

Infrastructure Monitoring, Troubleshooting, and Validation

This overview covers the most recent completed work focused on stabilizing web services, improving observability, and validating system health across development and staging environments. The primary objective was to ensure reliable monitoring, confirm resource availability, and resolve alert-driven concerns through structured verification and configuration.

Monitoring coverage was expanded and validated using CheckMK with agent-based integrations. Hosts were confirmed as reachable and correctly registered, service discovery was performed, and essential checks—CPU load and utilization, disk I/O, filesystem health, NTP synchronization, and security auditing—were reviewed and confirmed healthy. Discovered services were accepted where appropriate, and configuration changes were activated to ensure monitoring reflected the current system state.

System-level troubleshooting ruled out resource exhaustion as a root cause for alerts. Uptime, load averages, memory usage, swap activity, and disk utilization were all within normal operating ranges. Process activity was minimal and stable, indicating no abnormal CPU or memory pressure during investigation.

Web server support configurations were also reviewed to ensure operational continuity. Apache log rotation settings were verified to confirm logs are managed correctly and that the service reloads gracefully after rotation, preventing interruptions or runaway disk usage. Network mounts and filesystem options were checked and matched expected configurations, further confirming platform stability.

Overall, these efforts resulted in clean monitoring states, validated system health, and confidence that the staging and development web infrastructure is operating as expected. Monitoring is fully active with accurate visibility, alerts are actionable, and the environment is positioned for proactive operations rather than reactive troubleshooting.

Basic system health checks were run on stage-web-eg3 to validate server stability. The system has been up for over 10 days with very low load averages, indicating no CPU pressure. Disk usage shows ample free space across all mounted filesystems, including the root filesystem and the NFS mount, with no partitions near capacity.

Memory utilization is within normal range, with sufficient available RAM and minimal swap usage. Overall, CPU, disk, and memory resources appear healthy, ruling out resource exhaustion as the cause of the reported web server alerts.

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[egarrido@stage-web-eg3 ~]$ uptime
11:34:18 up 10 days, 1:15, 2 users, load average: 0.04, 0.03, 0.00
[egarrido@stage-web-eg3 ~]$ df -h
Filesystem                Size      Used Avail Use% Mounted on
devtmpfs                   4.0M         0   4.0M   0% /dev
tmpfs                       383M         0   383M   0% /dev/shm
tmpfs                       153M    9.7M   144M   7% /run
efivarfs                   256K     27K   225K  11% /sys/firmware/efi/efivar
s
/dev/mapper/cs_localhost--ks9-root 17G    2.1G    15G  13% /
/dev/sda2                   960M    235M    726M  25% /boot
/dev/sda1                   599M     7.5M    592M   2% /boot/efi
10.1.30.148:/nfs/share/vhosts    13G    6.3G    6.6G  49% /nfs/incoming/vhosts
tmpfs                       77M         0    77M   0% /run/user/770000476
[egarrido@stage-web-eg3 ~]$ free -h
              total        used          free        shared  buff/cache        available
Mem:          764Mi        302Mi        295Mi          0.0Ki        285Mi        462Mi
Swap:         2.0Gi         125Mi        1.9Gi
[egarrido@stage-web-eg3 ~]$
```

Only one active process is running at the time of capture, with the rest in a sleeping state, indicating normal system behavior. These results further confirm that CPU and memory pressure are not contributing factors to the reported web server issue.

```
egarrido@stage-web-eg3:~  
top - 11:35:48 up 10 days, 1:17, 2 users, load average: 0.01, 0.02, 0.00  
Tasks: 224 total, 1 running, 223 sleeping, 0 stopped, 0 zombie  
%Cpu(s): 0.3 us, 1.3 sy, 0.0 ni, 97.7 id, 0.0 wa, 0.3 hi, 0.3 si, 0.0 st  
MiB Mem : 764.6 total, 295.6 free, 301.9 used, 285.8 buff/cache  
MiB Swap: 2048.0 total, 1922.2 free, 125.8 used. 462.8 avail Mem
```

indicating no CPU pressure. Disk usage shows ample free space across all mounted filesystems, including the root filesystem and the NFS mount, no partitions near capacity.

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
37486	root	20	0	0	0	0	I	1.0	0.0	0:01.10	kworker/0:2-xfst
37493	egarrido	20	0	19628	4480	3584	R	0.7	0.6	0:00.13	top
1	root	20	0	176752	9656	5608	S	0.0	1.2	1:40.24	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:01.08	kthreadd
3	root	20	0	0	0	0	S	0.0	0.0	0:00.00	pool_workqueue_
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-rcu_g
5	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-sync_
6	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-slub_
7	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-netns
9	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/0:0H-ev+
11	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-mm_pe
13	root	20	0	0	0	0	I	0.0	0.0	0:00.00	rcu_tasks_kthre
14	root	20	0	0	0	0	I	0.0	0.0	0:00.00	rcu_tasks_rude_
15	root	20	0	0	0	0	I	0.0	0.0	0:00.00	rcu_tasks_trace
16	root	20	0	0	0	0	S	0.0	0.0	0:03.11	ksoftirqd/0
17	root	20	0	0	0	0	I	0.0	0.0	0:22.25	rcu_preempt
18	root	20	0	0	0	0	S	0.0	0.0	0:00.00	rcu_exp_par_gp_
19	root	20	0	0	0	0	S	0.0	0.0	0:00.00	rcu_exp_gp_kthr
20	root	rt	0	0	0	0	S	0.0	0.0	0:02.69	migration/0
21	root	-51	0	0	0	0	S	0.0	0.0	0:00.00	idle_inject/0
23	root	20	0	0	0	0	S	0.0	0.0	0:00.00	cpuhp/0
25	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kdevtmpfs
26	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-inet_

The CheckMK host overview is filtered to display stage-web-eg3.procore.prod1. Filters are applied using the host name, narrowing the view to this specific staging web server.

From this view, host-level actions such as acknowledging problems, scheduling downtime, and further inspection can be performed, confirming that the host is correctly registered and accessible within the monitoring environment for troubleshooting and validation.

0:51:48 | Jibble - Dashboard

Board - Edward Garrido - Pro-Core-1

Jira ticket troubleshooting guide

Check-mk - Procore-Plus Wiki

Checkmk Local site procore - All

10.1.30.37/procore/check_mk/index.py?start_url=%2Fprocore%2Fcheck_mk%2Fview.py%3Fcsrf_token%3D173d8ab9-b7d...

checkmk

Monitor

Customize

Setup

Help

User

Sidebar

All hosts stage-web-eg3.procore.prod1

Monitor > Overview > All hosts stage-web-eg3.procore.prod1

Commands Hosts Export Display Help

Acknowledge problems Schedule downtimes Filter Show checkboxes

Filter

Add filter Apply filters Reset

Folder Main

Host name (regex) Search field allowing regular expressions and partial matches (Select hostname) negate

Host name or alias (regex) Search field allowing regular expressions and partial matches stage-web-eg3.procore.prod1

Site Optional selection of a site (Select item)

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Service discovery for stage-web-eg3.procore.prod1 completed successfully, with all data sources reporting OK. The host is correctly identified as a Linux VM running CentOS Stream 9, and 156 services are actively monitored.

Key checks including the CheckMK agent, CPU load, CPU utilization, disk I/O, and the root filesystem (/) are all in an OK state, confirming the staging web server is healthy and functioning normally within CheckMK.

Checkmk Local site procore - Sei

Join from Zoom Workplace app - Zo

10.1.30.37/procore/check_mk/index.py?start_url=%2Fprocore%2Fcheck_mk%2Fwato.py%...

Not secure

checkmk

Monitor

Customize

Setup

Help

User

Sidebar

Services of host stage-web-eg3.procore.prod1

Setup > Hosts > Main > Dev > Properties of host stage-web-eg3.procore.prod1 > Services of host stage-web-eg3.procore.prod1

5 changes

Actions

Host

Settings

Display

Help

Accept all

Rescan

Monitor undecided services

Remove vanished services

Properties of host stage-web-eg3.procore.prod1

All datasources are OK

OK [agent]: Success

OK [piggyback]: Success (but no data found for this host)

Discovered host labels (6)

Status	Host labels	Check plug-in
Active	cmk/device_type:vm	labels
	cmk/os_family:linux	check_mk
	cmk/os_name:CentOS Stream	check_mk
	cmk/os_platform:centos	check_mk
	cmk/os_type:linux	check_mk
cmk/os_version:9	check_mk	

Monitored services (156)

These services have been found by the discovery and are currently being monitored. No changes have been made to these services.

	State	Service	Summary
	OK	Check_MK Agent	Version: 2.3.0p2, OS: linux, TLS is not activated on monitored host (see detail Agent plug-ins: 0, Local checks: 0)
	OK	CPU load	15 min load: 0.02, 15 min load per core: 0.02 (1 cores)
	OK	CPU utilization	Total CPU: 1.39%
	OK	Disk IO SUMMARY	Initializing counters
	OK	Filesystem /	Initialized: 'V.delta'

Additional service checks for stage-web-eg3.procore.prod1 show all monitored components in an OK state. Filesystem mount options for /, /boot, and /boot/efi match expected configurations, and the NFS mount at /nfs/incoming/vhosts is active and initialized correctly. Time synchronization is healthy with NTP in sync, thread usage remains low relative to capacity, and the auditd security service is running and active. Overall, these results confirm stable system configuration and no active issues on the staging web server.

Checkmk Local site procore - Setup

Post Attendee - Zoom

< > ↺

Not secure 10.1.30.37/procore/check_mk/index.py?start_url=%2Fprocore%2Fcheck_mk%2Fwato.py%3Ffol...

checkmk

Monitor

Customize

Setup

Help

User

Sidebar

Services of host stage-web-eg3.procore.prod1

Setup > Hosts > Main > Dev > Properties of host stage-web-eg3.procore.prod1 > Services of host stage-web-eg3.procore.prod1

1 change

Actions

Host

Settings

Display

Help

Accept all

Rescan

Monitor undecided services

Remove vanished services

Properties of host stage-web-eg3.procore.prod1

<div><div></div><div>?</div><div>x</div><div></div><div></div><div></div></div>	OK	Mount options of /	Mount options exactly as expected
<div><div></div><div>?</div><div>x</div><div></div><div></div><div></div></div>	OK	Mount options of /boot	Mount options exactly as expected
<div><div></div><div>?</div><div>x</div><div></div><div></div><div></div></div>	OK	Mount options of /boot/efi	Mount options exactly as expected
<div><div></div><div>?</div><div>x</div><div></div><div></div><div></div></div>	OK	NFS mount /nfs/incoming/vhosts	Initialized: '/nfs/incoming/vhosts.delta'
<div><div></div><div>?</div><div>x</div><div></div><div></div><div></div></div>	OK	NTP Time	Offset: 0.0000 ms, Stratum: 4, Time since last sync: 9 minutes 49 seconds
<div><div></div><div>?</div><div>x</div><div></div><div></div><div></div></div>	OK	Number of threads	432, Usage: 7.51%
<div><div></div><div>?</div><div>x</div><div></div><div></div><div></div></div>	OK	Systemd Service auditd	Status: active, Security Auditing Service

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Pending configuration changes were successfully activated in CheckMK for the local site procore. The activation completed without errors, showing a Success status, and confirms that all recent monitoring and service updates are now live and applied to the environment.

Checkmk Local site procore - Act

Join from Zoom Workplace app - Zo

10.1.30.37/procore/check_mk/index.py?start_url=%2Fprocore%2Fcheck_mk%2Fwato.py%3Fmode...

Not secure

10.1.30.37/procore/check_mk/index.py?start_url=%2Fprocore%2Fcheck_mk%2Fwato.py%3Fmode...

g

checkmk

Monitor

Customize

Setup

Help

User

Sidebar

Activate pending changes

Setup > Activate pending changes

No pending changes

Changes



Related

Display

Help

Activate on selected sites

Activation status

Actions	Site	Status	Version	Changes	Progress	Details
 	Local site procore	online	2.3.0p2	0	Success	Started at: 13:31:36. Finished at: 13:31:42.

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Summary

Monitoring and troubleshooting efforts were completed across development and staging environments to address alert-driven concerns and improve system visibility. CheckMK agent-based monitoring was validated, hosts were confirmed reachable, service discovery was completed, and monitoring changes were activated to reflect the current system state.

System health checks confirmed stable operation, with normal uptime, low load averages, sufficient memory, minimal swap usage, and adequate disk capacity. Key services including CPU, filesystem, disk I/O, NTP synchronization, security auditing, and network mounts were all verified and operating as expected.

Web server support configurations were also reviewed, including Apache log rotation, to ensure logs are managed correctly and services reload cleanly without disruption. Overall, the environment is stable, monitoring is fully active, and the infrastructure is positioned for proactive detection and resolution of issues