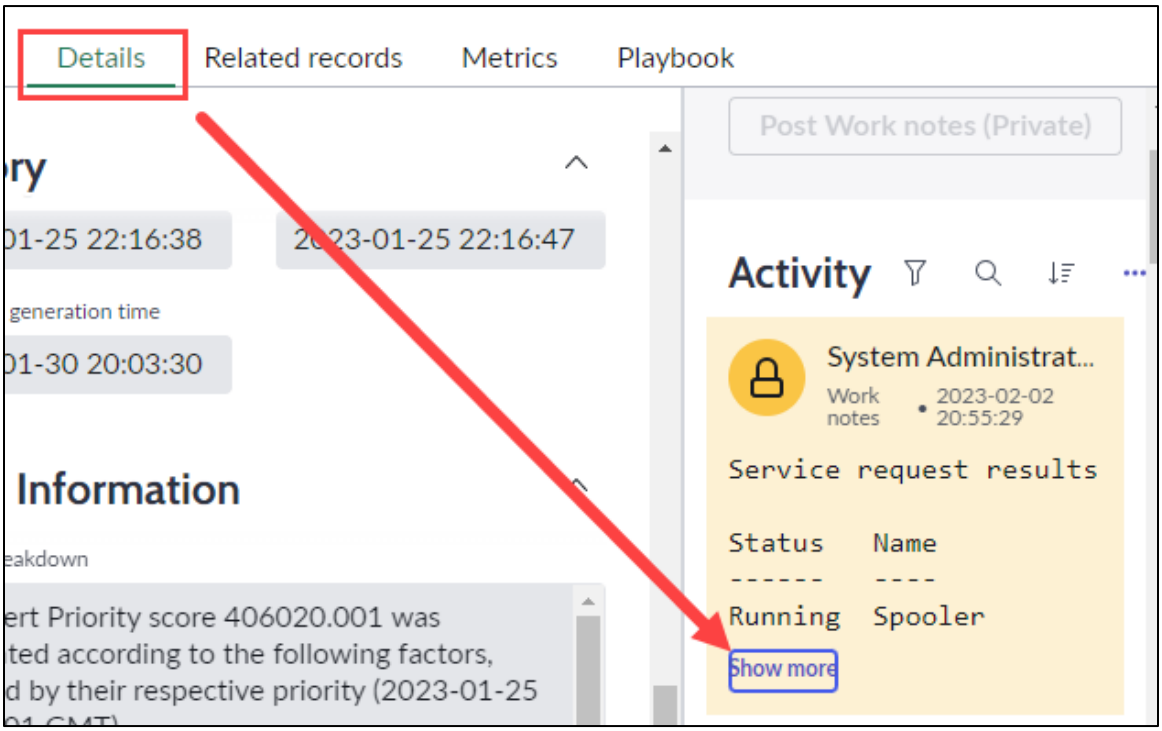
14. Wait for the action to complete.



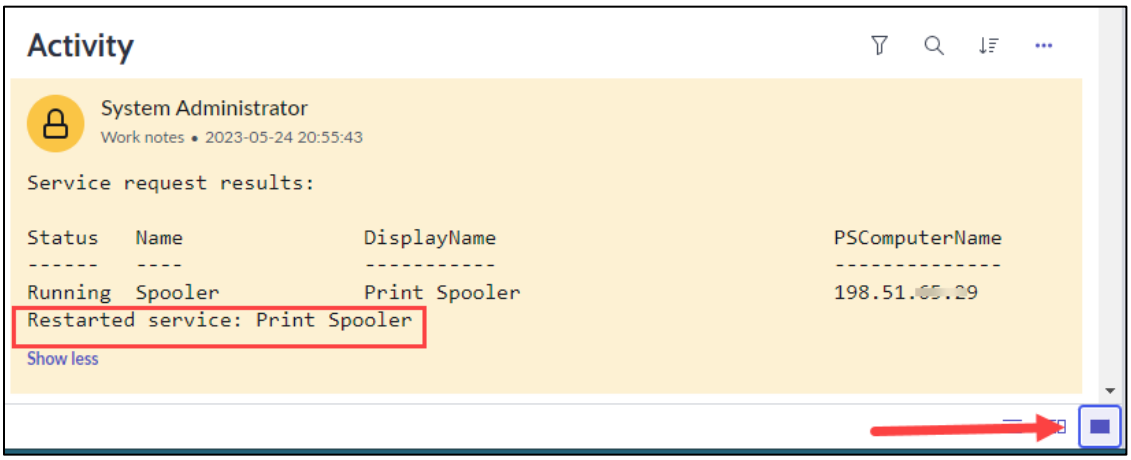
15. **Scroll down** to see you can click on a link to the Flow Designer execution for troubleshooting (opens in a new tab).



16. On the alert **Details** tab, review the Activity section. Remediation results are displayed here. Click **Show more**.



Note: *If not shown after a few minutes, refresh the browser tab.*

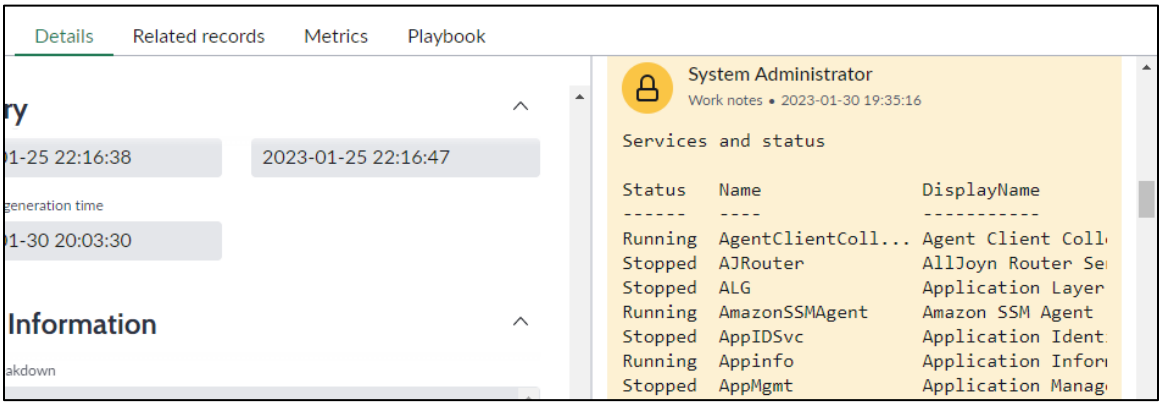


G. Challenge Lab: Modify Get Windows Services.

CHALLENGE

Return to Flow Designer subflows and modify the **Get Windows Services** to also use IP address instead of FQDN. Save and Publish. Return to the alert Playbooks tab and click **Get**

Windows Services. The result in the Details tab should look like this:



17. **PLEASE READ:** The next lab has you load demo data which can take 20 minutes to settle in and stabilize. Depending on your schedule, you may want to continue to the next lab and complete section A to load the demo data, then return to the next lesson.

Congratulations on completing the lab!

Alerts and Tasks
Configure the Service Map

Lab 4.3
20m

Lab Objectives

You will achieve the following objectives:

- Configure alert impact settings
- View alert impact trees

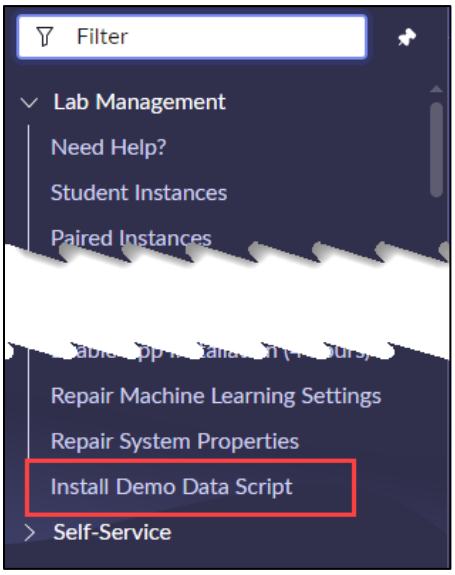
Scenario

In this lab, we load Service Mapping and Event Management plugin demo data, which includes application services and alerts that impact them. We will use an application service that includes clusters and modify the impact influence of the cluster members, maintaining the health of the overall application service when just one cluster member is critical.

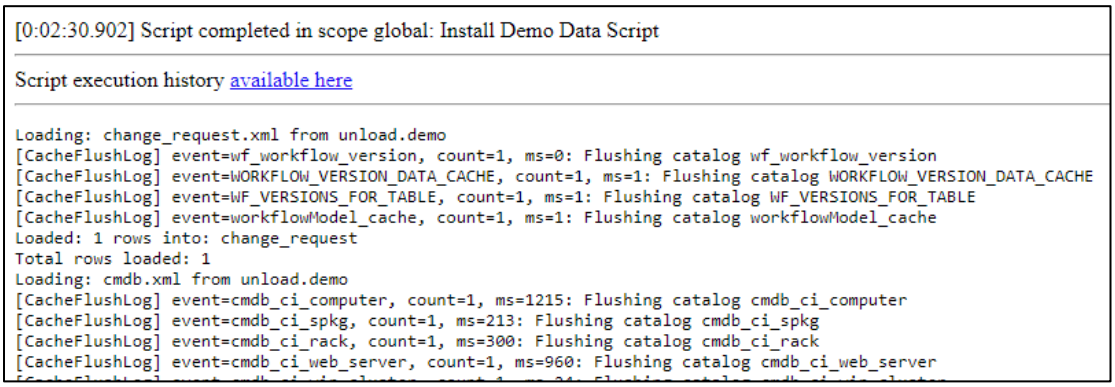
As part of the student instance created for you, a non-standard link runs a script that loads the demo data. Demo data can be loaded in your own non-production instance from the plugin repair menu.

A. Load demo data for SM and EM

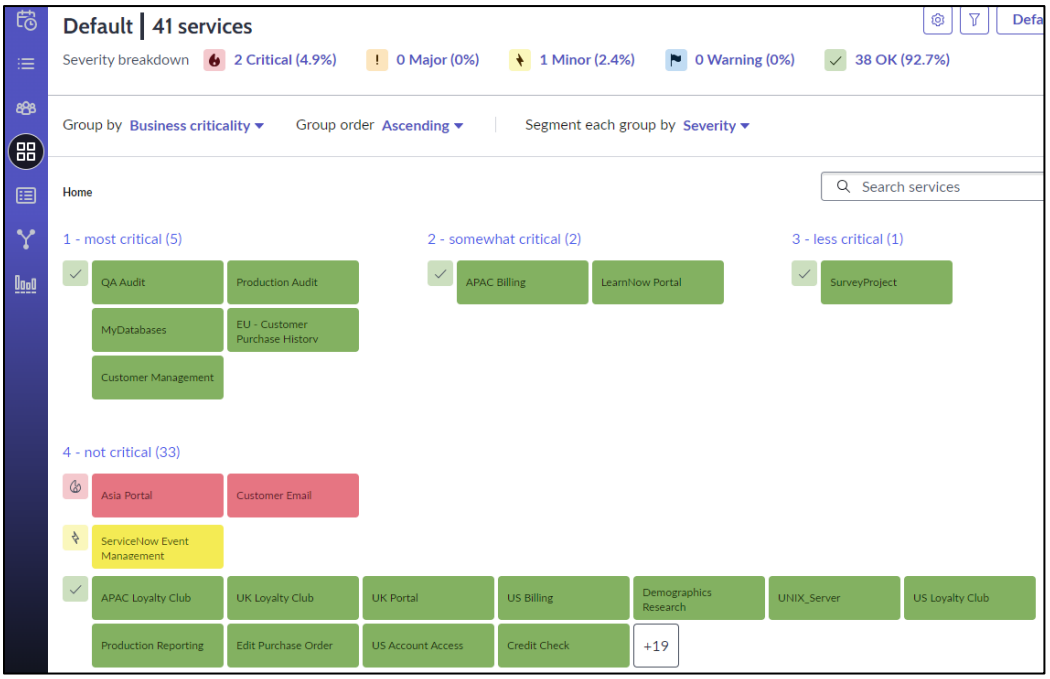
1. Navigate to and click **Lab Management > Install Demo Data Script**. The workspace may go blank.



2. The installation takes about four minutes. Wait for it to complete.



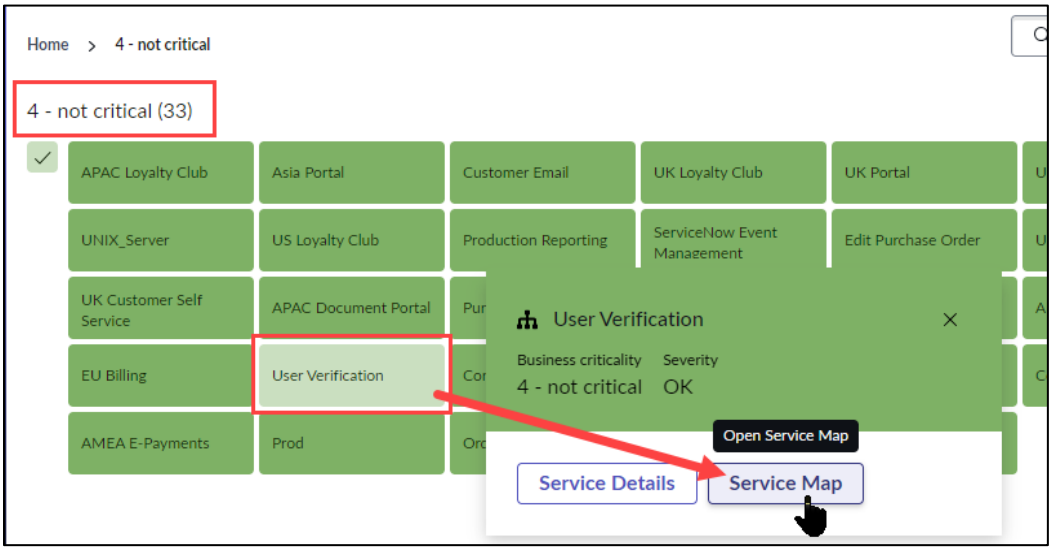
3. Verify demo data has loaded by opening the Service Operations Workspace service dashboard. A larger set of services is displayed with demo alerts. The alerts will be processed in the next few minutes and reflect impact.



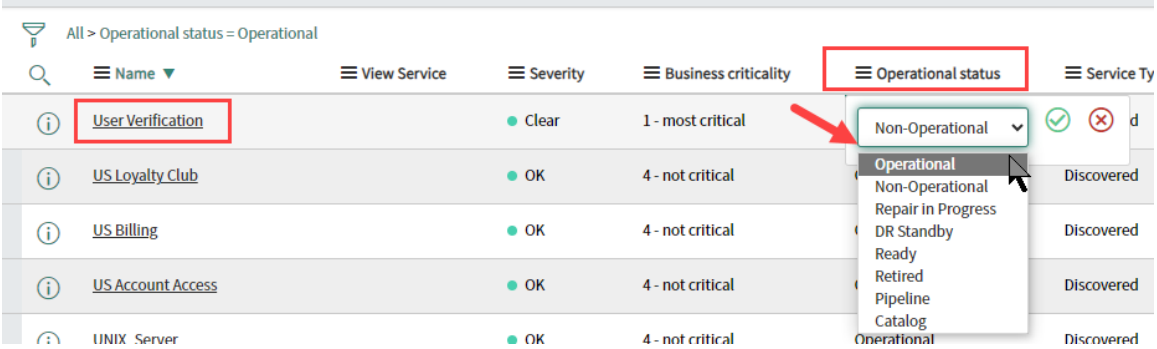
Note: *A great deal of processing occurs after the demo data loads and may take up to 20 minutes to stabilize in SOW. If the impact tree and controls are not showing, you may need to wait a few minutes more. The not-critical User Verification application service should be green.*

B. Observe the Impact Configuration of the User Verification Service

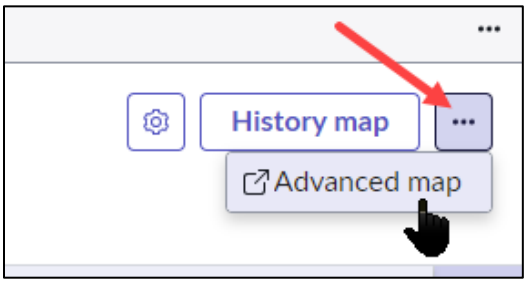
1. In Service Operations Workspace, open the **User Verification** service map.



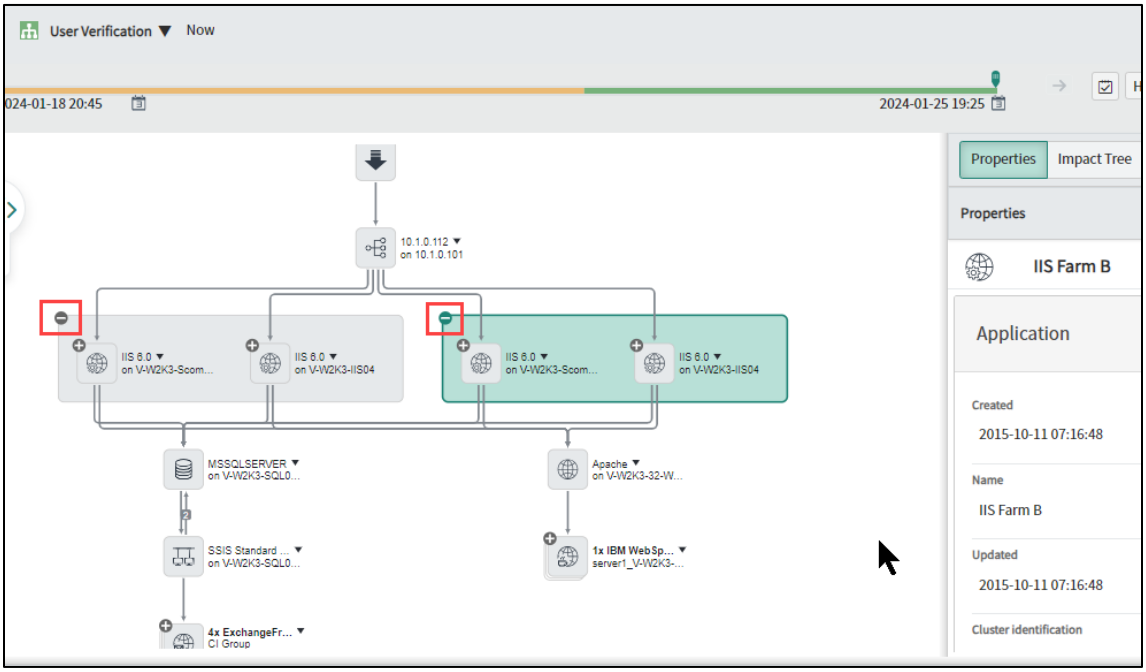
Note: *If the User Verification tile is not shown, navigate to **Event Management > Services > Application Services**. Locate **User Verification** in the list, toggle the Operational status to non-operational, wait a few seconds, and then return to operational.*



2. In the upper right, click **Advanced Map**, which opens in a new tab.

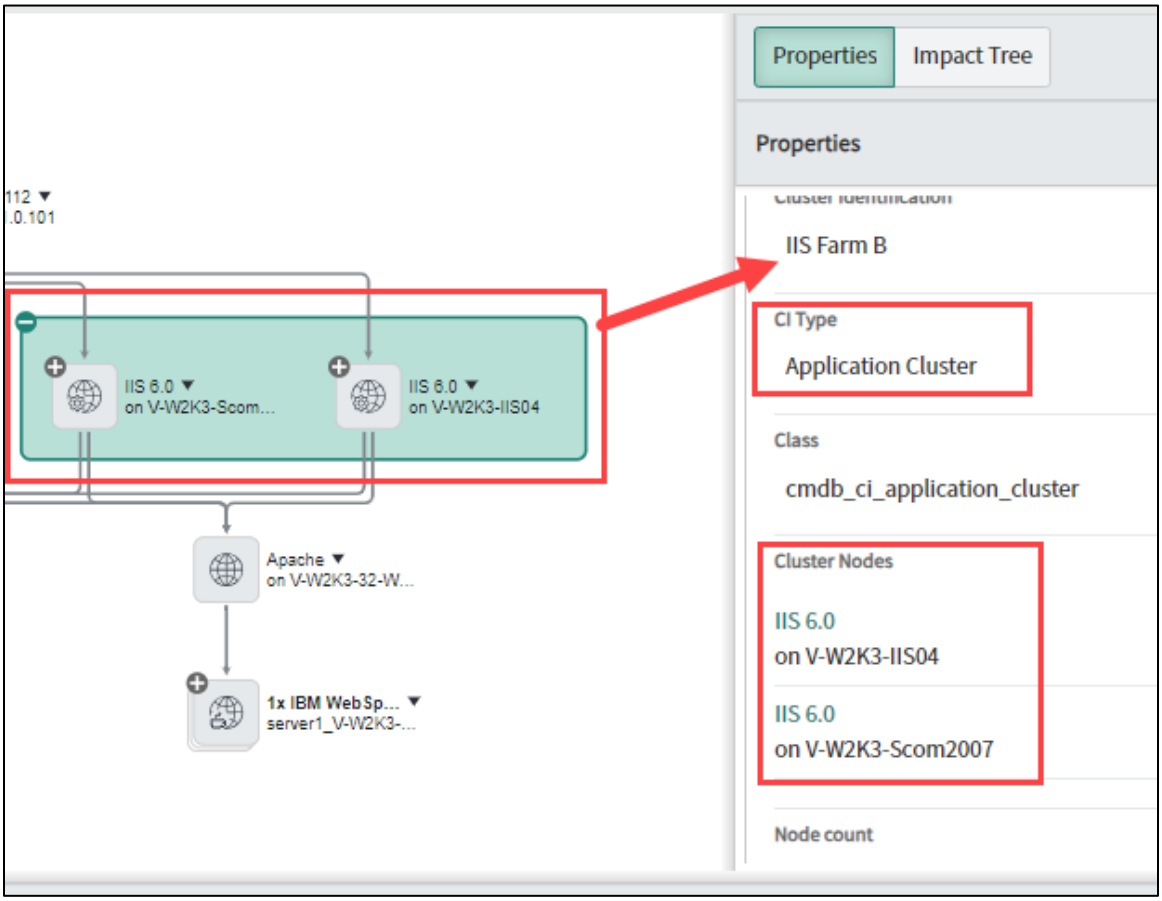


3. Click ⊕ to expand the two clusters, LoadBalancer240 and IIS Farm B.

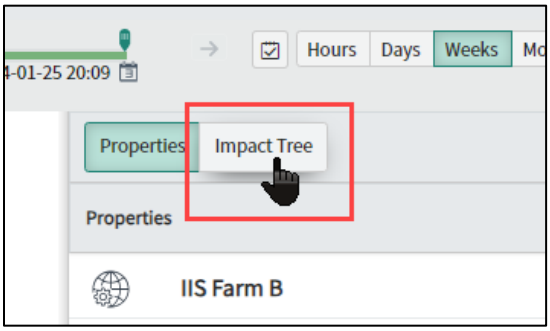


Note: *The two clusters are supported by the same set of Windows Servers. Alerts bound to the server CI will impact both clusters. We will modify the impact settings of IIS Farm B, which will allow a comparison of the impact propagation between the modified and unmodified clusters.*

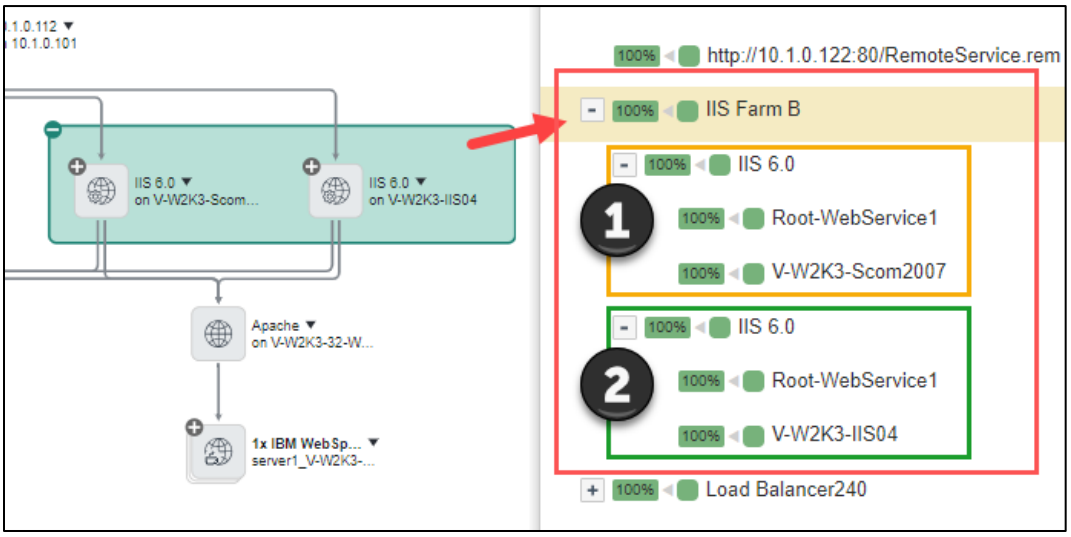
4. With the IIS Farm B cluster selected, review the Properties frame.



5. Click **Impact Tree**.



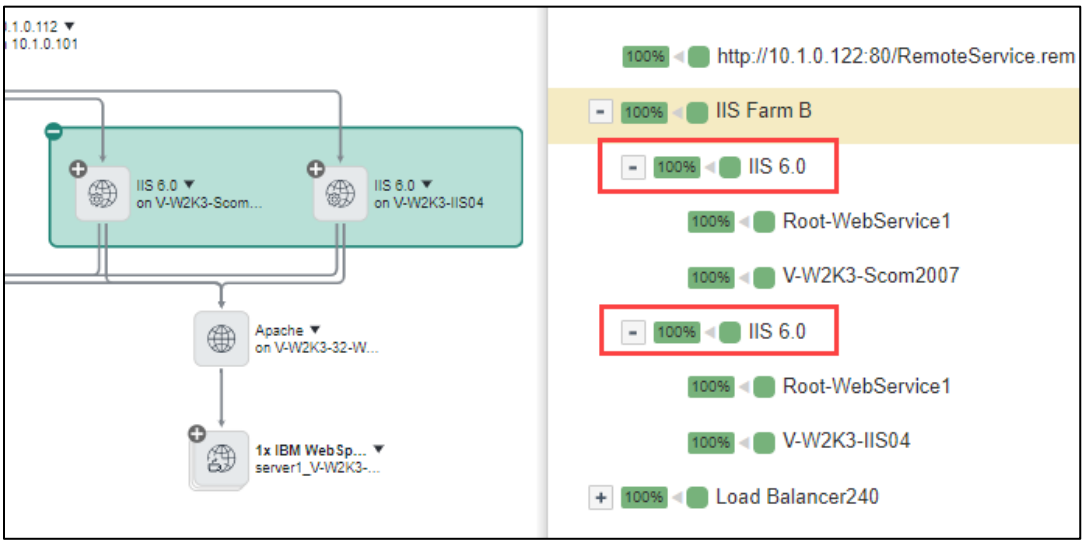
6. Click to expand each component of the IIS Farm B cluster. The two cluster members each have a web service running on a server.



Note: *If the impact tree does not display, skip to the Impact step below and continue. The tree will re-paint after the impact influence is changed.*

7. You can click items in the list to see them on the map and click items on the map to see them in the list.

8. With the **IIS Farm B** selected, review the % impact each cluster member (IIS 6.0) has on the overall cluster health (100%) based on the current impact settings.

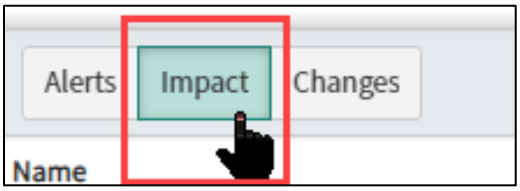


Note: *Because this is a 2 member cluster, each cluster member has a **fixed** 50% influence on the overall cluster health. In a 4-member cluster each member would have 25%, and in a 5-member cluster 20%.*

C. Modify the Impact Definition with Units

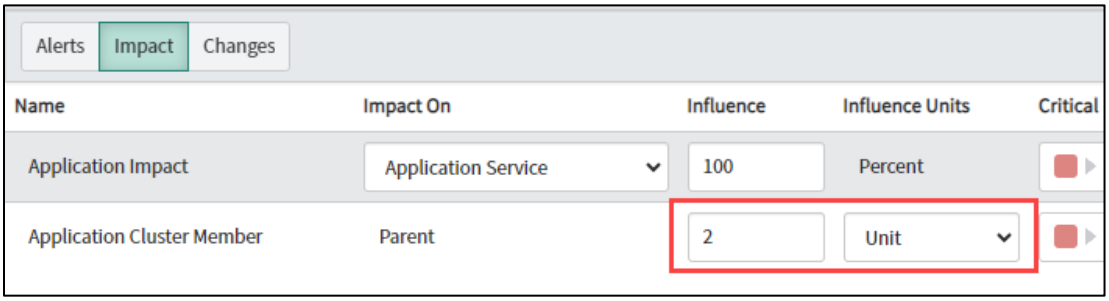
Modify the cluster member impact definition so that a single member outage does not reflect in the parent cluster or the application service.

1. Click **Impact** at the bottom.



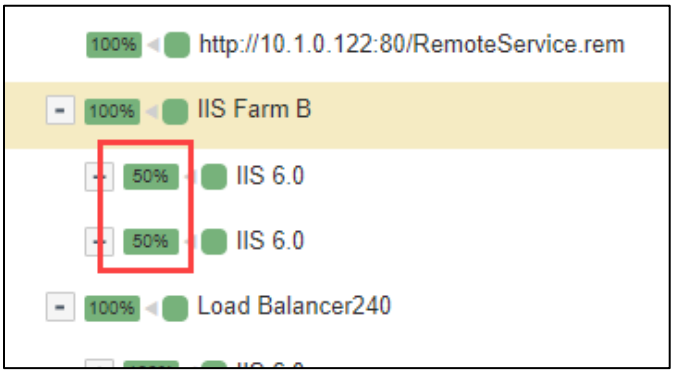
2. Configure the **Application Cluster Member** so that each member has a 50% influence threshold on the parent cluster using **Unit**.

   - Influence **2**
   - Influence Units **Unit**

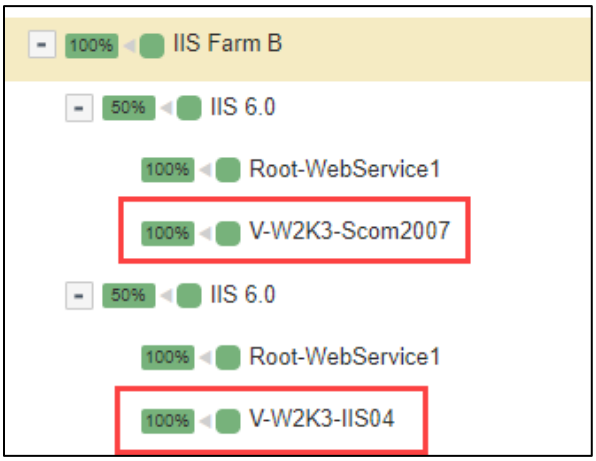


Note: *Tab or click out of the fields after changing them then wait a few seconds for the impact tree to update. Setting Influence to 2 units means that 2 members need to be critical in order for the parent cluster to show critical.*

3. The impact tree will update to 50% influence threshold for each member (IIS 6.0). By selecting 2 Units of impact in a 2-member cluster, each member now has a 50% influence on the parent cluster.



4. On the impact tree with the cluster members (IIS 6.0) expanded, observe the host server CI has a 100% influence on the cluster member.

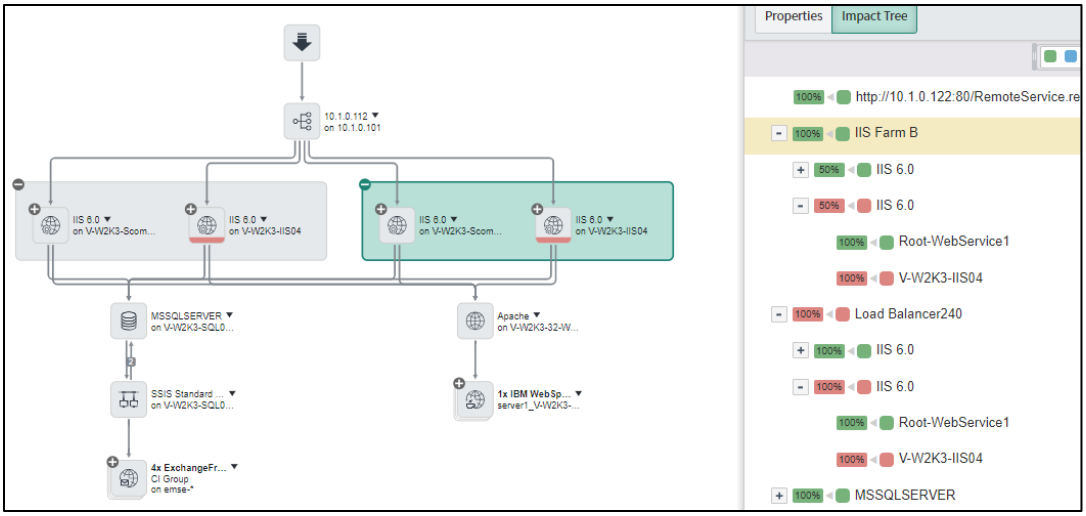


D. Generate Critical Event Against the User Verification Application Service

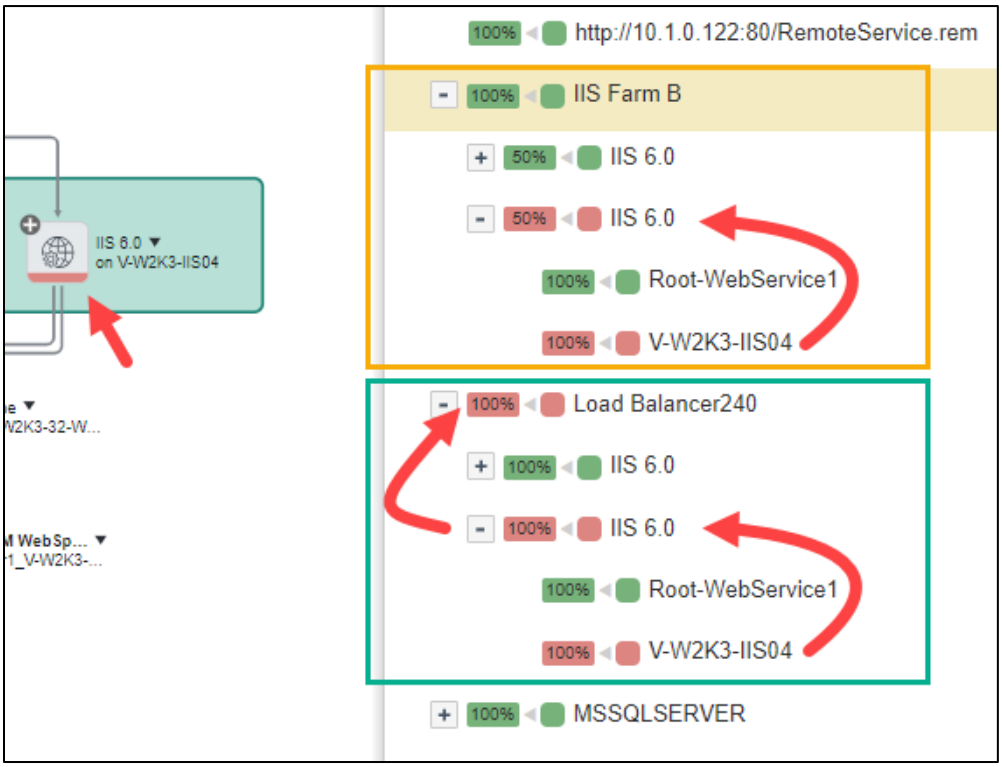
1. Switch to the instance tab. Load and fire the **Lab4.3 Critical Server Error** sample event.

   source: **PSScript**
   node: **V-W2K3-IIS04**
   severity: **Critical (1)**
   description: **Spectrum: RadWare CHASSIS DOWN**
   type: **SNDemo**
   source instance: **PS**

2. Return to the Advanced Map browser tab and wait a few seconds for the maps to update. When the alert is processed and impact calculated, the impact tree colors will change.



3. Review the **Impact Tree**.



Note: *The V-W2K3-IIS04 server supports 1 cluster member in each cluster (IIS Farm B and Load Balancer240). The cluster members (IIS 6.0) show critical (red). Because of the impact change made to IIS Farm B, IIS Farm B does not show critical (green). Notice cluster Load Balancer240 does show critical (red) because its cluster members have 100% impact on the parent cluster.*

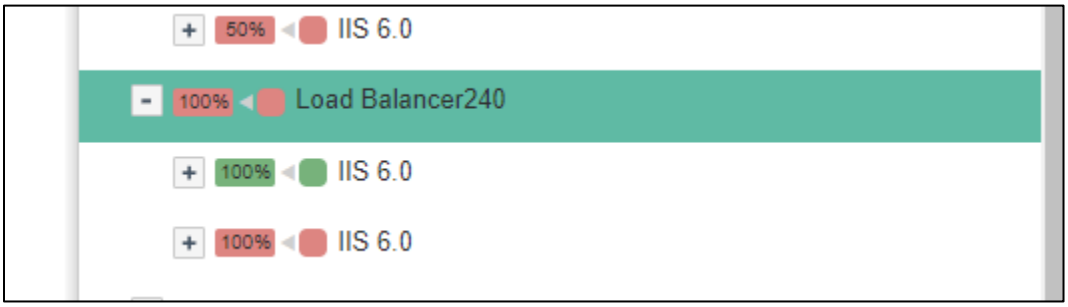
4. Scroll up to the top of the **impact tree**.

Note: *Because the Load Balancer240 cluster is critical, the application service User Verification shows critical. The application service should not display critical, as it is fully functional.*

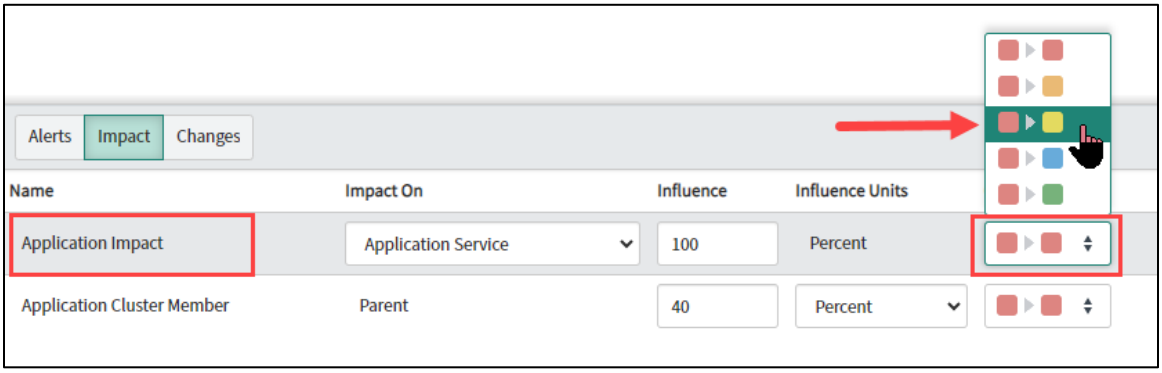
E. Modify Impact Definition to Propagate a Different Severity

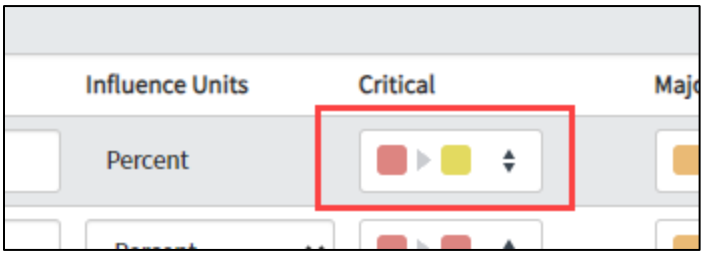
In this instance, where a single cluster member is critical but the application service is not effected, we can change the impact definition to show a less-than-critical impact on the parent cluster and service.

1. In the impact tree, select the Load Balancer240 cluster.

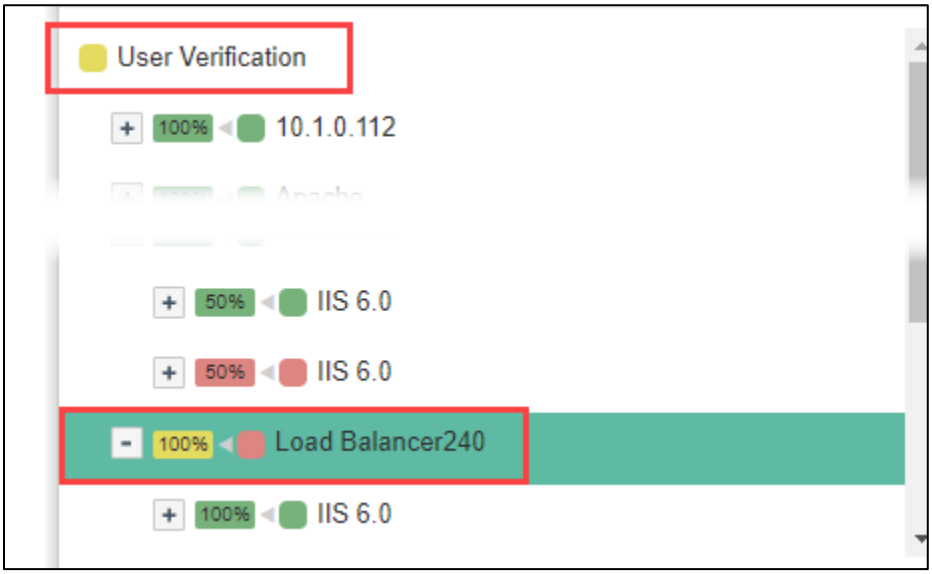


2. In the bottom Impact pane, modify the Application Impact critical alert color bar to propagate **minor**.





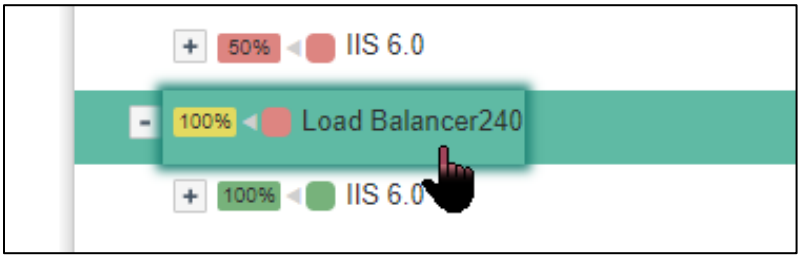
3. Wait for the tree to update. Both the parent cluster and the application service now reflect minor.



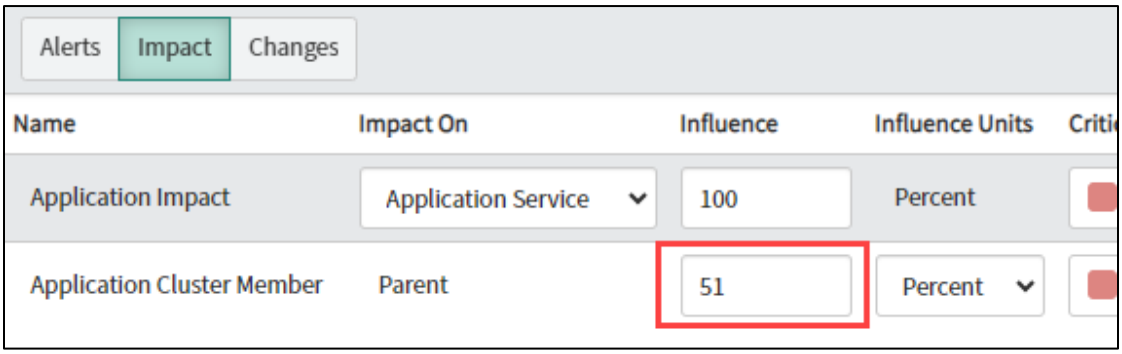
F. Modify the Impact Definition with Percent

Modify the Load Balancer240 impact definition using the percent units to respond as the IIS Farm B is.

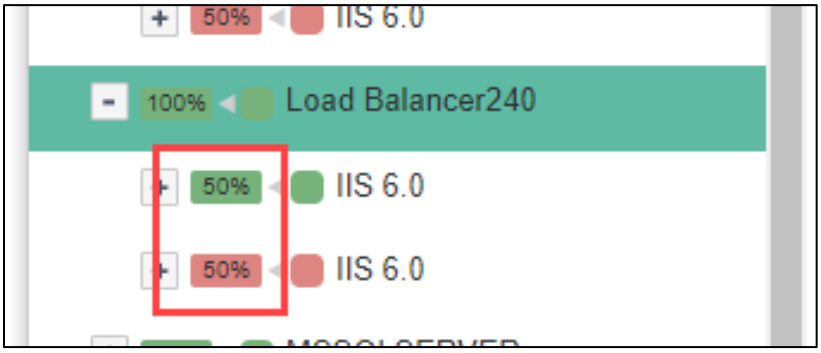
1. Configure the Load Balancer240 cluster members to also have a 50% impact on the cluster. In the impact tree, select the Load Balancer240 cluster.



2. In the bottom Impact pane, change the **Influence** to **51**. Leave units as Percent. Tab out of the fields.

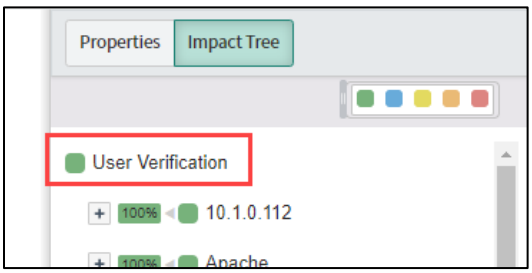


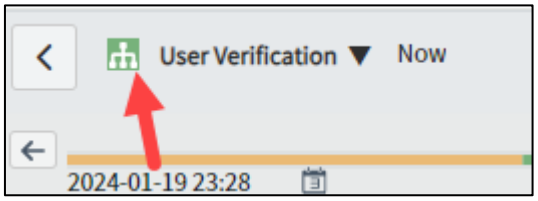
3. Review the impact tree.



Note: *The Load Balancer240 cluster members now each have a 50% impact on the parent cluster health, after setting the influence threshold to 51, which is above the 2 member cluster fixed influence of 50%.*

4. Scroll to the top of the impact tree to see the application service User Verification has returned to green.





Note: *The impact of the Windows cluster members is no longer large enough to change the color on the parent cluster and therefore there is no impact on the application service.*

Congratulations on completing the lab!

Alerts and Tasks
Application Service SLAs

Lab 4.4
15m

Lab Objectives

You will achieve the following objectives:

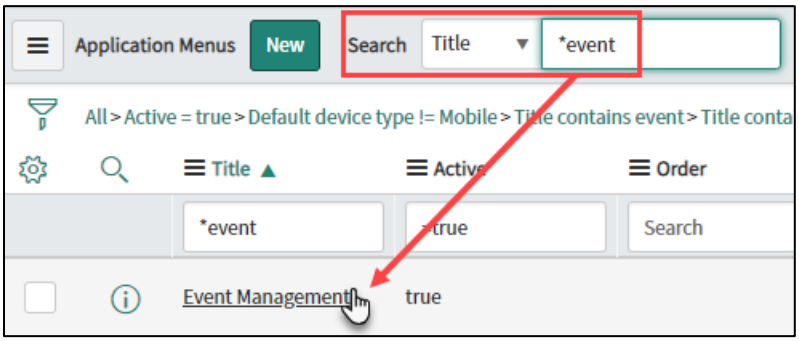
- Configure service level agreements (SLAs)

Scenario

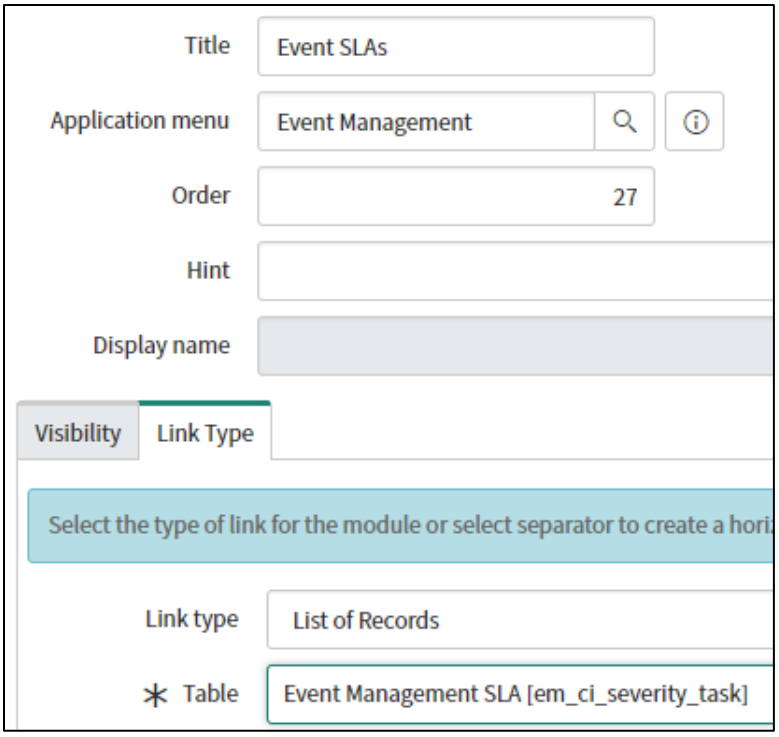
In this lab, business service SLAs track critical alerts causing outages for the Survey Project application service. Create a new application navigator menu item to simplify tracking of application service SLAs (tasks). Then create an SLA definition and fire an event that starts the clock.

A. Event Management SLA Module Creation

1. Navigate to **System Definition > Application Menus**.
2. Locate and open **Event Management**.



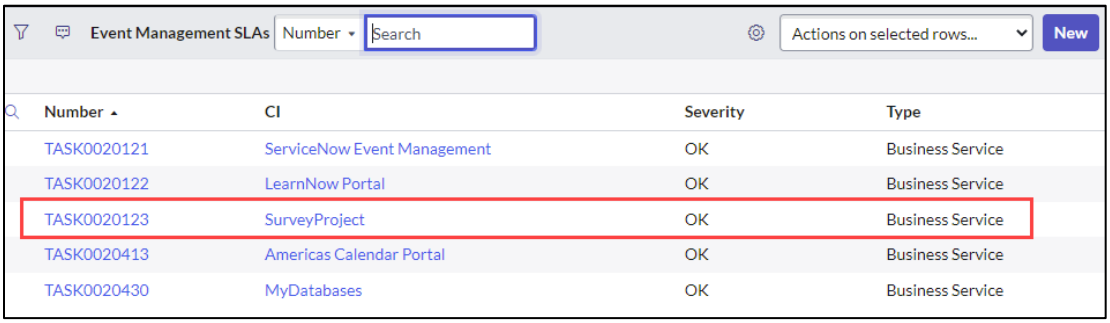
3. From the **Modules** related list, create a **New** module as shown:
   - Title: **Event SLAs**
   - Application menu: **Event Management**
   - Order: **27**
   - Link type: **List of Records**
   - Table: **Event Management SLA [em_ci_severity_task]**



4. Click **Submit**.
5. Click **Update** on the **Application Menu**.
6. Navigate to **Event Management > Event SLAs**.

> Note: *This module was created in the previous steps.*

7. Observe the Event Management SLA for **Survey Project.**



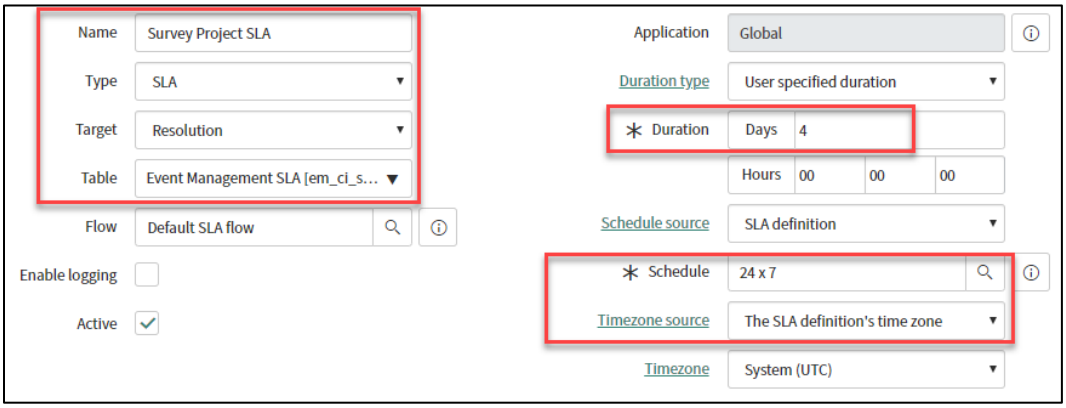
> Note: *These SLAs generate when the application/business services are created. The records track the status of the application service. When alerts impact, the severity for the relevent service updates via a scheduled job running every minute.*

B. Configure an SLA Definition for Survey Project

1. Navigate to **Service Level Management > SLA > SLA Definitions**.

2. Create a new **SLA Definition** as shown:

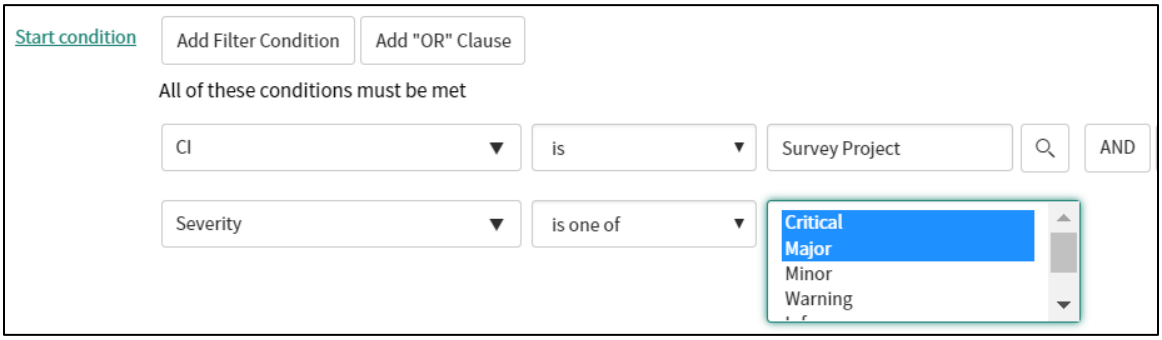
   - Name: **Survey Project SLA**
   - Type: **SLA**
   - Target: **Resolution**
   - Table: **Event Management SLA [em_ci_severity_task]**
   - Duration: **04 Days**
   - Schedule: **24x7**
   - Timezone source: **The SLA definition's time zone**



Note: *We are selecting 24x7 so that the clock runs in this example regardless of what time you are performing this lab. In production environments, choose the appropriate schedule.*

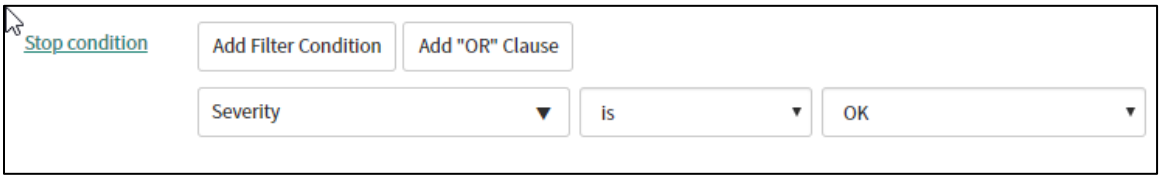
3. Complete the **Start condition** tab as shown:

   - Start condition:
     - **CI | is | SurveyProject AND**
     - **Severity | is one of | Critical | Major**



4. Configure the **Stop condition** tab as shown:

   - Stop condition: **Severity | is | OK**



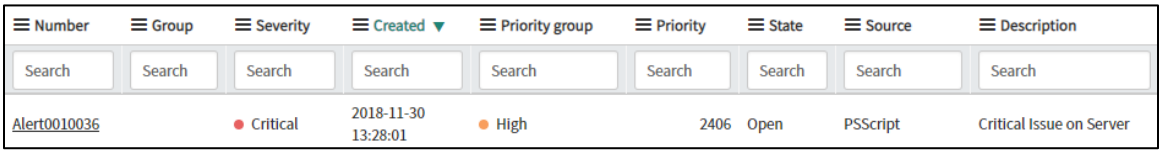
5. Click **Submit**.

C. Generate a Survey Project Critical Alert

1. Load and fire the **Lab4.3 SPServerError** sample event:

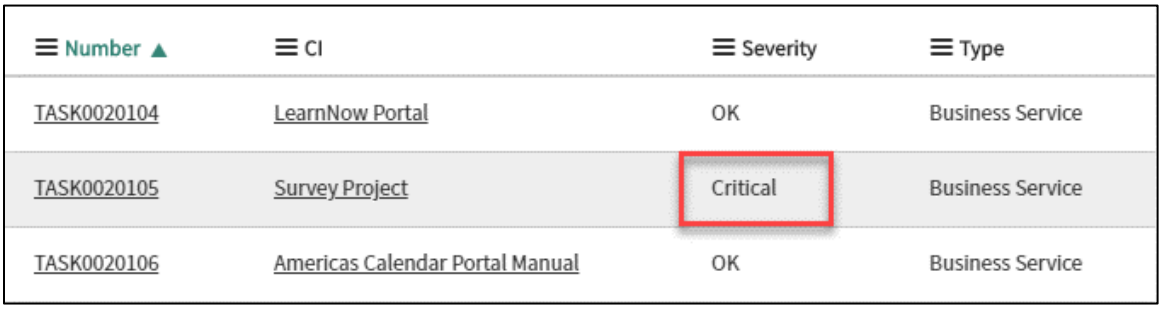
   Source: **PSScript**
   Node: **198.56.1.200**
   Message_key: **4-3SP2017**
   Severity: **Critical (1)**
   Description: **Critical Issue on Server**
   Type: **SNDemo**

2. Observe the new alert.



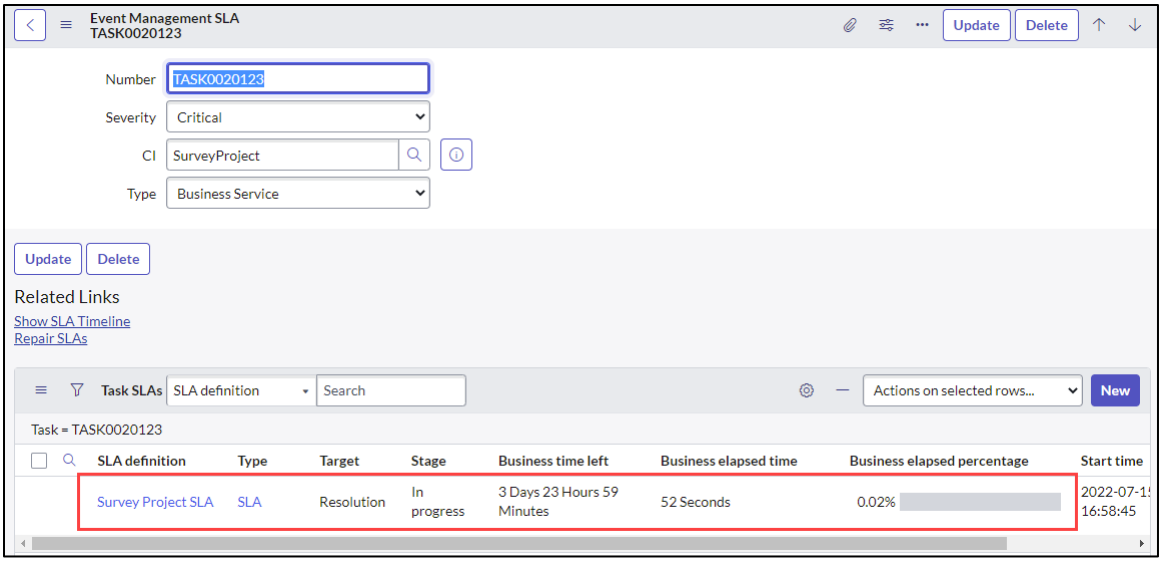
3. Navigate to **Event Management > Event SLAs**.

4. Observe the Survey Project SLA Severity is **Critical**.



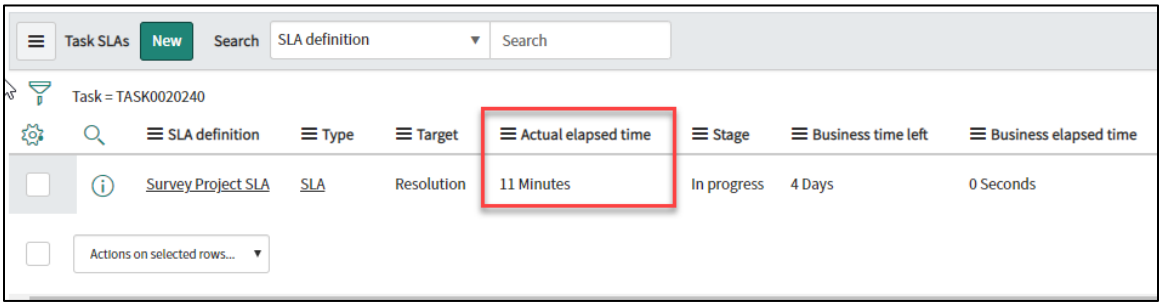
Note: *It may take one minute to update the record from **OK** to **Critical**.*

5. Open the Survey Project SLA (i.e., click on the TASKnnnnnnn link).



Note: *An active Task SLA is running against the Survey Project SLA. This is the SLA timer created based on the SLA definition created earlier. Your* ***Business elapsed time*** *may differ.*

6. Because of time and time zones, your Business elapsed time may differ or not start. To confirm progression of the SLA, add field **Actual elapsed time** to the list.

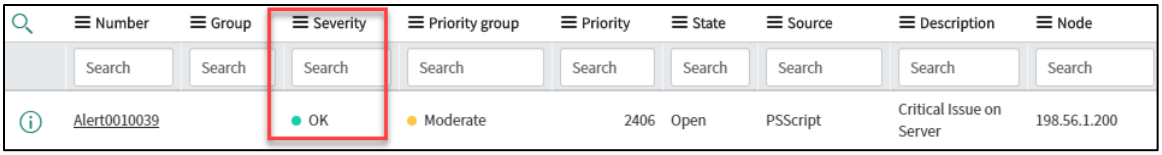


D. Fire Clear Event Against Survey Project

1. Load and fire the **Lab4.3 SPServerClear** event sample:

   Source: **PSScript**
   Node: **198.56.1.200**
   Message_key: **4-3SP2016**
   Severity: **OK/Info (5)**
   Description: **Critical Issue on Server**
   Type: **SNDemo**

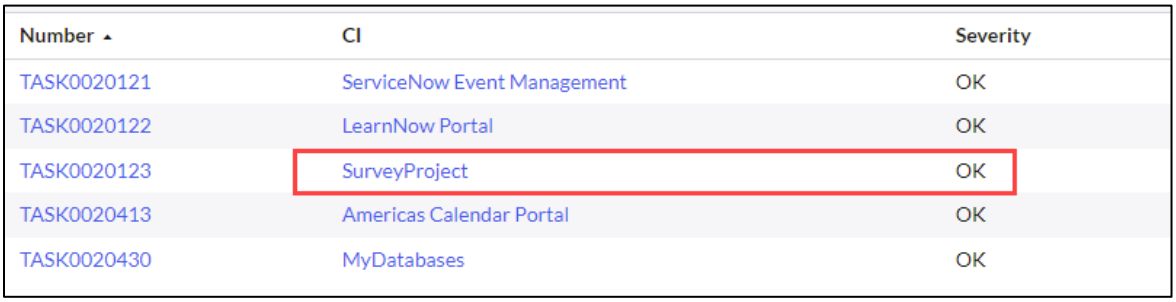
2. View the alert.



Note: *An event generates with a Severity of OK which clears the critical alert.*

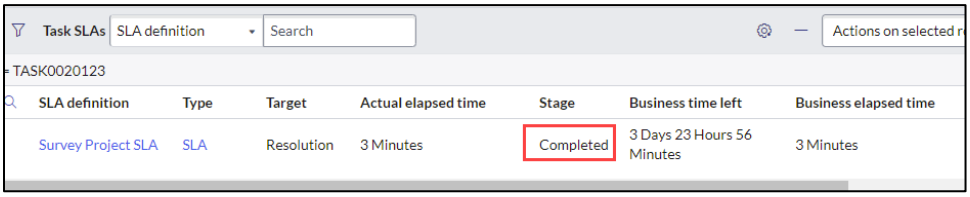
3. Navigate to **Event Management > Event SLAs**.

4. Observe the Survey Project SLA now has a **Severity** of **OK**.



Note: *It may take one minute to update from **Critical** to **OK**.*

5. Open the **Survey Project Task** and scroll down to the Task SLAs section.



Note: *The Task SLA is now in a Completed stage. Had the alert not cleared in four days, then the Task SLA would be in a Breached stage.*

Congratulations on completing the lab!

Event Sources
Create SolarWinds Connector

Lab 5.1
20m

Lab Objectives

You will achieve the following objectives:

- Create and test a SolarWinds connector
- Process events generated from the connector

Scenario

This lab involves creating and testing a SolarWinds connector on the 198.51 network. The training environment contains a SolarWinds server that is monitoring one Windows Server. The monitored server is configured to shut down for 3 hours daily, triggering a series of events.

Time of event	Source	Description	Node	Type	Resource	Metric Name	M
2022-09-01 11:05:19	SolarWinds	Node ip-C6332FC8 has rebooted at Thursda...	198.51.47.200		198.51.47.200,ip-198-51-47-200.ec2.internal	Alert Triggered	
2022-09-01 11:05:19	SolarWinds	ip-C6332FC8 rebooted at 9/1/2022 11:01:0...	198.51.47.200		198.51.47.200,ip-198-51-47-200.ec2.internal	Node Rebooted	
2022-09-01 11:03:52	SolarWinds	Node ip-C6332FC8 is Up.	198.51.47.200		198.51.47.200,ip-198-51-47-200.ec2.internal	Alert Reset	
2022-09-01 11:03:07	SolarWinds	ip-C6332FC8 is responding again. Respons...	198.51.47.200		198.51.47.200,ip-198-51-47-200.ec2.internal	Node Up	
2022-09-01 08:04:07	SolarWinds	Node ip-C6332FC8 is Down.	198.51.47.200		198.51.47.200,ip-198-51-47-200.ec2.internal	Alert Reset	
2022-09-01 08:04:02	SolarWinds	Node ip-C6332FC8 is Down.	198.51.47.200		198.51.47.200,ip-198-51-47-200.ec2.internal	Alert Triggered	
2022-09-01 08:03:01	SolarWinds	ip-C6332FC8 has stopped responding (Host...	198.51.47.200		198.51.47.200,ip-198-51-47-200.ec2.internal	Node Down	
2022-09-01 08:02:07	SolarWinds	Node ip-C6332FC8 is Warning.	198.51.47.200		198.51.47.200,ip-198-51-47-200.ec2.internal	Alert Triggered	

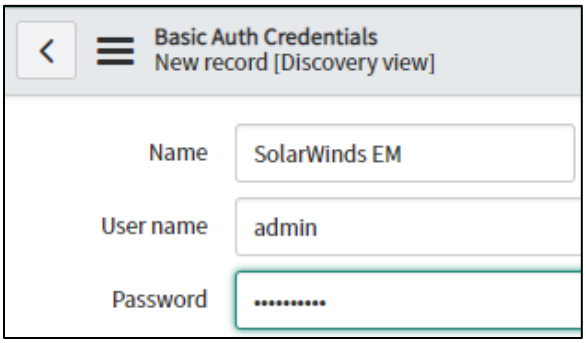
Event Management includes several connector configurations, such as event rules and field mappings, out-of-the-box to speed implementation. You should review baseline rules and field mappings for any baseline connector you are activating to understand what is preconfigured.

Integrations launchpad, part of the AIOps Experience store app for Service Operations Workspace, was released in August of 2023. Launchpad provides a streamlined experience for all connector configurations including pull, push, and custom (webhook). Launchpad or Event Management connector instances can be used for configuring connectors.

A. Create a SolarWinds Credential

1. Navigate to **Discovery > Credentials**.
2. Click **New**
3. Choose **Basic Auth Credentials**.

4. Configure the **Basic Auth Credential** as shown:
   - Name: **SolarWinds EM**
   - User name: **admin**
   - Password: **event@1ert**

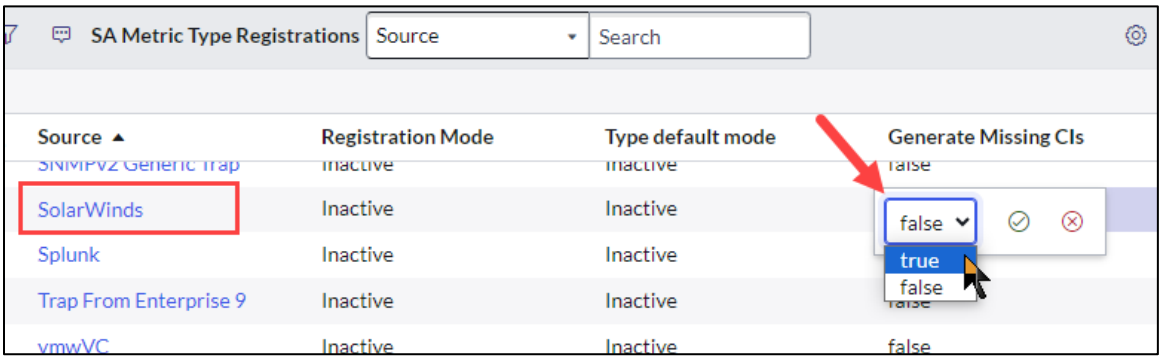


5. Click **Submit**.

B. Create a SolarWinds Connector

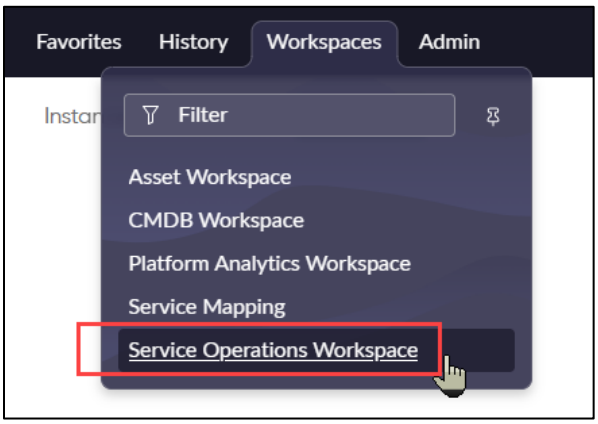
1. Navigate to **Event Management > Integrations > Metric Sources**.

2. Locate the SolarWinds source and toggle **Generate Missing CIs** to **True**.

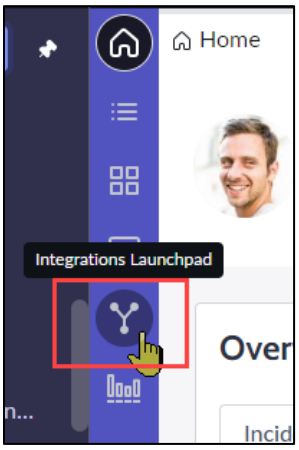


Note: *By default, Generate Missing CIs is set to false as it could generate many and duplicate CIs. In this case, SolarWinds is only monitoring one server.*

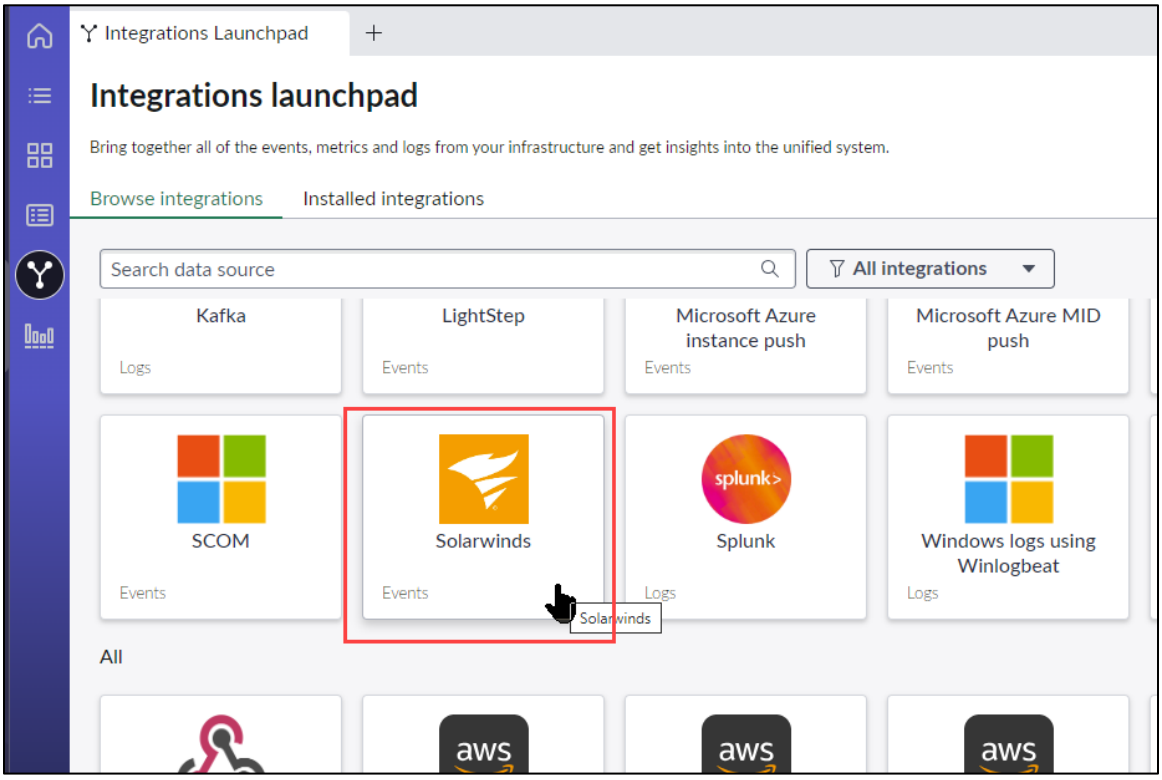
3. Navigate to **Service Operations Workspace.**



4. Open **Integrations Launchpad.**

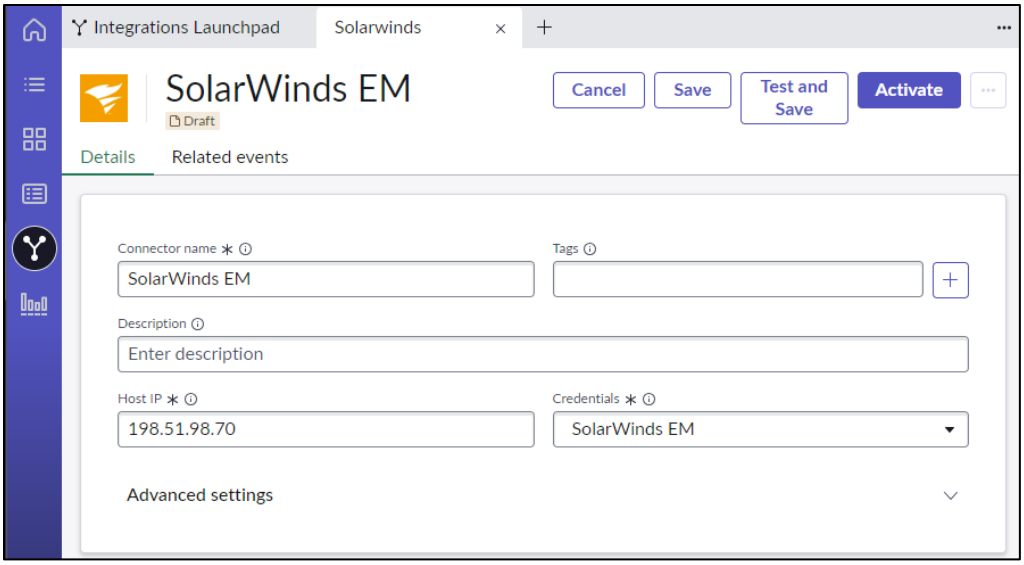


5. Locate and click the Solarwinds tile.



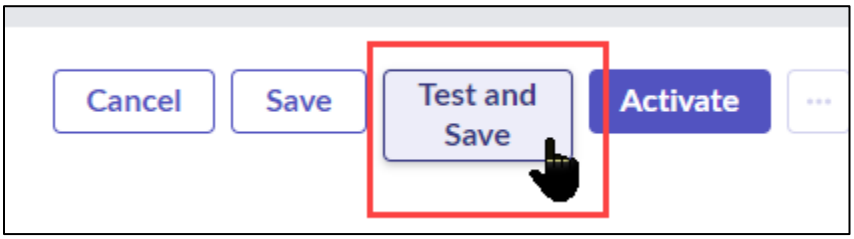
6. Complete the connector instance as shown:

- Connector name: **SolarWinds EM**
- Host IP: **198.51.98.70**
- Credential: **SolarWinds EM**

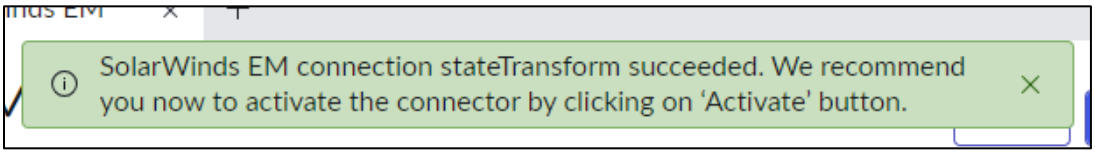


Note: *Advanced settings can be expanded and allows additional configuration such as selection of a specific MID Server or a different event collection schedule (default 120 seconds), as well as event collection status and error messages.*

7. Click **Test and Save**.



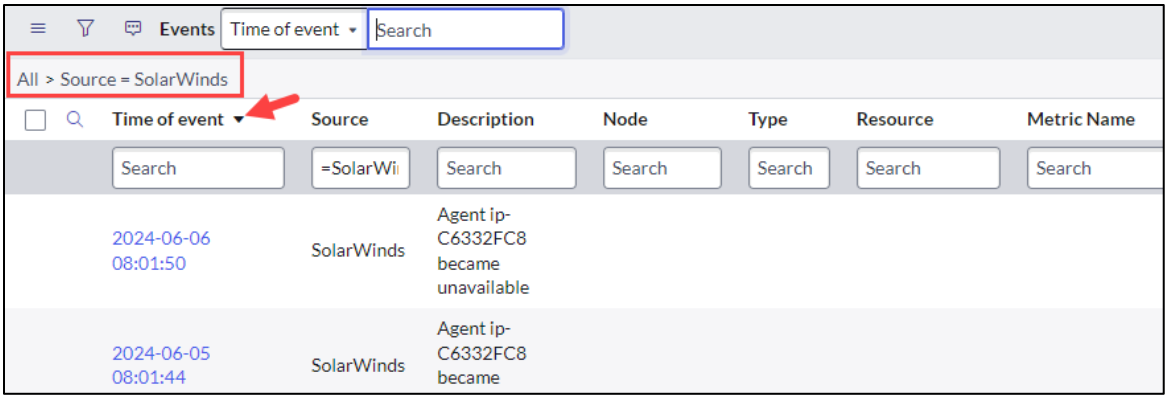
8. Within a few seconds a success message should appear briefly.



9. Click **Activate**.

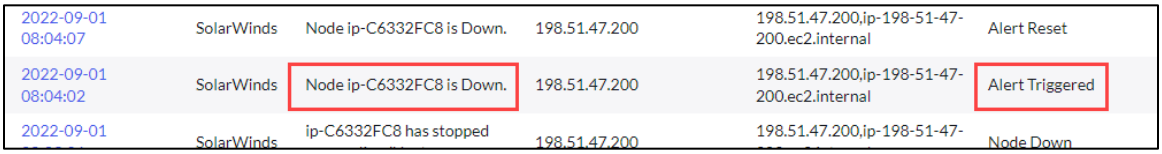
Note: *MID Server certificate check policies (MID Security Policy) are enabled by default and will prevent MID to server connections unless the server certificate is added to the MID Server truststore. See documentation page "Add SSL certificates for the MID Server." The default policy has been disabled in this training environment.*

10. Wait approximately 100 seconds, then in **All Events** observe the events collected from the **SolarWinds** source. "Show matching" on source = SolarWinds then sort by most recent on top.

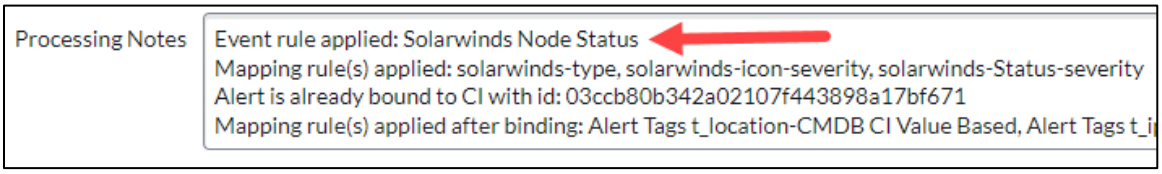


> Note: *The **Time of event** is the actual time the monitored Windows Server shut down/started up, not the current time of connecting and ingesting these events. For this reason, you may need to filter the Events list to locate the SolarWinds source events.*

11. Open the SolarWinds event with **description** "Node ip-C6332FC8 is Down" and **metric name** "Alert Triggered" and observe the data collected.

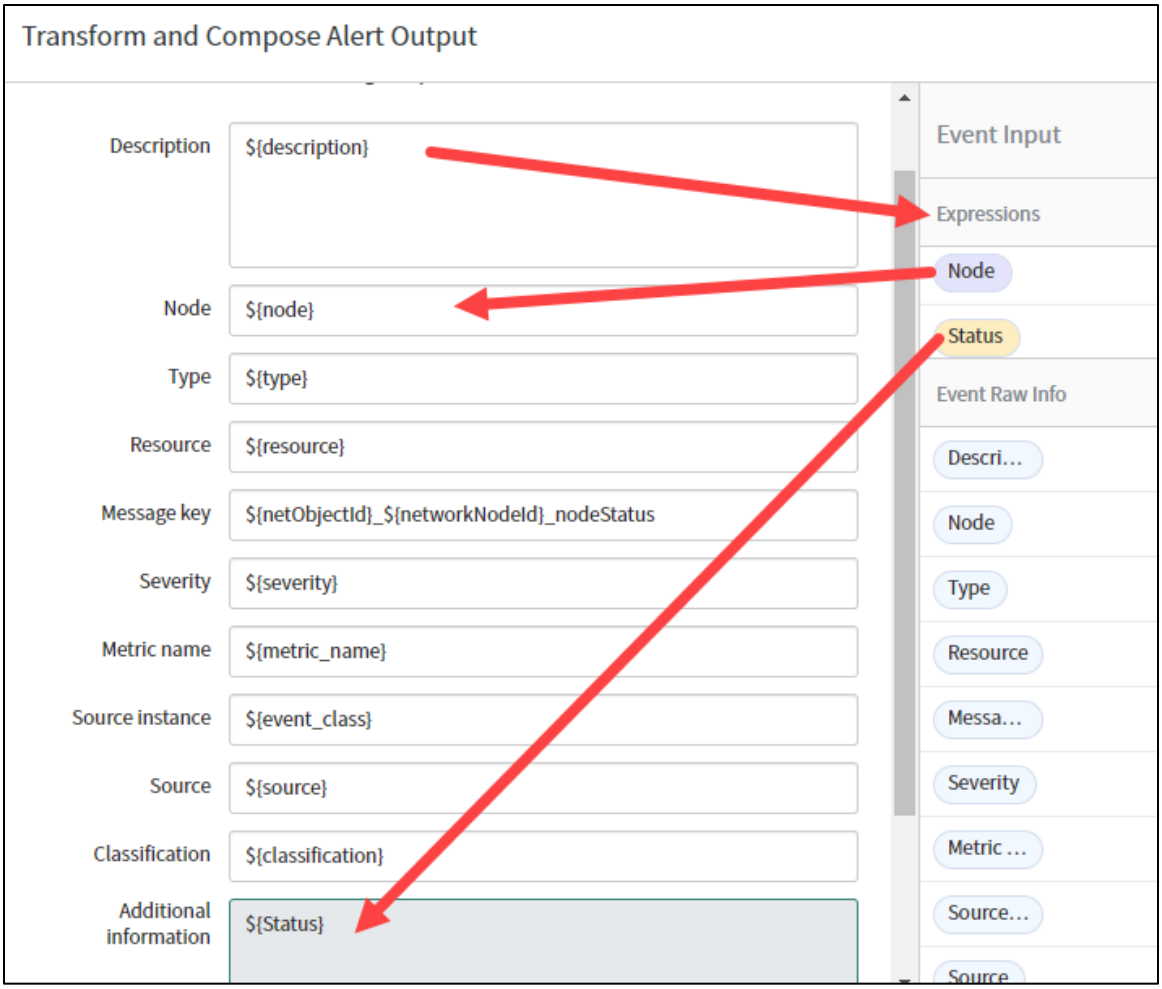


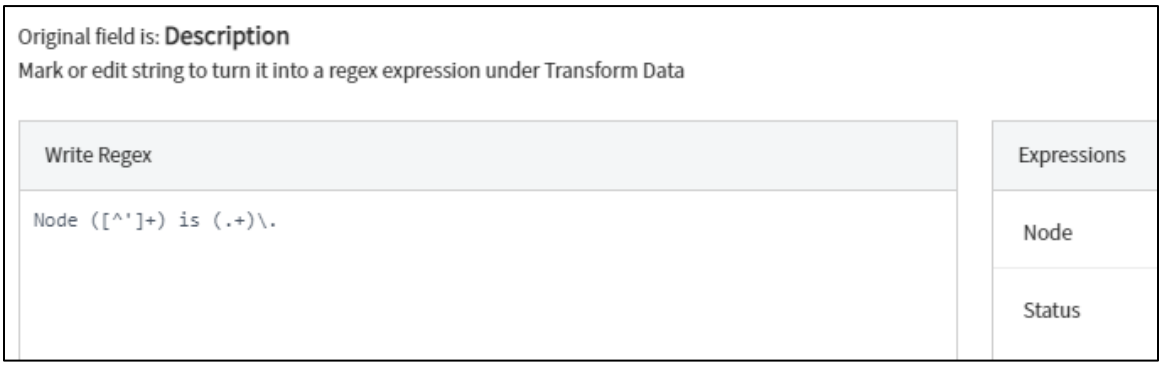
12. Review the **processing notes** to understand how the alert was populated. Notice the "Solarwinds Node Status" event rule applied. Also notice there is no Status field in the event.

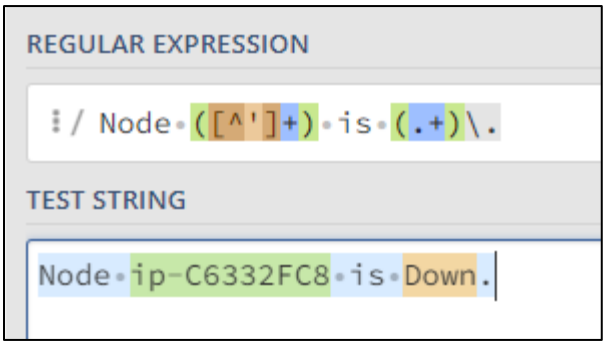


13. Navigate to **Event Management > Rules > Event Rules** and open the **Solarwinds Node Status** rule.

14. On the rule's Transform and Compose tab, note how the description is used to derive the Node and Status fields.



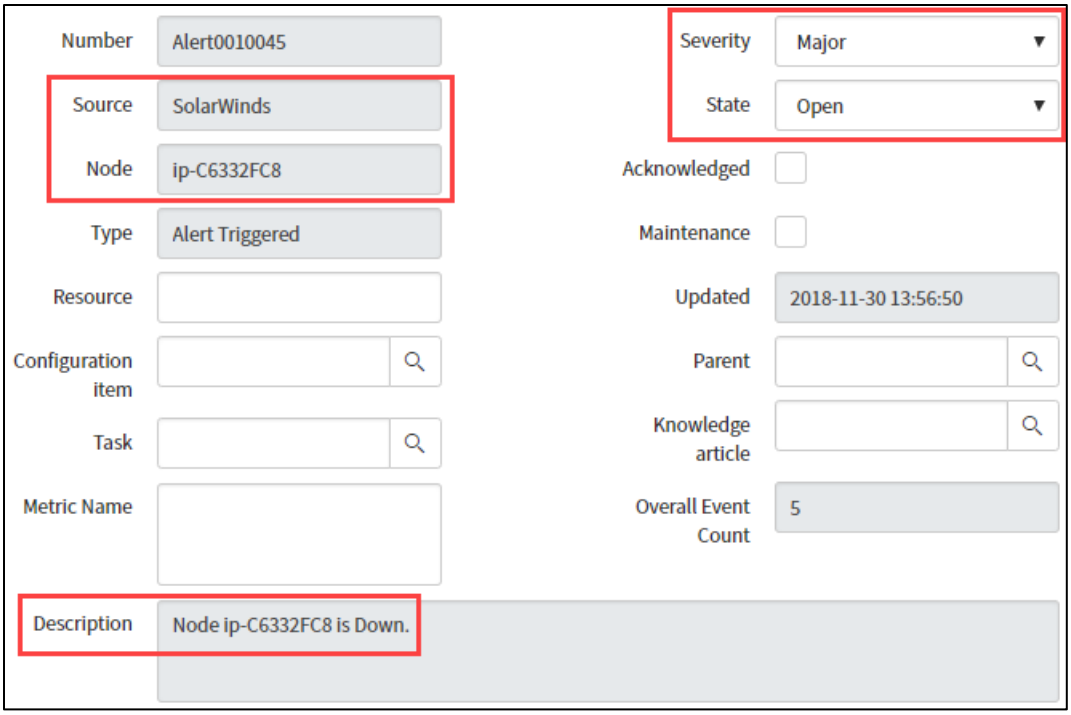


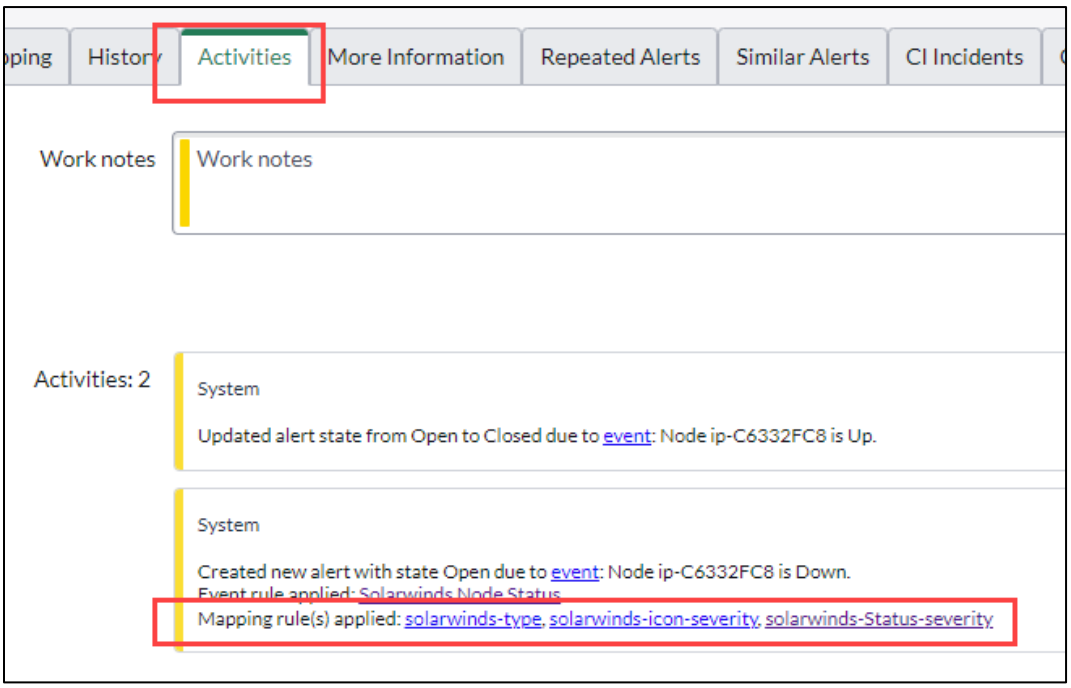


Note: *This grapic (above) is from the web site regex101.com, which may be useful in creating and reverse engineering your regex expressions. Shown here to see how the expression will act on the event description.*

15. Return to the event (hint: use History). Open the associated **Alert** and view the Activities tab to see how mapping rules were applied. NOTE THE ALERT NUMBER.

Note: *Following screenshots and data may vary depending on the time of day you perform these steps. In most cases, the monitored server will be back up and the alert will have closed, with later events updating the alert information. The Configuration item may or may not be populated.*





Note: *The solarwinds-Status-severity is the last mapping rule applied. The rule maps "Down" to severity "Major." This is a down node. The severity should be critical.*

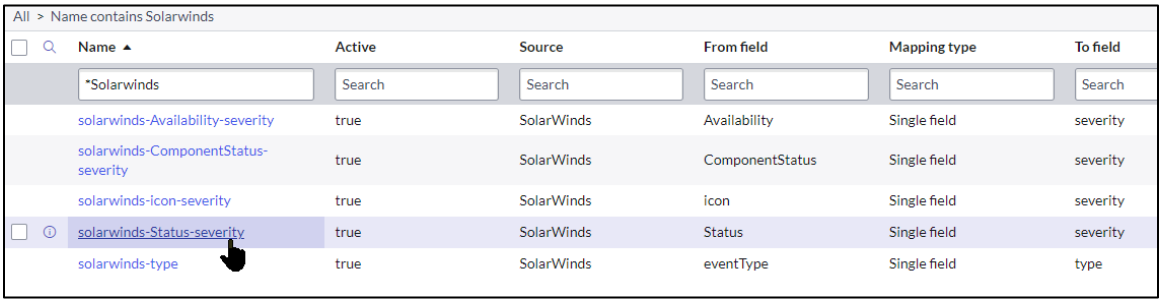
C. Modify the Severity of a SolarWinds Alert Field Mapping

Shown below are the baseline SolarWinds event field mappings in priority order. You can view these in your instance, along with several SolarWinds event rules. Notice there are four possible event fields that can be mapped to severity. All will be processed, and the last one to process "wins" the populating of the severity field.

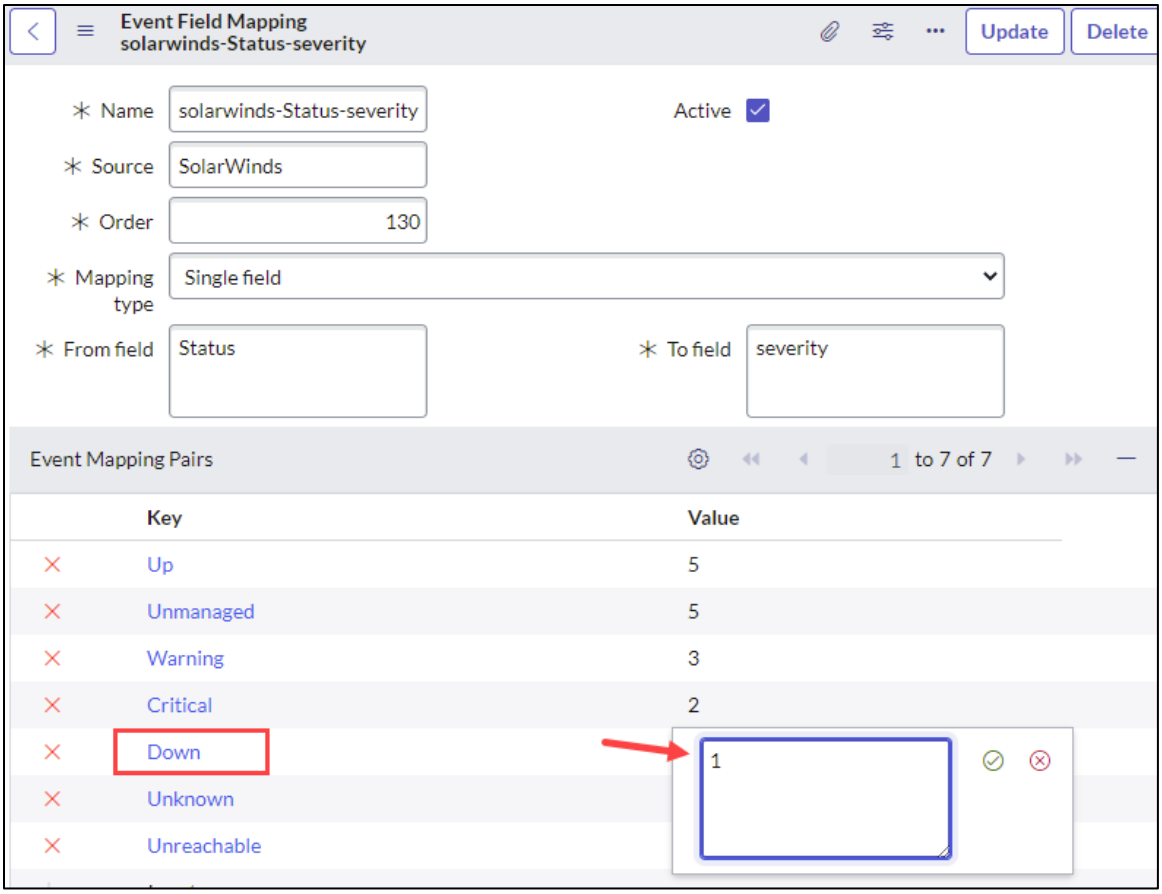
Name	Order ▲	Source	From field	Mapping type	To field
solarwinds-type		SolarWinds	eventType	Single field	type
solarwinds-icon-severity	100	SolarWinds	icon	Single field	severity
solarwinds-Availability-severity	110	SolarWinds	Availability	Single field	severity
solarwinds-ComponentStatus-severity	120	SolarWinds	ComponentStatus	Single field	severity
solarwinds-Status-severity	130	SolarWinds	Status	Single field	severity

1. Navigate to **Event Management > Rules > Event Field Mapping.**

2. Locate and open the **solarwinds-Status-severity** rule.



3. From **Event Mapping Pairs**, next to the **Down** Key, change the **Value** to **1** (critical).



Note: *In this mapping, the Down key returned from the Status field (attribute) sets a 2 (major) for the severity of the alert. Changing this value to 1 creates Critical alerts when the Status is Down and the Source is SolarWinds.*

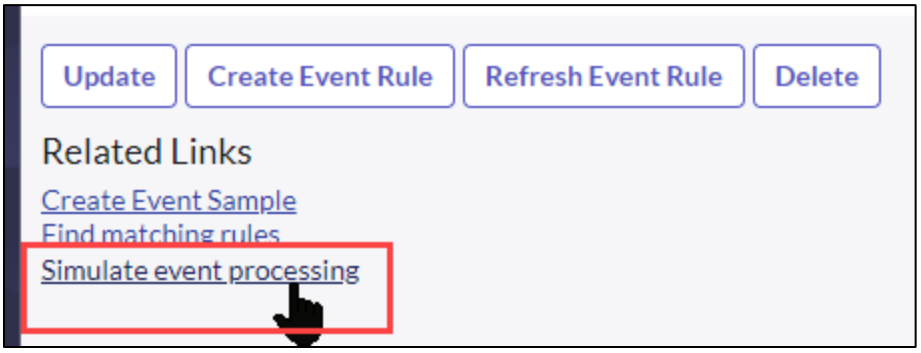
4. Click **Update**.

D. Test the Solution

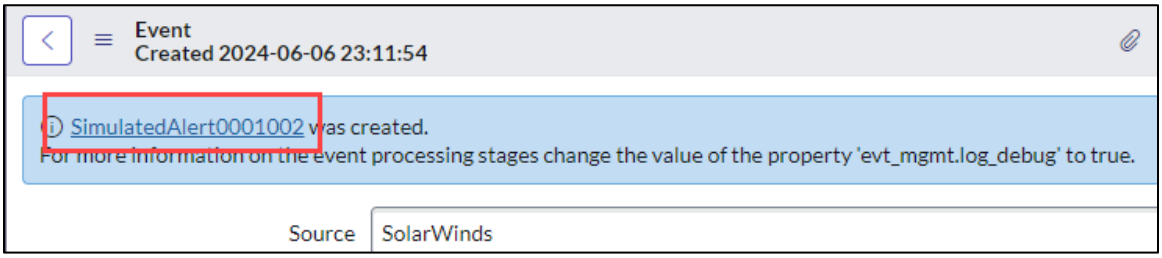
1. Navigate to **All Events.**

2. Again locate the event with the **description** "Node ip-C6332FC8 is Down" and **metric name** "Alert Triggered." The alert number should be the one noted earlier.

3. In **Related Links**, click **Simulate event processing**.



4. At the top of the event form, click the **simulated alert link**.



5. Processing with the updated mapping results in a critical alert.

Note: *Simulate event processing is a non-intrusive way to test your rules.*

Congratulations on completing the lab!

Event Sources
Processing Events from an Email Source

Lab 5.2
⌛25m

Lab Objectives

You will achieve the following objectives:

- Process email events using a Flow Designer flow.

Scenario

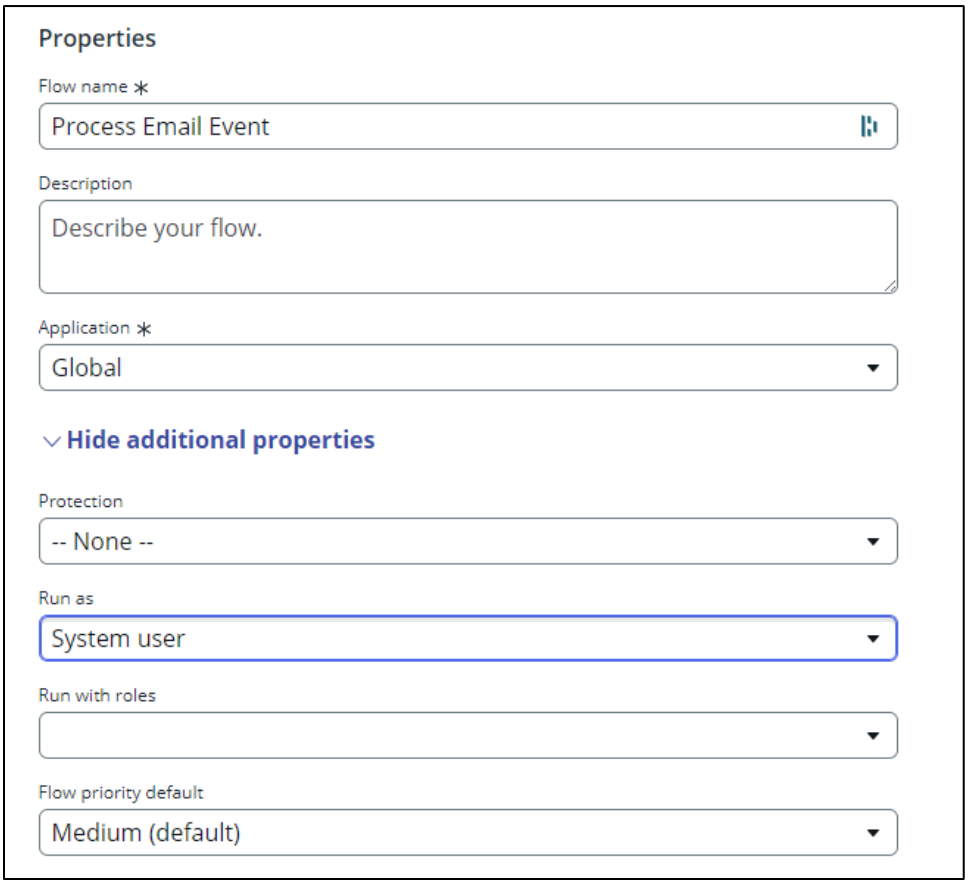
A monitoring system is often configured to send emails when a significant event occurs. In this lab, you trigger an email to be processed to simulate this scenario. This email communication is processed by a custom flow converting the email into an event. Finally, an event rule is created to parse the event and generate an appropriate alert.

To trust and process incoming emails, ServiceNow needs a matching user and email address and a domain trust with the sending email domain. These email settings are preconfigured on your instance.

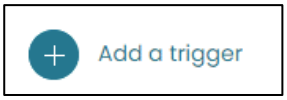
- User ID: **monitor@acme.com**
- Email: **monitor@acme.com**

A. Create a New Flow Designer Flow to Process Emails from This Monitoring Source

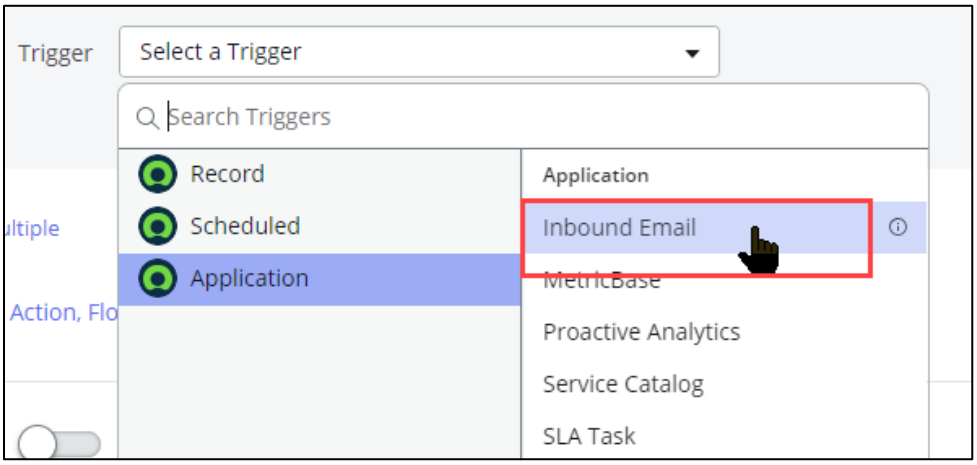
1. Navigate to **Process Automation > Flow Designer** which opens in a new tab.
2. On the **Flows** tab, click **New > Flow.**
3. The Flow Properties dialog box opens. Complete the form as shown:
   - Flow name: **Process Email Event**
   - Application: **Global**
   - Protection: **None**
   - Run As: **System User**



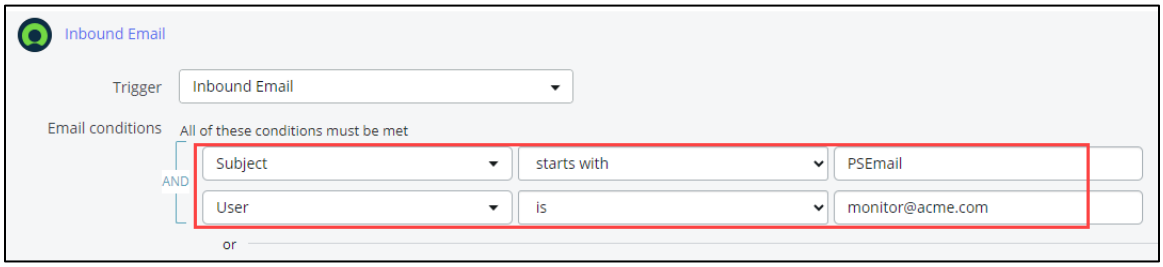
4. Click **Build flow**.

5. In the **TRIGGER** section, click 

6. Select **Application > Inbound Email** from the list.

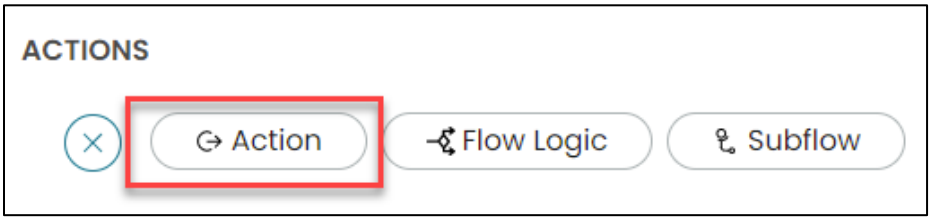


7. Complete the **Email Conditions** as shown:
    - **Subject | starts with | PSEmail AND**
    - **User | is | monitor@acme.com**

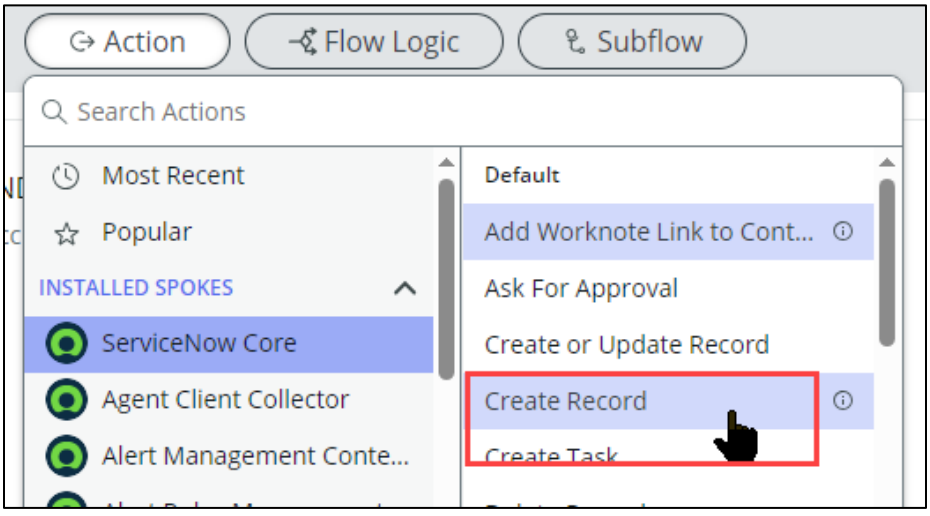


8. Click **Done** to close the trigger section.
9. In the **ACTIONS** section, click 

10. Click **Action.**

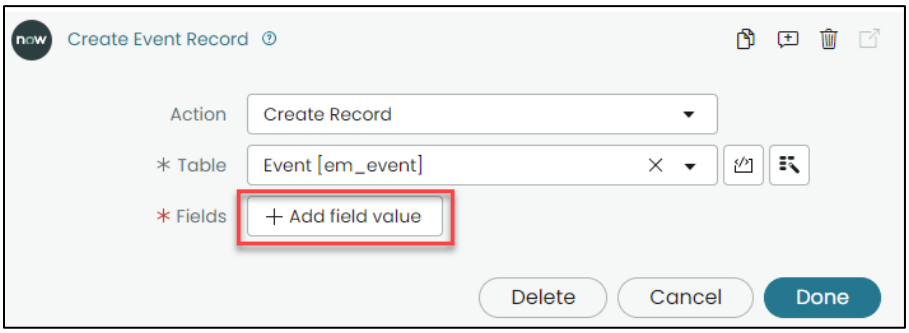


11. Select **ServiceNow Core > Create Record.**



12. In the **Table** field, select **Event [em_event].**

13. Next, add the fields you want mapped from the email to the event record. Click **+Add Field Value.**



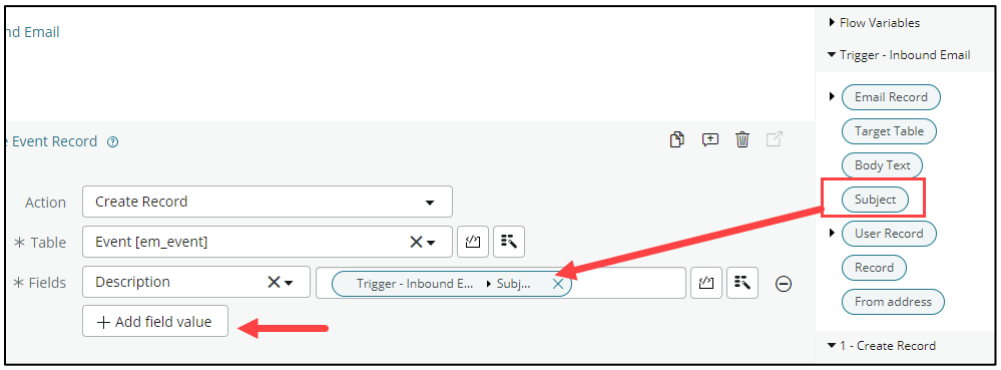
14. Complete the **Fields** section as shown: **Drag** the data pills from the right panel Data section to populate the form. Type in **Acme Monitoring** for Source.

> Note: ***Scroll down and look*** *at the screenshots below to see what the result should look like!*

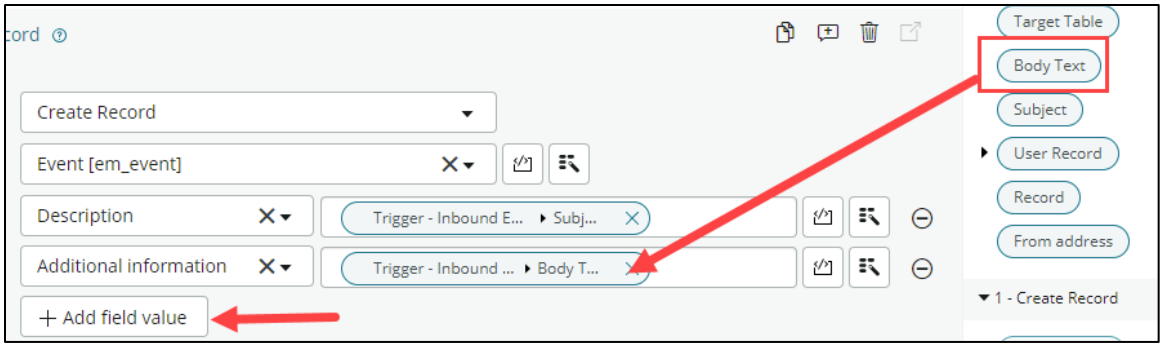
- Description: **Trigger – Inbound Email > Subject**

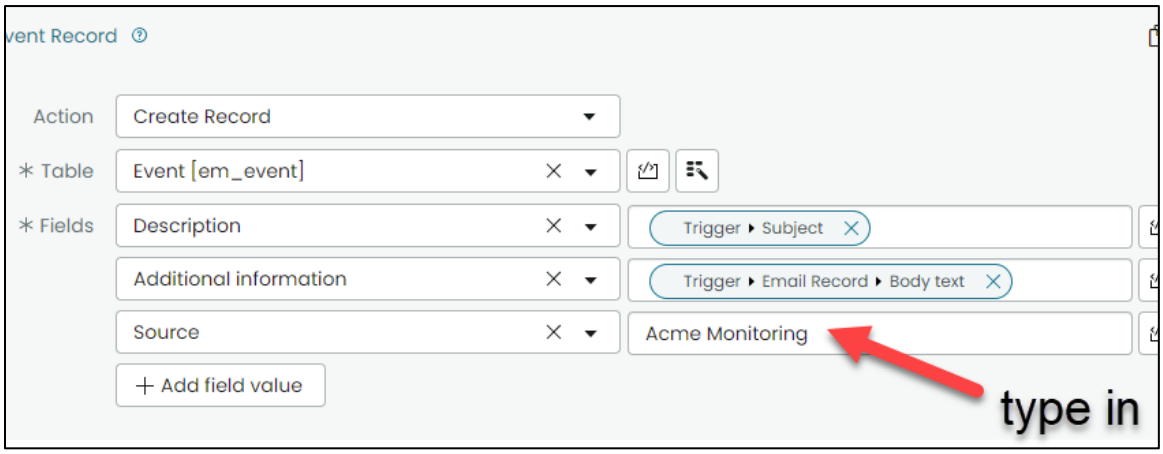
  AND (+Add field value)
- Additional information: **Trigger – Inbound Email > Email Record > Body text**

  AND (+Add field value)
- Source: **Acme Monitoring**



> Note: *Expand **Email Record** and select the **Body text** data pill. Email records contain both "body" and "body_text" fields. Body is the HTML version of body_text. In our sample email, both fields contain the same data.*





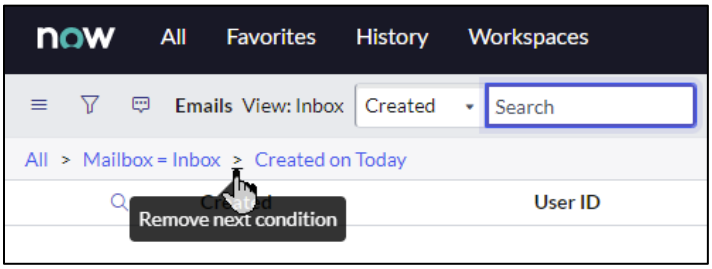
15. Click **Done** to close the Actions.

16. Click **Activate**, and **Activate** again to confirm.

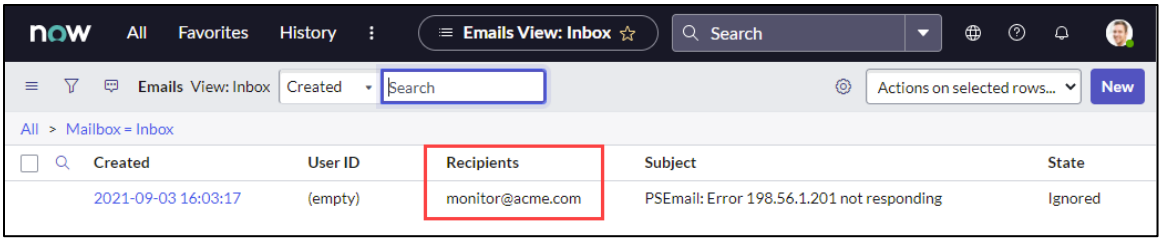
17. Return to the instance tab and navigate to **System Mailboxes > Inbound > Inbox**.

> Note: *Our training instances are not connected to email servers, so an email has been prepopulated in the Inbox to be processed.*

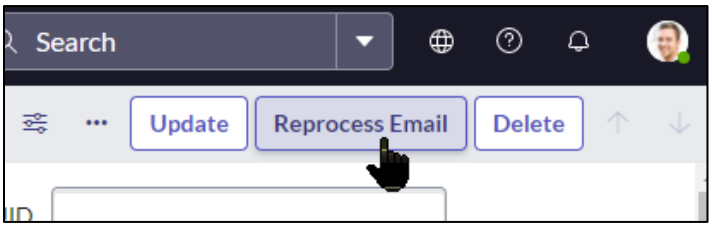
18. Remove the filter condition **Created on Today**.



19. Locate and open the email with **Recipients** of **monitor@acme.com.**

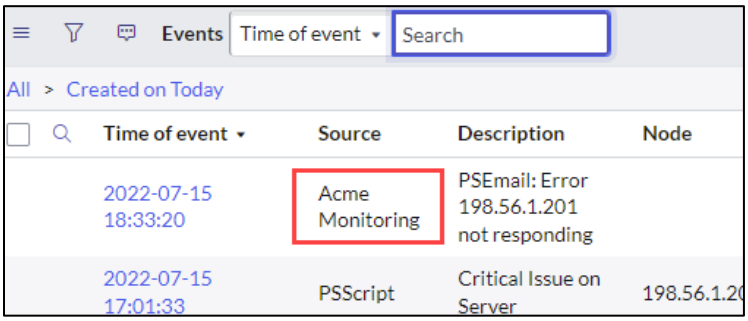


20. In the upper right, click **Reprocess Email**.

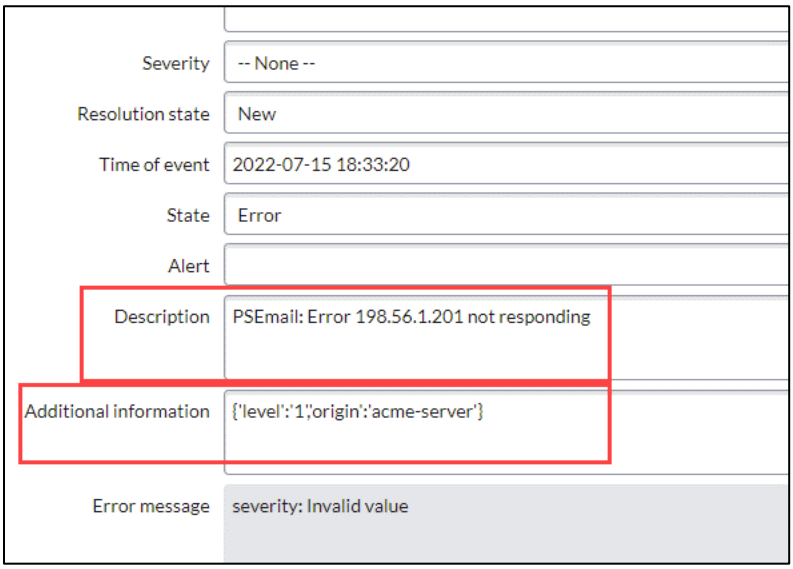


21. Navigate to **All Events**.

22. **Locate** and open the event just created with a Source of **Acme Monitoring**.



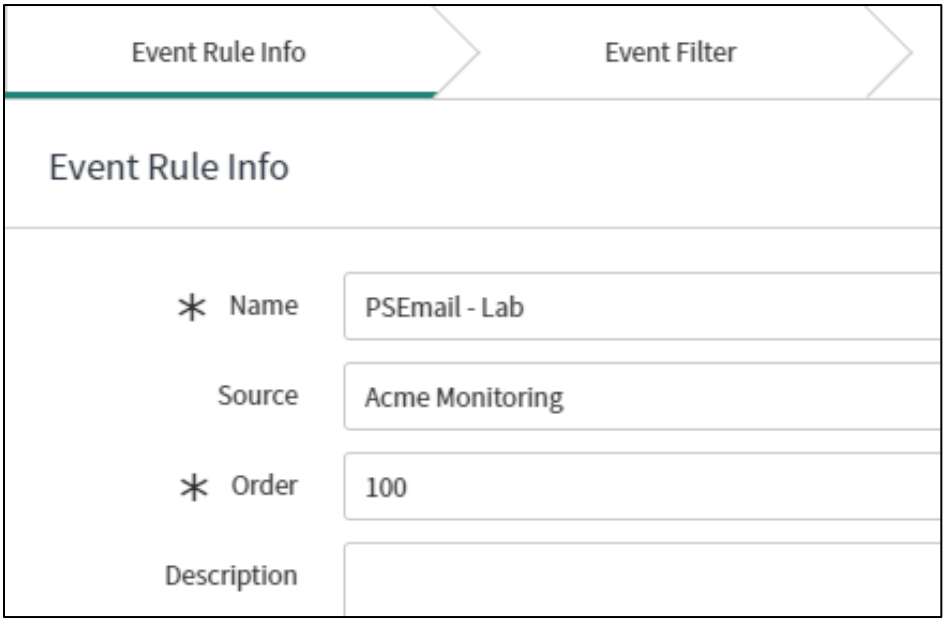
23. Review the fields mapped from the email.



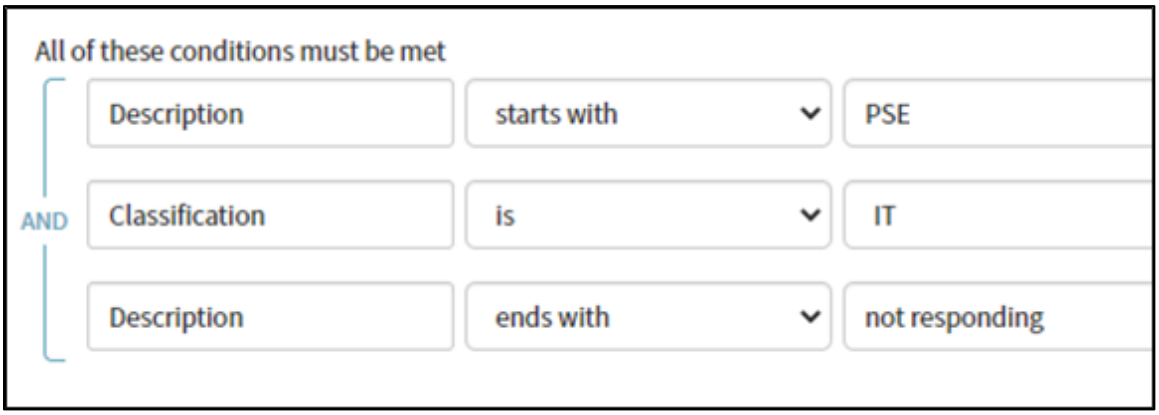
Note: *The data regarding the Severity and Node are embedded in the Description and Additional information. There is currently no Severity, so the event State is Error.*

B. Configure an Event Rule to Process the Incoming Email Based Event

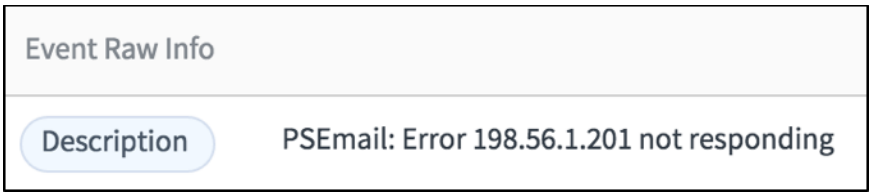
1. From within the open event, click **Create Event Rule.**
2. Complete the **Event Rule Info** as shown:



3. Configure the **Event Filter** as shown:



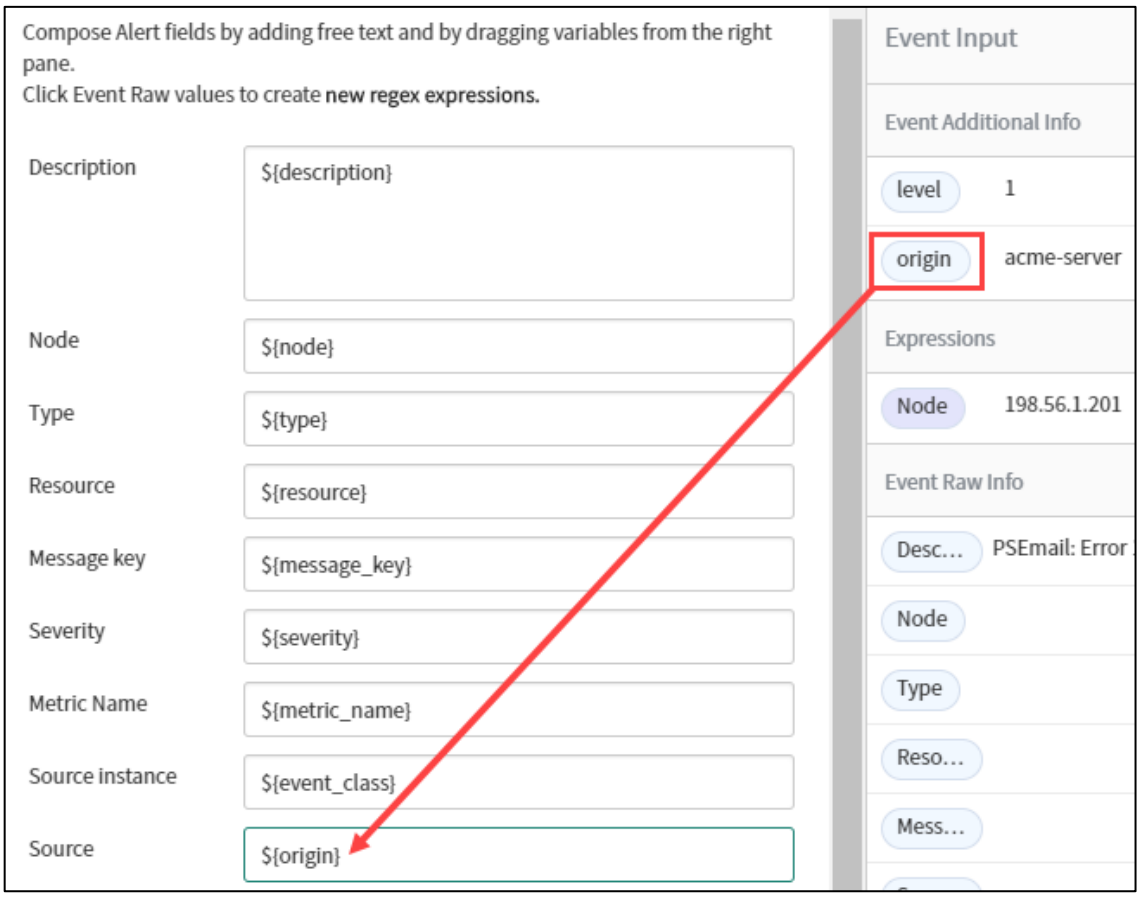
4. From **Transform and Compose Alert Output**, under **Event Raw Info**, click **Description**.



5. Highlight the IP address match it to **Node**.

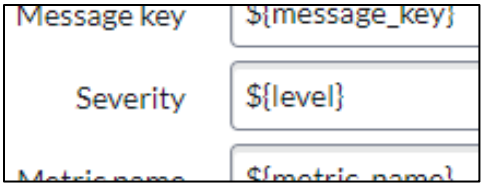
6. Click **Done**.

7. Under **Event Additional Info**, drag **origin** to replace **Source ${source}** on the left.



Note: *If click and drag does not work from your system, you can simply type the value ${origin}.*

8. Drag **level** to replace **Severity ${severity}** as shown:



9. Configure **Message key** as shown:

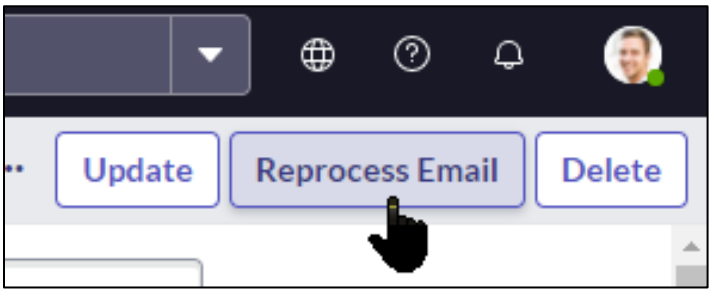
   - Message key: **PSEmail_${origin}_${level}_${node}**

Note: *There is no Message key sent from the event via email. Type in "PSEmail_" at the start of the field. Insert underscore character to separate the data.*

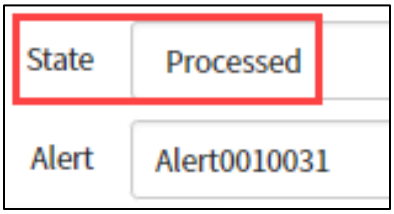
10. Click **Submit**.

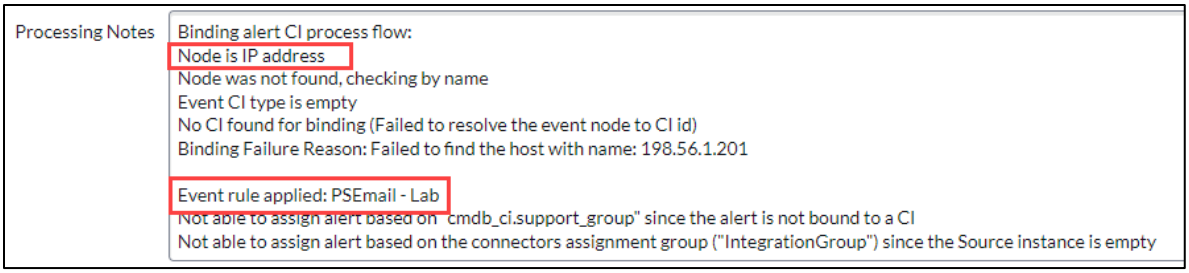
C. Send an Email Generating an Event and an Alert

1. From **Inbox**, locate and open the email with **Recipient** of **monitor@acme.com.**
2. In the upper right, click **Reprocess Email**.

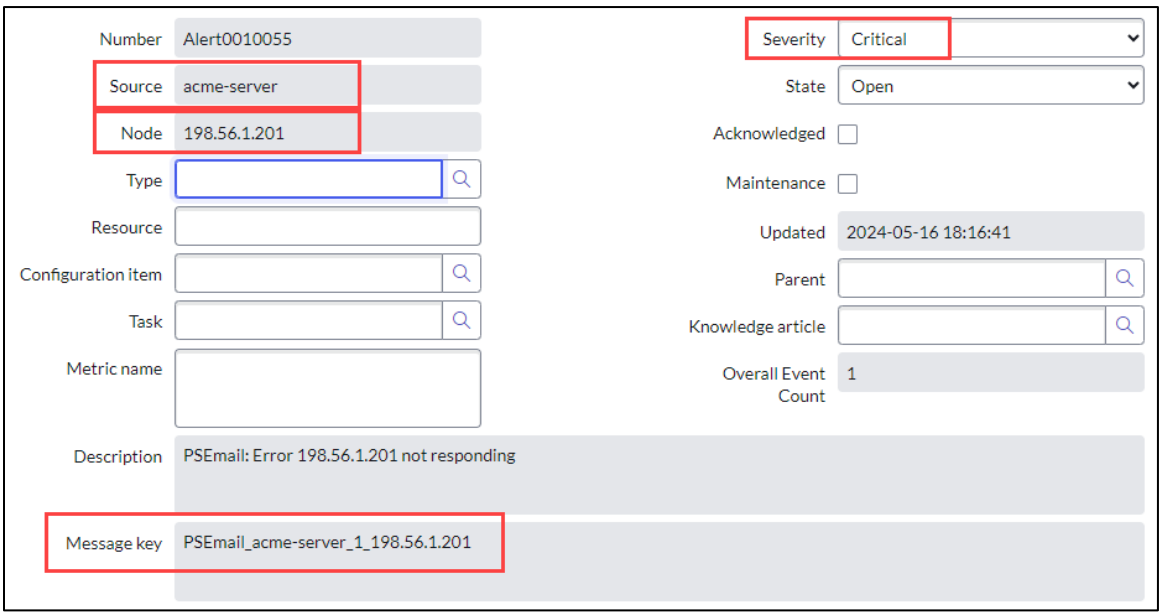


3. Navigate to **All Events**.
4. Open the associated event and validate that the event rule was applied.





5. **Open** the associated alert.



Note: *The alert is populated per the event rule.*

6. Finally, **Close** the alert.

Congratulations on completing the lab!

Event Sources
Capture and Process SNMP Traps

Lab 5.3
30m

Lab Objectives

You will achieve the following objectives:

- Capture and process SNMP traps

Scenario

In this lab, we capture and process events from SNMP traps. You add an SNMP trap collector extension to your MID server, then use the preinstalled Gambit Communications MIMIC® Simulator to send SNMP traps. In a real-world scenario, monitoring systems in your infrastructure generate SNMP traps.

In this lab we will be using SMMP version "v1 and v2c." Version 3 (v3) is recommended in production environments and requires additional security configuration, like credentials.

A. Create an SNMP Trap Collector Extension

1. In your ServiceNow instance, navigate to **Event Management > Integrations > MID SNMP Trap Listeners**.

2. Click **New** to create a new **SNMP Trap Collector Context** as shown:

   - Name: **SNMP Trap Collector EM**
   - UDP port: **1162**
   - Execute on: **Specific MID Server**
   - MID Server: **windows_mid**

3. From Additional actions, **Save**.
4. Under **Related Links**, click **Start**.
5. Reload the form until the **Status** changes to **Started**.

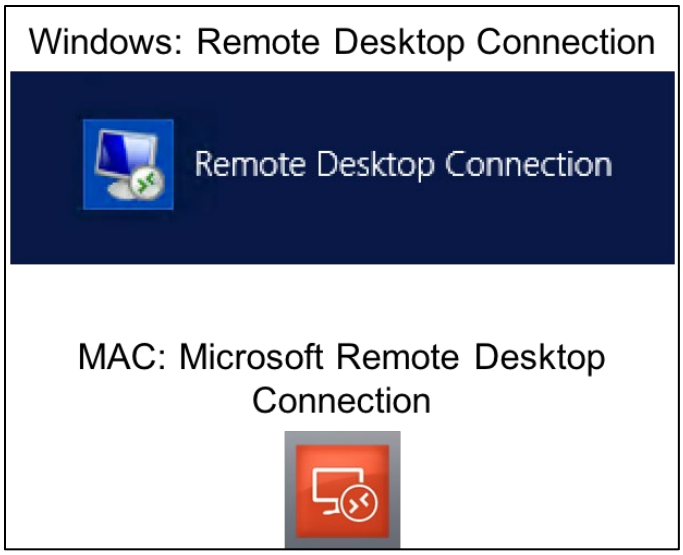
B. Access the MIMIC Simulator

In this section, you will log into your Windows server VM to configure and use the MIMIC Simulator to send SNMP traps.

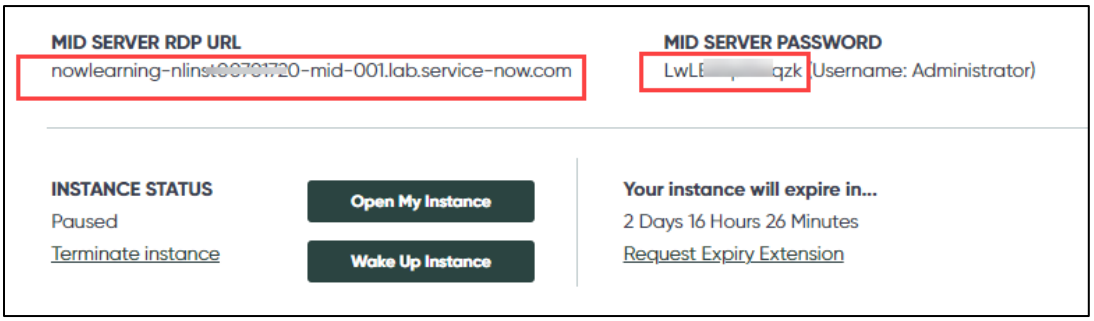
You should already have your login information for your personal Windows server as provided in your instance registration in Now Learning.

1. Navigate to the remote desktop application on your laptop/computer.

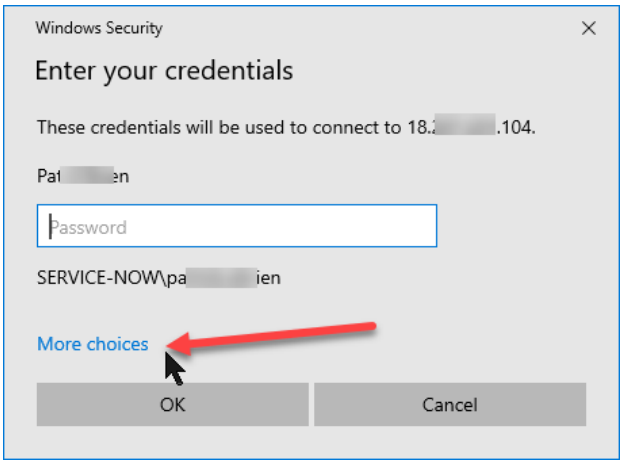
> Note: *This requires a remote desktop application. For Windows systems, use the built-in Remote Desktop Connection application. For MACs, use an application such as Microsoft Remote Desktop Connection.*

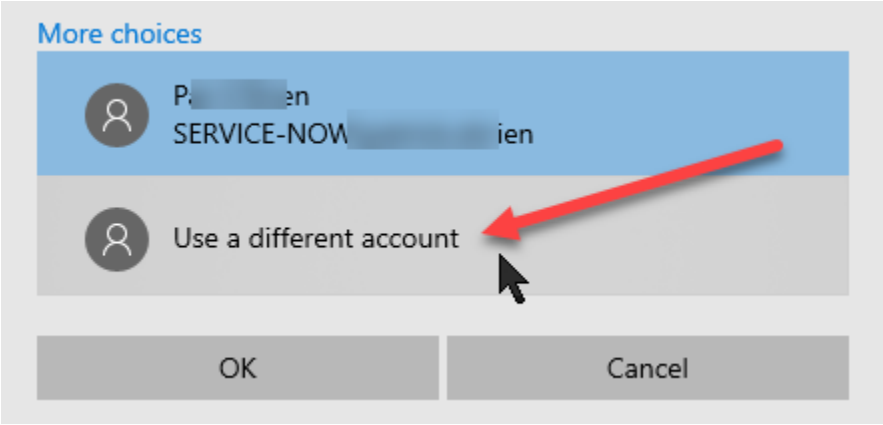


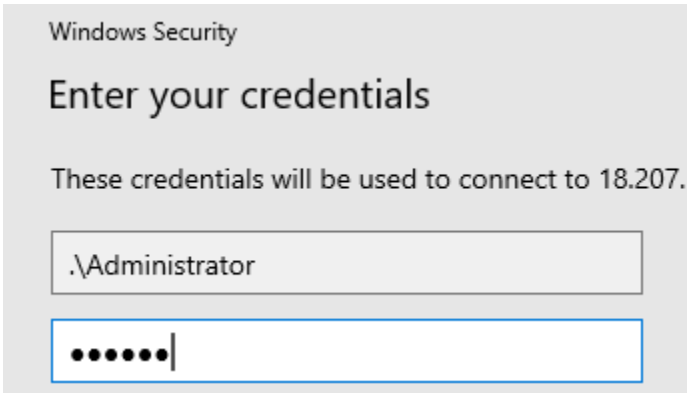
2. Log in via the remote desktop connection to the Windows server VM using the **MID SERVER RDP URL** (FQDN) and Administrator credentials from the Now Learning course page.



Note: *Windows server public IP addresses will change after waking from hibernation.*

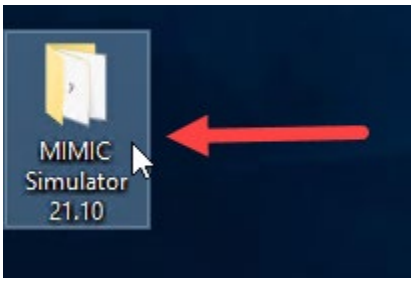




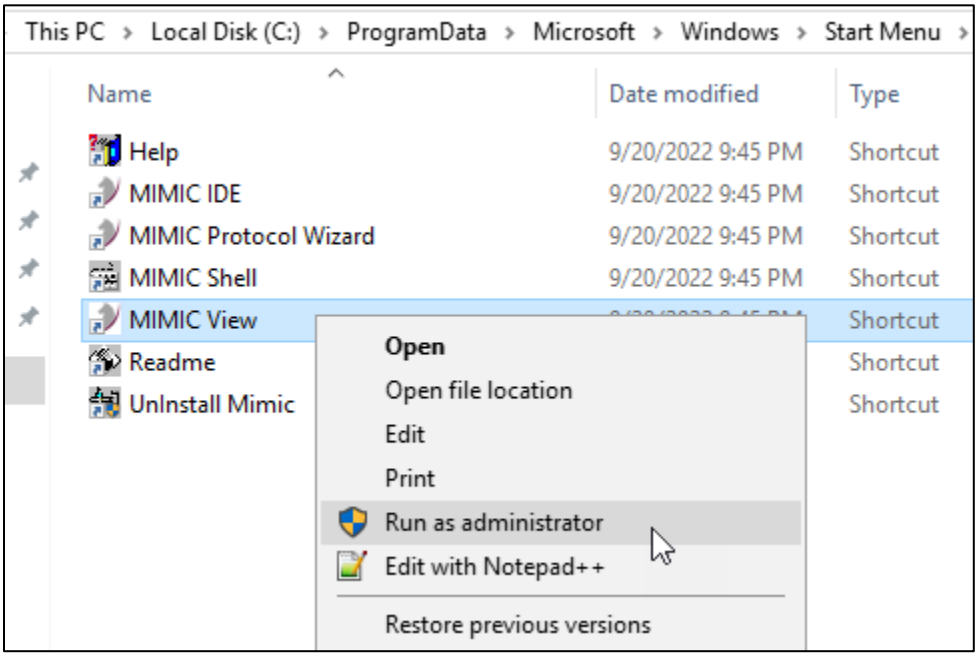


Note: *Latest Windows security features prevent "pasting" of password into the RDP application if your session times out and locks. Our complex passwords will need to be typed in, so try to complete the lab without the remote desktop session locking.*

3. On the Windows server desktop, open the **MIMIC Simulator** folder.

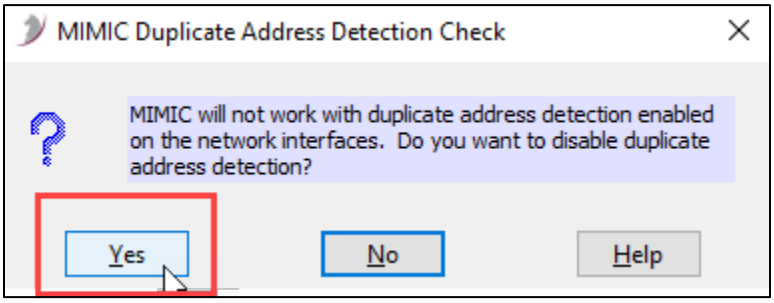


4. Right-click **MIMIC View** and click **Run as administrator**.

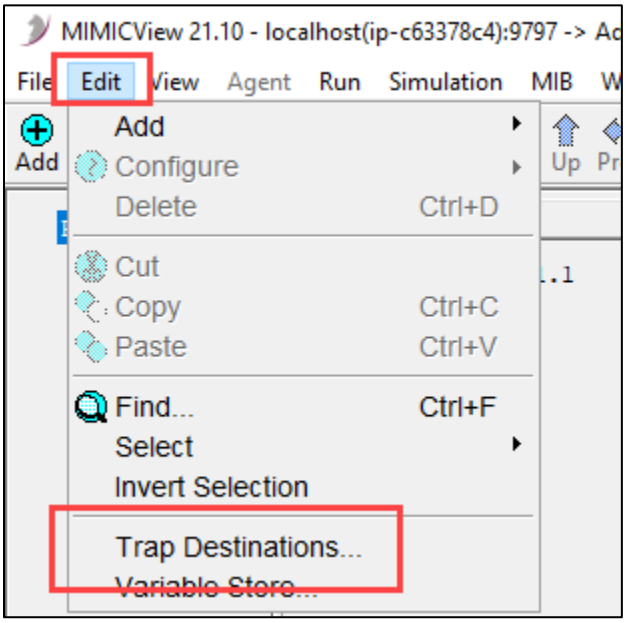


Note: *MIMIC View must be run as administrator.*

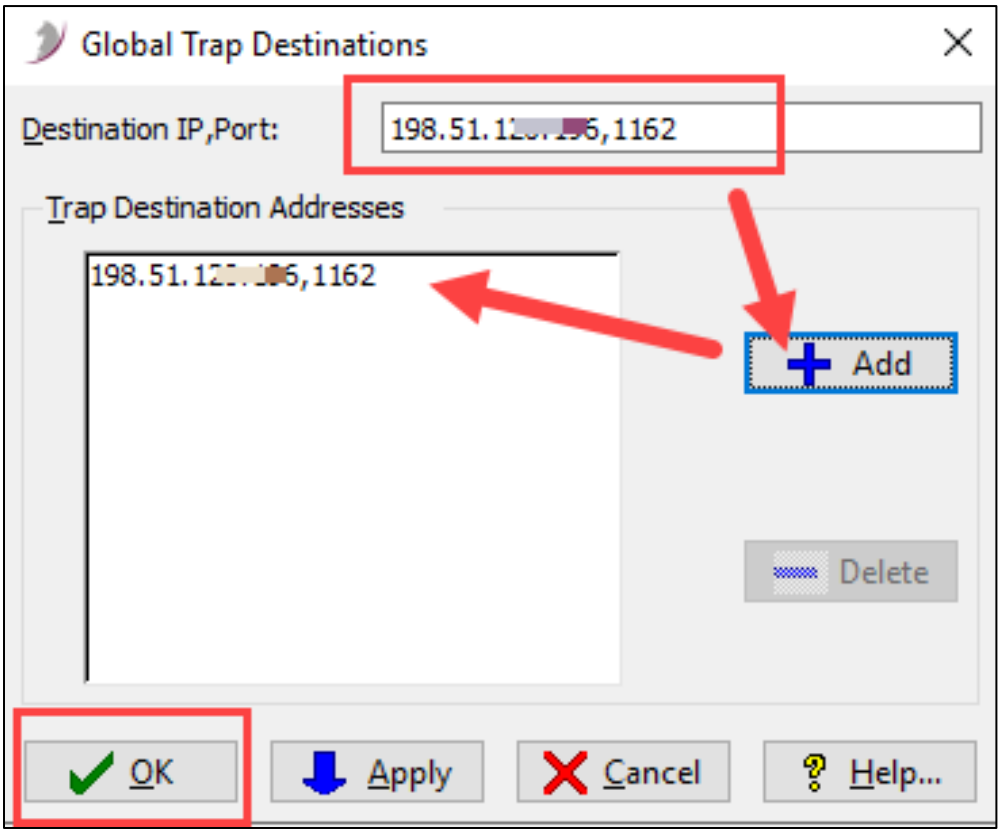
5. Click **Yes** at the User Account Control pop-up.
6. In the license pop-up, **scroll** to the bottom then click **OK**.
7. Click **Don't Notify** at the update software pop-up.
8. Click **Yes** at the duplicate address detection pop-up.



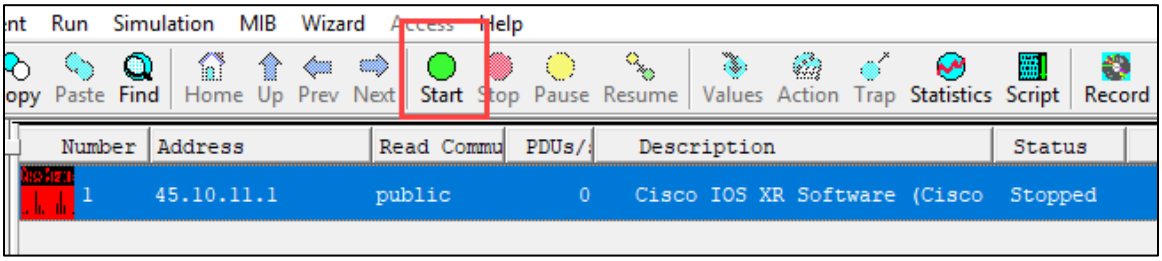
9. Click **OK** at the tutorial pop-up, then **Exit** the tutorial.
10. In MIMICView, click **Edit > Trap destinations**.



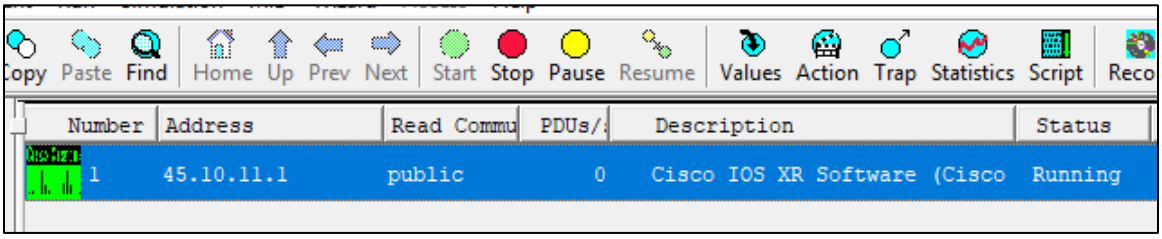
11. In the *Destination IP,Port* field, enter your MID Server's **private IP address** followed by **,1162**. Click **Add**, then **OK**. A comma separates the IP address from port number.



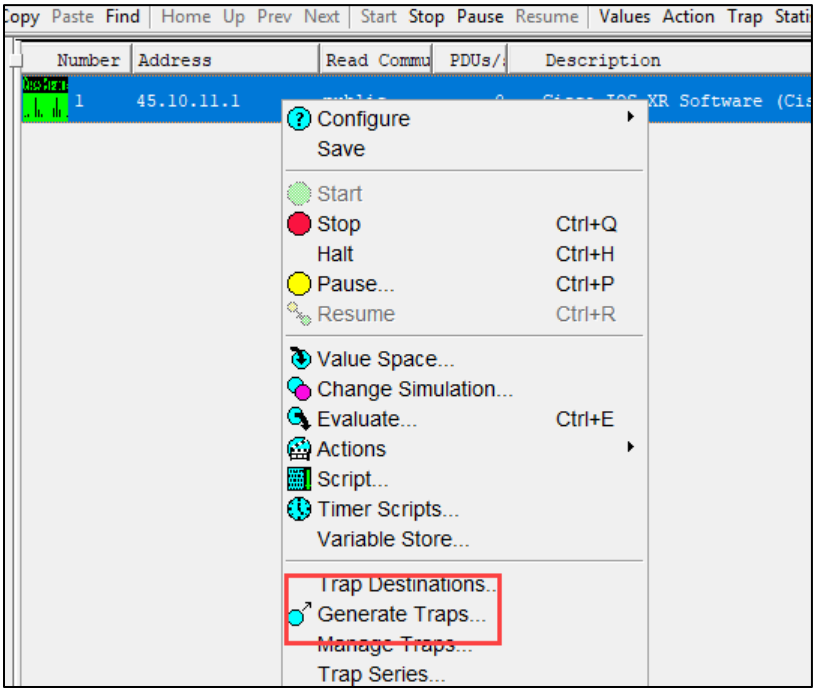
12. In the MIMIC menu bar, with the Cisco agent selected, click **Start**.



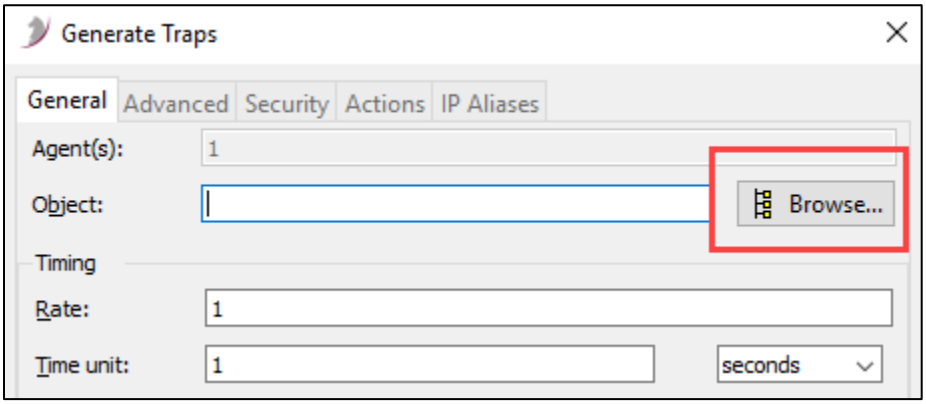
13. In a few seconds, the agent turns green and has a status Running.



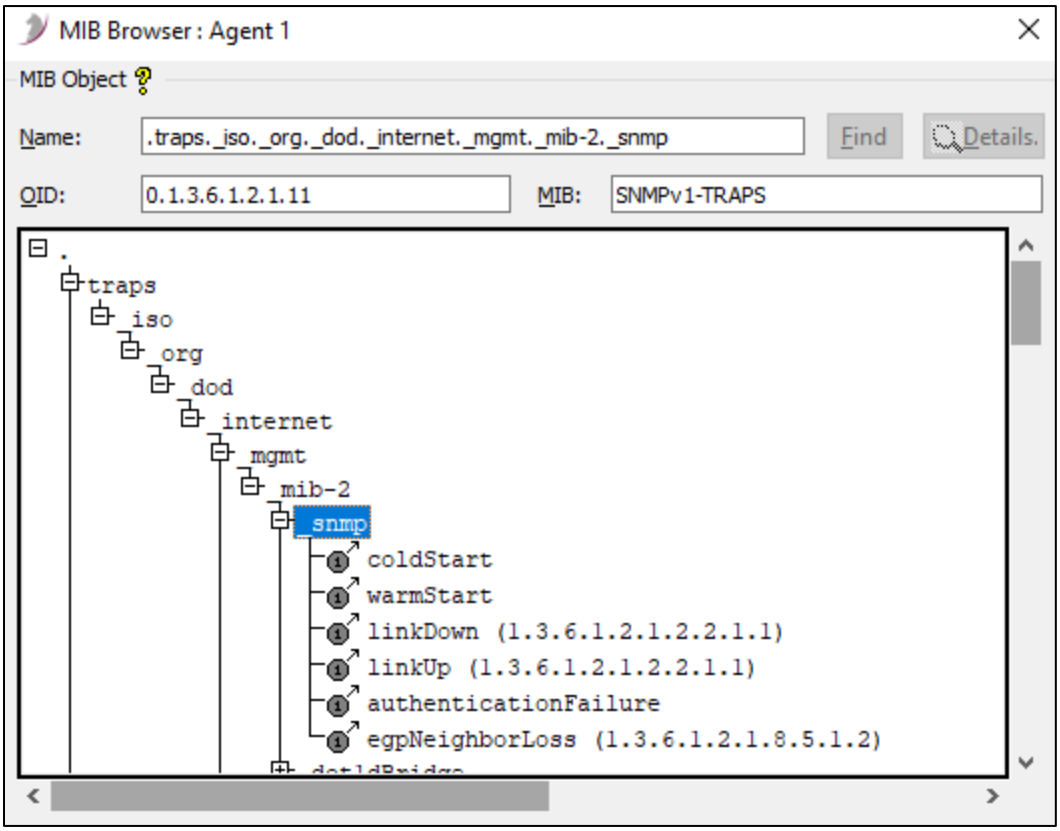
14. Right-click the Cisco agent and click **Generate Traps**.



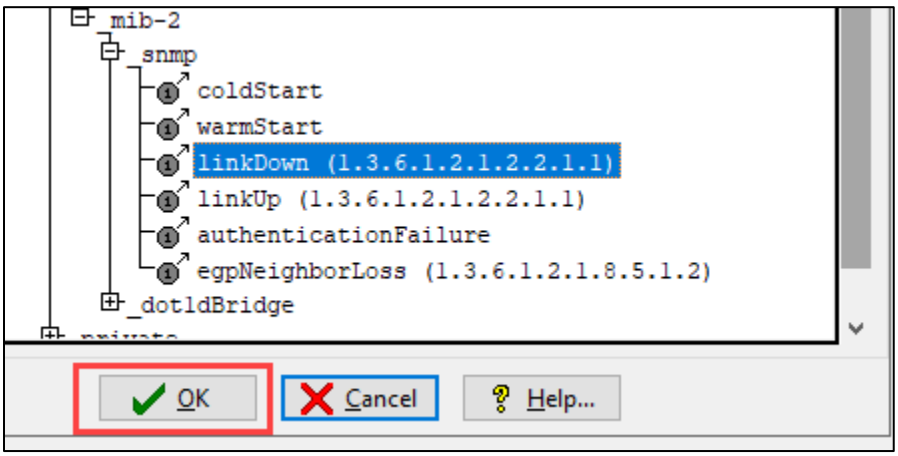
15. In the Generate Traps form General tab, click **Browse**.



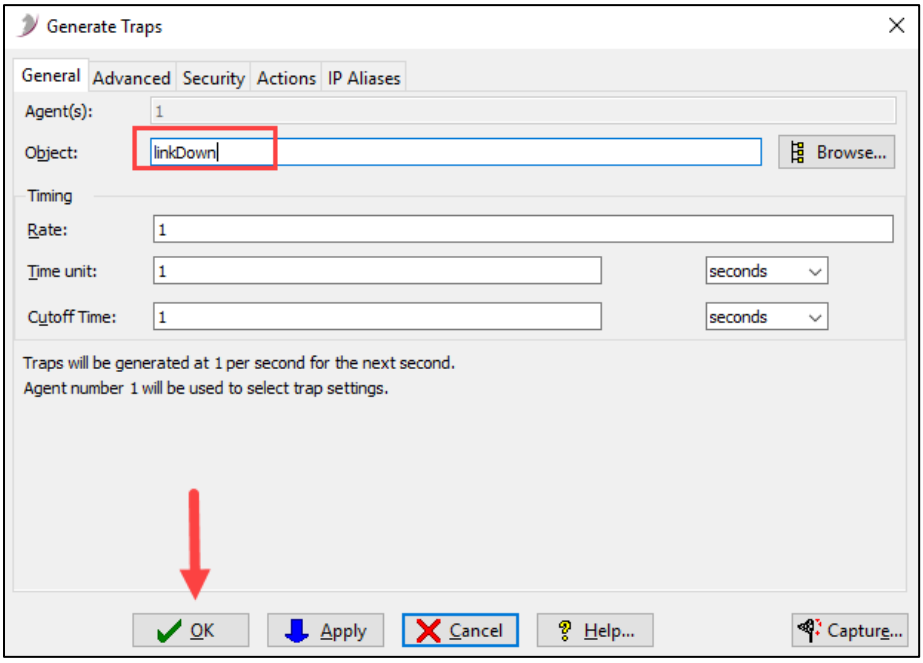
16. In the MIB Browser, drill down through **traps > iso > org > dod > internet > mgmt > mib-2 > snmp** to expose the traps.



17. Select the **linkDown** trap and click **OK**.

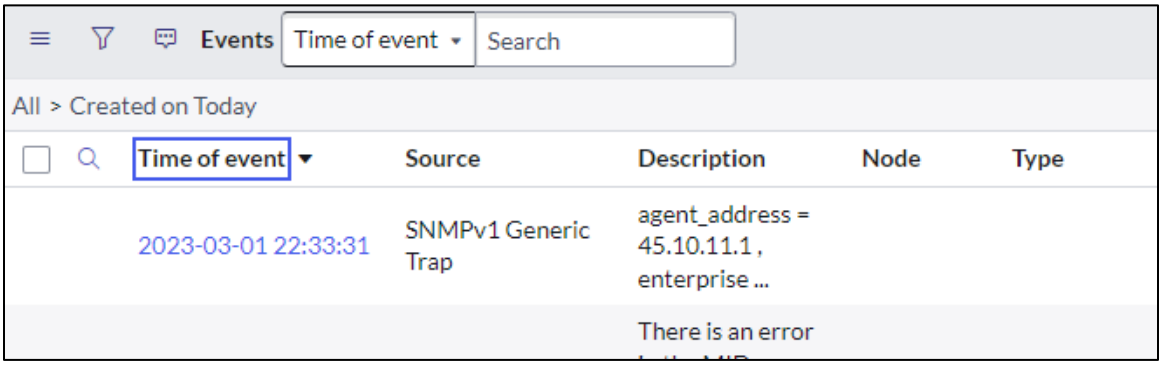


18. linkDown appears in the Object field. Click **OK**.

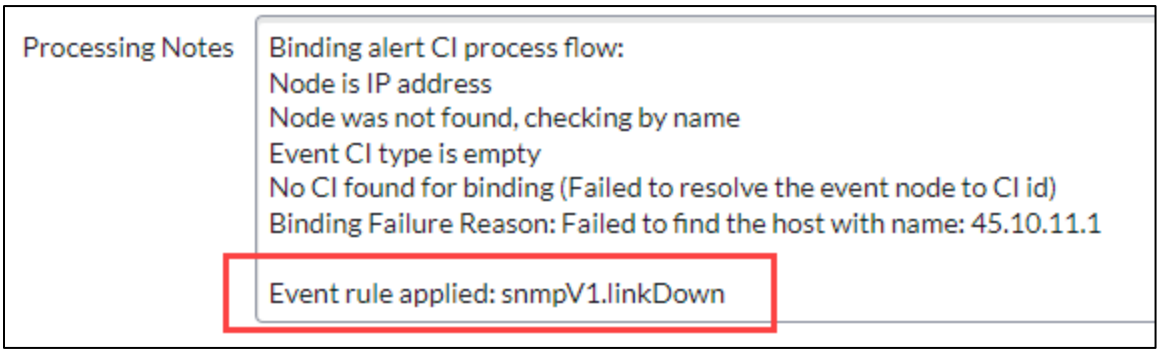


19. A single trap is generated.

20. Return to your ServiceNow instance and access **All Events**. Locate the event created by the trap with a source of **SNMPv1 Generic Trap**.

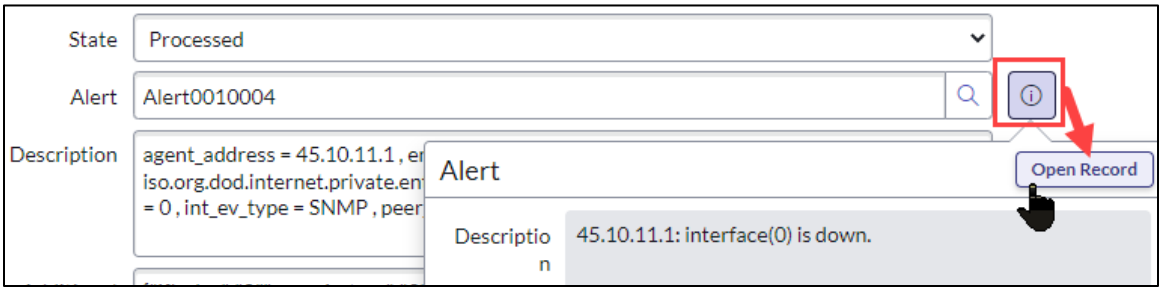


21. **Open** the event. Note that there is no Node or Severity, yet an alert is created. Read the Processing Notes.

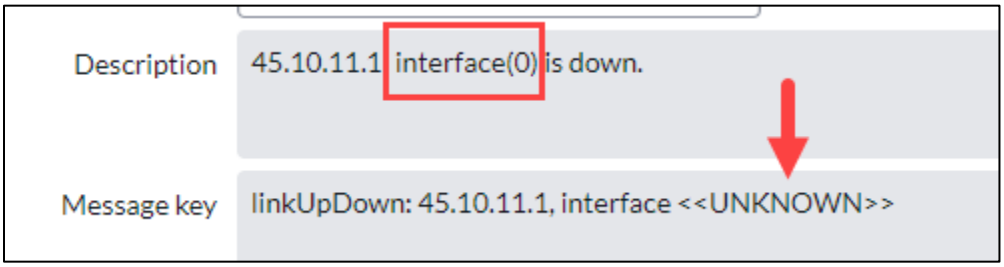


Note: *ServiceNow Event Management includes many baseline SNMP event rules for processing SNMP traps.*

22. **Open** the corresponding alert.

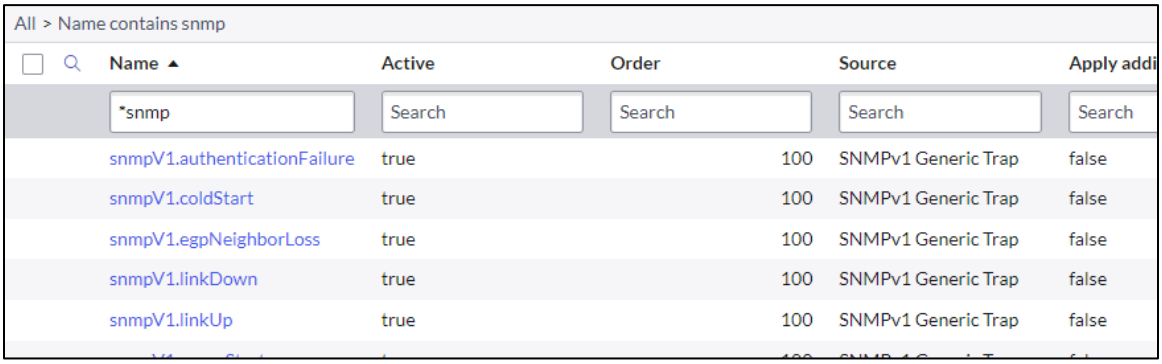


23. Note the severity is Warning, and that the Message key contains an error, interface <<UNKNOWN>>.



Note: *We can deduce that there is an error in the event rule populating the message key, because we can see in the Description field that the interface = 0.*

24. Navigate to **Event Management > Rules > Event Rules** and filter for **Name = *snmp**.



25. Open and review the **snmpV1.linkDown** event rule.

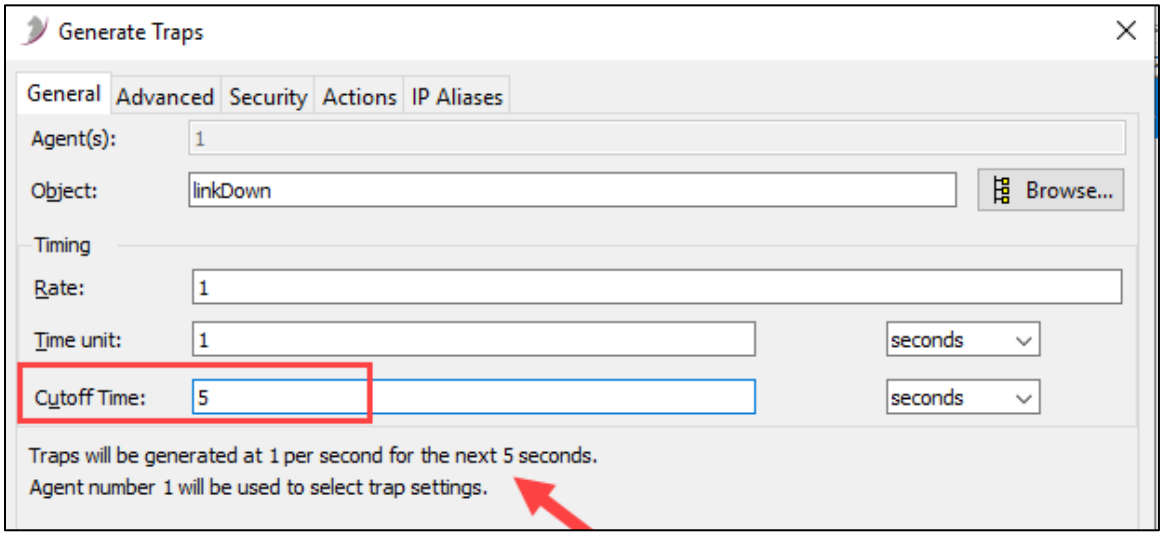
CHALLENGE 1

1. The trap indicates link down, yet the event rule (snmpV1.linkDown) populates a severity of Warning (4). Modify the event rule to set an alert severity of Major (2).

2. Fix the event rule (snmpV1.linkDown) so that the Message key correctly displays Interface (0), as is seen in the description field.

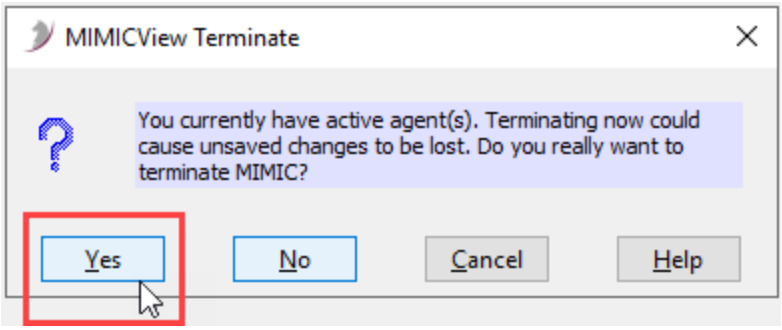
3. Modify the event rule (snmpV1.linkDown) by adding a threshold, such that 3 consecutive traps are required within a 10 second window before an alert is created. Test the threshold using the MIMIC Simulator.

Hint to send multiple traps (one per second for 5 seconds):

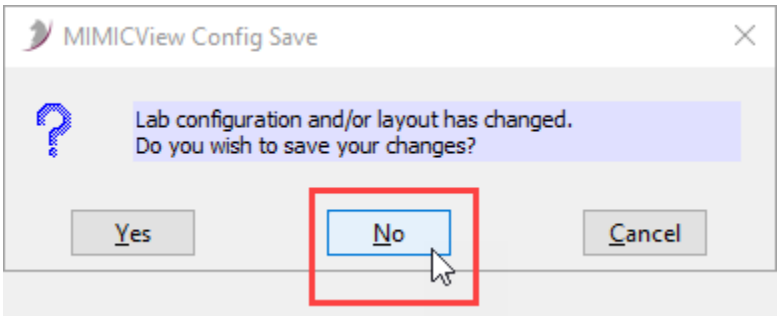


4. In MIMICView, click **File > Terminate**.

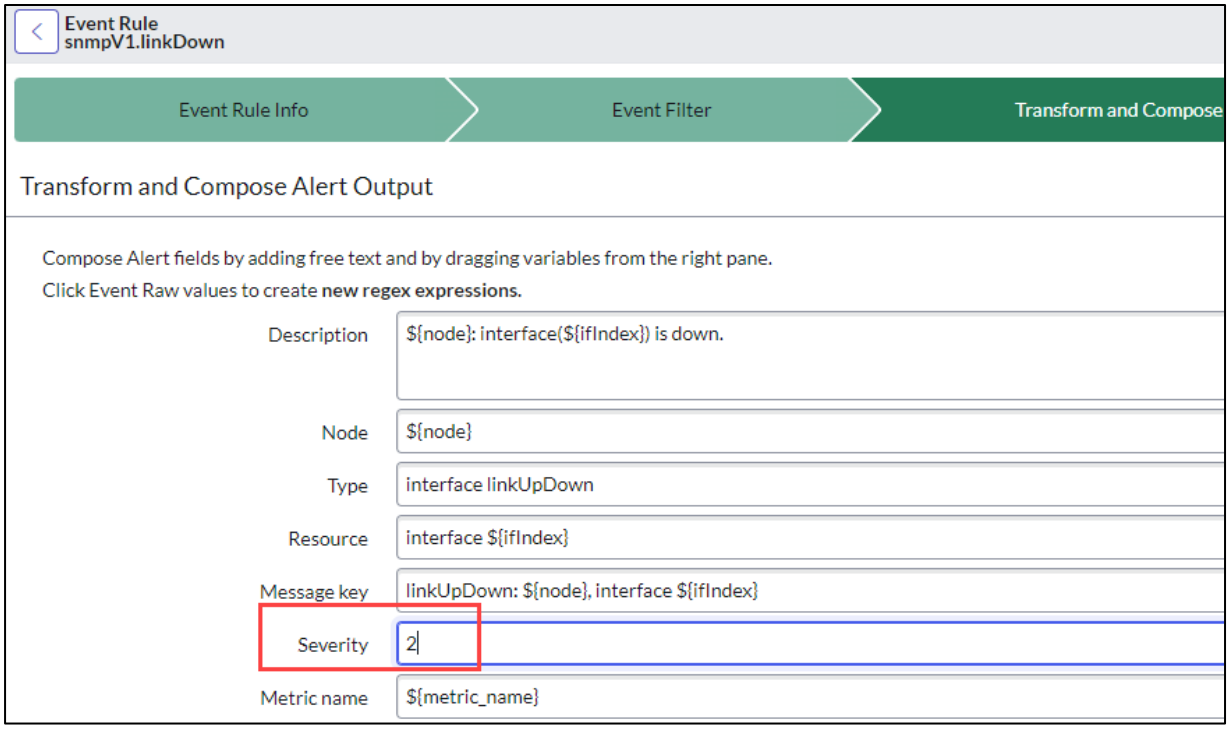
5. Click **Yes** to confirm termination.

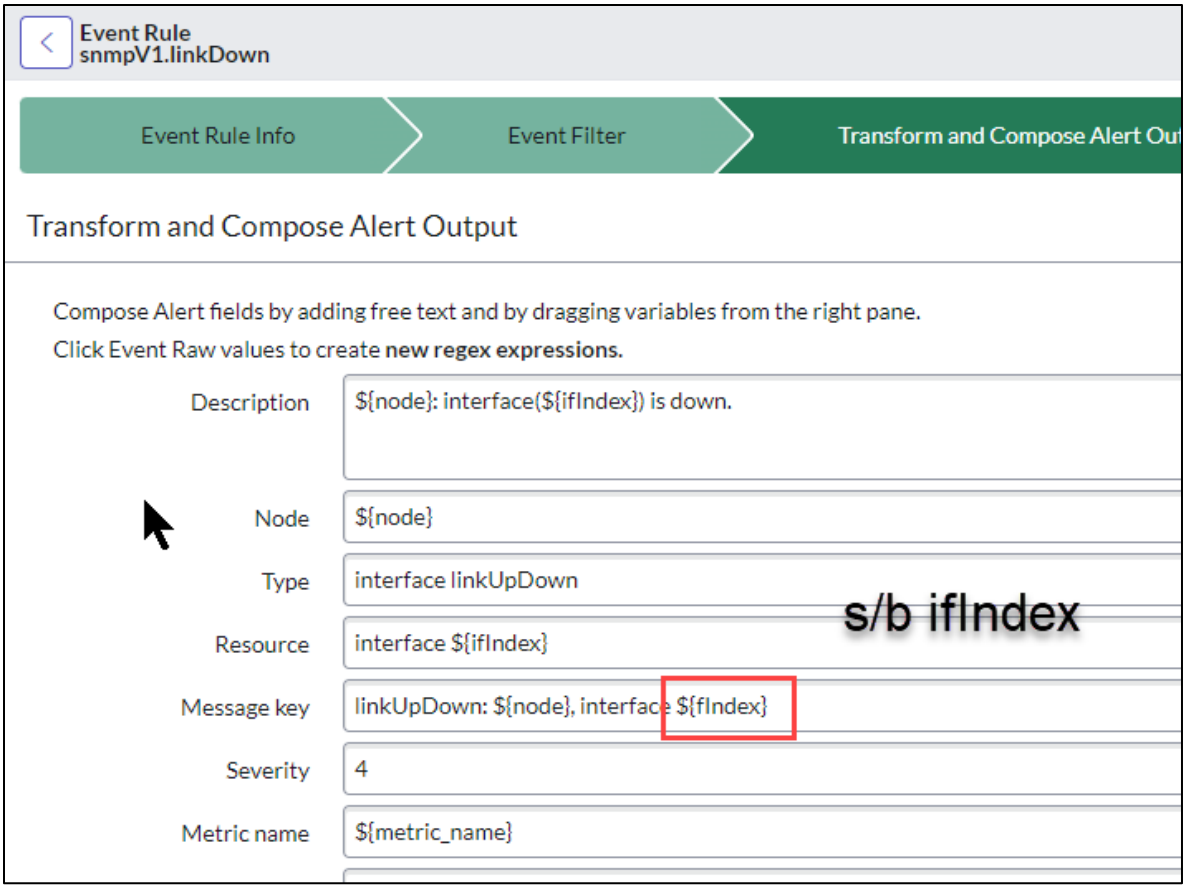


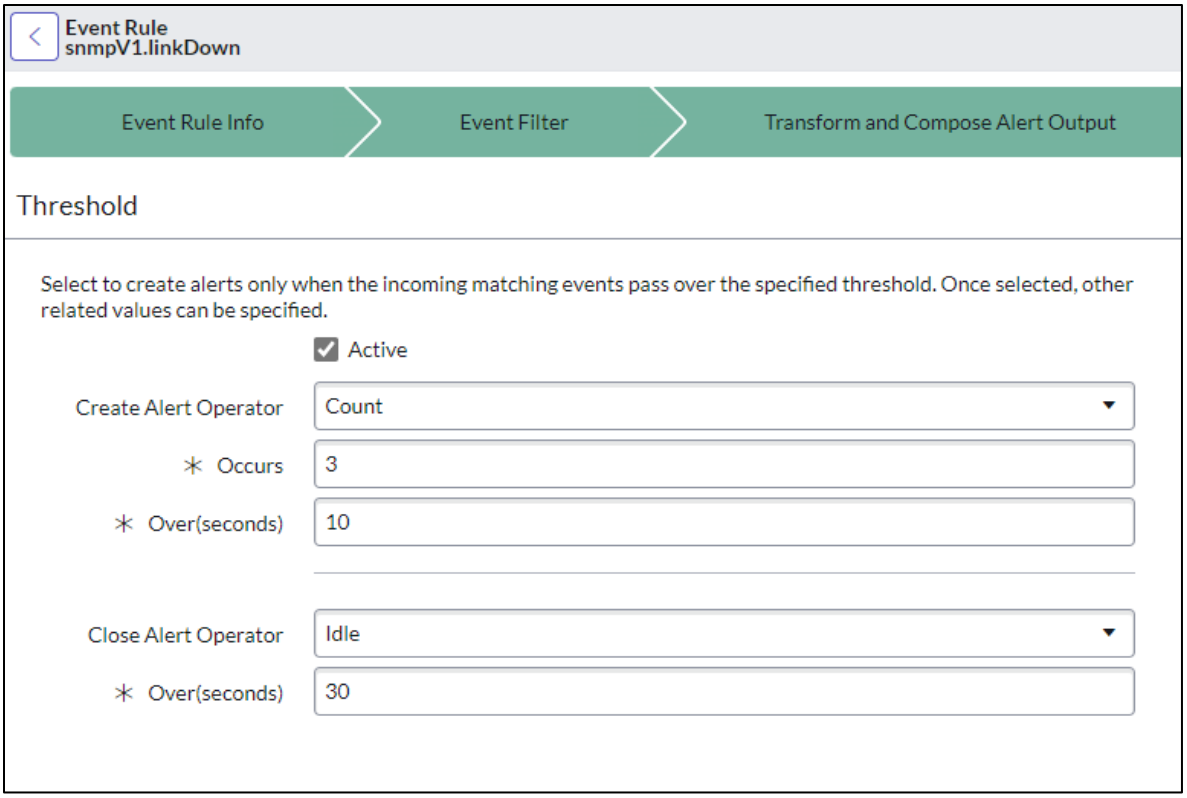
6. Click **No** on the Config Save pop-up.



CHALLENGE 1 – Possible Solution







Congratulations on completing the lab!

Event Sources
Use Agent Client Collector Monitoring

Lab 5.4
45m

Lab Objectives

You will achieve the following objectives:

- Review the MID Server configuration for ACC Monitoring
- Activate ACC policies for monitoring
- Modify a check instance and republish a policy

Scenario

Agent Client Collector Monitoring (ACC-M) enables you to monitor your service availability, examine the health and performance of your environment, and ensure that your infrastructure and its applications are running properly. ACC is a ServiceNow provided event source.

MetricBase, the ServiceNow time series database required for processing metrics, is not enabled in the student instances. This will prevent metric data from displaying.

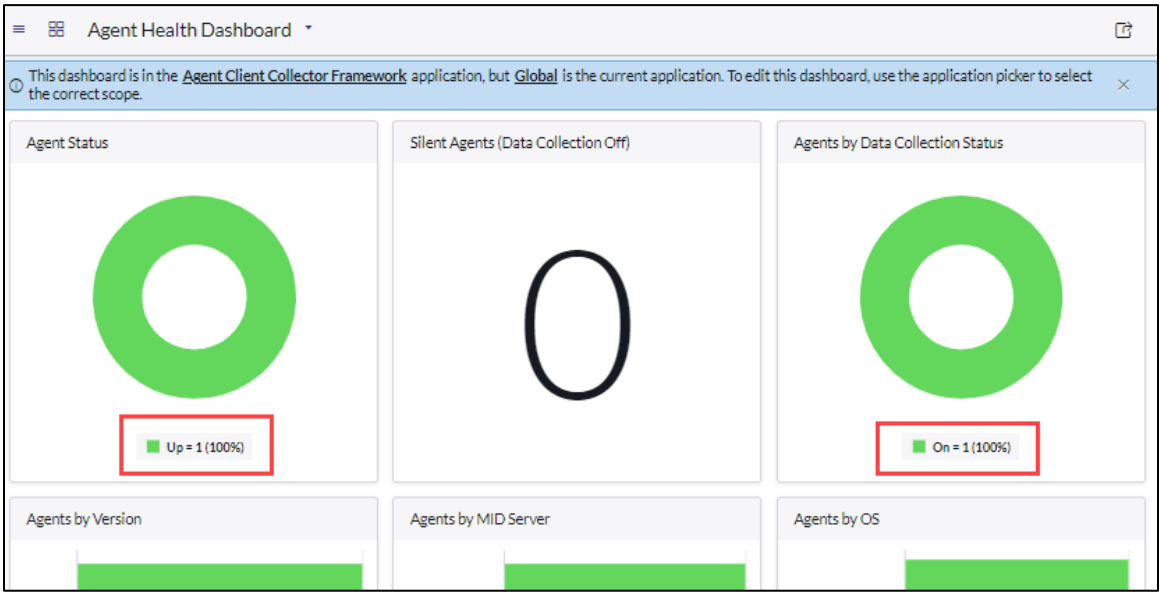
In this lab, you will activate Agent Client Collector policies and review the results.

> Note: *The Agent Client Collector Monitoring and Visibility store apps have already been installed on your ServiceNow instance. The ACC agent has also already been installed on your Windows MID Server, and the MID has been partially configured for ACC monitoring. Refer to the Agent Client Collector installation documentation for details or take the Agent Client Collector Essentials on-demand course found in ServiceNow's training site.*

A. Verify agent installation and MID Server configuration for Agent Client Collector Monitoring

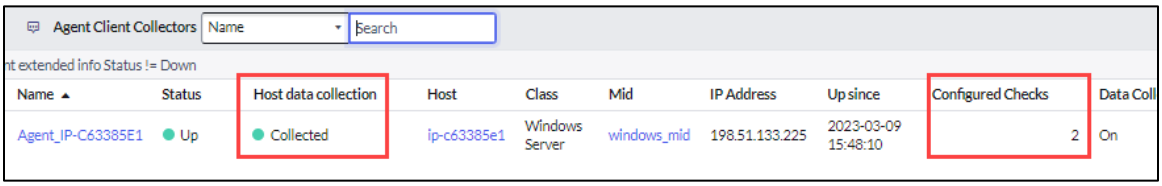
1. From your ServiceNow instance, navigate to **Agent Client Collector > Agent Health Dashboard.**

2. Ensure there is 1 agent Up and 1 agent on.



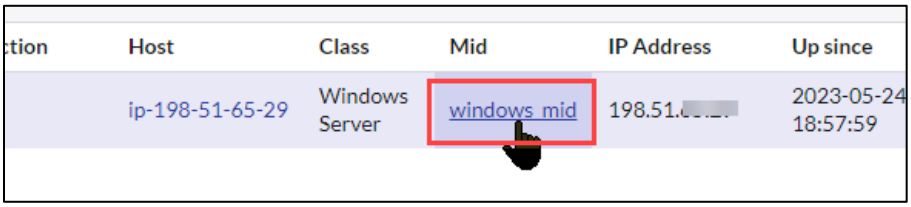
3. Navigate to **Agent Client Collector > Agents** to view the agent list.

4. The agent listed should have Host data collection = **Collected** and Configured Checks = **2**.

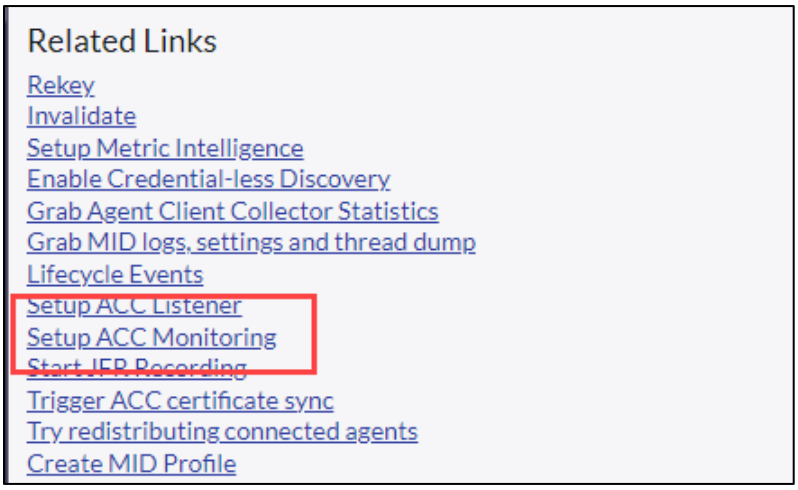


> Note: *With ACC-Visibility also installed, 2 checks (Enhanced Discovery and Installed Software) are enabled by default.*

5. Click **windows_mid** to open the MID Server record.

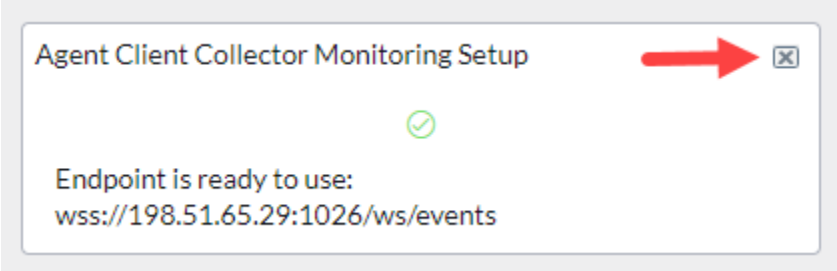


2. In the MID Server **Related Links**, click **Setup ACC Monitoring** to complete the MID configuration for ACC.



Note: *This related link also enables metrics collection (Metric Intelligence) since the plugin and required store apps are installed on your student instance. For more information see "Enable Metrics Collection and Evaluation" in the Agent Client Collector documentation.*

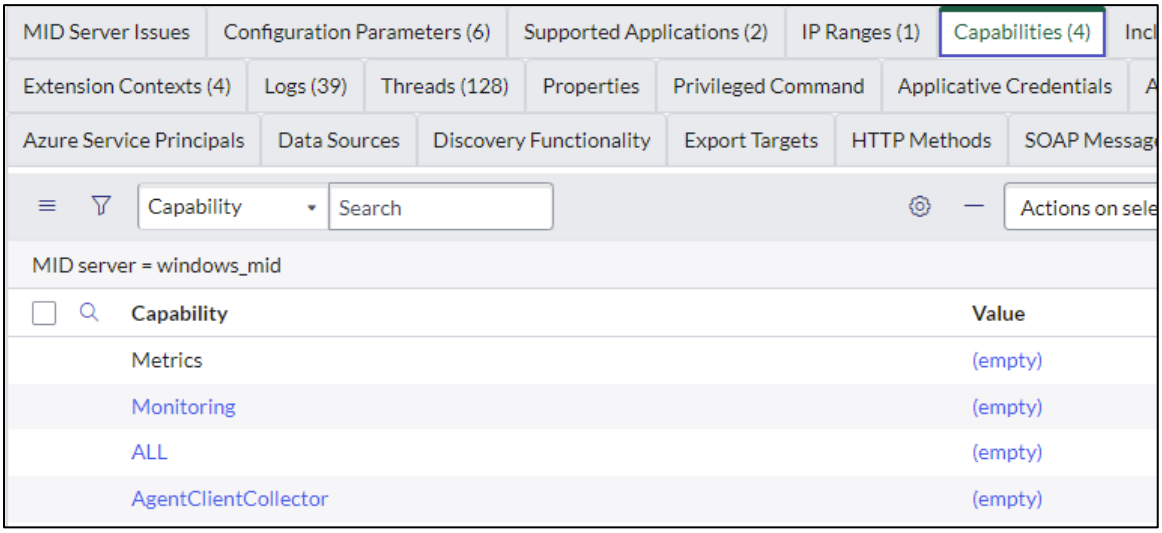
3. Close the pop-up when the endpoint is ready.



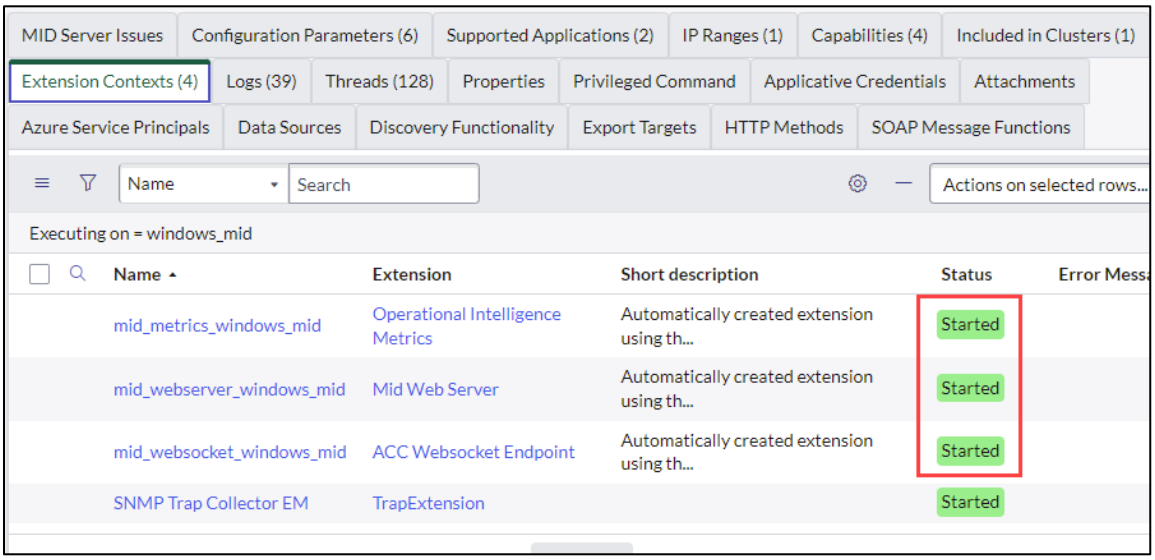
4. Wait 60 seconds, then refresh the form.

5. To verify the configuration is correct, select the **Capabilities** related list.

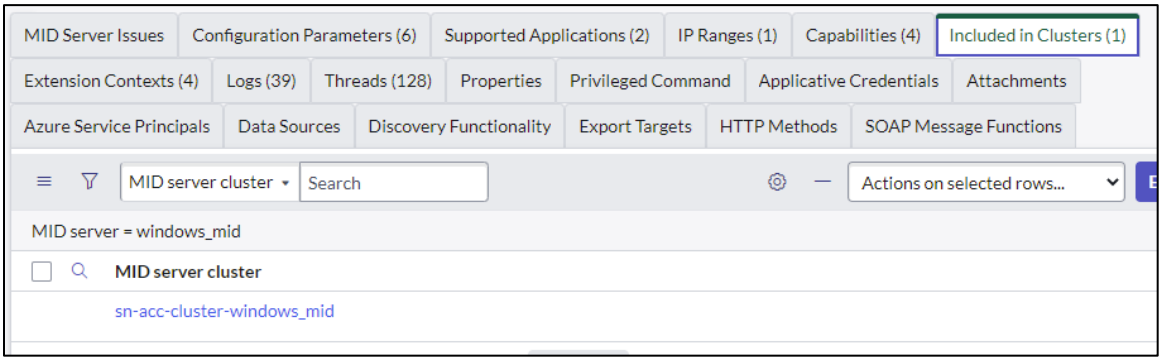
6. Ensure that **Metrics**, **AgentClientCollector, Monitoring**, and **ALL** are present.



7. Open the **Extension Contexts** related list and ensure the three extensions are started.



8. Open the **Included in Clusters** related list and ensure there is one present.



B. Enable Windows policies

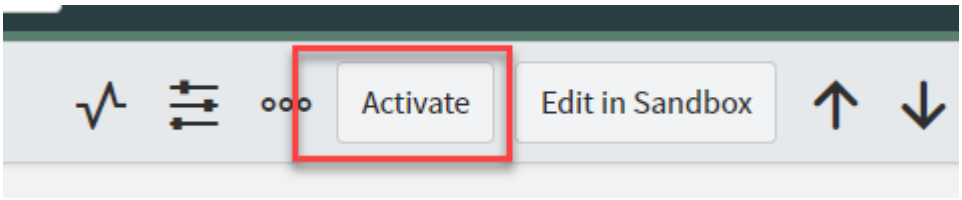
With an agent installed, we can activate applicable policies to monitor the server and applications running on it.

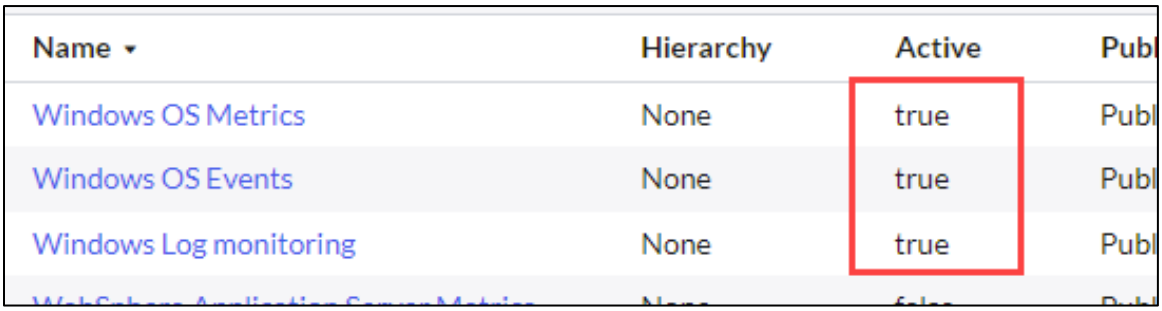
1. Navigate to **Agent Client Collector > Configuration > Policies.**

2. Locate the **Windows OS Events**, **Windows OS Metrics**, and **Windows Log monitoring** policies.

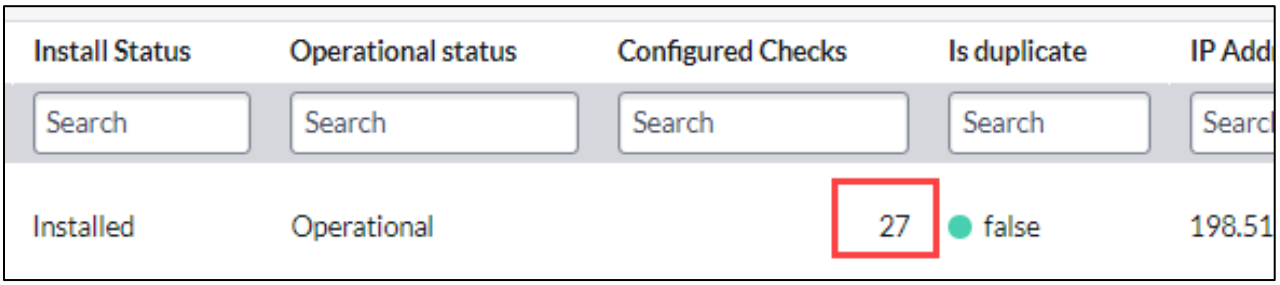
Note: *Do not enable Windows OS Events – Extended. Without MetricBase installed, metrics will not be captured or displayed.*

3. Open each policy separately, review the monitored CI's filter, review the check instances within the policy, and **activate** each policy with the UI action.



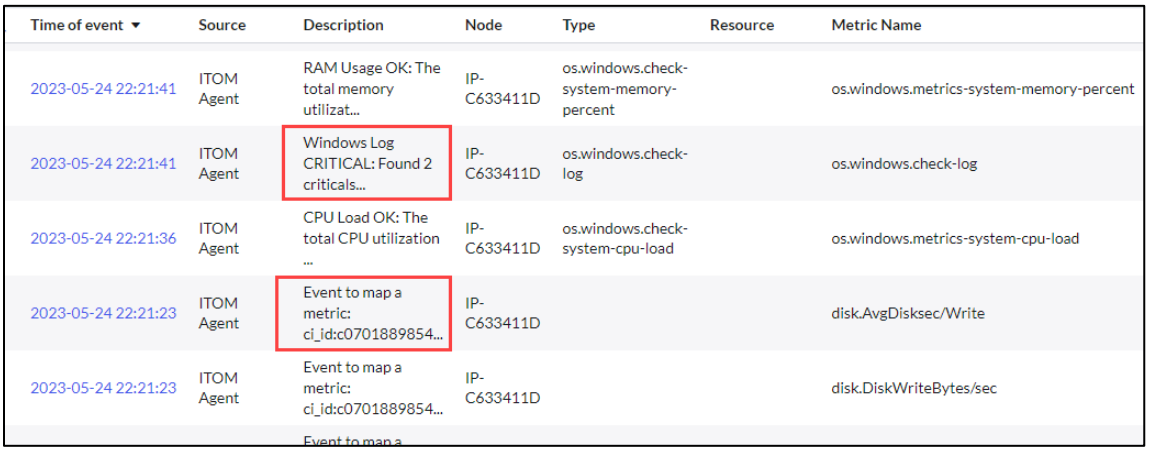


4. Return to the **Agents** list and note the number of configured checks.

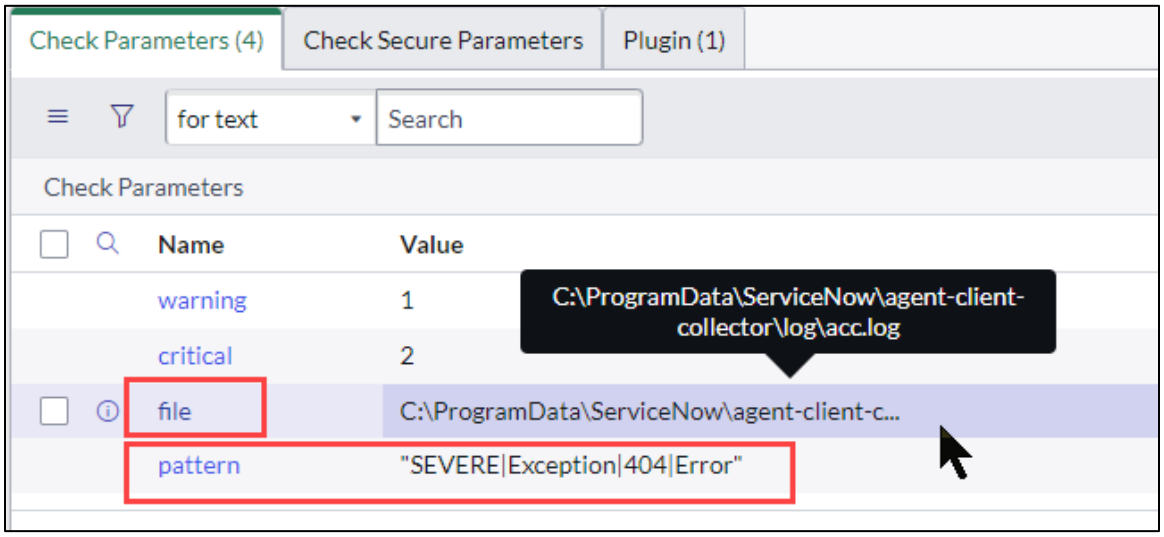


Note: *The number of running checks may differ and take 1 to 2 minutes to display.*

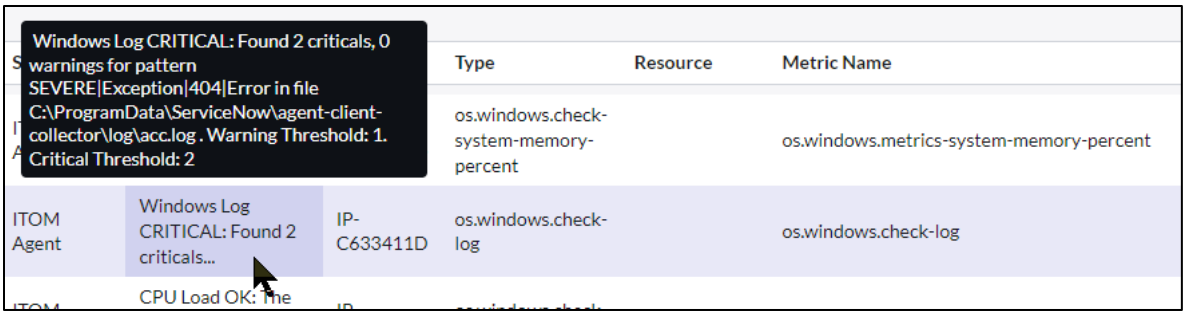
5. Navigate to **Event Management > All Events**. Note that the events include event checks and events to map metrics.



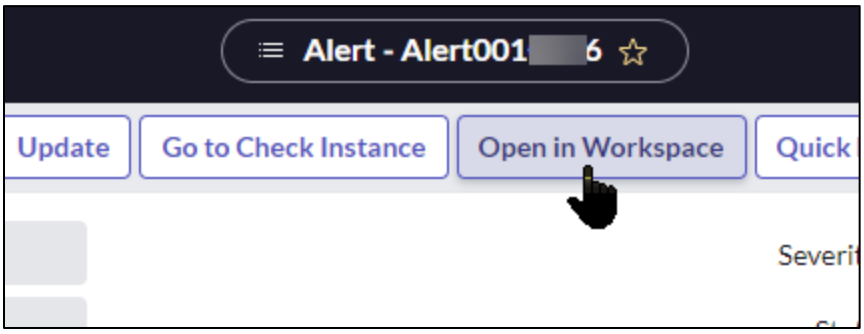
Note: *The baseline "Windows Log monitoring" policy is meant to be modified before deploying into production, defining what log files the policy should monitor ("file" parameter). Without modification, it monitors the ACC log file for keywords ("pattern" parameter) and generates alerts in a **few minutes**, which is helpful in this lab.*



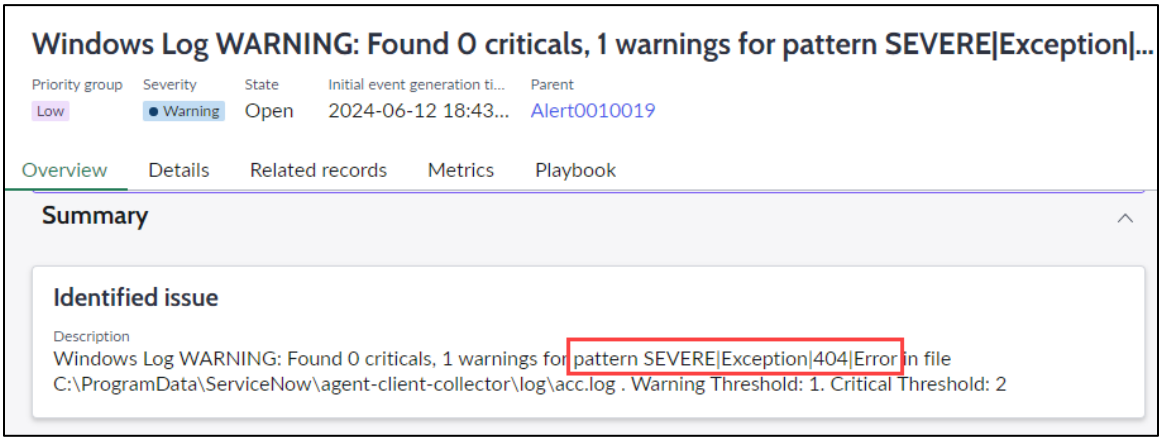
6. **Refresh the events** list until these Windows Log events are shown, warning or critical. (Source = ITOM Agent)



7. **Open** the corresponding alert then click **Open in Workspace**.



8. Review the Identified issue.



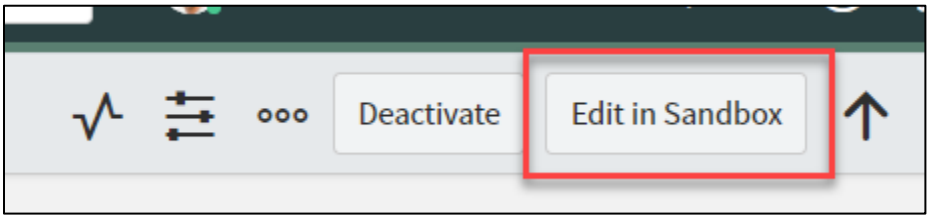
C. Modify a Check Instance

Next, you will modify a check instance within a policy, causing a threshold to be breached and generate an alert.

The default Windows OS policy includes a memory usage check instance, which generates a warning alert if memory usage exceeds 85 % and a critical alert if usage exceeds 95%. To learn how to modify a check instance, you will change the “warn over” threshold to 5% to generate an alert.

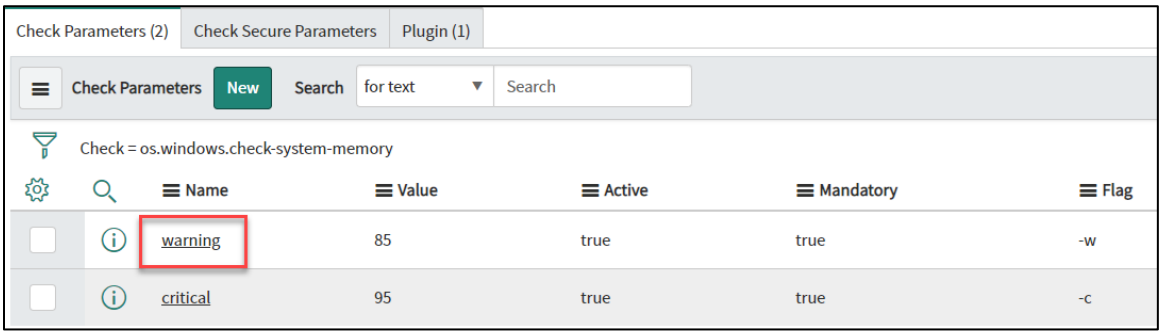
1. Navigate to **Agent Client Collector > Policies** and open the **Windows OS Events** policy.

2. Click the **Edit in Sandbox** UI action.

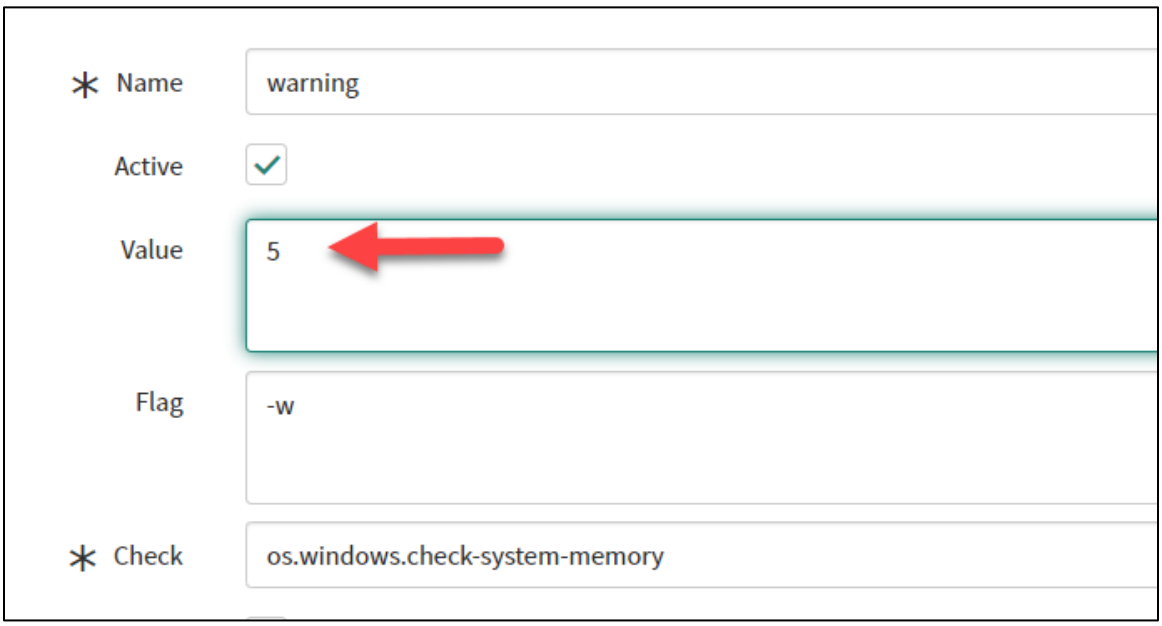


3. In the **Check Instances** related list, locate and open the **os.windows.check-system-memory-percent.**

4. Note that the detailed description includes usage instructions. Scroll down to the Check **Parameters** related list and open **warning.**



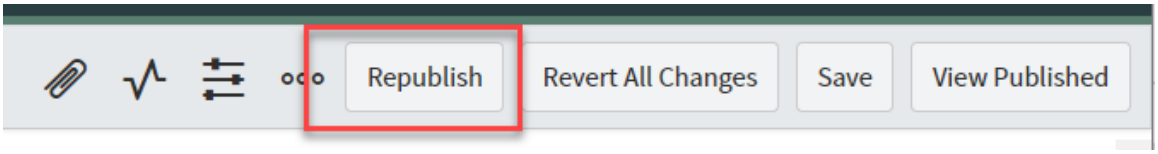
5. Change the -w parameter **value** to **5.**



6. On the Check Parameter form, click **Update.**

7. On the Check Instance form, click **Update.**

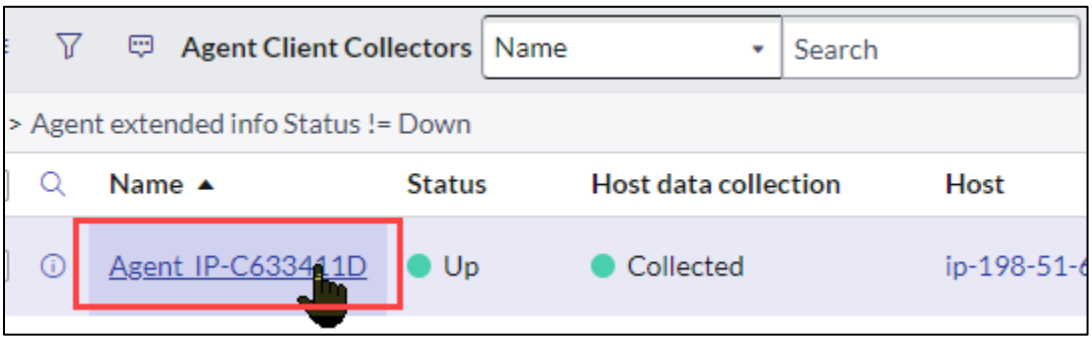
8. On the Policy form, click **Republish.**



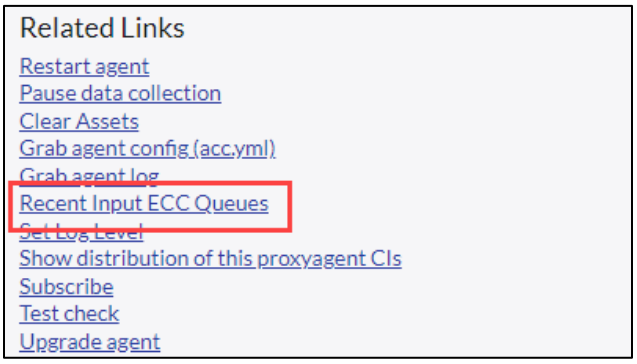
9. On the confirmation pop-up, click **Publish.** The updated policy will be propagated out to the agents, which will implement the new check. This process can take several minutes.

10. To monitor the update being propagated to the agent, navigate to **Agent Client Collector > Agents**.

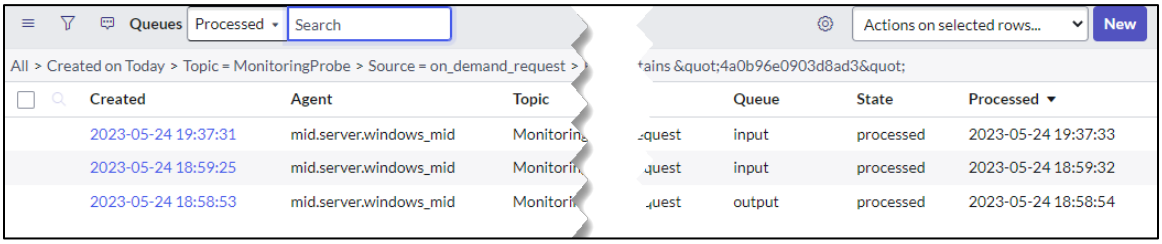
11. Click to open your agent record.



12. In Related Links, click **Recent Input ECC Queues**.

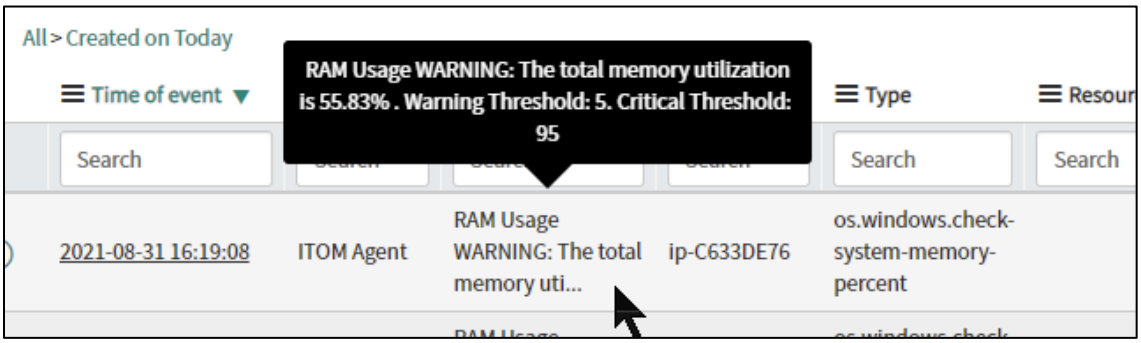


13. Sort the list by **Processed** column.

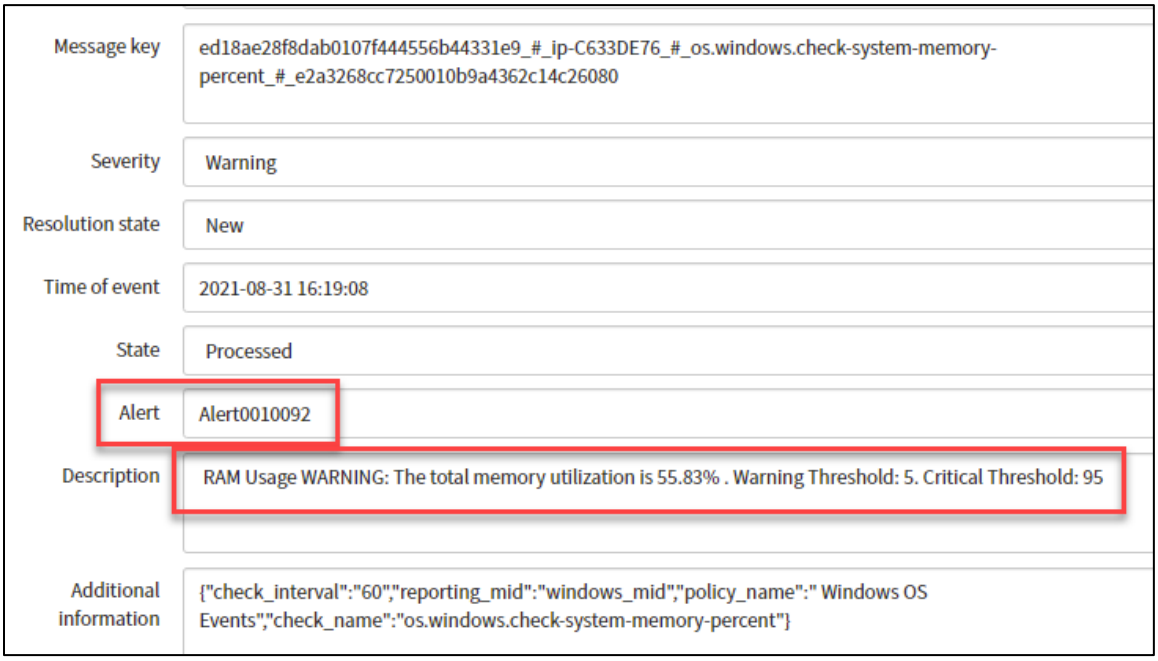


> Note: *These ECC queue records can be used for troubleshooting but are populated after the actual transaction takes place through the queue. These steps are for awareness of the queue records.*

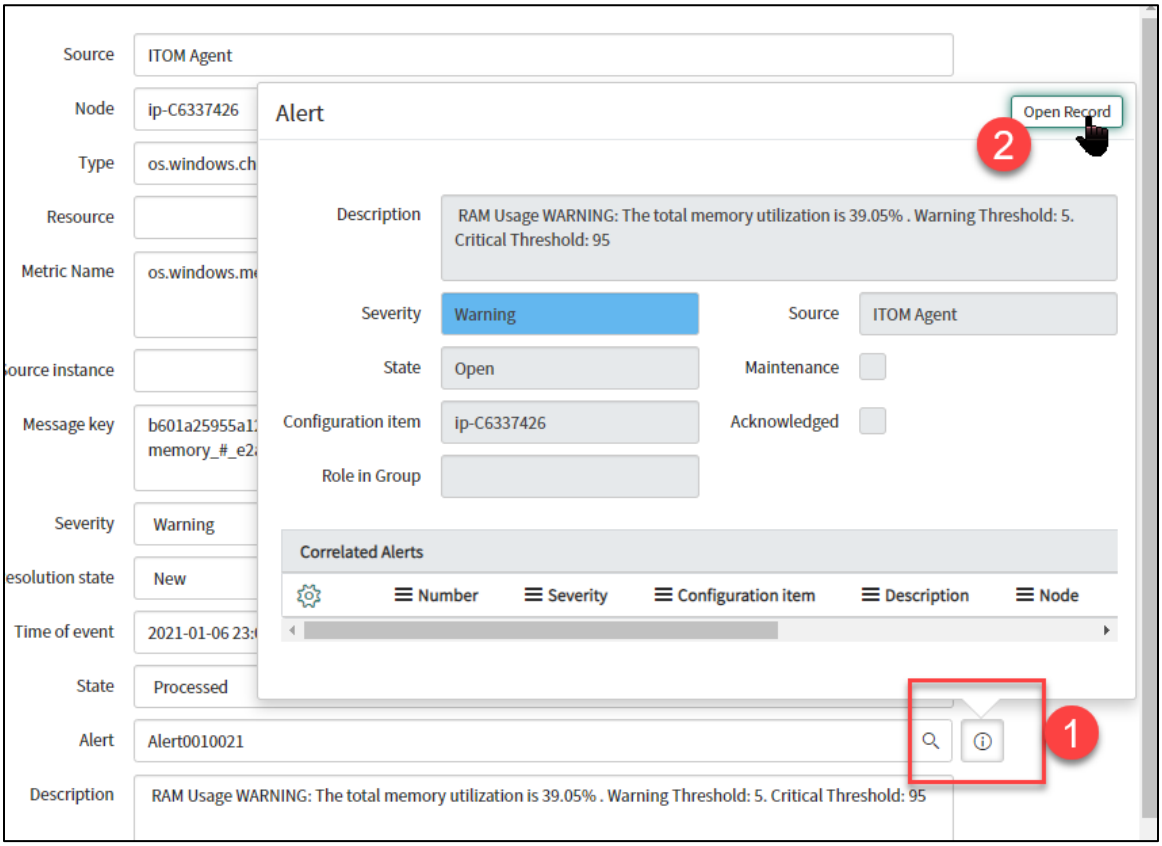
14. Within a few minutes, the policy will be implemented by the ACC, the 5% threshold will be exceeded, and an event generated. Navigate to **All Events**. Locate and open the system memory check.



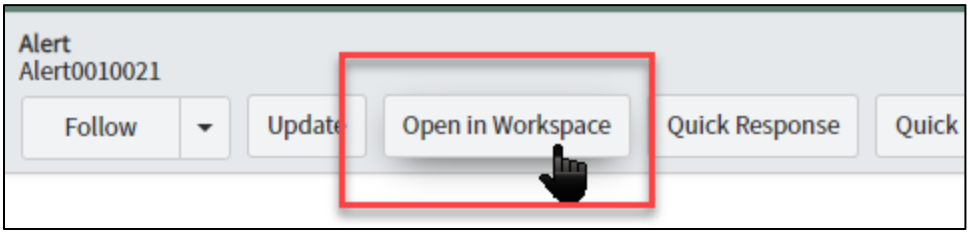
15. The event will have generated an alert.



16. From the event record, open the alert.



17. Click **Open in Workspace** .



18. Review the details of the alert in Service Operations Workspace.

> Note: *You have modified a check instance within a policy and published it to ACC. The very low threshold was quickly breached by the server, and an event generated by ACC. Event processing generated an alert. This completes the lab.*

19. ***Challenge:*** Reverse the warn over change and republish the original policy. Subsequent OK/Clear events should close the alert.

Congratulations on completing the lab and the course!

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