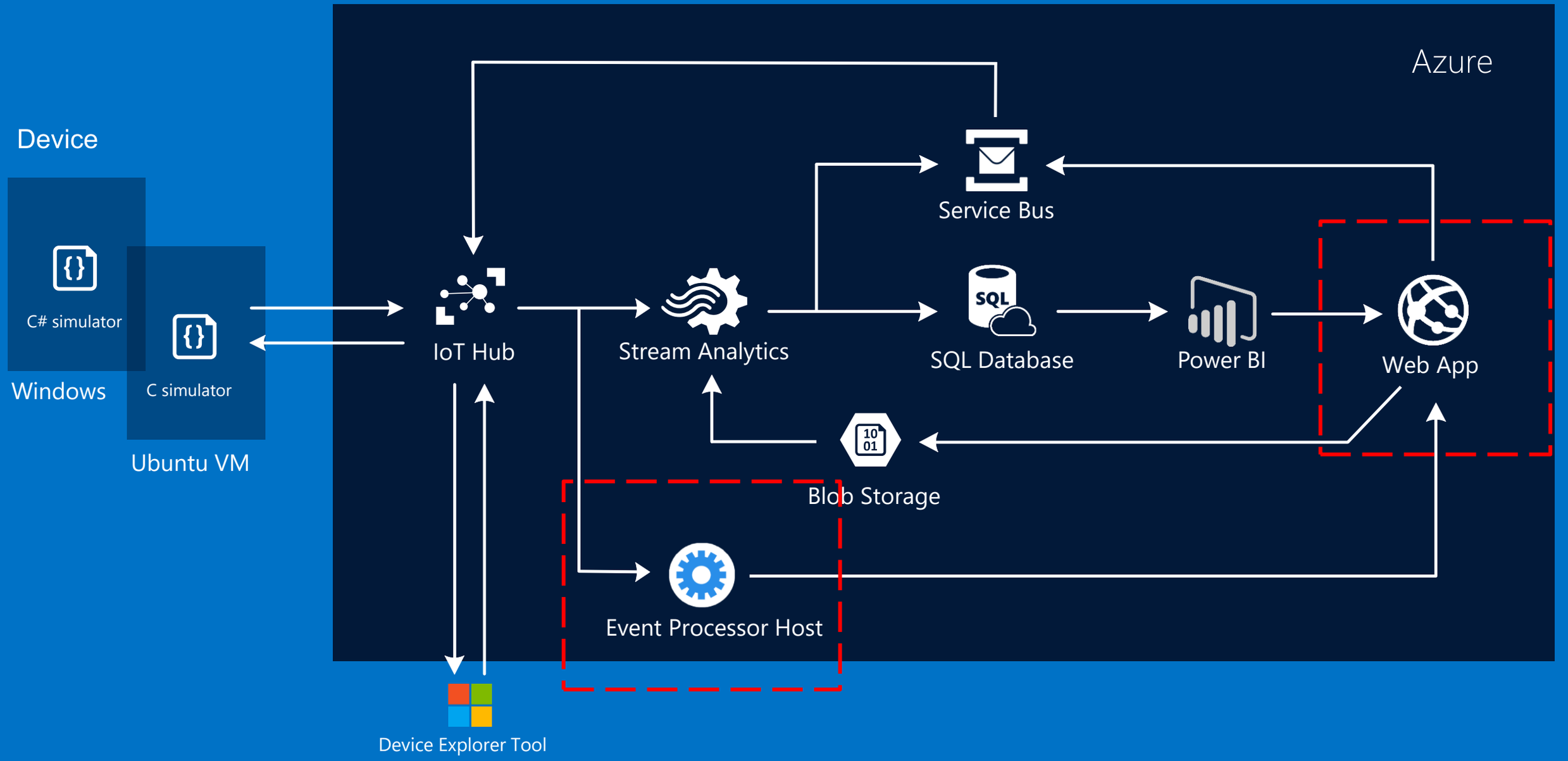
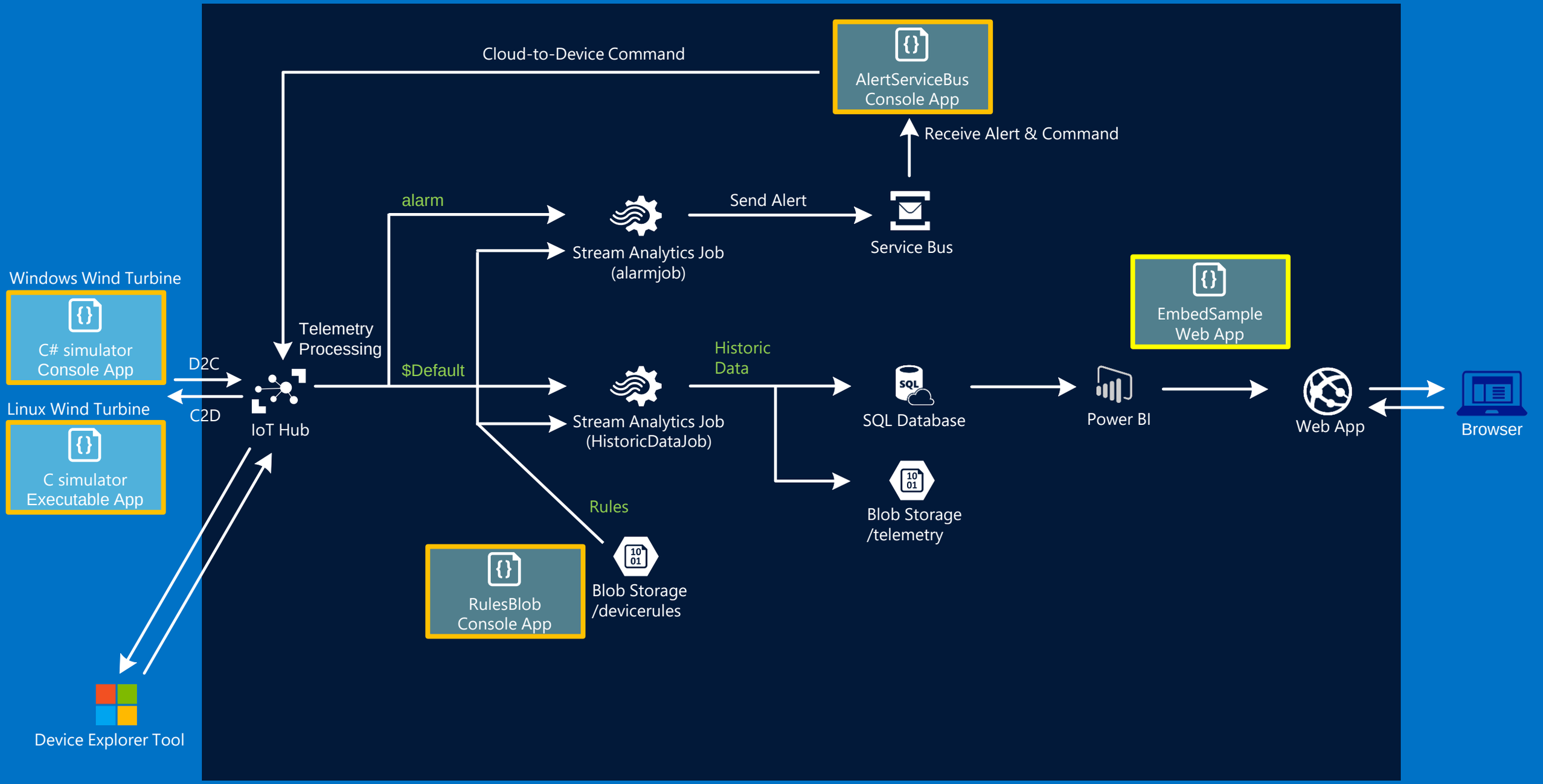
Remote Monitoring

SignalR &
Event Processor Host

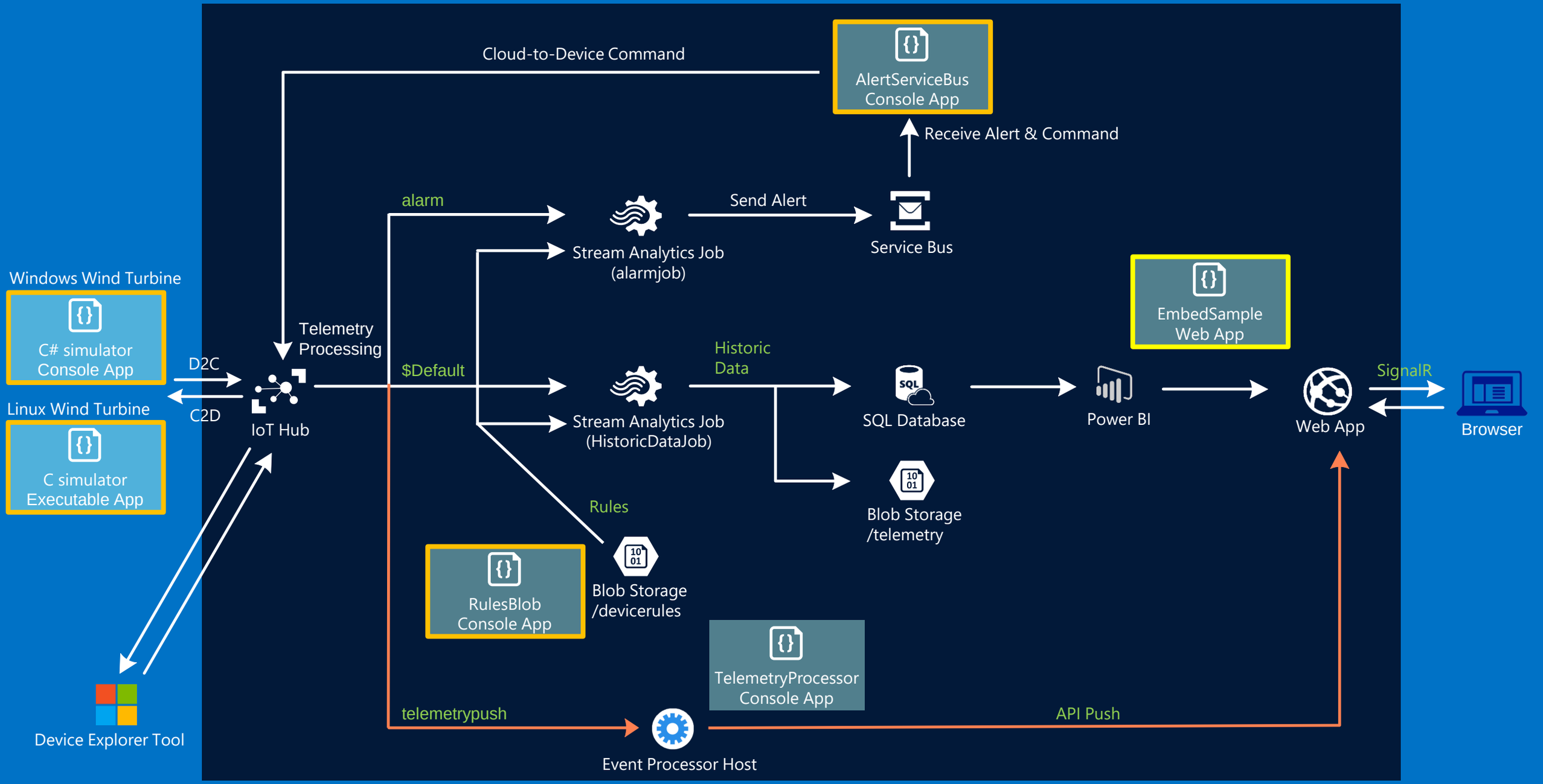
HOL 10 – Signal R & Event Processor Host



Code & Modules



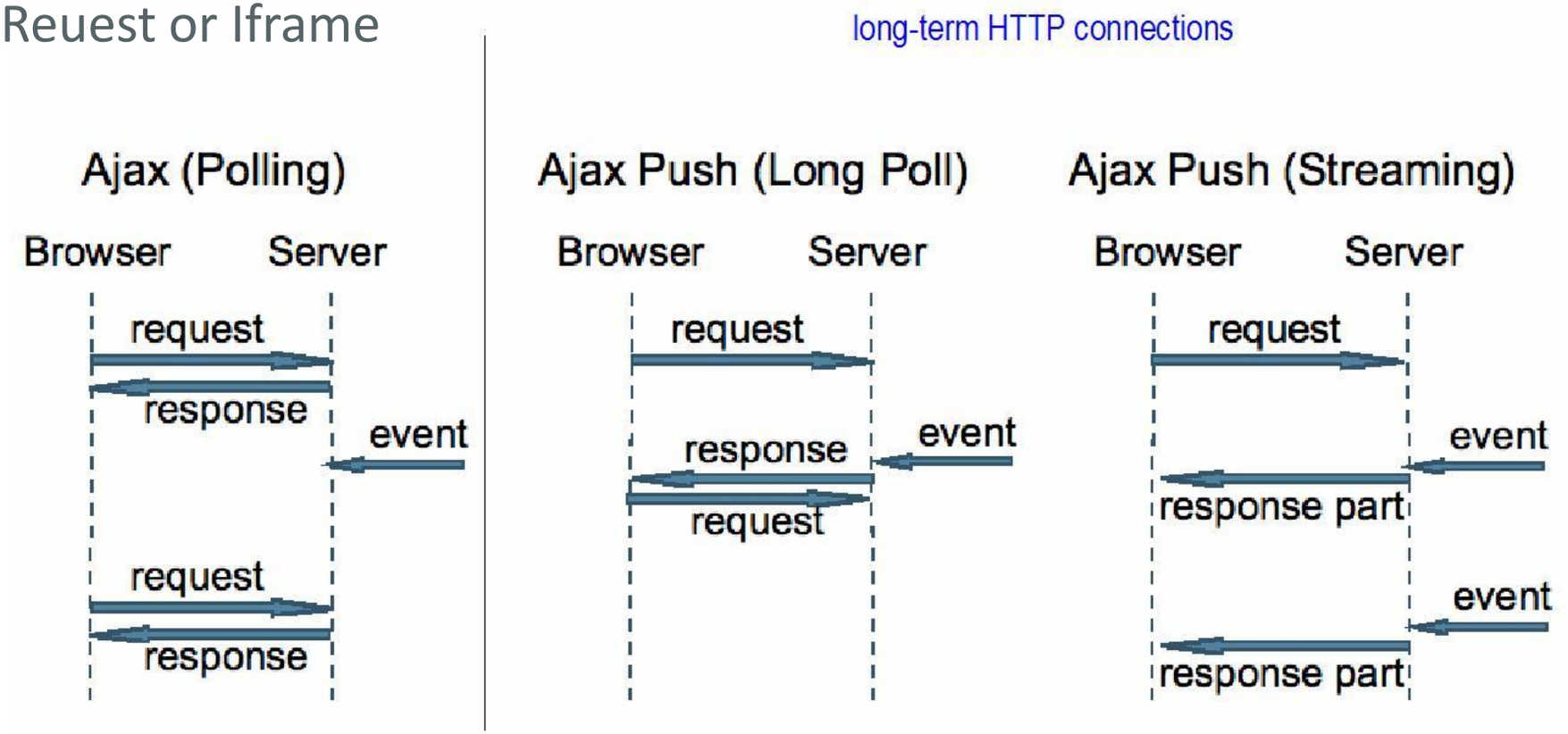
Code & Modules



SignalR

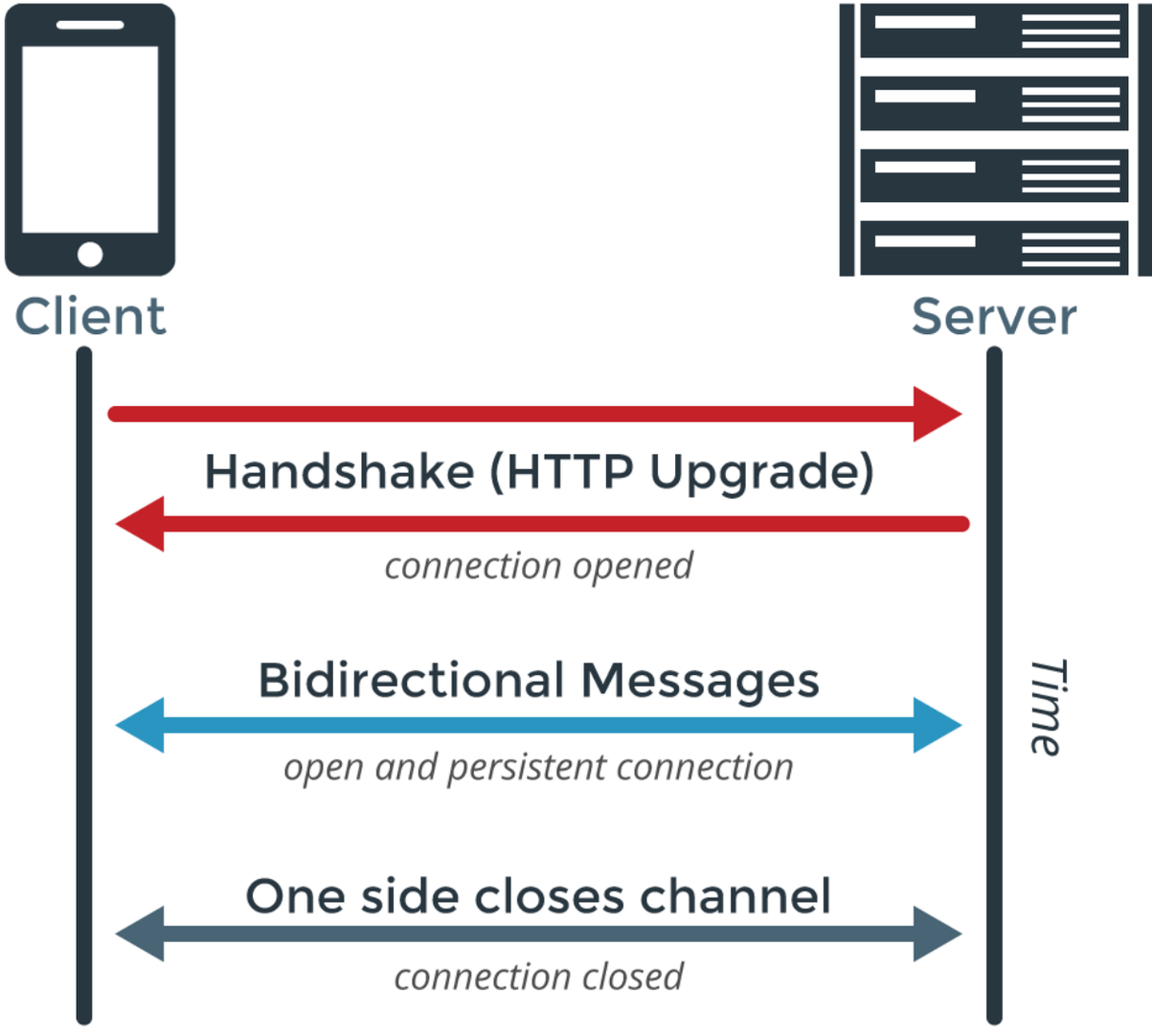
Real-time data transmission - HTTP

- Stateless
- Comet Programming
  - Polling on Long Polling
  - XmlHttpReuest or Iframe



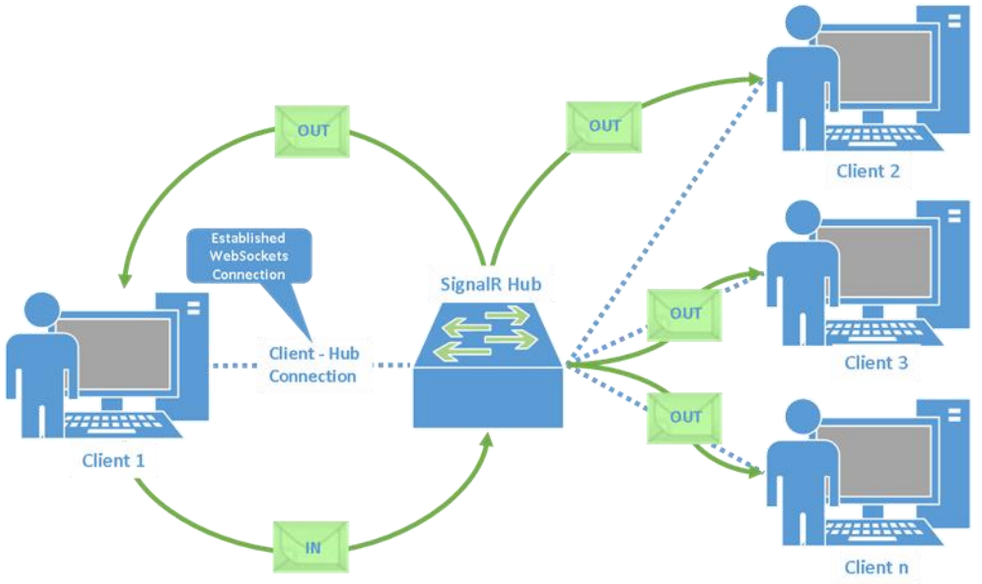
Real-time data transmission - WebSocket

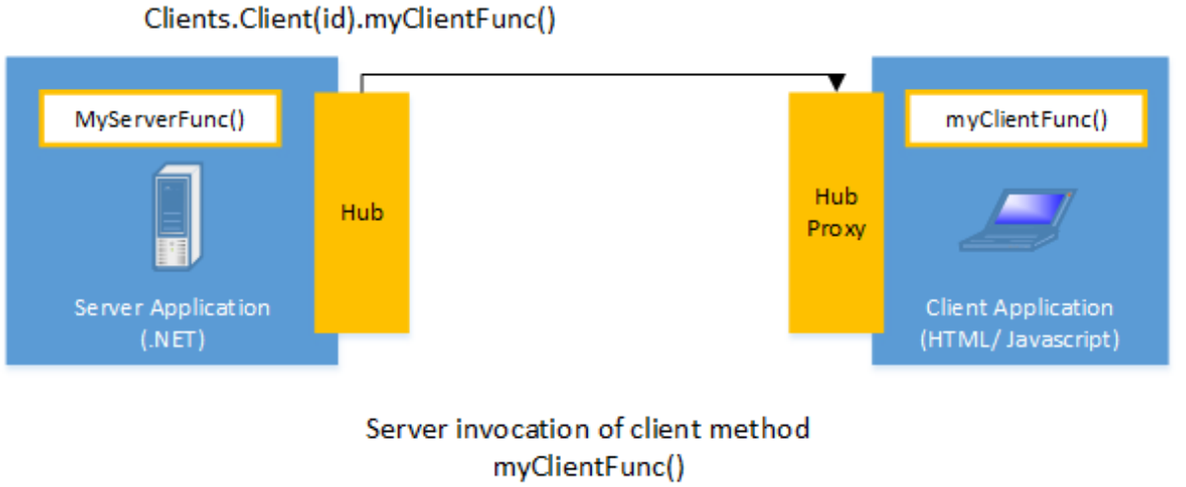
- Stateful
- HTML5
- Provide a persistent connection between a client and server

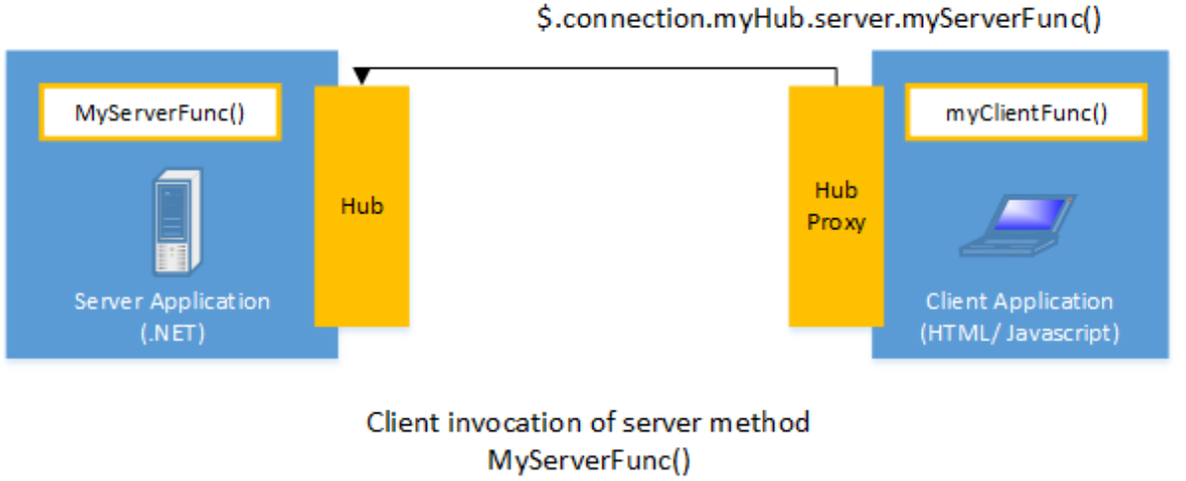


SignalR

- .NET(Server) and Javascript (Browser)
- Handles connection management automatically
- The connection between the client and server is persistent



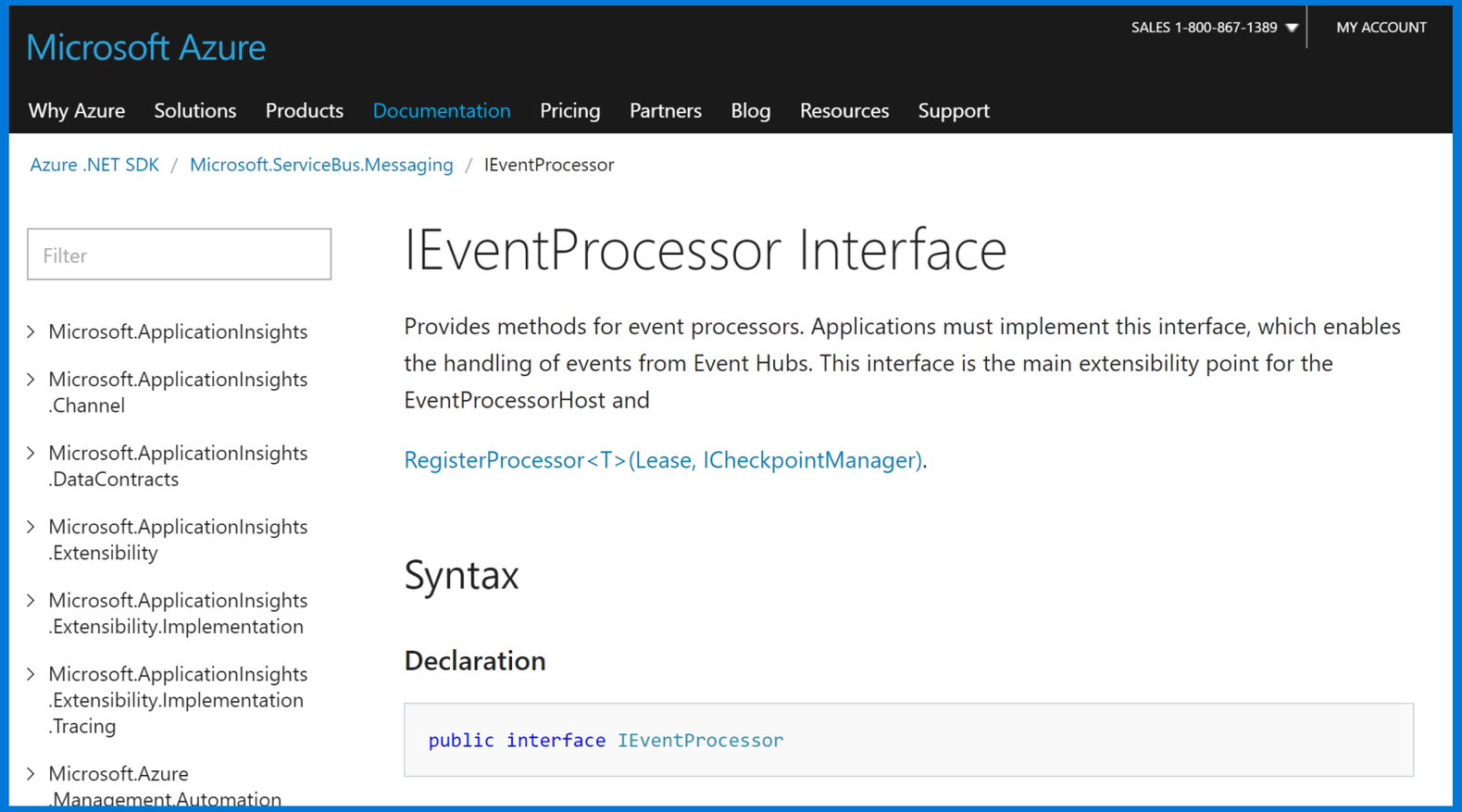




Source : http://www.bloggedbychris.com/2013/10/31/signalr-overview-websockets-hubs/

Event Processor Host

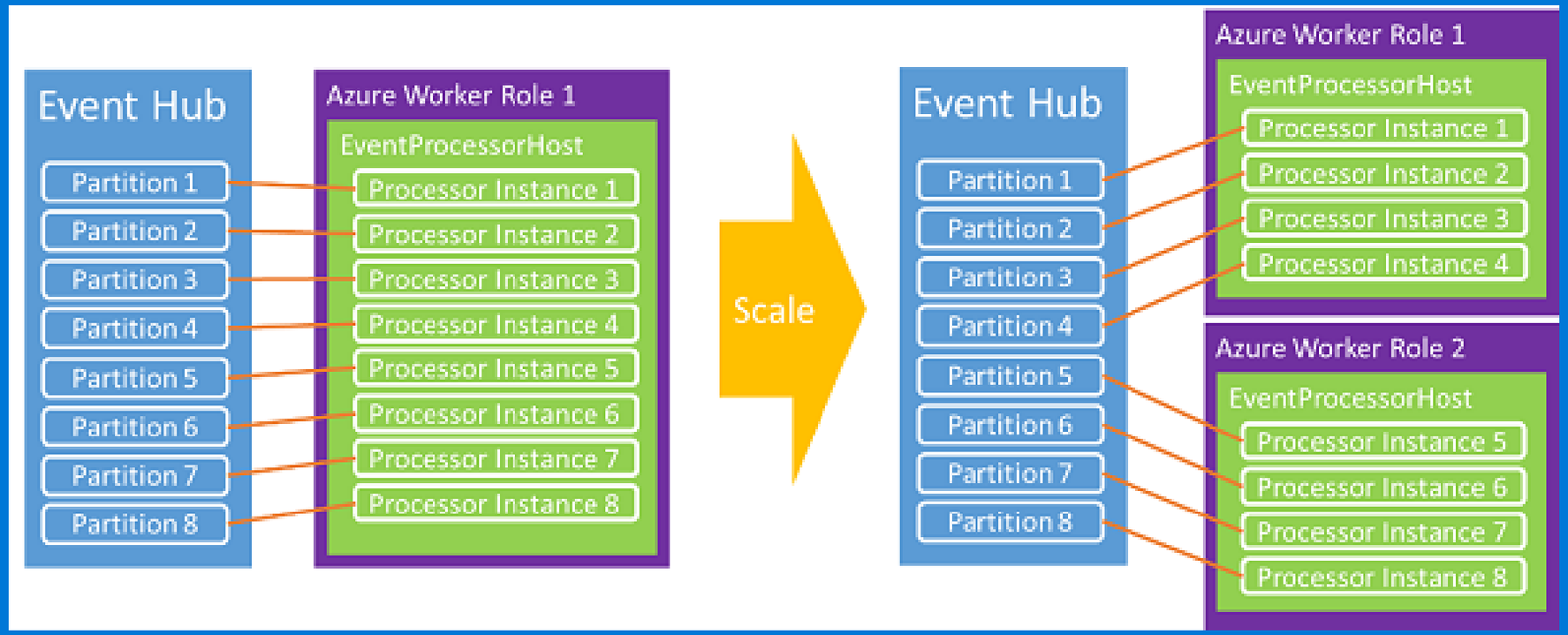
Event Processor Host



- The **EventProcessorHost** class processes data from Event Hubs.
- Building event readers on the .NET platform
- Provides a thread-safe, multi-process, safe runtime environment
- Also provides checkpointing and partition lease management

https://docs.microsoft.com/en-us/dotnet/api/microsoft.servicebus.messaging.ieventprocessor#Microsoft_ServiceBus_Messaging_IEventProcessor

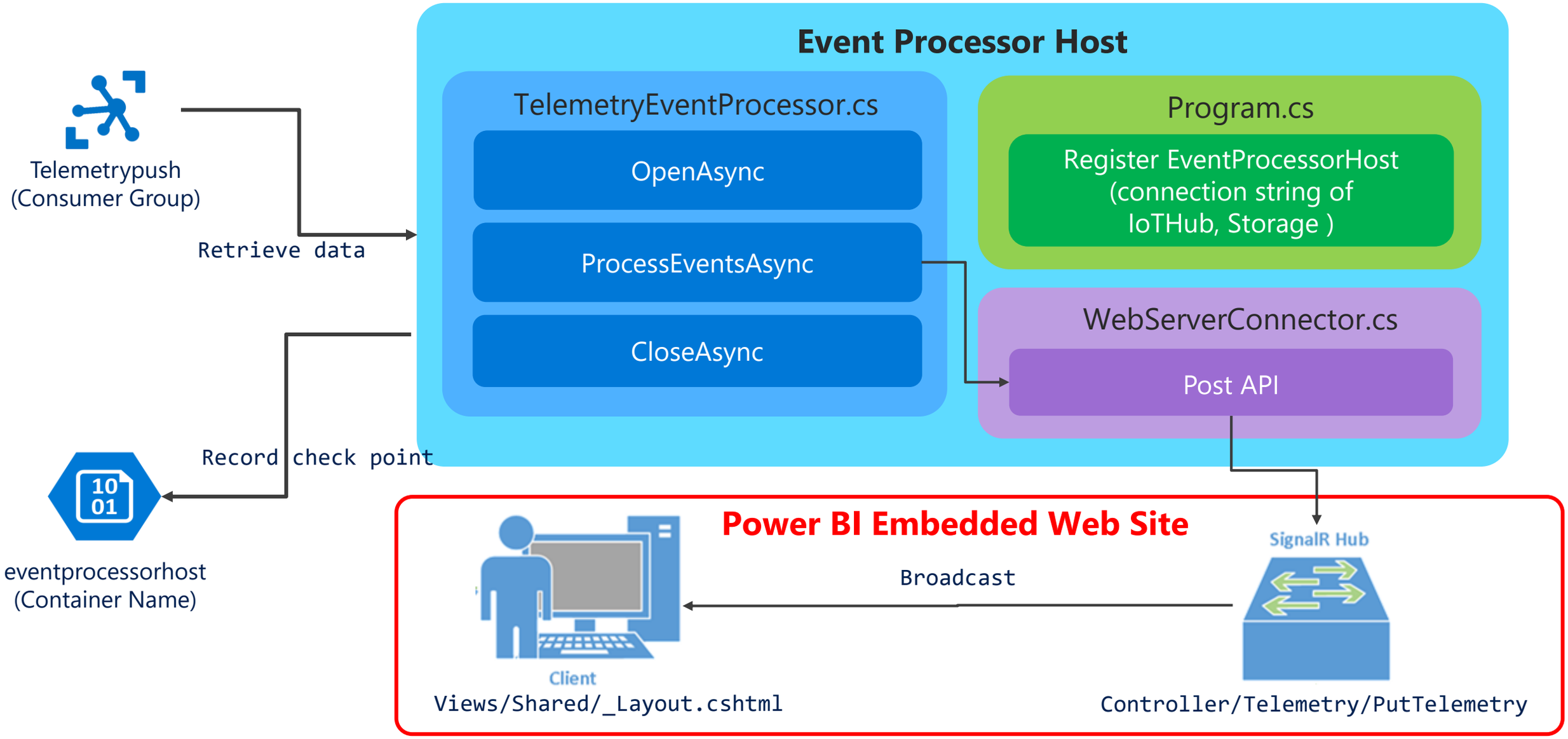
Event Hub & Event Processor Host

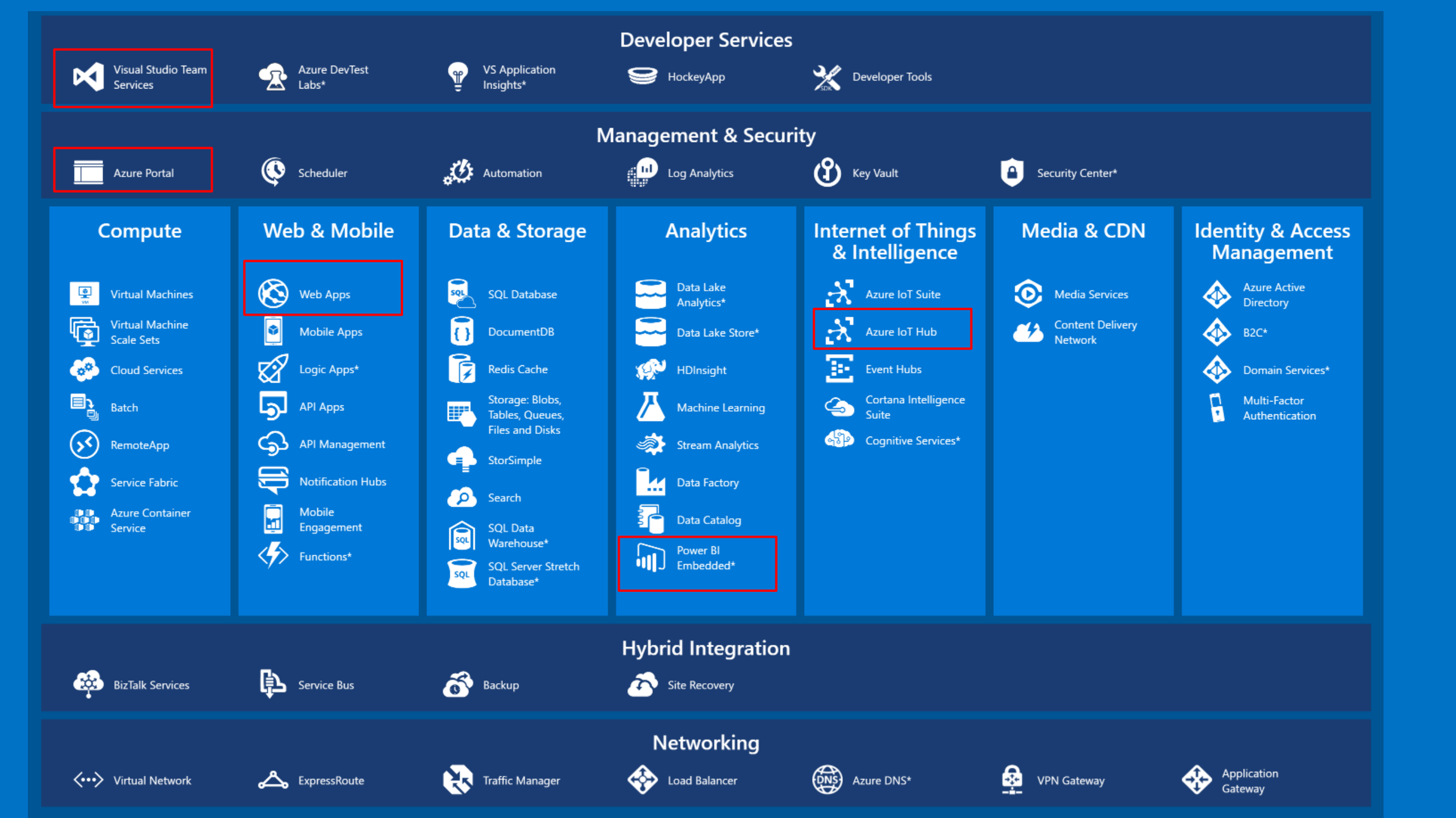


- OpenAsync
- CloseAsync
- ProcessEventsAsync

https://docs.microsoft.com/en-us/azure/Event-Hubs/event-hubs-programming-guide

Code Flow


Event Processor Host
TelemetryEventProcessor.cs
OpenAsync
ProcessEventsAsync
CloseAsync
Program.cs
Register EventProcessorHost
(connection string of
IoTHub, Storage)
WebServerConnector.cs
Post API
Telemetrypush
(Consumer Group)
Retrieve data
Record check point
10
01
eventprocessorhost
(Container Name)
Power BI Embedded Web Site
SignalR Hub
Broadcast
Client
Views/Shared/_Layout.cshtml
Controller/Telemetry/PutTelemetry


Developer Services
Visual Studio Team Services
Azure DevTest Labs*
VS Application Insights*
HockeyApp
Developer Tools
Management & Security
Azure Portal
Scheduler
Automation
Log Analytics
Key Vault
Security Center*
Compute
Virtual Machines
Virtual Machine Scale Sets
Cloud Services
Batch
RemoteApp
Service Fabric
Azure Container Service
Web & Mobile
Web Apps
Mobile Apps
Logic Apps*
API Apps
API Management
Notification Hubs
Mobile Engagement
Functions*
Data & Storage
SQL Database
DocumentDB
Redis Cache
Storage: Blobs, Tables, Queues, Files and Disks
StorSimple
Search
SQL Data Warehouse*
SQL Server Stretch Database*
Analytics
Data Lake Analytics*
Data Lake Store*
HDInsight
Machine Learning
Stream Analytics
Data Factory
Data Catalog
Power BI Embedded*
Internet of Things & Intelligence
Azure IoT Suite
Azure IoT Hub
Event Hubs
Cortana Intelligence Suite
Cognitive Services*
Media & CDN
Media Services
Content Delivery Network
Identity & Access Management
Azure Active Directory
B2C*
Domain Services*
Multi-Factor Authentication
Hybrid Integration
BizTalk Services
Service Bus
Backup
Site Recovery
Networking
Virtual Network
ExpressRoute
Traffic Manager
Load Balancer
Azure DNS*
VPN Gateway
Application Gateway

Let's Go

- Using **Event Processor Host** to get the telemetry data from IoT Hub, and post data to Web Server.
- Using **SignalR** to update the dashboard UI between the Web Server and Client Browser.

(Please refer the 10-HOL-SignalR and Event Processor Host file)

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