

Troubleshooting Azure IoT Hub Connections

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Enable the IoT Hub Diagnostic settings

(1) Navigate to your Azure IoT Hub and select "Diagnostic settings" from the Monitoring menu:

The screenshot shows the Azure portal interface for an IoT Hub named 'CirrusLinkIoTHub01'. On the left sidebar, under the 'Monitoring' section, 'Diagnostic settings' is highlighted with a red box. The main content area displays the 'Essentials' tab for the IoT Hub, showing details like Resource group, Status, Location, and Service region. A 'JSON View' link is visible in the top right corner of the main content area.

(2) Select + Add diagnostic setting

The screenshot shows the 'Diagnostic settings' page for the IoT Hub. The 'Diagnostic settings' section in the left sidebar is highlighted with a red box. The main content area shows a table with columns: Name, Storage account, Event hub, Log Analytics workspace, Partner solution, and Edit setting. Below the table, the text 'No diagnostic settings defined' is displayed. A red box highlights the '+ Add diagnostic setting' button. Below this button, a list of categories is shown, including Connections, Device Telemetry, C2D Commands, Device Identity Operations, File Upload Operations, Routes, D2C Twin Operations, C2D Twin Operations, Twin Queries, Jobs Operations, Direct Methods, Distributed Tracing (Preview), and Configurations.

(3) Select the Categories "Connections" and the Destination details "Send to Log Analytics workspace". Give your new diagnostic setting a name and select "Save"

Microsoft Azure Search resources, services, and docs (G+/)

Home > IoT Hub > CirrusLinkIoTHub01 | Diagnostic settings >

Diagnostic setting

Save Discard Delete Feedback

A diagnostic setting specifies a list of categories of platform logs and/or metrics that you want to collect from a resource, and one or more destinations that you would stream them to. Normal usage charges for the destination will occur. [Learn more about the different log categories and contents of those logs](#)

Diagnostic setting name * Connections

Logs

Category groups

☐ allLogs ☐ audit

Categories

☒ Connections

☐ Device Telemetry

☐ C2D Commands

☐ Device Identity Operations

Destination details

☒ Send to Log Analytics workspace

Subscription: Cirrus-Link-Primary-Subscription

Log Analytics workspace: TimeSeriesInsightsLogs (westus)

☐ Archive to a storage account

☐ Stream to an event hub

JSON View

Query the diagnostic logs

(1) Navigate to your Azure IoT Hub and select "Logs" from the Monitoring menu.

(2) Copy and paste the syntax below into the query window and select "Run"

```
// Connectivity errors
// Identify device connection errors
// To create an alert for this query, click '+ New alert rule'
AzureDiagnostics
| where ResourceProvider == "MICROSOFT.DEVICES" and ResourceType == "IOTHUBS"
| where Category == "Connections" and Level == "Error"
```

CirrusLinkIoTHub01 | Logs

Search

New Query 1*

CirrusLinkIoTHub01 Select scope

Run Time range: Last 24 hours Save Share New alert rule Export

1 // Connectivity errors
2 // Identify device connection errors.
3 // To create an alert for this query, click '+ New alert rule'
4 AzureDiagnostics
5 | where ResourceProvider == "MICROSOFT.DEVICES" and ResourceType == "IOTHUBS"
6 | where Category == "Connections" and Level == "Error"

Results Chart

	location_s	Type	_ResourceId	TenantId
orMess...	westus	AzureDiagnostics	/subscriptions/eb40216b-6f6...	5c4b45a2-99
orMess...	westus	AzureDiagnostics	/subscriptions/eb40216b-6f6...	5c4b45a2-99
orMess...	westus	AzureDiagnostics	/subscriptions/eb40216b-6f6...	5c4b45a2-99
J*, "error...	westus	AzureDiagnostics	/subscriptions/eb40216b-6f6...	5c4b45a2-99
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J*, "error...	westus	AzureDiagnostics	/subscriptions/eb40216b-6f6...	5c4b45a2-99

Security settings

- Identity
- Shared access policies
- Networking
- Certificates

Defender for IoT

- Overview
- Security Alerts
- Recommendations
- Settings

Monitoring

- Alerts
- Metrics
- Diagnostic settings
- Logs
- Workbooks

Automation

Queries

Search

1 Filter Group by: Topic

Collapse all

Favorites

You can add favorites by clicking on the ☆ icon

Alerts

- Connectivity errors
- Dead endpoints
- Devices with most throttling errors
- Error summary
- IoT Edge: Device offline or not sending messages upstream at...
- IoT Edge: Edge Hub queue size over threshold
- IoT Edge: Total device disk

Interpreting the query results

IoT Hub Client collisions

Errors would be returned for the device/client that included the following properties:

- OperationName = deviceDisconnect
- Level = Error
- ResultDescription = ConnectionForcefullyClosedOnNewConnection
- Properties_s = <will give you the device id and the IP address>