

# MBS Plugin

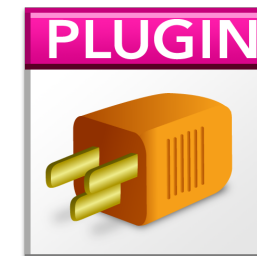
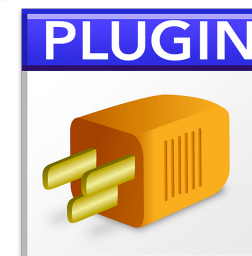
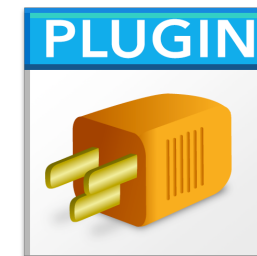
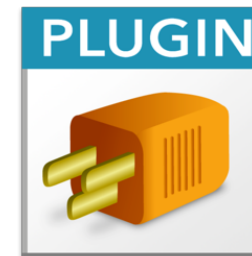
Extend the capabilities of FileMaker  
Christian Schmitz - Monkeybread Software

# Monkeybread Software

- MBS FileMaker Plugin
- Since 2006
  - 17 years
- 7200 functions
  - Over 300 new ones in 2023
- Over 600 example databases.

# MBS FileMaker Plugin

- One Plugin file
  - Only used parts loaded & active
- Easy to install & update
  - Install Plugin-File [ Plugins::Container ]
- Supporting various versions
  - FileMaker 20.2 support since 13.4
  - FileMaker 20.1 support since 13.2
  - FileMaker 19.6 support since 12.5



# MBS FileMaker Plugin

- FileMaker Pro
  - MacOS & Windows
- FileMaker Server
  - Perform Script on Server, Scheduled Scripts, WebDirect & Data API
  - MacOS, Windows & Linux
- FileMaker iOS SDK
- FileMaker Go only via Perform Script on Server

# MBS FileMaker Plugin

- One central MBS function & one MBS script step
- First Parameter = Function Name
  - Can be calculated or from field
- Check for errors using MBS("IsError")
  - Check for error messages in results with [MBS] prefix
- Reference parameters for objects
  - e.g. JSON.Parse, JSON.Format & JSON.Release

# MBS FileMaker Plugin

- Let's update you
- What changed in 2023?
- 300 new functions

# JSON Query, Search & Replace

- JSON.Query with JSONPath expression
  - "\$.store.book[?(@.price < 10)].author";
- JSON.Search with JMESPath
  - "store.book[?price < `10.0`].title | sort(@)";
- JSON.Replace
  - "\$.store.book[?(@.title == 'Test')].price"; 123
- JSON.GetArrayItemsAsQuickList & QuickList.JoinJSON

# MongoDB

- Connect to MongoDB server
- Query collections for documents
- Insert, Update & Upsert
- Use transactions
- Audit changes
- Aggregate functions: filter, sort, group
- TLS options
- Time functions

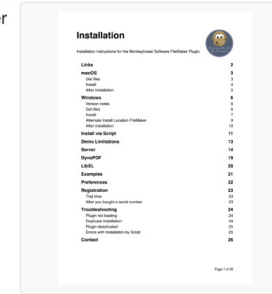


# Preview

- Show PDF content
- Independent of FileMaker
- Windows & MacOS
- Supports more file types on MacOS

MBS Plugin can leverage Windows' built-in PDF Viewer to show PDF files.

PDF Container



[Import PDF](#)

PDF Path

[Select PDF](#)

Add either container or file path to show the PDF.

[Show Preview](#)

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## Installation

Installation instructions for the Monkeybread Software FileMaker Plugin.



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**Troubleshooting**

**24**

    After you bought a serial number

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**macOS**

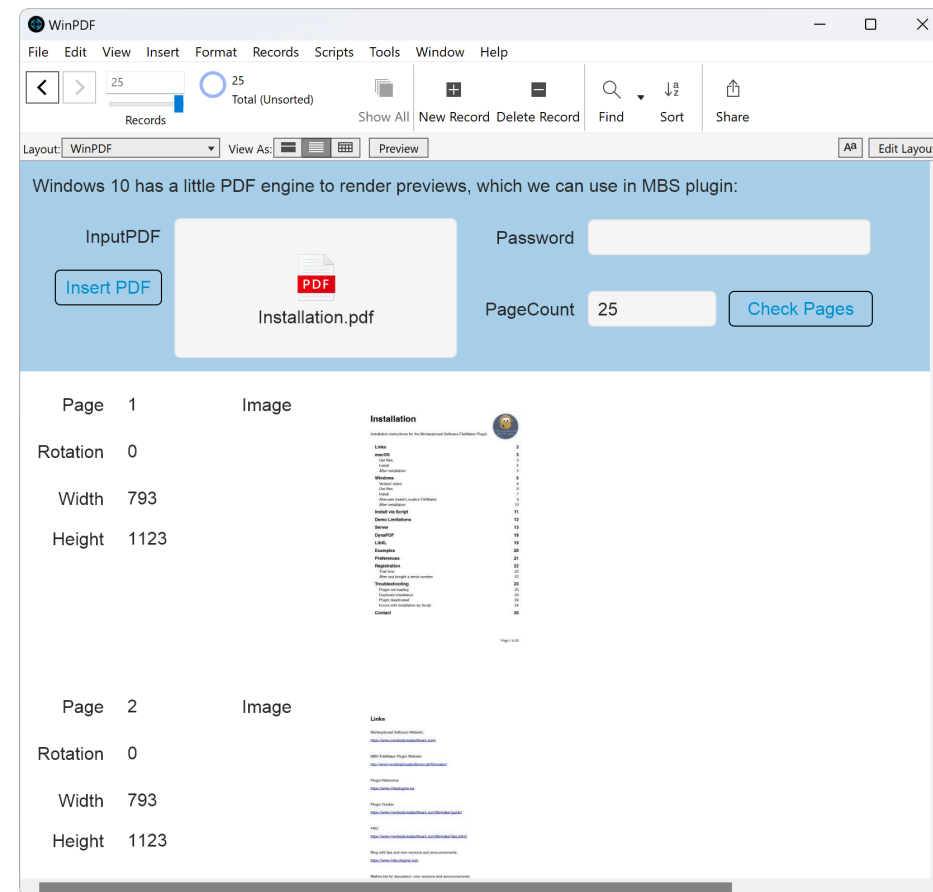
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**Links**

2

# PDF Functions

- DynaPDF cross platform
  - Render, Edit, Merge, Create PDFs
- WinPDF for Windows 10+
  - Query page sizes and render pages.
- PDFKit for macOS & iOS
  - Merge, split, extract text



# DynaPDF functions

- PDF/UA support with tagged PDF
- PDF/A 4 support
- ICC profile based color spaces
- TestGlyphs
- Save & Sign with your own signature
- Add JavaScript actions
  - DynaPDF.AddJavaScript
- DynaPDF.CreateAnnotAP

# OCR Functions

- OCR cross platform with Tesseract 5
  - 100+ languages
- WinOCR for Windows 10+
  - Using system libraries
- Vision for macOS & iOS
  - Using machine learning
  - Vision.RecognizeText for macOS, iOS & Windows

# CURL Functions

- Microsoft Office 365 Authentication with OAuth 2

- CURL.SetupOAuth

- Websocket functions

- CURL.Options

- CURL.GetDebugMessages & CURL.GetHeaders

```
{  
  "URL": "http://www.monkeybreadsoftware.de/",  
  "Verbose": 1,  
  "NoProgress": 0,  
  "FollowLocation": 1,  
  "SSLVerifyPeer": 0,  
  "MaxRedirs": 3,  
  "ConnectionTimeout": 10,  
  "SSLVerifyHost": 0,  
  "NoSignal": 1,  
  "DisallowUserNameInURL": 1,  
  "UploadBufferSize": 32768  
}
```

# WebHooks

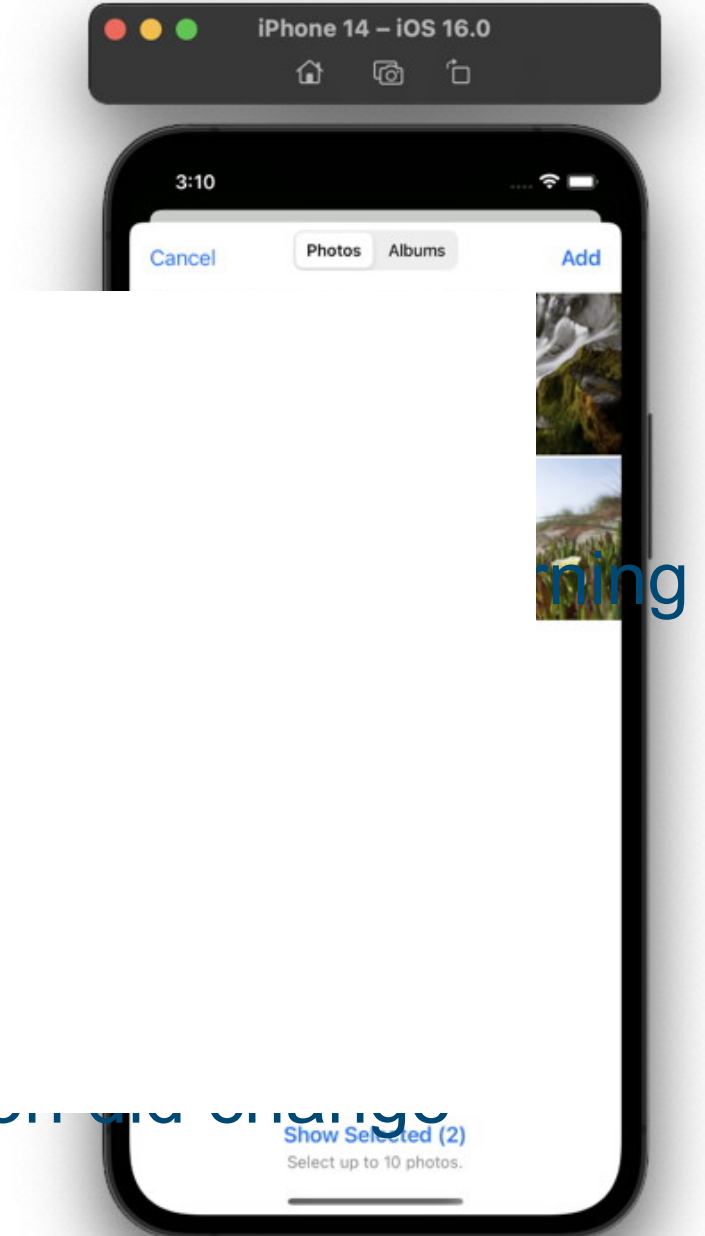
- Create WebHook
- Script trigger for incoming request
- Trigger via
  - CURL functions, Insert from URL, other tools
  - Local, via LAN, via VPN, via Internet
- HTTP or RAW mode
- SSL optional

# Archive functions

- Various formats: zip, rar, pax...
- Compression Level, Encryption, Unicode filenames
- Archive.CompressContainer or Archive.Compress
- Dynamically build archives with Archive.Create
  - Archive.AddText, Archive.AddContainer, Archive.AddFile
  - Archive.Close
- Archive.Extract or Archive.ExtractFile

# iOS Functions

- ProgressDialog for iOS
- Photo Picker for iOS & mac
- Script Triggers
- `iOSApp.AddSwipeGesturef`

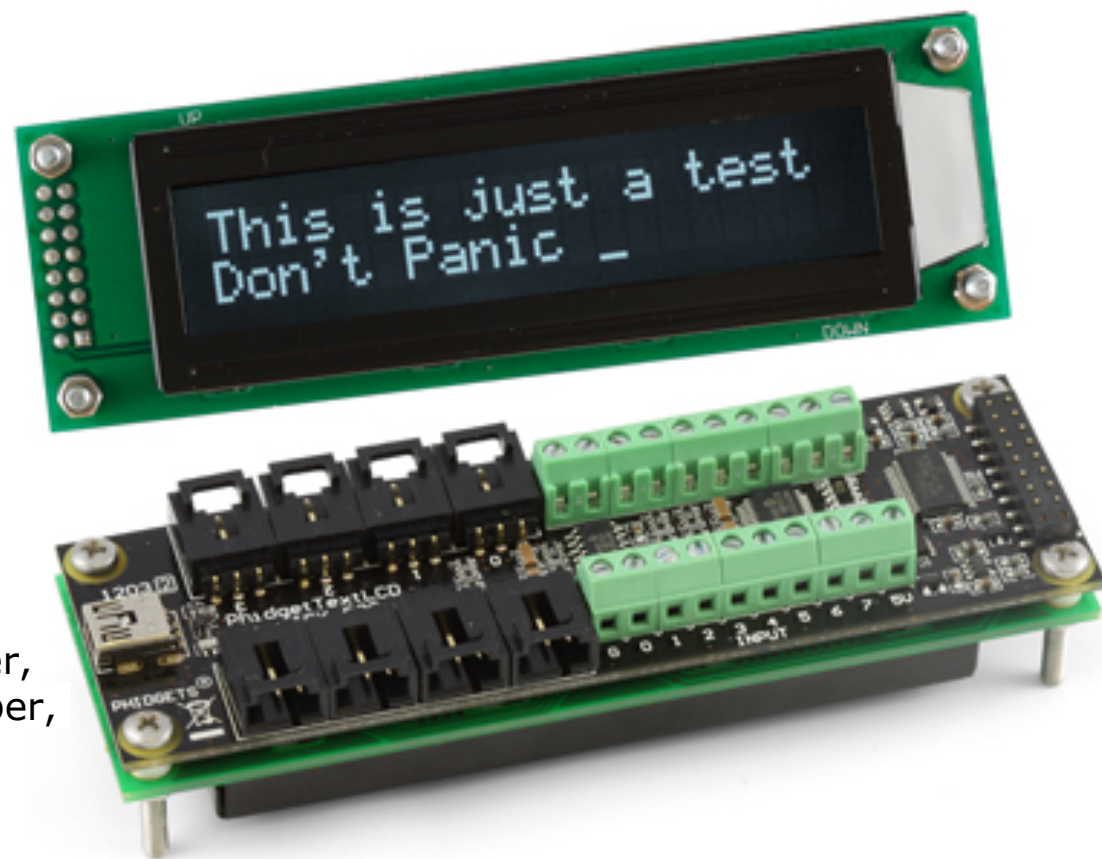




# Phidgets

- Multi input/Output sensors from Phidgets Inc.
- Connect to your computer and work with the data in FileMaker
- A lot of projects are possible with this sensors

VoltageRatioInput, DigitalInput, DigitalOutput, RCServo, VoltageOutput, VoltageInput, CapacitiveTouch, RFID, GPS, Gyroscope, Magnetometer, Spatial, TemperatureSensor, Encoder, FrequencyCounter, IR, PHSensor, DCMotor, CurrentInput, Stepper, LCD, MotorPositionController, BLDCMotor, DistanceSensor, LightSensor, PressureSensor, ResistanceInput, PowerGuard, SoundSensor, Hub, Dictionary, Accelerometer, HumiditySensor.



# Bootstrapping

- Load json file
  - <https://monkeybreadsoftware.com/filemaker/files/gzip/version.json>
- Pick gz file URL
  - <https://monkeybreadsoftware.com/filemaker/files/gzip/MBS.fmx64.gz>
- Load via Insert from URL.
- Install Plugin File

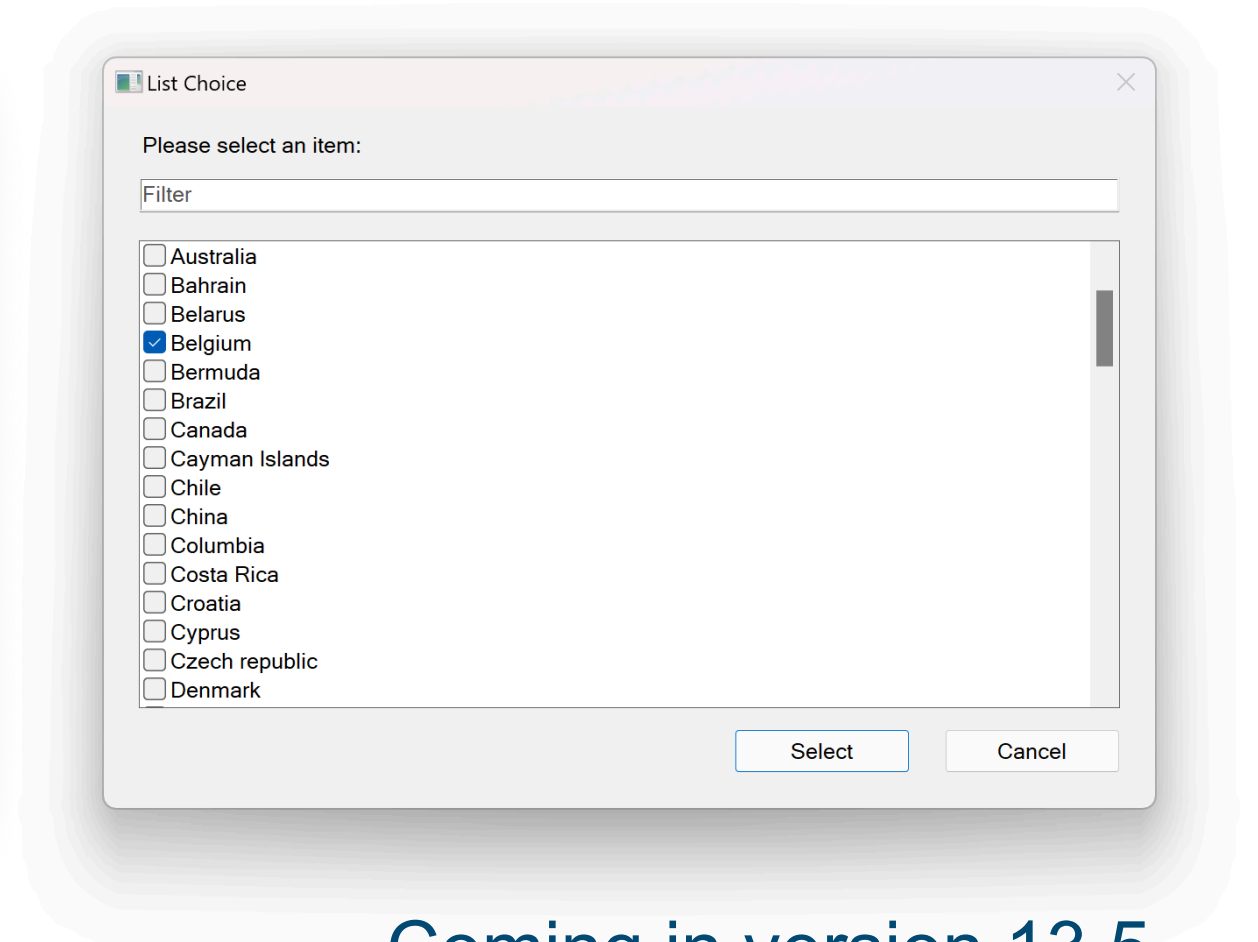
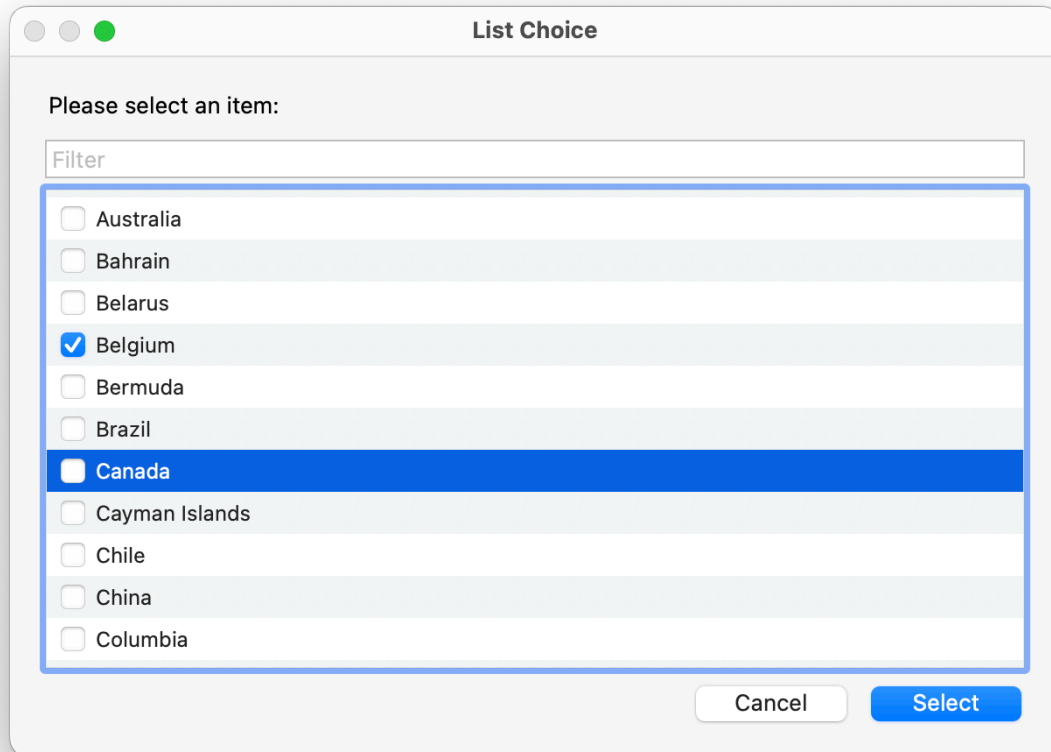
# Bootstrapping

```
{  
  "name": "MBS Plug-In",  
  "nickname": "MBS",  
  "vendor": "Monkeybread Software",  
  "date": "2023-09-12",  
  "versionNumber": 13040008,  
  "versionText": "13.4.0.08",  
  "download": {  
    "mac": "https://www.monkeybreadsoftware.com/filemaker/files/gzip/MBS.fmplugin.gz",  
    "linux": "https://www.monkeybreadsoftware.com/filemaker/files/gzip/MBS.fmx.gz",  
    "linux-arm": "https://www.monkeybreadsoftware.com/filemaker/files/gzip/MBS.fmx.arm.gz",  
    "win32": "https://www.monkeybreadsoftware.com/filemaker/files/gzip/MBS.fmx32.gz",  
    "win64": "https://www.monkeybreadsoftware.com/filemaker/files/gzip/MBS.fmx64.gz",  
    "iOSSimulator": "https://www.monkeybreadsoftware.com/filemaker/files/gzip/MBS.iOS.Simulator.fmplugin.gz",  
    "iOSDevice": "https://www.monkeybreadsoftware.com/filemaker/files/gzip/MBS.iOS.Device.fmplugin.gz"  
  },  
  "descriptionUrl": "https://www.monkeybreadsoftware.com/filemaker/files/gzip/version.json",  
  "vendorUrl": "https://www.monkeybreadsoftware.com/filemaker/",  
  "logoUrl": "https://www.monkeybreadsoftware.com/images/MBSLogo300.jpg",  
  "versionTextEvaluate": "MBS ( \"Version\" )",  
  "versionNumberEvaluate": "MBS ( \"VersionAutoUpdate\" )",  
  "registerEvaluate": "MBS(\"Register\"; <<REGISTRATION_KEY>> )"  
}
```

# Important upgrades

- Regularly update libraries to stay on top
- OpenSSL 3.x
  - Newer ciphers
- CURL
  - Important bug fixes
- SSH & SFTP
  - Newer encryption standards

# List Dialog with checkboxes



Coming in version 13.5

# More

- WebKit JavaScript engine for Windows & Linux
- WebP support for GraphicsMagick
- Web Download Delegate
- Files.UbiquitousItemStatus, Start download & evict
- XL functions for form controls

# MacOS Goodies

- Text indentation with command-[ and command-]
- Sort scripts by ID
  - Shift Key for ID
  - Option Key for descending

Run

Debug

---

MBS Plugin 13.5.0.03

Sort by name ascending

Sort by name descending

Sort by ID ascending

Sort by ID descending

Collapse All

Expand All

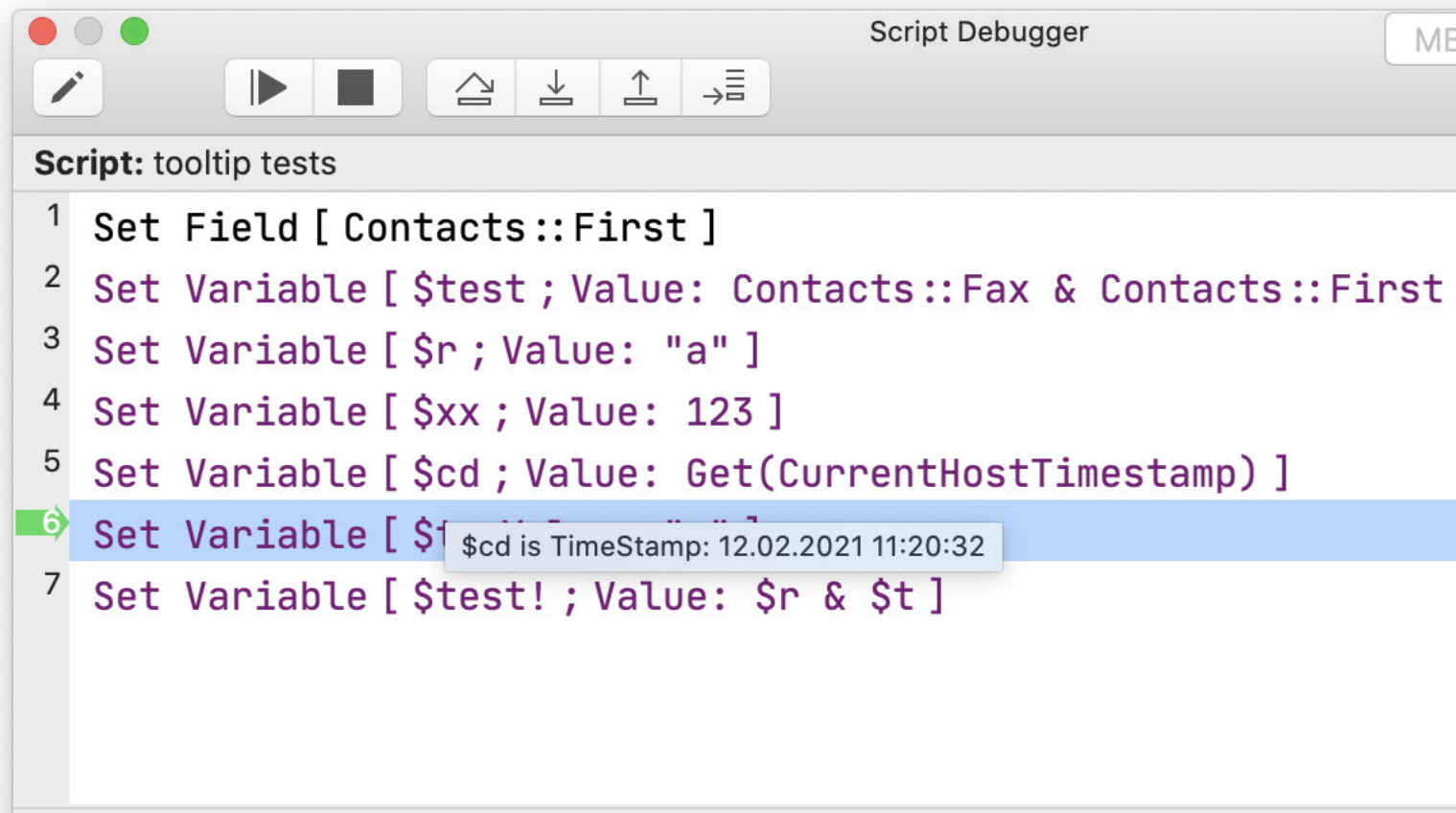
Find Duplicate Names

# Code Folding

```
3 Set Variable [ $index ; Value: 1 ]
4 If [ $index ≤ $count ]
5     Loop
6         # your script steps here
7
8         # next
9         Set Variable [ $index ; Value: $index + 1 ]
10        Exit Loop If [ $index > $count ]
11    End Loop
12 End If
13 # loop counting up from 1 to $count2
```



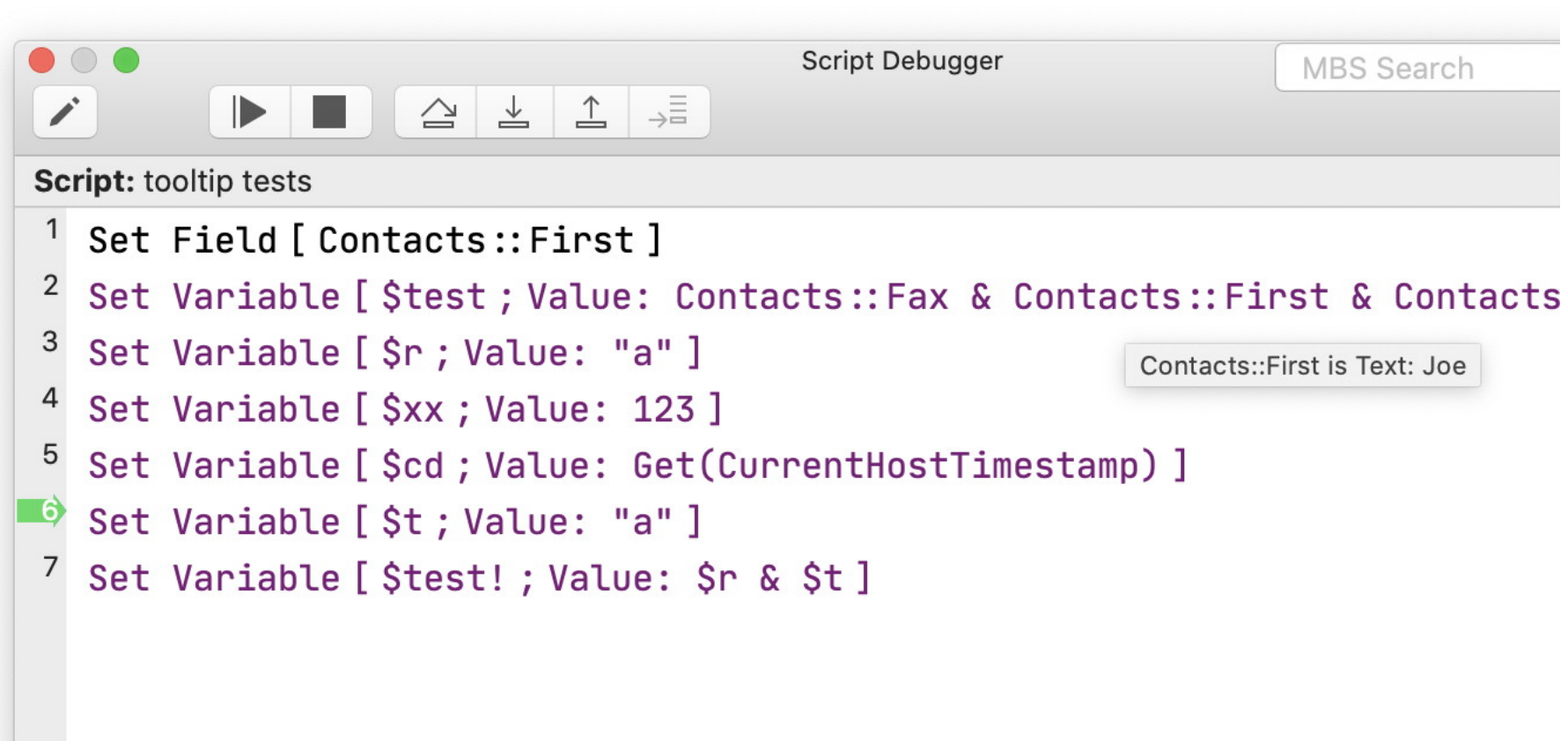
# Show values in debugger



The screenshot shows a 'Script Debugger' window with a toolbar containing icons for edit, play, stop, home, download, upload, and a menu. Below the toolbar, the script content is displayed with line numbers 1 through 7. Line 6 is highlighted in blue, and a tooltip is visible over it, displaying the value of the variable '\$cd' as 'TimeStamp: 12.02.2021 11:20:32'. The script text is as follows:

```
Script: tooltip tests  
1 Set Field [ Contacts::First ]  
2 Set Variable [ $test ; Value: Contacts::Fax & Contacts::First  
3 Set Variable [ $r ; Value: "a" ]  
4 Set Variable [ $xx ; Value: 123 ]  
5 Set Variable [ $cd ; Value: Get(CurrentHostTimestamp) ]  
6 Set Variable [ $t ; Value: Get(CurrentHostTimestamp) ]  
7 Set Variable [ $test! ; Value: $r & $t ]
```

# Show values in debugger



# Auto Complete

The image shows a screenshot of a software interface. On the left, a window titled "Script Workspace (Assets)" contains a code editor with 15 lines of script. The script includes variable assignments, comments, and a function call. On the right, a "Specify Calculation" dialog box is open, showing a search bar with "Assets" selected and a dropdown menu listing various variables. The variable "\$abc" is highlighted in the dropdown.

```
1 Set Variable [ $test ; Value: 123 ]
2 # Please install 11.6pr1 to get auto complete
3 Set Variable [ $$globalOne ]
4 Set Variable [ $Hello ; Value: "World" ]
5 Set Variable [ $SomeOther ; Value: 123 ]
6 Set Variable [ $with space ; Value: "abc" ]
7 Set Variable [ $r ; Value: 353246 ]
8
9 # Comments to tell plugin about other variables
10 # @variable $$UserName
11 # @parameter $$UserName2
12 # @constant $$PI
13 # @variable $abc
14 Set Variable [ $r ; Value: Let([$abc=1];1) ]
15
```

**Specify Calculation**

This calculation will be evaluated based on context determined at runtime.

Assets

Search

- \$abc
- \$Hello
- \$r
- \$SomeOther
- \$test
- \$with space
- \$\$globalOne
- \$\$PI
- \$\$UserName
- \$\$UserName2

Tt Name  
Tt Description  
Tt Serial Number  
Image  
# Price  
Tt Vendor  
Purchase Date  
Tt Type  
Σ<sup>fx</sup> Total  
Tt PrimaryKey  
Tt CreatedBy  
Tt ModifiedBy

# URLs in comment lines

```
× test links
1 # There is a link in the next line:
2 # http://www.mbsplugins.com → 🌐
3 # There can be text before the link http://www.mbsplugins.de and text behind → 🌐
4
5 # other URLs with fmp://test work, too. → 🌐
6 # or email links with mailto prefix: mailto:test@test.test → 🌐
```

# Goto and script links

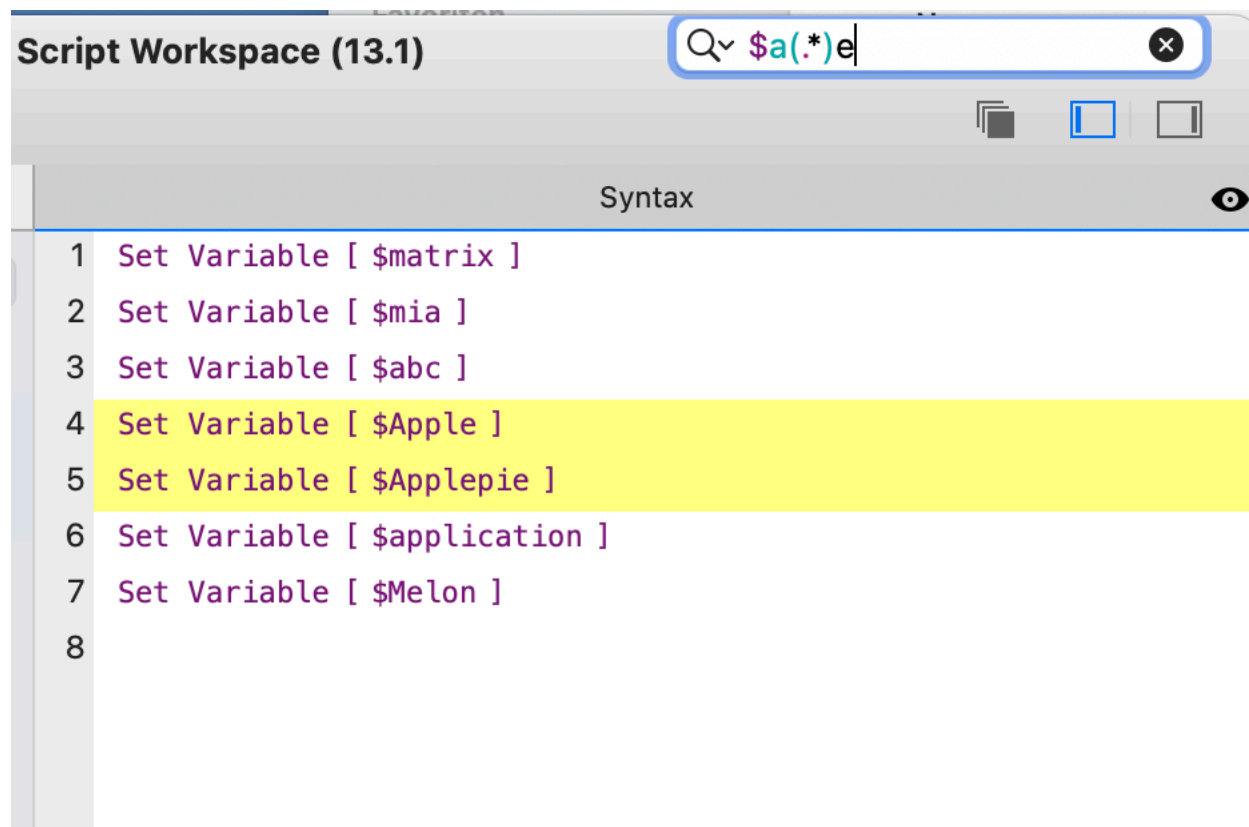
```
× Test
1 # Description
2 # goto:end - jump to end
3 # goto:20 - go to line 20
4 # for more information see script:Connect script
5
6 Allow User Abort [ Off ]
7 Set Error Capture [ On ]
8
9 Set Variable [ $param ; Value: Get(ScriptParameter) ]
```



```
53 # goto:start - back to the top
54 # This script is a test
55 # Author Christian Schmitz
56
57 # see https://www.mbsplugins.eu/newinversion135.shtml
58 # see also fmp://$/MyDatabase.fmp12
59
60 # history
61 # v1.0
62 # first version
```



# Upgraded search field



The screenshot shows a window titled "Script Workspace (13.1)". At the top right, there is a search bar containing the text "\$a(\*)e". Below the search bar, there is a tab labeled "Syntax". The main area of the workspace displays a list of eight lines of code, each starting with a line number from 1 to 8. The code consists of "Set Variable" statements for various variables: \$matrix, \$mia, \$abc, \$Apple, \$Applepie, \$application, and \$Melon. The line for "\$Apple" is highlighted in yellow.

```
1 Set Variable [ $matrix ]
2 Set Variable [ $mia ]
3 Set Variable [ $abc ]
4 Set Variable [ $Apple ]
5 Set Variable [ $Applepie ]
6 Set Variable [ $application ]
7 Set Variable [ $Melon ]
8
```

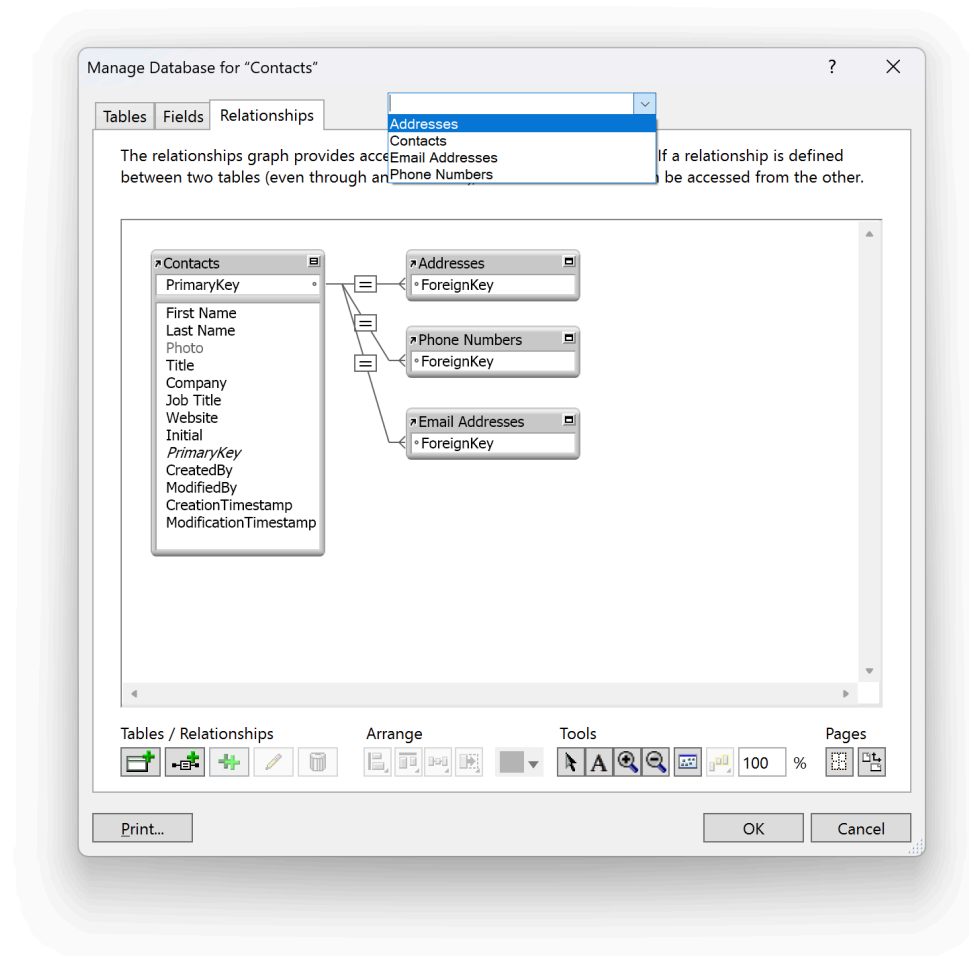
# Check variables defined in Let

variable test

```
1 # you define a variable regularly
2 Set Variable [ $var1 ; Value: 1 ]
3 # and use it
4 Set Variable [ $var2 ; Value: $var1 + 1 ]
5 # now we define one via comment in Let()
6 Set Variable [ $test ;
  Value: // @var $varDefined, $secondVarDefined Let([ // define some variables $varDefined = 1; $secondVarDefined = 2]; $varDefined) ]
7 # or here in a comment line to define a variable set by custom function:
8 # @var $thirdVarDefined
9 Set Variable [ $test ; Value: SomeCustomFunction ]
10 # or now with comment inline:
11 Set Variable [ $test ; Value: // @var $thirdVarDefined SomeCustomFunction ]
12 # and use them
13 Set Variable [ $r ; Value: $varDefined + $secondVarDefined + $thirdVarDefined ]
14 # If you don't declare it, we may catch it as an error:
15 Set Variable [ $test ; Value: Let([$NotDefined = 1]; 1) ]           $notdefined not found!
16 Set Variable [ $test ; Value: $testing + 1 ]                       $testing not found!
17 # and this includes using an accent, which gives a different name:
18 Set Variable [ $test ; Value: $varDefíned + 1 ]                   $vardefíned not found!
19
```

# Windows Goodies

- Search Field for relationships
- Control-F & Control-G





# Trace

- Log all plugin calls to log file or live view

**Konsole**  
44 Mitteilungen

Anhalten Jetzt Aktivitäten Löschen Neu laden Info Teilen

Alle Mitteilungen Fehler und Probleme Sichern

PID	Typ	Uhrzeit	Mitteilung
61661		10:53:49.306088+0200	Script "Trace" in file "Placeholder".
61661		10:53:49.306150+0200	MBS Plugin call #45 with 1 parameter.
61661		10:53:49.306199+0200	Parameter 0 FunctionName: "Trace"
61661		10:53:49.306235+0200	MBS Debug: Trace
61661		10:53:49.306279+0200	Result #45: "OK"
61661		10:53:49.306346+0200	MBS Plugin call #46 with 1 parameter.
61661		10:53:49.306389+0200	Parameter 0 FunctionName: "Version"
61661		10:53:49.306430+0200	Result #46: "13.3.0.07"
61661		10:53:49.306485+0200	MBS Plugin call #47 with 1 parameter.
61661		10:53:49.306521+0200	Parameter 0 FunctionName: "Platform"

Geräte

- MyMacM2
- My iPhone

Berichte

- Absturzberichte
- Spin-Berichte
- Protokollberichte
- Diagnoseberichte
- Mac-Analysedaten
- system.log

# Licenses

- Free tier
  - Try the plugin, enjoy goodies
  - 2000 free functions
- Trial license
  - Try full version for about six weeks
- Paid license
  - Full version
  - Use all 7200 functions

# Conference Offer

20% discount on  
new licenses with  
the coupon code  
**FileMakerConference**

# Question & Answers