Formpipe.
Lasernet

Lasernet 9
Scripting

Lasernet 9 – Scripting [Revision 7 – May 2020]

1 Introduction

1.1 Who Should Use This Guide

This guide covers the scripting features and extensibility offered by Lasernet Output Management. It is written both for the Lasernet system administrator and Lasernet developers. It is intended primarily as a reference to the different JavaScript functions in Lasernet.

2 Terms of Use

3 EXPANDING FUNCTIONALITY WITH SCRIPTING

3.1 Introduction to Scripting

Lasernet contains a scripting framework supporting the development of advanced functionality.

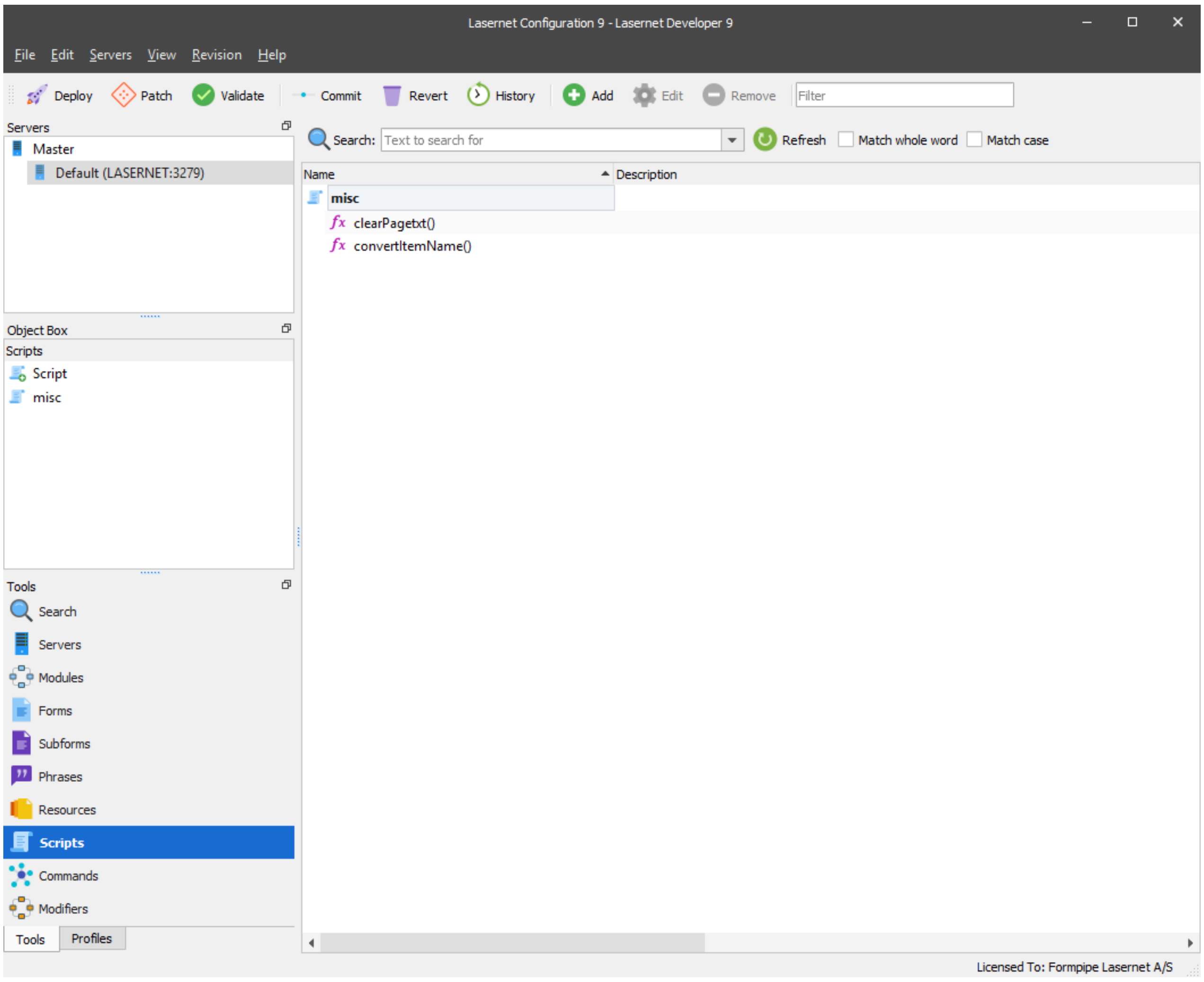
The JavaScript engine in Lasernet is compatible with the ECMA-262 3rd edition specification.

Scripts are typically used for checksum calculations, conditional overlays, conditional targets and conditional printer profiles, but it is possible to develop anything using scripting to extend your Lasernet solution.

This hands-on introduction to scripting in Lasernet will focus on some example scripts that are commonly used in many setups. Some of the terms and explanations in this section may seem difficult if you are new to the subject, but we encourage you to go read it all in order to familiarize yourself with the opportunities and possibilities of scripting.

A 'script' usually consists of one or more tasks, grouped together under a single name to provide specific functionality.

The Lasernet Developer contains a script editor with the ability to maintain your own scripts. You can access the script editor by creating a new script or opening an existing one.


Lasernet Configuration 9 - Lasernet Developer 9
File Edit Servers View Revision Help
Deploy Patch Validate Commit Revert History Add Edit Remove Filter
Servers
Master
Default (LASERNET:3279)
Search: Text to search for Refresh Match whole word Match case
Name Description
misc
clearPagetxt()
convertItemName()
Object Box
Scripts
Script
misc
Tools
Search
Servers
Modules
Forms
Subforms
Phrases
Resources
Scripts
Commands
Modifiers
Tools Profiles
Licensed To: Formpipe Lasernet A/S

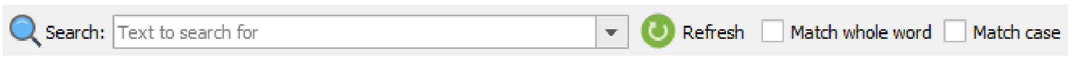
Click Add to **Add** a new script object or select Script in the left view and drag the icon into the list view containing script objects. When a script has been added it will be available globally for the whole configuration and you can add it to any module form as modifier or rearrange object.

Click Edit to **Edit** an existing script or double-click it. A script object can contain several functions. If you double-click on the function name, you will be guided to where the selected function starts.

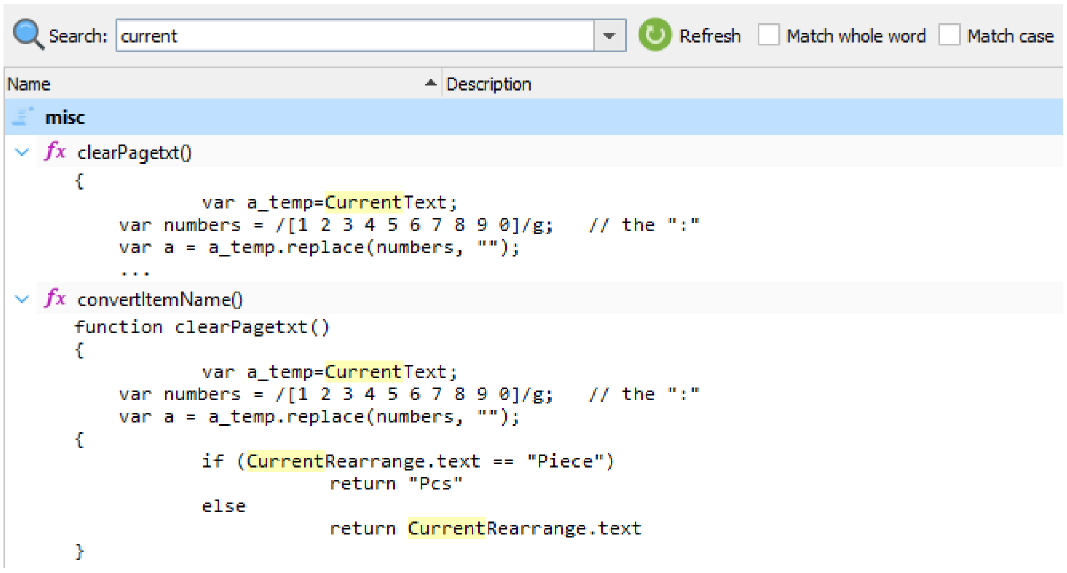
Select an object (root items are marked in bold) and click Remove to **Remove** an existing object. This will remove all functions included in the main object. If you want to remove a function only, this is maintained in the Script Editor. After a function has been removed you must also remember to manually remove the object reference added in modules or forms, otherwise you will get an error when validating the configuration or when processing jobs through the modules or forms.

If you have a large library of script objects and functions, you can use the **search** functionality for finding the text string(s), you are searching for. Type in the search string and press Refresh and all the functions with a match will be listed and the text string(s) will be marked with yellow. A few script lines before and after the match will be listed as well to give a sense of context.

In your search for strings you can decide to “Match whole word” or “Match case”.



After a search you must clear the Search field and press Refresh if you want to list all available script objects and functions again.


Search: current

Refresh ☐ Match whole word ☐ Match case

Name | Description

misc

clearPagetxt()

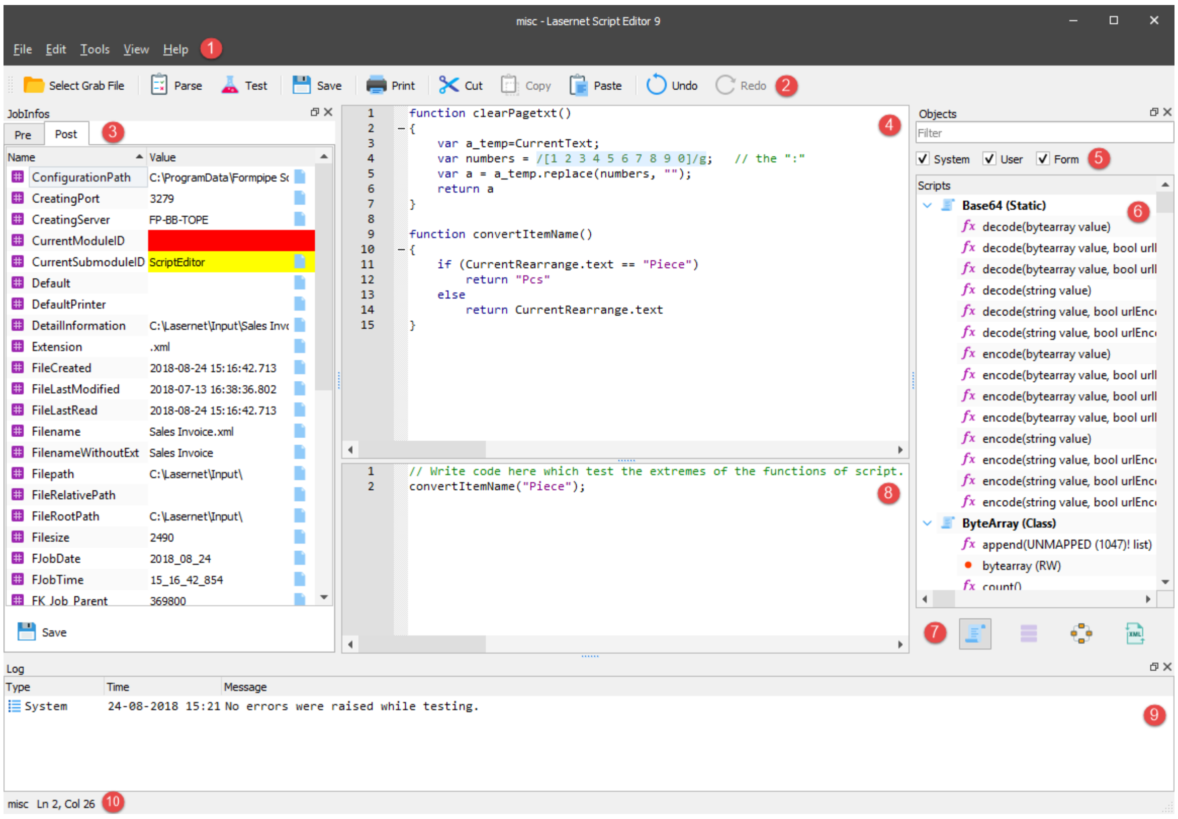
```
{
            var a_temp=CurrentText;
    var numbers = /[1 2 3 4 5 6 7 8 9 0]/g;   // the ":"
    var a = a_temp.replace(numbers, "");
    ...
```

convertItemName()

```
function clearPagetxt()
{
            var a_temp=CurrentText;
    var numbers = /[1 2 3 4 5 6 7 8 9 0]/g;   // the ":"
    var a = a_temp.replace(numbers, "");
{
            if (CurrentRearrange.text == "Piece")
                        return "Pcs"
            else
                        return CurrentRearrange.text
}
```

3.2 Script Editor

The editor supports the development of scripts by providing you with features for efficiently writing and editing code.


misc - Lasernet Script Editor 9
File Edit Tools View Help 1
Select Grab File Parse Test Save Print Cut Copy Paste Undo Redo 2
JobInfos
Pre Post 3
Save
4
Objects
Filter
System User Form 5
Scripts
8
7
Log
9
misc Ln 2, Col 26 10

Name	Value
ConfigurationPath	C:\ProgramData\Formpipe S‹
CreatingPort	3279
CreatingServer	FP-BB-TOPE
CurrentModuleID	
CurrentSubmoduleID	ScriptEditor
Default	
DefaultPrinter	
DetailInformation	C:\Lasernet\Input\Sales Inv‹
Extension	.xml
FileCreated	2018-08-24 15:16:42.713
FileLastModified	2018-07-13 16:38:36.802
FileLastRead	2018-08-24 15:16:42.713
Filename	Sales Invoice.xml
FilenameWithoutExt	Sales Invoice
Filepath	C:\Lasernet\Input\
FileRelativePath	
FileRootPath	C:\Lasernet\Input\
Filesize	2490
FJobDate	2018_08_24
FJobTime	15_16_42_854
FK_Job_Parent	369800

```
function clearPagetxt()
{
    var a_temp=CurrentText;
    var numbers = /[1 2 3 4 5 6 7 8 9 0]/g;   // the ":"
    var a = a_temp.replace(numbers, "");
    return a
}

function convertItemName()
{
    if (CurrentRearrange.text == "Piece")
        return "Pcs"
    else
        return CurrentRearrange.text
}
```

```
// Write code here which test the extremes of the functions of script.
convertItemName("Piece");
```

Base64 (Static) 6
- decode(bytearray value)
- decode(bytearray value, bool urll
- decode(bytearray value, bool urll
- decode(string value)
- decode(string value, bool urlEnc
- decode(string value, bool urlEnc
- encode(bytearray value)
- encode(bytearray value, bool urll
- encode(bytearray value, bool urll
- encode(bytearray value, bool urll
- encode(string value)
- encode(string value, bool urlEnc
- encode(string value, bool urlEnc
- encode(string value, bool urlEnc

ByteArray (Class)
- append(UNMAPPED (1047)! list)
- bytearray (RW)
- count()

```
Type      Time              Message
System    24-08-2018 15:21 No errors were raised while testing.
```

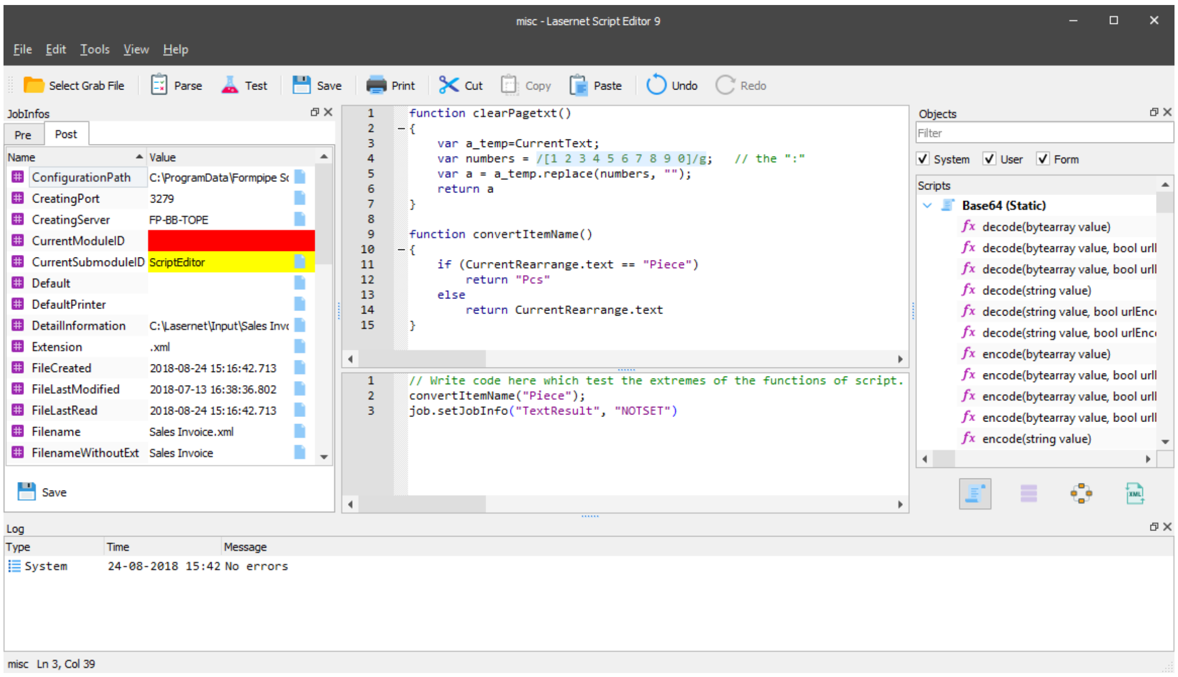
1. Menu bar with File, Edit, Tools and View functionality
2. Tool bar with Parse, Test, Save, Print, Cut/Copy/Paste and Undo/Redo functionality
3. Name and values of JobInfos in pre (before execution) and post (after execution) mode
4. Script Editor with code hints and indentation guides
5. Filtering support for Lasernet System, User and Form objects
6. Object view with drag'n'drop support to Script Editor area
7. Select Scripts, Database Commands, Modifiers or XML Transformers object view
8. Unit testing
9. Logger view for testing and debugging of scripts
10. Status for filename and cursor positioning

3.3 Unit Testing

Unit testing can help you to validate your script functions without uploading the configuration to server and parsing jobs through Lasernet.

The idea of unit testing is to test the extremes for each function, to make sure that it works as expected and to catch errors if something is changed.

It is normal practice to implement the unit test before implementing the actual function which is being tested.


misc - Lasernet Script Editor 9
File Edit Tools View Help
Select Grab File Parse Test Save Print Cut Copy Paste Undo Redo
JobInfos
Pre Post
Save
Objects
Filter
System User Form
Scripts
Base64 (Static)
decode(bytearray value)
decode(bytearray value, bool url
decode(bytearray value, bool url
decode(string value)
decode(string value, bool urlEnc
decode(string value, bool urlEnc
encode(bytearray value)
encode(bytearray value, bool url
encode(bytearray value, bool url
encode(bytearray value, bool url
encode(string value)
Log
misc Ln 3, Col 39

Name	Value
ConfigurationPath	C:\ProgramData\Formpipe Sc
CreatingPort	3279
CreatingServer	FP-BB-TOPE
CurrentModuleID	
CurrentSubmoduleID	ScriptEditor
Default	
DefaultPrinter	
DetailInformation	C:\Lasernet\Input\Sales Invc
Extension	.xml
FileCreated	2018-08-24 15:16:42.713
FileLastModified	2018-07-13 16:38:36.802
FileLastRead	2018-08-24 15:16:42.713
Filename	Sales Invoice.xml
FilenameWithoutExt	Sales Invoice

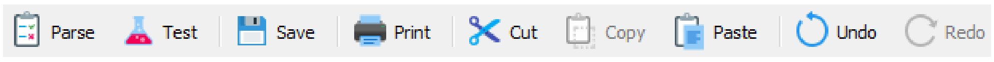
```
function clearPagetxt()
{
    var a_temp=CurrentText;
    var numbers = /[1 2 3 4 5 6 7 8 9 0]/g;   // the ":"
    var a = a_temp.replace(numbers, "");
    return a
}

function convertItemName()
{
    if (CurrentRearrange.text == "Piece")
        return "Pcs"
    else
        return CurrentRearrange.text
}
```

```
// Write code here which test the extremes of the functions of script.
convertItemName("Piece");
job.setJobInfo("TextResult", "NOTSET")
```

```
Type      Time              Message
System    24-08-2018 15:42  No errors
```

In **Tools** activate **Unit Test** and a window for the Unit Test editor will appear.

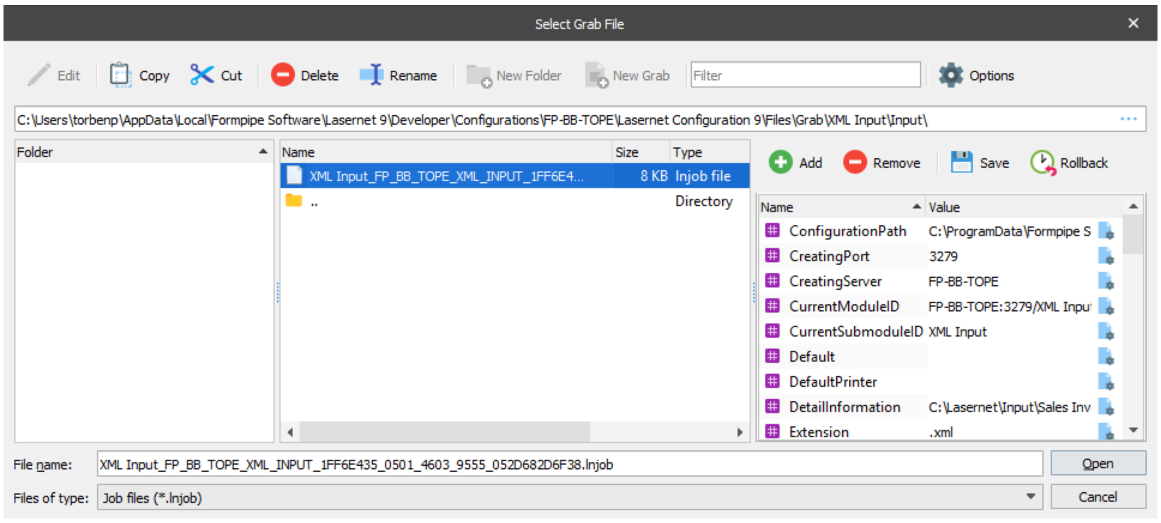
In the Unit Test editor you can type the name of the function and the conditions you would like to validate. The tool bar contains a Parse button to validate the syntax and **Test** button to execute the Unit Test.



In the logger window you will receive the results of your Unit Test.

3.3.1 Grab JobInfos

Activate **View → Grab JobInfos** if you want to list the results of JobInfos created in Unit Test mode. First you must load a grab file containing JobData. Go to **File → Select Grab File** and browse for a valid Job file **(.lnjob)** that has been grabbed by the Lasernet Server.



C:\Users\torbenp\AppData\Local\Formpipe Software\Lasernet 9\Developer\Configurations\FP-BB-TOPE\Lasernet Configuration 9\Files\Grab\XML Input\Input\

Name	Size	Type
XML Input_FP_BB_TOPE_XML_INPUT_1FF6E4...	8 KB	Injob file
..		Directory

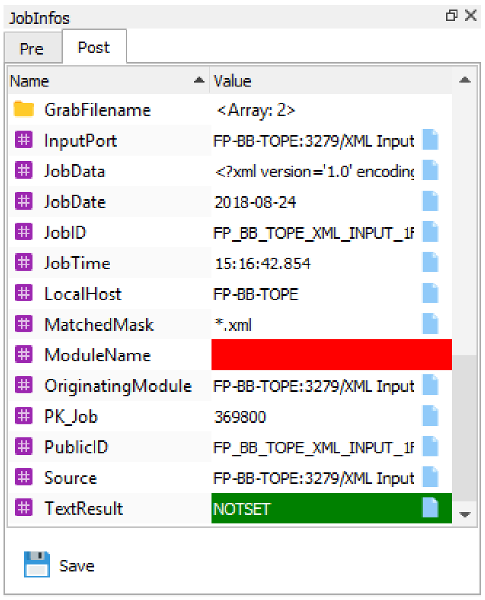
Name	Value
ConfigurationPath	C:\ProgramData\Formpipe S
CreatingPort	3279
CreatingServer	FP-BB-TOPE
CurrentModuleID	FP-BB-TOPE:3279/XML Input
CurrentSubmoduleID	XML Input
Default	
DefaultPrinter	
DetailInformation	C:\Lasernet\Input\Sales Inv
Extension	.xml

File name: XML Input_FP_BB_TOPE_XML_INPUT_1FF6E435_0501_4603_9555_052D682D6F38.lnjob

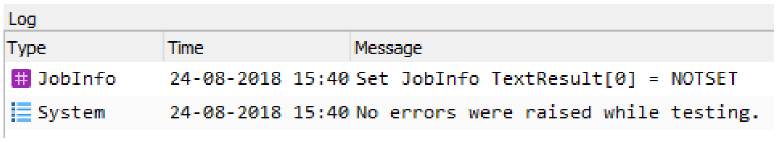
Files of type: Job files (*.lnjob)

When the Job file has been loaded, the JobInfos view **(2)** will list JobInfos from the Job file **(Pre)** mode and new values and new JobInfos, created via Unit Testing **(Post)** mode.

For testing purposes you can always **Add**, **Remove** or **Edit** the contents of a JobInfo in the JobInfo view. The **Save** functionality will save any changes made in the JobInfo view into the loaded Job file. If you want to roll back JobInfos click the **Rollback** button. You cannot roll back changes after JobInfos have been saved into the Job file. The Rollback will affect all of the changes made to the Pre Job since it was loaded or last saved.



Name	Value
GrabFilename	<Array: 2>
InputPort	FP-BB-TOPE:3279/XML Input
JobData	<?xml version='1.0' encoding
JobDate	2018-08-24
JobID	FP_BB_TOPE_XML_INPUT_1F
JobTime	15:16:42.854
LocalHost	FP-BB-TOPE
MatchedMask	*.xml
ModuleName	🟥
OriginatingModule	FP-BB-TOPE:3279/XML Input
PK_Job	369800
PublicID	FP_BB_TOPE_XML_INPUT_1F
Source	FP-BB-TOPE:3279/XML Input
TextResult	NOTSET



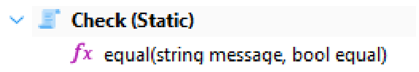
```
Type      Time              Message
JobInfo   24-08-2018 15:40  Set JobInfo TextResult[0] = NOTSET
System    24-08-2018 15:40  No errors were raised while testing.
```

The JobInfo view will be updated with the results of JobInfo manipulated commands, like job.setJobInfo(“TextResult”, value) and the logger window will contain the results of your unit test.

3.3.2 Check class

A major part of testing functions is to look for errors raised during execution. In order to test functions which do not raise errors, but return results or manipulate objects or variables, Lasernet provides a Check class for this purpose.

The Check class contains two static functions which can be used to check results of functions and raise errors if they are not as expected.

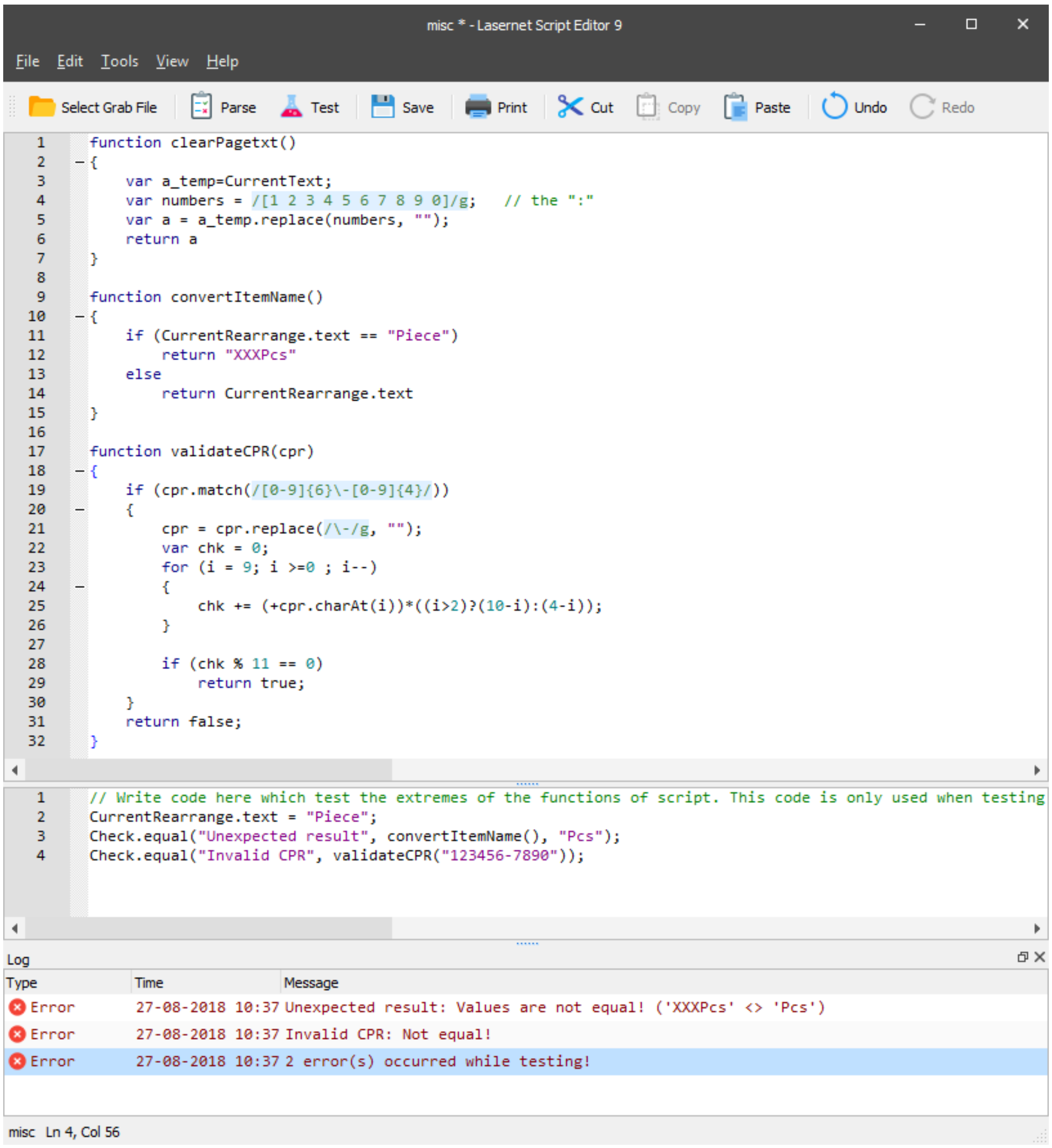


The Check equal functions can be used by dragging them from the Object list, to the unit test script editor.

The first implementation checks if two objects are equal. This can be used for different object types including Color.

The second implementation raises the error message if the equal boolean is false. This way the user can compare anything in a boolean expression.

The Example below shows both equal functions being used. The first with an unexpected result from convertItemName, second with an invalid CPR Number (Danish Personal Security number);



```
function clearPagetxt()
{
    var a_temp=CurrentText;
    var numbers = /[1 2 3 4 5 6 7 8 9 0]/g;   // the ":"
    var a = a_temp.replace(numbers, "");
    return a
}

function convertItemName()
{
    if (CurrentRearrange.text == "Piece")
        return "XXXPcs"
    else
        return CurrentRearrange.text
}

function validateCPR(cpr)
{
    if (cpr.match(/[0-9]{6}\-[0-9]{4}/))
    {
        cpr = cpr.replace(/\-/g, "");
        var chk = 0;
        for (i = 9; i >=0 ; i--)
        {
            chk += (+cpr.charAt(i))*((i>2)?(10-i):(4-i));
        }

        if (chk % 11 == 0)
            return true;
    }
    return false;
}
```

```
// Write code here which test the extremes of the functions of script. This code is only used when testing
CurrentRearrange.text = "Piece";
Check.equal("Unexpected result", convertItemName(), "Pcs");
Check.equal("Invalid CPR", validateCPR("123456-7890"));
```

```
Log
Type    Time              Message
Error   27-08-2018 10:37  Unexpected result: Values are not equal! ('XXXPcs' <> 'Pcs')
Error   27-08-2018 10:37  Invalid CPR: Not equal!
Error   27-08-2018 10:37  2 error(s) occurred while testing!
```

misc Ln 4, Col 56

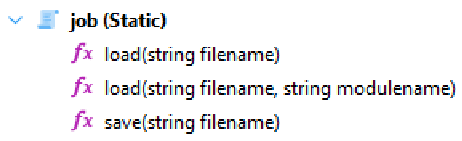
Two errors are raised showing the error message. In the first call, the reason for the failure is also included.

3.3.3 Loading and saving Jobs

When a function is based on a Job it can be useful to use a grabbed Job (.lnjob) to test against.

A Job can be loaded via the load function on the job object. The current job can also be saved to disk via the save function on the job object.

Multiple jobs can also be loaded in order to run a range of checks on them, something which is not possible with the loaded grab Job.



```
job (Static)
    load(string filename)
    load(string filename, string modulename)
    save(string filename)
```

Loading and saving must be done with .lnjob files and can be either absolute or relative to the grab folder of the configuration. Both functions return true if load/save was successful.

3.4 Scripts as Form Modifiers

When working with a Lasernet configuration there are several places where a script can be added in place of a modifier.

In a form, scripts can be connected to the following types of modifier points:

- Form
- Sheet
- Page (only for text output forms)

In addition to this, scripts can be attached to individual rearranges.

3.4.1 Form Modifier resolution order

When processing a form, the modifiers or scripts are run in the following order:

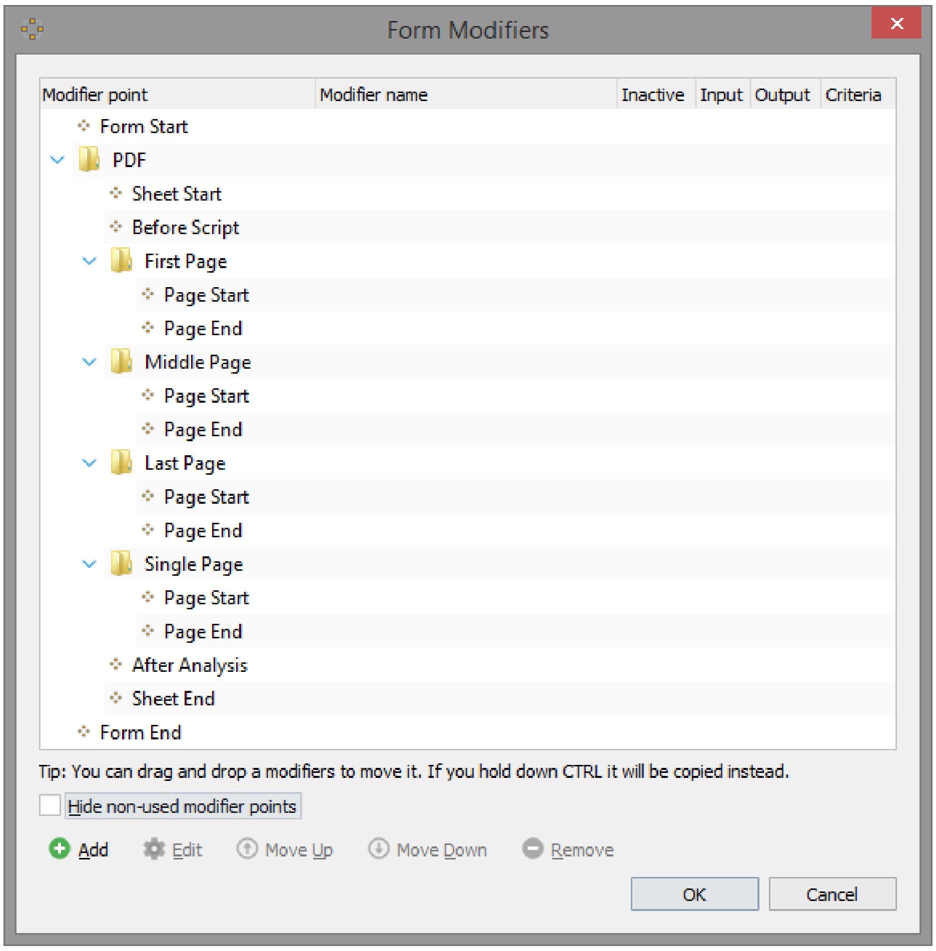
Modifier point **Form Start**

- Modifier point **Sheet Start**
- Definition of all JobInfos contained in the Sheet
- Modifier point **Sheet Before Script**
    - JobInfo *NumberOfPages* contains the number of pages in the document produced
    - JobInfo *CurrentPage* is updated
    - Modifier point **Page Start**
        - Rearrange Scripts in the Conditional Area
    - Modifier point **Page End**
    - Scripts attached to rearranges

Repeated for each page

- Modifier point **Sheet After Analysis**
- Modifier point **Sheet End**

Modifier point **Form End**


Form Modifiers

Modifier point	Modifier name	Inactive	Input	Output	Criteria
Form Start					
PDF					
Sheet Start					
Before Script					
First Page					
Page Start					
Page End					
Middle Page					
Page Start					
Page End					
Last Page					
Page Start					
Page End					
Single Page					
Page Start					
Page End					
After Analysis					
Sheet End					
Form End					

Tip: You can drag and drop a modifiers to move it. If you hold down CTRL it will be copied instead.

☐ Hide non-used modifier points

3.5 Manipulating Overlays

This information applies to scripting in the Form Engine.

When producing a document it is not often that the same overlay is used for every single page. As such, Lasernet provides an easy way to use separate overlays for the first, last and middle pages. Sometimes you need even more flexibility, which where scripting comes in. To aid with script writing, Lasernet provides the ability to access the Page object using the following functionality:

3.5.1 The page object

When the Form Engine creates text output, it creates a number of pages. Each of these pages can be accessed from within a script and the page properties can be manipulated. It is also possible to clear and/or add overlays on each page. The pages are available in an array called pages, where the first page is named pages[1] and so forth. There is one item for each page in the array. For example, if you would like to add an overlay to the first page, you can do it in this way:

```
pages[1].addOverlay("SomeOverlay.emf", true, false);
```

'Pages' refers to the page object and allows you to access the page array. The [1] reference gives us access to the first page on which we call the method addOverlay. This method is used for instructing Lasernet to add an overlay to that particular page. Inside the parenthesis three parameters can be specified. The first parameter is required and contains a string identifying the filename of the overlay that you wish to add to the page. The second parameter is optional and contains a boolean (true/false) value where true means that Lasernet will remove any existing overlays on the page before adding the new one and false means that Lasernet will keep any existing overlays. The default value of the second parameter is false and as such could be written as:

```
pages[1].addOverlay("SomeOtherOverlay.emf");
```

This will instruct Lasernet to keep the existing overlays on the page.

The third parameter is also optional and contains a boolean (true/false) value where true means that the overlay will be visible in the Form Editor only and not processed by the Form Engine.

3.5.2 Shortcut functions

Lasernet also provides two shortcut functions for adding overlays, either to all pages or to the current page:

```
        addOverlay("NameOfTheOverlayFile.emf", true, false);
        addPageOverlay("NameOfTheOverlayFile.emf", true, false);
```

The addOverlay function is best called from an After Analysis modifier point, whereas addPageOverlay should be called from an On Page End modifier point.

3.6 Manipulating Printer Profiles

This information applies to the Form Engine. Please see the Printer Profiles section for a more thorough explanation of Printer Profiles.

To assist you in manipulating Printer Profiles, Lasernet provides you with the same page object as mentioned in chapter 3.5 Manipulating Overlays.

3.6.1 The page object

The *page* object can be used to add and clear printer profiles for each page. The pages are available in an array called pages, where the first page is named pages[1] and so forth. There is one item for each page in the array. For example, if you would like to add a printer profile to the first page, you can do it in this way:

```
pages[1].addPrinterProfile("NameOfOutputPort", "NameOfProfile", true);
```

'Pages' refers to the page object and allows you to access the page array. The [1] reference gives us access to the first page on which we call the method addPrinterProfile.

This tells Lasernet that we want to add a printer profile to that page. In the parentheses add the first parameter: a string which contains the name of the output port on which to add the profile. Note that this is just the name of the port without any computer name prefixed. The second parameter tells Lasernet the name of the Printer Profile that we want to add for that port. This profile must have been created on the Printer Profiles page in the Lasernet Developer. The third parameter tells Lasernet to remove any existing profiles for the given port before adding the new profile. Changing this value to 'false' would have kept the existing profiles. Note: only the profiles for the given port are removed. This is contrary to previous versions of Lasernet where all profiles for all ports would have been removed.

Typically you would always want to remove existing profiles, since the output port will only use the first profile added. However, to allow for both backwards compatibility and future enhancements the parameter is still in use.

3.6.2 Shortcut functions

To make it easier to add a printer profile to a page, Lasernet provides two shortcut functions: addPrinterProfile and addPagePrinterProfile. These two functions add a printer profile to all pages or to the current page.

```
addPrinterProfile("PortName", "ProfileName");
addPagePrinterProfile("PortName", "ProfileName");
```

The addPrinterProfile function is best called from a Sheet → After Analysis point, whereas addPagePrinterProfile should be called from a Page End modifier point.

Note that both of the above functions will replace any existing printer profiles for the given port!

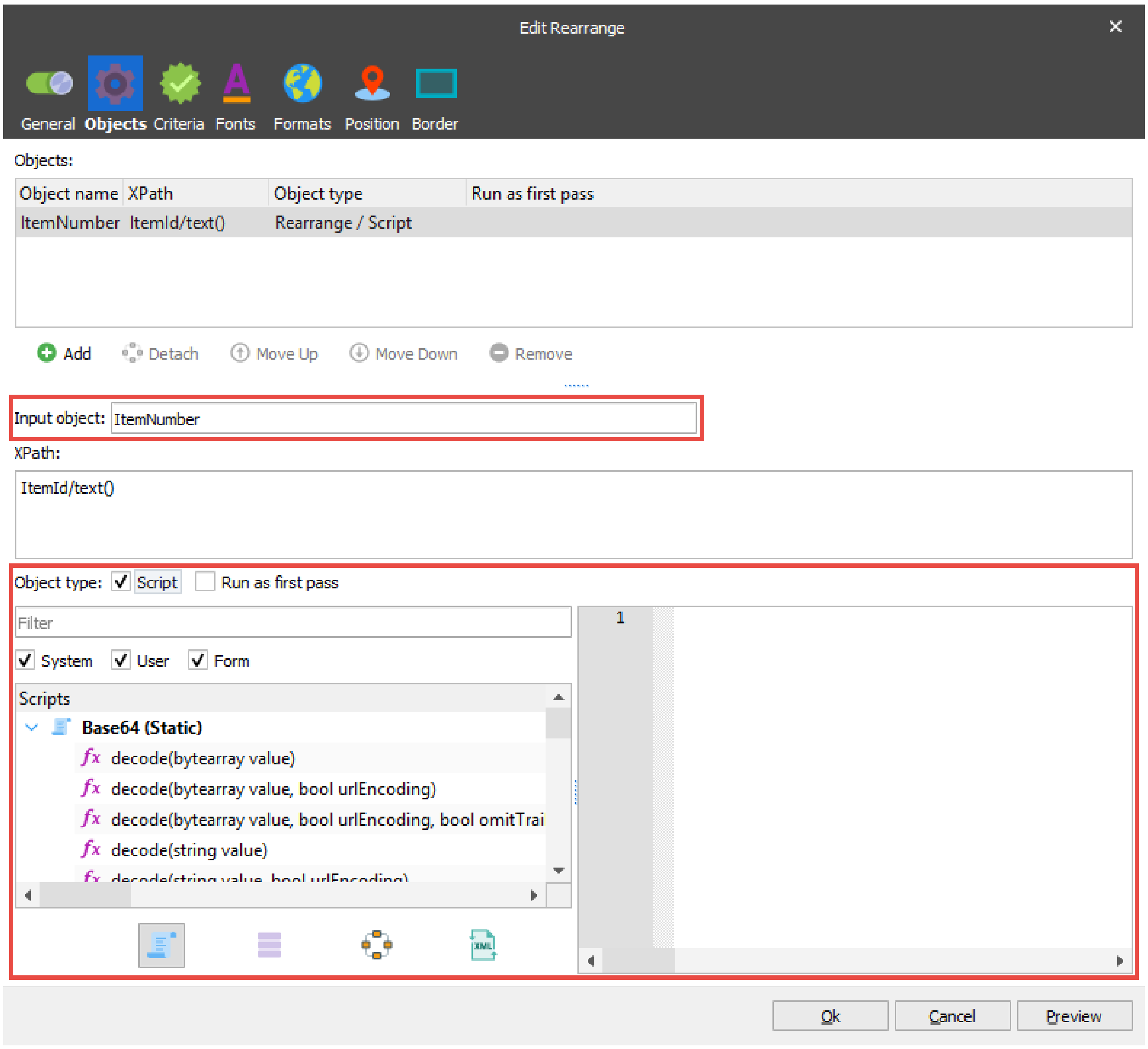
3.7 Manipulating Rearranges

This information applies to scripting in the Form Editor.

When creating rearranges in Lasernet it is possible to manipulate the content and properties of the rearrange using a script. This is especially useful when calculating checksums for barcodes etc.

3.7.1 CurrentRearrange

The CurrentRearrange variable is available for scripts being run from a rearrange where the rearrange has been given a name. The name should be unique, otherwise Lasernet may get confused and assign the wrong rearrange to CurrentRearrange. It is very important that the rearrange is named, which is why Lasernet automatically assigns a name to it if the Active check box is selected. If the rearrange does not have a name, CurrentRearrange is not assigned.



Objects:

Object name	XPath	Object type	Run as first pass
ItemNumber	ItemId/text()	Rearrange / Script	

Input object: ItemNumber

XPath:

ItemId/text()

Object type: [✓] Script [ ] Run as first pass

Filter

[✓] System [✓] User [✓] Form

Scripts
- Base64 (Static)
  - decode(bytearray value)
  - decode(bytearray value, bool urlEncoding)
  - decode(bytearray value, bool urlEncoding, bool omitTrai
  - decode(string value)
  - decode(string value, bool urlEncoding)

When the above conditions are met, Lasernet assigns an InputRearrange to CurrentRearrange. This can then be used by a script to access data which has been picked up from the left side, manipulated and returned as the output value of the rearrange.

<u>The script must return a value if the rearrange is to display anything</u>. If you would like the rearrange to output nothing, simply return an empty string. The script can do the calculation directly or call a function in one of the script files.

```
'#' + CurrentRearrange.text + '#';
calcTheRearrange();
```

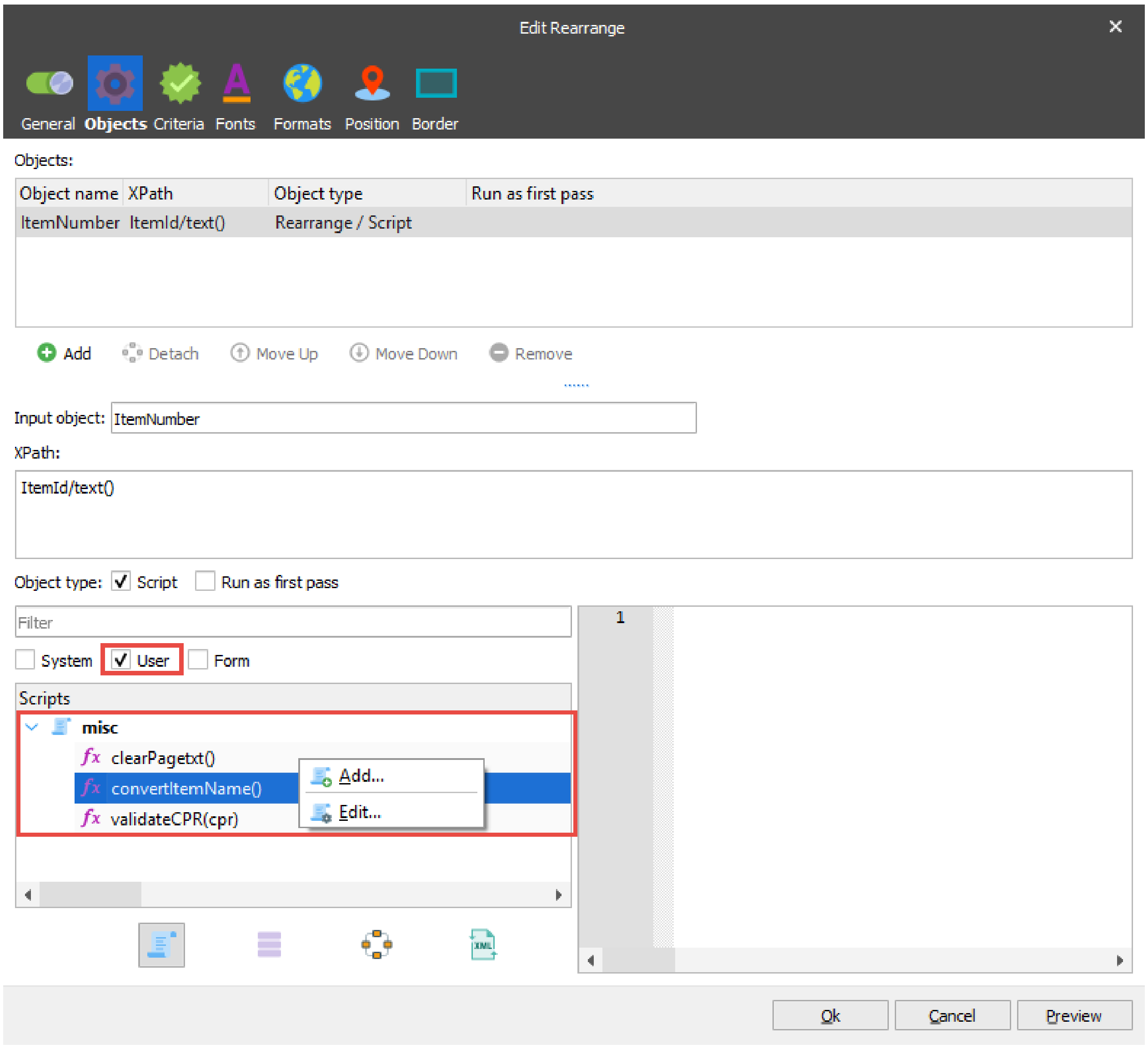
Besides manipulating the contents of the rearrange, it is also possible to change the appearance of the rearrange. An example could be to display negative numbers in red.

```
if (CurrentRearrange.number < 0)
            CurrentRearrange.color = red; // Constant defined in system.qs
```

You can even hide a rearrange by setting its color to white.

```
CurrentRearrange.color = white; // Constant defined in system.qs
```

3.7.2 Add or Edit scripts from a Rearrange



Objects:

Object name	XPath	Object type	Run as first pass
ItemNumber	ItemId/text()	Rearrange / Script	

Input object: ItemNumber

XPath:

ItemId/text()

Object type: [✓ Script] Run as first pass

System [✓ User] Form

Scripts
- misc
  - clearPagetxt()
  - convertItemName()
  - validateCPR(cpr)

From the GUI of the Edit Rearrange dialog, you can add a new function to either a new script or an existing script, as well as Edit the chosen function.

In the list of scripts, both user defined and system defined scripts are available. You are only allowed to edit user defined scripts, since the Lasernet Form Editor prevents you from editing the system defined ones (the Edit option is not made available in the context menu).

When running scripts from a Rearrange, Lasernet will execute the script internally at an event point controlled by the system, which is important for calculating the positioning of text and number of pages.

3.7.2.1 Run as First pass

The “Run as First pass” parameter comes into effect at the event point execution time. By default, the setting is turned off, which is the recommended setting in most scenarios. However, by turning the setting on, you are able to accelerate the execution time to run as the first pass in the processing of a form. The output result of the script is used in analyzing the number of pages and calculation of text positioning on pages in the final form.

3.7.2.2 CurrentText

CurrentText is required to manipulate the content and properties of the rearrange using a script at the “Run as First Pass” event point, since the object name of the rearrange is not available at this point for the CurrentRearrange variable. For example, in order to manipulate the value of a conditional rearrange you can run the trim function to remove whitespaces surrounding the value of the current text:

```
var text = Trim(CurrentText);
```

The new value will figure in the output and become part of the calculation for the total number of pages in your output form.

3.8 Manipulating Charts (Deprecated)

The Lasernet Form Editor has a built-in chart tool for designing charts. More information about how to work with the chart tool can be found in the Form Editor manual. Inserting charts from script, as described here, is still supported but will be deprecated in future versions of Lasernet.

Scripted charts are based on an external API which supports a wide variety of chart types. The API has been mapped to the scripting engine in Lasernet, and as such charts can only be included via script. A "ChartHelper" script is available. The ChartHelper enables easy implementation of the most common setups for each chart type.

To use charts this way, a page-end modifier must be created on the page containing a chart to be printed. Due to limitations of the image tool in Lasernet, charts currently use overlays for the layout. This means that the chart positions are static and defined by the coordinates given by the script.

Lasernet includes a helper function to assist in making charts. By using this function, it is possible to create the majority of simple chart types by just changing a few parameters. The function has the following form:

```
createChart(type, posX, posY, width, height,
            labelFontSize, yIntervals, margin, labels,
            data, xTitle, yTitle, antiAliasing)
```

An explanation of the parameters is given in the table below.

Parameter	Type	Description
type	required	Defines the type of chart in the output. Available types include "Pie", "Line", "Bar", "Area", "Spline", "StepLine" and "Trend". The function also recognizes "3D" as a part of the string. Examples of this could be "Pie3D", "Bar_3D" or "Area 3D".
posX	required	X-axis position of the chart on the paper (in 0.1 mm).
posY	required	Y-axis position of the chart on the paper (in 0.1 mm).
width	required	Width of the chart on the paper (in 0.1 mm).
height	required	Height of the chart on the paper (in 0.1 mm).
labelFontSize	optional	Font size of the labels for the data to be displayed on the chart. *(default: 10)*
yIntervals	optional	Number of intervals on the y-axis of xy-charts. This parameter only affects xy-charts. *(default: 5)*
margin	optional	Defines the total margin of each axis. A margin of 200 makes 100 pixels margin on all sides of the chart. *(default: 300)*
labels	optional	The JobInfo name containing the labels for the data to be displayed in the chart. *(default: "Chart_Labels")*
data	optional	The JobInfo name containing the data for display in the chart. *(default: "Chart_Data")*
xTitle	optional	Defines the title of the x-axis of an xy-chart. *(default: "Chart_XTitle")*
yTitle	optional	Defines the title of the y-axis of an xy-chart. *(default: "Chart_YTitle")*
antiAliasing	optional	Defines antialiasing. The following constants are defined as valid values for this parameter:

		Chart.NoAntiAlias = 0
		Chart.AntiAlias = 1
		Chart.AutoAntiAlias = 2
		(default: Chart.NoAntiAlias)

To create complex charts, a more advanced script is required. The helper function is only intended for creating simple charts.

4 Scripting Reference

4.1 Global Lasernet Script Functions

System scripts consist of some functions and variables that always are available. This does not necessarily mean that it is always safe to call the functions.

abortAfter	
Description	Aborts script execution after a certain timeout abortAfter (*milliseconds*);
Parameters	milliseconds: Integer
Returns	None

Example	`function runForever()`
	`{`
	`  while (true) {};`
	`   { /* I will run forever */ }`
	`}`
	
	`abortAfter(3000, runForever)`
	`/*`
	`  Execute function runForever().`
	`  Kill script if 3000 milliseconds timeout is exceeded`
	`*/`

addDestination	
Description	Adds *destination* or *alternative destination* to the list of destinations for the current job. If *replace* is *true* all current destinations are removed. If *alternative* is true the destination will be added as an alternative destination. Corresponds to: job.addDestination(*destination*, *replace, alternative*);
Parameters	destination : String [replace : Boolean] [alternative : Boolean]
Returns	None

Example	`addDestination('NULL', true);`
	`addDestination('MyOutputPrinter', false, true);`

addOverlay	
Description	Used in the Form Engine as a short cut to add the given overlay page to all pages. The *overlayName* must include the ".emf" extension, but should not include any path, since the overlay added must reside in the Overlays subdirectory of the configuration. If *replace* is *true* all current overlays are removed. If *editorOnly* is *true* the overlay will be visible in the Form Editor only. The best place to use this function is the After Analysis modifier point. Corresponds to: pages[1-grab.numberOfPages].addOverlay(*overlayName, replace, editorOnly*);
Parameters	overlayName : String [replace : Boolean] [editorOnly : Boolean]
Returns	None
Example	`addOverlay('NameOfMyOverlay.emf', true, false);`

addPageOverlay	
Description	Used in the Form Engine as a short cut to add the given overlay page to the CurrentPage. The *overlayName* must include the ".emf" extension, but should not include any path, since the overlay added must reside in the Overlays subdirectory of the configuration. If *replace* is *true* all current overlays are removed. If *editorOnly* is *true* the overlay will be visible in the Form Editor only. The best place to use this function is the On Page End modifier point. pages[CurrentPage].addOverlay(*overlayName, replace, editorOnly*);
Parameters	overlayName : String [replace : Boolean] [editorOnly : Boolean]
Returns	None
Example	`addPageOverlay('NameOfMyOverlay.emf', true, false);`

addSubform	
Description	Used in the Form Engine as a shortcut to add a given subform to all pages. If *replace* is *true* all current subforms are removed. If *editorOnly* is *true*, the subform becomes visible in the Form Editor only. The place to use this function is the Before Scripts modifier point. Corresponds to: pages[1-grab.numberOfPages].addSubform(*subformName, replace, editorOnly*);
Parameters	subformName : String [replace : Boolean] [editorOnly : Boolean]
Returns	None
Example	`addSubform('NameOfMySubform', true, false);`

addPageSubform	
Description	Used in the Form Engine as a shortcut to add a given subform to the CurrentPage. If *replace* is *true*, all current subforms are removed. If *editorOnly* is *true*, the overlay becomes visible in the Form Editor only. The best place to use this function is the On Page Start modifier point. pages[CurrentPage].addSubform(*subformName, replace, editorOnly*);
Parameters	subformName : String [replace : Boolean] [editorOnly : Boolean]
Returns	None
Example	`addPageSubform('NameOfMySubform', true, false);`

addPagePrinterProfile	
Description	Adds the printer profile with *profilename* to the port *portname* to the current page. Should only be used on Page Modifiers. The function is a short cut for: pages[CurrentPage].addPrinterProfile(portname, profilename);
Parameters	portName : String profileName : String
Returns	None
Example	`addPagePrinterProfile('PortName', 'ProfileName');`

addPrinterProfile	
Description	Adds the printer profile with *profilename* to the port *portname* to all pages. Should only be used on Page Modifiers.
Parameters	portName : String profileName : String [replace : Boolean]
Returns	None
Example	`addPrinterProfile('NameOfOutputPort', 'NameOfProfile', true);`

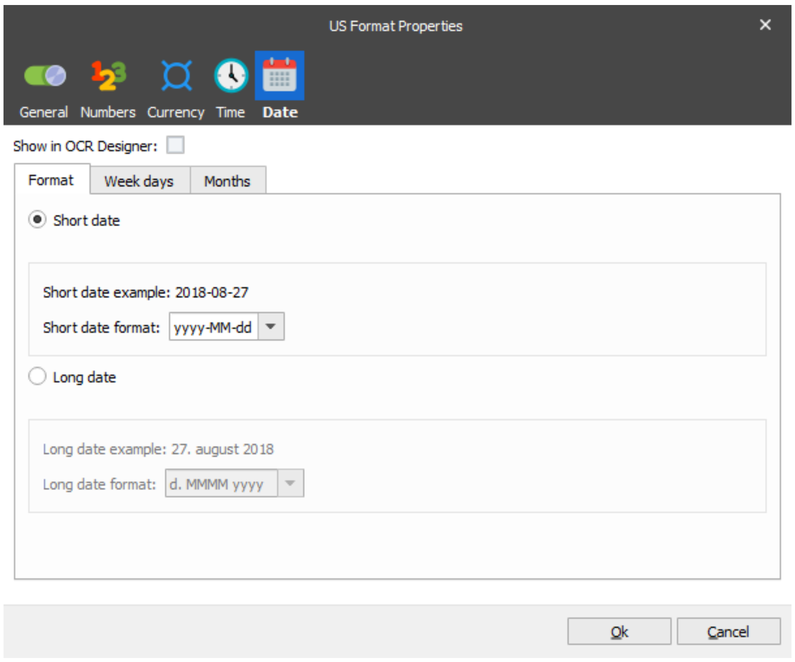
Convert.toDate	
Description	Converts a string in a specific format to a date. These expressions may be used for the format:

Expression	Output
d	The day as a number without a leading zero (1 to 31)
dd	The day as a number with a leading zero (01 to 31)
ddd	The abbreviated localized day name (e.g. 'Mon' to 'Sun'). Uses the system locale to localize the name.
dddd	The long localized day name (e.g. 'Monday' to 'Sunday'). Uses the system locale to localize the name.
M	The month as a number without a leading zero (1 to 12)
MM	The month as a number with a leading zero (01 to 12)
MMM	The abbreviated localized month name (e.g. 'Jan' to 'Dec'). Uses the system locale to localize the name.
MMMM	The long localized month name (e.g. 'January' to 'December'). Uses the system locale to localize the name.
yy	The year as two digit number (00 to 99)
yyyy	The year as four digit number. If the year is negative, a minus sign is prepended in addition.

Parameters	date : String format: String
Returns	Date
Example	`var myDate = Convert.toDate("20141003", "yyyyMMdd");`

Convert.toDateRP	
Description	Converts a string in a specific format to a date using a regional profile created in Lasernet:
Parameters	date : String regional profile: String
Returns	Date
Example	`var myDate = Convert.toDateRP("2014-10-03", "US Format");`

Convert.toNumber	
Description	Converts a string to a number. This function does not handle thousands group separators.
Parameters	number : String
Returns	Date
Example	`var myNumber = Convert.toNumber("123456789.00");`

Convert.toNumberRP	
Description	Converts a string in a specific format to a date using a regional profile created in Lasernet:  US Format Properties Show in OCR Designer: ☐ ● Short date Short date example: 2018-08-27 Short date format: yyyy-MM-dd ○ Long date Long date example: 27. august 2018 Long date format: d. MMMM yyyy General Numbers Currency Time Date Format Week days Months Ok Cancel
Parameters	number : String regional profile: String
Returns	Number
Example	`var myNumber = Convert.toNumberRP("123,456,789.00", "US Format");`

createDirectory	
Description	Creates the directory given in *path*. Does not work recursively.
Parameters	path : String
Returns	None
Example	`createDirectory('c:\\MyFolder');`

createDirectories	
Description	Same as createDirectory but works recursively.
Parameters	path : String
Returns	None
Example	`createDirectories('c:\\LaserNet\\MyFolder\\Output');` Will create Lasernet, MyFolder and Output folders if they do not exist.

CurrentISOWeekNumber	
Description	Returns the ISO week number for the current date. See *ISOWeekNumber* for a description of what ISO Week Number is. Corresponds to: ISOWeekNumber(new Date());
Parameters	None
Returns	Number
Example	

CurrentISOYear	
Description	Returns the ISO year of the current date. See *ISOYear* for a description of what ISO Year is. Corresponds to: ISOYear(new Date());
Parameters	None
Returns	Number
Example	

getJobInfo	
Description	Returns the value of the JobInfo with the given *jobInfoName* and *index*. As in the method *getJobInfo* the *index* parameter has the default value of 0 (zero).
Parameters	jobInfoName : String [index : Number]
Returns	String

Example	Retrieves the value of the second value of MyJobInfo:
	`getJobInfo('MyJobInfo', 1);`
	or
	`job.getJobInfo('MyJobInfo', 1);`

ISOWeekNumber	
Description	Calculates the ISO week number of the given *date*. The ISO week number is calculated on the assumption that week 1 of a year is the first week with minimum 4 days, or in other words, the first week with a Thursday in it. This means that the ISO week number for 1st January can be either 1, 52 or 53. Similarly the ISO week number for 31st December can be either 1, 52 or 53.
Parameters	date : Date
Returns	Number
Example	

ISOYear	
Description	Calculates the ISO Year of the given *date*. The ISO year is calculated on the assumption that week 1 of a year is the first week with minimum 4 days, or in other words, the first week with a Thursday in it. This means that the ISO year for 1st January can be either the actual year or the year before. The ISO year for 1st January 2006 is 2005, whereas the ISO year for 2nd January 2006 is 2006. Similarly the ISO year for 1st January 2005 is 2004. The ISO year 31st December 2007 is 2008.
Parameters	date : Date
Returns	Number
Example	

loadJobInfoFromFile	
Description	Tries to load the content of the file given into the JobInfo *JobInfoName* if it succeeds. The function returns true if it succeeds, otherwise it returns false.
Parameters	jobInfoName : String filename : String replace : Boolean
Returns	Boolean

Example	`if (loadJobInfoFromFile('MyJobInfo', 'c:\\myfile.txt', true) == false)`
	`{`
	`  // do something if not loaded properly`
	`}`

saveJobInfoToFile	
Description	Saves the contents of the JobInfo with the given *jobInfoName* to a file with *filename* name.
Parameters	jobInfoName : String filename : String
Returns	None
Example	`saveJobInfoToFile('MyJobInfo', 'c:\\lasernet\\myfile.txt');`

setJobInfo	
Description	Sets the JobInfo *jobInfoName* to *value*. If *replace* is *true* all current JobInfos in the list are cleared. The default value of *replace* is *true*. Default loglevel is JOB_INFO. Corresponds to: job.setJobInfo(jobInfoName, value, replace, loglevel)
Parameters	jobInfoName : String value : String [replace : Boolean] [loglevel : Integer, where valid integers are; JobInfo: 12 Debug: 1 NoLog: 8]
Returns	None
Example	`setJobInfo('MyJobInfo', 'value of my JobInfo');`

Sum	
Description	This function sums the values of any number of given arguments. It loops through the arguments and for each argument checks the type in the following way. 1. Checks whether the argument has a type property and the value of this is *Text*. In this case the argument is assumed to be a InputRearrange or OutputRearrange and the value to add is taken from the arguments *value* property. 2. Using the typeof operator checks whether the argument is of type object and if this is the case assumes that the argument is an array of InputRearrange or OutputRearrange and then sums the values of this array. 3. Using the typeof operator checks whether the argument is of type Number and if this is the case adds the number to the sum. If none of the above, it assumes that the argument has a number property and adds the value of this.
Parameters	Any number of arguments
Returns	Number
Example	To sum all values of a conditional rearrange simply call Sum with the rearrange as its only parameter. `Sum(ItemPrice);`

SumPage	
Description	Works much in the same way as Sum with the exceptions that if the first parameter is a number (typeof returns number) this number is taken to be the page on which to sum the arguments. If the first parameter is not a number CurrentPage is assumed instead. The rest of the parameters are evaluated in the same way as in the Sum function.
Parameters	Any number of arguments
Returns	Number

Example	Sum of all CurrentRearrange values on page 3:
	`total = SumPage(3, CurrentRearrange);`
	Sum of all CurrentRearrange values on the current page:
	`total = SumPage(CurrentPage, CurrentRearrange);`
	or
	`total = SumPage(CurrentRearrange);`

SumSubtotal	
Description	Sums on all pages up to and including the given first parameter or CurrentPage. If the first parameter is a number that number is assumed to be the page until which to sum. Otherwise CurrentPage is assumed. The rest of the parameters are evaluated in the same way as in the Sum function.
Parameters	Any number of arguments
Returns	Number
Example	Sum of all CurrentRearrange values until the page the one being processed: `total = SumSubTotal(PreviousPage, CurrentRearrange);` Sum of all CurrentRearrange values until the current page: `total = SumSubTotal(CurrentPage, CurrentRearrange);` or `total = SumSubTotal(CurrentRearrange);`

Sleep	
Description	Suspends the execution of the current thread until the time-out interval elapses. Useful in a busy loop, as it gives the CPU a chance to work on other threads.
Parameters	milliseconds : Integer
Returns	None
Example	`Sleep(1000);`

Trim	
Description	Removes spaces from the end and beginning of the given text and returns the result. Very useful when retrieving values from rearranges, since their trimming settings is not used when returning values to script.
Parameters	text : String
Returns	String
Example	`var text = Trim(CurrentRearrange.text);`

zipDirectory	
Description	Zips all files recursively in the given *directoryPath* and returns a ByteArray with the zip file.
Parameters	directoryPath : String
Returns	ByteArray
Example	`File.writeBinary('c:\\test.zip', zipDirectory('c:\\FilesToZip\\'));`

zipFilesInDirectory	
Description	Zips files recursively in the given *directoryPath* and returns a ByteArray with the zip file. Uses the *includeMatch* and *excludeMatch* regular expressions to determine what files to put in the zip file. *excludeMatch* has precedence over *includeMatch*.
Parameters	directoryPath : String includeMatch : RegExp excludeMatch : RegExp
Returns	ByteArray

Example	This example zips all files that do not contain *.exe* in it:
	`job.setJobData(zipFilesInDirectory("c:\\windows\\system32", /.*/, /\.exe/i);`
	To not exclude any files write:
	`job.setJobData(zipFilesInDirectory("c:\\windows\\system32", /.*/, "");`

4.2 Global Lasernet Script Classes

4.2.1 Job

Description

The Job class is used throughout Lasernet to access the JobData being processed. An instantiation of the Job class: job almost always exists. The only situation in which the job object is not available is when creating module JobInfos. It is not possible to instantiate a Job from script.

Properties

type	
Description	Always returns the value 'Job'
Access	Read
Returns	String
Example	

Methods

getJobData	
Description	Provides access to the primary JobData of the job being processed
Access	Read
Returns	ByteArray
Example	Saves JobData to a file: `File.write("c:\\myfile.txt", job.getJobData());`

hasJobInfo	
Description	Check if Job has a specific JobInfo
Access	Read
Parameters	jobInfoName : String
Returns	Boolean
Example	Saves JobData to a file:

```
if (job.hasJobInfo('FileName') == false)
{
  // job does not have the FileName jobinfo
};
```

addDestination	
Description	Adds a destination to where the Job should be sent, when the current module has finished its processing. If the replace parameter is true all existing destinations for the job are cleared. If replace is false a destination is added.
Parameters	destination :String [replace : Boolean = true]
Returns	None

Example	`job.addDestination('Printer');`
	`job.addDestination('File out, false);`

deleteJobInfo	
Description	Removes all JobInfos with the given *jobInfoName* from the job entirely
Parameters	jobInfoName :String
Returns	none
Example	`job.deleteJobInfo('MyJobInfo’);`

getAllJobInfos	
Description	Returns a stringlist for JobInfo names assigned to a job.
Parameters	none
Returns	String
Example	see below

```
var jobinfos = job.getAllJobInfos();
for (idx = 0; idx < jobinfos.length; idx++)
{
    var key = jobinfos[idx];
    var value = job.getJobInfo(key);
    Logger.logEvent(Debug, key + " = " + value);
}
```

getJobInfoCount	
Description	Returns the number of items in the JobInfo array with the given jobInfoName. If the JobInfo does not exist the method returns 0 (zero). Please note that calling job.getJobInfoCount() is a relatively expensive operation, therefore it is better to catch the value in a local variable.
Parameters	jobInfoName : String
Returns	Number

Example	`var count = job.getJobInfoCount('Filenames');`
	`var index;`
	`for (index = 0; index < count; index++)`
	`{`
	`  var filename = new String(job.getJobInfo('Filenames', index));`
	`  // Do something fascinating with that file`
	`}`

getJobInfo	
Description	Returns the value of the jobinfo with the given jobInfoName. If more than one jobinfo with that name exists a specific one can be chosen using the given index parameter. If no jobinfo with the given name exists an empty string is returned.
Parameters	jobInfoName : String
Returns	String
Parameters	jobInfoName : String [arrayIndex : Number = 0]
Returns	String
Example	`job.getJobInfo('MyJobInfo');`

getJobInfoBinary	
Description	Returns the value of the jobinfo with the given jobInfoName. If more than one jobinfo with that name exists a specific one can be chosen using the given index parameter. If no jobinfo with the given name exists an empty ByteArray is returned.
Parameters	jobInfoName : String [arrayIndex : Number = 0]
Returns	ByteArray
Example	`job.getJobInfoBinary('MyJobInfo');`

getSize	
Description	Returns the size of the JobData part of the Job.
Parameters	None
Returns	Number

Example	`var size = job.getSize();`
	`var size2 = job.size;`

load	
Description	A Job can be loaded via the load function on the job object. It might be useful to load a range of jobs and run a range of checks on them. Loading must be done with .lnjob files and can be either absolute or relative to the grab folder of the configuration. Function will return true if load was successful.
Parameters	filename : string [modulename : string]
Returns	Boolean

Example	`job.load('c:\\myfile1.lnjob');`
	`job.load('myfile2.lnjob');`

save	
Description	A Job can be saved via the save function on the job object. It might be useful to save a range of jobs and run a range of checks on them. Save must be done with .lnjob files and can be either absolute or relative to the grab folder of the configuration. Function will return true if save was successful.
Parameters	filename : String
Returns	Boolean

Example	`job.save('c:\\myfile1.lnjob');`
	`job.save('myfile2.lnjob');`

setJobData	
Description	Provides access to the primary JobData of the job being processed
Parameters	ByteArray or String
Returns	None
Example	Loads the content of myfile.txt into JobData jobInfo: `job.setJobData(File.read("c:\\myfile.txt"));`

setJobInfo	
Description	Sets the value of the JobInfo with the given jobInfoName to value. If replace is true any existing JobInfo with the given name is deleted. Otherwise a new value is appended. It is currently not possible to set a value for a specific index.
Parameters	jobInfoName : String value : String [replace : Boolean = true] [loglevel : Integer = JobInfo, where valid integers are; JobInfo: 12 Debug: 1 NoLog: 8]
Returns	none
Example	`job.setJobInfo('MyJobInfo', 'A nice value');`

setJobInfoBinary	
Description	Sets the value of the JobInfo with the given jobInfoName to value. If replace is true any existing JobInfo with the given name is deleted. Otherwise a new value is appended. It is currently not possible to set a value for a specific index. The ByteArray value can be obtained from the readAll method of the Fileclass (for example).
Parameters	jobInfoName : String value : ByteArray [replace : Boolean = true] [loglevel : Integer = JobInfo, where valid integers are; JobInfo: 12 Debug: 1 NoLog: 8]
Returns	none
Example	see below

```
var f = new File('c:\\test.txt');
if (f.open(IO_ReadOnly))
{
  job.setJobInfoBinary('ContentsOfTheFile', f.readAll());
  f.close();
}
```

substituteJobInfos	
Description	Returns a string built upon data from the Job and the specified expression. Expression can use hash marks to return data from Job in the tag format “#<jobinfoname>#”.
Parameters	expression : String
Returns	String
Example	`var filename = job.substituteJobInfos('file_#JobID#');`

4.2.2 Logger

Description

The Logger class is used throughout Lasernet to make custom logger messages. An instantiation of the Logger class: logger almost always exists. The only situation in which the logger object is not available is when creating module JobInfos. It is not possible to instantiate the Logger from script.

Methods

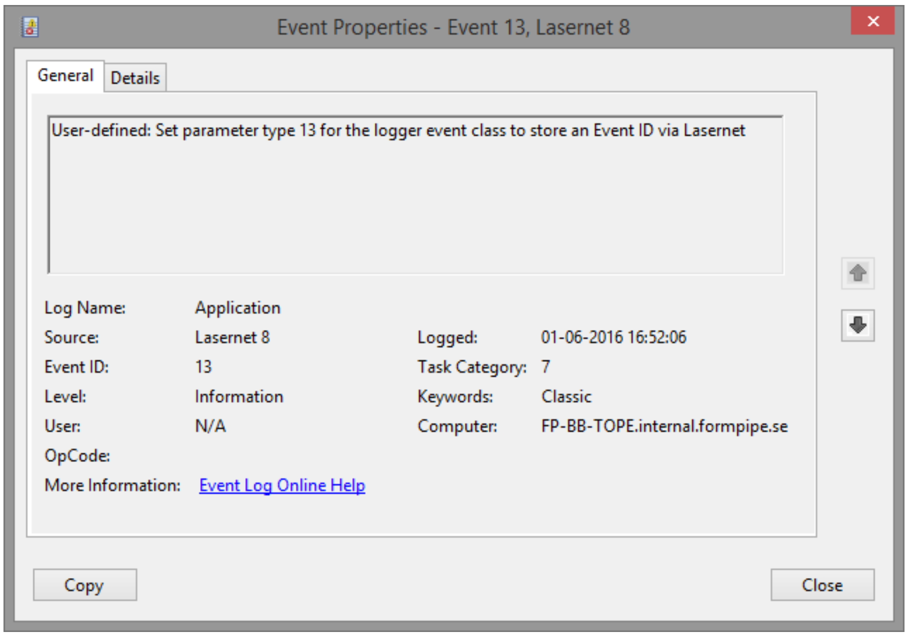
logEvent

Description

Creates a logger message. The message parameter contains the actual message, which is shown in the Message field in the monitor. The type parameter determines what kind of message is logged according to the following list.

EventIDs type 13 or “EventLog” are used to store messages in Windows Event Log and not in the monitor. Event log messages must be activated in the Lasernet server settings before Windows Event Logs can be stored.

EventIDs type 14 or “SysLog” are used to store messages on Syslog server and not in the monitor. Syslog messages must be activated in the Lasernet server settings before Syslogs can be stored.



User-defined: Set parameter type 13 for the logger event class to store an Event ID via Lasernet

Log Name:	Application		
Source:	Lasernet 8	Logged:	01-06-2016 16:52:06
Event ID:	13	Task Category:	7
Level:	Information	Keywords:	Classic
User:	N/A	Computer:	FP-BB-TOPE.internal.formpipe.se
OpCode:			
More Information:	Event Log Online Help		

(Screen shot taken from Lasernet 8, but is similar in newer versions of Lasernet)

Parameters

type : Number, where type can be one of the following;

Windows Event Log: 13
JobInfo: 12
Debug: 1
NoLog: 8

Values below 100 are reserved for future use, but values from 100 and above may be used for any custom message you want.

message :String

Returns

None

Example

```
logger.logEvent(Debug, 'The value is now: ' + job.getJobInfo('value'));
logger.logEvent(999, 'My custom message');
Logger.logEvent(EventLog, 'Store message in Windows Event Log');
Logger.logEvent(13, 'Store message in Windows Event Log');
Logger.logEvent(SysLog, 'Store message on Syslog server');
Logger.logEvent(14, 'Store message on Syslog server');
```

4.2.3 Modifier

Description

The Modifier class is used throughout Lasernet to access the modifiers defined in Lasernet Developer. These modifiers are made available through an associative array: modifiers which have one entry for each modifier defined. Use the name of the modifier to access it.

Properties

type	
Description	Always returns the value Modifier.
Access	Read
Returns	String
Example	

Methods

run	
Description	Executes the modifier using the given job. If the modifier has support for it, it can be run on the JobInfo with the given jobInfoName. If no jobInfoName is given the standard JobData JobInfo is used.
Parameters	job : Job [jobInfoName : String]
Returns	none

Example	`modifiers['Base64 Encoder'].run(job, 'MyJobInfo');`
	`modifiers['Base64 Decoder'].run(job);`

4.2.1 AzureStorageCommands

Description

The AzureStorageCommands class is used throughout Lasernet to access the Azure Storage commands defined in Lasernet Developer. These commands are made available through an associative array: azurestoragecommands which have one entry for each command defined. Use the name of the azure storage command to access it.

Properties

type	
Description	Always returns the value Modifier.
Access	Read
Returns	String
Example	

Methods

run	
Description	Executes the azure storage command using the given job. The name is case-sensitive.
Parameters	job : Job [jobInfoName : String]
Returns	None
Example	`azurestoragecommands['DownloadBlob'].run(job);`

4.2.2 DatabaseCommands

Description

The DatabaseCommands class is used throughout Lasernet to access the database commands defined in Lasernet Developer. These commands are made available through an associative array: databasecommands which have one entry for each command defined. Use the name of the database command to access it.

Properties

type	
Description	Always returns the value Modifier.
Access	Read
Returns	String
Example	

Methods

run	
Description	Executes the database command using the given job. The name is case-sensitive.
Parameters	job : Job [jobInfoName : String]
Returns	None
Example	`databasecommands['DatabaseLookup'].run(job);`

4.2.3 SharepointCommands

Description

The SharepointCommands class is used throughout Lasernet to access the Microsoft Sharepoint commands defined in Lasernet Developer. These commands are made available through an associative array: sharepointcommands which have one entry for each command defined. Use the name of the sharepoint command to access it.

Properties

type	
Description	Always returns the value Modifier.
Access	Read
Returns	String
Example	

Methods

run	
Description	Executes the sharepoint command using the given job. The name is case-sensitive.
Parameters	job : Job [jobInfoName : String]
Returns	None
Example	`sharepointcommands['SharepointLookup'].run(job);`

4.2.4 XMLTransformers

Description

The XMLTransformers class is used throughout Lasernet to access the XML Transformers defined in Lasernet Developer. These commands are made available through an associative array: xmltransformers which have one entry for each command defined. Use the name of the xml transformer to access it. This class accesses XML Transformers defined in the XML Transformer Engine only. XML Transformers defined as modifiers are accessed via the modifier class.

Properties

type	
Description	Always returns the value Modifier.
Access	Read
Returns	String
Example	

Methods

run	
Description	Executes the XML Transformer command using the given job.
Parameters	job : Job [jobInfoName : String]
Returns	None
Example	`xmltransformers['XMLActions'].run(job);`

4.2.5 SystemInfo

Description

The SystemInfo class is used throughout Lasernet to access various system information. It has only static properties and methods and is therefore never instantiated.

Static Properties

computerName	
Description	Returns the name of the computer on which Lasernet is currently running.
Access	Read
Returns	String
Example	`var MyComputer = new String (SystemInfo.computerName);`

Static Methods

getTempPath	
Description	Returns the temporary path directory used by windows.
Parameters	None
Returns	String
Example	`SystemInfo.getTempPath();`

getTempFilename	
Description	Returns a temporary unique filename in the directory given. This does not need to be the directory returned by *SystemInfo.getTempPath*.
Parameters	path : String
Returns	String
Example	`SystemInfo.getTempFileName('c:\\lasernet');`

4.2.6 ByteArray

Description

The ByteArray class is used for searching a bytearray or manipulating a bytearray.

Properties

type	
Description	Returns the value 'ByteArray'.
Access	Read
Returns	String
bytearray	
Description	Returns array of bytes.
Access	Read/Write
Returns	bytearray

Methods

append	
Description	Append one or more bytes to array.
Parameters	byte or array of bytes
Returns	Nothing

Example	`var bytes = new ByteArray();`
	`bytes.append([0x32, 0x12, 0x00, 0x00, 0xA1, 0x1A, 0x00, 0x00, 0x88, 0x01, 0x03, 0x00, 0x00, 0x65]); // array of chars`
	`bytes.append(0x04); // alternative with one char`

Output	
count	
Description	Returns number of bytes in array.
Parameters	None
Returns	Integer
Example	`Logger.logEvent(Debug, "Replaced " + bytes.count() + " bytes");`
Output	
indexOf	
Description	Searches for position of another byte array within byte array.
Parameters	bytearray: ba Integer: from

Returns	Integer. First position of bytearray after from index position.

Example	`var bytes = new ByteArray();`
	`bytes.bytearray = job.jobdata;`
	
	`var search = new ByteArray();`
	`search.append([0x32, 0x12, 0x00, 0x00, 0xA1, 0x1A, 0x00, 0x00, 0x88, 0x01, 0x03, 0x00, 0x00, 0x65, 0x04]);`
	
	`var position = bytes.indexOf(search.bytearray);`
	`if (position > -1)`
	`...`

Output	
replace	
Description	Replaces a range of bytes within byte array with another byte array.
Parameters	Integer: Start index Integer: length bytearray: after
Returns	Integer. First position of bytearray after from index position.

Example	`var replace = new ByteArray();`
	`replace.append([0x87, 0x0c, 0x00, 0x00, 0x98, 0x12, 0x00, 0x00, 0x61, 0x12, 0x02, 0x00, 0x30, 0x13, 0x03]);`
	
	`bytes.replace(position, replace.count(), replace.bytearray);`
	
	`job.jobdata = bytes.bytearray;`

Output	
resize	
Description	Resizes array to the specified size.
Parameters	Integer: New size
Returns	Nothing
Example	`bytes.resize(10);`
Output	

4.2.7 Guid

Description

The Guid class represents a unique number.

Properties

uuid	
Description	Universally Unique IDentifier.
Access	Read/Write
Returns	Uuid

Example

```
var guid1 = new Guid();
var guid2 = new Guid();
if (guid1.uuid == guid2.uuid)
		Logger.logEvent(Debug, "Same");
else
		Logger.logEvent(Debug, "Different");
guid2.uuid = guid1.uuid; // assign the uuid of guid1 to guid2
if (guid1.uuid == guid2.uuid)
		Logger.logEvent(Debug, "Same");
else
		Logger.logEvent(Debug, "Different");
```

Output

```
Different
Same
```

Methods

fromRfc4122	
Description	The RFC4122 representation of a Guid in a byte array.
Parameters	Guid: Byte array
Returns	

Example

```
var guid = new Guid();
var data = guid.toRfc4122();
var shortguid = Base64.encode(data);
shortguid = shortguid.replace("/", "_");
shortguid = shortguid.replace("+", "-");
shortguid = shortguid.mid(0, 22);
Logger.logEvent(Debug, "ShortGuid = '" + shortguid + "' from guid = '" + guid + "'");
```

Output

```
ShortGuid = '_H6-tFHyQO65OvX/F8L+0w' from guid = '{fc7ebeb4-51f2-40ee-b93a-f5ff17c2fed3}'
```

fromString	
Description	
Parameters	Guid : String
Returns	String
Example	`var guid = new Guid();`
	`guid.fromString('{fc7ebeb4-51f2-40ee-b93a-f5ff17c2fed3}');`
	`Logger.logEvent(Debug, guid);`
Output	`{fc7ebeb4-51f2-40ee-b93a-f5ff17c2fed3}`

toRfc4122	
Description	A byte array representation of a Guid in the RFC4122 format.
Parameters	
Returns	Byte array
Example	`var shortguid = '_H6-tFHyQO65OvX/F8L+0w';`
	`shortguid = shortguid.replace("_", "/");`
	`shortguid = shortguid.replace("-", "+");`
	`var data = Base64.decode(shortguid + "==");`
	`var guid = new Guid();`
	`guid.fromRfc4122(data);`
	`Logger.logEvent(Debug, "Guid = '" + guid + "'");`
Output	`Guid = '{fc7ebeb4-51f2-40ee-b93a-f5ff17c2fed3}'`

toString	
Description	Converts the Guid to a string representation.
Parameters	
Returns	String
Example	`var guid = new Guid();`
	`Logger.logEvent(Debug, guid.toString());`
Output	`{1e4408bb-5211-4179-8d8f-7230702730fe}`

4.2.8 Hash

Description

The Hash class returns a hash value.

Methods

md5	
Description	The md5 representation of a Hash in a byte array.
Parameters	Hash: Byte array
Returns	

Example	`var data = new ByteArray;`
	`data.append("Return this string as a md5 hash");`
	`var md5 = Hash.md5(data.bytearray);`

Output	`1105DD801EECBE3F886C9BF87F851686`

sha1	
Description	The sha1 representation of a Hash in a byte array.
Parameters	Hash: Byte array
Returns	String

Example	`var data = new ByteArray;`
	`data.append("Return this string as a sha1 hash");`
	`var sha1 = Hash.sha1(data.bytearray);`

Output	`E66B4CE83BB5302FD6825480EE6CD6D68C73647F`

sha256	
Description	The sha256 representation of a Hash in a byte array.
Parameters	Hash: Byte array
Returns	String

Example	`var data = new ByteArray;`
	`data.append("Return this string as a sha256 hash");`
	`var sha1 = Hash.sha256(data.bytearray);`

Output	`E66B4CE83BB5302FD6825480EE6CD6D68C73647F`

crc32	
Description	The crc32 representation of a Hash in a byte array.
Parameters	

Returns	Byte array

Example	`var data = new ByteArray;`
	`data.append("Return this string as a crc32 hash");`
	`var crc32 = Hash.crc32(data.bytearray));`

Output	`1434952195`

toByteArray	
Description	Converts a hex hash string, for example obtained via Hex::md5, Hex::sha1 or Hex::sha256, into a ByteArray.
Parameters	Hash: String
Returns	ByteArray
Example	`var ba = Hash.toByteArray("E66B4CE83BB5302FD6825480EE6CD6D68C73647F");`

4.2.9 MagicBytes

Description

The MagicBytes class returns a Boolean to identify a file format signature.

Methods

isDOC, isDCOX, isImage, isODT, isPDF, isPNG, isRTF, isXLS, isXLSX, isZIP	
Description	Identifies data in a byte array.
Parameters	data: bytearray
Returns	Boolean

Example

```
var f = File('C:\\testfile');
if (f.open(IO_ReadOnly))
{
        if (MagicBytes.isDOCX(f.readAll()))
                Logger.logEvent(Debug, 'Is Word!');
        if (MagicBytes.isImage(f.readAll())
                Logger.logEvent(Debug, 'Is an image!');
        if (MagicBytes.isPDF(f.readAll())
                Logger.logEvent(Debug, 'Is PDF!');
}
```

isDOC, isDCOX, isImage, isODT, isPDF, isPNG, isRTF, isXLS, isXLSX, isZIP	
Description	Identifies data using the given job or a JobInfo with a given jobInfoName. If no jobInfoName is given the standard JobData JobInfo is used.
Parameters	job: Job [JobInfoName: string]
Returns	Boolean

Example

```
if ((getJobInfo('Extension').lower() == ".docx") && (MagicBytes.isDOC(job)))
        Logger.logEvent(Debug, 'Is Word!');
if (MagicBytes.isPDF(job, 'MyJobInfo')))
        Logger.logEvent(Debug, 'Is PDF!');
```

4.3 Form Engine Variables

Variable Name	Description
CurrentRearrange	The CurrentRearrange variable is generally available in all scripts called from named rearranges. It contains a reference to the rearrange from which the script is being called. It is of the type InputRearrange.

Line	The Line variable is generally available in all scripts called from named rearranges. It contains the line number on which the CurrentRearrange is placed, for the pattern on which the rearrange is placed. It is used to refer to other named rearranges on the same pattern.
	
	The **Line** variable starts with line number set to **0 (zero)**
	
	`function CalcPrice() : Number`
	`{`
	`  return Price[Line].number * Quantity[Line].number;`
	`}`

GlobalLine	The GlobalLine variable is generally available in all scripts called from named rearranges. It contains the global line number on which the CurrentRearrange is placed. This line number includes all patterns. The **GlobalLine** variable starts with line number set to **1 (one)**
masterJob	Available from scripts run on Sheet Modifiers and rearranges. *masterJob* is of type *Job*. It is from this that the *job* is copied when each sheet starts processing. This means that you can use *masterJob* to copy data to the next sheet. `masterJob.setJobInfo("JobInfoName", "Value");`

4.4 Form Engine Classes

4.4.1 Grab

Description

The Grab class is used in the Form Engine to provide basic access to the input and output grab areas. The Grab class is automatically instantiated by the grab object. It is not possible to instantiate the Grab from script.

Properties

currentPage	
Description	Returns the number of the output page currently being handled. Pages are numbered from 1. This property returns the same value as the variable CurrentPage.
Access	Read
Returns	Number
Example	`var PageCurrent = grab.currentPage;`

currentSheet	
Description	Returns the number of the current sheet being handled. Sheets are numbered from 1.
Access	Read
Returns	Number
Example	`var SheetCurrent = grab.currentSheet;`

lineCount	
Description	Returns the number of lines in the input grab area. Can be used in connection with the getText method to loop through the lines in the grab area.
Access	Read
Returns	Number
Example	

maxWidth	
Description	Returns the width of the widest line in the input grab area. The width of a line is defined as the rightmost column with a non-space character.
Access	Read
Returns	Number
Example	

numberOfPages	
Description	Returns the total number of pages generated for text output.
Access	Read
Returns	Number
Example	

type	
Description	Always returns the value *Grab*.
Access	Read
Returns	String
Example	

conditionalHeight	
Description	
Access	Read
Returns	Number
Example	

conditionalStart	
Description	
Access	Read
Returns	Number
Example	

conditionalEnd	
Description	
Access	Read
Returns	Number
Example	

conditionalFooter	
Description	
Access	Read
Returns	Number
Example	

Methods

getText	
Description	Retrieves text directly from the input grab area. If height is bigger than 1 then multiple lines will be returned separated by CR (hex 0D). The last line will not have an ending CR. All lines will be padded with spaces up to the given width.
Parameters	line : Number column : Number width : Number [height : Number = 1]
Returns	String
Example	

setChartData	
Description	Sets the ChartData *ChartDataName* to *value*. If *replace* is *true* all current ChartData in the list is cleared. The default value of *replace* is *true*.
Parameters	ChartDataName : String value : String [replace : Boolean]
Returns	None

Example	`grab.setChartData("Chart_Data", 100.0, true);`
	`grab.setChartData("Chart_Data", 200.0, false);`
	`grab.setChartData("Chart_Data", 300.0, false);`
	
	`grab.setChartData("Chart_Label", "2013", true);`
	`grab.setChartData("Chart_Label", "2014", false);`
	`grab.setChartData("Chart_Label", "2015", false);`

getChartData	
Description	Returns the value of the ChartData with the given ChartDataName. If more than one ChartData with that name exists a specific one can be chosen using the given index parameter. If no ChartData with the given name exists an empty string is returned.
Parameters	ChartDataName : String [index : Number]
Returns	String
Example	Retrieves the value of the second array of Chart_Data: `grab.getChartData('Chart_Data', 1);`

getChartDataCount	
Description	Returns the number of items in the ChartData array with the given ChartDataName. If the ChartData does not exist the method returns 0 (zero).
Parameter	ChartDataName : String
Returns	Number

Example	`var count = grab.getChartDataCount("Chart_Data");`
	`var i;`
	`for (i = 0; i < count; i++)`
	`{`
	`        grab.setChartData("Chart_Data_2",grab.getChartData("Chart_Data", i), false);`
	`}`

deleteChartData	
Description	Removes all ChartData with the given *ChartDataName.*
Parameters	ChartDatatName : String

Returns	None
Example	`grab.deleteChartData(“MyChartData”);`

4.4.2 InputRearrange

Description

For each input rearrange and insert text with a name, Lasernet creates an array of InputRearrange objects. The array can be accessed using the object name set in the input rearrange dialog. Rearranges without a name are not accessible from script. This array principle makes it possible to make short scripts like Sum(MyRearrange). Objects of type InputRearrange are only available in the Form Engine.

Properties

bold	
Description	Gets and sets the bold property of the font used for rendering the rearrange.
Access	Read, Write
Returns	Boolean
Example	`myrearrange.bold = true;`

color	
Description	Gets and sets the color property of the font used for rendering the rearrange.
Access	Read, Write
Returns	Color

Example	`var mycolor = new Color();`
	`mycolor.setRgb(0x00ff00); // one way to set color to green`
	`myrearrange.color = mycolor;`

family	
Description	Gets and sets the font name used for rendering the rearrange.
Access	Read, Write
Returns	String
Example	`myrearrange.family = "Courier New";`

italic	
Description	Gets and sets the italic property of the font used for rendering the rearrange.
Access	Read, Write
Returns	Boolean
Example	`myrearrange.italic = true;`

name	
Description	Returns the object name for the rearrange as set in Lasernet Form Editor.
Access	Read
Returns	String
Example	`logger.logEvent(0,’Name of Current Rearrange = ‘+CurrentRearrange.name);`

number	
Description	Returns the value of the rearrange as a number. The number is parsed from the original text using the settings for input number formats. If a number cannot be parsed 0 (zero) is returned.
Access	Read
Returns	Number
Example	`If (myRearrange.number == 0) return ‘Empty’;`

page	
Description	Always returns 0 (zero).
Access	Read
Returns	String
Example	

pointSize	
Description	Gets and sets the pointSize property of the font used for rendering the rearrange.
Access	Read, Write
Returns	Number
Example	`myrearrange.pointSize = 12;`

strikeOut	
Description	Gets and sets the strike out property of the font used for rendering the rearrange.
Access	Read, Write
Returns	Boolean
Example	`myrearrange.strikeOut = false;`

text	
Description	Returns the original text for the rearrange – that is, before it has been changed by any scripts or other means. The text is not trimmed even if this has been selected in the Designer. The text is exactly as it appears in the left side grab.
Access	Read
Returns	String
Example	`myrearrange.family = "Courier New";`

type	
Description	Returns the type of the rearrange. Currently always returns Text.
Access	Read
Returns	String
Example	`myrearrange.family = "Courier New";`

underline	
Description	Gets and sets the underline property of the font used for rendering the rearrange.
Access	Read, Write
Returns	Boolean
Example	`myrearrange.underline = true;`

value	
Description	Returns the value of the rearrange, for example, after a script has manipulated the value. Be aware that calling the .value property on a rearrange with a script on it may result in an infinite loop if that script directly or indirectly refers to itself!
Access	Read
Returns	String
Example	`myrearrange.family = "Courier New";`

weight	
Description	
Access	Read, Write
Returns	Number
Example	

orientation	
Description	
Access	Read, Write
Returns	Number
Example	

OutputRearrange

Description

For each output rearrange and insert text with a name, Lasernet creates an array of OutputRearrange objects. The array can be accessed using the object name set in the output rearrange dialog. Rearranges without an object name are not accessible from script. This array principle makes it possible to set properties for an output rearrange. Objects of type OutputRearrange are only available in the Form Engine.

Properties

backgroundColor	
Description	Gets and sets the background color property of the font used for rendering the rearrange.
Access	Read, Write
Returns	Boolean
Example	`myoutputrearrange.backgroundColor = 0x00ff00; // one way to set color to green;`

borderColor	
Description	Gets and sets the border color property of the font used for rendering the rearrange.
Access	Read, Write
Returns	Color
Example	`myoutputrearrange.borderColor  = 0xff0000; // one way to set color to red;`

borderWidth	
Description	Gets and sets the border width in points used for rendering the rearrange.
Access	Read, Write
Returns	String
Example	`myoutputrearrange.borderWidth = 10;`

marginSize	
Description	Gets and sets the margin size in millimeters used for rendering the rearrange.
Access	Read, Write
Returns	Boolean
Example	`myoutputrearrange.marginSize = 100;`

4.4.3 Sheet

The Sheet class is used in the Form Engine to access the sheet currently being processed. The Sheet class is automatically instantiated in the sheetobject. The Sheet class cannot be instantiated from script.

Properties

evaluate	
Description	On a Sheet Start Modifier this property can be set to false to stop evaluating/analyzing the sheet. No processing will be done for the sheet and nothing will be printed for the sheet. Only Sheet Start modifiers will be run for that sheet. The usual criteria based on JobInfos can be used to determine whether to run the modifier and thereby hinder the evaluation of the sheet.
Access	Read, Write
Returns	Boolean
Example	`sheet.evaluate = false;`

name	
Description	Returns the name of the sheet as set in the Form Designer.
Access	Read
Returns	String
Example	`logger.logEvent(0, 'Name of the sheet = ' + sheet.name);`

type	
Description	Always returns the value 'Sheet'.
Access	Read
Returns	String

regionalProfile	
Description	Returns and sets the name of the associated regional profile, which is used for rendering output. If there is no regional profile with the name chosen, the output rendering will fail with an error and no output will be shown for the affected rearranges.
Access	Read, Write
Returns	String
Example	`sheet.regionalProfile = "Default";`

Functions

fontStyle	
Description	Returns a new FontStyle object, which allows you to manipulate with the parameters of the selected style name (for more information see Chapter 4.6.3 FontStyle).
Parameters	StyleName :String
Access	Read
Returns	FontStyle
Example	`var basicFont = sheet.fontStyle("Basic");`

shapeStyle	
Description	Returns a new ShapeStyle object, which allows you to manipulate with the parameters of the selected style name (for more information see Chapter 4.6.4 ShapeStyle).
Parameters	StyleName :String
Access	Read
Returns	ShapeStyle
Example	`var basicShape = sheet.shapeStyle("Basic");`

4.4.4 Form

The Form class is used in the Form Engine to access the form currently being processed. The Form class is automatically instantiated in the form object. The form class cannot be instantiated from script.

Properties

name	
Description	Returns the name of the form as set in the Form Designer.
Access	Read
Returns	String
Example	`logger.logEvent(0, 'Name of the sheet = ' + form.name);`

type	
Description	Always returns the value ‘Form’.
Access	Read
Returns	String
Example	

regionalProfile	
Description	Returns and sets the name of the associated regional profile, which is used for parsing input. If there is no regional profile with the name chosen, the input parsing will fail with an error for the affected rearranges.
Access	Read, Write
Returns	String
Example	`form.regionalProfile = "Default";`

Functions

fontStyle	
Description	Returns a new FontStyle object, which allows you to manipulate with the parameters of the selected style name (for more information see Chapter 4.6.3 FontStyle).
Parameters	StyleName :String
Access	Read
Returns	FontStyle
Example	`var basicFont = form.fontStyle("Basic");`

shapeStyle	
Description	Returns a new ShapeStyle object, which allows you to manipulate with the parameters of the selected style name (for more information see Chapter 4.6.4 ShapeStyle).
Parameters	StyleName :String
Access	Read
Returns	ShapeStyle
Example	`var basicShape = form.shapeStyle("Basic");`

4.5 Global Script Classes

4.5.1 ActiveXObject

Description

The ActiveXObject class is used to instantiate simple ActiveX objects in script. It is not possible to describe properties and methods since these vary from one object to another.

It is not possible to use properties and methods that return another ActiveXObject. Only the more simple types are supported.

Constructors

ActiveXObject	
Description	Returns a new ActiveXObject based on the classID. If *servername* is specified the ActiveX object will be instantiated on that server. This presumes that Lasernet runs under an account that has the required privileges.
Parameters	classID : String [servername : String]
Returns	ActiveXObject
Example	`var ax = new ActiveXObject('Microsoft.Word');`

4.5.2 File

Description

The File class is used to access files in the file system. It is possible to both read and write files.

```
function FileWriteTest()
{
		var f = new File('c:\\file.txt');

		if (f.open(IO_WriteOnly, false))
		{
				f.write('This is a test \n');
				f.write('This is a test \n');
				f.write('This is a test \n');
				f.write('This is a test \n');
				f.close();
		}
}
```

As can be seen in the above example two backslashes ('\') are used as a separator in the filename. The reason for this is that strings in JavaScript can have special symbols encoded using backslash – therefore two backslashes in a row actually evaluates to one backslash thereby giving us the right path.

Properties

type	
Description	Returns the value 'File'.
Access	Read
Returns	String
Example	

atEnd	
Description	Returns true if the file position is at the end of the file. This is primarily used when reading files. Using this property it is possible to continue reading the contents of a file until no more data is available. The return value of this property is undefined before the file is opened.
Access	Read
Returns	Boolean
Example	See below

```
function fileReadTest()
{
		var f = new File('c:\\file.txt');
		if (f.open(IO_ReadOnly, false))
		{
		  // Continue reading until we reach end of file
		  while (!f.atEnd())
		  {
				var line = f.readLine(1000);
				job.setJobInfo('Lines', line, false);
				job.setJobInfo('LineLength', f.bytesRead, false);
		  }
		  f.close();
		}
}
```

bytesRead	
Description	Returns the number of bytes that the last call to readLine read from the file after a call to readLine(). If readLine() has not been called the property returns 0 (zero).
Access	Read
Returns	Number
Example	See below

```
function fileReadTest()
{
		var f = new File('c:\\file.txt');
		if (f.open(IO_ReadOnly, false))
		{
		  // Continue reading until we reach end of file
		  while (!f.atEnd())
		  {
				var line = f.readLine(1000);
				job.setJobInfo('Lines', line, false);
				job.setJobInfo('LineLength', f.bytesRead, false);
		  }
		  f.close();
		}
}
```

created	
Description	Gets the created date time for the file.
Access	Read
Returns	Date

Example	`var f = new File('c:\\file.txt');`
	`var t = f.created;`

isDir	
Description	Returns *true* if the file referred to is in fact a directory, *false* otherwise.
Access	Read
Returns	Boolean

Example	`var f = new File('c:\\windows');`
	`if (f.isDir)`
	`{`
	`        // Do some magic`
	`}`

isFile	
Description	Returns *true* if the file referred to is in fact a file, *false* otherwise.
Access	Read
Returns	Boolean

Example	`var f = new File('c:\\file.txt');`
	`if (f.isFile)`
	`{`
	`        // Do some magic`
	`}`

isReadable	
Description	Returns *true* if the file is readable, *false* otherwise.
Access	Read
Returns	Boolean

Example	`var f = new File('c:\\file.txt');`
	`if (f.isReadable)`
	`{`
	`        // Do some magic`
	`}`

isWritable	
Description	Returns *true* if the file is writable, *false* otherwise.
Access	Read
Returns	Boolean

Example	`var f = new File('c:\\file.txt');`
	`if (f.isWritable)`
	`{`
	`        // Do some magic`
	`}`

lastModified	
Description	Gets the last modified date time for the file.
Access	Read
Returns	Date

Example	`var f = new File('c:\\file.txt');`
	`var lastModifiedDate = f.lastModified;`

lastRead	
Description	Gets the last read date time for the file.
Access	Read
Returns	Date

Example	`var f = new File('c:\\file.txt');`
	`var lastReadDate = f.lastRead;`

name	
Description	Sets and gets the filename of the file being handled. Do not set the filename after the file has been opened – the behaviour is undefined. In general you should always use the full path of the file. Not using a full path will most likely succeed, but the path will then be dependent on which directory is the current directory for the entire Lasernet application. This directory may change at any time.
Access	Read, Write
Returns	String
Example	

size	
Description	Returns the size in bytes of the file. The file does not have to be open to get the size.
Access	Read
Returns	Number

Example	`var f = new File('c:\\file.txt');`
	`var fileSizeInBytes = f.size;`

Static methods

copy	
Description	Copies a source file to a new location and/or filename. Function returns true on success and false on error.
Parameters	sourceFilename : String destinationFilename : String [allowOverwrite : Boolean = true]
Returns	Boolean
Example	`File.copy('c:\\file1.txt', 'c:\\file2.txt', true);`

exists	
Description	Returns true if the file with filename, which should be the full path to the file, exists.
Parameters	filename : String
Returns	Boolean

Examples	`if (File.exists("c:\\myfile.txt"))`
	`{`
	`        // Do your magic with that file.`
	`}`

isFile	
Description	Returns true if the file with filename, which should be the full path to the file, is a file.
Parameters	filename : String
Returns	Boolean

Examples	`if (File.isFile("c:\\myfile.txt"))`
	`{`
	`        // Do your magic now you know it's a file.`
	`}`

isDir	
Description	Returns true if the file with filename, which should be the full path to the file, is a directory.
Parameters	filename : String
Returns	Boolean

Examples	`if (File.isDir("c:\\myfolder"))`
	`{`
	`        // Do your magic now you know it's a folder.`
	`}`

move	
Description	Moves a source file to a new location and/or filename. Can also be used to rename a file. Function returns true on success and false on error.
Parameters	sourceFilename : String destinationFilename : String [allowOverwrite : Boolean = true]
Returns	Boolean
Example	`File.move('c:\\file1.txt', 'c:\\file2.txt', true);`

read	
Description	Reads the entire contents of the file with the given filename into a String and returns that. Throws a File.read() exception if it for some reason fails to read the file.
Parameters	filename : String
Returns	String

Example	`var content = File.read("c:\\myfile.txt");`
	Note that the file has to be in a normal ANSI code page. If you need more a more advanced code page like UTF8, you must open the file and read the contents manually.
	`var f = new File('c:\\test.txt');`
	`f.setCodec('UTF8');`
	`if (f.open(IO_ReadOnly))`
	`{`
	`        var text = new String (f.readAllText());`
	`        f.close();`
	`}`

readBinary	
Description	Reads the entire contents of the file with the given filename into a ByteArray and returns that. Throws a File.readBinary() exception if it for some reason fails to read the file.
Parameters	filename : String
Returns	ByteArray
Example	`var content = File.readBinary("c:\\myfile.txt");`

remove	
Description	Returns true if the file with filename, which should be the full path to the file, was removed.
Parameters	filename : String
Returns	Boolean

Examples	`if (File.remove("c:\\myfile.txt"))`
	`{`
	`        // Do your magic now you know the file was removed.`
	`}`

size	
Description	Reads the size of the file with the filename given and returns the value. Throws a File.size() exception and -1 as value if it for some reason fails to read the file.
Parameters	filename : String
Returns	Number
Example	`var long = File.size("c:\\myfile.txt");`

write	
Description	Writes a string to a file. Returns true if content was successfully written to file.
Parameters	filename : String content : String
Returns	Boolean

Examples	`if (File.write("c:\\myfile.txt", “Lasernet Scripting”))`
	`{`
	`        // Do your magic now you know content was written.`
	`}`

writeBinary	
Description	Writes an array of bytes to a file. Returns true if data was successfully written to file.
Parameters	filename : String data : ByteArray
Returns	Boolean

Examples	`if (File.writeBinary("c:\\myfile.txt", job.jobdata))`
	`{`
	`        // Do your magic now you know jobdata was written.`
	`}`

Methods

close	
Description	Closes the file so no more data can be read from or written to it until it has been opened again by a call to open().
Parameters	None
Returns	None

Example	`var f = new File('c:\\test.txt');`
	`if (f.open(IO_ReadOnly))`
	`{`
	`        var text = new String (f.readAllText());`
	`        f.close();`
	`}`

exists	
Description	Returns true if the file with filename exists. If no filename is given the filename set by the constructor or the name property is used. Useful for making sure that a file actually exists before opening it. Usually you would choose to use the static method File.exists() instead.
Parameters	[Filename : String = “”]
Returns	Boolean

Example	`var f = new File('c:\\test.txt');`
	`if (f.exists())`
	`{`
	`        // Handle the file`
	`}`

flush	
Description	Flushes any buffered data to the file. Returns true if successful; otherwise returns false.
Parameters	None
Returns	Boolean
Example	

open	
Description	Opens the file with the given mode and exclusive settings. *mode* can be one of the following: IO_RAW // raw access (not buffered) IO_Async // asynchronous mode IO_ReadOnly // readable device IO_WriteOnly // writable device IO_ReadWrite // read+write device IO_Append // append IO_Truncate // truncate device IO_Translate // translate CR+LF Set exclusive to true to make sure that you have exclusive access to the file. This only works on existing files. If the file does not already exist the exclusive setting does not have any effect. The exclusiveTimeout value is used to set how long to wait for exclusive access to the file. The value is in milliseconds. If exclusive access cannot be obtained before this timeout open returns false.
Parameters	mode : Number [exclusive : Boolean = true] [exclusiveTimeout : Number = 10000]
Returns	Boolean

Example	`var f = new File('c:\\test.txt');`
	`if (f.open(IO_ReadOnly))`
	`{`
	`        // read the file`
	
	`        f.close();`
	`}`

readAll	
Description	Reads the entire file into a ByteArray and returns the ByteArray. This can be used to load data from a file and put it into a JobInfo.
Parameters	None
Returns	ByteArray

Example	`var f = new File('c:\\test.txt');`
	`if (f.open(IO_ReadOnly))`
	`{`
	`        job.setJobInfoBinary('ContentsOfTheFile', f.readAll());`
	`        f.close();`
	`}`

readAllText	
Description	Reads the entire file into a String and returns the string. If a codec has been set with setCodec() this codec is used to read the file. If not it is assumed that the file is a standard ANSI file. The property bytesRead reflects how many characters have been read when a codec has been set. Otherwise it returns how many bytes have been read, which will correspond to the number of characters.
Parameters	None
Returns	String

Example	`var f = new File('c:\\test.txt');`
	`if (f.open(IO_ReadOnly))`
	`{`
	`        job.setJobInfo('ContentsOfTheFile', f.readAllText());`
	`        f.close();`
	`}`

readLine	
Description	Reads a line from the file. The returned String will include the CR/LF characters if any are read and a codec has **not** been set with setCodec. If an end of line is not found before maxLengthcharacters has been read, only a maxlength character is read. The property bytesRead will contain the number of bytes actually read. To make sure that you always read to the end of a line – or end of line, if no end of line exists you can use the size property.
Parameters	maxLength : String
Returns	String

Example	`var f = new File('c:\\test.txt');`
	`if (f.open(IO_ReadOnly))`
	`{`
	`        var line = new String (f.readLine(f.size));`
	`        f.close();`
	`}`

remove	
Description	Tries to remove (delete) the file with filename and returns true if it succeeds. If no filename is given the filename set by the constructor or the name property is used. The file should not be open when trying to remove it. The filename must contain the full path to the file.
Parameters	[filename : String = “”]
Returns	Boolean

Example	`var f = new File('c:\\test.txt');`
	`if (f.remove())`
	`        logger.logEvent(0, 'File deleted');`

reset	
Description	Seeks to the start of the file. Returns true on success; otherwise returns false (for example, if the file is not open).
Parameters	None
Returns	Boolean
Example	

seek	
Description	This function sets the current position to *pos*, returning true on success, or false if an error occurred.
Parameters	pos : Integer
Returns	Boolean
Example	

setCodec	
Description	Sets the codec to use in the readLine(), write() and readAllText() methods.
Parameters	codecname : String
Returns	Boolean
Example	see below

```
var f = new File('c:\\test.txt');
f.setCodec('UTF8');
if (f.open(IO_ReadOnly))
{
        var text = new String (f.readAllText());
        f.close();
}
```

write	
Description	Writes the given text to the file. The file must be open to be able to write to it.
Parameters	text : String
Returns	None
Example	see below

```
var f = new File('c:\\test.txt');
if (f.open(IO_WriteOnly))
{
        f.write('Text to write in my file');
        f.close();
}
```

writeBinary	
Description	Writes the given data to the file. The file must be open to be able to write to it. This function is usually used to write the contents of a job to a file.
Parameters	data : ByteArray
Returns	None

Example	`var f = new File('c:\\test.txt');`
	`if (f.open(IO_WriteOnly))`
	`{`
	`    f.writeBinary(job.getJobInfoBinary("JobData"));`
	`    f.close();`
	`}`
	This set of scripts can be easily replaced by a global script function; `saveJobInfoToFile(jobInfoName, fileName);`
	Or a static function call;
	`File.writeBinary('c:\\test.txt', job.getJobInfoBinary('JobData'));`

4.5.3 Zip

Description

The Zip class is used to create and manipulate zipfiles from script and is meant as an alternative or supplement to the Zip Modifier, which is somewhat limited in its functionality. The zip file is created and manipulated in memory, which sets some limitations on file size.

Properties

count	
Description	The number of files in the zip file.
Access	Read
Returns	Number
Example	

type	
Description	Always returns the value *'Zip'*.
Access	Read
Returns	String
Example	

Methods

addFile	
Description	Adds the given data to the zip file with the given *filename*.
Parameters	Data : ByteArray Filename : String
Returns	none

Example	`var zipper = new Zip();`
	`zipper.newZipFile();`
	`zipper.addFile(job.jobdata, "preview.pdf");`

addFileFromDisk	
Description	Adds a file with the given *filename* from disk into the zip file. It is given the *filenameInZip* in the zipfile.
Parameters	filename : String filenameInZip: String
Returns	None

Example	`var zipper = new Zip();`
	`zipper.newZipFile();`
	`zipper.addFileInZip("c:\\preview.pdf", "preview.pdf");`

extractArchiveToDisk	
Description	Extracts all the files in the archive to disk. The given *filepath* is used as root for the files, which all are extracted with full path.
Parameters	filepath : String
Returns	Boolean

Example	`var zipper = new Zip();`
	`if (zipper.loadZipFileFromDisk("d:\MyZipFile.zip"))`
	`{`
	`        if (zipper.extractArchiveToDisk("c:\\extractfolder"))`
	`                // extract OK`
	`}`

extractFileToDisk	
Description	Extracts a file from the archive onto disk. All the files are numbered from 0 to *count* -1.
Parameters	Index : Number filepath : String
Returns	Boolean

Example	`…`
	`if (zipper.extractFileToDisk(1, "c:\\extractfolder"))`
	`        // extract OK`

getZipFile	
Description	Returns the entire zip file as a ByteArray. You can use this to put the zip file into a JobInfo.
Parameters	None
Returns	ByteArray

Example	`var zipper = new Zip();`
	`...`
	`job.setJobData(zipper.getZipFile());`

loadZipFileFromDisk	
Description	Loads the zip file from disk with the given *filename*. Returns true if the zip file was successfully loaded.
Parameters	Filename : String
Returns	Boolean

Example	`var zipper = new Zip();`
	`zipper.loadZipFileFromDisk("d:\MyZipFile.zip");`

newZipFile	
Description	Prepares a new zip file. This function should always be called before adding files to a new archive.
Parameters	None
Returns	None

Example	`var zipper = new Zip();`
	`zipper.newZipFile();`

saveZipFile	
Description	Saves the zip file to disk. Uses the given *filename* for the zip file.
Parameters	Filename : String
Returns	None

Example	`var zipper = new Zip();`
	`zipper.newZipFile();`
	`zipper.addFile(job.getJobInfoBinary("JobData"), "preview.pdf");`
	`zipper.saveZipFile("d:\\MyZipFile.zip");`

4.6 JavaScript Global Classes

4.6.1 Color

Description

The Color class is used for representing colors.

Methods

setRgb	
Description	Sets the color code of the color. The value is a bitmask on the form 0xRRGGBB, where RR=red, GG=green, and BB=blue, all as hexadecimal digits.
Parameters	Colorcode : Number
Returns	None

Example	`var mycolor = new Color();`
	`mycolor.setRgb(0x00ff00); // one way to set color to green`

setRgb	
Description	Sets the red, green and blue color values of the color to *red*, *green* and *blue*, respectively.
Parameters	red : Number green : Number blue : Number
Returns	None

Example	`var mycolor = new Color();`
	`mycolor.setRgb(0, 255, 0); // another way to set color to green`

4.6.2 Dir

Description

The Dir class is used for searching and manipulating directories.

Constructors

Dir	
Description	Creates a new Dir instance which points to the given *filePath*.
Parameters	filePath : String
Returns	Dir
Example	`var d = new Dir('c:\\myfolder');`

Enums

FilterSpec	
Dirs	List directories only
Files	List files only
Drives	List drives only
NoSymLinks	Do not list symbolic links
All	Lists everything
TypeMask	Dirs | Files | Drives | NoSymLinks
Readable	List files that the application has read access to
Writable	List files that the application has write access to
Executable	List files for which the application has execute access
RWEMask	Readable | Writable | Executable
Modified	List files that have been modified
System	Lists system files
AccessMask	Readable | Writable Executable | Modified | Hidden | System

These filtering options are used in the *entryList* method.

SortSpec	
Name	Sort by name
Time	Sort by modification time
Size	Sort by file size
Unsorted	Do not sort
SortByMask	Name | Time | Size
DirsFirst	List directories before files
Reversed	Reverse the sort order
IgnoreCase	Sort case-insensitively

These sorting options are used in the *entryList* method.

Static properties

current	
Description	Returns the current directory for the application.
Access	Read
Returns	String
Example	`var myDir = Dir.current;   //  C:/Program Files/Formpipe Software/Lasernet 9`

home	
Description	Returns the home directory for the user under which the application runs.
Access	Read
Returns	String
Example	`var myDir = Dir.home;   //  C:/Users/LasernetUser`

root	
Description	Returns the root directory.
Access	Read
Returns	String
Example	`var myDir = Dir.root;   //  C:/`

drives	
Description	Returns an array of the drives on the system.
Access	Read
Returns	String[]
Example	`var myDir = Dir.drives;   //  C:,D:`

Static methods

cleanDirPath	
Description	Removes duplicate directory separators / and removes any relative references .. and . found in *filePath*.
Parameters	filePath : String
Returns	String

Example	`var myDir = Dir.cleanDirPath("c:\\program files\\..\\lasernet");`
	`//  c:/lasernet`

convertSeparators	
Description	Returns a converted version of filePath where all directory separators are converted to backslash.
Parameters	filePath : String
Returns	String

Example	`var myDir = Dir.convertSeparators(Dir.cleanDirPath("c:\\files\\..\\lasernet"));`
	`//  c:\lasernet`

Properties

name	
Description	Returns the name of the directory. This is not the full path, but simply the last part.
Access	Read
Returns	String

Example	`var myDir = new Dir('d:\\lasernet');`
	`var lastFolderName = myDir.name;   //  lasernet`

path	
Description	The full path of the directory.
Access	Read, Write
Returns	String

Example	`var myDir = new Dir('d:\\lasernet');`
	`var lastFolderName = myDir.path;   //  d:/lasernet`

absPath	
Description	Returns the full absolute path – usually starting with a drive specification.
Access	Read
Returns	String

Example	`var myDir = new Dir('d:\\file\\..\\lasernet\\');`
	`var MyPath = myDir.absPath;   //  d:/lasernet`

canonicalPath	
Description	Returns the full path, but without any symbolic links or . or .. relative references.
Access	Read
Returns	String

Example	`var myDir = new Dir('d:\\file\\..\\lasernet\\');`
	`var MyPath = myDir.canonicalPath;   //  D:/lasernet`

readable	
Description	Returns *true* if the directory is readable otherwise *false* is returned.
Access	Read
Returns	Boolean

Example	`var myDir = new Dir('d:\\file\\..\\lasernet\\');`
	`var MyPath = myDir.readable;   //  false`

exists	
Description	Returns *true* if the directory exists otherwise *false* is returned.
Access	Read
Returns	Boolean

Example	`var myDir = new Dir('d:\\file\\..\\lasernet\\');`
	`var MyPath = myDir.exists;   //  false`

Methods

filePath	
Description	Returns the filepath of the *filename* file in the directory.
Parameter	Filename: String
Returns	String

Example	`var myDir = new Dir('d:\\lasernet\\');`
	`var MyPath = myDir.filePath('test.spl');  // d:/lasernet/test.spl`

absFilePath	
Description	Returns the absolute filepath of the *filename* file in the directory.
Parameter	Filename: String
Returns	String

Example	`var myDir = new Dir('d:\\lasernet\\..\\file');`
	`var MyPath = myDir.filePath('test.spl');   // d:/file/test.spl`

cd	
Description	Changes directory to the given *dirname* if possible. Otherwise an exception is thrown.
Parameter	Dirname : String
Returns	Boolean

Example	`var myDir = new Dir('d:\\lasernet\\..\\file');`
	`myDir.cd('c:\\lasernet');`

cdUp	
Description	If possible, changes the directory to the parent directory of the current one. If not possible, an exception is thrown.
Parameter	None
Returns	Boolean

Example	`var myDir = new Dir('d:\\lasernet\\..\\file');`
	`myDir.cdUp();   // changes to d:/`

entryList	
Description	Returns an array with the list of all files and directories in the directory that matches the given *filterSpec* and *sortSpec*.
Parameter	filter : String [filterSpec : Number = All] [sortSpec : Number = Name]
Returns	String[]

Example	`var dir = new Dir('c:\\temp\\');`
	`var filelist = new Array(dir.entryList('*', Dir.All));`

fileExists	
Description	Checks if the file *filename* exists in the directory. Returns *true* if it does, otherwise *false* is returned.
Parameter	Filename : String
Returns	Boolean

Example	`var dir = new Dir('c:\\temp\\lasernet');`
	`if (dir.fileExists('file.temp'))`
	`{`
	`   // do something now we know the file exists in the directory`
	`}`

mkdir	
Description	Creates the directory *dirname* in the directory. If for some reason it cannot create the directory (e.g. invalid name) it throws an exception.
Parameter	dirname : String
Returns	Boolean

Example	var dir = new Dir('c:\\temp\\');
	dir.mkdir('test');

mkdirs	
Description	Creates the directory tree *dirname* if possible. Otherwise an exception is thrown.
Parameter	Dirname : String
Returns	Boolean
Example	var dir = new Dir('c:\\temp\\'); dir.mkdirs('c:\\temp\\lasernet'); // creates the *Lasernet* folder in c:\temp

rmdir	
Description	Deletes the directory *dirname* if possible (directory must not contain any files). Returns false if the directory cannot be deleted and true on success.
Parameter	Dirname : String
Returns	None
Example	var dir = new Dir('c:\\temp\\'); dir.rmdir('lasernet'); // removes the *lasernet* folder in c:\temp

rmdirs	
Description	Deletes the specified *dirname* directory and any parent directories provided they are empty. Returns false if the directory cannot be deleted and true on success.
Parameter	Dirname : String
Returns	None
Example	var dir = new Dir('c:\\temp\\'); dir.rmdirs('lasernet'); // removes the *lasernet* folder and parent folder in c:\temp\lasernet

rmRecursive	
Description	Removes the directory, including all its contents. Returns true if successful, otherwise false. If a file or directory cannot be removed, rmRecursive() keeps going and attempts to delete as many files and sub-directories as possible, then returns false. If the directory was already removed, the method returns true (expected result already reached). Note: this function is meant for removing a small application-internal directory (such as a temporary directory), but not user-visible directories. For user-visible operations, it is recommended to report errors more precisely to the user, to offer solutions in case of errors, to show progress during the deletion since it could take several minutes, etc.
Parameter	None
Returns	Boolean

Example	`var dir = new Dir('C:\\Temp\\FolderToRemove');`
	`var result = dir.rmRecursive();`
	`logger.logEvent(Debug, result ? 'Removal Succeeded' : 'Removal Failed');`

4.6.3 FontStyle

Description

The FontStyle class is used for manipulating font style properties.

Properties

bold	
Description	Gets and sets the bold property of the font used for style.
Access	Read, Write
Returns	Boolean

Example	`var globalFont = sheet.fontStyle("Global");`
	`globalFont.bold = true;`

color	
Description	Gets and sets the color property of the font style.
Access	Read, Write
Returns	Color

Example	`var globalFont = form.fontStyle("Global");`
	`globalFont.color = green;`

family	
Description	Gets and sets the font name of the font style.
Access	Read, Write
Returns	String

Example	`var globalFont = form.fontStyle("Global");`
	`globalFont.family = "Courier New";`

italic	
Description	Gets and sets the italic property of the font style.
Access	Read, Write
Returns	Boolean

Example	`var globalFont = form.fontStyle("Global");`
	`globalFont.italic = true;`

name	
Description	Returns the style name.
Access	Read
Returns	String

Example	`var globalFont = form.fontStyle("Global");`
	`logger.logEvent(0,’Name of Current Style = ‘+ globalFont.name);`

pointSize	
Description	Gets and sets the pointSize property of the font style
Access	Read, Write
Returns	Number

Example	`var globalFont = form.fontStyle("Global");`
	`globalFont.pointSize = 12;`

strikeOut	
Description	Gets and sets the strike out property of the font style.
Access	Read, Write
Returns	Boolean

Example	`var globalFont = form.fontStyle("Global");`
	`globalFont.strikeOut = false;`

underline	
Description	Gets and sets the underline property of the font style.
Access	Read, Write
Returns	Boolean

Example	`var globalFont = form.fontStyle("Global");`
	`globalFont.underline = true;`

4.6.4 ShapeStyle

Description

The ShapeStyle class is used for manipulating shape style properties.

Properties

fillColor	
Description	Gets and sets the fill color property of the shape style.
Access	Read, Write
Returns	Color

Example	`var globalShape = form.shapeStyle("Global");`
	`globalShape.fillColor = blue;`

lineColor	
Description	Gets and sets the line color property of the shape style.
Access	Read, Write
Returns	Color

Example	`var globalShape = form.shapeStyle("Global");`
	`globalShape.lineColor = green;`

lineDashes	
Description	Gets and sets the line dashes type property of the shape style.
Access	Read, Write
Returns	Number

Example	var globalShape = form.shapeStyle("Global");
	globalShape.lineDashes = 2;
	
	var localShape = sheet.shapeStyle("Local");
	localShape.lineDashes = localShape.DotLine;

Values	1; SolidLine 2; DashLine 3; DotLine 4; DashDotLine 5; DashDotDotLine

lineWeightPts	
Description	Gets and sets the line weight property of the shape style.
Access	Read, Write
Returns	Number

Example	var globalShape = form.shapeStyle("Global");
	globalShape.lineWeightPts = 10;

name	
Description	Returns the style name.
Access	Read
Returns	String

Example	var globalShape = form.shapeStyle("Global");
	logger.logEvent(0,’Name of Current Style = ‘+ globalShape.name);