



# #GlobalAzure

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## @cloudgen\_verona

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## BASIC SPONSOR



CODICEPLASTICO





TOPIC

# Distribute your containers to devices with Azure IoT Edge

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# Who I am



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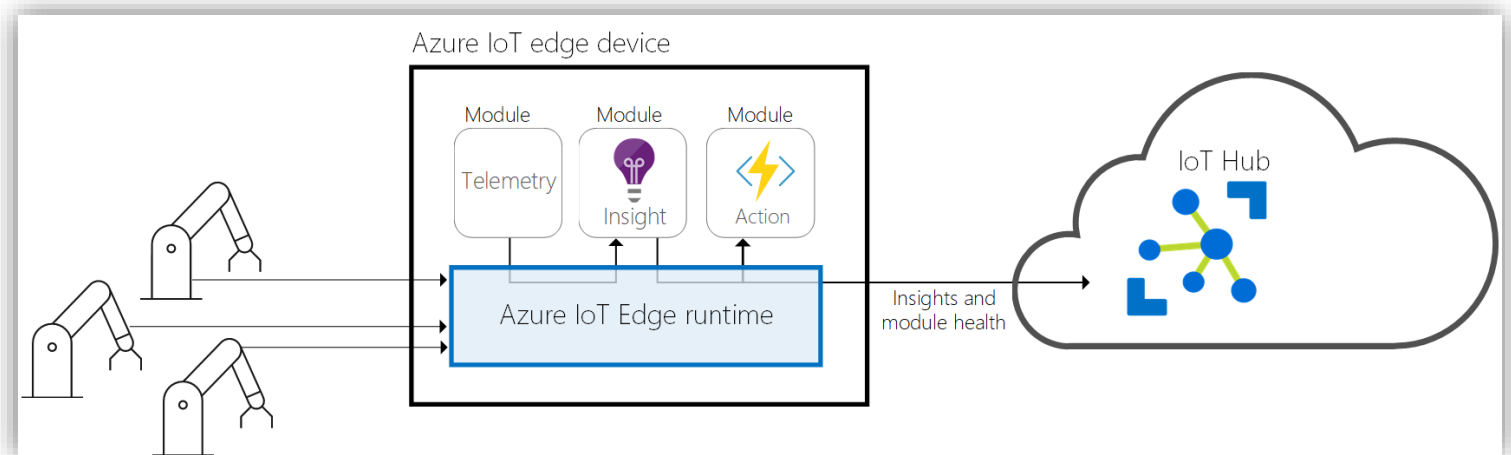


- Offline o parzialmente connesso
- Raccolta e trasformazione dati
  - BI, reportistica
- AI e Machine Learning
- Sicurezza dei dati e dei processi
- Automazione industriale, ambito medicale
  - PLC, Scada, HMI, MES, piccolo/grandi dispositivi IoT

# Azure IoT Edge



- IoT Edge runtime
- IoT Edge modules
  - Singola logica, micro servizio
  - Container
- Comunicazione Azure IoT
  - MQTT, AMQP, WebSockets
- Interfaccia web remota di amministrazione
  - Deployment e configurazione centralizzata





- Manuale
  - Portale, REST, CLI
- Device Provisioning Service
  - Auto generazione chiavi o certificati
  - Enrollment device
  - Distribuzione su più hub
- Configurazioni
  - Singole o massive
  - Monitoraggio metriche

A screenshot of a web form for device registration. The form has a light gray background and a white border. It contains the following fields and controls:

- \* Device ID** ⓘ: A text input field with the placeholder text "The ID of the new device".
- Authentication type** ⓘ: A dropdown menu with "Symmetric key" selected and highlighted in blue.
- \* Primary key** ⓘ: A text input field with the placeholder text "Enter your primary key".
- \* Secondary key** ⓘ: A text input field with the placeholder text "Enter your secondary key".
- Auto-generate keys** ⓘ: A checkbox that is checked, with a blue checkmark.

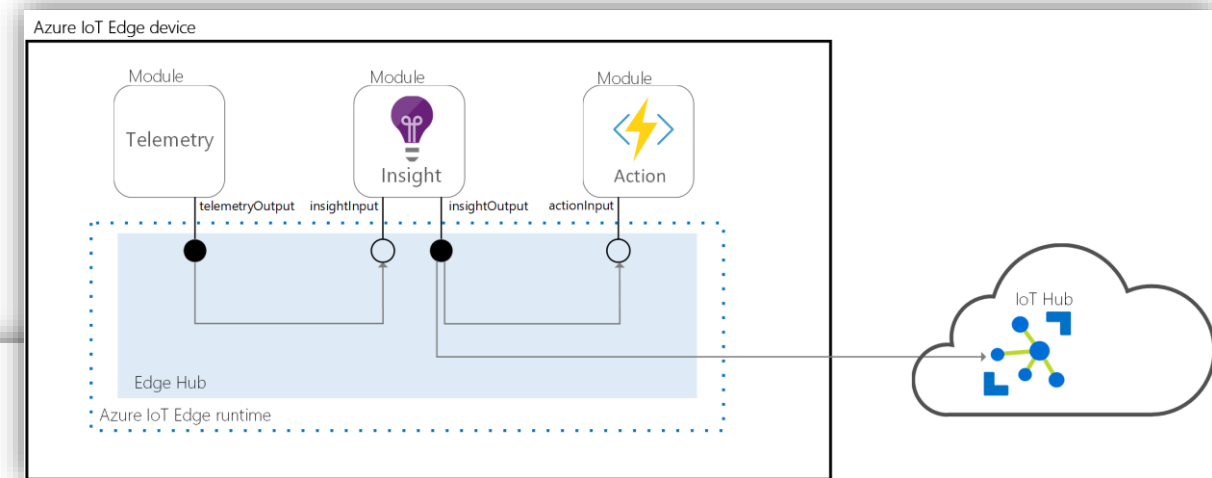
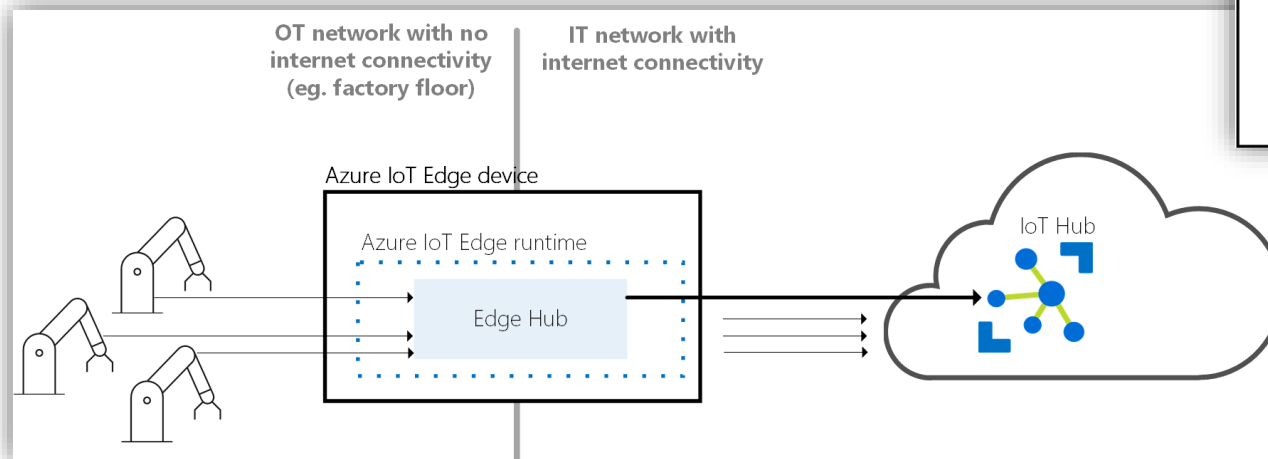




# IoT Edge Runtime



- Mantiene e monitora i moduli
  - IoT Edge agent
- Comunicazione tra device e tra moduli
  - IoT Edge Hub





- Disponibile
  - Blob storage, Functions, SQL Server, Stream Analytics, Custom Vision, Machine Learning, Redis (terze parti)
- Deployment massivi
  - Tag dei twin
- Strumenti
  - Portale / marketplace
  - CLI
  - Visual Studio Code
- IoTEdgeHubDev simulator



- Plugin per Visual Studio e Visual Studio Code
- Container con supporto hub
- Template di deployment
- Debug
  - Niente container
  - Singolo servizio
  - HTTP endpoint per push messaggi
- Test
  - Multi container
  - Connessione reale device





- Supporto offline
  - TTL (2 ore)
  - Accumulo su disco locale
- Gestione trasparente token
- Regole routing tra moduli
  - Inoltro a EventHub
  - Fanout simulato
- Utilizzabile come gateway
  - MQTT



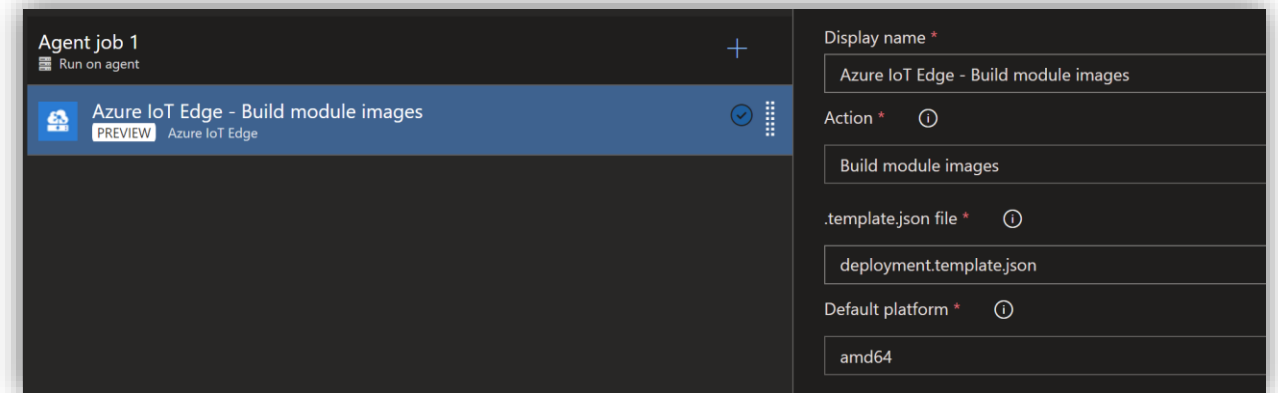
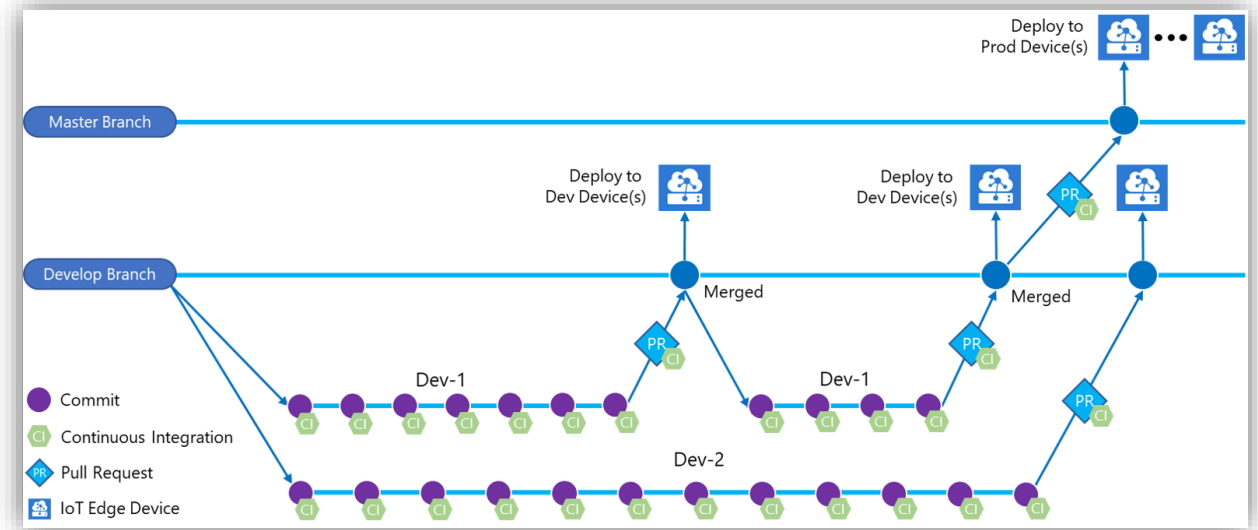


- Multipiattaforma
  - Linux X64 o ARM32
  - Windows X64
- OCI-compatible container runtime
  - Moby based (Docker)
- Script e package di setup
  - Bash e PowerShell
- Runtime come container
  - <https://github.com/Azure/iotedge-dev>
  - Scopi dev
- Utility *iotedge*

# Azure DevOps



- Supporto CI/CD
  - Container registry
- Task per DevOps
  - Build, push e deploy
- Supporto Jenkins









# Thanks

Questions?



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