

Hands-on Lab: Observability in Action with Instana

Estimated time needed: **60 minutes**

Welcome to the hands-on lab on Observability in Action with Instana.

Introduction to Application Performance Management (APM)

Application Performance Management (APM) refers to the practices, tools, and strategies used to monitor, manage, and optimize the performance and availability of software applications.

The primary goal of APM is to proactively identify and address performance issues, bottlenecks, and inefficiencies within an application's infrastructure, codebase, or dependencies.

By monitoring key performance indicators (KPIs) and collecting relevant data, APM enables organizations to understand how their applications are performing. It helps them detect anomalies or deviations from normal behavior, take corrective actions to improve performance, and thus enhance customer satisfaction, reduce downtime, and improve overall business productivity.

Instana Overview

Instana is a modern application performance management (APM) solution designed for monitoring and observability in cloud-native and microservices environments. Instana collects and analyzes data from various sources within an application stack to provide real-time visibility into the application's health and performance.

Where modern-day application stacks can be a complex mixture of technologies and infrastructure with many dependencies and interactions, Instana provides a full stack observability solution.

In this lab, you will learn about the Instana observability solution. You will explore the **Play with Instana**, a sandbox with a pre-configured e-commerce application and services running in it. Using Play with Instana, you will examine its features and understand how it is used in a pre-configured live application performance monitoring sandbox. Furthermore, you will explore various microservice applications used in the Instana sandbox to learn various Monitoring techniques.

Objectives

After completing this lab, you will be able to:

1. Use Play with Instana sandbox to learn about the Instana observability solution.
2. Explore and analyze the features of Play with Instana.
3. Explore different monitoring capabilities that Instana offers.
4. Analyze the performance of the pre-configured applications and infrastructure components.
5. Use various microservice applications and apply various monitoring techniques available in the Instana sandbox.

You will practice through seven various exercises to learn about the Instana observability solution in detail. So, let's get started!

About the Robotshop Application

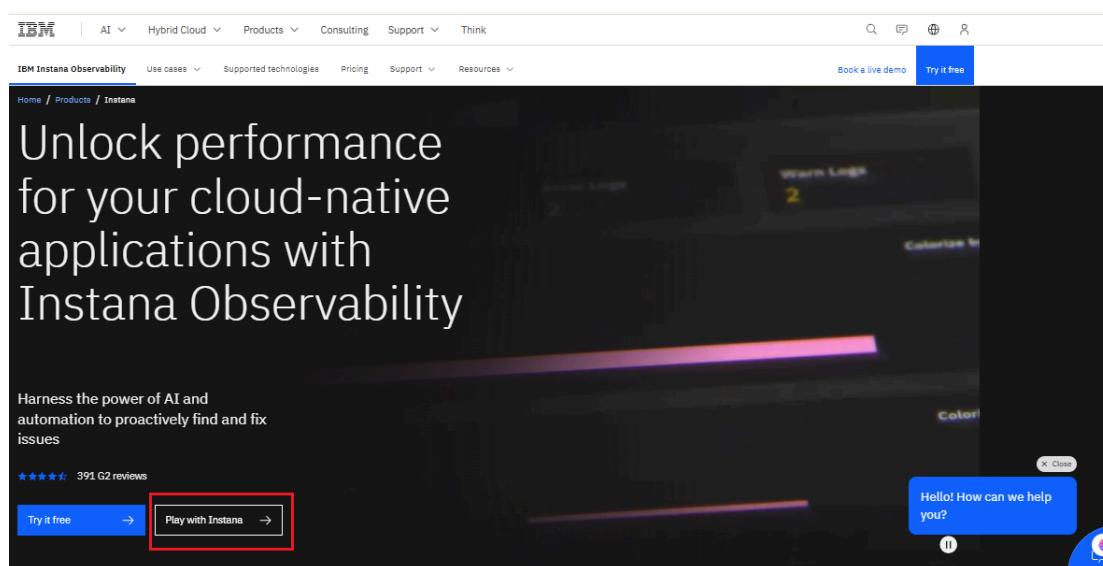
To test and learn various monitoring techniques in the Instana sandbox, you will use Robotshop, a sample microservice application.

The various services in the sample application already include all required Instana components installed and configured. The Instana components provide automatic instrumentation for complete end-to-end tracing and complete visibility into metrics and analytics for all the technologies.

To see the application performance results in the Instana dashboard, you will first need an Instana account.

Exercise 1: Create a free Instana account

1. As a first step, click [Instana](#) to launch it.
2. Click on **Play with Instana**



5. Enter your email in the space provided and click **Continue**.

A screenshot of the Instana APM Observability Sandbox sign-up form. The form has a title "Instana's APM Observability Sandbox" and a note "We recommend using a desktop device to experience Instana Sandbox at its best". Below is a "Business email" input field with a red arrow pointing to it, indicating where to enter the email. At the bottom, there's a checkbox for "I'd like IBM to use my contact details to keep me informed about products, services, and offers. More information on how IBM uses data and ways to opt-out can be found in the [IBM Privacy Statement](#)". A large blue "Submit" button is at the bottom.

6. Fill in the further details, and click on **Submit**.

First name

Last name

E-mail ([Edit](#))

Country or region of residence ([Edit](#))

Are you a student? Yes No

Company ([Edit](#))

Preferred IBM Business Partner (optional)

I'd like IBM to share my contact details with its [certified business partners](#) so they can keep me informed about IBM offers and related solutions for my business. Business partner use of data, including opt out, will be governed by business partner privacy policies.

I'd like IBM to use my contact details to keep me informed about products, services, and offers. More information on how IBM uses data and ways to [opt out](#) can be found in the [IBM Privacy Statement](#).

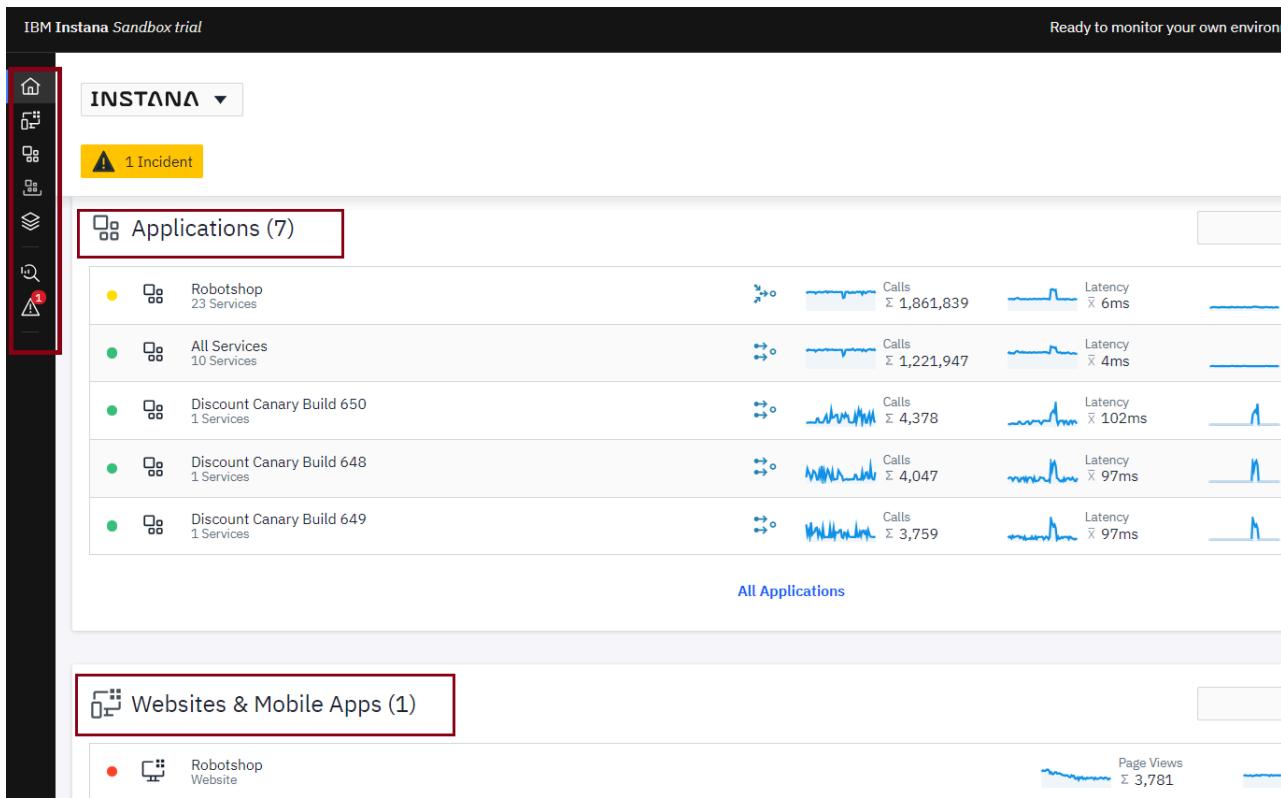
Email

Submit

7. You will now be redirected to the Instana Sandbox Trial page.

Exercise 2: Explore Play with Instana Dashboard

1. Observe the annotations highlighted in the screenshot below:



2. You will find the following on the Instana dashboard:

- Play with Instana:** The landing page gives a summary of everything that is being monitored.
- Website and Mobile Apps:** This section helps you monitor the data coming from end-user web browsers and native mobile apps.
- Applications:** This section lists all apps and services monitored by Instana.
- Navigation Panel:** You can find the lists of various monitoring applications in this section.

Exercise 3: Monitor Websites and Mobile App

- Click the navigation menu and select **Websites and Mobile App**
- Through this, Instana enables you to monitor data coming from end-user web browsers and native mobile apps.
- On the dashboard, you can check the performance of the websites and the mobile applications and dive into analytics to analyze specific end-user data.
- Instana monitors every request from every server and correlates that with server activity.

← → ⌂ play-with.instana.io/#/home

IBM Instana Sandbox trial Ready to monitor your own environment? Free trial →

Home Websites & Mobile Apps Applications Platforms Infrastructure Analytics Events

7)

All Applications

		Calls Σ 1,851,588	Latency ̄ 7ms	Erroneous Call Rate ̄ 0.37%	
		Calls Σ 1,212,180	Latency ̄ 4ms	Erroneous Call Rate ̄ 0.16%	
Binary Build 649		Calls Σ 4,297	Latency ̄ 104ms	Erroneous Call Rate ̄ 0.97%	
Binary Build 648		Calls Σ 4,170	Latency ̄ 101ms	Erroneous Call Rate ̄ 0.86%	
Binary Build 650		Calls Σ 3,784	Latency ̄ 92ms	Erroneous Call Rate ̄ 0.63%	

5. On the dashboard of the **Websites and Mobile App**, you can see the **Robotshop** application running.

- Robotshop is a sample microservice application that you can use in the Instana sandbox to test and learn various monitoring techniques.
- The various services in the sample application already include all required Instana components installed and configured. The Instana components provide automatic instrumentation for complete end-to-end tracing and complete visibility into metrics and analytics for all the technologies.

IBM Instana Sandbox trial Ready to monitor your own environment? Free trial →

Websites & Mobile Apps

Websites Mobile Apps

Name	Page Views ↓	onLoad Time
Robotshop	4,935	207ms

6. Alternatively, you can also access the **Robotshop** application available under **Website and Mobile Apps** from the main dashboard.

INSTANA ▾

⚠ 1 Incident

Applications (7)

Robotshop 23 Services	Calls Σ 1,853,947	Latency avg 6ms	Erroneous Call Rate avg 0.37%
All Services 10 Services	Calls Σ 1,212,998	Latency avg 4ms	Erroneous Call Rate avg 0.16%
Discount Canary Build 649 1 Services	Calls Σ 4,289	Latency avg 100ms	Erroneous Call Rate avg 0.76%
Discount Canary Build 648	Calls	Latency	Erroneous Call Rate

7. To determine the health of the **Robotshop** application, click Robotshop to view the various options for monitoring the health and performance of the application.

Robotshop

⚠ 1 Issue **Stack ▾** **Upstream / Downstream ▾** **Analyze Calls**

Summary **Dependencies** **Services** **Error Messages** **Log Messages** **Infrastructure** **Smart Alerts**

Calls Per Second

525.29/s 1,859,523 total calls

Erroneous Call Rate

0.37% 6,963 total erroneous calls

Mean Latency

6ms 3ms for 90th

Calls

HTTP status codes Call count

- 1XX
- 2XX
- 3XX
- 4XX
- 5XX
- Non-HTTP

Erroneous Call Rate

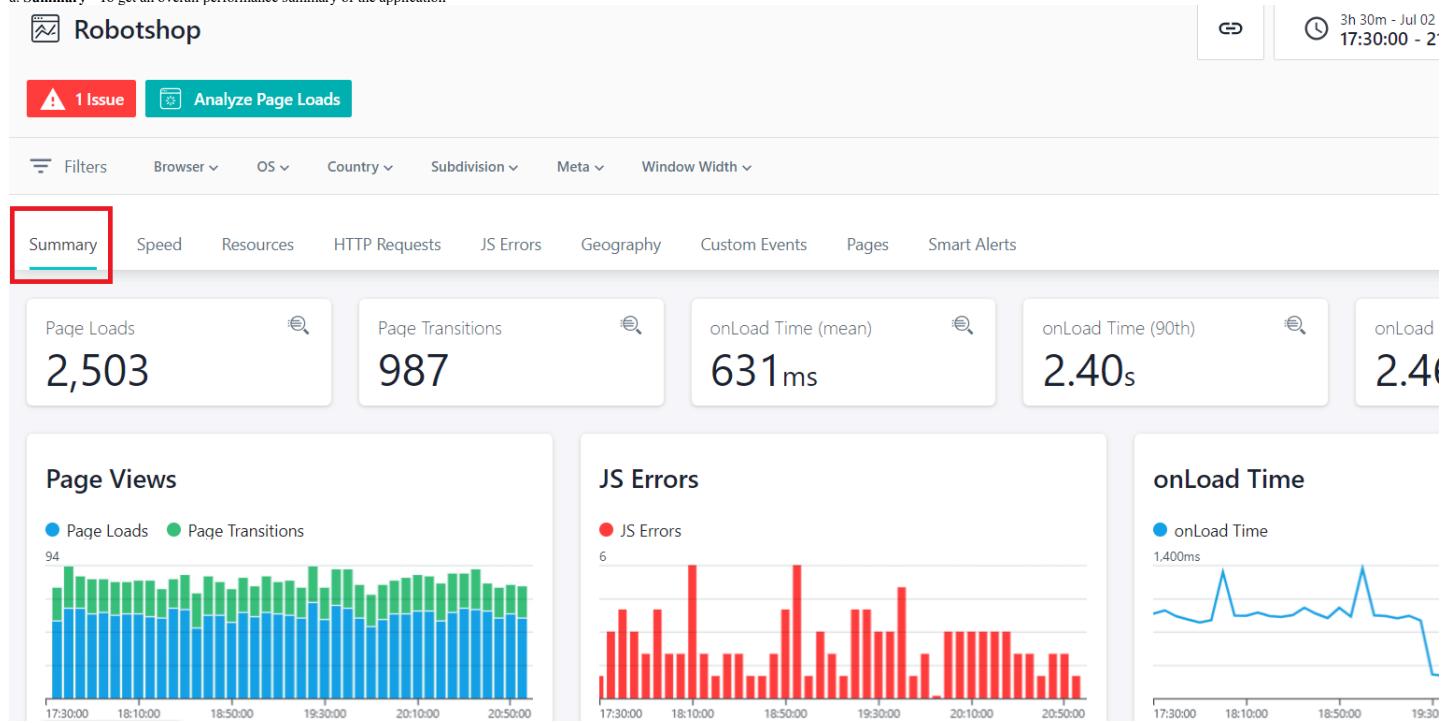
Erroneous Call Rate

Latency

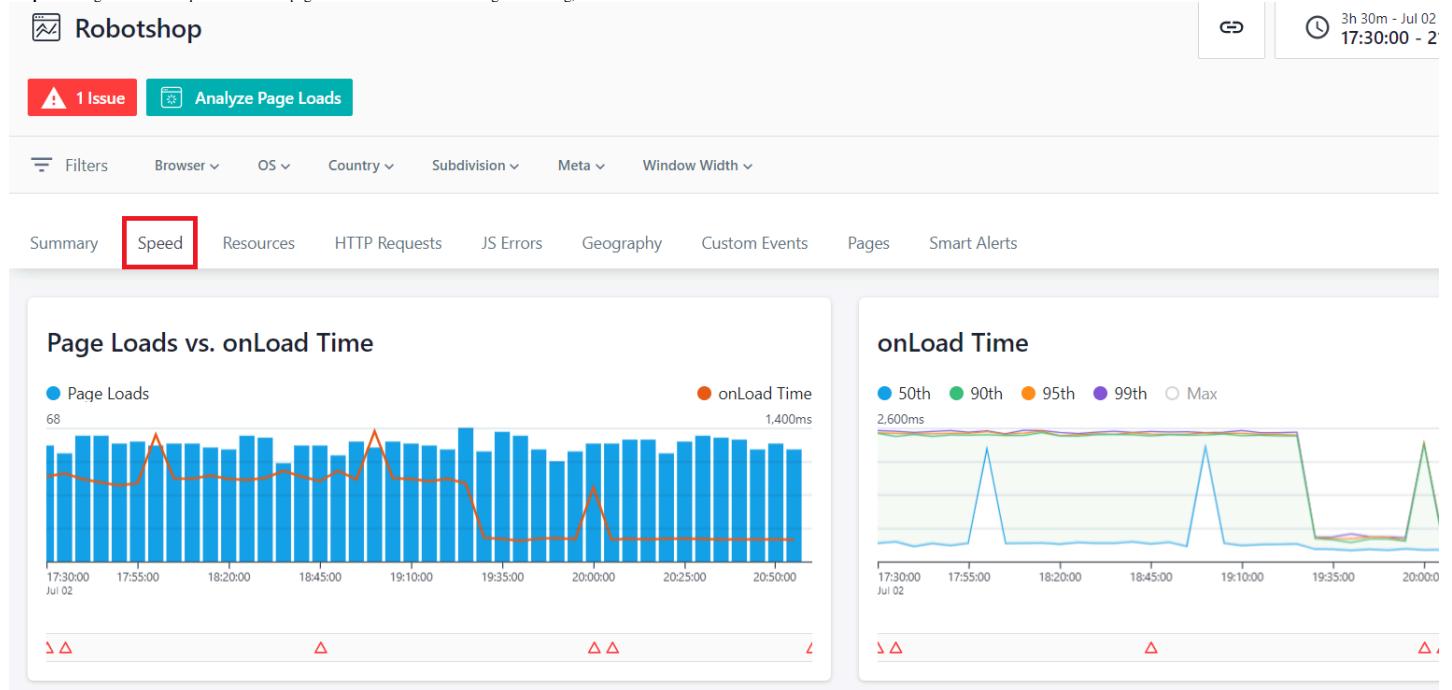
50th 90th 95th 99th

8. Let's look at the various monitoring options available in the Robotshop. You can select the specific option to delve deeper into analytics.

a. Summary - To get an overall performance summary of the application



b. Speed - To get various comparisons such as page load time/ onLoad time/navigation timing, and so on.



c. Resources - To look at resource load times to see if they impact the general onLoad time.

The screenshot shows the Robotshop performance monitoring interface. At the top, there are two buttons: 'No Issues' (green) and 'Analyze Page Loads' (blue). On the right, there are icons for refresh, export, and a timestamp '3h - Jul 02 17:00:00 - 2'. Below the buttons are filters for 'Filters', 'Browser', 'OS', 'Country', 'Subdivision', 'Meta', and 'Window Width'. A navigation bar with tabs includes 'Summary', 'Speed', 'Resources' (which is highlighted with a red box), 'HTTP Requests', 'JS Errors', 'Geography', 'Custom Events', 'Pages', and 'Smart Alerts'. The main content area displays 'Resource Loads' for various origins. Each entry shows a small waveform icon, the origin URL, the number of loads, and the retrieval time. The entries are:

Origin	Resource Loads	Retrieval Time
https://cdn.acme.net	402	2,248ms
http://robotshop.instana.com	12,894	36ms
http://cdnjs.cloudflare.com	8,596	9ms
http://maxcdn.bootstrapcdn.com	6,447	7ms
http://code.jquery.com	2,149	0ms
https://fonts.gstatic.com	4,298	0ms

Exercise 3.1: Check for LoadTime Latency

Load time latency is checked to measure the time it takes for a web page or application to load and become interactive for the user fully. It is an important metric because it directly impacts user experience and can significantly affect user satisfaction & engagement.

By regularly monitoring load time latency, you can identify performance bottlenecks, optimize infrastructure, and improve the overall user experience, leading to higher customer satisfaction.

- Let's check the onLoad time graph to see where/what components show latency.
- Select the onLoad Time graph area, which shows a peak in activity.
- Drag and select the area over the peak and click on **Zoom to time range**.

The screenshot shows the Robotshop performance monitoring interface. At the top, there are two buttons: '2 Issues' (red) and 'Analyze Page Loads' (blue). On the right, there are icons for refresh, export, and a timestamp 'May 17'. Below the buttons are filters for 'Filters', 'Browser', 'OS', 'Country', 'Subdivision', 'Meta', and 'Window Width'. A navigation bar with tabs includes 'Summary', 'Speed', 'Resources', 'HTTP Requests', 'JS Errors', 'Geography', 'Custom Events', 'Pages', and 'Smart Alerts'. The main content area has four large summary boxes: 'Page Loads' (3,291), 'Page Transitions' (1,259), 'onLoad Time (mean)' (210ms), and 'onLoad Time (90th)' (262ms). Below these are three detailed charts: 'Page Views' (a stacked bar chart of page loads and transitions over time), 'JS Errors' (a histogram of JS errors over time), and 'onLoad Time' (a line graph of the mean onLoad time over time, with a red box highlighting the peak around 210ms). The 'onLoad Time' chart has a legend for 'onLoad Time' and a value of '400ms'.

c. If you click on the Resources tab, you will notice that <http://robotshop.instana.com> has the highest retrieval time.

Origin	Resource loads	Retrieval time
http://robotshop.instana.com	258	43ms
http://cdnjs.cloudflare.com	172	9ms
http://maxcdn.bootstrapcdn.com	129	7ms
https://fonts.googleapis.com	86	0ms
https://fonts.gstatic.com	86	0ms

d. To review details about the resources loaded from this resource, click on the <http://robotshop.instana.com> link under the Origin column.

e. To determine which resource which is causing the Load time latency, you can review details in the Load Time tab. You will observe the Javascript related content takes maximum time to load.

Pages	Load time
Products	66
Home	66
Cart	48
Check Out	42
Delivery	30

Paths	Calls	Load time
/images/page-splash.png		43
/javascripts/controller.js		43
/javascripts/main.js		43
/images/stan.png		43
/stylesheets/style.css		43

Types
javascript
img
css

f. Click on javascript. It will take you to the below page having the list of URLs based on loading time.

86 Resource Loads				
URI	Website	Timestamp	Duration	Select metric
http://robotshop.instana.com/javascripts/main.js	Robotshop	2024-06-25, 05:57:16	201ms	
http://robotshop.instana.com/javascripts/controller.js	Robotshop	2024-06-25, 05:57:16	200ms	
http://robotshop.instana.com/javascripts/controller.js	Robotshop	2024-06-25, 05:57:15	13ms	
http://robotshop.instana.com/javascripts/main.js	Robotshop	2024-06-25, 05:57:15	13ms	
http://robotshop.instana.com/javascripts/main.js	Robotshop	2024-06-25, 05:57:14	4ms	
http://robotshop.instana.com/javascripts/controller.js	Robotshop	2024-06-25, 05:57:14	3ms	
http://robotshop.instana.com/javascripts/main.js	Robotshop	2024-06-25, 05:57:13	5ms	
http://robotshop.instana.com/javascripts/controller.js	Robotshop	2024-06-25, 05:57:13	5ms	
http://robotshop.instana.com/javascripts/controller.js	Robotshop	2024-06-25, 05:57:13	53ms	

g. You can click on each URL to view its details and address the issues accordingly.

2. HTTP Requests

- To get insights into the HTTP requests made by the application. It offers detailed information about each request's performance, status, and timing, which helps analyze and optimize the interactions between the application and external services.

 Robotshop

1 Issue 

Filters Browser OS Country Subdivision Meta Window Width

Summary Speed Resources **HTTP Requests** JS Errors Geography Custom Events Pages Smart Alerts

HTTP Requests

Analyze HTTP Requ

Origin	Calls ↓	Latency	Errors
http://robotshop.instana.com	2,352	201ms	0.00%

3. **JS Errors** - To get insights into JavaScript errors that occur within the application. It helps identify, monitor, and troubleshoot errors, which can improve the user experience, ensure application stability, and enhance overall performance.

 Robotshop

1 Issue 

Filters Browser OS Country Subdivision Meta Window Width

Summary Speed Resources **HTTP Requests** **JS Errors** Geography Custom Events Pages Smart Alerts

JS Errors

Analyze JS Err

Error Message	Occurrences ↓	Affected Users
index out of bounds	79	18
undefined has no properties	26	3

4. **Geography** - To get geographical insights into the distribution and performance of your application across different regions or locations. It allows you to understand where your users are located, how your application is performing in different regions, and identify potential performance issues or variations based on geographic locations.

5. **Custom Events** - To track and monitor the application's custom or business-specific events. It provides a way to define and capture events relevant to the application's specific use cases, workflows, or business logic.

Robotshop

1 Issue | **Analyze Page Loads**

Filters Browser OS Country Subdivision Meta Window Width

Summary Speed Resources HTTP Requests JS Errors Geography **Custom Events** Pages Smart Alerts

Custom Events

Event Name	Occurrences ↓	Users
Login	294	18
Payment Declined	5	5

6. **Pages** - To get insights into the performance and behavior of the web pages within the application. It helps monitor and analyze key metrics related to page load times, user experience, and dependencies.

Robotshop

1 Issue | **Analyze Page Loads**

Filters Browser OS Country Subdivision Meta Window Width

Summary Speed Resources HTTP Requests JS Errors Geography Custom Events **Pages** Smart Alerts

Pages

Name	Page Views ↓	onLoad Time	JS Errors
Home	706	1,459ms	0
Offers	705		0
Products	705	499ms	79
Cart	538	178ms	0

7. **Smart Alerts** - To know the details on custom alerts configured based on specific conditions. They help notify users of important events or issues within their monitored environments.

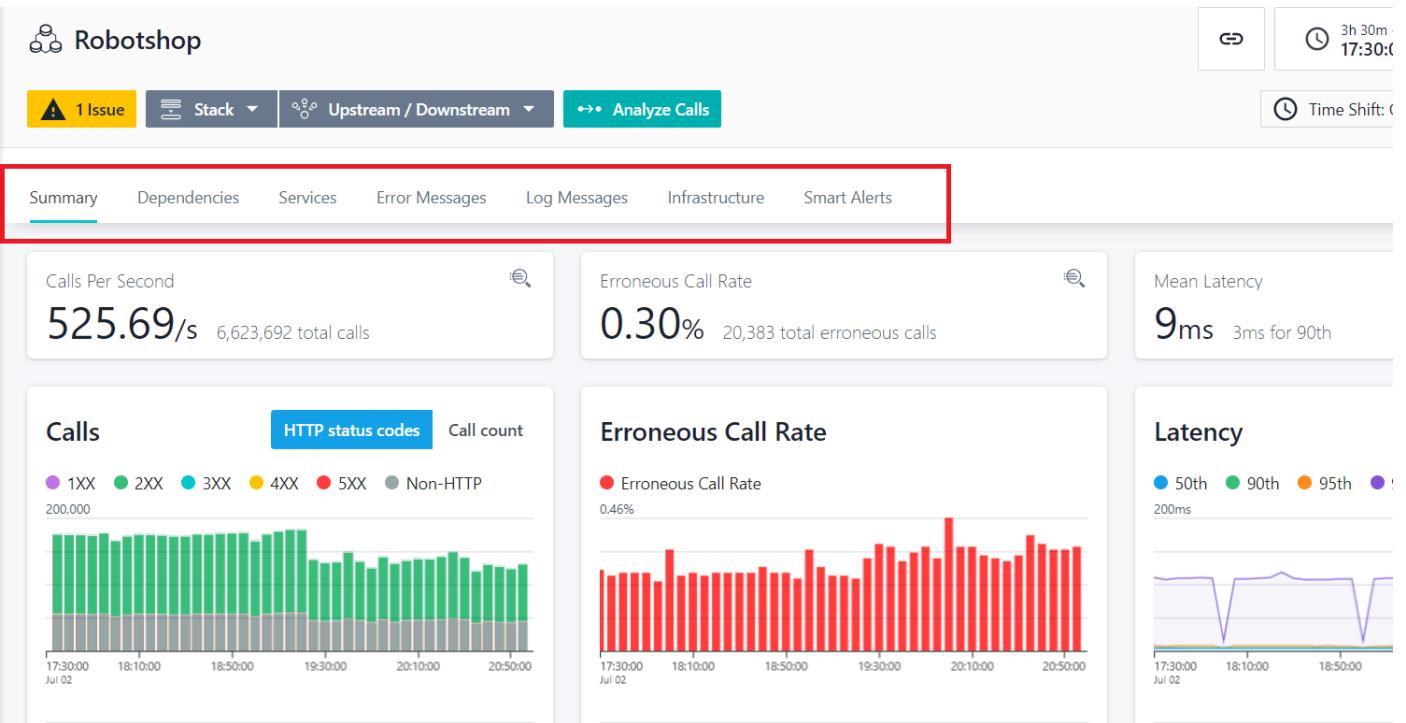
Exercise 4: Monitor Applications and Services

1. Click the navigation menu and select Applications

2. Here, you can find the Robotshop application and also All Services that are detected and monitored by Instana. It Displays KPI's and health indicators for each service.

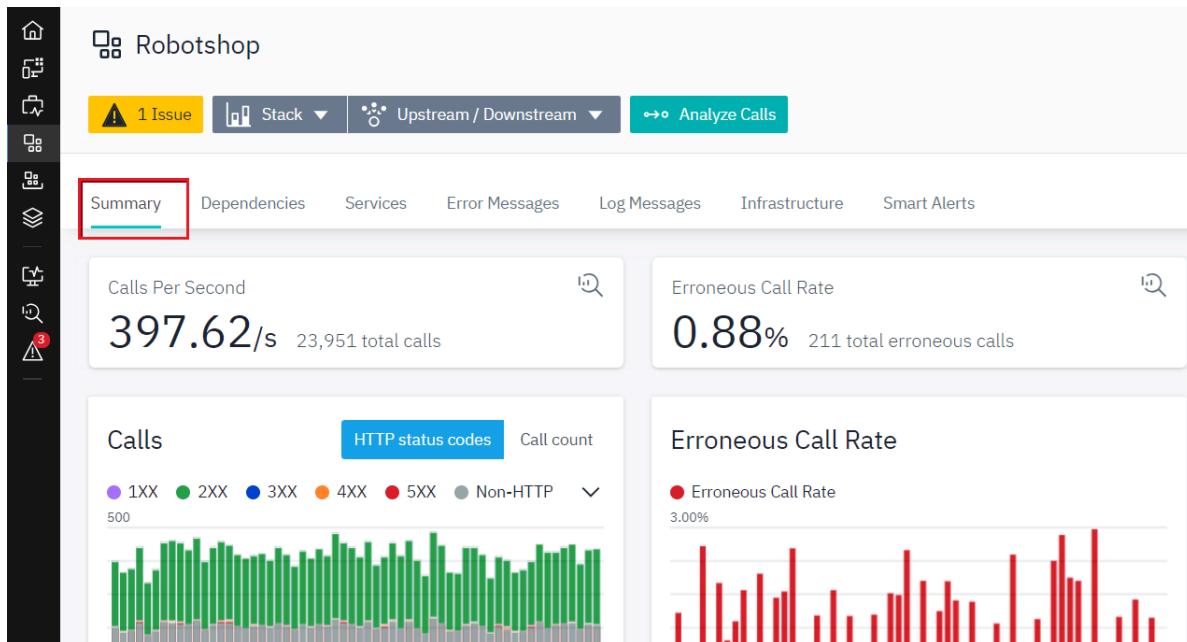
Name	Scope	Services	Calls ↓	Latency	Erroneous C.
Robotshop	23	23,951	21ms		
All Services	10	16,030	9ms		
Discount Canary Build 917	1	34	590ms		
Discount Canary Build 918	1	33	548ms		

3. By clicking the "Robotshop" application, you can drill into the summary dashboard, where a lot of metrics & information are captured by tracing. It reveals how the application is running and performing and how well the services are interacting with each other.

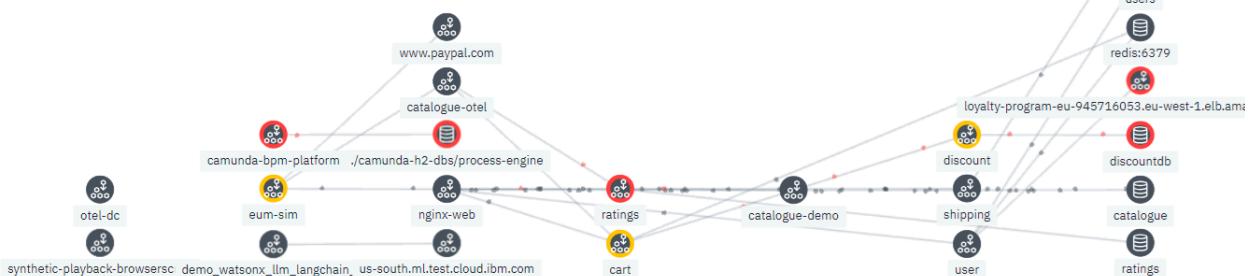


4. Let's look at the options available in the Robotshop dashboard. You can select the specific option to delve deeper into analytics.

a. **Summary** - To get an overall performance summary of the monitored applications. It offers key information about the health, performance, and other relevant metrics.



b. **Dependencies** - To get insights into the various dependencies of the application that is being monitored. It allows you to visualize and understand the relationships between various components, services, APIs, databases, and external resources that your application relies on.

None ▾


c. **Services** - To get insights into the individual services or components that make up the monitored application. It helps analyze the performance, health, and dependencies of each service within the application stack.

Robotshop

⚠ 1 Issue Stack ▾ Upstream / Downstream ▾ Analyze Calls

[Summary](#) [Dependencies](#) Services [Error Messages](#) [Log Messages](#) [Infrastructure](#) [Smart Alerts](#)

Services

Name	Types	Technologies	Endpoints	Calls ↓
nginx-web	HTTP	Nginx	5	
catalogue-demo	HTTP	Spring Boot	5	
catalogue	DATABASE	MongoDB	1	
eum-sim	HTTP	Node.js	17	
discount	HTTP	Spring Boot	2	

d. **Error Messages** - To get insights into the specific error messages and exceptions that occur within the monitored application. It helps track, analyze, and troubleshoot errors or exceptions that affect the performance and reliability of the application.

[Summary](#) [Dependencies](#) [Services](#) Error Messages [Log Messages](#) [Infrastructure](#) [Smart Alerts](#)

Error Messages

Analyze

Error Message ↓
Erroneous call without error message
HikariPool-1 - Connection is not available, request timed out after 2000ms.
The database has been closed [90098-214]
org.camunda.bpm.engine.ProcessEnginePersistenceException: An exception occurred in the persistence layer. Please check the server logs for a detailed message and the entire...
getaddrinfo ENOTFOUND loyalty-program-eu-945716053.eu-west-1.elb.amazonaws.com loyalty-program-eu-945716053.eu-west-1.elb.amazonaws.com:9090

e. **Log Messages**

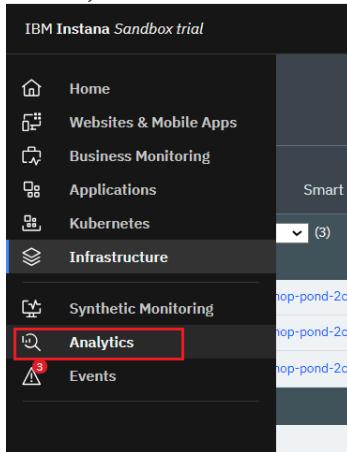
- To see and analyze log messages generated by the applications and infrastructure.

Log Level Log Message

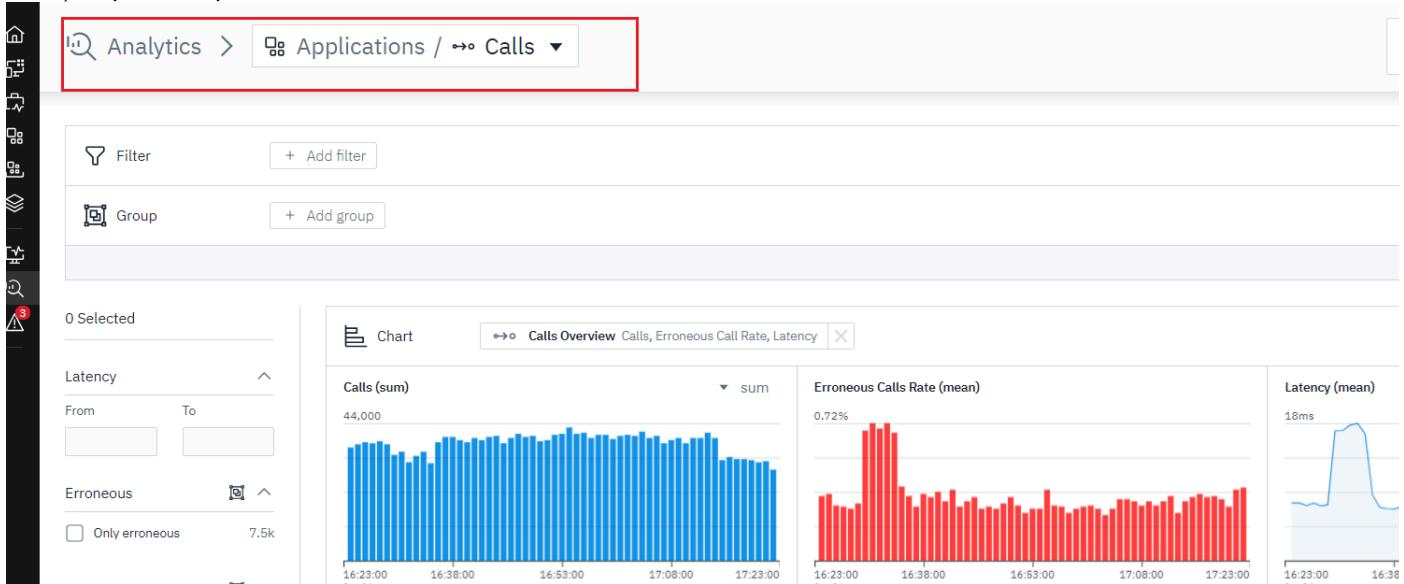
- ERROR** HikariPool-1 - Connection is not available, request timed out after 2000ms.
- ERROR** Communications link failure The last packet sent successfully to the server was 0 milliseconds ago. The driver has not received any packets from the server.
- ERROR** Error occurred during fetching discount from DB: Unable to acquire JDBC Connection; nested exception is org.hibernate.exception.JDBCConnectionException: Unable to ac
- WARN** SQL Error: 0, SQLState: 08S01
- ERROR** Error occurred while calling discount service: 500 : [no body]
- ERROR** failed to connect to catalogue
- ERROR** { msg: 'Backend Error', error: 500 }

- To analyze the log further, you can click the log and delve deeper into the analytics board.

1. Click on Analytics in the dashboard



2. This will provide you with the analytics board as below:



f. **Infrastructure** - To get insights into the health and performance of the underlying infrastructure that supports the monitored application.

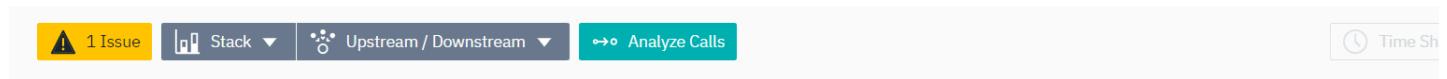
If you have containerized or virtualized environments, Instana often provides visibility into the containers, virtual machines, or other virtualization technologies in use. It helps you monitor their health, resource consumption, and performance.

Infrastructure

[Cluster](#)
Pro

Process	Calls ↓	Latency	Errors
Node @9568	7,808	13ms	0
Instana Demo - Catalogue app 2.0.0	7,780	12ms	0
Unmonitored	7,704	11ms	0
eum-sim v2.0.0	393	79ms	3
-Fz_Jp12_he6kBjEfopbdw74Ijs	41	1,443ms	70
Instana Demo - Discount Application 2.0			

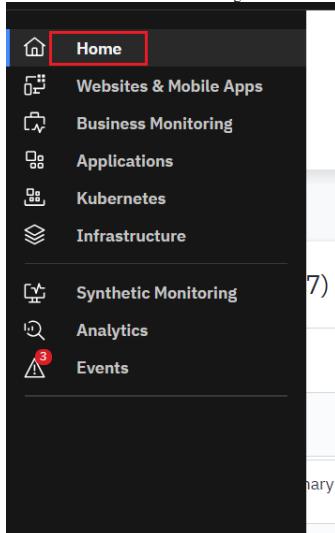
g. **Smart Alerts** - To configure and manage intelligent alerts for the monitored applications. It enables setting up custom alert rules based on specific conditions, thresholds, or patterns related to your applications' performance, health, or behavior.



Summary	Dependencies	Services	Error Messages	Log Messages	Infrastructure	Smart Alerts
Global Application Smart Alerts (0)	Application Smart Alerts (3)					
						Name ▾
						Ξ Ascend
Calls are slower than usual Static Threshold, Latency (90th) ≥ 2,260ms	Application Smart Alert per Service	Robotshop				
Erroneous call rate is higher than normal Static Threshold, Error Rate ≥ 25%	Application Smart Alert aggregated	Robotshop				
Erroneous call rate is higher than normal Static Threshold, Error Rate ≥ 0.27%	Application Smart Alert aggregated	Robotshop				

5. Clicking All Services will launch the dashboard, showing the summary of the various analytics or metrics of the Services monitored by Instana.

- For this click on Home from the Navigation menu



- Select All Services

Applications (7)

Robotshop 23 Services	Calls $\Sigma 23,951$	Latency $\bar{x} 21\text{ms}$
All Services 10 Services	Calls $\Sigma 16,030$	Latency $\bar{x} 9\text{ms}$
Discount Canary Build 917 1 Services	Calls $\Sigma 34$	Latency $\bar{x} 590$
Discount Canary Build 918 1 Services	Calls $\Sigma 33$	Latency $\bar{x} 548$
Discount Canary Build 916 1 Services	Calls $\Sigma 30$	Latency $\bar{x} 402$

Please note that this also has a **Services** tab and lists the same services you visited by navigating through **Robotshop** application services.

Summary Dependencies **Services** Error Messages Log Messages Infrastructure Smart Alerts

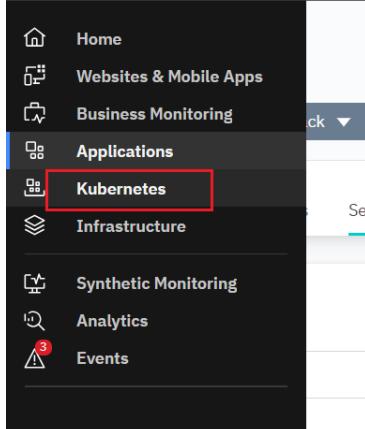
Services

Name	Types	Technologies	Endpoints	Calls ↓	Erroneous
nginx-web	HTTP	Nginx	4	7,770	...
catalogue-otel	HTTP	OpenTelemetry	4	7,733	...
eum-sim	HTTP	Node.js	17	393	...
discount	HTTP	Spring Boot	1	96	...

Note: The other tabs provide similar meaning/analytics as mentioned above for the Robotshop application.

Exercise 5: Kubernetes

1. Click the navigation menu and select **Kubernetes**



2. The Kubernetes tab in the Navigation menu of Instana provides insights and monitoring capabilities specifically tailored for Kubernetes environments.
3. It allows you to gain visibility into your Kubernetes clusters, monitor their health and performance, and analyze the behavior of your containerized applications.
4. It aids in giving a Cluster Overview, monitors nodes and pods, and gives detailed container visibility.
5. Cluster topology and visualization are key features of Instana, which provides a visual representation of your Kubernetes cluster topology, showcasing the relationships and dependencies between nodes, pods, and containers which helps to understand the overall structure of your cluster and the interactions between its components.
6. Select the **Robotshop** cluster, which will take you to the analytics dashboard of the cluster. Various details/analytics and metrics related to Events, Nodes, Namespaces, Deployments, CronJobs, Pods, Infrastructure, and so on can be found here.

Kubernetes

Clusters Namespaces

Name	Namespaces	Nodes	Services	Pods	Deployments	DaemonSets	StatefulSets
robotshop (cluster)	13	3	45	58	40	15	1

7. You can click each of them and drill down to get further Analysis and Metrics.

robotshop (cluster) v1.27.11-gke.1062004 GKE Cluster

No Issues Stack Upstream / Downstream Analyze Calls

Summary Details Events Nodes (3) Namespaces (13) Deployments (40) DaemonSets (15) StatefulSets (1) Cron Jobs (0) K8s Services (45)

CPU Requests 75.56%	CPU Limits Alloc. 159.52%	Memory Requests 23.92%	Memory Limits Alloc. 79.12%	Pods Alloc. 17.57%
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Exercise 6: Infrastructure

1. Click the navigation menu and select **Infrastructure**

- IBM Instana Sandbox trial
- Home
- Websites & Mobile Apps
- Business Monitoring
- Applications
- Kubernetes
 - Infrastructure
- Synthetic Monitoring
- Analytics
- Events

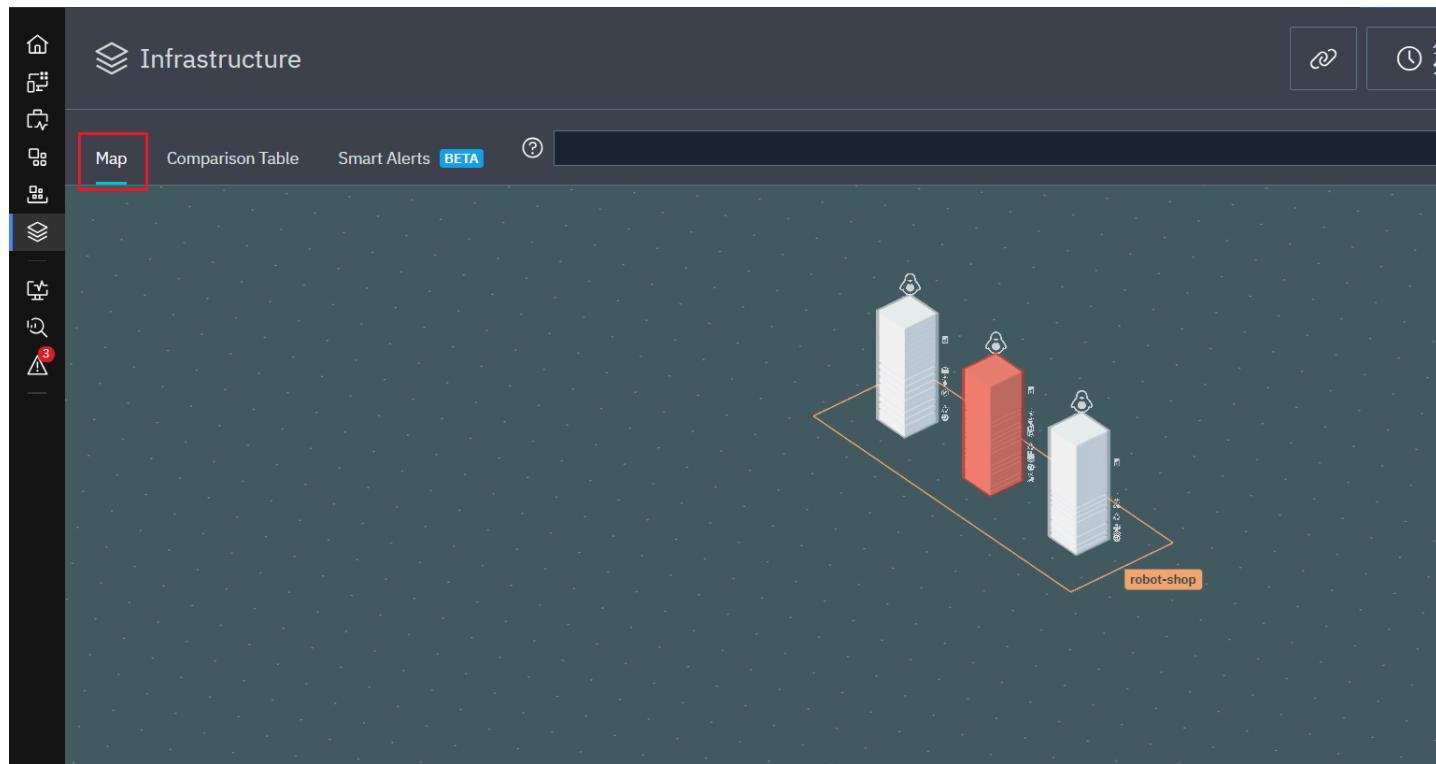
2. Instana provides visibility into the underlying infrastructure components that support the applications as part of its application monitoring capabilities.

3. This includes monitoring the performance and health of hosts, servers, containers, and other infrastructure elements. The information related to infrastructure can be found within the specific application or service views.

4. **Infrastructure Map**

a. Instana's infrastructure map gives you a summarized view of all monitored systems that help you visualize every aspect of your application infrastructure easily.

b. The infrastructure pillar's block represents the software components running on that system, changing color to reflect any incidents, events, or changes.

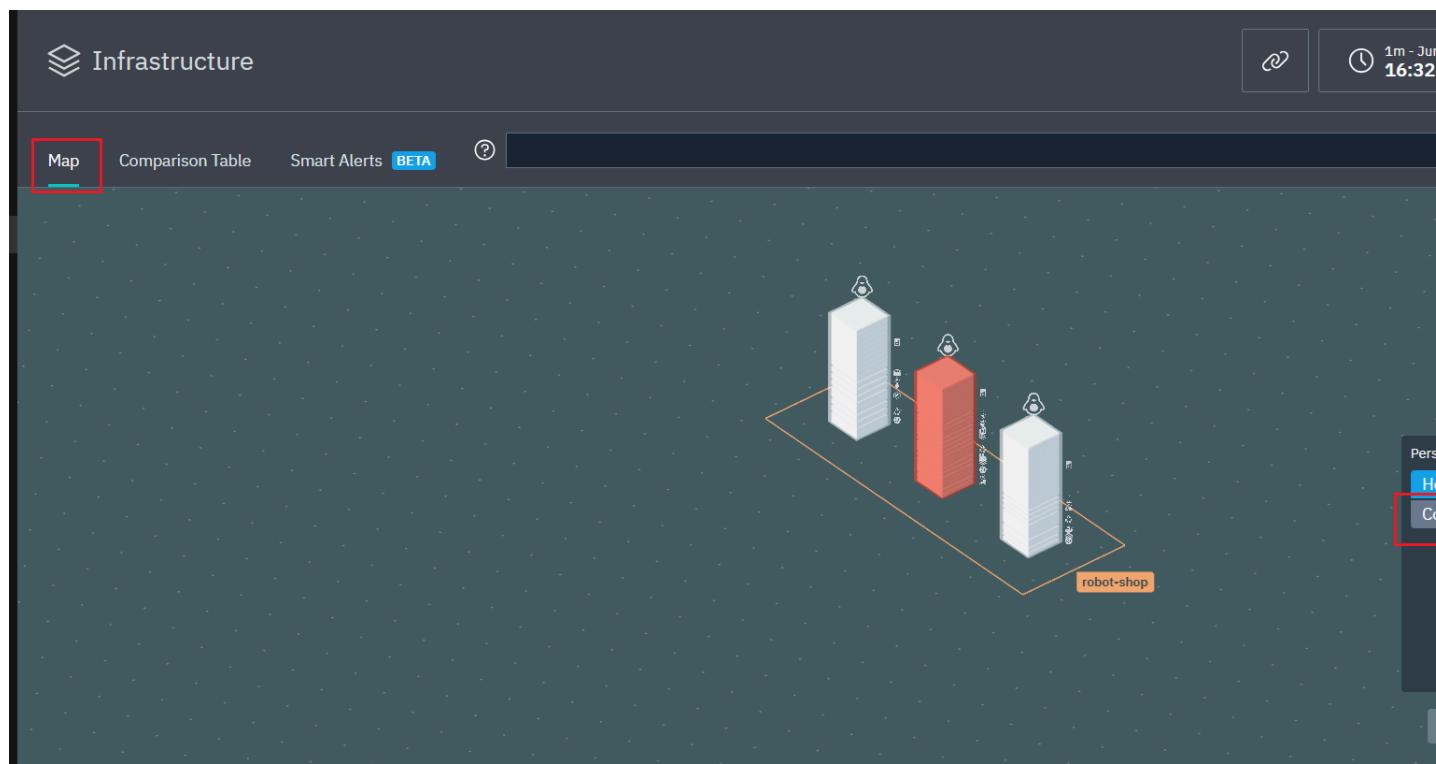


Exercise 6.1: Configuring and Grouping Containers:

Configuring and grouping containers serve several purposes in container-based environments, some of them being Application Isolation, Resource Management, Load Balancing, and so on.

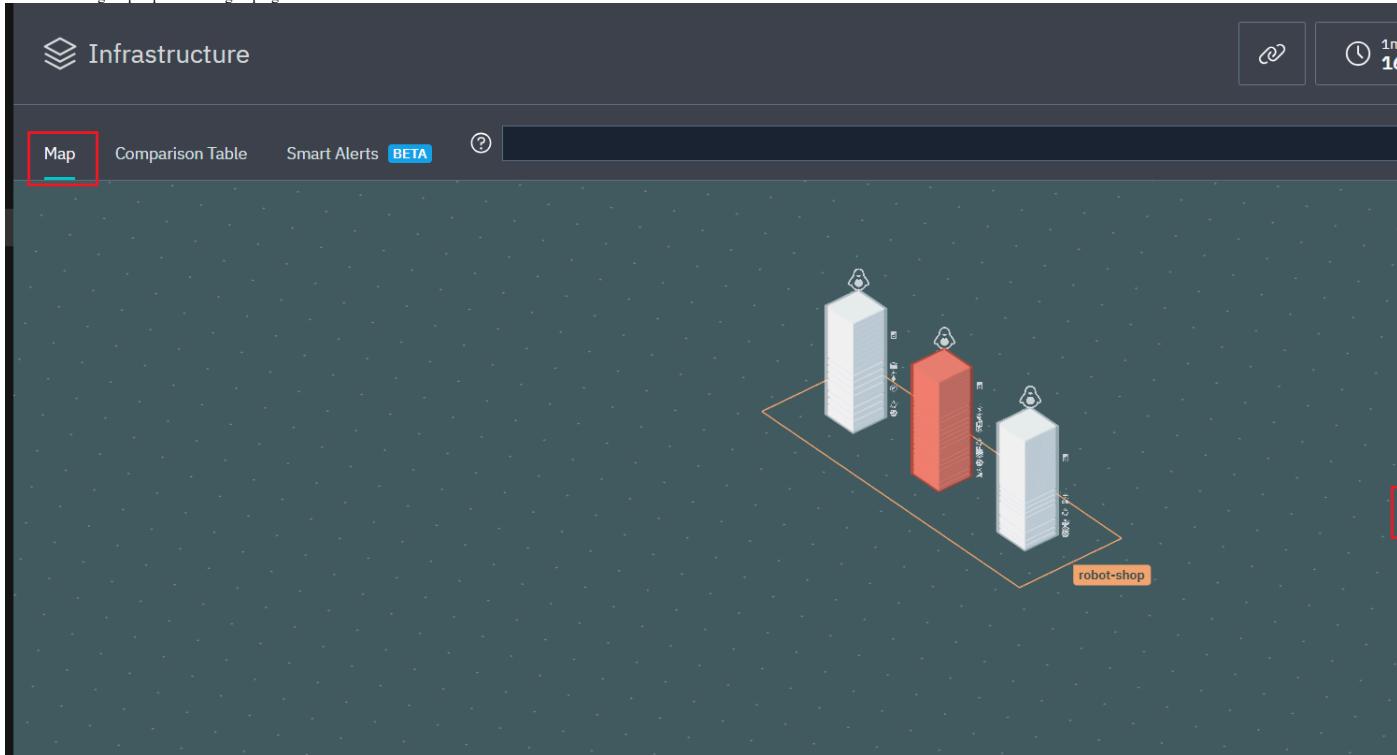
Container visibility is challenging, but with Instana, you can toggle between hosts and containers to pick the angle you prefer.

1. Click the Configure perspective and grouping button.

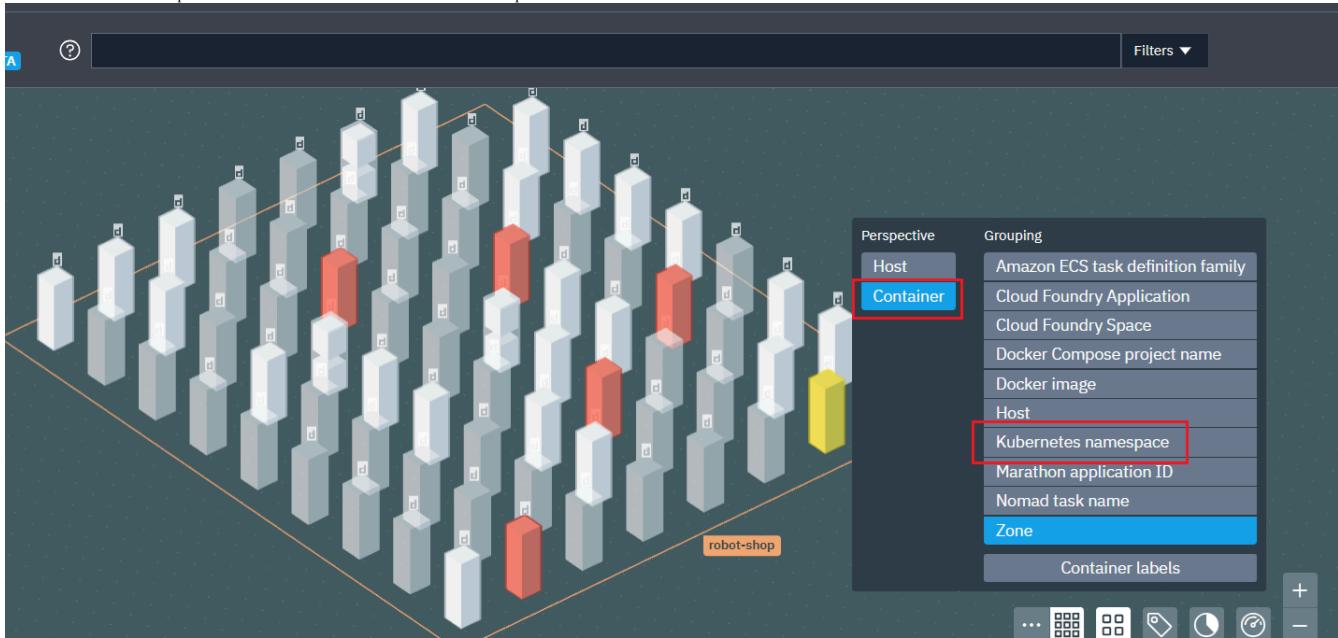


2. You can use filtering to enhance visibility by changing the grouping of your containers according to the filter you want to use.

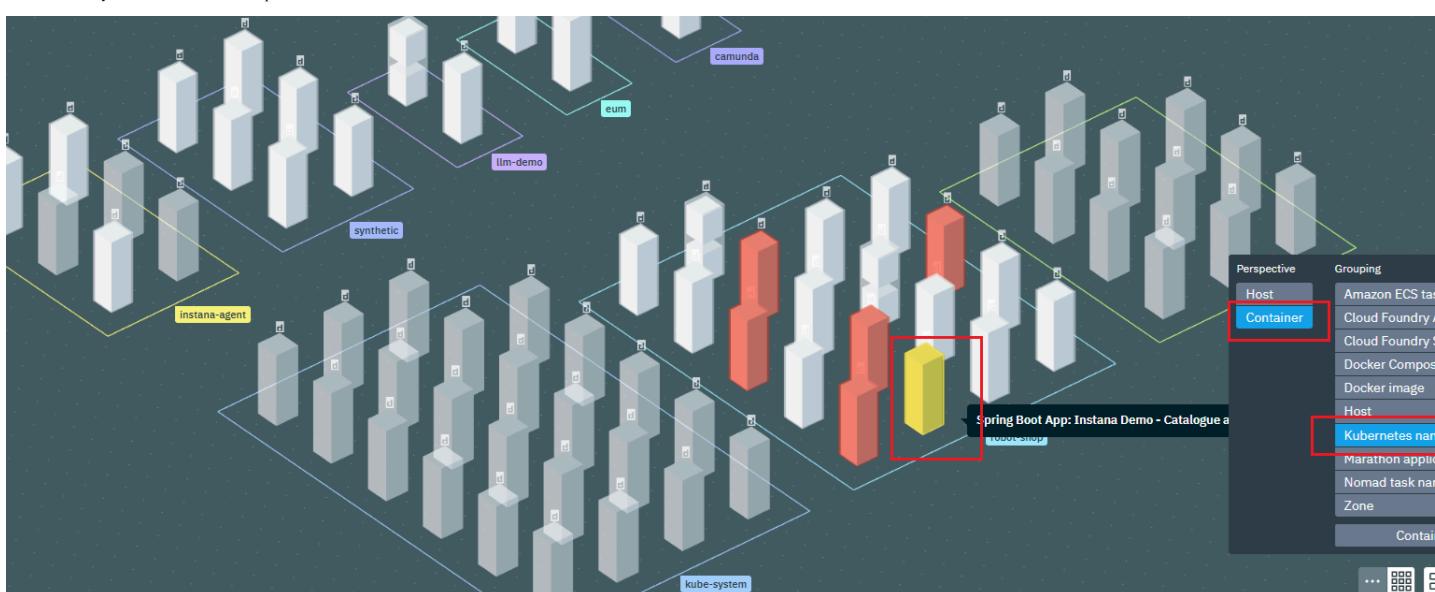
3. Click the Configure perspective and grouping button.



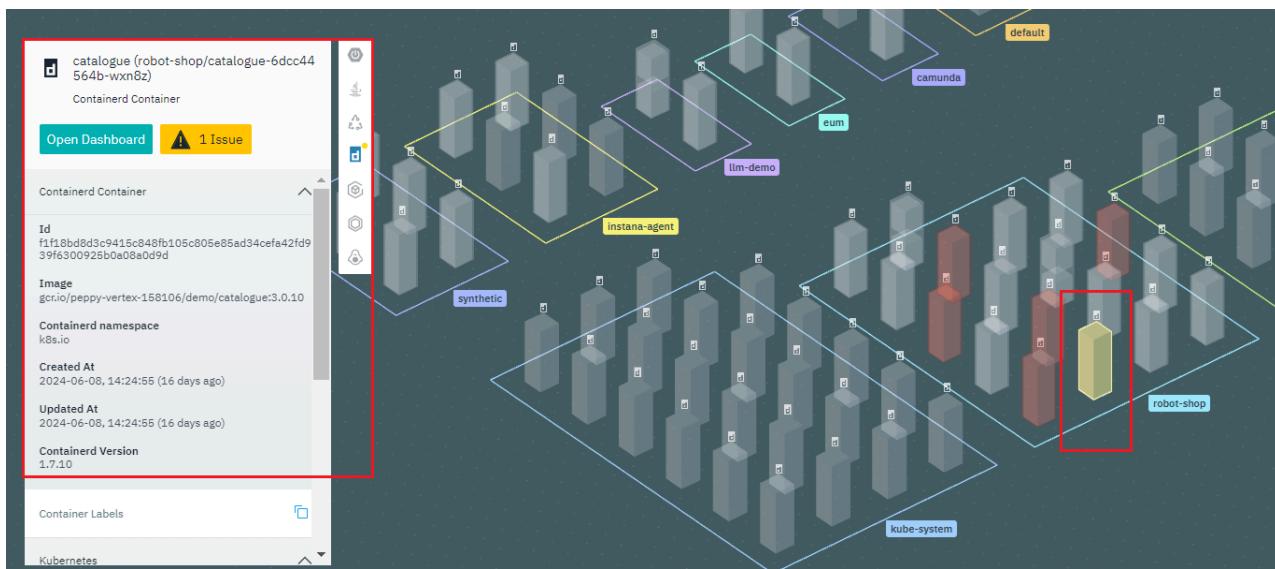
4. Select the Kubernetes namespace to visualize the different infra entities in this namespace.



5. Click the yellow hosts to see what is problematic for a host.



6. A dashboard view shows you how each container fits within the stack.



Every infra entity in Instana has its own dashboard. You can explore and understand the performance metrics for that entity and the relationship between that entity and other entities within the infra/platform and the application.

7. Infrastructure Comparison Table

- The comparison table makes it simple to identify application components that are critical to the performance of an application or service.
- To see if new changes or deployments are improving or degrading performance, you can sort by metrics, including CPU usage, memory consumption, and compare metrics over time.

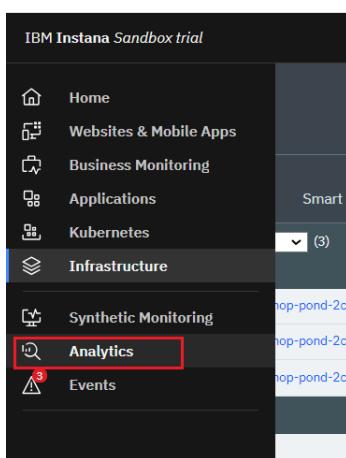
The screenshot shows the 'Comparison Table' dashboard for hosts. It lists three hosts under the 'Hosts' category:

Zone	Name	Hostname	OS	Type	#CPUs	CPU Usage
robot-shop	gke-robotshop-pond-2cc3f2ea-2j5e.c.peppy-vertex-158106.internal	gke-robotshop-pond-2cc3f2ea-2j5e	5.15.146+ (amd64)	n1-standard-4	4	21%
robot-shop	gke-robotshop-pond-2cc3f2ea-3s0p.c.peppy-vertex-158106.internal	gke-robotshop-pond-2cc3f2ea-3s0p	5.15.146+ (amd64)	n1-standard-4	4	18%
robot-shop	gke-robotshop-pond-2cc3f2ea-jbv6.c.peppy-vertex-158106.internal	gke-robotshop-pond-2cc3f2ea-jbv6	5.15.146+ (amd64)	n1-standard-4	4	15%

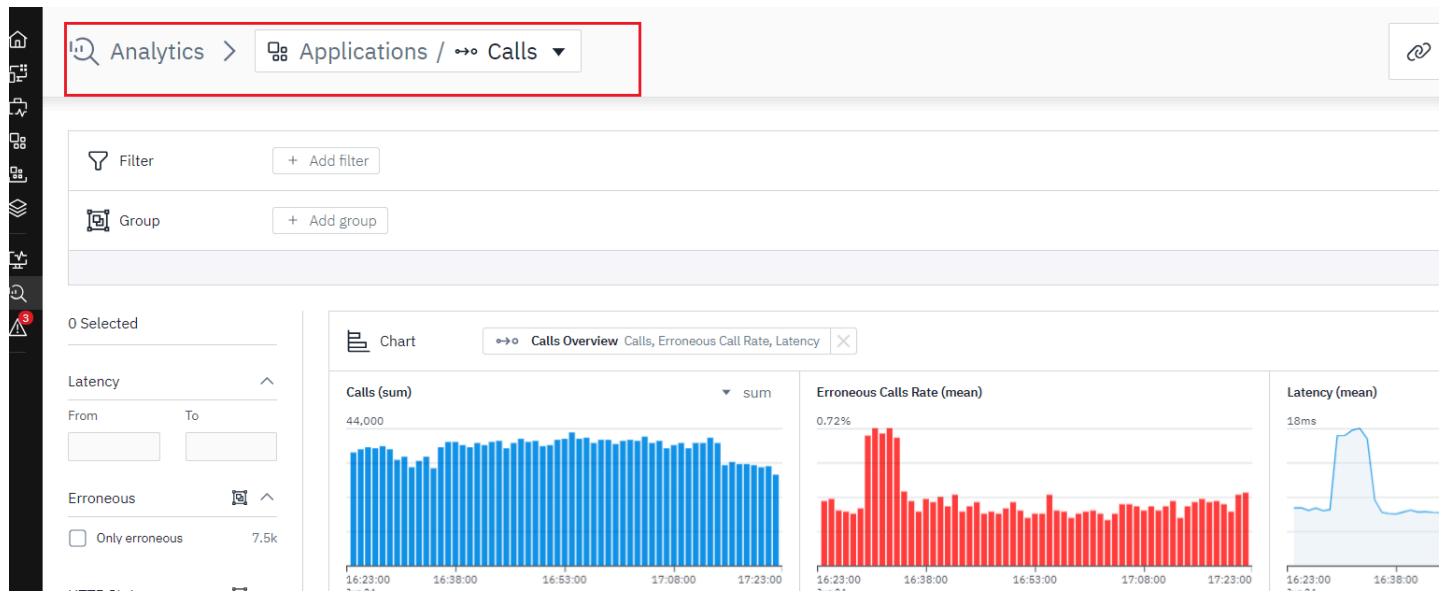
Exercise 6: Analytics and Events

Instana's analytics features enable us to gain deep insights into the performance and behavior of the applications, infrastructure, and services.

- Click the navigation menu and select **Analytics**



- This dashboard presents a deeper view of Analytics, including the various services' different calls.
- You can also use filters and groups to customize the searches and drill down the Analytics
- You can access this area through the other dashboards and thus access all tracing data.



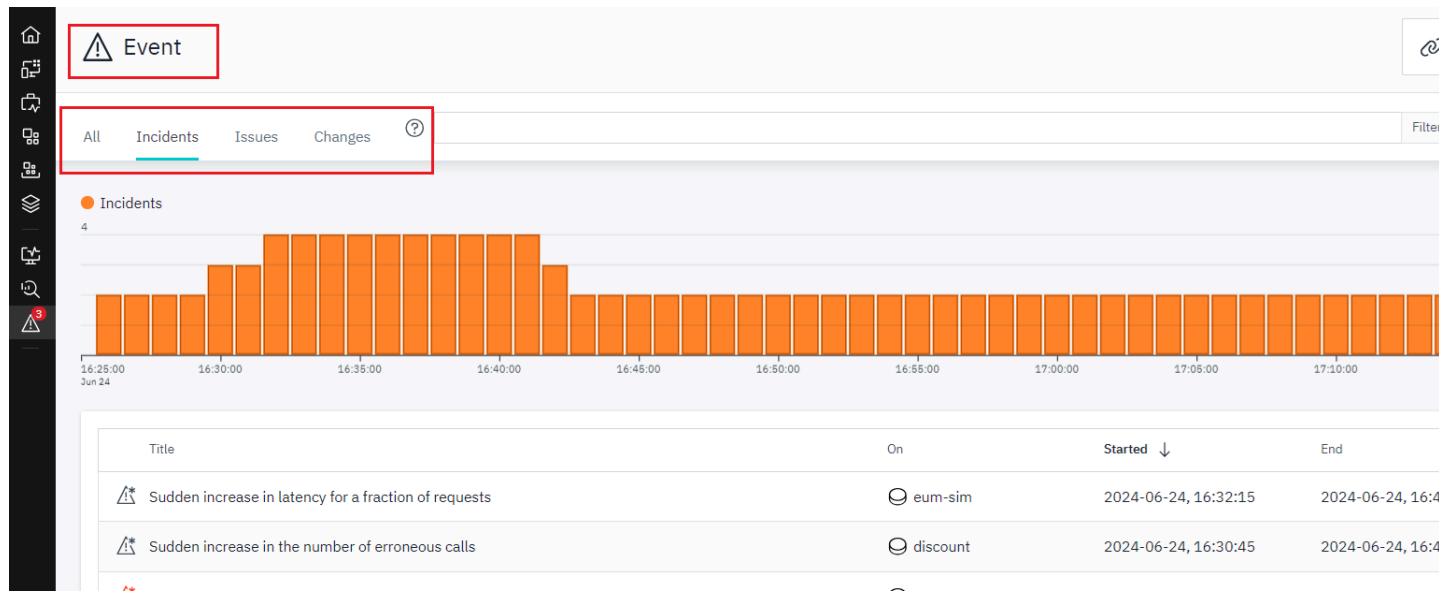
5. Click the navigation menu and select Events

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- Home
- Websites & Mobile Apps
- Business Monitoring
- Applications
- Kubernetes
- Infrastructure
- Synthetic Monitoring
- Analytics
- Events**

6. The Events dashboard presents the details of all events, such as Incidents, Issues, and Changes that have occurred.

7. This data is based on a combination of Instana health rules and any custom events that have been created and can be viewed to see what triggered the issues and can drill into analytics for further analysis.



Summary

Congratulations! You have completed the hands-on lab on Observability in Action with Instana.

In this lab, you have used Play with Instana, a sandbox with a pre-configured e-commerce application Robotshop and its services. You explored the sandbox to experiment with the tool's features and the different monitoring capabilities of Instana. You gained insights into the health and performance of the pre-configured application and its Infrastructure Components.

Author(s)

Lavanya Rajalingam



Skills Network