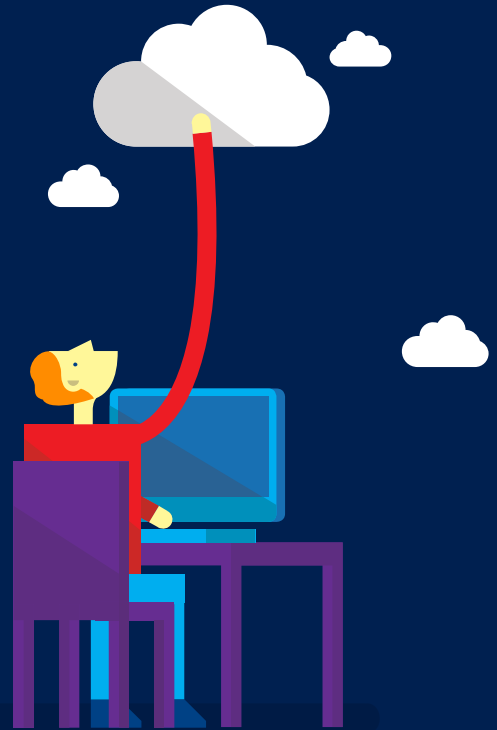


Real Time Analytics with Event Hubs and Azure Stream Analytics

Chris Testa-O'Neill



Lab:

Creating an Event Hub

Microsoft Azure



In this lab, you will create an Event Hub.

What you need for this lab

- An Azure Subscription

Create an event hub

Take the following steps to create an event hub namespace:

1. In the [Azure portal](#), select **NEW**, type **Event Hubs**, and then select **Event Hubs** from the resulting search. Then select **Create**.
2. Provide a name for the event hub, and then create a resource group. Specify **xx-socialtwitter-eh** and **xx-socialtwitter-rg** respectively, XX- represent your initials to ensure uniqueness of the Event Hub name and Resource Group name,
3. Click the checkbox to **Pin to the dashboard**, then select the **Create** button.

Take the following steps to create an event hub

1. After the deployment is complete, click the **xx-socialtwitter-eh** event hub on the dashboard.
2. Then, under **Entities**, select **Event Hubs**.
3. To create the event hub, select the **+ Event Hub** button. Provide the name **socialtwitter-eh**, and then select **Create**.
4. To grant access to the event hub, we need to create a shared access policy. Select the **socialtwitter-eh** event hub when it appears, and then, under **Settings**, select **Shared access policies**.
5. Under **Shared access policies**, create a policy with **MANAGE** permissions by selecting **+ Add**. Give the policy the name of **socialtwitter-eh-sap**, check **MANAGE**, and then select **Create**.
6. Select your new policy after it has been created, and then select the copy button for the **CONNECTION STRING - PRIMARY KEY** entity.
7. Paste the **CONNECTION STRING - PRIMARY KEY** entity into Notepad, this is needed later in the exercise.
8. Leave all windows open

This lab is complete

Lab:

Configure and start the Twitter client application

Microsoft Azure



In this lab, you will configure and start the Twitter client application.

What you need for this lab

- A twitter account

Generate a Twitter Oauth access token

Follow these steps to set up a Twitter application:

1. Open a new tab in your **browser** and go to <https://apps.twitter.com/> and login with your twitter account.
2. In “**Application Management**” page, to the right of “**Twitter Apps**” click on the button “**create new app**”.
3. In the “**Create an Application Page**”, provide a **name**, **description** and **website** address for the application. Then accept the terms and conditions, and click “**Create your Twitter Application**”.

A new page will appear with the title of you application name

1. Click on the page tab named “**Keys and Access Tokens**”
2. Click on the “**Create my access token**” button, and an authorized access token and secret will be generated for your account and the current application.
3. Copy the following keys to **Notepad** file you had previously opened:
 - a. Consumer Key (API Key)
 - b. Consumer Secret (API Secret)
 - c. Access Token
 - d. Access Token Secret

Set up the application

Follow these steps to set up the application:

1. [Download the TwitterWPFClient.zip](#), and then unzip it.
2. Run the **TwitterWPFClient.exe** application
3. Then enter your data in the sublist below from **Notepad** into the **TwitterWPFClient.exe** application. Optional: You can add these settings to the **TwitterWPFClient.exe.config** file to persist these settings, so they appear when you open up the **TwitterWPFClient.exe** application
 - a. **Twitter Consumer API Key**
 - b. **Twitter Consumer Secret**
 - c. **Twitter Access Token**
 - d. **Twitter Access Secret**
 - e. Azure **event hub name** of **socialtwitter-eh**.
 - f. **Azure Event Hub Connection string** of Endpoint=sb://xx-socialtwitter-eh.servicebus.windows.net;/SharedAccessKeyName=cto-social-eh-sap;SharedAccessKey= <Paste in the **CONNECTION STRING - PRIMARY KEY** from Notepad> NB: IT IS IMPORTANT TO REMOVE ;EntityPath=socialtwitter-eh AT THE END OF THE STRING.
4. Finally, define which **keywords** you want to determine sentiment for. An example could be "Brexit", or you can add multiple keywords separated by a comma.
5. Click the **play** button in the **TwitterWPFClient.exe** application, wait until you see tweets appearing in the console and leave the application running.

Keep all applications running

Lab:

Provision a Stream Analytics job

Microsoft Azure



In this lab, you will provision a Streaming Analytics Job.

What you need for this lab

- An Azure Subscription

To provision a Stream Analytics job, take the following steps:

1. In the [Azure portal](#), select **NEW**, type **STREAM ANALYTICS JOB**, and then select the Stream Analytics Job tile result.
2. Specify the following values, and then select **CREATE**.
 - a. **JOB NAME**: Enter a job name of **socialtwitter-asa-job**.
 - b. **Resource group**: Select the resource group **xx-socialtwitter-rg**.
3. Click the checkbox next to **Pin to dashboard**, and then click **Create**.
4. After the job has been created, it opens in the Azure portal.

Leave all Applications open

Lab:

Specify the a Stream Analytics job input

Microsoft Azure



In this lab, you will provision a Streaming Analytics Job input.

What you need for this lab

- An Azure Subscription

To provision a Stream Analytics job input, take the following steps:

1. In your Stream Analytics job, in **Job Topology** in the middle of the job pane, click **INPUTS**. Then click **+ADD**.
2. Next, the portal prompts you for some of the following information. Most of the default values work, and are defined here:
 - a. **INPUT ALIAS**: Enter a name for this job input as **TwitterStream**. You use this name in the query later.
 - b. **Source Type**: Data Stream
 - c. **Source**: Event Hubs
 - d. **Import Option**: Use an Event Hub from Current Subscription
 - e. **Service Bus Namespace**: xx-socialtwitter-eh
 - f. **EVENT HUB NAME**: socialtwitter-eh
 - g. **EVENT HUB POLICY NAME**: socialtwitter-eh-sap
 - h. Leave remaining options to their default
3. Select the **Create** button.
4. Once completed, the **TwitterStream** Input job will appear under the input window. **Close** the input widow to return to the **Streaming Analytics Job Page**

Leave all applications open

Lab:

Defining a Stream Analytics query

Microsoft Azure



In this lab, you will create a Streaming Analytics query.

What you need for this lab

- An Azure Subscription

To provision a Stream Analytics query, take the following steps:

1. In your Stream Analytics job, in **Job Topology** in the middle of the job pane, select **Query**.
2. Replace the following query in the code editor:

```
SELECT
    *
INTO
    [YourOutputAlias]
FROM
    [YourInputAlias]
```

3. Replace with

```
SELECT
    [Topic]
    ,[SentimentScore]
    ,[created_at]
    ,[Author]
    ,[text]
```


FROM TwitterStream

3. Select **Save**.
4. **Close** the Query window to return to the **Stream Analytics job** page.

Leave all applications open

Lab:

Specify the a Stream Analytics job input

Microsoft Azure



In this lab, you will provision a Streaming Analytics Job output.

What you need for this lab

- An Azure Subscription

To provision a Stream Analytics job output, take the following steps:

1. In your Stream Analytics job, click **OUTPUT** in **Job Topology**, and then click **+ADD**.
2. Type or select the following values in the pane:
 - a. **OUTPUT ALIAS**: Enter a friendly name for this job output. Type in the name **Output**
 - b. **Sink**: Select **Blob storage**.
 - c. **IMPORT OPTION**: Use **Blob stotage from the current subscription**
 - d. **STORAGE ACCOUNT**: Select **Create a new storage account**.
 - e. **STORAGE account**: Give the new storage account a name of **xxsocialtwittersa**
 - f. **CONTAINER**: Give the new container a name of **twitter**
 - g. Leave the rest of the entries as default values. Finally, select **Create**.

Note: this will take a couple of minutes as the storage account is being created

3. Then **close** the output screen to return to the Stream **Analytics job** page

Leave all applications running

Lab:

Start the Stream Analytics job

Microsoft Azure



In this lab, you will provision a Streaming Analytics Job output.

What you need for this lab

- An Azure Subscription

To start the job, take the following steps:

1. In the job overview pane, at the top of the page, select **START**.
2. In the dialog box that opens, select **NOW**, and then select the **CHECK** button on the bottom of the dialog box.
3. The job status changes first to **Starting** and then to **Running**.
4. Leave this running for 30 minutes so that data can be captured
5. NB: You will be able to view files in the **xxsocialtwittersa** storage account in the **twitter** container.

This information can then be used within PowerBI or Machine Learning

Resources

Overview	http://azure.microsoft.com/en-us/services/stream-analytics/
Documentation	http://azure.microsoft.com/en-us/documentation/services/stream-analytics/
Samples	https://github.com/streamanalytics/samples
Blog	http://blogs.msdn.com/b/streamanalytics/rss.aspx
Twitter	https://twitter.com/AzureStreaming
Discussion Forum	https://social.msdn.microsoft.com/Forums/en-US/home?forum=AzureStreamAnalytics
Vote for Ideas	http://feedback.azure.com/forums/270577-azure-stream-analytics
Email	samacha@Microsoft.com

56:30

- Thank you and ask for questions
- Then flip to closing slides



There are more learning options as shown in the links on the right, including:

- Online training
- Videos
- Instructor Led training
- Blogs
- Cortana Intelligence Gallery

Click on the graphics to explore more learning options from your Advanced Analytics and Data Science team, including:

- Online training
- Videos
- Instructor Led training
- Blogs
- Cortana Intelligence Gallery

Thank you!

@ctesta_oneill

<https://ctestaoneill.wordpress.com>

<http://learnanalytics.microsoft.com>

This section of the course will cover:

- Cortana Intelligence in a sentence
- The team data science process
- The Cortana Intelligence platform
- Summarizing Cortana Intelligence



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