

# Reduce event noise with Event Compression in Enterprise Manager

Desiree Abrokwa Product Management

# Introduction



**Desiree Abrokwa**Product Manager

# **Enterprise Manager (EM) 13.5**





#### **Hybrid Cloud Management**

Fleet monitoring, management and data movement across entire IT estate – on-premises and in the cloud



#### **Ops Automation**

Enhanced automation and modernization of key management tasks



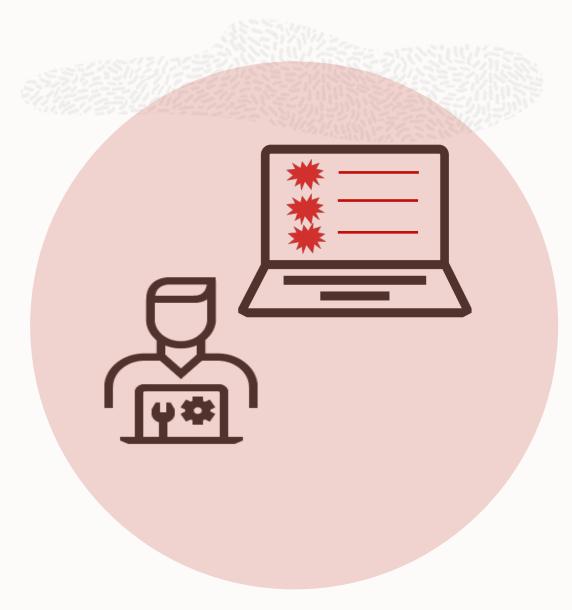
#### **Extensibility**

Open standards-based extensions for interoperability with 3rd party ecosystems



# **Background**

- IT teams are often overwhelmed with volume of events
  - Many events are symptoms of the same underlying problem
- Event Compression is the process of grouping related events into a smaller subset of incidents
  - Helps reduce event noise
- First introduced *Rule-Based Event Compression*
- In EM 13.5, Event Compression enhancement: *Event Compression Policies*





# **Use Event Compression to reduce event noise**





**Event Compression** 



**User-Defined Event Compression Policies** 



**Event Compression Analysis** 



# **Use Event Compression to reduce event noise**





**Event Compression** 



**User-Defined Event Compression Policies** 



**Event Compression Analysis** 



### **Event Compression**

#### **Rule-Based Event Compression**

- Specific to individual rule
- Define an event compression policy directly within a rule
- To create the same policy for another rule, you had to redefine it within the other rule definition

#### **Event Compression Policies**

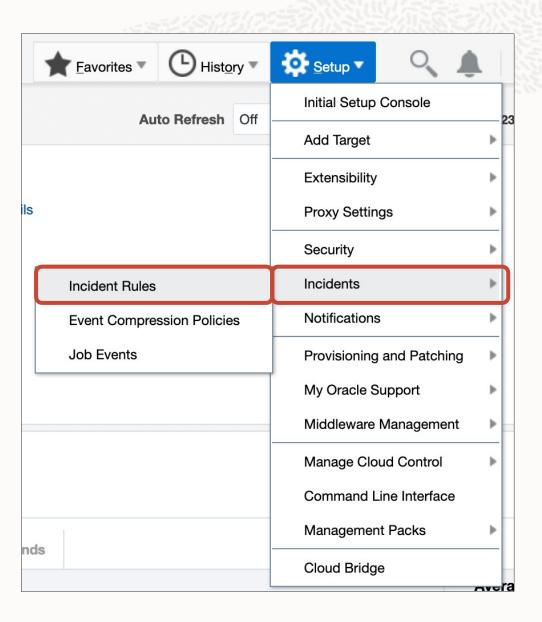
- Apply to all incident creating rules
- Only have to define the policy once in the Event Compression Policies page
- Once enabled and an incident is created, EM will match the corresponding global policy to the incident that is in the process of creation

- Original method of Event Compression
- Compression completed in individual rules
- Implemented in two steps:
  - Create an event rule that compresses related events into a single incident
  - Create an incident rule to send a notification (email, ticket creation, etc.) when an incident is created
- Out-of-box incident rules that automatically group (compress) related events into single incidents
  - For example:
    - Target down for RAC database instances
    - Metric collection errors for a target
    - Configuration standard violations for a rule on a target



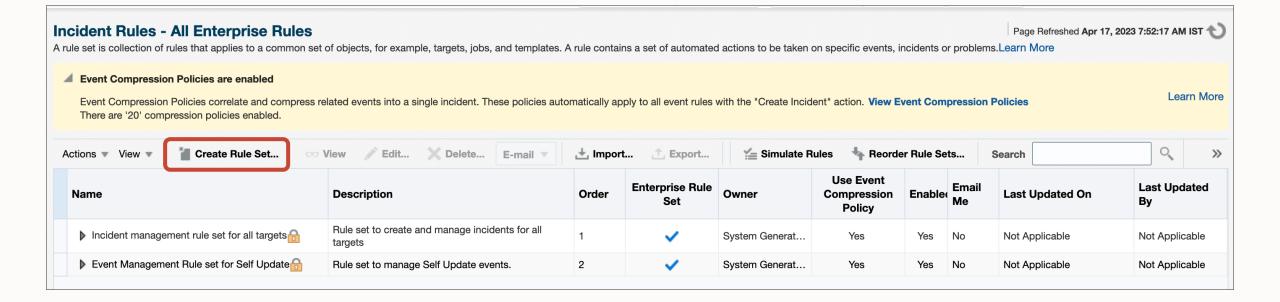
Navigating to Incident Rules

Setup > Incident > Incident Rules



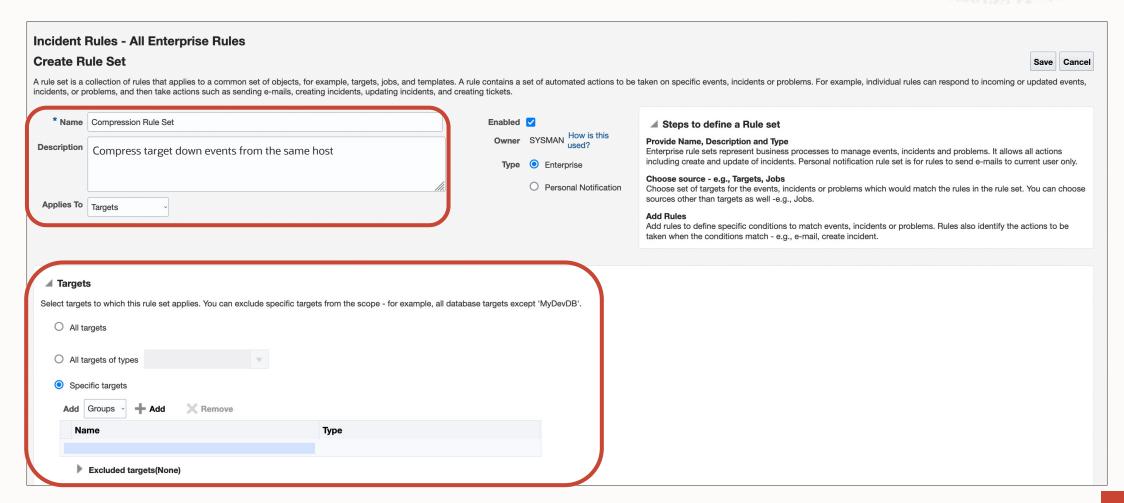


#### Incident Rules - Create Rule Set



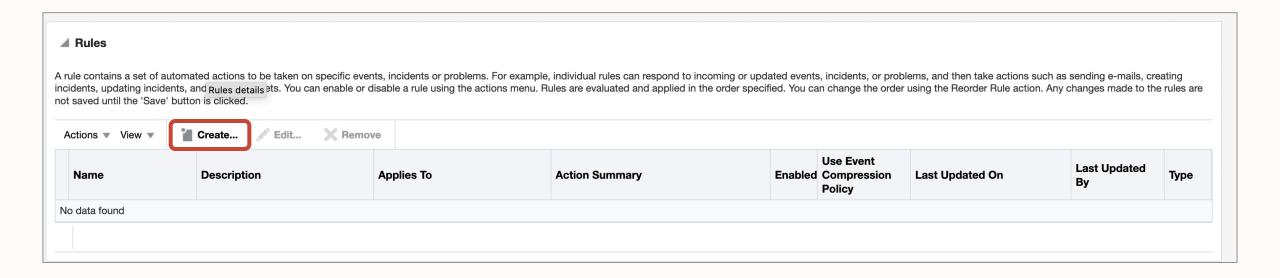


Incident Rules - Specify the name of rule set and select targets to apply on



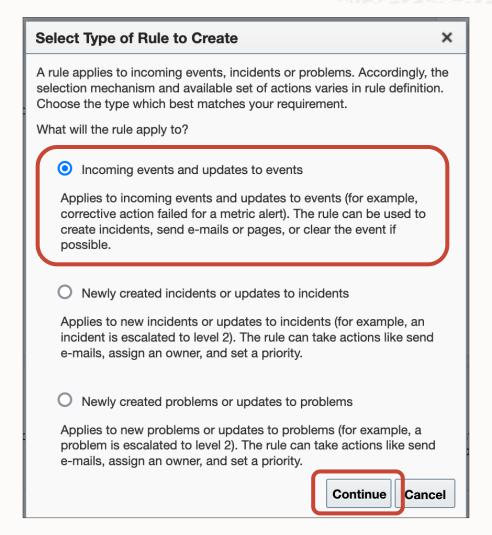


#### Incident Rules – Create rule

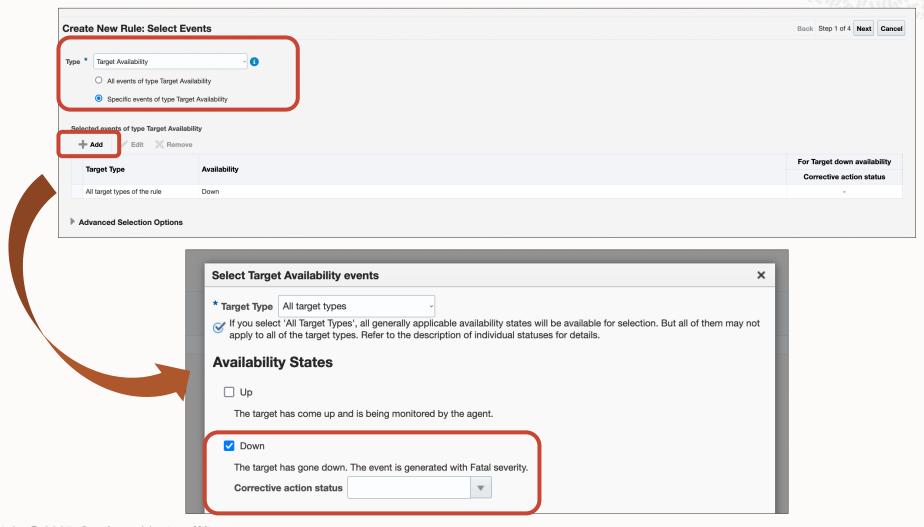




Incident Rules – Select for incoming events

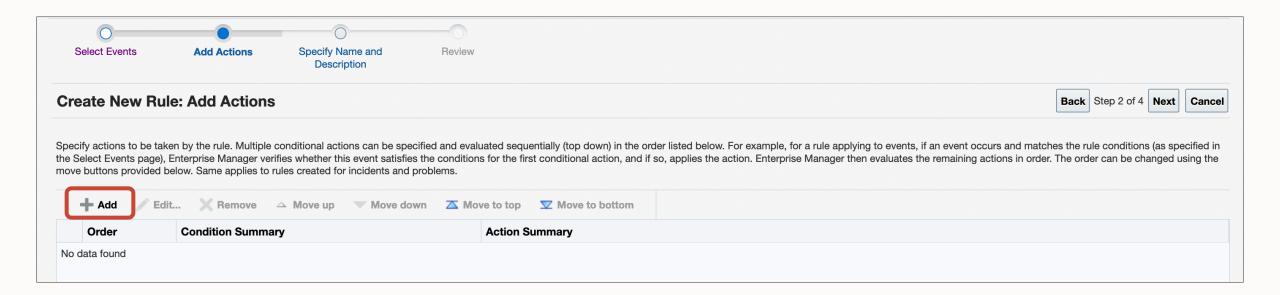


#### Incident Rules - Select event types



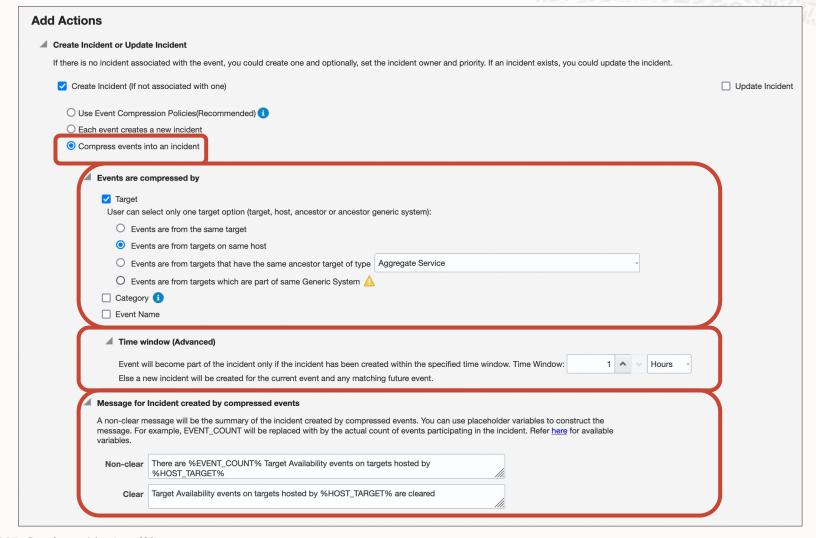


#### Incident Rules - Add actions



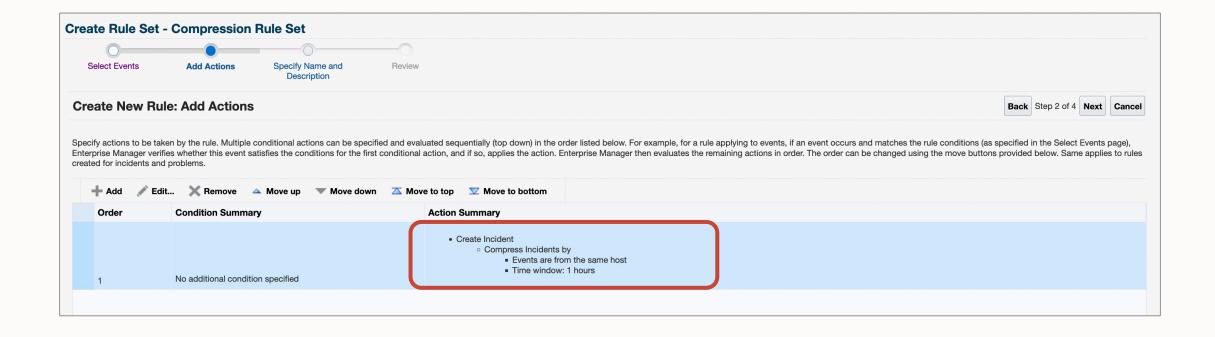


#### Incident Rules – Add Actions



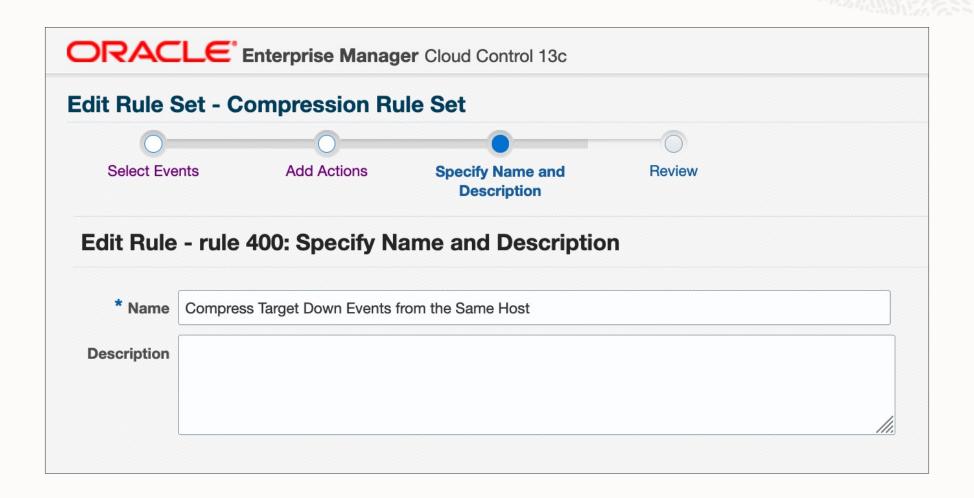


#### Incident Rules – Add Actions saved



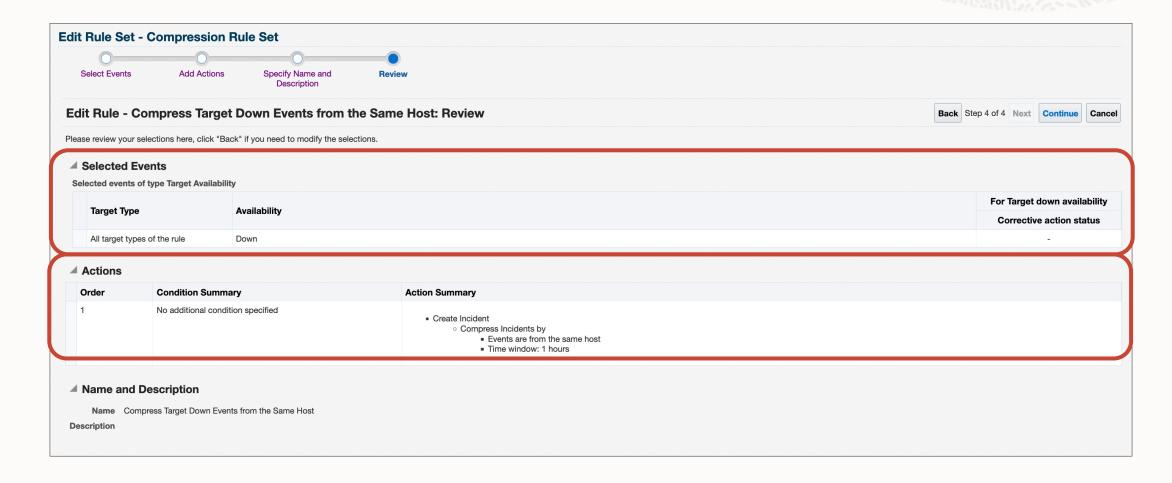


Incident Rules – Specify name and description



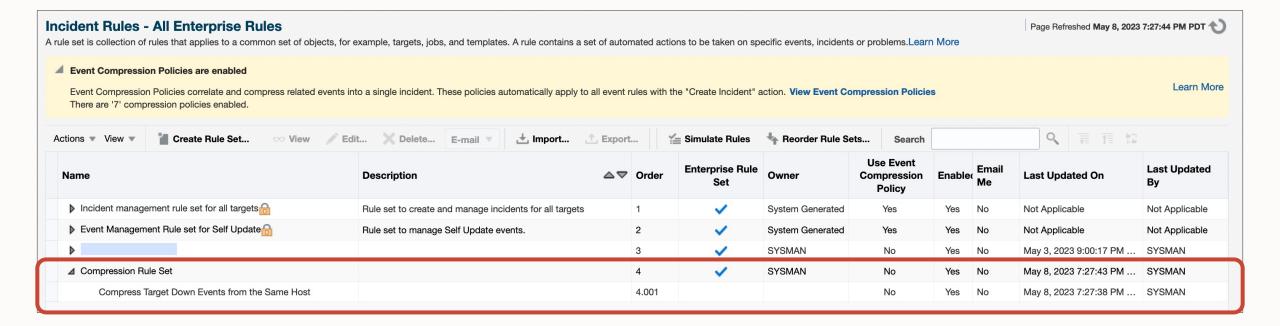


#### Incident Rules – Review Rule Set





#### Incident Rule created





- Event Compression Policy
  - Newer method of event compression introduced in Enterprise Manager Release Update (RU) 8
  - States the conditions under which to group multiple related events into 1 incident
    - Example:
      - Compress 'Target availability (i.e. down and error) events for the WebLogic cluster and its members'
        if the events occur within a 5 minute time window
- Event compression policies are global
  - Applies to all incident-creating rules
  - Applicable policy will be applied, i.e., it matches the event type and targets of the rules
- 7 Out-of-box policies provided for common scenarios



- Enabled out-of-the-box for new EM installations
  - Immediately applied to out-of-box rules
  - Users with specific privilege can disable/enable individual policies
    - Create Enterprise Ruleset privilege
- For upgraded EM sites
  - Auto enabled for new rules
  - For existing rules: user has to opt-in (enable) on per rule basis. Can do bulk-update.
    - To prevent changes in pre-existing incident creation/notification behavior after upgrading EM



# **Without Event Compression Policies**



**Targets** ProdGroup

**Event Rules** 

**Rule1:** All 'Target Down' Availability Events

Action: Create Incident

#### Scenario:

\*\* (event1) WLS Managed Server1 Down

(event2) WLS Managed Server2 Down

(event3) WLS Cluster Down







For all event rules that create incidents: choose Use Event Compression Policies

#### **Incident Rule Set**

**Targets** ProdGroup

**Event Rules** 

**Rule1:** All 'Target Down' Availability Events

Action: Create Incident

→ [✓] Use Event Compression Policies

#### **Event Compression Policies**



1. Locate matching policy

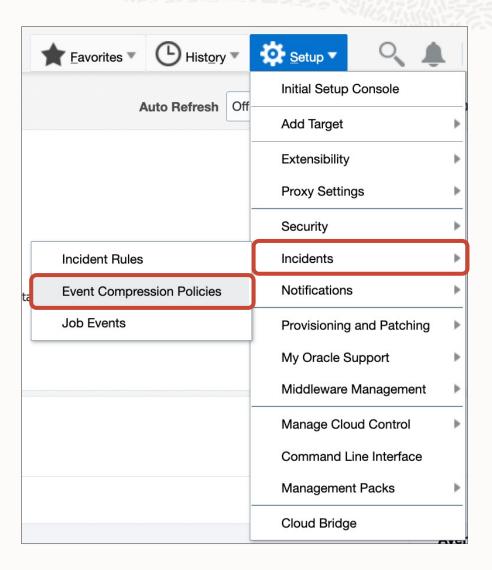
2. Correlate and compress events into one incident





**Navigating to Event Compression Policies** 

Setup > Incidents > Event Compression Policies





#### Out-of-box policies

#### **Event Compression Policies**

Event Compression reduces event noise by automatically compressing, or grouping, sets of related events into a smaller number of actionable incidents. Event compression policies specify the different types of events and criteria by which they are compressed together. These policies work with your incident rule sets.

Use Event Compression Analysis to see how much incident reduction can be achieved using event compression policies.

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Target down events for a DB High Availability Cluster and its members	Compress target-down events for a DB High Availability Cluster and its member instances occurring within the 60-minute time window.		2	Oracle	Published	≡▼
Availability events from all components of Exadata Database Machine	Availability events for Exadata Database Machine and its member instances occurring within 30 minute time window		3	Oracle	Published	≡▼
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Agent unreachable events for targets monitored by the same agent	Compress agent unreachable events for targets monitored by the same agent occurring within 1-hour time window.		7	Oracle	Published	≡ •

#### **Policy Definition**

#### **Event Compression Policies**

Event Compression reduces event noise by automatically compressing, or grouping, sets of related events into a smaller number of actionable incidents. Event compression policies specify the different types of events and criteria by which they are compressed together. These policies work with your incident rule sets.

Use Event Compression Analysis to see how much incident reduction can be achieved using event compression policies.

#### Target availability (i.e. down and error) events for the Weblogic cluster and its members

×

Description

Compress target availability (i.e. down and error) events for the Weblogic cluster and its members occurring within 5-minute time window.

#### **Event Compression Logic**

When these events occur

Target Availability Events for Oracle WebLogic Cluster and its members (Oracle WebLogic Cluster,Oracle WebLogic Server,Application Deployment,Clustered Application Deployment,Service Bus,Oracle Coherence Cache,Oracle Coherence Node,User Messaging Driver,Email Driver,XMPP Driver,User Messaging Service,SOA Infrastructure)

With event severity Critical,Fatal

Within this time window

5 minutes

Compress into One Incident by

Events from same ancestor target type (Oracle WebLogic Cluster) and its members (Oracle WebLogic Cluster,Oracle WebLogic Server,Application Deployment,Clustered Application Deployment,Service Bus,Oracle Coherence Cache,Oracle Coherence Node,User Messaging Driver,Email Driver,XMPP Driver,User Messaging Service,SOA Infrastructure)

#### Incident Message

The incident message will follow this format.

For Non Clear State

There are %EVENT\_COUNT% Target Availability events on members of Oracle WebLogic Cluster: %PARENT\_TARGET\_NAME%

For Clear State

Target Availability events on members of Oracle WebLogic Cluster: %PARENT\_TARGET\_NAME% are cleared

Created By Oracle Updated By Oracle Created On

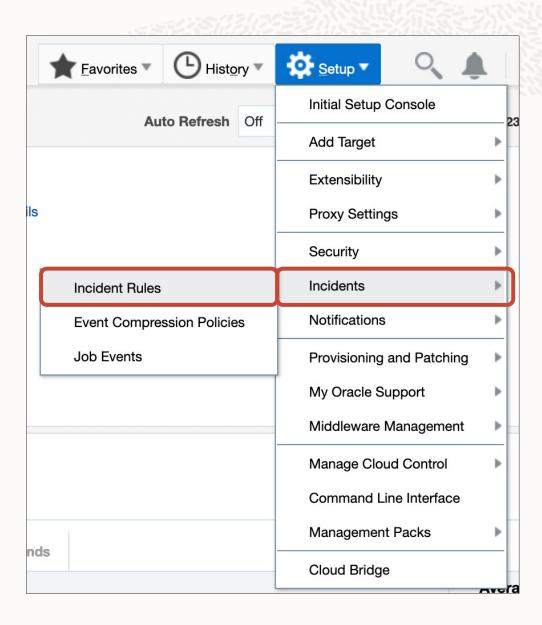
May 2, 2023 4:56:27 PM PDT

Updated On

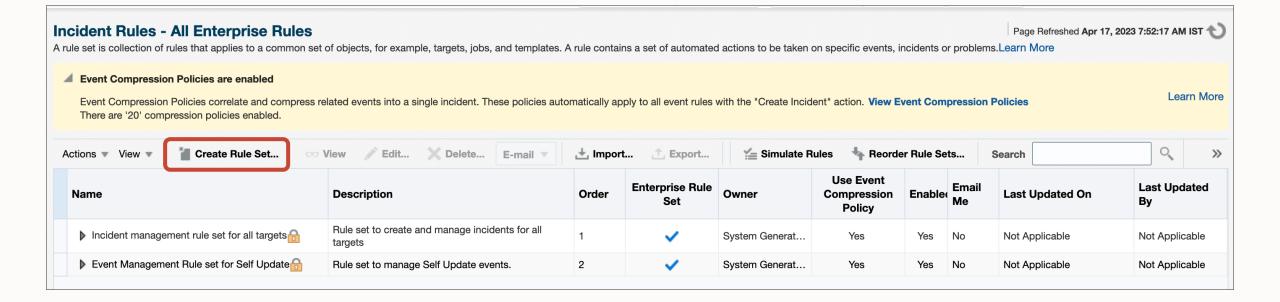
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Navigating to Incident Rules

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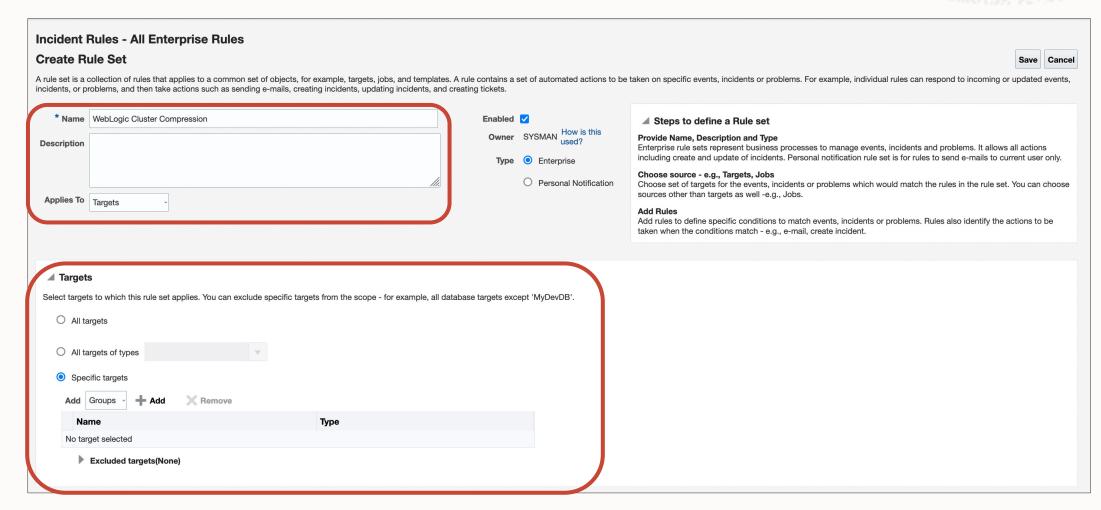


#### Incident Rules - Create Rule Set

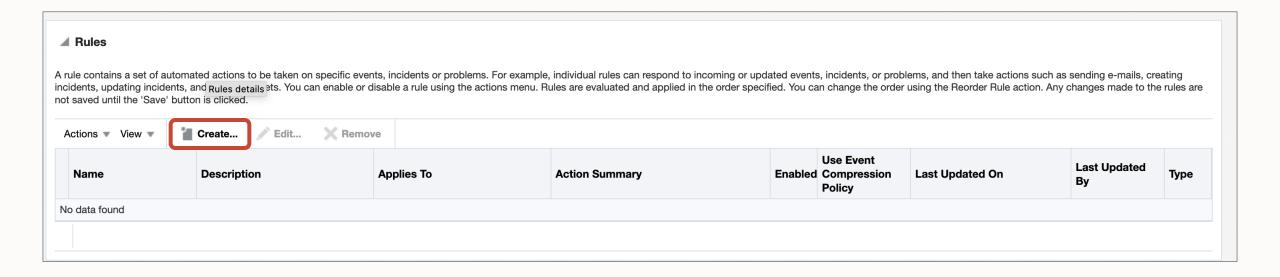




Incident Rules - Specify the name of rule set and select targets to apply on

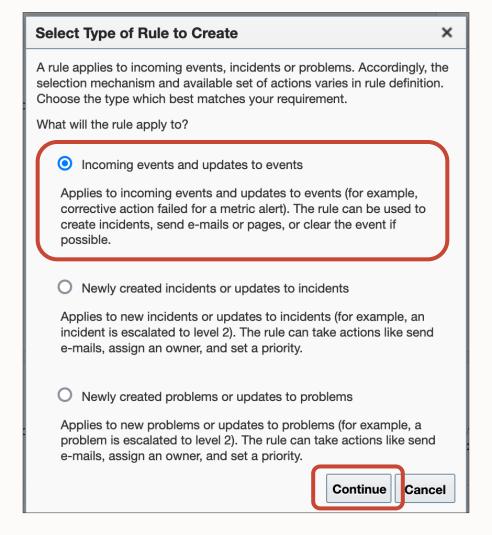


#### Incident Rules - Create rule

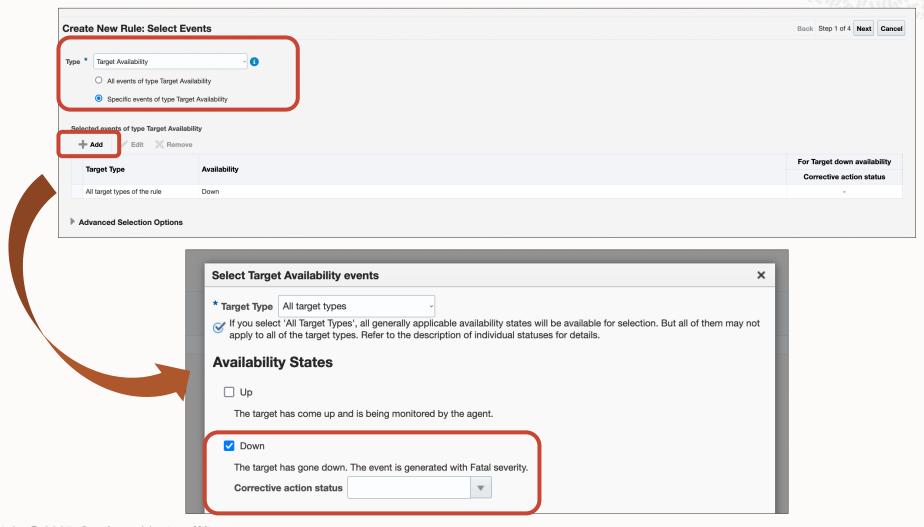




#### Incident Rules – Select for incoming events

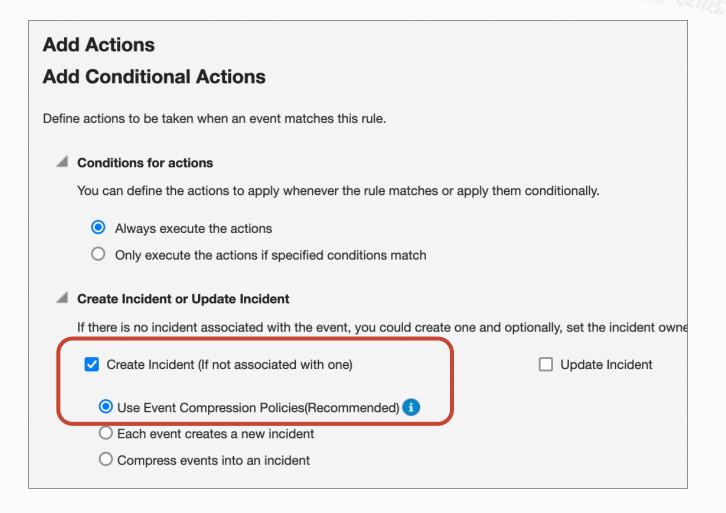


#### Incident Rules - Select event types

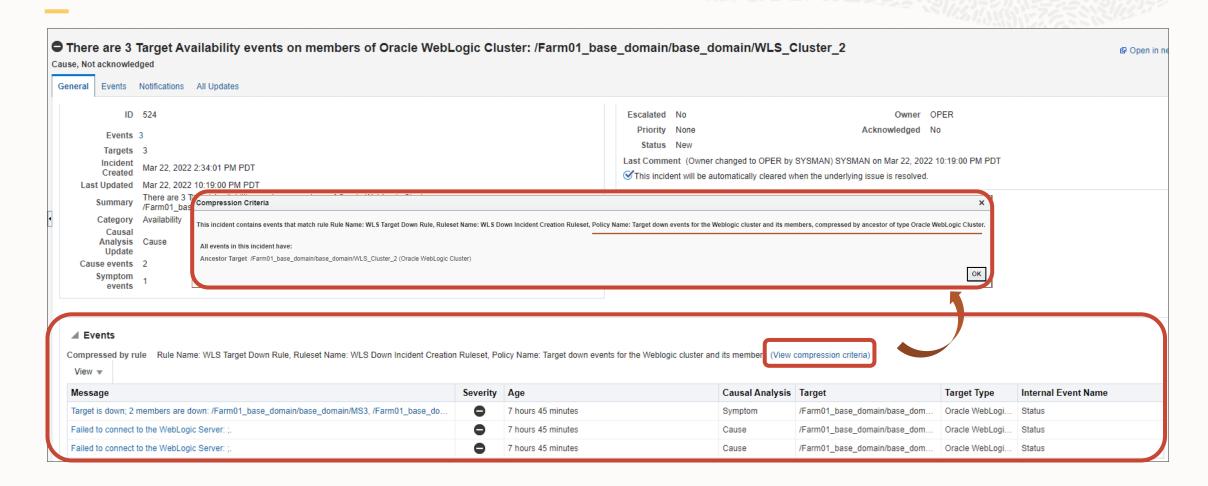




Incident Rules - Add Actions (enable policy use)



#### Incident with 3 compressed events





# **Use Event Compression to reduce event noise**





**Event Compression** 



**User-Defined Event Compression Policies** 



**Event Compression Analysis** 



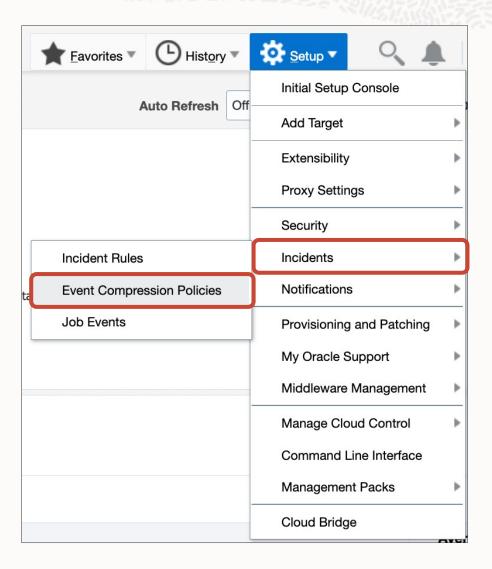
# **User-Defined Event Compression Policies**

- Option to create a user-defined event compression policy
  - Users can author their own policies that will apply to all incident-creating rules
- Useful if the OOB policies do not fit ones use case
- To create, update, or delete a user-defined event compression policy, you must have *Create Business Rule* privilege
- User-Defined policies can be published and used by other administrators



Navigating to Event Compression Policies

Setup > Incidents > Event Compression Policies





# **Event Compression Policies**

#### **Event Compression Policies**

Event Compression reduces event noise by automatically compressing, or grouping, sets of related events into a smaller number of actionable incidents. Event compression policies specify the different types of events and criteria by which they are compressed together. These policies work with your incident rule sets.

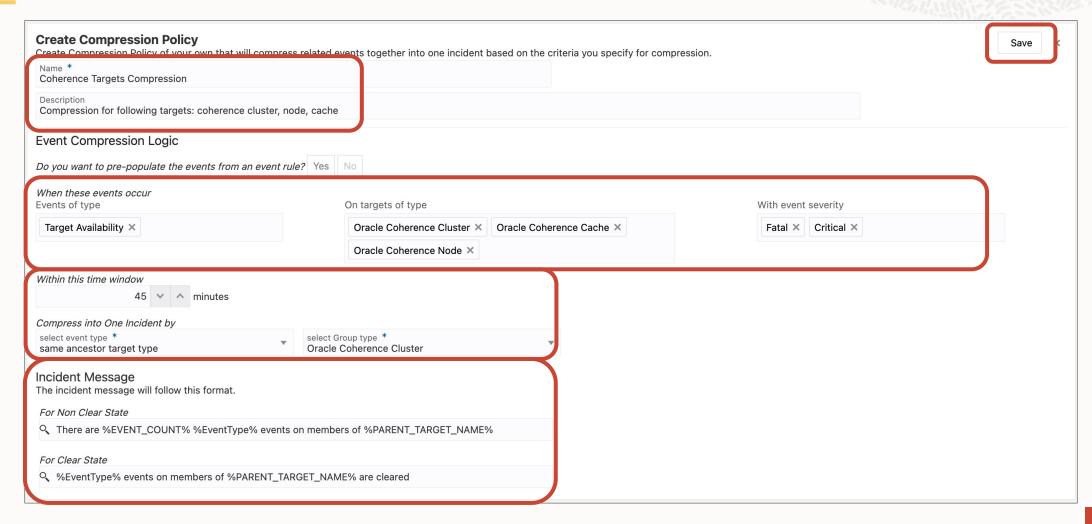
Use Event Compression Analysis to see how much incident reduction can be achieved using event compression policies.

Create New Policy

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#### Create compression policy



# Policy created

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Use Event Compression Analysis to see how much incident reduction can be achieved using event compression policies.

Create	A	D-1	:

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usrrep pol			8	SYSMAN	Published	≡▼
Coherence Targets Compression	Compression for following targets: coherence cluser, node, cache		9	SYSMAN	Draft	≡ ▼



# **Testing the User-Defined Policy**

# **Event Compression Analysis**

Event Compression Analysis to see how much incident reduction can be achieved using of	assistivitially significant include it include it include it in carrier carrier compression policies.						
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usrrep pol			8	SYSMAN	Published	=	

# **Use Event Compression to reduce event noise**





**Event Compression** 



**User-Defined Event Compression Policies** 



**Event Compression Analysis** 



- To help users understand the benefit of event compression policies
- Useful for testing draft policies
- Event compression will be simulated using the user's own events data (e.g. last 30 days)
- Users can compare:
  - Number of incidents in last month vs. (smaller) number of incidents with event compression enabled
- Users can run these analysis reports on demand

# Navigate to analysis

Event Compression Analysis to see how much incident reduction can be achieved using event compression policies.						
Policy Name	Description	Enabled	Ord 🔺	Created By	Status	Actio
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Coherence Targets Compression	Compression for following targets: coherence cluser, node, cache		9	SYSMAN	Draft	≡ ▼

# Analysis homepage

#### **Event Compression Policy Analyzer**

Event Compression Policy Analysis helps you understand the benefits of events compression policies on your existing incident rule sets by reducing the overall number of incidents created. It simulates the incidents that would have been created with event compression policies enabled and allows you to analyze these incidents against your actual incidents.

**Analysis** 

test

Completed

Requested by SYSMAN

Submitted on Apr 16, 2023 8:14:28 PM PDT View Job Details

Events From Database System Oemrep\_Database\_sys
From Mar 16, 2023 12:00:00 AM PDT
To Apr 16, 2023 11:59:59 PM PDT

Submission Date: New to Old

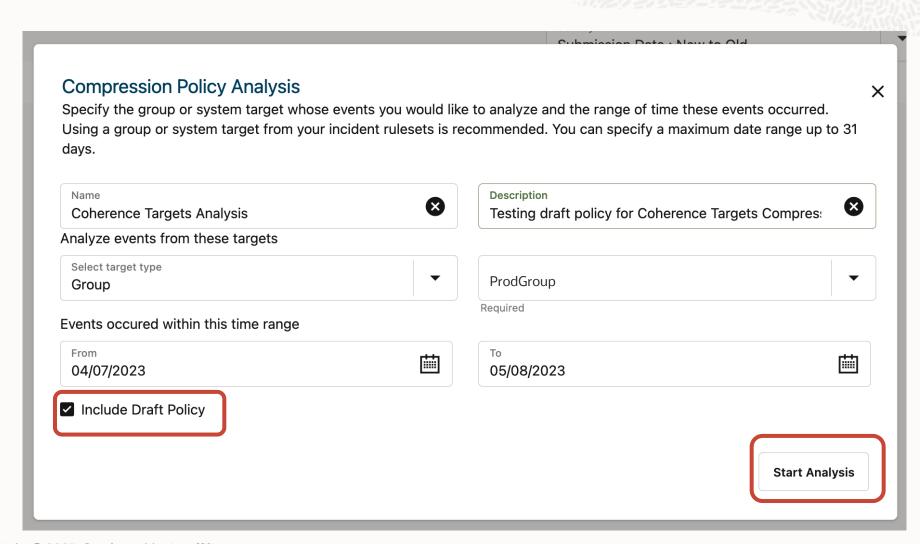
Sort by

Description



**Start New Analysis** 

#### Start analysis





Policy analysis job...Start → In-Progress → Completed

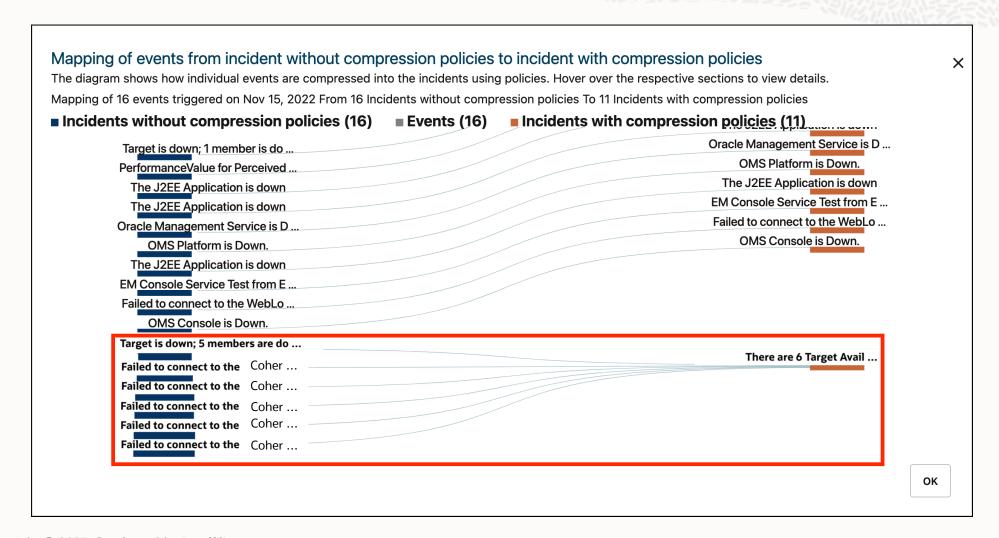
#### **Event Compression Policy Analyzer** Event Compression Policy Analysis helps you understand the benefits of events compression policies on your existing incident rule sets by reducing the overall number of incidents created. It simulates the incidents that would have been created with event compression policies enabled and allows you to analyze these incidents against your actual incidents. Sort by **Start New Analysis Analysis** Submission Date: New to Old Description Events From Group ProdGroup **Coherence Targets Analysis** Completed From Apr 7, 2023 12:00:00 AM EST Submitted on I May 8, 2023 1:46:34 PM EST Requested by SYSMAN To May 8, 2023 11:59:59 PM EST View Job Details



## Analysis results pt.1



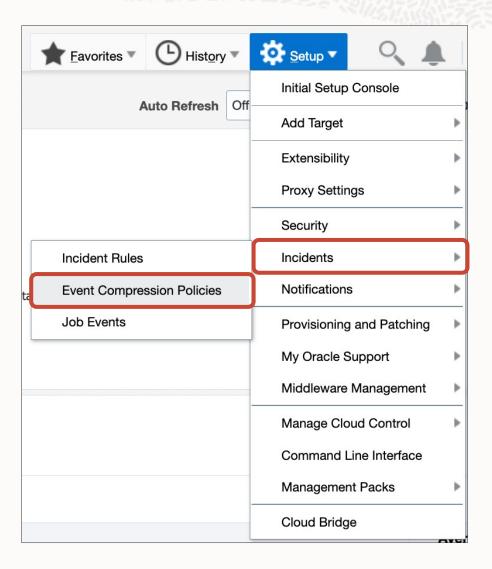
#### Analysis results pt.2





Navigating to Event Compression Policies

Setup > Incidents > Event Compression Policies





# **Event Compression Policy actions**

Event Compression Analysis to see how much incident reduction can be achieved using event of	compression policies.				Create	New Poli
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usrrep pol			8	SYSMAN	Red	order



# Publish and enable the policy

#### **Event Compression Policies**

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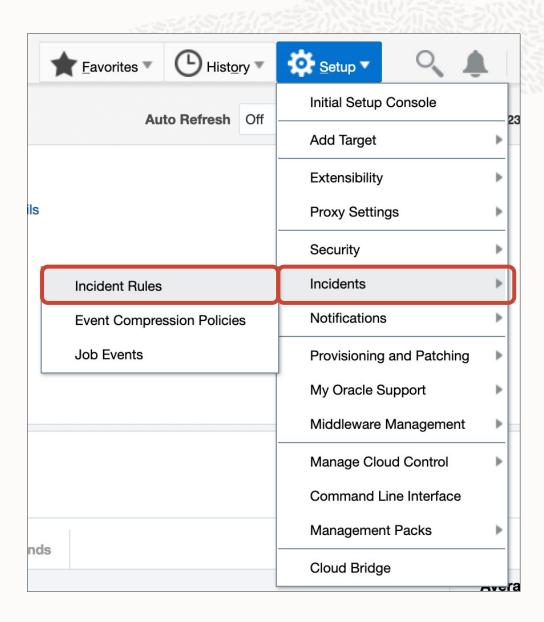
Create New Policy

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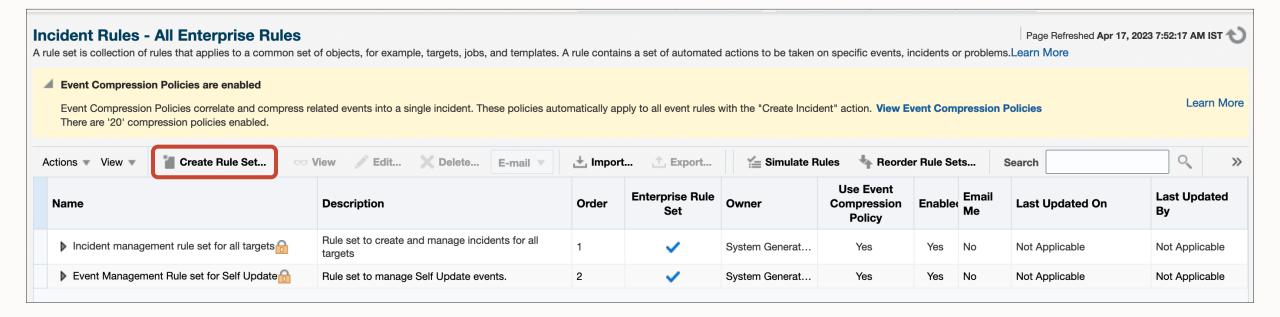


Navigating to Incident Rules

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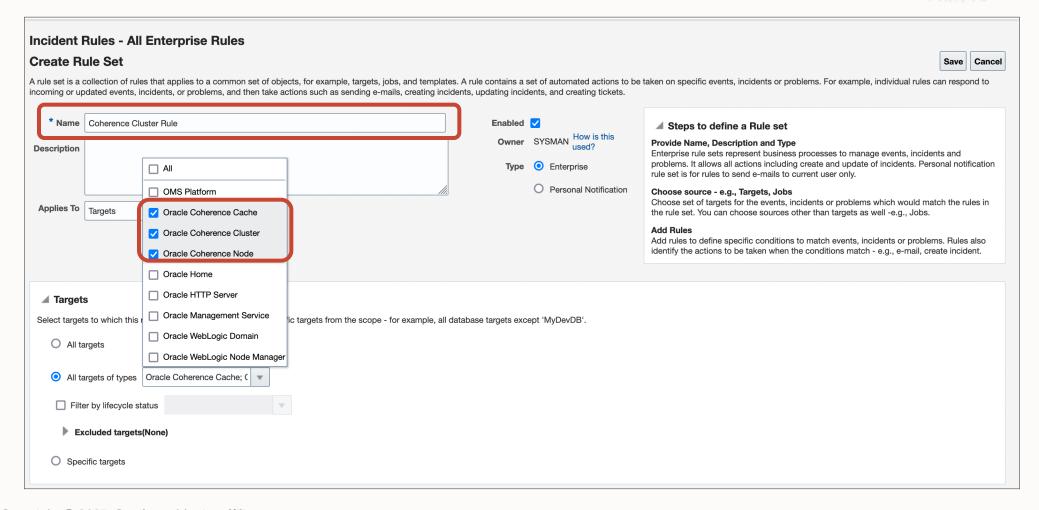


#### Incident Rules - Create Rule Set



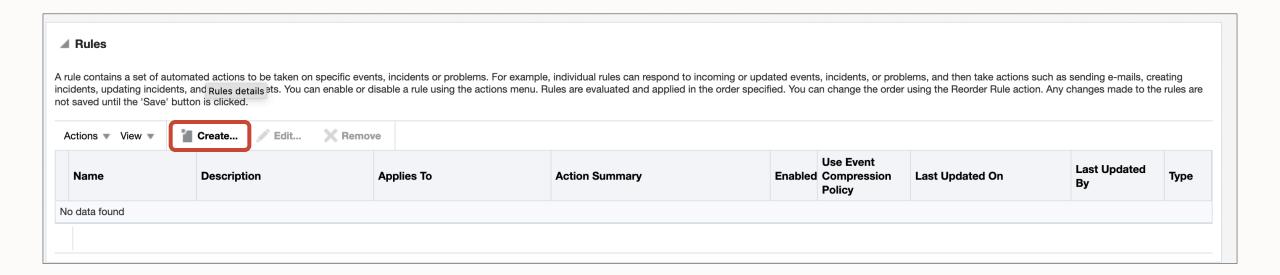


Incident Rules - Specify the name of rule set and select targets to apply on



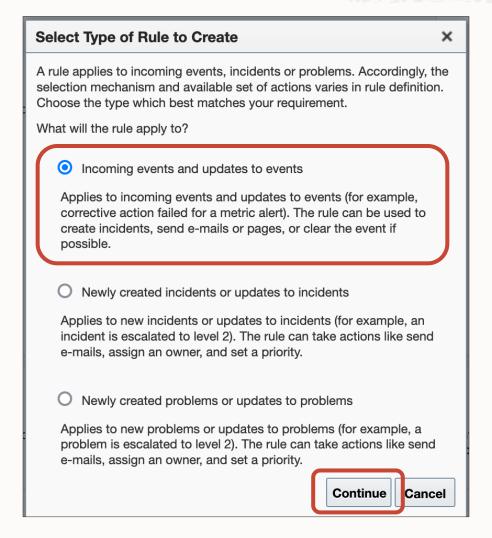


#### Incident Rules – Create rule

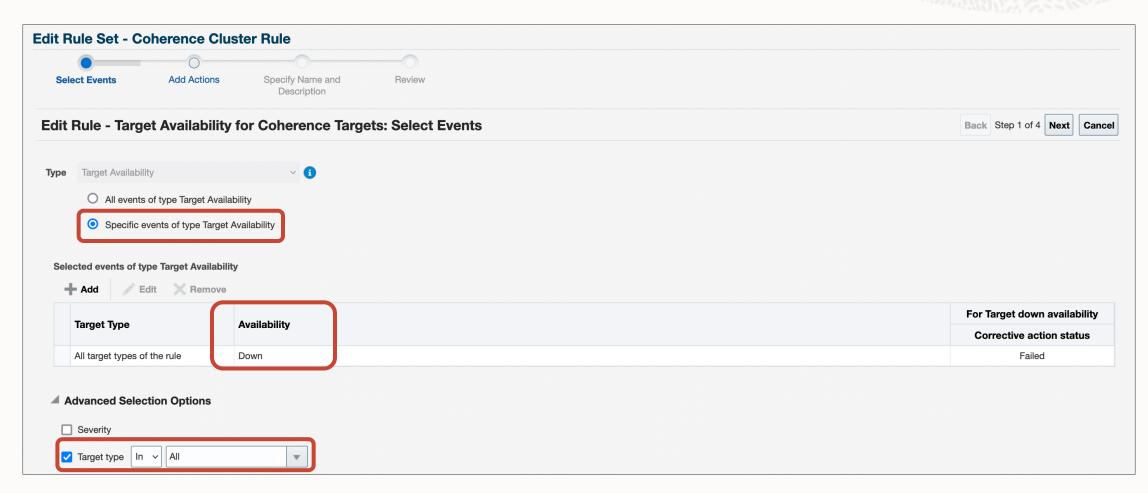




#### Incident Rules – Select for incoming events

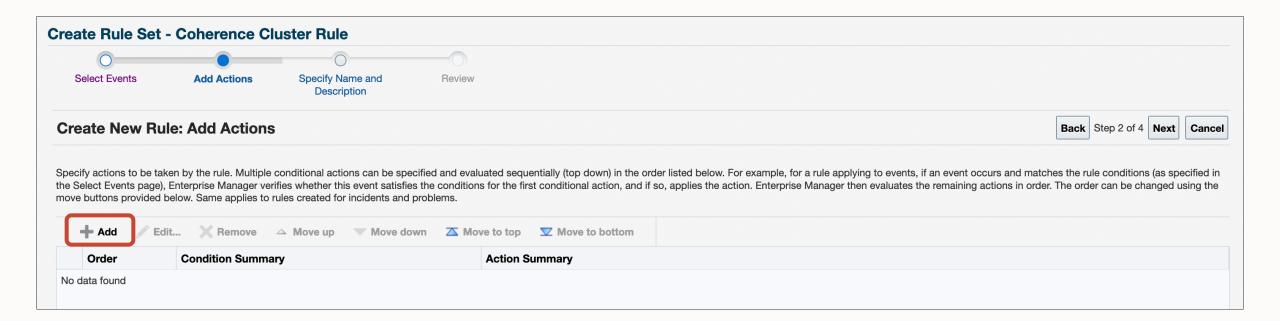


Incident Rules – Select event criteria



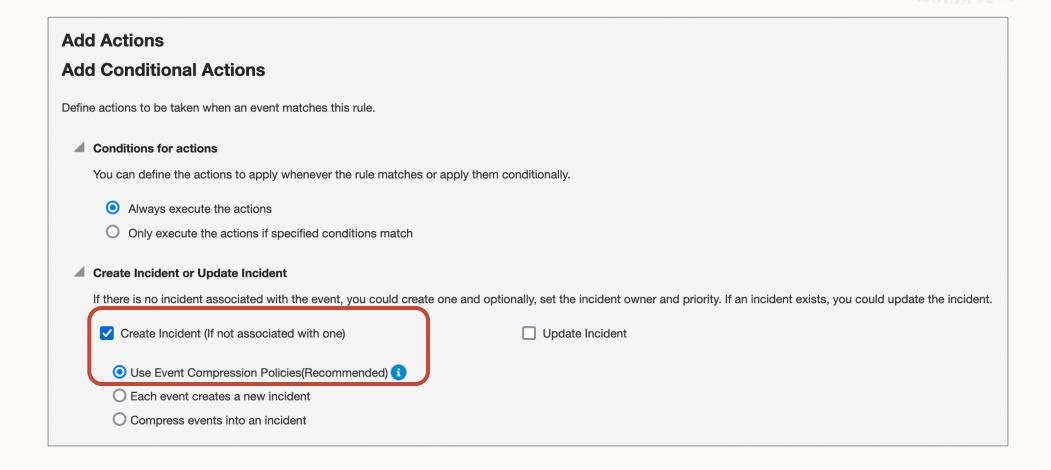


#### Incident Rules - Add actions



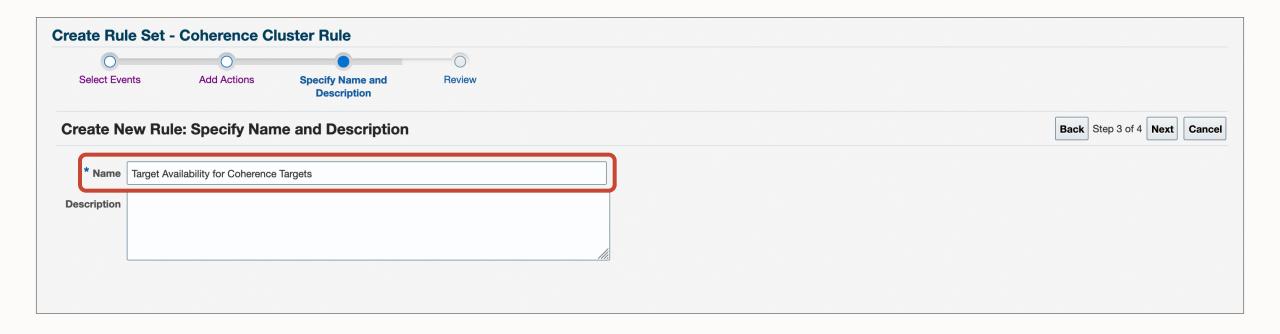


#### Incident Rules – Add conditions for actions



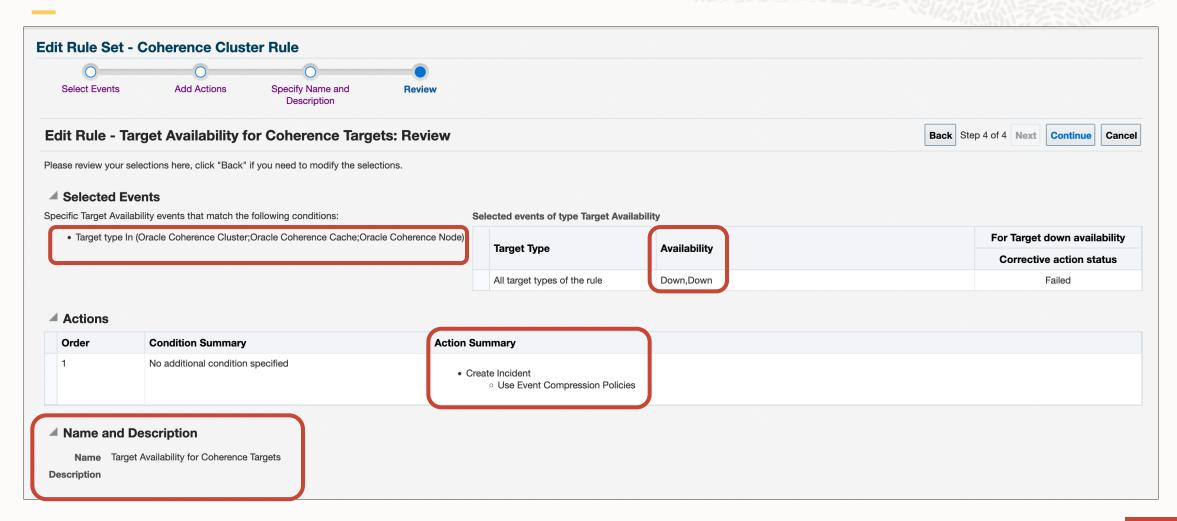


Incident Rules – Specify name and description



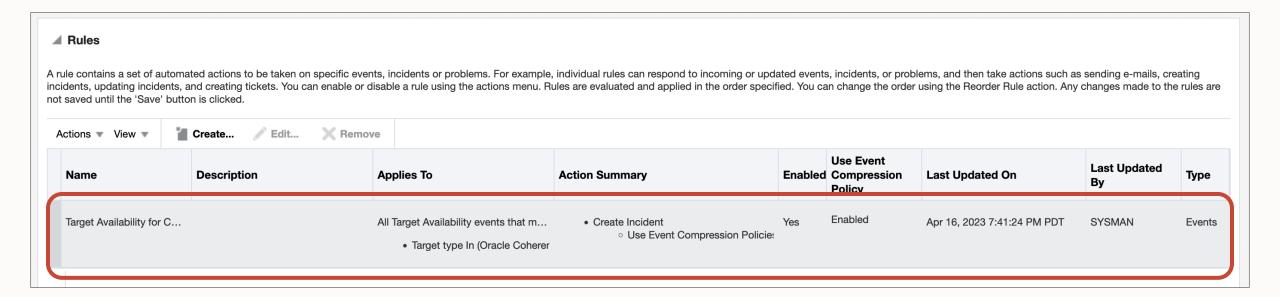


#### Incident Rules – Review rule created

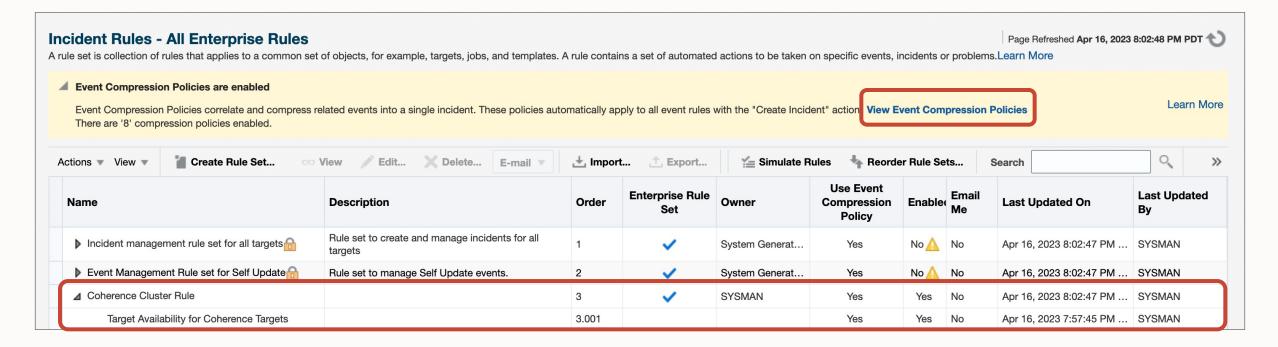




#### Incident Rules – Rule created



#### Incident Rules – Rule saved



Rule enabled to begin compression of Coherence targets per the user-defined policy



# **Reducing event noise with Event Compression**

- Event Compression groups related events into a smaller set of actionable incidents to reduce event noise
  - Two types:
    - Event Compression Policies (recommended)
    - Rule-Based Event Compression
- Oracle provides seven OOB policies
- Can create your own policies
- Use the Event Compression Analysis tool to test out your policy before publishing and enabling it for use



#### Resources

- 1. Event Compression Policies Documentation
- 2. Videohub: Manage Incidents More Effectively with Event Compression and Dynamic Runbooks
- 3. Blog: Reducing alert fatigue with Event Compression Policies in Oracle Enterprise Manager
- 4. Other Related Blogs



# Thank You!

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