Getting Started with Azure Event Hubs

DevUp October 16, 2019









ScholarRx

Kine And Street A in chadwickegreen ChadGreen ChadGreen.com



@ChadGreen

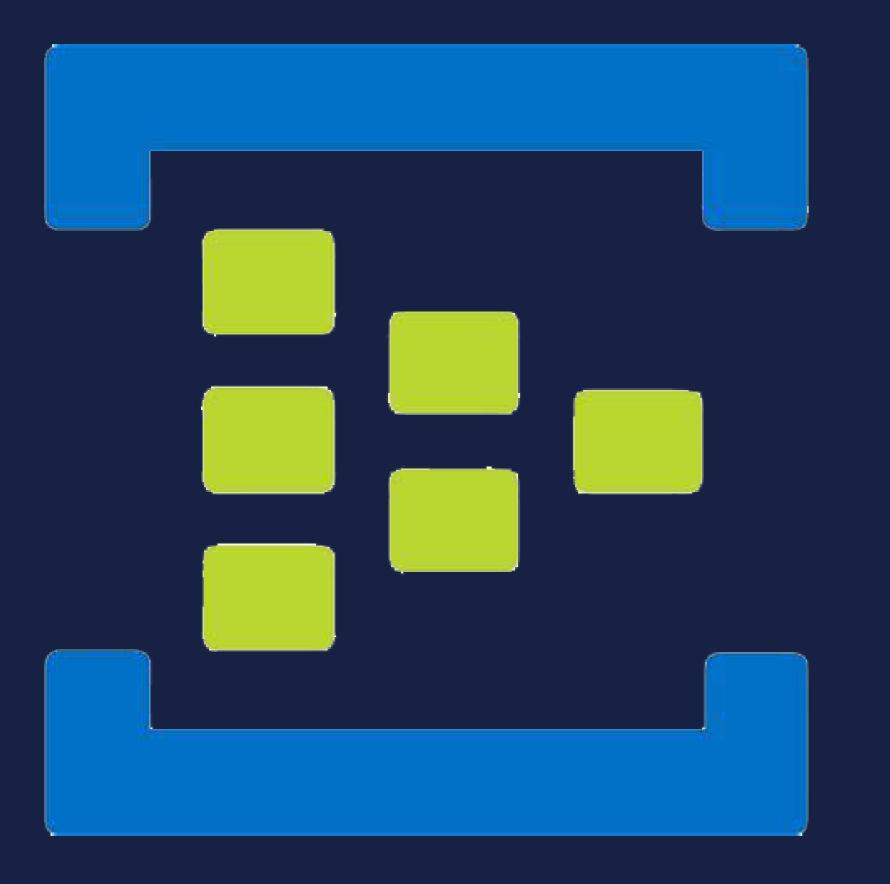
Chad Green Director of Software Development



Introduction to Event Hubs Getting Started with Azure Event Hubs



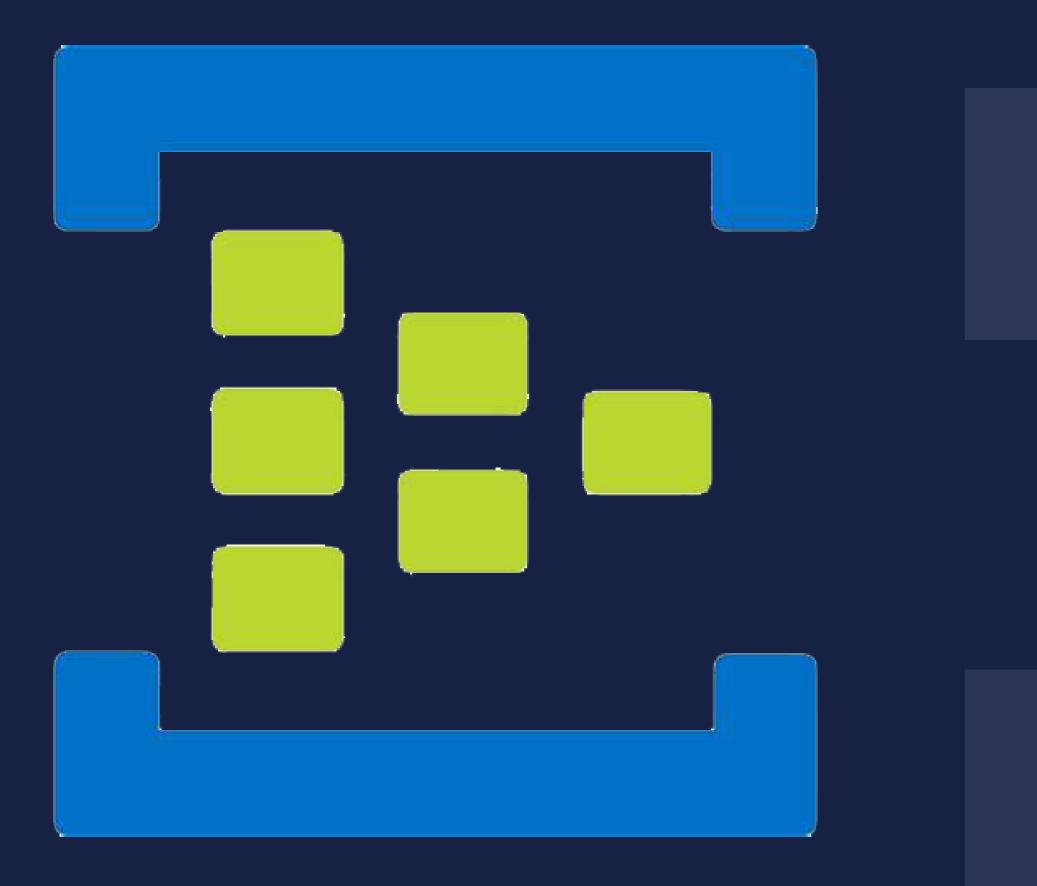
Azure Event Hubs Simple, secure, and scalable real-time data ingestion



Fully managed, real-time data ingestion service that is simple, trusted, and scalable.



Azure Event Hubs Simple, secure, and scalable real-time data ingestion



@ChadGreen



Simple







Scalable

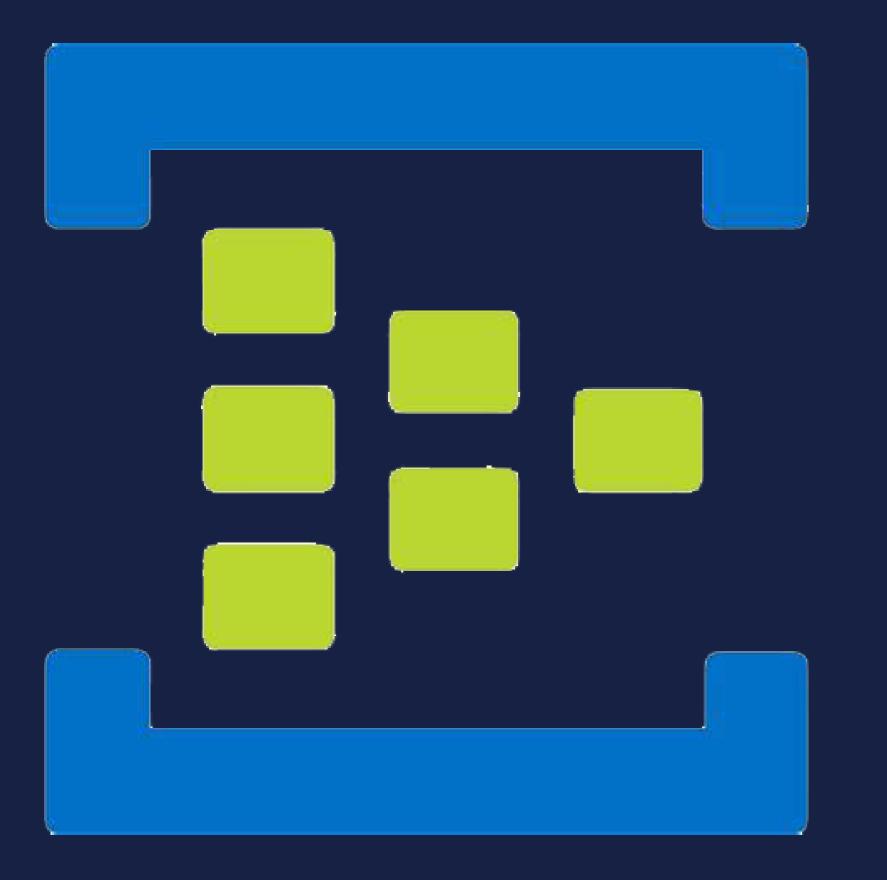


Getting Started with Azure Event Hubs



 $\left(\begin{array}{c} 6 \end{array} \right)$

Azure Event Hubs



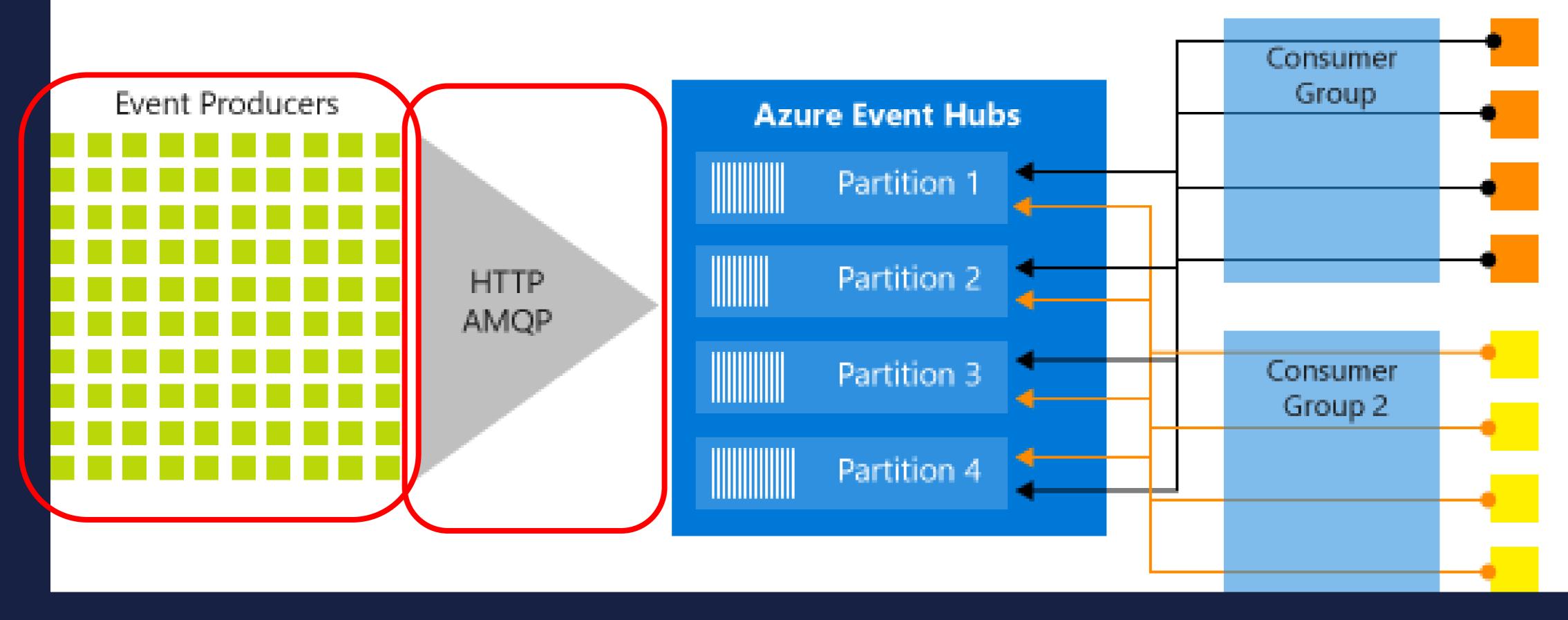


Key Architecture Components





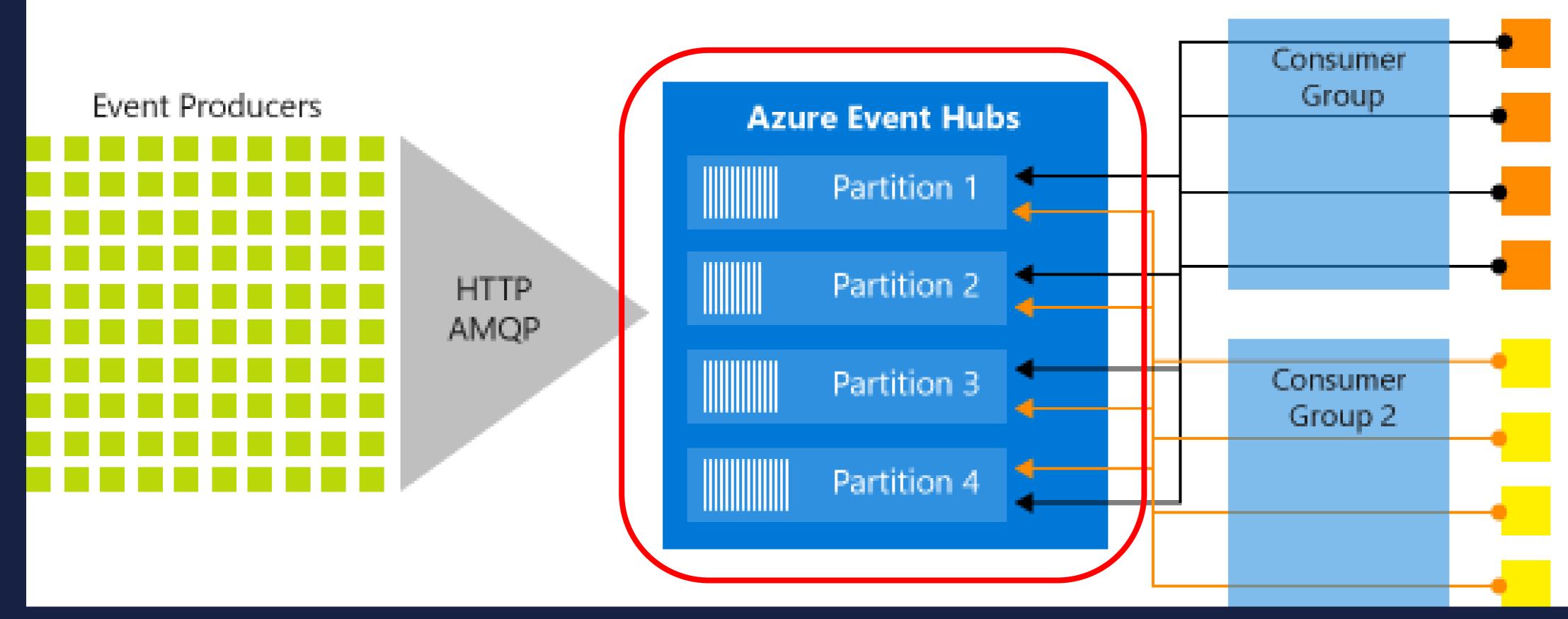
Event Producers Key Architecture Components



Event Receivers



Partitions Key Architecture Components



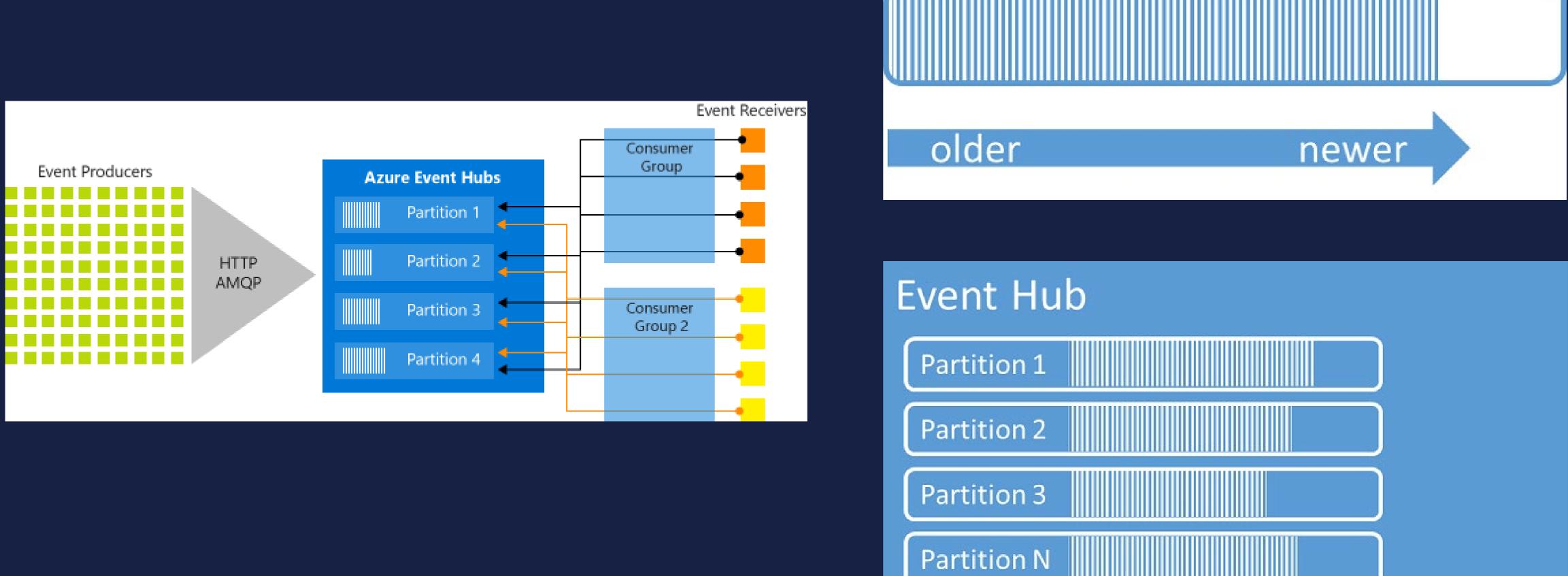
Event Receivers

Getting Started with Azure Event Hubs



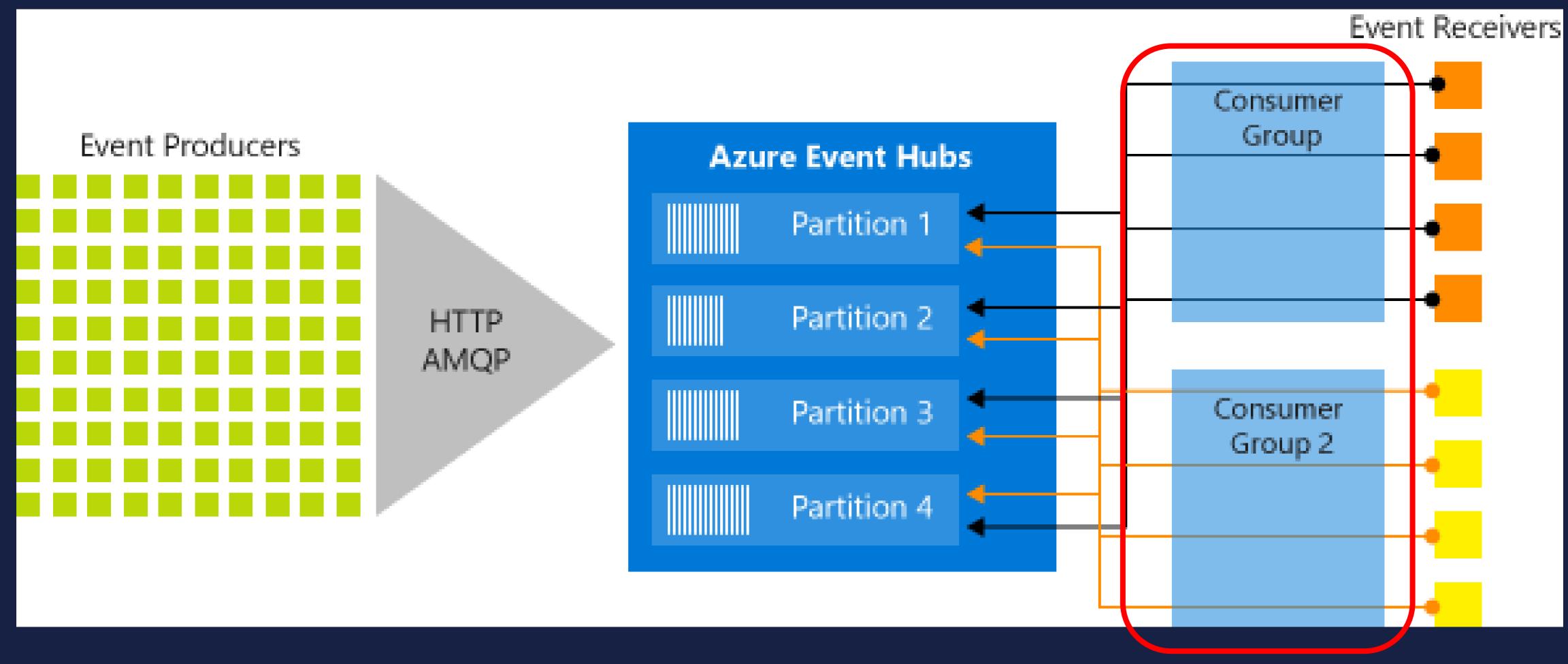
9

Partitions Key Architecture Components



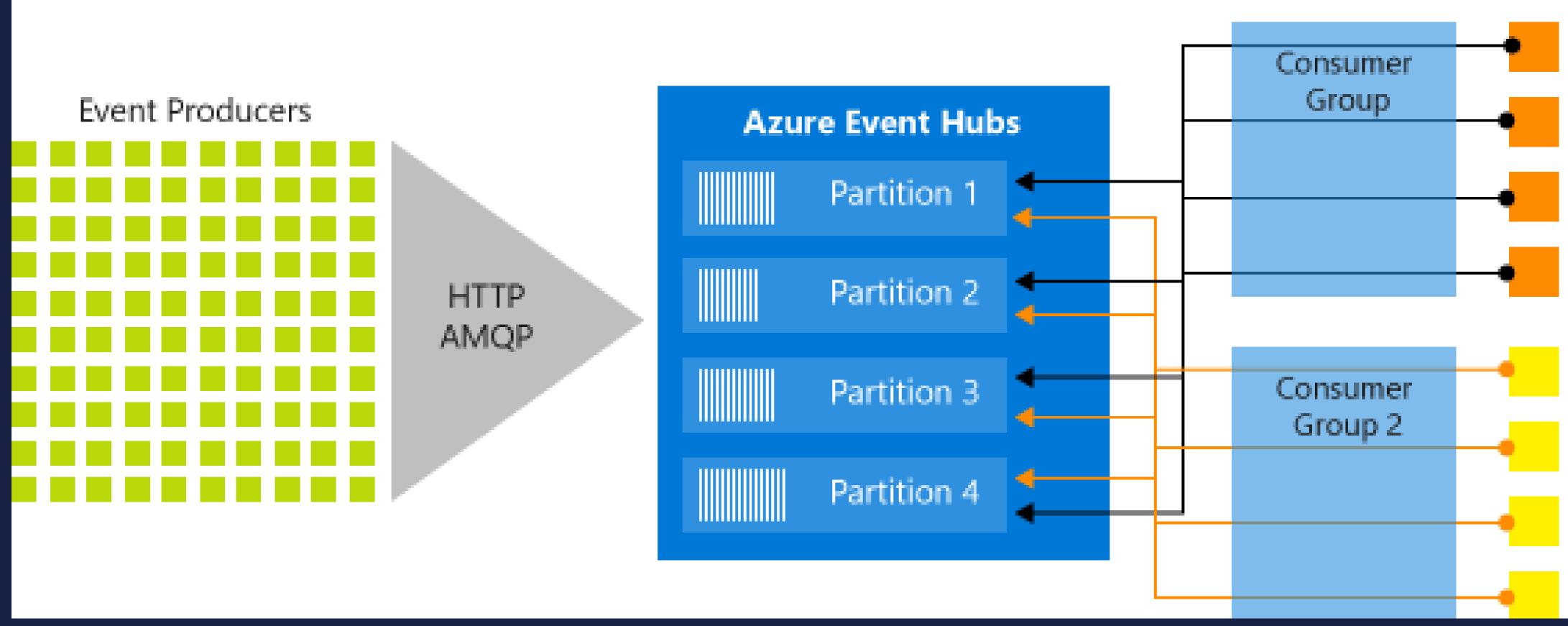


Consumer Groups Key Architecture Components





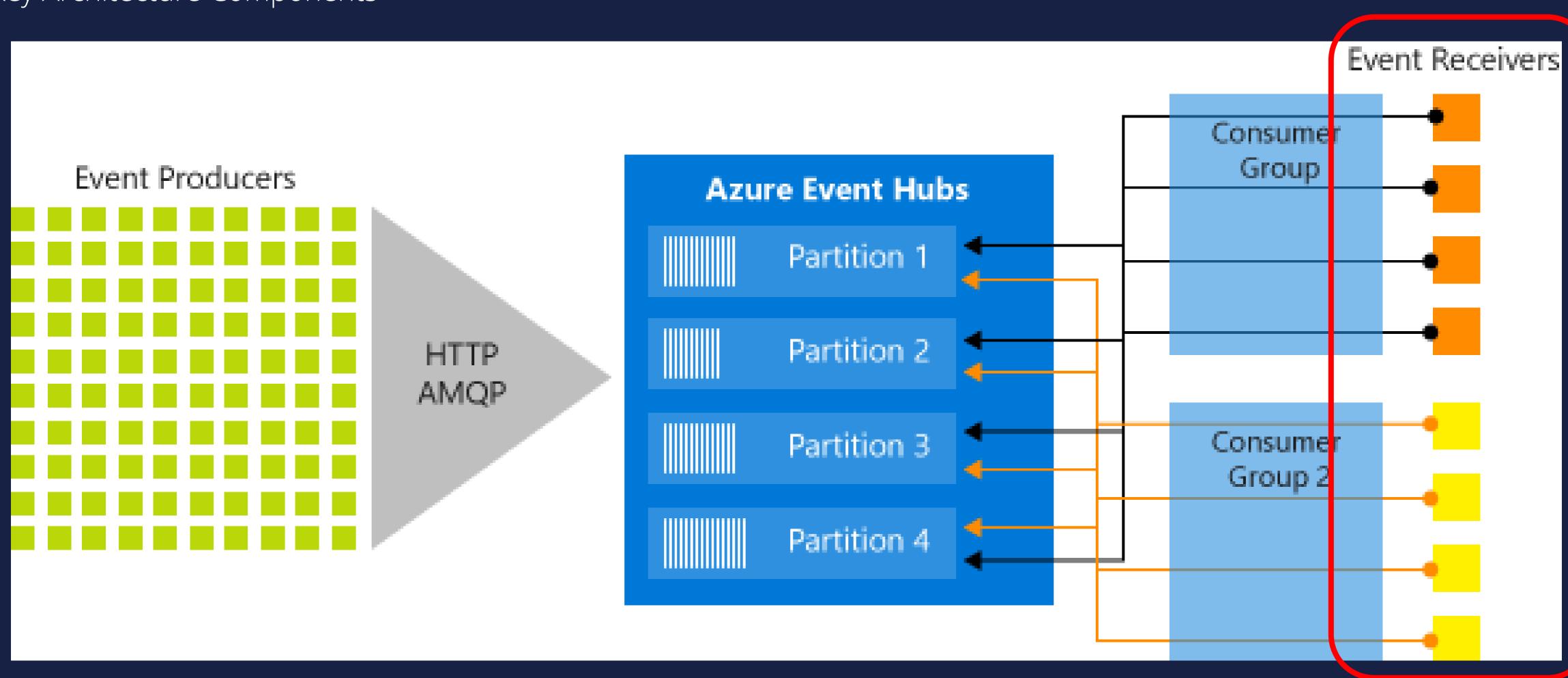
Throughput Units Key Architecture Components



Event Receivers



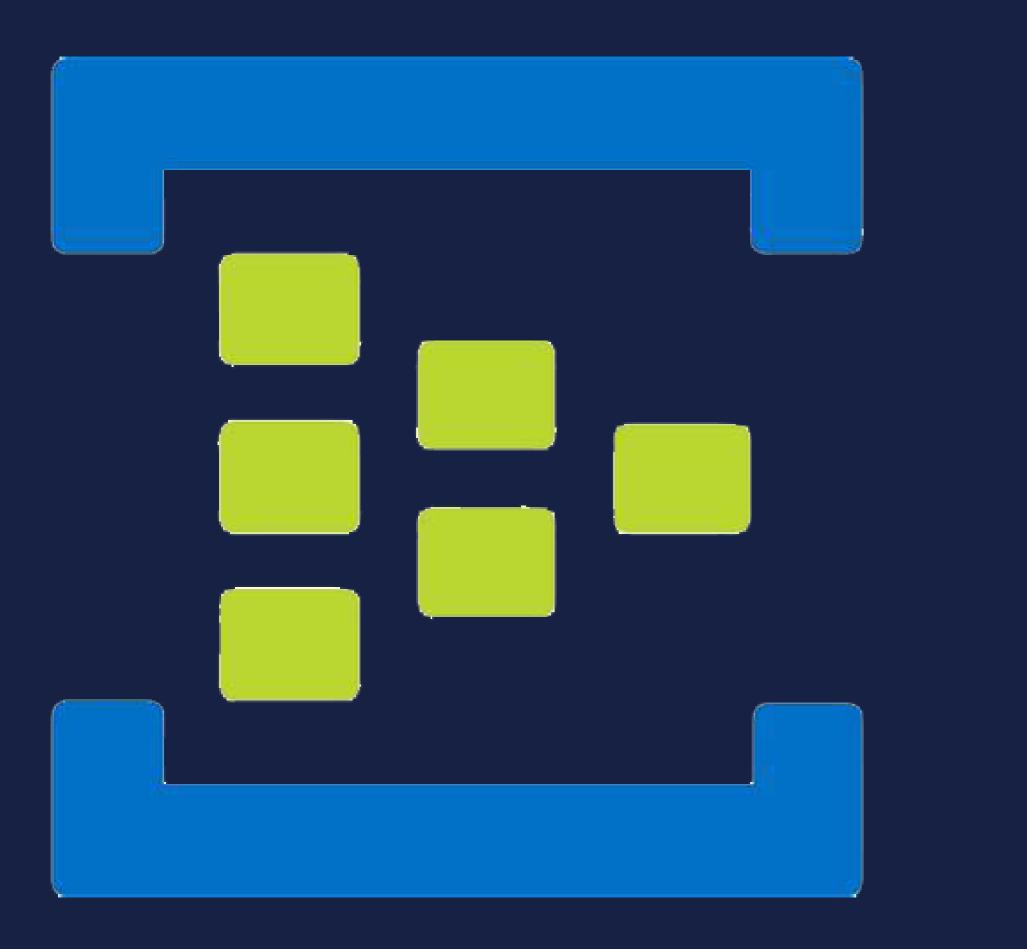
Event Receivers Key Architecture Components







Use Cases Azure Event Hubs



 Anomaly detection Application logging Analytics pipelines Live dashboarding • Archiving data Transaction processing User telemetry processing • Device telemetry streaming



Demos Getting Started with Azure Event Hubs



Azure Event Hubs Demos



Setup Azure Event Hubs Send and Receive Events in .NET Core Send Event from an Azure Function Trigger Azure Function Trigger Azure Logic App Archive Events for Long-Time Storage • Real-Time Dashboard





16)

Setup Azure Event Hubs Getting Started with Azure Event Hubs



Setup Azure Event Hubs Azure Event Hubs Demos



• Create an Event Hubs namespace • Create an event hub





Send and Receive Events from an Application Getting Started with Azure Event Hubs

@ChadGreen



Send and receive events from an application Azure Event Hubs Demos

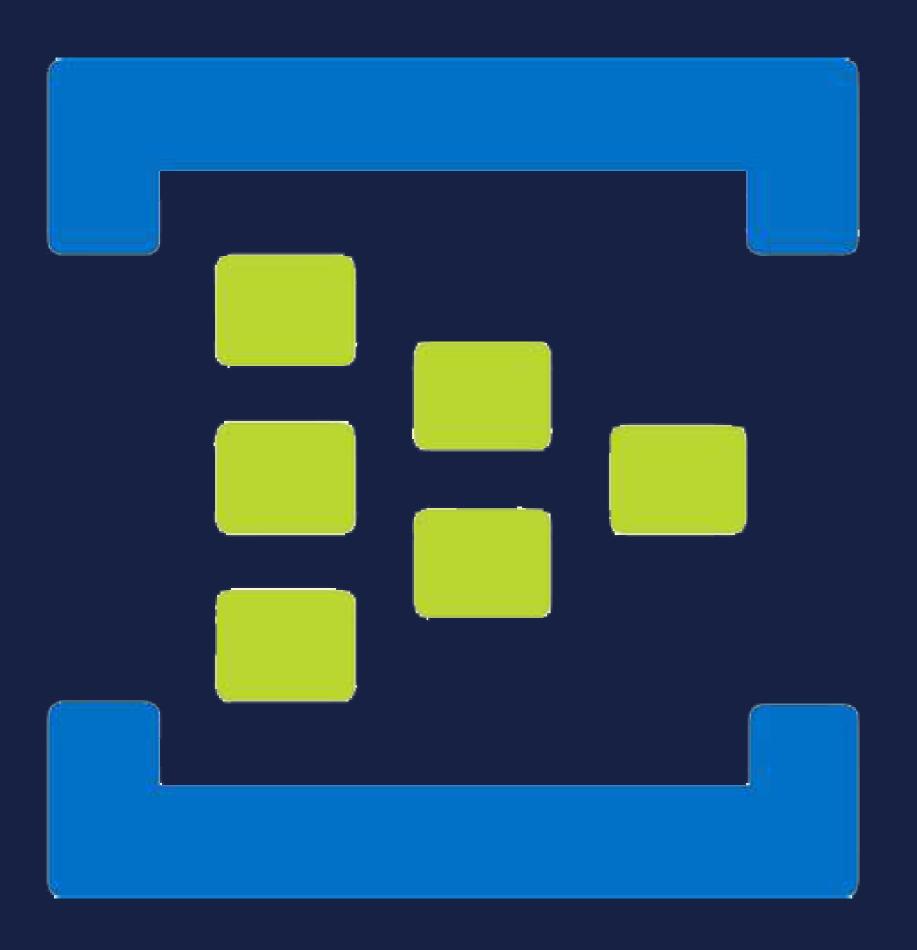


@ChadGreen

Available APIs • .NET Core • .NET Framework Java • Python • Node.js GO C (send only) Apache Storm (receive only)



Send and receive events from an application Azure Event Hubs Demos



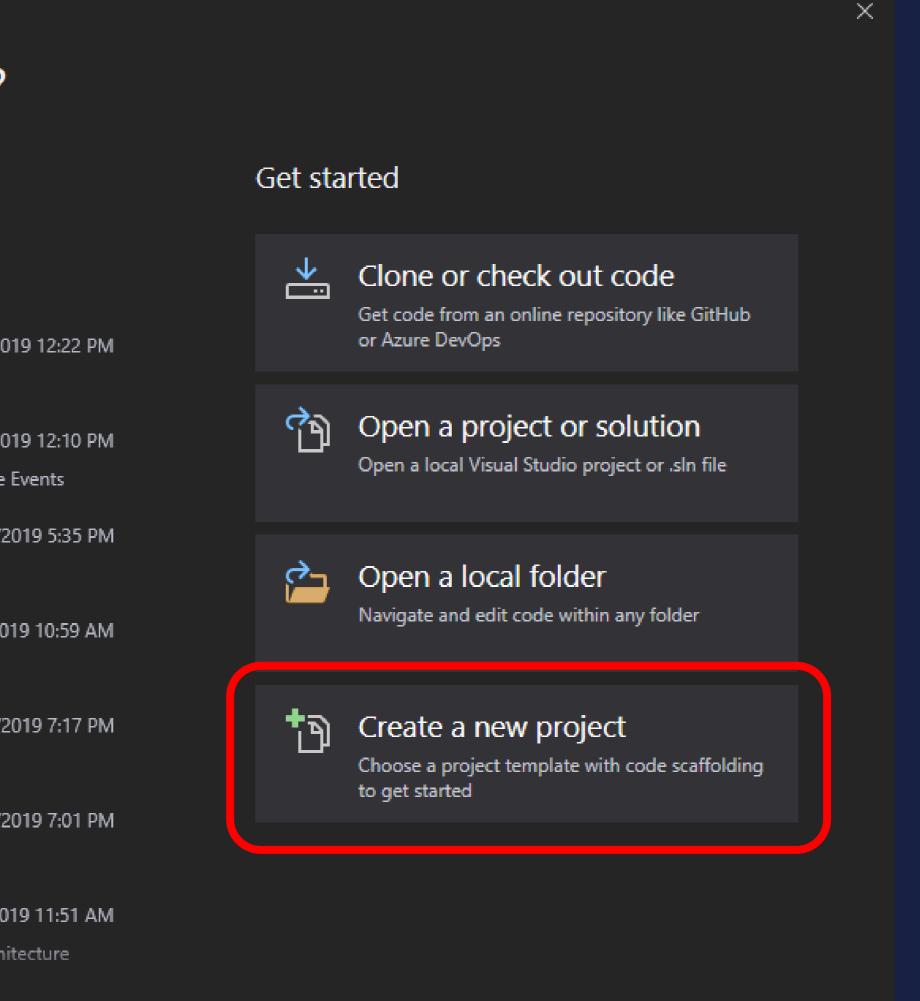
Send Events



What would you like to do?

Open recent

- م	
Getting Started with Azure Event Hubs D:\Repos\Presentations	10/13/2019
Send and Receive Events.sln	10/13/2019
D:\\Getting Started with Azure Event Hubs\Demos\Sen	d and Receive Ev
FunctionApp6.sln C:\Users\chadg\source\repos\FunctionApp6	10/11/201
From Zero to Serverless	10/11/2019
D:\Repos\Presentations	
Event Driven Architecture in the Cloud	10/10/201
D:\Repos\Presentations	
Event Driven Architecture 2.sln	10/10/201
D:\\Demos\Event Driven Architecture 2	
Event Driven Architecture.sln	10/10/2019
D:\\Event Driven Architecture in the Cloud\Demos\Ever	nt Driven Archited
	D:\Repos\Presentations Send and Receive Events.sln D:\\Getting Started with Azure Event Hubs\Demos\Send FunctionApp6.sln C:\Users\chadg\source\repos\FunctionApp6 From Zero to Serverless D:\Repos\Presentations Event Driven Architecture in the Cloud D:\Repos\Presentations Event Driven Architecture 2.sln D:\\Demos\Event Driven Architecture 2



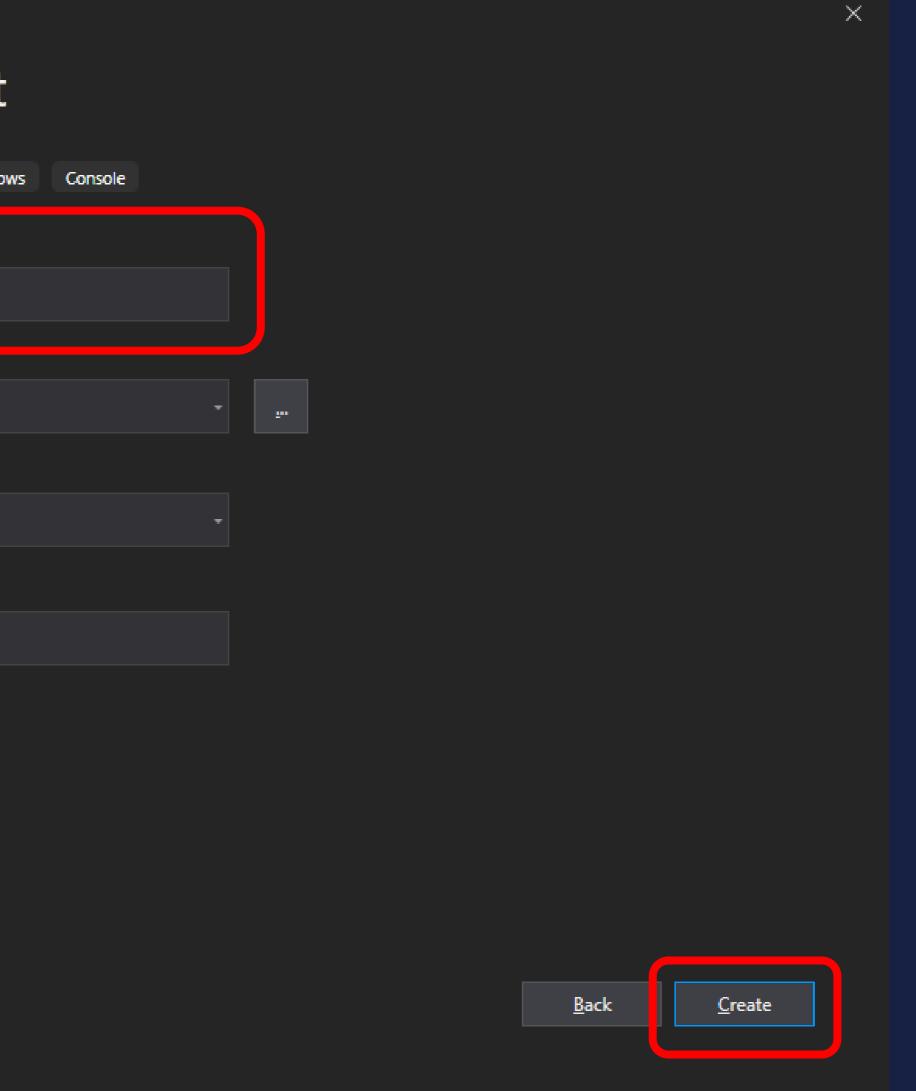


				×
reate a new pro	oject		<mark>ہ</mark> ۔ <u>C</u> lea	ır
ecent project templates		C#	 All <u>P</u>latforms All Project <u>Types</u> 	÷
Azure Functions Blank Solution	C#	5	Console App (.NET Core) A project for creating a command-line application that can run on .NET Core on Windows, Linux and MacOS.	
Console App (.NET Core) Visual	Basic	\$€	C# Linux macOS Windows Console ASP.NET Core Web Application	
Console App (.NET Framework)	C#	` 0⊅	Project templates for creating ASP.NET Core web apps and web APIs for Windows, Linux and macOS using .NET Core or .NET Framework. Create web apps with Razor Pages, MVC, or Single Page Apps (SPA) using Angular, React, or React + Redux.	
Console Application (.NET Framework)	F#		C# Linux macOS Windows Cloud Service Web	
ASP.NET Core Web Application	C#	ø	Blazor App Project templates for creating Blazor apps that that run on the server in an ASP.NET	
Azure Resource Group	C#		Core app or in the browser on WebAssembly. These templates can be used to build web apps with rich dynamic user interfaces (UIs). C# Linux macOS Windows Cloud Web	
Blank Solution			C# Linux macOS Windows Cloud Web	
Blank App (Universal Windows)	C#	n ¶ ¢9∎	⁴ Class Library (.NET Standard) A project for creating a class library that targets .NET Standard.	
ASP.NET Web Application (.NET Framework)	C#	<	C# Android iOS Linux macOS Windows Library Azure Functions A template to create an Azure Function project.	
			<u>B</u> ack <u>N</u> ext	



	Configure	your	new	proj	ject
--	-----------	------	-----	------	------

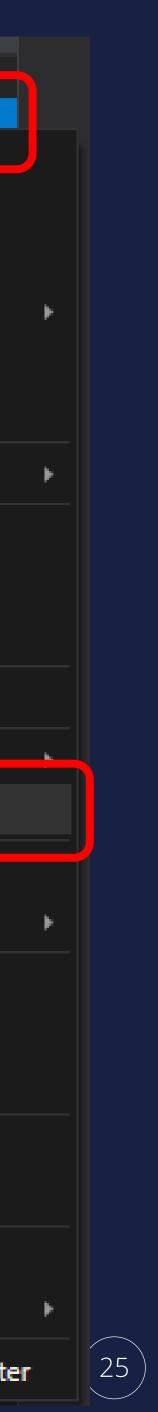
Cons	ole App (.NET Core)	C#	Linux	macOS	Window
Project j	<u>n</u> ame				
Send a	and Receive Events				
Location	1				
D:\Re	pos\Presentations\Getting Starte	ed with A	Azure Even	t Hubs∖De	mos
<u>S</u> olutior	າ				
Create	e new solution				
Solutior	n na <u>m</u> e 🕕				
Send a	and Receive Events				
🗌 Plac	ce solution and project in the sar	ne <u>d</u> irec	tory		

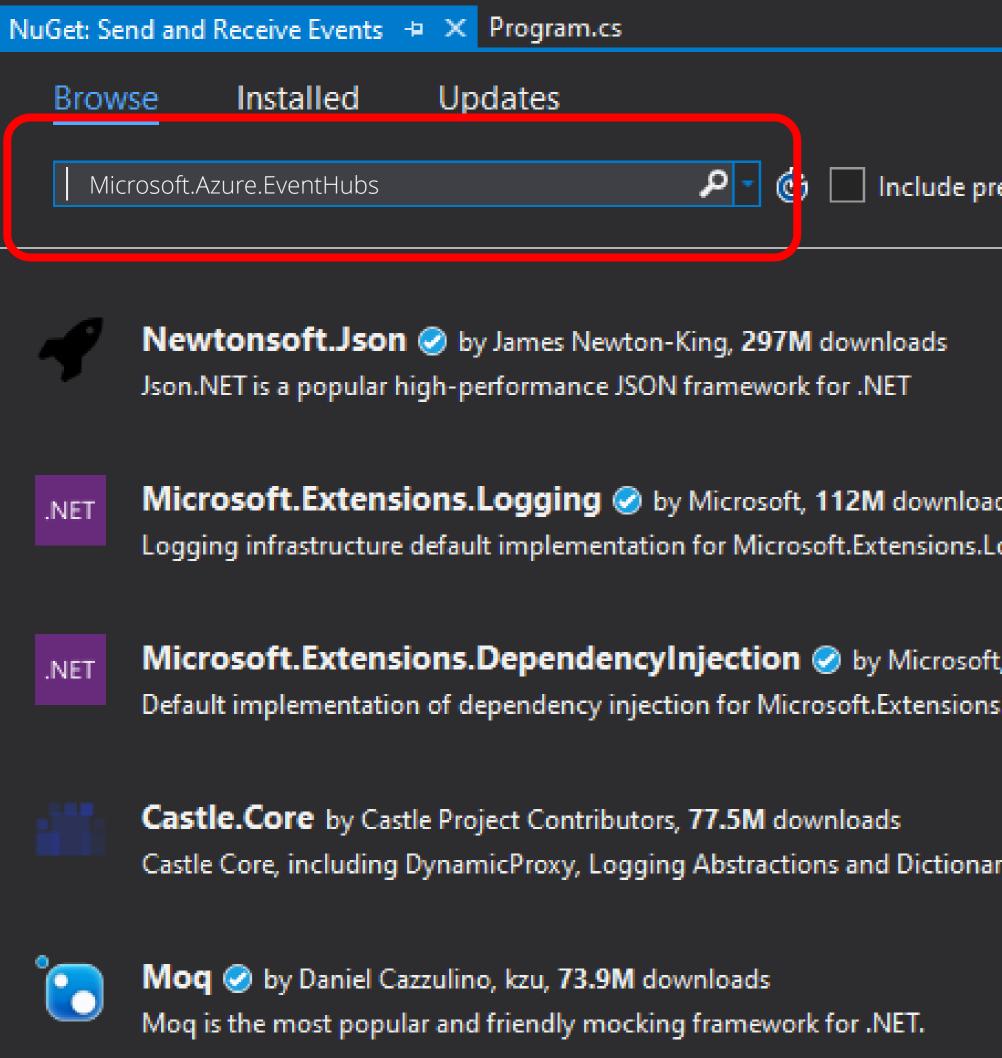




		//	•
		and Receive Events' (1 of 1 project)	
		Receive Events	
b		Ruild	
▶ + C# P	F (Rebuild	
		Clean	
		Analyze and Code Cleanup	
		Pack	
	⊕•	Publish	
		Power Commands	
		Scope to This	
		New Solution Explorer View	
	認	Show on Code Map	
	ç	Edit Project File	
		Add	
	Ħ	Manage NuGet Packages	
	æ	Set as StartUp Project	
		Debug	
	ж	Cut	Ctrl+X
	×	Remove	Del
	X	Rename	
		Unload Project	
		Load Project Dependencies	
	ç	Open Folder in File Explorer	
		Open Command Line	
	ىر	Properties	Alt+Ent

riq.





prerelease	
v12.0.2	Î
ads Logging.	
ft, 98.8M downloads ns.DependencyInjection.	
v4.4.0 aryAdapter	
v4.13.0	



NuGet: Se	end and Receive Events 😐 🗙 Program.cs
Brow	rse Installed Updates
Micr	osoft.Azure.EventHubs 🔹 🔹 🚺 Include prer
	Microsoft.Azure.EventHubs Solution of the services of the
	Microsoft.Azure.EventHubs.Processor S by Microsoft, 1.17M This is the next generation Azure Event Hubs .NET Standard Event Processor azure.microsoft.com/en-us/services/event-hubs/
	Microsoft.Azure.NotificationHubs Solution by Microsoft, 2.26M down Use this for Microsoft Azure Notification Hubs back end operations.
	Microsoft.WindowsAzure.ConfigurationManager Solution Microsoft Azure Configuration Manager provides a unified API to load conf premises or in a Cloud Service.



Microsoft.Azure.ServiceBus.EventProcessorHost 🔗 by Microsoft, 3.7M downloads EventProcessorHost library for Windows Azure Service Bus Event Hubs.

release v4.1.0 🖑 or more information about Event Hubs, see https://azure.microsoft.com/en-us/ v4.1.0 downloads r Host library. For more information about Event Hubs, see https:// v3.2.1 nloads v3.2.3 crosoft, 29.5M downloads iguration settings regardless of where the application is hosted - whether onv5.0.0



NuGet: Send and Receive Ev	vents 🗢 🗙 Program.cs	
Browse Installe	ed Updates	Preview Changes
Microsoft.Azure.Event	Hubs	Visual Studio is about to ma to proceed with the change
This is the next of services/event-h	zure.EventHubs 📀 by Mic generation Azure Event Hubs .N hubs/ zure.EventHubs.Process generation Azure Event Hubs .N com/en-us/services/event-hub zure.NotificationHubs (rosoft Azure Notification Hubs I /indowsAzure.Configura Configuration Manager provid	Microsoft.Azure.Amqp.2 Microsoft.Azure.EventHu Microsoft.Azure.Services Microsoft.CSharp.4.3.0 Microsoft.IdentityModel Microsoft.IdentityModel Microsoft.IdentityModel Microsoft.IdentityModel Microsoft.NETCore.Platfe Microsoft.NETCore.Targe Microsoft.Win32.Primitiv Microsoft.Win32.Registry NETStandard.Library.1.6. Newtonsoft.Json.10.0.1 runtime.debian.8-x64.ru runtime.fedora.23-x64.ru
	Cloud Service. zure.ServiceBus.EventPi lost library for Windows Azure	

	×		
nake changes to this solution. Click OK ges listed below.	ру		
ivents o.2.4.2 Hubs.4.1.0 es.AppAuthentication.1.0.3		microsoft.com/en-us/	v4.1.0 √
) lel.Clients.ActiveDirectory.3.14.2 lel.JsonWebTokens.5.4.0 lel.Logging.5.4.0 lel.Tokens.5.4.0 tforms.1.1.1		e https://	v4.1.0
gets.1.1.0 tives.4.3.0 try.4.3.0 .6.1 1			v3.2.1
runtime.native.System.Security.Cryptography.OpenSsl .runtime.native.System.Security.Cryptography.OpenSs .runtime.native.System.Security.Cryptography.OpenSs .4.3.0	1.4.3.	osted - whether on-	v3.2.3
in OK Can	icel		√5.0.0



NuGet: Send and Receive Events 🕒 🗙 🖡	rogram.cs
Browse Installed Upd	ates License Acceptance
Microsoft.Azure.EventHubs	License Acceptance The following package(s installing.
Microsoft.Azure.Eventh This is the next generation Azu services/event-hubs/	(-), Mift
Microsoft.Azure.Eventh This is the next generation Azu azure.microsoft.com/en-us/se	re Event Hubs .N Microsoft.NETCore.Pla
Microsoft.Azure.Notifie Use this for Microsoft Azure No	ationHubs (s): Microsoft
Microsoft.WindowsAzu	Microsoft.Azure.Amq View License
Microsoft Azure Configuration premises or in a Cloud Service.	
Microsoft.Azure.Service EventProcessorHost library for	

	×
ce e(s) require that you accept their license terms before	re
System.Security.Cryptography.OpenSsl Author	v4.1.0 v4.1.0 v4.1.0
ntHubs Author(s): Microsoft	
Platforms Author(s): Microsoft	v4.1.0 e https://
2.1- System.Security.Cryptography.OpenSsl Author	v3.2.1
qp Author(s): Microsoft	▼ v3.2.3
you agree to the license terms for the package(s) list gree to the license terms, click "I Decline."	sted nosted - whether on-
I Accept I Decline	e v5.0.0



Write code to send messages to Event Hub Send Events from a .NET Core Application

using Microsoft.Azure.EventHubs; using System; using System.Text; using System.Threading.Tasks;



Write code to send messages to Event Hub Send Events from a .NET Core Application

public static async Task Main(string[] args)

@ChadGreen



```
Write code to send messages to Event Hub
Send Events from a .NET Core Application
```

```
EntityPath = EventHubName
};
EventHubClient eventHubClient =
```

var connectionStringBuilder = new EventHubsConnectionStringBuilder(EventHubConnectionString)

EventHubClient.CreateFromConnectionString(connectionStringBuilder.ToString());

Getting Started with Azure Event Hubs



32

```
Write code to send messages to Event Hub
 Send Events from a .NET Core Application
do
 Console.Clear();
  do
  {
   input = Console.ReadLine();
  } while (!int.TryParse(input, out numberOfMessagesToSend));
```

} while (numberOfMessagesToSend > 0);

Console.WriteLine("How many messages do you want to send to the Event Hub?");





```
Write code to send messages to Event Hub
 Send Events from a .NET Core Application
for (var i = 0; i < numberOfMessagesToSend; i++)</pre>
  try
    var message = $"Message {i}";
    Console.WriteLine($"Sending message: {message}");
  catch (Exception exception)
  \left\{ \right.
  await Task.Delay(10);
```

await eventHubClient.SendAsync(new EventData(Encoding.UTF8.GetBytes(message)));

Console.WriteLine(\$"{DateTime.Now} > Exception: {exception.Message}");





Write code to send messages to Event Hub Send Events from a .NET Core Application

Console.WriteLine(\$"{numberOfMessagesToSend} messages sent."); Console.WriteLine("Press any key to continue..."); Console.ReadKey();



Write code to send messages to Event Hub Send Events from a .NET Core Application

await eventHubClient.CloseAsync();



```
public class Program
  private const string EventHubConnectionString = "{Event Hubs connection string}";
  private const string EventHubName = "{Event Hub path/name}";
  public static async Task Main(string[] args)
   var connectionStringBuilder = new EventHubsConnectionStringBuilder(EventHubConnectionString)
      EntityPath = EventHubName
    };
   EventHubClient eventHubClient = EventHubClient.CreateFromConnectionString(connectionStringBuilder.ToString());
   int numberOfMessagesToSend;
   string input;
    do
      Console.Clear();
      do
       Console.WriteLine("How many messages do you want to send to the Event Hub?");
       input = Console.ReadLine();
      } while (!int.TryParse(input, out numberOfMessagesToSend));
      for (var i = 0; i < numberOfMessagesToSend; i++)</pre>
        try
         var message = $"Message {i}";
          Console.WriteLine($"Sending message: {message}");
          await eventHubClient.SendAsync(new EventData(Encoding.UTF8.GetBytes(message)));
        catch (Exception exception)
          Console.WriteLine($"{DateTime.Now} > Exception: {exception.Message}");
        await Task.Delay(10);
      Console.WriteLine($"{numberOfMessagesToSend} messages sent.");
      Console.WriteLine("Press any key to continue...");
      Console.ReadKey();
    } while (numberOfMessagesToSend > 0);
    await eventHubClient.CloseAsync();
```

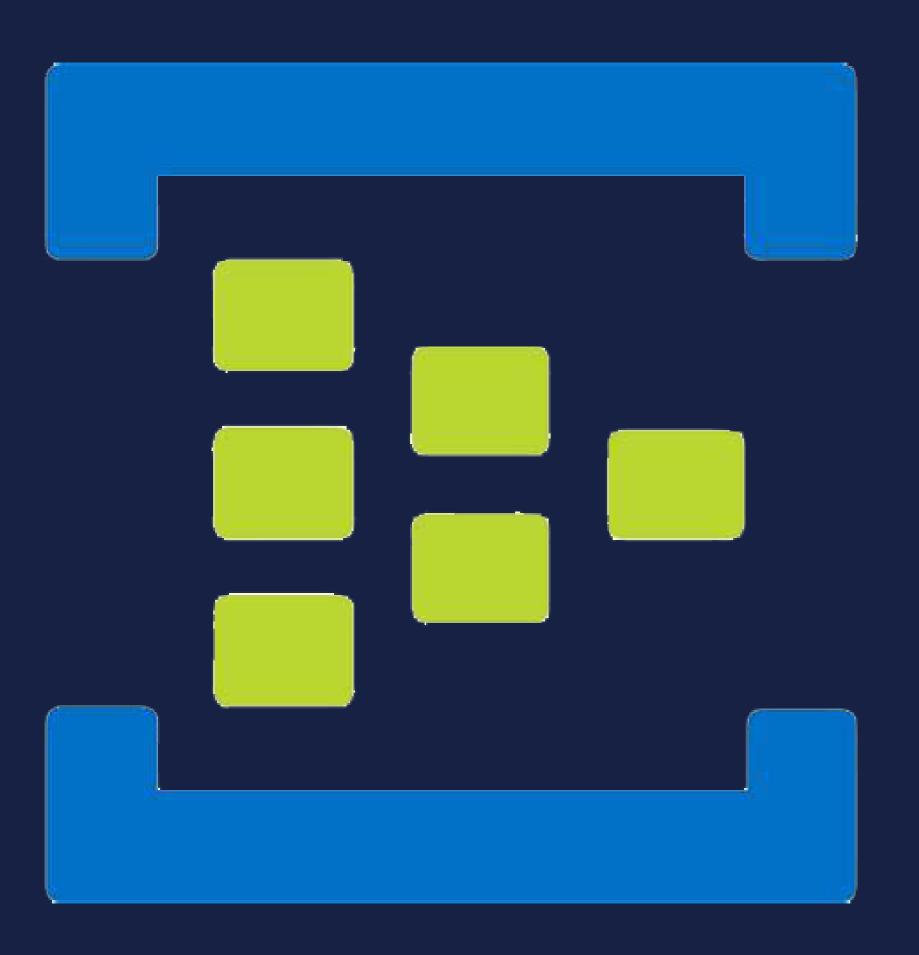


private const string EventHubName = "{Event Hub path/name}";

private const string EventHubConnectionString = "{Connection String}";



Send and receive events from an application Azure Event Hubs Demos





Receive Events



	New Project	
	Existing Projection	
	Existing Web Site	
	New Item	Ctrl+Shift
	Existing Item	Shift+Alt+
	New Solution Folder	
	Installation Configuration File	
	Spell Checker Configuration File	

* 1 1	Solution 'Send and Receive Events' (1 of 1 proje	ect)
 	Build Solution	Ctrl+Shift+B
	Rebuild Solution	
	Clean Solution	
	Analyze and Code Cleanup	
	Batch Build	
	Configuration Manager	
Ë	Manage NuGet Packages for Solution	
[2	Restore NuGet Packages	
	Power Commands	
	Live Unit Testing	
	New Solution Explorer View	
裼	Show on Code Map	
	Calculate Code Metrics	
	Add	
to	Add Solution to Source Control	
ி	Paste	Ctrl+V
X	Rename	
ç	Open Folder in File Explorer	
	Save As Solution Filter	
	Hide Unloaded Projects	
	Load Project Dependencies	
	Open Command Line	
ų	Properties	Alt+Enter



	×
ا <u>C</u> le	ar
C# - All <u>P</u> latforms - All Project <u>T</u> ypes	÷
Console App (.NET Core) A project for creating a command-line application that can run on .NET Core on Windows, Linux and MacOS.	
ASP.NET Core Web Application Project templates for creating ASP.NET Core web apps and web APIs for Windows,	
Linux and macOS using .NET Core or .NET Framework. Create web apps with Razor Pages, MVC, or Single Page Apps (SPA) using Angular, React, or React + Redux. C# Linux macOS Windows Cloud Service Web	
Blazor App Project templates for creating Blazor apps that that run on the server in an ASP.NET Core app or in the browser on WebAssembly. These templates can be used to build	
web apps with rich dynamic user interfaces (Uls). C# Linux macOS Windows Cloud Web	
Class Library (.NET Standard)	
C# Android iOS Linux macOS Windows Library Azure Functions A template to create an Azure Function project. Back Next	
	C# Al @aforms Al Project Jypes C# Al @aforms Alproved Sector S



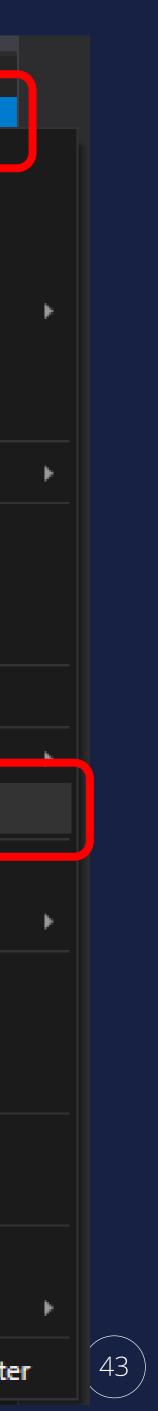
			×
Configure your new project			
Console App (.NET Core) C# Linux macOS Windows Console			
Project <u>n</u> ame			
Receive Events			
Location			
D:\Repos\Presentations\Getting Started with Azure Event Hubs\Demos\Send and Receive Events -	<u></u>		
		<u>B</u> ack <u>C</u> rea	ite

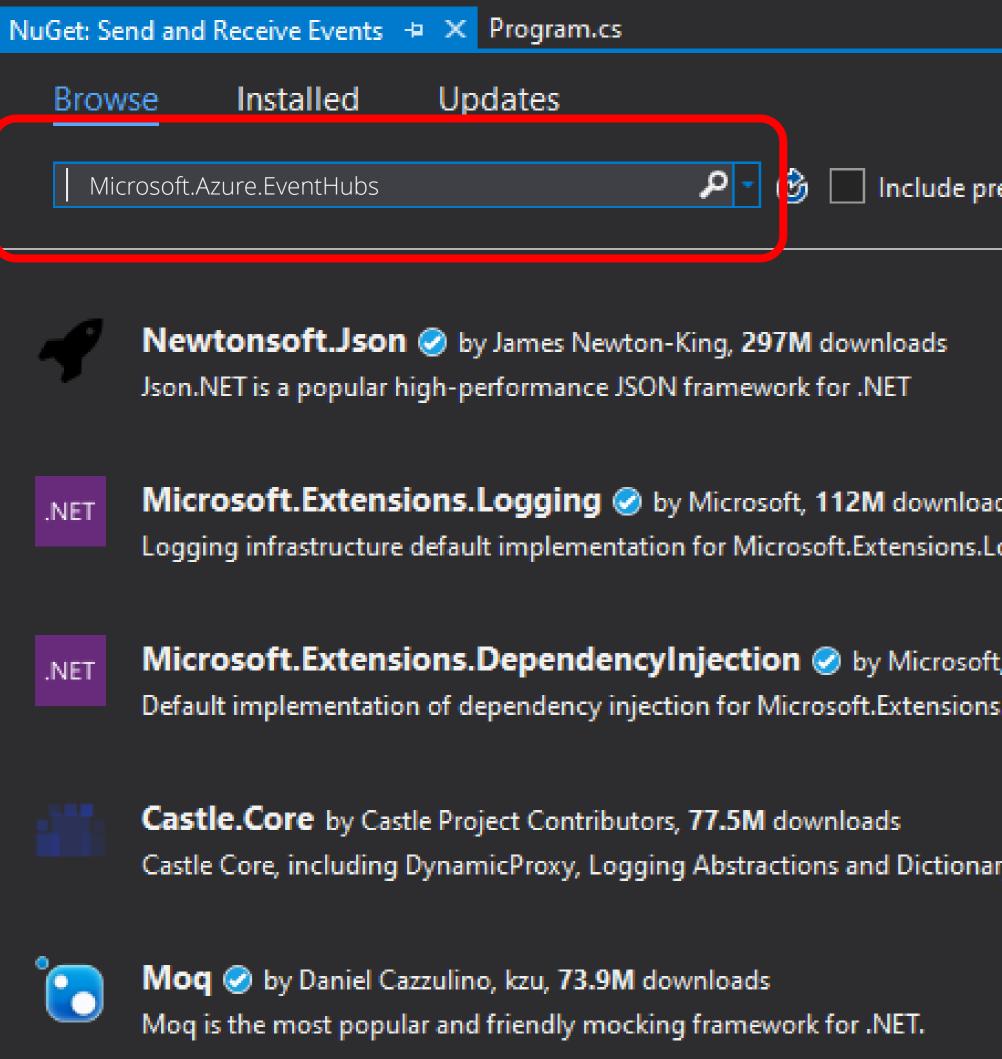
@ChadGreen



		//	•
		and Receive Events' (1 of 1 project)	
		Receive Events	
b		Ruild	
▶ + C# P	F (Rebuild	
		Clean	
		Analyze and Code Cleanup	
		Pack	
	⊕•	Publish	
		Power Commands	
		Scope to This	
		New Solution Explorer View	
	認	Show on Code Map	
	ç	Edit Project File	
		Add	
	Ħ	Manage NuGet Packages	
	æ	Set as StartUp Project	
		Debug	
	ж	Cut	Ctrl+X
	×	Remove	Del
	X	Rename	
		Unload Project	
		Load Project Dependencies	
	ç	Open Folder in File Explorer	
		Open Command Line	
	ىر	Properties	Alt+Ent

riq.





prerelease	
v12.0.2	Î
ads Logging.	
oft, 98.8M downloads ns.DependencyInjection.	
v4.4.0 aryAdapter	
v4.13.0	



NuGet: Se	end and Receive Events 😐 🗙 Program.cs
Brow	vse Installed Updates
Micr	osoft.Azure.EventHubs 🔹 🔹 🚺 Include prer
	Microsoft.Azure.EventHubs Solution of the services of the
	Microsoft.Azure.EventHubs.Processor S by Microsoft, 1.17M This is the next generation Azure Event Hubs .NET Standard Event Processor azure.microsoft.com/en-us/services/event-hubs/
	Microsoft.Azure.NotificationHubs Solution by Microsoft, 2.26M down Use this for Microsoft Azure Notification Hubs back end operations.
	Microsoft.WindowsAzure.ConfigurationManager Solve Mic Microsoft Azure Configuration Manager provides a unified API to load conf premises or in a Cloud Service.

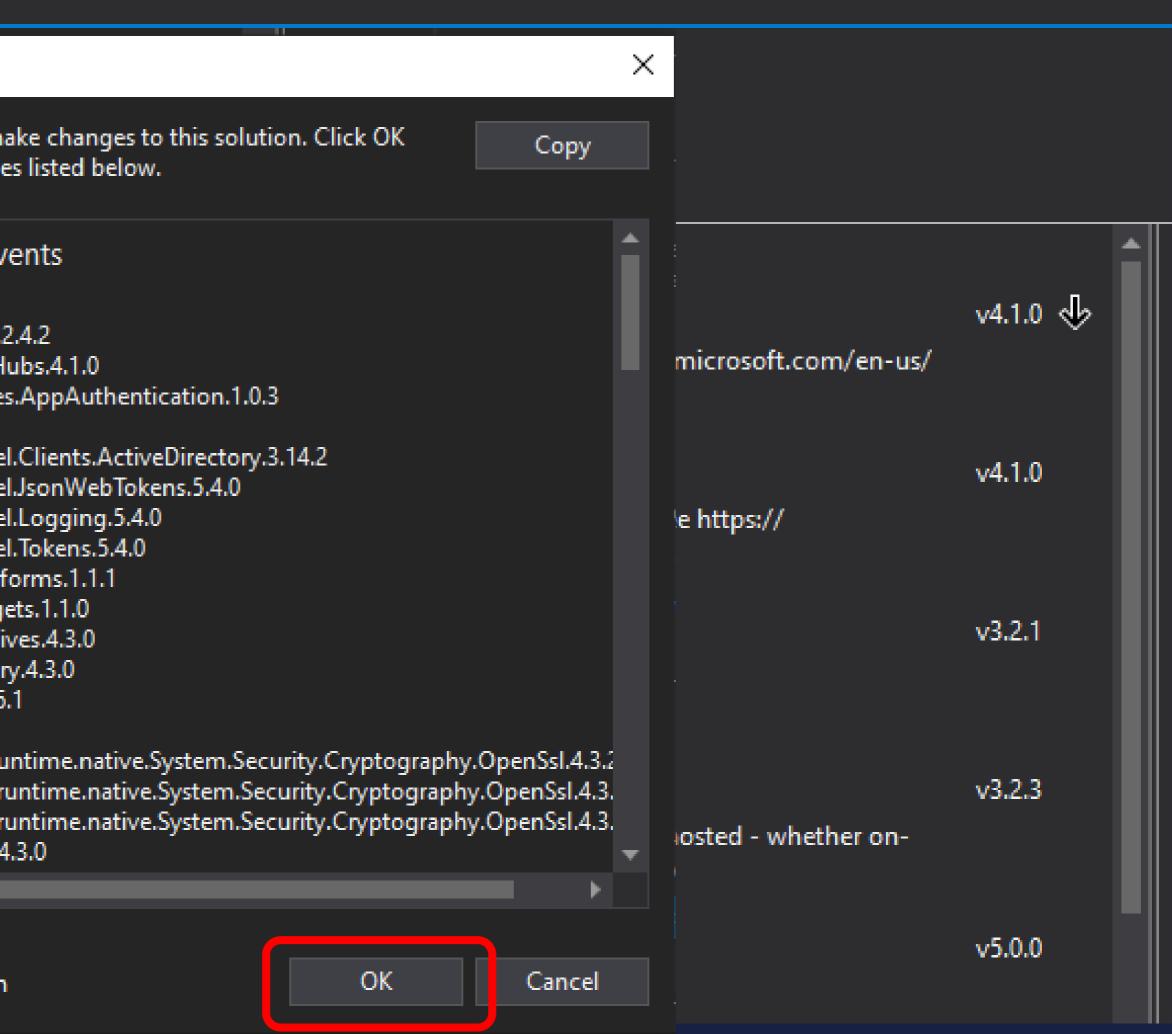


Microsoft.Azure.ServiceBus.EventProcessorHost 📀 by Microsoft, 3.7M downloads EventProcessorHost library for Windows Azure Service Bus Event Hubs.

release v4.1.0 🖑 or more information about Event Hubs, see https://azure.microsoft.com/en-us/ v4.1.0 downloads r Host library. For more information about Event Hubs, see https:// v3.2.1 nloads v3.2.3 crosoft, 29.5M downloads iguration settings regardless of where the application is hosted - whether onv5.0.0



NuGet: Send and Receive	Events 🕂 🗙 Program.cs	
Browse Instal	led Updates	Preview Changes
Microsoft.Azure.Even	tHubs	Visual Studio is about to ma to proceed with the change
This is the next services/event- Microsoft./ This is the next azure.microsoft Microsoft./ Use this for Microsoft./ Microsoft./ Microsoft./	Azure.EventHubs.Process generation Azure Event Hubs .N t.com/en-us/services/event-hul Azure.NotificationHubs (crosoft Azure Notification Hubs VindowsAzure.Configura e Configuration Manager provid	Microsoft.Azure.Amqp.2 Microsoft.Azure.EventHu Microsoft.Azure.Services Microsoft.CSharp.4.3.0 Microsoft.IdentityModel Microsoft.IdentityModel Microsoft.IdentityModel Microsoft.IdentityModel Microsoft.NETCore.Platfu Microsoft.NETCore.Targe Microsoft.Win32.Primitiv Microsoft.Win32.Registry NETStandard.Library.1.6. Newtonsoft.Json.10.0.1 runtime.debian.8-x64.ru runtime.fedora.23-x64.ru
Microsoft.A	a Cloud Service. Azure.ServiceBus.EventP Host library for Windows Azure	

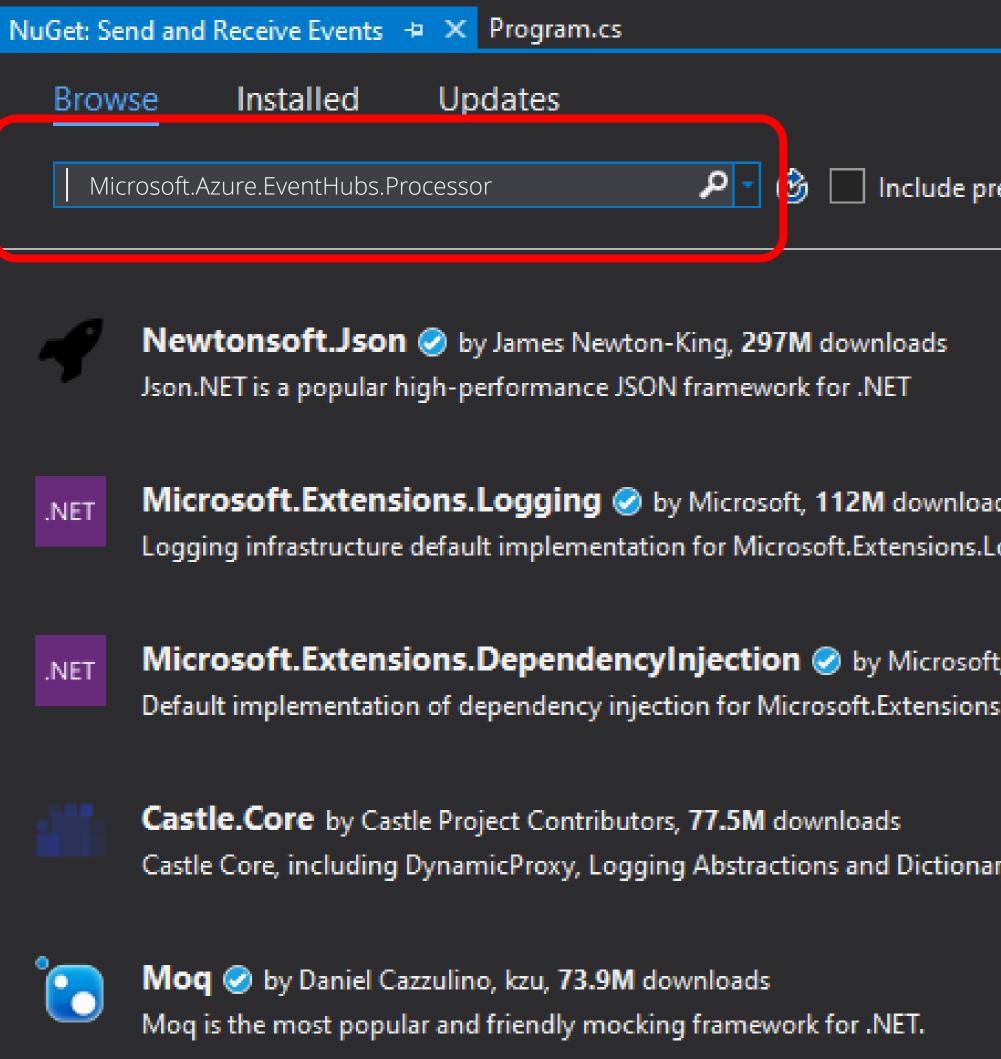




NuGet: Send and Receive Events 😐 🔀 P	rogram.cs
Browse Installed Upda	tes License Acceptance
Microsoft.Azure.EventHubs	License Acceptance The following package(s installing.
Microsoft.Azure.EventH This is the next generation Azur services/event-hubs/	(-), Mift
Microsoft.Azure.EventH This is the next generation Azur azure.microsoft.com/en-us/sen	e Event Hubs .N Microsoft.NETCore.Pla
Microsoft.Azure.Notific Use this for Microsoft Azure Not	ationHubs ((s): Microsoft
Microsoft.WindowsAzu	re.Configura
Microsoft Azure Configuration I premises or in a Cloud Service.	Manager provide By clicking "I Accept," y above. If you do not agr
Microsoft.Azure.Service EventProcessorHost library for V	

	×
ce e(s) require that you accept their license terms before	re
.(s) require that you accept their neerise terms before	
System.Security.Cryptography.OpenSsl Author	
	microsoft.com/en-us/
entHubs Author(s): Microsoft	v4.1.0
Platforms Author(s): Microsoft	e https://
2.1- System.Security.Cryptography.OpenSsl Author	v3.2.1
qp Author(s): Microsoft	
you says to the licence terms for the package(c) list	v3.2.3
you agree to the license terms for the package(s) list gree to the license terms, click "I Decline."	sted losted - whether on-
I Accept I Decline	e v5.0.0





prerelease	
v12.0.2	Î
ads Logging.	
oft, 98.8M downloads ns.DependencyInjection.	
v4.4.0 aryAdapter	
v4.13.0	



NuGet: Re	ceive Events 🕘 🗙 Program.cs*	
Brow	rse Installed Updates	
Micr	osoft.Azure.EventHubs.Processor × 🔹 🕜 🗌 Include prerelease	
	Microsoft.Azure.EventHubs.Processor 🔗 by Microsoft, 1.17M downloads This is the next generation Azure Event Hubs .NET Standard Event Processor Host library. For more information about Event Hubs, see https:// azure.microsoft.com/en-us/services/event-hubs/	v4.1.0
	Microsoft.Azure.EventHubs 🔗 by Microsoft, 2.91M downloads This is the next generation Azure Event Hubs .NET Standard client library. For more information about Event Hubs, see https://azure.microsoft.com/en-us/ services/event-hubs/	v4.1.0
	Microsoft.Azure.ServiceBus.EventProcessorHost S by Microsoft, 3.7M downloads EventProcessorHost library for Windows Azure Service Bus Event Hubs.	v5.0.0
	Microsoft.Azure.NotificationHubs de Microsoft, 2.26M downloads Use this for Microsoft Azure Notification Hubs back end operations.	v3.2.1
	Microsoft.WindowsAzure.ConfigurationManager 🔗 by Microsoft, 29.5M downloads Microsoft Azure Configuration Manager provides a unified API to load configuration settings regardless of where the application is hosted - whether on- premises or in a Cloud Service.	v3.2.3



NuGet: Send and Receive Events 😐 🗙 Program.cs	
Browse Installed Updates	Preview Changes
Microsoft.Azure.EventHubs	Visual Studio is about to ma to proceed with the change
 Microsoft.Azure.EventHubs S by Mic This is the next generation Azure Event Hubs .N services/event-hubs/ Microsoft.Azure.EventHubs.Process This is the next generation Azure Event Hubs .N azure.microsoft.com/en-us/services/event-hub 	System.AppContext.4.3.0 System.Buffers.4.3.0 System.Console.4.3.0 System.IO.Compression. System.IO.Compression. System.Net.Sockets.4.3.0
Microsoft.Azure.NotificationHubs Use this for Microsoft Azure Notification Hubs I	Updates: NETStandard.Library.1.6.
Microsoft.WindowsAzure.Configura Microsoft Azure Configuration Manager provid premises or in a Cloud Service.	Microsoft Azura Storaga
Microsoft.Azure.ServiceBus.EventPr EventProcessorHost library for Windows Azure	Do not chow this papin.

	×		
nake changes to this solution. Click OK ges listed below.	Сору		
.IO.Compression.4.3.0 3.0	m	nicrosoft.com/en-us/	∨4.1.0 🖑
on.4.3.0 on.ZipFile.4.3.0 3.0 er.4.3.0	e	• https://	v4.1.0
.6.1 -> NETStandard.Library.2.0.1 1 -> Newtonsoft.Json.10.0.3			v3.2.1
Hubs.Processor.4.1.0 ult.Core.3.0.3 ge.Blob.11.0.0 ge.Common.11.0.0		osted - whether on-	v3.2.3
in OK	Cancel		v5.0.0



NuGet: Se	nd and Receive Events 👍 🗙 Program.cs	
Brow	se Installed Updates	License Acceptance
		License Acceptance
Micro	osoft.Azure.EventHubs	The following package(s) installing.
	Microsoft.Azure.EventHubs <table-cell> by Mic This is the next generation Azure Event Hubs .N services/event-hubs/ Microsoft.Azure.EventHubs.Process This is the next generation Azure Event Hubs .N azure.microsoft.com/en-us/services/event-hub Microsoft.Azure.NotificationHubs 🔇</table-cell>	Microsoft.Azure.KeyVa View License Microsoft.Azure.Event MIT Microsoft.Azure.Stora MIT
	Microsoft.WindowsAzure.Configura Microsoft Azure Configuration Manager provide premises or in a Cloud Service.	
	Microsoft.Azure.ServiceBus.EventPr EventProcessorHost library for Windows Azure S	

	×		
e			
(s) require that you accept their license terms before	2		
rage.Blob Author(s): Microsoft			
Vault.Core Author(s): Microsoft		microsoft.com/en-us/	v4.1.0 🖑
ntHubs.Processor Author(s): Microsoft			
rage.Common Author(s): Microsoft		e https://	v4.1.0
			v3.2.1
you agree to the licence terms for the mackage(c) lie	T		v3.2.3
you agree to the license terms for the package(s) list ree to the license terms, click "I Decline."	teu	nosted - whether on-	
I Accept I Decline			v5.0.0



NuGet: Receive	Events 🕂 🗙 Pr	ogram.cs*	
Browse	Installed	Updates	
			🔎 - 🕝 🗌 Include prerelease



Microsoft.Azure.EventHubs by Microsoft

services/event-hubs/



Microsoft.Azure.EventHubs.Processor by Microsoft

This is the next generation Azure Event Hubs .NET Standard Event Processor Host library. For more information about Event Hubs, see https:// azure.microsoft.com/en-us/services/event-hubs/

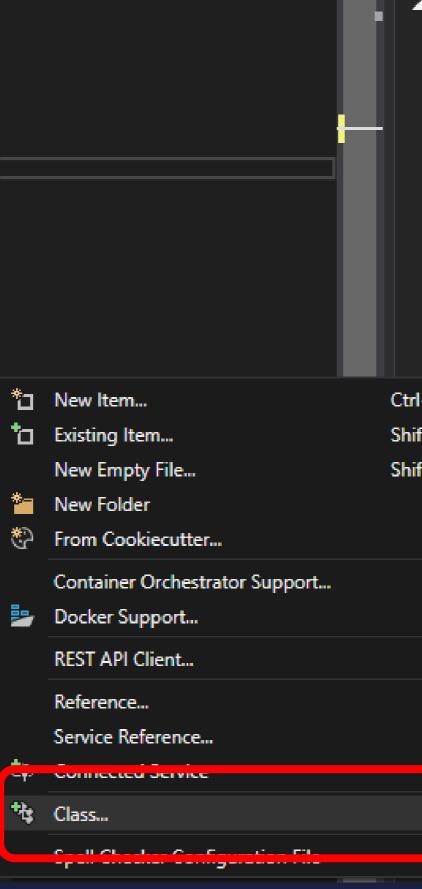
v4.1.0

This is the next generation Azure Event Hubs .NET Standard client library. For more information about Event Hubs, see https://azure.microsoft.com/en-us/

v4.1.0







olution Ex				→ ₽ ×	Properties
			`⊙ - ≒ @ @ ≁ - X	~	ties
			orer (Ctrl+;)	- م	
4 ⊕C# Re		Jenu -	and Neceive Lyents (2 of 2 projec)	s)	
	De	÷	Build		
,	7.,		B-Luild		
4 +C# Se			Clean		
> >+C≠	De		Analyze and Code Cleanup		Þ
P			Pack		
		⊕	Publish		
			Power Commands		F
			Scope to This		
			New Solution Explorer View		
		怒	Show on Code Map		
		୯	Edit Project File		
			Build Dependencies		-
I+Shift+A			Add		
ft+Alt+A		Ħ	Manage NuGet Packages		
ft+F2		ø	Set as StartUp Project		
			Debug		Þ
		ቾ	Cut	Ctrl+X	
		×	Remove	Del	
		X	Rename		
			Unload Project		
			Load Project Dependencies		
		୯	Open Folder in File Explorer		
			Open Command Line		Þ
			Properties	Alt+Enter	r



Add New Item - Receive Events

 Installed 	Sort by:	Default
 Visual C# Items Code 		Class
Data General	[]	Content Page
Web Windows Forms	ج ^د جو	Content Page (C#)
WPF .NET Core		Content View
SQL Server Storm Items	ج چ	Content View (C#)
Xamarin.Forms Graphics		List View Page
Þ Online	[]	Master Detail Page
		Tabbed Page
	ج <u>ہ</u> (*	Class for U-SQL
	••	Interface
		Form (Windows Forms)
		User Control (Windows F
	<u>[]</u>	View Cell
	÷.	Component Class
Name: Sim	leEventProcessor.c	S

					?		×
• #			Search (Ctrl+E))			- م
	Visual C# Items	Î	Type: Visual An empty cla				
	Visual C# Items						
	Visual C# Items						
	Visual C# Items						
	Visual C# Items						
	Visual C# Items						
	Visual C# Items						
	Visual C# Items						
	Visual C# Items						
	Visual C# Items						
	Visual C# Items						
Forms)	Visual C# Items						
	Visual C# Items						
	Visual C# Items	Ŧ					
				Add		Cance	I

Getting Started with Azure Event Hubs



public class SimpleEventProcessor : IEventProcessor

```
public Task CloseAsync(PartitionContext context, CloseReason reason)
 Console.WriteLine($"Processor Shutting Down. Partition '{context.PartitionId}', Reason: '{reason}'.");
 return Task.CompletedTask;
public Task OpenAsync(PartitionContext context)
 Console.WriteLine($"SimpleEventProcessor initialized. Partition: '{context.PartitionId}'");
 return Task.CompletedTask;
public Task ProcessErrorAsync(PartitionContext context, Exception error)
 Console.WriteLine($"Error on Partition: {context.PartitionId}, Error: {error.Message}");
 return Task.CompletedTask;
public Task ProcessEventsAsync(PartitionContext context, IEnumerable<EventData> messages)
 foreach (var eventData in messages)
   var data = Encoding.UTF8.GetString(eventData.Body.Array, eventData.Body.Offset, eventData.Body.Count);
   Console.WriteLine($"Message received. Partition: '{context.PartitionId}', Data: '{data}'");
 return context.CheckpointAsync();
```



```
using Microsoft.Azure.EventHubs;
using Microsoft.Azure.EventHubs.Processor;
using System;
using System.Threading.Tasks;
```

```
namespace ReceiveEvents
```

```
class Program
```



private const string EventHubConnectionString = "{Event Hubs connection string}"; private const string EventHubName = "{Event Hub path/name}"; private const string StorageContainerName = "{Storage account container name}"; private const string StorageAccountName = "{Storage account name}"; private const string StorageAccountKey = "{Storage account key}"; private static readonly string StorageConnectionString StorageAccountName,

StorageAccountKey);

= string.Format("DefaultEndpointsProtocol=https;AccountName={0};AccountKey={1}",



```
static async Task Main(string[] args)
{
```

- Console.WriteLine("Registering EventProcessor..."); var eventProcessorHost = new EventProcessorHost(
 - EventHubName, PartitionReceiver.DefaultConsumerGroupName, EventHubConnectionString, StorageConnectionString,
 - StorageContainerName);

// Registers the Event Processor Host and starts receiving messages await eventProcessorHost.RegisterEventProcessorAsync<SimpleEventProcessor>();

Console.WriteLine("Receiving. Press ENTER to stop worker."); Console.ReadLine();

// Disposes of the Event Processor Host await eventProcessorHost.UnregisterEventProcessorAsync();



```
using Microsoft.Azure.EventHubs;
using Microsoft.Azure.EventHubs.Processor;
using System; using System.Threading.Tasks;
namespace ReceiveEvents
  class Program
    private const string EventHubConnectionString = "{Event Hubs connection string}";
    private const string EventHubName = "{Event Hub path/name}";
    private const string StorageContainerName = "{Storage account container name}";
    private const string StorageAccountName = "{Storage account name}";
    private const string StorageAccountKey = "{Storage account key}";
    static async Task Main(string[] args)
      Console.WriteLine("Registering EventProcessor...");
      var eventProcessorHost = new EventProcessorHost(
          EventHubName,
         PartitionReceiver.DefaultConsumerGroupName,
         EventHubConnectionString,
         StorageConnectionString,
         StorageContainerName);
      // Registers the Event Processor Host and starts receiving messages
      await eventProcessorHost.RegisterEventProcessorAsync<SimpleEventProcessor>();
```

```
Console.WriteLine("Receiving. Press ENTER to stop worker.");
Console.ReadLine();
```

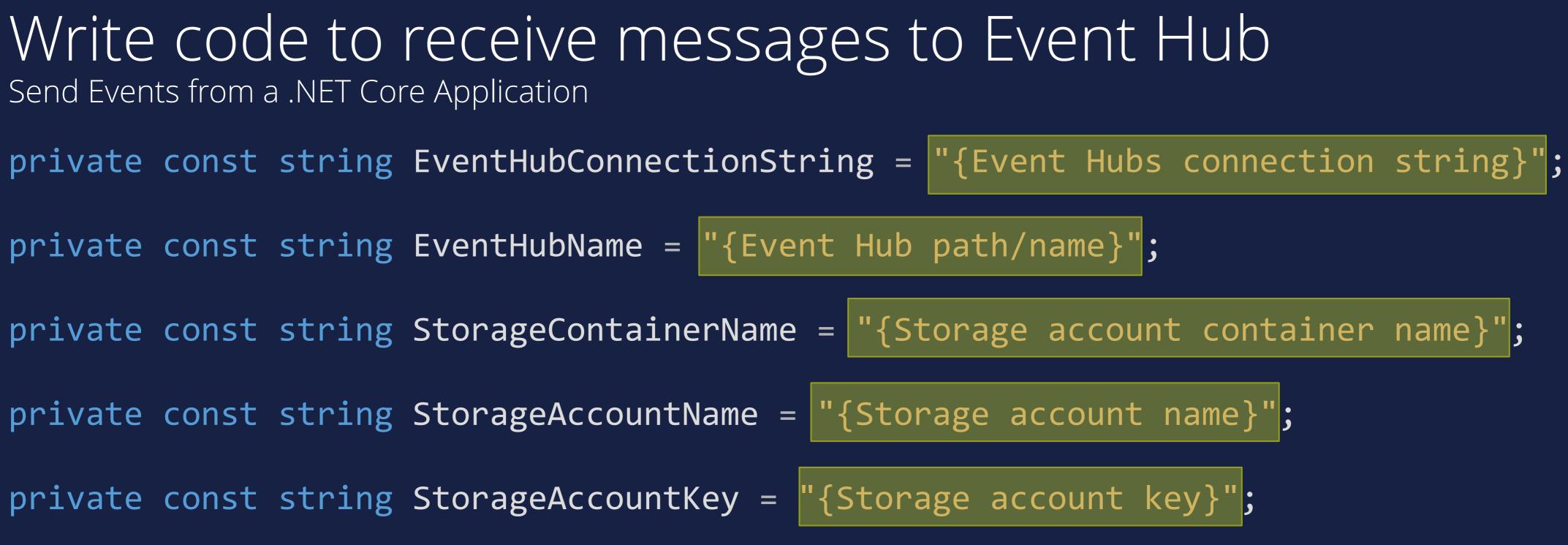
```
// Disposes of the Event Processor Host
await eventProcessorHost.UnregisterEventProcessorAsync();
```

@ChadGreen

private static readonly string StorageConnectionString = string.Format("DefaultEndpointsProtocol=https;AccountName={0};AccountKey={1}", StorageAccountName, StorageAccountKey);









Send Events from Azure Functions Getting Started with Azure Event Hubs



	New Project	
	Existing Projecta	
	Existing Web Site	
*	New Item	Ctrl+Shift
* ם	Existing Item	Shift+Alt+
*-	New Solution Folder	
	Installation Configuration File	
	Spell Checker Configuration File	

ſ	÷a S	Solution 'Send and Receive Events' (1 of 1 proj	ect)
L	ı. <u>*</u> ,	Build Solution	Ctrl+Shift+B
		Rebuild Solution	
		Clean Solution	
		Analyze and Code Cleanup	
		Batch Build	
		Configuration Manager	
	Ë	Manage NuGet Packages for Solution	
	[2	Restore NuGet Packages	
		Power Commands	
		Live Unit Testing	
		New Solution Explorer View	
	怒	Show on Code Map	
		Calculate Code Metrics	
		Add	
	1	Add Solution to Source Control	
	<u>ے</u>	Paste	Ctrl+V
	X	Rename	
	ç	Open Folder in File Explorer	
		Save As Solution Filter	
		Hide Unloaded Projects	
		Load Project Dependencies	
		Open Command Line	
	عر	Properties	Alt+Enter



Add a new project

<u>Recent project templates</u>

\$	Azure Functions		C#	
<u>F</u>	Console App (.NET Core)	Visual E	Basic	
C:/	Console App (.NET Framework)		C#	
Cil	Console Application (.NET Framewo	ork)	F#	
0	ASP.NET Core Web Application		C#	
۵	Azure Resource Group		C#	
	Blank App (Universal Windows)		C#	
	ASP.NET Web Application (.NET Framework)		C#	

Fun

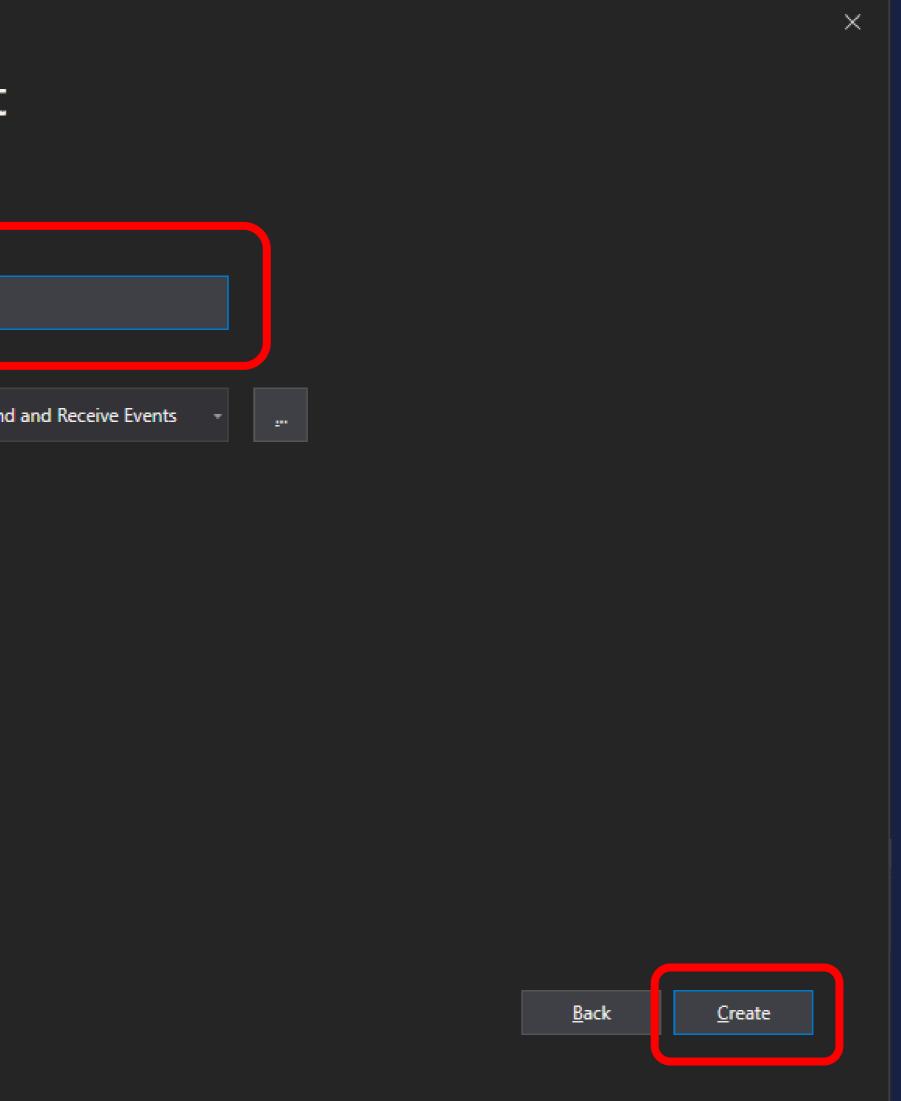
C#

				×
ctions		× -		<u>C</u> lear
	- All <u>P</u> latforms	-	All Project <u>T</u> ypes	÷
	e an Azure Function project. Joud			
	Not finding what you're io Install more tools and f	oking for? features		ext



Configure your new project

Azure Functions C# Azure Cloud
Project <u>n</u> ame
Send Events
D:\Repos\Presentations\Getting Started with Azure Event Hubs\Demos\Send





Create a new Azure Function

Azure Functions v2 (.NET Core)

 Creates an Azure Function project with no triggers. Function trigge development.



Blob trigger

A C# function that will be run whenever a blob is added to a specific



Cosmos DB Trigger

A C# function that will be run whenever documents change in a do



Event Grid trigger

A C# function that will be run whenever an event grid receives a new



Event Hub trigger

A C# function that will be run whenever an event hub receives a new



Http trigger

A C# function that will be run whenever it receives an HTTP request

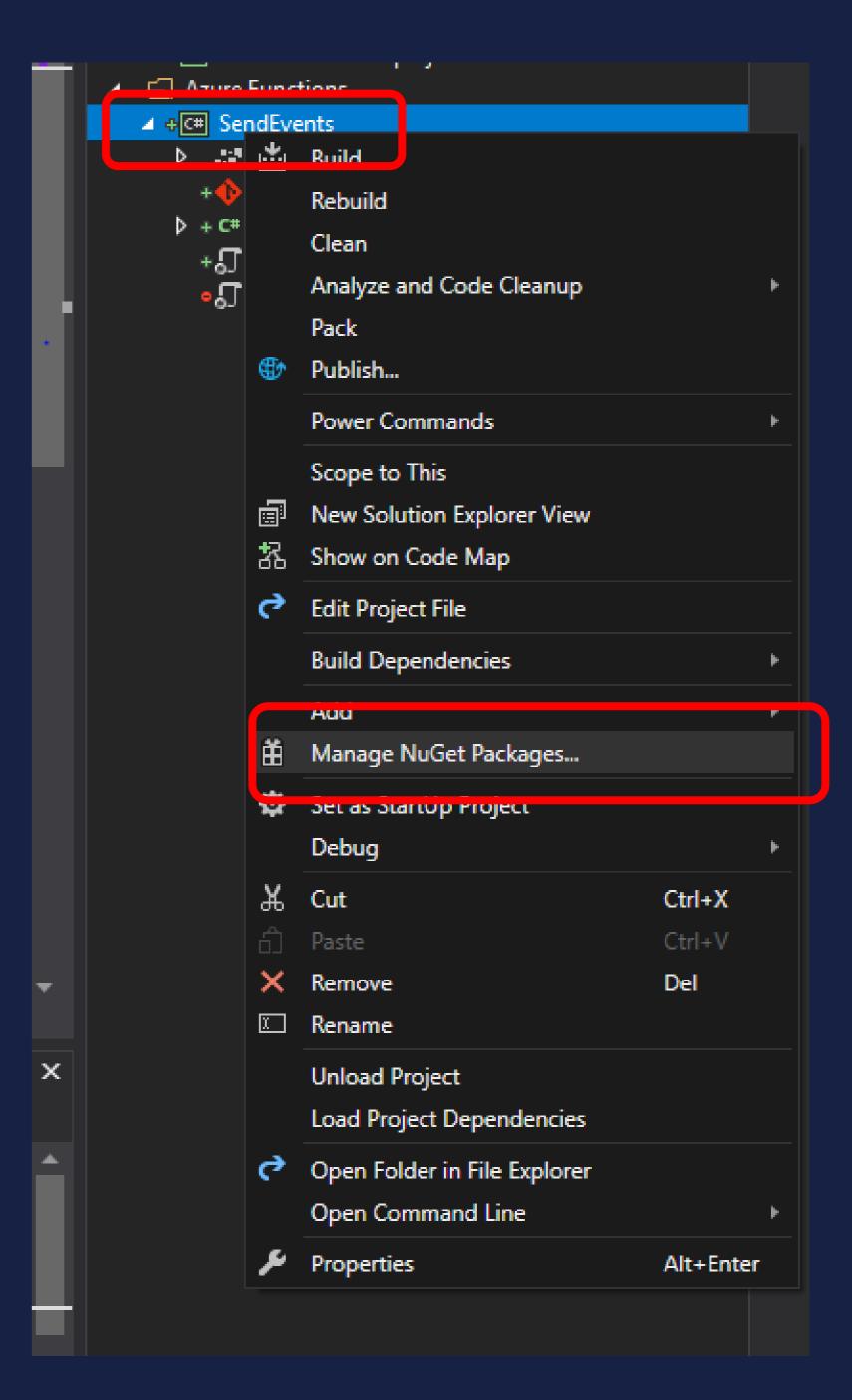


loT Hub trigger

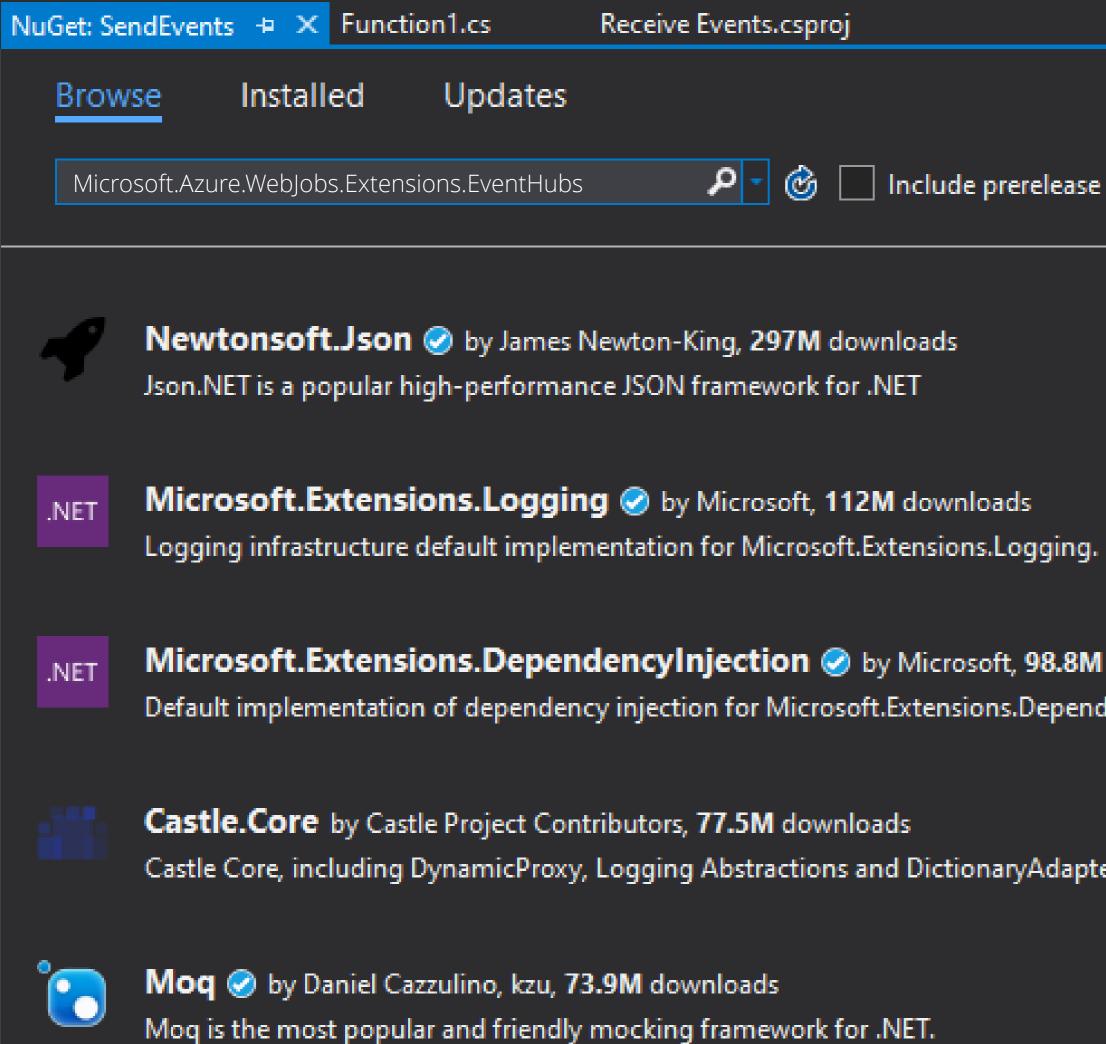
Get started with Azure Functions

ons Application				
	•			
is can be added during	•	Storage Account (Azure	WebJobsStorage)	
		Storage Emulator		-
ed container.		▲ Some capabilities ma	ay require an Azur	e storage account.
		Authorization level		
cument collection.		Anonymous		
w event				
w event				
	•			
			Back	Create









	v12.0.2	
ls ogging.	v3.0.0	
98.8M downloads DependencyInjection.	v3.0.0	
yAdapter	v4.4.0	
	v4.13.0	

Getting Started with Azure Event Hubs



- **4**6-

NuGet: SendEvents	+ ×	Functio	n1.cs	Receive E	Events.csp	roj
Browse	Instal	lled	Updates			
Microsoft.Azu	re.Web	Jobs.Exter	nsions.EventH	ubs	× • 🗞	lnclude pr



Microsoft.Azure.WebJobs.Extensions.EventHubs 📀 by M

Microsoft Azure WebJobs SDK EventHubs Extension



Microsoft.Azure.WebJobs.Extensions S by Microsoft, 9.66M This package contains Timers and File triggers. For more information, pleas webjobs-resources.



Microsoft.Azure.WebJobs 🔗 by Microsoft, 18.2M downloads

This package contains the runtime assemblies for Microsoft.Azure.WebJob the WebJobs in the dashboard. For more information, please visit http://go



Microsoft.Azure.WebJobs.Core 😔 by Microsoft, 18.1M downlo

This library simplifies the task of adding background processing to your M function in your program when items are added to Queues and Blobs. A d



Microsoft.Azure.WebJobs.Extensions.Http by Microsoft, This package adds binding <u>extensions for Http.</u>

erelease

licrosoft, 304K downloads	v4.0.
downloads ase visit https://azure.microsoft.com/en-us/documentation/articles/websites-	v3.0.2
bs.Host. It also adds rich diagnostics capabilities which makes it easier to monitor jo.microsoft.com/fwlink/?LinkID=320971	v3.0.13
oads /licrosoft Azure Web Sites. The SDK uses Microsoft Azure Storage, triggering a dashboard provides rich monitoring and diagnostics for the programs that you	v3.0.13
, 6.34M downloads	v3.0.2



NuGet: Se	ndEvents + × Function1.cs	Receive Events csproi
Brow		Preview Changes
	osoft.Azure.WebJobs.Extensions.EventHu	Visual Studio is about to make change to proceed with the changes listed bel
		Azure Functions\SendEvents
	Microsoft.Azure.WebJobs.Ex Microsoft Azure WebJobs SDK EventHu	Microsoft.Azure.WebJobs.Core.3.0. Microsoft.Win32.Primitives.4.0.1 -> Microsoft.Win32.Registry.4.0.0 -> N
	Microsoft.Azure.WebJobs.Ex This package contains Timers and File f webjobs-resources.	System.Diagnostics.Tracing.4.1.0 ->
	Microsoft.Azure.WebJobs This package contains the runtime asse the WebJobs in the dashboard. For mo	J



Microsoft.Azure.WebJobs.Co

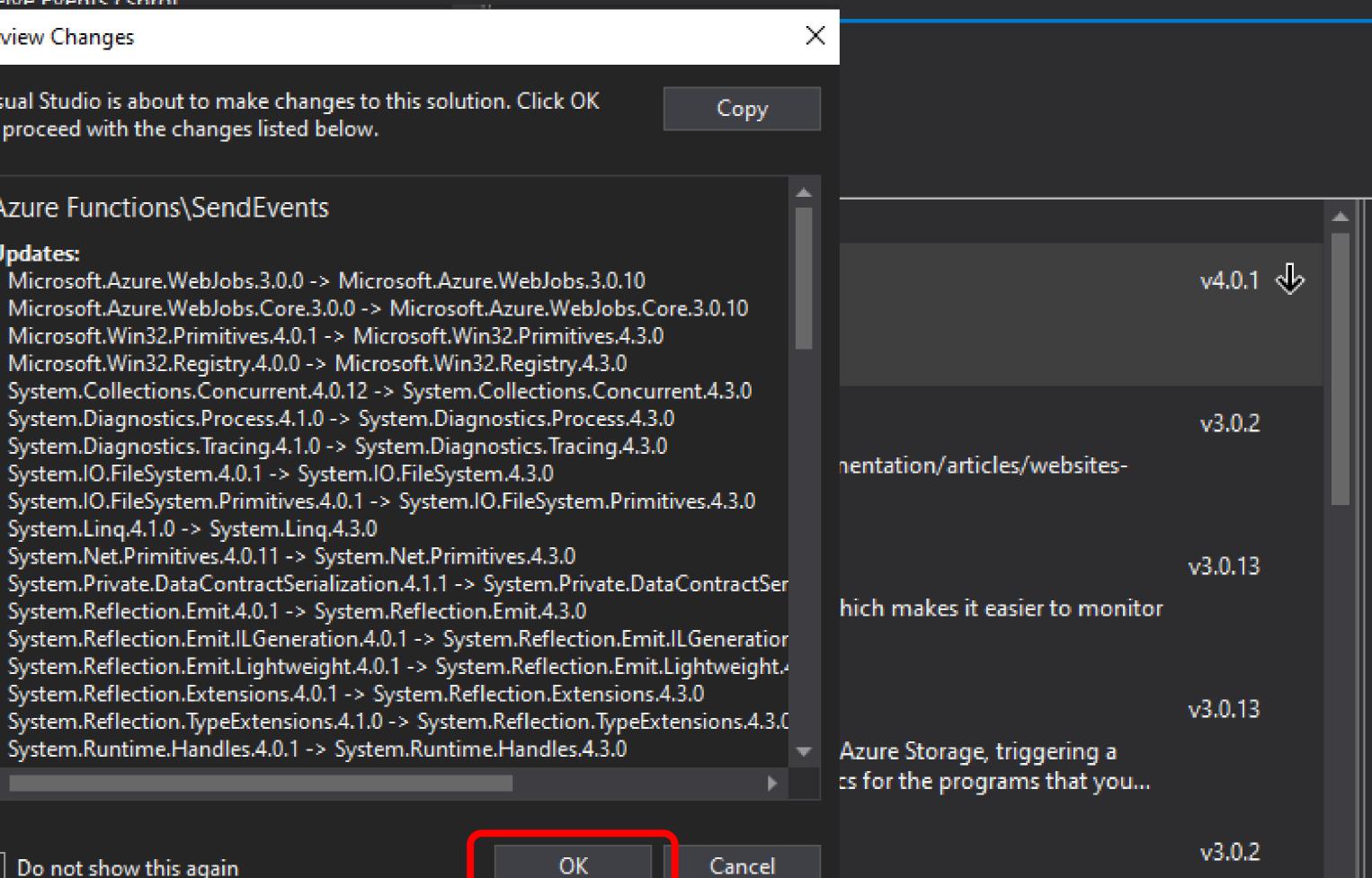
This library simplifies the task of adding function in your program when items a



Microsoft.Azure.WebJobs.Ex

This package adds binding extensions

Do not show this again



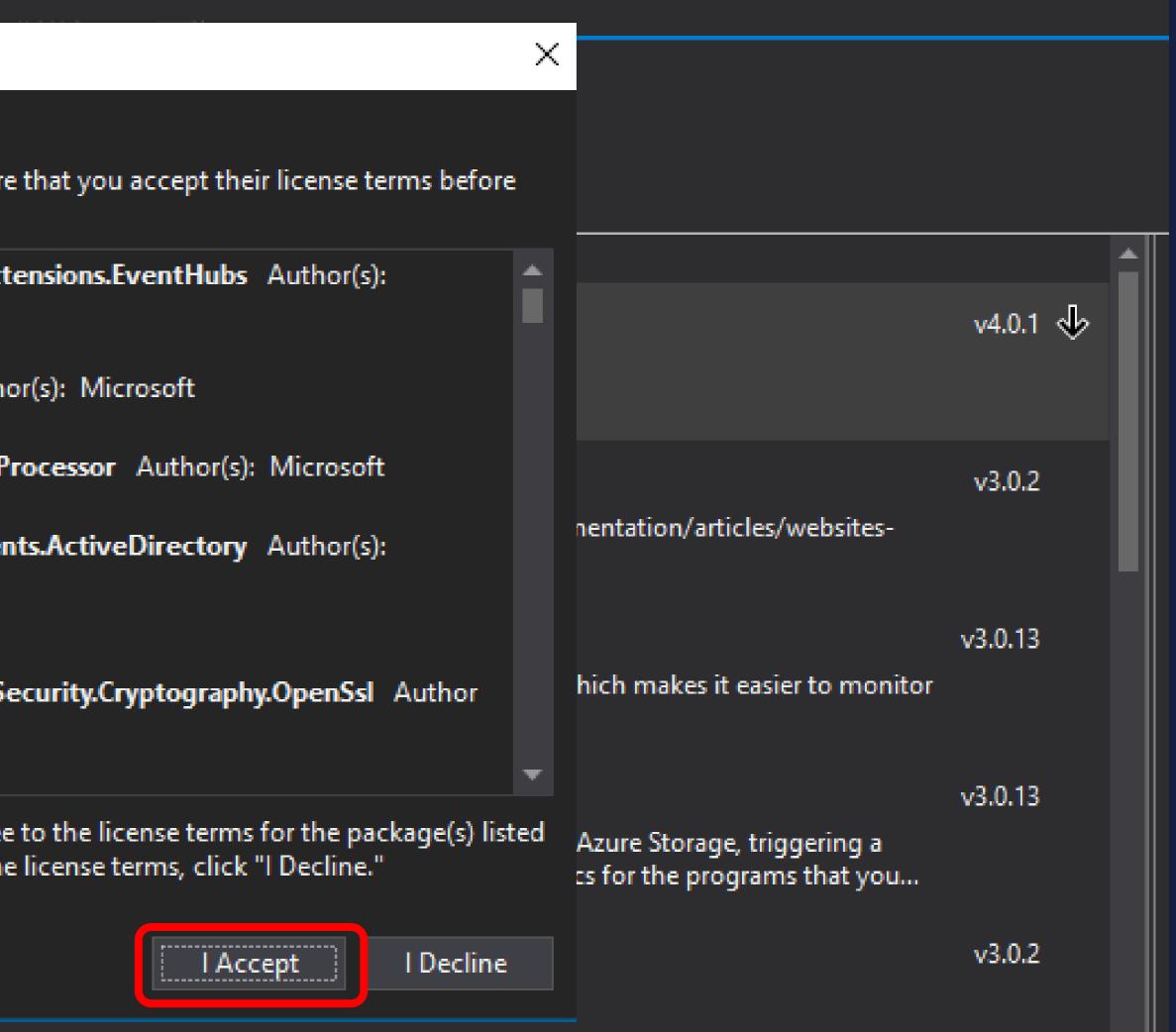


NuGet: Se	ndEvents 🛥 🗙 Function1.cs	Receive Events csproi
Brow	se Installed Updates	License Acceptance
	osoft.Azure.WebJobs.Extensions.EventHu	License Acceptance The following package(s) require th installing.
	Microsoft.Azure.WebJobs.Ext Microsoft Azure WebJobs SDK EventHu	Microsoft.Azure.WebJobs.Exten Microsoft View License Microsoft.Azure.Amqp Author(s View License
	Microsoft.Azure.WebJobs.Ex This package contains Timers and File t webjobs-resources.	Microsoft.IdentityModel.Clients. Microsoft
	Microsoft.Azure.WebJobs This package contains the runtime asse the WebJobs in the dashboard. For mo	(s): Microsoft View License
	Microsoft.Azure.WebJobs.Co This library simplifies the task of adding function in your program when items a	By clicking "I Accept," you agree to



Microsoft.Azure.WebJobs.Ext

This package adds binding extensions





+	🔶 .gıtıgnore
\$	Open
	Open With
	Open Command L
	Code Cleanup
	Scope to This
	New Solution Expl
33	Show on Code Ma
	Exclude From Proj
ጽ	Cut
ŋ	Сору
X	Delete
	Rename
	Copy Path
ŋ	Copy Class
C:V	Open Command F
2	Open Containing
ىر	Properties
	Add Spell Checker

	_
ine	►
	۲
orer View	
P	
ect	
	Ctrl+X
	Ctrl+C
	Del
rompt	
Folder	
	Alt+Enter
Configuration File	



Write Code for the Azure Function Send Events from an Azure Function

```
[FunctionName("SendEvent")]
public static async Task<IActionResult> Run(
    [HttpTrigger(AuthorizationLevel.Anonymous,
                 "get", "post",
                 Route = null)] HttpRequest req,
    [EventHub("sendandreceive",
    ILogger log)
ł
```

Connection = "EventHubConnection")]IAsyncCollector<string> outputEvents,



string message = req.Query["message"];

string requestBody = await new StreamReader(req.Body).ReadToEndAsync(); dynamic data = JsonConvert.DeserializeObject(requestBody); message = message ?? data?.name;























if (string.IsNullOrWhiteSpace(message)) await outputEvents.AddAsync(message); }

log.LogInformation(\$"Sending the following message to the Event Hub: {message}");

Getting Started with Azure Event Hubs



74

return message != null

? (ActionResult)new OkObjectResult(\$"Sending the following message to the Event Hub: {message}") : new BadRequestObjectResult("Please pass a message on the query string or in the request body");

75)

```
[FunctionName("SendEvent")]
public static async Task<IActionResult> Run(
    [HttpTrigger(AuthorizationLevel.Anonymous, "get", "post", Route = null)] HttpRequest req,
    [EventHub("sendandreceive", Connection = "EventHubConnection")]IAsyncCollector<string> outputEvents,
   ILogger log)
  string message = req.Query["message"];
  string requestBody = await new StreamReader(req.Body).ReadToEndAsync();
  dynamic data = JsonConvert.DeserializeObject(requestBody);
 message = message ?? data?.name;
 if (string.IsNullOrWhiteSpace(message))
   log.LogInformation($"Sending the following message to the Event Hub: {message}");
   await outputEvents.AddAsync(message);
  }
 return message != null
      ? (ActionResult)new OkObjectResult($"Sending the following message to the Event Hub: {message}")
      : new BadRequestObjectResult("Please pass a message on the query string or in the request body");
```



Trigger Azure Function from Event Hub Getting Started with Azure Event Hubs



	New Project	
	Existing Project Existing Web Site	
	New Item	Ctrl+Shift
	Existing Item	Shift+Alt+
*-	New Solution Folder	
	Installation Configuration File	
	Spell Checker Configuration File	

	+ 6 \$	Solution 'Send and Receive Events' (1 of 1 proj	ect)
	ı. <u>*</u> ,	Build Solution	Ctrl+Shift+B
		Rebuild Solution	
		Clean Solution	
		Analyze and Code Cleanup	
		Batch Build	
		Configuration Manager	
	Ĕ	Manage NuGet Packages for Solution	
	[2	Restore NuGet Packages	
		Power Commands	
		Live Unit Testing	
		New Solution Explorer View	
	*	Show on Code Map	
		Calculate Code Metrics	
		Add	
	to	Add Solution to Source Control	
	பி	Paste	Ctrl+V
L	X	Rename	
	ç	Open Folder in File Explorer	
		Save As Solution Filter	
		Hide Unloaded Projects	
		Load Project Dependencies	
		Open Command Line	
	ىعر	Properties	Alt+Enter



Add a new project

<u>Recent project templates</u>

Þ	Azure Functions		C#	
<u>s</u>	Console App (.NET Core)	Visual E	Basic	
C:/	Console App (.NET Framework)		C#	
C:/	Console Application (.NET Framewo	ork)	F#	
0	ASP.NET Core Web Application		C#	
۵	Azure Resource Group		C#	
	Blank App (Universal Windows)		C#	
	ASP.NET Web Application (.NET Framework)		C#	



Fun

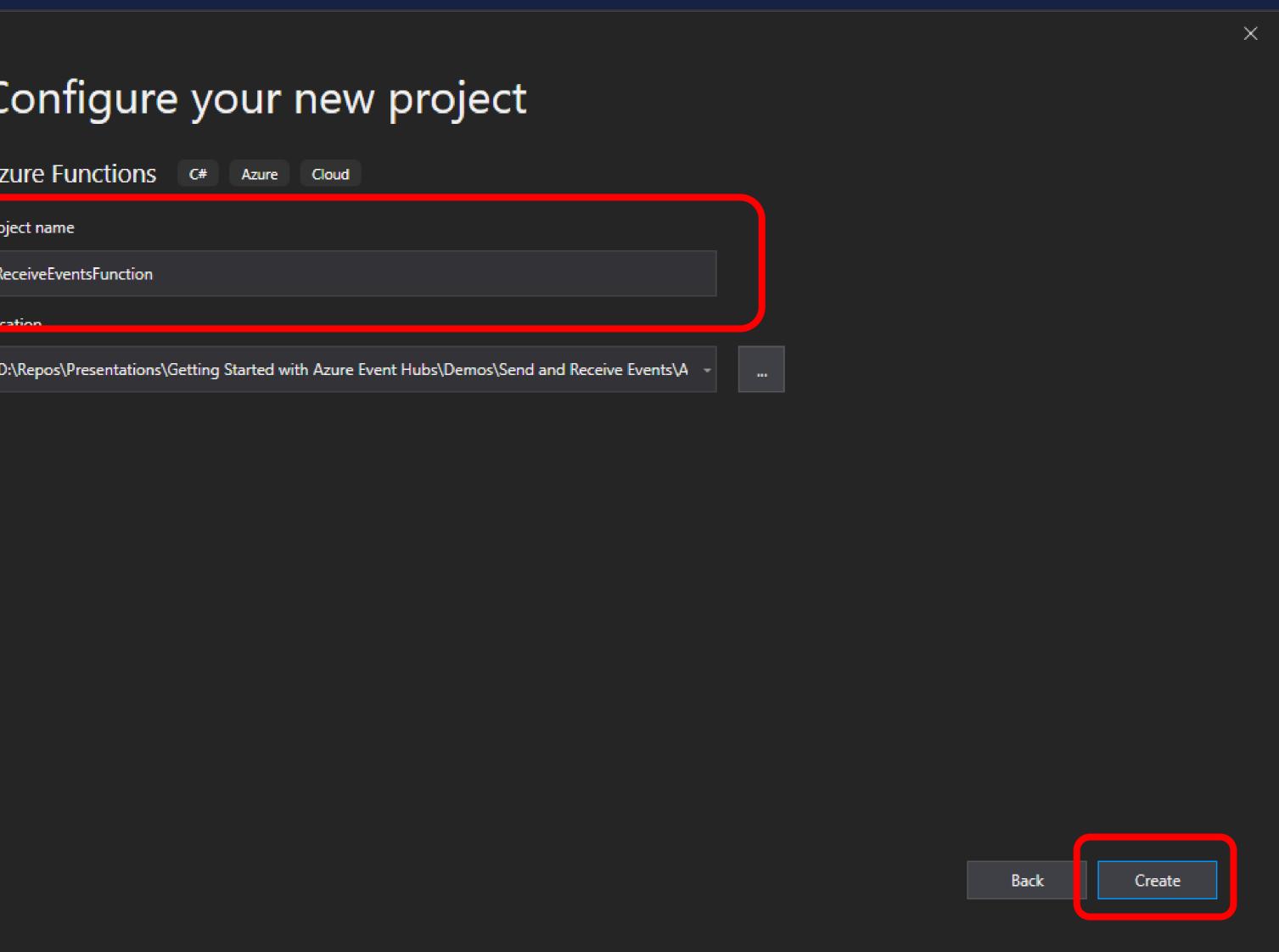
C#

				×
ctions		× -		<u>C</u> lear
	- All <u>P</u> latforms	÷	All Project <u>T</u> ypes	÷
	e an Azure Function project. Doud			
	Not finding what you're io Install more tools and f	ooking for? features		ext



Configure your new project

Azure Functions	C#	Azure	Cloud	
Project name				
ReceiveEventsFunction				
Location				
				 10





Create a new Azure Functions Application

Azure Functions v2 (.NET Core)



Empty

Creates an Azure Function project with no triggers. Function triggers can be added during development.



Blob trigger

A C# function that will be run whenever a blob is added to a specified container.



Cosmos DB Trigger

A C# function that will be run whenever documents change in a document collection.



Event Grid trigger

A C# function that will be run whenever an event orid receives a new even



Event Hub trigger

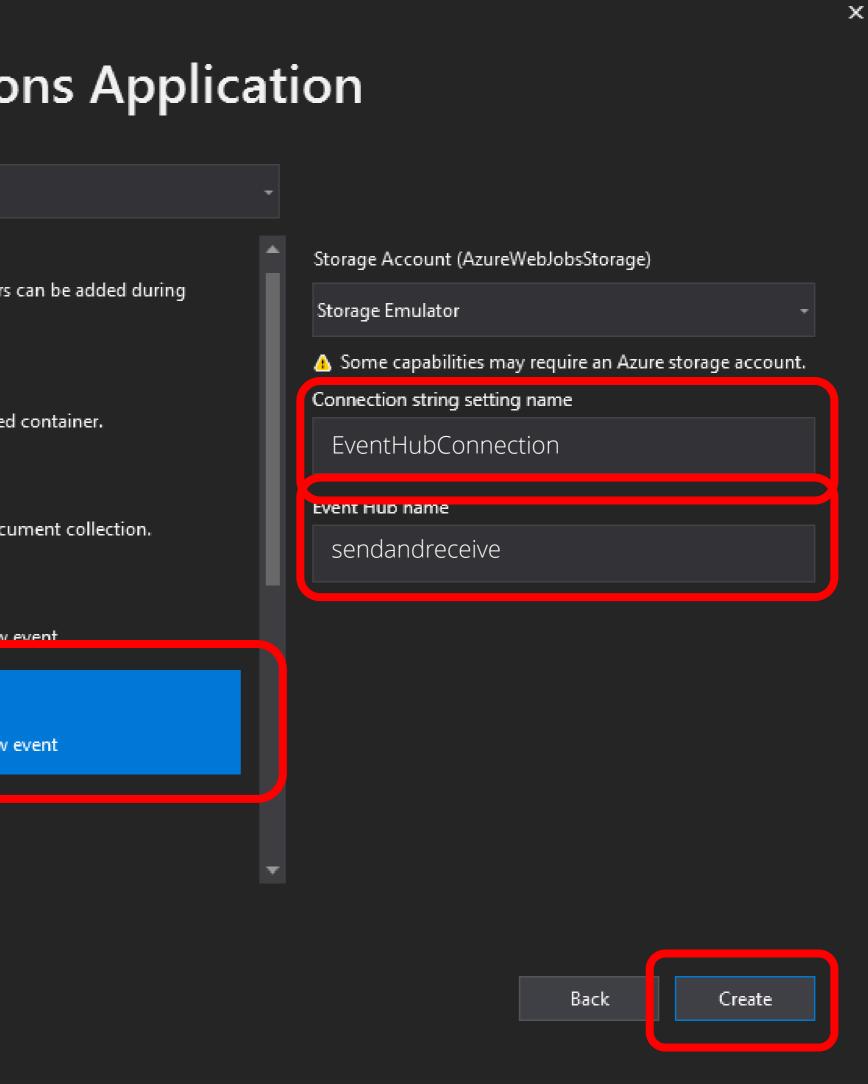
A C# function that will be run whenever an event hub receives a new event



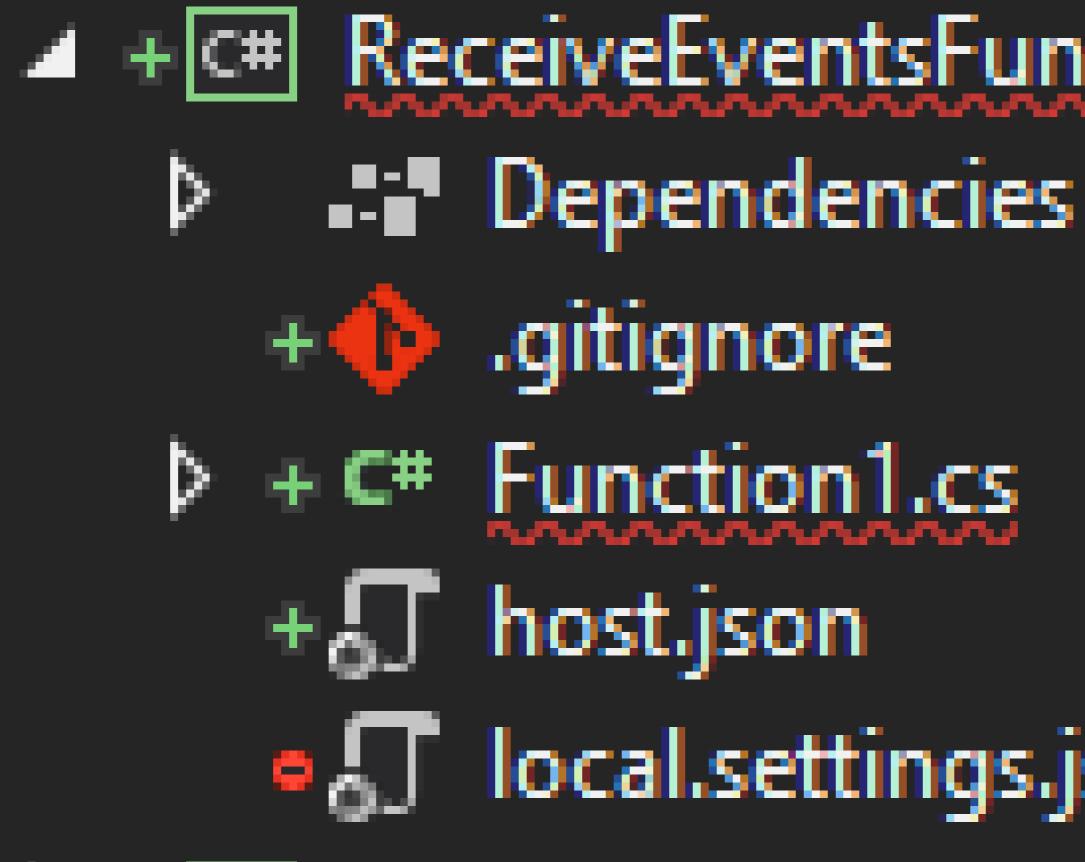
hπp trigger

A C# function that will be run whenever it receives an HTTP request

Get started with Azure Function:







+ C# ReceiveEventsFunction

C# Function1.cs

host.json

Iocal.settings.json



Write the Code for the Azure Function Trigger Azure Function from Event Hub [FunctionName("ReceiveEvents")] public static async Task Run([EventHubTrigger("sendandreceive", Connection = "EventHubConnection")] EventData[] events, ILogger log) {

}



Write the Code for the Azure Function Trigger Azure Function from Event Hub var exceptions = new List<Exception>();

foreach (EventData eventData in events) {



```
Write the Code for the Azure Function
Trigger Azure Function from Event Hub
try
 string messageBody = Encoding.UTF8.GetString(eventData.Body.Array,
 // Replace these two lines with your processing logic.
 await Task.Yield();
catch (Exception e)
 // processed again later.
```

```
exceptions.Add(e);
```

eventData.Body.Offset, eventData.Body.Count);

log.LogInformation(\$"C# Event Hub trigger function processed a message: {messageBody}");

// We need to keep processing the rest of the batch - capture this exception and continue. // Also, consider capturing details of the message that failed processing so it can be





Write the Code for the Azure Function Trigger Azure Function from Event Hub

// Once processing of the batch is complete, if any messages in the batch failed
// processing throw an exception so that there is a record of the failure.

if (exceptions.Count > 1)
 throw new AggregateException(exceptions);

if (exceptions.Count == 1)
 throw exceptions.Single();



Write the Code for the Azure Function Trigger Azure Function from Event Hub

```
[FunctionName("ReceiveEvents")]
public static async Task Run(
    [EventHubTrigger("sendandreceive", Connection = "EventHubConnection")] EventData[] events,
    ILogger log)
 var exceptions = new List<Exception>();
 foreach (EventData eventData in events)
   try
     string messageBody = Encoding.UTF8.GetString(eventData.Body.Array, eventData.Body.Offset, eventData.Body.Count);
     // Replace these two lines with your processing logic.
      log.LogInformation($"C# Event Hub trigger function processed a message: {messageBody}");
      await Task.Yield();
    catch (Exception e)
     // We need to keep processing the rest of the batch - capture this exception and continue.
     // Also, consider capturing details of the message that failed processing so it can be processed again later.
     exceptions.Add(e);
 // Once processing of the batch is complete, if any messages in the batch failed
 // processing throw an exception so that there is a record of the failure.
 if (exceptions.Count > 1)
    throw new AggregateException(exceptions);
 if (exceptions.Count == 1)
    throw exceptions.Single();
```



Run Multiple Azure Functions Together Trigger Azure Function from Event Hub

ReceiveEventsFunction	₽ ×	
Application Build	Configuration: N/A	∼ Pla
Build Events Package	Profile:	ReceiveEventsFu
Debug	Launch:	Project
Signing Code Analysis Resources	Application arguments:	host startpaus
	Working directory:	Absolute path to
	Environment variables:	Name \
	Enable native code debugging	

Platform: N/A	
sFunction ~	New Delete
¥	
ause-on-errorport 5862	
to working directory	Browse
Value	
	Add
	Remove



Trigger Azure Logic App from Event Hub Getting Started with Azure Event Hubs

@ChadGreen



Real-Time Dashboard Getting Started with Azure Event Hubs



More Details Real-Time Dashboard

Build a successful remote agile
team in three easy steps!
Paul Gower

Room: Aspiration

How Functional Programming Made Me a Better Developer Cameron Presley

Room: Discovery D

Our journey towards Immersive learning with a Dojo

Lisa Turnbull, Alex Basa, Aaron Cox

Room: Prosperity

Delivering Real-Time Data with

Azure

Chad Green

Room: Discovery A

New SQL Server Features for Developers Hasan Savran

Room: Imagination A+B

Building a Twitter bot that does "things" Chris Hammond

Room: Success

01:00 PM - 02:00 PM

GraphQL with Javascript Bryan Nehl

Hello, I'm Average! Dean Furness

Room: Discovery B

Room: Discovery C

My House Runs .NET - Smart Home Automation with .NET Core and Azure

Cam Soper

Room: Imagination C+D

Resilient Fault Tolerance with the Polly Project Joe Gardner

Room: Insight

How we shifted database technologies to overcome challenges of global pricing. Michelle Keller, Kevin Ou, Jayson Vincent

Room: Vision





Frequently Asked Questions Getting Started with Azure Event Hubs



When do I create a new namespace vs using an existing namespace? Frequently Asked Questions

- Different Subscription
- New Region
- Distinct Capacity Allocation



What is the difference between the Basic and Standard tiers? Frequently Asked Questions

- Longer event retention
- Additional brokered connections
- Multiple consumer groups
- Capture
- Kafka

\bigcup





What is the maximum retention period for events? Frequently Asked Questions

• Basic Tier – 24 hours • Standard Tier – 7 days

Event Hubs Capture



Do throughput units apply to all event hubs in a namespace? Frequently Asked Questions

- Ingress: 1-Mb or 1,000 events
- Egress: 2-Mb or 4,096 events
- Event Storage: 84-Gb





How are throughput units billed? Frequently Asked Questions

• Hourly Charged on highest value over hour





How does the Auto-Inflate feature work? Frequently Asked Questions

- Scales up the throughput units
- Cost effective
- No additional cost
- Does not scale down





How are throughput limits enforced? Frequently Asked Questions

Senders/Receivers receive errors
Ingress and Egress limits are separate



Is there a limit on the number of throughput units that can be reserved/selected?

Frequently Asked Questions

20-TUs within the portal

Ingress: 20-Mb or 20,000 events Egress: 40-Mb or 81,920 events

Getting Started with Azure Event Hubs



100)

Is there a limit on the number of throughput units that can be reserved/selected/

Frequently Asked Questions

- 20-TUs within the portal
- 40-TUs via support ticket

Ingress: 40-Mb or 40,000 events Egress: 80-Mb or 163,840 events





Is there a limit on the number of throughput units that can be reserved/selected/

Frequently Asked Questions

- 20-TUs within the portal
- 40-TUs via support ticket
- Need More? Event Hubs Cluster

Ingress: 1.05-Gb or 34,000 events Egress: 1.05-Gb or 34,000 events

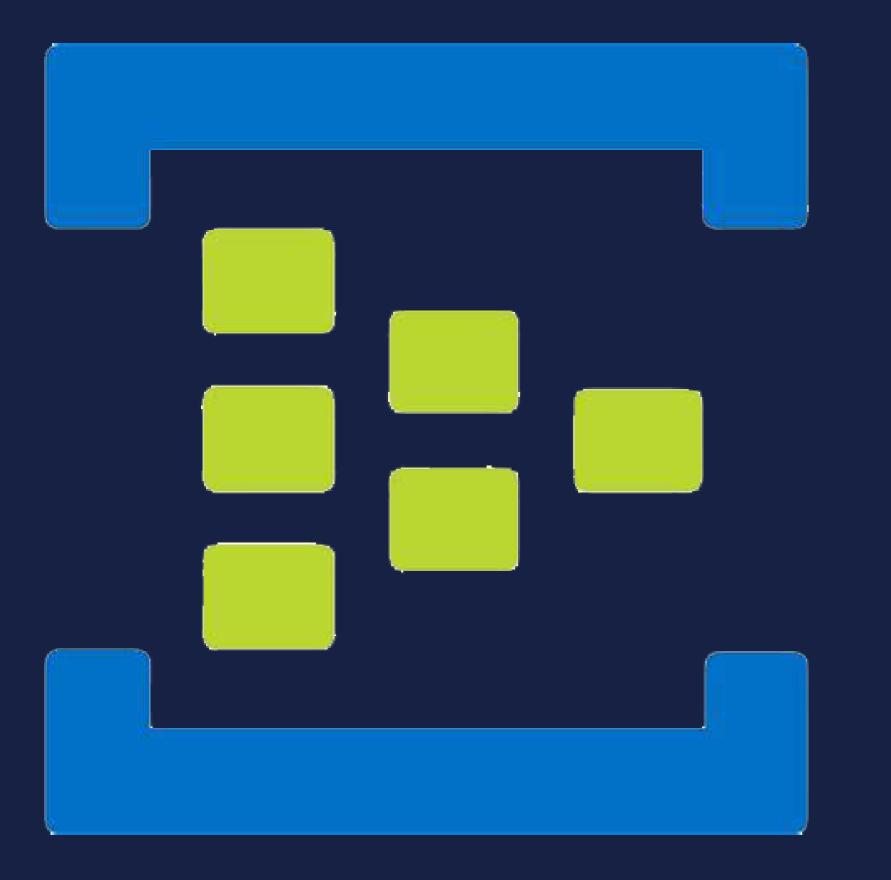




Summary Getting Started with Azure Event Hubs



Azure Event Hubs Summary



Fully managed, real-time data ingestion service that is simple, trusted, and scalable.

Simple Secure Scalable pen



Demonstrations Summary

- Setup Azure Event Hubs
- Send and Receive Events in .NET Core
- Send Event from an Azure Function
- Trigger Azure Function
- Trigger Azure Logic App
- Real-Time Dashboard



Frequently Asked Questions Summary

- ulletallocation
- container groups, capture, and Kafka integration
- Maximum retention period is 24-hours/7-days ightarrow
- egress events
- Throughput units billed at highest rate per hour
- Auto-inflate will scale up throughput units ightarrow
- Event Hubs throttles ingress and egress limits separately ullet
- You can have up to 20/40-TUs before going to Event Hub Clusters

Create a new namespace when needing a different region or distinct capacity

• Standard tier gets you additional features including longer retention, multiple

A throughput unit is capable of 1-Mb/1,000 events ingress and 2-Mb/4,096





ScholarRx

Kine And Street A in chadwickegreen ChadGreen ChadGreen.com



@ChadGreen

Chad Green Director of Software Development

