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Day-7

## AZURE Data Factory

### 1. Creating SQL Server

Microsoft Azure

Search resources, services, and docs (G+/)

Home >

Microsoft.SQLServer.createServer\_a6c2a384ff8d4c4e927cc938e2d35ce | Overview

Deployment

Search

Delete Cancel Redeploy Download Refresh

Overview

Inputs

Outputs

Template

✓ Your deployment is complete

Deployment name : Microsoft.SQLServer.creat... Start time : 9/6/2023, 9:48:01 AM

Subscription : npunext-1680261359210 Correlation ID : 1fa9df4b-bf75-4bdb-8a34...

Resource group : azurergr

> Deployment details

< Next steps

Go to resource

Give feedback

Tell us about your experience with deployment

Deployment succeeded

Deployment 'Microsoft.SQLServer.createServer\_a6c2a384ff8d4c4e9...' to resource group 'azurergr' was successful.

Go to resource Pin to dashboard

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### 2. Creating SQL Database

Microsoft Azure

Search resources, services, and docs (G+/)

Home > SQL servers >

Create SQL Database Server

Microsoft

Basics Networking Additional settings Tags Review + create

Product details

SQL Database Server by Microsoft

Terms of use Privacy policy

Estimated cost per month

No additional charges

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Basics

Subscription npunext-1680261359210

Resource group azurergr

Server name prernasqlserver

Authentication method SQL authentication

Server admin login adminsql

Create < Previous Download a template for automation

Open query editor and add the given query



Query 1

Run Cancel query Save query Export data as Show all

Results Messages

Search to filter items...

id	SalePersonFName	SalePersonLName	ProductName	ItemsSold	SoldPrice	Country	Region
1	Aamir	Shahzad	TV	1	700	USA	North America
2	M	Raza	Cell Phone	2	800	USA	North America
3	Christy	Ladson	TV	3	1600	USA	North America
4	John	Rivers	Laptop	5	2400	USA	North America
5	Najaf	Ali	Computer	1	300	Pakistan	Asia
6	Sukhjeet	Singh	TV	2	900	India	Asia
7	Chirag	Patel	Cell Phone	5	1500	India	Asia
8	Aleena	Aman	Laptop	2	800	Pakistan	Asia
9	Petra	Henry	TV	10	5000	France	Europe
10	Rita	Roger	Laptop	7	2100	France	Europe

### 3. Linked Services

Create a Linked Service with SQL Azure Database

new linked service

Azure SQL Database Learn more

Name \*

AzureSqlDatabase

Description

Connect via integration runtime \*

### Creating Dataset

Set properties

Name

SqlServer\_src

Linked service \*

AzureSqlDatabase

Table name

dbo.TotalSale

Import schema

From connection/store None

Pipelines 1

Change Data Capture (preview) 0

Datasets 3

ds\_sink\_txt

ds\_src\_txt

SqlServer\_src

Data flows 0

Power Query 0

Microsoft Azure | Data Factory | premad | Search factory and documentation | Shellunext\_1693422686063@npunext.onmicrosoft.com | UNEXT

Microsoft recently announced the public preview of Microsoft Fabric, a brand new and exciting way to build cloud-first data analytics. Click [here](#) to get started with Fabric Data Factory!

Factory Resources

- Pipelines: 1
  - pipeline1
- Change Data Capture (preview): 0
- Datasets: 1
  - SourceCSV
- Data flows: 0
- Power Query: 0

pipeline1 | SourceCSV

DelimitedText SourceCSV

Properties

General Related

Name \* SourceCSV

Description

Annotations

+ New

Connection Schema Parameters

Import schema Clear

Column name	Type
id	String
SalePersonFName	String
SalePersonLName	String
ProductName	String
ItemsSold	String
SoldPrice	String

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Factory Resources

- Pipelines: 1
  - if\_pipeline
- Change Data Capture (preview): 0
- Datasets: 2
  - If\_Condition\_dataset
  - SourceCSV
- Data flows: 0
- Power Query: 0

SourceCSV | if\_pipeline | If\_Condition\_dataset

Activities

Search activities

- Move and transform
  - Copy data
  - Data flow
- Synapse
  - Azure Data Explorer
  - Azure Function
  - Batch Service
- Databricks
- Data Lake Analytics
- General
- HDInsight
- Iteration & conditionals
  - Filter

Validate Debug Add trigger

If Condition

If Condition1

True

Copy data1

General Activities (1) User properties

Expression ⓘ @bool(pipeline().parameters.copyto...

Case	Activity
True	Copy data1
False	No activities

Publishing completed  
Successfully published

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Microsoft recently announced the public preview of Microsoft Fabric, a brand new and exciting way to build cloud-first data analytics. Click [here](#) to get started with Fabric Data Factory!

**Pipeline runs**

Triggered | Debug | Rerun | Cancel options | Refresh | Edit columns | List | Gantt

Filter by run ID or name | Chennai, Kolkata, Mu... : Last 24 hours | Pipeline name : All

Status : All | Runs : Latest runs | Triggered by : All | Add filter | Copy filters | Export to CSV

Showing 1 - 1 items | Last refreshed 0 minutes ago

Pipeline name	Run start	Run end	Duration	Triggered by	St
if_pipeline	9/6/2023, 12:10:15 PM	--	9s	Manual trigger	

Microsoft Azure | Search resources, services, and docs (G+)

Home > prenastorage21grs | Containers >

**target** Container

Search | Upload | Change access level | Refresh | Delete | Change tier | Acquire lease | Break lease | View snapshots

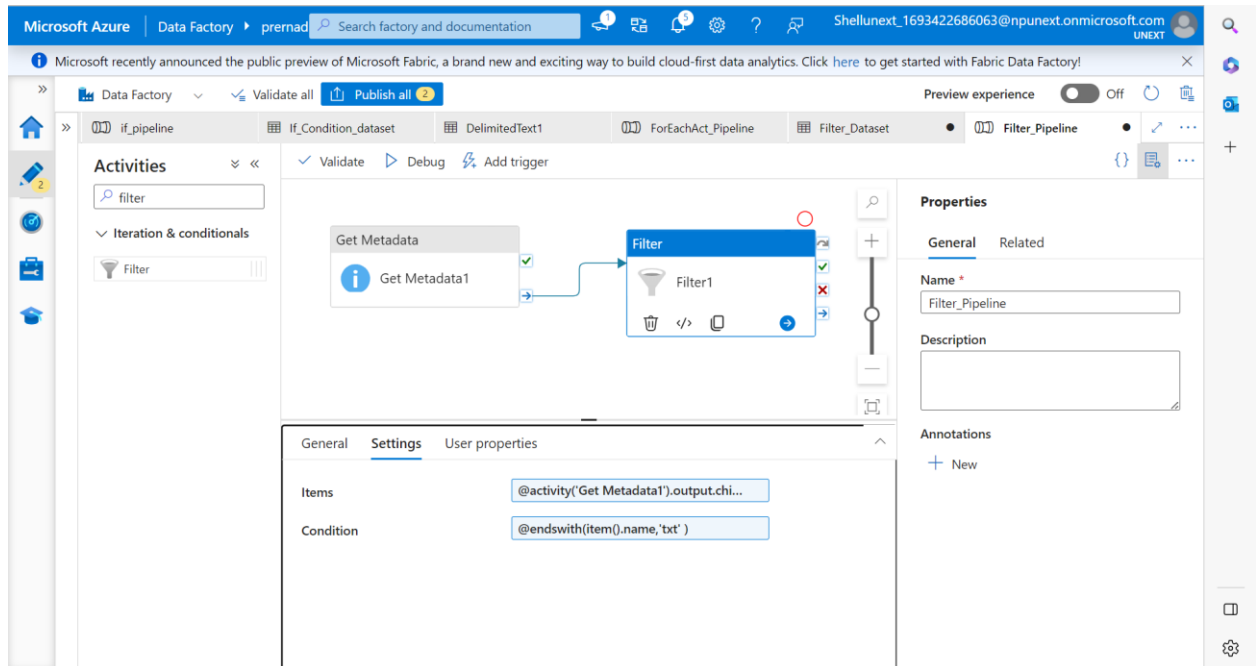
Overview | Diagnose and solve problems | Access Control (IAM) | Settings | Shared access tokens | Access policy | Properties | Metadata

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

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

Add filter

Name	Modified	Access tier	Archive status	Blob type
Query 2 (1).csv	9/6/2023, 12:10:28 PM	Cool (Inferred)		Block blob



#### 4. If Condition Activity

Create a Pipeline

Add the following Parameters

Parameters			
Name	Type	Default value	
copytoOutput1	String	true	
Output1Folder	String	Output1	
Output2Folder	String	Output2	

Create a dataset for the destination

Set properties

Name: If\_Conditon\_dataset

Linked service: AzureBlobStorage\_txt

File path: f-demo / Directory / File name

First row as header: ☒

Import schema: ☐ From connection/store ☐ From sample file ☒ None

Add the following Parameters

Connection Schema Parameters

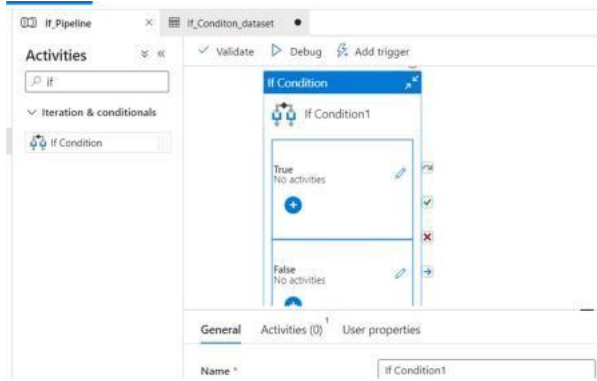
Linked service \* AzureBlobStorage\_txt

File path \* t-demo / @dataset().outputfolder / File name

Compression type None

Column delimiter Comma (,)

Go to pipeline and drag the condition



Parameters Variables Settings Output

Pipeline run ID: fe0959eb-a050-4955-ba64-31ec59dc36b

Data flow activity for this debug run will start as soon as the data flow debug session is ready.

All status List

Showing 1 - 2 of 2 items

Activity name	Status	Activity type	Run start	Duration
Copy data1	Succeeded	Copy data	7/20/2023, 5:15:56 PM	13s

The following shows the output file created

t-demo

Container

Search

Upload Change access level Refresh Delete

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

Location: t-demo

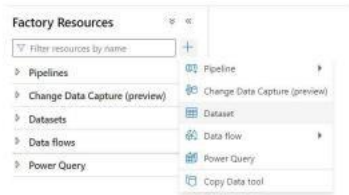
Search blobs by prefix (case-sensitive)

Add filter

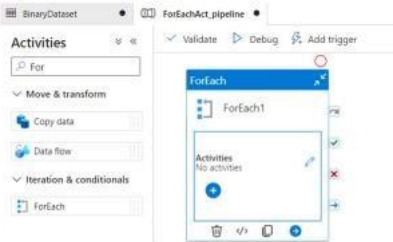
Name	Modified
Output	
Output1	

## 5. For Each Activity

### Creating Dataset



Drag and drop a for each pipeline



Add the pipeline parameters

All status ▾ List ▾

Showing 1 - 4 of 4 items

Activity name	Activity status	Activity type	Run start	Duration
Copy data1	✓ Succeeded	Copy data	7/28/2023, 10:20:46 AM 8s	
Copy data1	✓ Succeeded	Copy data	7/28/2023, 10:20:36 AM 9s	
Copy data1	✓ Succeeded	Copy data	7/28/2023, 10:20:25 AM 10s	
ForEach1	✓ Succeeded	ForEach	7/28/2023, 10:20:24 AM 32s	

Upon going to Destination, folders can be seen



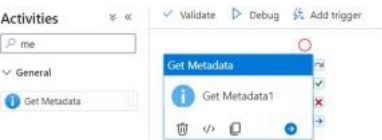
## 6. Filter Activity

In the case study scenario, we have 2 text files and 1 CSV files

We intend to get the txt file

Name	Modified	Access tier	Archive
[...]			
Customer_Details.csv	7/28/2023, 10:33:14 ...	Hot (Inferred)	
EmpDetails.txt	7/28/2023, 10:33:24 ...	Hot (Inferred)	
Std_details.txt	7/21/2023, 10:25:48 ...	Hot (Inferred)	

Create a pipeline hand drag and drop “Get Metadata”



Add the filter activity and validate

**Monitor**

All status ▾

Showing 1 - 2 of 2 items

Activity name ↕	Activity status ↕	Activity type ↕
Filter1	Succeeded	Filter
Get Metadata1	Succeeded	Get Metadata

**Output**

Copy to clipboard

```

{
  "items": [
    {
      "name": "EmpDetails.txt",
      "type": "File"
    },
    {
      "name": "Std.details.txt",
      "type": "File"
    }
  ]
}

```

**Pipeline Canvas:** Filter1 (highlighted) → Get Metadata1

Activity name	Activity status	Activity type	Run start
Filter1	Succeeded	Filter	7/28/2023
Get Metadata1	Succeeded	Get Metadata	7/28/2023

## 7. Set Variable Activity

Create a pipeline and add the following parameters

Parameters

Variables

Settings

Output

+

New

✖

Delete

<input type="checkbox"/>	Name	Type	Default value
<input type="checkbox"/>	<input type="text" value="addressLine"/>	String	<input type="text" value="Address: 221 M.G. Road R"/>

### Drag and Drop the Set Variable

The screenshot shows the Visual Studio IDE. On the left, the 'Activities' pane is open, displaying a search bar with 'Set' and a list of activities under the 'General' category, including '(x) Set variable'. On the right, the design view shows a workflow with a 'Set variable' activity. The activity is highlighted with a blue header and contains the text '(x) Set variable1'. A red circle highlights a small red 'x' icon in the top right corner of the activity, indicating an error. The bottom of the activity shows icons for deleting, editing code, and saving, along with a blue arrow icon.

Add the following expression

General

**Settings**

User properties

Variable type ⓘ

☒ Pipeline variable ☐ Pipeline return value

Name \*


cityName

+

New

Value

@substring(pipeline().parameters.ad...





Check the output tab

```
{
  "name": "cityName",
  "value": "Kolkata"
}
```

## 8. Exercise: Append Variable

In the set variable pipeline, add two more variables

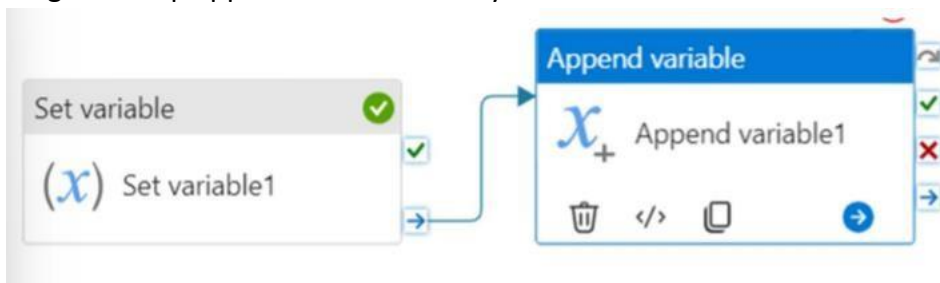
Parameters Variables Settings Output

New

Delete

<input type="checkbox"/>	Name	Type	Default value
<input type="checkbox"/>	<input type="text" value="cityName"/>	<div>String</div> <div></div>	<input type="text" value="Value"/>
<input type="checkbox"/>	<input type="text" value="listOfCities"/>	<div>Array</div> <div></div>	<input ]"="" type="text" value='["New York","London","Tokyo",'/>
<input type="checkbox"/>	<input type="text" value="appendedCities"/>	<div>Array</div> <div></div>	<input type="text" value="Value"/>

Drag and drop append variable activity



Pipeline executed successfully

✓ Validate ▶ Debug ⚡ Add trigger

Parameters Variables Settings **Output**

**Pipeline run ID:** 79f1bfa0-ac7a-40ea-93d8-bb72064e59c3 **Pipeline status** ✓ Succeeded

All status ▾

Showing 1 - 3 of 3 items

Activity name ↑↓	Activity status ↑↓	Activity type ↑↓	Run start ↑↓	Duration ↑↓
Set variable2	✓ Succeeded	Set variable	7/28/2023, 3:56:36 PM	Less than 1s
Append variable1	✓ Succeeded	Append variable	7/28/2023, 3:56:35 PM	Less than 1s
Set variable1	✓ Succeeded	Set variable	7/28/2023, 3:56:35 PM	Less than 1s

## Output tab

```
{
  "name": "appendedCities",
  "value": [
    "New York",
    "London",
    "Tokyo",
    "Singapore City",
    "Kolkata"
  ]
}
```

## 9. Until Activity:

Create new pipeline and create a variable  
 Drag and drop the Until Activity

Until\_Pipe •

Activities ⌵ ⌵

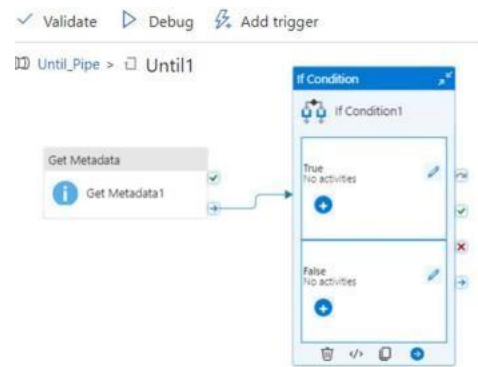
Search: unti

Iteration & conditionals

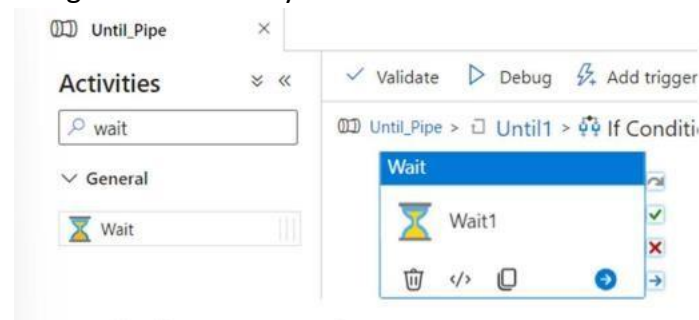
Until

✓ Validate ▶ Debug ⚡ Add trigger

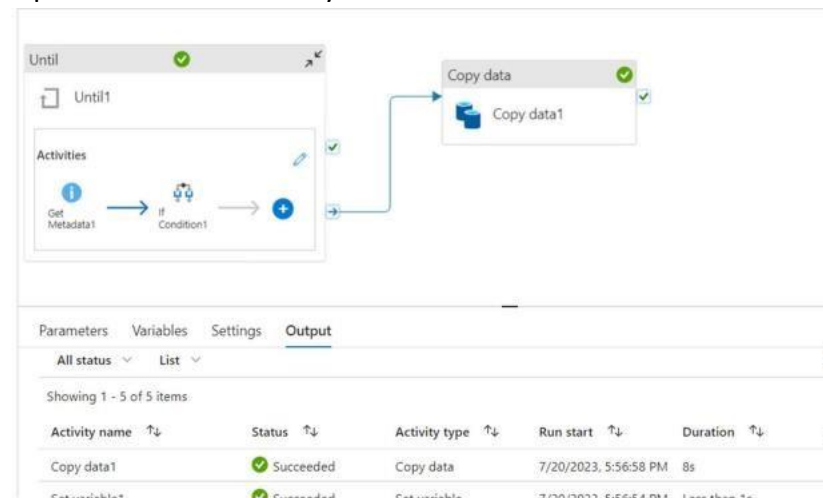
Make a connection with the if condition






Using the wait cativity



Pipeline runs successfully



Check the output files

<input type="checkbox"/>		[..]		
<input type="checkbox"/>		_SUCCESS	7/20/2023, 4:09:54 PM	Hot (Inferred)
<input type="checkbox"/>		part-00000-e6862a16-47ef-4712-a2dc-d150acfb6f...	7/20/2023, 4:09:54 PM	Hot (Inferred)
<input type="checkbox"/>		Std_details.txt	7/20/2023, 5:57:05 PM	Hot (Inferred)

## 10. Web Activity Exercise

pipeline1

Activities

web

General

Web

WebHook

Web

Web1

Validate Debug Add trigger

Set the URL and Method

General **Settings** User properties

URL \* ⓘ

⚠ Information will be sent to the URL specified. Please ensure you trust the URL entered.

Method \* ⓘ

Authentication ⓘ

Output:

## Output

Copy to clipboard

```
{
  "status": "success",
  "data": [
    {
      "id": 1,
      "employee_name": "Tiger Nixon",
      "employee_salary": 320900,
      "employee_age": 61,
      "profile_image": ""
    },
    {
      "id": 2,
      "employee_name": "Garrett Winters",
      "employee_salary": 170750,
      "employee_age": 63,
      "profile_image": ""
    },
    {
      "id": 3,
      "employee_name": "Austin Cox",
      "employee_salary": 86000,
      "employee_age": 66,
      "profile_image": ""
    },
    {
      "id": 4,
      "employee_name": "Cedric Kelly",
      "employee_salary": 433860,
      "employee_age": 22,
      "profile_image": ""
    },
    {
      "id": 5,
      "employee_name": "Ahti Sattu",

```