

# prometheus: PromeQL

PromeQL

- 5m
- #LABELS#LabelLabel
- #GROUPBY#Label#GROUPBY#Label

node-exporter

## CPU

NodeCpuUsageRate

```
100*(
    1 - (avg by (#GROUPBY#) (irate(node_cpu_seconds_total{job="node-exporter", mode="idle" #LABELS#}[5m])))
)
```

## CPU

NodeCpuUsage

```
sum(irate(node_cpu_seconds_total{
    job="node-exporter", mode="idle" #LABELS#}[5m]
)) by (#GROUPBY#)
```

NodeMemoryUsageRate

```
100*(
    1 - (
        avg(
            (
                avg_over_time(node_memory_MemFree_bytes{ job="node-exporter"
#LABELS#}[5m]) +
                avg_over_time(node_memory_Cached_bytes{ job="node-exporter"
#LABELS#}[5m]) +
                avg_over_time(node_memory_Buffers_bytes{ job="node-exporter"
#LABELS#}[5m])
            )
        ) /
        avg_over_time(node_memory_MemTotal_bytes{ job="node-exporter" #LABELS#}[5m])
    )
    by (#GROUPBY#)
)
```

NodeMemoryUsage

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```
avg(
    node_memory_MemTotal_bytes{job="node-exporter"#LABELS#} -
node_memory_MemFree_bytes{job="node-exporter"#LABELS#} -
    (
        node_memory_Cached_bytes{job="node-exporter"#LABELS#} +
node_memory_Buffers_bytes{job="node-exporter"#LABELS#}
    )
) by (#GROUPBY#)
```

#### NodeStorageUsageRate

```
100*sum(
    1 - (
        node_filesystem_avail_bytes{job="node-exporter",
mountpoint="/", fstype!="rootfs"#LABELS#}
        /
        node_filesystem_size_bytes{job="node-exporter",
mountpoint="/", fstype!="rootfs"#LABELS#}
    )
) by (#GROUPBY#)
```

#### NodeStorageUsage

```
sum(
    node_filesystem_size_bytes{job="node-exporter", mountpoint="/",
fstype!="rootfs" #LABELS#}
    -
    node_filesystem_avail_bytes{job="node-exporter", mountpoint="/",
fstype!="rootfs" #LABELS#}
) by (#GROUPBY#)
```

#### NodeBytesSent

```
sum(irate(node_network_transmit_bytes_total{
    job="node-exporter", device!~"lo|nbd.*|sr.*|docker.*" #LABELS#
}[5m])) by (#GROUPBY#)
```

#### NodeBytesReceived

```
sum(irate(node_network_receive_bytes_total{
    job="node-exporter", device!~"lo|nbd.*|sr.*|docker.*" #LABELS#
}[5m])) by (#GROUPBY#)
```

#### NodeBytesSentBandWidth

```
sum(irate(node_network_transmit_bytes_total{
    job="node-exporter", device!~"lo|nbd.*|sr.*|docker.*" #LABELS#
}[5m])/128) by (#GROUPBY#)
```

NodeBytesReceivedBandWidth

```
sum(irate(node_network_receive_bytes_total{
    job="node-exporter", device!~"lo|nbd.*|sr.*|docker.*" #LABELS#
}[5m])/128) by (#GROUPBY#)
```

## IOPS

NodeStorageReadIOPS

```
sum(rate(node_disk_read_time_seconds_total{
    job="node-exporter", device!~"lo|nbd.*|sr.*|docker.*" #LABELS#
}[5m])) by (#GROUPBY#)
```

## IOPS

NodeStorageWriteIOPS

```
sum(rate(node_disk_writes_completed_total{
    job="node-exporter", device!~"lo|nbd.*|sr.*|docker.*" #LABELS#
}[5m])) by (#GROUPBY#)
```

NodeStorageReadFlow

```
sum(rate(node_disk_read_bytes_total{
    job="node-exporter", device!~"lo|nbd.*|sr.*|docker.*" #LABELS#
}[5m])) by (#GROUPBY#)
```

NodeStorageWriteFlow

```
sum(rate(node_disk_written_bytes_total{
    job="node-exporter", device!~"lo|nbd.*|sr.*|docker.*" #LABELS#
}[5m])) by (#GROUPBY#)
```

## TCP

NodeNetstatTCP

```
node_netstat_Tcp_CurrEstab{job="node-exporter", device!~"lo|nbd.*|sr.*|docker.*" #LABELS#}
```

cadvisor-kube-state-exporter

## pod

### PodCPU

PodCpuUsageRate

```
100*  
sum(irate(container_cpu_usage_seconds_total{#LABELS#}[5m])) by (#GROUPBY#)  
/  
sum(container_spec_cpu_quota{#LABELS#}/container_spec_cpu_period  
{#LABELS#})  
by (#GROUPBY#)
```

### PodCPU

PodCpuUsage

```
sum(rate(container_cpu_usage_seconds_total{#LABELS#}[5m])) by (#GROUPBY#)
```

## Pod

PodMemoryUsageRate

```
sum(container_memory_working_set_bytes{#LABELS#}) by (#GROUPBY#)  
/  
sum(container_spec_memory_limit_bytes{#LABELS#}) by (#GROUPBY#) <= 1
```

## Pod

PodMemoryUsage

```
avg(container_memory_working_set_bytes{#LABELS#}) by (#GROUPBY#)
```

## Pod

PodStorageUsageRate

```
100*  
sum(  
    container_fs_usage_bytes{#LABELS#} / (container_fs_limit_bytes  
{#LABELS#} !=0 )  
) by (#GROUPBY#)
```

## Pod

PodStorageUsage

```
avg(container_fs_usage_bytes{#LABELS#}) by (#GROUPBY#)
```

## Pod

PodBytesSent

```
sum(rate(container_network_transmit_bytes_total{#LABELS#}[5m])) by
(#GROUPBY#)
```

## Pod

PodBytesReceived

```
sum(rate(container_network_receive_bytes_total{#LABELS#}[5m])) by
(#GROUPBY#)
```

## Pod

PodBytesSentBandWidth

```
sum(rate(container_network_transmit_bytes_total{#LABELS#}[5m])/128) by
(#GROUPBY#)
```

## Pod

PodBytesReceivedBandWidth

```
sum(rate(container_network_receive_bytes_total{#LABELS#}[5m])/128) by
(#GROUPBY#)
```

## PodIOPS

PodStorageReadIOPS

```
sum(rate(container_fs_reads_total{#LABELS#}[5m])) by (#GROUPBY#)
```

## PodIOPS

PodStorageWriteIOPS

```
sum(rate(container_fs_writes_total{#LABELS#}[5m])) by (#GROUPBY#)
```

## Pod

PodStorageReadFlow

```
sum(rate(container_network_tcp_usage_total{#LABELS#}[5m])) by (#GROUPBY#)
```

## Pod

PodStorageWriteFlow

```
sum(rate(container_fs_reads_bytes_total{#LABELS#}[5m])) by (#GROUPBY#)
```

## PodTCP

PodNetstatTCP

```
sum(rate(container_fs_writes_total{#LABELS#}[5m])) by (#GROUPBY#)
```

## container

### CPU

ContainerCpuUsageRate

```
100*
sum(irate(container_cpu_usage_seconds_total{#LABELS#}[5m])) by (#GROUPBY#)
/
sum(container_spec_cpu_quota{#LABELS#}/container_spec_cpu_period
{#LABELS#})
by (#GROUPBY#)
```

### CPU

ContainerCpuUsage

```
sum(rate(container_cpu_usage_seconds_total{#LABELS#}[5m])) by (#GROUPBY#)
```

ContainerMemoryUsageRate

```
sum(container_memory_working_set_bytes{#LABELS#}) by (#GROUPBY#)
/
sum(container_spec_memory_limit_bytes{#LABELS#}) by (#GROUPBY#) <= 1
```

ContainerMemoryUsage

```
avg(container_memory_working_set_bytes{#LABELS#}) by (#GROUPBY#)
```

ContainerStorageUsageRate

```
100*
sum(
    container_fs_usage_bytes{#LABELS#} / (container_fs_limit_bytes
{#LABELS#} != 0 )
) by (#GROUPBY#)
```

ContainerStorageUsage

```
avg(container_fs_usage_bytes{#LABELS#}) by (#GROUPBY#)
```

ContainerBytesSent

```
sum(rate(container_network_transmit_bytes_total{#LABELS#}[5m])) by
(#GROUPBY#)
```

#### ContainerBytesReceived

```
sum(rate(container_network_receive_bytes_total{#LABELS#}[5m])) by  
(#GROUPBY#)
```

#### ContainerBytesSentBandWidth

```
sum(rate(container_network_transmit_bytes_total{#LABELS#}[5m])/128) by  
(#GROUPBY#)
```

#### ContainerBytesReceivedBandWidth

```
sum(rate(container_network_receive_bytes_total{#LABELS#}[5m])/128) by  
(#GROUPBY#)
```

## IOPS

#### ContainerStorageReadIOPS

```
sum(rate(container_fs_reads_total{#LABELS#}[5m])) by (#GROUPBY#)
```

## IOPS

#### ContainerStorageWriteIOPS

```
sum(rate(container_fs_writes_total{#LABELS#}[5m])) by (#GROUPBY#)
```

#### ContainerStorageReadFlow

```
sum(rate(container_network_tcp_usage_total{#LABELS#}[5m])) by (#GROUPBY#)
```

#### ContainerStorageWriteFlow

```
sum(rate(container_fs_reads_bytes_total{#LABELS#}[5m])) by (#GROUPBY#)
```

## TCP

#### ContainerNetstatTCP

```
sum(rate(container_fs_writes_total{#LABELS#}[5m])) by (#GROUPBY#)
```