

# EXTENDED ASSIGNMENTS

## INSTALLATION AND CONFIGURATION MANUAL

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VERSION 1.1

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### **UNITFLY d.o.o.**

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# Required Vault Structure elements

Extended Assignments module creates a separate object on each assignment completion. To create a separate object, certain elements need to be created.

## Object Type

**Completion (required)**

## Class

**Completion (required)**

## Property definitions

**Assignments Completion (required)**

Choose from list "{Object Type you created}" (multi-select)

**Completion Name (required)**

Text

**Completion User (required)**

Choose from list "Users"

**Completion Date**

Date

**Completion Date UTC**

Date

**Completion Time**

Time

**Completion Time UTC**

Time

**Completion Timestamp**

Timestamp

**Identifier**

Text

**Notes:**

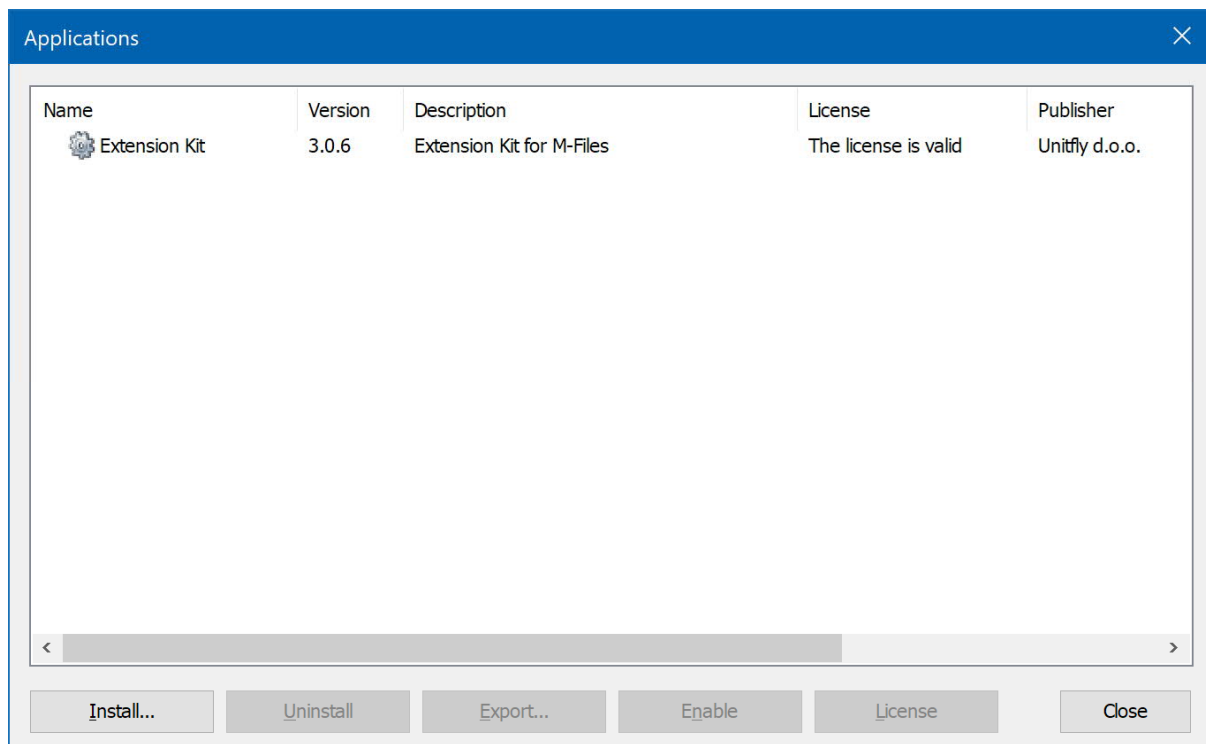
- Created class needs to have all the required properties
- Names for object types, classes and property definitions are not important as these elements are configurable in application configuration

# Installing Extension Kit

Perform the following steps to install the connector:

1. Open **M-Files Admin**.
2. In the left-side tree view, expand the desired connection to M-Files Server.
3. In the left-side tree view, expand **Document Vaults**.
4. Still, in the left-side tree view, right-click the document vault of your choice and select **Applications** from the context menu.

**Result:** The Applications window is opened.



5. Click the **Install...** button.
6. Locate the application package stored on your computer and click **Open**.
7. **Result:** You are prompted to restart the document vault.
8. Click **Yes** at the prompt

9. If you have open sessions in the selected vault, you are prompted to close any open sessions. Click Yes.
10. After the application is installed, click License to install a license for the connector.  
**Result:** The Application License Management dialog is opened.
11. Click the **Install License...** button.
12. Locate the license file stored on your computer and click Open.  
**Result:** The License status section should now state that your license is valid.
13. Click **OK** to close the Application License Management dialog.
14. Click **Close** to close the Applications window.

Extension Kit is now installed and should be listed in the *Applications* window.

## Configuring Extended Assignments

After you have successfully installed the application, you should configure Extended Assignments.

1. Open M-Files Admin
2. In the left-side tree view, expand the desired connection to M-Files Server.
3. In the left-side tree view, expand the Document Vaults node.
4. Still, in the left-side tree view, expand the vault where you installed the connector and select **Configurations**.
5. Expand *Other Applications*
6. Expand *Extension Kit*
7. Click on **Extended assignments**

Setting	Value	Description
Enabled	Yes/No	Specifies whether the module is in use.

### Vault Structure

Assignments completion object type	List of objects types	Specifies the object type of a created object. Defined in section 1.
Assignment completion class	List of classes	Specifies the class of created objects. Defined in section 1.
Assignments completion property	List of property definitions	Specifies property definition that will contain a list of all <i>Assignment Completions</i> . Defined in section 1.

### Vault Structure > Assignments Completion class properties

Completion Name	List of property definitions	Specifies property definition that will be the Name of newly created <i>Assignment Completion</i> . Defined in section 1.
Completion User	List of property definitions	Specifies property definition that will contain information about Users who completed the assignment.
Completion Date	List of property definitions	Specifies property definition that will contain information about the Date of assignment completion.
Completion Date UTC	List of property definitions	Specifies property definition that will contain information about Date UTC of assignment completion.
Completion Time	List of property definitions	Specifies property definition that will contain information about the Time of assignment completion.
Completion Time UTC	List of property definitions	Specifies property definition that will contain information about Time UTC of assignment completion.
Completion Timestamp	List of property definitions	Specifies property definition that will contain information about Timestamp of assignment completion.
Assignment	List of property definitions	Specifies property definition that will contain reference to assignment.
Identifier	List of property definitions	Specifies property definition that can be used as a more specific Identification of assignment that is completed. E.g. <i>Document Approval, Document Review...</i>
Apply to all or selected assignments	One of the following: <ul style="list-style-type: none"> <li>• All</li> <li>• Selected</li> </ul>	<p><b>All.</b> If this option is selected, every assignment completion will create <i>Assignment Completion</i> object (created in section 1 and configured previously) and add it to the assignment.</p> <p><b>Selected.</b> If this option is selected, a new configuration is visible (<i>Assignments filters</i>) that allows defining more specific rules. Rules allow the definition of Assignment classes and required property definitions that point to the object for which Assignment is created. That way you can create different Assignment classes and control for which classes you want to create a Completion object.</p>

Assignments filters	List of assignment filters	<b>(Displayed only if Apply to all or selected assignments flag is set to Selected)</b> List of filters that allow fine grained selection of assignment classes that trigger creation a Completion object.
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**Assignments filters > Assignment Filter [n]**

Assignment completion identifier	Text	Specifies identifier that will be added to newly created <i>Assignment Completion</i> object after assignments are completed. The identifier is used to add extra information to completion object.
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**Assignments filters > Assignment Filter [n] > Assignment**

Class	List of classes	Assignment class that filter rule applies to.
Source object property	List of property definitions	Specifies property that needs to exist on the Assignment to apply this rule.

**Assignments filters > Assignment Filter [n] > Source**

Completions property	List of property definitions	Assignment Completion reference that will be added to the source object when Assignment Completion is created.
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# Use Cases

## Document Approval Workflow with assignment completion information in document

### M-Files Elements

It is often the case, that customer needs to keep information about document approval (who approved and when) in the document itself. Even though the M-Files history has needed information, it is not possible to include that information in the document.

Extended Assignment module creates separate objects (in this example called *Approvements*) that contain information about who and when completed which Assignment.

To support this case, certain M-Files elements are created:

Element	Name	Description
Object Type	Approvement	An object of this object type will be created after a user marks assignment as completed
Class	Approvement	Object of this class will be created after user marks assignments as completed
Property Definition	Approvement Name	Name of Approvement object. Configured as a simple concatenating of properties: %Approver User% - %Approvement Date% - %Approvement Time% This property is very important as this property will be visible in the document.
Property Definition	Approver User	User that marks assignment as completed.
Property Definition	Approvement Date	Date when the assignment is marked as completed.
Property Definition	Approvement Date UTC	Date UTC when an assignment is marked as completed.
Property Definition	Approvement Time	Time when the assignment is marked as completed.



Property Definition	Approval Time UTC	Time UTC when an assignment is marked as completed.
Property Definition	Approval Timestamp	Timestamp when an assignment is marked as completed.
Property Definition	Document Approver Approvements	List of all approval objects for an assignment for Document Approver
Property Definition	Document Author Approvements	List of all approval objects for an assignment for Document Author
Property Definition	Document Reviewer Approvements	List of all approval objects for an assignment for Document Reviewer

Approval class with all properties:

Class Properties - Approval

General

Templates

Permissions

Automatic Permissions

Advanced

Name:

Approval

Object type:

Approval

Properties:

Name	Data Type	Required
Approval Name *	Text	<input checked="" type="checkbox"/>
Approval Date	Date	<input type="checkbox"/>
Approval Date UTC	Date	<input type="checkbox"/>
Approval Time	Time	<input type="checkbox"/>
Approval Time UTC	Time	<input type="checkbox"/>
Approval Timestamp	Timestamp	<input type="checkbox"/>
Approver User	Choose from list "Users"	<input type="checkbox"/>

Add...

Remove

Set As Name

↑

↓

The asterisk (\*) indicates the property that is used as the object name.

Basic properties:

Created; Created by; Last modified; Last modified by; Accessed by me; Repository; Location; Incomplete metadata

Default workflow for new objects:

☐ Force this workflow for new objects

OK

Cancel

Apply

Help

In most cases, document approval workflow has three important steps: authors approve, reviewers approve and final approval.



To support three different approval states we need to have three different assignment classes:

# Document Review Assignment	9 Assignment
# Document Author Approve Assignment	14 Assignment
# Document Approve Assignment	10 Assignment

Each step of the workflow will create separate assignments with different assignment class.

## Extended Assignment Configuration

With all the elements created, it is possible to configure the **Extended Assignments** module.

The first part of the configuration is used for connecting elements that module looks for and created elements:

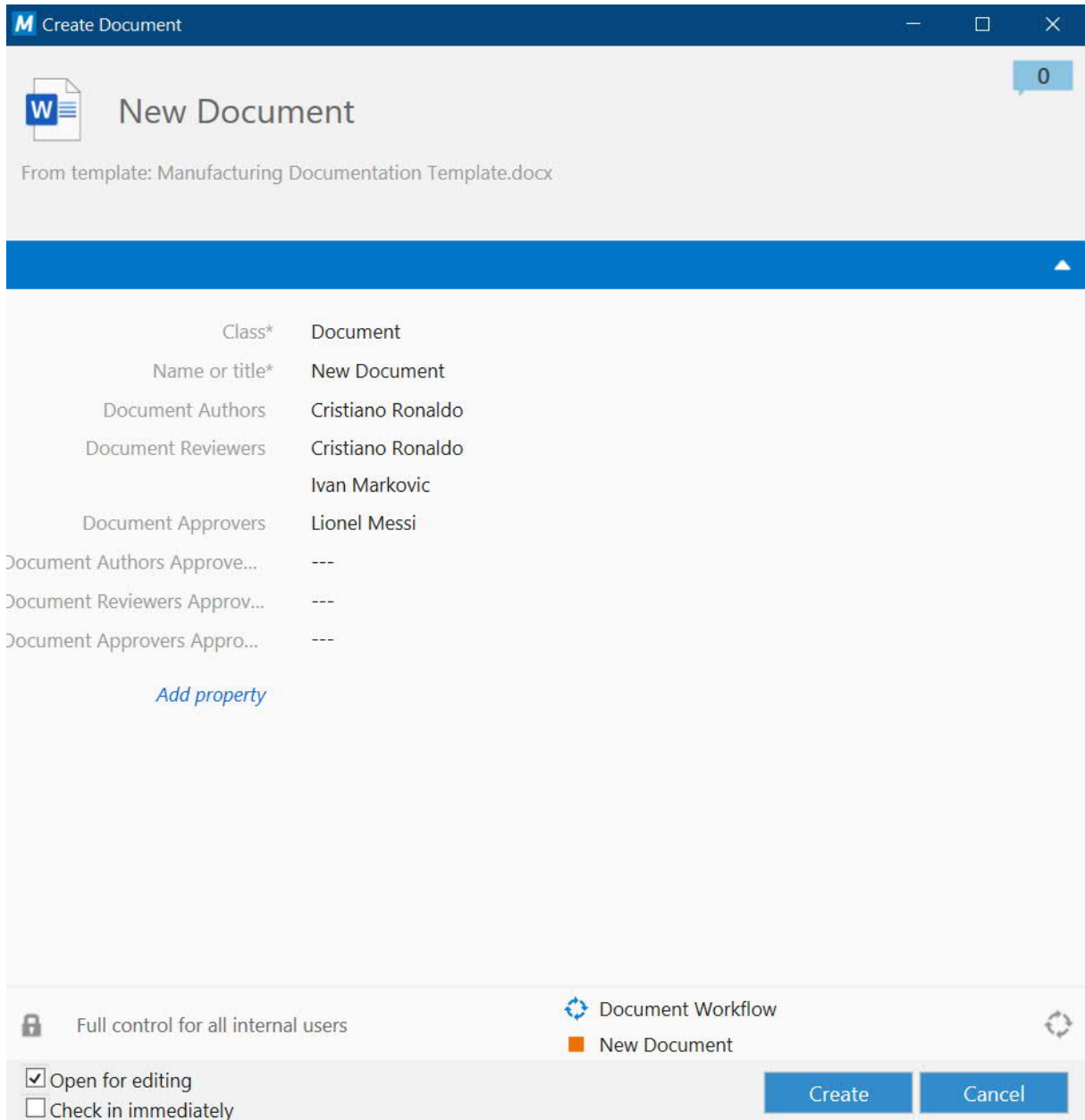
Enabled	Yes
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Vault Structure</li> <li> <ul style="list-style-type: none"> <li>Assignments Completion Object Type</li> <li>Assignments Completion Class</li> <li>Assignments Completion Property</li> </ul> </li> <li>Assignments Completion class properties <ul style="list-style-type: none"> <li>Completion Name</li> <li>Completion User</li> <li>Completion Date</li> <li>Completion Date UTC</li> <li>Completion Time</li> <li>Completion Time UTC</li> <li>Completion Timestamp</li> <li>Assignment</li> <li>Identifier</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Approvalment {F988773B-200D-4FCF-8322-BDF6AC589BC3}</li> <li>Approvalment {ADB074D1-4BFE-411A-89BE-47281BA3896A}</li> <li>Approvements {E932496A-4E5D-4E44-A89A-97F3FB46CA69}</li> </ul> </li> <li> <ul style="list-style-type: none"> <li>Approvalment Name {CE03169C-ACF0-4B92-BE6E-7FF6F67D54D5}</li> <li>Approver User {AF53870E-6629-4BF6-91B5-B9264619F019}</li> <li>Approvalment Date {F310E4B4-9674-4162-AC95-6DBB90044603}</li> <li>Approvalment Date UTC {84D5F10C-D9B8-483F-B3E3-CB451384BB3F}</li> <li>Approvalment Time {D35A7528-069A-4D75-ADC0-0C3A1070BA3C}</li> <li>Approvalment Time UTC {8FB09379-BAE8-4DF6-B487-FEB078C97344}</li> <li>Approvalment Timestamp {D328FF7B-FEC9-467A-B231-C60B5E3E2BB8}</li> <li>Property definition (not set)</li> <li>Property definition (not set)</li> </ul> </li> </ul> </li> </ul>

After that, for each assignment class, we will add Assignment Rule that will create Assignment Completion objects and add them to the referenced object (in our case *Document*) [Source Object Property] in property (in our case *Document Authors Approvements*, *Document Reviewers Approvements*, *Document Approvers Approvements*) [Completions property].

<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Assignments filters (3) <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>AssignmentFilter [1] <ul style="list-style-type: none"> <li>Assignment <ul style="list-style-type: none"> <li>Class</li> <li>Source object property</li> </ul> </li> <li>Source <ul style="list-style-type: none"> <li>Completions property</li> <li>Assignment Completion Identifier</li> </ul> </li> </ul> </li> <li>AssignmentFilter [2] <ul style="list-style-type: none"> <li>Assignment <ul style="list-style-type: none"> <li>Class</li> <li>Source object property</li> </ul> </li> <li>Source <ul style="list-style-type: none"> <li>Completions property</li> <li>Assignment Completion Identifier</li> </ul> </li> </ul> </li> <li>AssignmentFilter [3] <ul style="list-style-type: none"> <li>Assignment <ul style="list-style-type: none"> <li>Class</li> <li>Source object property</li> </ul> </li> <li>Source <ul style="list-style-type: none"> <li>Completions property</li> <li>Assignment Completion Identifier</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul> </li></ul>	3 Item(s) <ul style="list-style-type: none"> <li>Document Author Approve Assignment {43F50BFC-4FDE-4B44-A987-5AF715451423}</li> <li>Document {46CD95A3-F8F9-493B-B9CF-47DFB71E7B4F}</li> <li>Document Authors Approvements {24A92A4E-986B-4591-8DE9-03BACEE1C353}</li> <li>(not set)</li> <li>Document Approve Assignment {9847B728-BB66-4F0D-9C64-0F7E9CB2C27B}</li> <li>Document {46CD95A3-F8F9-493B-B9CF-47DFB71E7B4F}</li> <li>Document Approvers Approvements {E558E2C3-4929-4EEE-A705-559C24583FB8}</li> <li>(not set)</li> <li>Document Review Assignment {E892FF25-D9BA-4FF2-90D3-AEF06960054D}</li> <li>Document {46CD95A3-F8F9-493B-B9CF-47DFB71E7B4F}</li> <li>Document Reviewers Approvements {A1368C1B-33DD-424B-80EB-9A12C2D5A606}</li> <li>(not set)</li> </ul>
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## The Result

To create a new document, the user needs to select Author(s), Reviewer(s) and Approver(s).



Class*	Document
Name or title*	New Document
Document Authors	Cristiano Ronaldo
Document Reviewers	Cristiano Ronaldo
	Ivan Markovic
Document Approvers	Lionel Messi
Document Authors Approve...	---
Document Reviewers Approv...	---
Document Approvers Appro...	---

[Add property](#)

Full control for all internal users

Document Workflow

New Document

☒ Open for editing

☐ Check in immediately

Create Cancel

In the state *Document Authors Approve* separate assignment is created and assigned to Document Author – Cristiano Ronaldo. After Cristiano marks assignment as completed, Extended Assignments module creates a separate object (of class *Appovement*) and add this object to property metadata on Document (*Document Authors Approvements*)



## Cristiano Ronaldo - 1/14/2020 - 11:23 AM

Approvalment  
ID 26 Version 1


Created 14.1.2020. 11:23 (M-Files Server)  
Last modified 14.1.2020. 11:23 (M-Files Server)

0

▶ ✦ ★ ⚙️ ▲

Class*	Approvalment
Approvalment Name*	Cristiano Ronaldo - 1/14/2020 - 11:23 AM
Approvalment Date	14.1.2020.
Approvalment Date UTC	14.1.2020.
Approvalment Time	11:23:29
Approvalment Time UTC	10:23:29
Approvalment Timestamp	14.1.2020. 11:23
Approver User	Cristiano Ronaldo

[Add property](#)



## New Document

Document  
ID 10 Version 4

Created 14.1.2020. 11:19 Ivan Markovic  
Last modified 14.1.2020. 11:23 (M-Files Server)


0

▶ ✦ ★ ⚙️ ▲





Class*	Document
Name or title*	New Document
Document Authors	Cristiano Ronaldo
Document Reviewers	Cristiano Ronaldo Ivan Markovic
Document Approvers	Lionel Messi
Document Authors Approve...	Cristiano Ronaldo - 1/14/2020 - 11:23 AM <a href="#">🔗</a>
Document Reviewers Approve...	---
Document Approvers Approve...	---

[Add property](#)




The same behavior is for the next stages of Document Approval workflow and the result for this example is next:


**New Document**
0

Document  
ID 10 Version 9
Created 14.1.2020. 11:19 Ivan Markovic  
Last modified 14.1.2020. 11:28 (M-Files Server)

Class*	Document
Name or title*	New Document
Document Authors	Cristiano Ronaldo
Document Reviewers	Cristiano Ronaldo
	Ivan Markovic
Document Approvers	Lionel Messi
Document Authors Approvements	Cristiano Ronaldo - 1/14/2020 - 11:23 AM 
Document Reviewers Approvements	Cristiano Ronaldo - 1/14/2020 - 11:27 AM 
	Ivan Markovic - 1/14/2020 - 11:27 AM 
Document Approvers Approvements	Lionel Messi - 1/14/2020 - 11:28 AM 

[Add property](#)

 Full control for all internal users
Document Workflow 
Document Approved 

As it is visible, the document is now in state *Document Approved* with information about who, when and in which state, approved this document. Now it is possible to add information in the document.

Document Authors	Reviewed By	Approved By
Cristiano Ronaldo - 1/14/2020 - 11:23 AM	Cristiano Ronaldo - 1/14/2020 - 11:27 AM; Ivan Markovic - 1/14/2020 - 11:27 AM	Lionel Messi - 1/14/2020 - 11:28 AM

As this output with semicolons might not be good enough, we have created **Macro Properties** module which, among others, can convert multi-select lookups to the list of lookups displayed one value per line:

Document Authors	Reviewed By	Approved By
Cristiano Ronaldo - 1/14/2020 - 11:23 AM	Cristiano Ronaldo - 1/14/2020 - 11:27 AM Ivan Markovic - 1/14/2020 - 11:27 AM	Lionel Messi - 1/14/2020 - 11:28 AM

# Change History

Version	Date	Essential Changes
<b>1.0</b>	May 7 <sup>th</sup> 2020	Initial version.
<b>1.1</b>	May 15 <sup>th</sup> 2020	Update installation screenshot and configuration section.