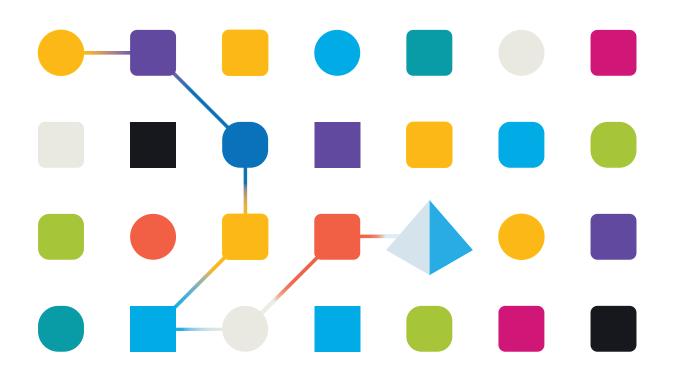
### Blue Prism Mainframe Guide Micro Focus Reflection

**Document Revision 1.0** 



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## How to configure Micro Focus Reflection for use with Blue Prism

#### Introduction

Micro Focus produce a number of emulator products for emulating and connecting to mainframe sessions. Blue Prism supports the use of several variants of Micro Focus's products for mainframe connectivity. In this guide document we will be describing the use of the **Reflection for Desktop** tool, when it is configured to connect to a UNIX or OpenVMS, or an IBM-compatible mainframe session.

The version of the Micro Focus product used in this guide is Reflection for Desktop 16 (suing .NET API) or Reflection 9.x (using legacy COM API). The Blue Prism software used is v5.0.18.

Blue Prism's Reflection mainframe connector uses either the Micro Focus **Legacy COM API interface** or the current **.NET API** interface used by more recent versions of the product. The legacy COM API was supported primarily in Reflection versions prior to v14.1. Versions above that converted to using the .NET API.

See the Micro Focus web site for more information.

#### **Pre-Requisites**

Before following these instructions you will need the following:-

- a) Blue Prism software installed
- b) Micro Focus Reflection for Desktop software installed
- c) A valid running mainframe session to connect to (*not the demo sessions provided as examples by Micro Focus*)
- d) An Micro Focus session file created which can connect to your running mainframe system

#### Supported File Types

- R2W: OpenSystems Legacy sessions for UNIX and OpenVMS mainframes (COM API)
- R3DX: IBM-compatible terminal sessions (.NET API)

#### NOTES:

- 1. **RFW**: This file type is listed, but not supported. It will be removed in future software releases.
- 2. **R3DX** files are only supported from Blue Prism version 5.0.13 onwards.

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#### Configuring Micro Focus Reflection options

The following installation and configuration options are required to support the Blue Prism mainframe connection:-

#### **TRUST CENTER**

• Set up API compatibility

Set Up API and Macro Security
API Settings*
Disable .Net API
Legacy API pre <u>f</u> erence:
Reflection
*Changes take effect after you reopen the workspace.
Action Permissions
When a restricted action is invoked by a macro or API call:
Require elevated rights; do not execute on XP
Execute the action

#### WORKSPACE SETTINGS

• Set the startup action to open your Session file

Map To       Launch Application         Image: Application Workspace Macro       Sequence of actions:         Image: Action Sequence       Action         Image: Action Sequence       Action gategory:         Action sequence       Action sequence         Action sequence       Action gategory:         Action Security       Maro Security         Image: Macro Security       Maro Security         Image: Macro Security       Macro Security         Image: Macro Security       Open In new tab         Image: Open Document       Open URL         Image: Macro Security       Macro Security         Image: Macro Security       Macro Security         Image: Macro Security       Image: Open In new tab         Image: Open URL       Open In new tab         Image: Open URL       Open In new tab         Image: Open URL       Image: Open URL         Image: Open	Select Action			? 💌
Macro       Sequence of actions:         Action       Parameters       Add         Open Document       C\Users\blueprism\Documents\Micro Focus       Delete         More up       More dogn         Action sategory:       Action parameters:         All Actions       C\Users\blueprism\Documents\W       Erowse         Action       Macro Security       More dogn         Macro Security       More supple       Document:       C\Users\blueprism\Documents\W       Erowse         Action       Open Document       Open In new tab       Open in new gorkspace       Open in new gorkspace	Taunch Application	Run Startup action		
Qpen Document       C:\Users\blueprism\Documents\Micro Focus         Qelete       Move up         Move down       Action gategory:         All Actions       Action parameters:         Action Marco Security       Document:         C:\Users\blueprism\Documents\W       Browse         Minimize the Ribbon       New         Open Document       Open in new tab         Open URL       Open in new tab         Reflection Workspace Settings       Open in new workspace		Sequence of actions:		
Action Sequence  Action stategory:  All Actions  Action gategory:  All Actions  Action care security  Minimize the Ribbon  New  Open Open Open Occument  Open Open Open Open Open Open New  Reflection Workspace Settings  Run Reflection Workspace Marco	Other Action	Action P	arameters	<u>A</u> dd
Action gategony: All Actions All Actions Action parameters: Action parameters: Action parameters: Document: C\Users\blueprism\Documents\M @rowse Open In new tab Open In new tab Open In new tab Open In new workspace Open In new workspace	Reference	Open Document C	:\Users\blueprism\Documents\Micro Focus	Delete
Action gategory: All Actions Action Action parameters: Action parameters: Document: C\Users\blueprism\Documents\W Browse Open 10 New Open Document Open Document Open URL Reflection Workspace Settings Run Reflection Workspace Marco				Move <u>up</u>
All Actions All Action				Move do <u>w</u> n
		All Actions Action Action Macro Security Minimize the Ribbon New Open Open Open ORL Open URL Reflection Workspace Settings San Reflection Workspace Macro	Document:     C:\Users\blueprism\Documents'     @ Open in new tab     Open in new workspace	M Browse

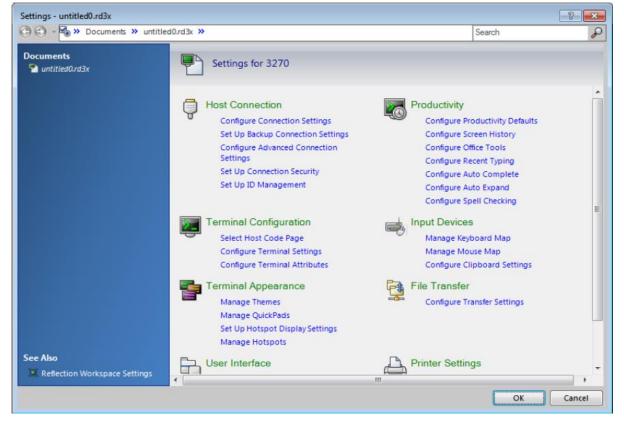
Uncheck "Show Start Page after workspace opens" option

pace		
When starting workspace:		
Run Startup action	•	Select Action
When closing a <u>d</u> ocument:		
Save document settings automatically	•	
Show Start Page after workspace opens		
Exit workspace when last document closed		
Clear Clipboard when closing workspace		
Hide built-in templates for new documents		
Show Document Switcher with Ctrl+Tab		
Open documents in same workspace		

#### Configuring Micro Focus to run a specific session

The following steps can be followed to configure Micro Focus to run a pre-defined session file:-

- 1. Run the Micro Focus Reflection Program
- 2. If prompted, then select to **open a session file**, and browse to your existing REFLECTION Session file (\*.r2w)
- 3. Select the Configure Connection Settings option from the Host Connection settings screen



4. Select the **Advanced** Connection Settings link to reveal information about the **HLLAPI Shortname** configuration options.

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	nfigure Advanced Connec	tion Settings
τœ	-	-
Keep A	live	
	Send Keep Alive packet	5:
	System	<b>*</b>
	Keep Alive timeout in seco 600	<u>n</u> ds:
Telnet	Location	
	Telnet location:	
HLLAPI		
Option	5	
	Short name:	Long name:
	•	
	Compatib <u>i</u> lity:	Custom compatibility mas <u>k</u> :
	EXTRA!	

- 5. Select a **Session Shortname** letter and browse to locate the Reflection Session file (\*.rd3x or \*.r2w) that you want to associate with this shortname identifier .
  - This character code will be used by Blue Prism's Application Modeller to identify the associated session, and will be called a "Session Identifier" in Blue Prism.
- 6. Click the **OK** button to set this configuration, and then exit from the Micro Focus Reflection Session, ensuring that the session and the emulator are both closed.

#### Configuring Blue Prism to run the Reflection for Desktop 16 session

This section will describe the way to configure a Business Object to launch and attach to a Reflection for Desktop 16 emulator session.

Once Micro Focus has been configured to associate the session file with a specific session shortname, then Blue Prism can be configured to Launch and Attach to the same session.

- 1. Run the Blue Prism client software.
- 2. Using Object Studio create a new Business Object with the following configuration:
  - a) Select a Mainframe type of application



b) Choose the 'Micro Focus Reflection for Desktop 16 (.NET API)' type of connector

Application Modeller Wizard	?	×
Application Modeller		
Indicate what type of application you are using		
O IBM iAccess (EHLLAPI)		
O IBM Personal Communicator (COM API)		
O IBM Personal Communicator (HLLAPI)		
O Micro Focus Attachmate Extral X-treme 9.3 (ATMAPI32)		
O Micro Focus Infoconnect (WinHLLAPI)		
O Micro Focus Reflection 9.x and earlier (COM API)		
Micro Focus Reflection for Desktop 16 (.NET API)		
O Micro Focus Rumba (EHLLAPI)		
OpenText HostExplorer (formerly Hummingbird) (COM API)		
OpenText HostExplorer (formerly Hummingbird) (EHLLAPI)		
O Ericom PowerTerm InterConnect (HLLAPI)		
O HP Teemtalk (EHLLAPI)		
O NDL Active Conductor (HLLAPI)		
O RMD (HTTP/XML)		
O Rocket PASSPORT (COM API)		
< Back	Next >	Cancel

#### c) Browse for the path to your RD3X session file

Browse
Browse

d) Leave the remaining options at their default settings and conclude the Application Modeller wizard screens.

Test the connectivity by clicking on the "Launch" button to check that Micro Focus launches the correct session file and connects as expected to your running mainframe session.

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Application Modeller		? - • •
Define the elements	of an application that will be u	sed by Object Studio
	Application Model belongs to	o this Object
Application Explorer	Application Name	
<b>Filter the tree</b>	Launch Reflection using Reflect	ion NET API
Launch Reflection using Re	ctic Path to session file	
2	C:\Users\blueprism\Documents\	Micro Focus\Reflection\MyRef
	Select the Application Manager m	node
	Embedded (default)	<b>-</b>
	Blue Prism technical support.	
•	•	
Add Element Add Chil	Launch Diagnostics	Application Wizard
		OK Cancel Apply

If successful, your Reflection for Desktop session will launch and connect, and the Launch button will become disabled indicating that the session is attached.

Launch	Diagnostics

You are now ready to spy the elements in your terminal session.

#### Configuring Blue Prism to run the Reflection for Desktop 9 session

This section will describe the way to configure a Business Object to launch and attach to a Reflection for Desktop 9 emulator session.

Once Micro Focus has been configured to associate the session file with a specific session shortname, then Blue Prism can be configured to Launch and Attach to the same session.

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3. Run the Blue Prism client software.

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- 4. Using Object Studio create a new Business Object with the following configuration:
  - e) Select a Mainframe type of application



 f) Choose the 'Micro Focus Reflection for Desktop 9.x and earlier (COM API)' type of connector

Application Modeller Wizard	?	×
Application Modeller		
Indicate what type of application you are using O Generic HLLAPI		
O IBM iAccess (EHLLAPI)		
O IBM Personal Communicator (COM API)		
O IBM Personal Communicator (HLLAPI)		
O Micro Focus Attachmate Extra! X-treme 9.3 (ATMAPI32)		
O Micro Focus Infoconnect (WinHLLAPI)		
Micro Focus Reflection 9.x and earlier (COM API)		
O Micro Focus Reflection for Desktop 16 (.NET API)		
O Micro Focus Rumba (EHLLAPI)		
OpenText HostExplorer (formerly Hummingbird) (COM API)		
OpenText HostExplorer (formerly Hummingbird) (EHLLAPI)		
O Ericom PowerTerm InterConnect (HLLAPI)		
O HP Teemtalk (EHLLAPI)		
O NDL Active Conductor (HLLAPI)		
○ RMD (HTTP/XML)		
O Rocket PASSPORT (COM API)		
< Back	Next >	Cancel

g) Browse for the path to your RD3X session file

Application Name	
Launch R2W Reflections Session	
Path to session file	
C: \Users \blueprism \Documents \Micro Focus \Reflection \MyReflectionSession as R2W.r2w	Browse
Select the Application Manager mode	
Select the Application Manager mode	
Embedded (default)	-
	•
	• n technical
Embedded (default) If necessary, enter any options specific to this target application, as directed by Blue Prism	• n technical

h) Leave the remaining options at their default settings and conclude the Application Modeller wizard screens.

Test the connectivity by clicking on the "**Launch**" button to check that Micro Focus launches the correct session file and connects as expected to your running mainframe session.

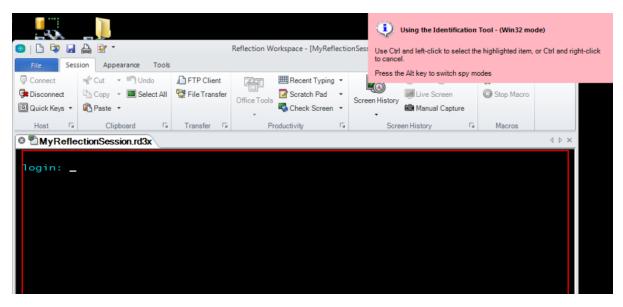
<u>NOTE</u>: *R2W files are also supported in Reflection for Desktop 14 and above.* 

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#### Spying elements in your Reflection session

Your Micro Focus RD3X session should now be launched and ready for spying or interacting with by Blue Prism.

Using the **Win32 spy mode** you can reveal the 8032 grid allowing for field selection, for example:



This will reveal the Identification Tool and the corresponding display grid:

ب 😲 ا	Jsing the Identificati	on Tool			
You may	draw a new field by d	ragging the mouse over a regi	on. By holding	Reflection Workspace - [MyReflectionSession.rd3x]	
		lify the shape of the field as yo	ou draw it.	Search 🔎 👻	🕜 Help 🔹
To make	a field selection, hold	Ctrl and click the left button		📰 🕮 Recent Typing 👻 💽 🛞 Back 😔 Forward 🛸 Run Macro	
	🗱 Disconnect	Copy 🔹 📕 Select All	聲 File Transfer	er Office Tools Scratch Pad	
Blue Pris	🚇 Quick Keys 🔻	Raste 🔹		Check Screen	
	Host 🕞	Clipboard 🕞	Transfer G	Fi Productivity Fi Screen History Fi Macros	
	<sup>©</sup> <sup>®</sup> MyRefle	ctionSession.rd3x			$\triangleleft \triangleright \times$
$\Rightarrow$					
Reflectio			+++++++		
Workspa					
Tests fo					
generic			+++++++		
Blue Pris					
test RSF					
			+++++++		
			+++++++		
	Close Connectea to the h				R05 C:1 🔶 .::
	connected to the n	ost [localnost]		CAP NUM SCRL 7:52 PM ES	

Identify a field by drawing its shape and the holding the Control key and using the left mouse click button to capture the element in Blue Prism:

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💿   🗅 🔯 🛃 🚔 😵 *	Reflection Workspa	ce	- [MyReflection	onSession.rd3	]x]			_ 0 %
File Session Appearance Tools	Application Modeller							? - • ×
© Connect	Define the elements of a	n a	applicatior	n that will	be used	by	Object St	udio
Host 🗔 Qiipboard 🗔			Application	Model belo	ngs to this	Obj	ject	
Image: Second control of the second	Application Explorer          Filter the tree         Connect to Reflection 16         Login Field	1	Element Detail Name Description Element Type Attributes M Aname End X End Y Field Text Field Type Start X Start Y	Login Field Field	Match?	= ( = ( = ( = (	Data Type (Equal) (Equal) (Equal) (Equal) (Equal) (Equal)	Value       21       2       Rectangular       8       2
	Add Element Add Child		Clear				[	Highlight Identify -
Ciose Connectea to the nost [iocainost]							ОК	Cancel Apply