

Sydney Python Meetup

Building an End to End Secure, Scalable IoT
Serverless Solution

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Follow me **@dglover**

<https://github.com/gloveboxes/Integrate-IoT-Edge-Classifier-with-Python-Azure-Functions-and-Azure-SignalR>

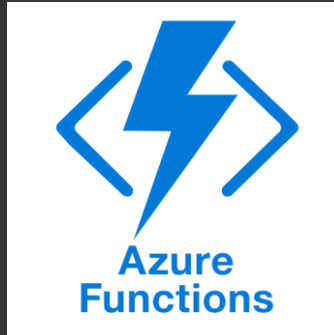


What we will cover

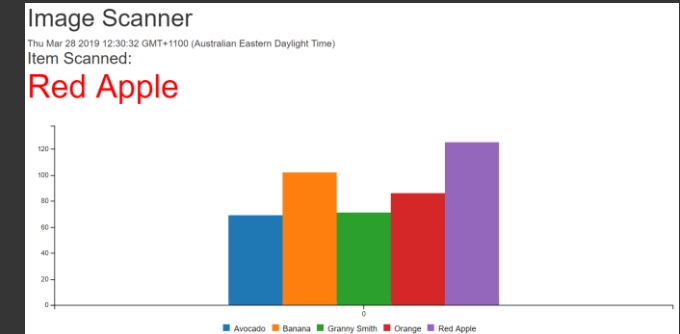
Python Image
Recognition
(Azure IoT Edge)



Serverless &
Azure
Functions

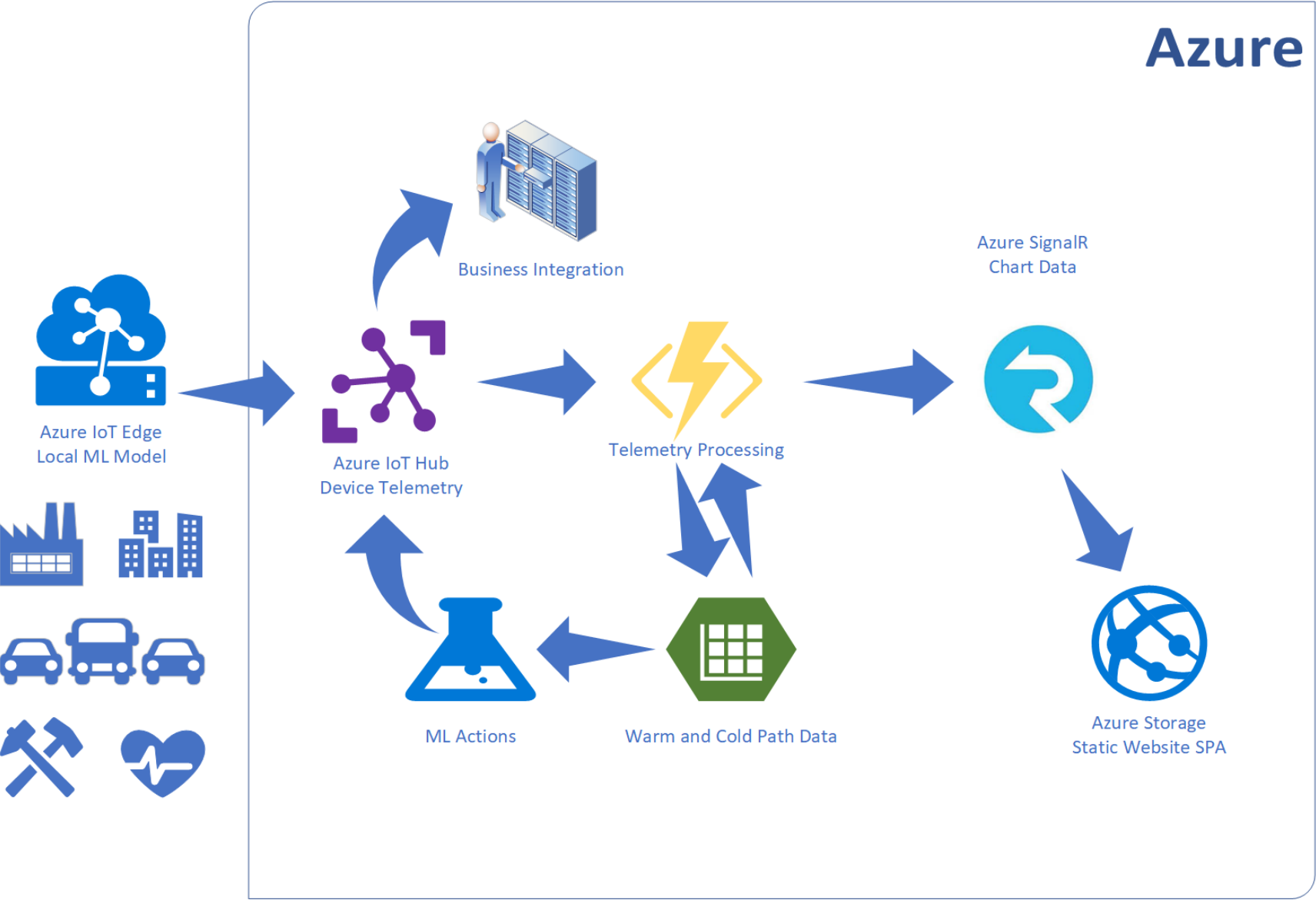


Serverless Websites
(Azure Storage Static
Websites)



Going Serverless with Azure IoT Edge, Functions & SignalR

Azure



DEMO



Python & Custom Vision AI and Azure IoT Edge



Python Image Recognition

- Azure Custom Vision AI
 - Exported Python Container
 - Free Tier
 - <https://www.customvision.ai/>
- Azure IoT Edge (IoT Hub)
 - Manages Deployment, Health, Updates
 - Docker Based
 - Open Source
 - Free Tier
 - [Azure IoT Certified HW](#)



DEMO



Serverless with Azure Functions



What is Serverless?



No
infrastructure
headaches



Scales on
demand



Very **cheap**
to run

Functions as a Service (FaaS)

- Functions as a Service

- Single Responsibility, Short Lived, Stateless, Event Driven & Scalable

- Azure Functions (Implementation of FaaS)

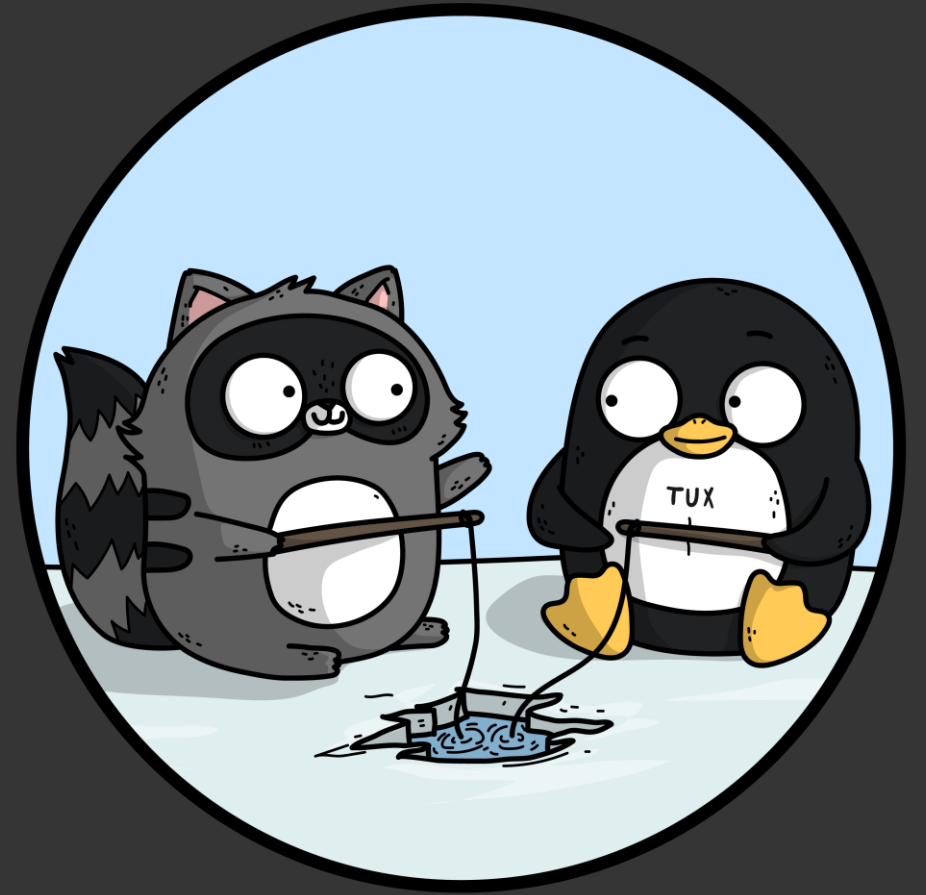
- Great Local Developer Experience
- Hosting Flexible
 - Consumption Plan, App Service Plan, Premium, and Container
- Consumption plan
 - Free grant of 1 million requests and 400,000 GBs per month
- Open Source <https://github.com/Azure/Azure-Functions>



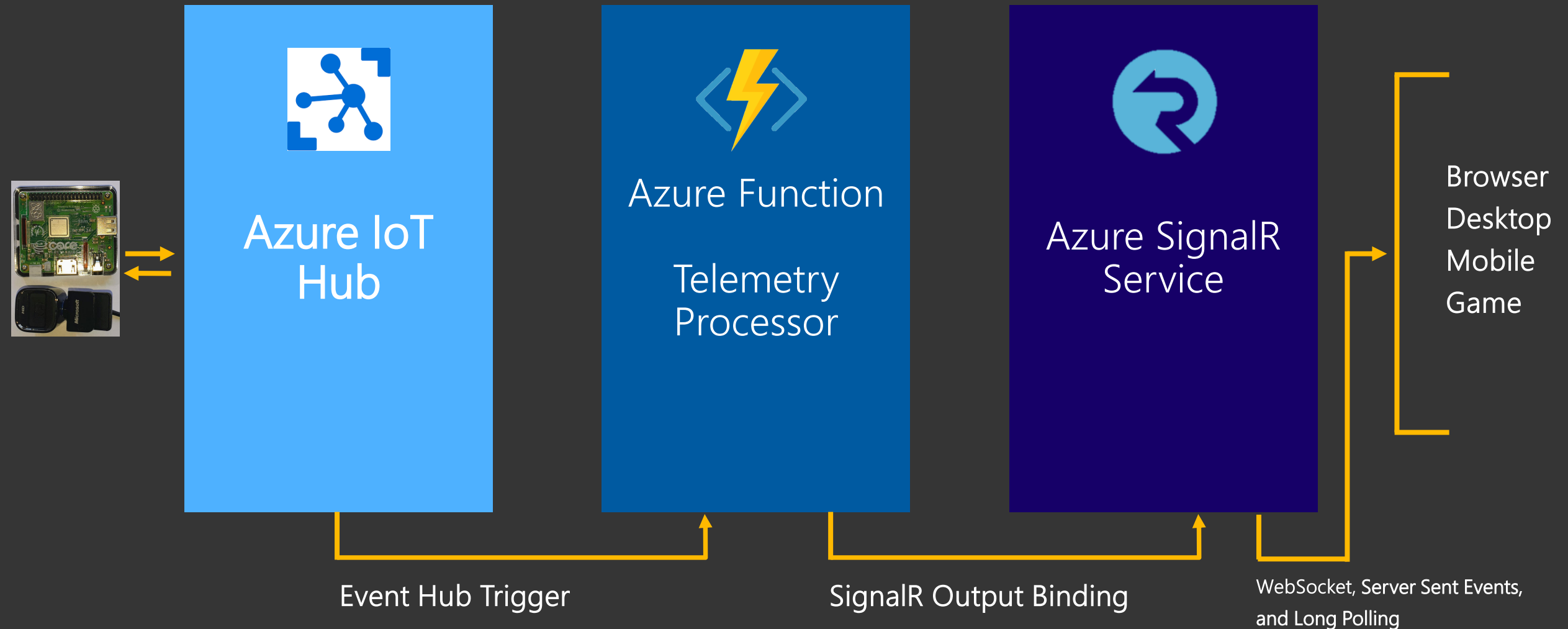
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Serverless Web Pages & Azure SignalR



SignalR in Action

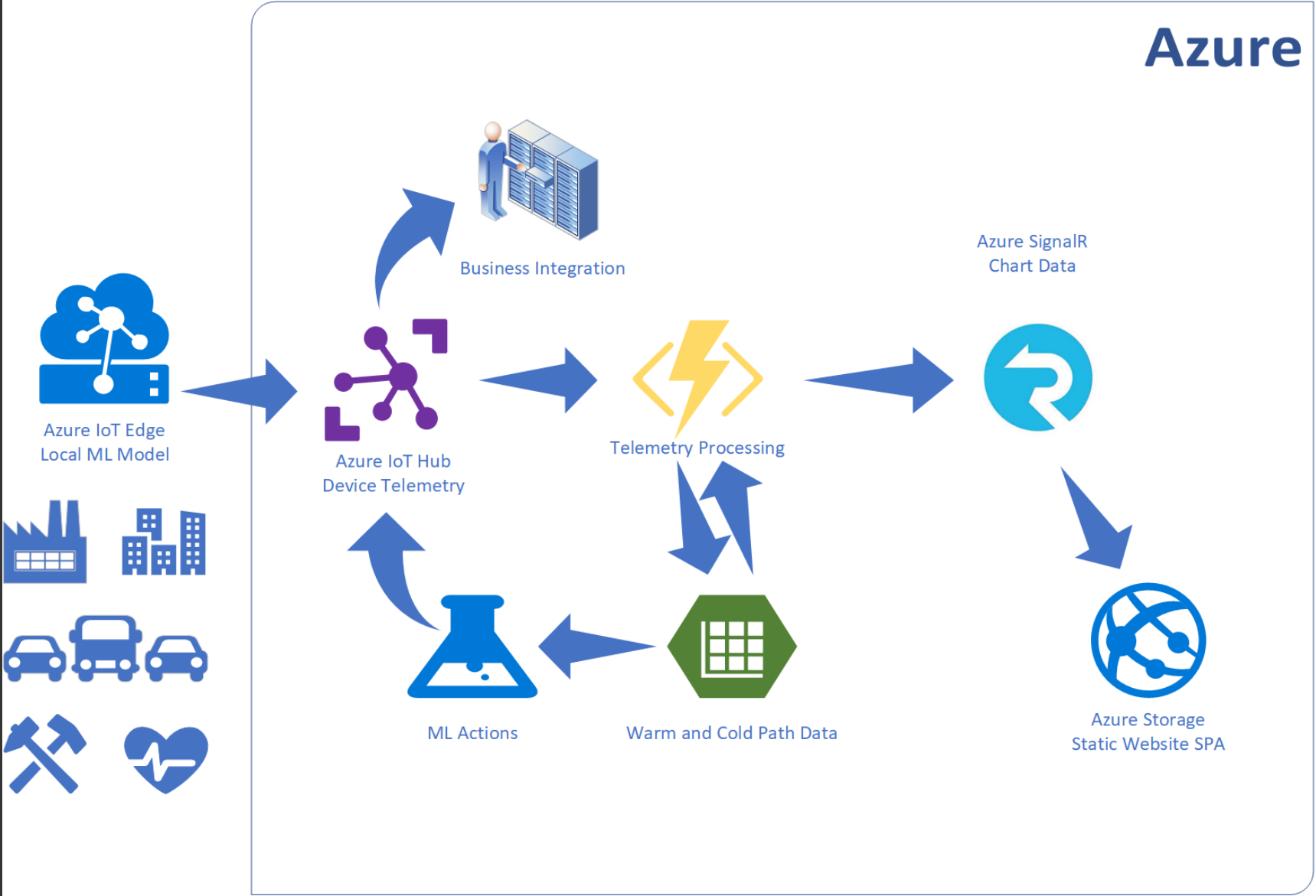


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Going Serverless with Azure IoT Edge, Functions & SignalR

Azure



Resources

- [Create your first Python function in Azure](#)
- [Azure Custom Vision AI](#)
- [Azure SignalR Service Documentation](#)
- [Static website hosting in Azure Storage](#)
- [Demoed Solution on GitHub](#) (gloveboxes)
- [Azure Functions Python Worker](#)



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