M-FILES CORPORATION

DOCUSIGN INTEGRATION

VERSION 1.6

LAST UPDATED JUNE 30, 2020

Abstract

DocuSign is a web application that can be used for signing PDF documents. When integrated with M-Files, a document that needs to be signed is sent from M-Files to DocuSign, after which the DocuSign service sends an email notification to signers. Signers then sign the document and add other additional information using the DocuSign service. The document is also digitally signed at this point. The signed and updated document is then added to M-Files.

Keywords: DocuSign vault application

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1. Introduction

This document provides instructions for integrating DocuSign with M-Files. DocuSign can be used for signing documents when the signers do not have M-Files user accounts. The document is intended for individuals responsible for implementing the integration of DocuSign with M-Files.

1.1 Glossary and Acronyms

This table explains the essential, subject-specific terminology and acronyms used in this document.

TERM	DEFINITION
DocuSign	Web-based application for signing PDF documents.

1.2 Prerequisites

Please make sure your environment meets these requirements before moving forward.

1.2.1 M-Files Software Requirements

Make sure your M-Files software meets these minimum requirements:

M-FILES PRODUCT	VERSION
M-Files Server	M-Files 2018 or later

1.2.2 Data Transfer

Communication between the DocuSign vault application and DocuSign servers uses the HTTPS protocol, meaning that the data communication is in HTTP format and secured with SSL/TLS. The communication is always initiated by the DocuSign vault application, and thus the only port for outgoing HTTPS traffic that needs to be opened in the firewall is the default 443.

Additionally, some customers may have a requirement for limiting outgoing traffic to specific IP addresses. The up-to-date IP ranges for DocuSign servers are listed at https://www.docusign.com/trust/security/esignature.

1.2.3 E-mail Addresses

When there are changes (signing, declining, and so forth) in the documents, DocuSign sends an e-mail to the account that is used for sending the requests from the DocuSign vault application to the DocuSign servers (see section 2.3). These e-mails should be available if needed. The e-mail addresses from which the account should be able to receive e-mail messages are listed in *DocuSign Post API Certification Guide*. At the time of writing this document, the addresses are as follows:

- North America: dse@docusign.net, dse_na2@docusign.net
- Europe: dse_eu@docusign.net, dse_eu1@docusign.net

1.2.4   M-Files DocuSign Integration

M-Files DocuSign Integration is an additional component that needs to be purchased separately from M-Files. Contact your M-Files representative for information on acquiring the component.

1.2.5   DocuSign Subscription Plan

The M-Files DocuSign integration requires that the customer has a DocuSign subscription plan. See Plans and Pricing for different subscription plans. The DocuSign integration for M-Files currently supports only one user, so the plan can be selected by the number of documents that need to be sent for signature per month.

> **Note:** Also API plans can be used with the DocuSign integration, but the integration does not require an API plan.

2.   Setting Up the M-Files DocuSign Integration

This section explains the necessary steps for setting up the DocuSign integration with M-Files. After these steps have been completed, documents in M-Files can be sent to DocuSign for signing.

2.1 Installing the M-Files DocuSign Vault Application

Using M-Files Admin, install the M-Files DocuSign vault application to the vault of your choice. For detailed instructions, refer to the instruction Installing and Managing Vault Applications.

You may choose to restart the vault during the process or later. After you have restarted the vault, you can use Windows Event Viewer and Configuration from M-Files Admin to see any missing configuration parameters or incorrect configuration.

> **Note:** DocuSign integration needs a license to work, contact your dedicated M-Files representative or go to https://www.m-files.com/contact-us for information on acquiring the license.

2.2 Setting Up the Vault Structure

M-Files DocuSign integration requires a number of metadata structure elements to be added to the target vault.

2.2.1   Defining Configuration Values for the DocuSign Document

A DocuSign document represents the document that is sent to DocuSign for signature and retrieved from DocuSign after it has been signed. It can also be a multi-file document. In such a case, all PDF documents in the multi-file document are sent for signature. The document does not need to have a specific class or object type in order to be sent for signature. DocuSign documents are identified by the method described in section 2.2.4.

When the document is sent for signature or retrieved from DocuSign after the signing is complete, some of the property values in the table below are set by the vault application. The most important value here is the *DocuSign Envelope* that links the M-Files object to the DocuSign object. Create at least the required metadata elements according to the table below.

TYPE	NAME	REQUIRED	DESCRIPTION	VAULT APP VERSION
Property, Choose from list (multi-select)	Signer Group	Yes	The reference to the signer object(s). **Note**: It often makes sense to use an existing property definition such as *Contact Person* as the signer group property and to just add the alias chosen to it.	2.0.0.0 →
Property, Choose from list (multi-select)	Signer Group (Additional)	No	The references to additional signer object(s). Also used for signer routing (see section 2.2.3 further below for detailed instructions on how to set up and use signer routing). It is possible to set an unlimited number of signer group properties.	2.0.0.0 →
Property, Text	Envelope	Yes	The reference to a unique DocuSign envelope. This is used to retrieve completed documents from DocuSign. The property is updated in M-Files when sending documents for signature.	2.0.0.0 →
Property, Timestamp	Last Modified	Yes	The timestamp when the last DocuSign change occurred. The property is updated in M-Files when sending and receiving documents for signature.	2.0.0.0 →
Property, Text	Envelope Status	Yes	The status of the document according to DocuSign. The property is updated in M-Files when sending and receiving documents for signature or when canceling the signing process.	2.0.0.0 →
Property, Boolean	Disable DocuSign Routing	No	If set to "Yes", the document is sent for signing at the same time to all signers chosen from different signer reference lists.	2.0.0.0 →
Property, Multiline Text	File ID Mapping	No	Maps file GUIDs to file IDs the file referring to the document to be sent for signature. Each document has a unique GUID and ID which can be utilized to resolve vault replication ambiguities. This is only used if the *File GUID for Replication* setting is set to "Yes". See Table 5	2.0.0.0 →
Property, Text	Email Subject	No	The email subject message to be sent to the signer of the document. This property overrides the 'Default Email Subject' value set in the Advanced Configurations. See Table 5.	2.0.0.0 →
Property, Text	Email Response Message	No	The email response message received from the DocuSign signers.	2.0.0.0 →
Property, Multiline Text	Email Body Message	No	The email body message to be sent to the signer of the document. This property overrides the default body message sent by DocuSign within the email.	2.0.0.0 →
Property, Multiline Text	Void Signing Message	No	The email body message to be sent to the signer of the document as a reason for canceling the signing process. This property overrides the *Default Void Signing Message* set in the DocuSign configuration. See Table 5.	2.0.0.0 →
Property, Text	Names of Restricted Documents	No	The names of the documents that have restricted visibility for some signers. Names are separated by commas. For example: `Proposal.pdf,Contract.pdf`	2.0.0.0 →
Property, Number (integer)	Access Code	No	The access code required for signing the document. The value for this property is set automatically after the document has been sent for signing if using an access code has been enabled.	2.0.0.0 →

Property, Boolean	Require Electronic Identification	No	If set to "Yes", the signers will be required to make a strong identity verification before they can view and sign the documents. By requiring electronic identification, the DocuSign signature is regarded as strong identity verification. If not set, the default value is used as defined in Table 5. The `Name` property of the signer is matched with the name linked to the electronic verification account. Thus, make sure the document signers' names correspond to their personal identification, such as full official name. The electronic verification method depends on the region. For example, in Finland, Finnish banking credentials are used. To enable strong identity verification, you need to have a special subscription plan for DocuSign production account (*Business Pro account*). Additionally, you need to change the "Security Settings" specification of the DocuSign administrator account. In *Recipient Settings*, specify that "The sender can require that a recipient must authenticate on any envelope sent from this account".	2.0.0.0 →
Property, Choose from list (multi-select)	Waiting for Signers	No	A real-time list of signers, for a specific signer group, who have not yet completed the signing process (that is, signed or declined to sign the document). This property works together with the other signing process status properties *Signed by Signers*, *Declined by Signers*, and *Signer Status Change Timestamp*. To access this information in M-Files, you need to set up and configure property definitions for them all. See the end of section 2.2.2 for details.	2.0.0.7 →
Property, Choose from list (multi-select)	Signed by Signers	No	A real-time list of signers, for a specific signer group, who have signed the document. This property works together with the other signing process status properties *Pending Signers*, *Declined by Signers*, and *Signer Status Change Timestamp* properties. To access this information in M-Files, you need to set up and configure property definitions for them all. See the end of section 2.2.2 for details.	2.0.0.7 →
Property, Choose from list (multi-select)	Declined by Signers	No	A real-time list of signers, for a specific signer group, who have declined to sign the document. This property works together with the other signing process status properties *Pending Signers*, *Signed by Signers*, and *Signer Status Change Timestamp*. To access this information in M-Files, you need to set up and configure property definitions for them all. See the end of section 2.2.2 for details.	2.0.0.7 →
Property, Multiline Text	Date and Time of Completed Signing	No	The date and time when each signer completed signing process (that is, signed or declined to sign the document). This property works together with the other signing process status properties *Pending Signers*, *Signed by Signers*, and *Declined by Signers* properties. To access this information in M-Files, you need to set up and configure property definitions for them all.	2.0.0.7 →

Table 1: The property configuration values for the DocuSign document.

2.2.2   Defining Configuration Values for the Signer Reference

The signer group is a property value of the DocuSign document, defined by an alias as described in section 2.2.1. Create new metadata structure elements or set aliases for existing elements in M-Files Admin according to the information in the table below, corresponding to the main signer reference identified by the alias set for it:

TYPE	NAME	REQUIRED	DESCRIPTION	VAULT APP VERSION
Property, Text	Name	Yes	The name of the signer. The name property needs to exist in the signer object. The value is sent to DocuSign as the signer's name.	2.0.0.0 →
Property, Text	Email	Yes	The email address of the signer. The email property needs to exist in the signer object. DocuSign sends signing requests to the email address specified in this property.	2.0.0.0 →

Table 2: The metadata elements for signers.

In most cases, it makes sense to use an existing metadata element as signer reference, such as *Contact Person*, and to make sure that it has the properties (with the required aliases) described in the table above. The signer object represents the person who signs the document when it is sent to DocuSign. The name and e-mail address of the signer are used for communicating with DocuSign and for identifying the signer.

It is possible to define multiple signer groups for a DocuSign document by using distinct aliases of additional signer groups, as described in Table 1. These multiple signer groups can be of different object types. The use of multiple signer groups also enables the use of signer routing, which is discussed in more detail in section 2.2.3. When defining additional signer groups in the DocuSign document, it is necessary to also define the corresponding *Name* and *Email* properties for them using the same method as described in Table 2. Therefore, there can be multiple *Name* and *Email* properties that can then be associated with different signer groups in the DocuSign configuration as described in section 2.3.

It is also possible to configure properties for each signer group defined to follow the signing process in M-Files. You can configure distinct *Waiting for Signers*, *Signed by Signers*, and *Declined by Signers* properties for each signer group as described in Table 1. These properties should be of same object type as the corresponding *Signer Group*. For instance, if the *Signer Group* property is of the *Contact Person* object type, the *Waiting for Signers*, *Signed by Signers*, and *Declined by Signers* properties must also be of the *Contact Person* type.

> **Note**: It is mandatory to configure proper access control list settings for the signer object you are creating. Otherwise a malicious user could possibly access that object and, for example, change the *Email* property with their own email address. This way, some documents could reach a user who should not be able to see them.

2.2.3 Signer Routing

When at least one additional signer group property is used for a DocuSign document, the document to be signed is first sent to only the signers selected in the first signer group property. After all of them have signed, the document is sent to all the signers selected in the second signer group property, and so on until the last non-empty signer group property. The main and additional signer group properties are identified by using aliases as defined in section 2.2.1.

It is important to note that the routing order for signer group properties is defined based on the order in which they are configured in the workflow configuration as described in 2.3.

> **Example: Signer Routing**
>
> If you configure signer group properties with aliases DocuSign.SignerRef.Default, DocuSign.SignerRef.Customer, and DocuSign.SignerRef.HR in this order to a workflow, the document is first sent to the signers defined via DocuSign.SignerRef.Default property. After all the signers have signed the document, it is sent to the signers defined

> via `DocuSign.SignerRef.Customer` property, and finally to the signers defined via the `DocuSign.SignerRef.HR` property.

Signer routing can be disabled by adding a Boolean property with the alias `MF.PD.DocuSign.DisableDocuSignRouting` to the document, and by setting its value to "Yes". This ensures that the document is sent for signing to all signers chosen from different signer reference lists at the same time. This option can be useful when additional signer references are used only to support multiple signer object types, but the routing functionality is not needed.

The vault application writes information about any additional signer properties it has identified to the Windows Event Viewer after the vault is brought online. It also writes this information to the event viewer every time the workflow configuration is changed in M-Files Admin while the vault is running.

2.2.4   Defining Configuration Values for DocuSign Integration

The DocuSign integration with M-Files is set up using workflows. The validity of the configuration values is checked during system startup and the results are shown in in the configuration in M-Files Admin as well as in Windows Event Viewer. It is not possible to use the DocuSign integration before all the mandatory configuration values are correctly defined and no errors occur. The validity is also checked every time the configuration is changed even when the vault is online. Thus, there is no need to take the vault offline and bring it back online for the changes to take effect.

Setting Up Workflows for Configuration

The documents that are to be sent to DocuSign for signature need to be in the DocuSign workflow. Create a new workflow or edit an existing workflow according to the information presented in the table below.

TYPE	NAME	DESCRIPTION	VAULT APP VERSION
Workflow	DocuSign workflow	The workflow to be set for documents to be signed.	2.0.0.0 →
Workflow state	Unsigned	The "Unsigned" state in the workflow.	2.0.0.0 →
Workflow state	Sent for signing	The "Sent for signing" state in the workflow.	2.0.0.0 →
Workflow state	Signed	The "Signed" state in the workflow.	2.0.0.0 →
Workflow state	Void Signing	The "Void Signing" state in the workflow.	2.0.0.0 →
Workflow state transition	From "Unsigned" to "Sent for Signing"	The state transition from the "Unsigned" state to the "Sent for signing" state.	2.0.0.0 →
Workflow state transition	From "Sent for Signing" to "Void Signing"	The state transition from the "Sent for Signing " state to the "Void Signing" state.	2.0.0.0 →

Table 3: Workflow for DocuSign Configuration.

Modify the workflow to allow state transitions as displayed in Figure 1. Documents are initially in the "Unsigned" state. They are sent to DocuSign for signature by changing the workflow state to "Sent for signing". When the documents are signed, the vault application moves the documents to the "Signed" state. If some signers refuse to sign the document or the signing process is canceled, the documents are moved back to the "Unsigned" state.
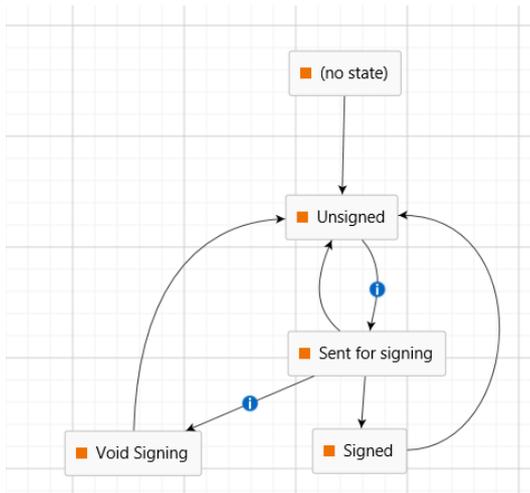
Figure 1: States and state transitions in the DocuSign workflow.

> **Note**: Above is a sample workflow created from scratch. You can also modify your existing workflow to act as a trigger to send documents to DocuSign. Just ensure that you configure the workflow following the instructions given in the table above.

The workflow-based configuration also supports multiple workflows for enabling the DocuSign functionalities to be used with different document classes, each of which might already have its own workflow defined. This way, you do not need to set each document class to use a specific DocuSign workflow, but instead, you can set the class-specific workflow to trigger the DocuSign process.

Additional workflows with unique aliases are defined in the same way as the default one as described in Table 3 but with different states and state transitions with aliases that differ from those of other configured DocuSign workflows. You also need to add at least one signer group to every workflow with their name and email properties. The alias of each signer group must be distinct. Signer groups are configured as a part of the workflow configurations as described in 2.3.

> **Note:** If the DocuSign signing process is canceled (voided), a reason must be provided for canceling the process. The reason can be defined in the metadata field "DocuSign Cancel Signing Message". If the message is not provided in the metadata, a default message is used. It can be defined in the *Advanced Configurations* in M-Files Admin (see section 2.3.2).

2.3 Setting Up DocuSign Integration Configuration via M-Files Admin

In addition to the vault structure, you need to set configuration values via M-Files Admin to take DocuSign Integration into use. You need vault administrator credentials to set up the configuration. Specify at least all the mandatory configuration values introduced below.

Follow the instructions below to set up the DocuSign configuration:

1. Open M-Files Admin access the document vault of your choice.
   a. Open M-Files Admin.
   b. In the left-side tree view, expand the desired connection to M-Files Server.

      c.   In the left-side tree view, expand **Document Vaults**, and then expand the document vault of your choice.

2. Still in the left-side tree view, select **Configurations**, and then in the gray navigation area, Expand **Other Applications.**

3. Select **M-Files DocuSign Integration**.

4. Open the *Configuration* tab. All the mandatory fields you need to define are highlighted in red when not set or valid.

5. Set values to the *DocuSign Username* and *DocuSign Password* fields according to the table below. Note that the DocuSign account must have the "DS Sender" permission enabled in DocuSign. The account must be able to receive e-mail messages from DocuSign as these messages contain information that is not otherwise available. Similarly, all users who can send documents to DocuSign from M-Files must be able to receive e-mails from DocuSign.

NAME	TYPE	DEFAULT VALUE	DESCRIPTION	VAULT APP VERSION
DocuSign Username	String	""	The username of the DocuSign account that is used for sending documents for signature.	2.0.0.0 →
DocuSign Password	String	""	The password of the DocuSign account that is used for sending documents for signature.	2.0.0.0 →

Table 4: Credentials configuration for the DocuSign vault application in the M-Files Admin.

6. Set values to the other mandatory fields *Envelope, Last Modified* and *Envelope Status*. See Table 1 for the descriptions of these properties.

7. Expand **Workflow Configurations** and select **Add WorkflowConfiguration** to define a workflow that has been set up according to the instructions in section 2.2.4.

      a.   Expand **WorkflowConfiguration [1]**.

      b.   In the **Name** field, give a display name, such as `Default Workflow`, for the workflow.

      c.   Select the desired workflow in the **Workflow Property** field.

      d.   Configure workflow state and transition fields according to the selected workflow.

8. Under *WorkflowConfiguration [1]*, expand **Signer Groups** and select **Add SignerGroup** to associate a signer group to the workflow.

      a.   Expand **SignerGroup [1]**.

      b.   In the **Name** field, give a display name, such as `External Signers`, for the workflow.

      c.   Select the desired signer group in the **Signer Group Property** field.

      d.   Configure the name and email of that signer group as defined in 2.2.2.

      e.   **Optional:** To allow or restrict the visibility of some sent documents for the signers belonging to this group, expand **Signer Group's Properties** and modify the **Show Restricted Documents** value. More information about restricting the visibility of documents can be found in Section 4.

      f.   **Optional:** Add another signer group to the workflow by repeating the step.

9. **Optional:** Repeat the steps from 8 to 9 to add additional workflow configurations.

10. **Optional:** Modify or define the advanced configurations to best suit your needs. For detailed instructions, see sections 2.3.1 and 2.3.2.

11. Once you are done, click **Save**. If you get an error status, click Local and Server tabs at the bottom of the page and see the lines presented with a red status symbol. Modify and save the configuration according to the error messages until it is resolved without errors.

> **Note**: A specific workflow can be configured only once. The same applies also to signer groups: if it has been configured once, it cannot be used again.

2.3.1 Defining Advanced Configurations

If you want to customize the DocuSign integration user experience or take advantage of extra features that are not enabled by default, access the **Advanced Configurations** on the DocuSign Configuration tab and modify the values listed in the table below to best suit your needs.

NAME	TYPE	DEFAULT VALUE	DESCRIPTION	VAULT APP VERSION
Default Email Subject	String	"Please sign this document"	The default e-mail message to be sent along with a signed document. Used for example in the email subject field in the message that DocuSign sends to signers.	2.0.0.0 →
Default Void Signing Message	String	"DocuSign signing process has been canceled."	The default email message to be sent to the signer as a reason for canceling the signing process.	2.0.0.0 →
Hide Placeholders	Boolean	True	If true, placeholders are hidden automatically.	2.0.0.0 →
Include Summary Document	Boolean	True	If true, the summary document received from DocuSign is stored.	2.0.0.0 →
Default Summary Document Name	String	"Summary"	The name of the summary document received from DocuSign. You cannot send documents for signature with this name.	2.0.0.0 →
Use DocuSign Demo Environment	Boolean	False	If true, the DocuSign demo environment (https://demo.docusign.net/) is used instead of the production environment. Use this only for demonstration purposes. Documents signed in the demo environment are not intended to be legally binding.	2.0.0.0 →
Fetch Signed Documents	Boolean	True	If true, the documents signed by the signers are fetched from DocuSign.	2.0.0.0 →
Write Debug Information	Boolean	False	If true, debug information is written to the Windows event log.	2.0.0.0 →
Require Access Code for Signing	Boolean	False	If true, the access code is required for signing documents. The access code is generated automatically to the DocuSign *Access Code* property when the document is sent for signing.	2.0.0.0 →
File GUID for Replication	Boolean	False	If set to "True", file GUIDs are used to resolve vault replication ambiguities by mapping GUIDs to IDs. The file refers to the document to be sent for signature. Each document has a unique GUID and ID which can be utilized to resolve vault replication ambiguities. The mapping is done in *File ID Mapping* property. See Table 1.	2.0.0.0 →
Require Electronic Identification by Default	Boolean	False	If set to "True", all signers will be asked by default to verify their electronic identity (e.g. through banking credentials) before viewing and signing the document.	2.0.0.0 →
Envelope Expiration Enabled	Boolean	True	If set to "True", the sent documents will expire after a defined number of days if not signed.	2.0.0.0 →

Envelope Expire After Days	Number	60	Number of days after which the sent documents will expire if not signed.	2.0.0.0 →
Envelope Expire Warning Days	Number	7	Number of days before the sent documents' expiration date when signers will start receiving warning emails about the expiration.	2.0.0.0 →

Table 5: Advanced configuration values for the DocuSign vault application.

2.3.2 Defining Advanced Property Configurations

If you want to take advantage of the optional configuration values (other than "Signer Group (Additional)") defined in 2.2.1, access the **Advanced Configurations** on the DocuSign Configuration tab and configure the values as necessary. By default, these property configurations are not set.

2.4 Customizing DocuSign Look and Feel

You can customize the DocuSign look and feel for senders and signers by changing the branding settings of the DocuSign Admin account. For example, to customize the layout of the email received by a signer, complete the following steps:

1. Log in with the DocuSign Admin account and navigate to **Brands**.

2. On the *Signing* tab, in the list of brand profiles, select the brand for the email profile that you want to customize. If no brands exist, select **ADD BRAND** to create one.

3. Click the **Resource Files** link.

4. In the *Select Resource File type* drop-down menu, select *Email* and click **Download Master**.

    The email resource file is downloaded as an XML file to your computer.

5. Open the XML file in a text editor and customize it according to your needs.

6. After making changes to the resource file, select **Upload** on *Email Resource File*.

7. Select the customized XML file and click **UPLOAD**.

8. Finally, ensure that the customized brand is the default:

    a. Navigate to *Brands > Signing* and locate the brand you customized.

    b. Click the menu icon and select **Set as Default**.

The layout of the emails is now based on the customized file.

3. Placeholders

After the DocuSign vault application has been configured and is running successfully, signatures can be added to any PDF file. Without placeholders, the signing is freeform, so the signer is responsible for adding the signature and other information via the DocuSign user interface. The document is always digitally signed by DocuSign, but the actual act of inserting initials or signatures is not guaranteed.

To force the insertion of initials and signatures into a document, placeholders can be used. A placeholder consists of text that is inserted into a document prior to converting the document to the PDF format. The lower-left corner of the placeholder in the document corresponds to the lower-left corner of the placeholder in the DocuSign user interface. By default, the DocuSign vault application makes the placeholder invisible as part of the process of sending the document for

signature. Another alternative is to change the placeholder font color so that the placeholders are indistinguishable from the background.

Note that placeholders may require positional adjustments to existing documents, so it is recommended that when inserting placeholders to existing documents, the results be reviewed before the documents are sent to customers.

Also note that you can have placeholders for initials without signature placeholders and vice versa, but the number of different placeholders must not exceed the number of signers. If the number of signers exceeds the number of placeholders, the remaining signers sign the documents in DocuSign using freeform signing.

3.1 Incremental Placeholders and Explicit Placeholders

There are two types of placeholder formats available: incremental placeholders and explicit placeholders.

Either incremental or explicit placeholders can be used for signatures in a single document, but not both at the same time. Similarly, and independently from the choice of signature placeholders, either incremental or explicit placeholders can be used for initials, but not both simultaneously. The same applies for the date signed placeholders as well (see section 3.4).

Incremental placeholders are matched with signers in the order the signers are stored in the designated property. The first signer matches the placeholders indicated by the number "1" (for example, `<#DS1#>` and `<#DI1#>`), the second signer matches the placeholders indicated by the number "2" (for example, `<#DS2#>` and `<#DI2#>`), and so forth. If the metadata includes more than one property for signers, the numbering of placeholders simply continues to the next property.

Incremental placeholders do not support the use of multiple signer group properties in the general case.

Explicit placeholders use the name of the signer property to identify the signer reference despite the ordering on the metadata card, followed by an index for identifying the appropriate signer in the list. To illustrate, with regard to Figure 2, the placeholder `<#DS.DocuSign Signer Reference.1#>` refers to "First Signer" in the "DocuSign Signer Reference" property and `<#DS.DocuSign 1st additional level.2#>` refers to "Employee Two" in the "DocuSign 1st additional level" property.

Figure 2: Signer group properties on the metadata card.

3.2 Signature Placeholders

Signature placeholders require that the signers insert their DocuSign signature into the placeholder position.

The following incremental signature placeholders can be used:

`<#DS1#>,<#DS2#>,<#DS3#>,<#DS4#>,<#DS5#>,<#DS6#>,<#DS7#>,<#DS8#>,<#DS9#>`

In addition, up to nine explicit signature placeholders for each signer reference property are available. The placeholder must match the name of the property. For instance, for a property titled "DocuSign Signer", the placeholders would be of the following format:

`<#DS.DocuSign Signer.1#>,<#DS.DocuSign Signer.2#>` […] `<#DS.DocuSign Signer.9#>`

A single signature placeholder always corresponds to a single signer. Multiple signatures can be requested from a single signer by inserting the same signature placeholder more than once into a document.

3.3 Placeholders for Initials

Placeholders for initials require that the signers insert their DocuSign initials into the placeholder position.

The following incremental placeholders for initials can be used:

`<#DI1#>,<#DI2#>,<#DI3#>,<#DI4#>,<#DI5#>,<#DI6#>,<#DI7#>,<#DI8#>,<#DI9#>`

In addition, up to nine explicit placeholders for initials per each signer reference property are available. The placeholder must match the name of the property. For instance, for a property titled "DocuSign Signer", the placeholders would be of the following format:

`<#DI.DocuSign Signer.1#>,<#DI.DocuSign Signer.2#>` […] `<#DI.DocuSign Signer.9#>`

A single placeholder for initials always corresponds to a single signer. Multiple initials can be requested from a single signer by inserting the same placeholder for initials more than once into a document.

3.4 Placeholders for Date of Signing

Placeholders for date ensure that the date of signature is displayed in the placeholder position. This kind of placeholder refers to the date or time when a specific signer signs the document. By adding multiple date signed placeholders, we can have signature time stamps for multiple signers. While signing, the time stamp of the signature is automatically displayed in the placeholder position and the signer does not need to enter the date manually.

The following incremental placeholders for date signed can be used:

`<#DD1#>,<#DD2#>,<#DD3#>,<#DD4#>,<#DD5#>,<#DD6#>,<#DD7#>,<#DD8#>,<#DD9#>`

In addition, up to nine explicit placeholders for date signed per each signer reference property are available. The placeholder must match the name of the property. For instance, for a property titled "DocuSign Signer", the placeholders would be of the following format:

`<#DD.DocuSign Signer.1#>,<#DD.DocuSign Signer.2#>` […] `<#DD.DocuSign Signer.9#>`

A single placeholder for date signed always corresponds to a single signer.

> **Note**: To be able to set different date and time formatting for the date signed placeholder, you need to configure the document formatting options of the DocuSign Admin account under **Signing Settings**.

3.5 Limitations

Placeholders must not be placed over images, watermarks, or other colored elements in a document. Inserting placeholders over such elements causes the placeholders to become visible, which in turn causes visual distortions in the underlying elements and the signature pictures. If you need to insert placeholders over colored elements, you currently need to disable the automatic hiding of placeholders and hide the placeholders manually.

4. Restricting Document Visibility

The visibility of documents can be limited to specific users. If we are sending multiple documents to multiple signers, we might want to restrict the visibility of some documents for specific users. This can be done on the signer group level. All signers belonging to the same signer group are either allowed or not allowed to view restricted documents based on the configuration we have set.

The signer groups can be found under **Workflow Configurations** in the DocuSign integration configuration in M-Files Admin. The document visibility settings for signer groups are configured for each workflow separately. Follow the steps below to restrict the visibility of documents:

1. Go to **M-Files DocuSign Integration** in M-Files Admin and open the *Configuration* tab. For detailed instructions, see the first steps in section 2.3.
2. Expand first **Workflow Configurations** and then the workflow of your choice. Continue expanding *Signer Groups* and, once more, the signer group, whose document visibility you want to restrict.
3. Expand **Signer Group's Properties** to access the field **Show Restricted Documents.**
4. Set the **Show Restricted Documents** value to *Yes*. This means that the signers of that signer group are be able to see the restricted documents and vice versa. By default, the value is *No*.
5. Write the names of the documents for which you want to restrict the visibility to the *Names of Restricted Documents* field on the metadata card as described in Table 1. The names are separated by commas. If the name written is not available in the documents to send, the sender sees an error message. The documents named differently than the names defined in this field will be visible to all signers no matter which signer group they belong to.

> **Note**: To be able to restrict the document visibility, you would need 'Enterprise Pro' license to use this feature for free and for 'Business Pro' account you would have to pay extra per envelope. It doesn't work with subscriptions below 'Business Pro'. Also, once you have a proper subscription, you need to change the "Sending Settings" of the DocuSign administrator account. In *Document Visibility*, specify that 'Sender can set "must sign to view unless sender" '.

5. Using DocuSign Integration

When the object has one or more PDF files and is in the appropriate DocuSign workflow or has the appropriate DocuSign property, the documents can be sent to DocuSign for signature. The vault application periodically checks the state of the documents and retrieves the documents when they have been signed.

5.1 Sending Document for Signature

5.1.1 Converting Documents to the PDF Format

Once you have inserted any necessary placeholders to a document, convert it to the PDF format. The conversion is required as DocuSign signs only PDF documents. Similarly, M-Files sends only PDF documents to DocuSign for signature. For multi-file documents, only PDF files are sent for signature.

In a multi-file document, the files are sorted based on their name (the title property) before they are sent for signing. If you want the files to be sent in a specific order, you can add a number prefix to the name of the file, for example like so: `1_Summary.pdf` and `2_Contract.pdf`.

5.1.2 Inserting Signers

Insert the DocuSign signers into the metadata of the document. At least one signer is required. Remember that the number of signers should match the number of placeholders in the document or documents.

5.1.3 Moving to the "Sent for Signing" Workflow State

Select the document that you want to send for signature and change the DocuSign workflow state to "Sent for Signing" and save the changes. This causes the document to be sent for signature.

When the document is sent for signature, the following actions take place in M-Files:

- If the document is modified by hiding placeholders, a new document version is added to M-Files.
- The property values for "Envelope", "Last Modified" and "Envelope Status" are added to the document metadata.

When the document is sent for signature, the following actions take place in DocuSign:

- The document becomes available in DocuSign.
- DocuSign sends signing requests to the signers that are defined in the metadata of the document.

5.1.4 Moving to the "Voided" Workflow State

It is possible to cancel (void) the signing process after the documents have been sent for signing if all the signers have not yet signed the documents. Change the workflow state to "Void Signing", give a reason for the canceling process to the "Void Signing Message" property and save the changes. This causes that the signing process is canceled, and the void signing message is sent to the signers. If the "Void Signing Message" property is not filled, the default message is used.

When the document is voided, the following actions take place in M-Files:

- The document is automatically moved to the "Unsigned" state.
- The "Last Modified" and "Envelope Status" property values are updated in the document metadata.
- Voided versions of the files are added to M-Files.
- The summary document is added to M-Files if *Include Summary Document* is set to "True". The summary document according to the *Default Summary Document Name* field. See Table 5 for more information.

When the document is voided, the following actions take place in DocuSign:

- The state of the document becomes "voided".
- Emails about voided documents are sent to the signers defined in the metadata of the document.

5.2 Fetching Completed and Declined Documents

Every 20 minutes the DocuSign vault application checks the DocuSign server for changes made to the documents that are in the "Sent for signing" workflow state in M-Files. If there is such a large number of documents in the "Sent for signing" state that full search is not possible, a segment-based full search is done after 24 hours to get the status of all the documents.

When the document state or the state of a signer changes for a document in DocuSign, the following events take place in M-Files:

- A document that has been updated is downloaded from DocuSign and updated in M-Files. The document is updated every time a signer completes the signing process. Note that this takes place only if the property definitions *Pending Signers*, *Signed by Signers*, *Declined by Signers*, and *Signer Status Change Timestamp* have been set up and configured.
- A document that has been signed is automatically moved to the "Signed" state and a document that has been declined, deleted or voided in DocuSign is automatically moved back to the "Unsigned" state.
- The "Last Modified" and "Envelope Status" property values are updated in the document metadata.
- Signed versions of the files are added to M-Files.
- The summary document is added to M-Files if *Include Summary Document* is set to "True". The summary document according to the *Default Summary Document Name* field. See Table 5 for more information.

When the document state changes in DocuSign, the following events take place in DocuSign:

- The signature process has already been completed by this stage and the status of the document has been updated accordingly. Nothing is changed at this point in DocuSign.

5.3 E-mail Messages from DocuSign

The DocuSign account defined in the M-Files Admin receives an e-mail message from DocuSign whenever documents are reviewed or completed and most importantly when the e-mail address of the signer cannot be reached. These e-mail messages should be sent to all signers.

6. Known Issues

6.1 Exceptions when Sending

Exceptions that occur after a document has been sent to DocuSign but before the changes have been saved to M-Files are problematic as the document has already reached the signers, but relevant information from DocuSign cannot be stored, which enables the document to be retrieved after it has been signed. Most of such errors are manageable, but script timeout errors can occasionally occur.

Currently, the workaround for these issues is to manually retrieve the DocuSign envelope ID from the DocuSign environment and add it to the "DocuSign Envelope" property value of the M-Files object and move it to the "Sent" workflow state. Alternatively, the signed documents can be moved from DocuSign to M-Files manually and the workflow state can be switched to "Signed" manually.

6.2 Placeholder Visibility

Currently, the placeholders are not really invisible. They are only transparent in a similar way that Microsoft Word treats transparency, so positioning placeholders on top of colored elements will cause the placeholders to be visible.

7. Change History

The table below describes the essential changes by document version.

VERSION	DATE	ESSENTIAL CHANGES
1.0	2019-10-17	Initial published version.
1.1	2019-10-28	Note added under section 2.2.2.
1.2	2020-01-29	One metadata element removed from the table under section 2.2.1.
1.3	2020-02-25	Section 2.4 updated. Added steps to set the brand as default and modified the whole instruction based on DocuSign instructions.
1.4	2020-03-03	Link updated in section 1.2.2.
1.5	2020-04-17	Added new properties related to signer status to the table in section 2.2.1. Related functionality description added to section 5.2.
1.6	2020-06-30	Sections 2.2.1 and 2.2.4 updated.

8. Reference Documents

You may want to see these articles for additional information:

- DocuSign tutorials
- DocuSign Post API Certification Guide