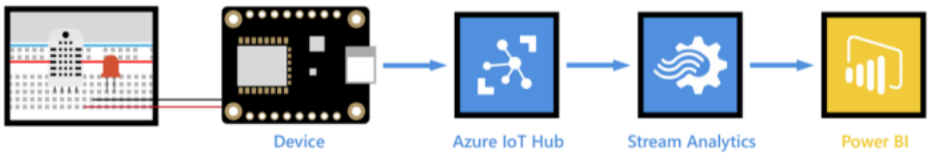
Emergent x Microsoft: 2-day Workshop Series Workshop

Tom Claes – CSA Core

Real-time visualization using Microsoft Power BI – Hot Path



1) Add a consumer group to your IoT Hub
    a. In the Azure Portal, select the IoT Hub created for this solution
    b. On the left pane, select Built-in endpoints. Enter a name for your new consumer group in the text box under Consumer groups
    c. Click anywhere outside the text box to save the consumer group
2) Add an input to the Stream Analytics job
    a. Open the Stram Analytics job created in the environment
    b. Under Job topology, select Inputs
    c. In the Inputs pane, select Add stream input, then select IoT Hub from the drop-down list
    d. Select *save*
3) Under Job topology, select Outputs
    a. Under Job topology, select Outputs
    b. In the Outputs pane, select Add, and then select Power BI from the drop-down list
    c. On the Power BI - New output pane, select Authorize and follow the prompts to sign into your Power BI account
    d. Select *save*
4) Configure the query of the Stream Analytics job
    a. Under Job topology, select Query
    b. Replace [YourInputAlias] with the input alias of the job
    c. Replace [YourOutputAlias] with the output alias of the job
    d. Add following snipper:

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

    e. Select save query
5) Run the Stream Analytics job

Next: Power BI

1) Sign into your Power BI account and select Power BI service from the top menu
2) Select the workspace you used from the side menu, My Workspace.
3) Under the All tab or the Datasets + dataflows tab, you should see the dataset that you specified when you created the output for the Stream Analytics job

4) Hover over the dataset you created, select More options menu (the three dots to the right of the dataset name), and then select Create report
5) Create a dashboard based on your own preferences using the options provided by Power BI

Store data inside Azure Data Lake Storage – Cold Path

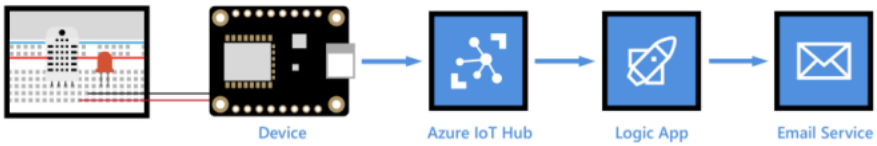
Add new output paths to the stream analytics job.

a. Under Job topology, select Outputs
b. In the Outputs pane, select Add, and then select Blob Storage/ADLS Gen2 from the drop-down list. Follow the configuration steps.

Use following query:

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

Real-time alerting using Azure Logic Apps



1) Add a Service Bus queue to the namespace
   a. Go to the portal and open the Service Bus Namespace created in the beginning
   b. On the Service Bus Namespace pane, select + Queue
   c. Enter a name for the queue and then select Create. When the queue has been successfully created, the Create queue pane closes
   d. Back on the Service Bus Namespace pane, under Entities, select Queues. Open the Service Bus queue from the list, and then select Shared access policies > + Add
   e. Enter a name for the policy, check Manage, and then select Create
2) Add a custom endpoint and routing rule to your IoT hub
   a. Open the IoT Hub created in the beginning
   b. Under Messaging, select Message routing. On the Message routing pane, select the Custom endpoints tab and then select + Add. From the drop-down list, select Service bus queue
   c. On the Add a service bus endpoint pane, enter the following information:
      Endpoint name: The name of the endpoint.
      Service bus namespace: Select the namespace you created.
      Service bus queue: Select the queue you created
   d. Select *Create*
3) Add a routing rule: send email when door is open
   a. Back on the Message routing pane, select the Routes tab and then select + Add

```
$body.Temperature > 23
```

   b. Select *Save* and close the Message routing pane
4) Configure the Logic App
   a. Open the Logic App created in the beginning
   b. In the Logic Apps Designer, scroll down to Templates and select Blank Logic App
   c. Select the All tab and then select Service Bus
   d. Under Triggers, select When one or more messages arrive in a queue (auto-complete)
   e. Create a service bus connection
      i. Enter a connection name and select your Service Bus namespace from the list
      ii. Select the service bus policy (RootManageSharedAccessKey). Then select Create
      iii. On the final screen, for Queue name, select the queue that you created from the drop-down. Enter 175 for Maximum message count
      iv. Select Save on the menu at the top of the Logic Apps Designer to save your changes
5) Configure the logic app action
   a. Select New step. In Choose an action, select the All tab
   b. Search for “Office 365 Outlook”
   c. Select “Send and email (V2)” as action
   d. Sign in into your own outlook account
   e. Fill in the body and subject of the message according to your preferences a well as the contact details of the recipient
   f. Select *Save*