



# Unified Framework for Driving Transformations

## Customization Workbench

### **User Guide**

Labnaf Customization Tools =>	Labnaf AddIn: Instant Metamodel Manager	Labnaf AddIn: Instant Metadata Manager	Customization Workbench
Categories of Customization			
<b>Metamodel</b>	<i>Customizable metamodel expressed using the Labnaf Language and stored in the production database.</i>		
Select active metamodel (standard, customized standard, or user-defined metamodel)	Y		
Add/Delete connectors to a metamodel	Y		
Upgrade standard metamodel to a new version of Labnaf, while keeping your own customizations	Y		
Generate documentation/diagram about your metamodel customization	Y		
<b>Element Properties</b>			
Create custom property types		Y	Y
Upgrade properties to a new version of Labnaf and keep/restore your own customizations		Y	
Rename/Delete property types		Y	Y
Synchronize property sets in existing elements		All props	MDG props
Add custom properties to the <b>Tags</b> Tab		Y	N
Add Labnaf Properties to the <b>Element</b> Tab		N	MDG-defined
Create named property groups		N	MDG-defined
<b>Connector Properties</b>			
Create custom connector properties		N	MDG-defined
<b>Elements and Connectors</b>			
Add/Delete element and connector types		N	MDG-defined
<b>Toolboxes and Diagram Types/Viewpoints</b>			
Add/Update/Delete Toolboxes		N	MDG-defined
Add/Update/Delete Diagram Types/Viewpoints		N	MDG-defined
Change Shapes		N	MDG-defined
Change Icons		N	MDG-defined

[More info on the Labnaf  
Guidance Web Site](#)

# Labnaf provides two options for language customization

## 1. Instant Metamodel Manager and the Instant Metadata Manager

The **Instant Metamodel Manager** and the **Instant Metadata Manager** are provided by the Labnaf AddIn i.e. directly in the modeling environment.

- Using these tools, you can
- use the standard built-in metamodel, customize it, or create your own user-defined metamodel from scratch,
- visualize, create, rename, delete and synchronize element properties,
- automatically merge new versions of Labnaf with your own metamodel and metadata (properties) customizations

## 2. Customize the Labnaf MDG Using the Customization Workbench

This is used for advanced customizations.

The **Customization Workbench** is used for customizing the Labnaf MDG including, properties/tagged values, element types, connector types, toolboxes, diagram types, and metamodel (still using the Labnaf end user language itself).

**To activate this customization mode, start the Customization Workbench, and select the "Load MDG from Files" option. This overrides the above features on (1).**

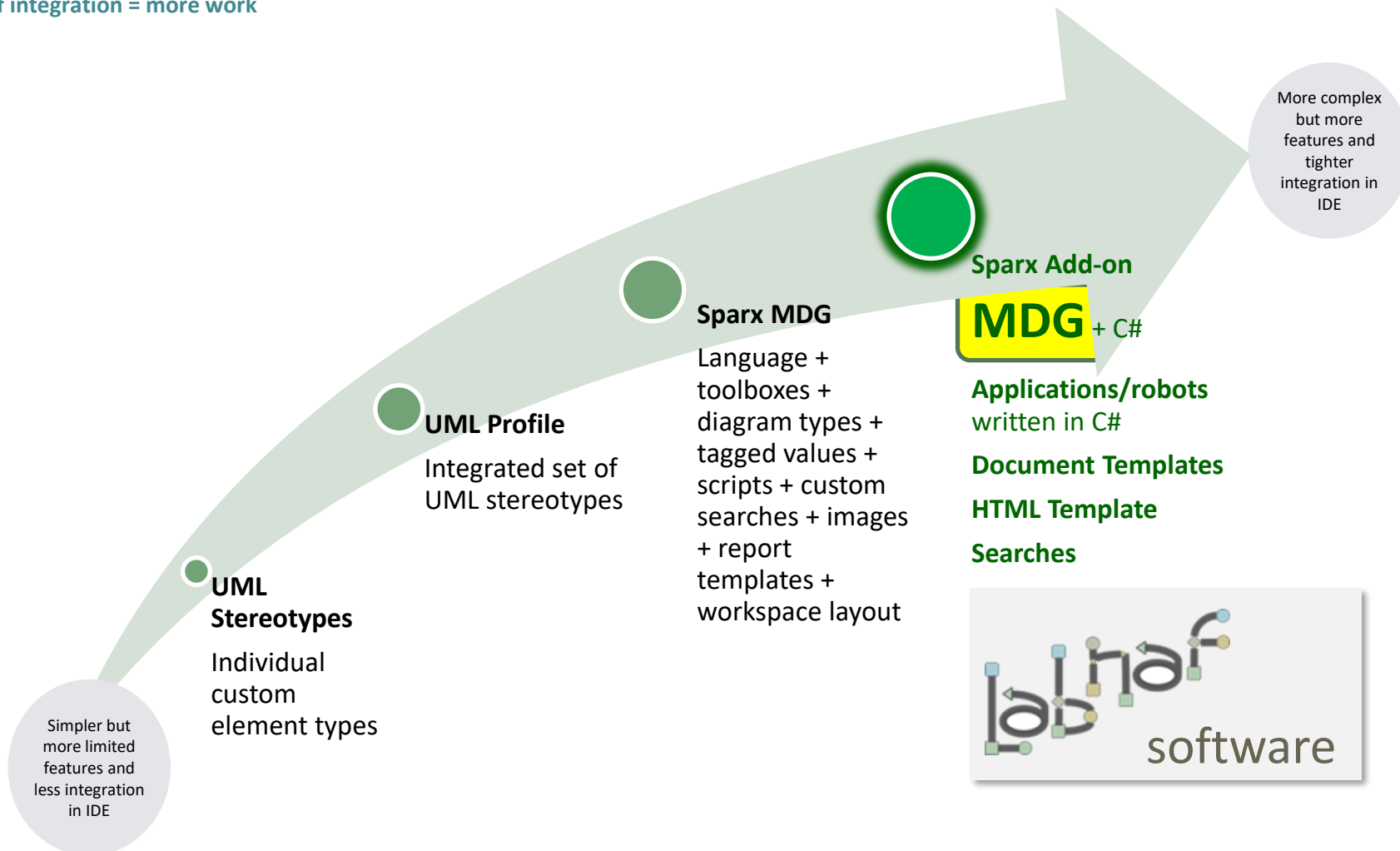
In this case Labnaf still automatically merges the new Labnaf metamodel version with your own customizations, since Labnaf metamodels are entirely controlled by Labnaf .

But for the other parts of the language specifications, which are defined in the MDG, you need to rely on Sparx tools.

# Labnaf was build using the Sparx EA Software Development Kit (SDK)

## Enables multiple levels of modeling solution development and integration

Higher level of integration = more work



# The Labnaf Customization Workbench provides you with a staging environment for customizing the Labnaf MDG

The screenshot displays the Labnaf Customization Workbench interface. The top bar includes 'Save', 'Reload', 'Load MDG from:' (with 'Files' and 'AddIn' options), and an 'About' button. The main content area is divided into two sections: 'Software Development Lifecycle Environment' and 'Software Development Lifecycle'.

**Software Development Lifecycle Environment**

Development folder: C:\ALT\SparxDev\Distributed\Labnaf\Environments\1\_Dev [Select Folder]  
Testing configuration folder: C:\ALT\SparxDev\Distributed\Labnaf\Environments\2\_Test [Select Folder] [Activate]  
Production configuration folder: H:\Tools\LabnafConfig [Select Folder] [Activate]

**Active Runtime Configuration on this PC: PROD**

Load MDG file from folder: H:\Tools\LabnafConfig  
MDG file expected in this folder: H:\Tools\LabnafConfig\Labnaf\_Custom\_MDG.xml 2019-03-05 11:59:12  
Connectors Definition used (always from PROD): H:\Tools\LabnafConfig\Labnaf\_Custom\_QuickLinks.xml 2019-03-04 17:36:25

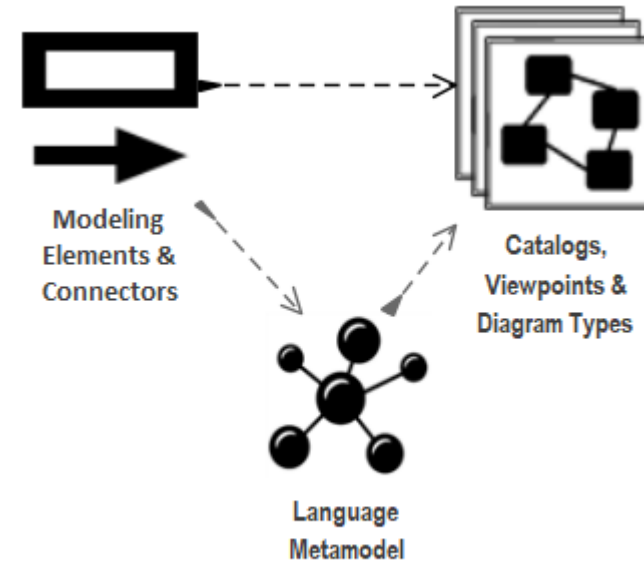
**Software Development Lifecycle**

	Time Last Changed
<b>MDG Development</b>	
Edit MDG Source Model (EAP)	C:\ALT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-05 12:50:36
Edit MDG Deployment File (MTS)	C:\ALT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-05 11:24:02
<b>Generate MDG =&gt; Testing</b>	
<b>MDG Testing</b>	
Activate Testing Configuration	C:\ALT\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Custom 2019-03-05 11:59:12
Open Testing Repository	C:\ALT\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Test_Re 2019-03-05 11:41:16
<b>Copy MDG from Testing =&gt; Production</b>	
<b>Configuring Production</b>	
Activate Production Configuration	H:\Tools\LabnafConfig\Labnaf_Custom_MDG.xml 2019-03-05 11:59:12
Open Production Repository & Edit Metamodel	H:\Tools\LabnafConfig\Labnaf_Prod_Repository.eap 2019-02-28 18:01:07
Generate Connectors Definition => Production	H:\Tools\LabnafConfig\Labnaf_Custom_QuickLinks.xml 2019-03-04 17:36:25

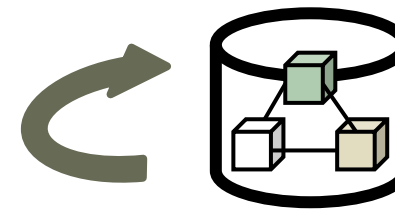
On the left side of the interface, there are three yellow boxes labeled 'DEV', 'TEST', and 'PROD'. Green curved arrows indicate a flow from DEV to TEST and from TEST to PROD.

# Labnaf Customization Steps

1. Customize the language following your organization requirements

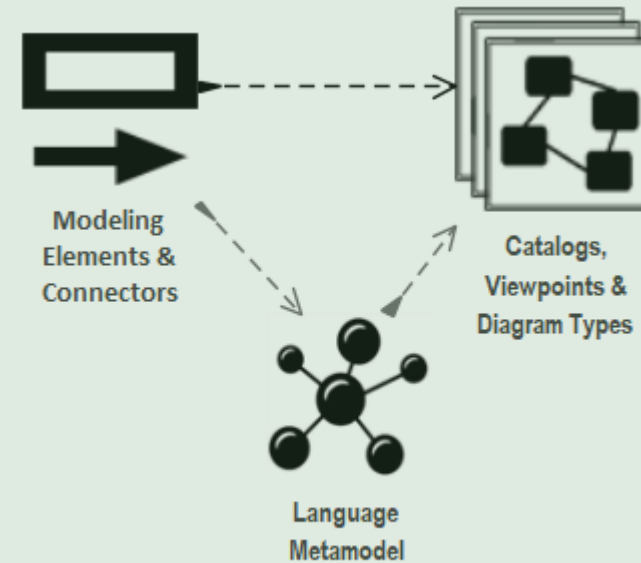


2. Adapt existing repository content

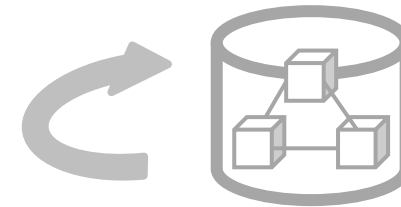


# Labnaf Customization Workbench

1. Customize the language following your organization requirements



2. Adapt existing repository content



# Sparx EA Modeling Languages

## What's in the box

### Many model repository options

- **Local** Microsoft **Access** database
- **Shared** database: **SQL Server**, MySQL, Oracle...
- Possible **version control**: Subversion, CVS, TFS...

### Many languages & Toolboxes

- (Too) Many languages
- No integration of standards
- Scope / domain-specific
- Switch between many complex toolboxes

### Sparx SDK

- Tailoring the tool for an organization
  - Language
  - IDE
  - document generation
  - web publication
  - ...

### Built-in MDGs and related Toolboxes

Use Case	XML Schema	GoF Patterns
Class	Documentation	ICONIX
Object	Test Domain	LieberLieber AUTOSAR Engineer
Composite	Dashboard	MindMapping
Communication	XMLTransform	NIEM
Interaction	ArcGIS	ODM
Timing	ArchMate	Project Management
State	ArchMate2	RiskTaxonomy
Activity	BPMN 1.1	SCMF 2.1
Component	BPMN 2.0	SPEM
Deployment	BPMN 1.0	User Interface - Simple
Profile	UML Standard Profile	SoaML
Metamodel	Business Rule Model	Strategic Modeling
Analysis	CodeEngineering	UMM 2.0 Profile
Business Modeling	Data Flow Diagrams	UPCC 2.0
Custom	Data Modeling	UPCC 3.0
Requirements	Entity Relationship Diagram	UBL Model Management
Maintenance	Eriksson-Penker Extensions	WebModeling
User Interface	GML	Whiteboard
WSDL	GRA-UML	User Interface - Win32
		Wireframing

What we don't want



# What we want



**Merged Standards & Best Practices**



**One Strategy & Architecture Process**



**One Modeling Language**

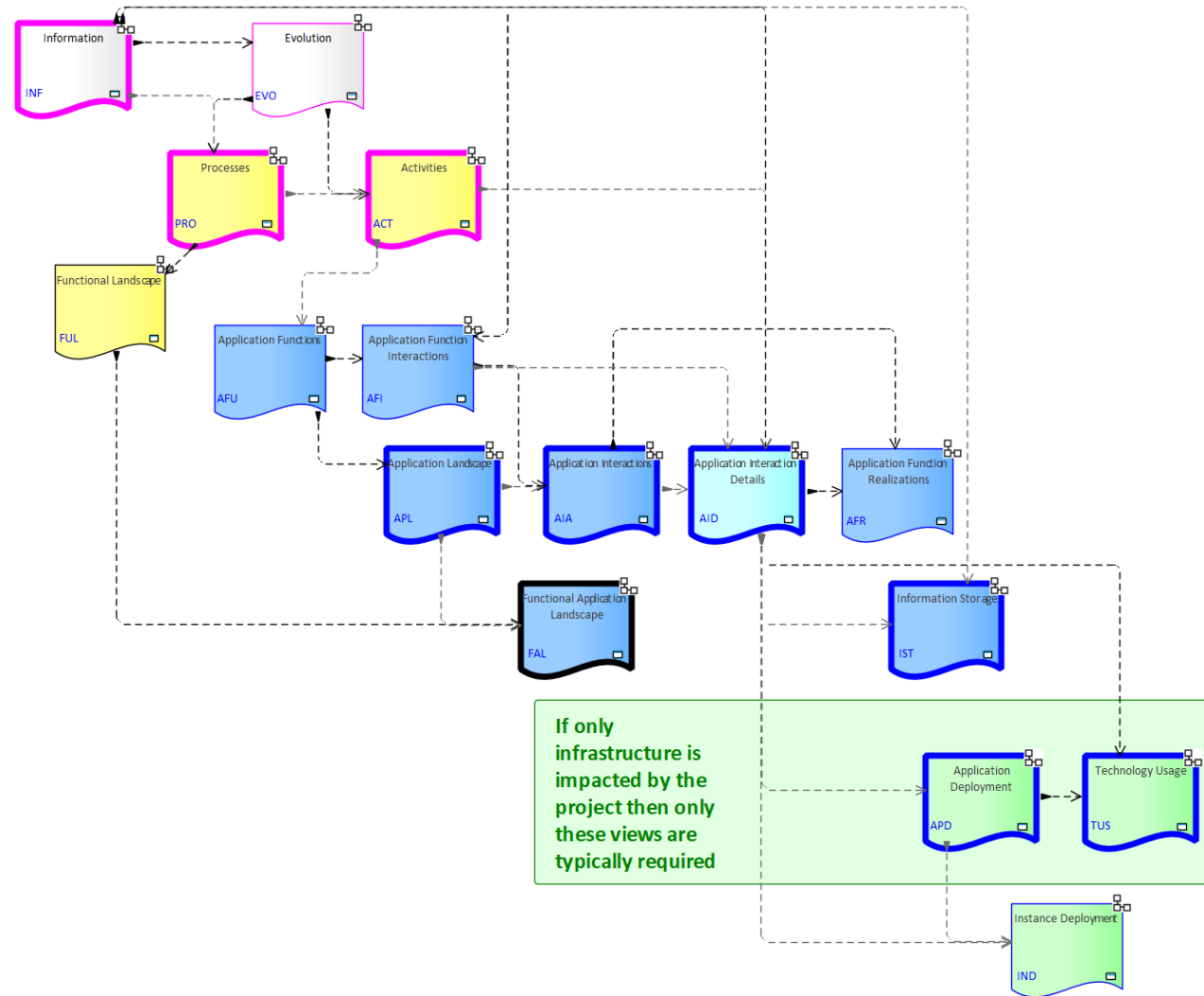


**One Tool & One Repository**



**Extensive On-line Documentation**

We need one modular language and tool but address specifically each type of view

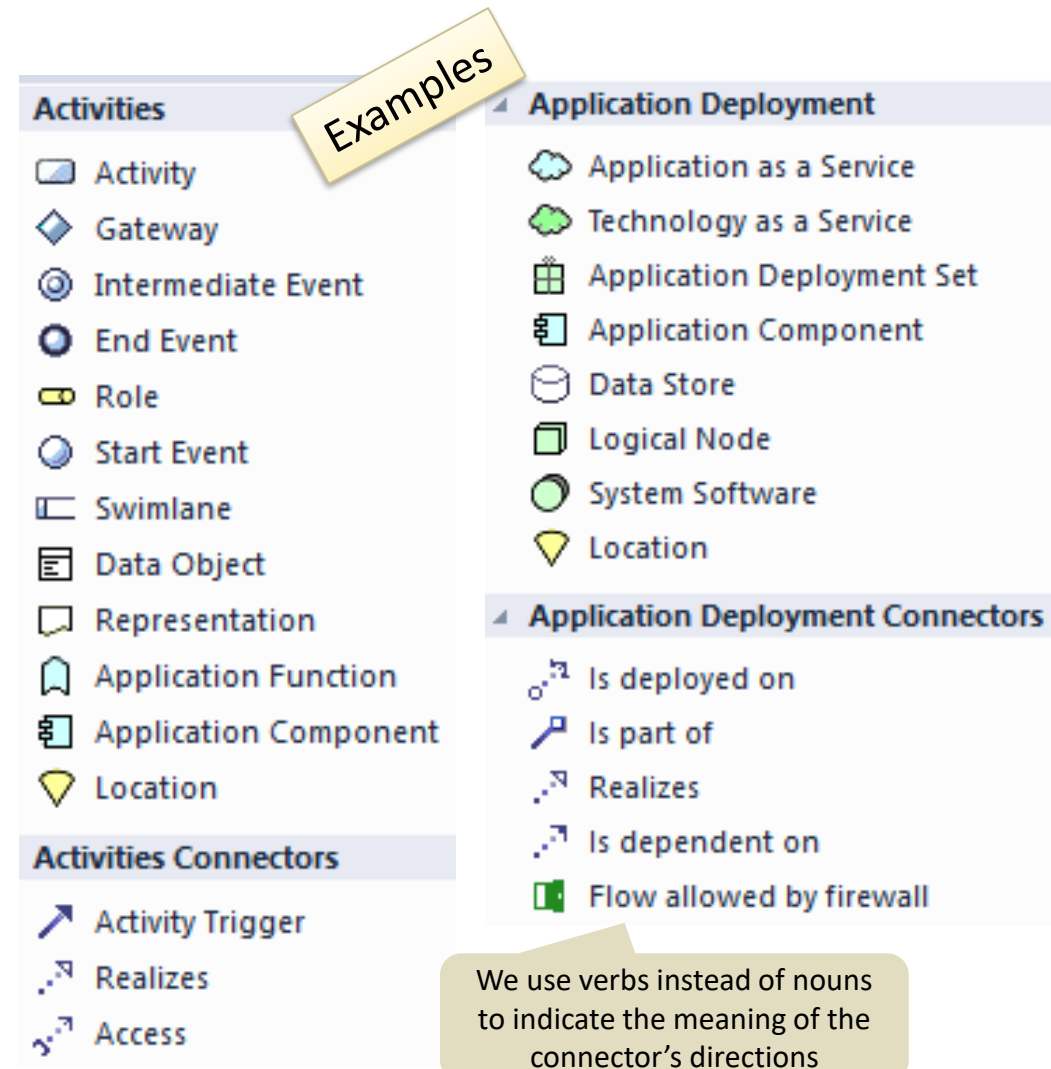


# Each type of architecture view needs to have its toolbox with element and connector types

## Elements & Connectors

- Some come from standards
- Some were adapted
- Some are proprietary

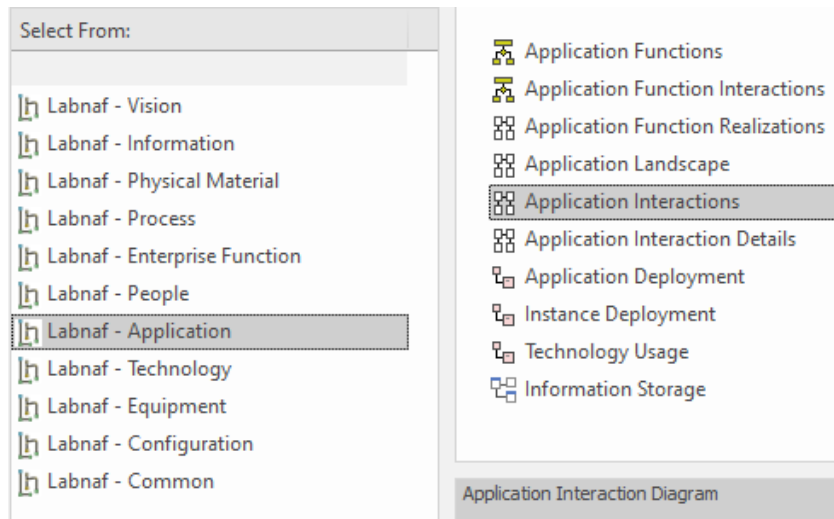
What we want



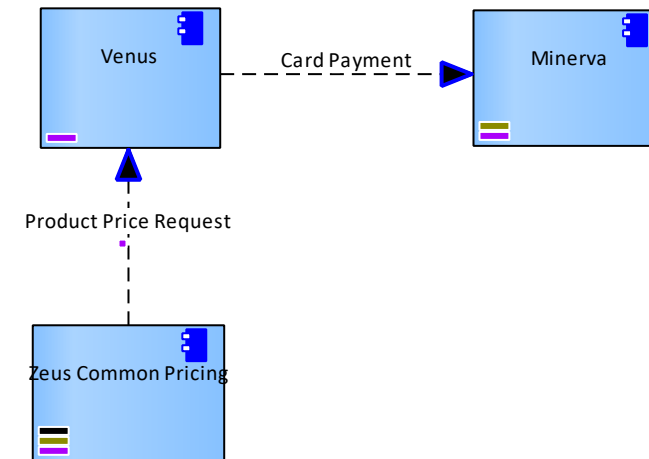
# Diagram Types

What we want

When you select New diagram / ... the following list of Labnaf perspectives and diagram types appears



A Labnaf diagram type addresses a specific strategy or architecture viewpoint



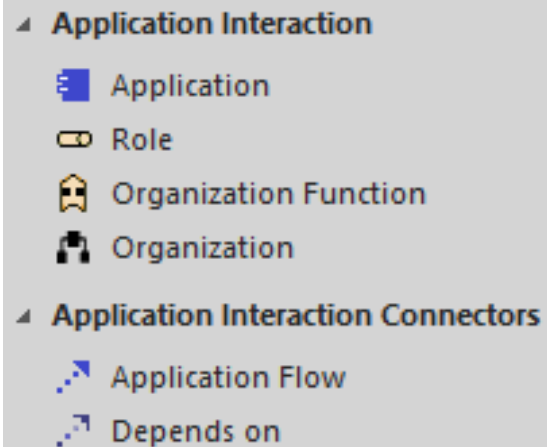
# Toolboxes

## What we want

Each diagram type has its own toolbox.

Each diagram-specific toolbox only contains the elements and connectors that are relevant to this diagram type.

### Toolbox for the diagram type “Application Interactions”



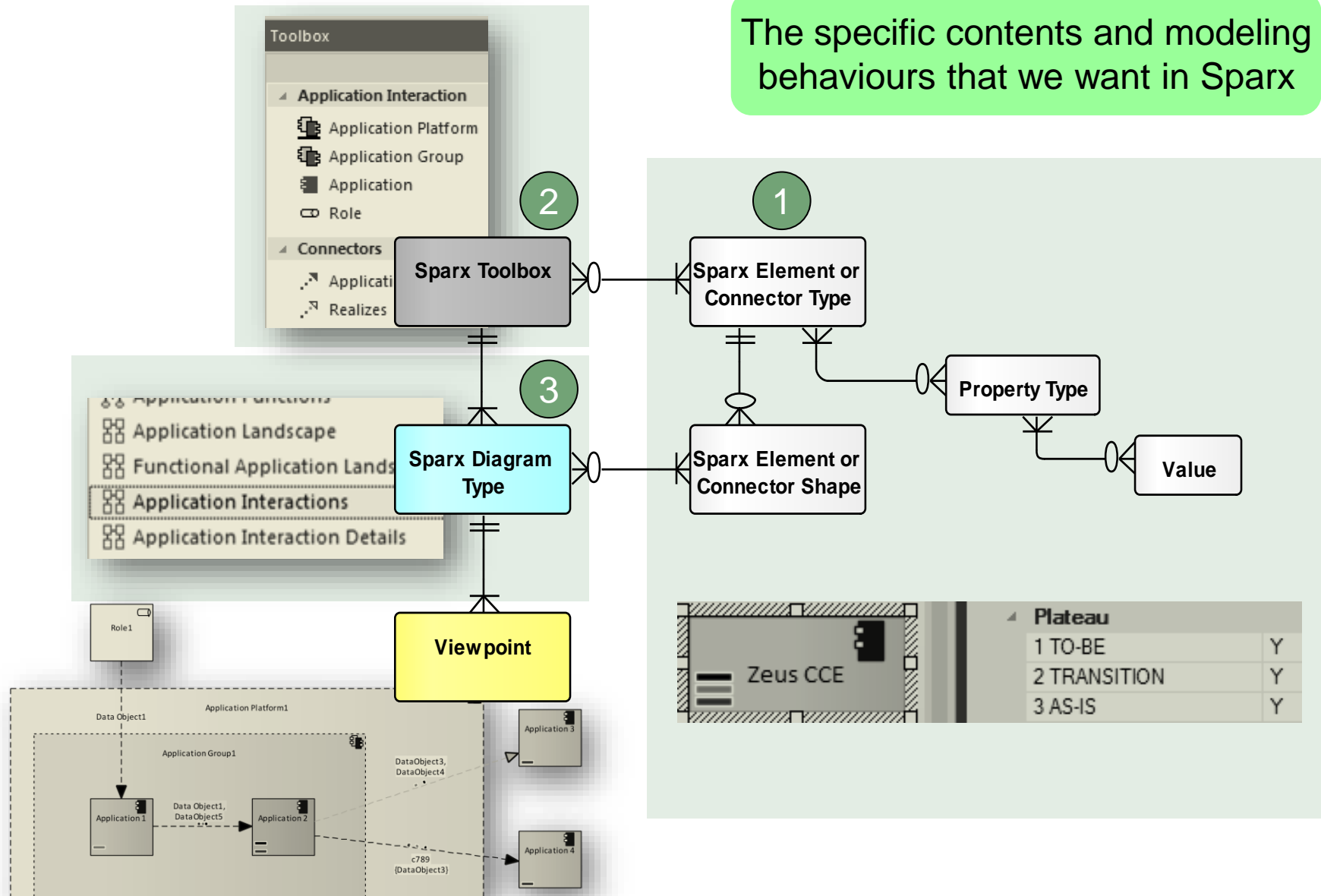
### All elements and connectors used

(These are not actual toolboxes)



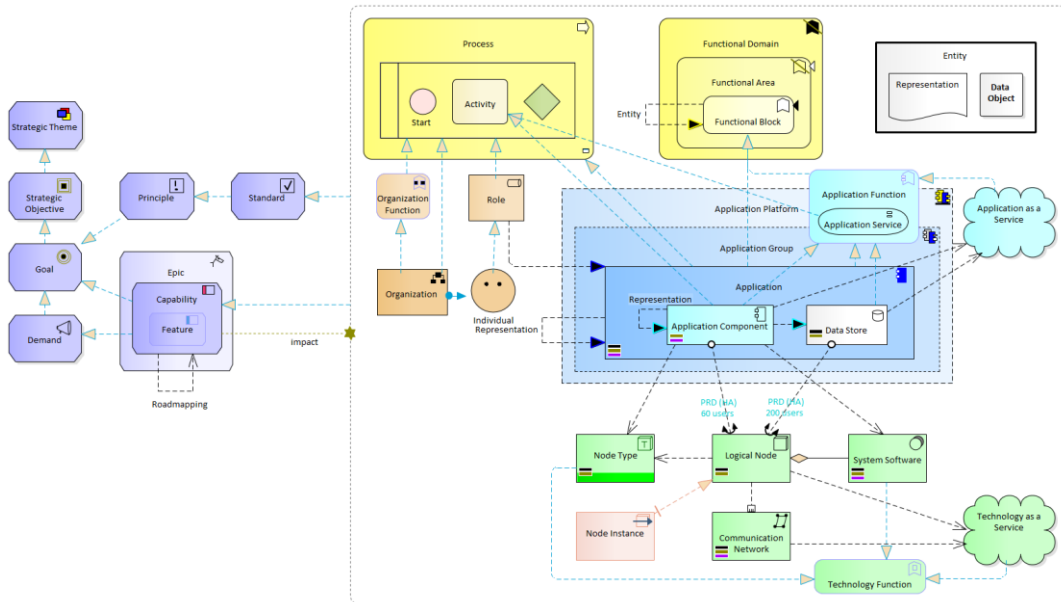
# Key items to be designed and configured

The specific contents and modeling behaviours that we want in Sparx



We also want an agile Language Metamodel used both for documentation & automatic model validation

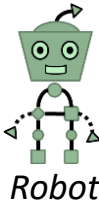
What we want



While  
Modeling

Existing  
Invalid  
Connectors

Prevent  
creation of  
invalid  
connectors

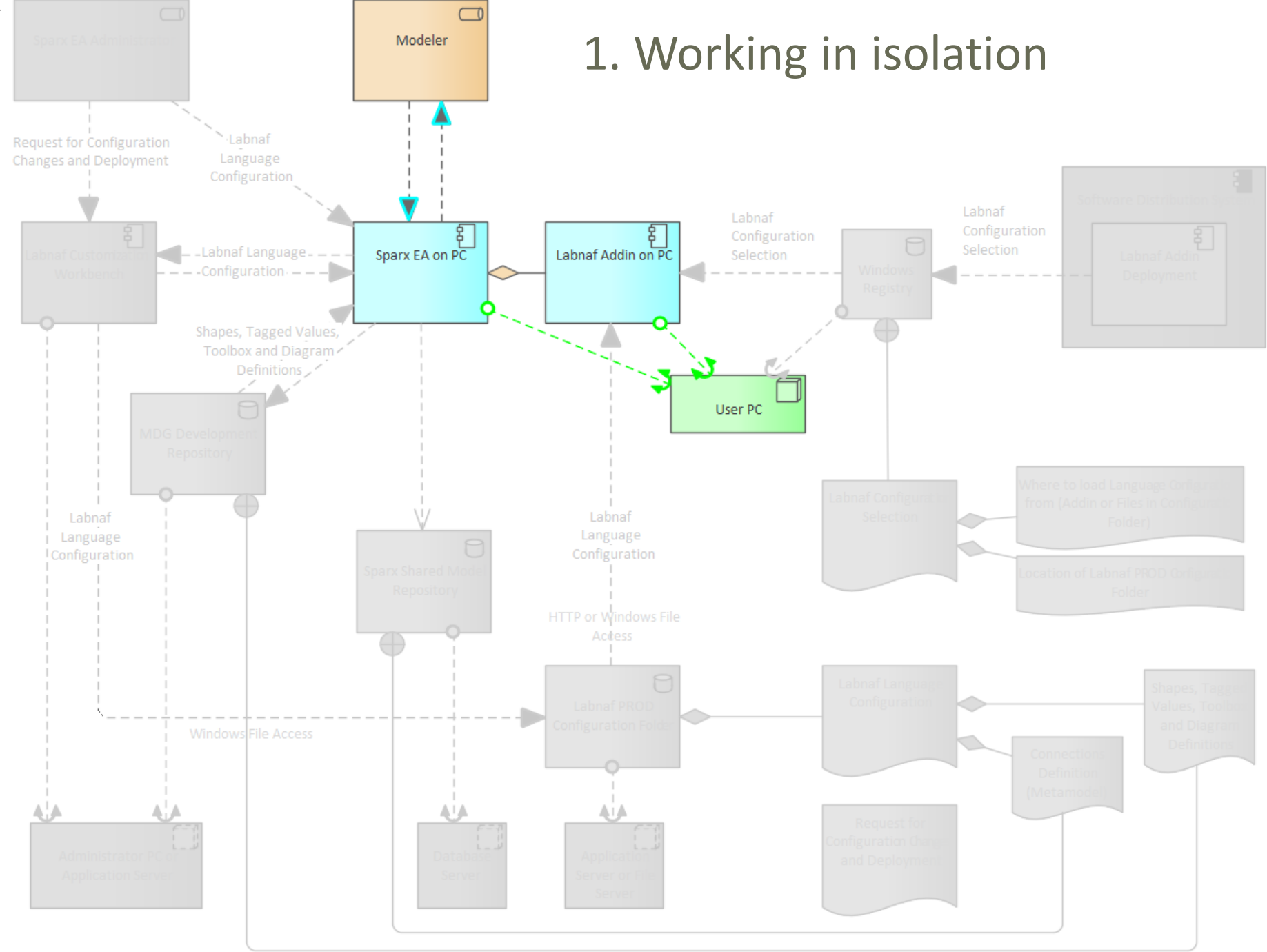


Send Error Emails to  
Relevant Recipients

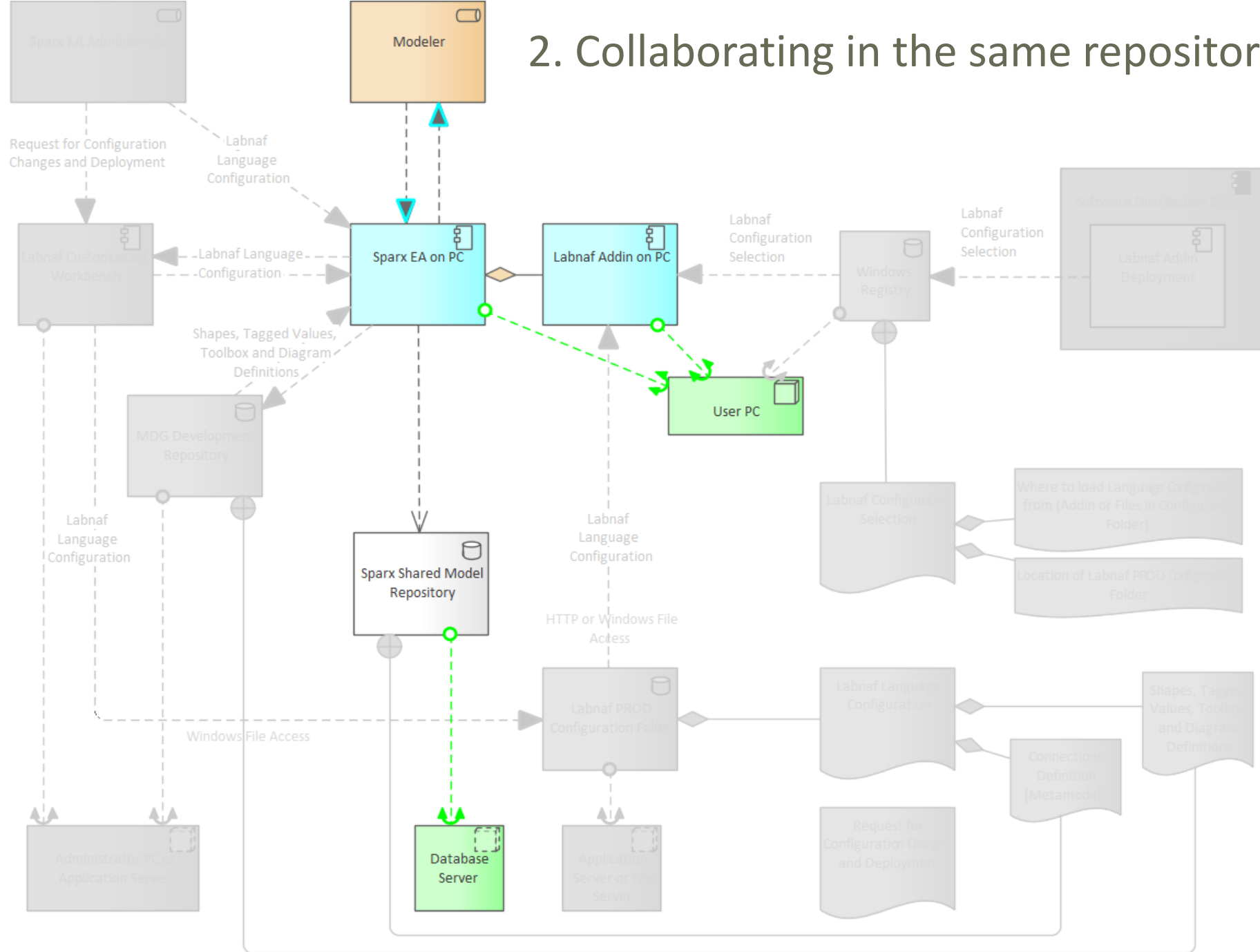
# *The evolving environment*



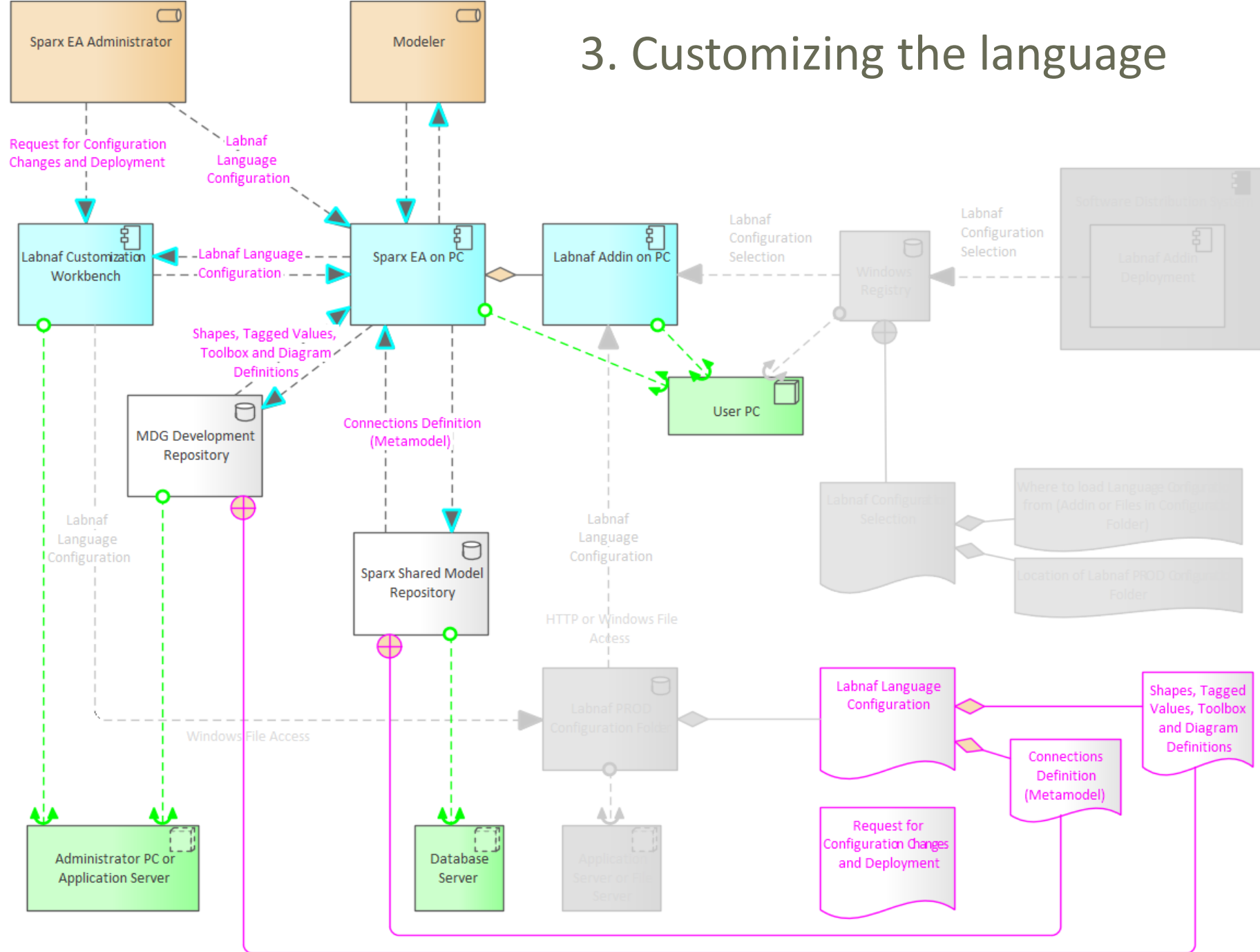
# 1. Working in isolation



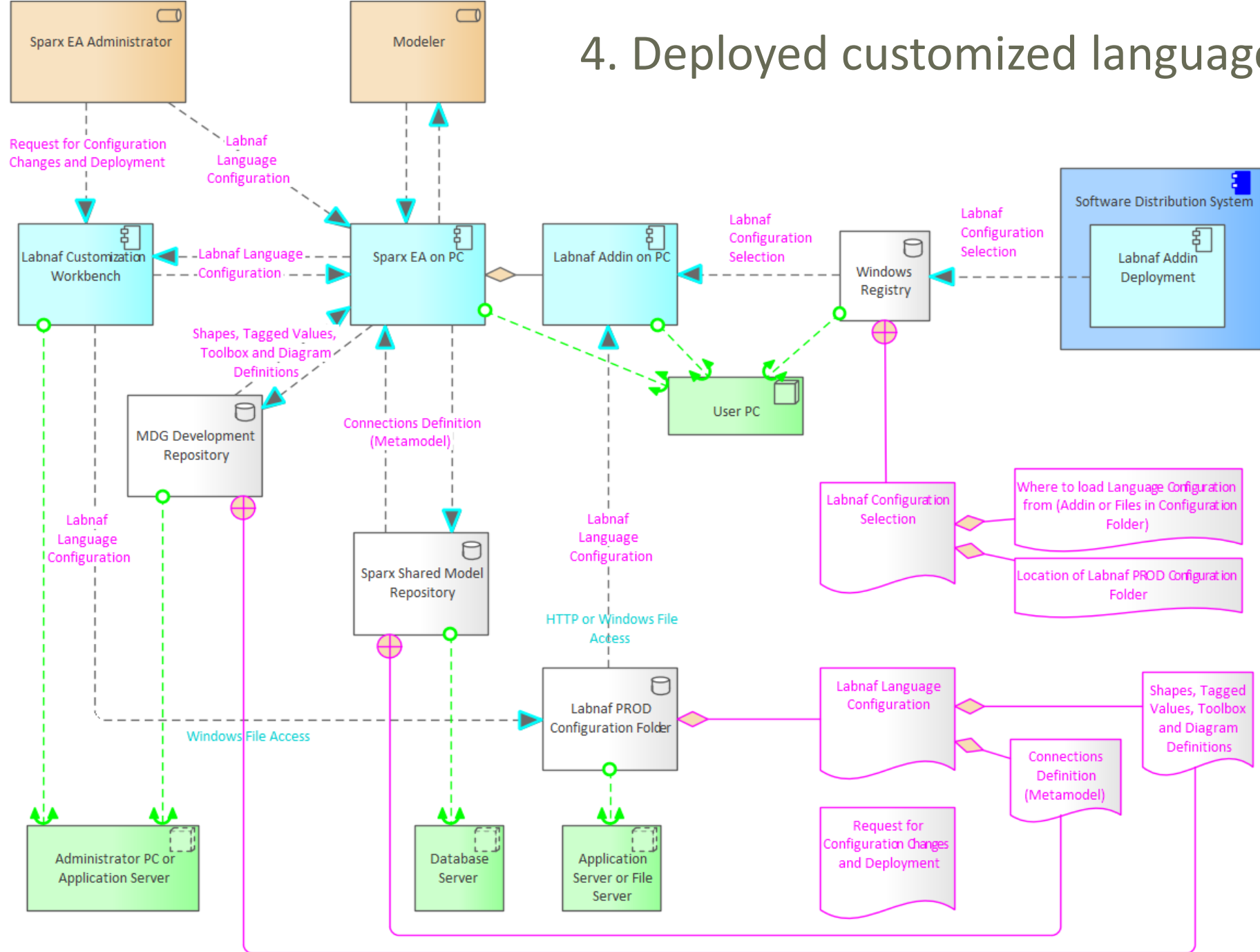
## 2. Collaborating in the same repository



### 3. Customizing the language



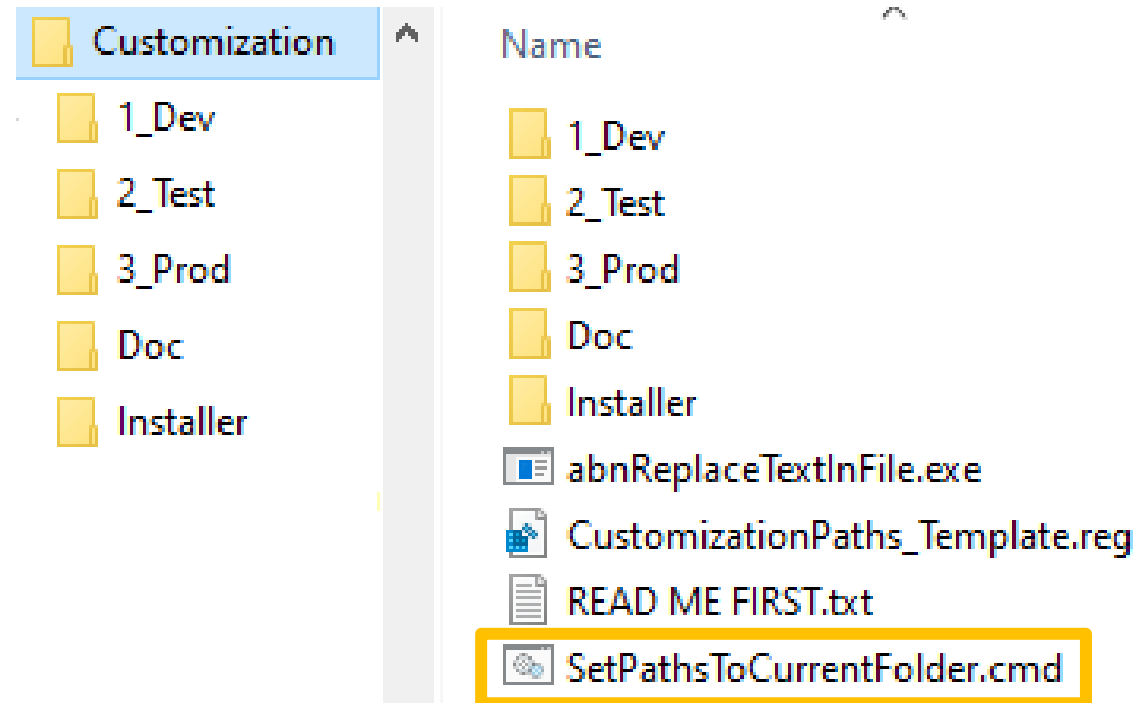
## 4. Deployed customized language



*How to proceed in practice...*

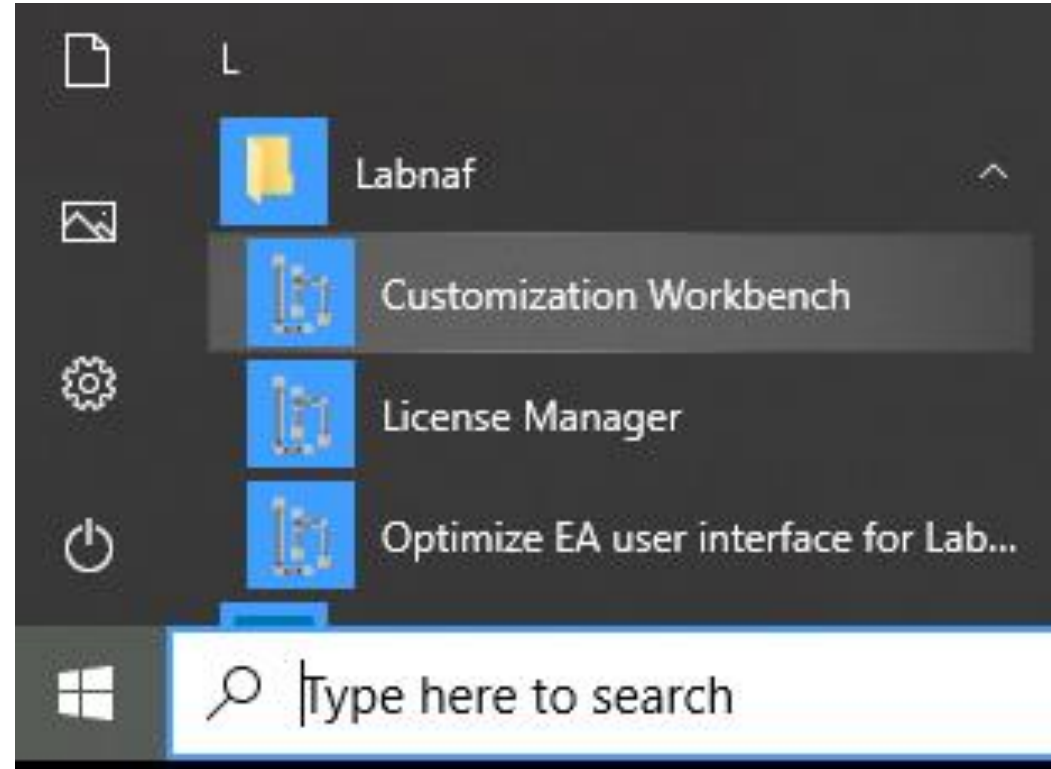
# Automatic configuration to start customization

- Copy the Labnaf\_Customization folder anywhere you want on your file system
- Double-click on “SetPathsToCurrentFolder.cmd”

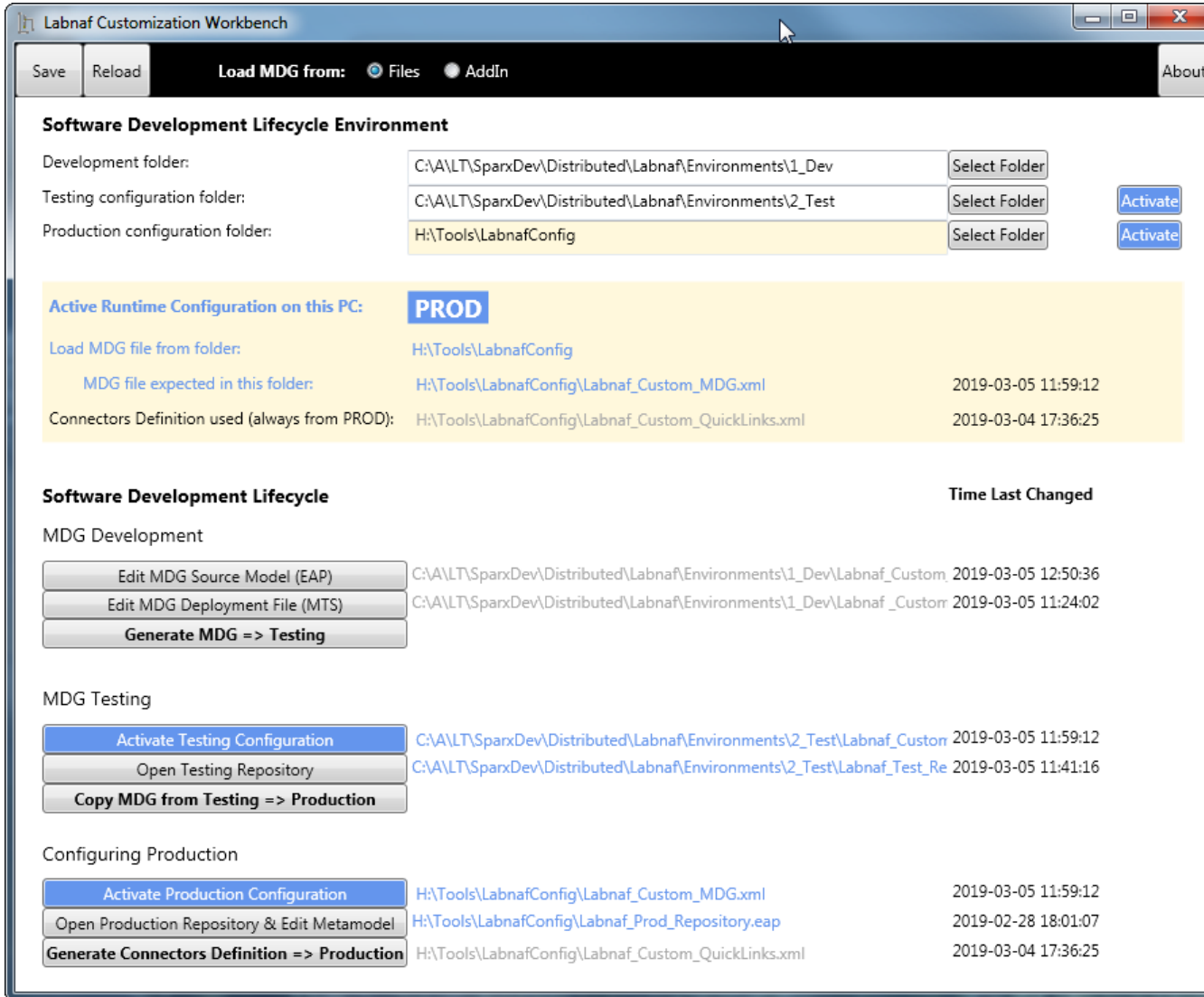


*This updates the Labnaf configuration files and registry keys following the “Labnaf\_Customization” folder location.*

# Start the Customization Workbench...



# The Customization Workbench guides you throughout the **Language customization** lifecycle



The Labnaf Customization Workbench interface is divided into two main sections. The top section, titled "Software Development Lifecycle Environment", allows users to configure development, testing, and production folders. The bottom section, titled "Software Development Lifecycle", provides a workflow for MDG Development, Testing, and Production, with buttons for each step and a table showing the time last changed for each configuration.

**Software Development Lifecycle Environment**

Development folder: C:\ALT\SparxDev\Distributed\Labnaf\Environments\1\_Dev [Select Folder]  
Testing configuration folder: C:\ALT\SparxDev\Distributed\Labnaf\Environments\2\_Test [Select Folder] [Activate]  
Production configuration folder: H:\Tools\LabnafConfig [Select Folder] [Activate]

**Active Runtime Configuration on this PC: PROD**

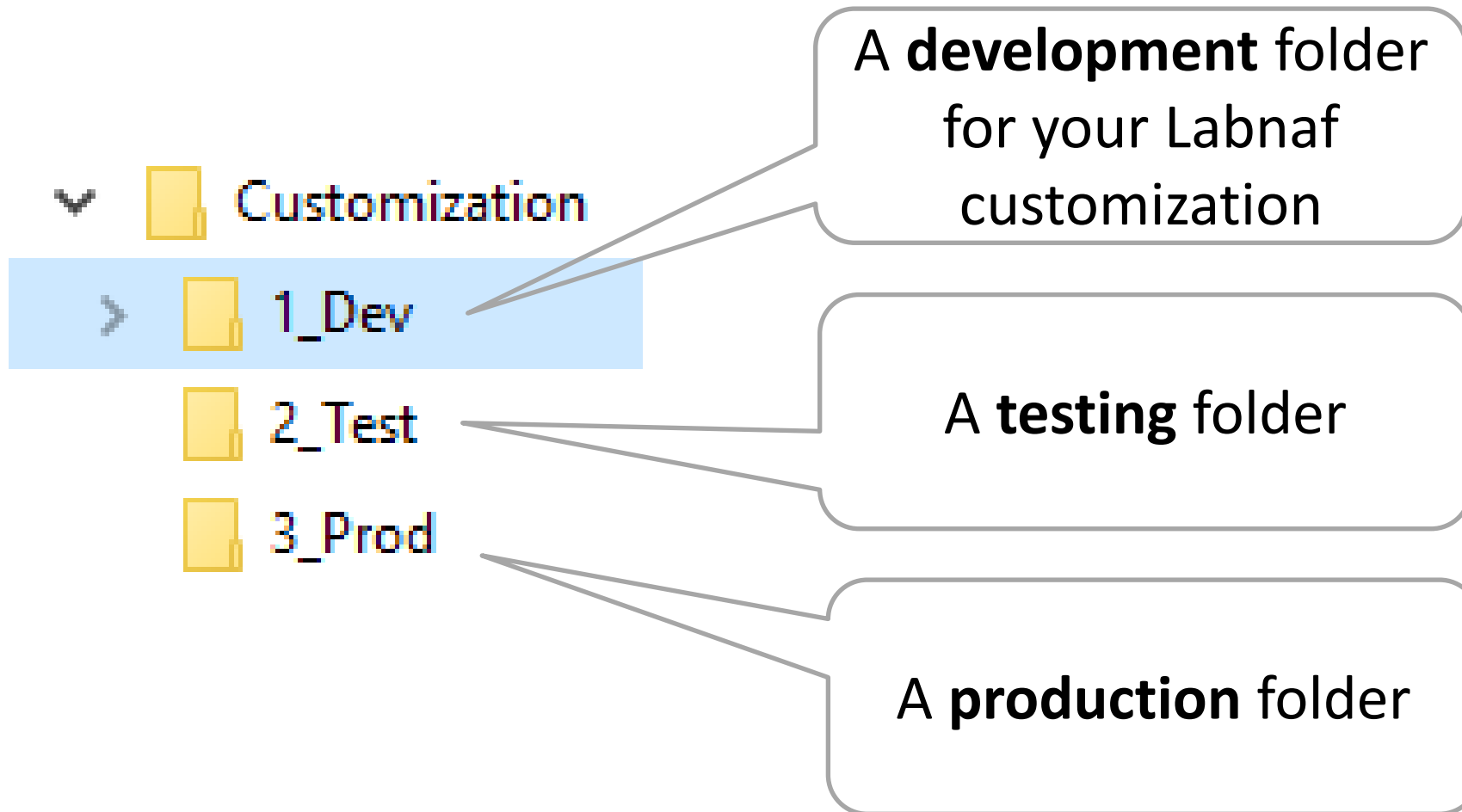
Load MDG file from folder: H:\Tools\LabnafConfig  
MDG file expected in this folder: H:\Tools\LabnafConfig\Labnaf\_Custom\_MDG.xml 2019-03-05 11:59:12  
Connectors Definition used (always from PROD): H:\Tools\LabnafConfig\Labnaf\_Custom\_QuickLinks.xml 2019-03-04 17:36:25

**Software Development Lifecycle**

	Time Last Changed
<b>MDG Development</b>	
Edit MDG Source Model (EAP)	C:\ALT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-05 12:50:36
Edit MDG Deployment File (MTS)	C:\ALT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-05 11:24:02
<b>Generate MDG =&gt; Testing</b>	
<b>MDG Testing</b>	
Activate Testing Configuration	C:\ALT\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Custom 2019-03-05 11:59:12
Open Testing Repository	C:\ALT\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Test_Re 2019-03-05 11:41:16
<b>Copy MDG from Testing =&gt; Production</b>	
<b>Configuring Production</b>	
Activate Production Configuration	H:\Tools\LabnafConfig\Labnaf_Custom_MDG.xml 2019-03-05 11:59:12
Open Production Repository & Edit Metamodel	H:\Tools\LabnafConfig\Labnaf_Prod_Repository.eap 2019-02-28 18:01:07
Generate Connectors Definition => Production	H:\Tools\LabnafConfig\Labnaf_Custom_QuickLinks.xml 2019-03-04 17:36:25



Like in any SDLC (Software Development Lifecycle) ,  
there is one environment for each Labnaf  
customization stage



# SDLC Environment Setting

Select the **Development**, **Testing** and **Production** configuration folders

The screenshot shows the 'Labnaf Customization Workbench' window. At the top, there are 'Save' and 'Reload' buttons, followed by a 'Load MDG from:' section with radio buttons for 'Files' (selected) and 'AddIn', and an 'About' button. The main content area is divided into two sections. The first section, titled 'Software Development Lifecycle Environment', is highlighted with a yellow border and contains three rows of settings: 'Development folder' with path 'C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1\_Dev' and a 'Select Folder' button; 'Testing configuration folder' with path 'C:\A\LT\SparxDev\Distributed\Labnaf\Environments\2\_Test' and a 'Select Folder' button; and 'Production configuration folder' with path 'H:\Tools\LabnafConfig' and a 'Select Folder' button. To the right of these rows are 'Activate' buttons. The second section, titled 'Active Runtime Configuration on this PC:', shows the current configuration is 'PROD'. It lists 'Load MDG file from folder' as 'H:\Tools\LabnafConfig', 'MDG file expected in this folder' as 'H:\Tools\LabnafConfig\Labnaf\_Custom\_MDG.xml' (dated 2019-03-05 11:59:12), and 'Connectors Definition used (always from PROD):' as 'H:\Tools\LabnafConfig\Labnaf\_Custom\_QuickLinks.xml' (dated 2019-03-04 17:36:25). Below this is a 'Software Development Lifecycle' section with a 'Time Last Changed' column. It lists 'MDG Development' with three actions: 'Edit MDG Source Model (EAP)' (path: 'C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1\_Dev\Labnaf\_Custom', time: 2019-03-05 12:50:36), 'Edit MDG Deployment File (MTS)' (path: 'C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1\_Dev\Labnaf\_Custom', time: 2019-03-05 11:24:02), and 'Generate MDG => Testing'.

Software Development Lifecycle Environment	
Development folder:	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1_Dev <span>Select Folder</span>
Testing configuration folder:	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\2_Test <span>Select Folder</span> <span>Activate</span>
Production configuration folder:	H:\Tools\LabnafConfig <span>Select Folder</span> <span>Activate</span>

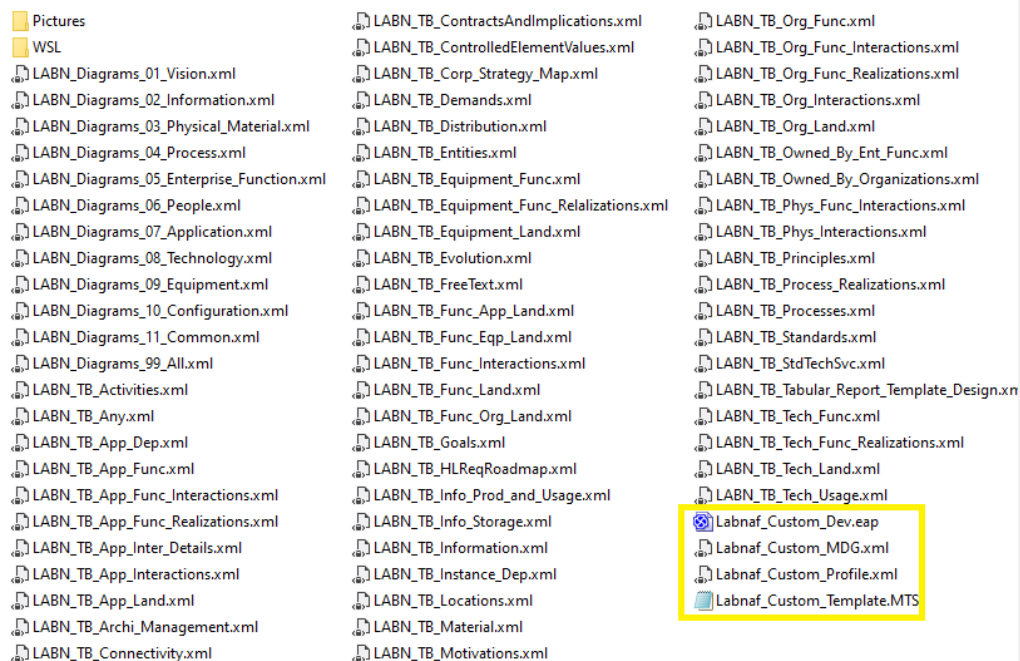
Active Runtime Configuration on this PC:	
Load MDG file from folder:	H:\Tools\LabnafConfig
MDG file expected in this folder:	H:\Tools\LabnafConfig\Labnaf_Custom_MDG.xml 2019-03-05 11:59:12
Connectors Definition used (always from PROD):	H:\Tools\LabnafConfig\Labnaf_Custom_QuickLinks.xml 2019-03-04 17:36:25

Software Development Lifecycle	
	Time Last Changed
MDG Development	
Edit MDG Source Model (EAP)	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-05 12:50:36
Edit MDG Deployment File (MTS)	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-05 11:24:02
Generate MDG => Testing	

# The Development Stage

## Development Folder



### Step 1: Develop your customized Labnaf language

- **Labnaf\_Custom\_Dev.eap:** A Labnaf model repository for customizing your Labnaf modeling language
- **Pictures:** Folder for storing custom language images

### Step 2: Generate language “profiles”

- **LABN\_Diagrams\_...xml:** Diagram types
- **LABN\_Custom\_Profile.xml:** Element & connector types
- **LABN\_TB....xml:** Toolboxes

### Step 3: Use the wizard to update

- **Labnaf\_Custom.MTS:** The binding of all profile files needed
- **Labnaf\_Custom\_MDG.xml:** Your resulting customized Labnaf modeling language (generated in the Test folder)

For further details, see Sparx'Systems MDG Technologies User's Guide @  
<https://sparxsystems.com/resources/user-guides/modeling/mdg-technologies.pdf>

# Develop your customized Labnaf language

Labnaf Customization Workbench

Save Reload Load MDG from: ☒ Files ☐ AddIn About

### Software Development Lifecycle Environment

Development folder: C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1\_Dev

Testing configuration folder: C:\A\LT\SparxDev\Distributed\Labnaf\Environments\2\_Test

Production configuration folder: H:\Tools\LabnafConfig

**Active Runtime Configuration on this PC:** **PROD**

Load MDG file from folder: H:\Tools\LabnafConfig

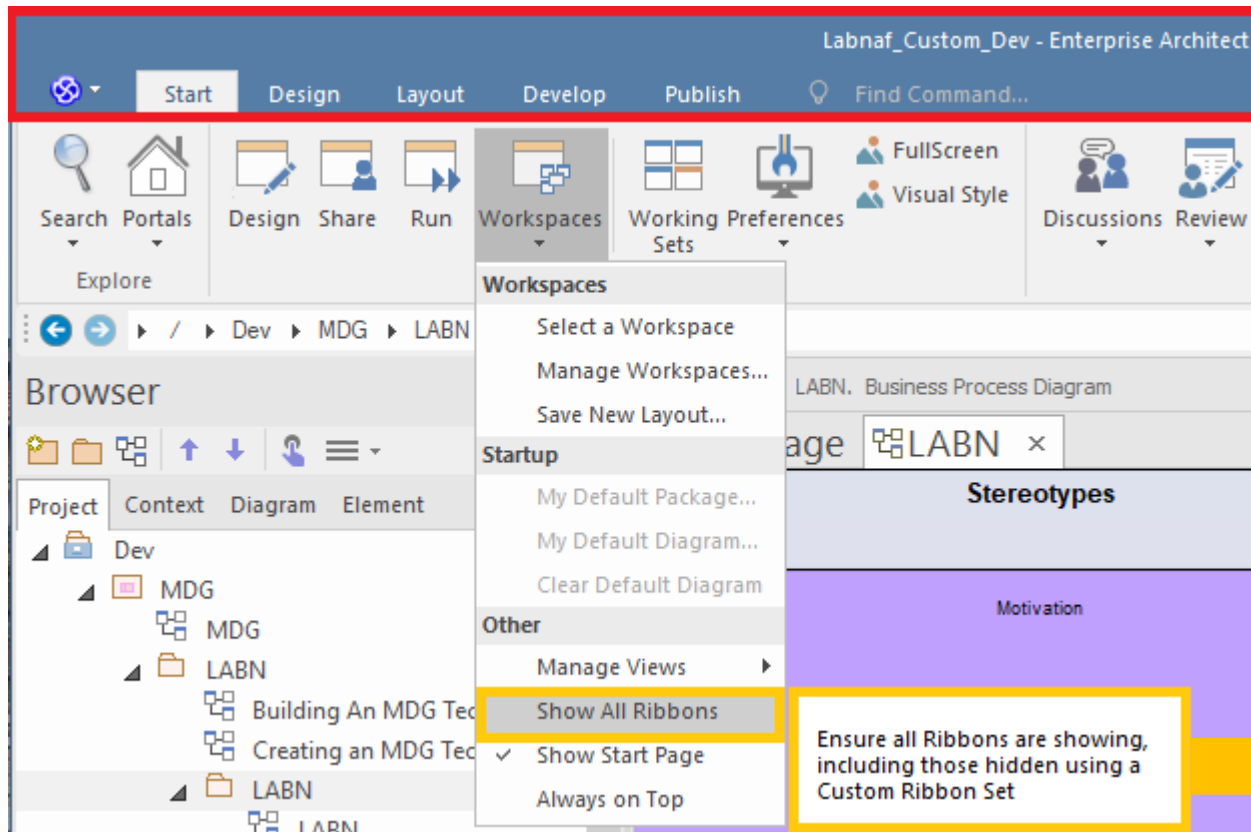
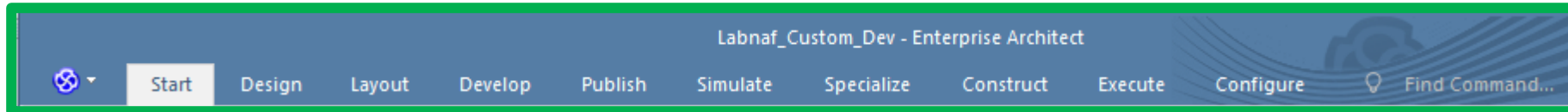
MDG file expected in this folder: H:\Tools\LabnafConfig\Labnaf\_Custom\_MDG.xml 2019-03-05 11:59:12

Connectors Definition used (always from PROD): H:\Tools\LabnafConfig\Labnaf\_Custom\_QuickLinks.xml 2019-03-04 17:36:25

### Software Development Lifecycle

	Time Last Changed
<b>MDG Development</b>	
<input type="button" value="Edit MDG Source Model (EAP)"/>	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-05 12:50:36
<input type="button" value="Edit MDG Deployment File (MTS)"/>	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-05 11:24:02
<input type="button" value="Generate MDG =&gt; Testing"/>	

As soon as the Labnaf\_Custom\_dev.eap is open **ensure all ribbons are showing**



Ensure all Ribbons are showing, including those hidden using a Custom Ribbon Set

# Set up your EA workspace layout for Labnaf



- This feature automatically opens and organizes all the EA windows that are useful with Labnaf including Labnaf customization
- Select the “**Start**” ribbon.
- Select the option “**Workspaces > Manage Workspaces > My Workspaces > Labnaf Workspace Layout**”.
- Press the “**Apply**” button.

# Things you can change or add to the Labnaf\_Custom\_dev.eap

- Element & Connector types
- Tagged Values

Complex Sparx **Metamodeling** approach **replaced by Labnaf => Simplified, readable, dynamically customizable and upgradable at runtime**

The screenshot displays a customization interface with several sections and checkboxes:

- Metamodel**
  - ☒ Profiles (highlighted with a yellow box and a yellow callout arrow pointing to the text in the yellow callout above)
  - ☐ Patterns
  - ☒ Diagram Types
  - ☒ Toolboxes
  - ☒ Tagged Value Types
- Other**
  - ☒ Images
  - ☒ Scripts
  - ☒ Workspace Layouts
- Code**
  - ☐ Code Modules
  - ☐ DDL Modules
  - ☐ MDA Transforms
- Reports**
  - ☐ RTF Templates
  - ☐ Linked Document Templates
- ☐ Model Views
- ☒ Searches

# Updating the Labnaf MDG Profiles

See Sparx System's EA documentation about updating

- [Stereotype Profiles](#)
- [Toolbox Profiles](#)
- [Diagram Profiles](#)

Refer to “**Labnaf Customization - Updating Profiles.xlsx**” to get the **Labnaf MDG profile** names and corresponding XML file names

	A	B
1	Profile Name	XML File Name
2	LABN	Labnaf_Custom_Profile.xml
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Save UML Profile

Profile Name: LABN

Filename: C:\Test\Labnaf\_Customization\1\_Development\Labnaf\_Custom\_Profile.xml

Profile Type: EA UML(2.x) Version: 2.0

Notes:

Include

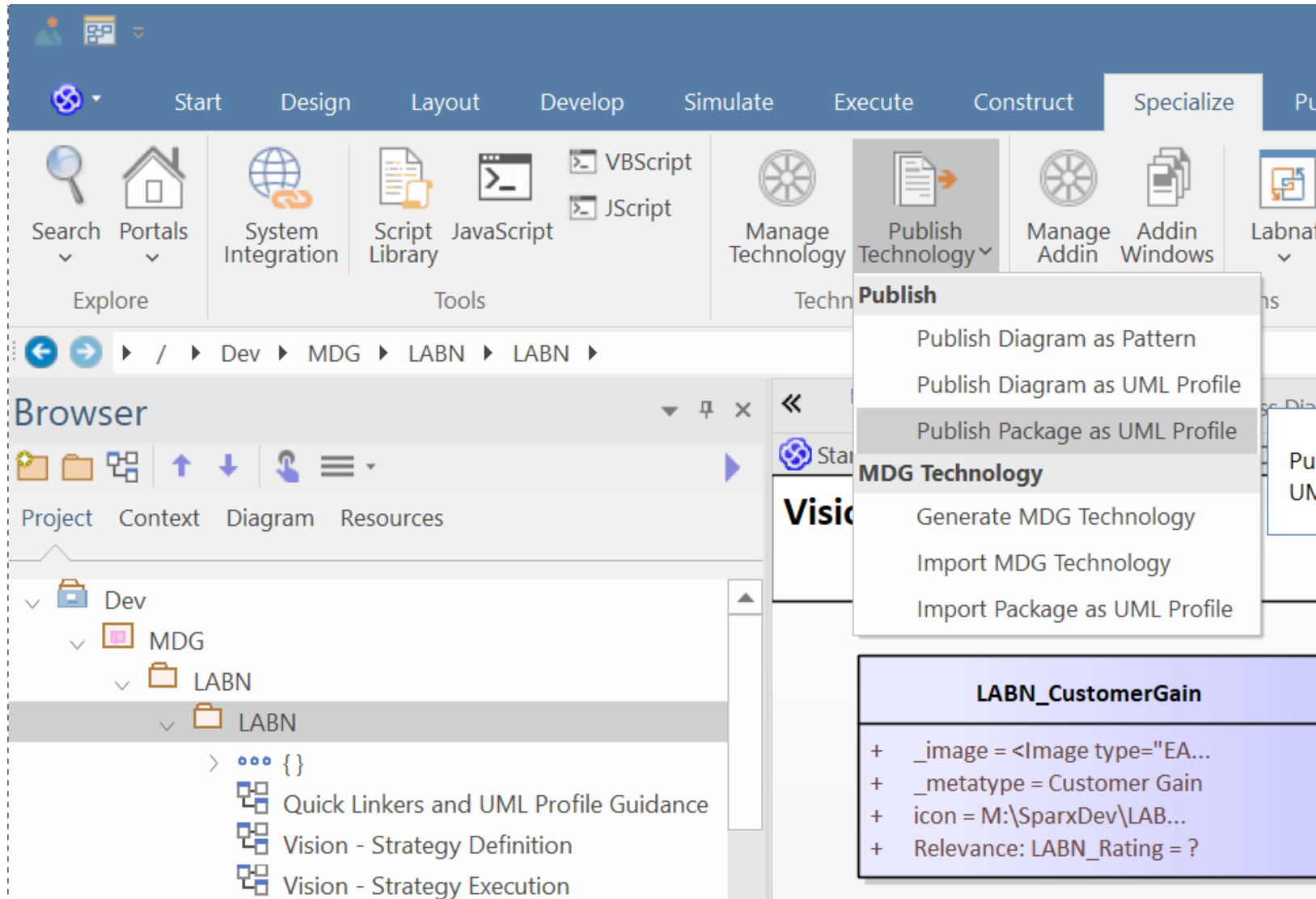
☒ Element Size ☒ Alternate Image

☒ Color and Appearance ☒ Code Templates

Save Cancel Help



# Saving the Labnaf MDG Profiles



# Generate the Customized Labnaf MDG file (Language configuration)

Labnaf Customization Workbench

Save Reload Load MDG from: Files AddIn About

**Software Development Lifecycle Environment**

Development folder: C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1\_Dev Select Folder

Testing configuration folder: C:\A\LT\SparxDev\Distributed\Labnaf\Environments\2\_Test Select Folder Activate

Production configuration folder: H:\Tools\LabnafConfig Select Folder Activate

**Active Runtime Configuration on this PC: PROD**

Load MDG file from folder: H:\Tools\LabnafConfig

MDG file expected in this folder: H:\Tools\LabnafConfig\Labnaf\_Custom\_MDG.xml 2019-03-05 11:59:12

Connectors Definition used (always from PROD): H:\Tools\LabnafConfig\Labnaf\_Custom\_QuickLinks.xml 2019-03-04 17:36:25

**Software Development Lifecycle** Time Last Changed

MDG Development

Edit MDG Source Model (EAP)	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom	2019-03-05 12:50:36
Edit MDG Deployment File (MTS)	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom	2019-03-05 11:24:02
<b>Generate MDG =&gt; Testing</b>		

MDG Testing

Activate Testing Configuration	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Custom	2019-03-05 11:59:12
Open Testing Repository	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Test_Re	2019-03-05 11:41:16
Copy MDG from Testing => Production		

Configuring Production

Activate Production Configuration	H:\Tools\LabnafConfig\Labnaf_Custom_MDG.xml	2019-03-05 11:59:12
Open Production Repository & Edit Metamodel	H:\Tools\LabnafConfig\Labnaf_Prod_Repository.eap	2019-02-28 18:01:07
Generate Connectors Definition => Production	H:\Tools\LabnafConfig\Labnaf_Custom_QuickLinks.xml	2019-03-04 17:36:25

Customization

1\_Dev

2\_Test

3\_Prod

# The Testing Stage

## Contents of the Testing Folder



Labnaf\_Custom\_MDG.xml



Labnaf\_Test\_Repository.eap

**Labnaf\_Custom\_MDG.xml:** Your customized Labnaf modeling language

**Labnaf\_Test\_Repository.eap:** Your model repository that you will use to test your customized Labnaf modeling language

Customization

1\_Dev

2\_Test

3\_Prod

# Activate the Testing Configuration and create some diagrams in the Testing Repository

Labnaf Customization Workbench

Save Reload Load MDG from: ☒ Files ☐ AddIn About

### Software Development Lifecycle Environment

Development folder: C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1\_Dev

Testing configuration folder: M:\SparxDev\Distributed\Labnaf\Environments\2\_Test

Production configuration folder: M:\SparxDev\Distributed\Labnaf\Environments\3\_Prod

Active Runtime Configuration on this PC: **TESTING**

Load MDG file from folder: M:\SparxDev\Distributed\Labnaf\Environments\2\_Test

MDG file expected in this folder: M:\SparxDev\Distributed\Labnaf\Environments\2\_Test\Labnaf\_Custom\_MC 2019-03-29 12:36:02

Connectors Definition used (always from PROD): M:\SparxDev\Distributed\Labnaf\Environments\3\_Prod\Labnaf\_Custom\_Qc 2019-03-04 17:36:25

### Software Development Lifecycle

	Time Last Changed
MDG Development	
<input type="button" value="Edit MDG Source Model (EAP)"/>	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-29 12:32:17
<input type="button" value="Edit MDG Deployment File (MTS)"/>	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-29 12:36:02
<input type="button" value="Generate MDG =&gt; Testing"/>	
MDG Testing	
<input type="button" value="Activate Testing Configuration"/>	M:\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Custom_MC 2019-03-29 12:36:02
<input type="button" value="Open Testing Repository"/>	M:\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Test_Reposit 2019-03-05 11:41:16
<input type="button" value="Copy MDG from Testing =&gt; Production"/>	
Configuring Production	
<input type="button" value="Activate Production Configuration"/>	M:\SparxDev\Distributed\Labnaf\Environments\3_Prod\Labnaf_Custom_Mi 2019-03-10 12:15:46
<input type="button" value="Open Production Repository &amp; Edit Metamodel"/>	M:\SparxDev\Distributed\Labnaf\Environments\3_Prod\Labnaf_Prod_Repos 2019-03-27 17:18:17
<input type="button" value="Generate Connectors Definition =&gt; Production"/>	M:\SparxDev\Distributed\Labnaf\Environments\3_Prod\Labnaf_Custom_Qc 2019-03-04 17:36:25

Customization

1\_Dev

2\_Test

3\_Prod

# Copy the Customized Labnaf MDG file to Production

The screenshot shows the 'Labnaf Customization Workbench' application. At the top, there are buttons for 'Save', 'Reload', and 'Load MDG from:' with radio buttons for 'Files' (selected) and 'AddIn'. An 'About' button is on the right. Below this is the 'Software Development Lifecycle Environment' section, which includes fields for 'Development folder:', 'Testing configuration folder:', and 'Production configuration folder:', each with a 'Select Folder' button. To the right of these fields are 'Activate' buttons. The 'Active Runtime Configuration on this PC:' section shows 'PROD' as the active configuration. Below this, it lists 'Load MDG file from folder:', 'MDG file expected in this folder:', and 'Connectors Definition used (always from PROD):' with their respective paths and timestamps. The 'Software Development Lifecycle' section is divided into 'MDG Development' and 'MDG Testing'. Under 'MDG Development', there are buttons for 'Edit MDG Source Model (EAP)', 'Edit MDG Deployment File (MTS)', and 'Generate MDG => Testing'. Under 'MDG Testing', there are buttons for 'Activate Testing Configuration', 'Open Testing Repository', and 'Copy MDG from Testing => Production'. The 'Copy MDG from Testing => Production' button is highlighted with a yellow box. An arrow points from this button to the 'Configuring Production' section. In this section, there are buttons for 'Activate Production Configuration', 'Open Production Repository & Edit Metamodel', and 'Generate Connectors Definition => Production'. The 'Activate Production Configuration' button is highlighted with a yellow box, and the path 'H:\Tools\LabnafConfig\Labnaf\_Custom\_MDG.xml' is also highlighted with a yellow box. The 'Generate Connectors Definition => Production' button is also highlighted with a yellow box.

Labnaf Customization Workbench

Save Reload Load MDG from: Files AddIn About

**Software Development Lifecycle Environment**

Development folder: C:\ALT\SparxDev\Distributed\Labnaf\Environments\1\_Dev Select Folder

Testing configuration folder: C:\ALT\SparxDev\Distributed\Labnaf\Environments\2\_Test Select Folder Activate

Production configuration folder: H:\Tools\LabnafConfig Select Folder Activate

**Active Runtime Configuration on this PC:** PROD

Load MDG file from folder: H:\Tools\LabnafConfig

MDG file expected in this folder: H:\Tools\LabnafConfig\Labnaf\_Custom\_MDG.xml 2019-03-05 11:59:12

Connectors Definition used (always from PROD): H:\Tools\LabnafConfig\Labnaf\_Custom\_QuickLinks.xml 2019-03-04 17:36:25

**Software Development Lifecycle** Time Last Changed

MDG Development

Edit MDG Source Model (EAP) C:\ALT\SparxDev\Distributed\Labnaf\Environments\1\_Dev\Labnaf\_Custom 2019-03-05 12:50:36

Edit MDG Deployment File (MTS) C:\ALT\SparxDev\Distributed\Labnaf\Environments\1\_Dev\Labnaf\_Custom 2019-03-05 11:24:02

Generate MDG => Testing

MDG Testing

Activate Testing Configuration C:\ALT\SparxDev\Distributed\Labnaf\Environments\2\_Test\Labnaf\_Custom 2019-03-05 11:59:12

Open Testing Repository C:\ALT\SparxDev\Distributed\Labnaf\Environments\2\_Test\Labnaf\_Test\_Re 2019-03-05 11:41:16

Copy MDG from Testing => Production

Configuring Production

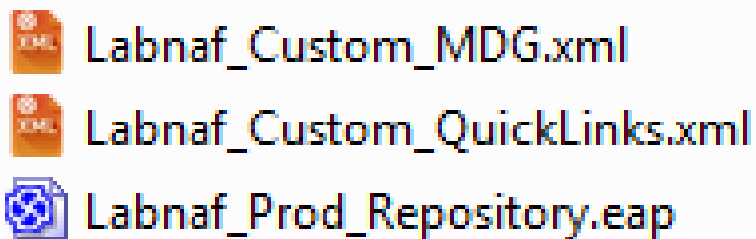
Activate Production Configuration H:\Tools\LabnafConfig\Labnaf\_Custom\_MDG.xml 2019-03-05 11:59:12

Open Production Repository & Edit Metamodel H:\Tools\LabnafConfig\Labnaf\_Prod\_Repository.eap 2019-02-28 18:01:07

Generate Connectors Definition => Production H:\Tools\LabnafConfig\Labnaf\_Custom\_QuickLinks.xml 2019-03-04 17:36:25

# The Production Stage

## Contents of the Production Folder



**The production folder can be located on a web server folder. In which case:**

- The Customization Workbench accesses this folder directly on the file system.
- End users, using the Labnaf Addin, access the corresponding web folder url instead.

**Labnaf\_Custom\_MDG.xml:** Your customized Labnaf modeling language

**Labnaf\_Prod\_Repository.eap:** Your production model repository where you can dynamically customize the language metamodel

**Labnaf\_Custom\_Quicklinks.xml:** The connection rules generated from the language metamodel

Customization

1\_Dev

2\_Test

3\_Prod

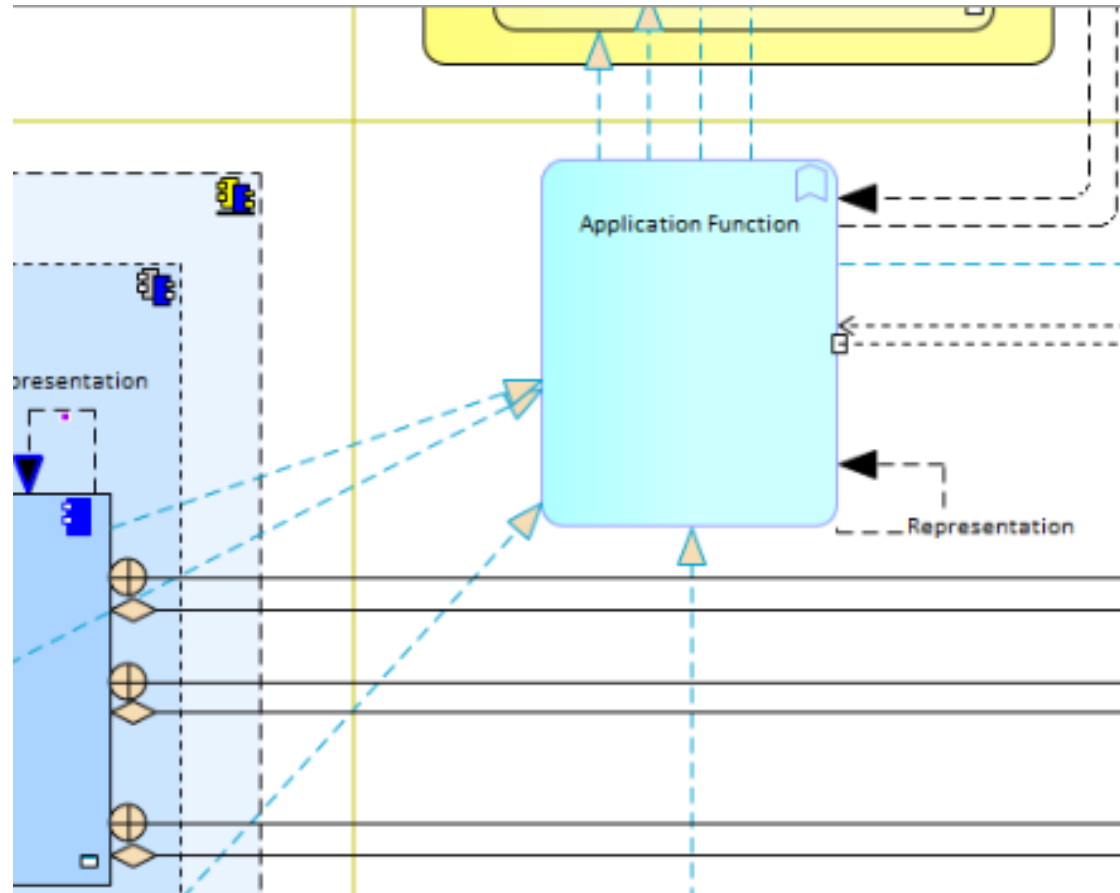
# Activate the Production Configuration and open the Production Repository

The screenshot shows the Labnaf Customization Workbench interface. The 'Configuring Production' section is highlighted with a yellow box. It contains the following elements:

- Software Development Lifecycle Environment**
  - Development folder: C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1\_Dev (Select Folder)
  - Testing configuration folder: C:\A\LT\SparxDev\Distributed\Labnaf\Environments\2\_Test (Select Folder)
  - Production configuration folder: H:\Tools\LabnafConfig (Select Folder)
- Active Runtime Configuration on this PC:** **PROD**
- Load MDG file from folder:** H:\Tools\LabnafConfig
- MDG file expected in this folder:** H:\Tools\LabnafConfig\Labnaf\_Custom\_MDG.xml (2019-03-05 11:59:12)
- Connectors Definition used (always from PROD):** H:\Tools\LabnafConfig\Labnaf\_Custom\_QuickLinks.xml (2019-03-04 17:36:25)
- Software Development Lifecycle**
  - MDG Development**
    - Edit MDG Source Model (EAP) (C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1\_Dev\Labnaf\_Custom, 2019-03-05 12:50:36)
    - Edit MDG Deployment File (MTS) (C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1\_Dev\Labnaf\_Custom, 2019-03-05 11:24:02)
    - Generate MDG => Testing
  - MDG Testing**
    - Activate Testing Configuration (C:\A\LT\SparxDev\Distributed\Labnaf\Environments\2\_Test\Labnaf\_Custom, 2019-03-05 11:59:12)
    - Open Testing Repository (C:\A\LT\SparxDev\Distributed\Labnaf\Environments\2\_Test\Labnaf\_Test\_Re, 2019-03-05 11:41:16)
    - Copy MDG from Testing => Production
  - Configuring Production**
    - Activate Production Configuration (H:\Tools\LabnafConfig\Labnaf\_Custom\_MDG.xml, 2019-03-05 11:59:12)
    - Open Production Repository & Edit Metamodel (H:\Tools\LabnafConfig\Labnaf\_Prod\_Repository.eap, 2019-02-28 18:01:07)
    - Generate Connectors Definition => Production (H:\Tools\LabnafConfig\Labnaf\_Custom\_QuickLinks.xml, 2019-03-04 17:36:25)

# Update the language metamodel

- Add or delete connectors in the language metamodel



Further details on the  
Labnaf Guidance web site.



Customization

1\_Dev

2\_Test

3\_Prod

# (Re)generate the connector definitions

The screenshot shows the Labnaf Customization Workbench interface. The top bar includes 'Save', 'Reload', 'Load MDG from: Files (selected) AddIn', and 'About'. The main content is divided into two sections: 'Software Development Lifecycle Environment' and 'Software Development Lifecycle'.

**Software Development Lifecycle Environment**

Development folder: C:\ALT\SparxDev\Distributed\Labnaf\Environments\1\_Dev [Select Folder]  
Testing configuration folder: C:\ALT\SparxDev\Distributed\Labnaf\Environments\2\_Test [Select Folder] [Activate]  
Production configuration folder: H:\Tools\LabnafConfig [Select Folder] [Activate]

**Active Runtime Configuration on this PC: PROD**

Load MDG file from folder: H:\Tools\LabnafConfig  
MDG file expected in this folder: H:\Tools\LabnafConfig\Labnaf\_Custom\_MDG.xml 2019-03-05 11:59:12  
Connectors Definition used (always from PROD): H:\Tools\LabnafConfig\Labnaf\_Custom\_QuickLinks.xml 2019-03-04 17:36:25

**Software Development Lifecycle**

MDG Development

	Time Last Changed
Edit MDG Source Model (EAP)	C:\ALT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-05 12:50:36
Edit MDG Deployment File (MTS)	C:\ALT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custorr 2019-03-05 11:24:02
<b>Generate MDG =&gt; Testing</b>	

MDG Testing

Activate Testing Configuration	C:\ALT\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Custom 2019-03-05 11:59:12
Open Testing Repository	C:\ALT\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Test_Re 2019-03-05 11:41:16
<b>Copy MDG from Testing =&gt; Production</b>	

Configuring Production

Activate Production Configuration	H:\Tools\LabnafConfig\Labnaf_Custom_MDG.xml 2019-03-05 11:59:12
Open Production Repository & Edit Metamodel	H:\Tools\LabnafConfig\Labnaf_Prod_Repository.eap 2019-02-28 18:01:07
<b>Generate Connectors Definition =&gt; Production</b>	H:\Tools\LabnafConfig\Labnaf_Custom_QuickLinks.xml 2019-03-04 17:36:25

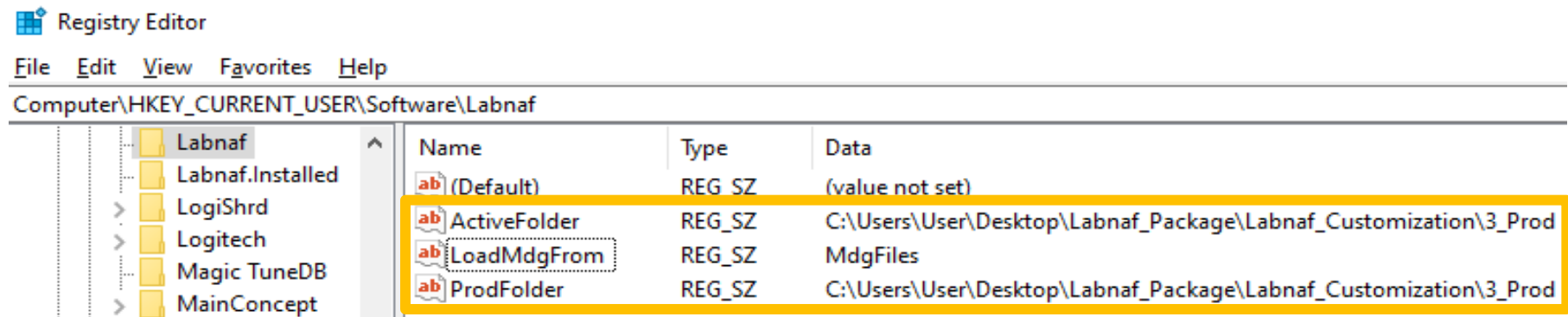
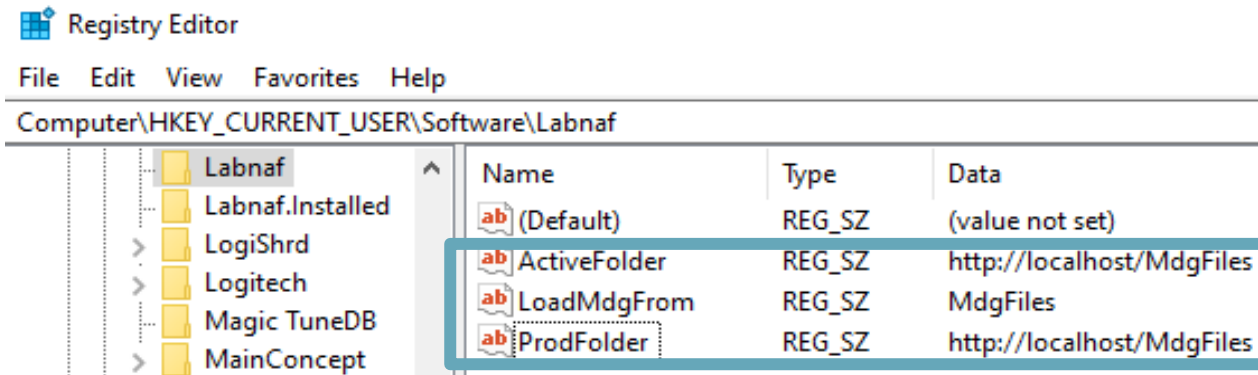
# Deployment for end users of the Labnaf Addin

To deploy the customized version of the language on end users' desktops, the software distribution package must set some registry keys under

## HKEY\_CURRENT\_USER\Software\Labnaf

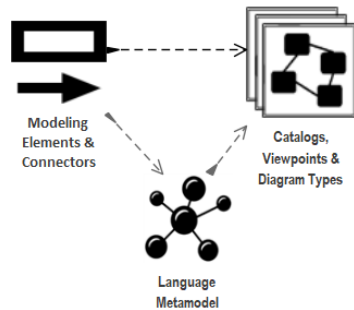
- **LoadMdgFrom** = MdgFiles
- **ActiveFolder** and **ProdFolder** point to the production folder ([web url](#) or [file system](#))

For end users ActiveFolder and ProdFolder must have the same value.

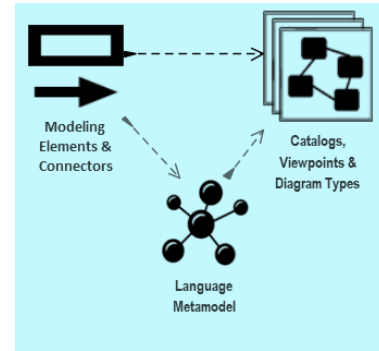


# Merging your Labnaf customizations into a new version of Labnaf

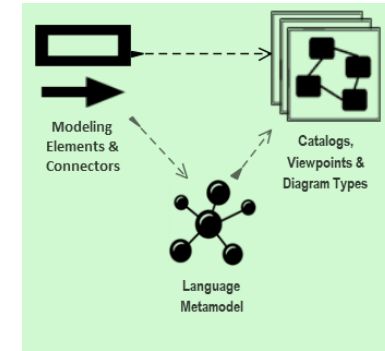
New tagged values,  
new elements types,  
new connector types



Labnaf Version X

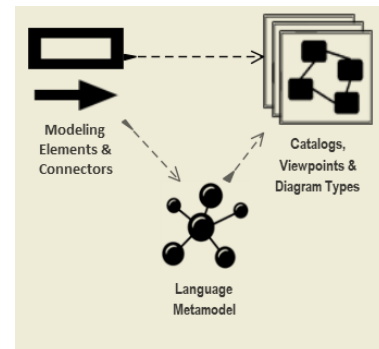


Labnaf Version X  
+ Customer Changes



Labnaf Version Y  
+ Customer Changes

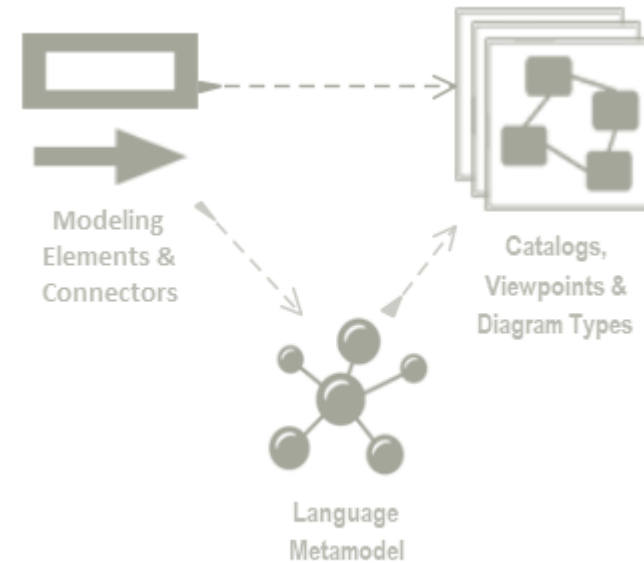
**How to proceed**



Labnaf Version Y

# See also: Labnaf Language Transformer

1. Customize the language



2. Adapt existing repository content

