



White Paper

InDesign Integration

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Content

1 Introduction	4
2 InDesign Server Integration	4
2.1 Use by the administrator	4
2.1.1 Create production service	4
2.1.2 Create a layout template	5
2.1.3 Creating a Deployment Format	8
2.1.4 Share Deployment Format	8
2.1.5 Assign Deployment Format	8
2.2 User perspective	8
2.2.1 Working in the Structure Tree and Flatplan	9
2.2.2 Place content again	9
2.2.3 Write XML content back	10
3 Working in the InDesign Desktop application	10
3.1 InDesign Plugin	10
3.2 Synchronized folders and local files	10
4 Prepare InDesign files	11
4.1 General structure	11
4.2 XML structure	11
5 JSX Scripting	12

1 Introduction

Adobe InDesign Server is an Adobe production service based on the InDesign software. Essentially, it is a server-based version of the InDesign application that enables automated and scalable processing of documents. The software efficiently ensures the creation and updating of print materials, electronic publications, and other digital media. InDesign Server can be seamlessly integrated with existing production systems or workflows. The software offers high performance and scalability to efficiently process large volumes of documents.

By creating templates and placement rules, you achieve automatic typesetting of layouts. This enables efficient production of documents in different formats and variants.

An InDesign plugin allows manual post-processing of InDesign documents in the local desktop application and synchronizes the content with the Fabasoft Cloud.

The automated generation of PDF files from the created layouts with the help of the InDesign book functionality in turn enables the digital provision of complex documents.

2 InDesign Server Integration

Currently, the InDesign Server 2022 version is supported in the system.

2.1 Use by the administrator

Administrators are authorized to store individual configuration files for their Multichannel Publishing solution.

2.1.1 Create production service

A production service allows the creation of publications from products. General, global settings can be maintained at this point, e.g. to store customer-specific fonts or profiles. To create a production service for the InDesign Server, proceed as follows:

1. Navigate from the Publishing Dashboard to the Publishing Configuration using the „Switch to Configuration “-action.
2. Navigate to the list of "Production Services".
3. Create a new production service via the "Create Production Service" action.
4. Select "InDesign 2022 Production Service" from the list of services.
5. In the next step, name, fonts and ICC profiles as well as an Adobe color settings file can be stored for the production service. If required, different configurations can be created for several production services.
 - **Fonts**
Click on Add entry to add fonts from your network environment. If you want to link fonts from the DAM, please select Search and add. The font will later be sent to the production service for processing.
 - **ICC Color Profiles**
Click on Add entry to create new ICC color profiles (.icc). If you want to link color profiles from the DAM, please select Search and add.
Note: If you produce with an ICC profile for the first time, the production will take much

longer than consecutive productions, because the registration of the profile on the server takes some time.

- **Adobe Color Settings File**

You can upload a color settings file via the "Select file" entry. Here you can store a .csf file, which you can get from local Adobe applications by saving the color settings.

Note: For the creation of a PDFX3 or PDFX4 via the .joboptions file a color profile is mandatory.

After confirming the configuration by clicking "Next", the newly created production service appears in the list of production services and is usable.

2.1.2 Create a layout template

Automated rough typesetting of text and placement of images is based on prepared Adobe InDesign templates. These templates are specially prepared Adobe InDesign files that can accommodate content such as XML, images, or Word files during automated production using a defined structure.

You can create empty frames or fill them with placeholders that are overwritten during automatic rough typesetting. You can store a layout template as follows:

1. Navigate from the Publishing Dashboard to the Publishing Configuration using the "Switch to Configuration"-action.
2. Navigate to the list of "Layout Templates".
3. Create a new layout template via the "Create Layout Template" action.
4. Select "Adobe InDesign Layout Template" from the list of templates.
5. In the next step you can define the Name, the Production Service from chapter 2.1.1 Create production service and the actual .indd file.

You can find out how these InDesign files have to be structured and what needs to be considered in chapter 4 Prepare InDesign files.

2.1.2.1 Configure mapping

To achieve the highest possible quality of automated content placement, a set of rules can be defined that describes how media and XML content should be displayed in InDesign. This includes the assignment of elements to certain style sheets in InDesign, but also allows the insertion of breaks or scaling of referenced image content.

These rules are described in JSON format and stored in the form of a mapping.json file at the layout template.

Example of a mapping.json file:

```
mapping.json
{
  "blockElements": [
    {
      }, "xpath": "//p",
      "style": "paragraph_style"
    }
  ],
  "hyperlinkElements": [
    {
```

```

    }, "xpath",
    "style": "blue_style"
    "destinationUriAttribute": "blue_style"
  }
],
"inlineElements": [
  {
    }, "xpath": "//bold",
    "style": "fg-green"
  }
],
"insertCharsOnXMLElementPosition": [
  {
    "elements": [
      "p"
    ],
    }, "insertElement": "000D",
    "insertPosition": 1482843494
  },
  {
    "elements": [
      "p",
      "heading"
    ],
    }, "insertElement": "000D",
    "insertPosition": 1482778228
  }
],
"resizeImagesToFixSize": 50.0,
"tableCellElements": [
  {
    "xpath": "//xpubtabledata//cell[@align = 'left']",
    "style": "cell-align-left"
  },
  {
    "xpath": "//xpubtabledata//cell[@align = 'right']",
    "style": "cell-align-right"
  },
  {
    "xpath": "//xpubtabledata//cell[@align = 'center']",
    "style": "cell-align-center"
  },
  {
    "xpath": "(//xpubtabledata//cell)[position() = 2 or position() = 3]",
    "style": "fg-green"
  }
],
"tableElements": [
  {
    }, "xpath": "(//xpubtabledata)[5]",
    "style": "alter-color"
  }
],
"tableWidthConfigs": [
  {
    }, "xpath": "//xpubtabledata",
    "value": 100.0,
    "unit": "percent"
  },
  {
    }, "xpath": "(//xpubtabledata)[3]",
    "value": 90.0,
    "unit": "percent"
  }
]
}

```

A mapping file can contain the following components, depending on the content to be placed:

`blockElements`, `inlineElements`, `hyperlinkElements`, `objectElements`,
`insertCharsOnXMLElementPosition`, `resizeImagesInTableToFixSize`,
`resizeImagesToFixSize`, `tableCellElements`, `tableElements` and `tableWidthConfigs`.

Each term in plural form expects a JSON array as value, in singular form a scalar value.

- **Mapping block and inline elements**

If you want to format the XML data from an Xeditor document to be placed, this can be done by mapping existing InDesign paragraph or character styles. For this you need a definition for `blockElements` and `inlineElements` respectively. Both arrays contain elements of the `StyleElement` type, which consist of an `xpath / style` tuple. The values are mandatory. In the mapping.json example shown above, all elements `<p>` are assigned the "paragraph_style" format. The text paragraphs marked with `<bold>`, on the other hand, are to be displayed with the character format "fg-green".

- **Mapping tables**

The relevant properties of mapping.json for table layouts are `tableCellElements`, `tableElements` and `tableWidthConfigs`.

An array of `tableWidthConfig` objects consists of the three mandatory properties `xpath`, `value`, and `unit`. This can be used to set the width of all tables that the `xpath` expression matches to the relative width (expressed as a percentage) of the enclosing text frame. In the example above, this is set to 100% for all tables except the third table, which is set to 90%.

- **Mapping object styles**

The mapping of object styles to information from the XML is done via `objectElements`. This can be used, for example, to implement info boxes or similar highlighting of text sections by mapping an XML element to an object style via the `xpath` and `style` properties.

- **Mapping of hyperlinks**

In addition to the properties for `xpath` and `style`, a `hyperlinkElements` definition also contains the `destinationUriAttribute` property, which describes in which attribute of the source document the URI of the link is to be found. Assigning a character format using the `style` element is optional.

- **Mapping of image behavior**

Images that are referenced in the XML content can be placed automatically. To define the size of images in the text flow or within a table the properties `resizeImagesToFixSize` and `resizeImagesInTableToFixSize` are available. The value of these properties is a floating-point number that defines a fixed size in mm to which the image should be scaled. An example can be found in the sample JSON file in this paragraph.

- **Inserting breaks and other characters**

`insertCharsOnXMLElementPosition` allows you to insert characters such as breaks between paragraphs, which by definition are not included in an XML file. The mapping in this case consists of the definition of the element or elements in the `elements` property, and the character to insert in the `insertElement` property. Here a UTF-8 character in 4-byte notation is expected. The `insertPosition` property can be used to control whether the character should be inserted after, before, at the beginning or at the beginning of an XML element. The expected values of this property (1482778228, 1482843494, 1483042404, 1482844014) are derived from the InDesign script API and can be viewed [here](#).

To use the mapping.json file on a template, do the following:

1. Open the properties of the layout template by right-clicking on the template under "Properties".

2. In the dialog under "Mapping", click on "Select file".
3. Choose a mapping.json file from your local system and upload it.
4. Release the layout template for use again

2.1.3 Creating a Deployment Format

To be able to trigger an overall production consisting of all layouts of a product, you need a Deployment Format that is available on the InDesign Server. To create a Deployment Format, proceed as follows:

1. Navigate from the Publishing Dashboard to the Publishing Configuration using the Switch to Configuration action.
2. Navigate to the list of "Provisioning Formats".
3. Create a new provisioning format using the "Create Provisioning Format" action.
4. Select "InDesign 2022 - Deployment Format" from the list of services.

In the following dialog, a name and a joboptions file for deployment format can be stored. You can freely select the name of the delivery format. This will then be offered to users of the Multichannel Publishing solution as an option when they create a publication. The file with the extension .joboptions can be configured and exported via a locally installed InDesign. For more information, see the Adobe Help pages.

2.1.4 Share Deployment Format

Before the delivery formats are available to the user, they must be approved. A list of the delivery formats can be found in the detailed view of the Xpublisher configuration. Proceed as follows for releasing them:

1. Navigate to the list of "Deployment formats". All new formats that are not released are marked with a warning triangle symbol. Changed formats that are not yet released are marked with a circle symbol with three dots.
2. Right-click the deployment format you want to share.
3. Select the "Share for use" or "Share again" option.
Note: Alternatively, you can use the actions from the Actions menu in the left pane of the user interface.

2.1.5 Assign Deployment Format

Deployment formats can be selected when publishing defined products. Since not every delivery format makes sense for any product, these are not available across the board, but are restricted via the product type. The relationship between project type, product type and delivery format can be found in the Multichannel Publishing User Help ([User Help](#)).

2.2 User perspective

Users can use the layout templates and Word, Xeditor, or image assets from the DAM to drive automated preproduction directly from the Multichannel Publishing solution. This automated typesetting of content and pre-placement of images does not require a local InDesign license and is possible even by users without expertise in Adobe products.

2.2.1 Working in the Structure Tree and Flatplan

As soon as you open a product that contains print components, you can use the InDesign Server integration. To do this, proceed as follows:

1. On the Multichannel Publishing dashboard, navigate to the list of projects
2. Open a product from the list by left click
Note: The product type of the product must have assigned print components
3. Next to the action bar you will now see the structure tree of the product, while in the large window area next to it you can see the Flatplan.
4. To add new components, select the product in the structure tree (entry at the very top) and click on the "Add Predefined Components" entry.
Note: Some components are already created automatically when the product is created, if this has been defined by an administrator for the product type you chose.
5. Select the component in the structure tree and choose the action "Add Layout Template". In the following dialog, select one or more templates from the list and confirm with "Next". The template will be inserted at the next possible position (below the last template of the current component).
Note: In addition to layout templates, sections and blank pages can also be added using the corresponding actions. Sections can structure layout templates and blank pages, while the latter serve as placeholders and can later be enriched with a layout.
6. Once you have added layout templates to the structure tree, you can select them with a left click.
7. In the action menu of the layout template, you now have the option of assigning one or more Xeditor documents, images or Word documents from the Digital Asset Management via "Add Content".
Note: The images and texts are always placed in the frames in the order in which they appear in the list.
8. After you have added content to the layout template, you can use the Place Content action to start automatic pre-production.
Note: You can continue working while production is running. A gear icon in the structure tree next to the layout template indicates whether pre-production is still in progress.
When finished, you will see the updated PDF preview of the layout and the gear icon will disappear. In case of an error, a red warning icon is displayed and an administrator can view an error report in the layout template properties.

If you work with several InDesign files in a structure tree, it can happen that the preview is not up-to-date. Especially if you insert additional pages or layouts before an existing and set InDesign file. The page numbering, for example, might be wrong in the preview.

2.2.2 Place content again

Please note that you can re-run the automatic rough set at any time, for example, if you have changed the order of the contents or exchanged them.

Note: To change the order of content or layouts in the Structure Tree, you can either drag and drop or use the Swap with Predecessor and Swap with Successor actions in the context menu.

2.2.3 Write XML content back

If you have made text changes in the local InDesign application that originate from XML content, you have the option of writing these changes back into the Xeditor Document. This roundtrip also makes it possible to errors that were corrected in the last instance, i.e. in the layout. To update an Xeditor document from a layout, proceed as follows:

1. In the structure tree of the product, select the Xeditor document below the layout in which the correction was made.
2. Open the context menu by right-clicking on the Xeditor document.
3. Select "Write XML back".
Note: A gear icon indicates that the operation is still in progress. Once the icon disappears, the Xeditor document has been successfully updated. In case of an error, a red warning icon is displayed and an administrator can view an error report in the Xeditor document properties. Writing back is only useful if XML content was previously placed in the InDesign document.

3 Working in the InDesign Desktop application

After the automated typesetting, the InDesign files from Multichannel Publishing can be opened in a local InDesign application to finalize typesetting and add other changes.

3.1 InDesign Plugin

An InDesign plug-in is required to work with Multichannel Publishing layouts and the XML and image content they contain. The Xpublisher Cloud Connector can be installed via the [Adobe Exchange page](#). In addition, the Fabasoft Cloud Client is required to synchronize the files with your local workstation. The plugin allows you to work locally with the linked images, which continue to reside in the cloud but can be edited directly in Adobe Photoshop, for example. Updates are also written back to the asset in Digital Asset Management. The plugin has no graphical interface and works automatically in the background. Only the version number of the plugin can be viewed via the Xpublisher menu entry to verify the installation of the plugin.

3.2 Synchronized folders and local files

If you are working locally in InDesign, there are a few things to keep in mind when adding and removing content:

- You can remove linked images. They will continue to appear in the tree after you save and update the layout, until you decide to remove the image from the tree as well, since the tree is the primary component for planning product content.
- You can also manually place image assets from DAM into InDesign. Use your personal Synchronized Folder, which appears automatically on your desktop as an authorized DAM user. Here you can place links to assets you want to use locally. When you click "Synchronize" in the action menu of this folder, the contents are transferred to your local computer and opened in a file explorer of your operating system. Now you can link the images in InDesign as if they were local files, and after updating the layout in the cloud, they will be linked correctly in the structure tree.
- Please note that content that is stored locally and linked in the layout cannot be resolved when transferred to the cloud. You should embed this content in the InDesign file or create it as an asset in the DAM beforehand.

4 Prepare InDesign files

Creating InDesign templates for automatic preproduction requires background knowledge of how InDesign Server works and how it interacts with Multichannel Publishing, depending on the complexity and desired level of automation.

4.1 General structure

To create a layout template, you can create a new layout file in your local InDesign. What and how much content you can automatically place in the layout depends on the number of text and image frames and the [tags](#) assigned to them.

The tags on frames and the tag markers in text sections define what content is placed where. The tags and structure of the XML to be used in InDesign are explained in the next chapter.

The InDesign file should also contain any character and paragraph styles you want to apply to the content or set automatically via the mapping.json file.

4.2 XML structure

To make the structure available to you for tagging the frames and placeholders in the layout template, you can copy the `indesign_structure.xml` into a text editor as attached below and save it as an XML file. Via the InDesign structure view, the option "Import XML" is available, which you use to transfer the basic structure into your document.

```
indesign_structure.xml
<Xpublisher>
  <settings>
    <templates></templates>
  </settings>
  <metadata></metadata>
  <xmIs>
    <xml>
      <metadata></metadata>
      <content></content>
    </xml>
  </xmIs>
  <words>
    <word></word>
  </words>
  <images>
    <xpubimagedata></xpubimagedata>
  </images>
</Xpublisher>
```

Now you have the tags available which you can assign to the frames and tag marks as follows.

- *xmIs*
For each XML document you want to place in the template, you must create an xml node under the xmIs node. The content of the XML is linked to a frame via the content tag. The order of placement follows the order in the structure tree within Multichannel Publishing. Images referenced in the XML are placed in the text flow.

Note: You can also link elements from the XML into your own frames. To do this, you must create the XML structure below the content node and can then assign the individual sub nodes to the frames like e.g. a headline or an info box.

- *words*

For each Word document you want to place, you can create a word node in the structure. When you link this node to a frame, the Word files are placed according to their order in the structure tree of the multichannel publishing. InDesign natively supports Word file placement with some limitations.

- *images*

For each image you want to place from the structure tree into an image frame, an `xpubimagedata` tag is needed in the InDesign structure. You can assign this tag to frames of type Graphic, e.g. to place decorative images according to the sequence in Multichannel Publishing.

5 JSX Scripting

The automation of InDesign pre-production is largely based on the InDesign ExtendScript API. This means that customer-specific, more complex logics for the automated typesetting of tables or marginalia, for example, can also be implemented on request. Your contact person from the Professional Services Team will be happy to answer any questions you may have.