

BI4Dynamics Process Automation

How to automatically update data from BC Cloud, Data Lake to Analysis Services

BI server is on Azure VM

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Contents

1	Pro	ocess Automation #1 – Start Container Instance	3
	1.1	Introduction	3
	1.2	Prerequisites	3
	1.3	Setup Logic App	4
	1.4	Test logic app	7
2	Pro	ocess Automation #2 – Start and Stop Virtual Machine	8
	2.1	Start Virtual Machine	8
	2.2	Deallocate Virtual Machine	9
3	Pro	ocess Automation #3 – Start SQL server Agent (VM)	11
2	3.1	Enable SQL Server agent	11
2	3.2	Setup SQL Server Agent	12
4	Pro	ocess Automation #4 – Start and Stop Azure Analysis Services	13
4	4.1	Prerequisities	13
4	4.2	Instructions	13
5	Pro	ocess Automation - Timing Schedule	19

1 Process Automation #1 – Start Container Instance

1.1 Introduction

This automation process is for an Azure Container instance (Docker), which is a light virtual machine, based on Bl4Dynamics image. These Container instances are used for running table export from BC to Blob storage. Through Logic apps docker will run on a scheduled day and time. Logic app will automatically start and terminate the docker after finishing the export.

1.2 Prerequisites

For this step you will need:

• Container instance

Creation described in document "BI4Dynamics Infrastructure Installation (Azure VM + Azure resources)".

bi4dynamics-docker Container instances	\$ ···	
✓ Search (Ctrl+/) «	▷ Start 🤇 Restart	🗌 Stop 📋 Delete 💍 Refresh
Overview	∧ Essentials	
Activity log	Resource group (change	e) : azure-development
Access control (IAM)	Status	: Succeeded
🗳 Tags	Location	: West Europe
· · · · · · · · · · · · · · · · · · ·	Subscription (change)	: Pay-As-You-Go
Settings	Subscription ID	: 0edf89a6-c40e-475e-99db-92b04c
🚨 Containers	Tags (change)	: Click here to add tags

• Logic Apps (to be setup here).

Make sure that **Microsoft.Logic** resources are registered for your subscription.

Subscription	Re	source providers	
P Search (Ctrl+/)) «	🗘 Register 🏷 Unregister	🕐 Refresh
Events	*	✓ Filter by name	
Cost Management			
🔍 Cost analysis		Microsoft.Logic	🛛 Registered
Sost alerts		Microsoft.Automation	📀 Registered

1.3 Setup Logic App

Search for Logic Apps in Azure.



Add a new Logic App.

Logic BI4DYNAMIC	apps & ··· CS d.o.o. (bi4dynamics.co	om)	
+ Add	🔅 Manage view 🗸	🕐 Refresh	↓ Export to CSV

Enter **Subscription**, **Resource Group** and create a meaningful **Name** for your logic app. **Select** the Region and choose **Consumption** as a Plan type.

Click **Review + create** and select **Create** in the next window.

Create Logic App		
Basics Tags Review + create		
Create a logic app, which lets you group w resources. Workflows let you connect your workflows without writing a single line of c	rorkflows as a logical unit for easier management, deployment and sharing business-critical apps and services with Azure Logic Apps, automating you code.	l of nr
Project Details		
Select a subscription to manage deployed all your resources.	resources and costs. Use resource groups like folders to organize and mar	nage
Subscription * ①	Pay-As-You-Go	\sim
Resource Group * ①	azure-docker Create new	\checkmark
Instance Details		
Logic App name *	bi4dynamics-docker-schedules	~
Region *	West Europe	\sim
Enable log analytics *	🔿 Yes 💿 No	
Plan		
The plan type you choose dictates how yo	ur app scales, what features are enabled, and how it is priced. Learn more	
Plan type *	Standard: Best for enterprise-level, serverless applications, with event-based scaling and networking isolation.	
	 Consumption: Best for entry-level. Pay only as much as your workflow runs. 	
	Cooking for the classic consumption create experience? Click here	

Once deployment is complete, go to **Logic apps** and open the newly created application.

Home >
Logic apps
+ Add \lor 🛞 Manage view \lor 🕐 Refresh 🛓 Export to CSV 😚 Open query
Filter for any field Subscription == all Resource group == all X
Showing 1 to 2 of 2 records.
□ Name ↑↓
🗌 💑 bi4dynamics-docker-schedule

Logic apps designer will open with premade templates to use.

Select **Recurrence** in the template or search for it in the search dialog.

Introducing Azure Logic Ap		Apps	Building in Logic Apps The ease of powerful m businesses and cutting	ntegration solutions is easie brings speed and scalability in ruse of the designer, variety of anagement tools make central move towards digitalization, L redge systems together.
Watch on 🖸 Yuuliuke	أحصم	Þ	Create Integra Unlock	business processes and workf ate with SaaS and enterprise ag value from on-premises and o
Start with a common trigger Pick from one of the most commonly used triggers, I	then orchestrate ar	ny number of actions using the rich	collection of conn	ectors
When a message is received in a Service Bus queue	₽.	When a HTTP request is received	9	When a new tweet is posted
0 Recurrence	o Z	When a new email is received in Outlook.com		When a new file is created on OneDrive

Select the **Interval** and **Frequency** at which you decide the docker should be run.

1		Week	~
Time zone	(UTC) Coordinated	Universal Time	~ ×
On these days	Monday		\checkmark X
At these hours	22		~ ×
At these minutes	0		×
Preview Runs at 22:00 on Mo	onday every week.		

Note: If the selected Frequency is **Week**, you can add new parameters which set the days, hours, and minutes when the Virtual Machine should start.

Click + New step, search for Azure Container instance and select it.

-	63			\checkmark		
Choose	an operati	on				2
,	ontainer					×
For You	All Bu	uilt-in St	andard	Enterprise	Custom	
Azure Blob	Azure					

In the drop-down menu select Start containers in a container group.

2 Recurrence	
Azure Container Instance	>
Search connectors and actions	
Triggers Actions	
Get capabilities Azure Container Instance	1
Get current usage Azure Container Instance	0
Get logs from a container instance Azure Container Instance	Ū
Get properties of a container group Azure Container Instance	Ū
Restart containers in a container group Azure Container Instance	0
Start containers in a container group Azure Container Instance	0
Stop containers in a container group Azure Container Instance	0
Update a container group location or tags	0

Sign into your **Tenant**.

Azure Cor	ntainer Instance		
Tenant	BI4DYN	AMICS	\sim
	Sign in to cre	eate a connection to Azure Container Instance.	
		Sign in	
_			

Enter your Subscription ID, Resource Group and Container Group Name (docker).

Start containe	ers in a container group	
*Subscription Id	Pay-As-You-Go	~
* Resource Group	azure-docker	~
* Container Group Name	bi4dynamics-docker	
Connected to jp@bi4	dynamics.com. Change connection.	

Click Save in the top left of the designer and press Run to test if the application is working correctly.

Ø	Os 🕑
\downarrow	
Start containers in a container group	2s

1.4 Test logic app

Go to Container instances.

	₽ Search	${\cal P}$ Search resources, services, and docs (G+/)							Σ
Azure service	es			•	_			-	\rightarrow
Create a resource	Container instances	Logic apps	App registrations	Subscriptions	Storage accounts	Resource groups	Azure Active Directory	Automation Accounts	More services

Check the selected container instance (docker) if it is being Created or already Running.

bi4dynamics-docker	\$		
	🕞 Start 🤇 Restart	🗌 Stop 📋 Delete 💍 Refresh	
Overview	∧ Essentials		
Activity log	Resource group (change) : azure-development	
Access control (IAM)	Status	: Running	
🔮 Tags	Location	: West Europe	
• 1335	Subscription (change)	: Pay-As-You-Go	
Settings	Subscription ID	: 0edf89a6-c40e-475e-99db-92b04c	
Containers	Tags (change)	: Click here to add tags	

You have successfully created and tested a logic app that automatically starts container instance.

2 Process Automation #2 – Start and Stop Virtual Machine

Process automation for Virtual Machine on azure is very similar to container instance automation **Note:** We will create two logic apps, one for starting the VM and one for deallocating(stopping) it.

2.1 Start Virtual Machine

Search for Azure VM in search dialog and select it.

0 Recurrer	nce				
			\downarrow		
Choose a	an operation)
,	1				×
For You	All Built-in	Standard	Enterprise	Custom	
Azure VM)				

Select Start virtual machine option.

Ø Recurrence	
\downarrow	
Choose an operation	×
For You All Built-in Standard Enterprise Custom	
Azure VM	
Triggers Actions	
Azure VM	U 🔺
Reimage virtual machine in a VM scale set	0
Azure VM	Ŭ
Azure VM	0
Restart virtual machine in a VM scale set Azure VM	0
Start virtual machine Azure VM	0
Start virtual machine in a VM scale set	

Insert values for **Subscription ID**, **Resource Group** and Virtual Machine name.

Start virtual m	achine	
Subscription Id	Pay-As-You-Go	~
Resource Group	vm-bi4	~
Virtual Machine	vm-bi4	~
Connected to @bi4	dynamics.com. Change connection.	

Next step is to Save and Run the application and go to Virtual Machines to check if it is Running.

vm-bi4 ☆ ·		
₽ Search (Ctrl+/) «	🖉 Connect ▷ Star	t 🤇 Restart 🔲 Stop 🛱 Capture 📋 Delete 🖒 Refresh
Overview	∧ Essentials	
Activity log	Resource group (change	e) : vm-bi4
Access control (IAM)	Status	: Running
🗳 Taos	Location	: West Europe
	Subscription (change)	: Pay-As-You-Go
Diagnose and solve problems	Subscription ID	: 0edf89a6-c40e-475e-99db-92b04c
Settings	Tags (change)	: Click here to add tags

2.2 Deallocate Virtual Machine

Process automation for Virtual Machine Deallocation is almost identical to Start VM Logic app. First select the scheduled time when the VM should stop.

In Logic Apps select Recurrence, add a new step and search for Azure VM.

Recurrer	nce				
T Choose	an operatior	ı	Ť		>
	1				×
For You	All Buil	t-in Standard	Enterprise	Custom	

Next select Deallocate virtual machine option.

Recurrence	
\downarrow	
Azure VM	×
← Search connectors and actions	
Triggers Actions	
Deallocate virtual machine Azure VM	0
Deallocate virtual machine in a VM scale set Azure VM	0
Get virtual machine Azure VM	0

Insert values for Subscription id, Resource group and Virtual Machine name.

Deallocate virt	ual machine	
*Subscription Id	Pay-As-You-Go	\sim
* Resource Group	vm-bi4	\sim
*Virtual Machine	vm-bi4	\sim
Connected to bi4d	ynamics.com. Change connection.	

Click **Save** and exit Logic Apps Designer. Go to **Logic Apps** and check for apps VM start and VM stop.

Logic apps ≈ … BI4DYNAMICS d.o.o. (bi4dynamics.com)			
+ Add \vee 🕸 Manage view \vee 🕐 Refresh \downarrow Export to CSV 😚 Open query \oslash Assign tags	() Enable/Start	🛇 Disable/Stop	🗊 Delete 🛛 💙 Feedback
Filter for any field Subscription == all Resource group == all X Location == all	+ Add filter		
Showing 1 to 4 of 4 records.			
Name Tu	Status ↑↓	Plan ↑↓	Resource group \uparrow_\downarrow
🔲 📥 bi4dynamics-docker-schedule	Enabled	Consumption	azure-docker
🗋 📥 bi4dynamics-vm-app	Enabled	Consumption	azure
🗋 🚣 bi4dynamics-vm-app-stop	Enabled	Consumption	azure

To check if Logic apps are properly working first run the start VM app, after the Virtual machine is running, run the stop VM app and check if it is allocated.

You have now successfully created a logic app that automatically starts the virtual machine at specified times and a logic app that automatically stops(deallocates) the virtual machine at specified times.

3 Process Automation #3 – Start SQL server Agent (VM)

When Virtual machine is running, it is ready to process data. This process is triggered by SQL Server Agent feature, a part of SQL server.

3.1 Enable SQL Server agent

Go to **Services** and find the **SQL Server Agent** service. If you are using newly created Virtual Machine, it will probably be the only SQL Server Agent, but if you are running more SQL server engines, there may be more Agents.



Right click and select **Properties** and set Start-up Type to Automatic.

SQL Serv	er Agent	(BC) Proper	ties (Local Co	omputer)		×	
General	Log On	Recovery	Dependencie	s			
Service	name:	SQLAgent	\$BC				
Display name: SQL Server Agent (BC)							
Description: Executes jobs, monitors SQL Server, fires alerts, and allows automation of some administrative tasks.							
Path to "C:\Pro	executabl gram Files	e: \Microsoft S	QL Server\MS	SQL15.BC\M	ISSQL\Binn\S	QL/	
Startup	type:	Automatic				\sim	
Service S You car from he Start pa	e status: Start n specify t re. arameters:	Running Stop he start para	meters that app	Pause bly when you	Resume start the servic	×e	
			OK	Cance	Ap;	oly	

Note: make sure that user running service is a domain admin user (not a service) and has permissions needed to process data warehouse and analysis services. On VM this would be the VM admin user.

3.2 Setup SQL Server Agent

SQL Server agent conducts processing of stage, data warehouse and analytics, bringing new data to users. To set SQL Agent Job open *Process* tab, set SQL Agent Job frequency and press **Create**:

File 🔻 Deploy	/ Process C	ustomize S	tage Install Cloud	ETL			
edit SSIS	FullIncremental	Process	♀ Stage ● Data Warehouse ☑ Analysis Database	Full	Name: Start:	BI4Dynamics 13/04/2023 (1) The Daily Crea	Account schedules
rocess Flow SSIS	Update	Process All		Process one		SQL Agent Job	Extra

Open SQL Server Management Studio, navigate to **Properties** of the Agent Job that you have created.



Press Schedules, click on Edit. Set properties for Job Agent and press OK.

Job Properties - BI4Dynami	cs FO			_		\times
Select a page	🔢 Job Schedule Properties - Bl4Dynamics Auto Process Schedule 🛛 🗖					
Schedules	Name:	BI4Dynamics Auto Process Schedule		Jobs in Sch	edule	
Alerts Notifications	Schedule type:	Recurring	∨ 🗹 Ena	bled		
 Targets 	One-time occurrence					-
	Date:	13/04/2023 V Time: 15:12:25	* *			
	Frequency					-
	Occurs:	Daily ~				
	Recurs every: Daily frequency	1 day(s)				-
	Occurs once at:	08:00:00				
	Occurs every:	1 land hour(s) V Starting at:	00:00:00			
Connection	Duration	Ending at:	23.33.33			-
ANDRIIW10 Connection: NPS-GROUP\andrii	Start date:	14/04/2023 ■▼ ○ End date: ● No end date:	13/04/2023			
View connection properties	Summary					-
	Description:	Occurs every day at 08:00:00. Schedule will be used star	rting on 14/04/2023.		^	
Progress						
Ready			OK Cancel	ł	-lelp	
				ОК	Can	cel

4 Process Automation #4 – Start and Stop Azure Analysis Services

This part of documentation is intended to explain the process of scheduling the work of Azure Analysis Services. It will allow the Analysis Services to start and stop on scheduled days and time based on the business requirements of the end-users.

4.1 Prerequisities

- Azure Analysis Services: creation described in document "Application Installation (Azure VM)".
- Registered resource Microsoft.Automation for the subscription.



4.2 Instructions

Go to the Azure Portal and search for Automation Accounts:

₽ Automat	tion Account				×
All Marketp	Services (17) place (0)	Documentation (99+)	Azure Active Directory (2)	Resources (0)	Resource Groups (0)
Services			_		See all
🛟 Autom	ation Accounts		Batch accounts		

Create a new Automation Account under the same Subscription and in the same Resource Group and Region as the Analysis Services:

Home > Automation Accounts >					
Create an Automation	Account				
Basics Advanced Networking	Tags Review + Create				
Create an Automation Account to hold th management tasks around Azure and nor use hybrid jobs on your compute via Azu Learn more	Create an Automation Account to hold the Automation runbooks & configuration used for automating operations and management tasks around Azure and non-Azure resources. You could execute cloud jobs in a serverless environment or use hybrid jobs on your compute via Azure Virtual machines, Arc-enabled servers or Arc-enabled VMWare VM (preview). Learn more				
Subscription * ①	Pav-As-You-Go				
Resource group * ①	Select a resource group				
	Create new				
Instance Details					
Automation account name * 🕕	BI4DynamicsAutomation 🗸				
Region * ①	West Europe 🗸 🗸				

In the tab Advanced, select System Assigned Managed Identity:

Create an Automation Account				
Basics Advanced Networking Tags Review + Create				
Managed Identities				
Use Managed Identities as the recommended method for authenticating with Azure resources from the runbooks. Managed identity would be more secure than Runas account since it doesn't require any credentials to be stored. Learn				
more				
System assigned				
User assigned				

Once the Automation Account is created, go to Account Settings > Identity. In the tab System Assigned, make sure that the Status is set to On and click on Azure Role Assignments:

BI4DynamicsAuto	mation Identity 🛧 …
Search «	System assigned User assigned
 Python packages Credentials 	A system assigned managed identity is restricted to one per resource and is tied to the lifecycle in code. Learn more about Managed identities.
${\cal S}$ Connections	🖫 Save 🗙 Discard 💍 Refresh 🛛 🞘 Got feedback?
📮 Certificates	
<i>fx</i> Variables	Status 🛈
Related Resources	Off On
🚇 Linked workspace	a1c30e3a-3c09-42a8-a33e-faa5397b8738
🥌 Event grid	Permissions
🍄 Start/Stop VM	Azure role assignments
Account Settings	

Add a new role assignment to the System Managed Identity:

Azure role assignments			
+ Add role assignment (Preview)	💍 Refresh		
If this identity has role assignments th	nat you don't have permission to read, they won't be shown in the list. Learn more		

Under the option **Scope** select the option **Resource Group**. Specify the **Subscription** and **Resource Group** in which Analysis Services are located. Under the option **Role** select **Contributor**.

Add role assignment (Preview)	×
Scope ①	
Resource group	\checkmark
Subscription	
	~
Resource group ①	
BI4Dynamics	~
Role ①	
Contributor ①	~
Learn more about RBAC	

Once role assignment is added, navigate to **Process Automation > Runbooks** and create a new one. Give to a new **Runbook** a meaningful name such as **Start_Stop_AAS**.

In	the	Runbook	Туре	select the	option	PowerShell.
----	-----	---------	------	------------	--------	-------------

In the **Runtime Version** select the option **5.1**.

Create a runbook	
Name * 🕕	Start_Stop_AAS 🗸
Runbook type * 🕕	PowerShell
Runtime version * 💿	5.1
Description	
During runbook execution, PowerShe PowerShell modules are present in 5.	Il modules targeting 5.1 runtime version will be used. Please make sure the required 1 runtime version.

Important: Different **Runtime** Version might lead to the error in the execution of the script. Syntax for authentication might differ between PowerShell versions.

Once the Runbook is created, you will be navigated to the edit view of the Runbook:

Edit PowerShell Runbook … start_Stop_AAS			
	Save 🌐 Publish 🗙 Revert to published 🗠 Test pane 🔗 Feedback		
>	CMDLETS 1		

Insert the following script to the command lines:

Manual for process automation

Parameters

```
[CmdletBinding()]
param(
    [Parameter(Mandatory=$True,Position=0)]
    [ValidateSet('Start','Stop')]
    [string]$AasAction,
    [Parameter(Mandatory=$True,Position=1)]
    [ValidateLength(1,100)]
    [string]$ResourceGroupName,
    [Parameter(Mandatory=$True,Position=2)]
    [ValidateLength(1,100)]
    [string]$AnalysisServerName
# Keep track of time
$StartDate=(GET-DATE)
# Log in to Azure with AZ (standard code)
Write-Verbose -Message 'Connecting to Azure'
# Name of the Azure Run As connection
$ConnectionName = 'AzureRunAsConnection'
try {
        $AzureContext = (Connect-AzAccount -Identity).context
catch{
        Write-Output "There is no system-assigned user identity. Aborting.";
        exit
    }
# Getting the AAS for testing and logging purposes
$myAzureAnalysisServer = Get-AzAnalysisServicesServer -ResourceGroupName $ResourceGroupName -
Name $AnalysisServerName
if (!$myAzureAnalysisServer)
{
    Write-Error "$($AnalysisServerName) not found in $($ResourceGroupName)"
    return
}
else
{
    Write-Output "Current status of $($AnalysisServerName): $($myAzureAnalysisServer.State)"
# Check for incompatible actions
if (($AasAction -eq "Start" -And $myAzureAnalysisServer.State -eq "Succeeded") -Or ($AasAction -
eq "Stop" -And $myAzureAnalysisServer.State -eq "Paused"))
    Write-
Error "Cannot $($AasAction) $($AnalysisServerName) while the status is $($myAzureAnalysisServer.State
)"
    return
# Resume Azure Analysis Services
elseif ($AasAction -eq "Start")
    Write-Output "Now starting $($AnalysisServerName)"
    $null = Resume-AzAnalysisServicesServer -ResourceGroupName $ResourceGroupName -
Name $AnalysisServerName
}
# Pause Azure Analysis Services
else
Ł
   Write-Output "Now stopping $($AnalysisServerName)"
    $null = Suspend-AzAnalysisServicesServer -ResourceGroupName $ResourceGroupName -
Name $AnalysisServerName
# Show when finished
$Duration = NEW-TIMESPAN -Start $StartDate -End (GET-DATE)
Write-
Output "Done in $([int]$Duration.TotalMinutes) minute(s) and $([int]$Duration.Seconds) second(s)"
```

After that got to the **Test Pane** and fill in the required parameters:

- Under the option **AASACTION** write **Start** (if the Analysis Services are turned on **Stop**).
- Under the option **RESOURCEGROUPNAME** insert the name of the **Resource Group**.
- Under the option ANALYSISSERVERNAME insert the name of Azure Analysis Services.

Once the parameters are inserted, click on Start:

🕞 Start 🗌 Stop 🛛 Suspend 🤇 F	esume 🕚 View last test 💍 Refresh job streams
Parameters	
AASACTION * ①	Click 'Start' to begin the test run.
Enter a value	Streams will display when the test completes.
Mandatory, String	
RESOURCEGROUPNAME * ① Enter a value	
Mandatory, String	
ANALYSISSERVERNAME *	
Enter a value	
Mandatory, String	

Once the command was executed successfully, go to the Edit panel, Save and Publish the runbook:

Edit PowerShell Runbook* start_Stop_AAS				
		Save 🕀 Publish 🗙 Revert to published 🗠 Tes	st pane	R Feedback
	~	CMDLETS	1	# Parameters
			2	[CmdletBinding()]
		📩 RUNBOOKS	3	param(
	/		4	[Parameter(Mandatory=\$True,Position=0)]
)		> 🚔 ASSETS	5	<pre>[ValidateSet('Start','Stop')]</pre>
	>		6	[string]\$AasAction,
			_	

Once it is published, click on the option **Link to the schedule.** There you will need to set up the schedule and parameters for the Runbook Execution:

Schedule Runbook 🖉 … start_Stop_AAS			
Schedule Link a schedule to your runbook			
Parameters and run settings			
Configure parameters and run settings			

Parameters and run settings for the schedule should be configured similarly to the previous step. Only **AASACTION** will differ based on the command of the schedule (Start or Stop).

Note:

The automation schedules for Start and Stop commands must be created separately.

In the schedule settings provide a name to the new schedule. We suggest giving it a name corresponding to the executed command (Start or Stop). Also, you can provide additional details in the Description.

Important:

Do not forget to specify the correct **Time Zone** according to which the time of automation will be scheduled.

As a next step, change **Recurrence** from Once to Recurring and set up **Recur every** option to once a Day or Week. In case of week, the schedule can be set up at the specific days of the week so that Saturday and Sunday could be excluded from the automation as on the screenshot on the right.

The final schedules should look as following:

+ Add a	+ Add a schedule 🔗 Feedback 💍 Refresh					
Name	Next run	Time zone	Status			
Start	4/12/2023, 7:00 AM	Central European Time	✓ On			
Stop	4/12/2023, 5:00 PM	Central European Time	√ On			

New Schedule	×
Name *	
Start	\checkmark
Description	
Starts the AAS at 7:00 (UTC +2)	
Starts * 🕕	
04/12/2023 📾 7:00 AM	
Time zone Slovenia - Central European Time	\sim
Recurrence	
Once Recurring	
Recur every * ① 1 Week	\sim
On these days ①	
✓ Monday	
Tuesday	
Vednesday	
✓ Thursday	
Friday	
Saturday	
Sunday	
Set expiration Yes No	

The execution of the schedules can be monitored in the **Process Automation > Jobs** tab:

	Status : All	Time span : All		
Runbook	Job created	Status	Ran on	Last status update
Start_Stop_AS	4/11/2023, 6:00:17 AM	Completed	Azure	4/11/2023, 6:03:12 AM
Start_Stop_AS	4/10/2023, 6:00:17 PM	Completed	Azure	4/10/2023, 6:01:52 PM
Start_Stop_AS	4/10/2023, 6:00:30 AM	✓ Completed	Azure	4/10/2023, 6:03:53 AM
Start_Stop_AS	4/9/2023, 6:00:21 PM	✓ Completed	Azure	4/9/2023, 6:03:31 PM
Start_Stop_AS	4/9/2023, 6:00:20 AM	✓ Completed	Azure	4/9/2023, 6:04:04 AM

5 Process Automation - Timing Schedule

Here is an example of processing schedule for daily update:

Step	Step description	Start Time	Duration	Comment
1	Start Container instance	22:00	45 min	BC export to data lake can run any time after BC users are finishing their daily work. This process time can vary 30% (!) day by day, exporting same amount of data, in the after-office
2	Start Virtual Machine	07:00	2-3 min	Keep enough buffer time for next step. VM hosts data warehouse that must be ready when DW processing start
3	Start Azure Analysis Services	07:00	2-3 min	Azure AS must be ready when DW processing start
4	Start SQL Server Agent	07:15	20 min	DW processing (data are in Azure AS)
5	Stop Virtual Machine	08:00		Leave some buffer time after DW is processed and then stop VM.
6	Stop Azure Analysis Services	17:00		AAS will run during business hours when users are querying data.