



AZURE DAY

# Elaborazione di eventi in tempo reale

con i Servizi di Azure, la risposta e' 42!



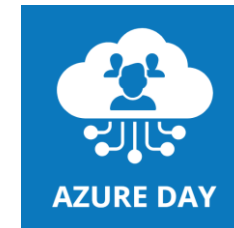
Marco Dal Pino  
Technical Consultant Microsoft



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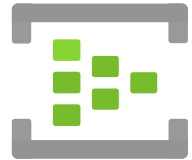




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Data Producer



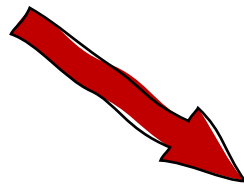
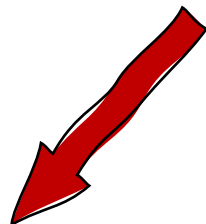
Event Hub



Stream Analytics



Processed Data



Data Storage



Time Series Insight



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# Azure Event Hubs

- High throughput:
  - Capable of **receiving** and **processing** millions of events per second
- Scalability:
  - Can **process** and **store** events, data, or telemetry produced by distributed software and devices
- Event Hubs Premium:
  - Designed for **high-end streaming** scenarios that require **elastic**, superior performance with **predictable latency**
- Two-tier storage engine:
  - Improves **data ingress performance** with reduced overall latency without compromising **durability** guarantees
- Isolation and predictability:
  - Offers **isolated compute** and **memory capacity** to achieve more predictable latency and reduced noisy neighbor impact risk in a multi-tenant deployment
- Encryption:
  - Provides **encryption** of data at rest with Azure Storage Service Encryption (Azure SSE)
- Integration with Apache Kafka:
  - All Event Hubs namespaces are enabled for the **Apache Kafka** RPC protocol by default



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# Azure Stream Analytics

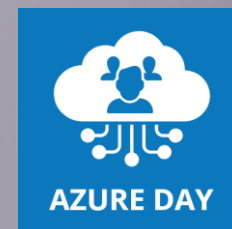
- Inputs:
  - Supports **multiple input sources** such as Azure [Event Hubs](#), Azure [IoT Hub](#), and Azure [Storage](#)
- Outputs:
  - Supports **various output** sinks including Azure SQL Database, Azure Data Lake Storage, Azure Cosmos DB, Power BI, and more ... ([Microsoft Fabric](#) anyone)?
- SQL-based query language:
  - Allows you to implement stream processing logic using **familiar SQL syntax**, with support for complex JSON parsing, filtering, aggregation, joins, and advanced use cases like geospatial analytics and anomaly detection
- User-defined functions (UDFs):
  - Extend the SQL language with **JavaScript UDFs** and user-defined aggregates (**UDAs**)
- Late and out-of-order event handling:
  - Easily adjust for late and out-of-order events through simple configurations in your job's settings
- Scalability:
  - **Configure** the number of **Streaming Units** to allocate **compute** and **memory** resources for your job
- Fully managed:
  - No need to worry about **underlying infrastructure**, **cluster maintenance**, or **security patches**, as they are automatically handled by the platform



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# Azure Time Series Insights

- Integration with cloud gateways:
  - Fully integrated with Azure **IoT Hub** and Azure **Event Hubs** for easy connection and data parsing
- Data storage and management:
  - Stores data in **memory** and **SSDs** for up to 400 days, ensuring easy accessibility and interactive querying
- Visualization:
  - Offers out-of-the-box visualization through the **Azure Time Series Insights Explorer**
- Query service:
  - Provides a **query service** in the Azure Time Series Insights Explorer and APIs for easy integration into custom applications
- Scalability:
  - Designed to **store, visualize, and query** large amounts of **time series data** generated by IoT devices
- Real-time exploration:
  - Allows you to **view, explore, and query** event **data shortly after connecting** to an event source
- Root-cause analysis and anomaly detection:
  - Offers tools for conducting **multistep root-cause analysis** and works with alerting services like Azure Stream Analytics





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# Marco Dal Pino

- 30+ years in IT (Developer, Architect, Consultant, PM, Trainer, MCT)
- Speaker, Community addicted
- IoT Influencer



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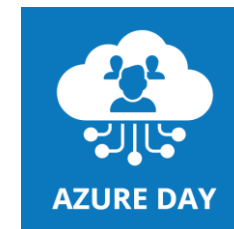
# Thank You!!!



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