



Herzlich willkommen zu den DevDays 2017

DIGICOMP

canoo
[delivering end-user happiness]

{ **DEV**DAY }
by DIGICOMP



Stream-Daten-Analyse für Entwickler

Dieter Rüetschi

www.ability-solutions.ch

ruetschi@ability-solutions.ch

DIGICOMP

canoo
[delivering end-user happiness]

{ DEVDAY }
by DIGICOMP

Ausschreibung

- Stream-Daten-Analyse wird immer mehr zum Thema. Was mache ich als Softwareentwickler, wenn ich die Anforderung habe, Stream-Daten in Echtzeit zu verarbeiten? Azure Stream Analytics lautet das Stichwort! Wir betrachten in dieser Session die notwendige Theorie und ein Beispiel zu deren Anwendung.

Zielpublikum: Softwareentwickler, Projektleiter und Daten-Spezialisten

Level: Intermediate

Was ist Streaming?

Data at rest



Data in motion



Anwendungsbereiche

Real-time
fraud detection



Connected car



Click-stream analysis



Remote device
monitoring



Smart grid



CRM alerting sales



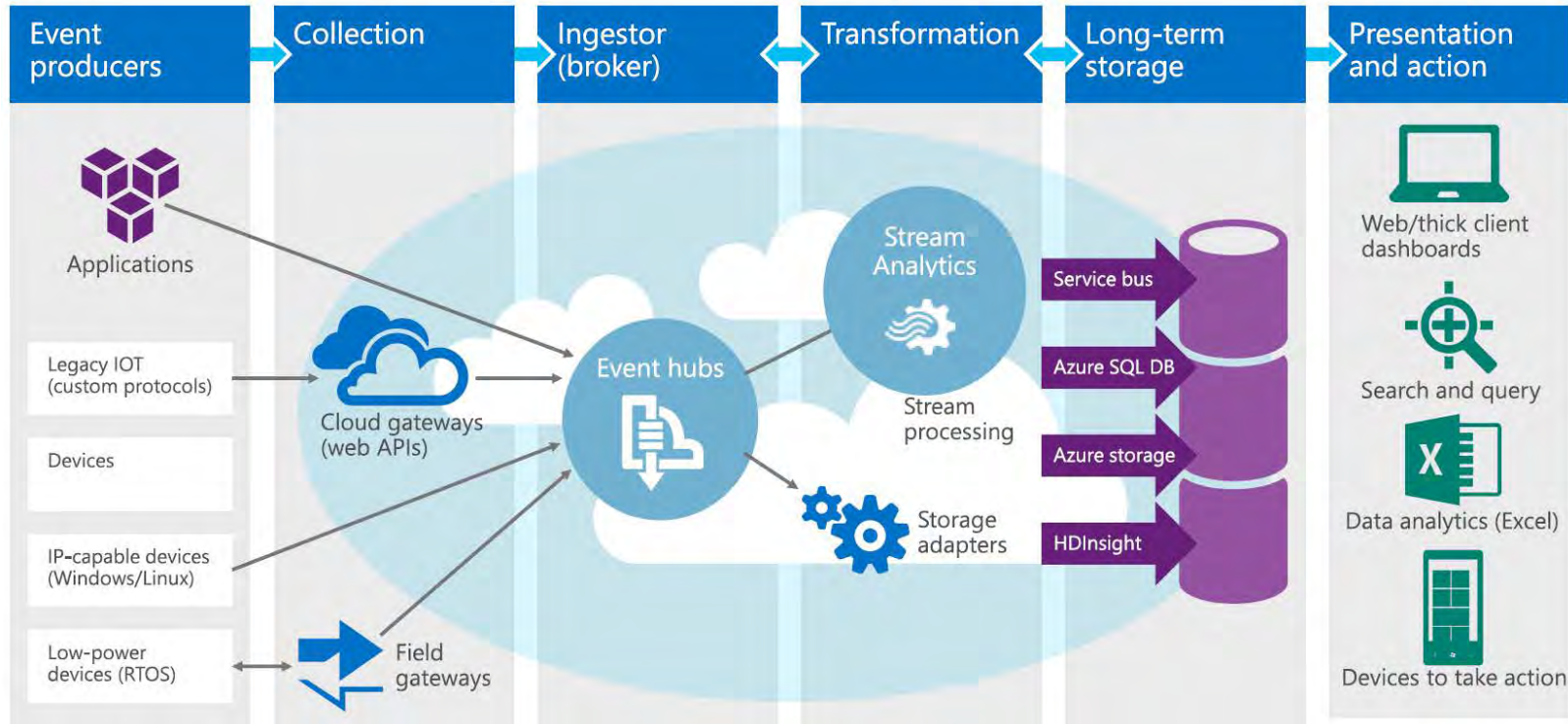
Predictive
maintenance



Real-time financial
sales tracking



End to End Streaming Lösung in Azure



Stream Analytics Job

The screenshot displays the Microsoft Azure portal interface for a Stream Analytics job. The browser address bar shows the URL: `ms.portal.azure.com/#resource/subscriptions/7a81077e-6592-42f5-8dbc-631b59a08f0c/resourceGroups/rg12345/providers/Micros...`. The page title is "stream-12345 - Microsoft Azure".

The left-hand navigation pane shows "All resources" for the "stream-12345" resource group. Under "Subscriptions", there are 6 items listed, including "stream-12345" which is highlighted. The "Subscriptions" section includes a filter by name and a "Switch directories" link.

The main content area shows the "stream-12345" Stream Analytics job. The job is in the "Created" state. The "Essentials" section displays the following information:

- Resource group: [rg12345](#)
- Status: Created
- Location: East US
- Subscription name: [Microsoft Azure Internal Consumption](#)
- Subscription ID: 7a81077e-6592-42f5-8dbc-631b59a08f0c
- Created: Friday, January 13, 2017 12:27:52 PM
- Started: Friday, January 13, 2017 12:11:11 PM
- Last output: Friday, January 13, 2017 12:15:35 PM

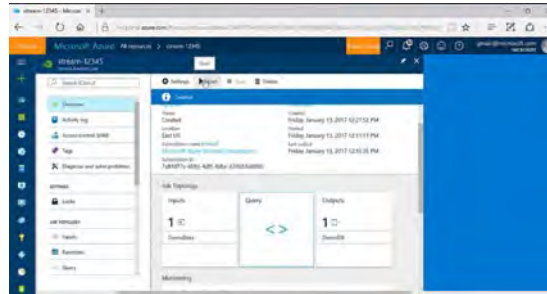
Below the Essentials section, there are three panels: "Inputs", "Query", and "Outputs". Each panel shows "0" and "No results".

Stream Analytics Job

The screenshot displays the Microsoft Azure portal interface for a Stream Analytics job named 'stream-12345'. The browser address bar shows the URL: `ms.portal.azure.com/#resource/subscriptions/7a81077e-6592-42f5-8dbc-631b59a08f0c/resourceGroups/rg12345/providers/Micros...`. The page header includes 'Microsoft Azure', 'All resources', and 'stream-12345'. A navigation pane on the left lists various resource types, with 'stream-12345' selected. The main content area is divided into three sections: 'Overview', 'Settings', and 'Job Topology'. The 'Overview' section shows a search bar and a list of actions: Overview, Activity log, Access control (IAM), Tags, and Diagnose and solve problems. The 'Settings' section includes 'Created' information, 'Essentials', and a table of job details. The 'Job Topology' section shows 'Inputs', 'Functions', and 'Query'. The 'Query' section is currently empty, displaying 'No results.' in the 'Inputs' and 'Outputs' columns.

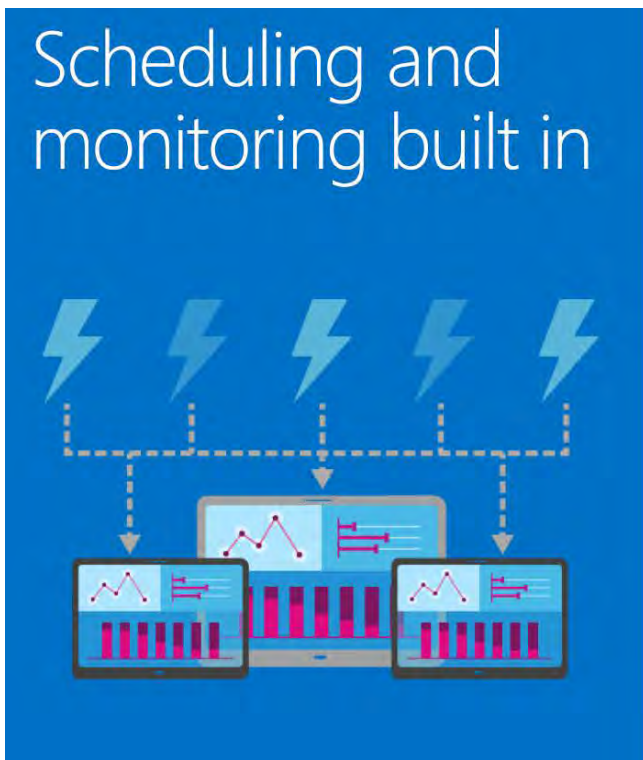
Resource group	rg12345
Status	Created
Created	Friday, January 13, 2017 12:27:52 PM
Location	East US
Started	Friday, January 13, 2017 12:11:11 PM
Last output	Friday, January 13, 2017 12:15:35 PM

Die Umsetzung



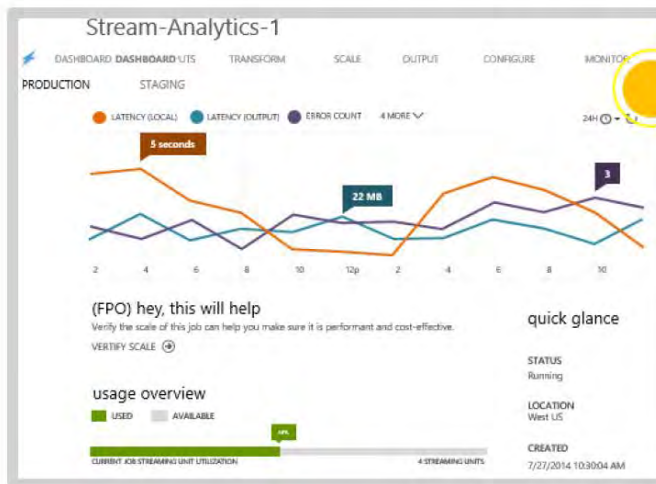
Monitoring

Scheduling and monitoring built in



Built-in monitoring

View your system's performance at a glance
Help you find the cost-optimal way of deployment



Vorgehen

- Quelle definieren
 - Event Hubs
 - IOT Hups
- Stream Analytics Job anlegen
 - Input definieren (EventHub, IOTHub, BLOBStorage)
 - Query definieren (USQL : Mix zwischen SQL und C#)
 - Output festlegen (Storage, SQL Server DB, andere Datenbanken, No SQL,...)
- Scheduling
- Monitoring

Ausprobieren

- Azure
- Anleitung und Beschreibung: <https://docs.microsoft.com/en-us/azure/stream-analytics/>
- Lernvideos: <https://channel9.msdn.com/Shows/Data-Exposed/DataExposedAzureStreamAnalytics>
- Digicomp:
 - <https://www.digicomp.ch/weiterbildung/it-professionals/microsoft/microsoft-professional-program-mpp/microsoft-professional-program-data-science>
 - <https://www.digicomp.ch/weiterbildung/it-professionals/microsoft/microsoft-professional-program-mpp/microsoft-professional-program-big-data> (in Kürze)