



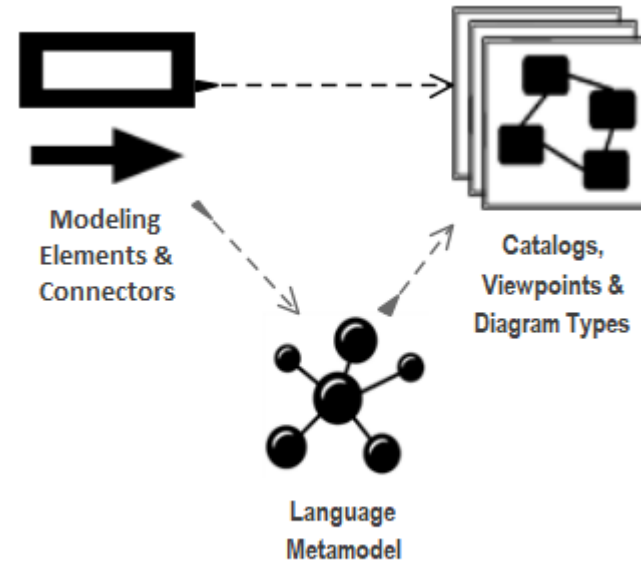
Unified Framework for Driving Transformations

Customization Workbench

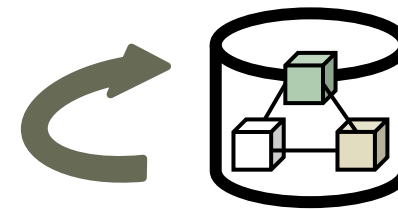
User Guide

Labnaf Customization Steps

1. Customize the language following your organization requirements

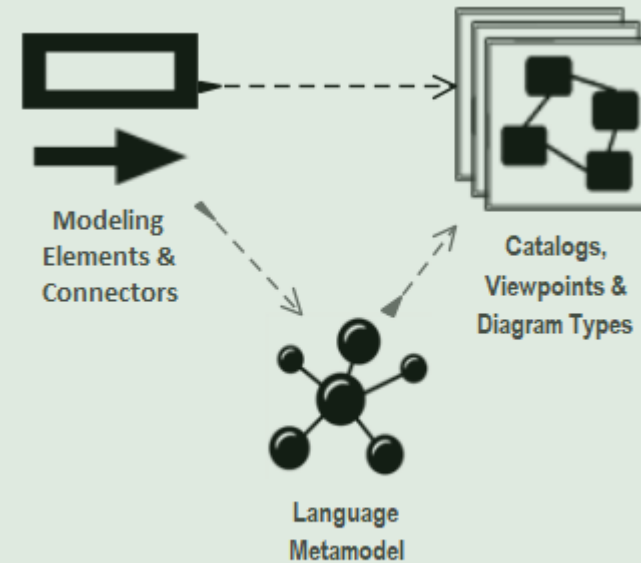


2. Adapt existing repository content

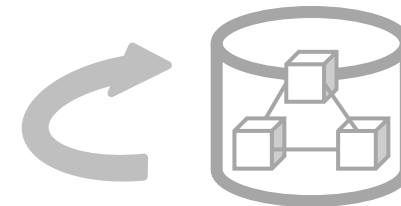


Labnaf Customization Workbench

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

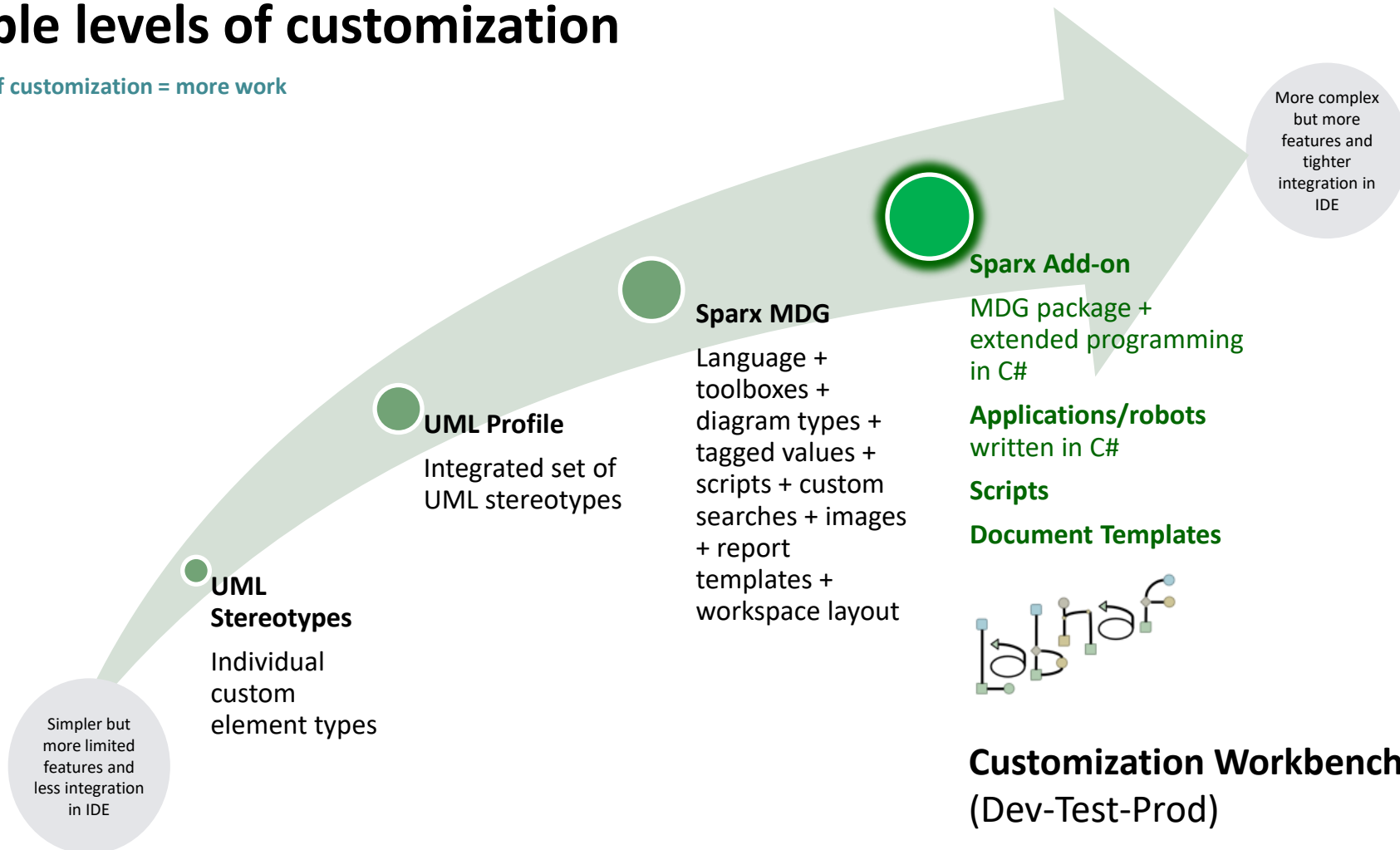


Extensive On-line Documentation

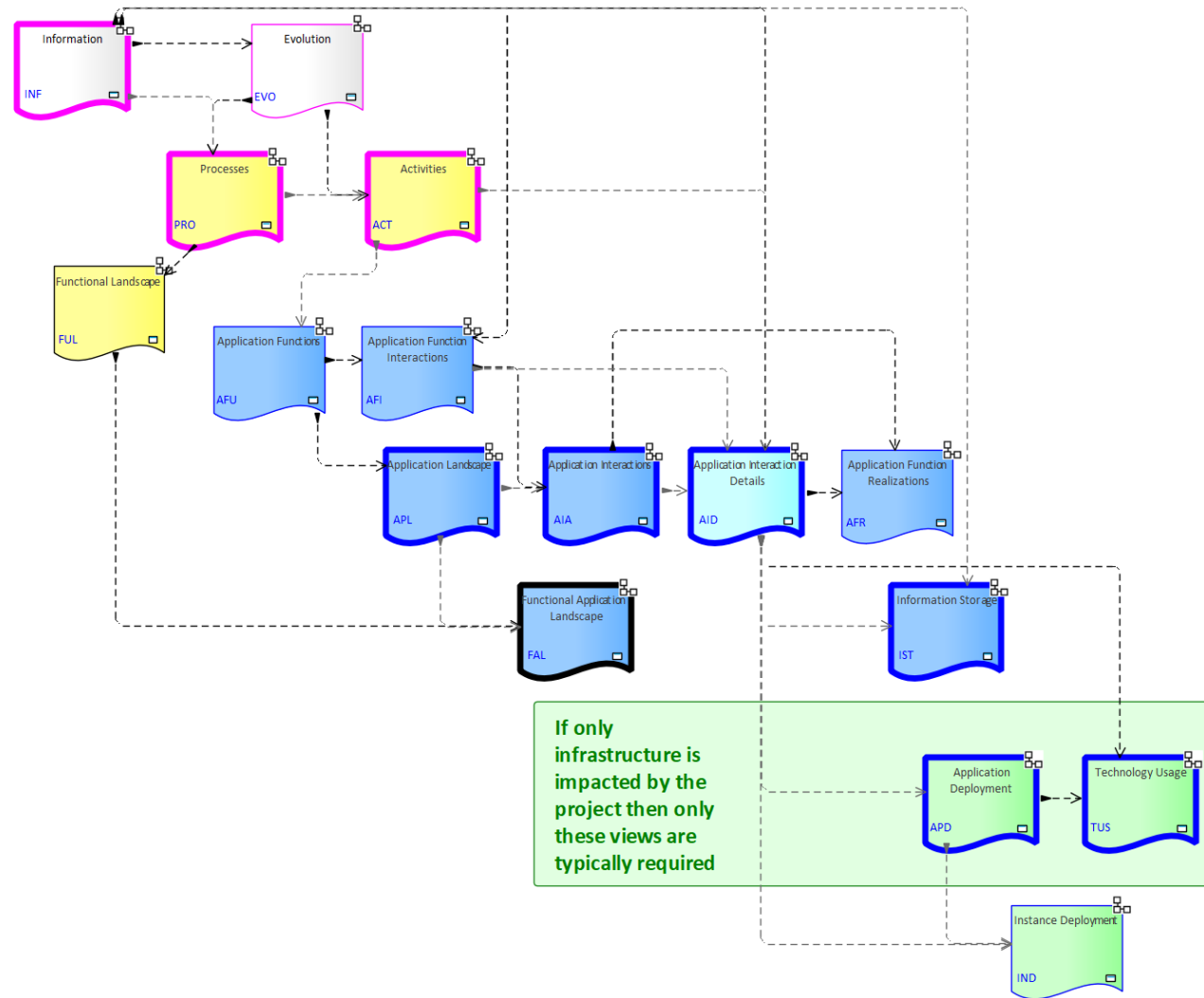
Sparx EA Software Development Kit (SDK)

Multiple levels of customization

Higher level of customization = more work



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

Examples

Activities

- Activity
- Gateway
- Intermediate Event
- End Event
- Role
- Start Event
- Swimlane
- Data Object
- Representation
- Application Function
- Application Component
- Location

Application Deployment

- Application as a Service
- Technology as a Service
- Application Deployment Set
- Application Component
- Data Store
- Logical Node
- System Software
- Location

Application Deployment Connectors

- Is deployed on
- Is part of
- Realizes
- Is dependent on
- Flow allowed by firewall

Activities Connectors

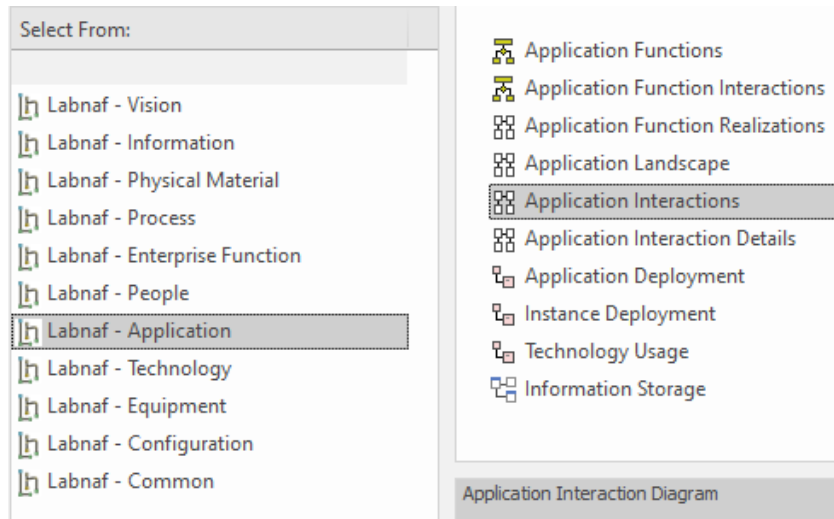
- Activity Trigger
- Realizes
- Access

We use verbs instead of nouns to indicate the meaning of the connector's directions

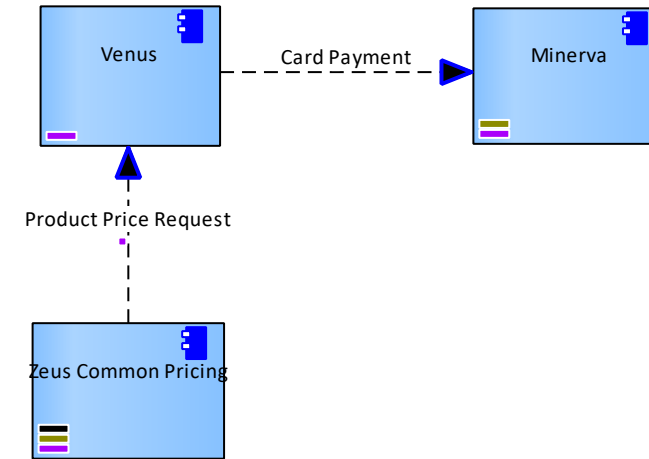
Diagram Types

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"

- Application Interaction
 - Application
 - Role
 - Organization Function
 - Organization
- Application Interaction Connectors
 - Application Flow
 - Depends on

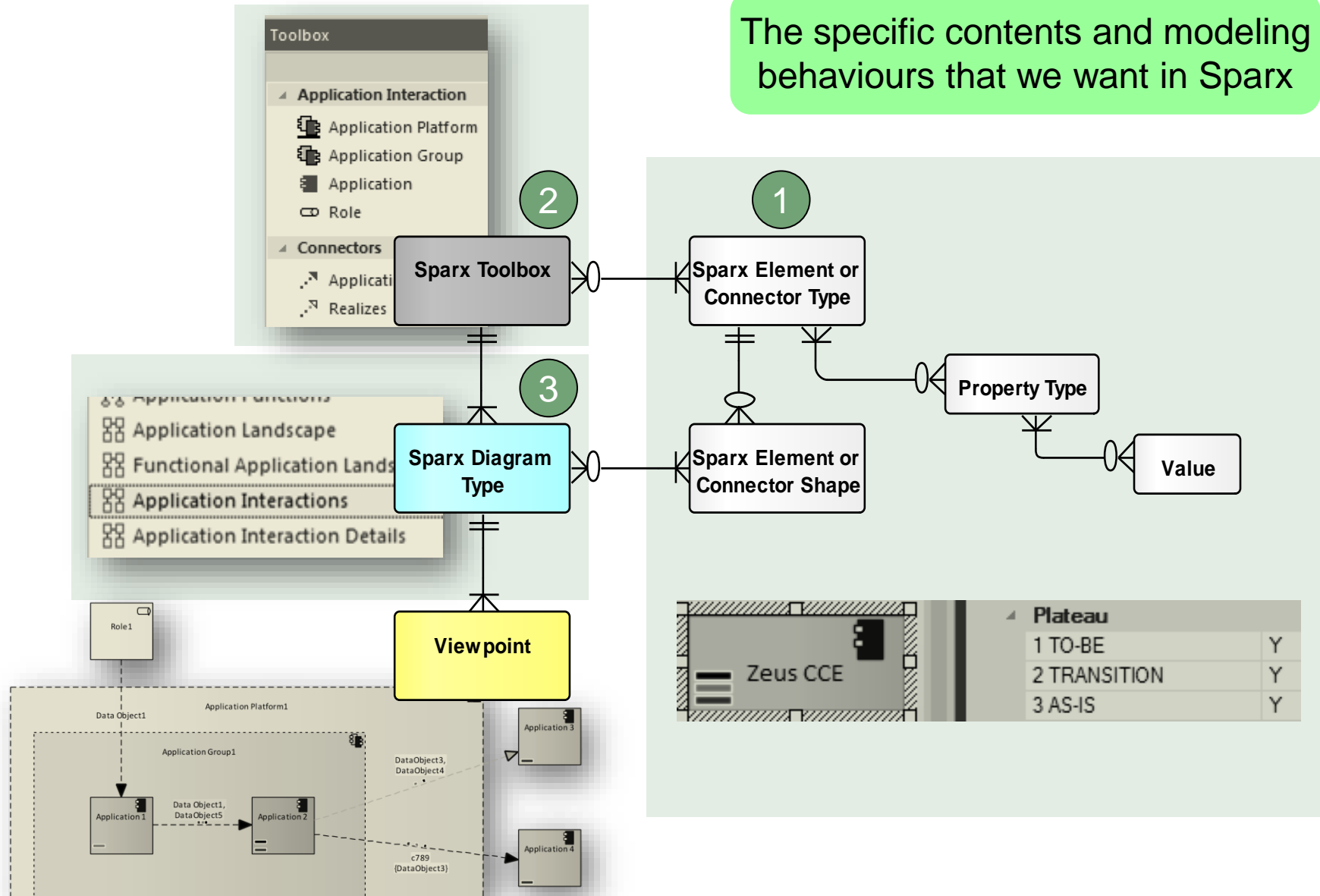
All elements and connectors used

(These are not actual toolboxes)

- Vision
 - Strategic Theme
 - Strategic Objective
 - Goal
 - Standard
 - Principle
 - Demand
 - Epic
 - Capability
 - Feature
 - Story
- Information
 - Information Domain
 - Entity
 - Representation
 - Data Object
- Process
 - Process
 - Start Event
 - Intermediate Event
 - Gateway
 - Activity
 - End Event
 - Swimlane
- Enterprise Function
 - Functional Domain
 - Functional Area
 - Functional Block
 - Functional Category
 - Functional Service
 - Access Point
- Physical
 - Equipment Function
 - Equipment Service
 - Equipment
 - Equipment Type
 - Facility
 - Distribution Network
 - Location
 - Material
- People
 - Organization Function
 - Organization Service
 - Role
 - Organisation
 - Individual
 - Contract
- Application
 - Application Function
 - Application as a Service
 - Application Service
 - Application Platform
 - Application Group
 - Application
 - Application Component
 - Data Store
- Technology
 - Technology Function
 - Technology as a Service
 - Node Type
 - System Software
 - Communication Network
 - Interface Protocol
 - Application Deployment Set
 - Logical Node
 - Instance Deployment Set
 - Node Instance
- All Connectors
 - Access
 - Association
 - Application Flow
 - Component Flow
 - Depends on
 - Deployment
 - Evolves into
 - Flow is allowed by firewall
 - Functional Flow
 - Functional Performer Flow
 - Impacts
 - Influences
 - Instance is part of
 - Instance is deployed on
 - Instance realizes
 - Is a constituent of
 - Is assigned to
 - Is bound by contract
 - Is owned by
 - Is part of
 - Network Interlink
 - Node to Network Connection
 - Path between Nodes
 - Physical Flow
 - Realizes
 - Specializes
 - Triggers

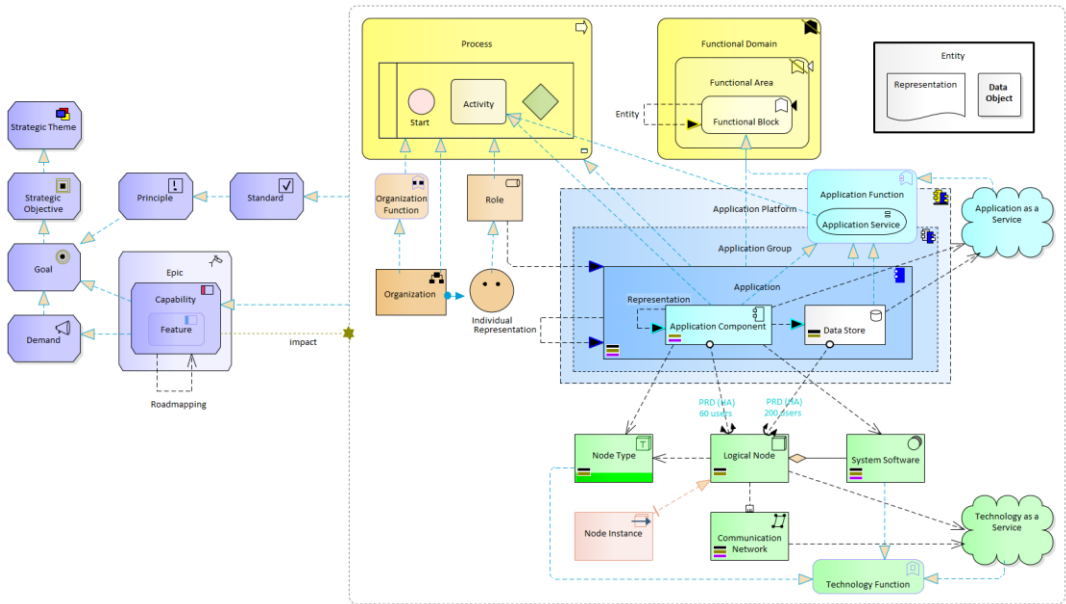
Key items to be designed and configured

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

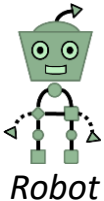
What we want



While Modeling

Existing Invalid Connectors

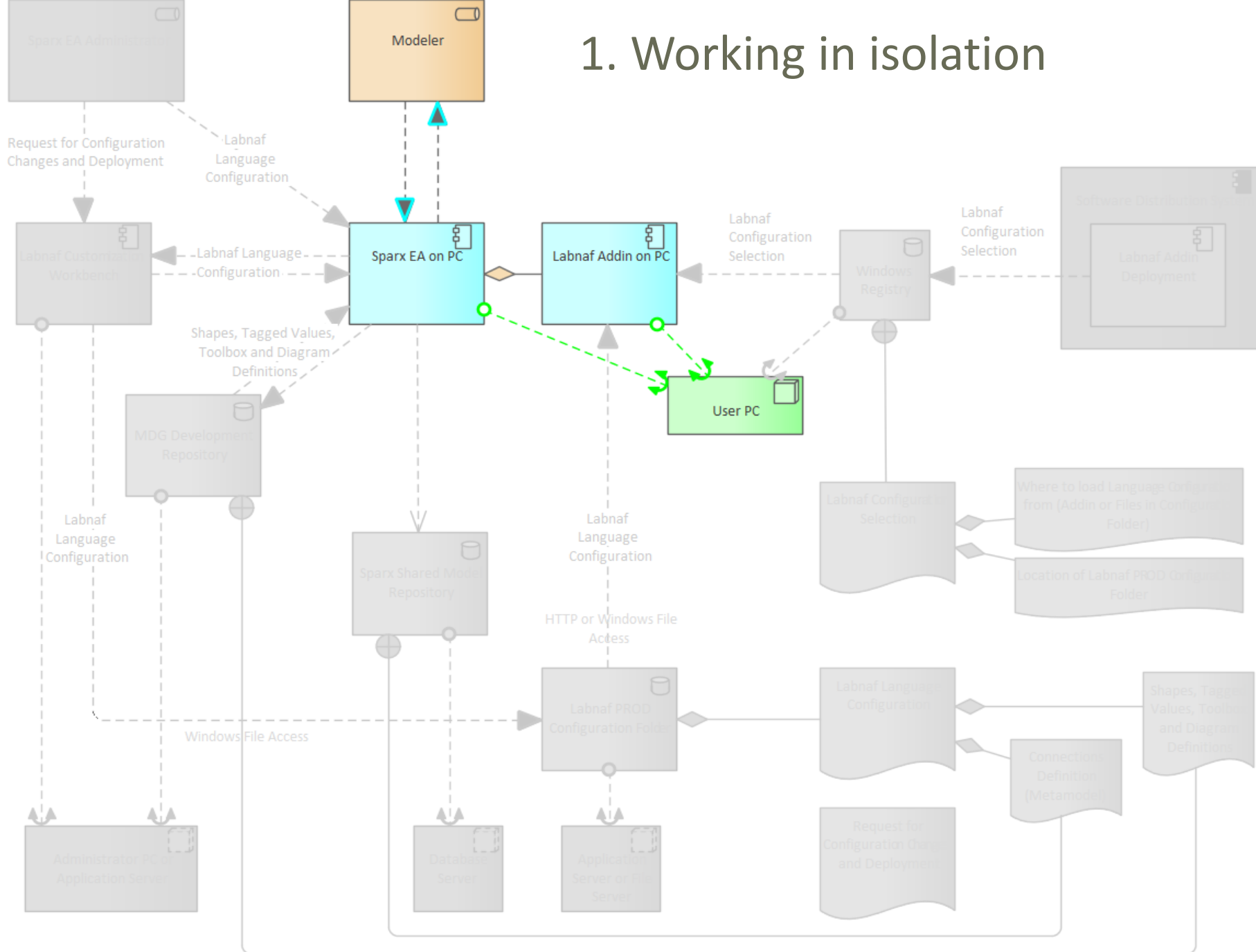
Prevent creation of invalid connectors



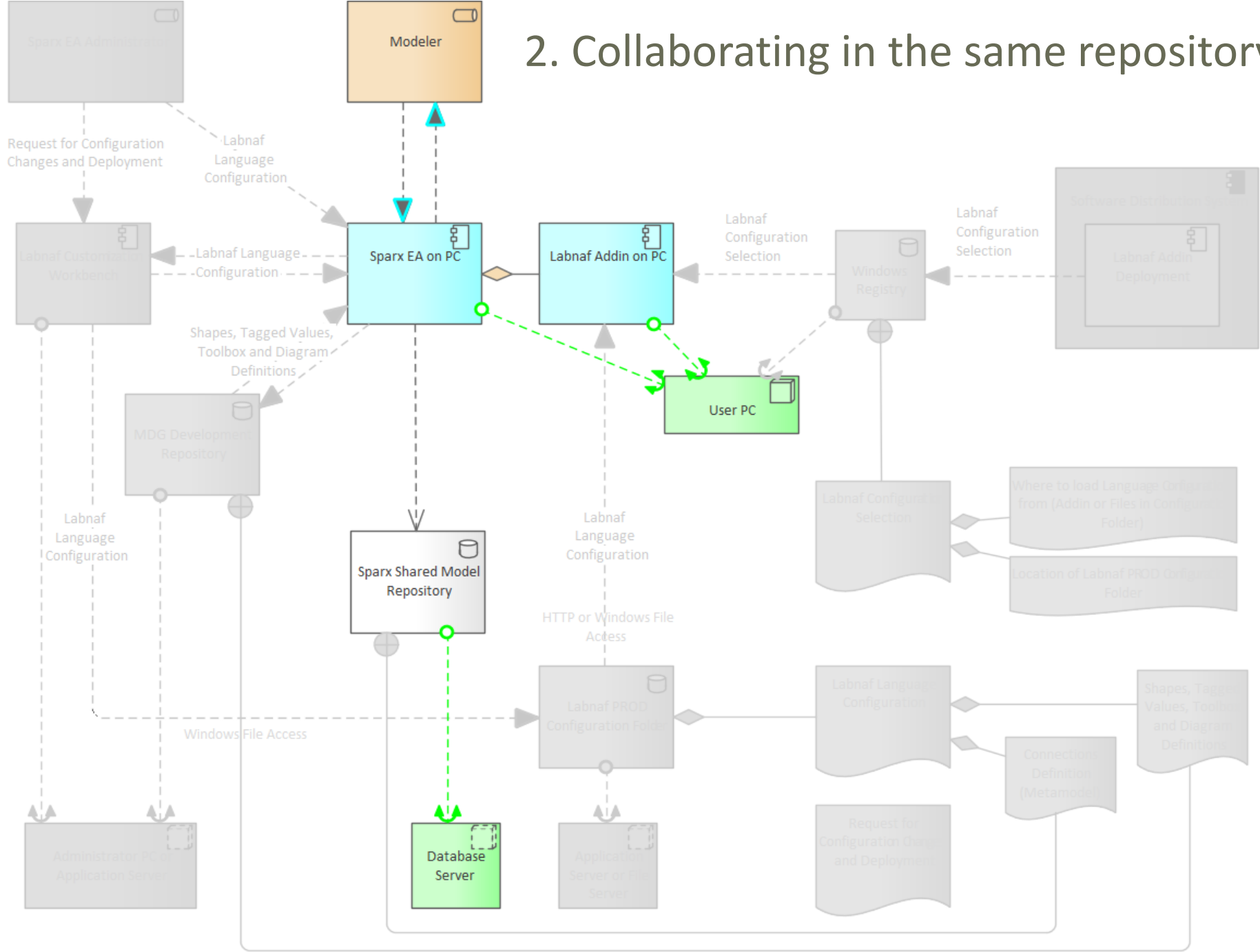
Send Error Emails to Relevant Recipients

The evolving environment

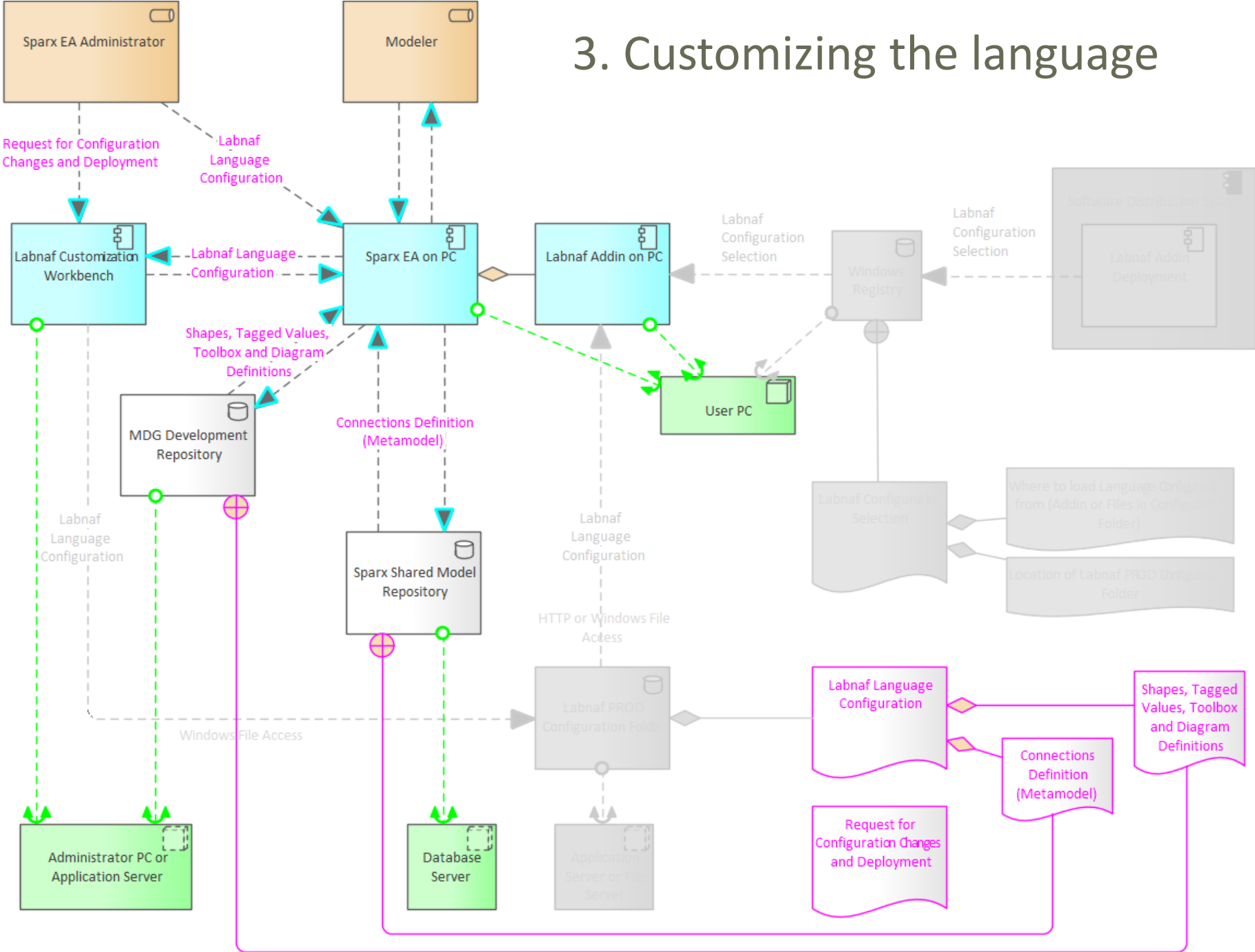
1. Working in isolation



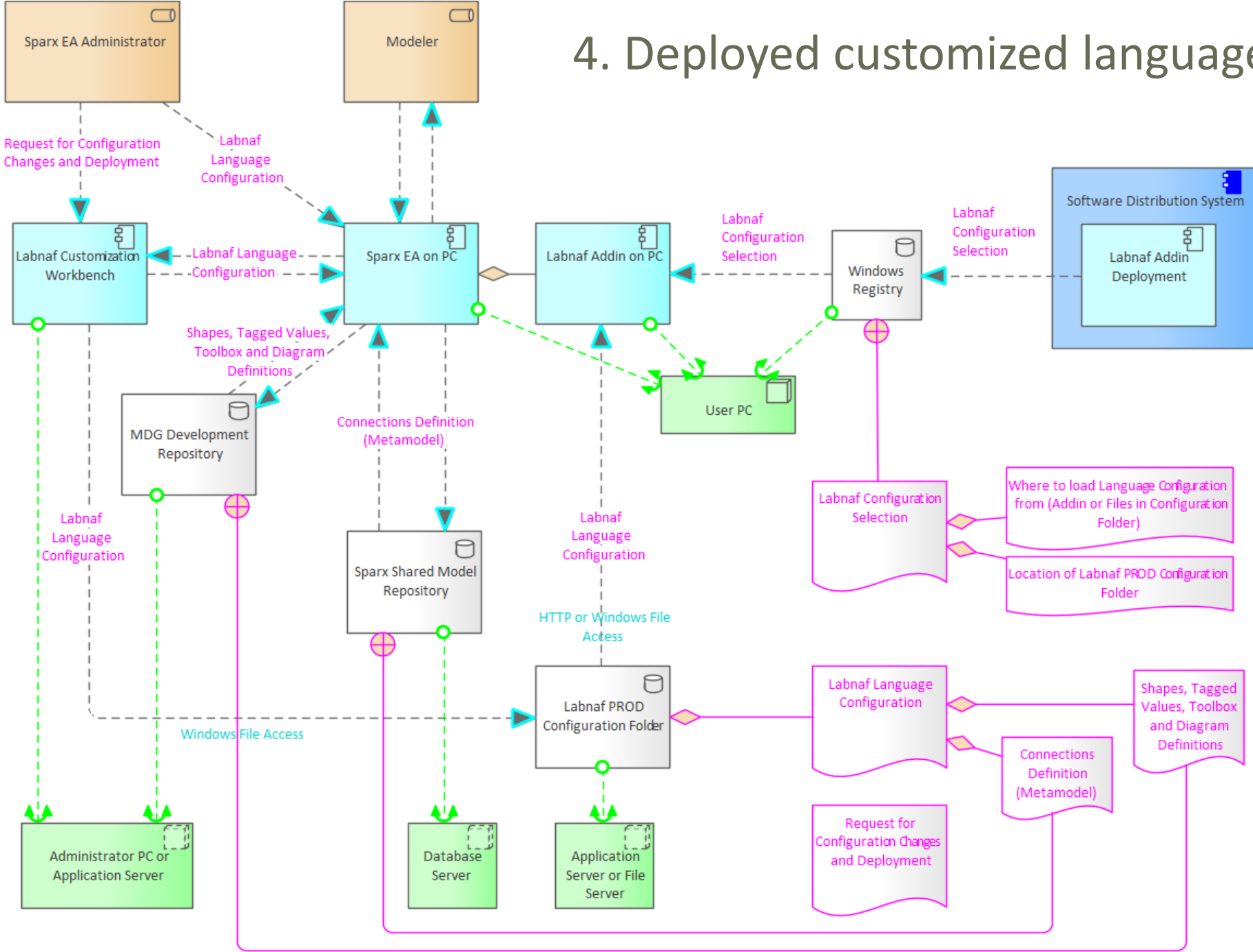
2. Collaborating in the same repository



3. Customizing the language



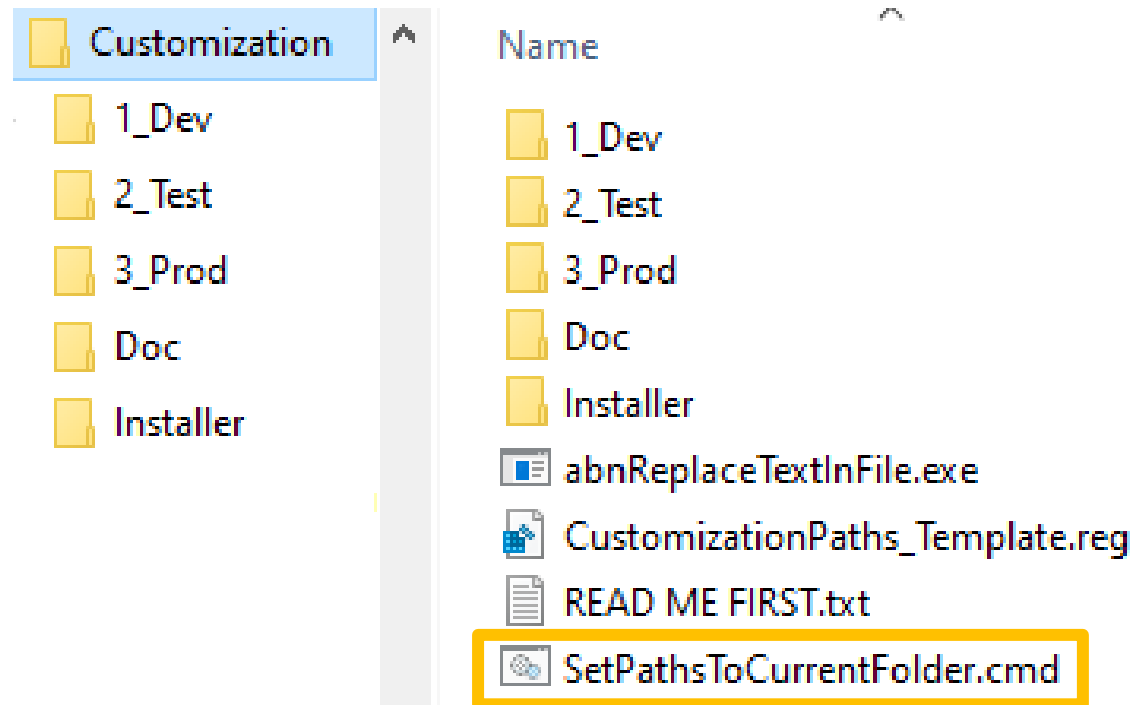
4. Deployed customized language



How to proceed in practice...

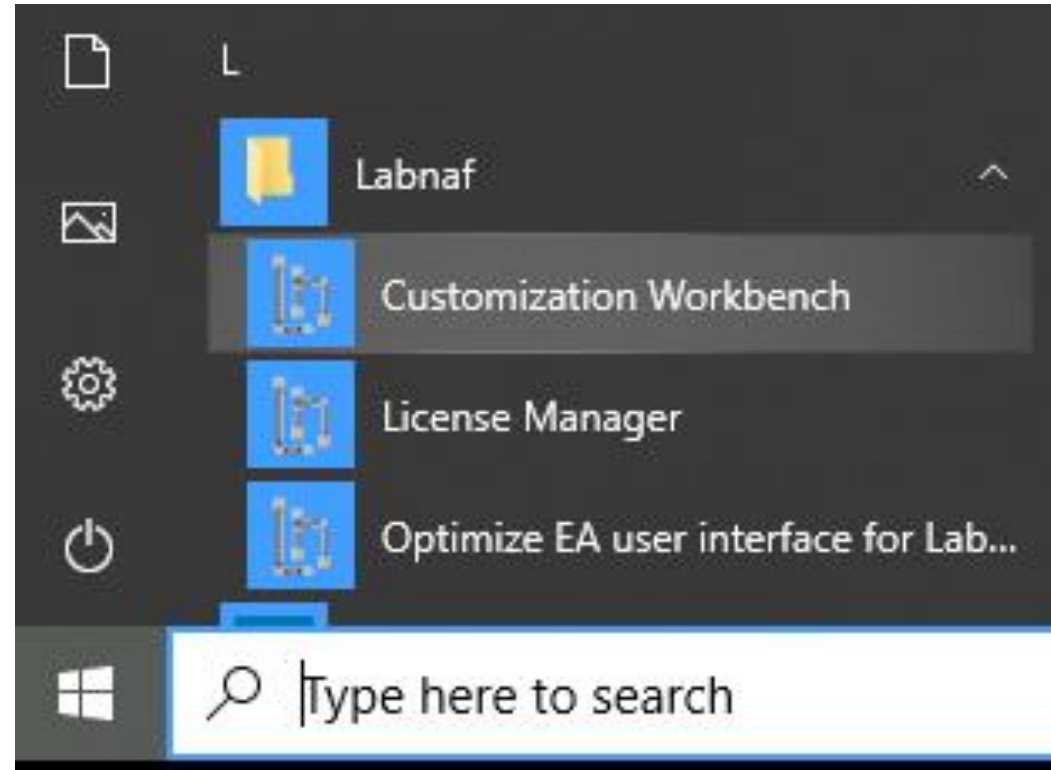
Automatic configuration to start customization

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

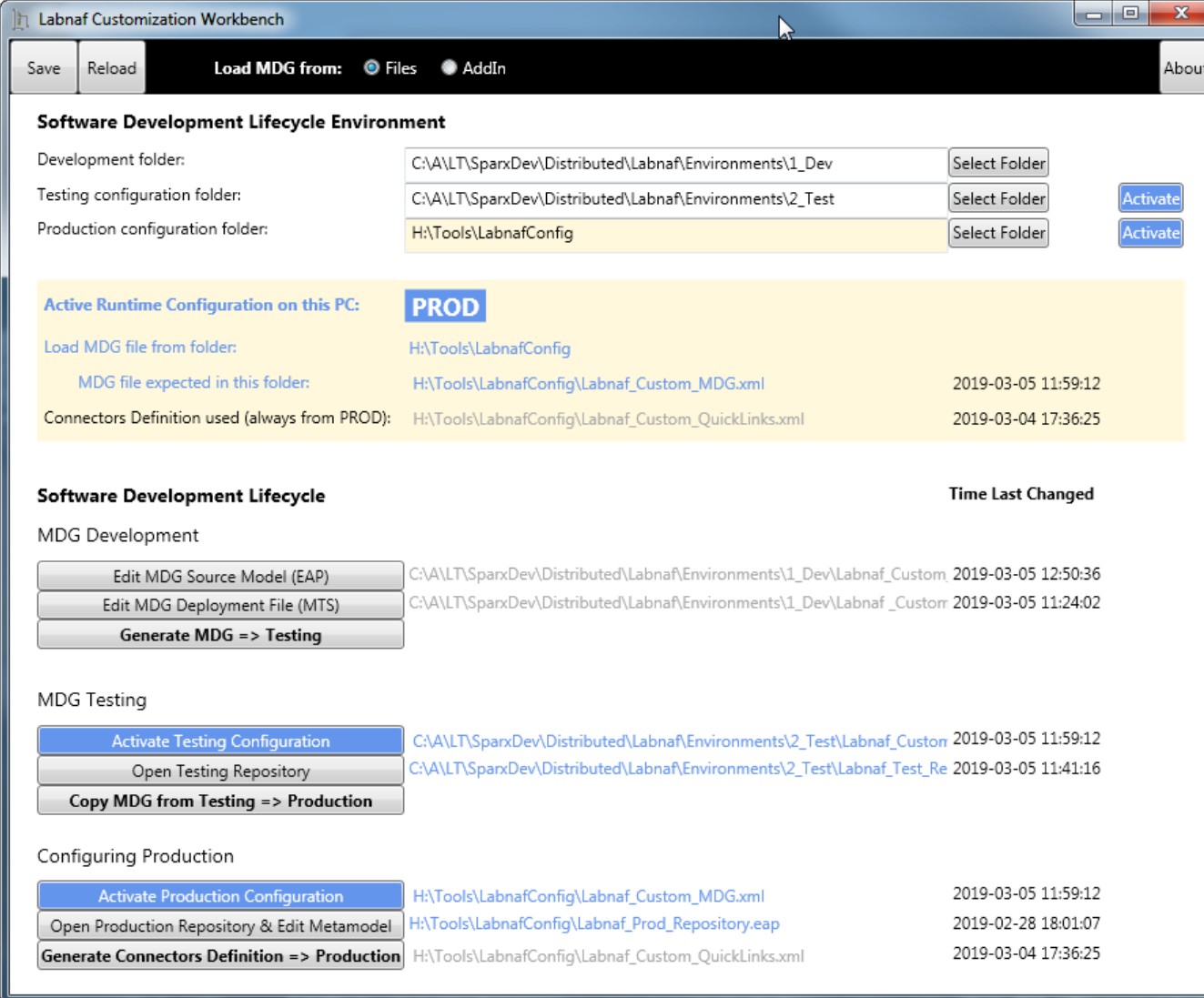


This updates the Labnaf configuration files and registry keys following the “Labnaf_Customization” folder location.

Start the Customization Workbench...



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

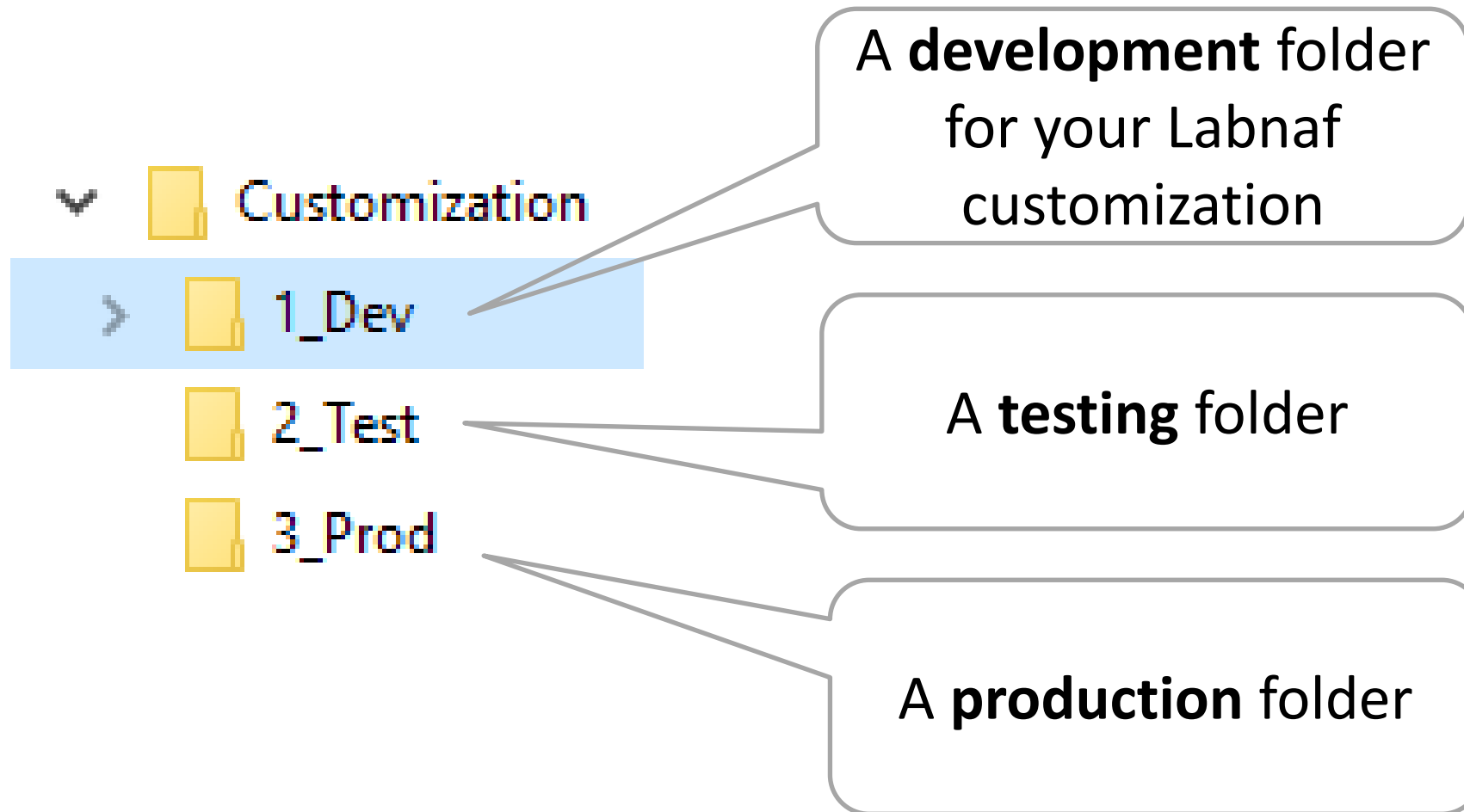


The screenshot displays the Labnaf Customization Workbench interface. At the top, there are buttons for 'Save', 'Reload', and 'About', along with a 'Load MDG from:' section with radio buttons for 'Files' and 'AddIn'. The main area is divided into several sections:

- Software Development Lifecycle Environment:** Contains three rows for 'Development folder', 'Testing configuration folder', and 'Production configuration folder'. Each row has a text input field, a 'Select Folder' button, and an 'Activate' button.
- Active Runtime Configuration on this PC:** A yellow highlighted section showing 'PROD' as the active configuration. Below it, a table 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.
- Software Development Lifecycle:** A table with two columns: 'Software Development Lifecycle' and 'Time Last Changed'. It lists various actions like 'Edit MDG Source Model (EAP)', 'Generate MDG => Testing', 'Activate Testing Configuration', and 'Generate Connectors Definition => Production'.



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, and a 'Load MDG from:' section with radio buttons for 'Files' (selected) and 'AddIn'. An 'About' button is on the right. The main content area is titled 'Software Development Lifecycle Environment' and contains three rows of settings:

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

Below this, a yellow box indicates the 'Active Runtime Configuration on this PC: **PROD**'. It lists the following settings:

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

The bottom section is titled 'Software Development Lifecycle' and includes a 'Time Last Changed' column. It lists three actions:

	Time Last Changed
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

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> Picture WSL LABN_Diagrams_01_Vision.xml LABN_Diagrams_02_Information.xml LABN_Diagrams_03_Physical_Material.xml LABN_Diagrams_04_Process.xml LABN_Diagrams_05_Enterprise_Function.xml LABN_Diagrams_06_People.xml LABN_Diagrams_07_Application.xml LABN_Diagrams_08_Technology.xml LABN_Diagrams_09_Equipment.xml LABN_Diagrams_10_Configuration.xml LABN_Diagrams_11_Common.xml LABN_Diagrams_99_All.xml LABN_TB_Activities.xml LABN_TB_Any.xml LABN_TB_App_Dep.xml LABN_TB_App_Func.xml LABN_TB_App_Func_Interactions.xml LABN_TB_App_Func_Realizations.xml LABN_TB_App_Inter_Details.xml LABN_TB_App_Interactions.xml LABN_TB_App_Land.xml LABN_TB_Archi_Management.xml LABN_TB_Connectivity.xml | <ul style="list-style-type: none"> LABN_TB_ContractsAndImplications.xml LABN_TB_ControlledElementValues.xml LABN_TB_Corp_Strategy_Map.xml LABN_TB_Demands.xml LABN_TB_Distribution.xml LABN_TB_Entities.xml LABN_TB_Equipment_Func.xml LABN_TB_Equipment_Func_Relizations.xml LABN_TB_Equipment_Land.xml LABN_TB_Evolution.xml LABN_TB_FreeText.xml LABN_TB_Func_App_Land.xml LABN_TB_Func_Eqp_Land.xml LABN_TB_Func_Interactions.xml LABN_TB_Func_Land.xml LABN_TB_Func_Org_Land.xml LABN_TB_Goals.xml LABN_TB_HLReqRoadmap.xml LABN_TB_Info_Prod_and_Usage.xml LABN_TB_Info_Storage.xml LABN_TB_Information.xml LABN_TB_Instance_Dep.xml LABN_TB_Locations.xml LABN_TB_Material.xml LABN_TB_Motivations.xml | <ul style="list-style-type: none"> LABN_TB_Org_Func.xml LABN_TB_Org_Func_Interactions.xml LABN_TB_Org_Func_Realizations.xml LABN_TB_Org_Interactions.xml LABN_TB_Org_Land.xml LABN_TB_Owned_By_Ent_Func.xml LABN_TB_Owned_By_Organizations.xml LABN_TB_Phys_Func_Interactions.xml LABN_TB_Phys_Interactions.xml LABN_TB_Principles.xml LABN_TB_Process_Realizations.xml LABN_TB_Processes.xml LABN_TB_Standards.xml LABN_TB_StdTechSvc.xml LABN_TB_Tabular_Report_Template_Design.xml LABN_TB_Tech.xml LABN_TB_Tech_Func_Realizations.xml LABN_TB_Tech_Land.xml LABN_TB_Tech_Usage.xml Labnaf_Custom_Dev.eap Labnaf_Custom_MDG.xml Labnaf_Custom_Profile.xml Labnaf_Custom_Template.MTS |
|---|--|--|

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>

Customization

1_Dev

2_Test

3_Prod

Develop your customized Labnaf language

The screenshot shows the 'Labnaf Customization Workbench' application window. At the top, there are 'Save' and 'Reload' buttons, and a 'Load MDG from:' section with radio buttons for 'Files' (selected) and 'AddIn'. An 'About' button is in the top right corner.

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
Generate MDG => Testing	

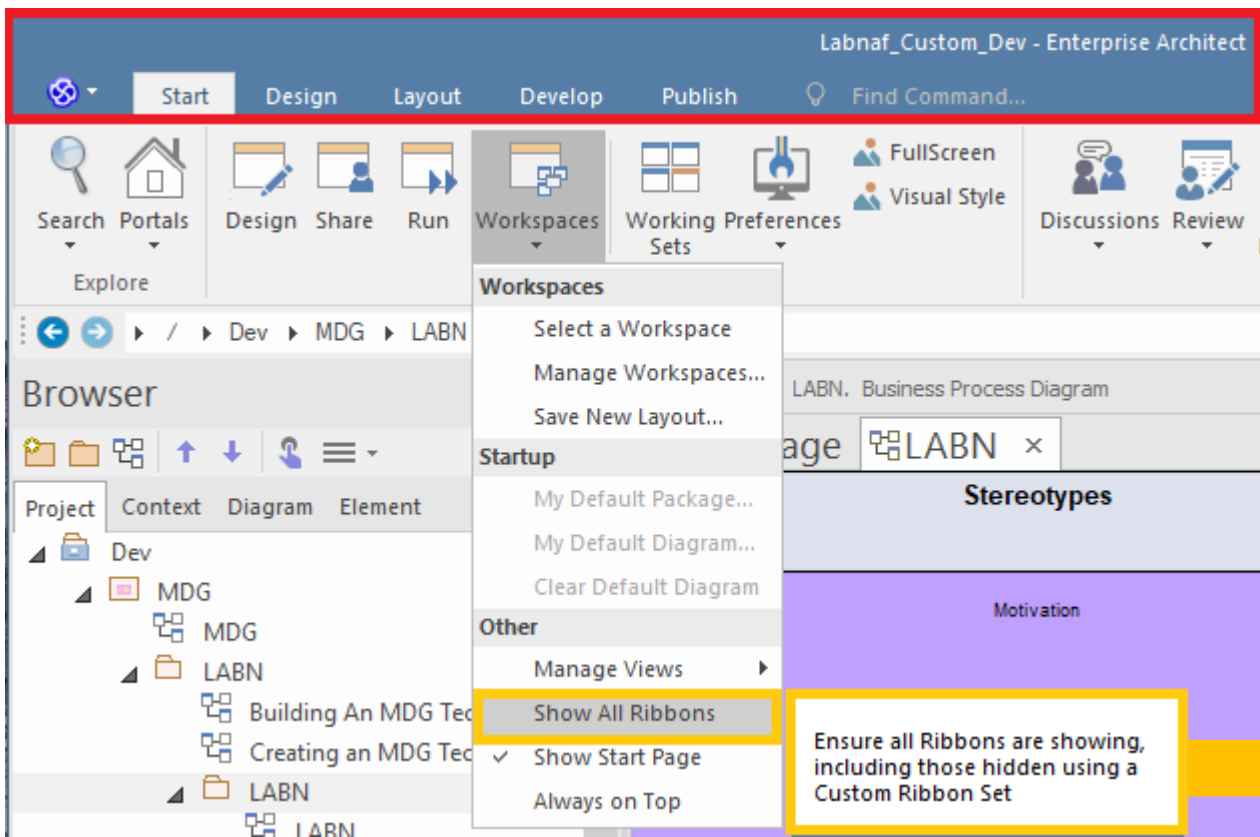
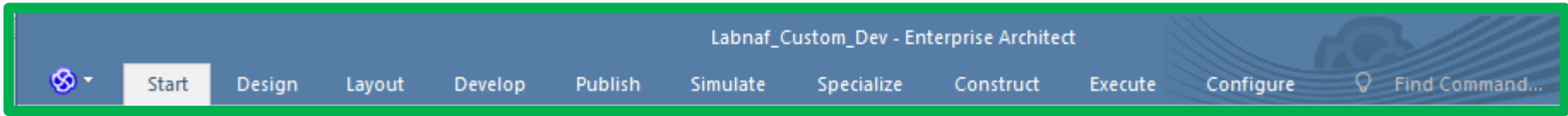
Customization

1_Dev

2_Test

3_Prod

As soon as the Labnaf_Custom_dev.eap in open **ensure all ribbons are showing**



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

Customization

1_Dev

2_Test

3_Prod

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 changeable at runtime**

The screenshot shows a customization menu with the following items:

- Profiles
- Patterns
- Diagram Types
- Toolboxes
- Tagged Value Types

Other:

- Images
- Scripts
- Workspace Layouts

Code Modules

- Code Modules
- DDL Modules
- MDA Transforms

Reports

- RTF Templates
- Linked Document Templates

Model Views

- Model Views
- Searches

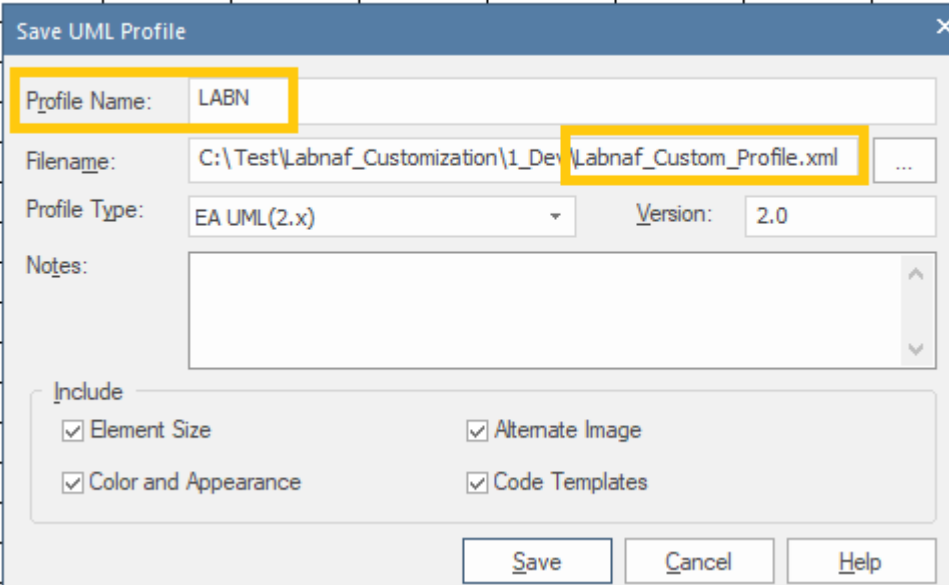
Updating the Labnaf MDG Profiles

See Sparx System's EA documentation about updating

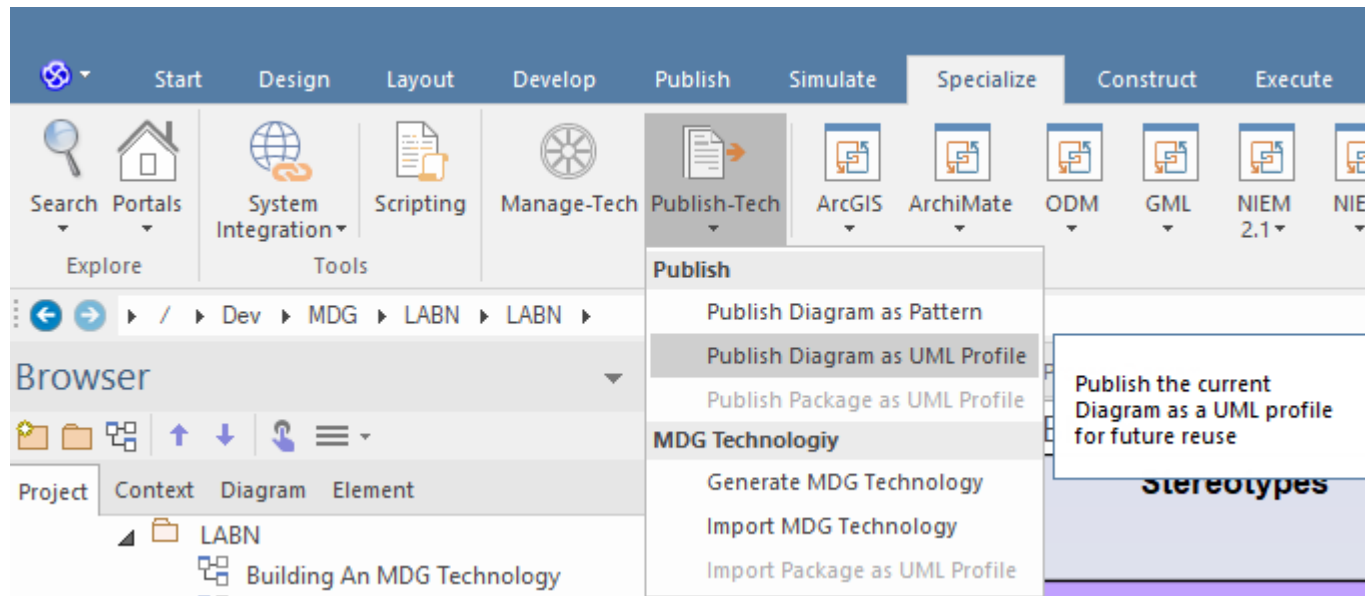
- [Stereotype Profiles](#)
- [Toolbox Profiles](#)
- [Diagram Profiles](#)

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

	A	B	C	D	E	F	G	H	I	J
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										



Saving the Labnaf MDG Profiles



Working around a Sparx bug: Making sure the default colors are saved when saving as profile

- Either **show the pan & zoom window**
- or scroll down the length of the diagram once before you do an export
- or save the diagram fully zoomed out.

Generate the Customized Labnaf MDG file (Language configuration)

The screenshot shows the Labnaf Customization Workbench interface. At the top, there are buttons for 'Save', 'Reload', and 'About'. Below that, a 'Load MDG from:' section has radio buttons for 'Files' (selected) and 'AddIn'. The main area is titled 'Software Development Lifecycle Environment' and contains three rows of configuration fields: 'Development folder' (C:\ALT\SparxDev\Distributed\Labnaf\Environments\1_Dev), 'Testing configuration folder' (C:\ALT\SparxDev\Distributed\Labnaf\Environments\2_Test), and 'Production configuration folder' (H:\Tools\LabnafConfig). Each row has a 'Select Folder' button and an 'Activate' button. Below this is a section for 'Active Runtime Configuration on this PC:' with a dropdown set to 'PROD'. It lists 'Load MDG file from folder' (H:\Tools\LabnafConfig), 'MDG file expected in this folder' (H:\Tools\LabnafConfig\Labnaf_Custom_MDG.xml) with a timestamp of 2019-03-05 11:59:12, and 'Connectors Definition used (always from PROD):' (H:\Tools\LabnafConfig\Labnaf_Custom_QuickLinks.xml) with a timestamp of 2019-03-04 17:36:25. The bottom section, 'Software Development Lifecycle', is a table with columns for actions and 'Time Last Changed'. The 'Generate MDG => Testing' button is highlighted with a yellow box and an arrow pointing to the 'Activate Testing Configuration' button in the 'MDG Testing' section, which is also highlighted with a yellow box. The 'Activate Testing Configuration' button shows the path C:\ALT\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Custom and the timestamp 2019-03-05 11:59:12.

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

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

The screenshot shows the Labnaf Customization Workbench interface. At the top, there are buttons for 'Save', 'Reload', and 'About'. The 'Load MDG from:' section has radio buttons for 'Files' (selected) and 'AddIn'. Below this, the 'Software Development Lifecycle Environment' section contains three rows for 'Development folder', 'Testing configuration folder', and 'Production configuration folder', each with a text input field, a 'Select Folder' button, and an 'Activate' button. The 'Testing configuration folder' is highlighted in yellow. Below this, a yellow box displays 'Active Runtime Configuration on this PC: TESTING' and lists 'Load MDG file from folder', 'MDG file expected in this folder', and 'Connectors Definition used (always from PROD)'. The bottom section, 'Software Development Lifecycle', is a table with columns for actions and 'Time Last Changed'. It is divided into 'MDG Development', 'MDG Testing', and 'Configuring Production' sub-sections.

Software Development Lifecycle	Time Last Changed
MDG Development	
Edit MDG Source Model (EAP)	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-29 12:32:17
Edit MDG Deployment File (MTS)	C:\A\LT\SparxDev\Distributed\Labnaf\Environments\1_Dev\Labnaf_Custom 2019-03-29 12:36:02
Generate MDG => Testing	
MDG Testing	
Activate Testing Configuration	M:\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Custom_MI 2019-03-29 12:36:02
Open Testing Repository	M:\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Test_Reposit 2019-03-05 11:41:16
Copy MDG from Testing => Production	
Configuring Production	
Activate Production Configuration	M:\SparxDev\Distributed\Labnaf\Environments\3_Prod\Labnaf_Custom_MI 2019-03-10 12:15:46
Open Production Repository & Edit Metamodel	M:\SparxDev\Distributed\Labnaf\Environments\3_Prod\Labnaf_Prod_Repos 2019-03-27 17:18:17
Generate Connectors Definition => Production	M:\SparxDev\Distributed\Labnaf\Environments\3_Prod\Labnaf_Custom_Qu 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 interface. The window title is "Labnaf Customization Workbench". The top menu bar includes "Save", "Reload", "Load MDG from:" (with radio buttons for "Files" and "AddIn"), and "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_Custorr	2019-03-05 11:24:02
Generate MDG => Testing		

MDG Testing

Activate Testing Configuration	C:\ALT\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Custorr	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		

An orange arrow points from the "Copy MDG from Testing => Production" button to the "Activate Production Configuration" button. The "Activate Production Configuration" button and its corresponding row in the table below are highlighted with an orange border.

Customization

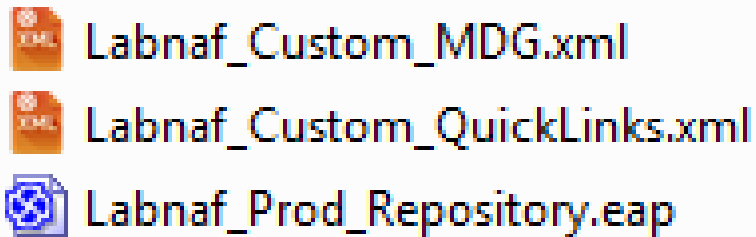
1_Dev

2_Test

3_Prod

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 '3_Prod' folder is selected in the left sidebar. The main window displays the 'Software Development Lifecycle Environment' configuration. The 'Production configuration folder' is set to 'H:\Tools\LabnafConfig' and is highlighted in yellow. Below this, the 'Active Runtime Configuration on this PC' is set to 'PROD'. The 'Load MDG file from folder' is 'H:\Tools\LabnafConfig'. The 'MDG file expected in this folder' is 'H:\Tools\LabnafConfig\Labnaf_Custom_MDG.xml' with a timestamp of '2019-03-05 11:59:12'. The 'Connectors Definition used (always from PROD)' is 'H:\Tools\LabnafConfig\Labnaf_Custom_QuickLinks.xml' with a timestamp of '2019-03-04 17:36:25'. The 'Software Development Lifecycle' section is divided into 'MDG Development' and 'MDG Testing'. The 'MDG Development' section includes buttons for 'Edit MDG Source Model (EAP)', 'Edit MDG Deployment File (MTS)', and 'Generate MDG => Testing'. The 'MDG Testing' section includes buttons for 'Activate Testing Configuration', 'Open Testing Repository', and 'Copy MDG from Testing => Production'. The 'Configuring Production' section is highlighted with a yellow box and includes buttons for 'Activate Production Configuration', 'Open Production Repository & Edit Metamodel', and 'Generate Connectors Definition => Production'.

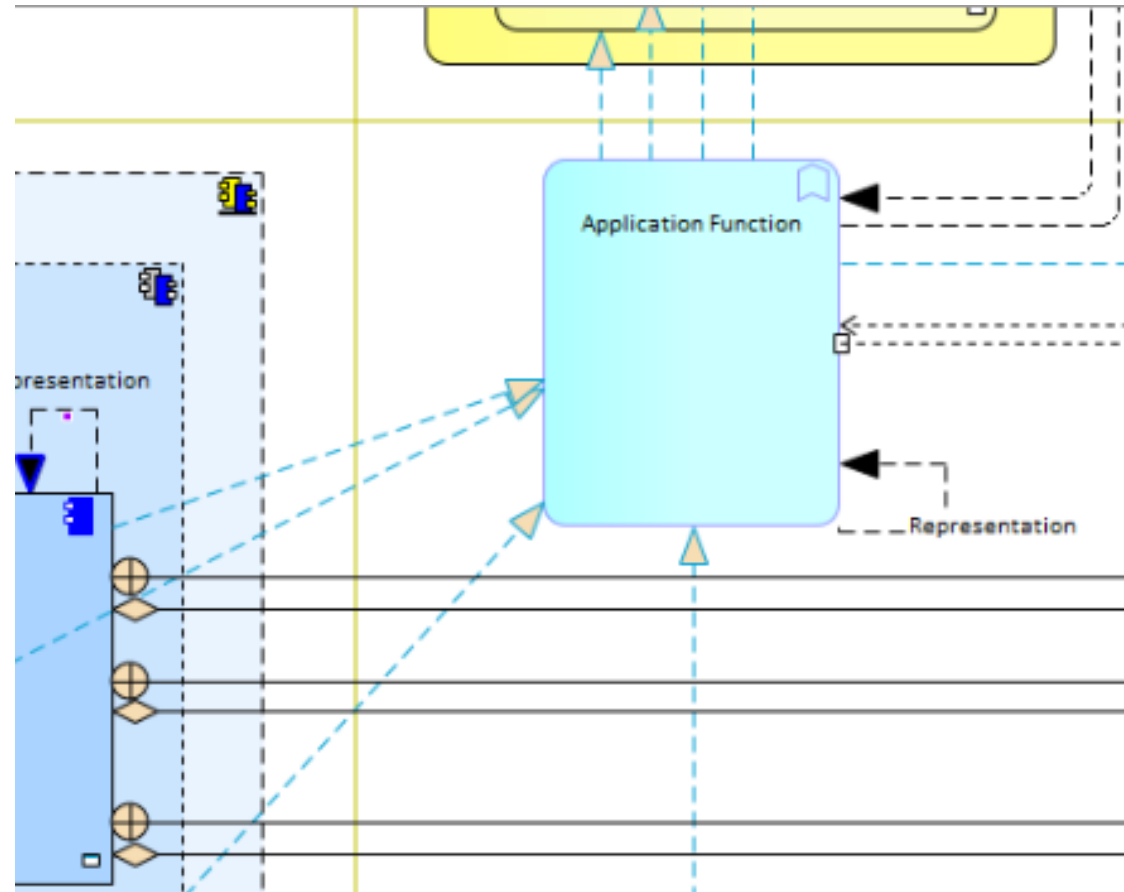
Software Development Lifecycle Environment	
Development folder:	C:\ALT\SparxDev\Distributed\Labnaf\Environments\1_Dev
Testing configuration folder:	C:\ALT\SparxDev\Distributed\Labnaf\Environments\2_Test
Production configuration folder:	H:\Tools\LabnafConfig

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
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_Custorr	2019-03-05 11:24:02
MDG Testing		
Activate Testing Configuration	C:\ALT\SparxDev\Distributed\Labnaf\Environments\2_Test\Labnaf_Custorr	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
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. At the top, there are buttons for 'Save', 'Reload', and 'About'. Below this is a 'Load MDG from:' section with radio buttons for 'Files' (selected) and 'AddIn'. The main area is titled 'Software Development Lifecycle Environment' and contains three rows of configuration fields: 'Development folder', 'Testing configuration folder', and 'Production configuration folder'. Each row has a text input field, a 'Select Folder' button, and an 'Activate' button. The 'Production configuration folder' is highlighted in yellow. Below this is a section titled 'Active Runtime Configuration on this PC:' with a blue 'PROD' button. Underneath, there are three rows of configuration details: 'Load MDG file from folder', 'MDG file expected in this folder', and 'Connectors Definition used (always from PROD):'. The bottom part of the interface is titled 'Software Development Lifecycle' and contains a table of actions with their corresponding file paths and 'Time Last Changed'.

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
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
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

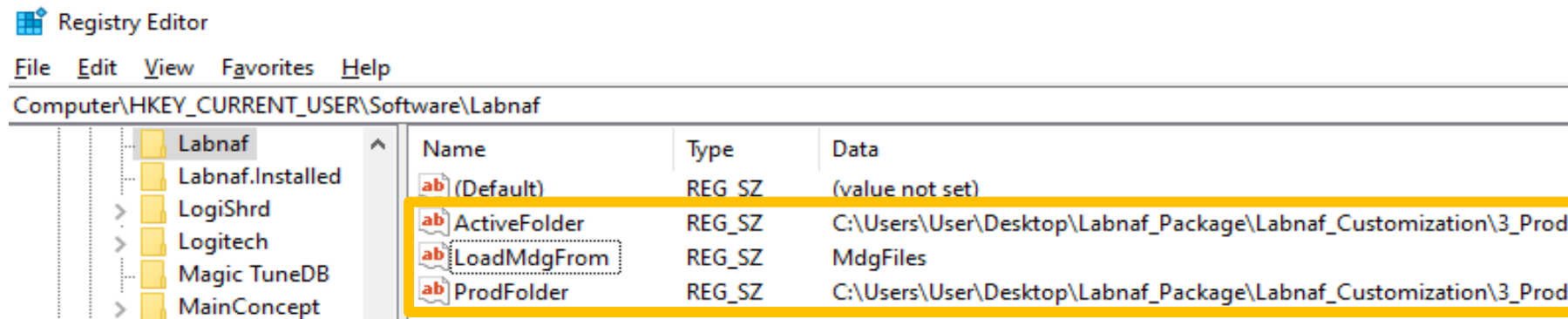
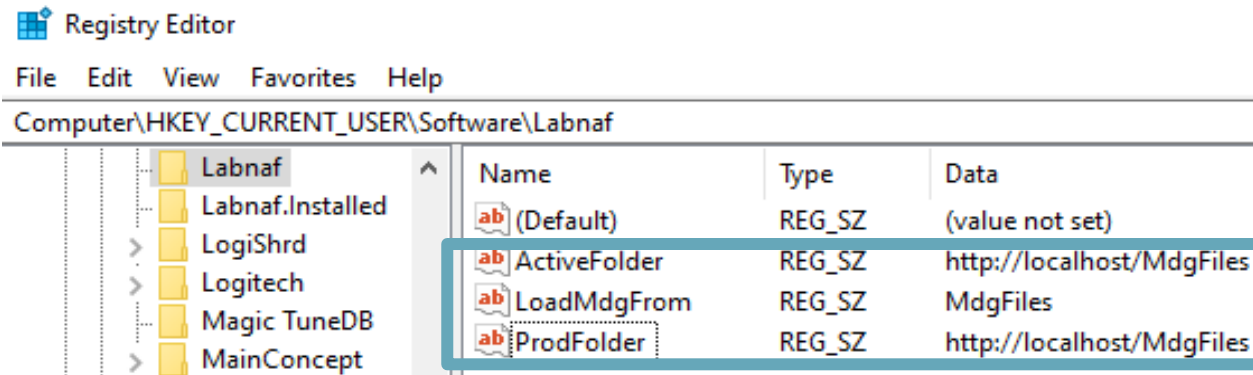
Deployment for end users of the Labnaf Addin

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

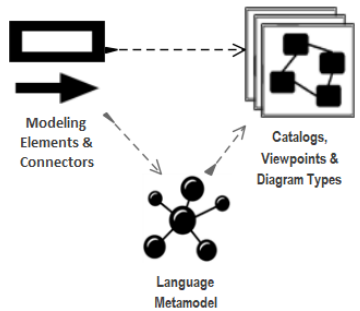
- **LoadMdgFrom** = MdgFiles
- **ActiveFolder** and **ProdFolder** point to the production folder (**web url** or **file system**)

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

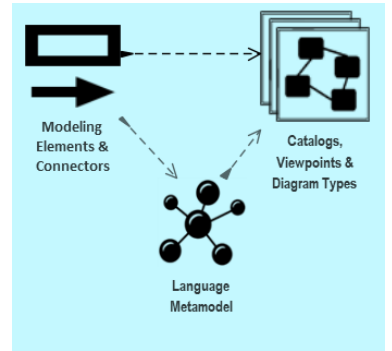


Merging your Labnaf customizations into a new version of Labnaf

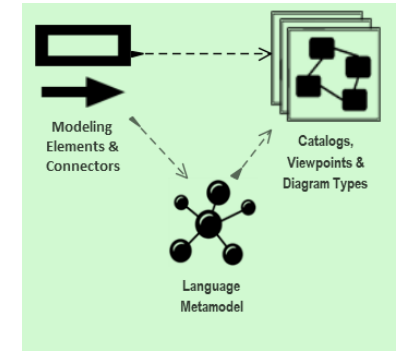
New tagged values,
new elements types,
new connector types



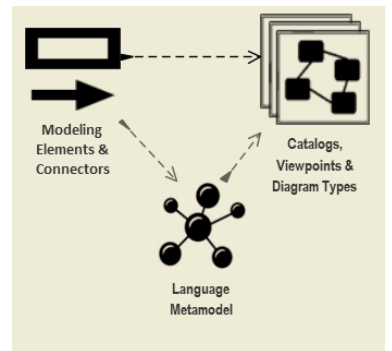
Labnaf Version X



Labnaf Version X
+ Customer Changes



Labnaf Version Y
+ Customer Changes



Labnaf Version Y

How to proceed