



# Docker Data Collector

## Cloud Insights

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# Docker Data Collector

Cloud Insights uses this data collector to gather metrics from Docker.



This topic is considered Preview documentation and is subject to change.

## Installation

1. From **Admin > Data Collectors**, click **+Data Collector**. Under **Services**, choose Docker.

If you haven't configured an Agent for collection, you are prompted to [install an agent](#) in your environment.

If you have an agent already configured, select the appropriate Operating System or Platform and click **Continue**.

2. Follow the instructions in the Docker Configuration screen to configure the data collector. The instructions vary depending on the type of Operating System or Platform you are using to collect data.



## Docker Configuration

Gathers Docker metrics.

### What Operating System or Platform Are You Using?

[Need Help?](#)

RHEL & CentOS

### Select existing Agent Access Key or create a new one

Default (405fb5ec-d4cb-4404-977b-71fa931e1ad3)

[+ Agent Access Key](#)

\*Please ensure that you have a Telegraf Agent in you environment before configuring [Show Instructions](#)

### Follow Configuration Steps

[Need Help?](#)

- 1 Copy the contents below into a new .conf file under the /etc/telegraf/telegraf.d/ directory. For example, copy the contents to the /etc/telegraf/telegraf.d/cloudinsights-docker.conf file.

```
[[inputs.docker]]
  ## Docker Endpoint
  ## To use TCP, set endpoint = "tcp://[ip]:[port]". By default, Docker uses port 2375 for
  unencrypted and 2376 for encrypted
  ## To use environment variables (ie, docker-machine), set endpoint = "ENV"
```

- 2 Replace <INSERT\_DOCKER\_ENDPOINT> with the applicable Docker endpoint.
- 3 Modify 'Namespace' if needed for server disambiguation (to avoid name clashes).
- 4 Restart the Telegraf service.

```
systemctl restart telegraf
```

## Setup

The Telegraf input plugin for Docker collects metrics through a specified UNIX socket or a TCP endpoint.

### Compatibility

Configuration was developed against Docker version 1.12.6.

### Setting Up

### Accessing Docker through a UNIX socket

If the Telegraf agent is running on baremetal, add the telegraf Unix user to the docker Unix group by running the following:

```
sudo usermod -aG docker telegraf
```

If the Telegraf agent is running within a Kubernetes pod, expose the Docker Unix socket by mapping the socket into the pod as a volume and then mounting that volume to `/var/run/docker.sock`. For example, add the following to the PodSpec:

```
volumes:  
  ...  
  - name: docker-sock  
    hostPath:  
      path: /var/run/docker.sock  
      type: File
```

Then, add the following to the Container:

```
volumeMounts:  
  ...  
  - name: docker-sock  
    mountPath: /var/run/docker.sock
```

Note that the Cloud Insights installer provided for the Kubernetes platform takes care of this mapping automatically.

### Access Docker through a TCP endpoint

By default, Docker uses port 2375 for unencrypted access and port 2376 for encrypted access.

## Objects and Counters

The following objects and their counters are collected:

| Object:       | Identifiers:               | Attributes:  | Datapoints:  |
|---------------|----------------------------|--|--|
| Docker Engine | Namespace<br>Docker Engine | Node Name<br>Node IP<br>Node UUID<br>Node OS<br>Kubernetes Cluster<br>Docker Version<br>Unit | Memory<br>Containers<br>Containers Paused<br>Containers Running<br>Containers Stopped<br>CPUs<br>Go Routines<br>Images<br>Listener Events<br>Used File Descriptors<br>Data Available<br>Data Total<br>Data Used<br>Metadata Available<br>Metadata Total<br>Metadata Used<br>Pool Blocksize |

| Object:          | Identifiers:                                 | Attributes:   | Datapoints:   |
|------------------|--|---|---|
| Docker Container | Namespace<br>Container Name<br>Docker Engine | Kubernetes Container Hash<br>Kubernetes Container Ports<br>Kubernetes Container Restart Count<br>Kubernetes Container Termination Message Path<br>Kubernetes Container Termination Message Policy<br>Kubernetes Pod Termination Grace Period<br>Container Image<br>Container Status<br>Container Version<br>Node Name<br>Kubernetes Container Log Path<br>Kubernetes Container Name<br>Kubernetes Docker Type<br>Kubernetes Pod Name<br>Kubernetes Pod Namespace<br>Kubernetes Pod UID<br>Kubernetes Sandbox ID<br>Node IP<br>Node UUID<br>Docker Version<br>Kubernetes IO Config Seen<br>Kubernetes IO Config Source<br>OpenShift IO SCC<br>Kubernetes Description<br>Kubernetes Display Name<br>OpenShift Tags<br>Kompose Service<br>Pod Template Hash<br>Controller Revision | Memory Active Anonymous<br>Memory Active File<br>Memory Cache<br>Memory Hierarchical Limit<br>Memory Inactive Anonymous<br>Memory Inactive File<br>Memory Limit<br>Memory Mapped File<br>Memory Max Usage<br>Memory Page Fault<br>Memory Page Major Fault<br>Memory Paged In<br>Memory Paged Out<br>Memory Resident Set Size<br>Memory Resident Set Size Huge<br>Memory Total Active Anonymous<br>Memory Total Active File<br>Memory Total Cache<br>Memory Total Inactive Anonymous<br>Memory Total Inactive File<br>Memory Total Mapped File<br>Memory Total Page Fault<br>Memory Total Page Major Fault<br>Memory Total Paged In<br>Memory Total Paged Out<br>Memory Total Resident Set Size<br>Memory Total Resident Set Size Huge<br>Memory Total Unevictable |

| Object:                      | Identifiers:   | Attributes:  | Datapoints:   |
|------------------------------|--|--|---|
| Docker Container Block<br>IO | Namespace<br>Container Name<br>Device<br>Docker Engine | Kubernetes Container<br>Hash<br>Kubernetes Container<br>Ports<br>Kubernetes Container<br>Restart Count<br>Kubernetes Container<br>Termination Message<br>Path<br>Kubernetes Container<br>Termination Message<br>Policy<br>Kubernetes Pod<br>Termination Grace<br>Period<br>Container Image<br>Container Status<br>Container Version<br>Node Name<br>Kubernetes Container<br>Log Path<br>Kubernetes Container<br>Name<br>Kubernetes Docker Type<br>Kubernetes Pod Name<br>Kubernetes Pod<br>Namespace<br>Kubernetes Pod UID<br>Kubernetes Sandbox ID<br>Node IP<br>Node UUID<br>Docker Version<br>Kubernetes Config Seen<br>Kubernetes Config<br>Source<br>OpenShift SCC<br>Kubernetes Description<br>Kubernetes Display<br>Name<br>OpenShift Tags<br>Schema Schema Version<br>Pod Template Hash<br>Controller Revision<br>Hash | IO Service Bytes<br>Recursive Async<br>IO Service Bytes<br>Recursive Read<br>IO Service Bytes<br>Recursive Sync<br>IO Service Bytes<br>Recursive Total<br>IO Service Bytes<br>Recursive Write<br>IO Serviced Recursive<br>Async<br>IO Serviced Recursive<br>Read<br>IO Serviced Recursive<br>Sync<br>IO Serviced Recursive<br>Total<br>IO Serviced Recursive<br>Write |



| Object:                     | Identifiers:  | Attributes:   | Datapoints:  |
|-----------------------------|---|---|--|
| Docker Container<br>Network | Namespace<br>Container Name<br>Network<br>Docker Engine | Container Image<br>Container Status<br>Container Version<br>Node Name<br>Node IP<br>Node UUID<br>Node OS<br>K8s Cluster<br>Docker Version<br>Container ID | RX Dropped<br>RX Bytes<br>RX Errors<br>RX Packets<br>TX Dropped<br>TX Bytes<br>TX Errors<br>TX Packets |

| Object:              | Identifiers:  | Attributes:   | Datapoints:   |
|----------------------|---|---|---|
| Docker Container CPU | Namespace<br>Container Name<br>CPU<br>Docker Engine | Kubernetes Container Hash<br>Kubernetes Container Ports<br>Kubernetes Container Restart Count<br>Kubernetes Container Termination Message Path<br>Kubernetes Container Termination Message Policy<br>Kubernetes Pod Termination Grace Period<br>Kubernetes Config Seen<br>Kubernetes Config Source<br>OpenShift SCC<br>Container Image<br>Container Status<br>Container Version<br>Node Name<br>Kubernetes Container Log Path<br>Kubernetes Container name<br>Kubernetes Docker Type<br>Kubernetes Pod Name<br>Kubernetes Pod Namespace<br>Kubernetes Pod UID<br>Kubernetes Sandbox ID<br>Node IP<br>Node UUID<br>Node OS<br>Kubernetes Cluster<br>Docker Version<br>Kubernetes Description<br>Kubernetes Display Name<br>OpenShift Tags<br>Schema Version<br>Pod Template Hash | Throttling Periods<br>Throttling Throttled Periods<br>Throttling Throttled Time<br>Usage In Kernel Mode<br>Usage In User Mode<br>Usage Percent<br>Usage System<br>Usage Total |

# Troubleshooting

| Problem:   | Try this:  |
|--|--|
| I do not see my Docker metrics in Cloud Insights after following the instructions on the configuration page. | <p>Check the Telegraf agent logs to see if it reports the following error:</p> <p>E! Error in plugin [inputs.docker]: Got permission denied while trying to connect to the Docker daemon socket</p> <p>If it does, take the necessary steps to provide the Telegraf agent access to the Docker Unix socket as specified above.</p> |

Additional information may be found from the [Support](#) page.

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