

Use Activator in Microsoft Fabric

1. Introduction

<https://learn.microsoft.com/en-us/training/modules/use-fabric-activator/1-introduction>

Introduction

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Imagine you manage package delivery for a company with temperature-sensitive medicines that must stay cold during transport. You track the temperature readings and delivery status from your trucks and need to take immediate action when temperature variances threaten medicine safety. Activator in Microsoft Fabric can help you automatically evaluate these conditions and trigger actions like alerting your dispatch team or starting workflows that could initiate delivery changes when problems occur.

What is Activator?

Activator is Microsoft Fabric's event detection and rules engine within Real-Time Intelligence.

To use Activator, first you connect to real-time data sources. Then you create **rules** to check for specific conditions, and when those conditions are met, Activator executes **actions** like sending email alerts, posting Teams messages, starting Power Automate flows, or running Fabric notebooks.

Real-world scenarios

Activator is useful in scenarios where timely responses matter:

- **Manufacturing operations** can automatically alert maintenance teams when equipment temperatures exceed safe operating ranges
- **Supply chain managers** can be notified when shipments deviate from planned routes or experience unexpected delays
- **Retail managers** can trigger inventory reorders when stock levels fall below critical thresholds
- **IT operations teams** can automatically restart services when performance metrics indicate system degradation
- **Financial institutions** can flag unusual transaction patterns for immediate review

- **Healthcare facilities** can alert staff when patient monitoring devices detect critical changes

In this module, you'll learn how to connect Activator to your streaming data sources, create rules that automatically detect important conditions, and configure the actions that should be triggered when those conditions occur.

2. Configure Activator for your data

<https://learn.microsoft.com/en-us/training/modules/use-fabric-activator/2-configure-activator>

Configure Activator for your data

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Before you can evaluate conditions and trigger actions on real-time data, you need to configure how Activator should interpret your data for rule evaluation. Rules evaluate conditions against specific data points - like "when this package's temperature exceeds 86°F" or "when any delivery takes longer than 48 hours."

There are several ways to configure Activator for monitoring your data. One approach uses **business objects** - representing of the real-world things you want to monitor, like packages, devices, or customers.

Understand business objects

Business objects represent the entities you want to monitor. For a package delivery company, each package becomes an **object** in Activator. Each object has **properties** which are the specific data points you want to monitor.

Here's how this organization works:

- **Objects** represent individual instances (Package001, Package002, Package003)
- **Properties** represent the data attributes for each instance (Temperature, City, DeliveryState, HoursInTransit)
- **Events** contain the actual data values that flow in from your data sources

Your data sources send events containing information for multiple packages. Activator uses this incoming data to automatically update the property values for each package object.

Create objects from eventstreams

When you configure Activator as a destination for an eventstream, you can then create business objects in Activator. During this setup, you tell Activator which data fields represent objects and which fields are properties to evaluate.

Here's how you create objects from an eventstream:

1. **Configure Activator as a destination** - In an eventstream
2. **Open the Activator** - Then select the option to create a new object
3. **Choose your unique identifier** - Select the field that uniquely identifies the object (like PackageId or DeviceId)
4. **Select properties** - Choose which data fields you want to monitor as properties

For example, if your eventstream contains package delivery data with fields like `PackageId`, `Temperature`, `City`, `DeliveryState`, and `HoursInTransit`, you might:

- Use `PackageId` as your unique identifier to create separate package objects
- Select `Temperature` and `HoursInTransit` as properties you want to monitor
- Let Activator automatically create objects for each unique package as data flows in

The screenshot displays the Activator interface. On the left is a sidebar with navigation icons. The main area is titled 'Package delivery events' and includes a 'Live feed' section with a timeline of events (express_shipping_request, package_created, package_delivery_attempt, package_in_transit) and an 'Event details' table with 504 rows. A 'Build object' panel is open on the right, showing configuration options for creating a new object. The 'Object name' is 'Package' and the 'Unique Identifier' is 'PackageId'. Under 'Properties', 'All columns' is selected, and 'HoursInTransit' is checked. A 'Create' button is at the bottom right of the panel.

SpecialCare	Temperature	TrackingType	Weight	System.EventTimestamp	System.Ing
Food	-24.4518624092228	IOT	10	2025-09-15 21:53:57Z	2025-09-15
Medicine	23.8757060759122	IOT	4.3	2025-09-15 21:53:51Z	2025-09-15
Medicine	-28.042083620253	IOT_Rapid	27.9	2025-09-15 21:53:29Z	2025-09-15
Medicine	9.53341125721736	IOT	12.1	2025-09-15 21:53:28Z	2025-09-15
Medicine	-0.52953027083051	Warehouse	21.8	2025-09-15 21:53:26Z	2025-09-15
None	-2.87028003626982	Warehouse	18.4	2025-09-15 21:53:11Z	2025-09-15
Plants	22.658331069424	IOT	6.9	2025-09-15 21:53:02Z	2025-09-15

Once configured, your eventstream continuously feeds data to Activator. New events update existing object properties, new unique identifiers automatically create new objects, and property values always reflect the most recent data from your stream. This configuration means your rules can evaluate conditions as soon as new data arrives.

Alternative alerting approaches

The Activator engine also supports creating alerts. You can create dashboard alerts directly from Real-Time Dashboard visualizations, set up system event alerts to monitor Fabric workspace activities and OneLake file operations, or create query alerts from KQL Queryset results and visualizations.

These approaches use the same Activator engine but interpret data differently than the business objects model.

3. Create rules in Activator

<https://learn.microsoft.com/en-us/training/modules/use-fabric-activator/3-create-rules>

Create rules in Activator

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Rules define the conditions you want to detect on your objects and the actions to take when those conditions are met.

Build your first rule

Imagine you're managing a package delivery company with temperature-sensitive medicines. Each package has sensors sending temperature and location data to your Eventstream. You need to catch temperature problems before they damage valuable cargo.

Let's walk through creating a rule for this scenario. When you create a rule in the Activator interface, a *Definition* pane opens with several sections to configure. We'll focus on the first three sections in the *Definition* pane now - Monitor, Condition, and Property filter - and cover Actions in the next unit.

The screenshot displays the Microsoft Fabric Activator interface. The main pane shows a rule named "Too hot for medicine" with a "Definition" tab selected. The "Definition" pane is open on the right, showing the following configuration:

- Monitor:**
 - Attribute: Temperature (°C)
 - Summarization: Average
 - Window size: 10 minutes
 - Step size: 5 minutes
- Condition:**
 - Condition: Is greater than
 - Value: 40
 - Occurrence: When it has been true for
 - Time elapsed: 10 minutes
- Property filter:**
 - Filter 1:
 - Attribute: Current city
 - Operation: Is equal to
 - Value: Seattle

The main pane also shows a "Monitor" section with a line chart titled "Temperature (°C) Average over 10 minutes" for five IoT IDs: IOT-MA1936426, IOT-MA5193642, IOT-MA8519364, IOT-MAH0108519, and IOT-PA4262625. The chart shows temperature fluctuations over time, with a red dashed line at 40°C. Below the chart, a "Condition" section lists the selected IoT IDs, and a "Property filter" section shows the condition "Current city is equal to Seattle".

Choose what to monitor

The **Monitor** section is where you configure what Activator watches. This section directs Activator to monitor specific data properties.

First, you select an **Attribute** - the specific property from your event data. For our package delivery scenario, you'd choose Temperature from your package sensor data.

Raw temperature readings can be noisy. A package might show brief spikes when moved or dips when passing through different environments. That's where **Summarization** becomes crucial for seeing the bigger picture:

- **Average** - Smooth out the noise by averaging readings over time
- **Minimum/Maximum** - Catch the extreme values that matter most
- **Count** - Track how many readings you're getting (useful for detecting sensor failures)
- **Total** - Add up values when you're counting events rather than measuring levels

When you add summarization, you control two timing settings:

- **Window size**: How much historical data to include (maybe 10 minutes of temperature readings)
- **Step size**: How often to recalculate (perhaps every 5 minutes for near real-time monitoring)

For example, instead of reacting to every single temperature reading, you might monitor the average temperature over 10-minute windows, updating every 5 minutes. This approach catches sustained problems while ignoring brief fluctuations.

Define when to act

The **Condition** section sets your execution point - when Activator should spring into action.

You choose from different detection approaches:

- **Threshold monitoring**: Alert when values cross your safety limits (Temperature **is greater than** 68°F)
- **Change detection**: Monitor trends (Temperature **increases above** baseline)
- **Range monitoring**: Track entry/exit from safe zones
- **Missing data**: Catch sensor failures (**No new events for more than** 30 minutes)

You also set the **Value** (your threshold like 68°F) and **Occurrence** behavior:

- **Every time** for immediate alerts
- **When it has been true for** to identify persistent problems (stays high for 15 minutes)

Focus your scope

You might want to apply your rule only to specific events, not every event in your stream. The **Property filter** section lets you narrow down which events get evaluated.

Maybe you only want to monitor:

- Cold chain packages: **ColdChainType equals** "medicine"
- High-priority routes: **City equals** "Seattle"
- Warm shipments: **Temperature is greater than** 68°F

You can combine up to three filters to create precise targeting.

With your rule defined, the next step is configuring what actions Activator should take when the rule conditions are met.

4. Configure actions in Activator

<https://learn.microsoft.com/en-us/training/modules/use-fabric-activator/4-configure-actions>

Configure actions in Activator

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Actions are what happens when your rule conditions are met. They complete your Activator setup, turning condition evaluation into notifications and automated workflows. Activator offers four types of actions.

Email actions

Email actions send detailed information that people can review and respond to within hours or days. Use email when the recipient needs comprehensive context or when immediate response isn't critical.

Teams actions

Teams actions send immediate messages to channels or individuals. Use Teams when you need quick responses and team coordination. Teams notifications appear immediately and let teams discuss and coordinate their response.

Power Automate actions

Power Automate is Microsoft's workflow automation service that connects different apps and services together. Power Automate actions execute multi-step business processes across different systems - automatically performing a series of tasks that would normally require manual steps across multiple applications.

Fabric item actions

Fabric item actions execute data pipelines or notebooks for other processing and analysis. Use Fabric items when you need to process more data or perform advanced analysis in response to evaluated conditions.

With data sources connected, rules defined, and actions configured, you have everything needed for Activator to automatically take action when conditions occur in your streaming data.

5. Exercise - Use Activator in Fabric

<https://learn.microsoft.com/en-us/training/modules/use-fabric-activator/5-exercise>

Exercise - Use Activator in Fabric

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Now it's your turn to work with Microsoft Fabric Activator.

In this exercise, you create an Activator that monitors data and set up detection rules that automatically send email alerts. You create objects, define filters, and configure automated responses.

Note

You need a [Microsoft Fabric trial](#) to complete this exercise.

Launch the exercise and follow the instructions.

[Launch Exercise](#)

6. Module assessment

<https://learn.microsoft.com/en-us/training/modules/use-fabric-activator/6-knowledge-check>

Module assessment

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7. Summary

<https://learn.microsoft.com/en-us/training/modules/use-fabric-activator/7-summary>

Summary

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In this module, you learned how to use Microsoft Fabric Activator to automatically detect conditions in streaming data and execute actions. You explored how to configure Activator and create rules that monitor specific conditions in your data streams. You also learned to configure automated actions that execute when your defined conditions are met.

Additional resources

Continue your learning with these resources:

- [What is Fabric Activator](#)
- [Fabric Activator rules](#)