

DYNERIA

User guide

Dyneria Smart Script

Part of the DYNERIA SMART SUITE products line

Version 1.0

TABLE OF CONTENTS

1 INTRODUCTION 3

1.1 TERMINOLOGY..... 3

1.2 PRODUCT OVERVIEW 3

2 SETUP AND PREREQUISITES 3

3 HOW TO USE..... 3

3.1 UPLOAD NEW SCRIPT 4

3.2 UPLOAD A NEW VERSION OF THE EXISTING SCRIPT 10

3.3 VIEW PROCESSED SCRIPTS LOGS 10

3.4 SMART SCRIPTS WORKSPACE 12

4 SUPPORT INFORMATION 13

1 Introduction

The following document outlines the configuration, processing, and audit of data using the Dyneria Smart Script function in Microsoft Dynamics 365 Finance and Operations & Supply Chain Management. This guide is meant for system administrators and developers who are already familiar with data update scripts in Microsoft Dynamics 365 Finance and Operations \ Supply Chain Management. It is essential to understand the data model and transactional integrity when using this product.

1.1 Terminology

Term	Description
D365 F&O	Microsoft Dynamics 365 Finance and Operations
D365 SCM	Microsoft Dynamics 365 Supply Chain Management
Smart Script	Extension of the out-of-the-box Microsoft Dynamics 365 function called Custom Script

1.2 Product overview

Out-of-the-box custom script function is limited and heavy in terms of performance, as well as logging information. Dyneria Smart Script is intended to solve limitations, improve user experience, allow for bigger updates, and provide more traceability and control. Smart script is intended to solve limitations, improve user experience, allow bigger updates and more traceability and control.

2 Setup and prerequisites

The Dyneria Smart Script product requires a definition of the data update scope. This includes specifying which data you plan to upload, what testing will be sufficient, the approval workflow, and the success criteria. Additionally, a script needs to be developed in Visual Studio before it can be used by the Smart script function.

3 How to use

Dyneria Smart Script product has three levels of configuration:

- Access level: This setting defines who will have access to script processing. It provides an additional layer of limitation within the system administrators group, allowing only users from that group to execute scripts. Other users are restricted by this setting and their security roles.
- Approval steps: This setting will determine whether scripts must be approved before they can be executed. The mandatory setting will require approval to run the script. The optional setting will allow users to approve or skip approval before running the script. The different user setting will require another user to approve the script before it can be executed.
- Test run steps: The optional setting allows skipping the test run and executing the script right away. The mandatory setting requires a test run before the live update occurs. This is to prevent situations in which errors and warnings could signal problems with the data update or the script itself. In such cases, the test run allows the same update logic to be applied without making the changes permanent, enabling the user/administrator to identify any potential issues.

All the above settings are configured under **System administration > Setup > System parameters, Dyneria Smart Script** tab.

Finance and Operations | System administration > Setup > System parameters

Standard view ▾

System parameters

- General
- Data connections
- Help
- Legal and Privacy
- Batch global settings
- System notifications
- Power Apps Portals
- Dyneria Smart script**

Dyneria Smart script

ACCESS	LIFECYCLE
Restrict by user group TestGroup1 ▾	Approval step Mandatory ▾
	Test run step Optional ▾

3.1 Upload new script

1. Begin by investigating the scope and reasons for the data update and document any suggested changes.
2. Develop the data update script in non-production environments using Visual Studio.
3. Create a package resulting from the script development work.
4. Consult the [Microsoft documentation](#) for detailed development guidelines.

The script development is not included in this document, as it aligns with the out-of-the-box custom script functionality. You can find more information about this functionality [here](#).

Smart script function is initiated by uploading the new scripts directly from previously created development packages.

Path:

System administration > Periodic tasks > Dyneria Smart > Smart script

Click **+ Upload** button in the action pane to open upload dialog.

Select the name of the script (or name the purpose) and package file, and click the Upload button in the slider form once the file loads.

Standard view ▾

Upload deployable package

Purpose

User guide demo

Deployable package

DyneriaCustomScriptT...

UPLOADED

File name

DyneriaCustomScriptTest_v3_05...

Assembly name

Dynamics.AX.DyneriaCustomScr...

Class name

DyneriaCustomScriptTestJob

This feature enables you to make modifications to your SQL database, tables, and data.

By clicking **Upload**, you agree to bear the risk of any modifications you make and you understand neither Dyneria nor Microsoft does provide any support for such modifications.

Note: When you click the Upload button, the system might display a warning if an assembly with the same version was loaded previously. This warning is related to .NET limitations and can be disregarded. You can click Yes to proceed or No to cancel. Data updates will only be executed within the loaded version, regardless of previously loaded scripts.

Assembly with name

"Dynamics.AX.DyneriaCustomScriptTest, Version=0.0.0.0, Culture=neutral, PublicKeyToken=null" was loaded before. System will continue to use last loaded assembly until Application Object Server restart. Confirm loading of new assembly version.

In the grid, you will see the newly uploaded script and version 1, which is Active by default.

The Status field will indicate the status of the script processing—uploaded scripts will get the status Uploaded, and processed scripts will get the status Run completed.

Failed scripts will get the Failed status.

Purpose resolved \ unresolved status is updated manually in the same manner as it is done in the out-of-the-box custom script function mentioned above.

Finance and Operations | System administration > Periodic tasks > Dyneria Smart > Smart script

← + Upload + Upload new version Delete Details **Options** 🔍

Page options
 Security diagnostics
 Advanced filter or sort
 Record info

Share
 Get a link ▾
 Create a custom alert ▾
 Manage my alerts

Standard view ▾
Smart script

Filter Show Active only ▾

Purpose	Active version	Status	Class name	Assembly name	Script Id
Demo 3	3	Run completed	DyneriaCustomScriptTestJob	Dynamics.AX.DyneriaCustomScr...	{142E5028-7453-4270-B0FA-3F1...
DyneriaCustomScriptTest_v3_05	1	Failed	DyneriaCustomScriptTestJob	Dynamics.AX.DyneriaCustomScr...	{9FDF45E3-51A0-4425-816F-57...
User guide demo	1	Uploaded	DyneriaCustomScriptTestJob	Dynamics.AX.DyneriaCustomScr...	{A9C47770-E25D-4D66-98E8-7F...

Details button in the action pane will allow a detailed view of the script:

- More data about audit of the script (all events related to the script: version updates, approvals, runs, etc.);
- Package details;
- Version details;
- Logs;

Finance and Operations

System administration > Periodic tasks > Dyneria Smart > Smart script

←

+ Upload new version

Process workflow

Options

🔍

Standard view ▾

Smart script details

Overview

Status

Purpose

Events

Run completed

Demo 3

[5/28/2024 02:56:31 am] Active version is updated to 2 by Victor.

[5/30/2024 05:25:10 am] Active version is updated to 3 by Grygory Ivanov.

[5/30/2024 05:25:14 am] Approved by Grygory Ivanov.

[5/30/2024 05:25:19 am] Run completed by Grygory Ivanov.

Deployable package

DEPLOYABLE PACKAGE

Assembly name

Dynamics.AX.DyneriaCustomScrp

Class name

DyneriaCustomScriptTestJob

Versions

+ Upload new version ▶ Activate version

☐ Active

Version

Assembly name

Class name

File name

☒

1

Dynamics.AX.DyneriaCustomScriptTest. Version=0.0.0.0, Culture=neutral, PublicKeyToken=null

DyneriaCustomScriptTestJob

DyneriaCustomScriptTest_v3_05.zip

☐

2

Dynamics.AX.DyneriaCustomScriptTest. Version=0.0.0.0, Culture=neutral, PublicKeyToken=null

DyneriaCustomScriptTestJob

DyneriaCustomScriptTest_v1_01.zip

☒

3

Dynamics.AX.DyneriaCustomScriptTest. Version=0.0.0.0, Culture=neutral, PublicKeyToken=null

DyneriaCustomScriptTestJob

DyneriaCustomScriptTest_v3_04.zip

The Process workflow tab under the Action pane will allow the following actions:

- Approve or Reject: This function, combined with the mentioned parameters, will make it mandatory, optional, or conditional (approved by another user). If it's not optional, the system will disable the

←

+ Upload new version

Process workflow

Options

🔍

Start

Test

Run

End

Approve

Reject

Run test

Accept test log

Run

Abandon

Purpose resolved

Purpose unresolved

Test and Run functions.

Reject will permanently reject the script, and a warning message will be displayed. You won't be able to run it later.

Are you sure you want to reject this script?

You won't be able to run it afterwards.

Yes

No

- After approval (or if approval is optional), the user can test the script by using the Run test button, or run the script directly. Depending on the parameters in the previous section, this test may be a mandatory step, without which running the script will not be possible.

Are you sure you want to approve this script? This will enable it to run, which can cause irreversible changes to your system.

When the Run test button is pressed, a dialog will appear allowing the choice of running the process in batch or directly for the current user session. Once executed, it will display any log messages received during the process. **No data is affected**, but the full scope of updates is tested to prevent any surprises during the live run. After execution, the Accept test log button becomes available, and it must be pressed to formally sign off on the test before executing the real update.

Have you confirmed that the test log meets your expectations, and that no undesired side effects occurred?

The Run function enables the execution of a script in the current database. The user is presented with batch/UI execution options, as well as the choice to run the update in a single transaction. This is essential for cases where all updates must be successful or none should apply. For large data updates where partial updates are sufficient, it's recommended to run as a non-single transaction to limit the scope of updates for subsequent runs or versions.

Run Smart script

Parameters

Run in single transaction

☐ No

Run in the background

Recurrence Alerts

Batch processing

☐ No

Task description

Run Smart script

Batch group

Private

☐ No

Critical Job

☐ No

Monitoring category

Undefined

Start date: 5/30/2024 (05:41:26 am) (GMT) Coordinated Universal Time

OK

Cancel

After the Run action is executed, the log is updated and can be viewed from the inquiries screen or the script details screen. This will also activate the Purpose resolved/unresolved button. The final step of the data update flow involves validating the data and reporting whether the update was successful (purpose resolved) or not (purpose unresolved).

←

+ Upload new version

Process workflow

Options

🔍

Start	Test	Run	End
Approve Reject	Run test Accept test log	Run	Abandon Purpose resolved Purpose unresolved

As mentioned earlier, this will alter the status of the script at each of the specified steps.

3.2 Upload a new version of the existing script

Versioning is implemented to add a new version of the same script (for example, after updates are made to fix a previous failed run) while keeping everything within the same script.

Path:

System administration > Periodic tasks > Dyneria Smart > Smart script

To upload a new version of the script, click on the **Upload new version** button in the action pane to open the upload dialog. Since you are updating an existing script, you won't be able to change the name. Just select or browse the package file, wait for it to load, and then click the Upload button in the slider form. In the Details of the script section under Versions, you will be able to see the newly uploaded script, its file name, and event information about who uploaded it and when.

Finance and Operations

System administration > Periodic tasks > Dyneria Smart > Smart script

←

+ Upload new version

Process workflow

Options

🔍

Standard view ▾

Smart script details

Overview

Status	Purpose	Events
Uploaded	DyneriaCustomScriptTest_v3_05	[5/20/2024 07:53:57 pm] Uploaded by Victor. [5/20/2024 07:53:57 pm] Active version is updated to 1 by Victor. [5/30/2024 05:02:00 am] Approved by Grygory Ivanov. [5/30/2024 05:02:12 am] Failed by Grygory Ivanov. [5/30/2024 06:01:59 am] Uploaded by Grygory Ivanov.

Deployable package

Versions

+ Upload new version

▶ Activate version

Active	Version	Assembly name	Class name	File name
☐	1	Dynamics.AX.DyneriaCustomScriptTest, Version=0.0.0.0, Culture=neutral, PublicKeyToken=null	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v3_05.zip
☒	2	Dynamics.AX.DyneriaCustomScriptTest, Version=0.0.0.0, Culture=neutral, PublicKeyToken=null	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v3_04.zip

You can upload multiple versions of the script and decide which one to execute. This is useful during the testing phase to determine the best version. To activate a specific version in the grid, select it and click the 'Activate version' button. You can also upload a new version directly from the versions grid in the details view of the Smart Script form using the **Upload new version** button.

NOTE: You cannot upload a new version for the scripts in the final status (purpose resolved\unresolved).

3.3 View processed scripts logs

All logs are located under *System administration > Dyneria Smart > Smart script log*.

Finance and OperationsSystem administration > Inquiries > Dyneria Smart > Smart script logUSP2

Show logOptions

Smart script log

Standard view

Filter

Created date and time	Created by	Script Id	Version	Purpose	Test run	Log	Assembly name	Class name	File name
1/30/2024 6:31:36 PM	Grygory.Ivanov	(6748BDE5-40A3-4CB5-9E92-D...	2	Test_02	✓	[1/19/2024 12:26:41 Smart script test run [1/30/2024 06:31:35]	Dynamics.AX.DyneriaCustomScr...	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v1_02...
1/30/2024 6:36:12 PM	Grygory.Ivanov	(6748BDE5-40A3-4CB5-9E92-D...	2	Test_02	✓	Smart script test run [1/30/2024 06:36:11]	Dynamics.AX.DyneriaCustomScr...	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v1_02...
1/30/2024 6:36:58 PM	Grygory.Ivanov	(6748BDE5-40A3-4CB5-9E92-D...	2	Test_02	✓	Smart script test run [1/30/2024 06:36:57]	Dynamics.AX.DyneriaCustomScr...	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v1_02...
1/30/2024 6:50:12 PM	Grygory.Ivanov	(6748BDE5-40A3-4CB5-9E92-D...	2	Test_02		Smart script run [1/30/2024 06:50:12]	Dynamics.AX.DyneriaCustomScr...	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v1_02...
5/30/2024 5:02:12 AM	Grygory.Ivanov	(9FDF45E3-51A0-4425-816F-57...	1	DyneriaCust...	✓	Smart script test run [5/30/2024 05:02:10]	Dynamics.AX.DyneriaCustomScr...	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v3_05...
5/30/2024 5:02:25 AM	Grygory.Ivanov	(9FDF45E3-51A0-4425-816F-57...	1	DyneriaCust...		Smart script run [5/30/2024 05:02:25]	Dynamics.AX.DyneriaCustomScr...	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v3_05...
5/30/2024 5:25:19 AM	Grygory.Ivanov	(142E5028-7453-4270-80FA-3F1...	3	Demo 3		Smart script run [5/30/2024 05:25:19]	Dynamics.AX.DyneriaCustomScr...	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v3_04...
5/30/2024 5:38:12 AM	Grygory.Ivanov	(A9C47770-E25D-4D66-98E8-7F...	1	User guide ...	✓	Smart script test run [5/30/2024 05:38:12]	Dynamics.AX.DyneriaCustomScr...	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v3_05...
5/30/2024 5:45:00 AM	Grygory.Ivanov	(A9C47770-E25D-4D66-98E8-7F...	1	User guide ...		Smart script run [5/30/2024 05:44:59]	Dynamics.AX.DyneriaCustomScr...	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v3_05...

Log

Smart script run
[5/30/2024 05:44:59 am] Smart script is started
DyneriaCustomScriptTestJob v3.05
Domain Id: 2
[5/30/2024 05:44:59 am] Smart script is ended

The form includes information such as script name (Purpose), assembly details, class details, user and date/time stamp, package file, and script version. There is also a Show Log button that allows you to view the full log for the script. The preview version of the log is located at the bottom of the form and opens automatically.

Also, each script can be used to view logs directly from the script details form:
System administration > Periodic tasks > Dyneria Smart > Smart script, Details button, Log grid:

Finance and OperationsSystem administration > Periodic tasks > Dyneria Smart > Smart scriptUSP2

Upload new versionProcess workflowOptions

Standard view

Smart script details

Overview

Deployable package

Versions

Upload new versionActivate version

Active	Version	Assembly name	Class name	File name
☐	1	Dynamics.AX.DyneriaCustomScriptTest, Version=0.0.0.0, Culture=neutral, PublicKeyToken=null	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v3_05.zip
☒	2	Dynamics.AX.DyneriaCustomScriptTest, Version=0.0.0.0, Culture=neutral, PublicKeyToken=null	DyneriaCustomScriptTestJob	DyneriaCustomScriptTest_v3_04.zip

Log

Show log

Created date and time	Version	Test run	Log	Assembly name	Class name
5/30/2024 5:02:12 AM	1	✓	Smart script test run [5/30/2024 05:02:10 am]	Dynamics.AX.DyneriaCustomScriptTest, Version=0.0.0.0, Culture=neutral, PublicKeyToken=null	DyneriaCustomScriptTestJob
5/30/2024 5:02:25 AM	1		Smart script run [5/30/2024 05:02:25 am]	Dynamics.AX.DyneriaCustomScriptTest, Version=0.0.0.0, Culture=neutral, PublicKeyToken=null	DyneriaCustomScriptTestJob

3.4 Smart scripts workspace

System administration > Workspaces > Dyneria Smart script management

The new workspace is released to simplify and organize the work with custom scripts.

 Expand all  Collapse all

Workspaces

-  System administration
-  Data management 
-  Feature management
-  Dyneria Smart script management
-  Optimization advisor

Here

It contains a few cues:

- Active scripts;
- Successful scripts;
- Failed scripts;

Each of those leads to the Smart scripts form with a pre-defined filter set accordingly (active\successful\failed).

An additional preview is available for easier navigation under the Details section.

Finance and Operations

System administration > Workspaces > Dyneria Smart script management

Options

Dyneria Smart script management

Summary Report

Summary

2

Active scripts

2

Successful scripts

1

Failed scripts

Details

All scripts

Active scripts

Finalized scripts

Filter

Purpose	Active version	Status	Class name	Assembly name	Script Id
Demo 3	3	Purpose resolved	DyneriaCustomScriptTestJob	Dynamics.AX.DyneriaCustomScr...	{142E5028-74
DyneriaCustomScript...	2	Uploaded	DyneriaCustomScriptTestJob	Dynamics.AX.DyneriaCustomScr...	{9FDF45E3-51
Test_01	1	Abandoned	DyneriaCustomScriptTestJob	Dynamics.AX.DyneriaCustomScr...	{E2D50453-B4
Test_02	2	Purpose resolved	DyneriaCustomScriptTestJob	Dynamics.AX.DyneriaCustomScr...	{6748BDE5-40
Test_02	3	Purpose unresolved	DyneriaCustomScriptTestJob	Dynamics.AX.DyneriaCustomScr...	{0782F047-19
User guide demo	1	Run completed	DyneriaCustomScriptTestJob	Dynamics.AX.DyneriaCustomScr...	{A9C47770-E2

4 Support information

For further assistance, please email info@dyneria.com or visit <https://www.dyneria.com/#contacts> .