

# Database Management Systems

Lecture 6

Azure Machine Learning\*

Azure Stream Analytics\*

\* not among the exam topics

# Sentiment Analysis

## Azure Machine Learning and Azure Stream Analytics

# Job

\* configure the output

The screenshot displays the Microsoft Azure portal interface. The left-hand navigation pane lists various services, with 'samljob' selected under the 'FAVORITES' section. The main content area is titled 'samljob - Outputs' and shows a list of resources. A search bar is present, and a list of resources is displayed with columns for NAME, LOCATION, and STATUS. The 'samljob' resource is highlighted. On the right side, a dropdown menu is open, showing a list of output destinations: Event Hub, SQL Database, Blob storage, Table storage, Service Bus topic, Service Bus queue, Cosmos DB, Power BI, and Data Lake Storage Gen1. The 'Blob storage' option is currently selected and highlighted.

# Job

\* configure the output

- *Event serialization format -> CSV*

The screenshot displays the Azure portal interface for configuring a Stream Analytics job output. The left sidebar shows the navigation menu with 'All resources' selected. The main pane shows the 'samljob - Outputs' configuration page. The 'Outputs' section is active, showing a table with one output named 'samloutput'. The 'Blob storage' configuration panel is open on the right, showing the following settings:

- Output alias:** samloutput
- Provide Blob storage settings manually:** ☒ Select Blob storage from your subscriptions
- Subscription:** Pay-As-You-Go
- Storage account:** samlsa
- Storage account key:** [Redacted]
- Container:** ☒ Use existing (samlcontainer)
- Path pattern:** [Empty]
- Date format:** YYYY/MM/DD
- Time format:** HH
- Event serialization format:** CSV
- Delimiter:** comma (,)

The 'Save' button is visible at the bottom of the configuration panel.

# Job

\* add function

Functions

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Azure ML Service

Javascript UDF

Javascript UDA

Azure ML Studio

Parameters

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e problems

Azure ML Studio

# Job

## \* add function

- *Provide Azure Machine Learning function settings manually*
  - use the *URL* and *Key* from the Excel workbook (*Web Service URL* and *Access Key*)

The screenshot displays the Azure portal interface for configuring a function. On the left, a sidebar lists various services, with 'Functions' highlighted. The main area shows the 'samjob - Functions' page, which includes a search bar, a table of functions (currently empty), and a list of settings on the right. The 'Azure Machine Learning function' configuration panel is open, showing the following fields:

- Function alias:** sentiment
- Provide Azure Machine Learning function settings manually:** Selected
- Subscription:** Subscription information not needed
- URL:** https://ussouthcentral.services.azureml.net/workspaces/bbf7
- Key:** [Redacted]

At the bottom right, there is a 'Save' button and an information icon with a note: 'If the chosen resource and the stream analytics job are located in different regions, you will be billed to move data between regions.'

# Job

## \* query

- define query that calls the function on each input tweet; *Save*

Home > All resources > samJob - Query

samJob - Query  
Stream Analytics job

Search (Ctrl+/)

Save Discard Test

Inputs (1)  
inputdata

Outputs (1)  
samJoboutput

Need help with your query? Check out some of the most common Stream Analytics query patterns [here](#).

```
1 WITH sent AS
2 (SELECT text, sentiment(text) AS rezultat
3 FROM inputdata)
4
5 SELECT text, rezultat.[Score], rezultat.[Sentiment]
6 INTO samJoboutput
7 FROM sent
```

WITH sent AS  
(SELECT text, sentiment(text) AS rezultat  
FROM inputdata)

SELECT text, rezultat.[Score], rezultat.[Sentiment]  
INTO samJoboutput  
FROM sent

Your query could be put in logs that are in a potentially different geography.  
Missing some language constructs? [Let us know!](#) (Powered by UserVoice - [Privacy Policy](#))

# Job

## \* start job

- *Start*
- *Job output start time -> Custom -> Start time:  
date when the input .csv file was loaded – one day*

The screenshot displays the Azure portal interface for configuring a Stream Analytics job. The left sidebar shows the navigation menu with options like 'Create a resource', 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main content area is divided into three panes. The left pane shows 'All resources' with a filter by name and a list of resources including 'samIjob' and 'samIsa'. The middle pane shows the 'Overview' tab for 'samIjob', displaying details such as 'Resource group (change) samIrg', 'Status Created', 'Location South Central US', 'Subscription (change) Pay-As-You-Go', and 'Subscription ID 37066c72-defe-4c6a-b1bd-875c3cfeff91'. The right pane shows the 'Start job' configuration, including 'Job output start time' (Now, Custom, When last stopped), 'Start time' (2019-04-25, 6:52:37 PM), 'Inputs' (1 inputdata), 'Outputs' (1 samIoutput), and a 'Query' editor with a SQL query: 'WITH (SELECT FROM ... SELECT INTO FROM ...'. A 'Start' button is visible at the bottom right.



# Check Output

- container
  - download generated file

Home > All resources > samlsa - Blobs > samlcontainer

### samlcontainer

Container

Search (Ctrl+J)

Upload Refresh Change access level Delete Acquire lease Break lease View snapshots Create snapshot

Authentication method: Access key (Switch to Azure AD User Account)  
Location: samlcontainer

Search blobs by prefix (case-sensitive) ☐ Show deleted blobs

NAME	MODIFIED	ACCESS TIER	BLOB TYPE	SIZE	LEASE STATE
<input type="checkbox"/> 430852246_9910bc3f97d34d92b54c661a67511314_1.csv	4/26/2019, 7:04:29 PM	Hot (Inferred)	Block blob	424 B	Available ...
<input type="checkbox"/> input_saml.csv	4/26/2019, 2:56:00 PM	Hot (Inferred)	Block blob	100 B	Available ...

# Check Output

- container
  - download generated file

<i>text</i>	<i>score</i>	<i>sentiment</i>
<i>They love ice cream</i>	<i>0.665407181</i>	<i>positive</i>
<i>The sky is blue</i>	<i>0.574048638</i>	<i>neutral</i>
<i>Machine Learning is cool</i>	<i>0.620857418</i>	<i>positive</i>
<i>Machine Learning is not cool</i>	<i>0.306780905</i>	<i>negative</i>

# Eliminate Resources

Home > Resource groups

## Resource groups

Default Directory

+ Add | Edit columns | Refresh | Assign tags | Export to CSV

**Subscriptions:** Pay-As-You-Go

Filter by name... | All locations | All tags | No grouping

1 of 1 items selected

<input checked="" type="checkbox"/>	NAME ↑↓	SUBSCRIPTION ↑↓	LOCATION ↑↓	
<input checked="" type="checkbox"/>	samlrg	Pay-As-You-Go	South Central	...

Delete resource group

# Eliminate Resources

The screenshot shows the Azure portal interface. On the left is a dark sidebar with navigation links: 'Create a resource', 'Home', 'Dashboard', 'All services', 'FAVORITES', 'All resources', 'Resource groups', 'App Services', 'Function Apps', 'SQL databases', 'Azure Cosmos DB', 'Virtual machines', 'Load balancers', 'Storage accounts', 'Virtual networks', 'Azure Active Directory', 'Monitor', 'Advisor', 'Security Center', 'Cost Management + Billing', and 'Help + support'.

The main content area has a breadcrumb trail: 'Home > Resource groups > Are you sure you want to delete "samlrg"?'. Below this is a 'Resource groups' section with a 'Filter by name...' input and a list of resource groups containing 'samlrg'.

Overlaid on the right is a confirmation dialog titled 'Are you sure you want to delete "samlrg"?'. It features a warning icon and the text: 'Warning! Deleting the "samlrg" resource group is irreversible. The action you're about to take can't be undone. Going further will delete this resource group and all the resources in it permanently.' Below this is a text input field labeled 'TYPE THE RESOURCE GROUP NAME:' containing 'samlrg' with a green checkmark. Underneath is the 'AFFECTED RESOURCES' section, stating 'There are 2 resources in this resource group that will be deleted.' and displaying a table of resources.

NAME	TYPE	LOCATION
samljob	Stream Analytics job	South Central US
samlsa	Storage account	South Central US

At the bottom of the dialog are 'Delete' and 'Cancel' buttons.