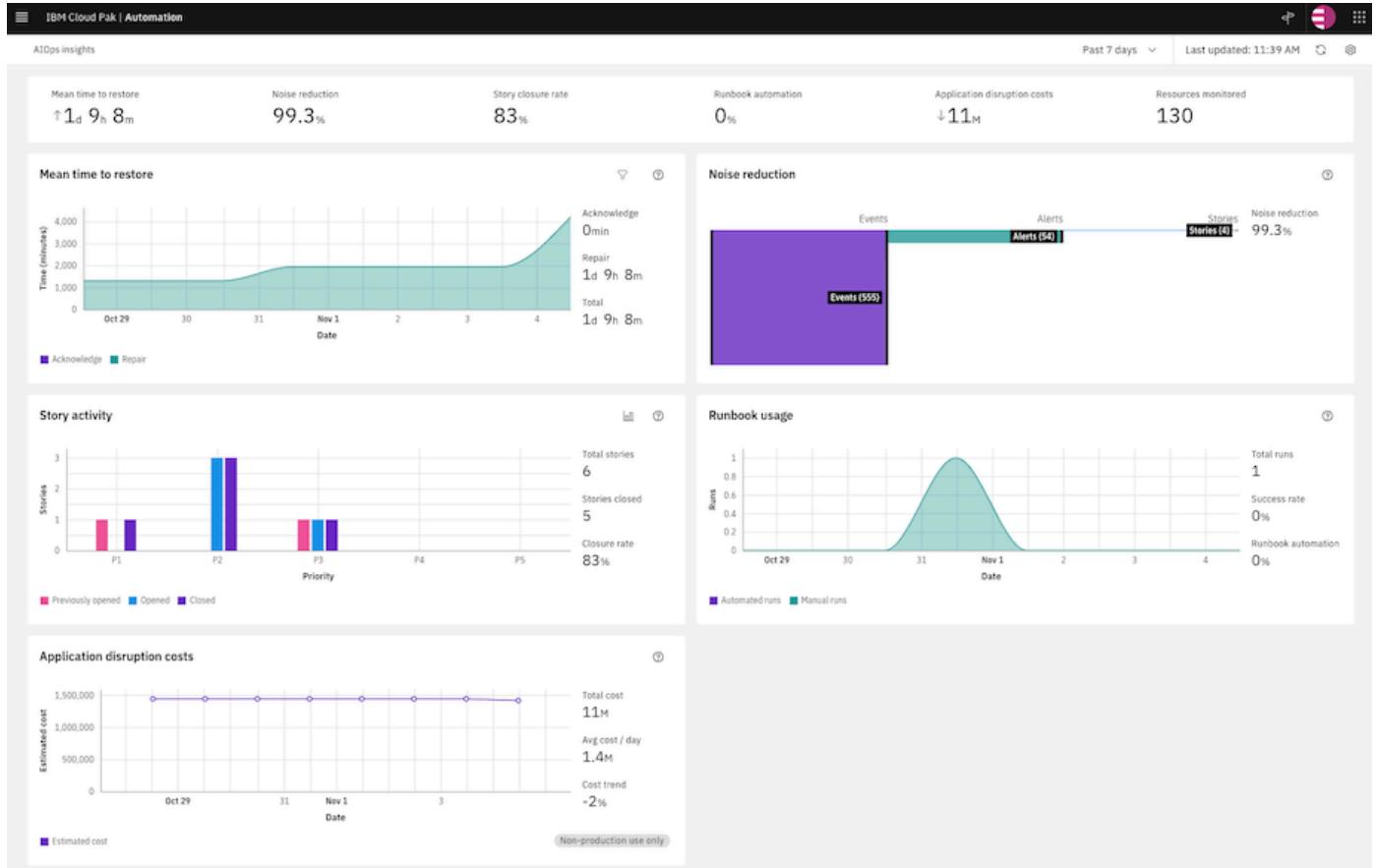


# IBM AIOps

## Sample Demo Script for the Click Through PPT



©2023 Włodzimierz Dymaczewski/Niklaus Hirt / IBM

# 1. Introduction

This script is intended as a guide to demonstrate IBM AIOps using the Click Through PPT. The script is presented in a few sections. You can utilize some or all sections depending upon your client's needs.

The script is intended to be used with the [Click Through PPT](#).

You can watch the [Demo Walkthrough video](#) to get an idea on how to do the demo (based on 3.2).

In the demo script,

- “ **Action**” denotes a setup step for the presenter.
- “ **Narration**” denotes what the presenter will say.
- “ **Note**” denotes where the presenter may need to deviate from this demo script or add supplemental comments.

## 1.1 Key Terminology

You should be familiar with the following terminology when discussing IBM AIOps:

- **Application:** IBM AIOps brings together the capability to group resources from different data types into applications. Clients can flexibly define an application to meet their business needs. With applications, you can obtain an integrated view of resources to understand inter-dependencies.
- **Event:** A point-in-time statement in IBM AIOps that tells us that something happened somewhere in a client's environment. It tells us what happened, where it happened, and when it happened. An event does not have to be exceptional or actionable, it can simply tell us something has happened.
- **Alert:** An alert in IBM AIOps represents an abnormal condition somewhere in an environment that requires resolution. It tells us what is happening, where it is happening, and when it started to happen. It may be informed by one or more events. It has a start time and end time.
- **Incident:** A incident in IBM AIOps represents an outage or reduction in service which is currently impacting customers and requires rapid remediation. It is created based on one or more trigger alerts that indicate the outage or reduction in service. Any alert of severity Major or Critical will act as a trigger alert. Other alerts that share the same cause may add context to the incident.
- **Incident:** An incident in ServiceNow is an event of interruption disruption or degradation in normal service operation. An open incident in ServiceNow implies that the customer is impacted, or it represents the business risk.
- **Topology:** A topology is a representation of how constituent parts are interrelated. In IBM AIOps, an algorithm analyzes how the event nodes are proximate to each other and groups them into a topology-based correlation.

## 1.2 Demonstration scenario

### 1.2.1 Overview

This use case shows clients how IBM AIOps proactively helps avoid application downtimes and incidents impacting end-users. You play the role of an SRE/Operations person who has received a Slack message indicating that the RobotShop application is not displaying customer ratings. This is an important feature of the RobotShop application since RobotShop is the main platform from which the fictional company sells its robots.

### 1.2.2 Use Case

The use case demonstrates how IBM AIOps can assist the SRE/Operations team as they identify, verify, and ultimately correct the issue. The demonstration shows integration with Instana, Turbonomic, ServiceNow, and Slack. Slack is the ChatOps environment used for working on this incident.

You will demonstrate the following major selling points around IBM AIOps:

1. **Pulls data from various IT platforms:** IBM AIOps monitors incoming data feeds including logs, metrics, alerts, topologies, and tickets, highlighting potential problems across incoming data, based on trained machine learning models.
2. **Utilizes AI and natural language processing:** An insight layer connects the dots between structured and unstructured data, using AI and natural language processing technologies. This allows you to quickly understand the nature of the incident.
3. **Provides trust and transparency:** Using accurate and trustworthy recommendations, you can move forward with the diagnosis of IT system problems and the identification and prioritization of the best resolution path.
4. **Resolves rapidly:** Time and money are saved from out-of-the-box productivity that enables automation and utilizes pre-trained models. A “similar issue feature” from past incidents allows you to get services back online for customers and end-users.

## 1.3 Demonstration flow

1. Scenario introduction
2. The Slack Incident
3. Verify the status of the Robot Shop application.
4. Understanding and resolving the incident
  1. Open the Incident
  2. Examining the Incident
  3. Acknowledge the Incident
  4. Probable Cause
  5. Similar Incidents
  6. Metric Anomalies
  7. Examine the Alerts
  8. Understand the Incident
  9. Examining the Topology
  10. Fixing the problem with runbook automation
  11. Resolve the Incident
5. Summary

## 1.4 Demonstration Video Walkthrough

You can watch the [Demo Walkthrough video](#) to get an idea on how to do the demo (based on 3.2).

# 2. Deliver the demo

## 2.1 Introduce the demo context

### Narration

Welcome to this demonstration of the IBM AIOps platform. In this demo, I am going to show you how IBM AIOps can help your operations team proactively identify, diagnose, and resolve incidents across mission-critical workloads.

You'll see how:

- IBM AIOps intelligently correlates multiple disparate sources of information such as logs, metrics, events, tickets and topology
- All of this information is condensed and presented in actionable alerts instead of large quantities of unrelated alerts
- You can resolve a problem within seconds to minutes of being notified using IBM AIOps' automation capabilities

During the demonstration, we will be using the sample application called RobotShop, which serves as a proxy for any type of app. The application is built on a microservices architecture, and the services are running on Kubernetes cluster.

### Action

Use demo [introductory PowerPoint presentation](#), to illustrate the narration. Adapt your details on Slide 1 and 13

### Narration

**Slide 2:** Let's look at the environment that we have set up. Our sample application: "RobotShop" is running as a set of microservices in a Kubernetes cluster. Typically, the Operations team maintaining such application has a collection of tools through which they collect various data types.

**Slide 3:** Here we have several systems that are sending Events into AIOPS (slide 3), like:

- GitHub
- Turbonomic
- Instana
- Selenium
- Falcon (Sysdig)

Those Events are being grouped into Alerts to massively reduce the number of signals that have to be treated. We usually observe a ratio of about 98-99% of reduction. This means that out of 20'000 events we get about 200-300 Alerts that can be further prioritised.

**Slide 4:** AIOPS also ingests Logs from ElasticSearch (this could be Splunk or other Log Aggregators). The Log Anomaly detection is trained on a well running system and is able to detect anomalies and outliers. If an Anomaly is detected it will be grouped with the other Events.

**Slide 5:** AIOPS also ingests Metrics from Instana (this could be Dynatrace, NewRelic or others). The Metric Anomaly detection is trained on a well running system and creates dynamic baselines. Through different algorithms it is able to detect anomalies and outliers. If an Anomaly is detected it will also be grouped with the other Events.

**Slide 6:** Alerts that are relevant for the same Incident are packaged into a so called Incident. The Incident will be enriched and updated with information as it gets available.

**Slide 7:** One example is the Topology information. Not only will AIOPS tell me that I have a problem and present all relevant Events but it will also tell me where in the system topology the problem is situated.

**Slide 8:** Furthermore the Incident is enriched with past resolution information coming from ServiceNow tickets. I'll explain this more in detail during the demo.

**Slide 9:** The Stories can either be examined in the AIOPS web interface or can be pushed to Slack or Teams if your teams are using a ChatOps approach.

**Slide 10:** If Operations or SREs have created Runbooks, AIOPS can automatically trigger a Runbook to mitigate the problem.

 **Note:** We are NOT using Slack in this demo.

## 2.2 The Slack incident

### 📣 Narration

Now let's start the demo.

### 🚀 Action

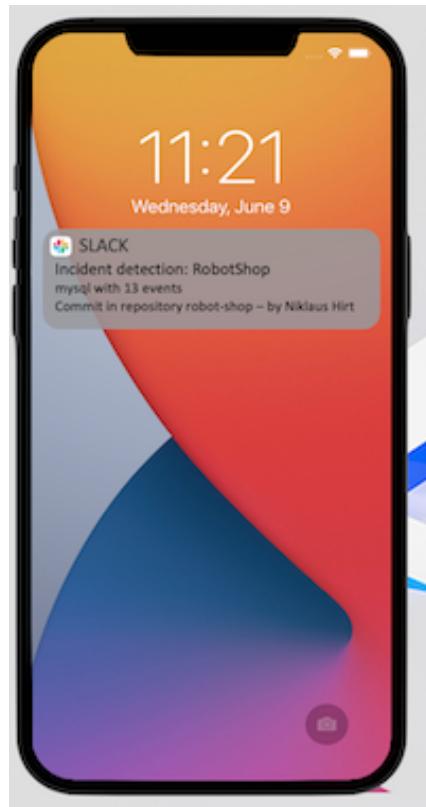
- Click on the "Nightmare before Christmas" Tile

### 📣 Narration

In this demo I am the application SRE (Site Reliability Engineer) responsible for an e-commerce website called RobotShop, an online store operated by my company.

Imagine, it's a morning at the office, some days before Christmas and I'm just getting myself a coffee, when I receive the following slack message on my mobile, alerting me that there is some problem with the site.

Let me check what's happening.



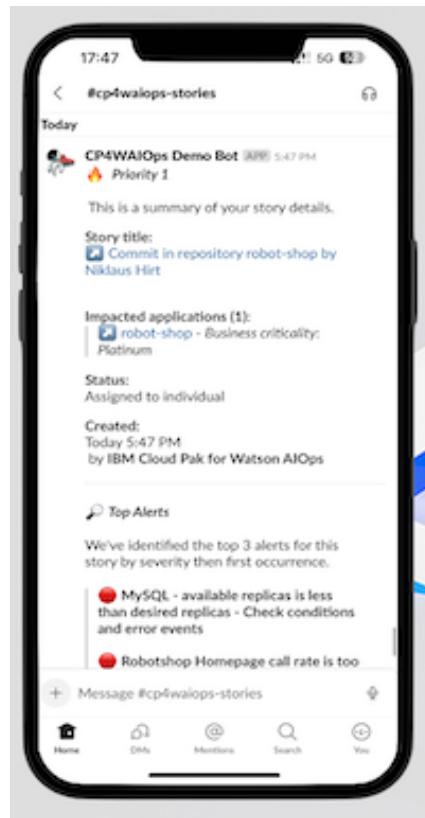
### 🚀 Action

- Click on the Slack Message

## Narration

The Slack message has been sent from our IBM AIOps Solution, alerting me, that there is a problem with the RobotShop application, which is our online sales portal.

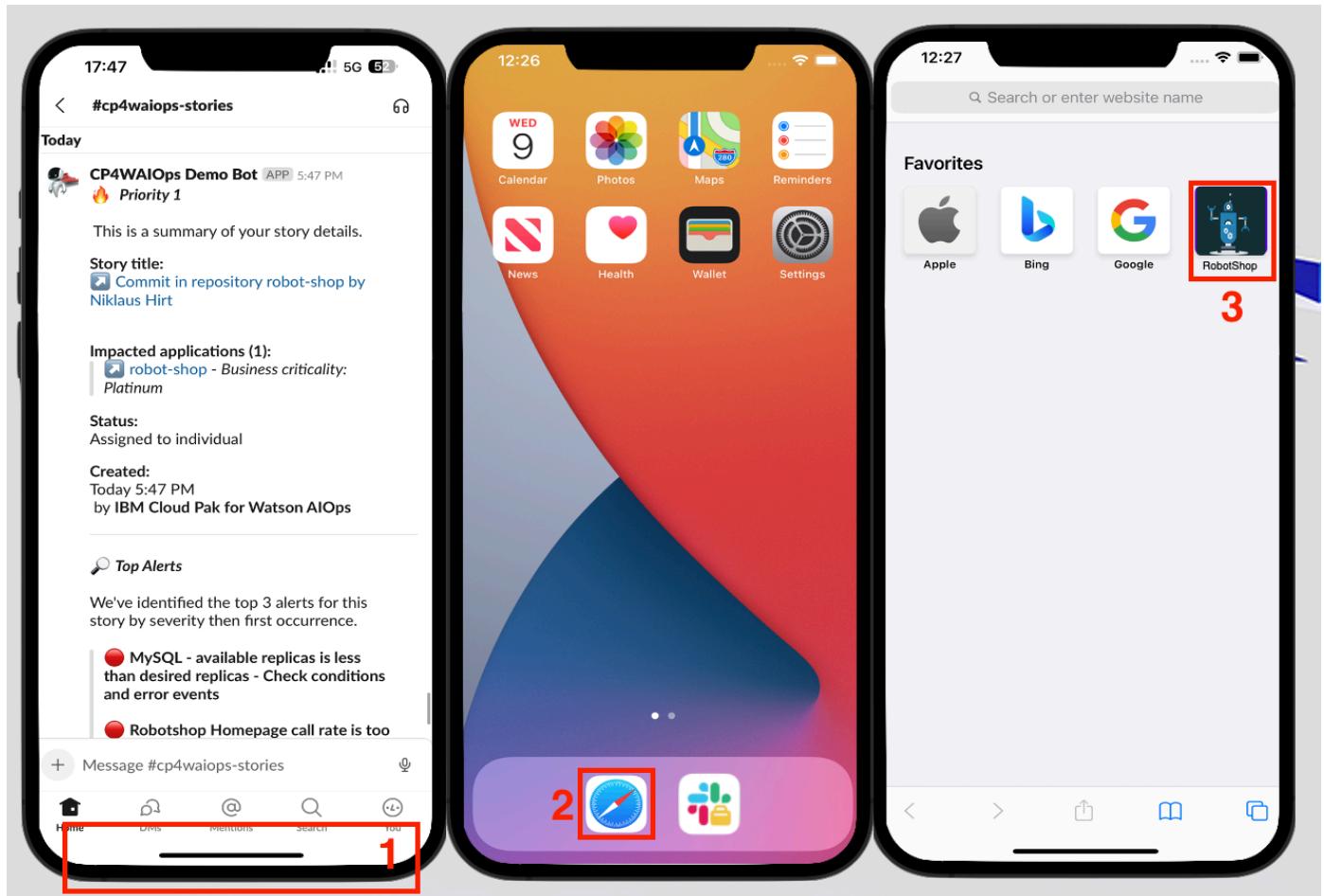
Obviously I have to make sure that the pre Christmas sales are running smoothly as this is by far the biggest quarter of the year.



## 2.3 Verify the status of the Robot Shop application

### Narration

Let me verify what's going on with the RobotShop site.

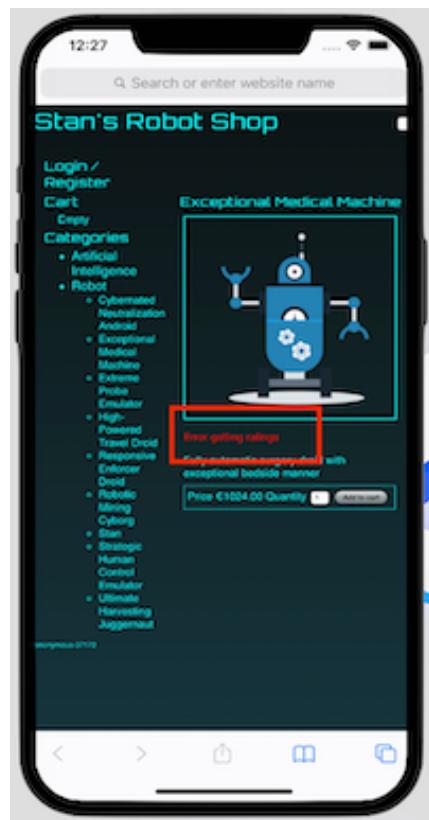


### Action

- Click at the bottom of the phone (1)
- Open the Safari Browser (2)
- Click on the RobotShop bookmark (3)

## Narration

It seems that the application is up but displays an error that it cannot get any ratings.



## Narration

I know that there are many ratings for each of the products that we sell, so when none are displayed, it means that there is a likely problem with the **Ratings** service that may heavily impact client's purchasing decisions and it may well be a sign of a wider outage.

So now I'm going into my AIOps Incident Management solution to solve the problem as quickly as possible.

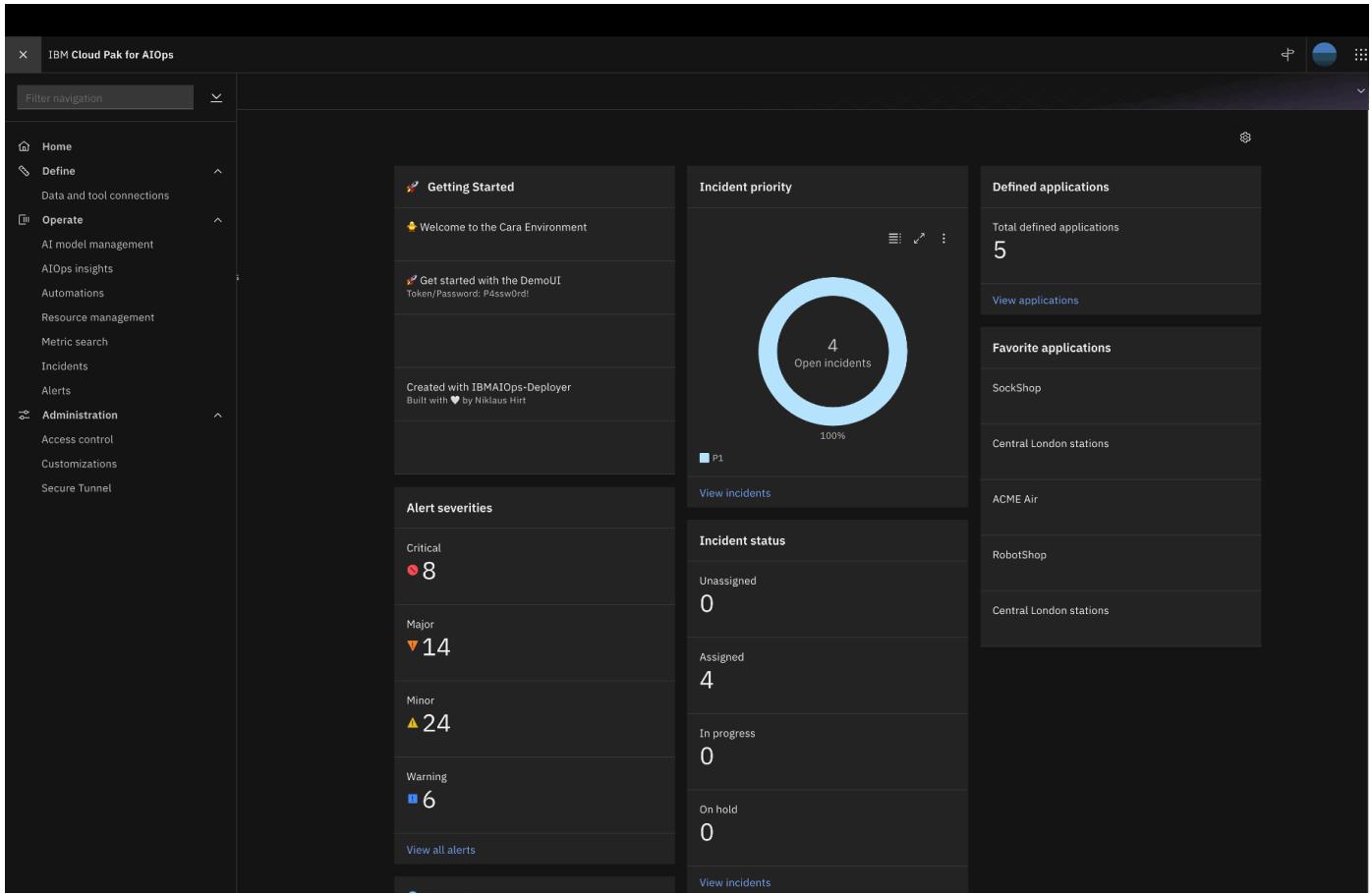


## Action

- Click on the **IBM AIOps** icon in the left menu bar

## 2.4 Understanding the incident

### 2.4.1 Open the Incident



#### Action

- Click the **Hamburger Menu** on the upper left. Click **Incidents**

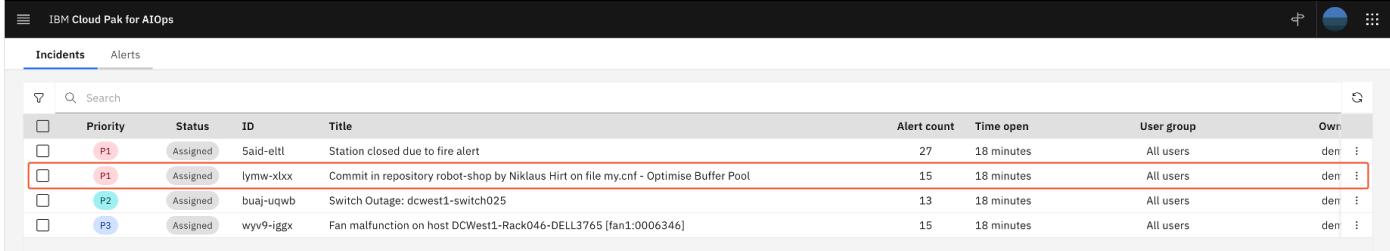
## 2.4.2 Examining the Incident

### Narration

We can see that the simulation has created a **Incident**.

The **Incident** includes grouped information related to the incident at hand. It equates to a classic War Room that are usually put in place in case of an outage.

The **Incident** contains related log anomalies, topology, similar incidents, recommended actions based on past trouble tickets, relevant events, runbooks, and more.



The screenshot shows the IBM Cloud Pak for AIOps interface with the 'Incidents' tab selected. The table lists four incidents:

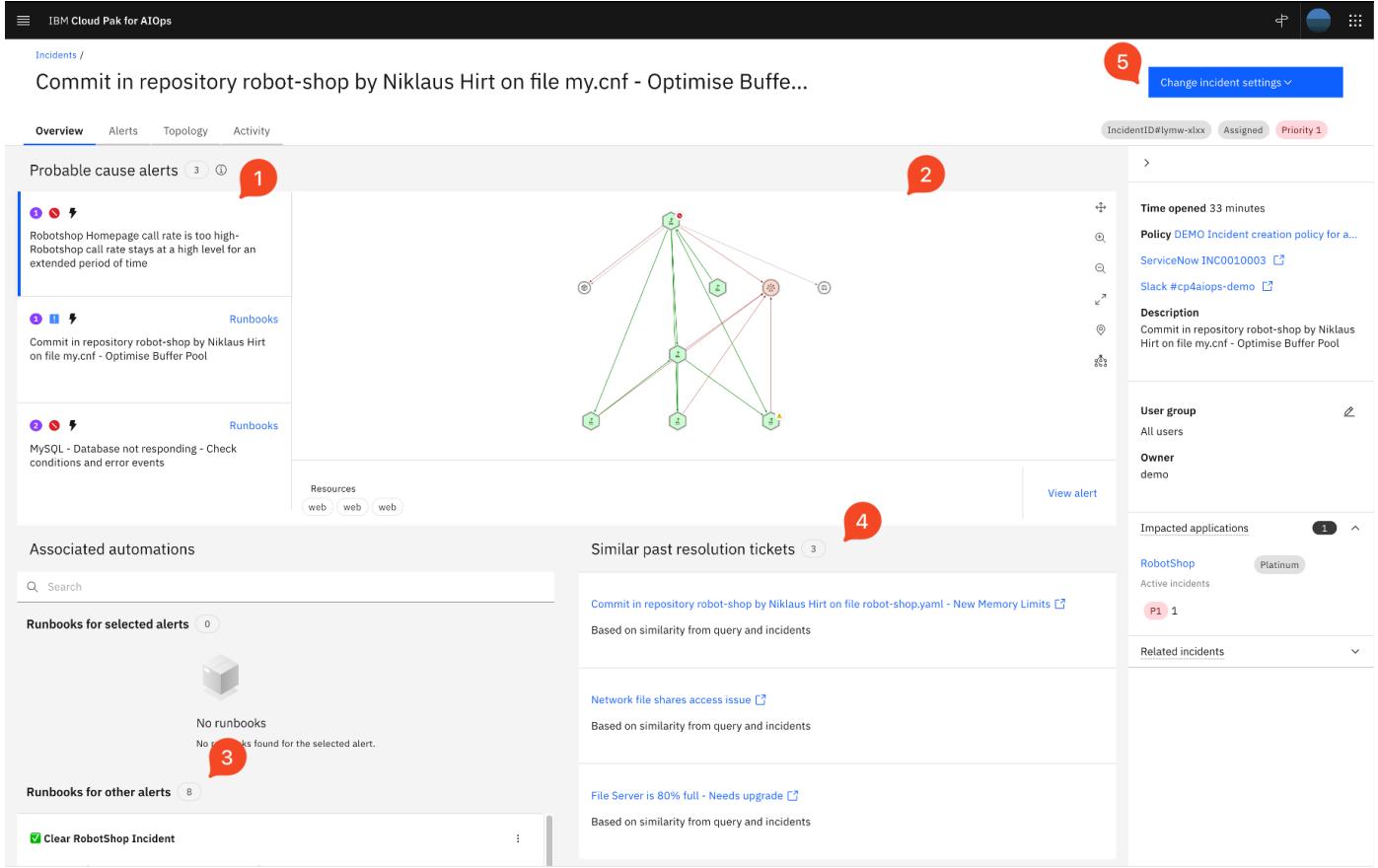
	Priority	Status	ID	Title	Alert count	Time open	User group	Own
<input type="checkbox"/>	P1	Assigned	Said-eltl	Station closed due to fire alert	27	18 minutes	All users	dem
<input type="checkbox"/>	P1	Assigned	lymw-xllx	Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool	15	18 minutes	All users	dem
<input type="checkbox"/>	P2	Assigned	buaq-uqwq	Switch Outage: dcwest1-switch025	13	18 minutes	All users	dem
<input type="checkbox"/>	P3	Assigned	wyv9-iggx	Fan malfunction on host DCWest1-Rack046-DELL3765 [fan1:0006346]	15	18 minutes	All users	dem

### Action

- Click on the **Incident Commit in repository...**

## Narration

Now let's have a look at the **Incident**.



The screenshot shows the IBM Cloud Pak for AIOps Incident view. At the top, it displays the incident title: "Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool". Below the title, there are tabs for Overview, Alerts, Topology, and Activity. The Overview tab is selected.

- Probable cause alerts (1)**: Shows three alerts:
  - Robotshop Homepage call rate is too high - Robotshop call rate stays at a high level for an extended period of time
  - Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool
  - MySQL - Database not responding - Check conditions and error events
- Topology (2)**: A network graph showing nodes connected by green and red lines, representing the system topology.
- Runbooks (3)**: Shows "No runbooks" found for the selected alert.
- Similar past resolution tickets (4)**: Lists similar incidents:
  - Commit in repository robot-shop by Niklaus Hirt on file robot-shop.yaml - New Memory Limits
  - Network file shares access issue
  - File Server is 80% full - Needs upgrade
- Incident details (5)**: Includes fields like Time opened (33 minutes), Policy (DEMO Incident creation policy for a...), and Description (Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool). It also shows User group (All users), Owner (demo), and Impacted applications (RobotShop, Platinum).

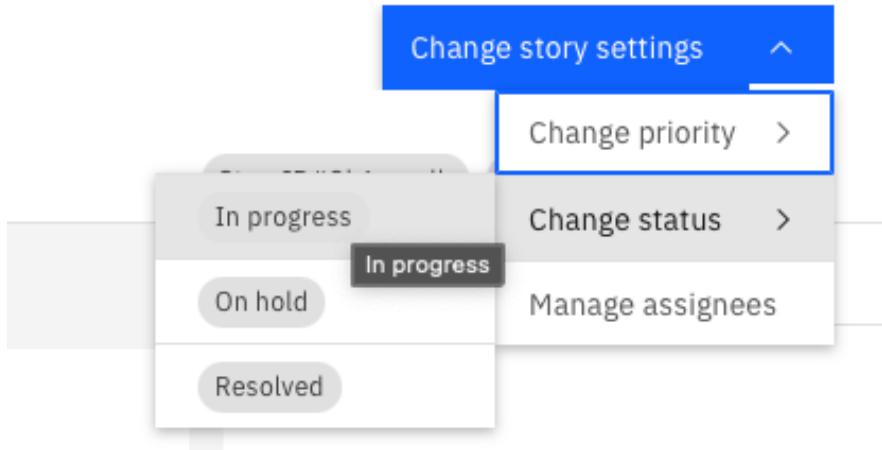
As I said before, the Incident regroups all relevant information concerning the incident at hand that have been identified by IBM AIOps.

1. A list of Alerts that have been identified by IBM AIOps to be the most probable cause
2. The localization of the problem related to the Topology
3. The suggested Runbooks to automatically mitigate the incident
4. Similar Incidents that resemble the incident at hand
5. Status of the Incident - here I can change the status and priority of the incident

## 2.4.3 Acknowledge the Incident

### Narration

First and before I continue examining the Incident I want to let my colleagues know that I'm working on the incident. So let me set it to In Progress.



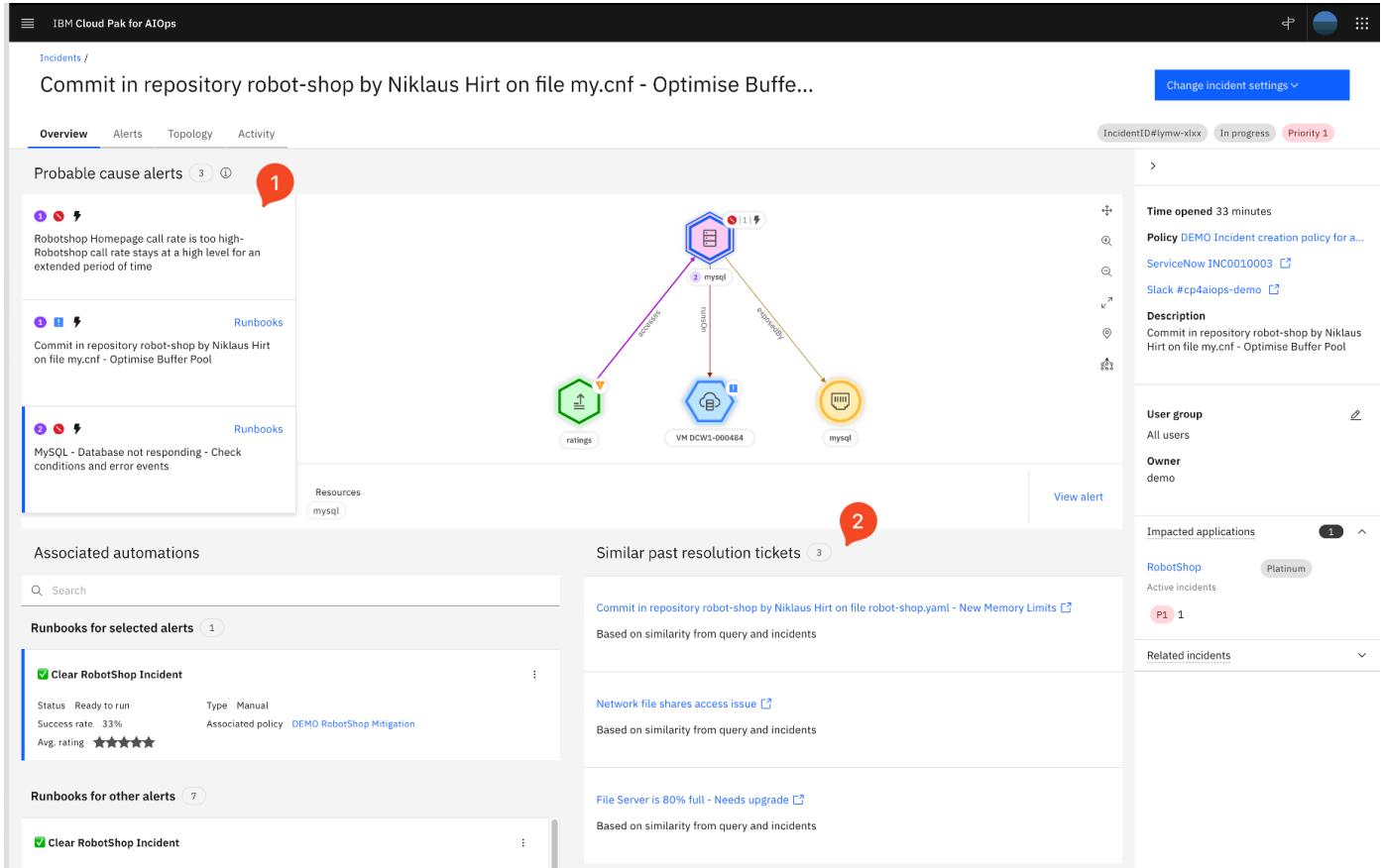
### Action

- Click on **Change Incident Settings**.
- Select **Change Status**.
- Click on **In progress**

## 2.4.4 Probable Cause

### Narration

IBM AIOps is showing me the Alerts that are most likely to be at the heart of the Problem. We call this **Probable Cause**.



The screenshot shows the IBM Cloud Pak for AIOps interface. At the top, it displays the title "IBM Cloud Pak for AIOps" and the sub-section "Incidents /". Below this, the "Overview" tab is selected, showing a summary of "Probable cause alerts" (1) and "Runbooks". The "Probable cause alerts" section lists three items: "Robotshop Homepage call rate is too high-", "Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool", and "MySQL - Database not responding - Check conditions and error events". The "Runbooks" section shows two entries: "Clear RobotShop Incident" and "MySQL - Database...". In the center, there is a "Topology" diagram showing nodes: "ratings" (green hexagon), "VM DCW1-000484" (blue hexagon), and "mysql" (orange circle). Arrows indicate connections between them. To the right of the topology, there is a detailed "Alert" card for the MySQL alert, which includes fields like "Time opened", "Policy", "ServiceNow ID", "Slack channel", "Description", "User group", "Owner", and "Impacted applications". Below the topology, there are sections for "Associated automations" and "Similar past resolution tickets" (2), which list other incidents related to MySQL and network file shares.

### Action

- Click on **Commit in repository...** in Probable Cause (1).
- Click on **MySQL – Database...** in Probable Cause (1).

## 2.4.5 Similar Incidents

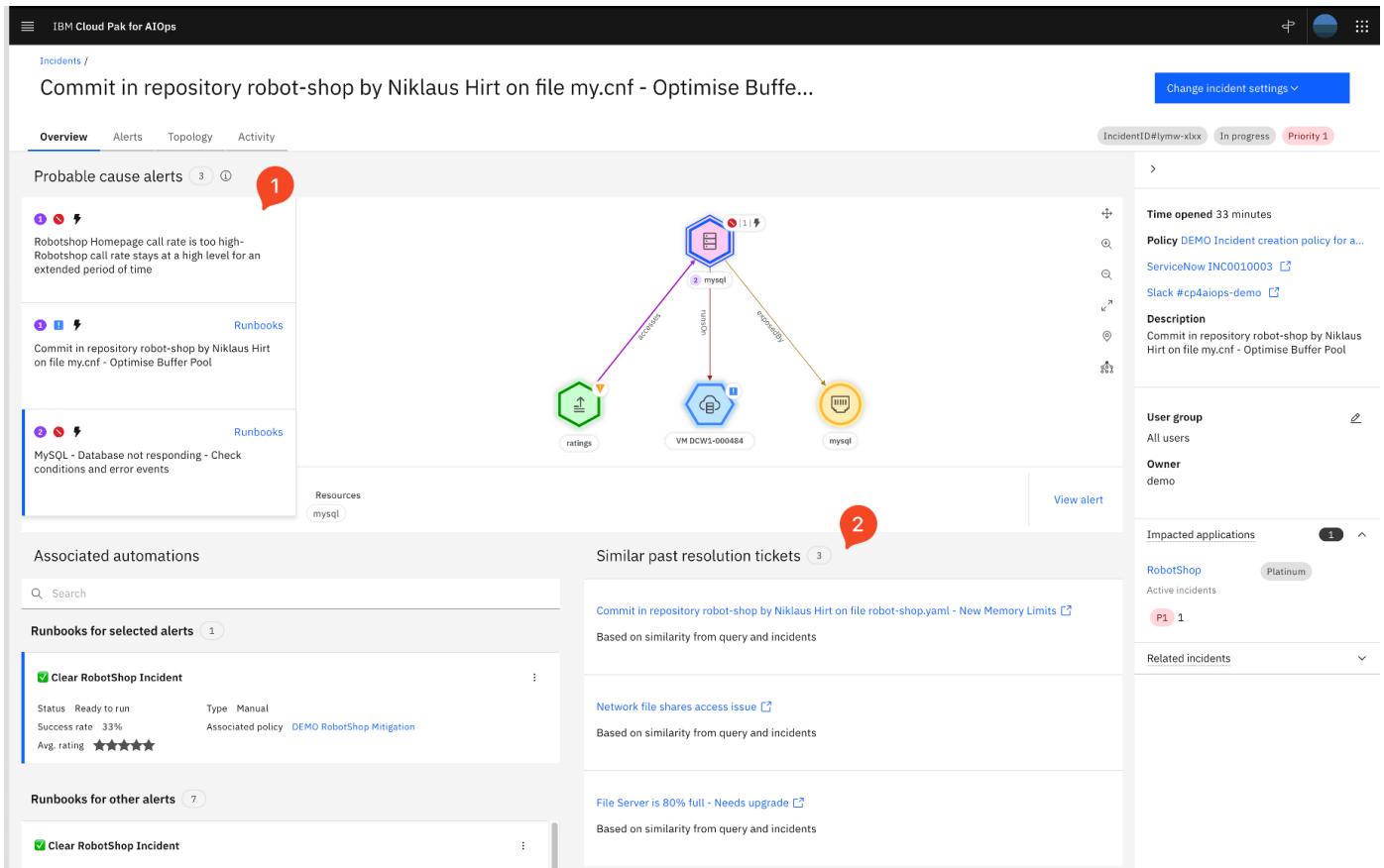
### Narration

Most large organizations use IT Service Management tools to govern processes around IT. Our organization is using ServiceNow for that purpose. Past incidents with resolution information are ingested and analysed by IBM AIOps to train on existing tickets and extracting the steps used to fix previous incidents (if documented) and recommend resolutions. This AI model helps you discover historical incidents to aid in the remediation of current problems.

So for the **Incident**, your team is presented with the top-ranked similar incidents from the past, so no need to manually search for past incidents and resolutions, which is time-consuming.

In this particular example I can see that the problem was related to a GIT Commit that massively reduced the resources on the mysql Database.

Let me check how the problem was resolved for this incident.



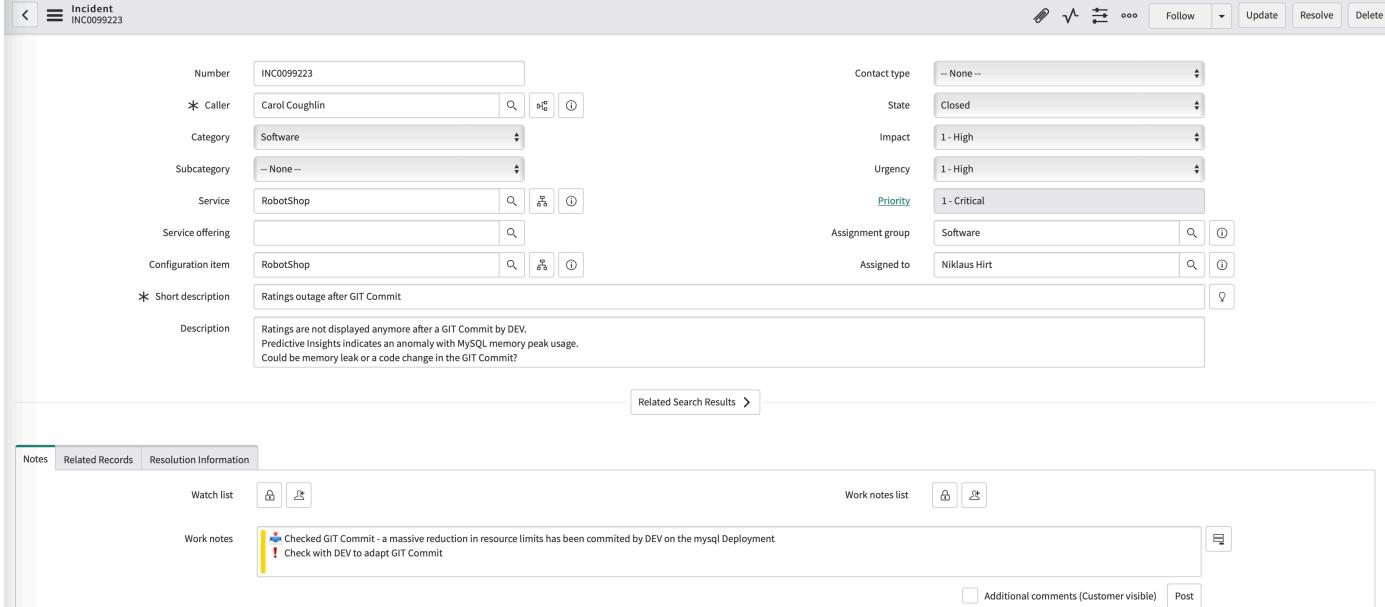
The screenshot shows the IBM Cloud Pak for AIOps interface. At the top, there's a navigation bar with 'IBM Cloud Pak for AIOps' and various icons. Below it, a main title reads 'Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer...'. On the left, there's a sidebar with sections like 'Probable cause alerts' (with one alert), 'Runbooks' (listing a commit-related alert), and 'Associated automations' (listing a 'Clear RobotShop Incident' runbook). The central part of the screen features a 'Topology' diagram with nodes for 'ratings', 'VM DCW1-000484', and two 'mysql' nodes. Arrows indicate relationships between them. To the right of the topology are detailed incident logs, including policy information ('DEMO Incident creation policy for a...'), user details ('All users', 'Owner demo'), and impacted applications ('RobotShop'). At the bottom, there's a section for 'Similar past resolution tickets' with two listed items: 'Commit in repository robot-shop by Niklaus Hirt on file robot-shop.yaml - New Memory Limits' and 'Network file shares access issue'.

### Action

- Click the first **similar resolution ticket (2)**

## Narration

When I open the ticket in ServiceNow, I see that there has been a similar problem with the mysql database and a Runbook had been created to mitigate the problem.



The screenshot shows the ServiceNow Incident Detail page for ticket INC0099223. The page includes fields for Number, Caller, Category, Subcategory, Service, Service offering, Configuration item, Short description, Contact type, State, Impact, Urgency, Priority, Assignment group, and Assigned to. The Short description field contains a note about ratings not being displayed after a GIT Commit. The Resolution Information tab is selected, showing a work note from DEV regarding a checked GIT commit and a warning to check with DEV to adapt GIT Commit.

! **Note:** In the Robot Shop demo scenario, the integration with ServiceNow is simulated with the static content.

## Action

- Click on the **Resolution Information** Tab

## Resolution Information

Incident INC0099223

Number: INC0099223

Caller: Carol Coughlin

Category: Software

Subcategory: -- None --

Service: RobotShop

Service offering:

Configuration item: RobotShop

Short description: Ratings outage after GIT Commit

Description: Ratings are not displayed anymore after a GIT Commit by DEV. Predictive Insights indicates an anomaly with MySQL memory peak usage. Could be memory leak or a code change in the GIT Commit?

Contact type: -- None --

State: Closed

Impact: 1 - High

Urgency: 1 - High

Priority: 1 - Critical

Assignment group: Software

Assigned to: Niklaus Hirt

Related Search Results >

Notes | Related Records | Resolution Information

Knowledge:

Resolution code: Solved (Work Around)

Resolved by: System Administrator

Resolved: 2021-05-22 04:24:38

Resolution notes:

- ! Cause: GIT Commit set the MySQL Deployment Limits too low.
  - MySQL Pod is restarting/killed with OutOfMemory status.
  - Ratings Pod is unable to access database.
  - After correction, ratings Pod is unable to pick up the restart and has to be restarted as well.
- ✓ Resolved by adapting mysql deployment resource limits and restarting ratings pods.
- ✓ Runbook:  
Increase resource limits for mysql Deployment - check with DEV to correct GIT Commit  
oc delete pod -n robot-shop \$(oc get po -n robot-shop|grep ratings|awk '{print\$1}')

Update | Resolve | Delete

### Related Links

Show SLA Timeline

Repair SLAs

## Narration

It seems that it was resolved by changing the mysql deployment and a Runbook had been created to mitigate the problem. To finish up, I will check if the incident was related to an official change.

Notes | Related Records | Resolution Information

Parent Incident:

Problem:

Change Request:

Caused by Change: CHG0030991

Update | Resolve | Delete

## Action

- Click on the **Related Records** Tab
- Click on the **i** Button next to **Caused by Change**

## Examine the Change

Screenshot of a ServiceNow Change Request page (CHG0030991) showing the 'Assess' step.

The page displays various details about the change request:

- Number:** CHG0030991
- Requested by:** Abel Tuter
- Category:** Applications Software
- Service:** RobotShop
- Service offering:** (empty)
- Configuration item:** (empty)
- Priority:** 2 - High
- Risk:** Moderate
- Impact:** 2 - Medium
- Type:** Normal
- State:** Implement
- Conflict status:** Not Run
- Assignment group:** Software
- Assigned to:** Demo User

**Short description:** Reduce Footprint for MySQL Service in RobotShop Backend

**Description:** Reduce Footprint for MySQL Service in RobotShop Backend - <https://github.com/pirsoscom/robot-shop>

Below the main form, there are tabs for **Planning**, **Schedule**, **Conflicts**, **Notes**, and **Closure Information**. The **Planning** tab is selected, showing:

- Justification:** Overall Application Memory Footprint is too big
- Implementation plan:** Modify YAML
- Risk and impact analysis:** Should be minimal

### Narration

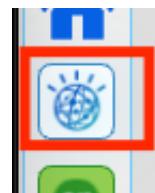
Ok, so now I can see that the problem is related to a Change that aims to reduce the footprint of the mysql database.

As it's still ongoing, chances are high, that the development team recreated a similar problem.

Obviously, in real life I would now start the Runbook to see if it resolves the problem.

But for the sake of the demo, let's dig a little deeper first.

So let me go back to the incident.



### Action

- Close the ServiceNow page by clicking the **IBM AIOps** icon.

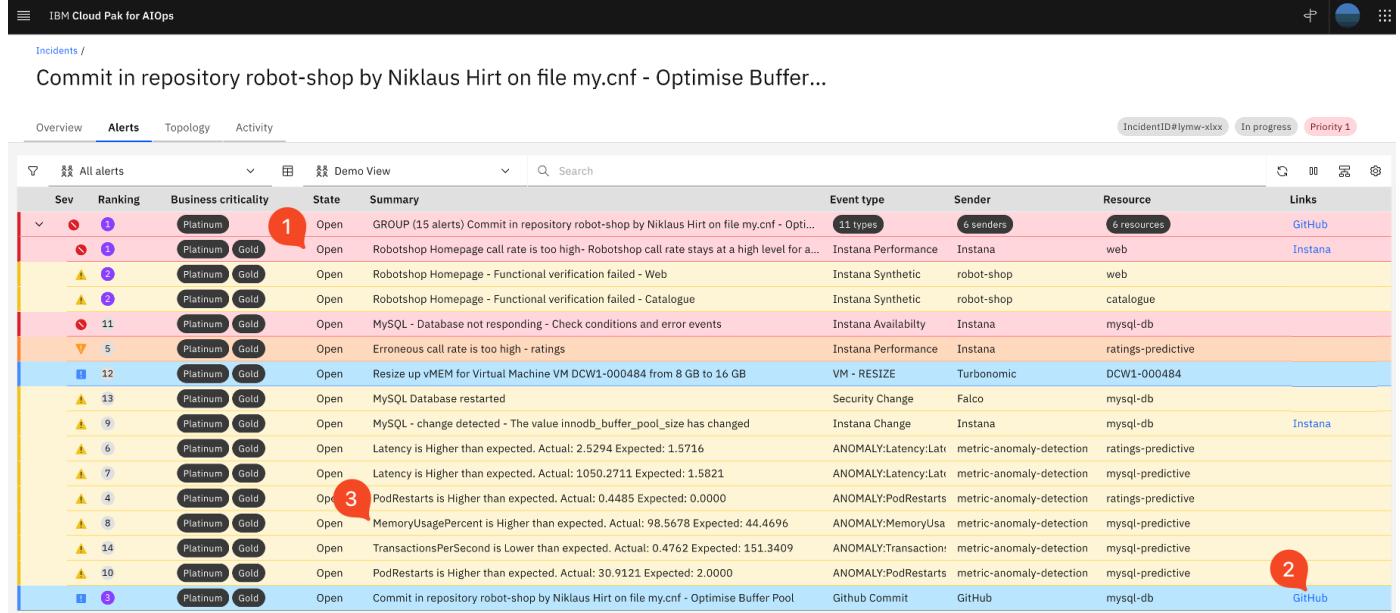
## 2.4.6 Examine the Alerts

### Narration

Let's have a look at the Alerts.

### Action

- Click on the **Alerts** Tab



The screenshot shows the 'Alerts' tab in the IBM Cloud Pak for AIOps interface. The table lists various alerts with columns for Severity (Sev), Ranking, Business criticality, State, Summary, Event type, Sender, Resource, and Links. Red circles with numbers 1, 2, and 3 highlight specific rows:

Sev	Ranking	Business criticality	State	Summary	Event type	Sender	Resource	Links
1	1	Platinum	Open	GROUP (15 alerts) Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool	11 types	6 senders	6 resources	Github
2	1	Platinum	Gold	Robotshop Homepage call rate is too high- Robotshop call rate stays at a high level for a...	Instana Performance	Instana	web	Instana
3	2	Platinum	Gold	Robotshop Homepage - Functional verification failed - Web	Instana Synthetic	robot-shop	web	
4	2	Platinum	Gold	Robotshop Homepage - Functional verification failed - Catalogue	Instana Synthetic	robot-shop	catalogue	
5	11	Platinum	Gold	MySQL - Database not responding - Check conditions and error events	Instana Availability	Instana	mysql-db	
6	5	Platinum	Gold	Erroneous call rate is too high - ratings	Instana Performance	Instana	ratings-predictive	
7	12	Platinum	Gold	Resize up vMEM for Virtual Machine VM DCW1-000484 from 8 GB to 16 GB	VM - RESIZE	Turbonomic	DCW1-000484	
8	13	Platinum	Gold	MySQL Database restarted	Security Change	Falco	mysql-db	
9	9	Platinum	Gold	MySQL - change detected - The value innodb_buffer_pool_size has changed	Instana Change	Instana	mysql-db	Instana
10	6	Platinum	Gold	Latency is Higher than expected. Actual: 2.5294 Expected: 1.5716	ANOMALY:Latency:Lat	metric-anomaly-detection	ratings-predictive	
11	7	Platinum	Gold	Latency is Higher than expected. Actual: 1050.2711 Expected: 1.5821	ANOMALY:Latency:Lat	metric-anomaly-detection	mysql-predictive	
12	4	Platinum	Gold	PodRestarts is Higher than expected. Actual: 0.4485 Expected: 0.0000	ANOMALY:PodRestarts	metric-anomaly-detection	ratings-predictive	
13	8	Platinum	Gold	MemoryUsagePercent is Higher than expected. Actual: 98.5678 Expected: 44.4696	ANOMALY:MemoryUsa	metric-anomaly-detection	mysql-predictive	
14	10	Platinum	Gold	TransactionsPerSecond is Lower than expected. Actual: 0.4762 Expected: 151.3409	ANOMALY:Transaction	metric-anomaly-detection	mysql-predictive	
15	3	Platinum	Gold	PodRestarts is Higher than expected. Actual: 30.9121 Expected: 2.0000	ANOMALY:PodRestarts	metric-anomaly-detection	mysql-predictive	GitHub
16	3	Platinum	Gold	Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool	Github Commit	GitHub	mysql-db	GitHub

### Narration

Notice, that alerts are sorted by time of occurrence, and that the AI engine ranked them by relevance. The ones that are likely related to the root cause have smaller numbers and are coloured. Let's look at the first alert for some more details.

### Action

- Click on the first Alert in the list (1)

### Narration

In the **Alert details**, you can see different types of groupings explaining why the specific alert was added to the incident.

## Scope based grouping

### Action

- Click **Scope-based grouping**.

Scope-based grouping

^

These alerts were found to share a cause as they all occurred within the same scope and period of time. The scope defines the properties that alerts must share in order to be grouped. It can be set in a scope-based grouping policy or by the scope-based grouping AI algorithm.

### Narration

Some alerts were added to the incident because they occurred on the same resource within a short period (default is 15 minutes)

## Topological grouping

### Action

- Click **Topological grouping**.

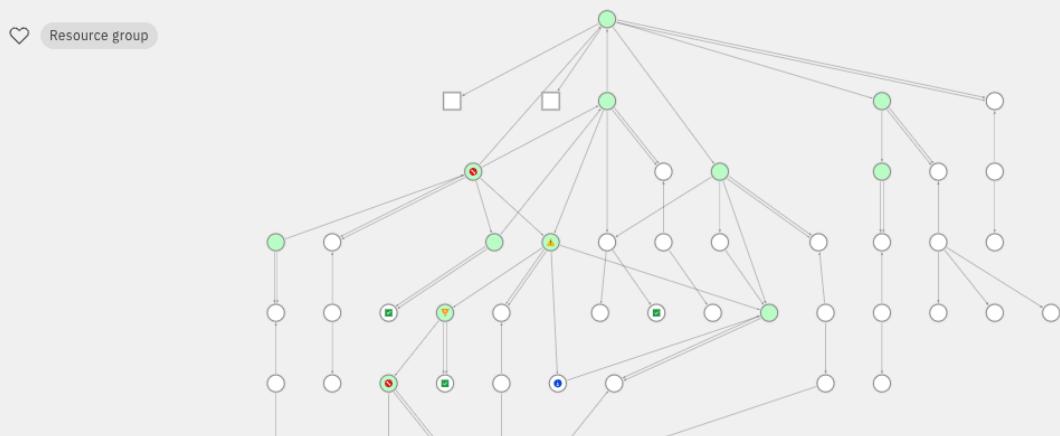
Topological grouping

^

Resource group name

robot-shop-template

▼



### Narration

Other alerts were grouped because they occurred on the logically or physically related resources. This correlation is using the application topology service that stitches topology information from different sources.

## Temporal grouping

### Action

- Click **Temporal correlation**.

Temporal correlation (1) ^  
First group instance Oct 13, 2023, 4:02:50 PM  
Total group instances 3  
Average instance duration 1 hour



[More information](#)

### Narration

Finally, the temporal correlation adds to the incident events that previously, in history, are known to occur close to each other in the short time window.

### Action

- Click **More Information**.

## MySQL - Database not responding - Check conditions and error events

MySQL - Database not responding - Check conditions and error events

Oct 12, 2023, 21:00      Oct 13, 2023, 15:00

Sev ↓ 1	State	Summary	Type	Oct 12, 2023, 21:00	Oct 13, 2023, 15:00
🔴	Open	MySQL - Database not responding - Check conditions and error events	Instana Av	1	1
🔴	Open	Robotshop Homepage call rate is too high- Robotshop call rate stays at a high level for a...	Instana Pe	1	1
⚠️	Open	Abnormal behavior in the logs for component: ratings. Evidence includes: patterns + em...	Natural lan	1	1
⚠️	Open	Erroneous call rate is too high - ratings	Instana Pe	1	1
⚠️	Open	MySQL - change detected - The value innodb_buffer_pool_size has changed	Instana Ch	1	1
⚠️	Open	MySQL Database restarted	Security Cl	1	1
⚠️	Open	Robotshop Homepage - Functional verification failed - Catalogue	Instana Sy	1	1
⚠️	Open	Robotshop Homepage - Functional verification failed - Web	Instana Sy	1	1

**Group instances**

Oct 13, 2023, 16:02:50      10 Alerts

Oct 13, 2023, 09:56:00      10 Alerts

Oct 12, 2023, 20:45:00      10 Alerts

## 📣 Narration

What is most important here is the fact that all these correlations happen automatically – there is no need to define any rules or program anything. In highly dynamic and distributed cloud-native applications this is a huge advantage that saves a lot of time and effort.

## 🚀 Action

- **Close** the Temporal Detail window by clicking anywhere in the top half.
- **Close** the Alert details window by clicking on the X at the top right.

## 2.4.7 Incident timeline

Incidents / Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer...

Overview Alerts Topology Activity IncidentID#lymw-xbx In progress Priority 1

Sev	Ranking	Business criticality	State	Summary	Event type	Sender	Resource	Links
critical	1	Platinum	Open	GROUP (15 alerts) Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Opti...	11 types	6 senders	6 resources	GitHub
warning	2	Platinum Gold	Open	Robotshop Homepage call rate is too high- Robotshop call rate stays at a high level for a...	Instana Performance	Instana	web	Instana
warning	2	Platinum Gold	Open	Robotshop Homepage - Functional verification failed - Web	Instana Synthetic	robot-shop	web	
warning	2	Platinum Gold	Open	Robotshop Homepage - Functional verification failed - Catalogue	Instana Synthetic	robot-shop	catalogue	
warning	11	Platinum Gold	Open	MySQL - Database not responding - Check conditions and error events	Instana Availability	Instana	mysql-db	
warning	5	Platinum Gold	Open	Erroneous call rate is too high - ratings	Instana Performance	Instana	ratings-predictive	
info	12	Platinum Gold	Open	Resize up vMEM for Virtual Machine VM DCW1-000484 from 8 GB to 16 GB	VM - RESIZE	Turbonomic	DCW1-000484	
warning	13	Platinum Gold	Open	MySQL Database restarted	Security Change	Falco	mysql-db	
warning	9	Platinum Gold	Open	MySQL - change detected - The value innodb_buffer_pool_size has changed	Instana Change	Instana	mysql-db	Instana
warning	6	Platinum Gold	Open	Latency is Higher than expected. Actual: 2.5294 Expected: 1.5716	ANOMALY:Latency:Lat	metric-anomaly-detection	ratings-predictive	
warning	7	Platinum Gold	Open	Latency is Higher than expected. Actual: 1050.2711 Expected: 1.5821	ANOMALY:Latency:Lat	metric-anomaly-detection	mysql-predictive	
warning	4	Platinum Gold	Open	PodRestarts is Higher than expected. Actual: 0.4485 Expected: 0.0000	ANOMALY:PodRestarts	metric-anomaly-detection	ratings-predictive	
warning	8	Platinum Gold	Open	MemoryUsagePercent is Higher than expected. Actual: 98.5678 Expected: 44.4696	ANOMALY:MemoryUsa	metric-anomaly-detection	mysql-predictive	
warning	14	Platinum Gold	Open	TransactionsPerSecond is Lower than expected. Actual: 0.4762 Expected: 151.3409	ANOMALY:Transactions	metric-anomaly-detection	mysql-predictive	
warning	10	Platinum Gold	Open	PodRestarts is Higher than expected. Actual: 30.9121 Expected: 2.0000	ANOMALY:PodRestarts	metric-anomaly-detection	mysql-predictive	
info	3	Platinum Gold	Open	Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool	Github Commit	GitHub	mysql-db	GitHub

### Narration

When trying to understand what happened during the incident, it helps that the alerts are already sorted by occurrence time. This allows me to understand the chain of events.

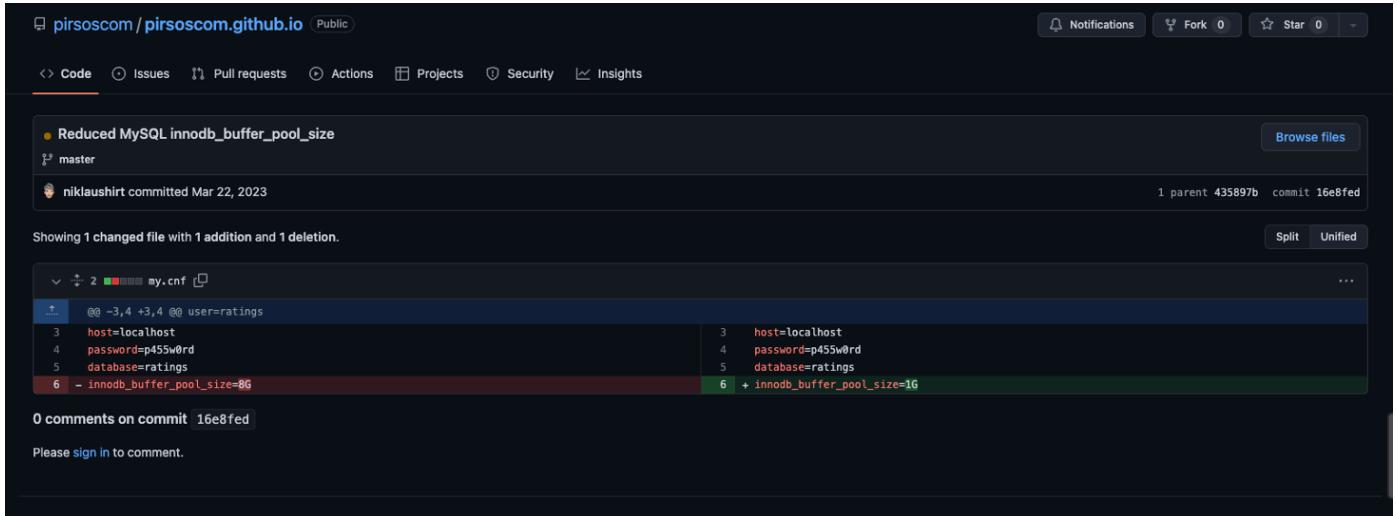
- I can see that the first event was a code change that had been committed to **GitHub**.

### Action

- Click on **GitHub** to open the link (2)

## Narration

I have now confirmation that the Dev team has massively reduced the Buffer Pool Size of my MySQL Database.



The screenshot shows a GitHub commit page for a repository named 'pirsoscom'. The commit message is 'Reduced MySQL innodb\_buffer\_pool\_size'. It was made by 'niklaushirt' on March 22, 2023. The commit has 1 parent and a commit hash of '435897b'. The file 'my.cnf' was changed, showing 1 addition and 1 deletion. The diff shows the removal of the line 'innodb\_buffer\_pool\_size=8G' and its replacement with '+ innodb\_buffer\_pool\_size=1G'. The commit has 0 comments and no reviews.

## Action

- Click anywhere in the Git screen to go back

## Narration

Other events are confirming the hypothesis:

- I can then see the CI/CD process kick in and deploys the code change to the system detected by the Security Tool (Falco) and
- **Instana** has detected the memory size change.
- Then **Functional Selenium Tests** start failing and
- **Turbonomic** tries to scale-up the mysql database.
- **Instana** tells me that the mysql Pod is not running anymore, the replicas are not matching the desired state.

But I can also see that there are anomalies in some metrics for my application.

Let's have a look.

## 2.4.8 Metric Anomalies

### 💡 Narration

- IBM AIOps is capable of collecting metrics from multiple sources and detecting **Metric Anomalies**. It was trained on hundreds or thousands of metrics from the environment and constructs a dynamic baseline (shown in green).

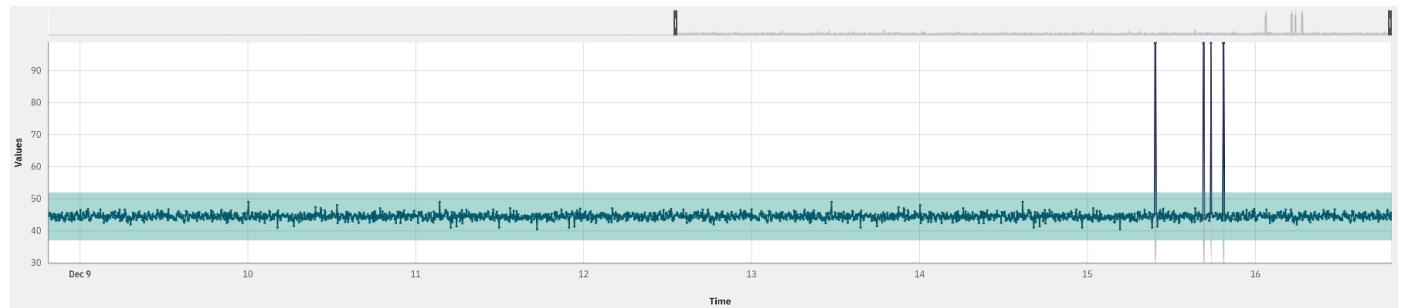
Let's see the details of what is wrong with my metrics.

### 🚀 Action

- Click on **MemoryUsagePercent is Higher than expected....**

### 💡 Narration

- The graphic suddenly turns red which relates to detected anomaly when the database is consuming a higher amount of memory than usual.



## Narration

You can display several alerts at the same time to better understand the temporal dependencies

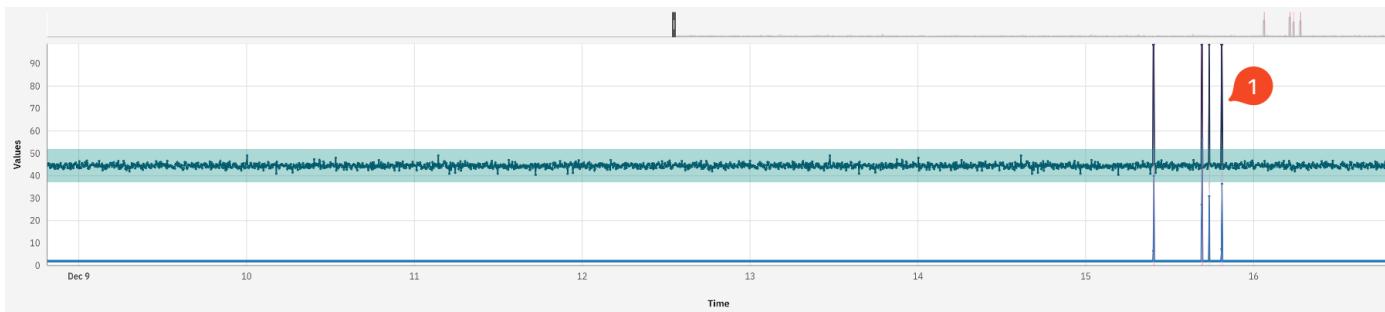
Related alerts	Additional metrics							
Baseline	Sev	Summary	Node	Resource	Metric	Group	First occurrence	Last occur
Select one or more related alerts to add to the chart.								
<input type="checkbox"/>		Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool				Github Commit	12/15/2023, 7:25:21 PM	12/15/2023, 7:25:21 PM
<input checked="" type="checkbox"/>		MemoryUsagePercent is Higher than expected. Actual: 98.5686 Expected: 44.4696	mysql-predictive	mysql-predictive	MemoryUsageP...	ANOMALY:MemoryUsage...	12/15/2023, 7:25:00 PM	12/15/2023, 7:25:00 PM
<input type="checkbox"/>		PodRestarts is Higher than expected. Actual: 0.5490 Expected: 0.0000	ratings-predictive	ratings-predicti...	PodRestarts	ANOMALY:PodRestarts:P...	12/15/2023, 7:25:00 PM	12/15/2023, 7:25:00 PM
<input checked="" type="checkbox"/>		TransactionsPerSecond is Lower than expected. Actual: 0.5068 Expected: 146.2517	mysql-predictive	mysql-predictive	TransactionsPe...	ANOMALY:TransactionsP...	12/15/2023, 7:30:00 PM	12/15/2023, 7:30:00 PM
<input type="checkbox"/>		Resize up vMEM for Virtual Machine VM DCW1-000484 from 8 GB to 16 GB				VM - RESIZE	12/15/2023, 7:30:21 PM	12/15/2023, 7:30:21 PM
<input checked="" type="checkbox"/>		PodRestarts is Higher than expected. Actual: 7.3922 Expected: 2.0000	mysql-predictive	mysql-predictive	PodRestarts	ANOMALY:PodRestarts:P...	12/15/2023, 7:25:00 PM	12/15/2023, 7:25:00 PM
<input type="checkbox"/>		Erroneous call rate is too high - ratings				Instana Performance	12/15/2023, 7:30:51 PM	12/15/2023, 7:30:51 PM

## Action

- In **Related Alerts** click on the line **PodRestarts...** to add an additional alert **(1)**.
- Then click on the line **Transactions per Second...** to add a third alert **(2)**.

## Narration

Now let's zoom in to better see the anomalies

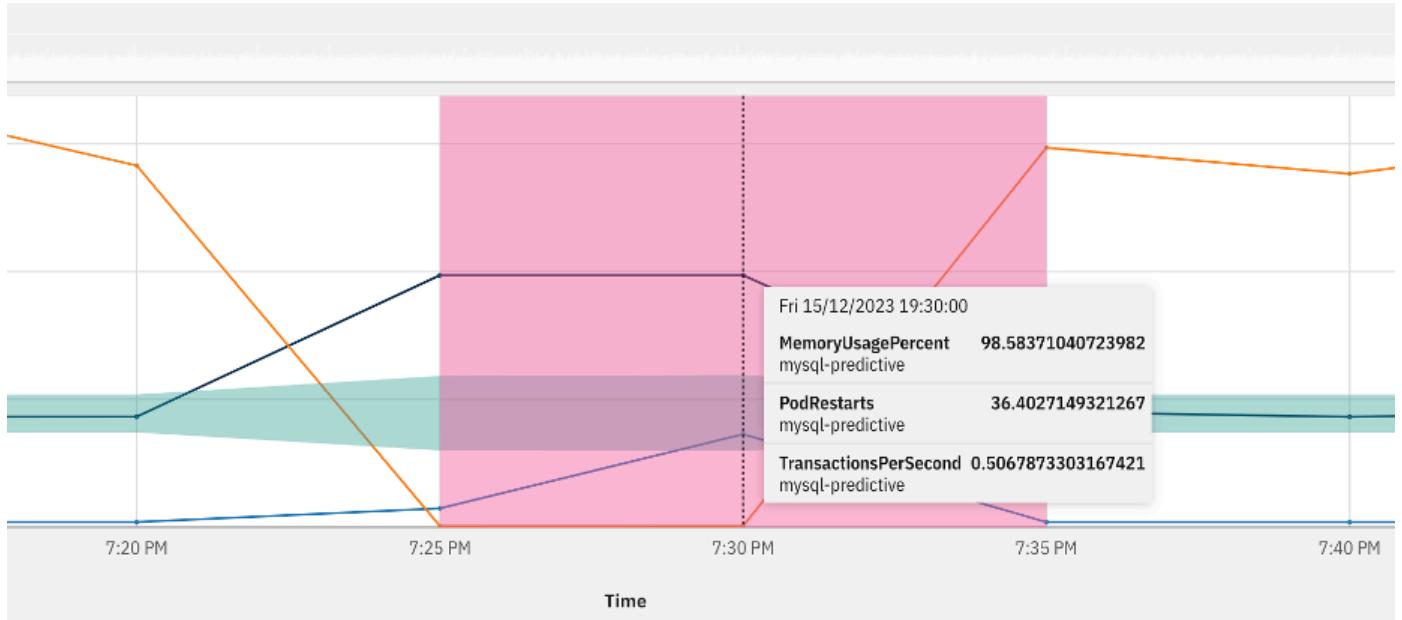


## Action

- Click on the anomaly in the graph to zoom in **(1)**
- Click on the anomaly a second time to show the values

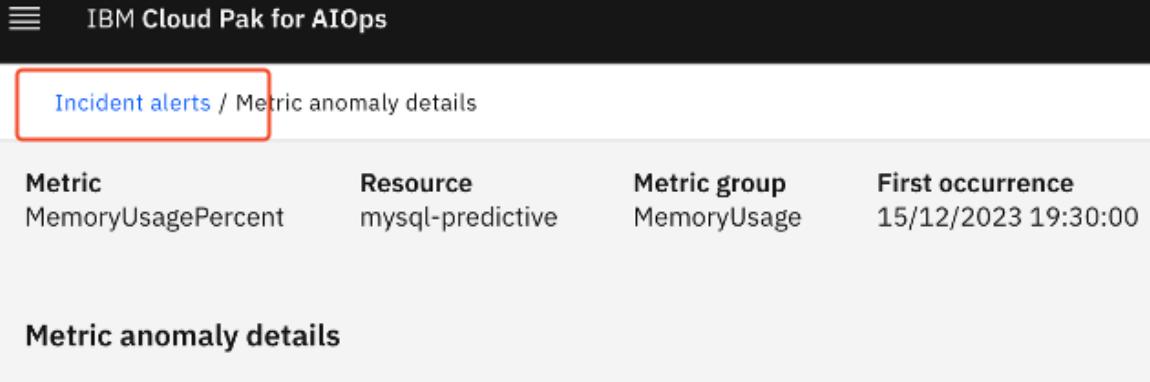
## Narration

I can clearly see that the incident caused the **Memory Usage** to skyrocket to a constant 100%, there are almost no **Transactions** going through and the **Pods** have been continuously restarted. This is yet another confirmation of the source of the problem.



## Action

- Close the Metric anomaly details view by clicking on **Incident Alerts** in the upper left corner.



Metric	Resource	Metric group	First occurrence
MemoryUsagePercent	mysql-predictive	MemoryUsage	15/12/2023 19:30:00

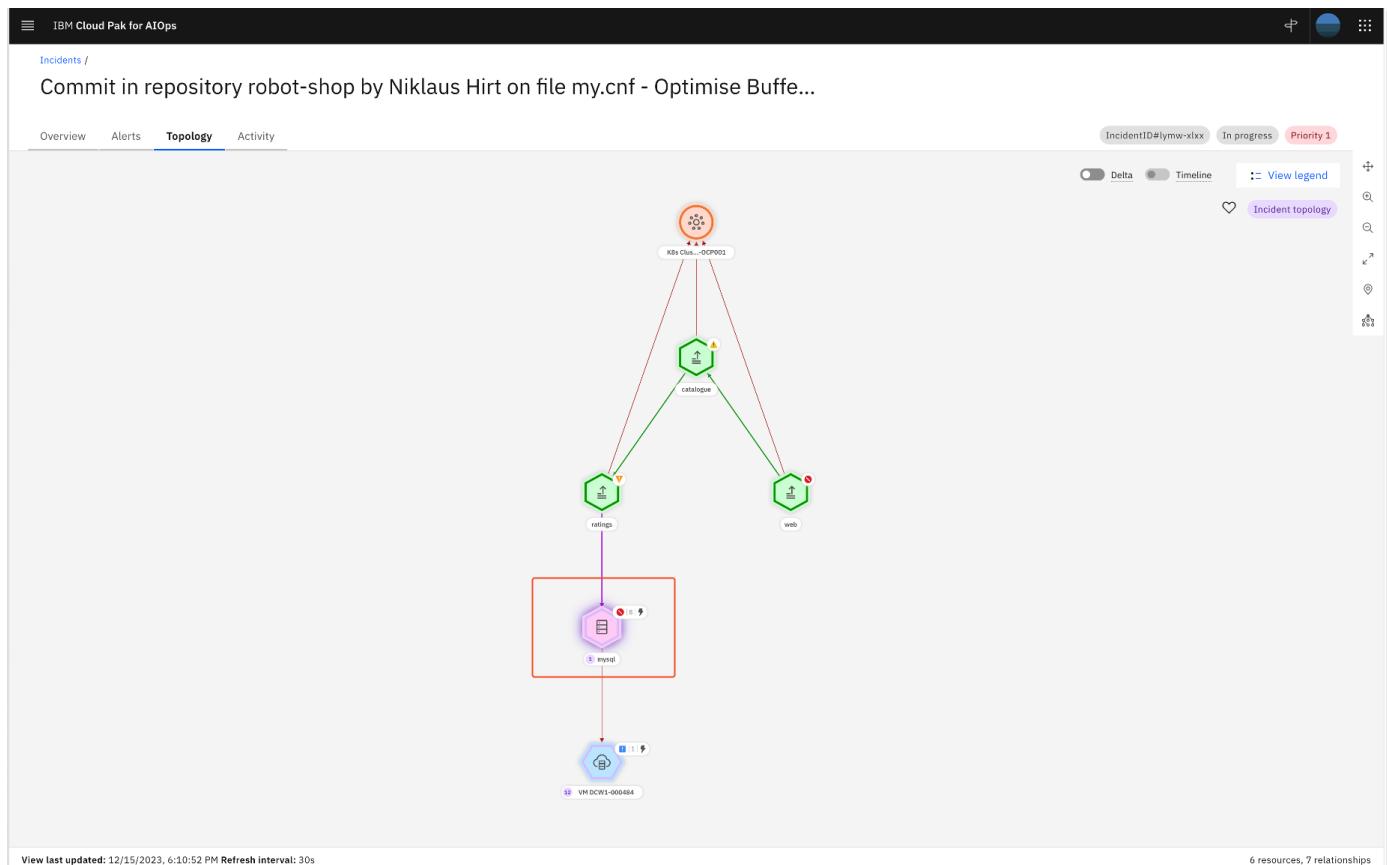
**Metric anomaly details**

## 2.5 Working with Topology

### 2.5.1 Examining the Alert Topology

#### Action

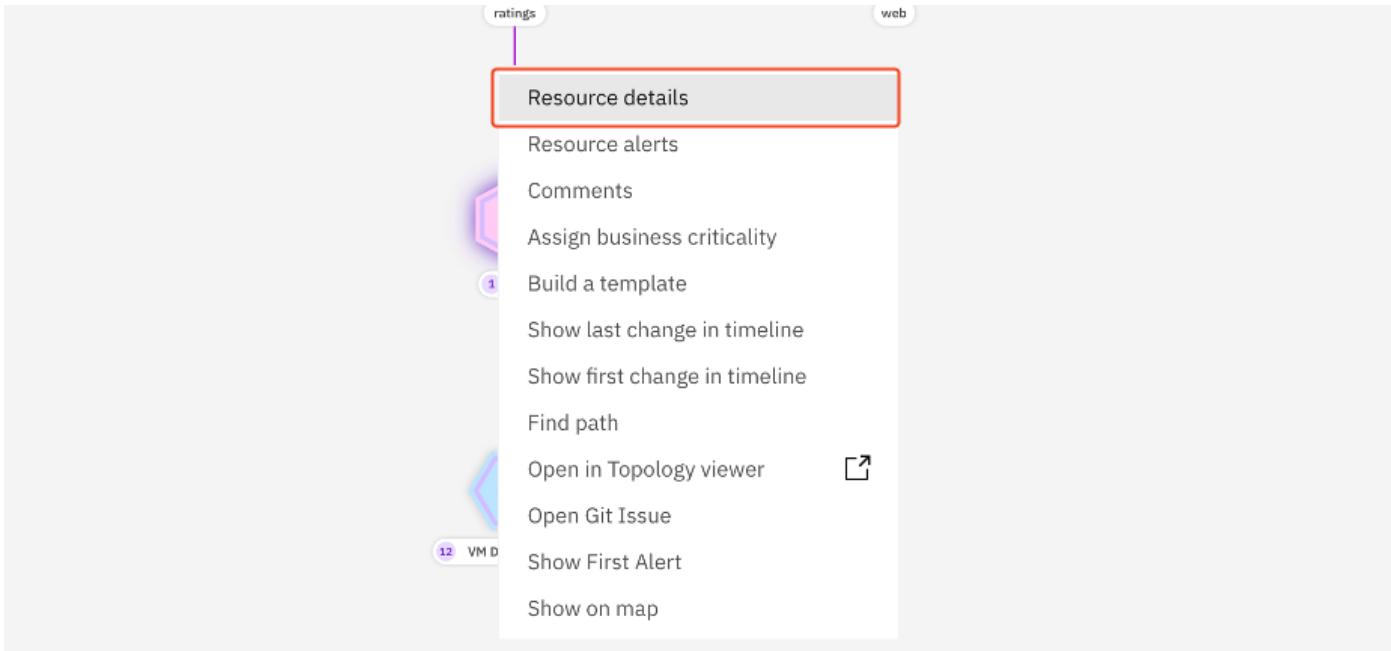
- Click the **Topology** Tab.



#### Narration

The interface shows the **topology** of the application that is relevant to the incident. IBM AIOps' topology service delivers a working understanding of the resources that you have in your environment, how the resources relate to each other, and how the environment has changed over time.

You can see that there are some statuses attached to the different resources, marked with colorful dots. Let's view the details and status of the **mysql** resource with red status.



## Action

- Click on the resource which displays resource name “mysql”
- Then, click and select **Resource details**.
- Click on Tab **Alerts**

## Resource details

mysql ! !

Platinum

Properties Alerts Data origin Related applications Related resource groups Neighbor resources Location

Historical time point: 12/15/2023, 6:16:06 PM Show active only

Summary	Severity	Last change
MySQL - Database not responding - Check conditions and error events	Critical	12/15/2023, 5:47:28 PM
MySQL Database restarted	Minor	12/15/2023, 5:40:58 PM
MySQL - change detected - The value innodb_buffer_pool_size has changed	Minor	12/15/2023, 5:40:28 PM
TransactionsPerSecond is Lower than expected. Actual: 0.4762 Expected: 151.3409	Minor	12/15/2023, 5:40:00 PM
MemoryUsagePercent is Higher than expected. Actual: 98.5678 Expected: 44.4696	Minor	12/15/2023, 5:40:00 PM
Latency is Higher than expected. Actual: 1050.2711 Expected: 1.5821	Minor	12/15/2023, 5:40:00 PM
PodRestarts is Higher than expected. Actual: 30.9121 Expected: 2.0000	Minor	12/15/2023, 5:40:00 PM
Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool	Warning	12/15/2023, 5:39:58 PM

## Narration

The topology service provides operations teams with complete up-to-date visibility over dynamic infrastructure, resources, and services. The topology service lets you query a specific resource for details, and other relevant information. Here I can see all Alerts for the mysql database resource for example.

### Action

- Click the cross in the upper right corner to close the details view.
- Click on the **Overview** Tab.

## 2.5.2 Examining the Topology in detail (optional)

Instead of going back to Overview you can dig a bit deeper into Topology if it fits the customer interest.

### Action

- Click on the different Tabs to show the information (Related Applications, Neighbor Resources, ...)

Resource details x

mysql ● ●

Platinum

Properties Alerts Data origin Related applications Related resource groups **Neighbor resources** Location

Resource name	Relationship	Type	Max alert severity	Tags
 mysql <span style="color: blue;">🔗</span>	exposedBy	networkinterface		Network Topology app:robot-shop app:robotshop namespace:robot-shop robot-shop
 VM DCW1-000484 <span style="color: blue;">🔗</span>	runsOn	vm	<span style="color: blue;">■</span> Warning	DCW1-000484 Name:CustomerRelations app:robotshop namespace:robot-shop
 ratings <span style="color: blue;">🔗</span>	accesses	container, deployment	<span style="color: orange;">▼</span> Major	app:robot-shop app:robotshop namespace:robot-shop robot-shop

Items per page: 25 1-3 of 3 items 1 ▼ of 1 page ◀ ▶

### Narration

The topology service provides me with additional information for the component I'm looking at, such as the Applications it's part of or the neighbouring resources.

### Action

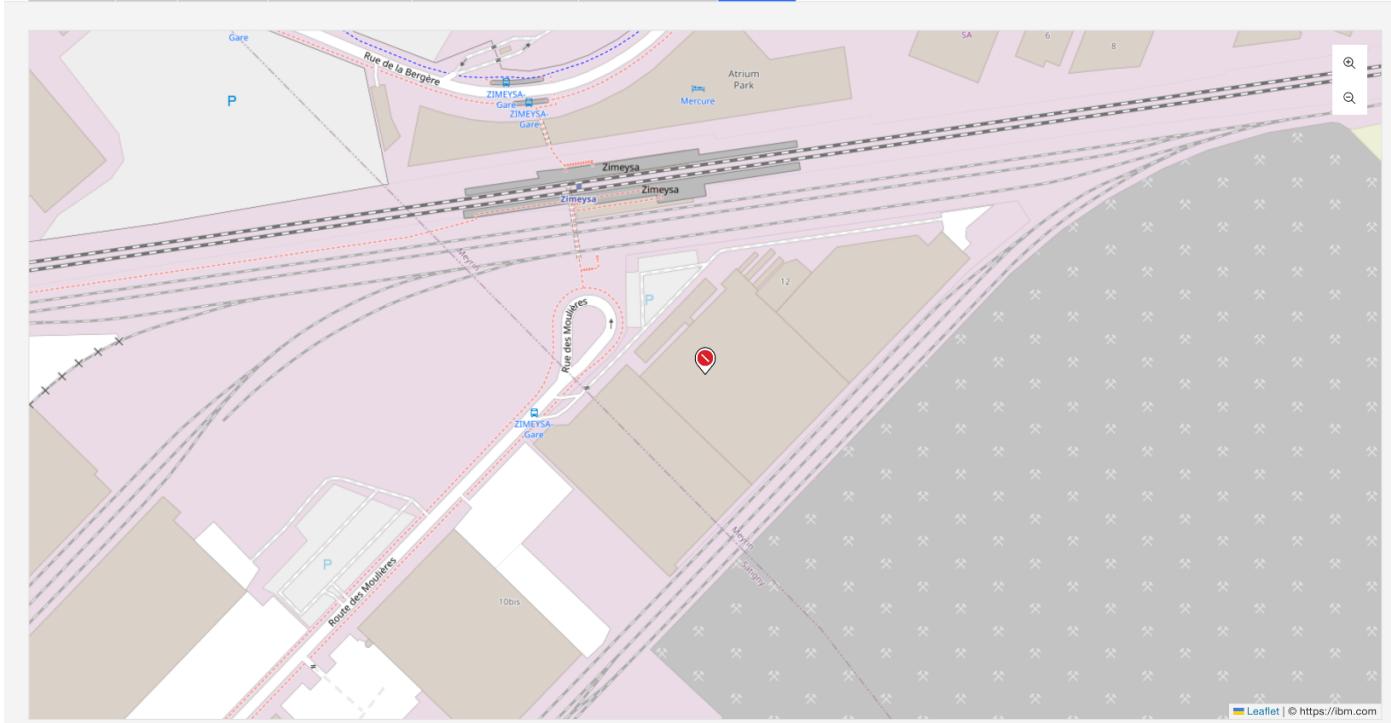
- Click on the **Location** Tab

## Resource details

mysql  

Platinum

Properties Alerts Data origin Related applications Related resource groups Neighbor resources **Location**



## Narration

If the resources contains geographical information (Longitude, Latitude) I can also see them on a map.

## Action

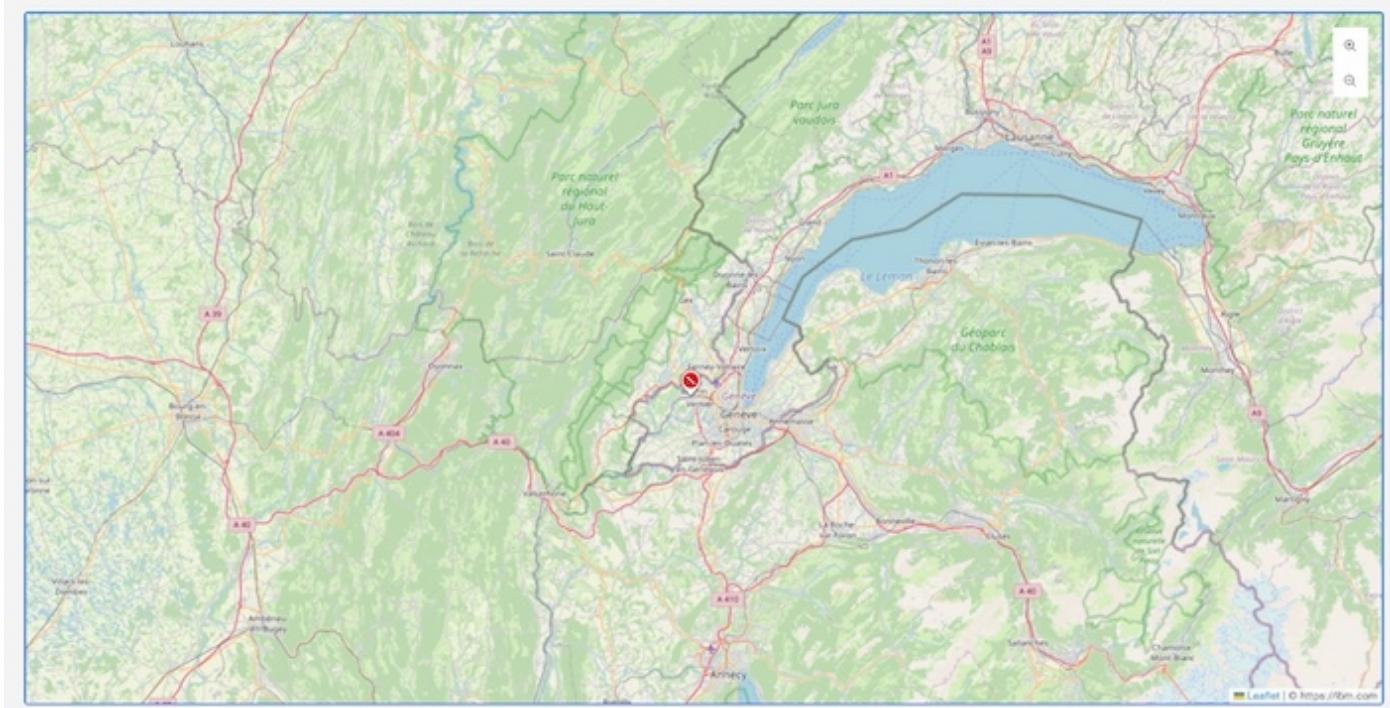
- Click on the Map to zoom in

## Resource details

mysql  

Platinum

Properties Alerts Data origin Related applications Related resource groups Neighbor resources Location

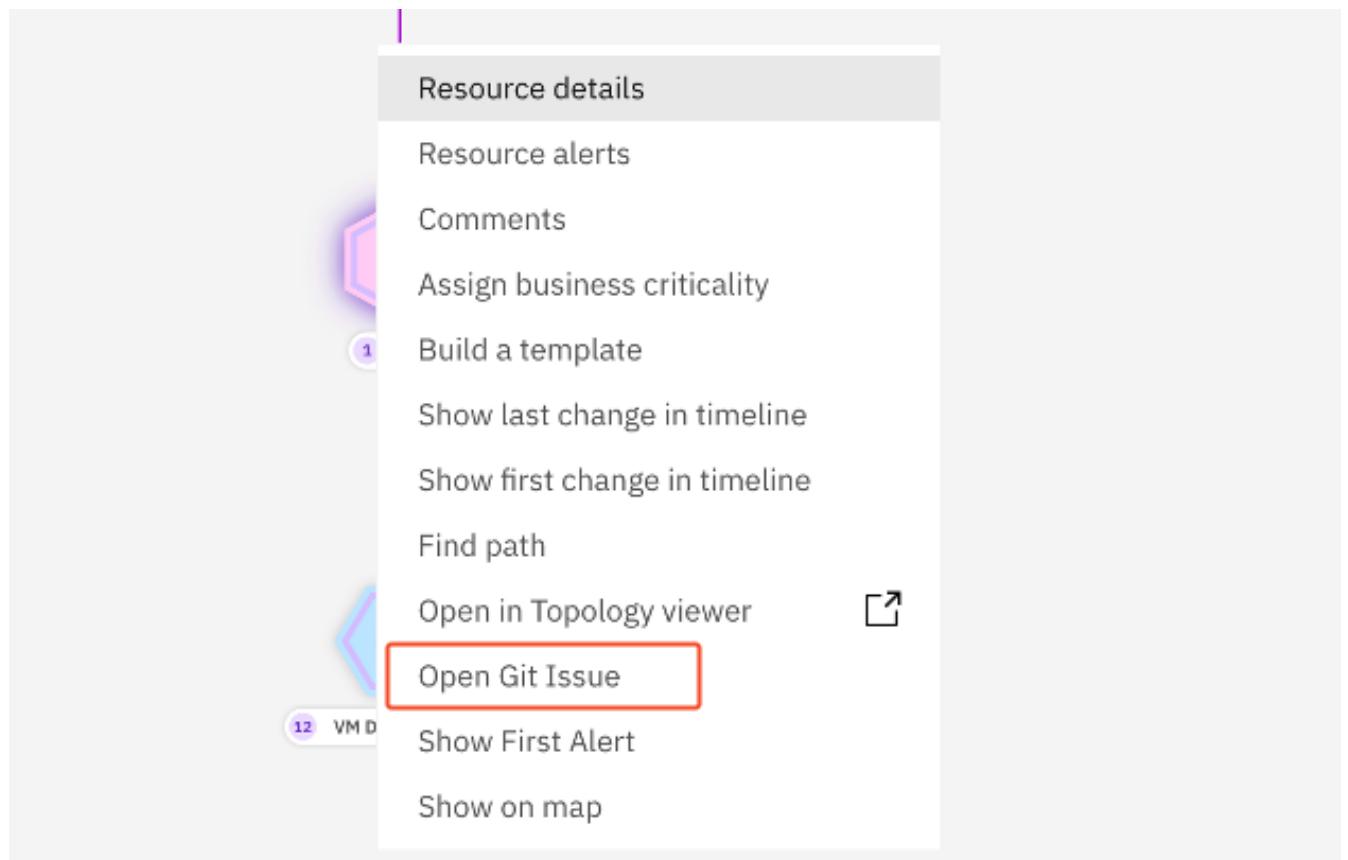


### Narration

Here I can see that the Database is being hosted in the IBM Datacenter in Meyrin near Geneva in Switzerland.

## Action

- Click the cross in the upper right corner to close the details view.
- Click on the resource which displays resource name “mysql”
- Then, click and select **Open Git Issue**



## Narration

IBM AIOps also allows me to create custom menus to integrate with my existing tools. Here I can open a Git Issue and pre-filling it with the Alert information.

The screenshot shows a GitHub issue creation interface. The title field contains "Defect: mysql". The description field has a "Write" tab selected, showing an "ASM generated issue, provide issue details below:" section. This section contains two tables: one for status and one for properties.

**Status Table:**

Status	Severity	State
MySQL Database restarted	minor	open
Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool	warning	open
MySQL - change detected - The value innodb_buffer_pool_size has changed	minor	open
MySQL - Database not responding - Check conditions and error events	critical	open
TransactionsPerSecond is Lower than expected. Actual: 0.4762 Expected: 151.3409	minor	open
MemoryUsagePercent is Higher than expected. Actual: 98.5678 Expected: 44.4696	minor	open
Latency is Higher than expected. Actual: 1050.2711 Expected: 1.5821	minor	open
PodRestarts is Higher than expected. Actual: 30.9121 Expected: 2.0000	minor	open

**Properties Table:**

Property	Value
uniqueld	mysql-db
name	mysql
entityTypes	database
groupTokens	namespace:robot-shop
matchTokens	mysql-deployment,mysql-db,mysql-github,mysql-instana,mysql-predictive,mysql-security,mysql-turbonomic
mergeTokens	mysql-db
_id	poR71IBZS2SljtQSJCKEsA
_executionTime	22
app	robotshop
_modifiedAt	2023-12-14T17:09:43.576Z
_timeSinceLastUpdate	86894586
dataCenter	demo

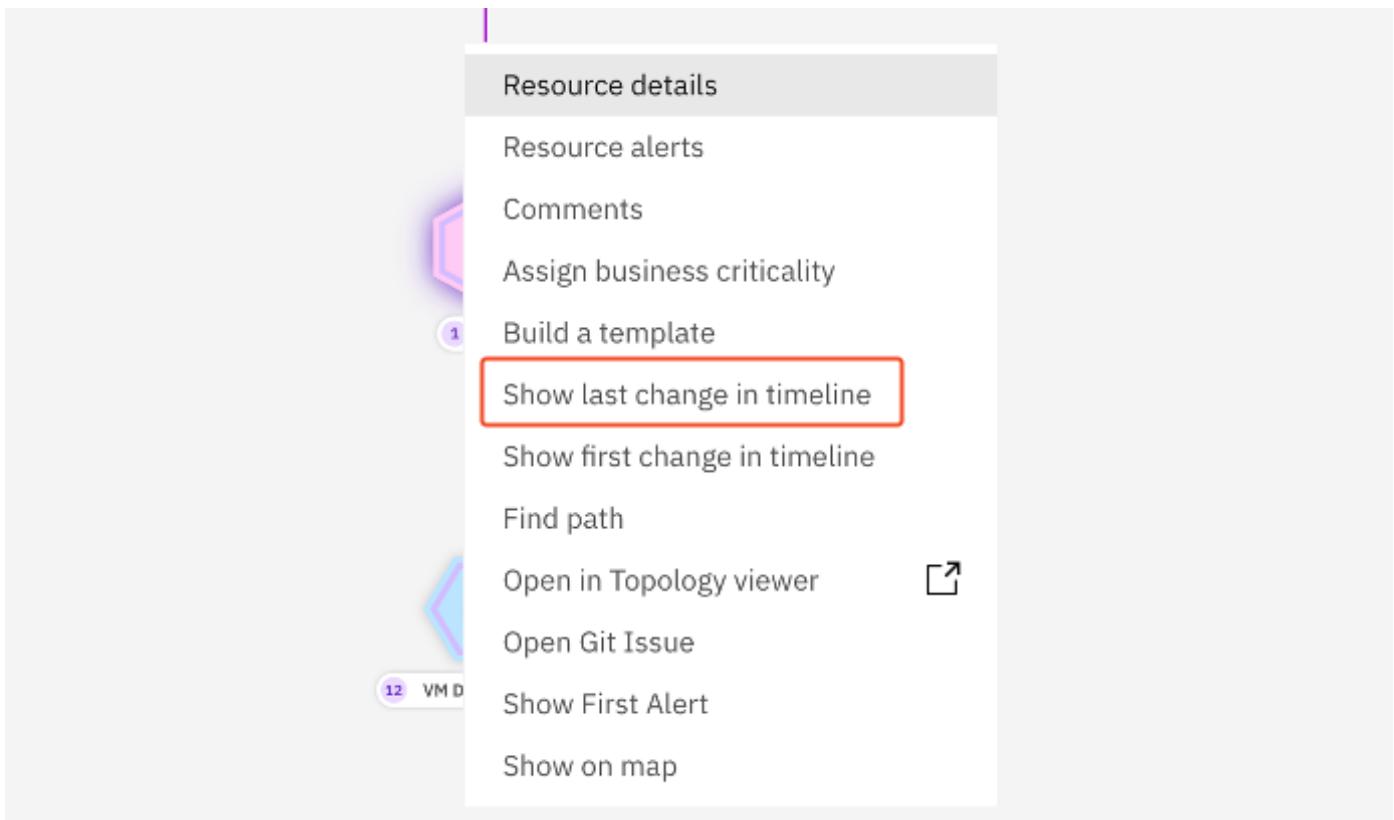
On the right side of the issue creation page, there are sections for Assignees (No one—assign yourself), Labels (None yet), Projects (None yet), Milestone (No milestone), Development (Shows branches and pull requests linked to this issue), and Helpful resources (GitHub Community Guidelines).

## Action

- Click anywhere to close the Git Issue.

## Action

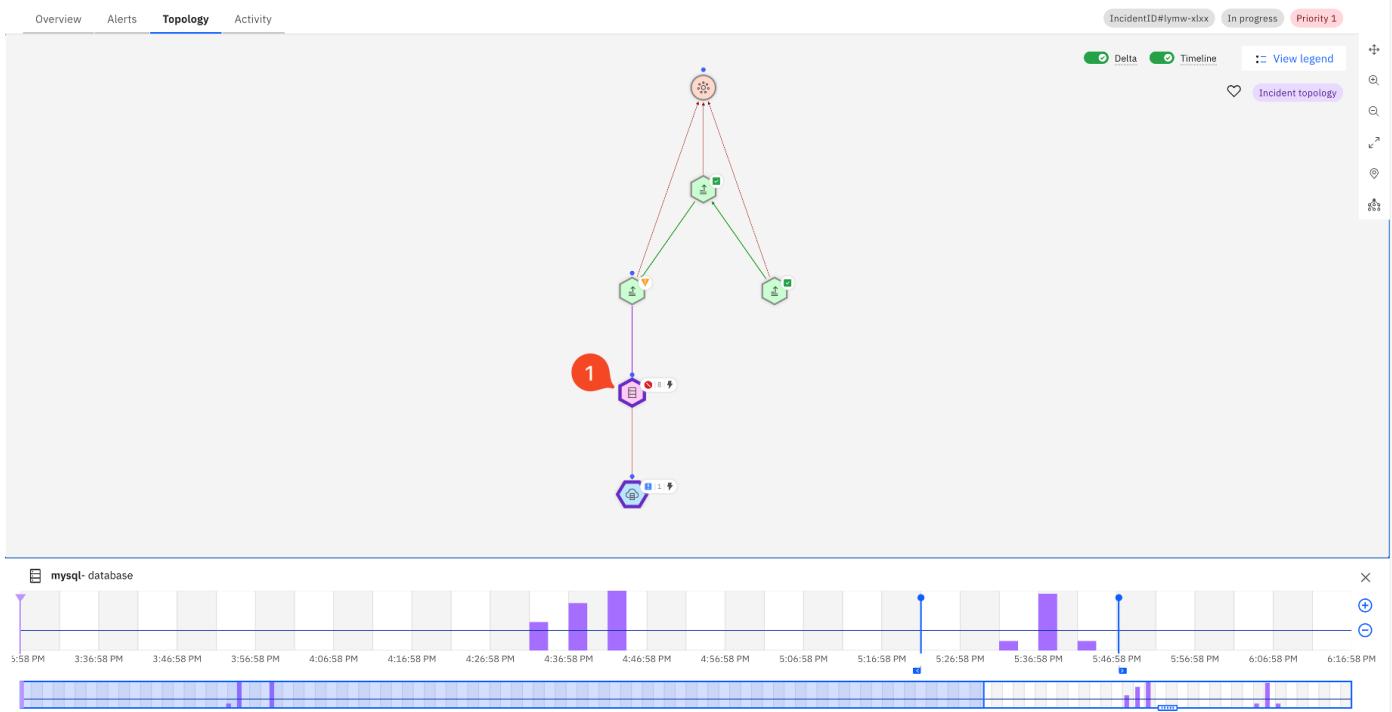
- Click on the resource which displays resource name “mysql”
- Then, click and select **Show last change in timeline**



## Narration

IBM AIOps also keeps a historic view of the events that happened for a element of the topology.

Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffe...



### 🔔 Narration

I can easily identify the alerts and changes that happened over time for my resource (before / after).

### 🚀 Action

- Click the cross in the upper right corner to close the details view.
- Click on the **Overview** Tab.

## 2.5.3 Examining Applications (optional)

Instead of going back to Overview you can dig a bit deeper into Topology if it fits the customer interest.

### Action

- Click the cross in the upper right corner to close the details view.
- Click the **Hamburger Menu** on the upper left. Click **Resource Management**

The screenshot shows the 'Resource management' section of the IBM Cloud Pak for AIOps interface. At the top, there's a search bar and a 'Define application' button. Below the search bar, there are tabs for 'Applications (5)', 'Resource groups (22)', and 'Resources (823)'. The 'Applications' tab is selected. Under the 'Favorites' section, five applications are listed: SockShop (Gold), ACME Air (Silver), Central London stations (Platinum), Central London stations (Platinum), and RobotShop (Platinum). Each application card includes a 'View details' button. Below this, under 'All application results', a table lists five applications: ACME Air, Central London stations, Central London stations, RobotShop, and SockShop. The 'Central London stations' row is highlighted with a red border and has a circled '1' above it, indicating it is the target for the next step. The table columns include Application name, Resources, Active incidents, Resource alerts, Tags, and Business criticality. The 'RobotShop' row is also circled in red. At the bottom of the table, there are pagination controls for 'Items per page' (25), '1-5 of 5 items', and '1 of 1 page'.

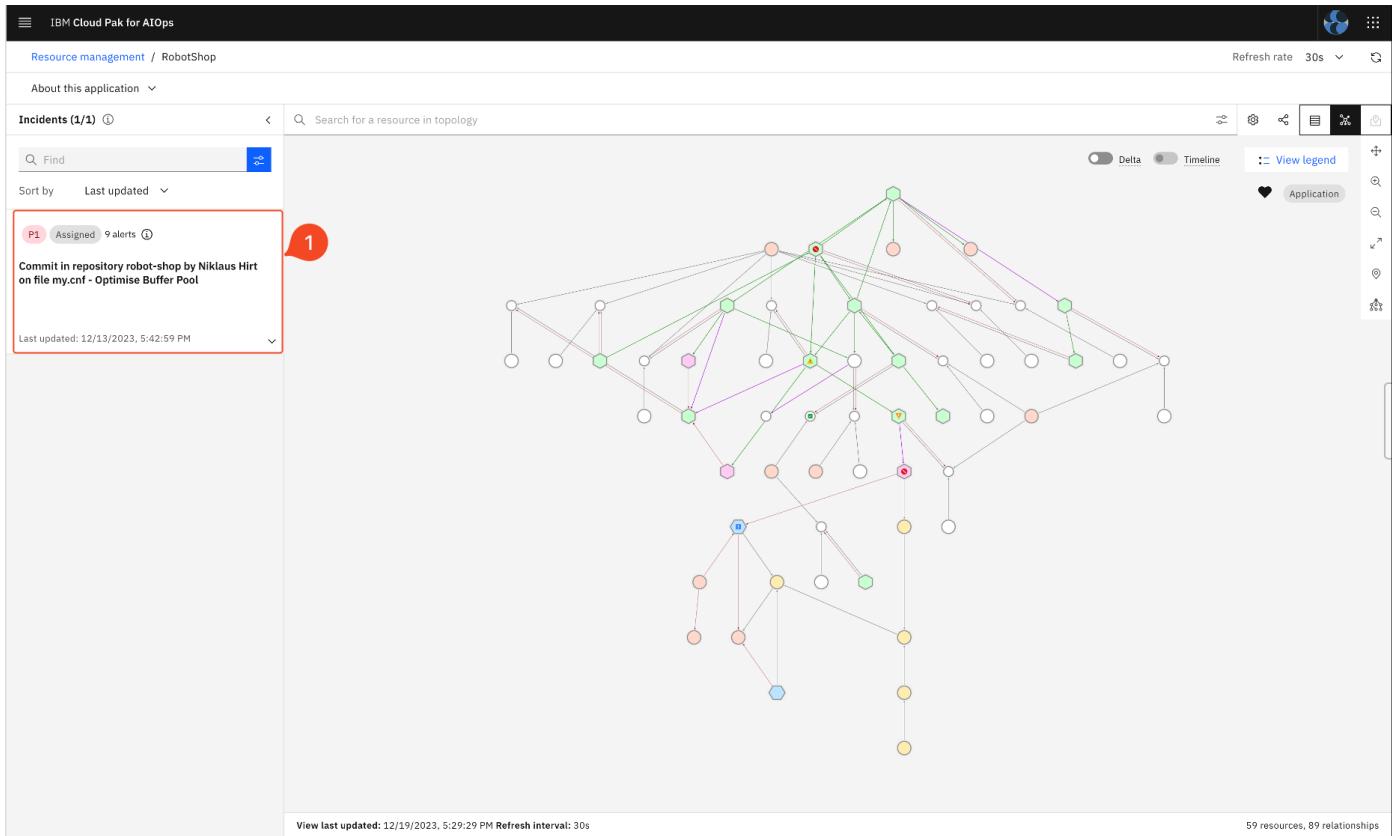
Application name	Resources	Active incidents	Resource alerts	Tags	Business criticality
ACME Air	23	P1 2	🔴 3 🔞 3 🔟 3	app:acme-air app:acmeair	Silver
Central London stations	89	P1 1	⚠️ 4 🔟 8	London underground	Platinum
Central London stations	164	P1 1	🔴 1 ⚠️ 3 🔟 2 +1 more	London underground	Platinum
RobotShop	100	P1 2	🔴 2 ⚠️ 1 🔟 4 +1 more	app:robot-shop app:robotshop	Platinum
SockShop	32	P1 1	🔴 2 ⚠️ 3 🔟 2	app:sock-shop app:sockshop	Gold

### Narration

Applications consists of a collection of resources to best represent a specific business application or service.

### Action

- Click the RobotShop Application (1).

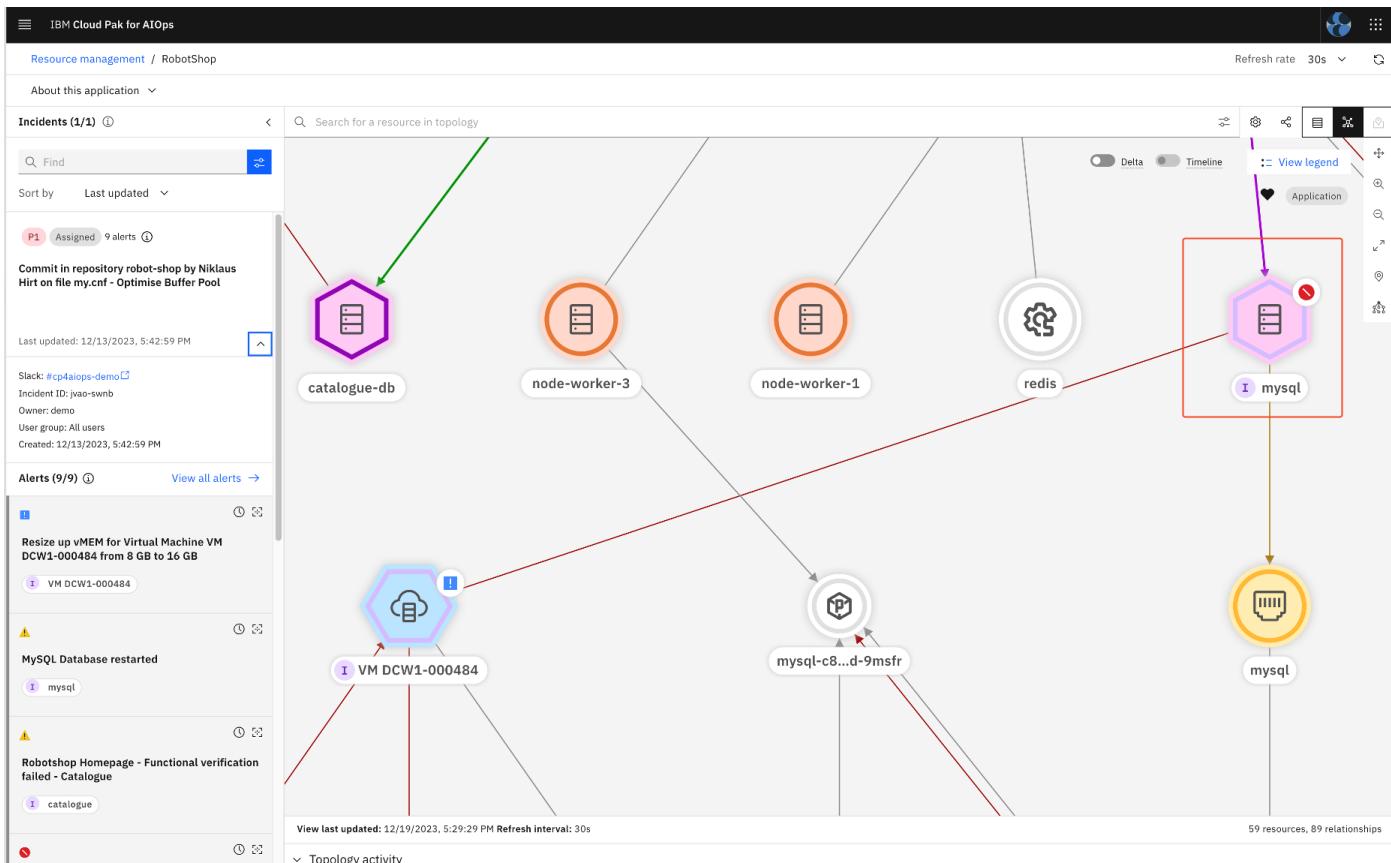


## Narration

Those resources make up the complete Topology of the Application.

## Action

- Click the Alert (1).

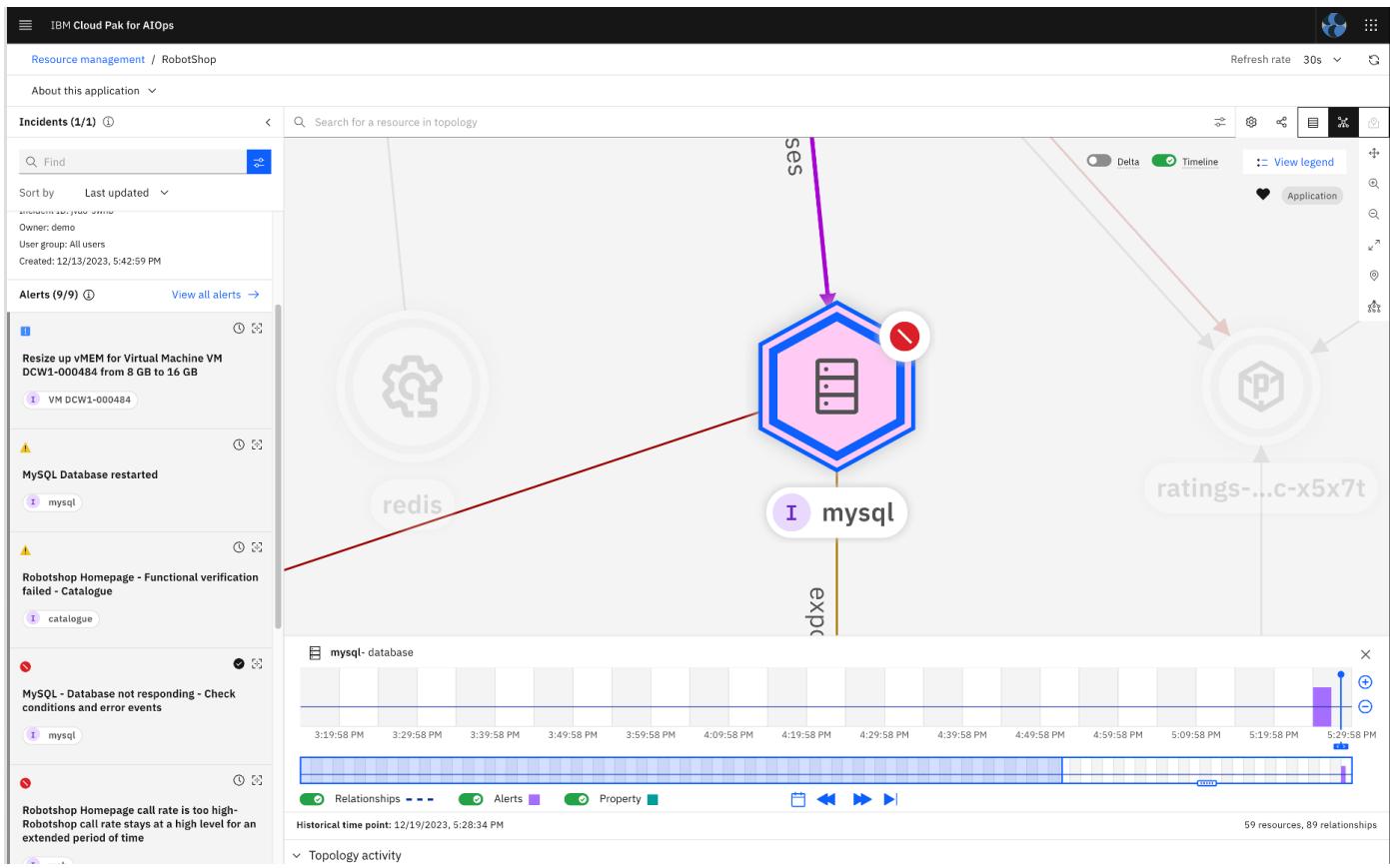


## Narration

And I can examine all Incidents in the context of my Application.

## Action

- Click the **mysql** Database.



## Narration

In this case I can find my current Incident and the part of the Topology that is affected by it.

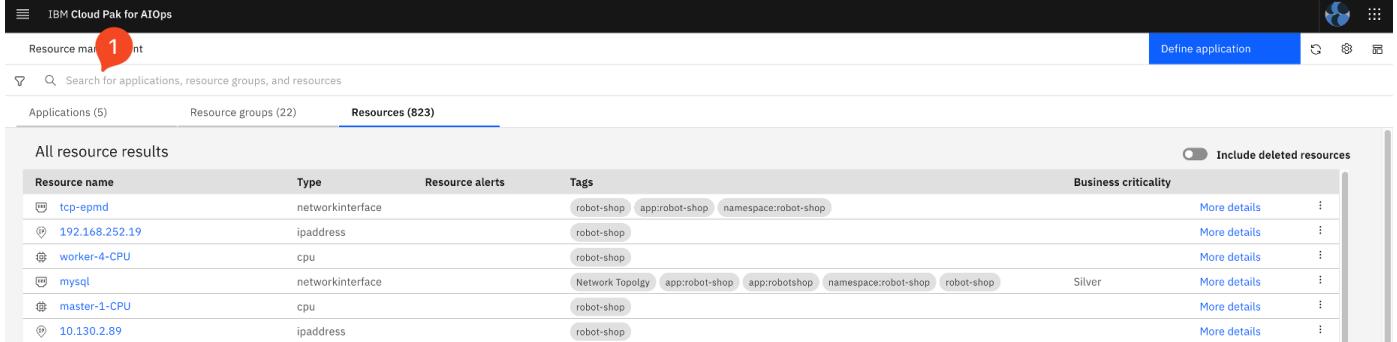
## Action

- Click anywhere to go back to the Resource Management page.

## 2.5.4 Searching for resources (optional)

### Action

- Click in the search bar at the top (1).



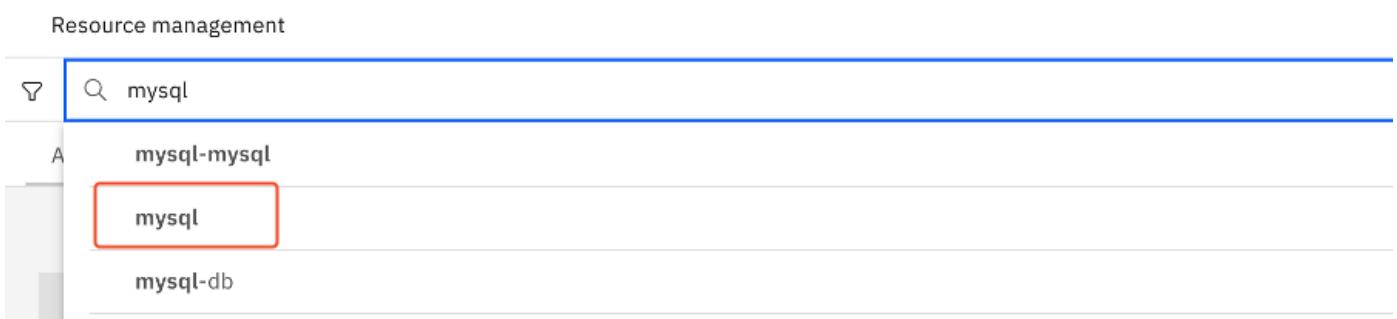
The screenshot shows the IBM Cloud Pak for AIOps interface. At the top, there's a navigation bar with 'IBM Cloud Pak for AIOps' and various icons. Below it is a search bar with the placeholder 'Search for applications, resource groups, and resources'. A red circle with the number '1' is placed over the search bar. To the right of the search bar are buttons for 'Define application' and other interface controls. Below the search bar, there are three tabs: 'Applications (5)', 'Resource groups (22)', and 'Resources (823)', with 'Resources' being the active tab. The main area displays a table titled 'All resource results' with columns: 'Resource name', 'Type', 'Resource alerts', 'Tags', and 'Business criticality'. The table lists several resources, each with a 'More details' link and a three-dot menu icon. A toggle switch on the right side of the table panel is set to 'Include deleted resources'.

### Narration

It is very easy and straightforward to search for resources in IBM AIOps.

### Action

- Click **mysql**.



The screenshot shows the 'Resource management' search interface. At the top, there's a search bar with the text 'mysql'. Below the search bar is a list of search results. The first result, 'mysql-mysql', is listed under 'A'. The second result, 'mysql', is highlighted with a red rectangular box. The third result, 'mysql-db', is also listed under 'A'.

### Narration

By looking for a specific name, term or tag.

Filter: "mysql" 1

Applications Resource groups Resources (5) Include deleted resources

Resource name	Type	Resource alerts	Tags	Business criticality
mysql	networkinterface		Network Topology, app:robot-shop, app:robotshop, namespace:robot-shop, robot-shop	Silver
mysql	container, deployment		app:robot-shop, namespace:robot-shop, robot-shop	More details
mysql	service		robot-shop, app:robot-shop, namespace:robot-shop	More details
mysql	database	1 ⚠️ 2 🟢 1	namespace:robot-shop, app:robotshop	Platinum
quay.io/niklaushirt/rs-mysql-db:1.0	image		robot-shop, mysql-c8455648d-9msfr, mysql	More details

Items per page: 25 ▾ 1-5 of 5 items (4 merged) 1 ▾ of 1 page ▶

## 💡 Narration

In this case I can find my MySQL Database with the indication that there are some Alerts present on the resource.

## 🚀 Action

- Click the **mysql** Database.

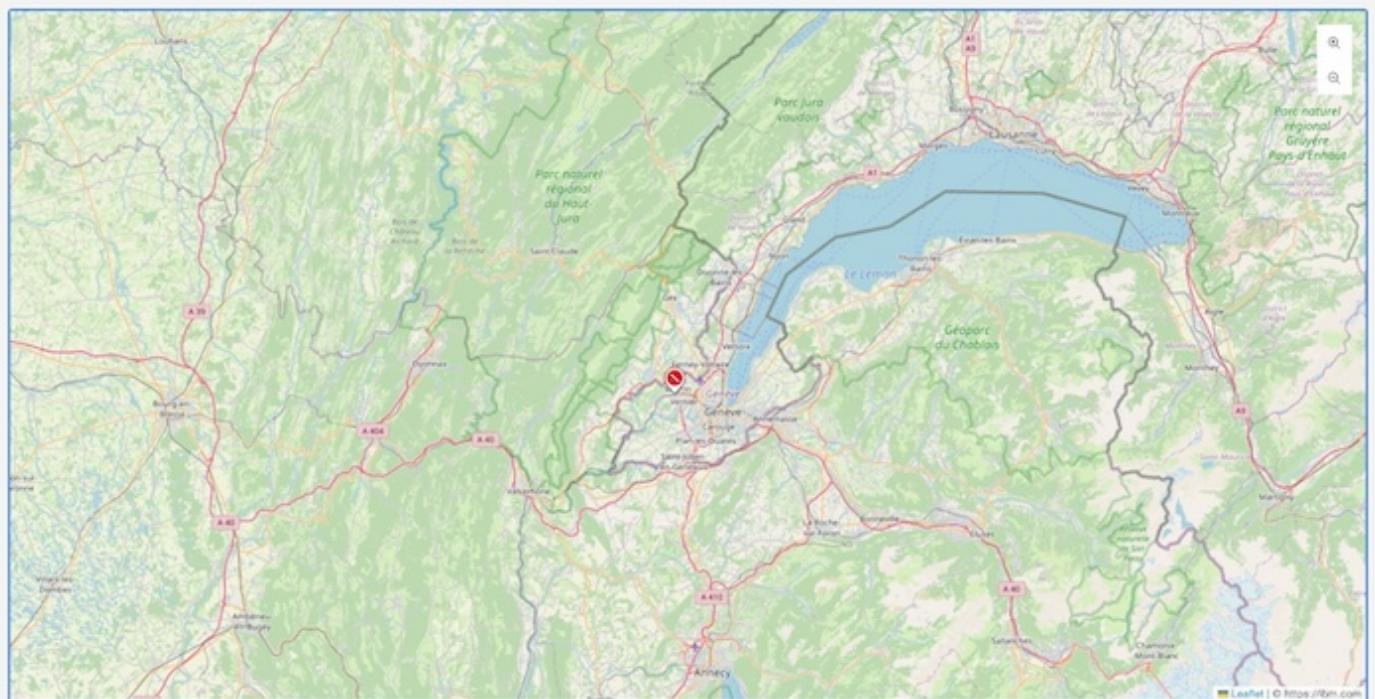
## 💡 Narration

From here I can go to the resource details that I have already explored before, so let's head back.

### Resource details

mysql ● ●  
Platinum

Properties Alerts Data origin Related applications Related resource groups Neighbor resources Location



## 🚀 Action

- Click on the X in the top right corner to go back.
- ⚠️ Make sure you are on the **Location** Tab when doing this.

## 2.5.5 Searching for geospatial resources (optional)

### Action

- Click on the funnel at the top left (1).

The screenshot shows the 'Resource management' section of the IBM Cloud Pak for AIOps interface. At the top, there's a search bar and a 'Define application' button. Below the search bar, there are three tabs: 'Applications (5)', 'Resource groups (22)', and 'Resources (823)', with 'Resources' being the active tab. A red circle highlights the funnel icon located to the left of the search bar. The main area displays a table of resources with columns for 'Resource name', 'Type', 'Resource alerts', 'Tags', and 'Business criticality'. Each resource row includes a 'More details' link and a three-dot menu icon.

### Narration

It is also very easy and straightforward to search for resources by geography.

### Action

- Click **Geospatial Resources** (1).
- Click **Scope** and select **Within Area** (2).
- Click **Select Area** (3).

The screenshot shows the 'Resource management' section with a focus on filtering resources by geography. On the left, there's a sidebar titled 'Filter conditions' with sections for 'Collapse all', 'Severity', 'Business criticality', 'Last updated (resources only)', 'Other properties', 'Geospatial (resources only)' (with a red circle labeled 1), 'Scope' (with a red circle labeled 2), and 'Area' (with a red circle labeled 3). The 'Scope' dropdown is set to 'Within area'. The 'Area' input field is highlighted with a blue border. The main area shows a table of resources with the 'Resources (823)' tab selected. The table has columns for 'Resource name', 'Type', 'Resource alerts', 'Tags', and 'Business criticality'. A red circle highlights the 'Include deleted resources' toggle at the top right of the table area.

### Narration

I can as an example search all resources in a certain perimeter.

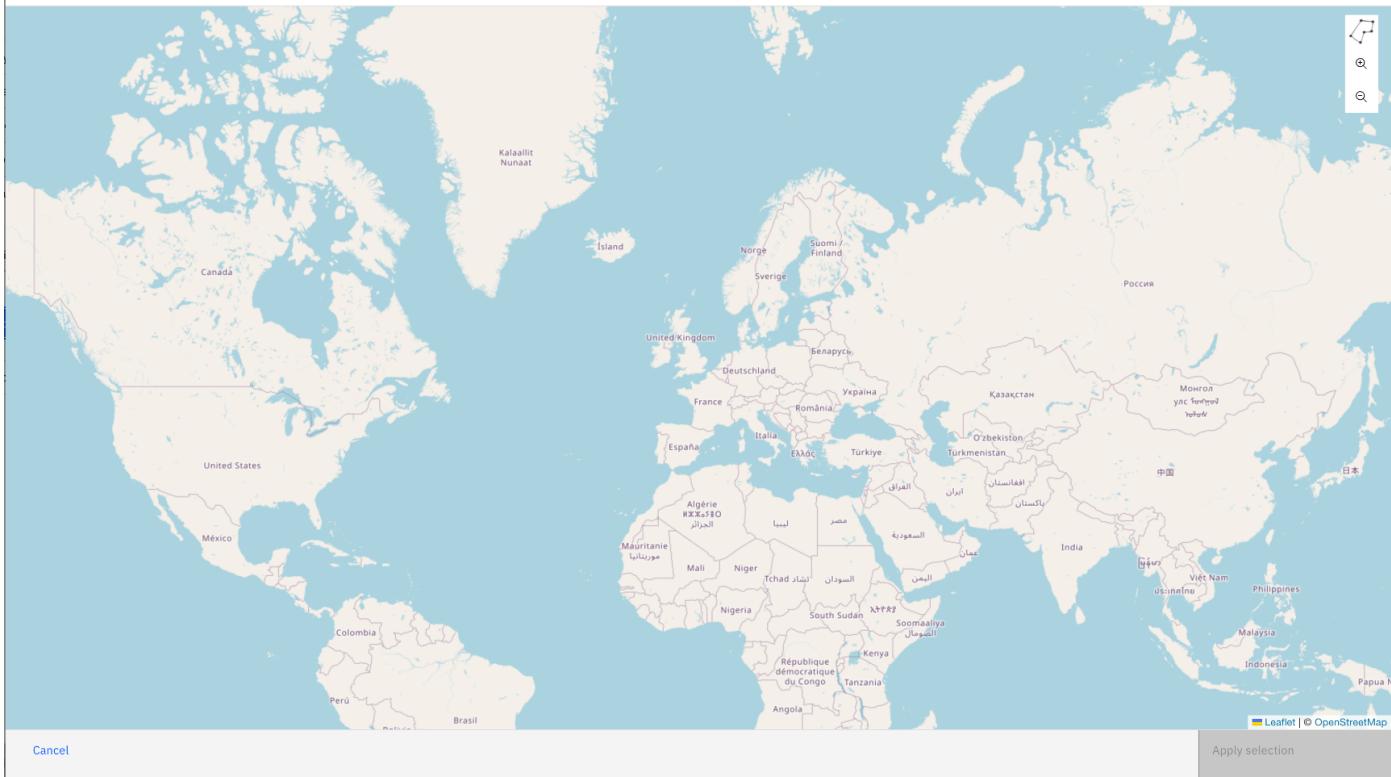
For this I have to define a search area.

### Action

- Click several times anywhere in the map to define the area.
- You might want to train a little bit to not be completely off when clicking.

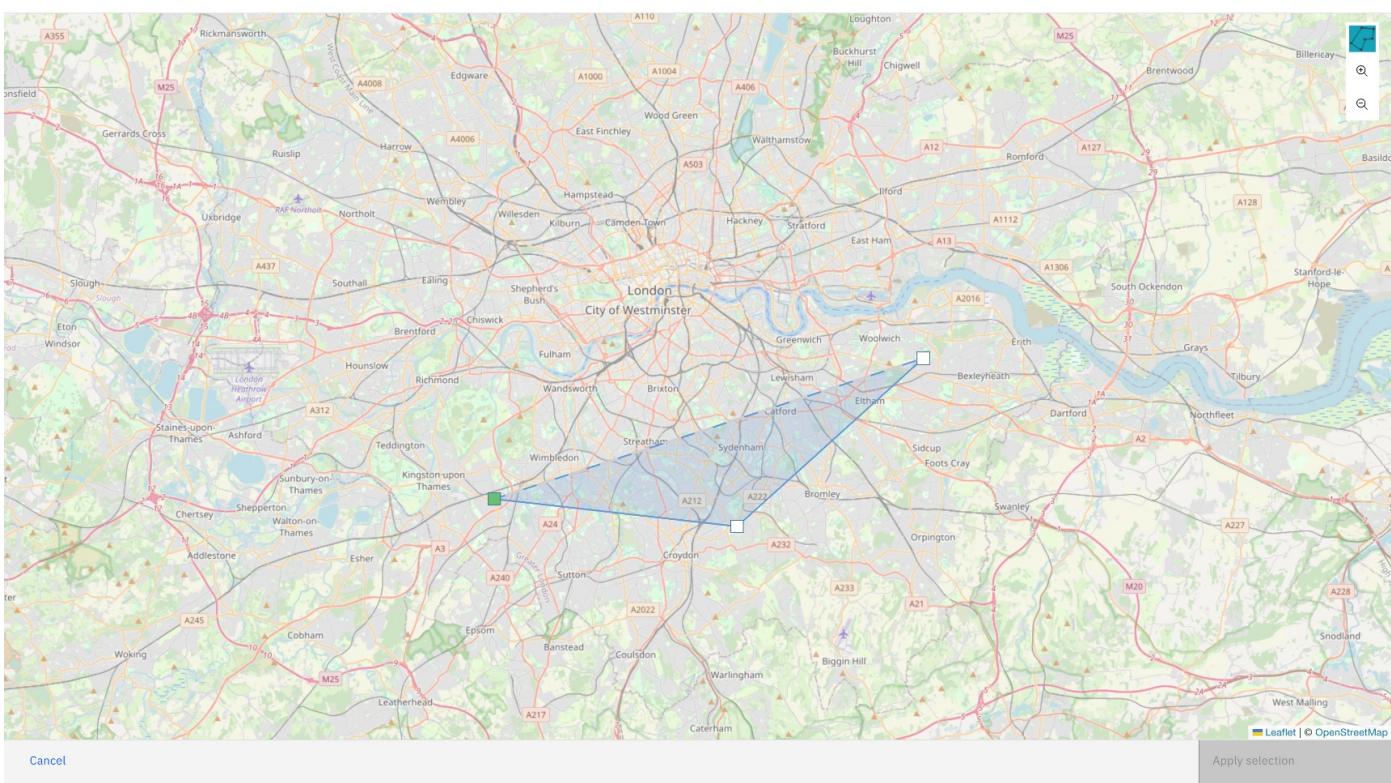
## Select a geospatial area

To select an area, move to the desired location on the map. Then use the selection tool to define a polygon by clicking on the map to select vertices or clicking and dragging to obtain a rectangular shape.



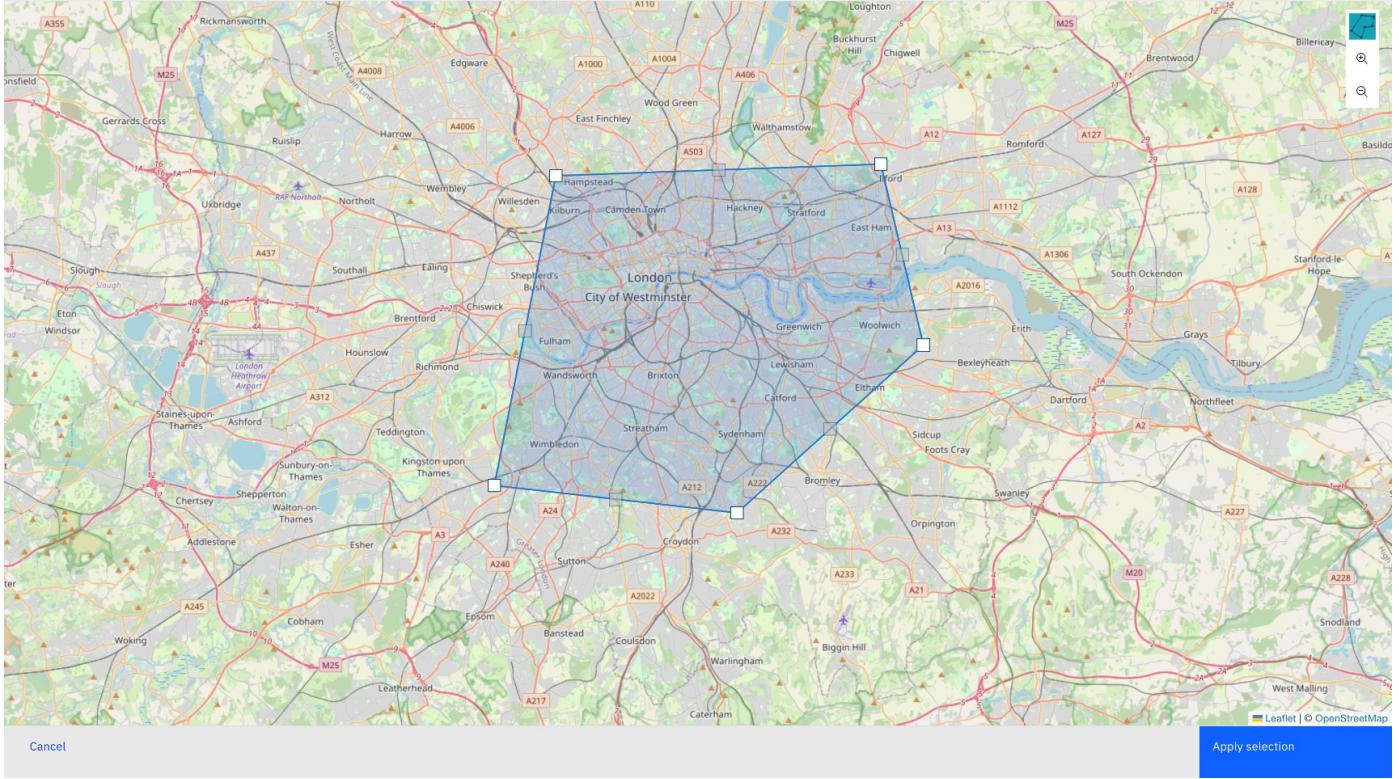
## Select a geospatial area

To select an area, move to the desired location on the map. Then use the selection tool to define a polygon by clicking on the map to select vertices or clicking and dragging to obtain a rectangular shape.



## Select a geospatial area

To select an area, move to the desired location on the map. Then use the selection tool to define a polygon by clicking on the map to select vertices or clicking and dragging to obtain a rectangular shape.



## Action

- Click **Apply Selection**.

## Narration

In this case I get a list of all London Underground stations that are in the designated area.

The screenshot shows the IBM Cloud Pak for AIOps Resource management interface. At the top, there's a navigation bar with 'IBM Cloud Pak for AIOps' and a search bar with a red notification badge '1'. Below the search bar is a 'Resource management' section with a 'Search for resources' input field. On the left, there's a 'Filter conditions' sidebar with sections for Severity, Business criticality, Last updated (resources only), Other properties, Geospatial (resources only), Scope (Within area), Area (with a note 'Area selected and applied.'), and Historical search (resources only). The main area is titled 'Resources (279)' and shows a table of results. The table columns are: Resource name, Type, Resource alerts, Tags, and Business criticality. Each row represents a station, with a 'More details' link and a three-dot menu icon. The first few rows listed are Aldgate, Aldgate East, Anerley, Angel, Arsenal, Baker Street, Balham, and Bank.

Resource name	Type	Resource alerts	Tags	Business criticality
Aldgate	undergroundStation	⚠ 1	Mode: tube, Mode: bus, Line: N253, +15	More details
Aldgate East	undergroundStation		Mode: tube, Mode: bus, Line: N253, +13	More details
Anerley	railStation		Mode: bus, Line: London Overground, +6	More details
Angel	undergroundStation		Mode: tube, Mode: bus, Line: Northern, +17	More details
Arsenal	undergroundStation		Mode: tube, Zone 2, Line: Piccadilly	More details
Baker Street	undergroundStation		Mode: tube, Line: 139, Mode: bus, +20	More details
Balham	undergroundStation		Mode: tube, Line: Northern, Zone 3	More details
Balham	interchangeStation		Mode: tube, Mode: bus, Line: Northern, +9	More details
Bank	undergroundStation	⚠ 1	Mode: tube, Line: Northern, Zone 1, +2	More details

## Action

- Click in the search bar at the top (1).

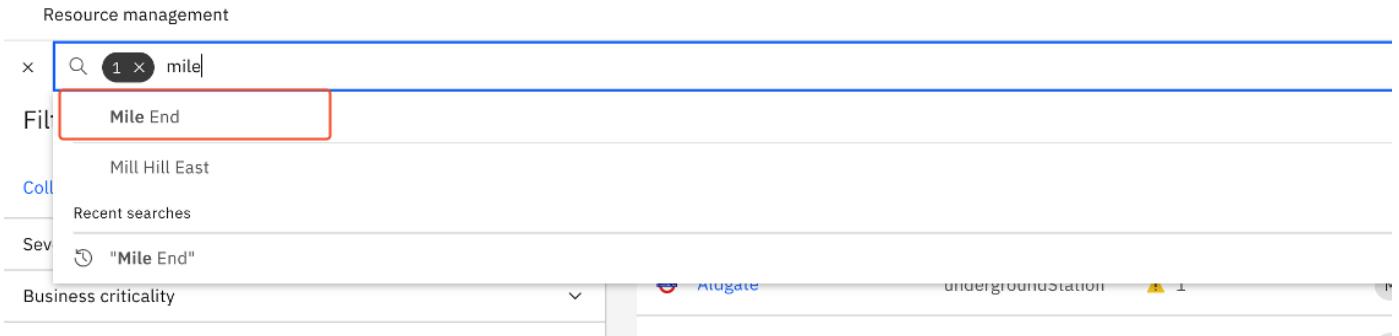
## Narration

Now let's narrow it down a bit.

### Action

- Click on **Mile End**.

Resource management



x  Search

Filter **Mile End**

Coll Mill Hill East

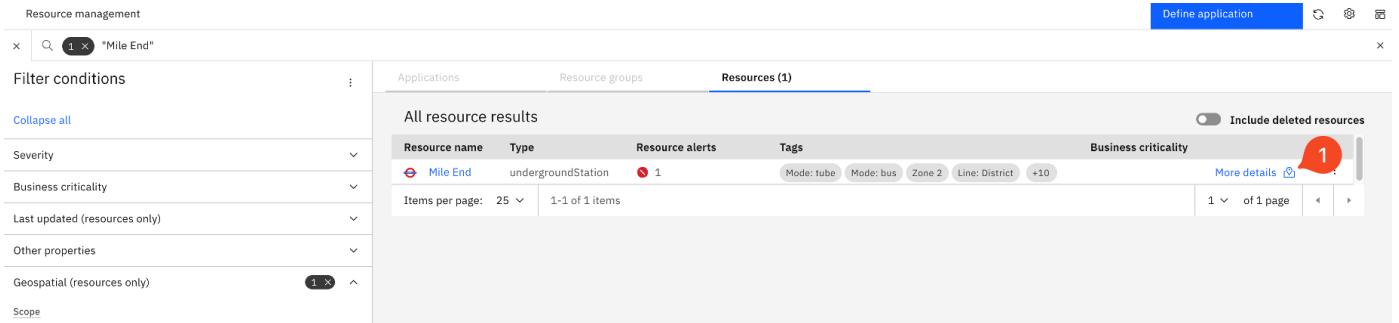
Recent searches "Mile End"

Business criticality

### Action

- Click on **Mile End (1)**.

Resource management Define application



x  Search

Filter conditions Collapse all

Severity

Business criticality

Last updated (resources only)

Other properties

Geospatial (resources only) 1 ×

Scope

All resource results Include deleted resources

Resources (1)

Resource name	Type	Resource alerts	Tags	Business criticality
<a href="#">Mile End</a>	undergroundStation	1	(Mode: tube) (Mode: bus) Zone 2 Line: District +10	More details

Items per page: 25 1-1 of 1 items

## Action

- Click on the station Pin on the Map (1).

## Resource details

Mile End

Properties Alerts Data origin Related applications Related resource groups Neighbor resources Location

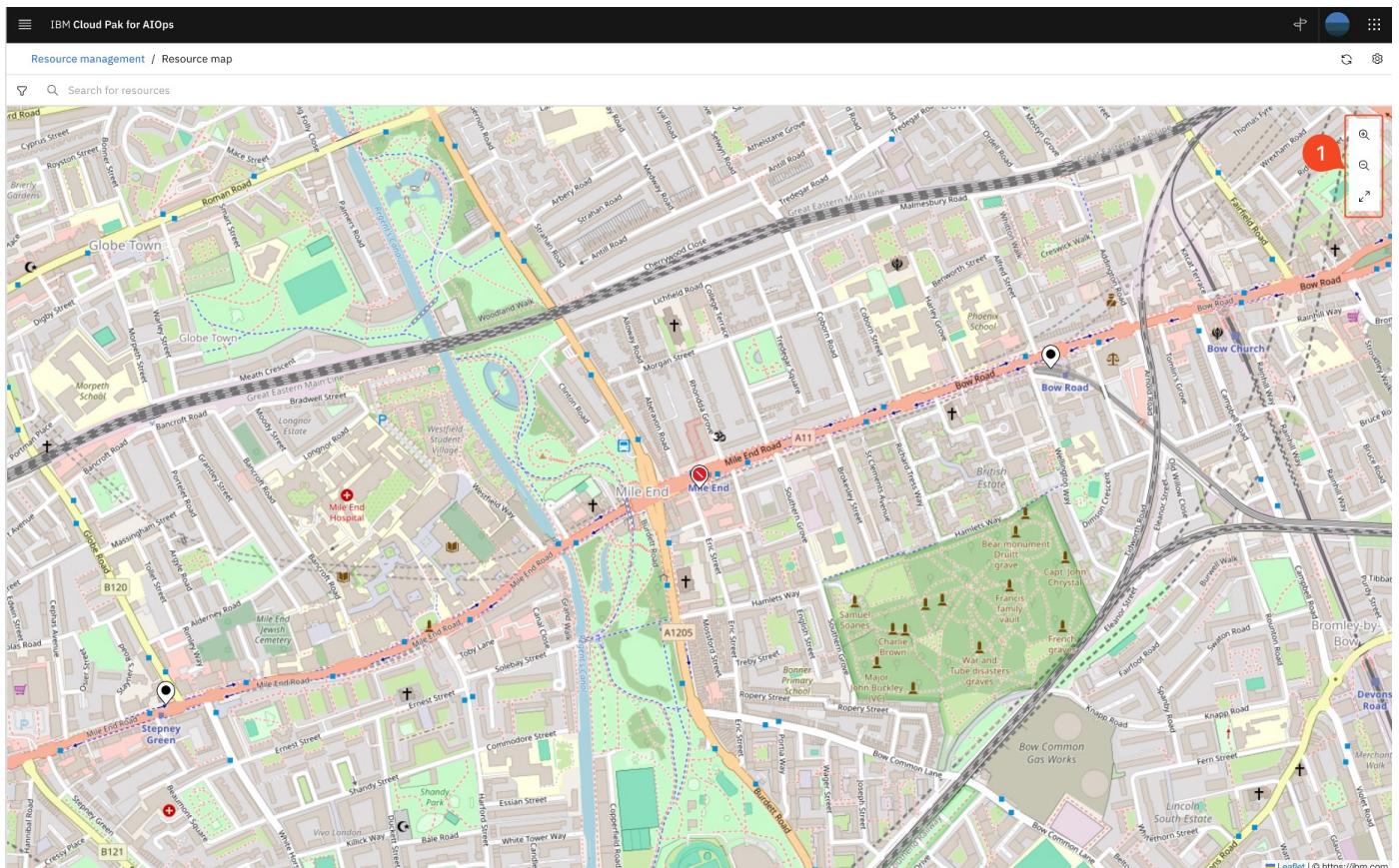
1

## Narration

Here I can explore the resource details for the Mile End Tube Station.

## Action

- Click on the Magnifying Glass in the upper right corner (1).



## Narration

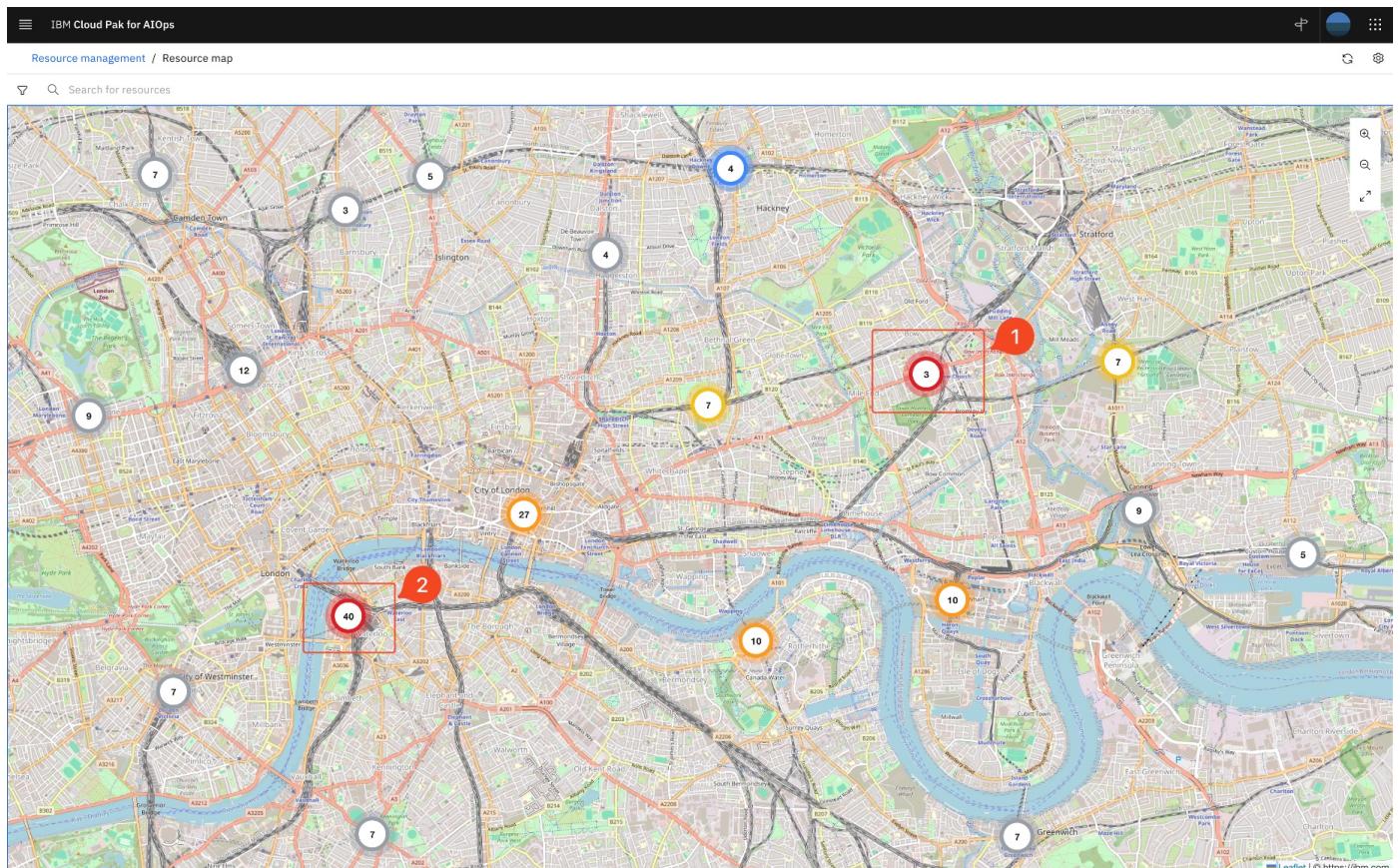
From here I can zoom in and out of the map to get a more global understanding.

For example I can see that my first problem is located at Miles end in the North East of London (1).

But there seems to be an issue also near the London Eye (2).

## Action

- Click on the circle that says **40** (2).

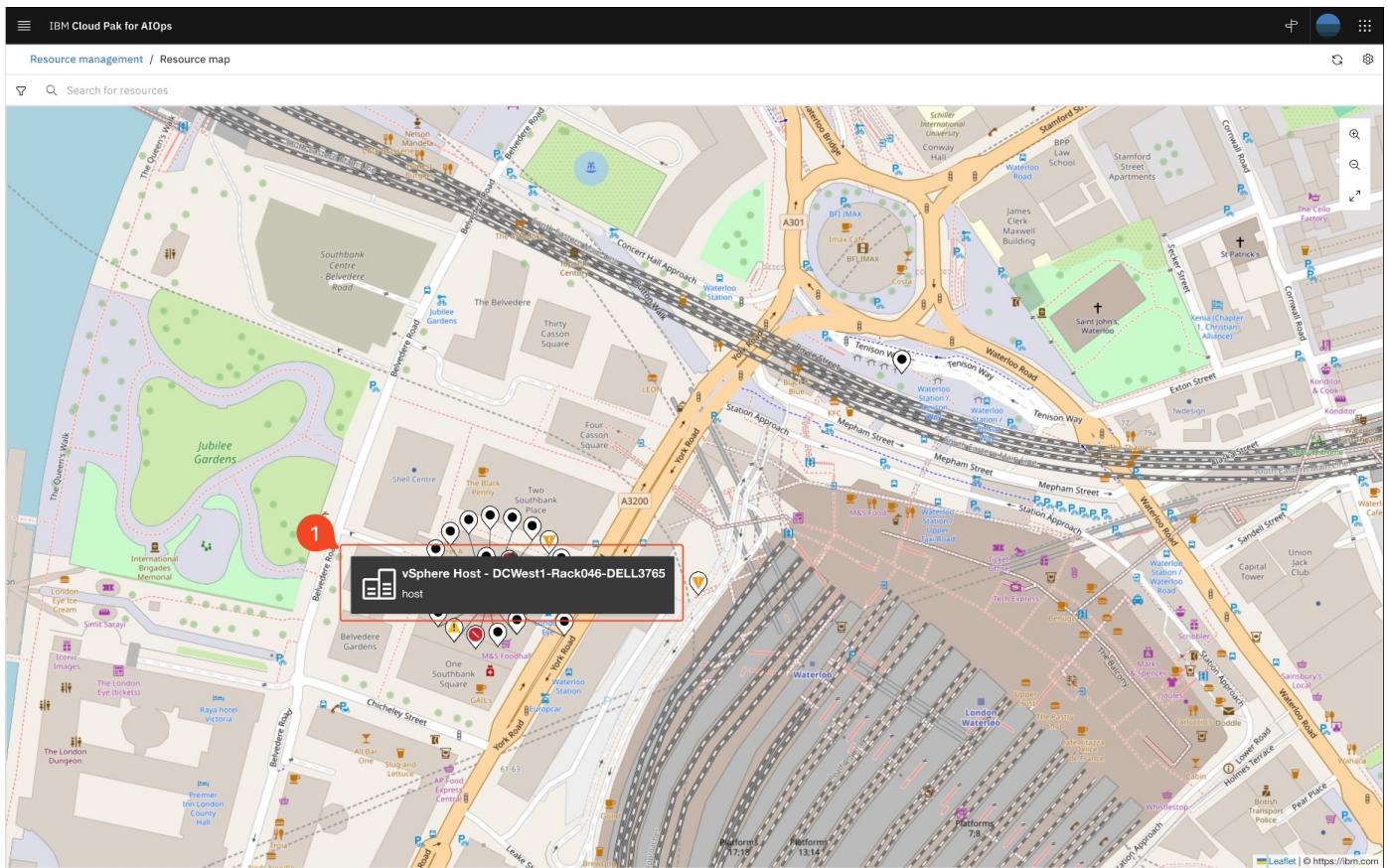


## Narration

It seems that I also have a problem in one of my London Datacenters. Let me take a look.

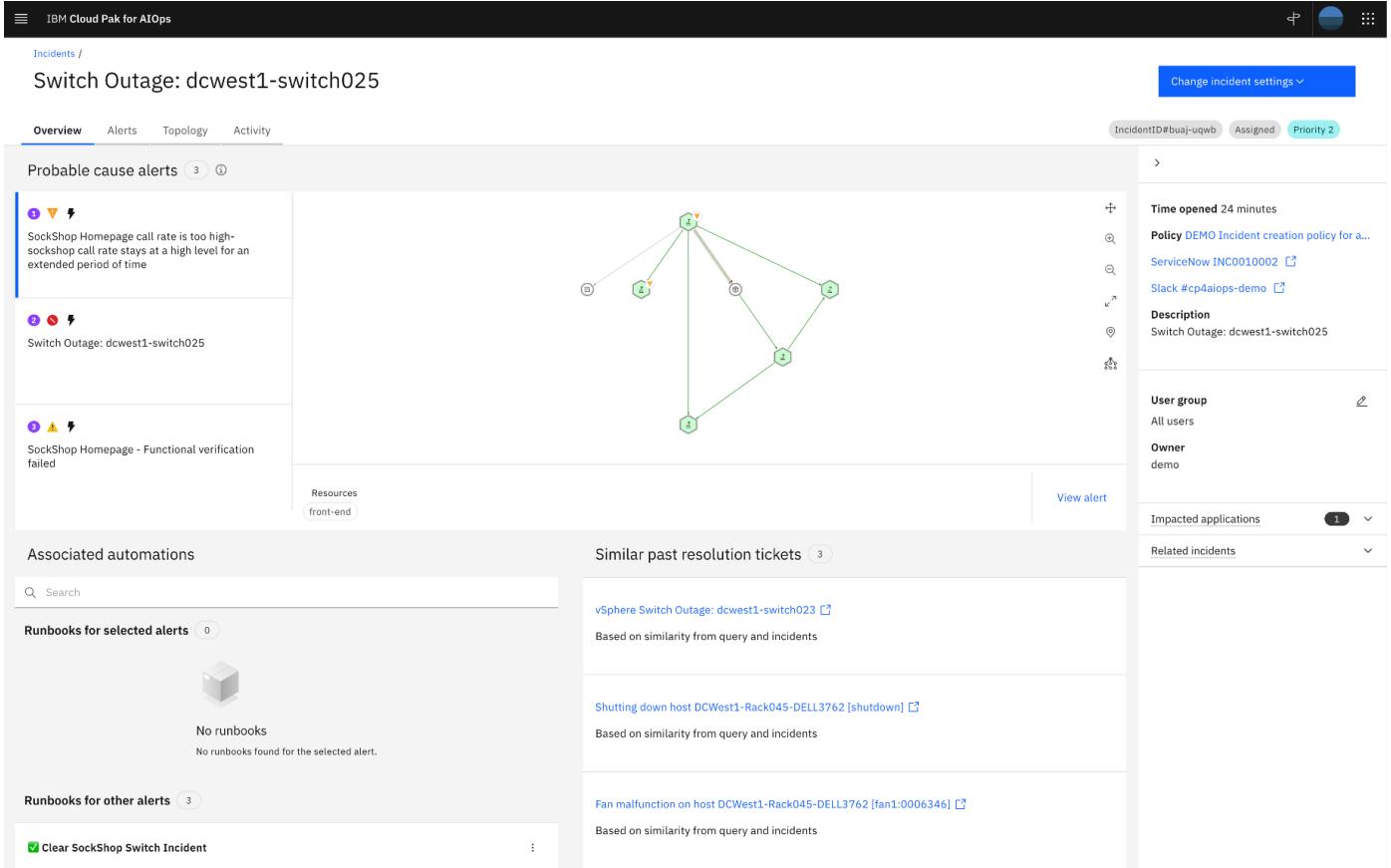
## Action

- Click on the Host (1).



## Narration

Seems that there is also an incident with a Switch Outage affecting the SockShop application. But this one is not in my application portfolio and a story for another time.



The screenshot shows the IBM Cloud Pak for AIOps interface. At the top, it says "IBM Cloud Pak for AIOps". Below that, "Incidents /" and "Switch Outage: dcwest1-switch025". On the right, there's a "Change incident settings" button and some status indicators: IncidentID#buaj-uqwb, Assigned, Priority 2. The main area has tabs: Overview, Alerts, Topology, Activity. The "Topology" tab is selected, showing a network graph with nodes and connections. To the left, under "Probable cause alerts", there are three items: "SockShop Homepage call rate is too high-", "Switch Outage: dcwest1-switch025", and "SockShop Homepage - Functional verification failed". Below these, under "Associated automations", there are sections for "Runbooks for selected alerts" (empty) and "Runbooks for other alerts" (empty). On the right, there are sections for "Similar past resolution tickets" (listing "vSphere Switch Outage: dcwest1-switch023" and "Shutting down host DCWest1-Rack045-DELL3762 [shutdown]"), "User group" (All users), "Owner" (demo), and "Impacted applications" (one entry). There's also a "View alert" button.

## Action

To go back to the initial storyline:

- Click the **Hamburger Menu** on the upper left. Click **Incidents**
- Click on the **Incident Commit in repository...**

# 2.6 Resolving the incident

## 2.6.1 Fixing the problem with runbook automation

The screenshot shows the IBM Cloud Pak for AIOps interface for managing incidents. The main title is "Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool". The top navigation bar includes "IBM Cloud Pak for AIOps", "Incidents /", "Change incident settings", "Overview", "Alerts", "Topology", "Activity", and incident ID "IncidentID#lymw-xlxx In progress Priority 1".

**Probable cause alerts:**

- Robotshop Homepage call rate is too high - Robotshop call rate stays at a high level for an extended period of time
- Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool
- MySQL - Database not responding - Check conditions and error events

**Runbooks:**

- No runbooks found for the selected alert.

**Associated automations:**

- No runbooks found for other alerts.

**Similar past resolution tickets:**

- Commit in repository robot-shop by Niklaus Hirt on file robot-shop.yaml - New Memory Limits
- Network file shares access issue
- File Server is 80% full - Needs upgrade

**Incident details:**

- Time opened 33 minutes ago
- Policy DEMO Incident creation policy for a...
- ServiceNow INC0010003
- Slack #cp4aiops-demo
- Description: Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool
- User group: All users
- Owner: demo
- Impacted applications: RobotShop (Platinum)
- Active incidents: P1 1
- Related incidents: None

### Narration

Now that we know what the problem is, let's correct what has happened. A runbook has been automatically identified but have not been executed. Runbooks are guided steps that IT operations teams use to troubleshoot and resolve problems. Some organizations might call these standard operating procedures or playbooks. When an incident occurs, IBM AIOps matches an appropriate runbook to the problem. The runbook can be set to run automatically when it is matched to an incident, or it can run with user approval and participation.

## Narration

Let's execute the Runbook.

### Action

- Click on the Runbook **(1)**
- Click **Start Runbook**.

## Run runbook

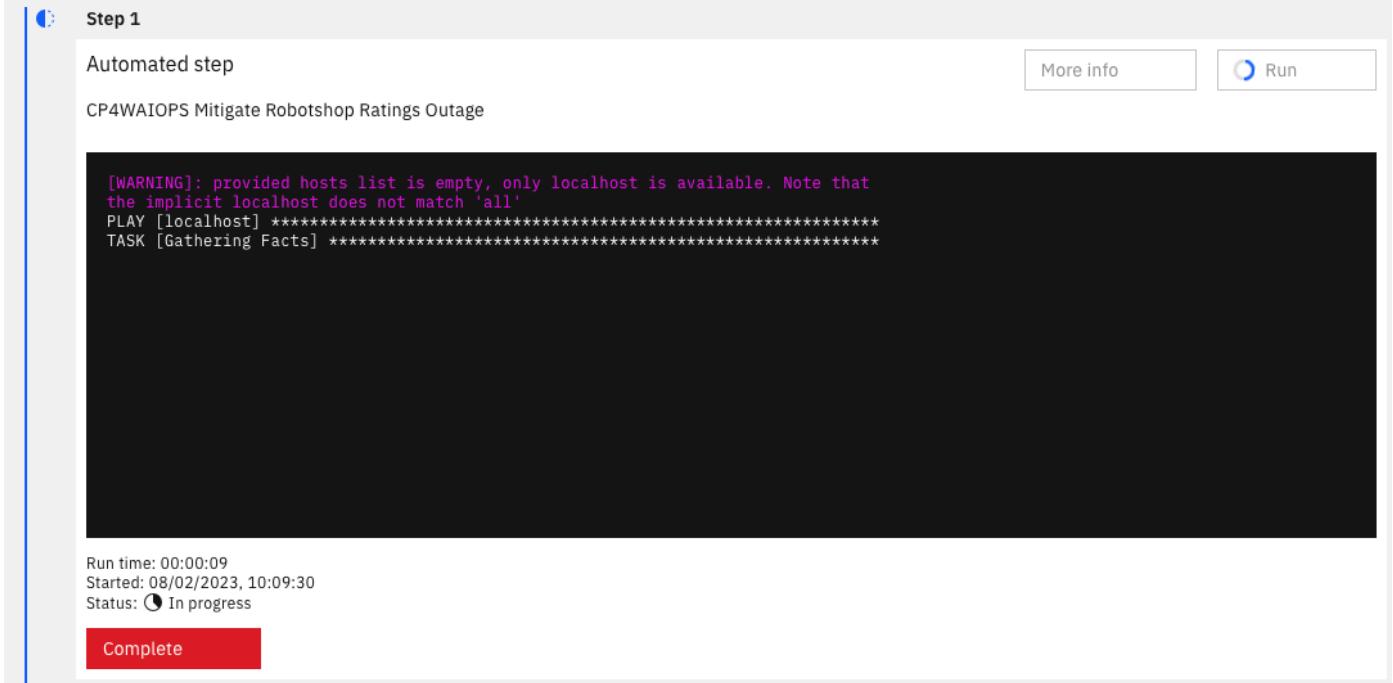
Mitigate RobotShop Problem (Version 1)



The screenshot shows the 'Runbook' interface. At the top, there is a header bar with the title 'Mitigate RobotShop Problem (Version 1)'. Below the header, there are two main sections: 'Step 1' and 'Provide feedback'. The 'Step 1' section is titled 'Automated step' and contains the task 'CP4WAIOPS Mitigate Robotshop Ratings Outage'. It includes a 'Complete' button and two buttons for 'More info' and 'Run'. The 'Provide feedback' section includes a rating scale from 1 to 5 stars and a text input field for feedback, with a close button (X) next to it.

### Action

- Click **Run** in Step 1.



The screenshot shows the 'Runbook' interface during execution. The 'Step 1' section is visible at the top. The main area displays the command output:  
[WARNING]: provided hosts list is empty, only localhost is available. Note that  
the implicit localhost does not match 'all'  
PLAY [localhost] \*\*\*\*  
TASK [Gathering Facts] \*\*\*\*  
  
A large black rectangular box covers the majority of the screen below the command output.  
  
At the bottom, there is a status summary:

Run time: 00:00:09  
Started: 08/02/2023, 10:09:30  
Status:  In progress

A red 'Complete' button is located at the bottom left.

## Narration

The Runbook that I just started kicks off a Playbook on Ansible Tower. I can follow the execution as it connects to the cluster and then scales up memory for the MySQL deployment.

Step 1

Automated step

CP4WAIOPS Mitigate Robotshop Ratings Outage

```
hy2Nvdw50Iiwa3ViZXJuZXxRicy5pbv9zZXJ2awN1YWNjb3VudC9uYW1l:38bY2Ui0iJkZWhdWx0liwia3ViZXJuZXxRicySpbv9zZXJ2awN1YWNjb3Vudc9zZwNyZXQubmFtZSi6ImRlbw8tYWRtaW4tdG9rZw4ta2I5d0ciLCJrdWJlc51dGVzLmlvL3NlcnPzY2VhY2Nvdw50L3NlcnPzY2UtYWNjb3VudC5uYW1ljoizGVtby1hZG1pbii6imt1YmVbmv0ZMuaw8vc2VydmljzwFjy291bnqvczVydmljzs1hY2Nvdw50LnVpzCI6imJhY2Y3NWYwLTwZmetNDIzz111MTRKLWRKMWE4ZDiyMmI2ZiisInN1Yi6InH5c3R1btpZXJ2aWN1YWNjb3VudDpkZWZhdWx00mRlbW8tYWRtaW4ifQ.AcEG9qinkk6gZ9mR5dvZ3AhRCg-cyI-grjTwa_6SV_zNgaYyUMZBeIp5UQ8YvOLXjsUZwTuU20GsxDxh8cWuNbuj9j0BKaeK_Sz4n8W7BbCe0Zgy74TiisF_BZc5rRDI5BhRcq502JbxJGOEfhwPP3Yv0fe4xb9X4XvkkCKoV1LrmYU1hR1RkGo4tbRi-zlagf0tq10GQ8JBu_IYtG017UvwJgGXEnzgUpSWecreJHWzjfvejsib0sXYcekTdk6YvG0Pe6HDqaJUVzMwg1dihe51bwErRecI-0isYc16YCzE52av9s7ZqmibAaZrYGB7a0Gg2BuR61P2mQ"
```

Run time: 00:00:18  
Started: 08/02/2023, 10:09:30  
Status:  Successful

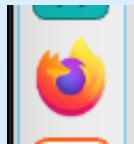
**Complete**

## Narration

Before confirming that the runbook worked as expected, I should check the RobotShop application to see if it is working as expected.

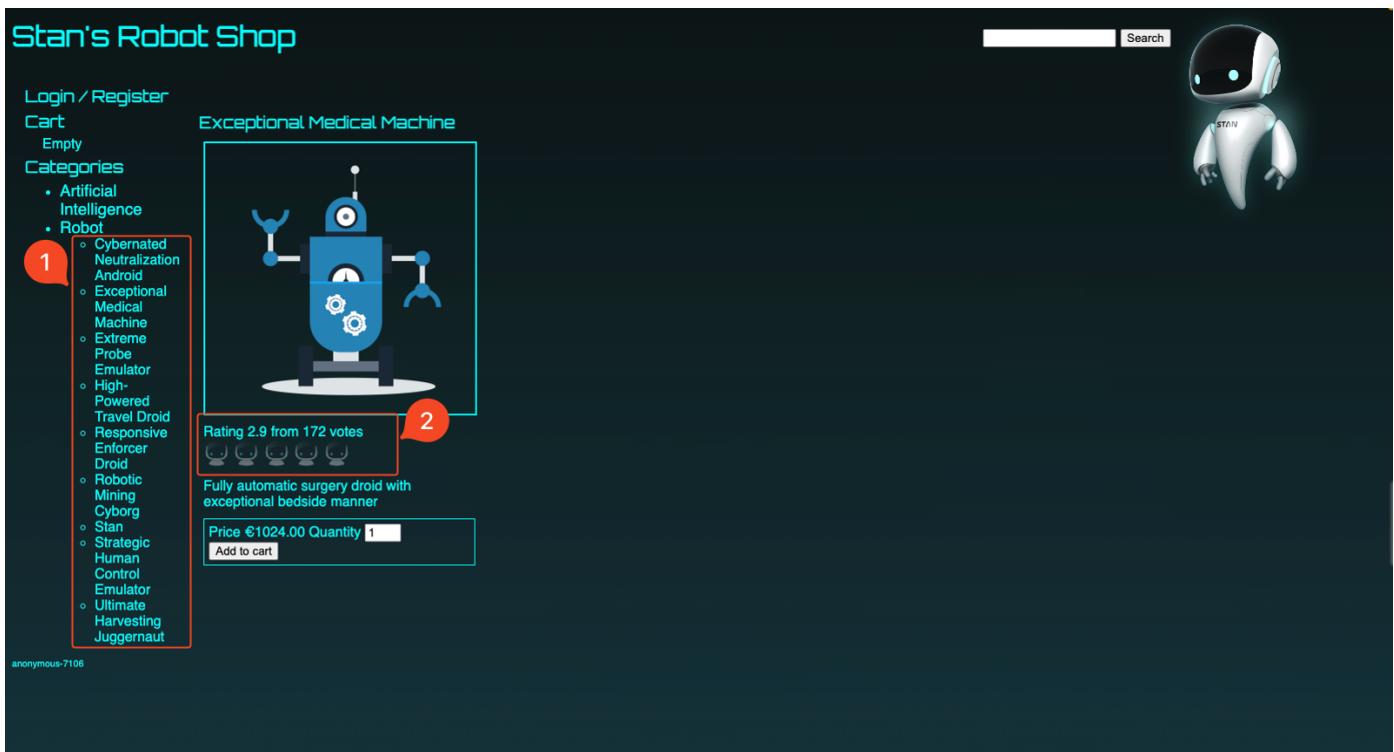
 **Action**

- When finished, click **Complete**.
- Open the RobotShop application by clicking on the **Firefox** Icon in the left menu



## Action

- Click on any Robot (1)
- Show that ratings are correctly shown (2)



The screenshot shows a product page for the "Exceptional Medical Machine" on "Stan's Robot Shop". The page includes a sidebar with user navigation and a main content area featuring a robot image, rating, description, and price.

- 1** Points to the sidebar menu under "Categories" which lists various robot models.
- 2** Points to the rating section showing "Rating 2.9 from 172 votes" with a 5-star icon.

Product details:

- Name:** Exceptional Medical Machine
- Rating:** 2.9 from 172 votes
- Description:** Fully automatic surgery droid with exceptional bedside manner
- Price:** €1024.00
- Quantity:** 1
- Add to cart:** button

## Action

- Go back by clicking on the **IBM AIOps** Icon in the left menu



## Narration

So the runbook has resolved the problem. When I tell IBM AIOps that the Runbook worked, it will learn over time to prioritize and suggest more relevant Runbooks.

 **Provide feedback**

Rate this runbook

★★★★★

Comments

Runbook did not work Runbook worked

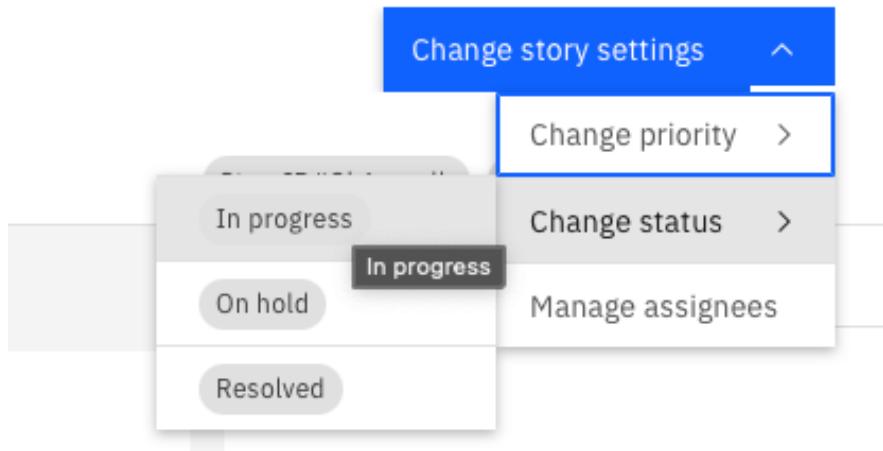
## Action

- Rate the Runbook
- Then click **Runbook Worked**.

## 2.6.2 Resolve the Incident

### Action

- Select **Change Status**.
- Click on **Resolved**



### Narration

So now as we have resolved the problem, I will inform the development team of the problem by reopening the ServiceNow ticket and by closing the Incident.

### Action

- Click anywhere to go back to the list of Incidents
- Click anywhere to conclude the demo

IBM Cloud Pak for AIOps

Incidents    Alerts

Search

	Priority	Status	ID	Title	Alert count	Time open	User group	Owner
<input type="checkbox"/>	P1	Assigned	Said-eltt	Station closed due to fire alert	27	45 minutes	All users	dem
<input type="checkbox"/>	P1	Resolved	lymw-xlxx	Commit in repository robot-shop by Niklaus Hirt on file my.cnf - Optimise Buffer Pool	15	45 minutes	All users	dem
<input type="checkbox"/>	P2	Assigned	buaj-uqwb	Switch Outage: dcwest1-switch025	13	45 minutes	All users	dem
<input type="checkbox"/>	P3	Assigned	wyv9-iggx	Fan malfunction on host DCWest1-Rack046-DELL3765 [fan1:000]	15	45 minutes	All users	dem



STAN

## ⚠️ Narration

So to conclude: The problem is solved, the RobotShop Application is running as expected and Christmas is saved.

# Demonstration summary

## Narration

Today, I have shown you how IBM AIOps can assist the SRE/Operations team to identify, verify, and ultimately correct an issue with a modern, distributed application running in a cloud-native environment. The presented solution provides automatic application topology discovery, anomaly detection both with metrics and logs, and sophisticated methods of correlation of events coming from different sources.

---