SRE Observability Framework

- Summary
- Standard Metrics
 - Infra Layer Metrics
 - Network Layer Metrics
 - Application Layer Metrics
 - Database Layer Metrics
 - The Four Golden Signals
 - Latency (How Long?)
 - Traffic (How Much?)
 - Errors (How Many Valid?)
 - Saturation/Throughput (How Full?)
- Services to cover
 - Azure
 - Infra Layer
 - Network Layer
 - AWS
- Make It Observable
- DataDog
 - DataDog Integration
 - Azure
 - AWS
 - DataDog Dashboards
 - Create Dashboard
 - DataDog Alerts
 - DataDog Integration with WebEx Teams
 - WebHook creation in WebEx
 - WebHook creation in DataDog
 - Enabling WebHook notifications

Summary

This document provides guidelines and standards for observability and adding monitoring metrics to cloud factory core services in all layers (Infra, Network, Application and Database).

Standard Metrics

Infra Layer Metrics

- CPU
- Memory
- I/O
- Disk Space
- VM status (Running, Stopped, Starting)

Network Layer Metrics

- Bandwidth usage. Bandwidth is the maximum data transmission rate possible on a network
- Throughput
- Latency
- Packet loss
- Retransmission
- Availability
- Connectivity

Application Layer Metrics

- User Satisfaction / Apdex Scores
- Average Response Time
- Error Rates
- Count of Application Instances
- Request Rate
- Application & Server CPU

- Application Availability
- Garbage Collection

Database Layer Metrics

- Database Throughput. Database throughput is one of the most important database performance metrics
- Database Response or Latency. Database Response is one of the most common database performance metrics
- Database Connections
- Number of errors
- Most Frequent Queries

The chosen monitoring tool is DataDog and this documents explains how we make our systems observable in order to be monitored using DataDog.

We will cover the 4 golden signals of SRE monitoring (Latency, Traffic, Error and Saturation)

The Four Golden Signals

The four golden signals shouldn't be considered the be-all and end-all of your monitoring. These signals represent the beginning of your monitoring and should always be included.

Latency (How Long?)

Latency measures the time it takes to successfully process a request. Failed authentication requests that respond within milliseconds don't count toward your overall latency number. Neither do validation errors that require the client to send a different request. This metric typically gets measured using milliseconds.

Traffic (How Much?)

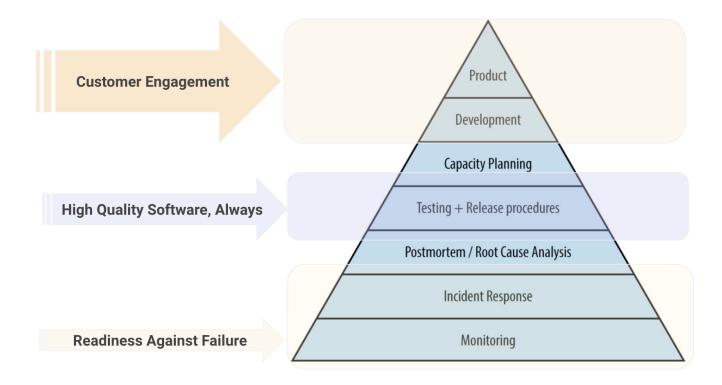
Traffic indicates how much demand exists on your system. For example, in web services, this metric measures things like requests per second (RPS). Or, for back-end remote procedure calls or database calls, this may be transactions per second (TPS). The way it's measured varies based on the type of system being tracked.

Errors (How Many Valid?)

A software system wouldn't be truly complete without error tracking. This golden signal tracks the rate of requests or transactions that fail. This includes blatant errors like HTTP 500 as well as responses that don't provide the correct data. It's also good if client errors and server errors report separately so that you're aware of client-based problems.

Saturation/Throughput (How Full?)

Saturation is one of the more complicated golden signals. It tracks how much of your capacity is being used. For example, saturation can include specific metrics on CPU, memory, and disk space utilisation. It works as an early warning indicator of system failures or slowdowns.



Services to cover

Azure

Virtual Machine

Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-vm-monitor

Azure Virtual Machine monitoring

Infra Layer

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
azure.vm.cpu_credits_consumed (count)	Total number of credits consumed by the Virtual Machine	SATURA TION	②
azure.vm.cpu_credits_remaining (count)	Total number of credits available to burst	SATURA TION	②
azure.vm.data_disk_qd_deprecated (count)	Data Disk Queue Depth(or Queue Length)	SATURA TION	8
azure.vm.data_disk_queue_depth_preview (count)	Data Disk Queue Depth(or Queue Length)	SATURA TION	8
azure.vm.data_disk_read_bytes_sec_deprecated (count)	Bytes/Sec read from a single disk during monitoring period Shown as byte	TRAFFIC	8
azure.vm.data_disk_read_bytes_sec_preview (count)	Bytes/Sec read from a single disk during monitoring period Shown as byte	TRAFFIC	8
azure.vm.data_disk_read_operations_sec_deprecated (count)	Read IOPS from a single disk during monitoring period Shown as operation	TRAFFIC	8
azure.vm.data_disk_read_operations_sec_preview (count)	Read IOPS from a single disk during monitoring period Shown as operation	TRAFFIC	8
azure.vm.data_disk_write_bytes_sec_deprecated (count)	Bytes/Sec written to a single disk during monitoring period Shown as byte	SATURA TION	8
<pre>azure.vm.data_disk_write_bytes_sec_preview (count)</pre>	Bytes/Sec written to a single disk during monitoring period Shown as byte	SATURA TION	8

azure.vm.data_disk_write_operations_sec_deprecated (count)	Write IOPS from a single disk during monitoring period Shown as operation	TRAFFIC	×
azure.vm.data_disk_write_operations_sec_preview (count)	Write IOPS from a single disk during monitoring period Shown as operation	TRAFFIC	8
azure.vm.disk_read_bytes (count)	(ARM VM only) Amount of bytes read Shown as byte	SATURA TION	8
azure.vm.disk_read_bytes_sec gauge)	(Classic VM only) Amount of bytes read per second Shown as byte	SATURA TION	②
azure.vm.disk_read_operations_sec (gauge)	(ARM VM only) Amount of read operations per second Shown as operation	TRAFFIC	②
azure.vm.disk_write_bytes (count)	(ARM VM only) Amount of bytes written Shown as byte	SATURA TION	8
azure.vm.disk_write_bytes_sec gauge)	(Classic VM only) Amount of bytes written Shown as byte	SATURA TION	②
azure.vm.disk_write_operations_sec (gauge)	(ARM VM only) Amount of write operations per second Shown as operation	TRAFFIC	Ø
azure.vm.inbound_flows_maximum_creation_rate (count)	The maximum creation rate of inbound flows (traffic going into the VM) Shown as item	SATURA TION	8
azure.vm.inbound_flows (count)	Inbound Flows are number of current flows in the inbound direction (traffic going into the VM) Shown as item	SATURA TION	8
azure.vm.memory_available_bytes (gauge)	(Windows) Pool size of available pages in RAM that the system uses to satisfy requests for new pages Shown as byte	SATURA TION	8
azure.vm.memory_available_swap (gauge)	(Linux) Available swap Shown as byte	SATURA TION	Ø
azure.vm.memory_cache_faults_per_sec gauge)	(Windows) Rate at which pages sought in the cache were not found there and had to be obtained elsewhere in memory or on the dis Shown as page	SATURA TION	8
azure.vm.memory_committed_bytes (gauge)	(Windows) Amount of committed virtual memory Shown as byte	SATURA TION	Ø
azure.vm.memory_page_faults_per_sec (gauge)	(Windows) Overall rate at which the processor handles both hard and soft page faults. Shown as page	SATURA TION	8
azure.vm.memory_page_reads_per_sec (gauge)	(Windows) Rate at which the disk is read to resolve hard page fault Shown as page	SATURA TION	8
azure.vm.memory_pages_per_sec (gauge)	(Windows+Linux) Rate at which pages are read from or written to disk to resolve hard page faults Shown as page	SATURA TION	8
azure.vm.memory_pages_read_per_sec (gauge)	(Linux) Rate of pages read to resolve hard page fault Shown as page	SATURA TION	8
azure.vm.memory_pages_written_per_sec	(Linux) Rate of pages writes Shown as page	SATURA TION	8
azure.vm.memory_pct_committed_bytes_in_use (gauge)	(Windows) Ratio of Memory \ Committed Bytes to the Memory \ Commit Limit. Shown as percent	SATURA TION	8
azure.vm.memory_percent_available_memory (gauge)	(Linux) Percentage of available memory available Shown as percent	SATURA TION	Ø
nzure.vm.memory_percent_available_swap gauge)	(Linux) Percentage of available swap available Shown as percent	SATURA TION	②
nzure.vm.memory_percent_used_by_cache gauge)	(Linux) Percentage of used memory per cache Shown as percent	SATURA TION	Ø
nzure.vm.memory_percent_used_memory gauge)	(Linux) Percentage of available memory used Shown as percent	SATURA TION	Ø
azure.vm.memory_percent_used_swap	(Linux) Percentage of available swap used Shown as percent	SATURA TION	Ø

azure.vm.memory_pool_nonpaged_bytes	(Windows) Size of the nonpaged pool	SATURA	Ø
(gauge)	Shown as byte	TION	_
azure.vm.memory_pool_paged_bytes gauge)	(Windows) Size of the paged pool Shown as byte	SATURA	×
azure.vm.memory_transition_faults_per_sec (gauge)	(Windows) Rate at which page faults are resolved by recovering pages without incurring additional disk activity Shown as fault	SATURA TION	×
azure.vm.memory_used_memory (gauge)	(Linux) Used memory Shown as byte	SATURA TION	Ø
azure.vm.memory_used_swap (gauge)	(Linux) Used swap Shown as byte	SATURA TION	Ø
zure.vm.os_disk_qd_deprecated count)	OS Disk Queue Depth(or Queue Length)	SATURA TION	8
azure.vm.os_disk_queue_depth_preview gauge)	OS Disk Queue Depth(or Queue Length)	SATURA TION	8
nzure.vm.os_disk_read_bytes_sec_deprecated count)	Bytes/Sec read from a single disk during monitoring period for OS disk Shown as byte	SATURA TION	8
nzure.vm.os_disk_read_bytes_sec_preview count)	Bytes/Sec read from a single disk during monitoring period for OS disk Shown as byte	SATURA TION	8
azure.vm.os_disk_read_operations_sec_deprecated (count)	Read IOPS from a single disk during monitoring period for OS disk Shown as operation	TRAFFIC	8
azure.vm.os_disk_read_operations_sec_preview (count)	Read IOPS from a single disk during monitoring period for OS disk Shown as operation	TRAFFIC	8
azure.vm.os_disk_write_bytes_sec_deprecated (count)	Bytes/Sec written to a single disk during monitoring period for OS disk Shown as byte	SATURA TION	8
azure.vm.os_disk_write_bytes_sec_preview (count)	Bytes/Sec written to a single disk during monitoring period for OS disk Shown as byte	SATURA TION	8
azure.vm.os_disk_write_operations_sec_deprecated (count)	Write IOPS from a single disk during monitoring period for OS disk Shown as operation	TRAFFIC	8
azure.vm.os_disk_write_operations_sec_preview (count)	Write IOPS from a single disk during monitoring period for OS disk Shown as operation	TRAFFIC	8
azure.vm.outbound_flows_maximum_creation_rate (count)	The maximum creation rate of outbound flows (traffic going out of the VM) Shown as item	SATURA TION	8
azure.vm.outbound_flows (count)	Outbound Flows are number of current flows in the outbound direction (traffic going out of the VM) Shown as item	SATURA TION	8
azure.vm.percentage_cpu (gauge)	Percentage of CPU resources used Shown as percent	SATURA TION	②
nzure.vm.physical_disk_average_disk_queue_length gauge)	Number of requests that are queued and waiting for a disk during the sample interval	TRAFFIC	8
nzure.vm.physical_disk_average_read_time gauge)	Percentage of time that the selected disk drive is busy servicing read requests. Shown as percent	SATURA TION	Ø
azure.vm.physical_disk_average_transfer_time (gauge)	The average disk transfer time Shown as percent	LATENCY	Ø
azure.vm.physical_disk_average_write_time (gauge)	Percentage of time that the selected disk drive is busy servicing write requests. Shown as percent	LATENCY	Ø
azure.vm.physical_disk_bytes_per_second gauge)	Rate of bytes Shown as byte	SATURA TION	8

azure.vm.physical_disk_read_bytes_per_second	Rate at which bytes are read	SATURA	×
(gauge)	Shown as byte	TION	_
azure.vm.physical_disk_reads_per_second (gauge)	Rate of reads Shown as read	SATURA	Ø
azure.vm.physical_disk_total_disk_read_bytes_per_sec (gauge)	Rate at which bytes are read on all disks Shown as byte	SATURA TION	×
azure.vm.physical_disk_total_disk_write_bytes_per_sec (gauge)	Rate at which bytes are written on all disks Shown as byte	SATURA TION	×
azure.vm.physical_disk_transfers_per_second (gauge)	Rate of transfers	SATURA TION	8
azure.vm.physical_disk_write_bytes_per_second (gauge)	Rate at which bytes are written Shown as byte	SATURA TION	×
azure.vm.physical_disk_writes_per_second (gauge)	Rate of writes Shown as write	SATURA TION	×
azure.vm.premium_data_disk_cache_read_hit_preview (gauge)	Premium Data Disk Cache Read Hit Shown as percent	SATURA TION	×
azure.vm.premium_data_disk_cache_read_miss_preview (gauge)	Premium Data Disk Cache Read Miss Shown as percent	SATURA TION	×
azure.vm.premium_os_disk_cache_read_hit_preview (gauge)	Premium OS Disk Cache Read Hit Shown as percent	SATURA TION	×
azure.vm.premium_os_disk_cache_read_miss_preview (gauge)	Premium OS Disk Cache Read Miss Shown as percent	SATURA TION	×
azure.vm.process_total_handle_count (gauge)	Total number of handles set for a process by the system	SATURA TION	×
azure.vm.process_total_page_faults_per_sec (gauge)	Number of page faults per second Shown as fault	TRAFFIC	×
azure.vm.process_total_pct_processor_time (gauge)	Percentage of elapsed time that all of process threads used the processor to execution instructions Shown as percent	SATURA TION	×
azure.vm.process_total_private_bytes (gauge)	Total amount of memory that a process has allocated, not including memory shared with other processes Shown as byte	SATURA TION	8
azure.vm.process_total_working_set (gauge)	Collection of those pages in a virtual address space that have been recently referenced for a given process. It includes both shared and private data	SATURA TION	8
azure.vm.process_total_working_set_private (gauge)	Collection of those pages in a virtual address space that have been recently referenced for a given process. It includes only private data	SATURA TION	8
azure.vm.processor_percent_dpc_time (gauge)	Percentage of the time in which the system was executing in Deferred Procedure Call Shown as percent	SATURA TION	8
azure.vm.processor_percent_interrupt_time (gauge)	Percentage of the time the processor spends receiving and servicing hardware interrupts Shown as percent	SATURA TION	×
azure.vm.processor_percent_io_wait_time (gauge)	Percentage of the time the processor spends on IO wait Shown as percent	SATURA TION	②
azure.vm.processor_percent_nice_time (gauge)	Percentage of time occupied by user level processes with a positive nice value Shown as percent	SATURA TION	8
azure.vm.processor_percent_privileged_time (gauge)	Percentage of the time in which the system was executing in Privileged mode Shown as percent	SATURA TION	8
azure.vm.processor_percent_processor_time (gauge)	Percentage of elapsed time that the processor spends to execute a non-Idle thread Shown as percent	SATURA TION	8
azure.vm.processor_percent_user_time (gauge)	Percentage of the time that the system is executing in User mode. Shown as percent	SATURA TION	8

azure.vm.processor_total_pct_interrupt_time (gauge)	Percentage of time the processor handles interrupts from applications or hardware devices.	SATURA TION	8
azure.vm.processor_total_pct_privileged_time (gauge)	Percentage of time the processor was running in Provileged mode.	SATURA TION	8
nzure.vm.processor_total_pct_processor_time gauge)	Percentage of time the processor was busy during the sampling interval	SATURA TION	8
nzure.vm.processor_total_pct_user_time gauge)	Percentage of time the processor was running in user mode.	SATURA TION	8
azure.vm.status gauge)	Status of Azure VM	ERROR	②
azure.vm.system_processes (gauge)	Number of processes Shown as process	SATURA TION	②
azure.vm.system_threads (gauge)	Number of threads that are in the processor queue. Shown as thread	SATURA TION	②

Network Layer

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
azure.vm.network_in (gauge)	Number of bytes received on all network interfaces by the instance. Shown as byte	SATURA TION	•
azure.vm.network_in_total (gauge)	The number of bytes received on all network interfaces by the Virtual Machine(s) (Incoming Traffic) Shown as byte	SATURA TION	•
azure.vm.network_interface_bytes_received (gauge)	Rate at which bytes are received over each network adapte Shown as byte	SATURA TION	8
azure.vm.network_interface_bytes_total (gauge)	Rate at which bytes are sent and received on the network interface Shown as byte	SATURA TION	8
azure.vm.network_interface_bytes_transmitted (gauge)	Rate at which bytes are sent over each network adapte Shown as byte	SATURA TION	8
azure.vm.network_interface_packets_received (gauge)	Rate at which packets are received on the network interface Shown as packet	SATURA TION	②
azure.vm.network_interface_packets_transmitted (gauge)	Rate at which packets are transmitted on the network interface. Shown as packet	SATURA TION	•
azure.vm.network_interface_total_collisions (gauge)	Rate of collisions	TRAFFIC	8
azure.vm.network_interface_total_rx_errors (gauge)	Rate of errors when receiving packets Shown as error	ERROR	②
azure.vm.network_interface_total_tx_errors (gauge)	Rate of errors when sending packets Shown as error	ERROR	②
azure.vm.network_out (gauge)	Number of bytes sent out on all network interfaces by the instance. Shown as byte	SATURA TION	8
azure.vm.network_out_total (gauge)	The number of bytes out on all network interfaces by the Virtual Machine(s) (Outgoing Traffic) Shown as byte	SATURA TION	8
azure.vm.tcpv4.connections.established (gauge)	Number of TCP connections for which the current state is either ESTABLISHED or CLOSE-WAIT Shown as connection	TRAFFIC	•
azure.vm.tcpv4.connections.failures (gauge)	Number of times that TCP connections have made a direct transition to the CLOSED state from the SYN-SENT or SYN-RCVD state, plus the number of times TCP connections have made a direct transition to the LISTEN state from the SYN-RCVD state. Shown as connection	TRAFFIC	•

azure.vm.tcpv4.connections.reset (gauge)	Number of times that TCP connections have made a direct transition to the CLOSED state from either the ESTABLISHED or CLOSE-WAIT state. Shown as connection	TRAFFIC	×
azure.vm.tcpv4.segments.received_per_sec (gauge)	Rate at which TCP segments are received by using the TCP protocol Shown as segment	SATURA TION	8
azure.vm.tcpv4.segments.retransmitted_per_sec (gauge)	Rate at which segments are transmitted that contain one or more bytes that TCP recognizes as having been transmitted before. Shown as segment	SATURA TION	8
azure.vm.tcpv4.segments.sent_per_sec (gauge)	Rate at which TCP segments are sent by using the TCP protocol. Shown as segment	SATURA TION	8
azure.vm.tcpv4.connections.established (gauge)	Number of TCP connections for which the current state is either ESTABLISHED or CLOSE-WAIT Shown as connection	TRAFFIC	②

✓ Azure VM Scale Set

Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-vmscaleset-monitors

Azure Virtual Machine Scaleset monitoring

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVE
azure.compute_virtualmachinescalesets. cpu_credits_consumed (count)	Total number of credits consumed by the Virtual Machine	SATURA TION	Ø
azure.compute_virtualmachinescalesets. cpu_credits_remaining count)	Total number of credits available to burst	SATURA TION	Ø
nzure.compute_virtualmachinescalesets. data_disk_qd_deprecated count)	Data Disk Queue Depth(or Queue Length)	SATURA TION	8
nzure.compute_virtualmachinescalesets. data_disk_queue_depth_preview count)	Data Disk Queue Depth(or Queue Length)	SATURA TION	8
azure.compute_virtualmachinescalesets. data_disk_read_bytes_sec_deprecated (count)	Bytes/Sec read from a single disk during monitoring period Shown as byte	TRAFFIC	8
azure.compute_virtualmachinescalesets. data_disk_read_bytes_sec_preview (count)	Bytes/Sec read from a single disk during monitoring period Shown as byte	TRAFFIC	8
azure.compute_virtualmachinescalesets. data_disk_read_operations_sec_deprecated (count)	Read IOPS from a single disk during monitoring period Shown as read	TRAFFIC	8
nzure.compute_virtualmachinescalesets. data_disk_read_operations_sec_preview count)	Read IOPS from a single disk during monitoring period Shown as read	TRAFFIC	8
nzure.compute_virtualmachinescalesets. data_disk_write_bytes_sec_deprecated count)	Bytes/Sec written to a single disk during monitoring period Shown as byte	TRAFFIC	8
azure.compute_virtualmachinescalesets. data_disk_write_bytes_sec_preview (count)	Bytes/Sec written to a single disk during monitoring period Shown as byte	TRAFFIC	8
azure.compute_virtualmachinescalesets. data_disk_write_operations_sec_deprecated (count)	Write IOPS from a single disk during monitoring period Shown as write	TRAFFIC	8
nzure.compute_virtualmachinescalesets. data_disk_write_operations_sec_preview count)	Write IOPS from a single disk during monitoring period Shown as write	TRAFFIC	8
azure.compute_virtualmachinescalesets.disk_read_bytes	Bytes read from disk during monitoring period Shown as byte	TRAFFIC	②

azure.compute_virtualmachinescalesets.	Disk Read IOPS	TRAFFIC	•
disk_read_operations_sec (gauge)	Shown as read		
azure.compute_virtualmachinescalesets.disk_write_bytes (gauge)	Bytes written to disk during monitoring period Shown as byte	TRAFFIC	Ø
azure.compute_virtualmachinescalesets. disk_write_operations_sec (gauge)	Disk Write IOPS Shown as write	TRAFFIC	Ø
azure.compute_virtualmachinescalesets.inbound_flows (count)	Inbound Flows are number of current flows in the inbound direction (traffic going into the VM)	TRAFFIC	×
azure.compute_virtualmachinescalesets. nbound_flows_maximum_creation_rate (count)	The maximum creation rate of inbound flows (traffic going into the VM) Shown as item	TRAFFIC	×
nzure.compute_virtualmachinescalesets.network_in gauge)	The number of billable bytes received on all network interfaces by the Virtual Machine(s) (Incoming Traffic) Shown as byte	TRAFFIC	8
azure.compute_virtualmachinescalesets.network_in_total (gauge)	The number of bytes received on all network interfaces by the Virtual Machine(s) (Incoming Traffic) Shown as byte	TRAFFIC	8
azure.compute_virtualmachinescalesets.network_out (gauge)	The number of billable bytes out on all network interfaces by the Virtual Machine(s) (Outgoing Traffic) Shown as byte	TRAFFIC	8
azure.compute_virtualmachinescalesets.network_out_total (gauge)	The number of bytes out on all network interfaces by the Virtual Machine(s) (Outgoing Traffic) Shown as byte	TRAFFIC	8
azure.compute_virtualmachinescalesets. ps_disk_qd_deprecated (count)	OS Disk Queue Depth(or Queue Length)	SATURA TION	8
azure.compute_virtualmachinescalesets. os_disk_queue_depth_preview (count)	OS Disk Queue Depth(or Queue Length)	SATURA TION	8
azure.compute_virtualmachinescalesets. os_disk_read_bytes_sec_deprecated (count)	Bytes/Sec read from a single disk during monitoring period for OS disk Shown as byte	TRAFFIC	8
azure.compute_virtualmachinescalesets. os_disk_read_bytes_sec_preview (count)	Bytes/Sec read from a single disk during monitoring period for OS disk Shown as byte	TRAFFIC	8
azure.compute_virtualmachinescalesets. os_disk_read_operations_sec_deprecated (count)	Read IOPS from a single disk during monitoring period for OS disk Shown as read	TRAFFIC	8
azure.compute_virtualmachinescalesets. os_disk_read_operations_sec_preview (count)	Read IOPS from a single disk during monitoring period for OS disk Shown as read	TRAFFIC	8
azure.compute_virtualmachinescalesets. os_disk_write_bytes_sec_deprecated (count)	Bytes/Sec written to a single disk during monitoring period for OS disk Shown as byte	TRAFFIC	8
azure.compute_virtualmachinescalesets. os_disk_write_bytes_sec_preview (count)	Bytes/Sec written to a single disk during monitoring period for OS disk Shown as byte	TRAFFIC	8
azure.compute_virtualmachinescalesets. os_disk_write_operations_sec_deprecated (count)	Write IOPS from a single disk during monitoring period for OS disk Shown as write	TRAFFIC	8
os_disk_write_operations_sec_preview	Write IOPS from a single disk during monitoring period for OS disk Shown as write	TRAFFIC	8
	Outbound Flows are number of current flows in the outbound direction (traffic going out of the VM)	TRAFFIC	×
outbound_flows_maximum_creation_rate	The maximum creation rate of outbound flows (traffic going out of the VM) Shown as item	TRAFFIC	8
os_disk_write_operations_sec_deprecated (count) azure.compute_virtualmachinescalesets. os_disk_write_operations_sec_preview (count) azure.compute_virtualmachinescalesets.outbound_flows (count) azure.compute_virtualmachinescalesets. outbound_flows_maximum_creation_rate (count)	Shown as write Write IOPS from a single disk during monitoring period for OS disk Shown as write Outbound Flows are number of current flows in the outbound direction (traffic going out of the VM) The maximum creation rate of outbound flows (traffic going out of the VM)	TRAFFIC	_

The percentage of allocated compute units that are currently in use by the Virtual Machine(s) Shown as percent	SATURA TION	•
Premium Data Disk Cache Read Hit Shown as percent	SATURA TION	8
Premium Data Disk Cache Read Miss Shown as percent	SATURA TION	8
Premium OS Disk Cache Read Hit Shown as percent	SATURA TION	8
Premium OS Disk Cache Read Miss Shown as percent	SATURA TION	8
Staus of the Azure VM Scale Set integration	ERROR	②
Virtual Machine count	SATURA TION	②
	in use by the Virtual Machine(s) Shown as percent Premium Data Disk Cache Read Hit Shown as percent Premium Data Disk Cache Read Miss Shown as percent Premium OS Disk Cache Read Hit Shown as percent Premium OS Disk Cache Read Miss Shown as percent Staus of the Azure VM Scale Set integration	in use by the Virtual Machine(s) Shown as percent Premium Data Disk Cache Read Hit Shown as percent Premium Data Disk Cache Read Miss Shown as percent SATURA TION Premium OS Disk Cache Read Hit Shown as percent SATURA TION Premium OS Disk Cache Read Hit Shown as percent SATURA TION Premium OS Disk Cache Read Miss Shown as percent ERROR Virtual Machine count SATURA SATURA SATURA Shown as percent SATURA Shown as percent

CloudFlare

Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-cloudflare-monitors

Cloudflare monitoring

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
cloudflare.requests.all (count)	Total request count Shown as request	TRAFFIC	②
cloudflare.requests.cached (count)	Cached requests count Shown as request	TRAFFIC	8
cloudflare.requests.uncached (count)	Uncached requests count Shown as request	TRAFFIC	②
cloudflare.requests.ssl.encrypted (count)	SSL encrypted requests count Shown as request	TRAFFIC	8
cloudflare.requests.ssl.unencrypted (count)	Unencrypted requests count Shown as request	TRAFFIC	②
cloudflare.requests.country (count)	Request count, tagged by IATA country code Shown as request	TRAFFIC	8
cloudflare.requests.status (count)	Request count, tagged by HTTP response code Shown as request	TRAFFIC	②
cloudflare.requests.content_type (count)	Request count, tagged by Content-Type Shown as request	TRAFFIC	8
cloudflare.requests.ip_class (count)	Request count, tagged by IP class Shown as request	TRAFFIC	8
cloudflare.bandwidth.all (count)	Total bandwidth Shown as byte	SATURA TION	8
cloudflare.bandwidth.cached (count)	Cached bandwidth Shown as byte	SATURA TION	8
cloudflare.bandwidth.uncached (count)	Uncached bandwidth Shown as byte	SATURA TION	②
cloudflare.bandwidth.ssl.encrypted (count)	SSL encrypted bandwidth Shown as byte	SATURA TION	8
cloudflare.bandwidth.ssl.unencrypted (count)	Unencrypted bandwidth Shown as byte	SATURA TION	8
cloudflare.bandwidth.country (count)	Bandwidth tagged by IATA country code Shown as byte	SATURA TION	8

cloudflare.bandwidth.content_type (count)	Bandwidth tagged by Content-Type Shown as byte	SATURA TION	×
cloudflare.threats.all (count)	Total threats Shown as operation	ERROR	Ø
cloudflare.threats.type (count)	Threats tagged by type Shown as operation	ERROR	×
cloudflare.threats.country (count)	Threats tagged by IATA country code Shown as operation	ERROR	8
cloudflare.pageviews.all (count)	Total page views Shown as page	TRAFFIC	②
cloudflare.pageviews.search_engine (count)	Page views tagged by search engine Shown as page	TRAFFIC	×
cloudflare.uniques.all (count)	Unique visitors count Shown as connection	TRAFFIC	×
cloudflare.dns.query.all (count)	DNS query count Shown as request	TRAFFIC	Ø
cloudflare.dns.query.uncached (count)	Uncached DNS query count Shown as request	TRAFFIC	×
cloudflare.dns.query.stale (count)	Stale DNS query count Shown as request	TRAFFIC	×
cloudflare.dns.response_time.avg (gauge)	DNS query average response time Shown as millisecond	LATENCY	Ø
cloudflare.dns.response_time.median (gauge)	DNS query median response time Shown as millisecond	LATENCY	×
cloudflare.dns.response_time.90p (gauge)	DNS query response time to the 90th percentile Shown as millisecond	LATENCY	×
cloudflare.dns.response_time.99p (gauge)	DNS query response time to the 99th percentile Shown as millisecond	LATENCY	×
cloudflare.workers.requests.all (count)	The request count to the worker script (metrics may not show without enabled API Key permissions) Shown as request	TRAFFIC	8
cloudflare.workers.requests.errors (count)	The error count to the worker script (metrics may not show without enabled API Key permissions) Shown as request	ERROR	8
cloudflare.workers.requests.subrequests (count)	The subrequest count to the worker script (metrics may not show without enabled API Key permissions) Shown as request	TRAFFIC	8
cloudflare.workers.response_time.75p (gauge)	The worker response time to the 75th percentile (metrics may not show without enabled API Key permissions) Shown as millisecond	LATENCY	×
cloudflare.workers.response_time.99p (gauge)	The worker response time to the 99th percentile (metrics may not show without enabled API Key permissions) Shown as millisecond	LATENCY	8
cloudflare.load_balancer.pool.round_trip_time.average (gauge)	The average round trip time to reach the load balancer pool Shown as millisecond	LATENCY	×
cloudflare.load_balancer.pool.health.status (count)	The load balancer pool health status Shown as request	ERROR	Ø

Azure Firewall

Confluence page URL: Azure Firewall Monitoring
Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-firewallmonitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
azure.network_azurefirewalls.application_rule_hit (count)	The number of times application rules were hit Shown as hit	TRAFFIC	Ø
azure.network_azurefirewalls.count (count)	The number of Azure firewalls	SATURATI ON	②

azure.network_azurefirewalls.data_processed (gauge)	The total amount of data processed by a firewall Shown as byte	SATURATI ON	8
azure.network_azurefirewalls.firewall_health (gauge)	Indicates the overall health of a firewall Shown as percent	SATURATI ON	•
azure.network_azurefirewalls.network_rule_hit (count)	The number of times network rules were hit Shown as hit	TRAFFIC	•
azure.network_azurefirewalls.snat_port_utilization (gauge)	The percentage of outbound SNAT ports currently in use Shown as percent	SATURATI ON	8
azure.network_azurefirewalls.throughput (gauge)	The throughput processed by a firewall Shown as bit	SATURATI ON	8

Azure Load Balancer

Confluence page URL: Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-loadbalancer-monitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
azure.network_loadbalancers.allocated_snat_ports (count)	Total number of SNAT ports allocated within time period	TRAFFIC	8
azure.network_loadbalancers. backend_pool_host_count (gauge)	Total number of hosts in the backed end pool for the Load Balancer Shown as host	SATURATION	×
azure.network_loadbalancers.byte_count (count)	Total number of Bytes transmitted within time period Shown as byte	SATURATION	8
azure.network_loadbalancers.dip_availability (gauge)	Average Load Balancer health probe status per time duration Shown as percent	SATURATION	•
azure.network_loadbalancers.packet_count (count)	Total number of Packets transmitted within time period Shown as packet	TRAFFIC	8
azure.network_loadbalancers.snat_connection_count (count)	Total number of new SNAT connections created within time period Shown as connection	SATURATION	×
azure.network_loadbalancers.status (gauge)	Status of Azure Load Balancer	SATURATION	•
azure.network_loadbalancers.syn_count (count)	Total number of SYN Packets transmitted within time period Shown as packet	SATURATION	8
azure.network_loadbalancers.used_snat_ports (count)	Total number of SNAT ports used within time period	SATURATION	•
azure.network_loadbalancers.vip_availability (gauge)	Average Load Balancer data path availability per time duration Shown as percent	ERROR /STATUS	Ø

Azure App Service

Confluence Page URL: Azure App Service monitoring

Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-appservicemonitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
azure.app_services.average_memory_working_set (gauge)	The average memory used by the app Shown as byte	SATURATION	②
azure.app_services.average_response_time (gauge)	The average response time of the app (Deprecated) Shown as second	SATURATION	②
azure.app_services.bytes_received (gauge)	The average number of bytes received Shown as byte	TRAFFIC	×
azure.app_services.bytes_sent (gauge)	The average number of bytes sent Shown as byte	TRAFFIC	×
azure.app_services.connections (count)	The number of bound sockets existing in the sandbox Shown as connection	SATURATION	8

azure.app_services.cpu_time (gauge)	The average cpu time of the app Shown as second	SATURATION	Ø
azure.app_services.current_assemblies (count)	The current number of assemblies loaded across all app domains	SATURATION	×
azure.app_services.file_system_usage (gauge)	The percentage of filesystem quota consumed by the app Shown as byte	SATURATION	8
azure.app_services.function_execution_count (count)	The number of function execution count.	SATURATION	8
azure.app_services.function_execution_units (count)	The number of function execution units.	SATURATION	8
azure.app_services.gen_0_garbage_collections (count)	The count of Gen 0 Garbage Collections Shown as garbage collection	SATURATION	8
azure.app_services.gen_1_garbage_collections (count)	The count of Gen 1 Garbage Collections Shown as garbage collection	SATURATION	8
azure.app_services.gen_2_garbage_collections (count)	The count of Gen 2 Garbage Collections Shown as garbage collection	SATURATION	8
azure.app_services.handle_count (count)	The number of handles currently open by the app process	TRAFFIC	8
azure.app_services.health_check_status (gauge)	The level of health check status Shown as percent	ERROR /STATUS	8
azure.app_services.http101 (count)	The total number of 101 requests served by the app Shown as request	TRAFFIC	8
azure.app_services.http2xx (count)	The total number of 2xx requests served by the app Shown as request	TRAFFIC	8
azure.app_services.http3xx (count)	The total number of 3xx requests served by the app Shown as request	TRAFFIC	8
azure.app_services.http401 (count)	The total number of 401 requests served by the app Shown as request	TRAFFIC	8
azure.app_services.http403 (count)	The total number of 403 requests served by the app Shown as request	TRAFFIC	8
azure.app_services.http404 (count)	The total number of 404 requests served by the app Shown as request	TRAFFIC	8
azure.app_services.http406 (count)	The total number of 406 requests served by the app Shown as request	TRAFFIC	8
azure.app_services.http4xx (count)	The total number of 4xx requests served by the app Shown as request	TRAFFIC	Ø
azure.app_services.http5xx (count)	The total number of 5xx requests served by the app Shown as request	TRAFFIC	Ø
azure.app_services.io_other_bytes_per_second (rate)	The rate of IO other bytes per Second Shown as byte	TRAFFIC	8
azure.app_services.io_other_operations_per_second (rate)	The rate of IO other Operations per Second Shown as operation	TRAFFIC	8
azure.app_services.io_read_bytes_per_second (rate)	The rate of IO read Bytes per Second Shown as byte	TRAFFIC	8
azure.app_services.io_read_operations_per_second (rate)	The rate of IO read operations per Second Shown as operation	TRAFFIC	8
azure.app_services.io_write_bytes_per_second (rate)	The rate of IO write bytes per Second Shown as byte	TRAFFIC	8
azure.app_services.io_write_operations_per_second (rate)	The rate of IO write operations per Second Shown as operation	TRAFFIC	8
azure.app_services.memory_working_set (gauge)	The average memory used by the app Shown as byte	SATURATION	8
azure.app_services.private_bytes (gauge)	The current size of memory allocated that can't be shared with other process Shown as byte	SATURATION	8
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azure.app_services.requests (count)	The total number of requests served by the app Shown as request	SATURATION 🕢
azure.app_services.requests_in_application_queue (count)	The number of requests in the application request queue Shown as request	SATURATION 🔀
azure.app_services.response_time (gauge)	The time taken for the app to serve requests Shown as second	SATURATION 😢
azure.app_services.status (gauge)	The status of Azure App Services	ERROR /STATUS
azure.app_services.count (gauge)	The count of Azure App Services resources	SATURATION 😢
azure.app_services.thread_count (count)	The number of threads currently active in the app process Shown as thread	SATURATION 🔀
azure.app_services.total_app_domains (count)	The current number of App Domains loaded in this application	SATURATION 🔯
azure.app_services.total_app_domains_unloaded (count)	The total number of App Domains unloaded since the start of the application	SATURATION 😢
azure.app_services.webjob_count (gauge)	The current number of webjobs configured perwebapp	SATURATION 😢
azure.web_serverfarms.maximum_number_of_workers (gauge)	The maximum number of workers configured for an App Service Plan	SATURATION 😢
azure.web_serverfarms.number_of_sites (gauge)	The number of sites configured for an App Service Plan	SATURATION 😢
azure.web_serverfarms.target_worker_count (gauge)	The target number of workers configured for an App Service Plan	SATURATION 😢
azure.web_serverfarms.current_instance_count (gauge)	The current number of instances running inside an App Service Plan	SATURATION 👩

Azure Application Gateway

Application Gateway monitoring

Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-application-gateway-monitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
azure.network_applicationgateways.current_connections (gauge)	Count of current connections established with Application Gateway Shown as connection	TRAFFIC	•
azure.network_applicationgateways.failed_requests (count)	Count of failed requests that Application Gateway has served Shown as request	TRAFFIC	②
azure.network_applicationgateways.healthy_host_count (gauge)	Number of healthy backend hosts Shown as host	SATURAT ION	•
azure.network_applicationgateways.response_status (count)	Http response status returned by Application Gateway	ERROR /STATUS	②
azure.network_applicationgateways. backend_response_status (count)	Backend Response Status	ERROR /STATUS	×
azure.network_applicationgateways.status (gauge)	Status of Azure Application Gateway	ERROR /STATUS	Ø
azure.network_applicationgateways.throughput (rate)	Number of bytes per second the Application Gateway has served Shown as byte	LATENCY	8
azure.network_applicationgateways.total_requests (count)	Count of successful requests that Application Gateway has served Shown as request	TRAFFIC	8
azure.network_applicationgateways.unhealthy_host_count (gauge)	Number of unhealthy backend hosts Shown as host	SATURAT ION	②

azure.network_applicationgateways.bytes_sent (count)	Number of bytes sent through the Application Gateway Shown as byte	LATENCY	×
azure.network_applicationgateways.bytes_received (count)	Number of bytes received through the Application Gateway Shown as byte	LATENCY	8
azure.network_applicationgateways.compute_units (count)	Compute units consumed	SATURAT ION	8
azure.network_applicationgateways.capacity_units (count)	Capacity units consumed	SATURAT ION	8
azure.network_applicationgateways.backend_connect_time (gauge)	Time spent establishing a connection with a backend server Shown as millisecond	LATENCY	②
azure.network_applicationgateways. avg_request_count_per_healthy_host (gauge)	Average request count per minute per healthy backend host in a pool Shown as request	TRAFFIC	8
azure.network_applicationgateways. backend_first_byte_response_time (gauge)	Time interval between start of establishing a connection to backend server and receiving the first byte of the response header Shown as millisecond	LATENCY	•
azure.network_applicationgateways. backend_last_byte_response_time (gauge)	Time interval between start of establishing a connection to backend server and receiving the last byte of the response body Shown as millisecond	LATENCY	8
azure.network_applicationgateways. fixed_billable_capacity_units (count)	Minimum capacity units that will be charged	SATURAT	8
azure.network_applicationgateways.client_rtt (gauge)	Average round trip time between clients and Application Gateway Shown as millisecond	LATENCY	8
azure.network_applicationgateways.tls_protocol (count)	The number of TLS and non-TLS requests initiated by the client that established connection with the Application Gateway.	TRAFFIC	×
azure.network_applicationgateways. new_connections_per_second (rate)	New connections per second established with Application Gateway Shown as connection	TRAFFIC	×
azure.network_applicationgateways.cpu_utilization (gauge)	Current CPU utilization of the Application Gateway Shown as percent	SATURAT ION	8
azure.network_applicationgateways. estimated_billed_capacity_units (count)	Estimated capacity units that will be charged	SATURAT	8
azure.network_applicationgateways.matched_count (count)	Web Application Firewall Total Rule Distribution for the incoming traffic	TRAFFIC	8
azure.network_applicationgateways. application_gateway_total_time (gauge)	Average time that it takes for a request to be processed and its response to be sent. Shown as millisecond	LATENCY	8
azure.network_applicationgateways.blocked_req_count (count)	Web Application Firewall blocked requests count	TRAFFIC	8
azure.network_applicationgateways.blocked_count (count)	Web Application Firewall blocked requests rule distribution	TRAFFIC	×

Azure SQL

Confluence page URL: PaaS SQL monitoring
Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-paas-sql-monitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
azure.sql_servers_databases.active_queries (count)	Active queries across all workload groups. Applies only to data warehouses. Shown as query	TRAFFIC	8
azure.sql_servers_databases.app_cpu_billed (count)	App CPU billed. Applies to serverless databases.	SATURATI ON	8

azure.sql_servers_databases.app_cpu_percentage (gauge)	App CPU percentage. Applies to serverless databases. Shown as percent	SATURATI ON	8
azure.sql_servers_databases.app_memory_percentage (gauge)	App memory percentage. Applies to serverless databases. Shown as percent	SATURATI ON	8
azure.sql_servers_databases.base_blob_storage_size (gauge)	Base blob storage size. Applies to Hyperscale databases. Shown as byte	SATURATI ON	8
azure.sql_servers_databases.blocked_by_firewall (count)	Blocked by Firewall Shown as connection	TRAFFIC	8
azure.sql_servers_databases.cache_hit_percentage (gauge)	Cache hit percentage. Applies only to data warehouses. Shown as percent	SATURATI ON	8
azure.sql_servers_databases.cache_used_percentage (gauge)	Cache used percentage. Applies only to data warehouses. Shown as percent	SATURATI ON	8
azure.sql_servers_databases.connection_failed (count)	Failed Connections Shown as connection	TRAFFIC	Ø
azure.sql_servers_databases.connection_successful (count)	Successful Connections Shown as connection	TRAFFIC	②
azure.sql_servers_databases.cpu_limit (count)	CPU limit. Applies to vCore-based databases.	SATURATI ON	8
azure.sql_servers_databases.cpu_percent (gauge)	CPU percentage Shown as percent	SATURATI ON	②
azure.sql_servers_databases.cpu_used (count)	CPU used. Applies to vCore-based databases.	SATURATI ON	8
azure.sql_servers_databases.data_space_allocated (gauge)	Allocated data storage. Not applicable to data warehouses. Shown as byte	SATURATI ON	8
azure.sql_servers_databases.data_storage_size (count)	Data Storage Size is comprised of the size of your data and the transaction log. The metric is counted towards the 'Storage' portion of your bill. Applies only to data warehouses.	SATURATI ON	8
azure.sql_servers_databases.deadlock (count)	Deadlocks. Not applicable to data warehouses.	SATURATI ON	8
azure.sql_servers_databases. differential_backup_storage_size (gauge)	Cumulative differential backup storage size. Applies to vCorebased databases. Not applicable to Hyperscale databases. Shown as byte	SATURATI ON	8
azure.sql_servers_databases. disaster_recovery_storage_size (count)	Disaster Recovery Storage Size is reflected as 'Disaster Recovery Storage' in your bill. Applies only to data warehouses.	SATURATI ON	8
azure.sql_servers_databases.dtu_consumption_percent (gauge)	DTU Percentage. Applies to DTU-based databases. Shown as percent	SATURATI ON	8
azure.sql_servers_databases.dtu_limit (count)	DTU Limit. Applies to DTU-based databases. Shown as unit	SATURATI ON	8
azure.sql_servers_databases.dtu_used (count)	DTU used. Applies to DTU-based databases. Shown as unit	SATURATI ON	8
azure.sql_servers_databases.dwu_consumption_percent (gauge)	DWU percentage. Applies only to data warehouses. Shown as percent	SATURATI ON	8
azure.sql_servers_databases.dwu_limit (count)	DWU limit. Applies only to data warehouses. Shown as unit	SATURATI ON	8
azure.sql_servers_databases.dwu_used (count)	DWU used. Applies only to data warehouses. Shown as unit	SATURATI ON	8
azure.sql_servers_databases. effective_cap_resource_percent (gauge)	A hard limit on the percentage of resources allowed for the workload group, taking into account Effective Min Resource Percentage allocated for other workload groups. Applies only to data warehouses. Shown as percent	SATURATI ON	8
azure.sql_servers_databases. effective_min_resource_percent (gauge)	Minimum percentage of resources reserved and isolated for the workload group, taking into account the service level minimum. Applies only to data warehouses. Shown as percent	SATURATI ON	8
azure.sql_servers_databases.full_backup_storage_size (gauge)	Cumulative full backup storage size. Applies to vCore-based databases. Not applicable to Hyperscale databases.	SATURATI ON	8

zure.sql_servers_databases.local_tempdb_percentage gauge)	Local tempdb percentage. Applies only to data warehouses. Shown as percent	SATURATI ON	8
izure.sql_servers_databases.log_backup_storage_size gauge)	Cumulative log backup storage size. Applies to vCore-based and Hyperscale databases. Shown as byte	SATURATI ON	8
zure.sql_servers_databases.log_write_percent gauge)	Log IO percentage. Not applicable to data warehouses. Shown as percent	SATURATI ON	8
zure.sql_servers_databases.memory_percentage gauge)	Memory percentage. Applies only to data warehouses. Shown as percent	SATURATI ON	8
zure.sql_servers_databases.physical_data_read_percent gauge)	Data IO percentage Shown as percent	SATURATI ON	8
zure.sql_servers_databases.queued_queries count)	Queued queries across all workload groups. Applies only to data warehouses. Shown as query	TRAFFIC	8
zure.sql_servers_databases.replication_links.count gauge)	The amount of replication links per database	SATURATI ON	8
zure.sql_servers_databases.sessions_percent gauge)	Sessions percentage. Not applicable to data warehouses. Shown as percent	TRAFFIC	8
zure.sql_servers_databases. napshot_backup_storage_size gauge)	Cumulative snapshot backup storage size. Applies to Hyperscale databases. Shown as byte	SATURATI ON	8
zure.sql_servers_databases.snapshot_storage_size count)	Snapshot Storage Size is the size of the incremental changes captured by snapshots to create user-defined and automatic restore points. The metric is counted towards the 'Storage' portion of your bill. Applies only to data warehouses.	SATURATI ON	8
zure.sql_servers_databases. ql_server_process_core_percent gauge)	CPU usage percentage for the SQL Server process, as measured by the operating system. Shown as percent	SATURATI ON	8
zure.sql_servers_databases. qd_server_process_memory_percent gauge)	Memory usage percentage for the SQL Server process, as measured by the operating system. Shown as percent	SATURATI ON	8
izure.sql_servers_databases.status gauge)	Status of Azure SQL Database	ERROR /STATUS	②
zure.sql_servers_databases.storage gauge)	Data space used. Not applicable to data warehouses. Shown as byte	SATURATI ON	②
zure.sql_servers_databases.storage_percent gauge)	Data space used percent. Not applicable to data warehouses or hyperscale databases. Shown as percent	SATURATI ON	②
izure.sql_servers_databases. empdb_data_file_size_kilobytes count)	Tempdb Data File Size Kilobytes.	SATURATI ON	8
izure.sql_servers_databases. empdb_log_file_size_kilobytes count)	Tempdb Log File Size Kilobytes.	SATURATI ON	8
zure.sql_servers_databases.tempdb_percent_log_used gauge)	Tempdb Percent Log Used. Shown as percent	SATURATI ON	8
izure.sql_servers_databases.workers_percent gauge)	Workers percentage. Not applicable to data warehouses. Shown as percent	SATURATI ON	8
izure.sql_servers_databases. vorkload_group_active_queries count)	Queued queries within the workload group. Applies only to data warehouses. Shown as query	TRAFFIC	8
zure.sql_servers_databases. vorkload_group_allocation_by_cap_resource_percent gauge)	Allocated percentage of resources relative to the specified cap resources per workload group. Applies only to data warehouses. Shown as percent	SATURATI ON	8
zure.sql_servers_databases. vorkload_group_allocation_by_system_percent gauge)	Allocated percentage of resources relative to the entire system per workload group. Applies only to data warehouses. Shown as percent	SATURATI ON	×
izure.sql_servers_databases. vorkload_group_query_timeouts count)	Queries that have timed out for the workload group. Applies only to data warehouses. Shown as query	SATURATI ON	8

azure.sql_servers_databases. workload_group_queued_queries (count)	Active queries within the workload group. Applies only to data warehouses. Shown as query	TRAFFIC	8
azure.sql_servers_databases.xtp_storage_percent (gauge)	In-Memory OLTP storage percent. Not applicable to data warehouses. Shown as percent	SATURATI ON	8

Azure Express Route

ExpressRoute monitoring

Terraform Module Repo:
https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-expressroute-monitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
azure.network_expressroutecircuits.bits_in_per_second (rate)	Bits ingressing Azure per second Shown as bit	TRAFFIC	②
azure.network_expressroutecircuits.bits_out_per_second (rate)	Bits egressing Azure per second Shown as bit	TRAFFIC	Ø
azure.network_expressroutecircuits.status (gauge)	Status of Azure ExpressRoute integration	ERROR	②
azure.network_expressroutecircuits.arp_availability (gauge)	ARP Availability %	ERROR	Ø
azure.network_expressroutecircuits.bgp_availability (gauge)	BGP Availability %	ERROR	②
azure.network_expressroutecircuits. qos_drop_bits_in_per_second (rate)	QoS Drop Bits ingressing Azure per second Shown as bit	TRAFFIC	•
azure.network_expressroutecircuits. qos_drop_bits_out_per_second (rate)	Qos Drop Bits egressing Azure per second Shown as bit	TRAFFIC	•

→ Azure Blob Storage Account

Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-blob-storagemonitors

Azure Blob Storage Accounts monitoring

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
azure.storage_storageaccounts_blobservices.availability (gauge)	The percentage of availability for the storage service or the specified API operation. Availability is calculated by taking the TotalBillableRequests value and dividing it by the number of applicable requests including those that produced unexpected errors. All unexpected errors result in reduced availability for the storage service or the specified API operation. Shown as percent	SATURA TION	•
azure.storage_storageaccounts_blobservices.blob_capacity (gauge)	The amount of storage used by the storage account's Blob service in bytes. Shown as byte	SATURA TION	②
azure.storage_storageaccounts_blobservices.blob_count (count)	The number of Blob in the storage account's Blob service.	SATURA TION	②
azure.storage_storageaccounts_blobservices. container_count (count)	The number of containers in the storage account's Blob service.	SATURA TION	8
azure.storage_storageaccounts_blobservices.egress (gauge)	The amount of egress data in bytes. This number includes egress from an external client into Azure Storage as well as egress within Azure. As a result this number does not reflect billable egress. Shown as byte	TRAFFIC	•
azure.storage_storageaccounts_blobservices.ingress (gauge)	The amount of ingress data in bytes. This number includes ingress from an external client into Azure Storage as well as ingress within Azure. Shown as byte	TRAFFIC	•

azure.storage_storageaccounts_blobservices. success_e2_elatency (gauge)	The average end-to-end latency of successful requests made to a storage service or the specified API operation in milliseconds. This value includes the required processing time within Azure Storage to read the request send the response and receive acknowledgment of the response. Shown as millisecond	LATENCY	②
azure.storage_storageaccounts_blobservices. success_server_latency (gauge)	The average latency used by Azure Storage to process a successful request in milliseconds. This value does not include the network latency specified in AverageE2ELatency. Shown as millisecond	LATENCY	②
azure.storage_storageaccounts_blobservices.transactions (count)	The number of requests made to a storage service or the specified API operation. This number includes successful and failed requests as well as requests which produced errors. Use ResponseType dimension for the number of different type of response.	TRAFFIC	•

Azure Virtual Networks

 $\textbf{Terraform Module Repo: } \textbf{https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-virtualnetworks-monitors$

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
azure.network_virtualnetworks.connected_peerings (gauge)	Peers connected on the virtual network	SATURA TION	Ø
${\bf azure.network_virtualnetworks.subnets.assigned_addresses} \\ ({\tt gauge})$	Addresses assigned on the subnet	SATURA TION	②
${\bf azure.network_virtualnetworks.subnets.available_addresses} \\ ({\tt gauge})$	Addresses available on the subnet	SATURA TION	②
<pre>azure.network_virtualnetworks.total_addresses (gauge)</pre>	Total addresses on the virtual network	SATURA TION	②
azure.network_virtualnetworks.total_peerings (gauge)	Total peerings on the virtual network	SATURA TION	Ø
<pre>azure.network_virtualnetworks.total_subnets (gauge)</pre>	Total number of subnets on the virtual network	SATURA TION	②

→ Azure Table Storage Account

Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-table-storage-monitors

Azure Table Storage Accounts monitoring

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
azure.storage_storageaccounts_tableservices.availability (gauge)	The percentage of availability for the storage service or the specified API operation. Availability is calculated by taking the TotalBillableRequests value and dividing it by the number of applicable requests including those that produced unexpected errors. All unexpected errors result in reduced availability for the storage service or the specified API operation. Shown as percent	SATURA TION	•
azure.storage_storageaccounts_tableservices.table_capacity (gauge)	The amount of storage used by the storage account's Table service in bytes. Shown as byte	SATURA TION	•
azure.storage_storageaccounts_tableservices.table_count (count)	The number of Table in the storage account's Table service.	SATURA TION	②
azure.storage_storageaccounts_tableservices. container_count (count)	The number of containers in the storage account's Table service.	SATURA TION	8
azure.storage_storageaccounts_tableservices.egress (gauge)	The amount of egress data in bytes. This number includes egress from an external client into Azure Storage as well as egress within Azure. As a result this number does not reflect billable egress. Shown as byte	TRAFFIC	•

azure.storage_storageaccounts_tableservices.ingress (gauge)	The amount of ingress data in bytes. This number includes ingress from an external client into Azure Storage as well as ingress within Azure. Shown as byte	TRAFFIC	•
azure.storage_storageaccounts_tableservices. success_e2_elatency (gauge)	The average end-to-end latency of successful requests made to a storage service or the specified API operation in milliseconds. This value includes the required processing time within Azure Storage to read the request send the response and receive acknowledgment of the response. Shown as millisecond	LATENCY	•
azure.storage_storageaccounts_tableservices. success_server_latency (gauge)	The average latency used by Azure Storage to process a successful request in milliseconds. This value does not include the network latency specified in AverageE2ELatency. Shown as millisecond	LATENCY	Ø
azure.storage_storageaccounts_tableservices.transactions (count)	The number of requests made to a storage service or the specified API operation. This number includes successful and failed requests as well as requests which produced errors. Use ResponseType dimension for the number of different type of response.	TRAFFIC	•

Azure File Storage Account

Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-file-storage-monitors

Azure File Storage Accounts monitoring

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
nzure.storage_storageaccounts_fileservices.availability gauge)	The percentage of availability for the storage service or the specified API operation. Availability is calculated by taking the TotalBillableRequests value and dividing it by the number of applicable requests including those that produced unexpected errors. All unexpected errors result in reduced availability for the storage service or the specified API operation. Shown as percent	SATURA TION	•
nzure.storage_storageaccounts_fileservices.file_capacity gauge)	The amount of storage used by the storage account's file service in bytes. Shown as byte	SATURA TION	②
nzure.storage_storageaccounts_fileservices.file_count count)	The number of File in the storage account's File service.	SATURA TION	②
nzure.storage_storageaccounts_fileservices.container_count count)	The number of containers in the storage account's File service.	SATURA TION	8
azure.storage_storageaccounts_fileservices.egress gauge)	The amount of egress data in bytes. This number includes egress from an external client into Azure Storage as well as egress within Azure. As a result this number does not reflect billable egress. Shown as byte	TRAFFIC	②
azure.storage_storageaccounts_fileservices.ingress gauge)	The amount of ingress data in bytes. This number includes ingress from an external client into Azure Storage as well as ingress within Azure. Shown as byte	TRAFFIC	Ø
nzure.storage_storageaccounts_fileservices. success_e2_elatency gauge)	The average end-to-end latency of successful requests made to a storage service or the specified API operation in milliseconds. This value includes the required processing time within Azure Storage to read the request send the response and receive acknowledgment of the response. Shown as millisecond	LATENCY	•
nzure.storage_storageaccounts_fileservices. success_server_latency gauge)	The average latency used by Azure Storage to process a successful request in milliseconds. This value does not include the network latency specified in AverageE2ELatency. Shown as millisecond	LATENCY	Ø
nzure.storage_storageaccounts_fileservices.transactions count)	The number of requests made to a storage service or the specified API operation. This number includes successful and failed requests as well as requests which produced errors. Use ResponseType dimension for the number of different type of response.	TRAFFIC	•

Azure Queue Storage Account

Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-table-storage-monitors

Azure Queue Storage Accounts monitoring

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVE
nzure.storage_storageaccounts_queueservices.availability gauge)	The percentage of availability for the storage service or the specified API operation. Availability is calculated by taking the TotalBillableRequests value and dividing it by the number of applicable requests including those that produced unexpected errors. All unexpected errors result in reduced availability for the storage service or the specified API operation. Shown as percent	SATURA TION	•
nzure.storage_storageaccounts_queueservices. queue_capacity gauge)	The amount of storage used by the storage account's Queue service in bytes. Shown as byte	SATURA TION	✓
zure.storage_storageaccounts_queueservices.table_count count)	The number of Table in the storage account's Queue service.	SATURA TION	⊘
nzure.storage_storageaccounts_queueservices. container_count count)	The number of containers in the storage account's Queue service.	SATURA TION	8
nzure.storage_storageaccounts_queueservices.egress gauge)	The amount of egress data in bytes. This number includes egress from an external client into Azure Storage as well as egress within Azure. As a result this number does not reflect billable egress. Shown as byte	TRAFFIC	•
nzure.storage_storageaccounts_queueservices.ingress gauge)	The amount of ingress data in bytes. This number includes ingress from an external client into Azure Storage as well as ingress within Azure. Shown as byte	TRAFFIC	•
nzure.storage_storageaccounts_queueservices. success_e2_elatency gauge)	The average end-to-end latency of successful requests made to a storage service or the specified API operation in milliseconds. This value includes the required processing time within Azure Storage to read the request send the response and receive acknowledgment of the response. Shown as millisecond	LATENCY	•
nzure.storage_storageaccounts_queueservices. success_server_latency gauge)	The average latency used by Azure Storage to process a successful request in milliseconds. This value does not include the network latency specified in AverageE2ELatency. Shown as millisecond	LATENCY	•
nzure.storage_storageaccounts_queueservices.transactions count)	The number of requests made to a storage service or the specified API operation. This number includes successful and failed requests as well as requests which produced errors. Use ResponseType dimension for the number of different type of response.	TRAFFIC	Ø

✓ Azure Gitlab Runners Machine

Terraform Module Repo: https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-gitlab-runners-monitor

Azure Gitlab Runners monitoring

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
sys.mem.used (count)	System Memory Used (Shown as bytes)	SATURAT ION	②
sys.mem.free (count)	System Memory Free (Shown as bytes)	SATURAT	•
sys.disk.used (count)	System Disk Used (Shown as bytes)	SATURAT	•

sys.disk.free (count)	System Disk Free (Shown as bytes)	SATURAT ION	②
azure.vm.disk_read_operations_sec (gauge)	(ARM VM only) Amount of read operations per second Shown as operation	TRAFFIC	Ø
azure.vm.disk_write_bytes (count)	(ARM VM only) Amount of bytes written Shown as byte	SATURAT ION	②
azure.vm.disk_write_bytes_sec (gauge)	(Classic VM only) Amount of bytes written Shown as byte	SATURAT	Ø
azure.vm.disk_write_operations_sec (gauge)	(ARM VM only) Amount of write operations per second Shown as operation	TRAFFIC	Ø
azure.vm.percentage_cpu (gauge)	Percentage of CPU resources used Shown as percent	SATURAT ION	Ø
azure.vm.status (gauge)	Status of Azure VM	ERROR	Ø
azure.vm.network_in (gauge)	Number of bytes received on all network interfaces by the instance. Shown as byte	SATURAT ION	②
azure.vm.network_in_total (gauge)	The number of bytes received on all network interfaces by the Virtual Machine(s) (Incoming Traffic) Shown as byte	SATURAT ION	②
azure.vm.network_out (gauge)	Number of bytes sent on all network interfaces by the instance. Shown as byte	SATURAT	②
azure.vm.network_out_total (gauge)	The number of bytes sent on all network interfaces by the Virtual Machine(s) (Incoming Traffic) Shown as byte	SATURAT	②

Azure Cosmos DB

 $\textbf{Terraform Module Repo: } \textbf{https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-azr-cosmosdb-monitors \\ \textbf{Terraform Module Repo: } \textbf{Terraf$

DESCRIPTION	SIGNAL	COVER	SLO
Region Added	SATURATION	8	
Autoscale Max Throughput	SATURATION	8	
Total available storage reported at 5 minutes granularity per region Shown as byte	SATURATION	②	
The number of Cassandra connections that were closed Shown as connection	TRAFFIC	8	
Cassandra Connector Average Replication Latency Shown as millisecond	LATENCY	8	
Cassandra Connector Replication Health Status	ERROR	8	
Cassandra Keyspace Created	TRAFFIC	8	
	Region Added Autoscale Max Throughput Total available storage reported at 5 minutes granularity per region Shown as byte The number of Cassandra connections that were closed Shown as connection Cassandra Connector Average Replication Latency Shown as millisecond Cassandra Connector Replication Health Status	Region Added Autoscale Max Throughput SATURATION Total available storage reported at 5 minutes granularity per region Shown as byte The number of Cassandra connections that were closed Shown as connection Cassandra Connector Average Replication Latency Shown as millisecond Cassandra Connector Replication Health Status ERROR	Region Added SATURATION Autoscale Max Throughput SATURATION Total available storage reported at 5 minutes granularity per region Shown as byte The number of Cassandra connections that were closed Shown as connection Cassandra Connector Average Replication Latency Shown as millisecond Cassandra Connector Replication Health Status ERROR

azure.cosmosdb. cassandra_keyspace_delete (count)	Cassandra Keyspace Deleted	TRAFFIC	8
azure.cosmosdb. cassandra_keyspace_through put_update (count)	Cassandra Keyspace Throughput Updated	TRAFFIC	8
azure.cosmosdb. cassandra_keyspace_update (count)	Cassandra Keyspace Updated	TRAFFIC	8
azure.cosmosdb. cassandra_request_charges (count)	RUs consumed for Cassandra requests made	TRAFFIC	8
azure.cosmosdb. cassandra_requests (count)	The number of Cassandra requests made Shown as request	TRAFFIC	8
azure.cosmosdb. cassandra_table_create (count)	Cassandra table created Shown as table	TRAFFIC	8
azure.cosmosdb. cassandra_table_delete (count)	Cassandra Table Deleted Shown as table	TRAFFIC	8
azure.cosmosdb. cassandra_table_throughput_ update (count)	Cassandra Table Throughput Updated	TRAFFIC	8
azure.cosmosdb. cassandra_table_update (count)	Cassandra Table Updated Shown as table	TRAFFIC	8
azure.cosmosdb.count (count)	Count of Cosmos DB	TRAFFIC	•
azure.cosmosdb. create_account (count)	Account Created	TRAFFIC	8
azure.cosmosdb.data_usage (gauge)	Total data usage reported at 5 minutes granularity per region Shown as byte	SATURATION	•
azure.cosmosdb. dedicated_gateway_average_ cpu_usage (gauge)	The average CPU usage across dedicated gateway instances Shown as percent	SATURATION	•
azure.cosmosdb. dedicated_gateway_average_ memory_usage (gauge)	The average memory usage across dedicated gateway instances, which is used for both routing requests and caching data Shown as byte	SATURATION	•
azure.cosmosdb. dedicated_gateway_maximum _cpu_usage (gauge)	The average Maximum CPU usage across dedicated gateway instances Shown as percent	SATURATION	8
azure.cosmosdb. dedicated_gateway_requests (count)	Dedicated Gateway Requests Shown as request	TRAFFIC	•
azure.cosmosdb. delete_account (count)	Account Deleted	TRAFFIC	8
azure.cosmosdb. document_count (count)	Total document count reported at 5 minutes granularity per region. Shown as document	TRAFFIC	8
azure.cosmosdb. document_quota (gauge)	Total storage quota reported at 5 minutes granularity per region. Shown as byte	SATURATION	8

azure.cosmosdb. gremlin_database_create (count)	Gremlin Database Created	TRAFFIC	8
azure.cosmosdb. gremlin_database_delete (count)	Gremlin Database Deleted	TRAFFIC	8
azure.cosmosdb. gremlin_database_throughput _update (count)	Gremlin Database Throughput Updated	TRAFFIC	8
azure.cosmosdb. gremlin_database_update (count)	Gremlin Database Updated	TRAFFIC	8
azure.cosmosdb. gremlin_graph_create (count)	Gremlin Graph Created	TRAFFIC	8
azure.cosmosdb. gremlin_graph_delete (count)	Gremlin Graph Deleted	TRAFFIC	8
azure.cosmosdb. gremlin_graph_throughput_u pdate (count)	Gremlin Graph Throughput Updated	TRAFFIC	8
azure.cosmosdb. gremlin_graph_update (count)	Gremlin Graph Updated	TRAFFIC	8
azure.cosmosdb.index_usage (gauge)	Total Index usage reported at 5 minutes granularity per region Shown as byte	SATURATION	8
azure.cosmosdb. integrated_cache_evicted_ent ries_size (count)	Size of the entries evicted from the integrated cache Shown as byte	SATURATION	8
azure.cosmosdb. integrated_cache_item_expira tion_count (count)	The number of items evicted from the integrated cache due to TTL expiration	SATURATION	8
azure.cosmosdb. integrated_cache_item_hit_ra te (rate)	The number of point reads that used the integrated cache divided by the number of point reads routed through the dedicated gateway with eventual consistency Shown as percent	TRAFFIC	8
azure.cosmosdb. integrated_cache_query_expi ration_count (count)	The number of queries evicted from the integrated cache due to TTL expiration	TRAFFIC	8
azure.cosmosdb. integrated_cache_query_hit_r ate (rate)	The number of queries that used the integrated cache divided by the number of queries routed through the dedicated gateway with eventual consistency Shown as percent	TRAFFIC	8
azure.cosmosdb. metadata_requests (count)	Count of metadata requests. Cosmos DB maintains system metadata collection for each account that allows you to enumerate collections databases etc and their configurations. Shown as request	TRAFFIC	8
azure.cosmosdb. mongo_collection_create (count)	Mongo Collection Created	TRAFFIC	8
azure.cosmosdb. mongo_collection_delete (count)	Mongo Collection Deleted	TRAFFIC	×

azure.cosmosdb. mongo_collection_throughpu	Mongo Collection Throughput Updated	TRAFFIC	8	
t_update (count)				
azure.cosmosdb. mongo_collection_update (count)	Mongo Collection Updated	TRAFFIC	8	
azure.cosmosdb. mongo_database_delete (count)	Mongo Database Deleted	TRAFFIC	8	
azure.cosmosdb. mongo_database_throughput _update (count)	Mongo Database Throughput Updated	TRAFFIC	8	
azure.cosmosdb. mongodb_database_create (count)	Mongo Database Created	TRAFFIC	8	
azure.cosmosdb. mongodb_database_update (count)	Mongo Database Updated	TRAFFIC	8	
azure.cosmosdb. mongo_request_charge (count)	Mongo Request Units Consumed	TRAFFIC	8	
azure.cosmosdb. mongo_requests (count)	The number of Mongo requests made Shown as request	TRAFFIC	8	
azure.cosmosdb. normalized_ru_consumption (count)	Max RU consumption percentage per minute Shown as percent	SATURATION	8	
azure.cosmosdb. provisioned_throughput (count)	Provisioned Throughput	TRAFFIC	8	
azure.cosmosdb. region_failover (count)	Region Failed Over	TRAFFIC	8	
azure.cosmosdb. remove_region (count)	Region Removed	TRAFFIC	8	
azure.cosmosdb. replication_latency (count)	P99 Replication Latency across source and target regions for geo-enabled accounts Shown as millisecond	LATENCY	8	
azure.cosmosdb. server_side_latency (count)	Server Side Latency Shown as millisecond	LATENCY	•	99.9%
azure.cosmosdb. service_availability (count)	Account requests availability at one hour, day, or month granularity Shown as percent	ERROR	•	99.9%
azure.cosmosdb. sql_container_create (count)	Sql Container Created	TRAFFIC	8	
azure.cosmosdb. sql_container_delete (count)	Sql Container Deleted	TRAFFIC	8	
azure.cosmosdb. sql_container_throughput_up date (count)	Sql Container Throughput Updated	TRAFFIC	8	
azure.cosmosdb. sql_container_update (count)	Sql Container Updated	TRAFFIC	8	
azure.cosmosdb. sql_database_create (count)	Sql Database Created	TRAFFIC	8	

azure.cosmosdb. sql_database_delete (count)	Sql Database Deleted	TRAFFIC	8	
azure.cosmosdb. sql_database_throughput_up date (count)	Sql Database Throughput Updated	TRAFFIC	8	
azure.cosmosdb. sql_database_update (count)	Sql Database Updated	TRAFFIC	×	
azure.cosmosdb. table_table_create (count)	AzureTable Table Created	TRAFFIC	×	
azure.cosmosdb. table_table_delete (count)	AzureTable Table Deleted	TRAFFIC	×	
azure.cosmosdb. table_table_throughput_update	AzureTable Table Throughput Updated	TRAFFIC	×	
azure.cosmosdb. table_table_update (count)	AzureTable Table Updated	TRAFFIC	8	
azure.cosmosdb. total_requests (count)	The number of requests made Shown as request	TRAFFIC	②	99.9%
azure.cosmosdb. total_request_units (count)	Request Units consumed	TRAFFIC	8	
azure.cosmosdb. update_account_keys (count)	Account Keys Updated	TRAFFIC	8	
azure.cosmosdb. update_account_network_sett ings (count)	Account Network Settings Updated	TRAFFIC	8	
azure.cosmosdb. update_account_replication_s ettings (count)	Account Replication Settings Updated	TRAFFIC	8	
azure.cosmosdb. update_diagnostics_settings (count)	Account Diagnostic Settings Updated	TRAFFIC	8	

AWS

▼ EC2 Instance

EC2 Monitoring

Terraform Module Repo:

https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-aws-ec2-monitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
aws.ec2.cpucredit_balance (gauge)	Number of CPU credits that an instance has accumulated. Shown as unit	SATURAT ION	×
aws.ec2.cpucredit_usage (gauge)	Number of CPU credits consumed. Shown as unit	SATURAT ION	×
aws.ec2.cpusurplus_credit_balance (gauge)	The number of surplus credits that have been spent by an unlimited instance when its CPUCreditBalance value is zero. Shown as unit	SATURAT ION	8

aws.ec2.cpusurplus_credits_charged (gauge)	The number of spent surplus credits that are not paid down by earned CPU credits, and which thus incur an additional charge. Shown as unit	SATURAT ION	8
aws.ec2.cpuutilization (gauge)	Average percentage of allocated EC2 compute units that are currently in use on the instance. Shown as percent	SATURAT	②
aws.ec2.cpuutilization.maximum (gauge)	Maximum percentage of allocated EC2 compute units that are currently in use on the instance. Shown as percent	SATURAT	8
aws.ec2.disk_read_bytes (gauge)	Bytes read from all ephemeral disks available to the instance. Shown as byte	SATURAT ION	8
aws.ec2.disk_read_ops (gauge)	Completed read operations from all ephemeral disks available to the instance. Shown as operation	SATURAT	8
aws.ec2.disk_write_bytes (gauge)	Bytes written to all ephemeral disks available to the instance. Shown as byte	SATURAT ION	8
aws.ec2.disk_write_ops (gauge)	Completed write operations to all ephemeral disks available to the instance. Shown as operation	SATURAT	8
aws.ec2.ebsbyte_balance (gauge)	Available only for the smaller instance sizes. Provides information about the percentage of throughput credits remaining in the burst bucket. This metric is available for basic monitoring only. Shown as percent	SATURAT ION	×
aws.ec2.ebsiobalance (gauge)	Available only for the smaller instance sizes. Provides information about the percentage of I/O credits remaining in the burst bucket. This metric is available for basic monitoring only. Shown as percent	SATURAT ION	8
aws.ec2.ebsread_bytes (gauge)	Bytes read from all EBS volumes attached to the instance in a specified period of time. Shown as byte	SATURAT	②
aws.ec2.ebsread_ops (count)	Completed read operations from all Amazon EBS volumes attached to the instance in a specified period of time. Shown as operation	SATURAT	②
aws.ec2.ebswrite_bytes (gauge)	Bytes written to all EBS volumes attached to the instance in a specified period of time. Shown as byte	SATURAT	②
aws.ec2.ebswrite_ops (count)	Completed write operations to all EBS volumes attached to the instance in a specified period of time. Shown as operation	SATURAT	②
aws.ec2.host_ok (gauge)	1 if the instance's system status is ok.	ERROR	②
aws.ec2.instance_age (gauge)	Time since instance launch Shown as second	SATURAT ION	8
aws.ec2.network_in (gauge)	Average number of bytes received on all network interfaces by the instance. Shown as byte	SATURAT ION	②
aws.ec2.network_in.maximum (gauge)	Maximum number of bytes received on all network interfaces by the instance. Shown as byte	SATURAT	8
aws.ec2.network_out (gauge)	Average number of bytes sent out on all network interfaces by the instance. Shown as byte	SATURAT	②
aws.ec2.network_out.maximum (gauge)	Maximum number of bytes sent out on all network interfaces by the instance. Shown as byte	SATURAT	8
aws.ec2.network_packets_in (gauge)	Number of packets received on all network interfaces by the instance Shown as packet	TRAFFIC	8

aws.ec2.network_packets_out (gauge)	Number of packets sent out on all network interfaces by the instance Shown as packet	TRAFFIC	8
aws.ec2.status_check_failed_instance (gauge)	0 if the instance has passed the EC2 instance status check.	ERROR	Ø
aws.ec2.status_check_failed_system (gauge)	0 if the instance has passed the EC2 system status check.	ERROR	8
aws.ec2.status_check_failed (gauge)	1 if one of the status checks failed.	ERROR	8
aws.ec2.ebsread_ops (count)	Average completed read operations from all Amazon EBS volumes attached to the instance for Nitro-based instances. Shown as operation	TRAFFIC	8
aws.ec2.ebsread_ops.sum (count)	Total completed read operations from all Amazon EBS volumes attached to the instance for Nitro-based instances. Shown as operation	TRAFFIC	×
aws.ec2.ebswrite_ops (gauge)	Average completed write operations to all EBS volumes attached to the instance for Nitro-based instances. Shown as operation	TRAFFIC	8
aws.ec2.ebswrite_ops.sum (gauge)	Total completed write operations to all EBS volumes attached to the instance for Nitro-based instances. Shown as operation	TRAFFIC	8
aws.ec2.ebsread_bytes (gauge)	Average bytes read from all EBS volumes attached to the instance for Nitro-based instances. Shown as byte	SATURAT	8
aws.ec2.ebsread_bytes.sum (gauge)	Total bytes read from all EBS volumes attached to the instance for Nitro-based instances. Shown as byte	SATURAT	8
aws.ec2.ebswrite_bytes (gauge)	Average bytes written to all EBS volumes attached to the instance for Nitro-based instances. Shown as byte	SATURAT	8
aws.ec2.ebswrite_bytes.sum (gauge)	Total bytes written to all EBS volumes attached to the instance for Nitro-based instances. Shown as byte	SATURAT	×
aws.ec2.ebsiobalance (gauge)	Percentage of I/O credits remaining in the burst bucket for Nitro-based instances." Shown as percent	SATURAT	8
aws.ec2.ebsbyte_balance (gauge)	Percentage of throughput credits remaining in the burst bucket for Nitro-based instances. Shown as percent	SATURAT	8

Autoscaling

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
aws.autoscaling.group_desired_capacity (gauge)	The number of instances that the Auto Scaling group attempts to maintain.	SATURAT ION	O
aws.autoscaling.group_in_service_instances (gauge)	The number of instances that are running as part of the Auto Scaling group. This metric does not include instances that are pending or terminating.	SATURAT	②
aws.autoscaling.group_max_size (gauge)	The maximum size of the Auto Scaling group.	SATURAT ION	②
aws.autoscaling.group_min_size (gauge)	The minimum size of the Auto Scaling group.	SATURAT ION	②
aws.autoscaling.group_pending_instances (gauge)	The number of instances that are pending. A pending instance is not yet in service. This metric does not include instances that are in service or terminating.	SATURAT	Ø
aws.autoscaling.group_terminating_instances (gauge)	The number of instances that are in the process of terminating. This metric does not include instances that are in service or pending.	SATURAT ION	•
aws.autoscaling.group_total_instances (gauge)	The total number of instances in the Auto Scaling group. This metric identifies the number of instances that are in service and/or pending and/or terminating.	SATURAT	Ø

AWS ELB (Elastic Load Balancers) ELB Monitoring

Terraform Module Repo:

https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-aws-elb-monitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVE
aws.applicationelb.active_connection_count (count)	The total number of concurrent TCP connections active from clients to the load balancer and from the load balancer to targets. Shown as connection	TRAFFIC	8
aws.applicationelb.client_tlsnegotiation_error_count (count)	Number of TLS negotiation errors Shown as error	ERROR	②
aws.applicationelb.consumed_lcus gauge)	The number of load balancer capacity units (LCU) used by your load balancer. Shown as unit	SATURA TION	8
nws.applicationelb.elb_auth_error count)	The number of user authentications that could not be completed because an authenticate action was misconfigured, the load balancer couldn't establish a connection with the IdP, or the load balancer couldn't complete the authentication flow due to an internal error. Shown as error	ERROR	8
nws.applicationelb.elb_auth_failure count)	The number of user authentications that could not be completed because the IdP denied access to the user or an authorization code was used more than once. Shown as error	SATURA TION	8
aws.applicationelb.elb_auth_latency gauge)	The time elapsed, in milliseconds, to query the IdP for the ID token and user info. If one or more of these operations fail, this is the time to failure. Shown as millisecond	LATENCY	8
aws.applicationelb.elb_auth_refresh_token_success count)	The number of times the load balancer successfully refreshed user claims using a refresh token provided by the IdP. Shown as success	TRAFFIC	×
aws.applicationelb.elb_auth_success count)	The number of authenticate actions that were successful. Shown as success	TRAFFIC	×
aws.applicationelb.elb_authuser_claims_size_exceeded count)	The number of times that a configured IdP returned user claims that exceeded 11K bytes in size.	TRAFFIC	×
aws.applicationelb.healthy_host_count gauge)	Average number of healthy instances in each Availability Zone. Shown as host	SATURA TION	Ø
nws.applicationelb.healthy_host_count_deduped count)	The number of healthy instances per Availability Zone, regardless of if the Cross-Zone Load Balancing option is enabled or not. Shown as host	SATURA TION	Ø
aws.applicationelb.healthy_host_count.maximum gauge)	Maximum number of healthy instances in each Availability Zone. Shown as host	SATURA TION	×
nws.applicationelb.healthy_host_count.minimum gauge)	Minimum number of healthy instances in each Availability Zone. Shown as host	SATURA TION	×
nws.applicationelb.httpcode_elb_3xx count)	The number of HTTP 3XX redirection codes that originate from the load balancer. Shown as response	ERROR	Ø
nws.applicationelb.httpcode_elb_4xx count)	Number of HTTP 4XX client error codes generated by the load balancer. Shown as response	ERROR	②
aws.applicationelb.httpcode_elb_5_0_0 count)	The number of HTTP 500 error codes that originate from the load balancer. Shown as response	ERROR	×
aws.applicationelb.httpcode_elb_5_0_2 count)	The number of HTTP 502 error codes that originate from the load balancer. Shown as response	ERROR	Ø

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aws.applicationelb.httpcode_elb_5_0_3 (count)	The number of HTTP 503 error codes that originate from the load balancer. Shown as response	ERROR	×
aws.applicationelb.httpcode_elb_5_0_4 (count)	The number of HTTP 504 error codes that originate from the load balancer. Shown as response	ERROR	Ø
aws.applicationelb.httpcode_elb_5xx (count)	Number of HTTP 5XX client error codes generated by the load balancer. Shown as response	ERROR	Ø
aws.applicationelb.httpcode_target_2xx (count)	Number of HTTP 2XX response codes generated by registered instances. Shown as response	ERROR	0
aws.applicationelb.httpcode_target_3xx (count)	Number of HTTP 3XX response codes generated by registered instances. Shown as response	ERROR	Ø
aws.applicationelb.httpcode_target_4xx (count)	Number of HTTP 4XX response codes generated by registered instances. Shown as response	ERROR	Ø
aws.applicationelb.httpcode_target_5xx (count)	Number of HTTP 5XX response codes generated by registered instances. Shown as response	ERROR	Ø
aws.applicationelb.httpcode_redirect (count)	The number of redirect actions that were successful. Shown as response	TRAFFIC	8
aws.applicationelb.httpfixed_response (count)	The number of fixed-response actions that were successful. Shown as response	TRAFFIC	×
aws.applicationelb.httpredirect (count)	The number of redirect actions that were successful.	TRAFFIC	×
aws.applicationelb.httpredirect_url_limit_exceeded (count)	The number of redirect actions that couldn't be completed because the URL in the response location header is larger than 8K.	SATURA TION	8
aws.applicationelb.ipv_6processed_bytes (count)	The total number of bytes processed by the load balancer over IPv6. Shown as byte	TRAFFIC	8
aws.applicationelb.ipv_6request_count (count)	The number of IPv6 requests received by the load balancer. Shown as request	TRAFFIC	×
aws.applicationelb.lambda_internal_error (count)	The number of requests to a Lambda function that failed because of an issue internal to the load balancer or AWS Lambda. Shown as request	ERROR	8
aws.applicationelb.lambda_target_processed_bytes (gauge)	The total number of bytes processed by the load balancer for requests to and responses from a Lambda function. Shown as byte	TRAFFIC	8
aws.applicationelb.lambda_user_error (count)	The number of requests to a Lambda function that failed because of an issue with the Lambda function. Shown as request	ERROR	8
aws.applicationelb.new_connection_count (count)	The total number of new TCP connections established from clients to the load balancer and from the load balancer to targets. Shown as connection	TRAFFIC	8
aws.applicationelb.non_sticky_request_count (count)	The number of requests where the load balancer chose a new target because it couldn't use an existing sticky session. Shown as request	SATURA TION	8
aws.applicationelb.processed_bytes (count)	The total number of bytes processed by the load balancer over IPv4 and IPv6. Shown as byte	TRAFFIC	Ø
aws.applicationelb.rejected_connection_count (count)	The number of connections that were rejected because the load balancer had reached its maximum number of connections. Shown as connection	SATURA TION	×
aws.applicationelb.request_count (count)	Total number of completed requests that were received and routed to the registered instances. Shown as request	TRAFFIC	Ø

nws.applicationelb.request_count_per_target count)	The average number of requests received by each target in a target group. Shown as request	TRAFFIC	ਂ
aws.applicationelb.rule_evaluations count)	The number of rules processed by the load balancer given a request rate averaged over an hour.	SATURA TION	Ø
aws.applicationelb. desync_mitigation_mode_non_compliant_request count)	The number of requests that do not comply with RFC 7230. Shown as request	ERROR	Ø
aws.applicationelb.target_connection_error_count count)	Number of connections that were not successfully established between the load balancer and the registered instances. Shown as error	ERROR	×
aws.applicationelb.target_response_time.average gauge)	Average time elapsed after the request leaves the load balancer until a response is received. Shown as second	LATENCY	②
ws.applicationelb.target_response_time.maximum gauge)	Maximum time elapsed after the request leaves the load balancer until a response is received. Shown as second	LATENCY	8
aws.applicationelb.target_response_time.p50 gauge)	50th percentile of the time elapsed after the request leaves the load balancer until a response is received. Shown as second	LATENCY	8
aws.applicationelb.target_response_time.p90 gauge)	90th percentile of the time elapsed after the request leaves the load balancer until a response is received. Shown as second	LATENCY	8
aws.applicationelb.target_response_time.p95 gauge)	95th percentile of the time elapsed after the request leaves the load balancer until a response is received. Shown as second	LATENCY	②
aws.applicationelb.target_response_time.p99 gauge)	99th percentile of the time elapsed after the request leaves the load balancer until a response is received. Shown as second	ERROR	Ø
aws.applicationelb.target_tlsnegotiation_error_count count)	The number of TLS connections initiated by the load balancer that did not establish a session with the target. Shown as connection	SATURA TION	8
aws.applicationelb.un_healthy_host_count gauge)	Average number of unhealthy instances in each Availability Zone. Shown as host	SATURA TION	②
aws.applicationelb.un_healthy_host_count_deduped count)	The number of unhealthy instances per Availability Zone, regardless of if the Cross-Zone Load Balancing option is enabled or not. Shown as host	SATURA TION	②
aws.applicationelb.un_healthy_host_count.maximum gauge)	Maximum number of unhealthy instances in each Availability Zone. Shown as host	SATURA TION	×
aws.applicationelb.un_healthy_host_count.minimum gauge)	Minimium number of unhealthy instances in each Availability Zone. Shown as host	SATURA TION	×
aws.elb.active_connection_count count)	The total number of concurrent TCP connections active from clients to the load balancer and from the load balancer to targets. Shown as connection	TRAFFIC	×
aws.elb.backend_connection_errors rate)	Number of connections that were not successfully established between the load balancer and the registered instances. Shown as error	TRAFFIC	8
aws.elb.client_tlsnegotiation_error_count count)	Number of TLS negotiation errors Shown as error	ERROR	8
aws.elb.consumed_lbcapacity_units gauge)	Number of ELB capacity units consumed Shown as unit	SATURA TION	8
aws.elb.consumed_lcus gauge)	The number of load balancer capacity units (LCU) used by your load balancer. Shown as unit	SATURA TION	8
aws.elb.estimated_albactive_connection_count count)	The estimated total number of concurrent TCP connections active from clients to the load balancer and from the load balancer to targets. Shown as connection	TRAFFIC	×

aws.elb.estimated_albconsumed_lcus (gauge)	The estimated total number of load balancer capacity units (LCU) used by an gApplication Load Balancer. Shown as unit	SATURA	×
aws.elb.estimated_albnew_connection_count (count)	The estimated total number of new TCP connections established from clients to the load balancer and from the load balancer to targets Shown as connection	SATURA TION	8
aws.elb.estimated_processed_bytes (count)	The estimated total number of bytes processed by an Application Load Balancer. Shown as byte	TRAFFIC	8
aws.elb.healthy_host_count (gauge)	Average number of healthy instances in each Availability Zone. Shown as host	SATURA TION	8
aws.elb.healthy_host_count_deduped (count)	The number of healthy instances per Availability Zone, regardless of if the Cross-Zone Load Balancing option is enabled or not. Shown as host	SATURA TION	8
aws.elb.healthy_host_count.maximum (gauge)	Maximum number of healthy instances in each Availability Zone. Shown as host	SATURA TION	×
aws.elb.healthy_host_count.minimum (gauge)	Minimum number of healthy instances in each Availability Zone. Shown as host	SATURA TION	8
aws.elb.httpcode_backend_2xx (rate)	Number of HTTP 2XX response codes generated by registered instances. Shown as response	ERROR	8
aws.elb.httpcode_backend_3xx (rate)	Number of HTTP 3XX response codes generated by registered instances. Shown as response	ERROR	8
aws.elb.httpcode_backend_4xx (rate)	Number of HTTP 4XX response codes generated by registered instances. Shown as response	ERROR	8
aws.elb.httpcode_backend_5xx (rate)	Number of HTTP 5XX response codes generated by registered instances. Shown as response	ERROR	8
aws.elb.httpcode_elb_4xx (rate)	Number of HTTP 4XX client error codes generated by the load balancer. Shown as response	ERROR	8
aws.elb.httpcode_elb_5_0_0 (count)	The number of HTTP 500 error codes that originate from the load balancer. Shown as response	ERROR	×
aws.elb.httpcode_elb_5_0_2 (count)	The number of HTTP 502 error codes that originate from the load balancer. Shown as response	ERROR	8
aws.elb.httpcode_elb_5_0_3 (count)	The number of HTTP 503 error codes that originate from the load balancer. Shown as response	ERROR	×
aws.elb.httpcode_elb_5_0_4 (count)	The number of HTTP 504 error codes that originate from the load balancer. Shown as response	ERROR	×
aws.elb.httpcode_elb_5xx (rate)	Number of HTTP 5XX client error codes generated by the load balancer. Shown as response	ERROR	×
aws.elb.httpcode_target_2xx (count)	Number of HTTP 2XX response codes generated by the targets. Shown as response	ERROR	8
aws.elb.httpcode_target_3xx count)	Number of HTTP 3XX response codes generated by the targets. Shown as response	ERROR	×
aws.elb.httpcode_target_4xx (count)	Number of HTTP 4XX response codes generated by the targets. Shown as response	ERROR	8

aws.elb.httpcode_target_5xx (count)	Number of HTTP 5XX response codes generated by the targets. Shown as response	ERROR	×
aws.elb.httpcode_redirect (count)	The number of redirect actions that were successful. Shown as response	SATURA TION	8
aws.elb.ipv_6processed_bytes (count)	The total number of bytes processed by the load balancer over IPv6. Shown as byte	TRAFFIC	×
aws.elb.ipv_6request_count (count)	The number of IPv6 requests received by the load balancer. Shown as request	TRAFFIC	8
aws.elb.latency (gauge)	Average time elapsed after the request leaves the load balancer until a response is received. (ELB v1) Shown as second	LATENCY	Ø
aws.elb.latency.maximum (gauge)	Maximum time elapsed after the request leaves the load balancer until a response is received. (ELB v1) Shown as second	LATENCY	8
aws.elb.latency.minimum (gauge)	Minimum time elapsed after the request leaves the load balancer until a response is received. (ELB v1) Shown as second	LATENCY	×
aws.elb.latency.p95 (gauge)	95th percentile of the time elapsed after the request leaves the load balancer until a response is received. (ELB v1) Shown as second	LATENCY	×
aws.elb.latency.p99 (gauge)	99th percentile of the time elapsed after the request leaves the load balancer until a response is received. (ELB v1) Shown as second	LATENCY	×
aws.elb.new_connection_count (count)	The total number of new TCP connections established from clients to the load balancer and from the load balancer to targets. Shown as connection	TRAFFIC	×
aws.elb.processed_bytes (count)	The total number of bytes processed by the load balancer over IPv4 and IPv6. Shown as byte	TRAFFIC	×
aws.elb.request_count (rate)	Total number of completed requests that were received and routed to the registered instances. Shown as request	TRAFFIC	×
aws.elb.request_count_per_target (count)	The average number of requests received by each target in a target group. Shown as request	TRAFFIC	8
aws.elb.rule_evaluations (count)	The number of rules processed by the load balancer given a request rate averaged over an hour.	TRAFFIC	8
aws.elb.spillover_count (rate)	Total number of requests that were rejected because the queue was full. Shown as request	SATURA TION	Ø
aws.elb.spillover_count.maximum (rate)	Maximum number of requests that were rejected because the queue was full per load balancer node. Shown as request	SATURA TION	×
aws.elb.surge_queue_length (gauge)	Maximum number of requests that are pending submission to a registered instance. Shown as request	SATURA TION	×
aws.elb.target_connection_error_count (count)	Number of connections that were not successfully established between the load balancer and the registered instances. Shown as error	ERROR	×
aws.elb.target_response_time.average (gauge)	Average time elapsed after the request leaves the load balancer until a response is received. (ELB v2) Shown as second	LATENCY	×
aws.elb.target_response_time.maximum gauge)	Maximum time elapsed after the request leaves the load balancer until a response is received. (ELB v2) Shown as second	LATENCY	×
aws.elb.target_response_time.p95 (gauge)	95th percentile of the time elapsed after the request leaves the load balancer until a response is received. (ELB v2) Shown as second	LATENCY	×

aws.elb.target_response_time.p99 (gauge)	99th percentile of the time elapsed after the request leaves the load balancer until a response is received. (ELB v2) Shown as second	LATENCY	×
aws.elb.un_healthy_host_count (gauge)	Average number of unhealthy instances in each Availability Zone. Shown as host	SATURA TION	8
aws.elb.un_healthy_host_count_deduped (count)	The number of unhealthy instances per Availability Zone, regardless of if the Cross-Zone Load Balancing option is enabled or not. Shown as host	SATURA TION	8
aws.elb.un_healthy_host_count.maximum gauge)	Maximum number of unhealthy instances in each Availability Zone. Shown as host	SATURA TION	8
ws.elb.un_healthy_host_count.minimum gauge)	Minimium number of unhealthy instances in each Availability Zone. Shown as host	SATURA TION	8
aws.networkelb.active_flow_count gauge)	The average number of active established connections from clients to targets Shown as connection	TRAFFIC	②
aws.networkelb.active_flow_count_tls count)	The total number of concurrent TLS flows (or connections) from clients to targets. Shown as connection	TRAFFIC	8
aws.networkelb.active_flow_count.maximum (gauge)	The maximum number of active established connections from clients to targets Shown as connection	TRAFFIC	8
aws.networkelb.active_flow_count.minimum (gauge)	The minimum number of active established connections from clients to targets Shown as connection	TRAFFIC	8
nws.networkelb.client_tlsnegotiation_error_count count)	The total number of TLS handshakes that failed during negotiation between a client and a TLS listener. Shown as error	ERROR	Ø
aws.networkelb.consumed_lcus count)	The number of LCUs used by the load balancer Shown as unit	SATURA ITON	8
aws.networkelb.healthy_host_count gauge)	Average number of healthy targets Shown as host	SATURA ITON	Ø
aws.networkelb.healthy_host_count.maximum gauge)	Maximum number of healthy targets Shown as host	SATURA ITON	8
aws.networkelb.healthy_host_count.minimum gauge)	Minimum number of healthy targets Shown as host	SATURA ITON	×
aws.networkelb.new_flow_count count)	The number of new TCP connections from clients to targets Shown as connection	TRAFFIC	×
aws.networkelb.new_flow_count_tls count)	The total number of new TLS flows (or connections) established from clients to targets in the time period. Shown as connection	TRAFFIC	8
aws.networkelb.processed_bytes count)	The number of LCUs used by the load balancer Shown as byte	TRAFFIC	Ø
aws.networkelb.processed_bytes_tls (gauge)	The total number of bytes processed by TLS listeners. Shown as byte	TRAFFIC	×
aws.networkelb.target_tlsnegotiation_error_count count)	The total number of TLS handshakes that failed during negotiation between a TLS listener and a target. Shown as error	ERROR	②
aws.networkelb.tcpclient_reset_count count)	The number of reset (RST) packets created by a client and sent to a target Shown as packet	SATURA TION	Ø
aws.networkelb.tcpelbreset_count count)	The number of reset (RST) packets created by a load balancer Shown as packet	SATURA TION	Ø
aws.networkelb.tcptarget_reset_count count)	The number of reset (RST) packets created by a target and sent to a client Shown as packet	SATURA TION	Ø
aws.networkelb.un_healthy_host_count (gauge)	Average number of unhealthy targets Shown as host	SATURA TION	②

aws.networkelb.un_healthy_host_count.maximum (gauge)	Maximum number of unhealthy targets Shown as host	SATURA TION	8
aws.networkelb.un_healthy_host_count.minimum (gauge)	Minimum number of unhealthy targets Shown as host	SATURA TION	×

→ AWS S3

S3 Monitoring

Terraform Module repo:

https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-aws-s3-monitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVE
ws.s3.bucket_size_bytes gauge)	The amount of data in bytes stored in a bucket in the Standard storage class, Standard - Infrequent Access (Standard_IA) storage class, or the Reduced Redundancy Storage (RRS) class. Shown as byte	SATURA TION	•
aws.s3.number_of_objects gauge)	The total number of objects stored in a bucket for all storage classes except for the GLACIER storage class.	SATURA TION	Ø
ws.s3.all_requests count)	The total number of HTTP requests made to a bucket, regardless of type.	TRAFFIC	⊘
ws.s3.get_requests count)	The number of HTTP GET requests made for objects in a bucket. This doesn't include list operations.		
ws.s3.put_requests count)	The number of HTTP PUT requests made for objects in a bucket.		
ws.s3.delete_requests count)	The number of HTTP DELETE requests made for objects in a bucket. This also includes Delete Multiple Objects requests.	TRAFFIC	②
ws.s3.head_requests count)	The number of HTTP HEAD requests made to a bucket.		
ws.s3.post_requests count)	The number of HTTP POST requests made to a bucket.		
ws.s3.list_requests count)	The number of HTTP requests that list the contents of a bucket.		
nws.s3.bytes_downloaded count)	The total number bytes downloaded from the bucket. Shown as byte	TRAFFIC	②
ws.s3.bytes_uploaded count)	The total number bytes uploaded to the bucket. Shown as byte	TRAFFIC	②
nws.s3.4xx_errors count)	The total number of HTTP 4xx server error status code requests made to a bucket	ERROR	②
ws.s3.5xx_errors count)	The total number of HTTP 5xx server error status code requests made to a bucket	ERROR	②
ws.s3.first_byte_latency gauge)	The average per-request time from the complete request being received by a bucket to when the response starts to be returned. Shown as millisecond	LATENCY	Ø
ws.s3.first_byte_latency.minimum gauge)	The minimum per-request time from the complete request being received by a bucket to when the response starts to be returned. Shown as millisecond		
ws.s3.first_byte_latency.maximum gauge)	The maximum per-request time from the complete request being received by a bucket to when the response starts to be returned. Shown as millisecond		
ws.s3.first_byte_latency.p50 gauge)	The 50 percentile per-request time from the complete request being received by a bucket to when the response starts to be returned. Shown as millisecond		

aws.s3.first_byte_latency.p90 (gauge)	The 90 percentile per-request time from the complete request being received by a bucket to when the response starts to be returned. Shown as millisecond		
aws.s3.first_byte_latency.p95 (gauge)	The 95 percentile per-request time from the complete request being received by a bucket to when the response starts to be returned. Shown as millisecond		
aws.s3.first_byte_latency.p99 (gauge)	The 99 percentile per-request time from the complete request being received by a bucket to when the response starts to be returned. Shown as millisecond		
aws.s3.first_byte_latency.p99.99 (gauge)	The 99.99 percentile per-request time from the complete request being received by a bucket to when the response starts to be returned. Shown as millisecond		
aws.s3.total_request_latency (gauge)	The average elapsed per-request time from the first byte received to the last byte sent to a bucket Shown as millisecond	LATENCY	Ø
aws.s3.total_request_latency.minimum (gauge)	The minimum elapsed per-request time from the first byte received to the last byte sent to a bucket Shown as millisecond		
aws.s3.total_request_latency.maximum (gauge)	The maximum elapsed per-request time from the first byte received to the last byte sent to a bucket Shown as millisecond		
aws.s3.total_request_latency.p50 (gauge)	The 50 percentile elapsed per-request time from the first byte received to the last byte sent to a bucket Shown as millisecond		
aws.s3.total_request_latency.p90 (gauge)	The 90 percentile elapsed per-request time from the first byte received to the last byte sent to a bucket Shown as millisecond		
aws.s3.total_request_latency.p95 (gauge)	The 95 percentile elapsed per-request time from the first byte received to the last byte sent to a bucket Shown as millisecond		
aws.s3.total_request_latency.p99 (gauge)	The 90 percentile elapsed per-request time from the first byte received to the last byte sent to a bucket Shown as millisecond		
aws.s3.total_request_latency.p99.99 (gauge)	The 99.99 percentile elapsed per-request time from the first byte received to the last byte sent to a bucket <i>Shown as millisecond</i>		
aws.s3.replication_latency.maximum (gauge)	The maximum number of seconds by which the replication destination Region is behind the source Region Shown as second		
aws.s3.bytes_pending_replication.maximum (gauge)	The total number of bytes of objects pending replication Shown as byte		
aws.s3.operations_pending_replication.maximum (gauge)	The number of operations pending replication		

→ AWS API Gateway

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
aws.apigateway.4xxerror (count)	The number of client-side errors Shown as operation	ERROR	②
aws.apigateway.5xxerror (count)	The number of server-side errors Shown as operation	ERROR	②
aws.apigateway.cache_hit_count (count)	The number of requests served from the API cache Shown as operation	SATURA TION	8
aws.apigateway.cache_miss_count (count)	The number of requests served from the back end when API caching is enabled Shown as operation	SATURA TION	8

aws.apigateway.client_error.sum count)	The total number of requests that have a 4XX response returned by API Gateway before the integration is invoked. Shown as operation	ERROR	8
aws.apigateway.client_error (count)	The average number of requests that have a 4XX response returned by API Gateway before the integration is invoked. Shown as operation	ERROR	8
aws.apigateway.connect_count.sum (count)	The total number of messages sent to the \$connect route integration. Shown as operation	SATURA TION	8
aws.apigateway.connect_count (count)	The average number of messages sent to the \$connect route integration. Shown as operation	SATURA TION	8
aws.apigateway.count (count)	The number call to API methods Shown as operation	SATURA TION	②
aws.apigateway.execution_error.sum (count)	Total errors that occurred when calling the integration. Shown as operation	ERROR	8
aws.apigateway.execution_error (count)	Average errors that occurred when calling the integration. Shown as operation	ERROR	8
aws.apigateway.integration_error.sum (count)	The total number of requests that return a 4XX/5XX response from the integration. Shown as operation	ERROR	8
aws.apigateway.integration_error (count)	The average number of requests that return a 4XX/5XX response from the integration. Shown as operation	ERROR	8
aws.apigateway.integration_latency.maximum (gauge)	The maximum time between when API Gateway relays a request to the back end and when it receives a response from the back end. Shown as millisecond	SATURA TION	②
aws.apigateway.integration_latency.minimum gauge)	The minimum time between when API Gateway relays a request to the back end and when it receives a response from the back end. Shown as millisecond	SATURA TION	Ø
aws.apigateway.integration_latency.p90 (gauge)	The 90th percentile time between when API Gateway relays a request to the back end and when it receives a response from the back end. Shown as millisecond	SATURA TION	8
aws.apigateway.integration_latency.p95 gauge)	The 95th percentile time between when API Gateway relays a request to the back end and when it receives a response from the back end. Shown as millisecond	SATURA TION	8
aws.apigateway.integration_latency.p99 (gauge)	The 99th percentile time between when API Gateway relays a request to the back end and when it receives a response from the back end. Shown as millisecond	SATURA TION	8
aws.apigateway.integration_latency (gauge)	The time between when API Gateway relays a request to the back end and when it receives a response from the back end. Shown as millisecond	SATURA TION	②
aws.apigateway.latency.maximum (gauge)	The maximum time between when requests are received and when responses returned Shown as millisecond	SATURA TION	②
aws.apigateway.latency.minimum (gauge)	The minimum time between when requests are received and when responses returned Shown as millisecond	SATURA TION	②
aws.apigateway.latency.p90 (gauge)	The 90th percentile time between when requests are received and when responses returned Shown as millisecond	SATURA TION	8
aws.apigateway.latency.p95 (gauge)	The 95th percentile time between when requests are received and when responses returned Shown as millisecond	SATURA TION	8
aws.apigateway.latency.p99 (gauge)	The 99th percentile time between when requests are received and when responses returned Shown as millisecond	SATURA TION	8

aws.apigateway.latency (gauge)	The time between when API Gateway receives a request from a client and when it returns a response to the client. The latency includes the integration_latency and other API Gateway overhead. Shown as millisecond	SATURA TION	•
aws.apigateway.message_count.sum (count)	The total number of messages sent to the WebSocket API, either from or to the client. Shown as operation	SATURA TION	8
aws.apigateway.message_count (count)	The average number of messages sent to the WebSocket API, either from or to the client. Shown as operation	SATURA TION	8

AWS Web Application Firewall (WAF)

WAF Monitoring

Terraform Module repo:

https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-aws-waf-monitors

METRIC NAME	DESCRIPTION	SIGNAL CO TYPE	OVER
aws.wafv2.allowed_requests (gauge)	The number of allowed web requests. Shown as request	SATURA TION	
aws.wafv2.blocked_requests (gauge)	The number of blocked web requests. Shown as request	SATURA TION	
aws.wafv2.counted_requests (gauge)	The number of counted web requests. Shown as request	SATURA TION	
aws.wafv2.passed_requests (gauge)	The number of passed web requests. Shown as request	SATURA TION	
aws.waf.allowed_requests (gauge)	The number of allowed web requests. Shown as request	SATURA TION	
aws.waf.blocked_requests (gauge)	The number of blocked web requests. Shown as request	SATURA TION	
aws.waf.counted_requests (gauge)	The number of counted web requests. Shown as request	SATURA TION	
aws.waf.passed_requests (gauge)	The number of passed web requests. Shown as request	SATURA TION	
waf.allowed_requests (gauge)	The number of allowed web requests. Shown as request	SATURA TION	
waf.blocked_requests (gauge)	The number of blocked web requests. Shown as request	SATURA TION	
waf.counted_requests (gauge)	The number of counted web requests. Shown as request	SATURA TION	
waf.passed_requests (gauge)	The number of passed web requests. Shown as request	SATURA TION	

→ AWS RDS (Relational Database Service)

RDS Monitoring

Terraform Module repo:

https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-aws-rds-monitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
aws.rds.bin_log_disk_usage (gauge)	Amount of disk space occupied by binary logs on the master. (Standard) Shown as byte		
<pre>aws.rds.burst_balance (gauge)</pre>	The percent of General Purpose SSD (gp2) burst-bucket I/O credits available. (Standard) Shown as percent		
aws.rds.cpucredit_balance (gauge)	[T2 instances] Number of CPU credits that an instance has accumulated. (Standard)		

aws.rds.cpucredit_usage (gauge)	[T2 instances] Number of CPU credits consumed. (Standard)		
aws.rds.cpusurplus_credit_balance (gauge)	The number of surplus credits that have been spent by an unlimited instance when its CPUCreditBalance value is zero.		
aws.rds.cpusurplus_credits_charged (gauge)	The number of spent surplus credits that are not paid down by earned CPU credits, and which thus incur an additional charge.		
aws.rds.cpuutilization (gauge)	Percentage of CPU utilization. Recommended metric for standard monitoring. (Standard) Shown as percent	SATURA TION	②
aws.rds.database_connections (gauge)	Number of database connections in use. (Standard) Shown as connection	TRAFFIC	Ø
aws.rds.dbload (gauge)	The number of active sessions for the DB engine (Performance Insights must be enabled). Shown as session		
aws.rds.dbload_cpu (gauge)	The number of active sessions where the wait event type is CPU (Performance Insights must be enabled). Shown as session	TRAFFIC	②
aws.rds.dbload_non_cpu (gauge)	The number of active sessions where the wait event type is not CPU (Performance Insights must be enabled). Shown as session	TRAFFIC	②
aws.rds.disk_queue_depth (gauge)	Number of outstanding IOs (read/write requests) waiting to access the disk. (Standard) Shown as request	SATURA TION	②
aws.rds.failed_sqlserver_agent_jobs_count (count)	The number of failed SQL Server Agent jobs during the last minute. Shown as minute		
aws.rds.free_storage_space (gauge)	Amount of available storage space. (Standard) Shown as byte		
aws.rds.freeable_memory (gauge)	Amount of available random access memory. (Standard) Shown as byte	SATURA TION	②
aws.rds.maximum_used_transaction_ids (count)	The maximum transaction ID that has been used. Applies to PostgreSQL.		
aws.rds.network_receive_throughput (rate)	Incoming (Receive) network traffic on the DB instance. (Standard) Shown as byte	TRAFFIC	②
aws.rds.network_transmit_throughput (rate)	Outgoing (Transmit) network traffic on the DB instance. (Standard) Shown as byte	TRAFFIC	②
aws.rds.oldest_replication_slot_lag (gauge)	The lagging size of the replica lagging the most in terms of WAL data received. Applies to PostgreSQL. Shown as byte		
aws.rds.read_iops (rate)	Average number of disk read I/O operations. (Standard) Shown as operation		
aws.rds.read_latency (gauge)	Average amount of time taken per disk read I/O operation. (Standard) Shown as second		
aws.rds.read_throughput (rate)	Average number of bytes read from disk. (Standard) Shown as byte		
aws.rds.replica_lag (gauge)	Amount of time a Read Replica DB Instance lags behind the source DB Instance.(Standard) Shown as second		
aws.rds.swap_usage (gauge)	Amount of swap space used on the DB Instance. (Standard) Shown as byte		
aws.rds.total_storage_space (gauge)	Total amount of storage available on an instance. (Standard) Shown as byte		
aws.rds.transaction_logs_generation (gauge)	The size of transaction logs generated per second. Applies to PostgreSQL. Shown as byte		

aws.rds.write_iops (rate)	Average number of disk write I/O operations per second. (Standard) Shown as operation	
aws.rds.write_latency (gauge)	Average amount of time taken per disk write I/O operation. (Standard) Shown as second	
aws.rds.write_throughput (rate)	Average number of bytes written to (Standard) Shown as byte	
aws.rds.active_transactions (gauge)	The average rate of current transactions executing on a DB instance. (Standard, Aurora-MySQL only) Shown as transaction	
aws.rds.aurora_binlog_replica_lag (gauge)	The amount of time a replica DB cluster running on Aurora with MySQL compatibility lags behind the source DB cluster. (Standard, Aurora-MySQL only) Shown as second	
aws.rds.aurora_replica_lag_maximum (gauge)	The maximum amount of lag between the primary instance and each Aurora instance in the DB cluster. (Standard, Aurora only) Shown as millisecond	
aws.rds.aurora_replica_lag_minimum (gauge)	The minimum amount of lag between the primary instance and each Aurora instance in the DB cluster. (Standard, Aurora only) Shown as millisecond	
aws.rds.aurora_replica_lag (gauge)	The average lag when replicating updates from the primary instance. (Standard, Aurora only) Shown as millisecond	
aws.rds.backup_retention_period_storage_used (gauge)	The amount of backup storage used for storing continuous backups at the current time (Aurora). Shown as gibibyte	
<pre>aws.rds.blocked_transactions (count)</pre>	The average rate of transactions in the database that are blocked. (Standard, Aurora-MySQL only) Shown as transaction	
<pre>aws.rds.buffer_cache_hit_ratio (gauge)</pre>	The percentage of requests that are served by the Buffer cache. (Standard, Aurora only) Shown as percent	
<pre>aws.rds.commit_latency (gauge)</pre>	The amount of latency for committed transactions. (Standard, Aurora only) Shown as millisecond	
<pre>aws.rds.commit_throughput (rate)</pre>	The average rate of committed transactions. (Standard, Aurora only) Shown as transaction	
aws.rds.cpuutilization.guest (gauge)	The percentage of CPU in use by guest programs. (Enhanced) Shown as percent	
aws.rds.cpuutilization.idle (gauge)	The percentage of CPU that is idle. (Enhanced) Shown as percent	
aws.rds.cpuutilization.irq (gauge)	The percentage of CPU in use by software interrupts. (Enhanced) Shown as percent	
aws.rds.cpuutilization.kern (gauge)	The percentage of CPU in use by the kernel. (Enhanced, SQL Server Only) Shown as percent	
aws.rds.cpuutilization.nice (gauge)	The percentage of CPU in use by programs running at lowest priority. (Enhanced) Shown as percent	
aws.rds.cpuutilization.steal (gauge)	The percentage of CPU in use by other virtual machines. (Enhanced) Shown as percent	
aws.rds.cpuutilization.system (gauge)	The percentage of CPU in use by the kernel. (Enhanced) Shown as percent	
aws.rds.cpuutilization.total (gauge)	The total percentage of the CPU in use. This value excludes the nice value. Recommended metric for enhanced monitoring. (Enhanced) Shown as percent	

aws.rds.cpuutilization.user (gauge)	The percentage of CPU in use by user programs. (Enhanced) Shown as percent		
aws.rds.cpuutilization.wait (gauge)	The percentage of CPU unused while waiting for I/O access. (Enhanced) Shown as percent		
aws.rds.ddllatency (gauge)	The amount of latency for DDL requests (create/alter/drop). (Standard, Aurora-MySQL only) Shown as millisecond		
aws.rds.ddlthroughput (rate)	The average rate of DDL requests per second. (Standard, Aurora-MySQL only) Shown as request		
aws.rds.deadlocks (count)	The average number of deadlocks in the database per second. (Standard, Aurora only) Shown as lock		
aws.rds.delete_latency (gauge)	The average latency for delete queries. (Standard, Aurora only) Shown as millisecond		
aws.rds.delete_throughput (rate)	The average rate of delete queries. (Standard, Aurora only) Shown as query		
aws.rds.diskio.avgQueueLen (gauge)	The number of requests waiting in the I/O device's queue. This metric is not available for Amazon Aurora. (Enhanced) Shown as request		
aws.rds.diskio.avgReqSz (gauge)	The average request size. This metric is not available for Amazon Aurora. (Enhanced) Shown as kibibyte		
aws.rds.diskio.await (gauge)	The number of milliseconds required to respond to requests including queue time and service time. This metric is not available for Amazon Aurora. (Enhanced) Shown as millisecond		
aws.rds.dmllatency (gauge)	The average latency for inserts and updates and deletes. (Standard, Aurora-MySQL only) Shown as millisecond	LATENCY	Ø
aws.rds.dmlthroughput (rate)	The average rate of inserts and updates and deletes. (Standard, Aurora-MySQL only) Shown as operation		
aws.rds.engine_uptime (gauge)	The amount of time that the DB instance has been active. (Standard, Aurora only) Shown as second		
aws.rds.free_local_storage (gauge)	The amount of local storage that is free on an instance. (Standard, Aurora only) Shown as byte		
aws.rds.insert_latency (gauge)	The amount of latency for insert queries. (Standard, Aurora-MySQL only) Shown as millisecond		
aws.rds.insert_throughput (rate)	The average rate of insert queries. (Standard, Aurora-MySQL only) Shown as query		
aws.rds.login_failures (count)	The average number of failed login attempts per second (Standard, Aurora-MySQL only) Shown as operation	ERROR	②
aws.rds.network_throughput (rate)	The rate of network throughput sent and received from clients by each instance in the DB cluster. (Standard, Aurora only) Shown as byte		
aws.rds.queries (rate)	The average rate of queries. (Standard, Aurora-MySQL only) Shown as query		
aws.rds.rdsto_aurora_postgre_sqlreplica_lag (gauge)	The amount of lag in seconds when replicating updates from the primary RDS PostgreSQL instance to other nodes in the cluster. (Standard, Aurora-Postgres Only) Shown as second		
aws.rds.replication_slot_disk_usage (gauge)	The disk space used by replication slot files. (Standard, Postgres Only) Shown as byte		

aws.rds.result_set_cache_hit_ratio (gauge)	The percentage of requests that are served by the Resultset cache. (Standard, Aurora-MySQL only) Shown as percent		
aws.rds.select_latency (gauge)	The average latency for select queries. (Standard, Aurora-MySQL only) Shown as millisecond	LATENCY	②
aws.rds.select_throughput rate)	The average rate of select queries. (Standard, Aurora-MySQL only) Shown as query		
aws.rds.snapshot_storage_used (gauge)	The amount of backup storage used for storing manual snapshots beyond the backup retention period (Aurora). Shown as gibibyte		
aws.rds.total_backup_storage_billed gauge)	The sum of BackupRetentionPeriodStorageUsed and SnapshotStorageUsed minus an amount of free backup storage which equals the size of the cluster volume for one day (Aurora). Shown as gibibyte		
aws.rds.transaction_logs_disk_usage (gauge)	Amount of disk space occupied by transaction logs. (Standard, Postgres Only) Shown as byte		
aws.rds.update_latency (gauge)	The average latency for update queries. (Standard, Aurora-MySQL only) Shown as millisecond		
aws.rds.update_throughput (rate)	The average rate of update queries. (Standard, Aurora-MySQL only) Shown as query		
aws.rds.volume_bytes_used (gauge)	The amount of storage in bytes used by your Aurora database. (Standard, Aurora only) Shown as byte		
aws.rds.volume_read_iops (count)	The number of billed read I/O operations from a cluster volume, reported at 5-minute intervals (Standard, Aurora only) Shown as operation		
aws.rds.volume_write_iops (count)	The average number of write disk I/O operations to the cluster volume reported at 5-minute intervals (Standard, Aurora only) Shown as operation		
aws.rds.diskio.readlOsPS (rate)	The rate of read operations. (Enhanced) Shown as operation		
aws.rds.diskio.readKb (gauge)	The total amount of data read. This metric is not available for Amazon Aurora. (Enhanced) Shown as kibibyte		
aws.rds.diskio.readKbPS (rate)	The rate that data is read. This metric is not available for Amazon Aurora. (Enhanced) Shown as kibibyte		
aws.rds.diskio.rrqmPS (rate)	The rate of merged read requests queue. This metric is not available for Amazon Aurora. (Enhanced) Shown as request		
aws.rds.diskio.tps (rate)	The rate of I/O transactions. This metric is not available for Amazon Aurora. (Enhanced) Shown as transaction		
aws.rds.diskio.util (gauge)	The percentage of CPU time during which requests were issued. The percentage of CPU time during which requests were issued. (Enhanced) Shown as percent		
aws.rds.diskio.writelOsPS (rate)	The rate of write operations. (Enhanced) Shown as operation		
aws.rds.diskio.writeKb (gauge)	The total amount of data written. This metric is not available for Amazon Aurora. (Enhanced) Shown as kibibyte		
aws.rds.diskio.writeKbPS (rate)	The rate that data is written. This metric is not available for Amazon Aurora. (Enhanced) Shown as kibibyte		

aws.rds.diskio.wrqmPS (rate)	The rate of merged write requests queue. This metric is not available for Amazon Aurora. (Enhanced) Shown as request	
aws.rds.filesystem.maxFiles (gauge)	The maximum number of files that can be created for the file system. (Enhanced) Shown as file	
aws.rds.filesystem.total (gauge)	The total amount of disk space available for the file system. (Enhanced) Shown as kibibyte	
aws.rds.filesystem.used (gauge)	The amount of disk space used by files in the file system. (Enhanced) Shown as kibibyte	
aws.rds.filesystem.usedFilePercent (gauge)	The percentage of available files in use. (Enhanced) Shown as percent	
aws.rds.filesystem.usedFiles (gauge)	The number of files in the file system. (Enhanced) Shown as file	
aws.rds.filesystem.usedPercent (gauge)	The percentage of the file-system disk space in use. (Enhanced) Shown as percent	
aws.rds.load.1 (gauge)	The number of processes requesting CPU time over the last minute. (Enhanced) Shown as process	
aws.rds.load.15 (gauge)	The number of processes requesting CPU time over the last 15 minutes. (Enhanced) Shown as process	
aws.rds.load.5 (gauge)	The number of processes requesting CPU time over the last 5 minutes. (Enhanced) Shown as process	
aws.rds.memory.active (gauge)	The amount of assigned memory. (Enhanced) Shown as kibibyte	
aws.rds.memory.buffers (gauge)	The amount of memory used for buffering I/O requests prior to writing to the storage device. (Enhanced) Shown as kibibyte	
aws.rds.memory.cached (gauge)	The amount of memory used for caching file system-based I /O. (Enhanced) Shown as kibibyte	
aws.rds.memory.commitLimitKb (gauge)	The maximum possible value for the commitTotKb metric. This value is the sum of the current pagefile size plus the physical memory available for pageable contents—excluding RAM that is assigned to non-pageable areas. (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.memory.commitPeakKb (gauge)	The largest value of the commitTotKb metric since the operating system was last started. (Enhanced, SQL Server Only) Shown as kibibyte	
<pre>aws.rds.memory.commitTotKb (gauge)</pre>	The amount of pagefile-backed virtual address space in use, that is, the current commit charge. This value is composed of main memory (RAM) and disk (pagefiles). (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.memory.dirty (gauge)	The amount of memory pages in RAM that have been modified but not written to their related data block in storage. (Enhanced) Shown as kibibyte	
aws.rds.memory.free (gauge)	The amount of unassigned memory. (Enhanced) Shown as kibibyte	
aws.rds.memory.hugePagesFree (gauge)	The number of free huge pages. (Enhanced) Shown as page	
aws.rds.memory.hugePagesRsvd (gauge)	The number of committed huge pages. (Enhanced) Shown as page	
aws.rds.memory.hugePagesSize (gauge)	The size for each huge pages unit. (Enhanced) Shown as kibibyte	

aws.rds.memory.hugePagesSurp (gauge)	The number of available surplus huge pages over the total. (Enhanced) Shown as page	
aws.rds.memory.hugePagesTotal (gauge)	The total number of huge pages for the system. (Enhanced) Shown as page	
aws.rds.memory.inactive (gauge)	The amount of inactive memory (Enhanced) Shown as kibibyte	
aws.rds.memory.kernNonpagedKb (gauge)	The amount of memory in the non-paged kernel pool. (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.memory.kernPagedKb (gauge)	The amount of memory in the paged kernel pool. (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.memory.kernTotKb (gauge)	The sum of the memory in the paged and non-paged kernel pools. (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.memory.mapped (gauge)	The total amount of file-system contents that is memory mapped inside a process address space. (Enhanced) Shown as kibibyte	
aws.rds.memory.pageSize (gauge)	The size of a page. (Enhanced, SQL Server Only) Shown as byte	
aws.rds.memory.pageTables (gauge)	The amount of memory used by page tables. (Enhanced) Shown as kibibyte	
aws.rds.memory.physAvailKb (gauge)	The amount of available physical memory. (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.memory.physTotKb (gauge)	The amount of physical memory. (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.memory.slab (gauge)	The amount of reusable kernel data structures. (Enhanced) Shown as kibibyte	
aws.rds.memory.sqlServerTotKb (gauge)	The amount of memory committed to Microsoft SQL Server. (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.memory.sysCacheKb (gauge)	The amount of system cache memory. (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.memory.total (gauge)	The total amount of memory. (Enhanced) Shown as kibibyte	
aws.rds.memory.writeback (gauge)	The amount of dirty pages in RAM that are still being written to the backing storage. (Enhanced) Shown as kibibyte	
aws.rds.network.rdBytesPS (gauge)	The number of bytes received per second. (Enhanced, SQL Server Only) Shown as byte	
aws.rds.network.rx (gauge)	The number of packets received. (Enhanced) Shown as packet	
aws.rds.network.tx (gauge)	The number of packets uploaded. (Enhanced) Shown as packet	
aws.rds.network.wrBytesPS (gauge)	The number of bytes sent per second. (Enhanced, SQL Server Only) Shown as byte	
aws.rds.process.cpuUsedPc (gauge)	The percentage of CPU used by the process. (Enhanced) Shown as percent	
aws.rds.process.memoryUsedPc (gauge)	The amount of memory used by the process. (Enhanced) Shown as kibibyte	
(gaago)		

aws.rds.process.parentID (gauge)	The process identifier for the parent proces of the process. (Enhanced)	
aws.rds.process.pid (gauge)	The identifier of the process. This value is not present for processes that are owned by Amazon RDS. (Enhanced, SQL Server Only)	
aws.rds.process.ppid (gauge)	The process identifier for the parent of this process. This value is only present for child processes. (Enhanced, SQL Server Only)	
aws.rds.process.rss (gauge)	The amount of RAM allocated to the process. (Enhanced) Shown as kibibyte	
aws.rds.process.tgid (gauge)	The thread group identifier which is a number representing the process ID to which a thread belongs. This identifier is used to group threads from the same process. (Enhanced)	
aws.rds.process.tid (gauge)	The thread identifier. This value is only present for threads. The owning process can be identified by using the pid value. (Enhanced, SQL Server Only)	
aws.rds.process.virtKb (gauge)	The amount of virtual address space the process is using. Use of virtual address space does not necessarily imply corresponding use of either disk or main memory pages. (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.process.vss (gauge)	The amount of virtual memory allocated to the process. (Enhanced) Shown as kibibyte	
aws.rds.process.workingSetKb (gauge)	The amount of memory in the private working set plus the amount of memory that is in use by the process and can be shared with other processes. (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.process.workingSetPrivKb (gauge)	The amount of memory that is in use by a process, but can't be shared with other processes. (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.process.workingSetShareableKb (gauge)	The amount of memory that is in use by a process and can be shared with other processes. (Enhanced, SQL Server Only) Shown as kibibyte	
aws.rds.swap.cached (gauge)	The amount of swap memory used as cache memory. (Enhanced) Shown as kibibyte	
aws.rds.swap.free (gauge)	The total amount of swap memory free. (Enhanced) Shown as kibibyte	
aws.rds.swap.in (gauge)	The amount of memory swapped in from disk. (Enhanced) Shown as kibibyte	
aws.rds.swap.out (gauge)	The amount of memory swapped out from disk. (Enhanced) Shown as kibibyte	
aws.rds.swap.total (gauge)	The total amount of swap memory available. (Enhanced) Shown as kibibyte	
aws.rds.tasks.blocked (gauge)	The number of tasks that are blocked. (Enhanced) Shown as task	
aws.rds.tasks.running (gauge)	The number of tasks that are running. (Enhanced) Shown as task	
aws.rds.tasks.sleeping (gauge)	The number of tasks that are sleeping. (Enhanced) Shown as task	
aws.rds.tasks.stopped (gauge)	The number of tasks that are stopped. (Enhanced) Shown as task	
aws.rds.tasks.total (gauge)	The total number of tasks. (Enhanced) Shown as task	
aws.rds.tasks.zombie	The number of child tasks that are inactive with an active parent task. (Enhanced)	
(gauge)	Shown as task	

aws.rds.virtual_cpus (gauge)	The number of virtual CPUs for the DB instance. (Enhanced) Shown as cpu		
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AWS Route 53

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
aws.route53.health_check_percentage_healthy (gauge)	The percentage of Amazon Route 53 health checkers that consider the selected endpoint to be healthy. Shown as percent	SATURA TION	•
aws.route53.health_check_status (gauge)	The status of the health check endpoint that CloudWatch is checking. 1 indicates healthy, and 0 indicates unhealthy.	ERROR	②
aws.route53.connection_time (gauge)	The average time that it took Amazon Route 53 health checkers to establish a TCP connection with the endpoint. Shown as millisecond	SATURA TION	8
aws.route53.time_to_first_byte (gauge)	The average time that it took Amazon Route 53 health checkers to receive the first byte of the response to an HTTP or HTTPS request. Shown as millisecond	SATURA TION	8
aws.route53.sslhandshake_time (gauge)	The average time that it took Amazon Route 53 health checkers to complete the SSL handshake.	SATURA TION	8
aws.route53.child_health_check_healthy_count (gauge)	For a calculated health check, the number of health checks that are healthy among the health checks that Amazon Route 53 is monitoring.	ERROR	8
aws.route53.dnsqueries (count)	The number of DNS queries that Route53 responds to for all records in a hosted zone. Shown as query	ERROR	•
aws.route53resolver.inbound_query_volume (count)	The number of DNS queries forwarded from your network to your VPCs through the endpoint specified by Endpointld. Shown as query	TRAFFIC	•
aws.route53resolver.outbound_query_volume (count)	The number of DNS queries forwarded from your VPCs to your network through the endpoint specified by Endpointld. Shown as query	TRAFFIC	•
aws.route53resolver.outbound_query_aggregate_volume (count)	The number of DNS queries forwarded from your VPCs to your network through the endpoint that is specified by Endpointld. Shown as query	TRAFFIC	8

CloudFlare

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
cloudflare.requests.all (count)	Total request count Shown as request	TRAFFIC	Ø
cloudflare.requests.cached (count)	Cached requests count Shown as request	TRAFFIC	•
cloudflare.requests.uncached (count)	Uncached requests count Shown as request	TRAFFIC	•
cloudflare.requests.ssl.encrypted (count)	SSL encrypted requests count Shown as request	TRAFFIC	•
cloudflare.requests.ssl.unencrypted (count)	Unencrypted requests count Shown as request	TRAFFIC	②
cloudflare.requests.country (count)	Request count, tagged by IATA country code Shown as request	TRAFFIC	8
cloudflare.requests.status (count)	Request count, tagged by HTTP response code Shown as request	TRAFFIC	Ø
cloudflare.requests.content_type (count)	Request count, tagged by Content-Type Shown as request	TRAFFIC	Ø
cloudflare.requests.ip_class (count)	Request count, tagged by IP class Shown as request	TRAFFIC	×

cloudflare.bandwidth.all (count)	Total bandwidth Shown as byte	SATURAT	8
cloudflare.bandwidth.cached (count)	Cached bandwidth Shown as byte	SATURAT	8
cloudflare.bandwidth.uncached (count)	Uncached bandwidth Shown as byte	SATURAT	8
cloudflare.bandwidth.ssl.encrypted (count)	SSL encrypted bandwidth Shown as byte	SATURAT	8
cloudflare.bandwidth.ssl.unencrypted (count)	Unencrypted bandwidth Shown as byte	SATURAT	8
cloudflare.bandwidth.country (count)	Bandwidth tagged by IATA country code Shown as byte	SATURAT	8
cloudflare.bandwidth.content_type (count)	Bandwidth tagged by Content-Type Shown as byte	SATURAT	8
cloudflare.threats.all (count)	Total threats Shown as operation	ERROR	②
cloudflare.threats.type (count)	Threats tagged by type Shown as operation	ERROR	②
cloudflare.threats.country (count)	Threats tagged by IATA country code Shown as operation	ERROR	8
cloudflare.pageviews.all (count)	Total page views Shown as page	TRAFFIC	②
cloudflare.pageviews.search_engine (count)	Page views tagged by search engine Shown as page	TRAFFIC	8
cloudflare.uniques.all (count)	Unique visitors count Shown as connection	TRAFFIC	×
cloudflare.dns.query.all (count)	DNS query count Shown as request	TRAFFIC	8
cloudflare.dns.query.uncached (count)	Uncached DNS query count Shown as request	TRAFFIC	8
cloudflare.dns.query.stale (count)	Stale DNS query count Shown as request	TRAFFIC	8
cloudflare.dns.response_time.avg (gauge)	DNS query average response time Shown as millisecond	LATENCY	8
cloudflare.dns.response_time.median (gauge)	DNS query median response time Shown as millisecond	LATENCY	8
cloudflare.dns.response_time.90p (gauge)	DNS query response time to the 90th percentile Shown as millisecond	LATENCY	8
cloudflare.dns.response_time.99p (gauge)	DNS query response time to the 99th percentile Shown as millisecond	LATENCY	8
cloudflare.workers.requests.all (count)	The request count to the worker script (metrics may not show without enabled API Key permissions) Shown as request	TRAFFIC	8
cloudflare.workers.requests.errors (count)	The error count to the worker script (metrics may not show without enabled API Key permissions) Shown as request	ERROR	8
cloudflare.workers.requests.subrequests (count)	The subrequest count to the worker script (metrics may not show without enabled API Key permissions) Shown as request	TRAFFIC	×
cloudflare.workers.response_time.75p (gauge)	The worker response time to the 75th percentile (metrics may not show without enabled API Key permissions) Shown as millisecond	LATENCY	×
cloudflare.workers.response_time.99p (gauge)	The worker response time to the 99th percentile (metrics may not show without enabled API Key permissions) Shown as millisecond	LATENCY	×
cloudflare.load_balancer.pool.round_trip_time.average (gauge)	The average round trip time to reach the load balancer pool Shown as millisecond	LATENCY	8

cloudfla	re.load_balancer.pool.health.status	The load balancer pool health status	ERROR	7
(count)		Shown as request		

VPC (Virtual Private Cloud)VPC Monitoring

Terraform Module repo:

https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-aws-vpc-monitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
ws.transitgateway.bytes_in count)	The number of bytes received by the transit gateway. Shown as byte	TRAFFIC	②
ws.transitgateway.bytes_out count)	The number of bytes sent from the transit gateway. Shown as byte	TRAFFIC	②
ws.transitgateway.packet_drop_count_blackhole count)	The number of packets dropped because they matched a blackhole route. Shown as packet	SATURA TION	⊘
ws.transitgateway.packet_drop_count_no_route count)	The number of packets dropped because they did not match a route. Shown as packet	SATURA TION	②
ws.transitgateway.packets_in count)	The number of packets received by the transit gateway. Shown as packet	TRAFFIC	8
ws.transitgateway.packets_out count)	The number of packets sent by the transit gateway. Shown as packet	TRAFFIC	8
ws.vpc.flowlogs.action count)	ACCEPT or REJECT if the traffic was permitted or not by the securtiy groups or network ACLs	TRAFFIC	②
ws.vpc.flowlogs.bytes.per_request.max gauge)	The maximum number of bytes transferred per request during the capture window Shown as byte	TRAFFIC	×
ws.vpc.flowlogs.bytes.per_request.median gauge)	The median number of bytes transferred per request during the capture window Shown as byte	TRAFFIC	⊘
ws.vpc.flowlogs.bytes.per_request.min gauge)	The minimum number of bytes transferred per request during the capture window Shown as byte	TRAFFIC	8
ws.vpc.flowlogs.bytes.per_request.p90 gauge)	The 90th percentile number of bytes transferred per request during the capture window Shown as byte	TRAFFIC	×
ws.vpc.flowlogs.bytes.per_request.p95 gauge)	The 95th percentile number of bytes transferred per request during the capture window Shown as byte	TRAFFIC	②
ws.vpc.flowlogs.bytes.per_request.p99 gauge)	The 99th percentile number of bytes transferred per request during the capture window Shown as byte	TRAFFIC	8
ws.vpc.flowlogs.bytes.total count)	The total number of bytes transferred during the capture window Shown as byte	TRAFFIC	•
ws.vpc.flowlogs.duration.per_request.max gauge)	The maximum duration per request during the capture window Shown as second	LATENCY	8
ws.vpc.flowlogs.duration.per_request.median gauge)	The median duration per request during the capture window Shown as second	LATENCY	②
ws.vpc.flowlogs.duration.per_request.min gauge)	The minimum duration per request during the capture window Shown as second	LATENCY	8
ws.vpc.flowlogs.duration.per_request.p90 gauge)	The 90th percentile duration per request during the capture window Shown as second	LATENCY	8
ws.vpc.flowlogs.duration.per_request.p95 gauge)	The 95th percentile duration per request during the capture window	LATENCY	8

aws.vpc.flowlogs.duration.per_request.p99 (gauge)	The 99th percentile duration per request during the capture window Shown as second	LATENCY	8
aws.vpc.flowlogs.log_status (count)	The logging status of the flow log: OK NODATA or SKIPDATA	TRAFFIC	×
aws.vpc.flowlogs.packets.per_request.max (gauge)	The maximum number of packets transferred per request during the capture window Shown as packet	TRAFFIC	8
aws.vpc.flowlogs.packets.per_request.median (gauge)	The median number of packets transferred per request during the capture window Shown as packet	TRAFFIC	8
aws.vpc.flowlogs.packets.per_request.min (gauge)	The minimum number of packets transferred per request during the capture window Shown as packet	TRAFFIC	Ø
aws.vpc.flowlogs.packets.per_request.p90 (gauge)	The 90th percentile number of packets transferred per request during the capture window Shown as packet	TRAFFIC	8
aws.vpc.flowlogs.packets.per_request.p95 (gauge)	The 95th percentile number of packets transferred per request during the capture window Shown as packet	TRAFFIC	Ø
aws.vpc.flowlogs.packets.per_request.p99 (gauge)	The 99th percentile number of packets transferred per request during the capture window Shown as packet	TRAFFIC	8
aws.vpc.flowlogs.packets.total (count)	The total number of packets transferred during the capture window Shown as packet	TRAFFIC	Ø
aws.vpc.subnet.total_ip_address_count (gauge)	The total number of IP addresses contained within the subnet	TRAFFIC	×
aws.vpc.subnet.available_ip_address_count (gauge)	The number of available IP addresses in the subnet	TRAFFIC	×

Lambda

Lambda Monitoring

Terraform Module repo:

https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-aws-lambda-monitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
aws.lambda.duration (gauge)	Measures the average elapsed wall clock time from when the function code starts executing as a result of an invocation to when it stops executing. Shown as millisecond	LATENCY	②
aws.lambda.duration.maximum (gauge)	Measures the maximum elapsed wall clock time from when the function code starts executing as a result of an invocation to when it stops executing. Shown as millisecond		
aws.lambda.duration.minimum (gauge)	Measures the minimum elapsed wall clock time from when the function code starts executing as a result of an invocation to when it stops executing. Shown as millisecond		
aws.lambda.duration.sum (gauge)	Measures the total execution time of the lambda function executing. Shown as millisecond		
aws.lambda.duration.p50 (gauge)	Measures the p50 elapsed wall clock time from when the function code starts executing as a result of an invocation to when it stops executing. Shown as millisecond		
aws.lambda.duration.p80 (gauge)	Measures the p80 elapsed wall clock time from when the function code starts executing as a result of an invocation to when it stops executing. Shown as millisecond		

aws.lambda.duration.p95 (gauge)	Measures the p95 elapsed wall clock time from when the function code starts executing as a result of an invocation to when it stops executing. Shown as millisecond		
aws.lambda.duration.p99 (gauge)	Measures the p99 elapsed wall clock time from when the function code starts executing as a result of an invocation to when it stops executing. Shown as millisecond		
ws.lambda.duration.p99.9 gauge)	Measures the p99.9 elapsed wall clock time from when the function code starts executing as a result of an invocation to when it stops executing. Shown as millisecond		
ws.lambda.timeout gauge)	Measures the amount of allowed execution time for the function before the Lambda runtime stops it. Shown as second	LATENCY	Ø
ws.lambda.memorysize gauge)	Measures the amount of allocated memory available to the function during execution. Shown as mebibyte	SATURA TION	Ø
ws.lambda.errors count)	Measures the number of invocations that failed due to errors in the function (response code 4XX). Shown as error	ERROR	Ø
ws.lambda.invocations count)	Measures the number of times a function is invoked in response to an event or invocation API call. Shown as invocation	TRAFFIC	Ø
ws.lambda.throttles count)	Measures the number of Lambda function invocation attempts that were throttled due to invocation rates exceeding the customer's concurrent limits (error code 429). Failed invocations may trigger a retry attempt that succeeds. Shown as throttle	ERROR	②
ws.lambda.iterator_age gauge)	Measures the age of the last record for each batch of records processed Shown as millisecond		
ws.lambda.iterator_age.minimum gauge)	Measures the minimum age of the last record for each batch of records processed Shown as millisecond		
ws.lambda.iterator_age.maximum gauge)	Measures the maximum age of the last record for each batch of records processed Shown as millisecond		
ws.lambda.iterator_age.sum gauge)	Measures the sum of the ages of the last record for each batch of records processed Shown as millisecond		
ws.lambda.dead_letter_errors count)	Measures the sum of times Lambda is unable to write the failed event payload to your configured Dead Letter Queues. Shown as error		
ws.lambda.concurrent_executions gauge)	Measures the average of concurrent executions for a given function at a given point in time. Shown as execution	TRAFFIC	Ø
ws.lambda.concurrent_executions.minimum gauge)	Measures the minimum of concurrent executions for a given function at a given point in time. Shown as execution		
ws.lambda.concurrent_executions.maximum gauge)	Measures the maximum of concurrent executions for a given function at a given point in time. Shown as execution		
ws.lambda.concurrent_executions.sum gauge)	Measures the sum of concurrent executions for a given function at a given point in time. Shown as execution		
nws.lambda.concurrent_executions_global gauge)	Measures the average of concurrent executions for all functions in an account at a given point in time. Shown as execution		
ws.lambda.concurrent_executions_global.minimum gauge)	Measures the minimum of concurrent executions for all functions in an account at a given point in time. Shown as execution		

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aws.lambda.concurrent_executions_global.maximum (gauge)	Measures the maximum of concurrent executions for all functions in an account at a given point in time. Shown as execution		
aws.lambda.concurrent_executions_global.sum (gauge)	Measures the sum of concurrent executions for all functions in an account at a given point in time. Shown as execution		
aws.lambda.unreserved_concurrent_executions (gauge)	Measures the sum of the concurrency of the functions that don't have a custom concurrency limit specified. Shown as execution		
aws.lambda.provisioned_concurrent_executions (gauge)	Measures the average number of events that are being processed on provisioned concurrency Shown as execution	TRAFFIC	Ø
aws.lambda.provisioned_concurrent_executions.minimum (gauge)	Measures the minimum number of events that are being processed on provisioned concurrency Shown as execution		
aws.lambda.provisioned_concurrent_executions.maximum (gauge)	Measures the maximum number of events that are being processed on provisioned concurrency Shown as execution		
aws.lambda.provisioned_concurrency_invocations (count)	Measures the number of invocations that are run on provisioned concurrency Shown as invocation	TRAFFIC	Ø
aws.lambda.provisioned_concurrency_spillover_invocations (count)	Measures the number of invocations that are run on non- provisioned concurrency when all provisioned concurrency is in use Shown as invocation		
aws.lambda.provisioned_concurrency_utilization (gauge)	Measures the average fraction of provisioned concurrency in use for a given function at a given point in time Shown as percent	SATURA TION	•
aws.lambda.provisioned_concurrency_utilization.minimum (gauge)	Measures the minimum fraction of provisioned concurrency in use for a given function at a given point in time Shown as percent		
aws.lambda.provisioned_concurrency_utilization.maximum (gauge)	Measures the maximum fraction of provisioned concurrency in use for a given function at a given point in time Shown as percent		
aws.lambda.signature_validation_errors (count)	Measures the number of times a function is successfully deployed but fails a signature check Shown as error		
aws.lambda.enhanced.invocations (count)	Measures the number of times a function is invoked in response to an event or invocation API call. Shown as invocation		
aws.lambda.enhanced.errors (count)	Measures the number of invocations that failed due to errors in the function (response code 4XX). Shown as error		
aws.lambda.enhanced.max_memory_used (gauge)	Measures the maximum amount of memory (mb) used by the function. Shown as mebibyte		
aws.lambda.enhanced.duration (gauge)	Measures the elapsed seconds from when the function code starts executing as a result of an invocation to when it stops executing. Shown as second		
aws.lambda.enhanced.billed_duration (gauge)	Measures the billed amount of time the function ran for (100ms increments). Shown as second		
aws.lambda.enhanced.init_duration (gauge)	Measures the initialization time (second) of a function during a cold start. Shown as second		
aws.lambda.enhanced.estimated_cost (gauge)	Measures the total estimated cost of the function invocation (US dollars). Shown as dollar		
aws.lambda.enhanced.timeouts (count)	Measures the number of times a function times out. Shown as timeout		
aws.lambda.enhanced.out_of_memory (count)	Measures the number of times a function runs out of memory. Shown as error		

Direct Connect

DirectConnect Monitoring

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
aws.dx.connection_state (gauge)	The state of the connection. 0 indicates DOWN and 1 indicates UP.	ERROR	②
aws.dx.connection_bps_egress (rate)	The bit rate for outbound data from the AWS side of the connection. Shown as bit	TRAFFIC	•
aws.dx.connection_bps_ingress (rate)	The bit rate for inbound data to the AWS side of the connection. Shown as bit	TRAFFIC	•
aws.dx.connection_pps_egress (rate)	The packet rate for outbound data from the AWS side of the connection. Shown as packet	TRAFFIC	•
aws.dx.connection_pps_ingress (rate)	The packet rate for inbound data to the AWS side of the connection. Shown as packet	TRAFFIC	•
aws.dx.connection_crcerror_count (count)	The number of times cyclic redundancy check (CRC) errors are observed for the data received at the connection. Shown as error	ERROR	•
aws.dx.connection_light_level_tx (gauge)	Indicates the health of the fiber connection for egress (outbound) traffic from the AWS side of the connection.	TRAFFIC	8
aws.dx.connection_light_level_rx (gauge)	Indicates the health of the fiber connection for ingress (inbound) traffic to the AWS side of the connection.	TRAFFIC	8

▼ Route Table Modification

- CreateRoute
- CreateRouteTable
- ReplaceRouteReplaceRouteTableAssociation
- DeleteRouteTable
- DeleteRoute
- DisassociateRouteTable

AWS Gitlab Runner VM

AWS Gitlab Runners monitoring

Terraform Module Repo:

https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-aws-gitlab-runners-monitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
aws.ec2.cpuutilization (gauge)	Average percentage of allocated EC2 compute units that are currently in use on the instance. Shown as percent	SATURAT	②
aws.ec2.disk_read_bytes (gauge)	Bytes read from all ephemeral disks available to the instance. Shown as byte	SATURAT ION	Ø
<pre>aws.ec2.disk_read_ops (gauge)</pre>	Completed read operations from all ephemeral disks available to the instance. Shown as operation	SATURAT	•
aws.ec2.disk_write_bytes (gauge)	Bytes written to all ephemeral disks available to the instance. Shown as byte	SATURAT ION	Ø
aws.ec2.disk_write_ops (gauge)	Completed write operations to all ephemeral disks available to the instance. Shown as operation	SATURAT ION	•
aws.ec2.host_ok (gauge)	1 if the instance's system status is ok.	ERROR	Ø
aws.ec2.network_in (gauge)	Average number of bytes received on all network interfaces by the instance. Shown as byte	SATURAT ION	•

aws.ec2.network_out (gauge)	Average number of bytes sent out on all network interfaces by the instance. Shown as byte	SATURAT	②
aws.ec2.status_check_failed_instance (gauge)	0 if the instance has passed the EC2 instance status check.	ERROR	②
sys.mem.used (count)	System Memory Used (Shown as bytes)	SATURAT	Ø
sys.mem.free (count)	System Memory Free (Shown as bytes)	SATURAT	②
sys.disk.used (count)	System Disk Used (Shown as bytes)	SATURAT	②
sys.disk.free (count)	System Disk Free (Shown as bytes)	SATURAT	②

Kinesis

Kinesis Monitoring

Terraform Module Repo:

https://gitlab.com/bhp-cloudfactory/tooling-blueprints/sob/common-components/terraform-datadog-aws-kinesis-monitors

METRIC NAME	DESCRIPTION	SIGNAL TYPE	COVER
aws.kinesis.get_records_bytes.maximum (gauge)	Maximum number of bytes per GetRecords operation Shown as byte	SATURATION	×
aws.kinesis.get_records_bytes.minimum (gauge)	Minimum number of bytes per GetRecords operation Shown as byte	SATURATION	×
aws.kinesis.get_records_bytes.sum (count)	Total number of bytes returned over all GetRecords operations Shown as byte	SATURATION	•
aws.kinesis.get_records_bytes (gauge)	Average number of bytes per GetRecords operation Shown as byte	SATURATION	×
aws.kinesis. get_records_iterator_age_milliseconds. maximum (gauge)	Maximum difference between the current time and when the last record of a GetRecords call was written to the stream. Shown as millisecond	LATENCY	8
aws.kinesis. get_records_iterator_age_milliseconds (gauge)	Difference between the current time and when the last record of a GetRecords call was written to the stream. Shown as millisecond	LATENCY	•
aws.kinesis.get_records_iterator_age. maximum (gauge)	Maximum difference between the current time and when the last record of a GetRecords call was written to the stream. Shown as second	LATENCY	8
aws.kinesis.get_records_iterator_age (gauge)	Average difference between the current time and when the last record of a GetRecords call was written to the stream. Shown as second	LATENCY	8
aws.kinesis.get_records_latency. maximum (gauge)	Maximum time taken per GetRecords operation. Shown as millisecond	LATENCY	8
aws.kinesis.get_records_latency (gauge)	Average time taken per GetRecords operation. Shown as millisecond	LATENCY	•
aws.kinesis.get_records_records. maximum (gauge)	Maximum number of records per GetRecords operation Shown as record	SATURATION	8
aws.kinesis.get_records_records. minimum (gauge)	Minimum number of records per GetRecords operation Shown as record	SATURATION	8

<pre>aws.kinesis.get_records_records.sum (count)</pre>	Total number of records returned over all GetRecords operations Shown as record	SATURATION	8
aws.kinesis.get_records_records (gauge)	Average number of records per GetRecords operation Shown as record	SATURATION	8
aws.kinesis.get_records_success. average (count)	Average number of successful GetRecords operations per stream. Shown as event	SATURATION	8
aws.kinesis.get_records_success (count)	Sum of successful GetRecords operations per stream. Shown as event	SATURATION	8
aws.kinesis.incoming_bytes.sum (count)	Total number of bytes successfully put to the Amazon Kinesis stream. Shown as byte	SATURATION	8
aws.kinesis.incoming_bytes (gauge)	Average number of bytes successfully put to the Amazon Kinesis stream per operation. Shown as byte	SATURATION	8
aws.kinesis.incoming_records.average (gauge)	Average number of records sucessfully put to the Amazon Kinesis stream per operation. Shown as record	SATURATION	8
aws.kinesis.incoming_records (count)	Total number of records sucessfully put to the Amazon Kinesis stream. Shown as record	SATURATION	8
aws.kinesis.iterator_age_milliseconds (gauge)	The age of the last record in all GetRecords calls made against a shard, measured over the specified time period. Shown as millisecond	LATENCY	8
aws.kinesis.outgoing_bytes.sum (count)	Total number of bytes retrieved from the Amazon Kinesis stream Shown as byte	SATURATION	8
aws.kinesis.outgoing_bytes (gauge)	Average number of bytes retrieved in a GetRecords operation Shown as byte	SATURATION	8
aws.kinesis.outgoing_records.average (gauge)	The average number of records retrieved from the shard, measured over the specified time period. Shown as record	SATURATION	8
aws.kinesis.outgoing_records (count)	The number of records retrieved from the shard, measured over the specified time period. Shown as record	SATURATION	8
aws.kinesis.outgoing_records (count)	The number of records retrieved from the shard, measured over the specified time period. Shown as record	SATURATION	8
aws.kinesis.put_record_bytes.maximum (gauge)	Maximum number of bytes per PutRecord operation Shown as byte	SATURATION	8
aws.kinesis.put_record_bytes.minimum (gauge)	Minimum number of bytes per PutRecord operation Shown as byte	SATURATION	8
aws.kinesis.put_record_bytes.sum (count)	Total number of bytes for all PutRecord operation Shown as byte	SATURATION	8
aws.kinesis.put_record_bytes (gauge)	Average number of bytes per PutRecord operation Shown as byte	SATURATION	8
aws.kinesis.put_record_latency. maximum (gauge)	Maximum time taken per PutRecord operation. Shown as millisecond	LATENCY	8
aws.kinesis.put_record_latency (gauge)	Average time taken per PutRecord operation. Shown as millisecond	LATENCY	8
aws.kinesis.put_record_success.average (count)	Average number of successful PutRecord operations per Amazon Kinesis stream. Shown as event	SATURATION	8
aws.kinesis.put_record_success (count)	Sum of successful PutRecord operations per Amazon Kinesis stream. Shown as event	SATURATION	8

<pre>aws.kinesis.put_records_bytes.maximum (gauge)</pre>	Maximum number of bytes per PutRecords operation. Shown as byte	SATURATION	8
aws.kinesis.put_records_bytes.minimum (gauge)	Minimum number of bytes per PutRecords operation. Shown as byte	SATURATION	8
aws.kinesis.put_records_bytes.sum (count)	Total number of bytes for all PutRecords operation. Shown as byte	SATURATION	•
aws.kinesis.put_records_bytes (gauge)	Average number of bytes per PutRecords operation. Shown as byte	SATURATION	8
aws.kinesis.put_records_failed_records. average (gauge)	The number of records rejected due to internal failures in a PutRecords operation per Kinesis data stream, averaged over the specified time period. Shown as record	ERROR	8
aws.kinesis.put_records_failed_records. maximum (gauge)	The number of records rejected due to internal failures in a PutRecords operation per Kinesis data stream, maximum over the specified time period. Shown as record	ERROR	8
aws.kinesis.put_records_failed_records. minimum (gauge)	The number of records rejected due to internal failures in a PutRecords operation per Kinesis data stream, minimum over the specified time period. Shown as record	ERROR	8
aws.kinesis.put_records_failed_records (gauge)	The number of records rejected due to internal failures in a PutRecords operation per Kinesis data stream, summed over the specified time period. Shown as record	ERROR	•
aws.kinesis.put_records_latency. maximum (gauge)	Maximum time taken for all PutRecords operation. Shown as millisecond	LATENCY	8
aws.kinesis.put_records_latency (gauge)	Average time taken per PutRecords operation. Shown as millisecond	LATENCY	•
aws.kinesis.put_records_records. maximum (gauge)	Maximum number of records for PutRecords operations Shown as record	SATURATION	8
aws.kinesis.put_records_records. minimum (gauge)	Minimum number of records for PutRecords operations Shown as record	SATURATION	8
<pre>aws.kinesis.put_records_records.sum (count)</pre>	Total number of records for PutRecords operations Shown as record	SATURATION	8
aws.kinesis.put_records_records (gauge)	Average number of records per PutRecords operation Shown as record	SATURATION	8
aws.kinesis.put_records_success. average (count)	Average number of successful PutRecords operations per Amazon Kinesis stream. Shown as event	SATURATION	8
aws.kinesis.put_records_success (count)	Sum of successful PutRecords operations per Amazon Kinesis stream. Shown as event	SATURATION	×
aws.kinesis. put_records_successful_records.average (gauge)	The number of successful records in a PutRecords operation per Kinesis data stream, averaged over the specified time period. Shown as record	SATURATION	8
aws.kinesis. put_records_successful_records. maximum (gauge)	The number of successful records in a PutRecords operation per Kinesis data stream, maximum over the specified time period. Shown as record	SATURATION	8
aws.kinesis. put_records_successful_records. minimum (gauge)	The number of successful records in a PutRecords operation per Kinesis data stream, minimum over the specified time period. Shown as record	SATURATION	8
aws.kinesis. put_records_successful_records (gauge)	The number of successful records in a PutRecords operation per Kinesis data stream, summed over the specified time period. Shown as record	SATURATION	8

aws.kinesis. put_records_throttled_records.average (gauge)	The number of records rejected due to throttling in a PutRecords operation per Kinesis data stream, averaged over the specified time period. Shown as record	ERROR	8
aws.kinesis. put_records_throttled_records.maximum (gauge)	The number of records rejected due to throttling in a PutRecords operation per Kinesis data stream, maximum over the specified time period. Shown as record	ERROR	8
aws.kinesis. put_records_throttled_records.minimum (gauge)	The number of records rejected due to throttling in a PutRecords operation per Kinesis data stream, minimum over the specified time period. Shown as record	ERROR	8
aws.kinesis. put_records_throttled_records (gauge)	The number of records rejected due to throttling in a PutRecords operation per Kinesis data stream, summed over the specified time period. Shown as record	ERROR	•
aws.kinesis.put_records_total_records. average (gauge)	The total number of records sent in a PutRecords operation per Kinesis data stream, averaged over the specified time period. Shown as record	SATURATION	8
aws.kinesis.put_records_total_records. maximum (gauge)	The total number of records sent in a PutRecords operation per Kinesis data stream, maximum over the specified time period. Shown as record	SATURATION	8
aws.kinesis.put_records_total_records. minimum (gauge)	The total number of records sent in a PutRecords operation per Kinesis data stream, minimum over the specified time period. Shown as record	SATURATION	8
<pre>aws.kinesis.put_records_total_records (gauge)</pre>	The total number of records sent in a PutRecords operation per Kinesis data stream, summed over the specified time period. Shown as record	SATURATION	8
aws.kinesis. read_provisioned_throughput_exceeded. average (count)	Average of GetRecords calls throttled for the stream Shown as record	ERROR	8
aws.kinesis. read_provisioned_throughput_exceeded. maximum (count)	Maximum number of GetRecords calls throttled for the stream Shown as record	ERROR	8
aws.kinesis. read_provisioned_throughput_exceeded. minimum (count)	Minimum number of GetRecords calls throttled for the stream Shown as record	ERROR	8
aws.kinesis. read_provisioned_throughput_exceeded (count)	Number of GetRecords calls throttled for the stream Shown as record	ERROR	•
aws.kinesis. subscribe_to_shard_event_bytes. maximum (gauge)	The number of bytes received from the shard, maximum over the specified time period. Shown as byte	SATURATION	8
aws.kinesis. subscribe_to_shard_event_bytes. minimum (gauge)	The number of bytes received from the shard, minimum over the specified time period. Shown as byte	SATURATION	8
aws.kinesis. subscribe_to_shard_event_bytes.sum (gauge)	The number of bytes received from the shard, summed over the specified time period. Shown as byte	SATURATION	•
aws.kinesis. subscribe_to_shard_event_bytes (gauge)	The number of bytes received from the shard, averaged over the specified time period. Shown as byte	SATURATION	8
aws.kinesis. subscribe_to_shard_event_millis_behind _latest.maximum (gauge)	The difference between the current time and when the last record of the SubscribeToShard event was written to the stream. Shown as millisecond	LATENCY	8

aws.kinesis. subscribe_to_shard_event_millis_behind _latest (gauge)	The difference between the current time and when the last record of the SubscribeToShard event was written to the stream. Shown as millisecond	LATENCY	8
aws.kinesis. subscribe_to_shard_event_records. maximum (count)	The number of records received from the shard, maximum over the specified time period. Shown as record	SATURATION	8
aws.kinesis. subscribe_to_shard_event_records. minimum (count)	The number of records received from the shard, minimum over the specified time period. Shown as record	SATURATION	8
aws.kinesis. subscribe_to_shard_event_records.sum (count)	The number of records received from the shard, summed over the specified time period. Shown as record	SATURATION	8
aws.kinesis. subscribe_to_shard_event_records (count)	The number of records received from the shard, averaged over the specified time period. Shown as record	SATURATION	8
aws.kinesis. subscribe_to_shard_event_success. average (count)	This metric is emitted every time an event is published successfully. It is only emitted when there's an active subscription. Shown as event	SATURATION	8
aws.kinesis. subscribe_to_shard_event_success (count)	This metric is emitted every time an event is published successfully. It is only emitted when there's an active subscription. Shown as event	SATURATION	8
aws.kinesis. subscribe_to_shard_rate_exceeded. average (count)	This metric is emitted when a new subscription attempt fails because there already is an active subscription by the same consumer or if you exceed the number of calls per second allowed for this operation. Shown as record	SATURATION	8
aws.kinesis. subscribe_to_shard_rate_exceeded. maximum (count)	This metric is emitted when a new subscription attempt fails because there already is an active subscription by the same consumer or if you exceed the number of calls per second allowed for this operation. Shown as record	ERROR	8
aws.kinesis. subscribe_to_shard_rate_exceeded. minimum (count)	This metric is emitted when a new subscription attempt fails because there already is an active subscription by the same consumer or if you exceed the number of calls per second allowed for this operation. Shown as record	ERROR	8
aws.kinesis. subscribe_to_shard_rate_exceeded (count)	This metric is emitted when a new subscription attempt fails because there already is an active subscription by the same consumer or if you exceed the number of calls per second allowed for this operation. Shown as record	ERROR	•
aws.kinesis. subscribe_to_shard_success.average (gauge)	This metric records whether the SubscribeToShard subscription was successfully established. The subscription only lives for at most 5 minutes. Therefore, this metric gets emitted at least once every 5 minutes. Shown as event	SATURATION	8
aws.kinesis. subscribe_to_shard_success (gauge)	This metric records whether the SubscribeToShard subscription was successfully established. The subscription only lives for at most 5 minutes. Therefore, this metric gets emitted at least once every 5 minutes. Shown as event	SATURATION	8
aws.kinesis. write_provisioned_throughput_exceeded .average (count)	Average of records rejected due to throttling for the stream Shown as record	ERROR	8
aws.kinesis. write_provisioned_throughput_exceeded .maximum (count)	Maximum number of records rejected due to throttling for the stream Shown as record	ERROR	8

aws.kinesis. write_provisioned_throughput_exceeded .minimum (count)	Minimum number of records rejected due to throttling for the stream Shown as record	ERROR	8
aws.kinesis. write_provisioned_throughput_exceeded (count)	Number of records rejected due to throttling for the stream Shown as record	ERROR	Ø

Make It Observable

To make the services observable we need to integrate DataDog with each service. DataDog has many integration pieces with Azure nad AWS services which makes those services observable in order to be monitored.

Below we introduce DataDog as our monitoring tool and how it can be integrated with all the services we mentioned above for Azure and AWS.

DataDog

Datadog is an essential cloud monitoring and operational analytics tool which enables the monitoring of servers, virtual machines, containers, databases, third-party tools, and application services. IT and DevOps teams can easily leverage Datadog to monitor infrastructure and cloud services

DataDog Integration

Azure

Azure Virtual Machine Azure Application Gateway Azure Express Route Azure Storage Account Azure Virtual Networks Azure Firewall Azure VM Scaleset

Installation:

- Login to DataDog console (https://app.datadoghq.com/)
- Go to "Integrations" tab and Click on Integrations
- Search for above Azure service one at a time (Ignore Azure Firewall) to list the available extensions
- Place the cursor on "+Available" button, it will display the Installation Popup and then Click on "+Install"
- If the extension shows as "Installed", you can ignore the above step and proceed for the configuration

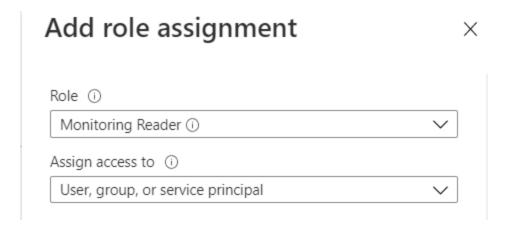


Configuration:

No additional configuration is required for the above 5 Azure services if you have already integrated Azure with DataDog. if not please follow steps mentioned in this link to integrate Azure and DataDog manually from Azure portal

User Permission:

The App or user which is configured as part of "Azure - DataDog Integration" should have at least "Monitoring Reader" Role on the specific subscription.



AWS

DataDog Dashboards

A dashboard is Datadog's tool for visually tracking, analysing, and displaying key performance metrics, which enable you to monitor the health of your infrastructure.

Dashboards are on a next-gen grid based layout which can include a variety of objects such as images, graphs, and logs. They are commonly used as status boards or storytelling view, which update in real-time and can represent fixed points in the past. They also work well for debugging.

Create Dashboard

Method 1 (Manually in DataDog Console):

- Login to DataDog console
- · Click on Dashboards from the menu and choose New Dashboard
- Click on New Dashboard Button
- · Click on Add Widgets
- Choose widget type based on the metric type
- · Based on the chosen widget different form fields need to be filled
- Once those fields are populated click on Preview to see if it works and then choose Done

Method 2 (Terraform Code):

To create a dashboard as code, below is an example that includes most of the dashboard widget types:

Terraform Dashboard Example

```
widget {
  alert_value_definition {
   alert_id = "895605"
   precision = 3
   unit = "b"
   text_align = "center"
   title = "Widget Title"
widget {
  alert_value_definition {
   alert_id = "895605"
   precision = 3
   unit = "b"
   text_align = "center"
   title = "Widget Title"
 }
widget {
  change_definition {
   request {
                 = "avg:system.load.1{env:staging} by {account}"
     q
     change_type = "absolute"
     compare_to = "week_before"
     increase_good = true
     order_by = "name"
     order_dir = "desc"
     show_present = true
   title = "Widget Title"
   live_span = "1h"
}
widget {
  distribution_definition {
   request {
     q = "avg:system.load.1{env:staging} by {account}"
     style {
      palette = "warm"
   title = "Widget Title"
   live_span = "1h"
widget {
```

```
check_status_definition {
     check = "aws.ecs.agent connected"
     grouping = "cluster"
     group_by = ["account", "cluster"]
     tags = ["account:demo", "cluster:awseb-ruthebdog-env-8-
dn3m6u3qvk"]
     title = "Widget Title"
     live_span = "1h"
  }
 widget {
   heatmap_definition {
     request {
       q = "avg:system.load.1{env:staging} by {account}"
       style {
         palette = "warm"
       }
     yaxis {
                  = 1
       min
       max
                  = 2
       include_zero = true
       scale = "sqrt"
     title = "Widget Title"
     live_span = "1h"
  }
 widget {
   hostmap_definition {
     request {
       fill {
         q = "avg:system.load.1{*} by {host}"
       }
       size {
        q = "avg:memcache.uptime{*} by {host}"
     node_type = "container"
     group
                   = ["host", "region"]
     no_group_hosts = true
     no_metric_hosts = true
                   = ["region:us-east-1", "aws_account:
     scope
727006795293"]
     style {
       palette = "yellow_to_green"
       palette_flip = true
       fill_min = "10"
```

```
fill_max = "20"
   title = "Widget Title"
widget {
 note_definition {
   content
                  = "note text"
   background_color = "pink"
                  = "14"
   font_size
                  = "center"
   text_align
   show_tick
                  = true
   tick_edge
                  = "left"
   tick_pos
                  = "50%"
widget {
  query_value_definition {
   request {
                = "avg:system.load.1{env:staging} by {account}"
     q
     aggregator = "sum"
     conditional_formats {
      comparator = "<"
       value = "2"
       palette
                = "white_on_green"
     conditional_formats {
      comparator = ">"
       value = "2.2"
       palette = "white_on_red"
   autoscale = true
   custom_unit = "xx"
   precision = "4"
   text_align = "right"
   title = "Widget Title"
   live_span = "1h"
}
widget {
  query_table_definition {
   request {
              = "avg:system.load.1{env:staging} by {account}"
     aggregator = "sum"
     limit = "10"
     conditional_formats {
```

```
comparator = "<"</pre>
       value = "2"
       palette = "white_on_green"
     conditional_formats {
      comparator = ">"
      value = "2.2"
      palette = "white_on_red"
    }
    title = "Widget Title"
    live_span = "1h"
}
widget {
  scatterplot_definition {
    request {
     x {
             = "avg:system.cpu.user{*} by {service, account}"
      aggregator = "max"
     }
     У {
           = "avg:system.mem.used{*} by {service, account}"
      aggregator = "min"
    }
    color_by_groups = ["account", "apm-role-group"]
    xaxis {
     include_zero = true
     label = "x" min = "1"
                = "2000"
     max
     scale
                = "pow"
    yaxis {
     include zero = false
     label = "y"
min = "5"
                = "2222"
     max
     scale
                = "log"
   title = "Widget Title"
    live_span = "1h"
widget {
  servicemap_definition {
    service = "master-db"
```

```
filters = ["env:prod", "datacenter:usl.prod.dog"]
     title
               = "env: prod, datacenter:usl.prod.dog, service:
master-db"
     title_size = "16"
     title_align = "left"
   }
  }
 widget {
    timeseries_definition {
     request {
                    = "avg:system.cpu.user{app:general} by {env}"
       display_type = "line"
       style {
         palette = "warm"
         line_type = "dashed"
         line_width = "thin"
       metadata {
        expression = "avg:system.cpu.user{app:general} by {env}"
         alias_name = "Alpha"
       }
     request {
       log_query {
         index = "mcnulty"
         compute_query {
           aggregation = "avg"
           facet = "@duration"
           interval
                      = 5000
         search_query = "status:info"
         group_by {
           facet = "host"
           limit = 10
           sort_query {
            aggregation = "avg"
             order = "desc"
             facet = "@duration"
       display_type = "area"
     request {
       apm_query {
         index = "apm-search"
         compute_query {
           aggregation = "avg"
           facet = "@duration"
```

```
interval = 5000
   search_query = "type:web"
   group_by {
     facet = "resource_name"
     limit = 50
     sort_query {
      aggregation = "avg"
      order = "desc"
      facet
                 = "@string_query.interval"
 display_type = "bars"
request {
 process_query {
  metric = "process.stat.cpu.total_pct"
   search_by = "error"
  filter_by = ["active"]
   limit = 50
 }
 display_type = "area"
marker {
 display_type = "error dashed"
 label = z=6 "
         = "y = 4"
 value
marker {
 display_type = "ok solid"
 value = "10 < y < 999" 
label = " x=8 "
}
title = "Widget Title"
show_legend = true
legend size = "2"
live_span = "1h"
event {
 q = "sources:test tags:1"
event {
 q = "sources:test tags:2"
yaxis {
 scale = "log"
 include_zero = false
        = 100
 max
```

```
}
widget {
 toplist_definition {
   request {
     q = "avg:system.cpu.user{app:general} by {env}"
     conditional_formats {
       comparator = "<"</pre>
       value = "2"
       palette = "white_on_green"
     conditional_formats {
      comparator = ">"
       value = "2.2"
       palette = "white_on_red"
   title = "Widget Title"
}
widget {
 group_definition {
   layout_type = "ordered"
   title = "Group Widget"
   widget {
     note_definition {
       content
                      = "cluster note widget"
       background_color = "pink"
                      = "14"
       font size
       text_align
                      = "center"
       show_tick
                       = true
       tick_edge
                      = "left"
                      = "50%"
       tick_pos
   }
   widget {
     alert_graph_definition {
       alert_id = "123"
       viz_type = "toplist"
       title = "Alert Graph"
       live_span = "1h"
 }
widget {
```

```
service_level_objective_definition {
     title
                      = "Widget Title"
     view_type
                     = "detail"
                      = "56789"
     slo_id
     show_error_budget = true
     view mode
                     = "overall"
     time_windows = ["7d", "previous_week"]
 template_variable {
   name = "var 1"
   prefix = "host"
   default = "aws"
 template_variable {
   name = "var_2"
   prefix = "service_name"
   default = "autoscaling"
  template_variable_preset {
   name = "preset_1"
   template_variable {
    name = "var_1"
     value = "host.dc"
   template_variable {
    name = "var_2"
     value = "my_service"
}
# Example Free Layout
resource "datadog_dashboard" "free_dashboard" {
         = "Free Layout Dashboard"
 description = "Created using the Datadog provider in Terraform"
 layout_type = "free"
 is_read_only = false
 widget {
   event_stream_definition {
     query = "*"
     event_size = "1"
     title = "Widget Title"
     title_size = 16
     title_align = "left"
     live_span = "1h"
```

```
widget_layout {
   height = 43
   width = 32
   x = 0
       = 0
   У
 }
}
widget {
 event_timeline_definition {
   query = "*"
   title = "Widget Title"
   title_size = 16
   title_align = "left"
   live_span = "1h"
 widget_layout {
   height = 9
   width = 66
   x = 33
   y = 60
widget {
 free_text_definition {
   text = "free text content"
color = "#d00"
   font_size = "36"
   text_align = "left"
 widget_layout {
   height = 20
   width = 34
   x = 33
   У
        = 0
 }
}
widget {
 iframe_definition {
  url = "http://google.com"
 widget_layout {
  height = 46
  width = 39
  x = 101
  y = 0
```

```
widget {
   image_definition {
     url = "https://images.pexels.com/photos/67636/rose-blue-
flower-rose-blooms-67636.jpeg?auto=compress&cs=tinysrgb&h=350"
     sizing = "fit"
     margin = "small"
   widget_layout {
    height = 20
     width = 30
     x = 69
          = 0
     У
 }
 widget {
   log_stream_definition {
     indexes = ["main"]
                       = "error"
     query
     columns
                       = ["core_host", "core_service",
"tag source"]
     show_date_column = true
     show_message_column = true
     message_display = "expanded-md"
     sort {
       column = "time"
       order = "desc"
   }
   widget_layout {
     height = 36
     width = 32
     x = 0
          = 45
     У
 }
 widget {
   manage_status_definition {
     color_preference = "text"
     display_format
                      = "countsAndList"
     hide_zero_counts = true
     query
                       = "type:metric"
     show_last_triggered = false
                       = "status,asc"
     sort
     summary_type
                     = "monitors"
                       = "Widget Title"
     title
     title_size
                      = 16
     title_align
                       = "left"
```

```
}
  widget_layout {
   height = 40
   width = 30
   X
        = 101
         = 48
widget {
  trace_service_definition {
   display_format = "three_column"
                    = "datad0g.com"
   env
   service
                    = "alerting-cassandra"
   show_breakdown = true
   show_distribution = true
   show_errors
                 = true
   show_hits
                    = true
   show_latency = false
   show_resource_list = false
   size format
                = "large"
   span_name
                    = "cassandra.query"
   title
                    = "alerting-cassandra #env:datad0g.com"
   title_align
                    = "center"
   title_size
                    = "13"
   live_span
                    = "1h"
  widget_layout {
   height = 38
   width = 66
       = 33
   Х
         = 21
   У
widget {
  timeseries definition {
   request {
     formula {
       formula_expression = "my_query_1 + my_query_2"
                        = "my ff query"
       alias
     }
     formula {
       formula_expression = "my_query_1 * my_query_2"
       limit {
         count = 5
         order = "desc"
       alias = "my second ff query"
```

```
query {
       metric_query {
         data_source = "metrics"
         query = "avg:system.cpu.user{app:general} by {env}"
         name = "my_query_1"
         aggregator = "sum"
     }
     query {
       metric_query {
                 = "avg:system.cpu.user{app:general} by {env}"
         query
        name = "my_query_2"
        aggregator = "sum"
 widget_layout {
   height = 16
   width = 25
   x = 58
   y = 83
}
widget {
 timeseries_definition {
   request {
     query {
       event_query {
         name = "my-query"
         data_source = "logs"
         indexes = ["days-3"]
         compute {
          aggregation = "count"
         group_by {
          facet = "host"
           sort {
            metric = "@lambda.max_memory_used"
            aggregation = "avg"
           limit = 10
 widget_layout {
   height = 16
   width = 28
```

```
= 29
   X
         = 83
   У
 }
widget {
 timeseries_definition {
   request {
     query {
       process_query {
         data_source
                          = "process"
         text_filter
                          = "abc"
         metric
                           = "process.stat.cpu.total_pct"
         limit
                          = 10
                          = ["some_filter"]
         tag_filters
         name
                           = "my_process_query"
         sort
                           = "asc"
         is_normalized_cpu = true
         aggregator
                      = "sum"
     }
   }
 widget_layout {
   height = 16
   width = 28
         = 0
         = 83
   У
template_variable {
 name = "var 1"
 prefix = "host"
 default = "aws"
template_variable {
 name = "var 2"
 prefix = "service_name"
 default = "autoscaling"
template_variable_preset {
 name = "preset_1"
 template_variable {
   name = "var_1"
   value = "host.dc"
 template_variable {
   name = "var_2"
   value = "my_service"
```

```
}
}
```

DataDog Alerts

Monitoring all of your infrastructure in one place wouldn't be complete without the ability to know when critical changes are occurring. Datadog gives you the ability to create monitors that actively check metrics, integration availability, network endpoints, and more.

Currently we use Webex to capture alert notifications, our next step is to integrate DataDog with SNOW Incident Management module to trigger a SNOW incident and notify on-call groups on defined schedules

DataDog Integration with WebEx Teams

DataDog Integration with Webex teams will help to trigger alert notifications over chat. To execute the below steps, you need admin access on DataDog. this requires webhook creation from both WebEx and DataDog sides. below are the steps.

WebHook creation in WebEx

- To trigger alert notifications from DataDog to WebEx teams a webhook is required. if you have an existing webhhook, please proceed for the DataDog side configuration. if not, below are the steps to create Webhook in webex.
- Create a space is WebEx teams with the list of people to whom you want to send the chat notifications.
- Open this link and Login(Login button on the top right side) in your BHP credentials.
- · After logging in, Click on connect button under "Incoming Webhooks" and wait for few seconds till the button name turns as "Disconnect



• Scroll down to the bottom, update the field "Webhook Name" with any value and select the space which you have created in the first step in "Select a space" dropdown.

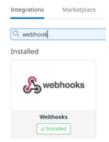


Click "Add" and copy the Webhook URL which got created with the name mentioned in above step.

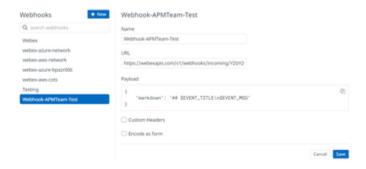


WebHook creation in DataDog

- Login to DataDog Console "http://app.datadoghq.com/"
- · Goto Integrations tab and click on "Integrations"
- · Search for WebHook extension and click on "configure" (Install the WebHook extension if it is not installed already)



- In WebHook popup window, Go to "Configuration" tab and scroll down to the bottom and Click on "New" button next to "WebHook"
- Enter a name for Webhook and for URL field, enter the webhook url which you have copied in the last step of "WebHook creation in WebEx"
- mention the payload as below "{
 "markdown": "## \$EVENT_TITLE\n\$EVENT_MSG"
 ""
- Click "Save" button on the bottom.



Enabling WebHook notifications

- Create a new monitor or open your existing monitor in DataDog
- Scroll down to the 5th step "Notify your team"
- Search for the webhook name which you have mentioned in 5th step of "WebHook Creation in DataDog" (by default all webhooks created in DataDog will get prefix "webhook-".



• Test the webhook configuration using "Test notifications" button.



• Click on "save" to complete the configuration.