

ADOBE® INDESIGN® CS6



ADOBE INDESIGN CS6 SERVER SCRIPTING GUIDE



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Adobe® InDesign® CS6 Server Scripting Guide

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1 Introduction

Adobe® InDesign® Server is a powerful addition to your Adobe InDesign tool set. In addition to the high quality typesetting, page-layout, color, and output features of InDesign, InDesign Server provides extra capabilities for enterprise-wide document processing.

This document gives important background information for creating scripts for InDesign Server. It provides simple examples of common scripting operations.

NOTE: We strongly recommend that you develop InDesign Server scripts using InDesign CS6.

Intended audience

This document is for software developers who want to extend the capabilities of Adobe InDesign by writing plug-ins or by writing applications that integrate InDesign with a publication workflow. This document assumes that:

- ▶ You are a programmer with a working understanding of one of the supported scripting languages: AppleScript, JavaScript, or Visual Basic.
- ▶ You have a basic understanding of the InDesign scripting object model.
- ▶ You have a basic understanding of TCP/IP-based, client-server environments.
- ▶ You are familiar with SOAP and know how to use it.
- ▶ You are familiar with your system's and your network server's port configurations and know how to configure them.
- ▶ You or your team are experienced at building and supporting customer solutions.

For more information

Getting Started with Adobe InDesign Server Development provides basic information about running InDesign Server, including installation instructions and system requirements. It includes a simple demonstration of InDesign Server's capabilities.

To learn scripting terminology and to understand the InDesign object model, read "Scripting and the InDesign object model" in the *Adobe InDesign Scripting Tutorial*.

Adobe InDesign Scripting Guide provides details on creating scripts for InDesign.

For details about AppleScript, VBScript, or JavaScript, see the documentation for those languages.

InDesign online scripting resources

For more information on InDesign Server scripting, see the following Web sites:

- ▶ <http://partners.adobe.com/public/developer/scripting/index.html>

- ▶ http://forums.adobe.com/community/indesign/indesign_scripting— The InDesign scripting user-to-user forum. In the forum, scripters can ask questions, post answers, and share their newest scripts. The forum contains hundreds of sample scripts.
- ▶ <http://www.adobe.com/products/indesign/scripting/index.html>

2 Getting Started

This chapter introduces the languages used for scripting and the differences between scripting for InDesign Server and for InDesign. It provides instructions for creating a simple script and for converting InDesign scripts to InDesign Server scripts. And it provides a simple script for running scripts.

What you need for InDesign Server scripting

The language you use to write scripts depends on the scripting system of your platform: AppleScript for Mac OS®, VBScript for Windows®, or JavaScript for either platform. Although the scripting languages differ, the ways in which they work with InDesign are very similar.

Each sample script in this document is shown in all three scripting languages. Translating a script from one language to another is fairly easy.

JavaScript

InDesign supports JavaScript for cross-platform scripting in both Mac OS and Windows. InDesign's JavaScript support is based on an Adobe implementation of JavaScript known as ExtendScript. The ExtendScript interpreter conforms to the current, ECMA 262 standard for JavaScript. All language features of JavaScript 1.5 are supported. Adobe Illustrator®, Adobe Photoshop®, and other Adobe Creative Suite® products also use the ExtendScript JavaScript interpreter.

While you can write scripts using other versions of JavaScript, like Microsoft® JScript (on Windows) or Late Night Software's OSA JavaScript (on Mac OS), the terms you use in those languages are not the same as the terms you use in ExtendScript. ExtendScript examples do not work in other JavaScript versions.

Because ExtendScript tools and features are used in several Adobe products, we consolidated all ExtendScript documentation. To learn more about JavaScript utilities like the ScriptUI user-interface module and the ExtendScript Toolkit (a JavaScript development environment and object-model inspector), see *JavaScript Tools Guide*.

You can also create scripts for InDesign Server that interact with other Creative Suite 5 applications, using ActionsScript and the Creative Suite extensibility model; see ["Other JavaScript development options" on page 7](#).

Windows

To use InDesign scripting in Windows, you can use JavaScript or some version of Microsoft Visual Basic, like VBScript.

The Visual Basic tutorial scripts in this document are written in VBScript. We chose VBScript because no added software is required to run or edit VBScripts.

Other versions of Visual Basic include Visual Basic 5 Control Creation Edition (CCE), Visual Basic 6, Visual Basic .NET, and Visual Basic 2005 Express Edition. Versions of Visual Basic before Visual Basic .NET work well with InDesign scripting. Visual Basic .NET and newer versions do not work as well, because they lack the `variant` data type, which is used extensively in InDesign scripting.

Many applications contain Visual Basic for Applications (VBA), such as Microsoft Word, Microsoft Excel, Microsoft Visio, or AutoCAD. Although you can use VBA to create InDesign scripts, InDesign does not include VBA.

To use VBScript or Visual Basic for InDesign scripting in Windows XP, you must install InDesign from a user account that has Administrator privileges. After you complete the installation, any user can run InDesign scripts, and any user can add scripts to the InDesign Scripts panel.

Mac OS

To use InDesign scripting on Mac OS, you can use AppleScript or JavaScript. To write AppleScripts, you must have AppleScript version 1.6 or higher and an AppleScript script editor. AppleScript comes with all Apple® systems, and it can be downloaded gratis from the Apple Web site. The Apple Script Editor is included with the Mac OS. Third-party script editors also are available; for example, Script Debugger (from Late Night Software, <http://www.latenightsw.com>).

Using Scripts from this Document

To use any script from this document:

1. Copy the script from this Adobe PDF document and paste it into your script editor, such as the Apple Script Editor (for AppleScript examples), ExtendScript Toolkit (for JavaScript examples), or a text editor like Notepad (for VBScript examples).
2. Save the script as a plain text file, using the appropriate file extension:

AppleScript:	<code>.applescript</code>
JavaScript:	<code>.jsx</code>
VBScript:	<code>.vbs</code>

3. Run the script from your script editor, or send the script to InDesign Server using the sample client.

NOTE: If you are entering the JavaScript examples, it is very important to use the same capitalization shown in the example. JavaScript is case-sensitive, and the scripts will fail if they do not use the capitalization shown. The AppleScript and VBScript examples are not case-sensitive.

NOTE: If you are copying and pasting scripts from this document, be aware that line breaks caused by the layout of the document can cause errors in your script. As it can be very difficult to find such errors, we recommend that you use the scripts in the zip archive.

Other JavaScript development options

You can use the ExtendScript Toolkit to create JavaScript scripts explicitly for InDesign Server, or you can use the Creative Suite Extension Builder (CS Extension Builder) to develop *CS extensions* in ActionScript. CS extensions are Flash-based (SWF) and can potentially work in a variety of Creative Suite applications.

Creative Suite applications have an extensibility infrastructure that allows developers to extend the capabilities of the applications; the infrastructure is based on Flash/Flex technology, and each CS extension is delivered as a compiled Flash (SWF) file. Creative Suite includes the Extension Manager to enable installation of CS extensions.

An example of a Creative Suite extension that ships with the point products is Adobe Kuler. Kuler has a consistent user interface across the different suite applications, but has different logic in each, adapted to the host application.

The user interface for an extension is written in ActionScript, using the Flex framework. A CS extension is typically accessed through its own menu item in the application's Extensions menu. CS Extension Builder allows you to design the user interface interactively using the Design view of FlashBuilder. It also allows you to develop all of the application logic for your CS6 extension in ActionScript; you can develop and debug your extension in the familiar FlashBuilder environment.

To develop your application logic, we recommend using the Creative Suite ActionScript Wrapper Library (CSAWLib), which exposes the scripting DOM of each host application as an ActionScript library. This is tightly integrated with the CS Extension Builder environment, which includes wizards to help you build your extension's basic structure, and run and debug your code against suite applications such as Adobe InDesign, Photoshop and Illustrator.

The methods, properties, and behavior of the scripting DOM is as described in the *JavaScript Scripting Reference* for the host application. For details of how to use CS Extension Builder and the wrapper libraries, see the Creative Suite SDK documentation, which is accessible from within the Flash Builder or Eclipse Help system when you have installed CS Extension Builder.

InDesign and InDesign Server

This document presents scripts that show how to create simple documents using InDesign Server. The bulk of the scripting documentation for InDesign Server, however, is in the documentation for the desktop (that is, nonservlet) version of InDesign.

We assume that you are developing your InDesign Server scripts using InDesign CS6, and that you have read *Adobe InDesign Scripting Tutorial* and *Adobe InDesign Scripting Guide* for the scripting language you want to use.

We also assume that you are familiar with the details of your InDesign Server installation. For the purposes of this document, we present sample scripts that work with a copy of InDesign Server on the same system as your scripting development environment.

InDesign is an essential tool for developing scripts for InDesign Server. We assume that you will develop scripts using InDesign before using them with InDesign Server, because it is much easier to test and debug scripts when you can see the objects being created. To see the result of your script in InDesign Server, you would have to save the document and open it using InDesign, or export the document and view the exported file in another program (like Acrobat® or Adobe Reader®). If you use InDesign to develop your InDesign Server scripts, you can reduce your development time dramatically.

Though the two programs are very similar, their scripting object models differ slightly. The following sections discuss objects, properties, and methods in InDesign that are not in InDesign Server. Keep these in mind as you convert scripts from InDesign to InDesign Server.

Active document

Many InDesign scripts refer to the front-most document in the user interface using the active document (AppleScript), activeDocument (JavaScript), or ActiveDocument (VBScript) property of the application object. This property does not exist in InDesign Server. Instead, you can refer to documents by their index or name.

Active script

Many InDesign scripts refer to the currently running script to locate other script files or resources. InDesign Server does not have this property. Instead, locate the assets the script will need in specific locations on your server or system, then refer to those locations using complete file paths.

Active windows and spreads

InDesign scripts often refer to the active window or the active spread of the active window. These user-interface properties are not supported by InDesign server.

Selection

As you would expect, InDesign server does not have an object corresponding to the user selection. When you convert scripts from InDesign, you must remove any reference to the selection and provide references to objects based on other qualities (like the object id, index, or label).

Dialogs

InDesign can create modal dialog boxes using the dialog object and populate them with common user-interface controls, like check boxes, text-entry fields, and radio buttons. InDesign server does not support the dialog object or any user-interface controls.

Copy and paste

Because InDesign Server has no user interface, it also lacks the copy and paste features of InDesign. Instead of using copy and paste, use duplicate and move. Both methods can create copies of objects, and can move objects from one document to another.

Your first InDesign Server script

The traditional first project in any programming language is to display, or print, the message “Hello World!” In this example, we create a new InDesign Server publication, add a frame containing this message, and save the document. At that point, you can open and view the document using InDesign.

NOTE: These examples assume that you are entering and running the script on the system on which InDesign Server is installed. For instructions on running scripts using the Test Client or SOAP commands, see *Introduction to Adobe InDesign Server Development*.

AppleScript

To create an AppleScript script:

1. Locate and open the AppleScript Editor.
2. Enter the following script. The lines preceded by double dashes (--) are comments and are ignored by the scripting system. They are included to describe the operation of the program. As you look through the script, you will see how we create, then address, each object in turn. The AppleScript command `tell` specifies which object will receive the next message we send.

```
--HelloWorld.applescript
tell application "InDesignServer"
  --Create a new document.
  set myDocument to make document
  --Get a reference to the first page.
  tell myDocument
    --Create a new text frame on the first page.
    tell page 1
      set myTextFrame to make text frame
      --Change the size of the text frame.
      set geometric bounds of myTextFrame to {"6p", "6p", "18p", "18p"}
      --Enter text in the text frame.
      set contents of myTextFrame to "Hello World!"
    end tell
    --Save the file (fill in a valid file path).
    save to "Macintosh HD:HelloWorld.indd"
  end tell
  --Close the document.
  close document 1
end tell
```

3. Save the script as a text file with the file extension `.applescript`.
4. To run the script from the Script Editor, click the Run button.
5. Open and view the document with InDesign.

JavaScript

To create a JavaScript:

1. Using the ExtendScript Toolkit, enter the following script:

```
//HelloWorld.jsx
//Create a new document.
var myDocument = app.documents.add();
//Get a reference to the first page.
var myPage = myDocument.pages.item(0);
//Create a text frame.
var myTextFrame = myPage.textFrames.add();
//Specify the size and shape of the text frame.
myTextFrame.geometricBounds = ["6p0", "6p0", "18p0", "18p0"];
//Enter text in the text frame.
myTextFrame.contents = "Hello World!";
//Save the document (fill in a valid file path).
myDocument.save(new File("/c/HelloWorld.indd"));
//Close the document.
app.documents.item(0).close();
```

2. Save the text as a plain text file with the file extension `.jsx`.
3. Choose InDesign Server from the target drop-down menu.
4. Click Run.
5. Open and view the document with InDesign.

VBScript

To create a VBScript:

1. Using any text editor (such as Notepad), enter the following script:

```
Rem HelloWorld.vbs
Set myInDesignServer = CreateObject("InDesignServer.Application")
Rem Create a new document.
Set myDocument = myInDesignServer.Documents.Add
Rem Get a reference to the first page.
Set myPage = myDocument.Pages.Item(1)
Rem Create a text frame.
Set myTextFrame = myPage.TextFrames.Add
Rem Specify the size and shape of the text frame.
myTextFrame.GeometricBounds = Array("6p0", "6p0", "18p0", "18p0")
Rem Enter text in the text frame.
myTextFrame.Contents = "Hello World!"
Rem Save the document (fill in a valid file path).
myDocument.Save "c:\HelloWorld.indd"
Rem Close the document.
myInDesignServer.Documents.Item(1).Close
```

2. Save the file as text with the file extension `.vbs`.
3. Use the InDesign Server sample client to run the script.
4. Open and view the document with InDesign.

Adding features to “Hello World”

Next, we create a script that creates another “Hello World” document. Our second script will do the following:

- ▶ Use a function (or *handler* in AppleScript) to get the page dimensions and page margins of a document.
- ▶ Resize a text frame.
- ▶ Change the formatting of the text in the text frame.
- ▶ Export as PDF.

AppleScript

To create the script:

1. Choose File > New in the Script Editor and enter the following script:

```

--ImprovedHelloWorld.applescript
tell application "InDesignServer"
    set myDocument to make document
    set myPage to page 1 of myDocument
    tell myPage
        set myTextFrame to make text frame
    end tell
    set contents of myTextFrame to "Hello World!"
    --Get page width and page height using the function "myGetBounds".
    set myBounds to my myGetBounds(myDocument, myPage)
    --Resize the text frame to match the publication margins.
    set geometric bounds of myTextFrame to myBounds
    set myParagraph to object reference of paragraph 1 of myTextFrame
    --Change the font, size, and alignment.
    --Enter the name of a font on your system, if necessary.
    try
        set myFont to font "Arial" of application "InDesignServer"
        set applied font of myParagraph to myFont
    end try
    --Change the size of the text.
    set point size of myParagraph to 48
    --Set the justification of the paragraph to center align.
    set justification of myParagraph to center align
    --Set the first baseline offset of the text frame to ascent.
    set first baseline offset of text frame preferences of myTextFrame
    to ascent offset
    --Set the vertical justification of the text frame to center.
    set vertical justification of text frame preferences of
    myTextFrame to center align
    --Export the document as PDF (fill in a valid file path).

    tell myDocument
        --You'll need to fill in a valid file path on your system.
        export format PDF type to "Macintosh HD:ImprovedHelloWorld.pdf"
    end tell
    --Close the document.
    close document 1 saving no
end tell
on myGetBounds(myDocument, myPage)
    tell application "InDesignServer"
        set myPageHeight to page height of document preferences of myDocument
        set myPageWidth to page width of document preferences of myDocument
        tell margin preferences of myPage
            if side of myPage is left hand then
                set myX2 to left
                set myX1 to right
            else
                set myX1 to left
                set myX2 to right
            end if
            set myY1 to top
            set myY2 to bottom
        end tell
        set myX2 to myPageWidth - myX2
        set myY2 to myPageHeight - myY2
        return {myY1, myX1, myY2, myX2}
    end tell
end myGetBounds

```

2. Save the script as a text file with the file extension .applescript.

3. To run the script, click the Run button in the Script Editor.
4. Open and view the exported PDF with Acrobat or Adobe Reader.

JavaScript

To create the script:

1. Using the ExtendScript Toolkit, enter the following script:

```
//ImprovedHelloWorld.jsx
var myDocument = app.documents.add();
var myPage = myDocument.pages.item(0);
var myTextFrame = myPage.textFrames.add();
myTextFrame.contents = "Hello World!";
//Get page width and page height using the function "myGetBounds".
myBounds = myGetBounds(myDocument, myPage);
//Resize the text frame to match the publication margins.
myTextFrame.geometricBounds = myBounds;
var myParagraph = myTextFrame.paragraphs.item(0);
//Change the font, size, and alignment.
//Enter the name of a font on your system, if necessary.
try {
    var myFont = app.fonts.item("Arial");
    myParagraph.appliedFont = myFont;
}
catch (e){}
//Change the size of the text.
myParagraph.pointSize = 48;
//Set the justification of the paragraph to center align.
myParagraph.justification = Justification.centerAlign
//Set the first baseline offset of the text frame to ascent.
myTextFrame.textFramePreferences.firstBaselineOffset = FirstBaseline.ascentOffset;
//Set the vertical justification of the text frame to center.
myTextFrame.textFramePreferences.verticalJustification =
VerticalJustification.centerAlign;
//Export the document as PDF (fill in a valid file path).
myDocument.exportFile(ExportFormat.pdfType, new
File("/c/ImprovedHelloWorld.pdf"));
//Close the document.
app.documents.item(0).close();
function myGetBounds(myDocument, myPage){
    var myPageWidth = myDocument.documentPreferences.pageWidth;
    var myPageHeight = myDocument.documentPreferences.pageHeight
    if(myPage.side == PageSideOptions.leftHand){
        var myX2 = myPage.marginPreferences.left;
        var myX1 = myPage.marginPreferences.right;
    }
    else{
        var myX1 = myPage.marginPreferences.left;
        var myX2 = myPage.marginPreferences.right;
    }

    var myY1 = myPage.marginPreferences.top;
    var myX2 = myPageWidth - myX2;
    var myY2 = myPageHeight - myPage.marginPreferences.bottom;
    return [myY1, myX1, myY2, myX2];
}
```

2. Save the text as a plain text file with the file extension `.jsx`.
3. Choose InDesign Server from the target drop-down menu.
4. Click the Run button.
5. Open and view the exported PDF with Acrobat or Adobe Reader.

VBScript

To create the script:

1. Start any text editor (such as Notepad) and enter the following script:

```

Rem ImprovedHelloWorld.vbs
Set myInDesignServer = CreateObject("InDesignServer.Application")
Set myDocument = myInDesignServer.Documents.Add
Set myPage = myDocument.Pages.Item(1)
Set myTextFrame = myPage.TextFrames.Add
myTextFrame.Contents = "Hello World!"
Rem Get page width and page height using the function "myGetBounds".
myBounds = myGetBounds(myDocument, myPage)
Rem Resize the text frame to match the publication margins.
myTextFrame.GeometricBounds = myBounds
Set myParagraph = myTextFrame.Paragraphs.Item(1)

Rem Change the font, size, and alignment.
Rem Enter the name of a font on your system, if necessary.
If TypeName(myInDesignServer.Fonts.Item("Arial")) <> "Nothing" Then
    Set myFont = myInDesignServer.Fonts.Item("Arial")
    myParagraph.AppliedFont = myFont
End If
myParagraph.PointSize = 48
Rem If you are running the script using the Application.DoScript
Rem method, you can use the full name of the justification enumeration:
Rem myParagraph.Justification = idJustification.idCenterAlign
Rem If you are running the script from Windows Explorer, use
Rem the decimal version of the enumeration:
myParagraph.Justification = 1667591796
Rem Set the first baseline offset of the text frame to ascent.
Rem If you are running the script using the Application.DoScript
Rem method, you can use the full name of the justification enumeration:
Rem myTextFrame.TextFramePreferences.FirstBaselineOffset =
idFirstBaseline.idAscentOffset
Rem If you are running the script from Windows Explorer, use
Rem the decimal version of the enumeration:
myTextFrame.TextFramePreferences.FirstBaselineOffset = 1296135023
Rem Set the vertical justification of the text frame to center.
Rem If you are running the script using the Application.DoScript
Rem method, you can use the full name of the justification enumeration:
Rem myTextFrame.TextFramePreferences.VerticalJustification =
idVerticalJustification.idCenterAlign
Rem If you are running the script from Windows Explorer, use
Rem the decimal version of the enumeration:
myTextFrame.TextFramePreferences.VerticalJustification = 1667591796
Rem Export the document as PDF (fill in a valid file path).
Rem myDocument.Export idExportFormat.idPDFType "c:\ImprovedHelloWorld.indd"
myDocument.Export 1952403524, "c:\ImprovedHelloWorld.pdf"
Rem Close the document.

```

```

myInDesignServer.Documents.Item(1).Close
Function myGetBounds(myDocument, myPage)
    myPageWidth = myDocument.documentPreferences.pageWidth
    myPageHeight = myDocument.documentPreferences.pageHeight
    If myPage.Side = idPageSideOptions.idLeftHand Then
        myX2 = myPage.marginPreferences.Left
        myX1 = myPage.marginPreferences.Right
    Else
        myX1 = myPage.marginPreferences.Left
        myX2 = myPage.marginPreferences.Right
    End If
    myX2 = myPageWidth - myX2
    myY1 = myPage.marginPreferences.Top
    myY2 = myPageHeight - myPage.marginPreferences.bottom
    myGetBounds = Array(myY1, myX1, myY2, myX2)
End Function

```

2. Save the text as a plain text file with the file extension `.vbs`.
3. Use the InDesign Server sample client to run the script.
4. Open and view the exported PDF with Acrobat or Adobe Reader.

A simple script for running scripts

Another way to run a script in InDesign Server is to take advantage of the `do script` (in AppleScript; `doScript` in JavaScript; or `DoScript` in VBScript) method to send a script to the application. This gives you a way to send JavaScripts directly to the application, rather than running them from the ExtendScript Toolkit. In this section, we provide AppleScript and VBScript examples that you can run from the Finder (on Mac OS) or Explorer (on Windows). For more information about working with the `do script` method, see *Adobe InDesign Scripting Guide*.

This script is something like a miniature sample client for use on your local system.

AppleScript

```

set myScriptFile to choose file with prompt "Select a script file:"
tell application "Finder"
    set myFileExtension to name extension of myScriptFile
end tell
tell application "Adobe InDesign Server CS6"
    if myFileExtension is "jsx" then
        do script myScriptFile language javascript
    else
        do script myScriptFile language applescript language
    end if
end tell

```

VBScript

```

Set myDialog = CreateObject("UserAccounts.CommonDialog")
myDialog.Filter = "JavaScript Files|*.jsx|VBScript Files|*.vbs|"
myDialog.FilterIndex = 1
myDialog.InitialDir = "C:\"
myResult = myDialog.ShowOpen
If myResult = True Then
    myScriptFile = myDialog.FileName
    Set myFileSystemObject = CreateObject("Scripting.FileSystemObject")
    myFileExtension = myFileSystemObject.GetExtensionName(myScriptFile)
    If myFileExtension = "jsx" Or myFileExtension = "vbs" Then
        Set myInDesign = CreateObject("InDesign.Application")
        Rem Use the decimal form of the enumerations, since this script
        Rem will be run from Explorer.
        If myFileExtension = "jsx" Then
            Rem idScriptLanguage.idJavaScript = 1246973031
            myInDesign.DoScript myScriptFile, 1246973031
        Else
            Rem idScriptLanguage.idVisualBasic = 1447185511
            myInDesign.DoScript myScriptFile, 1447185511
        End If
    End If
End If
End If

```

Converting an InDesign script to InDesign Server

InDesign comes with a variety of sample scripts, some of which might be useful in an InDesign Server production environment. The `FindChangeByList` script is a good example; it performs a series of find/change operations defined by a tab-delimited text file. The functions in this script could be very useful if your use of InDesign server involves many find/change operations.

The following steps show how to convert `FindChangeByList` to an InDesign Server script (see `FindChangeByList` for the complete script).

AppleScript

1. Replace the `main` handler with the following:

```

on main()
    tell application "InDesign Server"
        if (count documents) is greater than 0 then
            --Provide a story object or a document object
            my myFindChangeByList(document 1, false)
        end if
    end tell
end main

```

2. Delete the `myDisplayDialog` handler.
3. Change the line:

```
set myFindChangeFile to my myFindFile("FindChangeSupport:FindChangeList.txt")
```

to (you will have to fill in a valid file path for your system):

```
set myFindChangeFile to "yukino:FindChangeSupport:FindChangeList.txt"
Delete the "myFindChangeFile" handler
```

4. Delete the `myGetScriptPath` handler.

JavaScript

1. Replace the `main` function with the following:

```
function main(){
    if(app.documents.length > 0){
        //Provide a story object or a document object.
        myFindChangeByList(app.documents.item(0), false);
    }
}
```

2. Delete the `myDisplayDialog` function.
3. Change the line:

```
var myFindChangeFile = "/c/FindChangeSupport/FindChangeList.txt";
```

to (you will have to fill in a valid file path for your system):

```
set myFindChangeFile to "yukino:FindChangeSupport:FindChangeList.txt"
```

4. Delete the `myFindChangeFile` function.
5. Delete the `myGetScriptPath` function.

VBScript

1. Replace the `main` function with the following:

```
Function main()
Set myInDesign = CreateObject("InDesignServer.Application")
If myInDesign.Documents.Count > 0 then
    Rem Provide a story object or a document object.
    myFindChangeByList myInDesign.Documents.Item(1), False
End If
End Function
Delete the "myDisplayDialog" handler.
```

2. Change the line:

```
myFindChangeFile = "\FindChangeSupport\FindChangeList.txt"
```

to (you will have to fill in a valid file path for your system):

```
myFindChangeFile = "c:\FindChangeSupport\FindChangeList.txt"
```

3. Delete the `myFindChangeFile` function.
4. Delete the `myGetScriptPath` function.

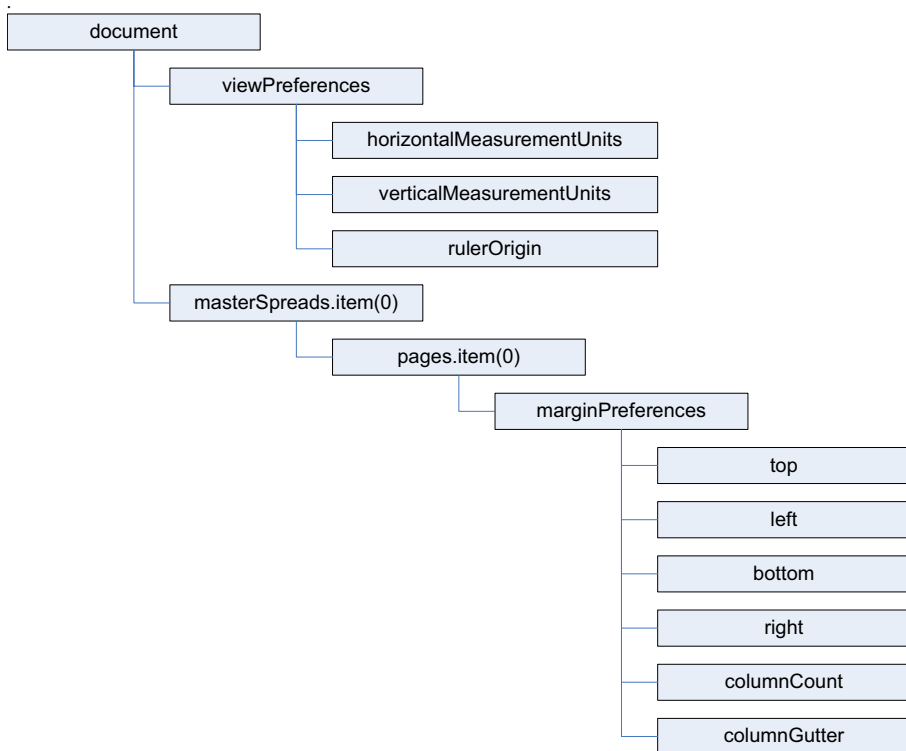
3 Constructing a Document

Obviously, our “Hello World!” script is not very useful in your daily work. While you can use an InDesign script at any point in your production process, we start by creating scripts that start at the same point you do—creating new documents, setting page margins, and creating and applying master pages.

Overview

In this chapter, we create one long script by adding short blocks of scripting code. Each block demonstrates a specific area or task in InDesign Server scripting. As you enter each block, you can run the script to see what happens. If you are using AppleScript, you will need to add the text `end tell` to the end of the script before you run it, then remove the text before continuing.

The following figure shows the objects with which we will work in this chapter.



NOTE: The preceding figure uses the JavaScript version of the scripting terms. For AppleScript, you would add spaces between words (`view preferences`, rather than `viewPreferences`). For VBScript, you would use an item index starting at 1, rather than 0 (`masterSpreads.item(1)`, rather than `masterSpreads.item(0)`).

Setting up measurement units and master spread margins

The following script shows how to create a new document and set the margins of the first master spread. In this section, we show how to build a complex script using simple building blocks of scripting code. Start your script editor and enter the following lines in the scripting language of your choice.

AppleScript

Enter the following code in the Script Editor, or open the `DocumentConstruction.applescript` tutorial script:

```
tell application "Adobe InDesign Server CS6"
  --Create a new document.
  set myDocument to make document
  --Set the measurement units and ruler origin.
  set horizontal measurement units of view preferences to points
  set vertical measurement units of view preferences to points
  set ruler origin of view preferences to page origin
  --Get a reference to the first master spread.
  set myMasterSpread to master spread 1 of myDocument
  --Get a reference to the margin preferences of
  --the first page in the master spread.
  set myMarginPreferences to margin preferences of page 1 of myMasterSpread
  --Now set up the page margins and columns.
  set left of myMarginPreferences to 84
  set top of myMarginPreferences to 70
  set right of myMarginPreferences to 70
  set bottom of myMarginPreferences to 78
  set column count of myMarginPreferences to 3
  set column gutter of myMarginPreferences to 14
  --Page margins and columns for the right-hand page.
  set myMarginPreferences to margin preferences of page 2 of myMasterSpread
  set left of myMarginPreferences to 84
  set top of myMarginPreferences to 70
  set right of myMarginPreferences to 70
  set bottom of myMarginPreferences to 78
  set column count of myMarginPreferences to 3
  set column gutter of myMarginPreferences to 14
```

JavaScript

Enter the following code in the ExtendScript Toolkit, or open the `DocumentConstruction.jsx` tutorial script:

```
//Create a new document.
var myDocument = app.documents.add();
//Set the measurement units and ruler origin.
myDocument.viewPreferences.horizontalMeasurementUnits = MeasurementUnits.points;
myDocument.viewPreferences.verticalMeasurementUnits = MeasurementUnits.points;
myDocument.viewPreferences.rulerOrigin = RulerOrigin.pageOrigin;
//Get a reference to the first master spread.
var myMasterSpread = myDocument.masterSpreads.item(0);
//Get a reference to the margin preferences of the first page in the master spread.
var myMarginPreferences = myMasterSpread.pages.item(0).marginPreferences;
//Now set up the page margins and columns.
myMarginPreferences.left = 84;
myMarginPreferences.top = 70;
myMarginPreferences.right = 70;
myMarginPreferences.bottom = 78;
myMarginPreferences.columnCount = 3;
myMarginPreferences.columnGutter = 14;
//Page margins and columns for the right-hand page.
var myMarginPreferences = myMasterSpread.pages.item(1).marginPreferences;
myMarginPreferences.left = 84;
myMarginPreferences.top = 70;
myMarginPreferences.right = 70;
myMarginPreferences.bottom = 78;
myMarginPreferences.columnCount = 3;
myMarginPreferences.columnGutter = 14;
```

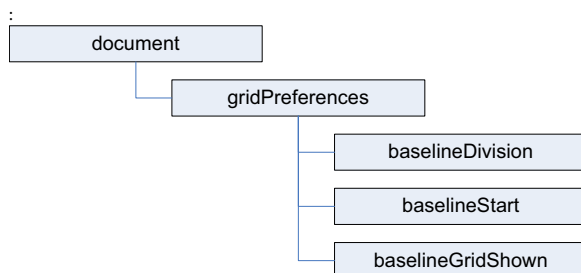
VBScript

Enter the following code in your script or text editor, or open the `DocumentConstruction.vbs` tutorial script.

```
Set myInDesign = CreateObject("InDesign.Application")
Rem Create a new document.
Set myDocument = myInDesign.Documents.Add()
Rem Set the measurement units and ruler origin.
myDocument.ViewPreferences.HorizontalMeasurementUnits =
idMeasurementUnits.idPoints
myDocument.ViewPreferences.VerticalMeasurementUnits = idMeasurementUnits.idPoints
myDocument.ViewPreferences.RulerOrigin = idRulerOrigin.idPageOrigin
Rem Get a reference to the first master spread.
Set myMasterSpread = myDocument.MasterSpreads.Item(1)
Rem Get a reference to the margin preferences of the first page in the master spread.
Set myMarginPreferences = myMasterSpread.Pages.Item(1).MarginPreferences
Rem Now set up the page margins and columns.
myMarginPreferences.Left = 84
myMarginPreferences.Top = 70
myMarginPreferences.Right = 70
myMarginPreferences.Bottom = 78
myMarginPreferences.ColumnCount = 3
myMarginPreferences.ColumnGutter = 14
Rem Page margins and columns for the right-hand page.
Set myMarginPreferences = myMasterSpread.Pages.Item(2).MarginPreferences
myMarginPreferences.Left = 84
myMarginPreferences.Top = 70
myMarginPreferences.Right = 70
myMarginPreferences.Bottom = 78
myMarginPreferences.ColumnCount = 3
myMarginPreferences.ColumnGutter = 14
```

Adding a baseline grid

Now that we have a master spread set up, we add a baseline grid. Add the following script lines (from the appropriate language) to the end of the script you created earlier. Here is a diagram (with the scripting terms shown in their JavaScript form):



AppleScript

```
set myGridPreferences to grid preferences
set baseline division of myGridPreferences to 14
set baseline start of myGridPreferences to 70
set baseline grid shown of myGridPreferences to true
```

JavaScript

```
var myGridPreferences = myDocument.gridPreferences;  
myGridPreferences.baselineDivision = 14;  
myGridPreferences.baselineStart = 70;  
myGridPreferences.baselineGridShown = true;
```

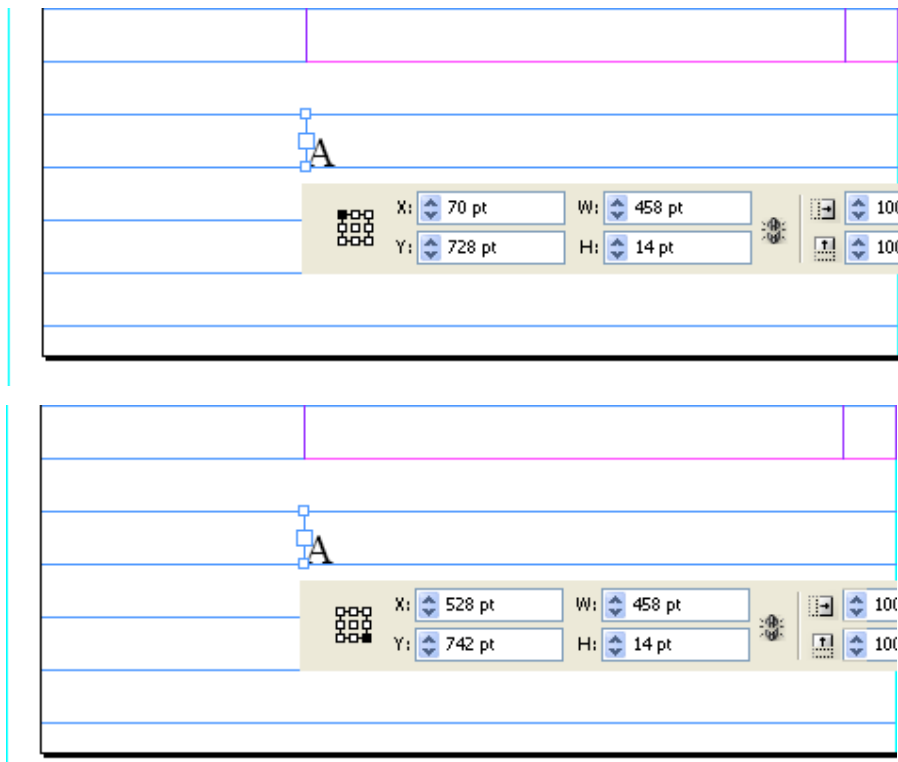
VBScript

```
Set myGridPreferences = myDocument.GridPreferences  
myGridPreferences.BaselineDivision = 14  
myGridPreferences.BaselineStart = 70  
myGridPreferences.BaselineGridShown = True
```

Adding master page items

Next, we add two text frames to the master pages. These frames will contain the auto-page-number special character and be positioned at the bottom of the page.

In the “Hello World” example, we created a text frame and specified its position and size using the geometric bounds property—an array containing the top, left, bottom, and right coordinates for the frame. The coordinates correspond to the corners of the frame, just as they would appear in the Control panel. The geometric bounds are as follows: top = 728, left = 70, bottom = 742, and right = 528, as shown in the following two figures (which show what it would look like in InDesign):



AppleScript

```

set myLeftPage to page 1 of myMasterSpread
set myRightPage to page 2 of myMasterSpread
tell myLeftPage
    set myLeftFooter to make text frame
    set geometric bounds of myLeftFooter to {728, 70, 742, 528}
    set first baseline offset of text frame preferences of myLeftFooter to leading
offset
    set contents of myLeftFooter to auto page number
    set point size of character 1 of parent story of myLeftFooter to 11
    set leading of character 1 of myLeftFooter to 14
end tell
tell myRightPage
    set myRightFooter to make text frame
    set geometric bounds of myRightFooter to {728, 84, 742, 542}
    set first baseline offset of text frame preferences of myRightFooter to leading
offset
    set contents of myRightFooter to auto page number
    set point size of character 1 of parent story of myRightFooter to 11
    set leading of character 1 of myRightFooter to 14
    set justification of character 1 of myRightFooter to right align
end tell

```

JavaScript

```

var myMasterSpread = myDocument.masterSpreads.item(0);
var myLeftPage = myMasterSpread.pages.item(0);
var myRightPage = myMasterSpread.pages.item(1);
var myLeftFooter = myLeftPage.textFrames.add();
myLeftFooter.geometricBounds = [728, 70, 742, 528];
myLeftFooter.textFramePreferences.firstBaselineOffset = FirstBaseline.leadingOffset;
myLeftFooter.contents = SpecialCharacters.autoPageNumber;
myLeftFooter.parentStory.characters.item(0).pointSize = 11;
myLeftFooter.parentStory.characters.item(0).leading = 14;
var myRightFooter = myRightPage.textFrames.add();
myRightFooter.geometricBounds = [728, 84, 742, 542];
myRightFooter.textFramePreferences.firstBaselineOffset = FirstBaseline.leadingOffset;
myRightFooter.contents = SpecialCharacters.autoPageNumber;
myRightFooter.parentStory.characters.item(0).pointSize = 11;
myRightFooter.parentStory.characters.item(0).leading = 14;
myRightFooter.parentStory.characters.item(0).justification =
Justification.rightAlign;

```

VBScript

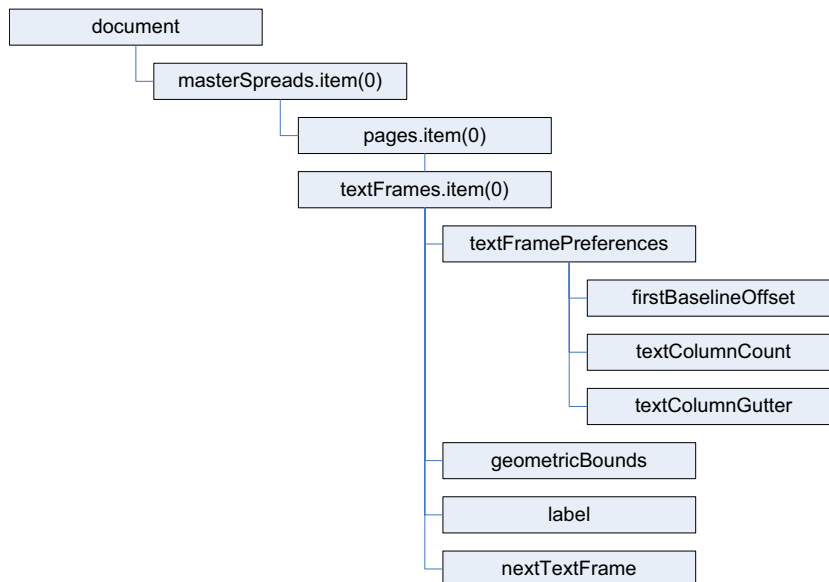
```

Set myMasterSpread = myDocument.MasterSpreads.Item(1)
Set myLeftPage = myMasterSpread.Pages.Item(1)
Set myRightPage = myMasterSpread.Pages.Item(2)
Set myLeftFooter = myLeftPage.TextFrames.Add
myLeftFooter.GeometricBounds = Array(728, 70, 742, 528)
myLeftFooter.TextFramePreferences.FirstBaselineOffset =
idFirstBaseline.idLeadingOffset
myLeftFooter.Contents = idSpecialCharacters.idAutoPageNumber
myLeftFooter.ParentStory.Characters.Item(1).PointSize = 11
myLeftFooter.ParentStory.Characters.Item(1).Leading = 14
Set myRightFooter = myRightPage.TextFrames.Add()
myRightFooter.GeometricBounds = Array(728, 84, 742, 542)
myRightFooter.TextFramePreferences.FirstBaselineOffset =
idFirstBaseline.idLeadingOffset
myRightFooter.Contents = idSpecialCharacters.idAutoPageNumber
myRightFooter.ParentStory.Characters.Item(1).PointSize = 11
myRightFooter.ParentStory.Characters.Item(1).Leading = 14
myRightFooter.ParentStory.Characters.Item(1).Justification =
idJustification.idRightAlign

```

Adding master text frames

Next, we add master text frames. The following block diagram shows the objects and properties with which we will work (the diagram uses the JavaScript form of the scripting terms):



AppleScript

```
tell myLeftPage
    set myLeftTextFrame to make text frame
    set geometric bounds of myLeftTextFrame to {70, 70, 714, 528}
    set first baseline offset of text frame preferences of myLeftTextFrame to leading
offset
    set text column count of text frame preferences of myLeftTextFrame to 3
    set text column gutter of text frame preferences of myLeftTextFrame to 14
    --Add a label to make the frame easier to find later on.
    set label of myLeftTextFrame to "BodyTextFrame"
end tell
tell myRightPage
    set myRightTextFrame to make text frame
    set geometric bounds of myRightTextFrame to {70, 84, 714, 542}
    set first baseline offset of text frame preferences of myRightTextFrame to leading
offset
    set text column count of text frame preferences of myRightTextFrame to 3
    set text column gutter of text frame preferences of myRightTextFrame to 14
    --Add a label to make the frame easier to find later on.
    set label of myRightTextFrame to "BodyTextFrame"
end tell
--Link the two frames using the next text frame property.
set next text frame of myLeftTextFrame to myRightTextFrame
```

JavaScript

```
var myLeftPage = myMasterSpread.pages.item(0);
var myRightPage = myMasterSpread.pages.item(1);
var myLeftTextFrame = myLeftPage.textFrames.add();
myLeftTextFrame.geometricBounds = [70, 70, 714, 528];
myLeftTextFrame.textFramePreferences.firstBaselineOffset =
FirstBaseline.leadingOffset;
myLeftTextFrame.textFramePreferences.textColumnCount = 3;
myLeftTextFrame.textFramePreferences.textColumnGutter = 14;
//Add a label to make the frame easier to find later on.
myLeftTextFrame.label = "BodyTextFrame";
var myRightTextFrame = myRightPage.textFrames.add();
myRightTextFrame.geometricBounds = [70, 84, 714, 542];
myRightTextFrame.textFramePreferences.firstBaselineOffset =
FirstBaseline.leadingOffset;
myRightTextFrame.textFramePreferences.textColumnCount = 3;
myRightTextFrame.textFramePreferences.textColumnGutter = 14;
//Add a label to make the frame easier to find later on.
myRightTextFrame.label = "BodyTextFrame";
//Link the two frames using the nextTextFrame property.
myLeftTextFrame.nextTextFrame = myRightTextFrame;
```

VBScript

```

Set myLeftTextFrame = myLeftPage.TextFrames.Add
myLeftTextFrame.GeometricBounds = Array(70, 70, 714, 528)
myLeftTextFrame.TextFramePreferences.FirstBaselineOffset =
idFirstBaseline.idLeadingOffset
myLeftTextFrame.TextFramePreferences.TextColumnCount = 3
myLeftTextFrame.TextFramePreferences.TextColumnGutter = 14
Rem Add a label to make the frame easier to find later on.
myLeftTextFrame.Label = "BodyTextFrame"
Set myRightTextFrame = myRightPage.TextFrames.Add
myRightTextFrame.GeometricBounds = Array(70, 84, 714, 542)
myRightTextFrame.TextFramePreferences.FirstBaselineOffset =
idFirstBaseline.idLeadingOffset
myRightTextFrame.TextFramePreferences.TextColumnCount = 3
myRightTextFrame.TextFramePreferences.TextColumnGutter = 14
Rem Add a label to make the frame easier to find later on.
myRightTextFrame.Label = "BodyTextFrame"
Rem Link the two frames using the nextTextFrame property.
myLeftTextFrame.NextTextFrame = myRightTextFrame

```

Overriding master page items and adding text

Next, we override one of the master text frames we created and add text to it. Again, add this script to the end of the script we have been working on.

AppleScript

```

tell text frame 1 of page 2 of master spread 1 of myDocument
  set myTextFrame to override destination page page 1 of myDocument
end tell
--Add text by setting the contents of an insertion point to a string.
--In AppleScript, "return" is a return character.
set contents of insertion point 1 of myTextFrame to "Headline!" & return

```

JavaScript

```

var myTextFrame =
myDocument.masterSpreads.item(0).pages.item(1).textFrames.item(0).override(myDocument
.pages.item(0));
//Add text by setting the contents of an insertion point to a string.
//In JavaScript, "\r" is a return character.
myTextFrame.insertionPoints.item(0).contents = "Headline!\r";

```

VBScript

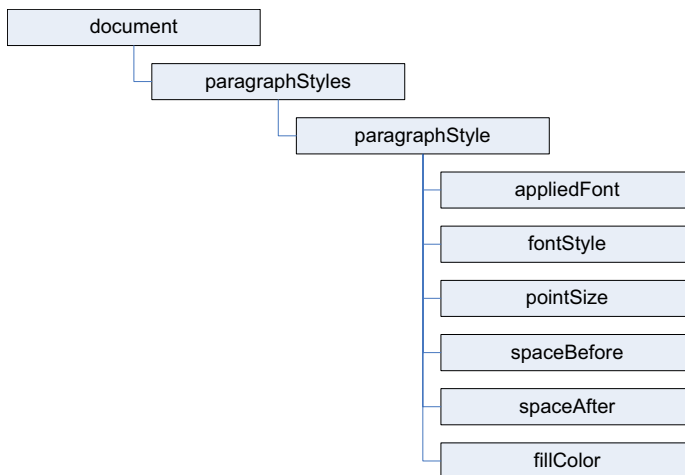
```

Set myTextFrame =
myDocument.MasterSpreads.Item(1).Pages.Item(2).TextFrames.Item(1).Override(myDocument
.Pages.Item(1))
Rem Add text by setting the contents of an insertion point to a string.
Rem In VBScript, vbCrLf is a return character.
myTextFrame.InsertionPoints.Item(1).Contents = "Headline!" & vbCrLf

```

Adding and applying a paragraph style

Our headline looks plain, so we format it using a paragraph style. First, we must create the paragraph style. The following diagram shows the objects and properties we will work with (again, the text in this diagram uses the JavaScript form of the scripting terms):



AppleScript

```

--First, check to see if the paragraph style already exists.
try
  set myParagraphStyle to paragraph style "Heading 1" of myDocument
on error
  --The paragraph style did not exist, so create it.
  tell myDocument
    set myParagraphStyle to make paragraph style with properties {name:"Heading 1"}
  end tell
end try
--We'll need to create a color. Check to see if the color already exists.
try
  set myColor to color "Red"
on error
  --The color did not exist, so create it.
  set myColor to make color with properties {name:"Red", model:process, color
value:{0, 100, 100, 0}}
end try
--Now set the formatting of the paragraph style.
set applied font of myParagraphStyle to "Arial"
set font style of myParagraphStyle to "Bold"
set point size of myParagraphStyle to 24
set space after of myParagraphStyle to 24
set space before of myParagraphStyle to 24
set fill color of myParagraphStyle to color "Red" of myDocument
--Apply the style to the paragraph.
tell paragraph 1 of myTextFrame to apply paragraph style using myParagraphStyle with
clearing overrides
--You could also use:
--set applied paragraph style of paragraph 1 of myTextFrame to myParagraphStyle
  
```

JavaScript

```

var myParagraphStyle = myDocument.paragraphStyles.item("Heading 1");
try {
    var myName = myParagraphStyle.name;
}
catch (myError){
    //The paragraph style did not exist, so create it.
    myParagraphStyle = myDocument.paragraphStyles.add({name:"Heading 1"});
}
//We'll need to create a color. Check to see if the color already exists.
var myColor = myDocument.colors.item("Red");
try {
    myName = myColor.name;
}
catch (myError){
    //The color did not exist, so create it.
    myColor = myDocument.colors.add({name:"Red", model:ColorModel.process,
    colorValue:[0,100,100,0]});
}
//Now set the formatting of the paragraph style.
myParagraphStyle.appliedFont = "Arial";
myParagraphStyle.fontStyle = "Bold";
myParagraphStyle.pointSize = 24;
myParagraphStyle.spaceAfter = 24;
myParagraphStyle.spaceBefore = 24;
myParagraphStyle.fillColor = myDocument.colors.item("Red");
//Apply the style to the paragraph.
myDocument.pages.item(0).textFrames.item(0).paragraphs.item(0).applyParagraphStyle(
myParagraphStyle, true);
//You could also use:
//myDocument.pages.item(0).textFrames.item(0).paragraphs.item(0).appliedParagraphStyl
e = myParagraphStyle;

```

VBScript

```

Rem First, check to see if the paragraph style already exists.
Rem to do this, we disable error checking:
On Error Resume Next
Set myParagraphStyle = myDocument.ParagraphStyles.Item("Heading 1")
Rem if an error occurred on the previous line, then the paragraph
Rem style did not exist.
If Error.Number <> 0 Then
    Set myParagraphStyle = myDocument.ParagraphStyles.Add
    myParagraphStyle.Name = "Heading 1"
    Error.Clear
End If
Rem We'll need to create a color. Check to see if the color already exists.
Set myColor = myDocument.Colors.Item("Red")
If Error.Number <> 0 Then
    Set myColor = myDocument.Colors.Add
    myColor.Name = "Red"
    myColor.Model = idColorModel.idProcess
    myColor.colorValue = Array(0, 100, 100, 0)
    Error.Clear
End If
Rem Resume normal error handling.
On Error GoTo 0

```

```

Rem Now set the formatting of the paragraph style.
myParagraphStyle.AppliedFont = "Arial"
myParagraphStyle.FontStyle = "Bold"
myParagraphStyle.PointSize = 24
myParagraphStyle.SpaceAfter = 24
myParagraphStyle.SpaceBefore = 24
myParagraphStyle.FillColor = myDocument.Colors.Item("Red")
Rem Apply the style to the paragraph.
myDocument.Pages.Item(1).TextFrames.Item(1).Paragraphs.Item(1).ApplyParagraphStyle
myParagraphStyle, True
Rem You could also use:
Rem
myDocument.pages.item(1).textFrames.item(1).paragraphs.item(1).appliedParagraphStyle
= myParagraphStyle

```

Placing a text file

Next, we import a text file. We add the text after the headline in the first text frame on the first page. The script displays a dialog box you can use to select the text file you want to import. Again, add this script to the end of the script we have been working on.

AppleScript

```

--Display a standard open file dialog box to select a text file.
set myTextFile to choose file ("Choose a text file")
--If a text file was selected, and if you didn't press Cancel,
--place the text file at the first insertion point after the headline.
if myTextFile is not "" then
    tell insertion point -1 of myTextFrame to place myTextFile
end if

```

JavaScript

```

//Display a standard open file dialog box to select a text file.
var myTextFile = File.openDialog("Choose a text file");
//If a text file was selected, and if you didn't press Cancel,
//place the text file at the first insertion point after the headline.
if((myTextFile != "") && (myTextFile != null)) {
    myTextFrame.insertionPoints.item(-1).place(myTextFile);
}

```

VBScript

```

Rem Display a standard open file dialog box to select a text file.
Rem VBScript does not have the ability to do this, so we'll use
Rem a JavaScript to get a file name. We'll run the JavaScript using
Rem InDesign's DoScript feature.
Rem Disable normal error handling.
On Error Resume Next
Rem Create a JavaScript as a string.
myJavaScriptString = "var myTextFile = File.openDialog("Choose a text
file");myTextFile.fsName;"
Rem Run the JavaScript using DoScript.
myFileName = myInDesign.DoScript(myJavaScriptString, idScriptLanguage.idJavascript)
If Error.Number = 0 Then
    Rem Place the text file at the end of the text frame.
    myTextFrame.InsertionPoints.Item(-1).Place myFileName
    Error.Clear
End If
Rem Restore normal error handling.
On Error GoTo 0

```

Placing a graphic

Placing a graphic is like importing a text file. Again, the script displays a dialog box you can use to select the graphic you want to place. When we place the graphic, InDesign Server returns a reference to the graphic itself, rather than to the frame containing the graphic. To get a reference to the frame, use the `parent` property of the graphic. Once we have that reference, we can apply an object style to the frame. Again, add this script to the end of the script we have been working on.

AppleScript

```

--Display a standard open file dialog box to select a graphic file.
set myGraphicFile to choose file "Choose graphic file."
--If a graphic file was selected, and if you didn't press Cancel,
--place the graphic file on the page.
if myGraphicFile is not "" then
    set myGraphic to place myGraphicFile on page 1 of myDocument
    --Since you can place multiple graphics at once, the place method
    --returns an array. To get the graphic you placed, get the first
    --item in the array.
    set myGraphic to item 1 of myGraphic
    --Create an object style to apply to the graphic frame.
    try
        set myObjectStyle to object style "GraphicFrame" of myDocument on error
        --The object style did not exist, so create it.
        tell myDocument
            set myObjectStyle to make object style with properties
                {name:"GraphicFrame"}
        end tell
    end try
    set enable stroke of myObjectStyle to true
    set stroke weight of myObjectStyle to 3
    set stroke type of myObjectStyle to stroke style "Solid" of myDocument
    set stroke color of myObjectStyle to color "Red" of myDocument

```

```

--The frame containing the graphic is the parent of the graphic.
set myFrame to parent of myGraphic
tell myFrame to apply object style using myObjectStyle
--Resize the frame to a specific size.
set geometric bounds of myFrame to {0, 0, 144, 144}
--Fit the graphic to the frame proportionally.
fit myFrame given proportionally
--Next, fit frame to the resized graphic.
fit myFrame given frame to content
set myBounds to geometric bounds of myFrame
set myGraphicWidth to (item 4 of myBounds) - (item 2 of myBounds)
--Move the graphic frame.
set myPageWidth to page width of document preferences of myDocument
set myMarginPreferences to margin preferences of page 1 of myDocument
set myTopMargin to top of myMarginPreferences
move myFrame to {myPageWidth - myGraphicWidth, myTopMargin}
--Apply a text wrap to the graphic frame.
set text wrap type of text wrap preferences
of myFrame to bounding box text wrap
set text wrap offset of text wrap preferences of myFrame to {24, 12, 24, 12}
end if
end tell

```

JavaScript

```

//Display a standard open file dialog box to select a graphic file.
var myGraphicFile = File.openDialog("Choose a graphic file");
//If a graphic file was selected, and if you didn't press Cancel,
//place the graphic file on the page.
if((myGraphicFile != "") && (myGraphicFile != null)){
    var myGraphic = myDocument.pages.item(0).place(myGraphicFile);
    //Since you can place multiple graphics at once, the place method
    //returns an array. To get the graphic you placed, get the first
    //item in the array (JavaScript arrays start with item 0).
    myGraphic = myGraphic[0];
    //Create an object style to apply to the graphic frame.
    var myObjectStyle = myDocument.objectStyles.item("GraphicFrame");
    try {
        var myName = myObjectStyle.name;
    }
    catch (myError){
        //The object style did not exist, so create it.
        myObjectStyle = myDocument.objectStyles.add({name:"GraphicFrame"});
    }
    myObjectStyle.enableStroke = true;
    myObjectStyle.strokeWeight = 3;
    myObjectStyle.strokeType = myDocument.strokeStyles.item("Solid");
    myObjectStyle.strokeColor = myDocument.colors.item("Red");
    //The frame containing the graphic is the parent of the graphic.
    var myFrame = myGraphic.parent;
    myFrame.applyObjectStyle(myObjectStyle, true);
    //Resize the frame to a specific size.
    myFrame.geometricBounds = [0,0,144,144];
    //Fit the graphic to the frame proportionally.
    myFrame.fit(FitOptions.proportionally);
    //Next, fit frame to the resized graphic.
    myFrame.fit(FitOptions.frameToContent);
    var myBounds = myFrame.geometricBounds;
    var myGraphicWidth = myBounds[3]-myBounds[1];

```

```

//Move the graphic frame.
var myPageWidth = myDocument.documentPreferences.pageWidth;
var myTopMargin = myDocument.pages.item(0).marginPreferences.top;
myFrame.move([myPageWidth-myGraphicWidth, myTopMargin]);
//Apply a text wrap to the graphic frame.
myFrame.textWrapPreferences.textWrapType = TextWrapTypes.boundingBoxTextWrap;
myFrame.textWrapPreferences.textWrapOffset = [24, 12, 24, 12];
}

```

VBScript

```

Rem create an object style
On Error Resume Next
Set myObjectStyle = myDocument.ObjectStyles.Item("GraphicFrame")
If Error.Number <> 0 Then
    Set myObjectStyle = myDocument.ObjectStyles.Add
    myObjectStyle.Name = "GraphicFrame"
    Error.Clear
End If
On Error GoTo 0
myObjectStyle.EnableStroke = True
myObjectStyle.StrokeWeight = 3
myObjectStyle.StrokeType = myDocument.StrokeStyles.Item("Solid")
myObjectStyle.StrokeColor = myDocument.Colors.Item("Red")
Rem Again, we'll use a JavaScript to get a file name.
Rem Disable normal error handling.
On Error Resume Next
Rem Create a JavaScript as a string.
myJavaScriptString = "var myTextFile = File.openDialog("Choose a graphic
file");myTextFile.fsName;"
Rem Run the JavaScript using DoScript.
myGraphicFileName = myInDesign.DoScript(myJavaScriptString,
idScriptLanguage.idJavaScript)
If Error.Number = 0 Then
    On Error GoTo 0
    Set myGraphic = myDocument.Pages.Item(1).Place(myGraphicFileName)
    Rem Since you can place multiple graphics at once, the place method
    Rem returns an object collection. To get the graphic you placed, get the first
    Rem item in the collection.
    Set myGraphic = myGraphic.Item(1)
    Rem Create an object style to apply to the graphic frame.
    Rem The frame containing the graphic is the parent of the graphic.
    Set myFrame = myGraphic.Parent
    myFrame.ApplyObjectStyle myObjectStyle, True
    Rem Resize the frame to a specific size.
    myFrame.GeometricBounds = Array(0, 0, 144, 144)
    Rem Fit the graphic to the frame proportionally.
    myFrame.Fit idFitOptions.idProportionally
    Rem Next, fit frame to the resized graphic.
    myFrame.Fit idFitOptions.idFrameToContent
    myBounds = myFrame.GeometricBounds
    myGraphicWidth = myBounds(3) - myBounds(1)
    Rem Move the graphic frame.
    myPageWidth = myDocument.DocumentPreferences.PageWidth
    myTopMargin = myDocument.Pages.Item(1).MarginPreferences.Top
    myFrame.Move Array(myPageWidth - myGraphicWidth, myTopMargin)

```

```
Rem Apply a text wrap to the graphic frame.  
myFrame.TextWrapPreferences.TextWrapType = idTextWrapTypes.idBoundingBoxTextWrap  
myFrame.TextWrapPreferences.TextWrapOffset = Array(24, 12, 24, 12)  
End If
```

4 Middle Eastern Scripting Guide

The Middle Eastern feature of InDesign Server provides support for designing and publishing documents in Middle Eastern languages. This gives you unprecedented capability to build multilingual publications, mixing Roman and Middle Eastern scripts with ease and flexibility in your layouts.

This chapter shows how to use Middle Eastern features with scripting. This chapter assumes that you are familiar with Middle Eastern features in InDesign.

Setting up a document

Setting page binding

In a Roman publication, the binding of documents is always on the left. Conversely, in an Arabic or Hebrew publication, binding is on the right. With InDesign Server, you can create a document in which the pages are bound on the left edge or on the right edge. From InDesign Scripting, you can control this using the `pageBinding` property. This property is part of the `DocumentPreferences` object and can get one value from the `PageBindingOptions` enumeration (default, `leftToRight` or `rightToLeft`).

The following sample script creates a new document, and then sets or gets the page binding for the created document (for the complete script, see [PageBinding](#)).

AppleScript

```
set myDocument to make document
tell document preferences of myDocument
    set page binding to right to left
end tell
```

JavaScript

```
var myDocument = app.documents.add();
with(myDocument) {
    //set number of pages
    documentPreferences.pagesPerDocument = 4;
    documentPreferences.pageBinding = PageBindingOptions.rightToLeft;
}
```

VBScript

```
Set myDocument = myInDesign.Documents.Add
with myDocument
    Rem set number of pages
    .DocumentPreferences.PagesPerDocument = 4
    .DocumentPreferences.PageBinding = idPageBindingOptions.idRightToLeft
End With
```

Numbering

InDesign Server comes with special styles for page, paragraph, and footnote numbering. You can choose to apply standard, Arabic (Arabic Abjad and Arabic Alif Ba Tah) or Hebrew (Hebrew Biblical Standard and Hebrew Non-Standard Decimal) styles. With InDesign scripting, you can access these settings with the `PageNumberStyle` and `FootnoteNumberingStyle` properties.

Settings for page numbering

The following script shows how to set these settings for pages (for the complete script, see `NumberingME`).

AppleScript

```
set page number style of item 1 of sections of myDocument to arabic alif ba tah
set page number style of item 2 of sections of myDocument to arabic abjad
```

JavaScript

```
myDocument.sections.item(0).pageNumberStyle = PageNumberStyle.arabicAlifBaTah;
myDocument.sections.item(1).pageNumberStyle = PageNumberStyle.arabicAbjad;
```

VBScript

```
myDocument.Sections.Item(1).PageNumberStyle = idPageNumberStyle.idArabicAlifBaTah
myDocument.Sections.Item(2).PageNumberStyle = idPageNumberStyle.idArabicAbjad
```

Settings for footnote numbering

The following script shows how to set ME numbering settings for footnotes (for the complete script, see `NumberingME`):

AppleScript

```
set (footnote numbering style of footnote options of myDocument) to arabic abjad
```

JavaScript

```
myDocument.footnoteOptions.footnoteNumberingStyle =
    FootnoteNumberingStyle.hebrewBiblical;
```

VBScript

```
myDocument.FootnoteOptions.FootnoteNumberingStyle =
    idFootnoteNumberingStyle.idHebrewBiblical
```

Setting composer

The composer that is used to create text frames in a Roman publication is different from the ME Composer. InDesign Server comes with a document method `changeComposer` that can be used in a Roman publication to changes the composer for all text frames to the Adobe World-Ready Composer. Adobe Paragraph Composer is changed to Adobe World-Ready Paragraph Composer; Adobe Single-line Composer is changed to Adobe World-Ready Single-line Composer.

The following script shows how to use this method (for the complete script, see `ChangeComposer`):

AppleScript

```
tell application "InDesignServer"
    set myDocument to make document
    tell myDocument
        change composer
    end tell
end tell
```

JavaScript

```
myDocument.changeComposer();
```

VBScript

```
myDocument.ChangeComposer()
```

Working with text

Inserting special ME character

Using enumerations, InDesign Server gives you the ability to insert three Hebrew characters (Geresh, Gershayim, Maqaf) and four Arabic ones (Kashida, Arabic comma, Arabic Semicolon, and Arabic Question mark), as well as a right-to-left marker or left-to-right marker. The following script shows how to insert special Middle Eastern characters (for the complete script, see `SpecialCharactersME`).

AppleScript

```

set contents of insertion point -1 to "Hebrew Maqaf: "
set contents of insertion point -1 to hebrew maqaf
set contents of insertion point -1 to return
set contents of insertion point -1 to "Hebrew Geresh: "
set contents of insertion point -1 to hebrew geresh
set contents of insertion point -1 to return
set contents of insertion point -1 to "Hebrew Gershayim: "
set contents of insertion point -1 to hebrew gershayim
set contents of insertion point -1 to return
set contents of insertion point -1 to "Arabic Kashida: "
set contents of insertion point -1 to arabic kashida
set contents of insertion point -1 to return
set contents of insertion point -1 to "Arabic Comma: "
set contents of insertion point -1 to arabic comma
set contents of insertion point -1 to return
set contents of insertion point -1 to "Arabic Semicolon: "
set contents of insertion point -1 to arabic semicolon
set contents of insertion point -1 to return
set contents of insertion point -1 to "Arabic Question Mark: "
set contents of insertion point -1 to arabic question mark
set contents of insertion point -1 to return
set contents of insertion point -1 to "Right To Left Mark: "
set contents of insertion point -1 to right to left mark
set contents of insertion point -1 to return
set contents of insertion point -1 to "Left To Right Mark: "
set contents of insertion point -1 to left to right mark
set contents of insertion point -1 to return

```

JavaScript

```

//Entering InDesign special ME characters by their enumerations:
myTextFrame.parentStory.insertionPoints.item(-1).contents = "Hebrew Maqaf: ";
myTextFrame.parentStory.insertionPoints.item(-1).contents =
    SpecialCharacters.hebrewMaqaf;
myTextFrame.parentStory.insertionPoints.item(-1).contents = "\r";
myTextFrame.parentStory.insertionPoints.item(-1).contents = "Hebrew Geresh: ";
myTextFrame.parentStory.insertionPoints.item(-1).contents =
    SpecialCharacters.hebrewGeresh;
myTextFrame.parentStory.insertionPoints.item(-1).contents = "\r";
myTextFrame.parentStory.insertionPoints.item(-1).contents = "Hebrew Gershayim: ";
myTextFrame.parentStory.insertionPoints.item(-1).contents =
    SpecialCharacters.hebrewGershayim;
myTextFrame.parentStory.insertionPoints.item(-1).contents = "\r";
myTextFrame.parentStory.insertionPoints.item(-1).contents = "Arabic Kashida: ";
myTextFrame.parentStory.insertionPoints.item(-1).contents =
    SpecialCharacters.arabicKashida;
myTextFrame.parentStory.insertionPoints.item(-1).contents = "\r";
myTextFrame.parentStory.insertionPoints.item(-1).contents = "Arabic Comma: ";
myTextFrame.parentStory.insertionPoints.item(-1).contents =
    SpecialCharacters.arabicComma;
myTextFrame.parentStory.insertionPoints.item(-1).contents = "\r";
myTextFrame.parentStory.insertionPoints.item(-1).contents = "Arabic Semicolon: ";
myTextFrame.parentStory.insertionPoints.item(-1).contents =

```

```

SpecialCharacters.arabicSemicolon;
myTextFrame.parentStory.insertionPoints.item(-1).contents = "\r";
myTextFrame.parentStory.insertionPoints.item(-1).contents =
  "Arabic Question Mark: ";
myTextFrame.parentStory.insertionPoints.item(-1).contents =
  SpecialCharacters.arabicQuestionMark;
myTextFrame.parentStory.insertionPoints.item(-1).contents = "\r";
myTextFrame.parentStory.insertionPoints.item(-1).contents = "Right To Left Mark: ";
myTextFrame.parentStory.insertionPoints.item(-1).contents =
  SpecialCharacters.rightToLeftMark;
myTextFrame.parentStory.insertionPoints.item(-1).contents = "\r";
myTextFrame.parentStory.insertionPoints.item(-1).contents = "Left To Right Mark: ";
myTextFrame.parentStory.insertionPoints.item(-1).contents =
  SpecialCharacters.leftToRightMark;
myTextFrame.parentStory.insertionPoints.item(-1).contents = "\r";

```

VBScript

```

Rem Entering InDesign special ME characters by their enumerations:
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = "Hebrew Maqaf: "
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents =
  idSpecialCharacters.idHebrewMaqaf
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = vbCr
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = "Hebrew Geresh: "
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents =
  idSpecialCharacters.idHebrewGeresh
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = vbCr
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = "Hebrew Gershayim: "
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents =
  idSpecialCharacters.idHebrewGershayim
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = vbCr
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = "Arabic Kashida: "
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents =
  idSpecialCharacters.idArabicKashida
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = vbCr
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = "Arabic Comma: "
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents =
  idSpecialCharacters.idArabicComma
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = vbCr
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = "Arabic Semicolon: "
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents =
  idSpecialCharacters.idArabicSemicolon
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = vbCr
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents =
  "Arabic Question Mark: "
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents =
  idSpecialCharacters.idArabicQuestionMark
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = vbCr
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = "Right To Left Mark: "
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents =
  idSpecialCharacters.idRightToLeftMark
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = vbCr
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = "Left To Right Mark: "
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents =
  idSpecialCharacters.idLeftToRightMark
myTextFrame.ParentStory.InsertionPoints.Item(-1).contents = vbCr

```

Finding and replacing ME text

With InDesign scripting, you can find and replace Middle Eastern text. The following sample script shows how to find and replace words in the Middle Eastern text (for the complete script, see MENAFindAndReplaceText).

AppleScript

```
--Clear the find/change text preferences.
set find text preferences to nothing
set change text preferences to nothing
--Search the document for the string "Adobe".
set find what of find text preferences to "أدوبي"
--Set the find options.
set case sensitive of find change text options to false
set include footnotes of find change text options to false
set include hidden layers of find change text options to false
set include locked layers for find of find change text options to false
set include locked stories for find of find change text options to false
set include master pages of find change text options to false
set whole word of find change text options to false
tell myDocument
    set myFoundItems to find text
    display dialog ("Found " & (count myFoundItems) & " instances of the search
string.")
end tell

--Replace the text in myString
repeat with i from 1 to count myFoundItems
    set contents of item i of myFoundItems to "Adobe"
end repeat
```

JavaScript

```

var myDocument = app.activeDocument;
//Clear the find/change text preferences.
app.findTextPreferences = NothingEnum.nothing;
app.changeTextPreferences = NothingEnum.nothing;
//Search the document for the string "Adobe".
app.findTextPreferences.findWhat = "أدوبي";
//Set the find options.
app.findChangeTextOptions.caseSensitive = false;
app.findChangeTextOptions.includeFootnotes = false;
app.findChangeTextOptions.includeHiddenLayers = false;
app.findChangeTextOptions.includeLockedLayersForFind = false;
app.findChangeTextOptions.includeLockedStoriesForFind = false;
app.findChangeTextOptions.includeMasterPages = false;
app.findChangeTextOptions.wholeWord = false;
var myFoundItems = myDocument.findText();
alert("Found " + myFoundItems.length + " instances of the search arabic string.");
app.findTextPreferences = NothingEnum.nothing;
app.changeTextPreferences = NothingEnum.nothing;

//Replace the text in myString
for(var i = 0; i < myFoundItems.length; i++)
{
    myFoundItems[i].contents = "Adobe";
}

```

VBScript

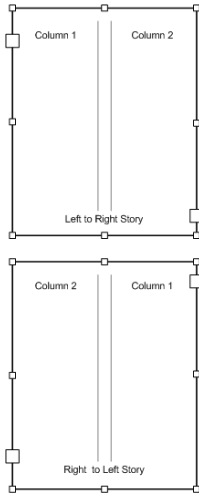
```

Rem Clear the find/change text preferences.
myInDesign.FindTextPreferences = idNothingEnum.idNothing
myInDesign.ChangeTextPreferences = idNothingEnum.idNothing
REM Search the document for the string "Adobe".
myInDesign.FindTextPreferences.FindWhat = "أدوبي"
REM Set the find options.
myInDesign.FindChangeTextOptions.CaseSensitive = False
myInDesign.FindChangeTextOptions.IncludeFootnotes = False
myInDesign.FindChangeTextOptions.IncludeHiddenLayers = False
myInDesign.FindChangeTextOptions.IncludeLockedLayersForFind = False
myInDesign.FindChangeTextOptions.IncludeLockedStoriesForFind = False
myInDesign.FindChangeTextOptions.IncludeMasterPages = False
myInDesign.FindChangeTextOptions.WholeWord = False
Set myFoundItems = myInDesign.Documents.Item(1).FindText
MsgBox ("Found " & CStr(myFoundItems.Count) & " instances of the search string.")
Rem Clear the find/change text preferences after the search.
myInDesign.FindTextPreferences = idNothingEnum.idNothing
myInDesign.ChangeTextPreferences = idNothingEnum.idNothing

REM Replace the text in myString
For i = 1 To myFoundItems.Count
    myFoundItems(i).contents = "Adobe"
Next

```

Setting story direction property



The concept of story direction becomes clearer in a multicolumn text frame. A right-to-left story begins to fill columns from the right edge of the text frame and a left-to-right story begins to fill columns from the left edge of the text frame.

With InDesign Scripting, if you need to change the main direction of an existing text story, even after typing or placing some text inside, use the `storyDirection` property. This property is part of the `StoryPreferences` object and can get one value from the `StoryDirectionOptions` enumeration (`leftToRightDirection` and `rightToLeftDirection`). The following sample script creates a two-column text frame, then sets the story direction (for the complete script, see `StoryDirection`).

AppleScript

```
set myTextFrame to make text frame with properties {geometric bounds:{70, 200, 300, 500}}
tell myTextFrame
    set text column count of text frame preferences to 2
    set contents to "أدوات التصميم القوية"
    set justification of parent story to right justified
    set (story direction of story preferences of parent story) to (right to left direction)
end tell
```

JavaScript

```
with(myTextFrame){
    //Set the bounds of the text frame.
    geometricBounds = [70, 200, 300, 500];
    //Fill the text frame with placeholder text in 2 column.
    textFramePreferences.textColumnCount = 2;
    contents = "أدوات التصميم القوية والمتكاملة رقم 1 من أدوبي";
    parentStory.justification = Justification.rightJustified;
    //Now set the story direction left to right
    parentStory.storyPreferences.storyDirection =
    StoryDirectionOptions.leftToRightDirection;
}
```

VBScript

```
with myTextFrame
  Rem Set the bounds of the text frame.
  .geometricBounds = Array(70, 200, 300, 500)
  Rem Fill the text frame with placeholder text in 2 column.
  .TextFramePreferences.TextColumnCount = 2
  .contents = "أدوات التصميم القوية والمتكاملة رقم 1 من أدوبي"
  .ParentStory.Justification = idJustification.idRightJustified
  Rem Now set the story direction left to right
  .ParentStory.StoryPreferences.StoryDirection =
  idStoryDirectionOptions.idLeftToRightDirection
End With
```

Setting paragraph attributes

InDesign Server comes with special paragraph settings, such as Paragraph Direction and Justification, for laying out Arabic/Hebrew text.

ParagraphDirection

Paragraph direction controls the order of multidirectional text inside the paragraph. By default, the paragraph direction is Left To Right.

With InDesign scripting, if you need to change the main direction of an existing paragraph, use the `paragraphDirection` property. This property is part of the Text objects and can get one value from the `ParagraphDirectionOptions` enumeration (`leftToRightDirection` and `rightToLeftDirection`). The following sample script shows how to set this property (for the complete script, see `MEParagraphAttributes`).

AppleScript

```
tell myTextFrame
  set paragraph direction of item 1 of paragraphs to left to right direction
end tell
```

JavaScript

```
with(myTextFrame){
  //Set ME paragraph attributes.
  paragraphs.item(0).paragraphDirection =
  ParagraphDirectionOptions.leftToRightDirection;
}
```

VBScript

```
with myTextFrame
  Rem Set ME paragraph attributes.
  .Paragraphs.Item(1).ParagraphDirection =
  idParagraphDirectionOptions.idLeftToRightDirection
End With
```

Paragraph direction for application and document

You can also use this property to set text defaults both for the application and for each document:

AppleScript

```
set paragraph direction of text defaults of myDocument to right to left direction
```

JavaScript

```
myDocument.textDefaults.paragraphDirection =
    ParagraphDirectionOptions.rightToLeftDirection;
```

VBScript

```
myDocument.TextDefaults.ParagraphDirection =
    idParagraphDirectionOptions.idRightToLeftDirection
```

Justification

With InDesign scripting, you can change the default or the existing attribute of a paragraph with the `ParagraphJustification` property. This property is part of the Text objects and can get one value from the `ParagraphJustificationOptions` enumeration (`defaultJustification`, `arabicJustification`, and `naskhJustification`). The following sample script shows how to set this property (for the complete script, see `MEParagraphAttributes`).

Justification for an existing paragraph

AppleScript

```
tell myTextFrame
    set paragraph justification of item 2 of paragraphs to naskh justification
end tell
```

JavaScript

```
with(myTextFrame){
    //Set ME paragraph attributes.
    paragraphs.item(1).paragraphJustification =
        ParagraphJustificationOptions.naskhJustification;
}
```

VBScript

```
with myTextFrame
    Rem Set ME paragraph attributes.
    .Paragraphs.Item(2).ParagraphJustification =
        idParagraphJustificationOptions.idNaskhJustification
End With
```

Justification for text defaults

AppleScript

```
set paragraph justification of text defaults of myDocument to arabic justification
```

JavaScript

```
myDocument.textDefaults.paragraphJustification =
  ParagraphJustificationOptions.arabicJustification;
```

sVBScript

```
myDocument.TextDefaults.ParagraphJustification =
  idParagraphJustificationOptions.idArabicJustification
```

Setting character attributes

InDesign Server comes with special character settings for laying out Arabic/Hebrew text. These settings allow you to finely tune your Arabic/Hebrew text. With InDesign scripting, these settings correspond to a number of properties that can be applied to a Text object. The MECharactersAttributes tutorial script shows how to set every Middle Eastern property of a text object.

Digits

You can choose the language in which you want your numeric digits to be displayed. The Default setting means that the numbers will be in the same language as that of the previous character. Otherwise, you can choose between Arabic, Hindi, and Farsi numbers. The corresponding text object property is `DigitsType`.

AppleScript

```
set contents of myTextFrame to "Farsi Digits: 1234567890"
set digits type of item 1 of paragraphs of myTextFrame to farsi digits
```

JavaScript

```
myTextFrame.contents = "Farsi Digits: 1234567890";
myTextFrame.paragraphs.item(0).digitsType = DigitsTypeOptions.farsiDigits;
```

VBScript

```
myTextFrame.contents = "Farsi Digits: 1234567890"
myTextFrame.Paragraphs.Item(1).DigitsType = idDigitsTypeOptions.idFarsiDigits
```

Kashidas

The Arabic and Naskh justification algorithms insert kashidas and spaces. If you don't want Kashidas to be inserted in the Arabic text, with InDesign scripting, you can change the `Kashidas` property to set it to `kashidasOff`; otherwise, set it to `defaultKashidas`.

AppleScript

```
set contents of myTextFrame to "كُتِبَ Kashidas Off"
set kashidas of item 1 of paragraphs of myTextFrame to kashidas off
set justification of item 1 of paragraphs of myTextFrame to fully justified
set paragraph justification of item 1 of paragraphs of myTextFrame to
    naskh justification
```

JavaScript

```
myTextFrame.contents = "كُتِبَ Kashidas Off";
myTextFrame.paragraphs.item(0).kashidas = KashidasOptions.kashidasOff;
myTextFrame.paragraphs.item(0).justification = Justification.fullyJustified;
myTextFrame.paragraphs.item(0).paragraphJustification =
    ParagraphJustificationOptions.naskhJustification;
```

VBScript

```
myTextFrame.contents = "كُتِبَ Kashidas Off"
myTextFrame.Paragraphs.Item(1).Kashidas = idKashidasOptions.idKashidasOff
myTextFrame.Paragraphs.Item(1).Justification = idJustification.idFullyJustified
myTextFrame.Paragraphs.Item(1).ParagraphJustification =
    idParagraphJustificationOptions.idNaskhJustification
```

Characters direction

To correctly handle bidirectional text, InDesign Server stores character direction information. With scripting, this information can be changed using the `CharacterDirection` property which can get one value from the `CharacterDirectionOptions` enumeration (defaultDirection, leftToRightDirection and rightToLeftDirection).

AppleScript

```
set contents of myTextFrame to "كُتِبَ OpenType"
set diacritic position of item 1 of paragraphs of myTextFrame to opentype position

set contents of myTextFrame to "كُتِبَ Loose"
set diacritic position of item 1 of paragraphs of myTextFrame to loose position
```

JavaScript

```
myTextFrame.contents = "Farsi + L dir: 1234567890";
for (i=15 ; i < 25 ; i++) {
    myTextFrame.parentStory.characters.item(i).characterDirection =
        CharacterDirectionOptions.leftToRightDirection;
}
```

VBScript

```
myTextFrame.contents = "Farsi + L dir: 1234567890"
For i = 16 To 25
    myTextFrame.ParentStory.Characters.Item(i).CharacterDirection =
        idCharacterDirectionOptions.idLeftToRightDirection
Next
```

Diacritic positioning

Short Arabic vowels are floating diacritics, written either over or under the consonants. Therefore, it is important that the diacritics be properly placed over the consonants, both horizontally and vertically.

Diacritic Positioning can be accessed with scripting using the `DiacriticPosition` to choose from five predefined positions (`defaultPosition`, `loosePosition`, `mediumPosition`, `tightPosition`, and `opentypePosition`) or a custom position using the `XOffsetDiacritic` for horizontal adjustment and `YOffsetDiacritic` for vertical adjustment.

AppleScript

```
set contents of myTextFrame to "كُتِبَ OpenType"
set diacritic position of item 1 of paragraphs of myTextFrame to opentype position
set contents of myTextFrame to "كُتِبَ Loose"
set diacritic position of item 1 of paragraphs of myTextFrame to loose position
```

JavaScript

```
myTextFrame.contents = "كُتِبَ Loose";
myTextFrame.paragraphs.item(0).diacriticPosition =
    DiacriticPositionOptions.loosePosition;
myTextFrame.contents = "كُتِبَ Custom";
myTextFrame.parentStory.characters.item(1).xOffsetDiacritic = 150;
myTextFrame.parentStory.characters.item(1).yOffsetDiacritic = -150;
```

VBScript

```
myTextFrame.contents = "كُتِبَ Loose"
myTextFrame.Paragraphs.Item(1).DiacriticPosition =
    idDiacriticPositionOptions.idLoosePosition
myTextFrame.contents = "كُتِبَ Custom"
myTextFrame.ParentStory.Characters.Item(2).XOffsetDiacritic = 150
myTextFrame.ParentStory.Characters.Item(2).YOffsetDiacritic = -150
```

Open Type features

If you are using an Open Type Font in your layout, then you have access to special Open Type features. These features can be accessed with scripting using the `OtfOverlapSwash`, `OtfStylisticAlternate`, `OtfJustificationAlternate`, or `OtfStretchedAlternate` properties.

AppleScript

```
set OTF stylistic alternate of item 1 of paragraphs of myTextFrame to true
set OTF justification alternate of item 1 of paragraphs of myTextFrame to true
set OTF stretched alternate of item 1 of paragraphs of myTextFrame to true
```

JavaScript

```
myTextFrame.paragraphs.item(0).otfOverlapSwash = true;
myTextFrame.paragraphs.item(0).otfStylisticAlternate = true;
myTextFrame.paragraphs.item(0).otfJustificationAlternate = true;
myTextFrame.paragraphs.item(0).otfStretchedAlternate = true;
```

VBScript

```
myTextFrame.Paragraphs.Item(1).OtfOverlapSwash = true
myTextFrame.Paragraphs.Item(1).OtfStylisticAlternate = true
myTextFrame.Paragraphs.Item(1).OtfJustificationAlternate = true
myTextFrame.Paragraphs.Item(1).OtfStretchedAlternate = true
```

Using styles

Paragraph and character styles are the keys to text formatting productivity and should be a central part of any script that applies text formatting. While creating a Character or Paragraph style, you will access all the preceding explained Character and Paragraph attribute properties on the CharacterStyles and ParagraphStyles Objects.

The following example script fragment shows how to create paragraph and character styles with Middle Eastern attributes (for the complete script, see CreateStyles).

AppleScript

```
--Create a character style named "myCharacterStyleME" if
--no style by that name already exists.
try
set myCharacterStyleME to character style "myCharacterStyleME"
--If the style does not exist, trying to get its name will generate an error.
set myName to name of myCharacterStyleME
on error
--The style did not exist, so create it
set myCharacterStyleME to make character style
end try
tell myCharacterStyleME
set name to "myCharacterStyleME"
set applied font to "Adobe Arabic"
set digits type to farsi digits
set character direction to left to right direction
end tell

--Create a paragraph style named "myParagraphStyle" if
--no style by that name already exists
try
set myParagraphStyleME to paragraph style "myParagraphStyleME"
--If the paragraph style does not exist, trying to get its name will generate an
```

```

error.
  set myName to name of myParagraphStyleME
on error
  --The paragraph style did not exist, so create it
  set myParagraphStyleME to make paragraph style
end try
tell myParagraphStyleME
  set justification to fully justified
  set paragraph direction to right to left direction
  set paragraph justification to naskh justification
  set point size to 12
  set kashidas to default kashidas
  set digits type to hindi digits
  set applied font to "Adobe Arabic"
  set OTF justification alternate to true
end tell

```

JavaScript

```

//Create a character style named "myCharacterStyleME" if
//no style by that name already exists.
try{
  myCharacterStyleME = myDocument.characterStyles.item("myCharacterStyleME");
  //If the style does not exist, trying to get its name will generate an error.
  myName = myCharacterStyleME.name;
}
catch (myError){
  //The style did not exist, so create it.
  myCharacterStyleME =
    myDocument.characterStyles.add({name:"myCharacterStyleME"});
}
with(myCharacterStyleME){
  appliedFont = app.fonts.item("Adobe Arabic");
  digitsType = DigitsTypeOptions.farsiDigits;
  characterDirection = CharacterDirectionOptions.leftToRightDirection;
}
//Create a paragraph style named "myParagraphStyle" if
//no style by that name already exists.
try{
  myParagraphStyleME = myDocument.paragraphStyles.item("myParagraphStyleME");
}
catch (myError){
  //The paragraph style did not exist, so create it.
  myParagraphStyleME =
    myDocument.paragraphStyles.add({name:"myParagraphStyleME"});
}
with(myParagraphStyleME){
  justification = Justification.fullyJustified;
  paragraphDirection = ParagraphDirectionOptions.rightToLeftDirection;
  paragraphJustification = ParagraphJustificationOptions.naskhJustification;
  pointSize = 12;
  kashidas = KashidasOptions.defaultKashidas;
  digitsType = DigitsTypeOptions.hindiDigits;
  appliedFont = app.fonts.item("Adobe Arabic");
  otfJustificationAlternate = true;
}

```

VBScript

```

Rem Create a character style named "myCharacterStyleME" if
Rem no style by that name already exists.
Set myCharacterStyleME = myAddStyle(myDocument, "myCharacterStyleME", 1)
with myCharacterStyleME
    .AppliedFont = myInDesign.Fonts.Item("Adobe Arabic")
    .DigitsType = idDigitsTypeOptions.idFarsiDigits
    .CharacterDirection = idCharacterDirectionOptions.idLeftToRightDirection
End With
Rem Create a paragraph style named "myParagraphStyleME" if
Rem no style by that name already exists.
Set myParagraphStyleMe = myAddStyle(myDocument, "myParagraphStyleME", 2)
with myParagraphStyleME
    .Justification = idJustification.idFullyJustified
    .ParagraphDirection = idParagraphDirectionOptions.idRightToLeftDirection
    .ParagraphJustification = idParagraphJustificationOptions.idNaskhJustification
    .PointSize = 12
    .Kashidas = idKashidasOptions.idDefaultKashidas
    .DigitsType = idDigitsTypeOptions.idHindiDigits
    .AppliedFont = myInDesign.Fonts.Item("Adobe Arabic")
    .OtfJustificationAlternate = true
End With

```

Working with tables

Creating a table and setting its direction

With InDesign scripting, when you insert a table in a text frame, the direction of the table and text cell alignment is the same as the paragraph direction and alignment. You can use the `TableDirection` property to change the direction of the table. This property also affects the text cell alignment. The following script shows how to set table direction (for the complete script, see `TableDirection`).

AppleScript

```

--Fill the text frame with text
set myString to "Table 1 LTR (paragraph direction LTR)" & return
set myString to myString & "Column 1,Column 2,Column 3;1a,1b,1c;2a,2b,2c;3a,3b,3c" & return
return
set myString to myString & "Table 2 RTL, right Align (paragraph direction LTR)" & return
set myString to myString & "Column 1,Column 2,Column 3;1a,1b,1c;2a,2b,2c;3a,3b,3c" & return
return
set myString to myString & "Table 3 RTL, left align (paragraph direction RTL)" & return
set myString to myString & "Column 1,Column 2,Column 3;1a,1b,1c;2a,2b,2c;3a,3b,3c" & return
return
set myString to myString & "Table 4 LTR (paragraph direction RTL)" & return
set myString to myString & "Column 1,Column 2,Column 3;1a,1b,1c;2a,2b,2c;3a,3b,3c" & return
return
set contents of myTextFrame to myString

set myStory to story 1 of myDocument
set myParagraph to object reference of paragraph 2 of myStory
set paragraph direction of myParagraph to left to right direction
set myStartCharacter to index of character 1 of myParagraph
set myEndCharacter to index of character -2 of myParagraph

```

```

set myText to object reference of text from character myStartCharacter to character
myEndCharacter of myStory
tell myText
  set myTable to (convert to table column separator "," row separator ";")
end tell

set myParagraph to object reference of paragraph 4 of myStory
set paragraph direction of myParagraph to left to right direction
set myStartCharacter to index of character 1 of myParagraph
set myEndCharacter to index of character -2 of myParagraph
set myText to object reference of text from character myStartCharacter to character
myEndCharacter of myStory
tell myText
  set myTable to (convert to table column separator "," row separator ";")
end tell
--Change Table direction (paragraph direction is LTR, the converted table is LTR
--use table direction property to have table RTL), this change also the align
set table direction of table 2 of myStory to right to left direction

set myParagraph to object reference of paragraph 6 of myStory
set paragraph direction of myParagraph to right to left direction
set myStartCharacter to index of character 1 of myParagraph
set myEndCharacter to index of character -2 of myParagraph
set myText to object reference of text from character myStartCharacter to character
myEndCharacter of myStory
tell myText
  set myTable to (convert to table column separator "," row separator ";")
end tell

set myParagraph to object reference of paragraph 8 of myStory
set paragraph direction of myParagraph to right to left direction
set myStartCharacter to index of character 1 of myParagraph
set myEndCharacter to index of character -2 of myParagraph
set myText to object reference of text from character myStartCharacter to character
myEndCharacter of myStory
tell myText
  set myTable to (convert to table column separator "," row separator ";")
end tell
--Change Table direction (paragraph direction is RTL, the converted table is RTL
--use table direction property to have table LTR)
set table direction of table 4 of myStory to left to right direction

```

JavaScript

```

//Fill the text frame with placeholder text.
var myString = "Table 1 LTR (paragraph direction LTR)\r";
myString += "Column 1,Column 2,Column 3;1a,1b,1c;2a,2b,2c;3a,3b,3c\r";
myString += "Table 2 RTL, right Align (paragraph direction LTR)\r";
myString += "Column 1,Column 2,Column 3;1a,1b,1c;2a,2b,2c;3a,3b,3c\r";
myString += "Table 3 RTL, left align (paragraph direction RTL)\r";
myString += "Column 1,Column 2,Column 3;1a,1b,1c;2a,2b,2c;3a,3b,3c\r";
myString += "Table 4 LTR(paragraph direction RTL)\r";
myString += "Column 1,Column 2,Column 3;1a,1b,1c;2a,2b,2c;3a,3b,3c\r";
myTextFrame.contents = myString;
var myStory = myDocument.stories.item(0);
var myParagraph = myStory.paragraphs.item(1);
myParagraph.paragraphDirection = ParagraphDirectionOptions.leftToRightDirection;
var myStartCharacter = myParagraph.characters.item(0);
var myEndCharacter = myParagraph.characters.item(-2);

```

```

var myText = myStory.texts.itemByRange(myStartCharacter, myEndCharacter);
var myTable = myText.convertToTable(",",";");
var myParagraph = myStory.paragraphs.item(3);
myParagraph.paragraphDirection = ParagraphDirectionOptions.leftToRightDirection;
var myStartCharacter = myParagraph.characters.item(0);
var myEndCharacter = myParagraph.characters.item(-2);
var myText = myStory.texts.itemByRange(myStartCharacter, myEndCharacter);
var myTable = myText.convertToTable(",",";");
//Change Table direction (paragraph direction is LTR, the converted table is LTR
//use table direction property to have table RTL), this change also the align
myStory.tables.item(1).tableDirection = TableDirectionOptions.rightToLeftDirection;
var myParagraph = myStory.paragraphs.item(5);
myParagraph.paragraphDirection = ParagraphDirectionOptions.rightToLeftDirection;
var myStartCharacter = myParagraph.characters.item(0);
var myEndCharacter = myParagraph.characters.item(-2);
var myText = myStory.texts.itemByRange(myStartCharacter, myEndCharacter);
var myTable = myText.convertToTable(",",";");
var myParagraph = myStory.paragraphs.item(7);
myParagraph.paragraphDirection = ParagraphDirectionOptions.rightToLeftDirection;
var myStartCharacter = myParagraph.characters.item(0);
var myEndCharacter = myParagraph.characters.item(-2);
var myText = myStory.texts.itemByRange(myStartCharacter, myEndCharacter);
var myTable = myText.convertToTable(",",";");
//Change Table direction (paragraph direction is RTL, the converted table is RTL
//use table direction property to have table LTR)
myStory.tables.item(3).tableDirection = TableDirectionOptions.leftToRightDirection;

```

VBScript

```

Rem Fill the text frame with placeholder text.
myString = "Table 1 LTR (pargraph direction LTR)" & vbCrLf
myString = myString &
    "Column 1,Column 2,Column 3;1a,1b,1c;2a,2b,2c;3a,3b,3c" & vbCrLf
myString = myString & "Table 2 RTL, right Align (pargraph direction LTR)" & vbCrLf
myString = myString &
    "Column 1,Column 2,Column 3;1a,1b,1c;2a,2b,2c;3a,3b,3c" & vbCrLf
myString = myString & "Table 3 RTL, left align (pargraph direction RTL)" & vbCrLf
myString = myString &
    "Column 1,Column 2,Column 3;1a,1b,1c;2a,2b,2c;3a,3b,3c" & vbCrLf
myString = myString & "Table 4 LTR(paragraph direction RTL)" & vbCrLf
myString = myString &
    "Column 1,Column 2,Column 3;1a,1b,1c;2a,2b,2c;3a,3b,3c" & vbCrLf
myTextFrame.Contents = myString
Set myStory = myDocument.Stories.Item(1)
Set myParagraph = myStory.paragraphs.item(2)
myParagraph.ParagraphDirection = idParagraphDirectionOptions.idLeftToRightDirection
Set myStartCharacter = myParagraph.Characters.Item(1)
Set myEndCharacter = myParagraph.Characters.Item(-2)
Set myText = myStory.Texts.ItemByRange(myStartCharacter, myEndCharacter).Item(1)
Set myTable = myText.ConvertToTable(",",";")
Set myParagraph = myStory.paragraphs.item(4)
myParagraph.ParagraphDirection = idParagraphDirectionOptions.idLeftToRightDirection
Set myStartCharacter = myParagraph.Characters.Item(1)
Set myEndCharacter = myParagraph.Characters.Item(-2)
Set myText = myStory.Texts.ItemByRange(myStartCharacter, myEndCharacter).Item(1)
Set myTable = myText.ConvertToTable(",",";")
Rem Change Table direction (paragraph direction is LTR, the converted table is LTR
Rem use table direction property to have table RTL), this change also the align
myStory.Tables.item(2).TableDirection =

```

```
idTableDirectionOptions.idRightToLeftDirection
Set myPargraph = myStory.paragraphs.item(6)
myPargraph.ParagraphDirection = idParagraphDirectionOptions.idRightToLeftDirection
Set myStartCharacter = myPargraph.Characters.Item(1)
Set myEndCharacter = myPargraph.Characters.Item(-2)
Set myText = myStory.Texts.ItemByRange(myStartCharacter, myEndCharacter).Item(1)
Set myTable = myText.ConvertToTable(",", ";")
Set myPargraph = myStory.paragraphs.item(8)
myPargraph.ParagraphDirection = idParagraphDirectionOptions.idRightToLeftDirection
Set myStartCharacter = myPargraph.Characters.Item(1)
Set myEndCharacter = myPargraph.Characters.Item(-2)
Set myText = myStory.Texts.ItemByRange(myStartCharacter, myEndCharacter).Item(1)
Set myTable = myText.ConvertToTable(",", ";")
Rem Change Table direction (paragraph direction is RTL, the converted table is RTL
Rem use table direction property to have table LTR)
myStory.Tables.item(4).TableDirection =
    idTableDirectionOptions.idLeftToRightDirection
```