**Azure Metrics Explorer**

Azure Monitor metrics explorer is a component of the Microsoft Azure portal that allows plotting charts, visually correlating trends, and investigating spikes and dips in metrics' values. Use the metrics explorer to investigate the health and utilization of your resources. Start in the following order:

1. Pick a resource and a metric and you see a basic chart. Then select a time range that is relevant for your investigation.
2. Try applying dimension filters and splitting. The filters and splitting allow you to analyze which segments of the metric contribute to the overall metric value and identify possible outliers.
3. Use advanced settings to customize the chart before pinning to dashboards. Configure alerts to receive notifications when the metric value exceeds or drops below a threshold.

# Azure Service Bus metrics in Azure Monitor

Service Bus metrics give you the state of resources in your Azure subscription. With a rich set of metrics data, you can assess the overall health of your Service Bus resources, not only at the namespace level, but also at the entity level. These statistics can be important as they help you to monitor the state of Service Bus. Metrics can also help troubleshoot root-cause issues without needing to contact Azure support.

Azure Monitor provides unified user interfaces for monitoring across various Azure services.

## Access metrics

Azure Monitor provides multiple ways to access metrics. You can either access metrics through the Azure portal or use the Azure Monitor APIs (REST and .NET) and analysis solutions such as Azure Monitor logs and Event Hubs.

Metrics are enabled by default, and you can access the most recent 30 days of data. If you need to keep data for a longer period of time, you can archive metrics data to an Azure Storage account. This value is configured in diagnostic settings in Azure Monitor.

## Access metrics in the portal

You can monitor metrics over time in the Azure portal. The following example shows how to view successful requests and incoming requests at the account level:

Graphical user interface, application, email

Description automatically generated

You can also access metrics directly via the namespace. To do so, select your namespace and then select **Metrics**. To display metrics filtered to the scope of the entity, select the entity and then select **Metrics**.

Graphical user interface

Description automatically generatedFor metrics supporting dimensions, you must filter with the desired dimension value.

## **Billing**

Metrics and Alerts on Azure Monitor are charged on a per alert basis. These charges should be available on the portal when the alert is set up and before it's saved.

Additional solutions that ingest metrics data are billed directly by those solutions. For example, you're billed by Azure Storage if you archive metrics data to an Azure Storage account. you're also billed by Log Analytics if you stream metrics data to Log Analytics for advanced analysis.

The following metrics give you an overview of the health of your service.

**Note**

We are deprecating several metrics as they are moved under a different name. This might require you to update your references. Metrics marked with the "deprecated" keyword will not be supported going forward.

All metrics values are sent to Azure Monitor every minute. The time granularity defines the time interval for which metrics values are presented. The supported time interval for all Service Bus metrics is 1 minute.

## Request metrics

Counts the number of data and management operations requests.

| **REQUEST METRICS** | |
| --- | --- |
| **Metric Name** | **Description** |
| Incoming Requests | The number of requests made to the Service Bus service over a specified period. |
| Successful Requests | The number of successful requests made to the Service Bus service over a specified period. |
| Server Errors | The number of requests not processed because of an error in the Service Bus service over a specified period. |
| User Errors (see the following subsection) | The number of requests not processed because of user errors over a specified period. |
| Throttled Requests | The number of requests that were throttled because the usage was exceeded. |

### **User errors**

The following two types of errors are classified as user errors:

1. Client-side errors (In HTTP that would be 400 errors).
2. Errors that occur while processing messages, such as [MessageLockLostException](https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.servicebus.messagelocklostexception).

## Message metrics

| **MESSAGE METRICS** | |
| --- | --- |
| **Metric Name** | **Description** |
| Incoming Messages | The number of events or messages sent to Service Bus over a specified period. |
| Outgoing Messages | The number of events or messages received from Service Bus over a specified period. |
| Messages | Count of messages in a queue/topic. |
| Active Messages | Count of active messages in a queue/topic. |
| Dead-lettered messages | Count of dead-lettered messages in a queue/topic. |
| Scheduled messages | Count of scheduled messages in a queue/topic. |
| Completed Messages | Count of completed messages in a queue/topic. |
| Abandoned Messages | Count of abandoned messages in a queue/topic. |
| Size | Size of an entity (queue or topic) in bytes. |

**Note**

Values for messages, active, dead-lettered, scheduled, completed, and abandoned messages are point-in-time values. Incoming messages that were consumed immediately after that point-in-time may not be reflected in these metrics.

## Connection metrics

| **CONNECTION METRICS** | |
| --- | --- |
| **Metric Name** | **Description** |
| Active Connections | The number of active connections on a namespace and on an entity in the namespace. Value for this metric is a point-in-time value. Connections that were active immediately after that point-in-time may not be reflected in the metric. |
| Connections Opened | The number of open connections. |
| Connections Closed | The number of closed connections. |

## **Resource usage metrics**

**Note**

The following metrics are available only with the **premium** tier.

The important metrics to monitor for any outages for a premium tier namespace are **CPU usage per namespace** and **memory size per namespace**. **Set up alerts** for these metrics using Azure Monitor.

The other metric you could monitor is **throttled requests**. It shouldn't be an issue though as long as the namespace stays within its memory, CPU, and brokered connections limits. For more information, see **Throttling in Azure Service Bus Premium tier**

| **RESOURCE USAGE METRICS** | |
| --- | --- |
| **Metric Name** | **Description** |
| CPU usage per namespace | The percentage CPU usage of the namespace. |
| Memory size usage per namespace | The percentage memory usage of the namespace. |

## **Metrics dimensions**

Azure Service Bus supports the following dimensions for metrics in Azure Monitor. Adding dimensions to your metrics is optional. If you don't add dimensions, metrics are specified at the namespace level.

| **METRICS DIMENSIONS** | |
| --- | --- |
| **Dimension name** | **Description** |
| Entity Name | Service Bus supports messaging entities under the namespace. |

## **Set up alerts on metrics:**

On the **Metrics** tab of the **Service Bus Namespace** page, select **Configure alerts**.