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Logic App

# What is Logic App?

[Azure Logic Apps](https://azure.microsoft.com/services/logic-apps) is a cloud-based platform for creating and running automated [*workflows*](https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-overview#workflow)that integrate your apps, data, services, and systems. With this platform, you can quickly develop highly scalable integration solutions for your enterprise and business-to-business (B2B) scenarios. As a member of [Azure Integration Services](https://azure.microsoft.com/product-categories/integration/), Azure Logic Apps simplifies the way that you connect legacy, modern, and cutting-edge systems across cloud, on premises, and hybrid environments.

The following list describes just a few example tasks, business processes, and workloads that you can automate using the Azure Logic Apps service:

* Schedule and send email notifications using Office 365 when a specific event happens, for example, a new file is uploaded.
* Route and process customer orders across on-premises systems and cloud services.
* Move uploaded files from an SFTP or FTP server to Azure Storage.
* Monitor tweets, analyze the sentiment, and create alerts or tasks for items that need review.

For more information about the ways workflows can access and work with apps, data, services, and systems, review the following documentation:

* [Connectors for Azure Logic Apps](https://docs.microsoft.com/en-us/azure/connectors/apis-list)
* [Managed connectors for Azure Logic Apps](https://docs.microsoft.com/en-us/azure/connectors/built-in)
* [Built-in triggers and actions for Azure Logic Apps](https://docs.microsoft.com/en-us/azure/connectors/managed)
* [B2B enterprise integration solutions with Azure Logic Apps](https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-enterprise-integration-overview)

Key Terms used in the hackathon :

**Logic app**

A *logic app* is the Azure resource you create when you want to develop a workflow.

**Workflow**

A *workflow* is a series of steps that defines a task or process. Each workflow starts with a single trigger, after which you must add one or more actions

**Trigger**

A *trigger* is always the first step in any workflow and specifies the condition for running any further steps in that workflow. For example, a trigger event might be getting an email in your inbox or detecting a new file in a storage account.

**Action**

A *trigger* is always the first step in any workflow and specifies the condition for running any further steps in that workflow. For example, a trigger event might be getting an email in your inbox or detecting a new file in a storage account.

**Built-in operations**

A *built-in* trigger or action is an operation that runs natively in Azure Logic Apps. For example, built-in operations provide ways for you to control your workflow's schedule or structure, run your own code, manage and manipulate data, send or receive requests to an endpoint, and complete other tasks in your workflow.

**How Logic app works**

In a logic app, each workflow always starts with a single [trigger](https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-overview#trigger). A trigger fires when a condition is met, for example, when a specific event happens or when data meets specific criteria. Many triggers include [scheduling capabilities](https://docs.microsoft.com/en-us/azure/logic-apps/concepts-schedule-automated-recurring-tasks-workflows) that control how often your workflow runs. Following the trigger, one or more [actions](https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-overview#action) run operations that, for example, process, handle, or convert data that travels through the workflow, or that advance the workflow to the next step.

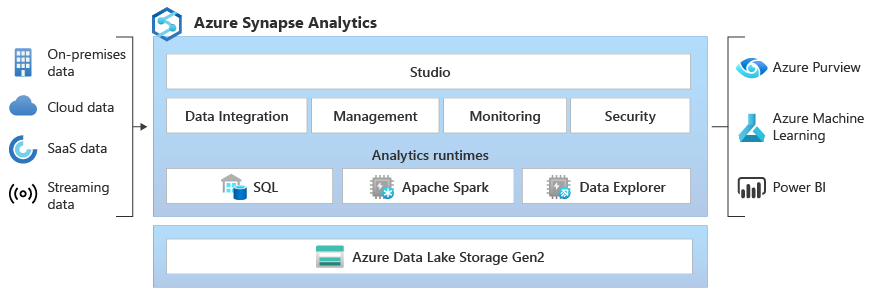
# Azure Cosmos DB

Today's applications are required to be highly responsive and always online. To achieve low latency and high availability, instances of these applications need to be deployed in datacenters that are close to their users. Applications need to respond in real time to large changes in usage at peak hours, store ever increasing volumes of data, and make this data available to users in milliseconds.

Azure Cosmos DB is a fully managed NoSQL database for modern app development. Single-digit millisecond response times, and automatic and instant scalability, guarantee speed at any scale. Business continuity is assured with [SLA-backed](https://azure.microsoft.com/support/legal/sla/cosmos-db) availability and enterprise-grade security. App development is faster and more productive thanks to turnkey multi region data distribution anywhere in the world, open source APIs and SDKs for popular languages. As a fully managed service, Azure Cosmos DB takes database administration off your hands with automatic management, updates and patching. It also handles capacity management with cost-effective serverless and automatic scaling options that respond to application needs to match capacity with demand.

# What is Azure Synapse Analytics?

**Azure Synapse** is an enterprise analytics service that accelerates time to insight across data warehouses and big data systems. Azure Synapse brings together the best of **SQL** technologies used in enterprise data warehousing, **Spark** technologies used for big data, **Data Explorer** for log and time series analytics, **Pipelines** for data integration and ETL/ELT, and deep integration with other Azure services such as **Power BI**, **CosmosDB**, and **AzureML**.



# Task 1 : Explore and understand the logic app

Navigate to the logic and click on designer

Graphical user interface

Description automatically generated with medium confidence

# Task 2 : Resolve connection errors

1. EventHub connection

**Graphical user interface, application

Description automatically generated**

Graphical user interface, application

Description automatically generated

**Use any name for the connection**

**Use Connection String** *Endpoint=sb://eventhub478817.servicebus.windows.net/;SharedAccessKeyName=RootManageSharedAccessKey;SharedAccessKey=jDQS0DCbIeYQUOsjnlOTROygzqBjqRPINLc1oSMYp7c*

**Ask the coach for the consumer group.**

Graphical user interface, text, application

Description automatically generated

1. Cosmos db connection

Graphical user interface, application

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

To find the account name and keys for cosmos DB find the cosmos DB resource in your resource group.

Graphical user interface, text, application

Description automatically generated with medium confidence

Copy and import the information to the logic app

Graphical user interface, text, application, email

Description automatically generated

Select **transactions** as your container

Graphical user interface, text, application, email

Description automatically generated

1. Update the next cosmos connection

Expand the conditions tab and navigate to True section then expand the for each and update the cosmos connection identical to previous one.

Graphical user interface, application, table

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

**Click on Save**

# Task 3 : Connectivity Test

Coaches can start streaming of simulated real time events that will trigger the logic app. Go back to the home page of logic app and check out the recent runs.

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, application

Description automatically generated

# **Task 4 : Verify that transaction are available in the Cosmos db.**

Open the cosmos DB home page

Graphical user interface, text, application, email

Description automatically generated

Click on the transaction container and verify the transactions.

Graphical user interface, application

Description automatically generated

# **Task 5 : Connect Cosmos with Synapse Analytical store**

Find the Synapse resource in the resource group and click to find the Synapse studio login page.

Graphical user interface, text, application, email

Description automatically generated

Click on the Data tab on the studio

Graphical user interface, text, application, website

Description automatically generated

Click on new sql database

Graphical user interface, application, Word

Description automatically generated

Graphical user interface, text, application

Description automatically generated

Create a new view

Graphical user interface, text, application

Description automatically generated

Use following script

CREATE VIEW [dbo].[finalreport]

    AS SELECT \* FROM

     OPENROWSET(

       'CosmosDB',

       'Account=cosmos478817;Database=SQLDatabase;Key=SbUVdZ34kWpbtuSXxPFc0dVupL4KdeIE3hcJYLXmWd60XteDux0vvxihLey4WZn7COFiPHSehLsxCgk1DDNw6w==',

       transactions) with (TransactionID VARCHAR(200), AccountNumber VARCHAR(200), Time VARCHAR(400), Date VARCHAR (400), ZipCustomer VARCHAR(200), VendorType VARCHAR(200), Device VARCHAR(200),Amount BIGINT, Method VARCHAR(200), Fraud BIT) as rows

Refresh the views section and you should be able to see the newly created view.

Graphical user interface, application

Description automatically generated

Right click on the view and select New sql script select top 100 rows.

Graphical user interface, application

Description automatically generated

Explore the dataset with charts

Table

Description automatically generated