

# ОБЗОР СИСТЕМ МОНИТОРИНГА

**Author:**

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- 1. Introduction to system monitoring**
- 2. Prometheus monitoring system overview**
- 3. Zabbix monitoring system overview**
- 4. NewRelic monitoring system overview**
- 5. Visualization overview (Grafana)**

# INTRODUCTION TO SYSTEM MONITORING

  
APPDYNAMICS



  
cAdvisor



# Introduction to system monitoring

Что такое системы мониторинга и для чего они нужны



## PROMETHEUS MONITORING SYSTEM OVERVIEW

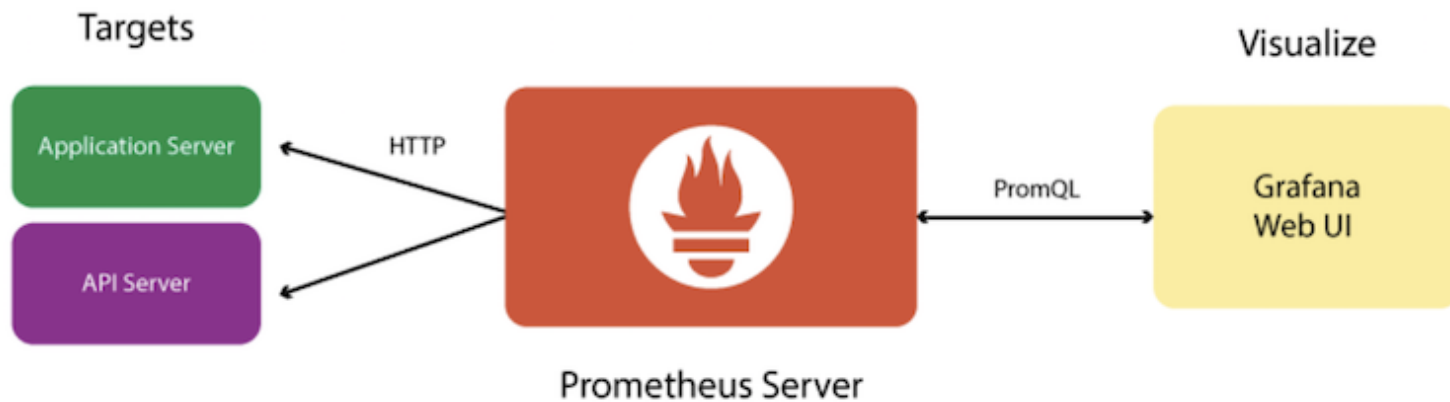
# Prometheus



Selectel

## Prometheus monitoring system overview

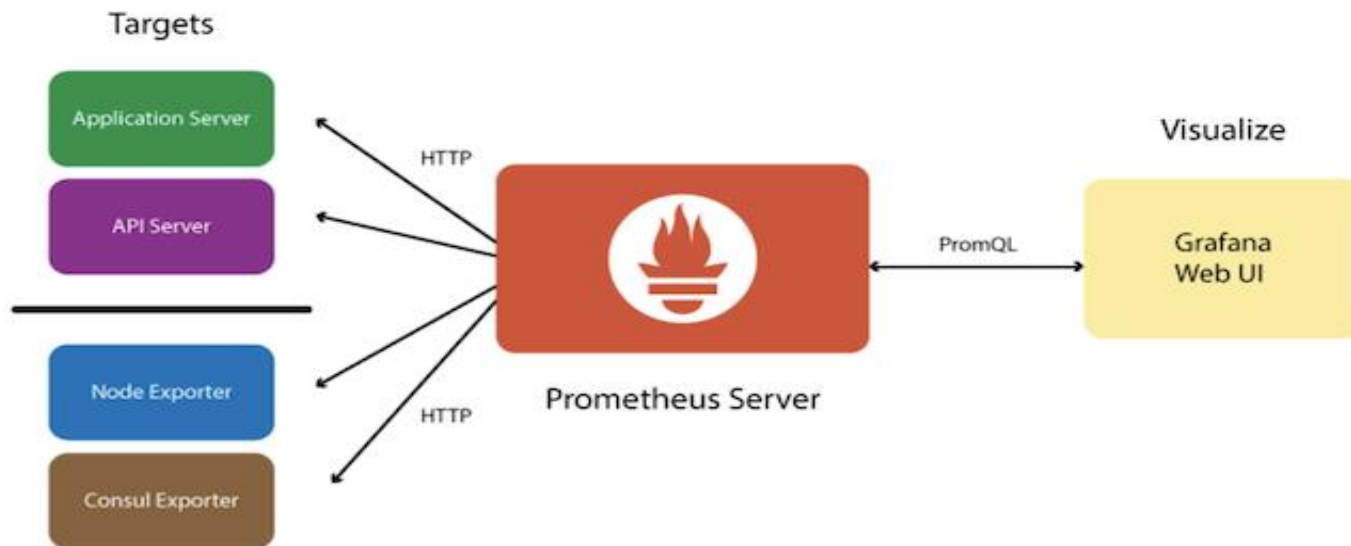
### Архитектура Prometheus





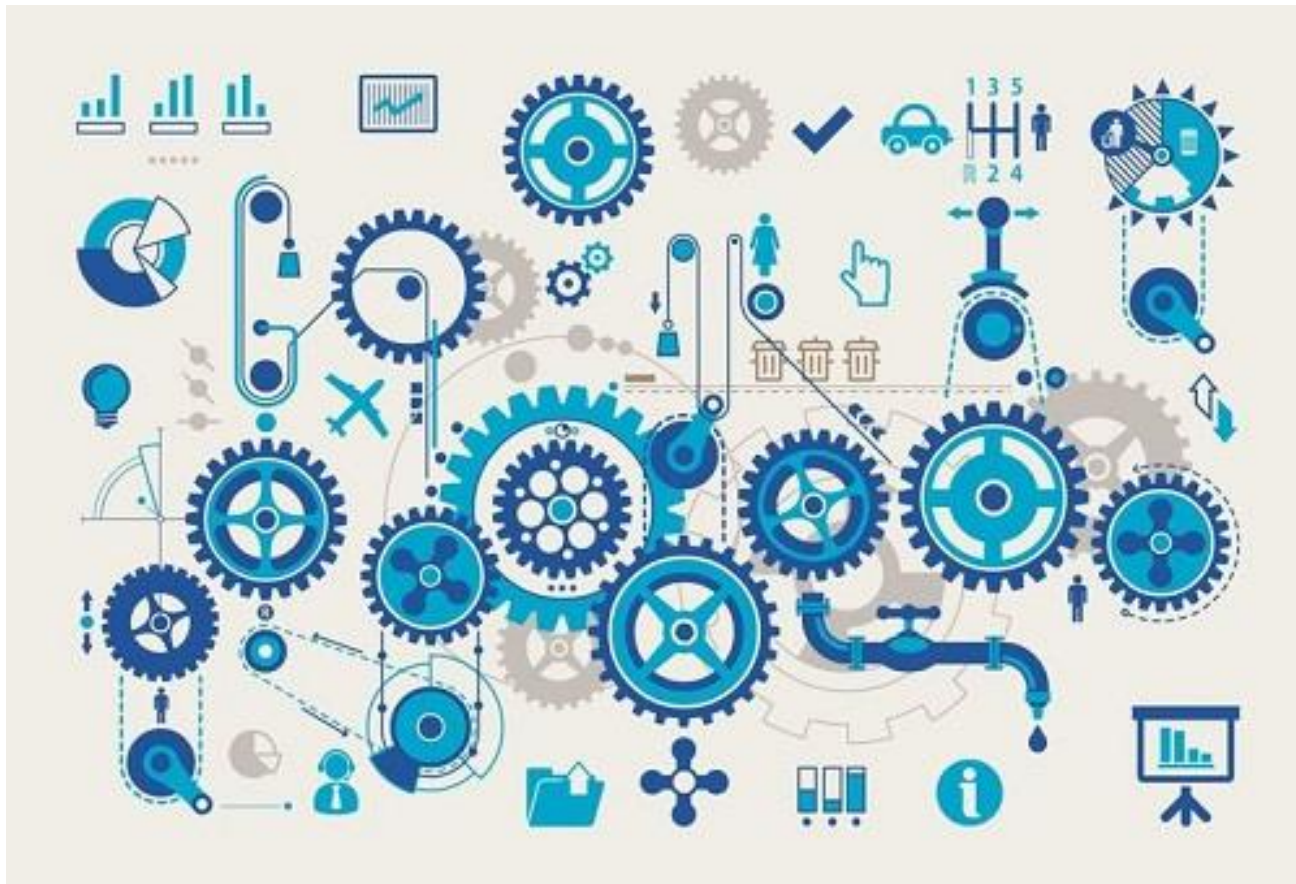
# Prometheus monitoring system overview

## Экспортеры Prometheus



## Prometheus monitoring system overview

## Производительность Prometheus



## **ZABBIX MONITORING SYSTEM OVERVIEW**

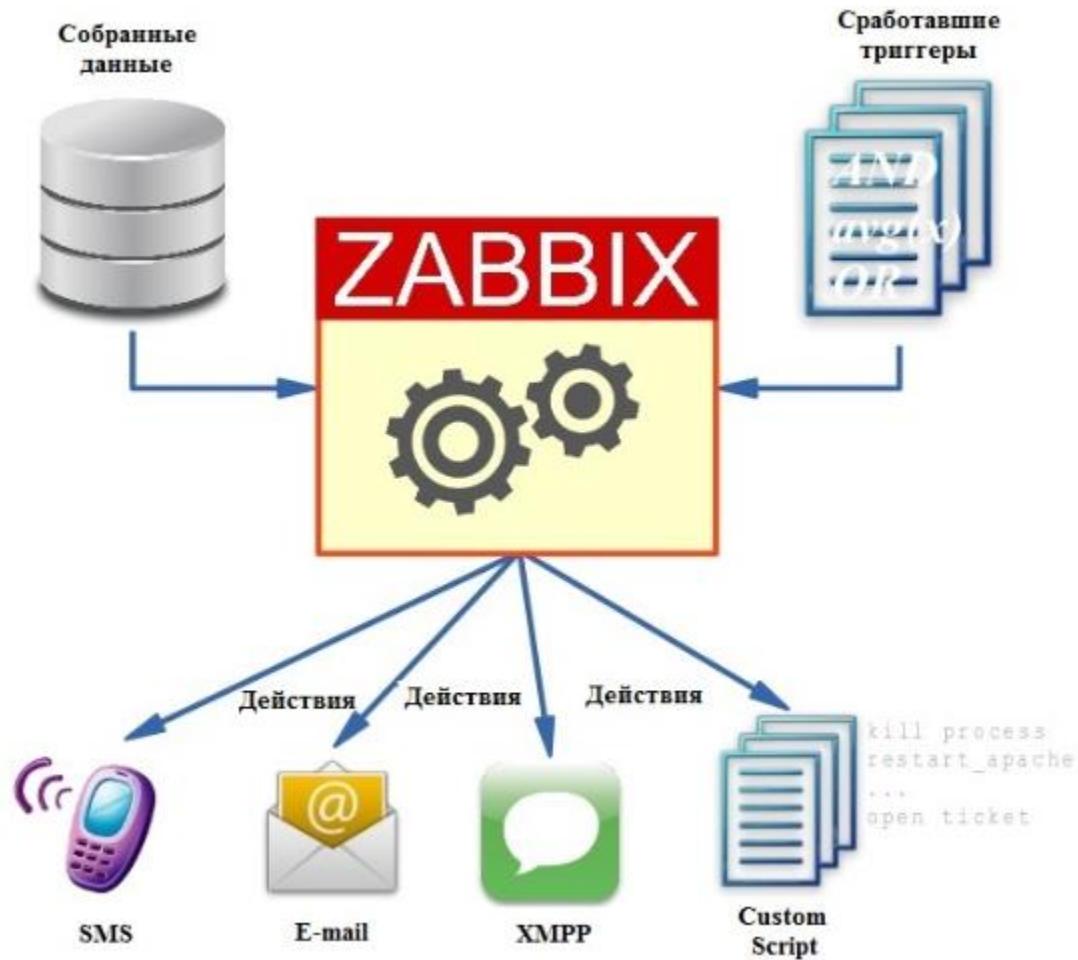
# Zabbix monitoring system overview

## Концепция Zabbix



## Zabbix monitoring system overview

Варианты реакции системы на зафиксированные события



## **NEWRELIC MONITORING SYSTEM OVERVIEW**



# Newrelic monitoring system overview

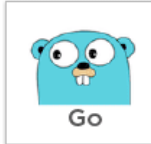






## Ключевая особенность NewRelic

New Relic  
APM

Alerts <sup>New</sup> Tools Help ValuePenguin Software 1

### Get started with New Relic

Select a web agent to install.



### Install the **Python** agent

**Before you begin**

You will need:

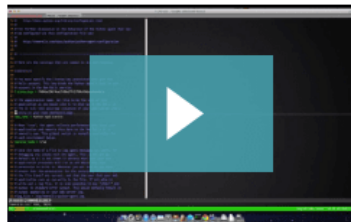
1. Administrator access to the computer on which you will install.
2. Ability to configure any firewalls or proxies to allow the agent to report data to New Relic.

### Add a user

Have someone else who will help deploy?  
Want to add a coworker to your account?

Add them now, it's easy!

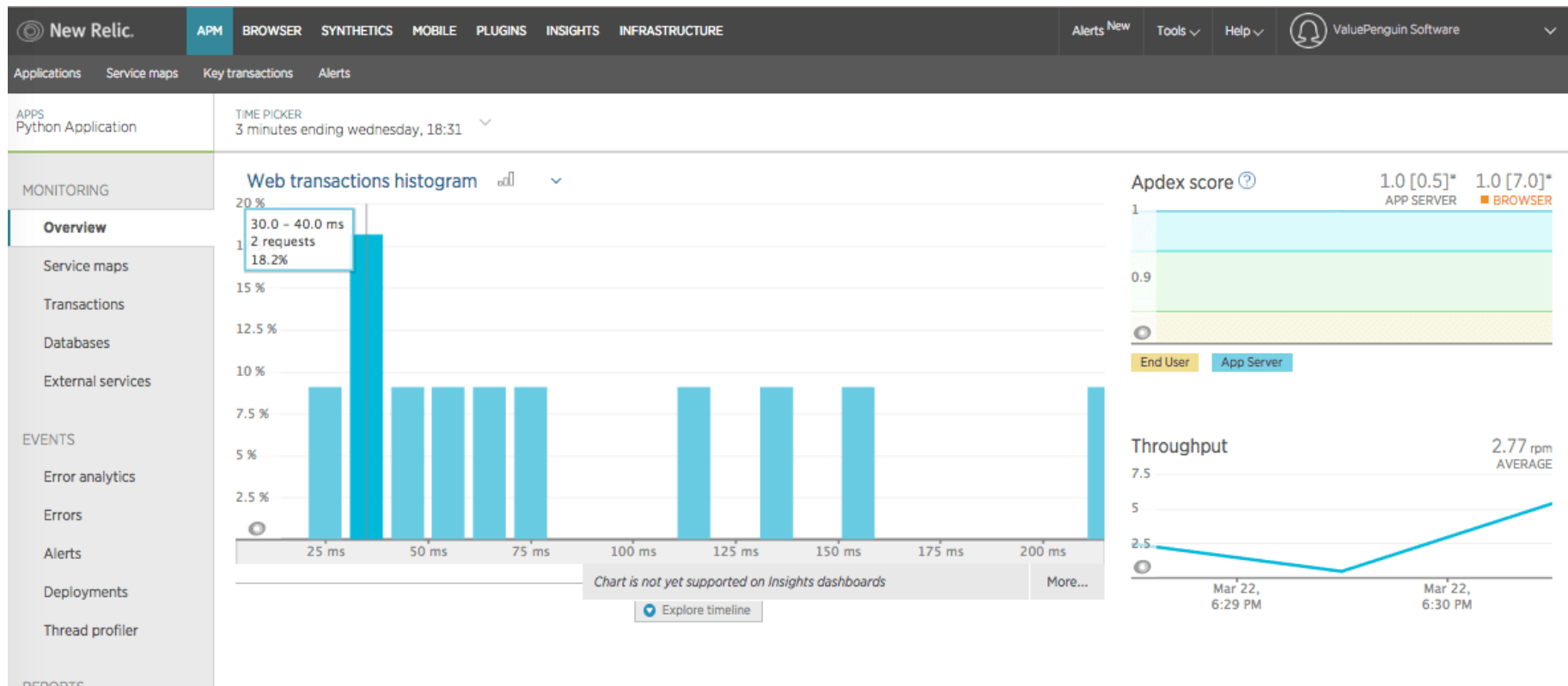
### Installing the Python agent





# Newrelic monitoring system overview

## Ключевая особенность NewRelic



New Relic

APM

BROWSER

SYNTHETICS

MOBILE

PLUGINS

INSIGHTS

INFRASTRUCTURE

Maps

Alerts

Tools

Help

Search across accounts

PMC Non pr...

ApplicationsService mapsKey transactions

Want to see everything you're monitoring across all accounts? Go to New Relic One

Filter applications

OffShow labels

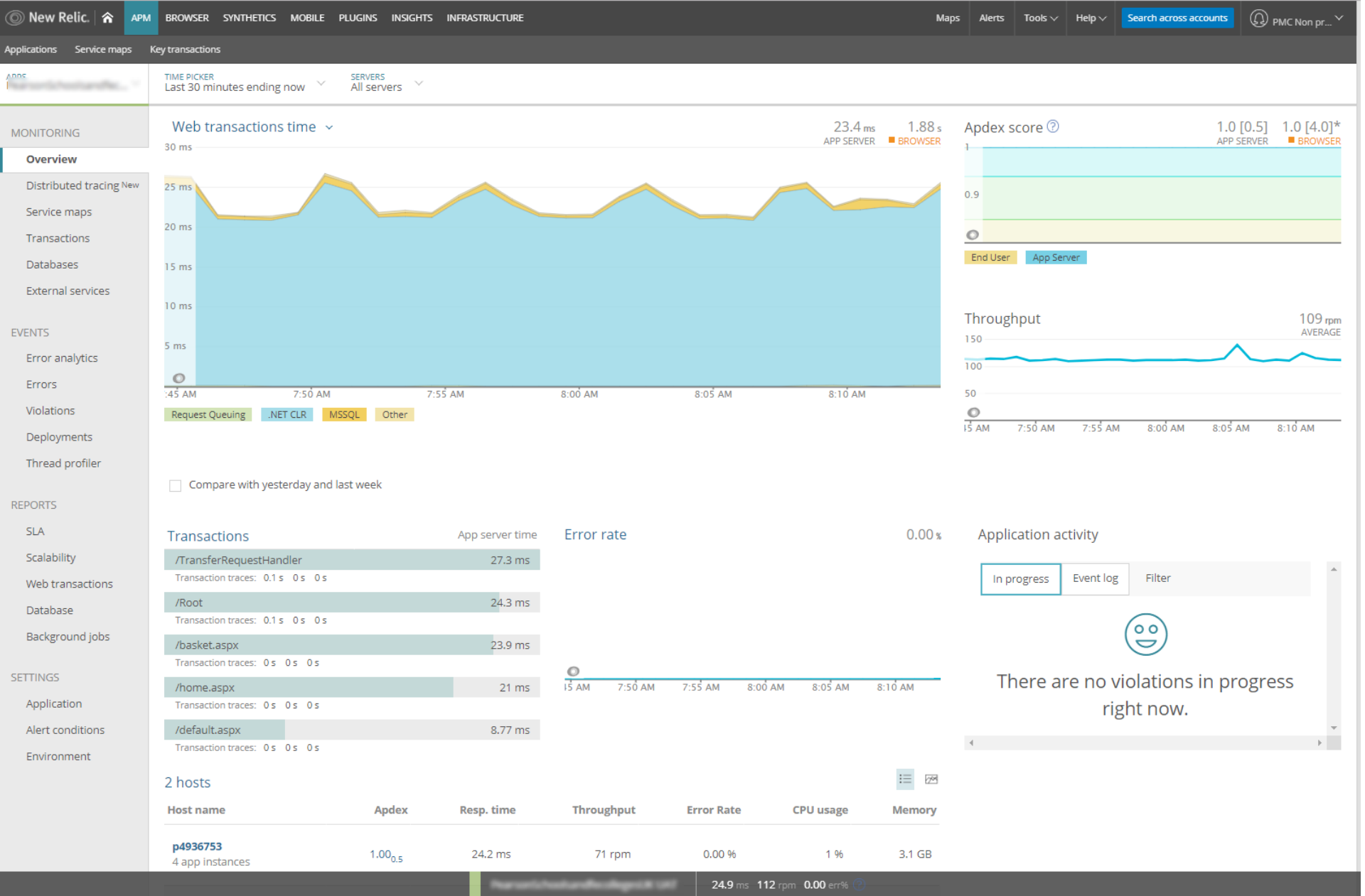
Add more

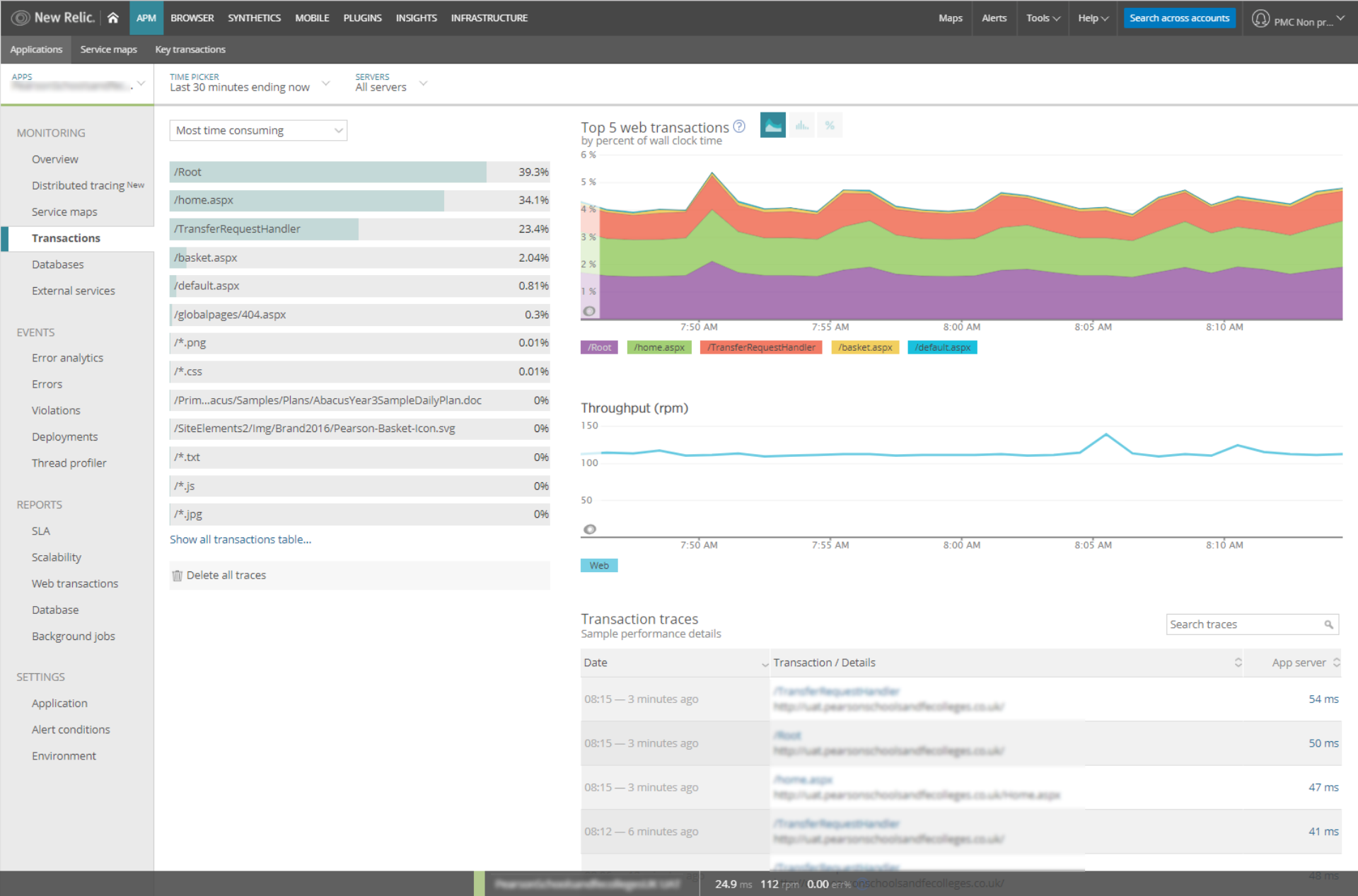
Name	End user	Page views	App server	Throughput	Error %	
			24.8 ms	111 rpm	0%	
			0.397 ms	1.58k rpm	0%	
			0.461 ms	1.42k rpm	0%	
			0.391 ms	1.08k rpm	0%	
			0.378 ms	1.01k rpm	0%	
			0.397 ms	761 rpm	0%	
			52.5 ms	237 rpm	10.3%	
			4.04 ms	229 rpm	0%	
			23.4 ms	215 rpm	0%	
			0.784 ms	212 rpm	0%	
			4.18 ms	211 rpm	0%	
			0.749 ms	196 rpm	0%	
			0.942 ms	98 rpm	0%	
			22.7 ms	70.3 rpm	0%	
			7.65 ms	59.7 rpm	0.01%	
			0.178 ms	49 rpm	0%	
			0.199 ms	40 rpm	0%	
			0.5 ms	36 rpm	0%	
			0.67 ms	36 rpm	0%	
			0.238 ms	34 rpm	0%	

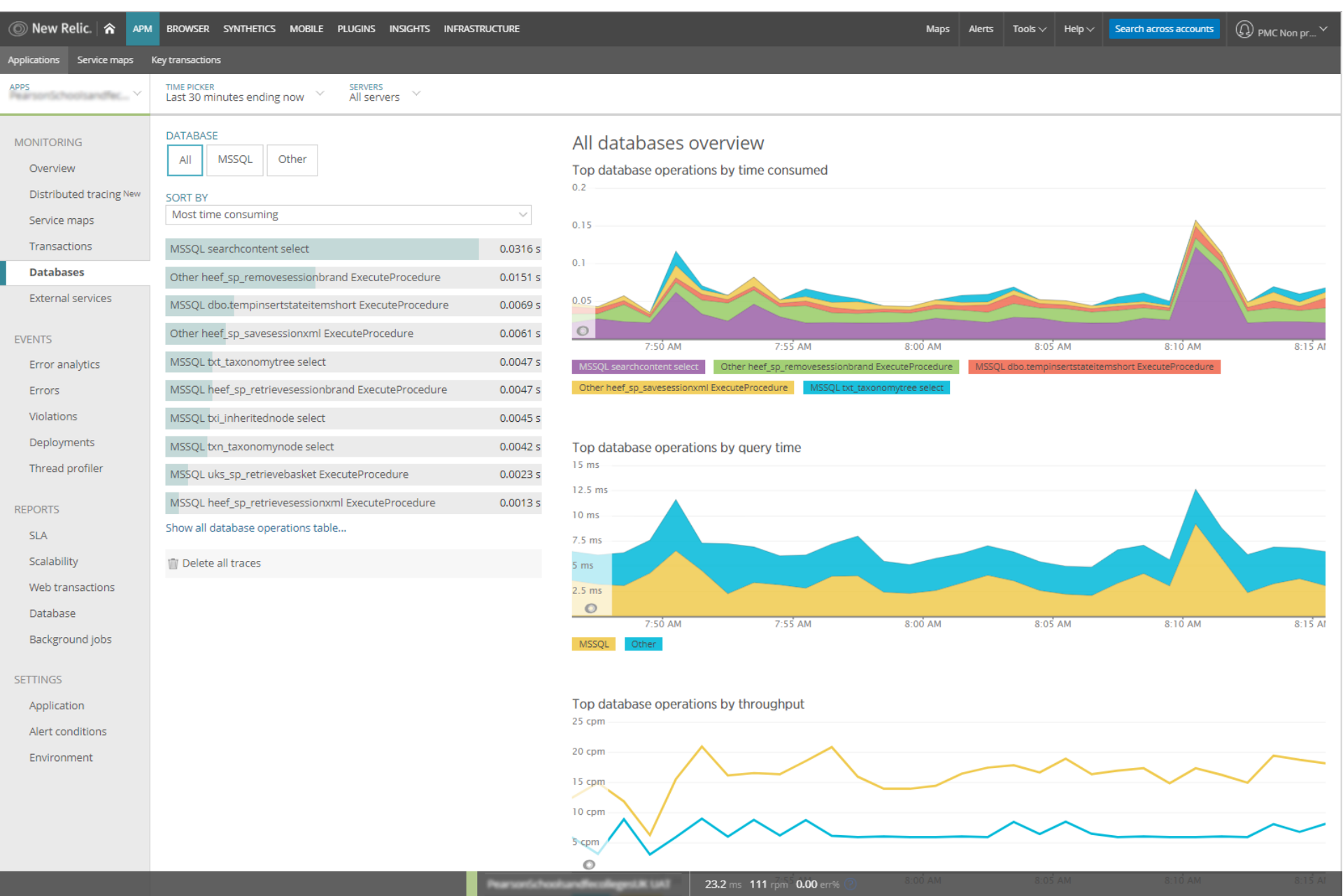
Application activity

In progressEvent logFilter

There are no violations in progress right now.







New Relic

APM

BROWSER

SYNTHETICS

MOBILE

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Background jobs

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Daily SLA report

Weekly SLA report

Monthly SLA report

Download this report as .csv

	06/16	06/23	06/30	07/07	07/14	07/21	07/28	08/04	08/11	08/18	08/25	09/01
End user tier												
Page views	-	-	-	-	-	-	-	-	-	-	-	38
Load time sec	-	-	-	-	-	-	-	-	-	-	-	2.38
Apdex	-	-	-	-	-	-	-	-	-	-	-	0.96
% Satisfied	-	-	-	-	-	-	-	-	-	-	-	92.1%
% Tolerating	-	-	-	-	-	-	-	-	-	-	-	7.9%
% Frustrated	-	-	-	-	-	-	-	-	-	-	-	0.0%
Application server												
Requests millions	-	-	-	-	-	-	-	-	-	-	-	6.78
Resp. time ms	-	-	-	-	-	-	-	-	-	-	-	98.1
Apdex	-	-	-	-	-	-	-	-	-	-	-	0.97
% Satisfied	-	-	-	-	-	-	-	-	-	-	-	94.9%
% Tolerating	-	-	-	-	-	-	-	-	-	-	-	4.0%
% Frustrated	-	-	-	-	-	-	-	-	-	-	-	1.2%

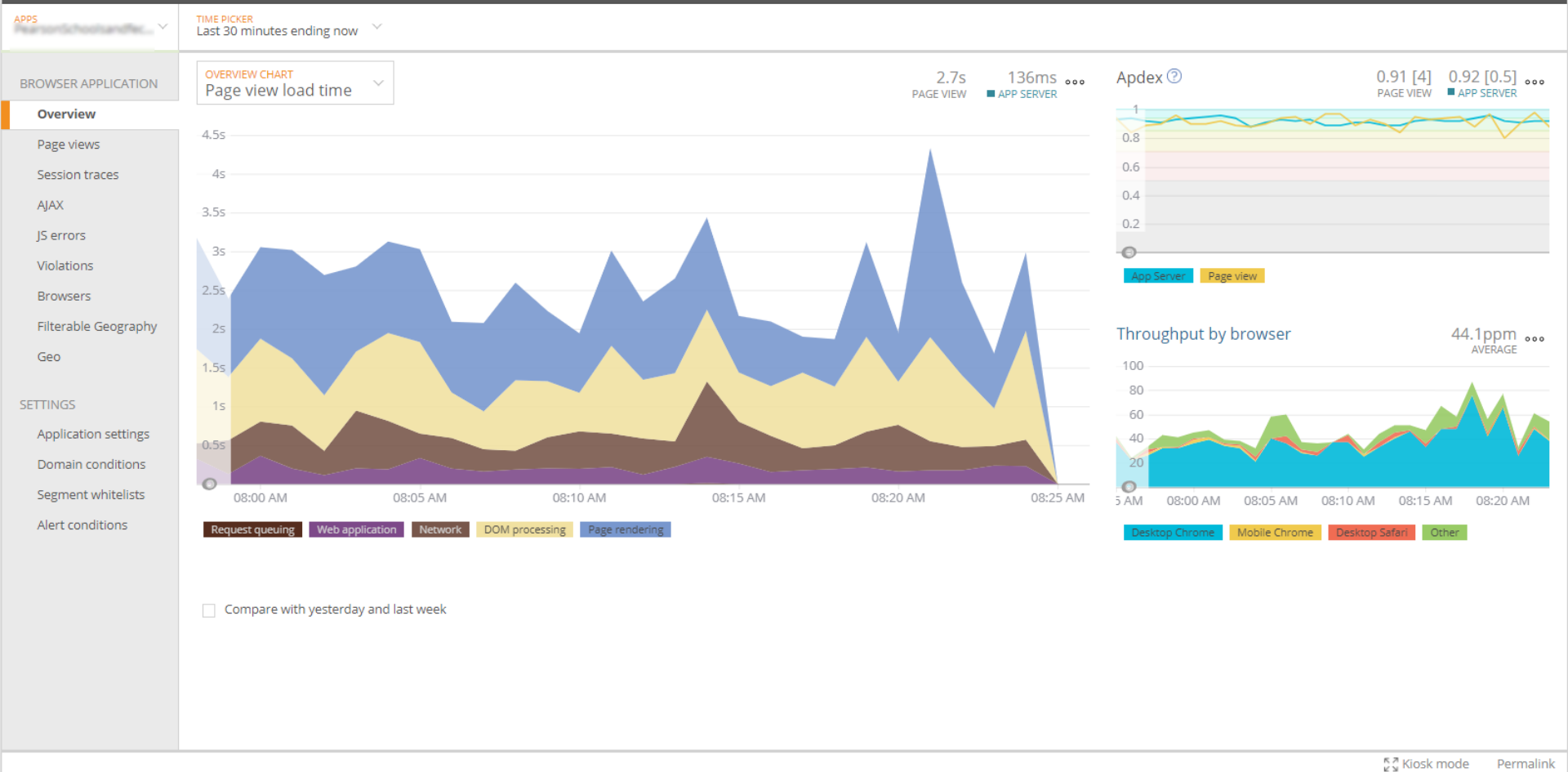
Select a metric in the table above to chart its 12 week trend

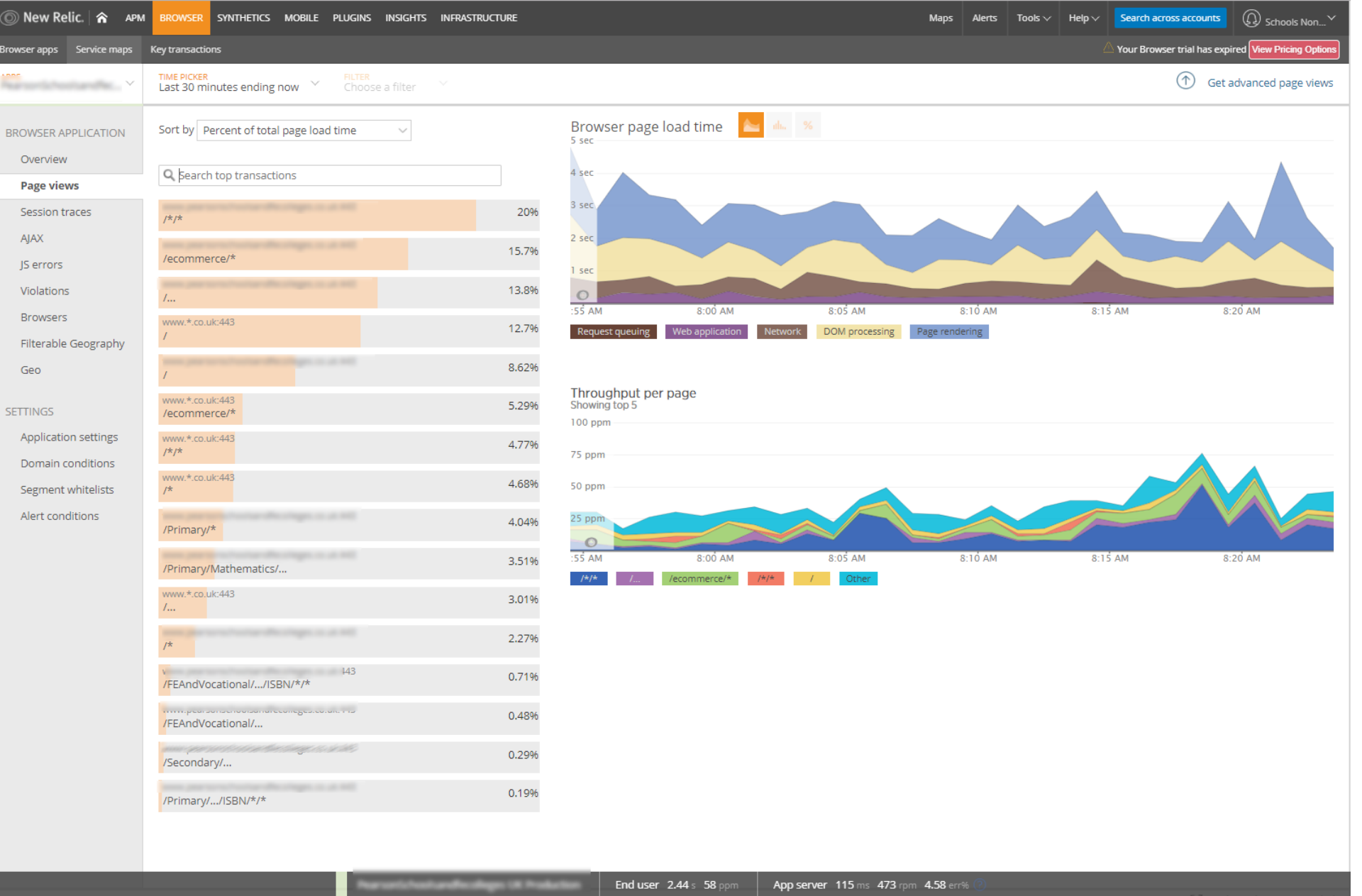
24 ms 111 rpm 0.00 err%

<epam>

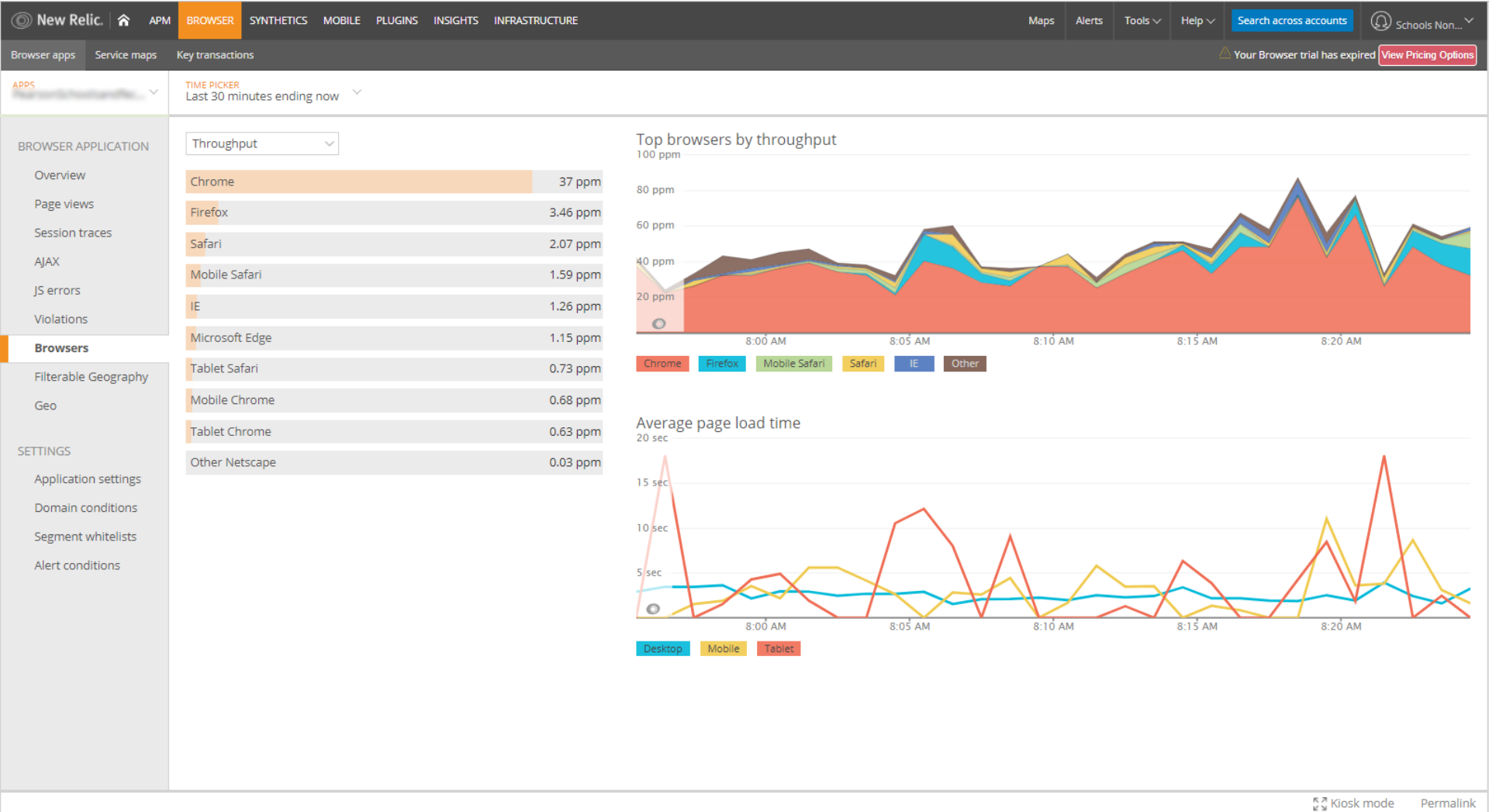
2019 © EPAM Systems, Samara DevOps Dep.

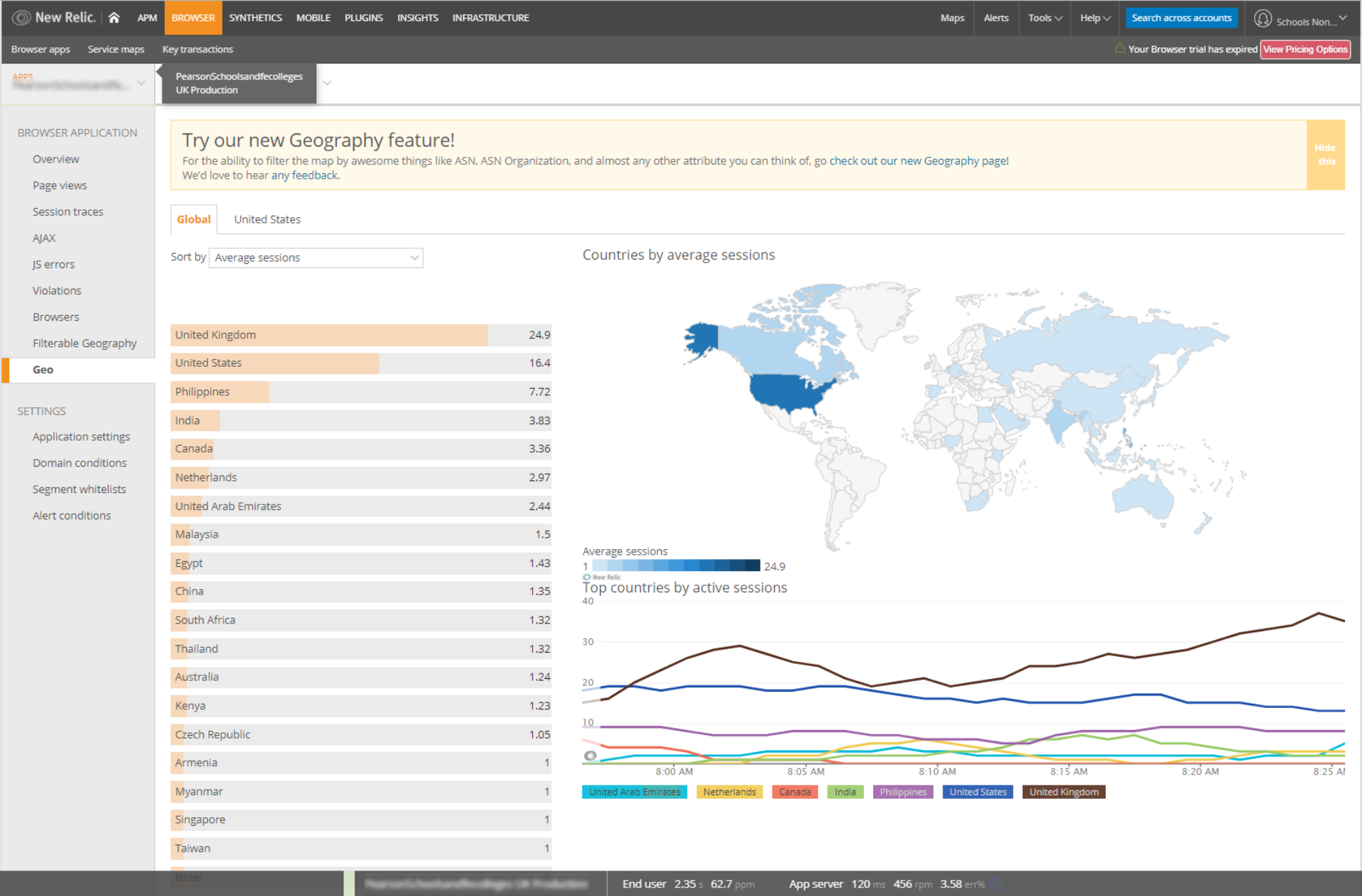
22

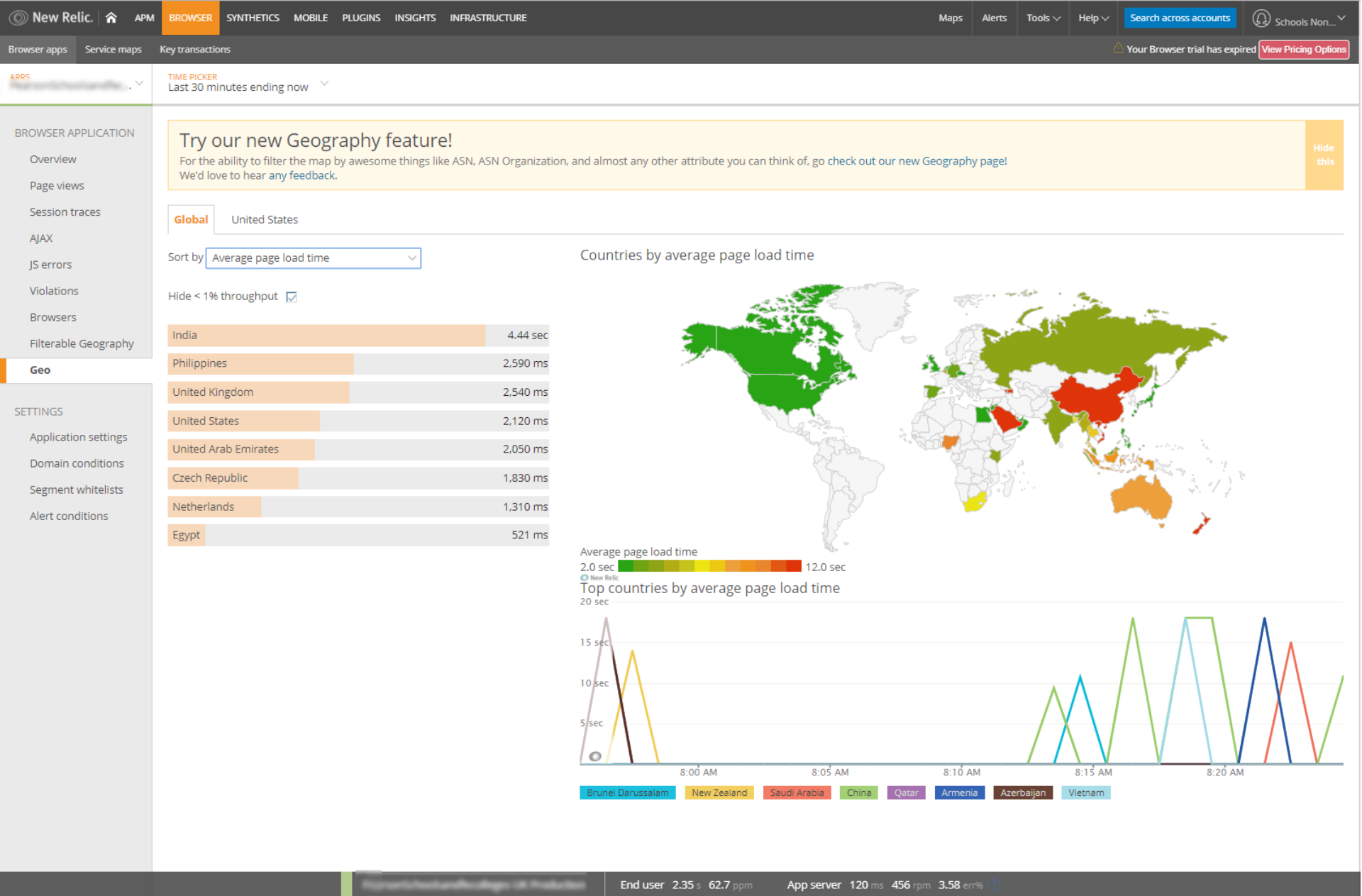


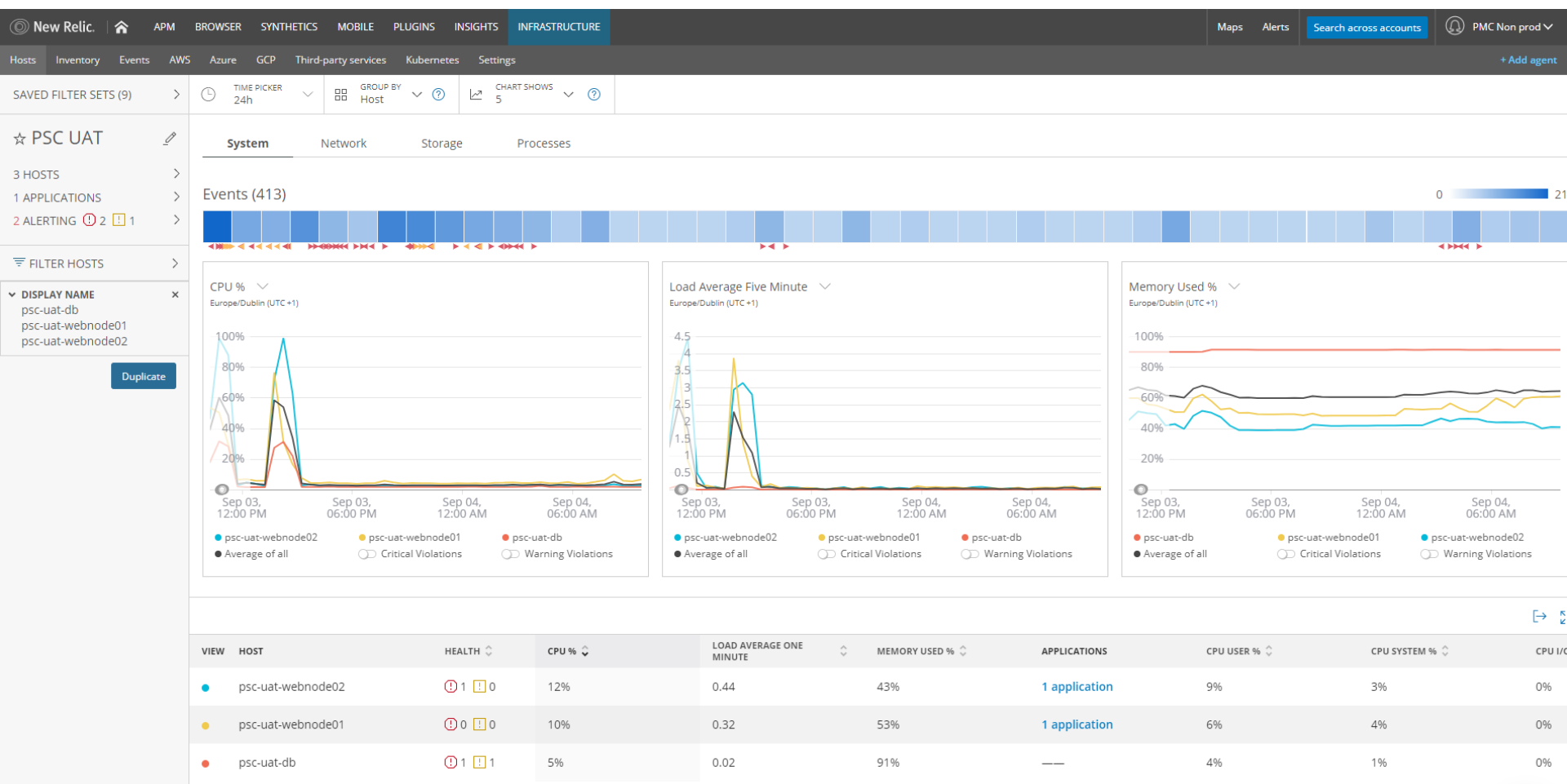












SETTINGS

Alerts

Agents

Filter sets

Alerts

Alerts API documentation

Create alert condition

☐

CONDITION

.NET v.4.5 or .NET v.4.5 Classic is not running on web server

.Net v.4.5 application pool is not running or switched off by idle timeout on web servers

Disk Read I/O Per Second (Warn>40, Crit>60)

Disk Write I/O Per Second (Warn>40, Crit>60)

Disk usage, % (Warn>90, Crit>95)

Disk usage, GB (Warn<15, Crit<10)

Hosts are not responding to New Relic

LB CHECK website process is not running

Memory usage, % (Warn>75, Crit>90)

SUMMARY

Fewer than 2 running 2 processes for 1 m...

No processes are running for 5 minutes

Read I/O Per Second > 60 for at least 5...

Write I/O Per Second > 60 for at least ...

Disk Used % > 95 % for at least 5 minute...

Disk Free Bytes < 10 GB for at least 5 m...

Host not reporting for 5 minutes

No processes are running for 1 minute

Memory Used % > 90 % for at least 5 minu...

POLICY

Pearson Schools and PE colleges

Pearson Schools and PE colleges

Pearson Schools and PE colleges

Pearson Schools and PE colleges

Pearson Schools and PE colleges

Pearson Schools and PE colleges

Pearson Schools and PE colleges

Pearson Schools and PE colleges

Pearson Schools and PE colleges

DATE CREATED

8/30/19 3:01:10 pm

8/30/19 3:19:29 pm

9/2/19 8:37:40 pm

9/2/19 8:42:38 pm

8/29/19 6:54:55 pm

8/29/19 6:47:58 pm

8/30/19 2:44:38 pm

8/30/19 2:53:14 pm

8/29/19 5:02:37 pm

LAST UPDATED

8/30/19 3:13:12 pm

8/30/19 3:21:42 pm

9/3/19 2:22:24 pm

9/3/19 2:22:07 pm

8/30/19 2:24:57 pm

8/30/19 2:24:44 pm

9/3/19 6:14:36 pm

8/30/19 3:06:23 pm

8/30/19 2:24:29 pm

Disable

Disable

Enable

Enable

Disable

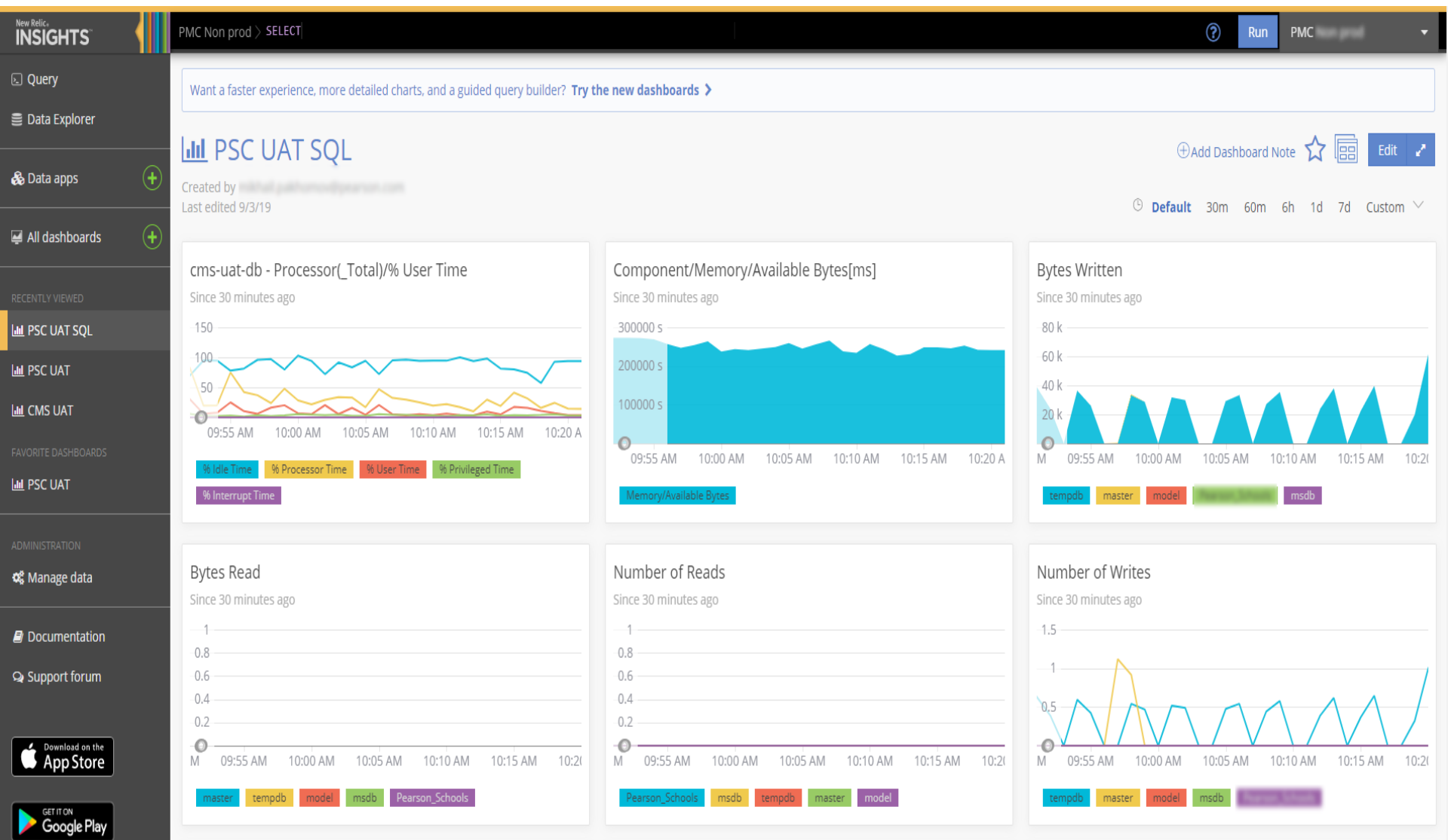
Disable

Disable

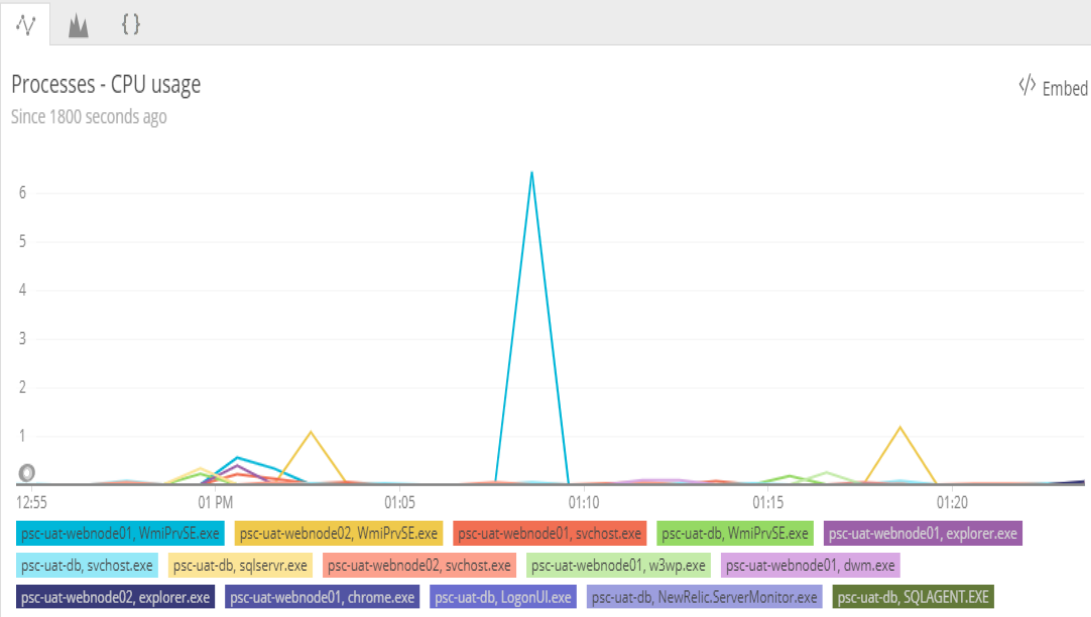
Disable

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PMC Non prod > SELECT average(cpuPercent) as 'CPU, %' FROM ProcessSample WHERE displayName LIKE '%psc-uat%' TIMESERIES FACET `displayName`, `processDisplayName` LIMIT 15 SINCE 1800 seconds ago EXTRAPOLATE Run PMC Non prod



Processes - CPU usage

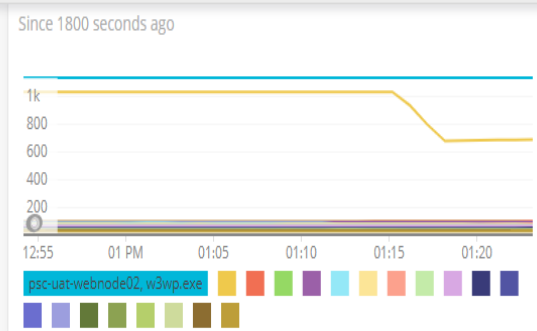
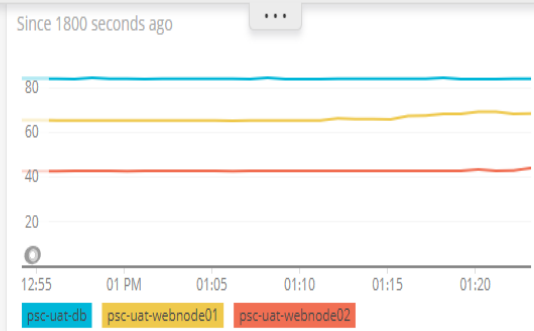
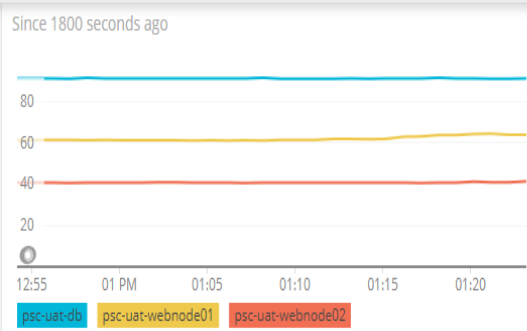
Notes

Save Changes

Add a copy to

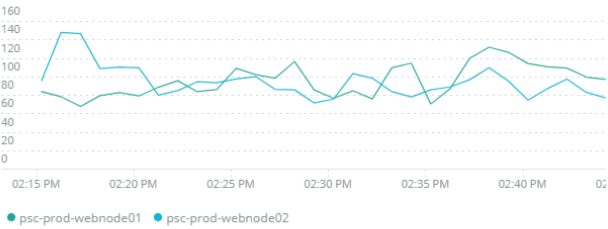
Cancel

940 Thousand Events Inspected in 89.0 ms

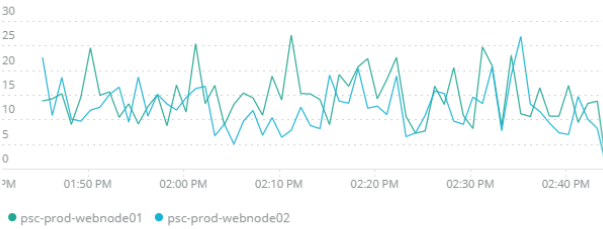


Search for any attribute or value.

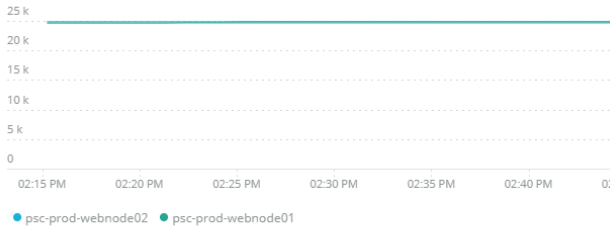
WebServer Connections  
Since 30 minutes ago



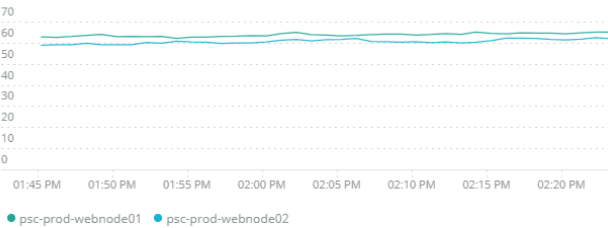
Servers - CPU usage  
Since 1 hour ago



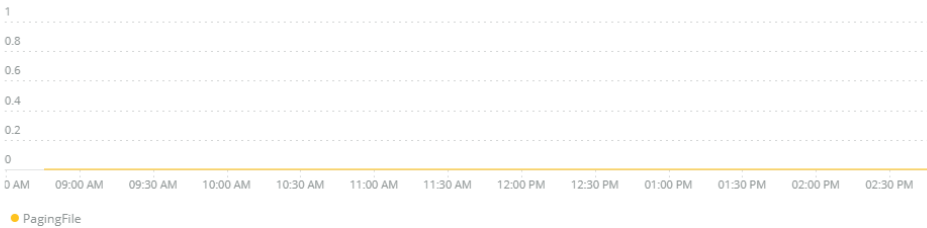
Servers - Uptime  
Since 30 minutes ago



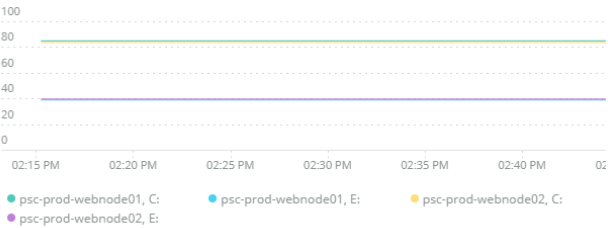
Servers - Memory usage, %  
Since 1 hour ago



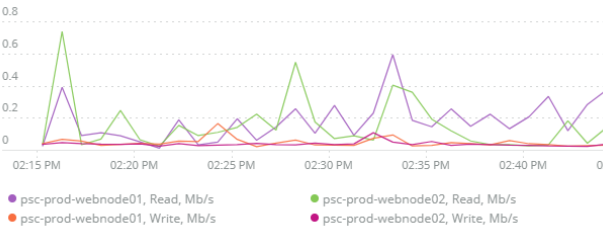
Servers - Swap usage, %  
Since 6 hours ago



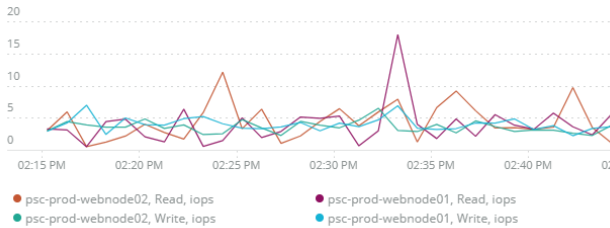
Servers - Disk usage  
Since 30 minutes ago



Servers - ReadWrite, Mb/s  
Since 30 minutes ago



Servers - ReadWrite, iops  
Since 30 minutes ago





# Plugin Central

All

Create a new plugin

Cassandra  
3legs

★★★★★ (44)

Get started

Microsoft Azure SQL Database  
New Relic Inc.

NPI Compatible

★★★★★ (37)

Get started

F5 LTM  
New Relic Inc.

★★★★★ (35)

Get started

Memcached  
Poison Pen, LLC

★★★★★ (41)

Get started

MongoDB  
Poison Pen, LLC

★★★★★ (77)

Get started

PHP FPM  
Poison Pen, LLC

★★★★★ (33)

Get started

MongoDB  
Steven Eksteen

★★★★★ (11)

Get started

Windows Events  
Sumo Logic

★★★★★ (26)

Get started

Citrix NetScaler  
Blue Medora

NPI Compatible

★★★★★ (10)

Get started

BlazeMeter Load Testing  
BlazeMeter

★★★★★ (24)

Get started

Microsoft SQL Server  
New Relic Inc.

NPI Compatible

★★★★★ (144)

Get started

MySQL  
New Relic Inc.

NPI Compatible

★★★★★ (297)

Get started

Redis  
Ken Jibiki

★★★★★ (12)

Get started

Apache HTTPd  
Poison Pen, LLC

★★★★★ (89)

Get started

Amazon Elastic Load Balancer  
New Relic Inc.

★★★★★ (20)

Get started

PostgreSQL  
Poison Pen, LLC

★★★★★ (80)

Get started

Elasticsearch  
Poison Pen, LLC

★★★★★ (10)

Get started

MySQL  
Blue Medora

NPI Compatible

★★★★★ (14)

Get started

Logwatcher  
Railware LLC

★★★★★ (60)

Get started

Elasticsearch  
Sergey Novikov

NPI Compatible

★★★★★ (22)

Get started

Redis Cloud  
Redis Labs

★★★★★ (20)

Get started

nginx web server  
NGINX, Inc.

★★★★★ (193)

Get started

Microsoft SQL Server  
Blue Medora

NPI Compatible

★★★★★ (7)

Get started

flood.io » Load Testing for Everyone  
flood.io

★★★★★ (11)

Get started

Perfmon  
52projects

★★★★★ (51)

Get started

Rackspace Load Balancers  
New Relic Inc.

★★★★★ (21)

Get started

Varnish  
3legs

★★★★★ (53)

Get started

Red Hat Enterprise Linux  
Jamie Duncan

★★★★★ (18)

Get started

# Microsoft SQL Server

1 instance

Name	SQL CPU Usage	Page Life Threat	Buffer Cache Miss Ratio	Max Recompiles	
psc-uat-db	0 % CPU	0 % threat	0.383 % miss	131 % Single Use	...

PUBLISHED AND SUPPORTED BY



New Relic Inc.

About us | Get support

## Recent MS SQL events

- In progress (2)
- Event log
- Filter

CRITICAL VIOLATION OPEN

**psc-uat-db**

Page Life Threat < 150,000 units for at least 5 minutes

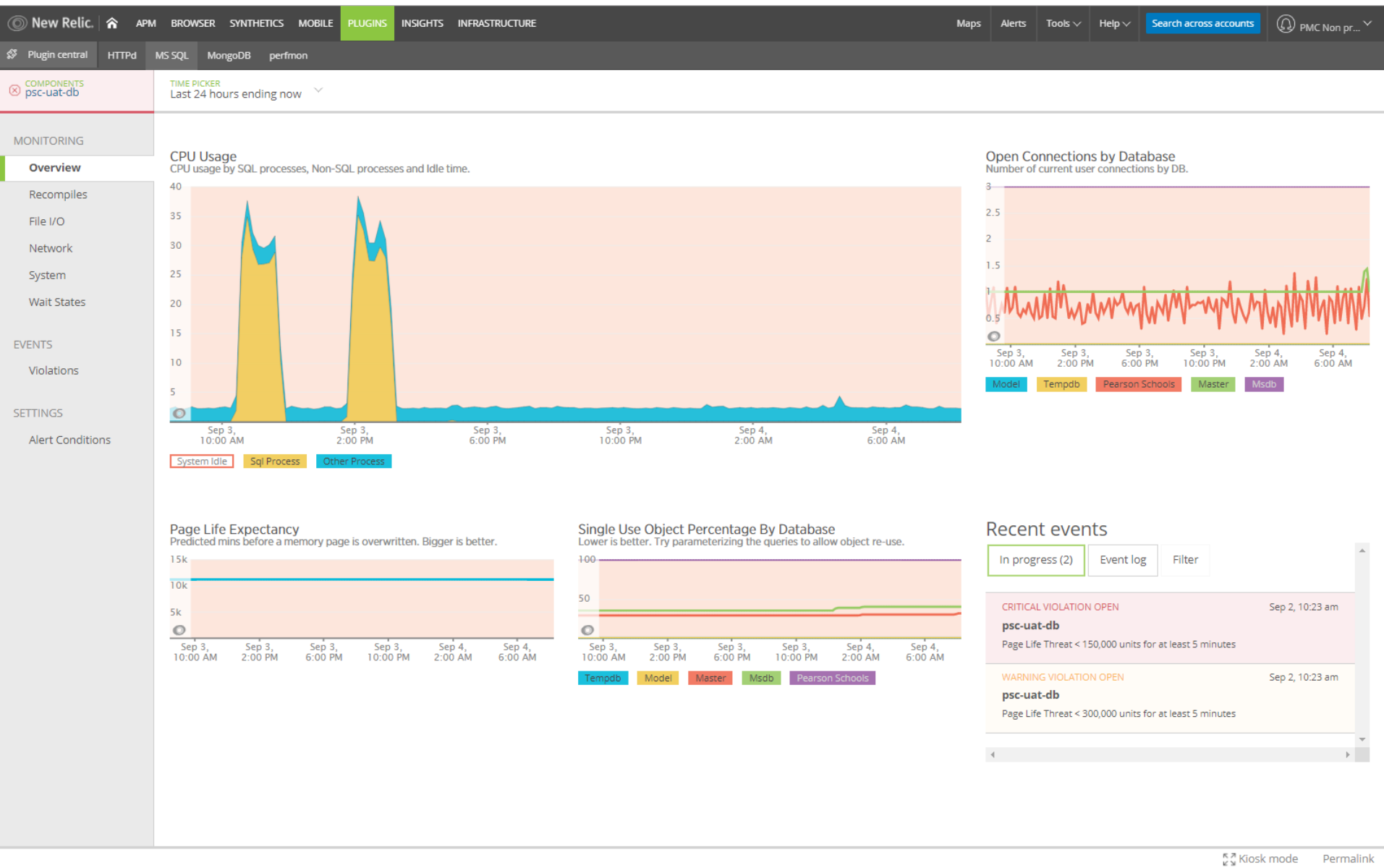
Sep 2, 10:23 am

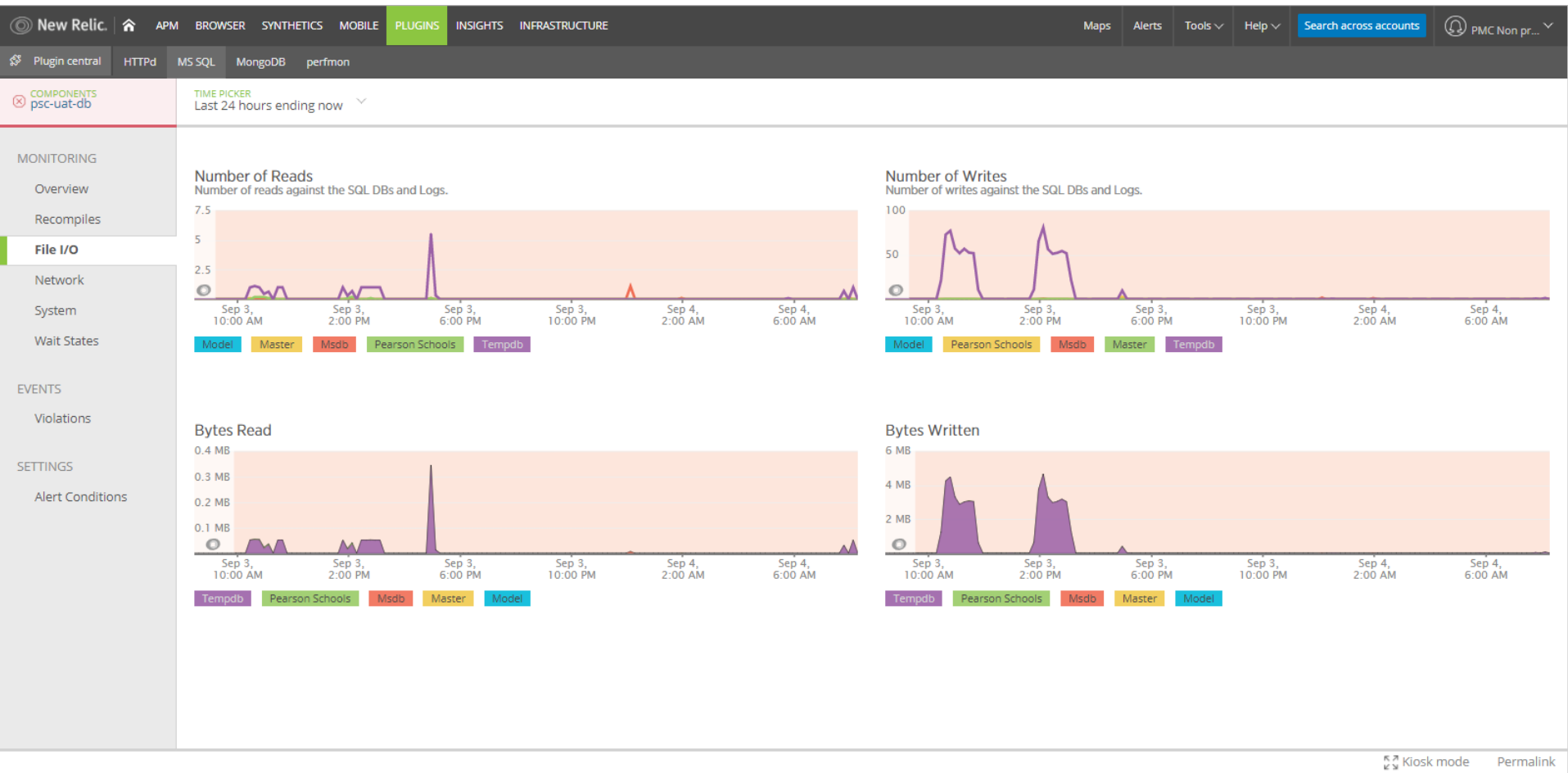
WARNING VIOLATION OPEN

**psc-uat-db**

Page Life Threat < 300,000 units for at least 5 minutes

Sep 2, 10:23 am





APM

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Search alert conditions

3 alert conditions

Status	Name	Threshold	Last updated	Policy
On	SQL CPU Usage (High) - test condition for Plugins	SQL CPU Usage > 80 for at least 5m WARNING SQL CPU Usage > 90 for at least 5m CRITICAL	8:01 am	<a href="#">View policy</a>
On	UAT SQL Buffer Cache Miss Ratio (High)	Buffer Cache Miss Ratio > 10 for at least 5m CRITICAL Buffer Cache Miss Ratio > 5 for at least 5m WARNING	Aug 30, 7:25 am	<a href="#">View policy</a>
On	UAT SQL Page Life Threat (Low)	Page Life Threat < 150000 for at least 5m CRITICAL Page Life Threat < 300000 for at least 5m WARNING	Sep 2, 7:17 am	<a href="#">View policy</a>

3 alert conditions

Kiosk mode

Permalink

New Relic

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Severity	Violation	Opened	Closed	Duration	Alert policy
CRITICAL	UAT SQL Page Life Threat (Low)	Sep 2, 10:23 am	-	2d 1h 3m	Pearson Schools and FE colleges
WARN	UAT SQL Page Life Threat (Low)	Sep 2, 10:23 am	-	2d 1h 3m	Pearson Schools and FE colleges
CRITICAL	UAT SQL Page Life Threat (Low)	Aug 30, 10:31 am	Sep 2, 10:17 am	2d 23h 46m	PSC UAT
WARN	UAT SQL Page Life Threat (Low)	Aug 30, 10:31 am	Sep 2, 10:17 am	2d 23h 46m	PSC UAT

1 - 4 of 4

Kiosk mode

Permalink

Y

## MONITOR

## Overview

## Results

## Resources

## Violations

## REPORTS

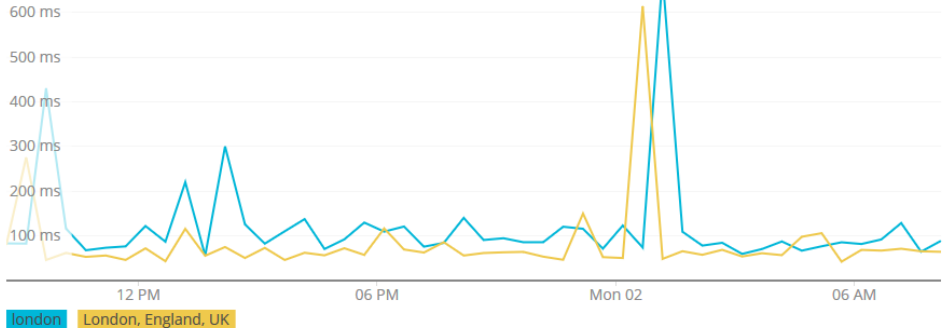
SLA

## SETTINGS

## General

### Alert conditions

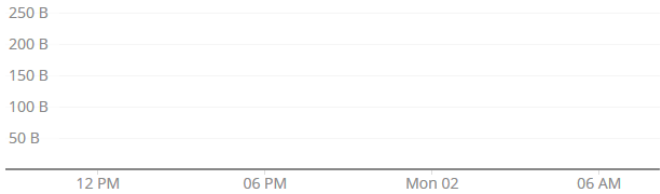
## Load time



## Availability

99%	100%	100%
LAST 30 DAYS	LAST 7 DAYS	LAST 30 MINUTES

Average load size



## Slowest results

### Load time

london - Sep 2nd 2019, 1:37:20	1.9 s
London, England, UK - Sep 2nd 2019, 1:02:11	1.73 s
london - Sep 1st 2019, 9:57:15	1.07 s
London, England, UK - Sep 1st 2019, 9:21:57	714 ms
london - Sep 1st 2019, 14:26:54	705 ms

## Failures

Time	Location	Message
No failures for this time window.		

Permalink

PING

TIME PICKER

Last 24 hrs

MONITOR

Overview

Filter locations

London, England, UK

London

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General

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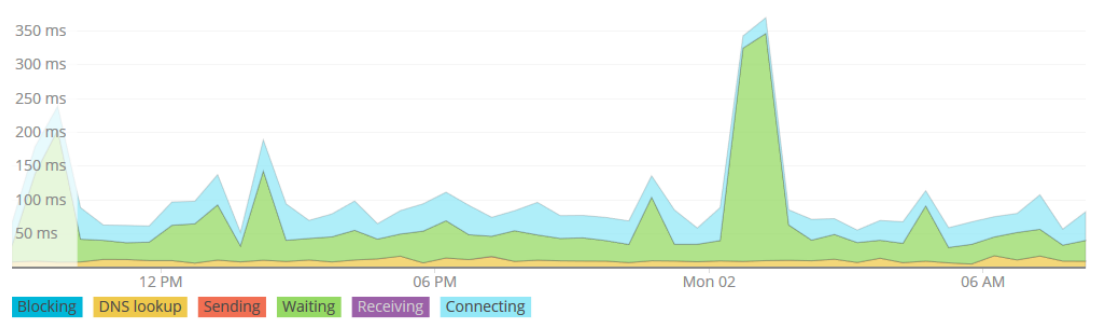
SORT BY

Duration (desc)

include failed results

london	Sep 2nd 2019, 1:37:20	1.9 s
London, England, UK	Sep 2nd 2019, 1:02:11	1.73 s
london	Sep 1st 2019, 9:57:15	1.07 s
London, England, UK	Sep 1st 2019, 9:21:57	714 ms
london	Sep 1st 2019, 14:26:54	705 ms
london	Sep 1st 2019, 13:27:10	426 ms
London, England, UK	Sep 1st 2019, 23:12:08	353 ms
London, England, UK	Sep 1st 2019, 13:11:56	251 ms
London, England, UK	Sep 2nd 2019, 5:12:09	234 ms
london	Sep 1st 2019, 18:57:25	234 ms
London, England, UK	Sep 1st 2019, 18:32:11	219 ms
london	Sep 1st 2019, 23:07:31	206 ms
london	Sep 1st 2019, 16:27:31	203 ms

### Network timings







## VISUALIZATION OVERVIEW (GRAFANA)

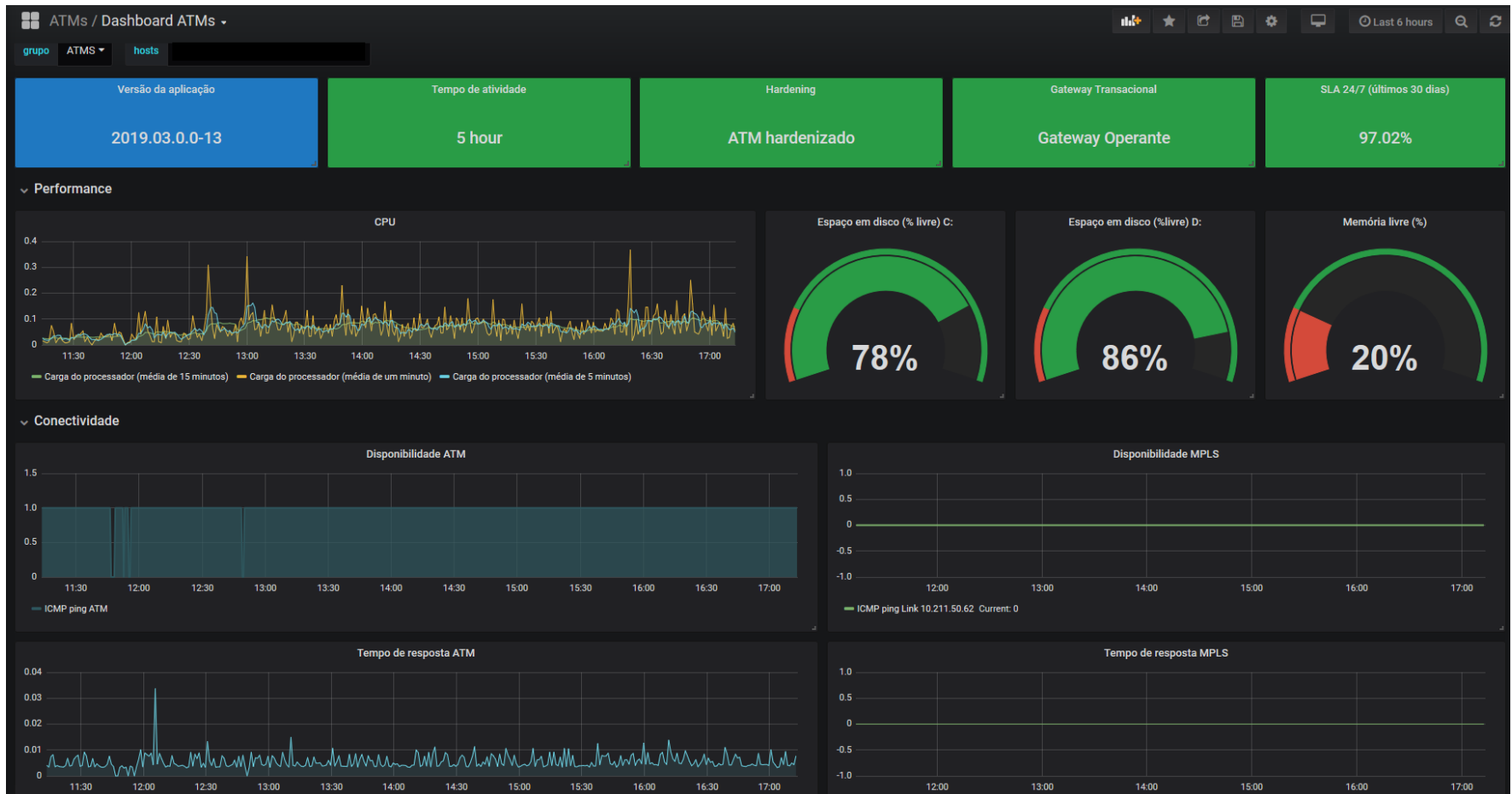
## Visualization overview (grafana)

Что такое Grafana



# Visualization overview (grafana)

## Графики в Grafana



## DEMO



# Thanks for Your Attention

## Questions?

Introduction to system monitoring

**Author:**