GIJSELSDOTCOM CONSULTING & THE INSTITUTE
the Partner for your Digital Transformation & Education
www.gijsels.com

AdeptEvents

Maastricht UMC+

CURSUS SPARX ENTERPRISE ARCHITECT

Fundamentals & Best Practices

SPARX SYSTEMS
Enterprise Architect Official Training Partner

Enterprise Architect is a trademark of Sparx Systems PTY LTD.

Course Sparx ® Enterprise Architect

SPARX® Enterprise Architect helps individuals, groups and large organizations model and manage complex information. By integrating and connecting a wide range of structural and behavioral information in visual form, you can build an end-to-end coherent, verifiable model of what-is or what-will-be for every role in your organization.

ArchiMate® BPMN DMN CMMN UML SPARX SYSTEMS Enterprise Architect Archi archimate modelling camunda LeanIX bizagi

Seminar - Classroom - Hands-on Labs - e-Learning - Blended Learning - Virtual Classroom

Index

Part I: Introduction

- Enterprise Architeture
- End-to-end Framework

Introduction - Enterprise Architecture

Business Architecture / Enterprise Architecture is a relative young profession although a lot happened last 10 years. There were a lot of architecture methods, techniques and frameworks, a lot of them were developed by consulting/advisory organizations and not publicly available.

In essence **Enterprise Architecture** is about the **guidance** of **decision making** on both short and long term changes. Since every architect, manager and designer have their own language it is evident that there is a need to create a **unified way of communicating**

That's why there is a clear trend towards **open institutes** with **open standards**.

Gartner – Magic Quadrant for Enterprise Architecture Tools

Market Definition / Description

Enterprise architecture (EA) tools are software applications designed to support enterprise architects and other business and IT stakeholders with strategically driven planning, analysis, design and execution.

EA tools support strategic and tactical decision making by capturing and connecting context and information across business, information, solution and technology domains, along with other relevant architectural viewpoints.

Gartner – Magic Quadrant for Enterprise Architecture Tools

Strengths

- Sparx Systems' business model of downloadable software fits perfectly with its strategy of being a low-license-cost provider. It is very consistent in this regard, and has not raised its prices for eight years. The product focuses mainly on the core capabilities of the EA tool market and targets foundational enterprise architects whose needs are best matched by those capabilities.

- Sparx Systems has made some improvements to its product strategy since 2017. For example, it is increasing support for business modeling and analysis by developing a UML profile for the Business Architecture Body of Knowledge (BIZBOK). It also launched the Pro Cloud Server, which enables users to view models and content from a web-enabled location.

- Sparx Systems launched its Global Sparx Services Arm in 2018 as part of its sales strategy. Its aim is to increase telesales operations and provide remote demonstrations, while offering to support on-site proof-of-concept assessments.

Gartner – Magic Quadrant for Enterprise Architecture Tools

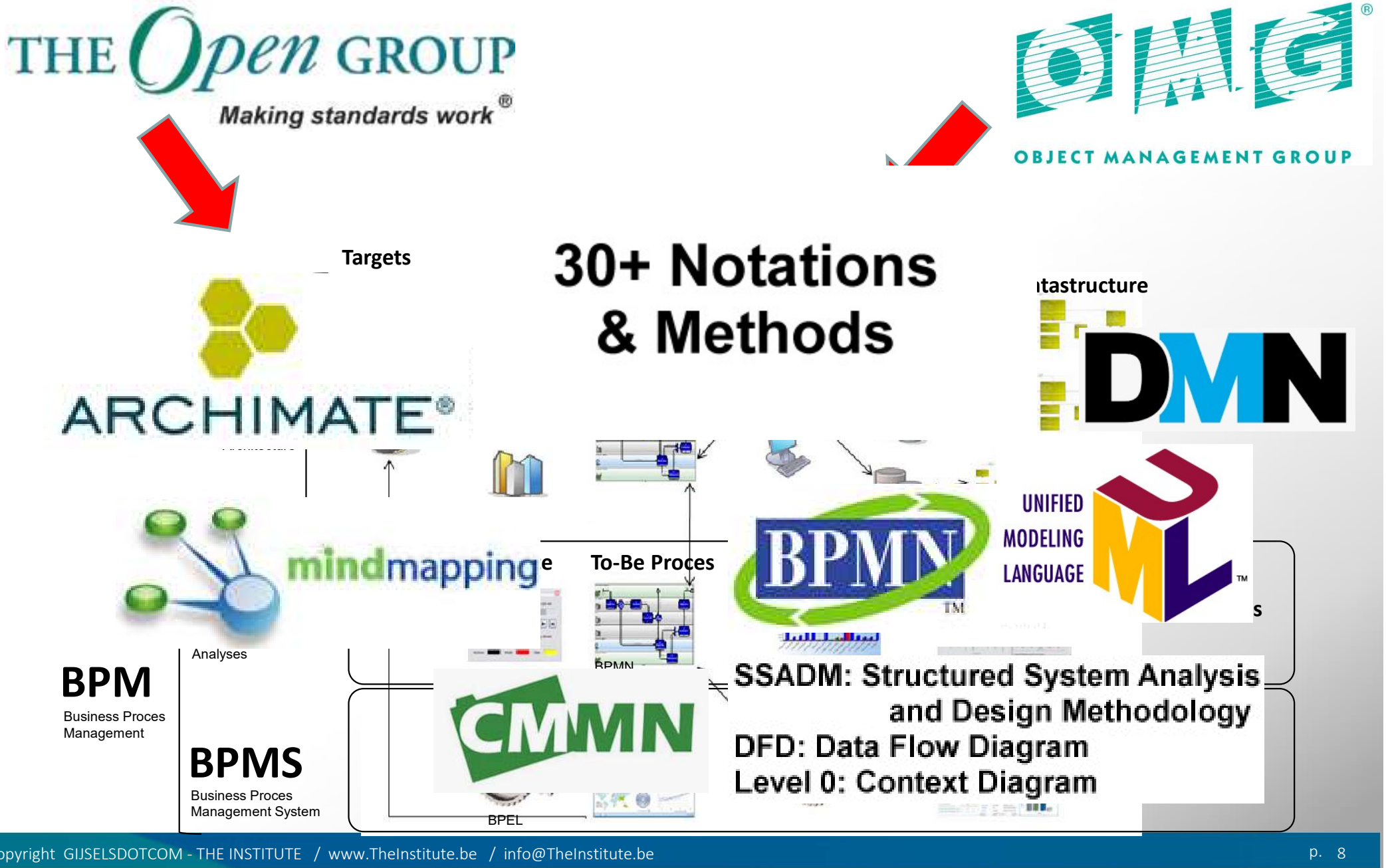
Cautions

- Sparx Systems has no full, hybrid cloud offering, despite its release of Pro Cloud Server. The functionality is installed on-premises, while the repository is accessed through a simple URL connection. On an enterprise level, this can be challenging; however, it works fine for small groups of active users within an organization.

- Sparx Systems does not fully provide many of the critical capabilities supported by other vendors, although it adequately covers core capabilities. It usually incorporates critical capabilities when they are becoming mainstream. This is because its customer base is situated more in the “late majority” segment of this market.

- Sparx Systems still offers a lower level of customer support than other vendors in this market. It provides direct technical support by email, meaning most software issues are addressed overnight (given the time zone difference between Australia and the rest of the world). The vendor has begun to improve this — some partners and the Global Sparx Services Arm can provide telephone support during business hours — but it does not provide fully global, 24/7 support.

Introduction - Tool - Sparx E.A. Methods & Notations 30+



Introduction - Tool - Sparx E.A. Repository

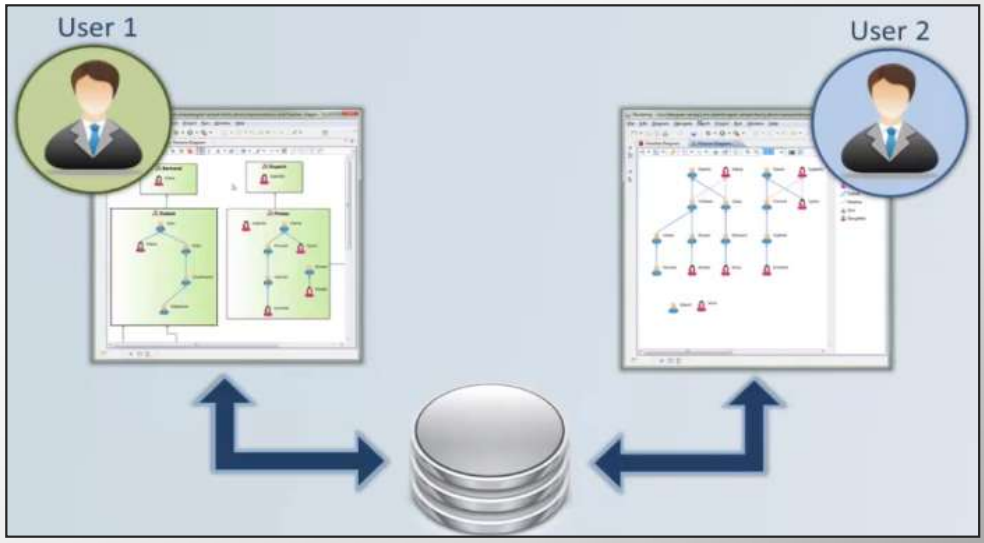
Sparx Enterprise Architect works with a Repository, this can be physical file (extension .eap) or this can be with a database (ex. ORACLE, MS, …), or this can be a database in the cloud.

Advantages when working with a Repository:

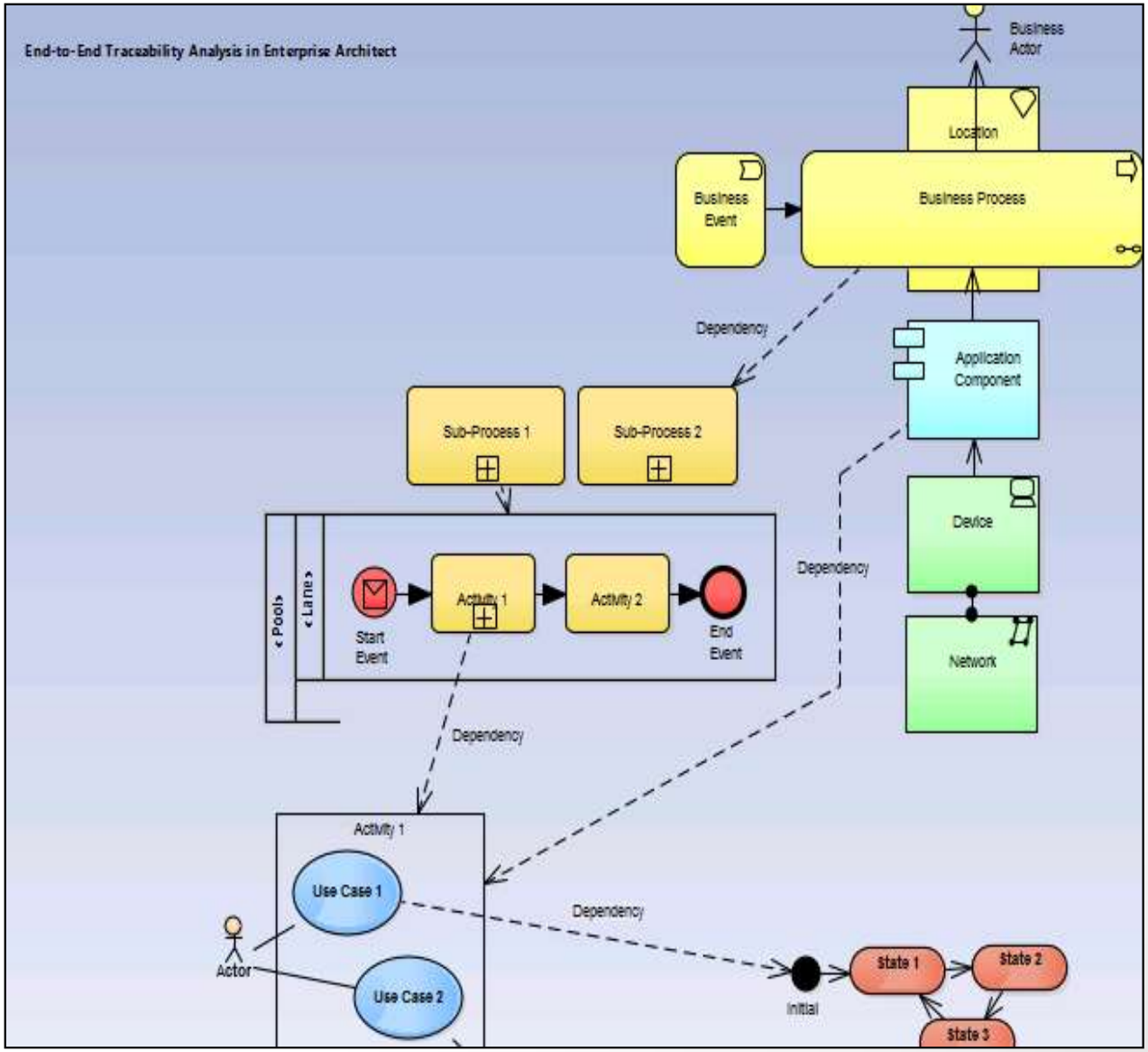
- Define ONCE re-use MULTIPLE
  - Use item in different projects
  - Use item with different users / analysts

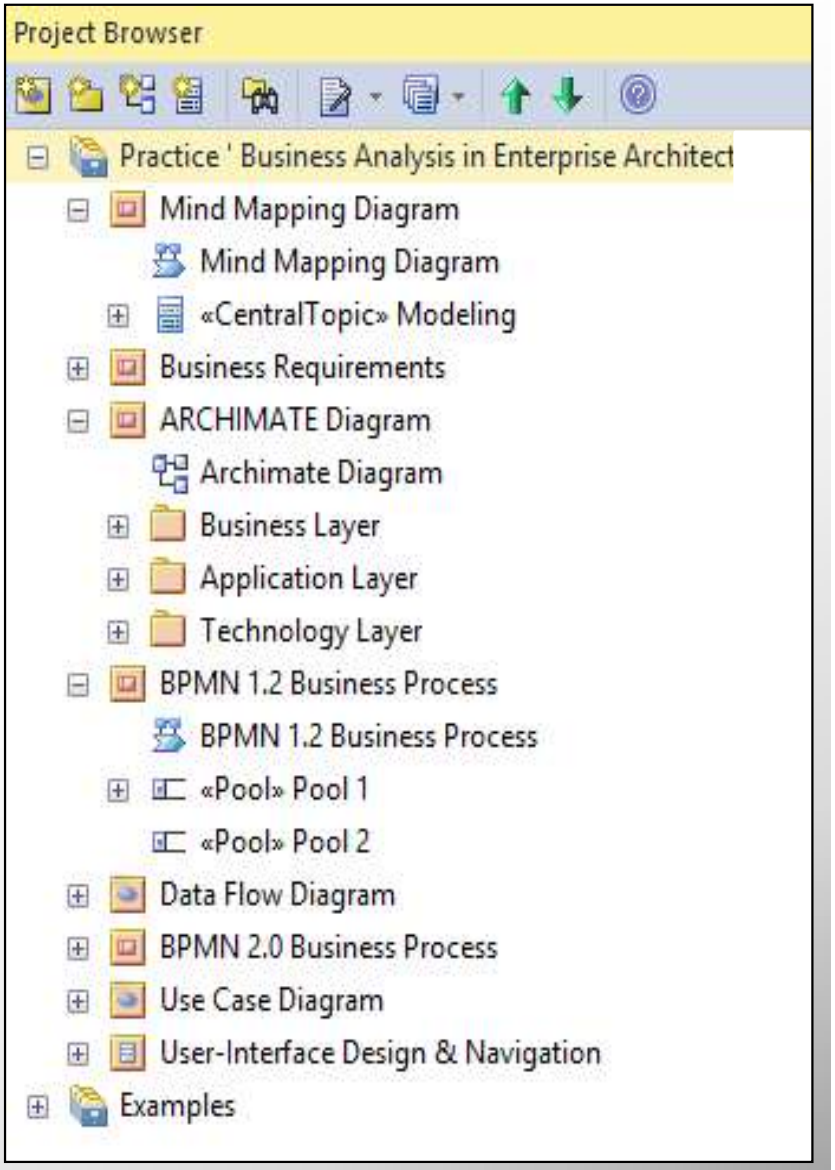
- Define ONCE re-use LINKS
  - Use item in other diagrams
  - Use item in overviews

- WORK on the same model / view



Goal today: Building an End-to-end Framework Model





Part II: The preparation

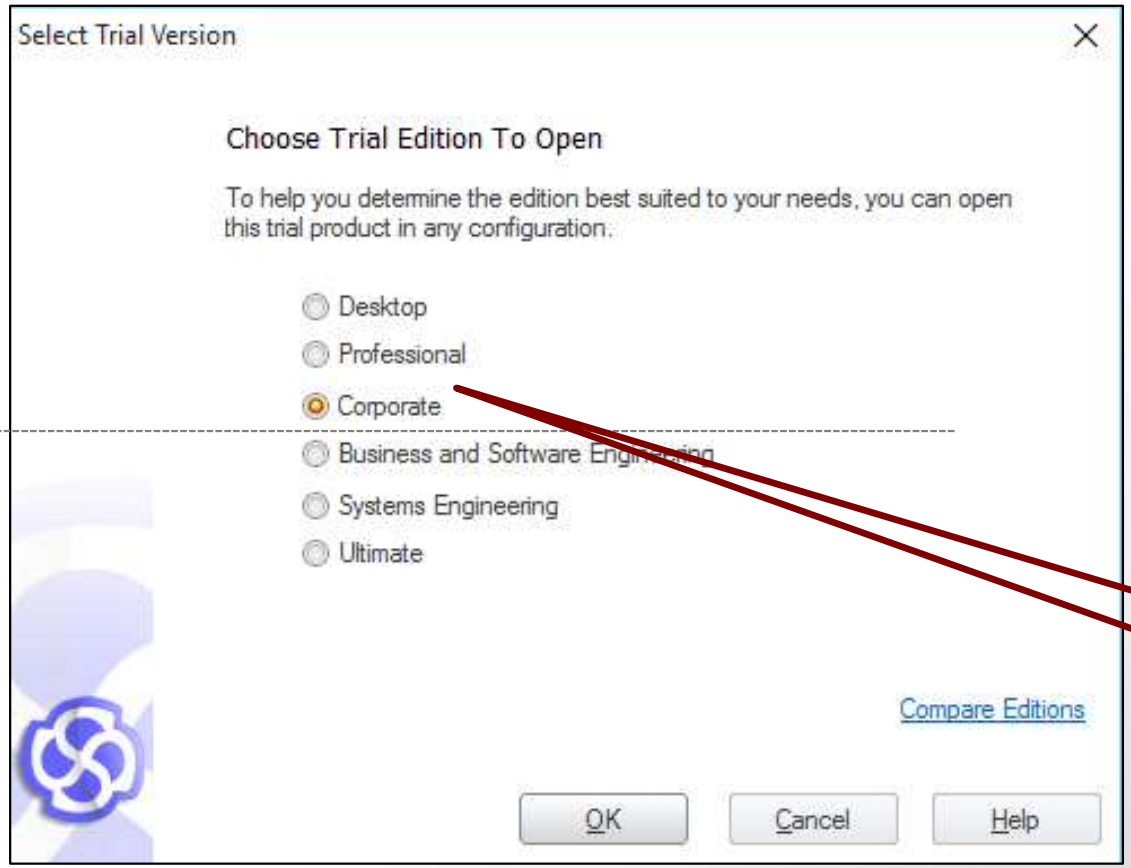
- Introduction
- Editions, price & versions
- A new / existing project
- Renaming your project
- The environment
- The notation formats sa. UML, BPMN, ARCHIMATE, …
- Show Grid
- Changing Themes / Colors schemas

Editions

Enterprise Architect also comes in different versions. For your own evaluation you can review what each edition offers in detail by selecting the Help at the initial set up screen the first time you run the application.

Enterprise Architect Editions

Extended Suite Editions



For this course and manual, we use the **Corporate version.**

Price (01/2020)

Enterprise Architect prices depends on **Named User License** or **Floating Edition**.

Ultimate Edition - Named User License For power users and those working across multiple domains, the Ultimate Edition offers the complete Enterprise Architect experience. The Ultimate-Edition contains all features and MDG Plugins. Of course as floating Edition available.	EURO 615	EAULT
Unified - Named User License As a business, systems and software development professional working on real-time, embedded and systems solutions using UML, SysML, DDS, DMN, BPSim and related technologies, to help to deliver the best possible solution. As well as floating mechanism supported.	EURO 439	EAUNI
Corporate Edition - Named User License Includes all the features of the Desktop and Professional versions, with the added ability to use a variety of DBMS's. Also, to set up and administer user security for a model. This edition is for larger teams that require control over user access to elements and editing in a model. A floating capability is possible.	EURO 259	EACORP
Professional Edition Named User License A fully featured UML modeling environment for workgroups, analysts and developers. Includes support for multi user projects and code engineering (import/export/synchronization).	EURO 199	EAPRO

Creating a new project

The first step in getting started with Enterprise Architect is to either open an existing project, or create a new one.

Choice of Repository:

Models can be stored in either a file based repository or a DBMS repository.

- File based Repository
- DBMS

File based Repository

- Enterprise Architect Project / JET 4 Base Projects (*.eapx) – Newly introduced in Enterprise Architect 14.
- Enterprise Architect Project / JET 3.5 (*.eap).
- Enterprise Architect Project / Firebird (*.feap).

Creating a new project

In Enterprise Architect 14 Sparx Systems has added support to Jet 4 base projects by introducing *.eapx file. Jet 4 databases support Unicode. Previous versions of Enterprise Architect 14 supported in Jet 3.5 database which doesn't support Unicode.

Also the advantage of using *.eapx file is in some circumstances database corruption would cause a Jet 3.5 model to fail to open in Jet 3.5 code, but Jet 4 code ignores or handles the error.

The benefits of this repository type are:

- Replication of the repository.
- Simple file access across a shared network drive.

The limitations of this repository type to consider are:

- Concurrent access is limited to small groups of users.
- Data corruption can occur if there is a network/power failure while editing.
- There are limitations on the data size supported by the Jet database (less than 30-40 mb is recommended).

DBMS Repository

Using a DBMS repository overcomes the limitations of file-based repositories. Typically, dedicated DBMS servers provide faster response times for a larger user base than the file based repositories.

Further, any network errors are handled by the ability of the DBMS server to roll back transaction failure caused by external conditions.

DBMS repositories can be accessed from a Cloud service. Although replication is not supported with DBMS repositories, with the Cloud connectivity replication is largely superseded. Enterprise Architect supports the 10 most popular types of DBMS server repositories.

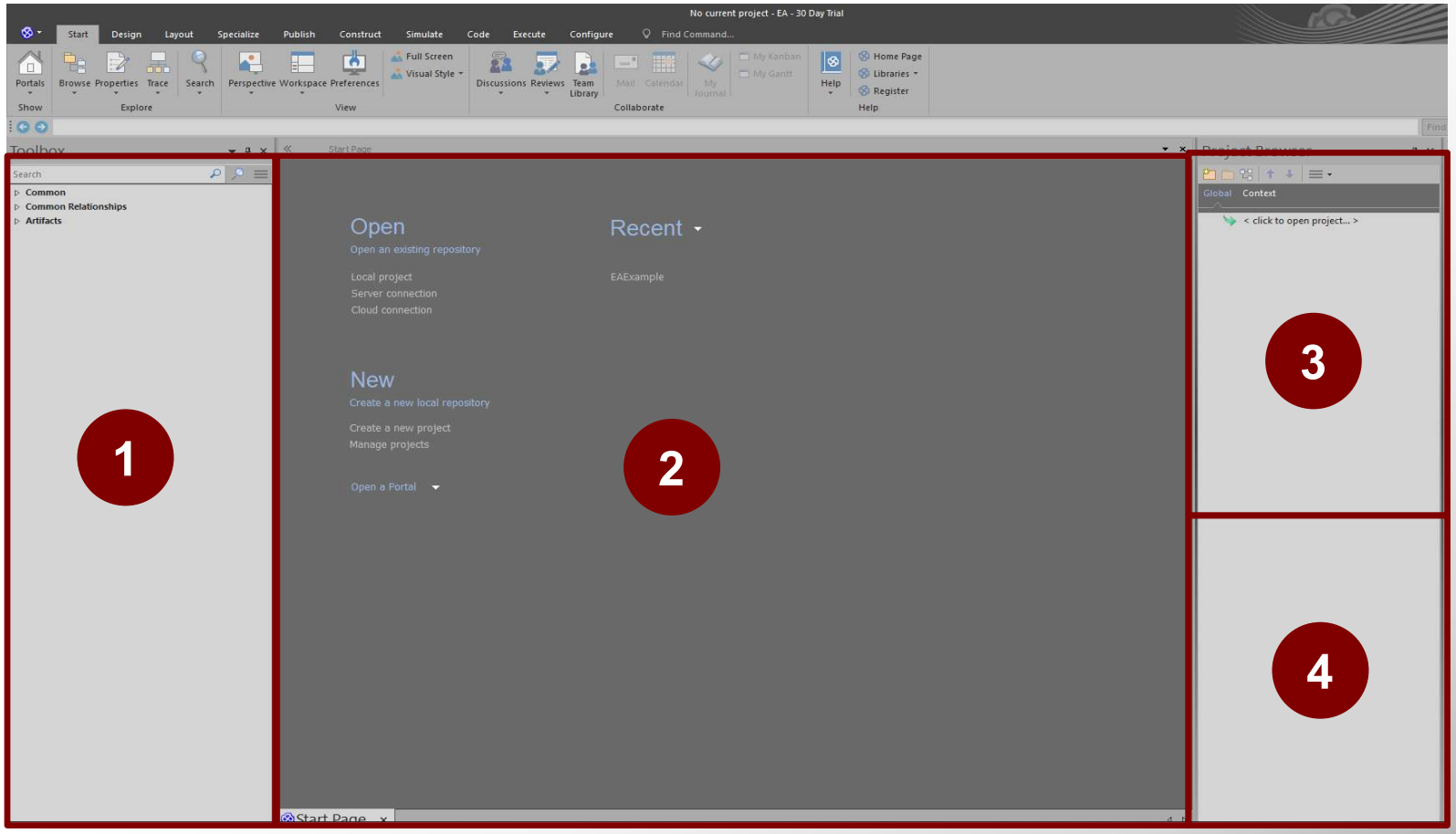
You can set up your project on a repository in:

- MySQL from v5.
- Microsoft SQL Server from 2005, all editions including Express and Azure.
- Oracle from 9i (all editions).
- Firebird from v2.
- Microsoft Access from 2007.
- PostgreSQL from v8.
- Sybase Adaptive Server Anywhere 8 or 9, or SQL Anywhere 10, 11 or 12.

Setting your environment to work

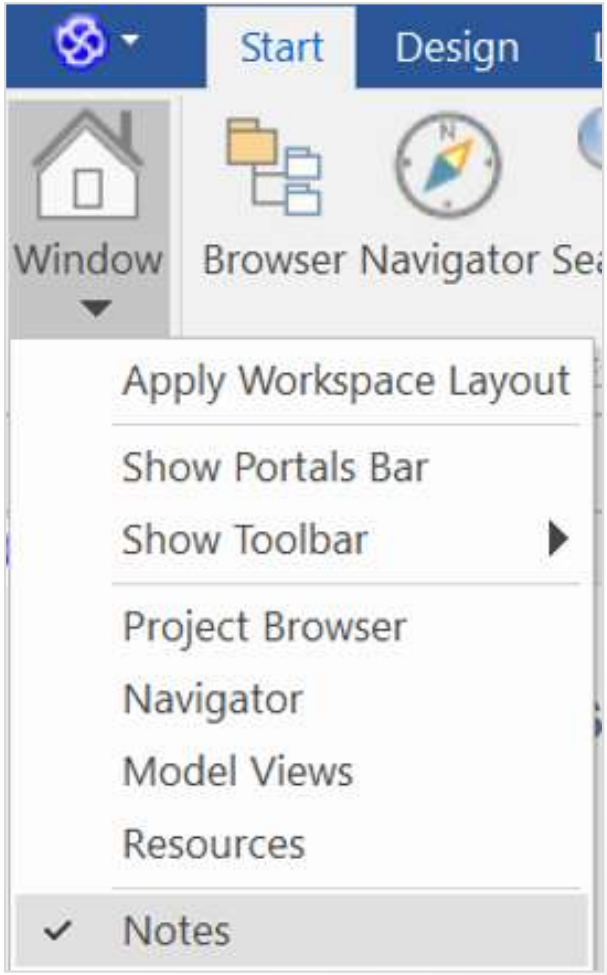
Before we are going to work on our model we want to set our environment.
This is off-course dependent on your preferences, but we suggest this:

(1) **Diagram Toolbox** (2) **Work screen** (3) **Project Browser** (4) **Notes**



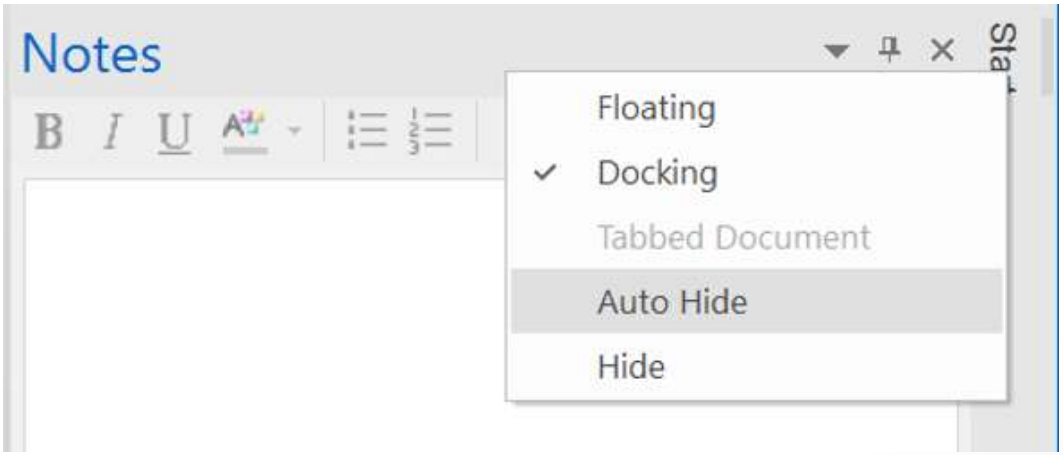
Setting your environment to work: Notes 4

If **Notes** is not on your screen, you can activate it by selecting from the menu:
Start > Window > Notes

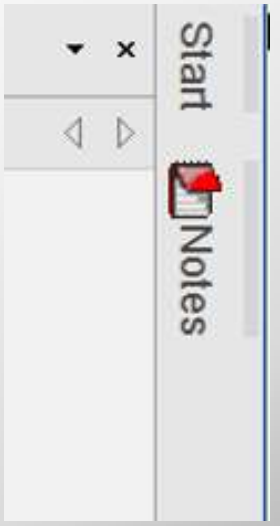


Setting your environment to work: Notes 4

Now that **Notes** is on your screen, you can select if you want the notes window to Dock (stay on the same place) of the notes window to Float (Movable).



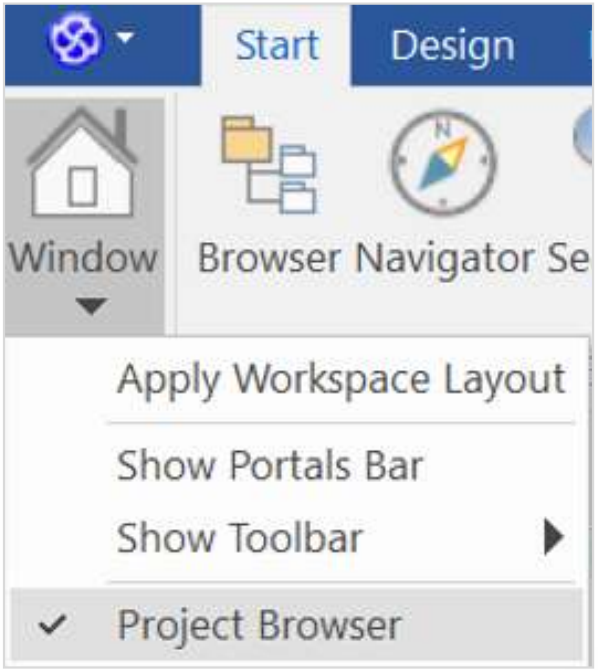
You can also select for **Autohide**, then the Notes icon will appear vertical on the right of the screen and will become visible when you go over with your mouse



Setting your environment to work: Project Browser

4

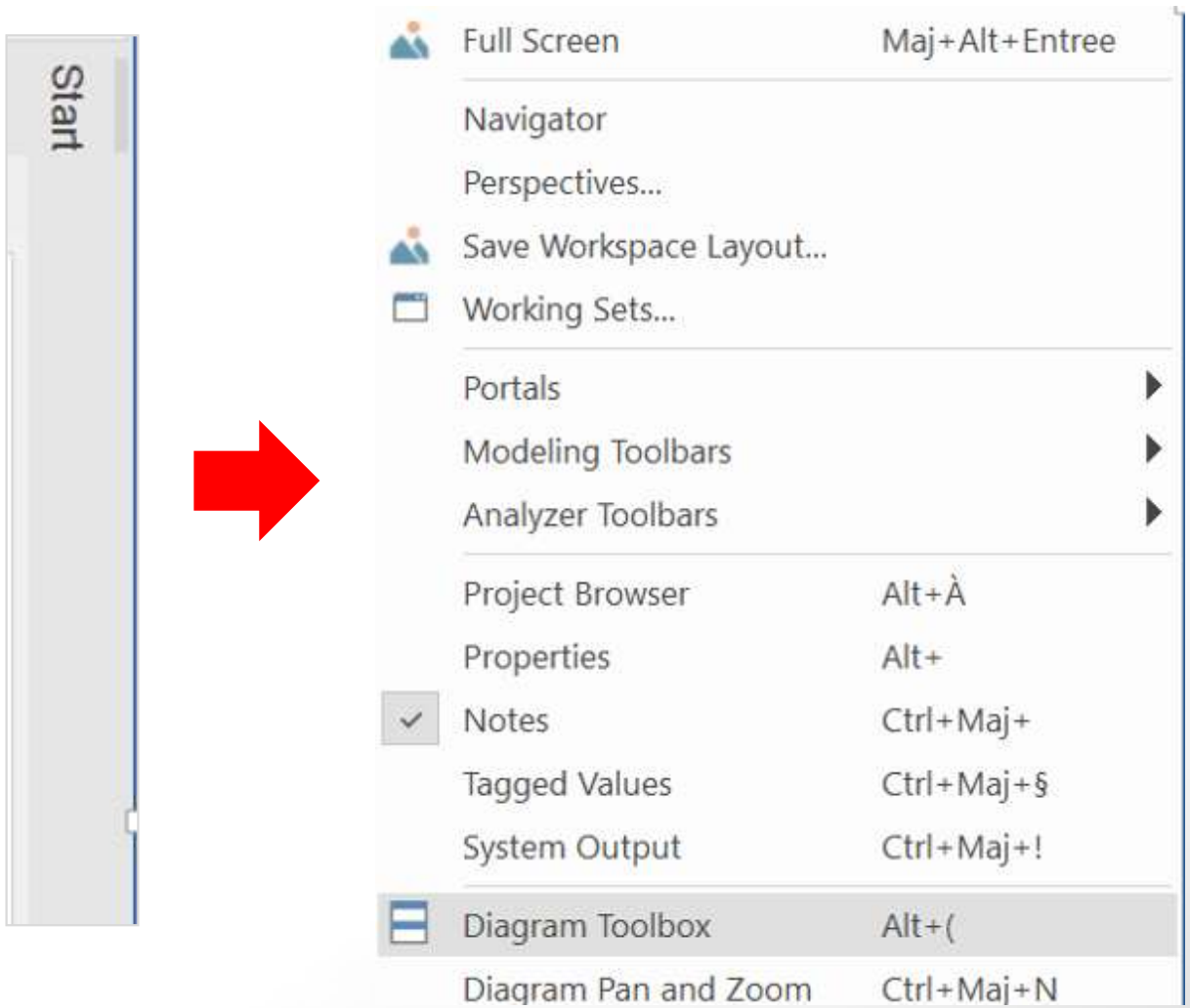
If **Project Browser** is not on your screen, you can activate it by selecting from the menu: **Start > Window > Project Browser**



Setting your environment to work: Diagram Toolbox

1

If **Toolbox** is not on your screen, you can activate it by selecting from the menu: **Right mouse on Start > Diagram Toolbox**

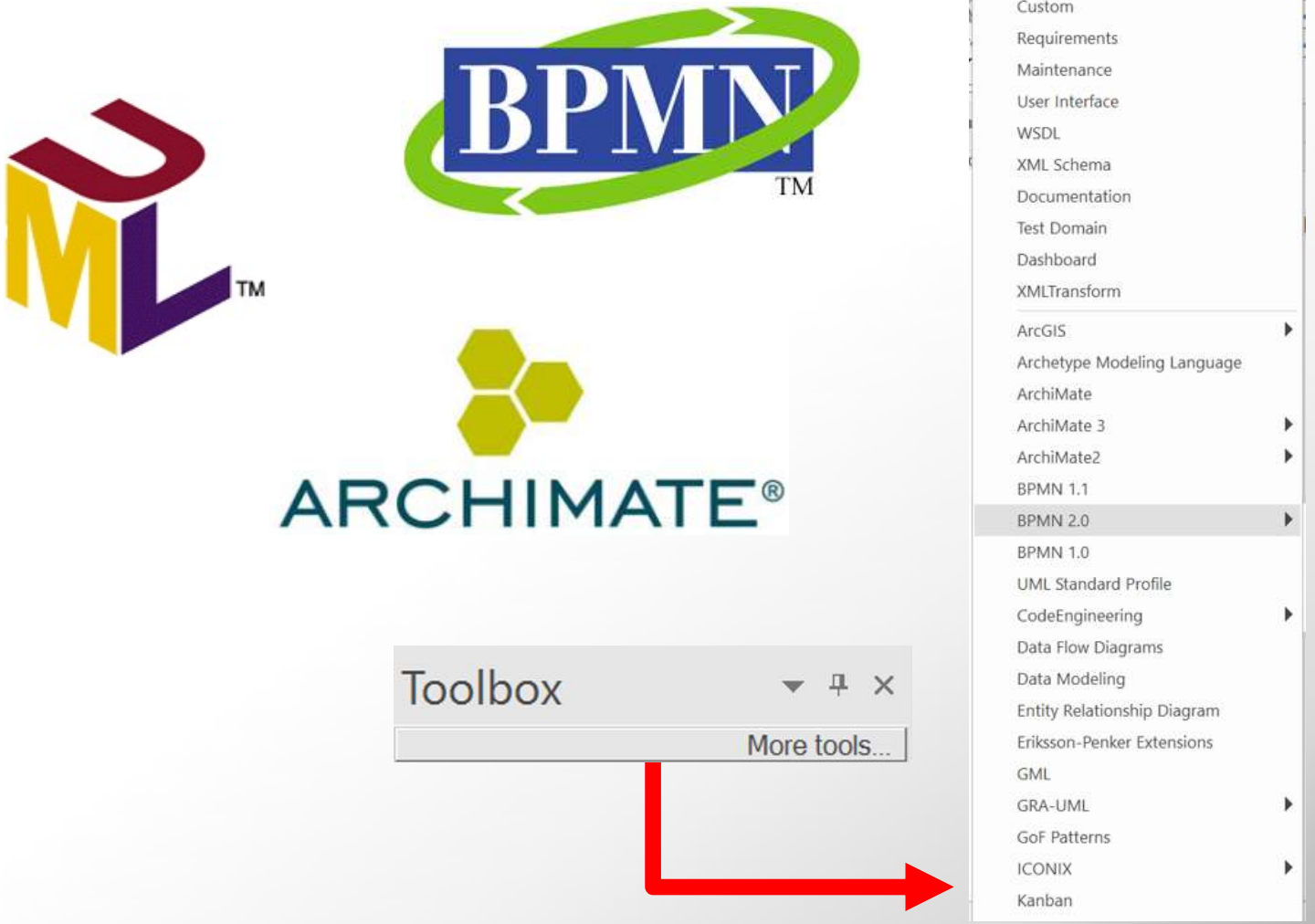


Setting your environment to work: Diagram Toolbox

1

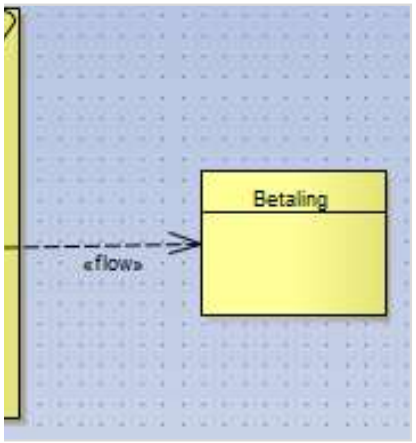
Within **Toolbox** you can select for the **Notation format** you want, there are about 40 possibilities.

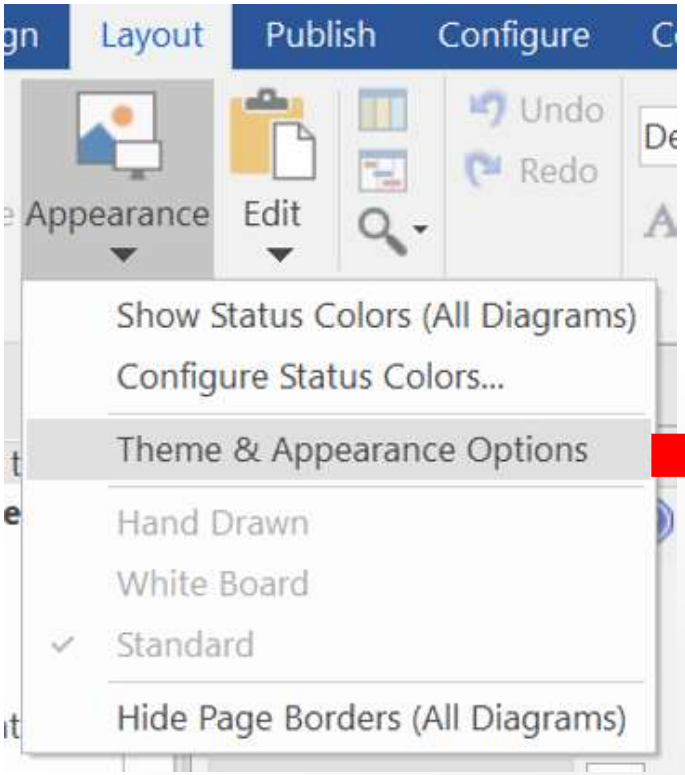
More tools > …



Setting your environment to work: Show Grid

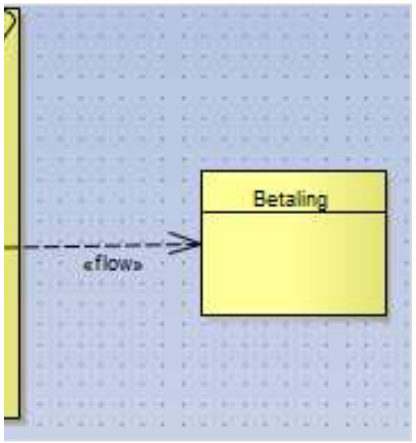
By selecting **Layout** > **Appearance > Options** you can enable or disable the **Grid** function.

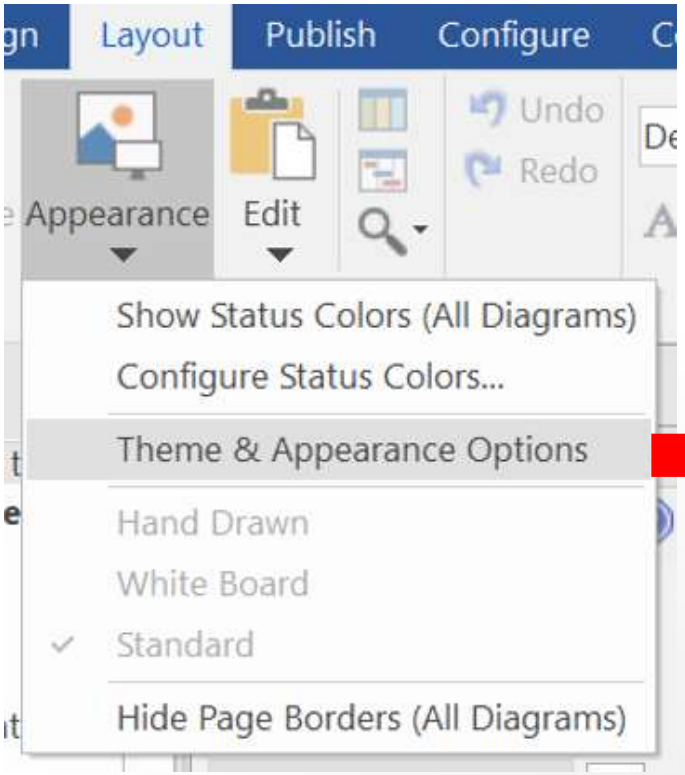




Setting your environment to work: Snap to Grid

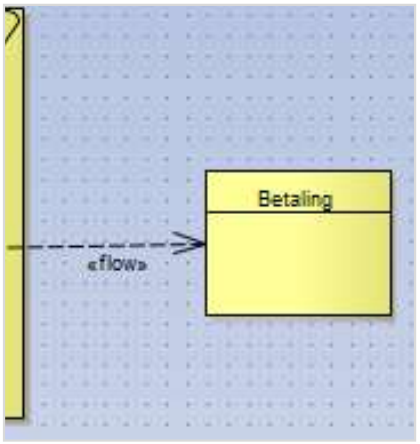
By selecting **Layout** > **Appearance > Options** you can enable the **Snap to Grid** function.

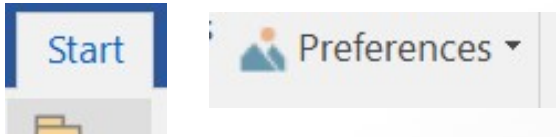


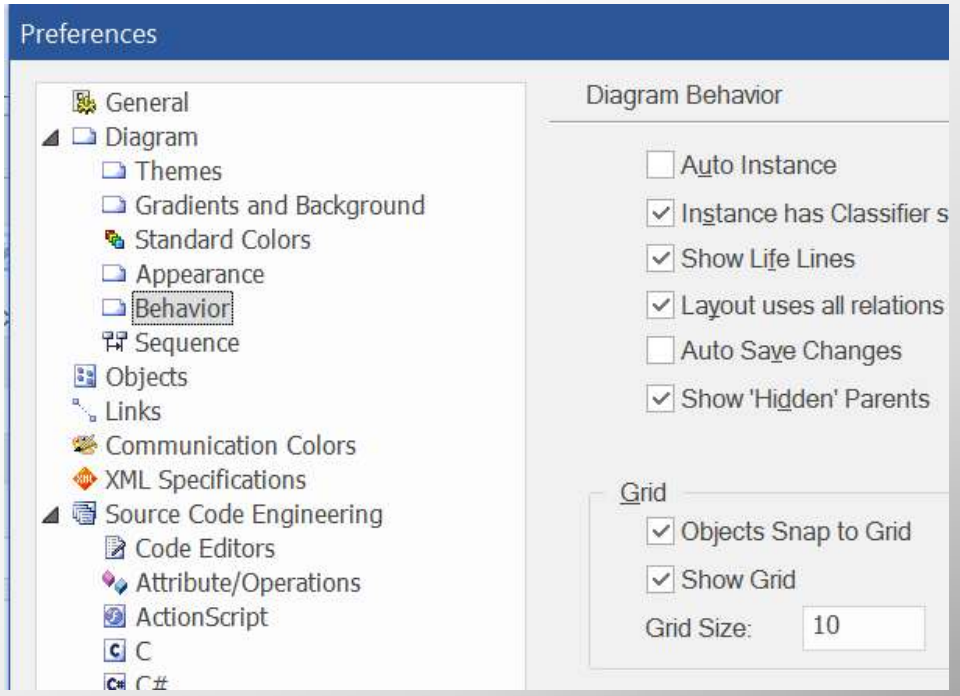


Setting your environment to work: Show Grid

By selecting **Layout** > **Appearance > Options** you can enable or disable the **Grid** function.

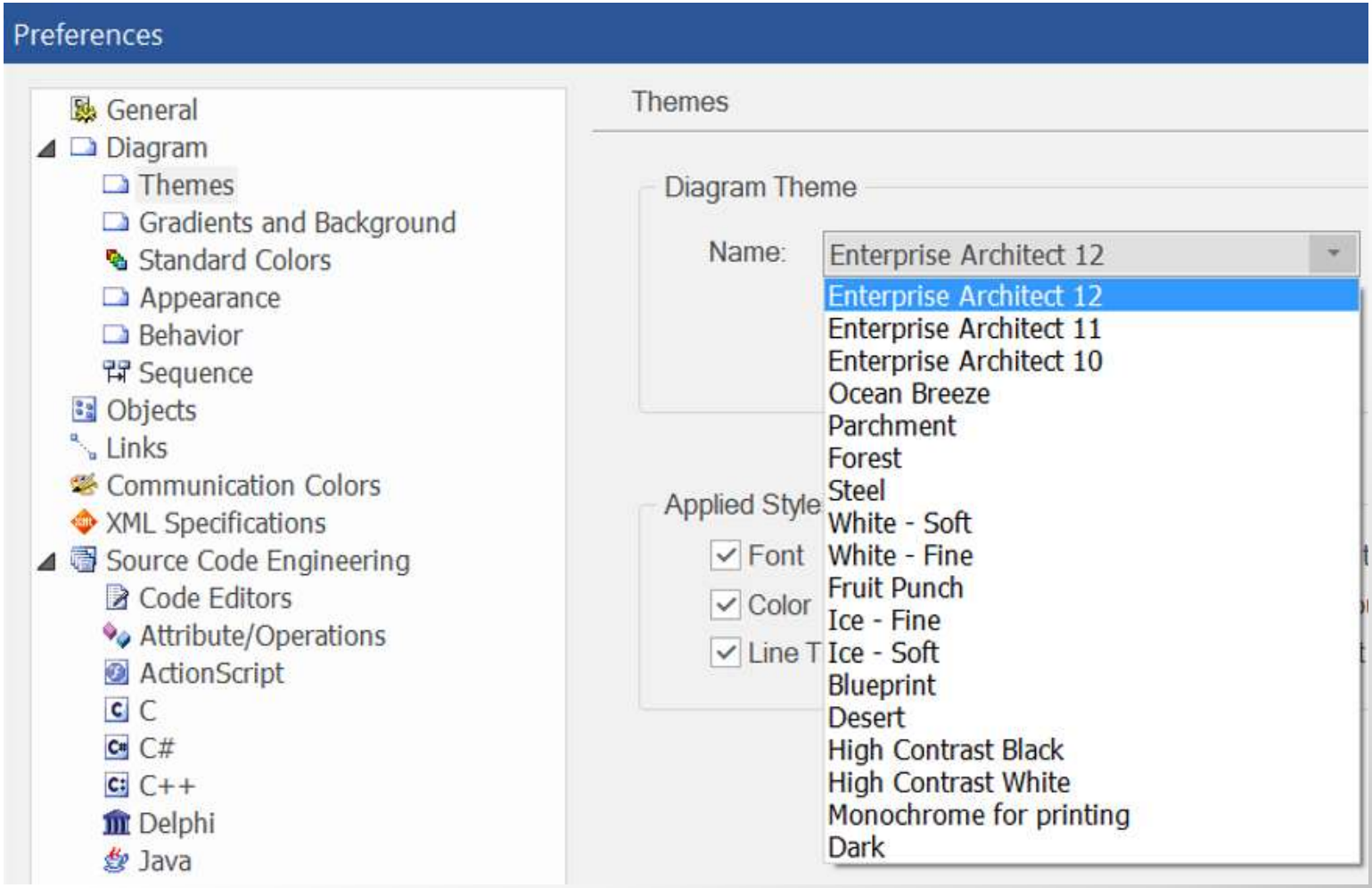






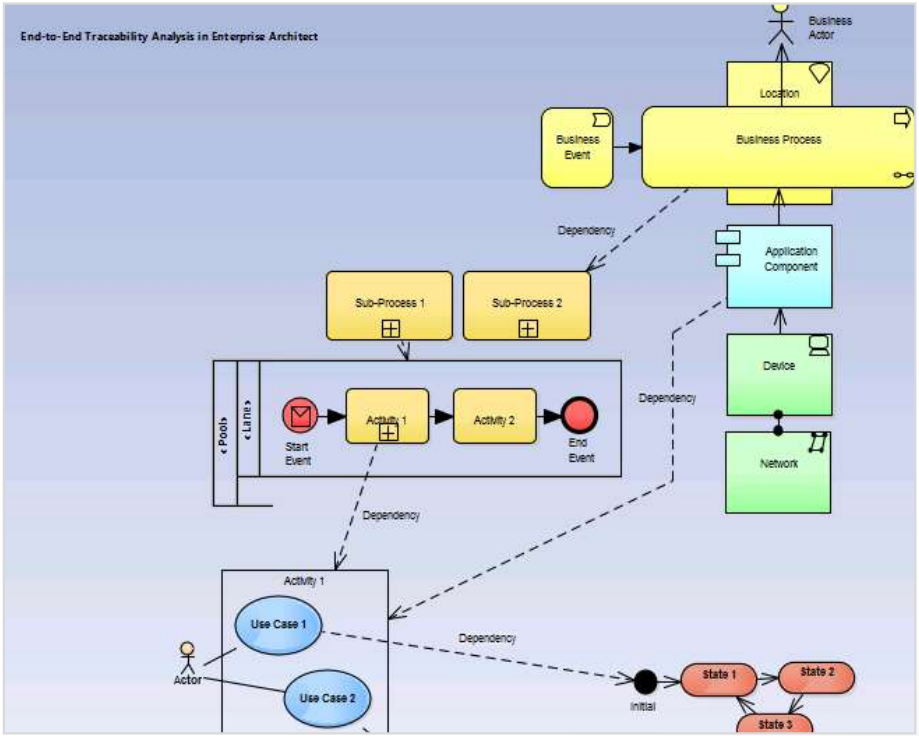
Changing Themes / Colors schemas

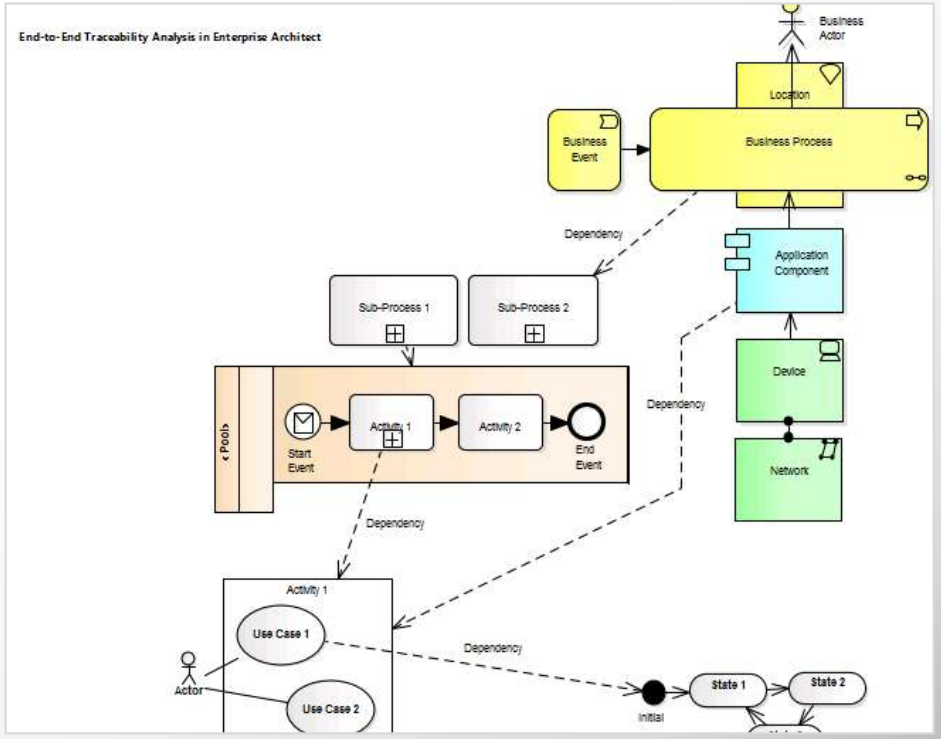
To change the colors to a predefined SET (Theme), select **Layout** > **Appearance** > **Options** you can enable the **Themes** function.



Changing Themes / Colors schemas

To change the colors to a predefined SET (Theme), select **Layout** > **Appearance** > **Options** you can enable the **Themes** function.





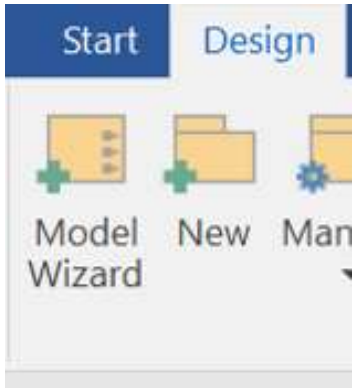
Part III: The modeling

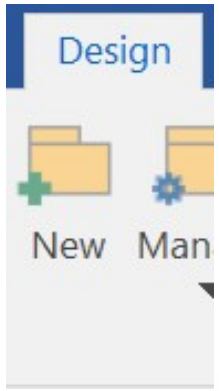
- Add / Change / Delete a View To Your Model
  - Archimate, BPMN, UML Views
- Add / Change / Delete a Package To Your Model
  - Package your existing / new Actors & Roles
  - Move elements in a Package in Your Model
- Add / Change / Delete a Diagram To Your Model
- Add Diagram details To Your Model
- Add Authors details To Your Model
- Add an Element To Your Model / Diagram
- Enterprise Architect Model Structure Checklist
- Generation of the content of packages into a Diagram
- Create and Change connectors in Diagrams
  - Visibility, color, directions, multiplicity
- Organize a number of elements in a Diagrams
- Creating Real and Virtual Actors in Diagrams
- Generalization, specialization of Actors in UML
- Creating and changing Flows in Diagrams

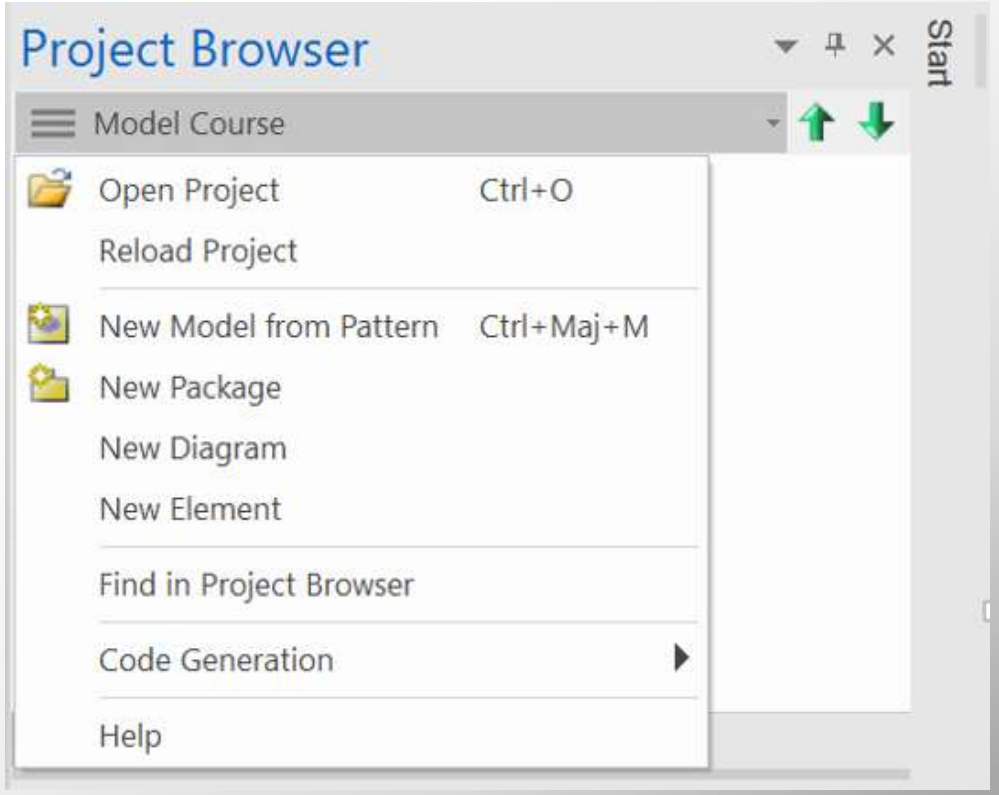
Add a View / Package / Diagram / Element To Your Model (1)

A View is a **top level package**, within a model. It can be categorized by purpose using different icon types, such as Use Case View, Component View or Deployment View. Views are used to contain packages, diagrams and elements - the building blocks of your model

Add a view by selecting, **Design > Model Wizard or New** or in the **Project Browser**

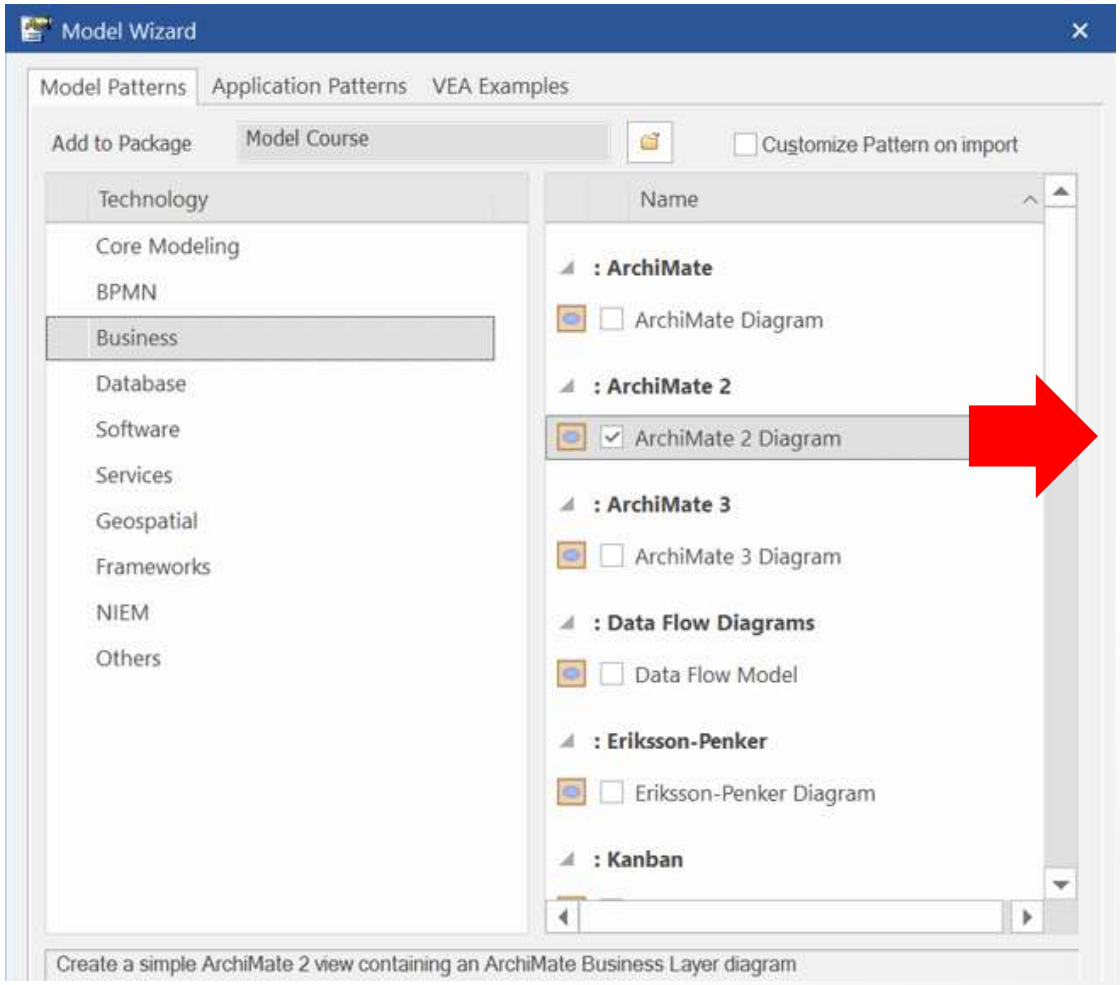


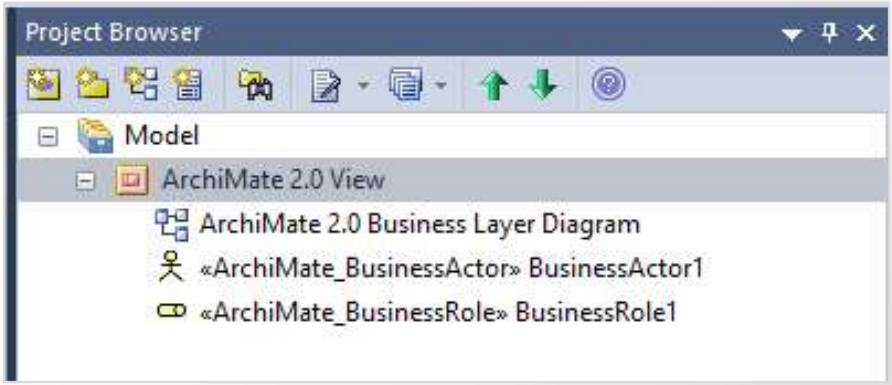




Add a View / Package / Diagram / Element To Your Model (2)

Choose for example an **Archimate** toolbox set.





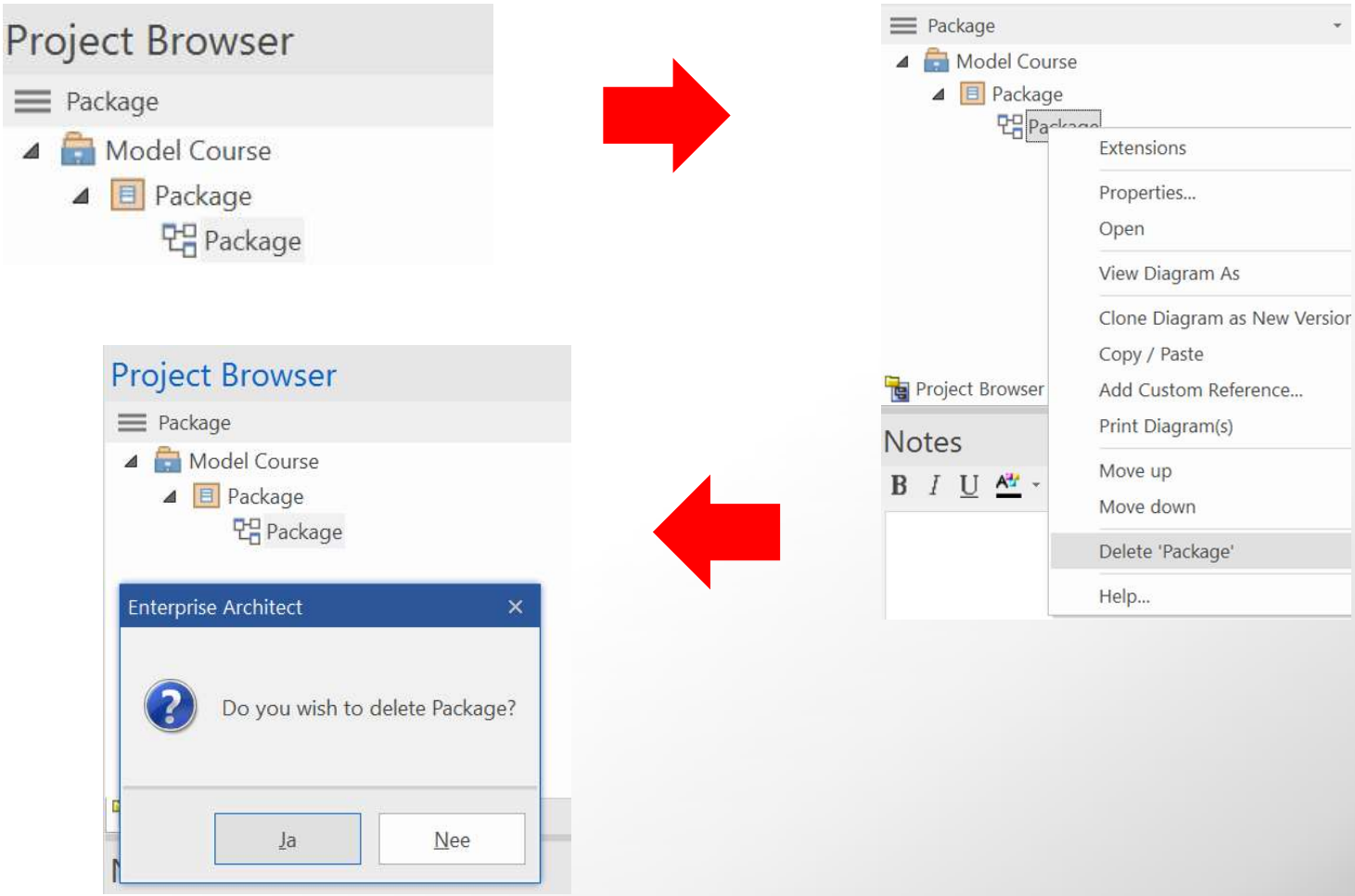
An **Archimate view** is added into the Project Browser

Change the Order of View Of Your Model

By using the arrows  in the Project Browser Menu, you can change the order of the views of your model

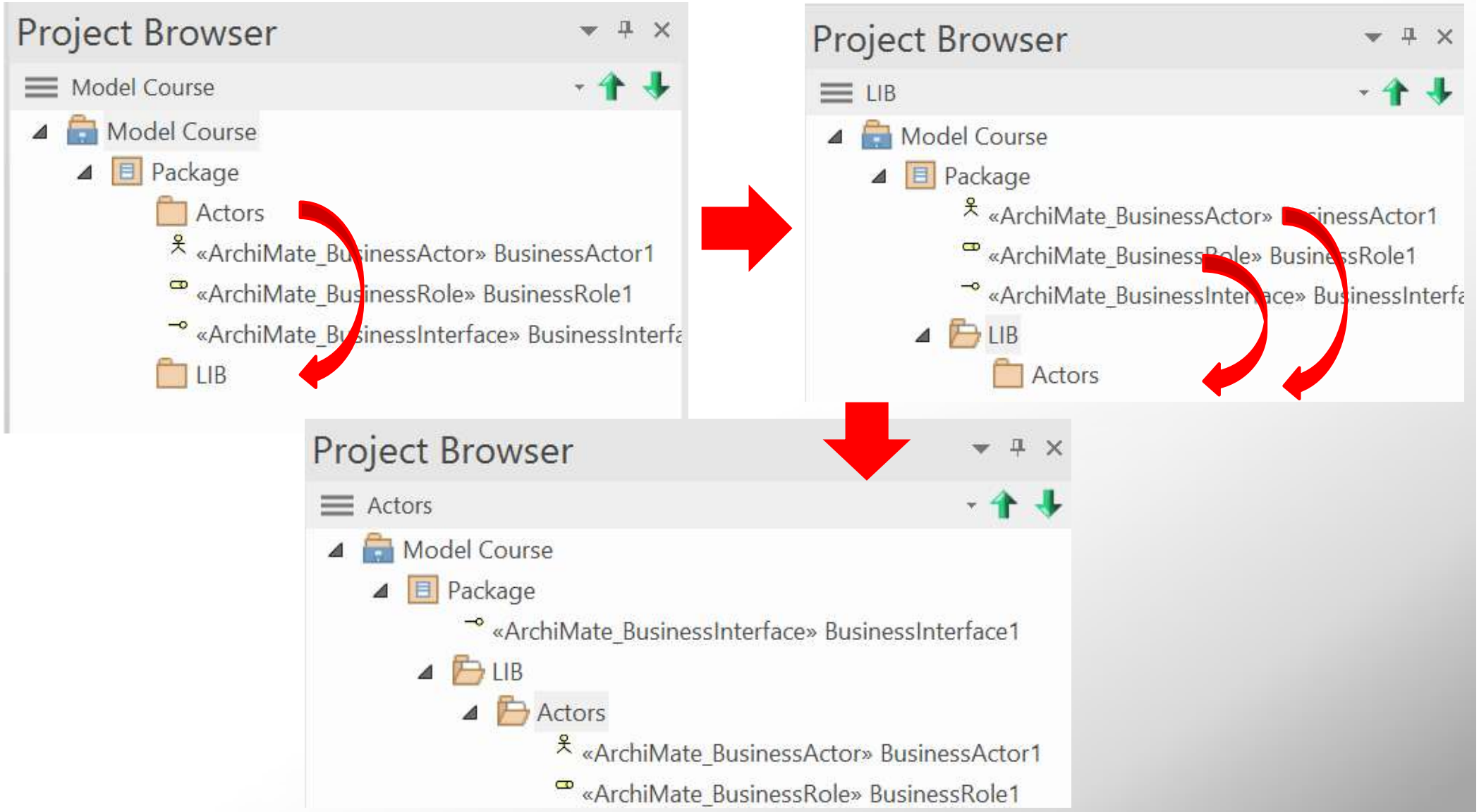
Delete a View / Package / Diagram / Element Of Your Model

Select in the Project Browser **the view** you want to delete, click the right mouse button and select for **Delete**.



Move Packages / Diagrams / Elements in Your Model

Reorganize and optimize .

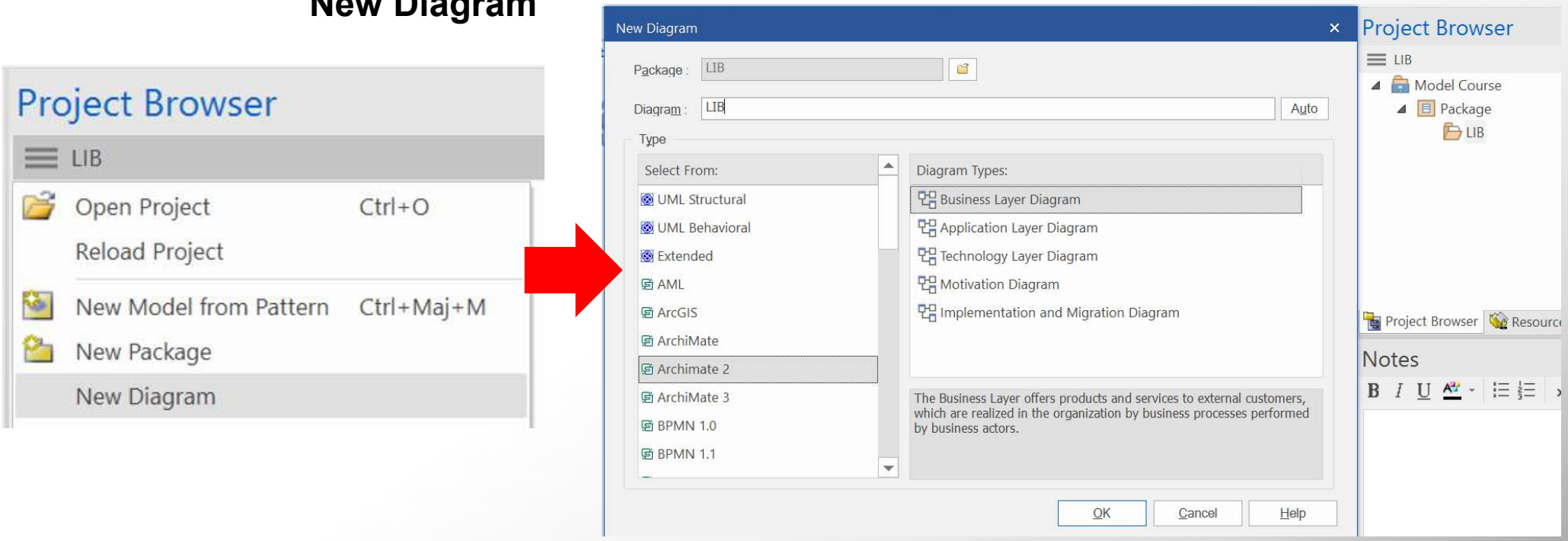


Add a Diagram To Your Model

A **Diagram** is a visual representation of The elements of your model - Their attributes and characteristics - How they are connected and/or interact with each other.
Different diagram types show different aspects of the model and the relationships between elements.

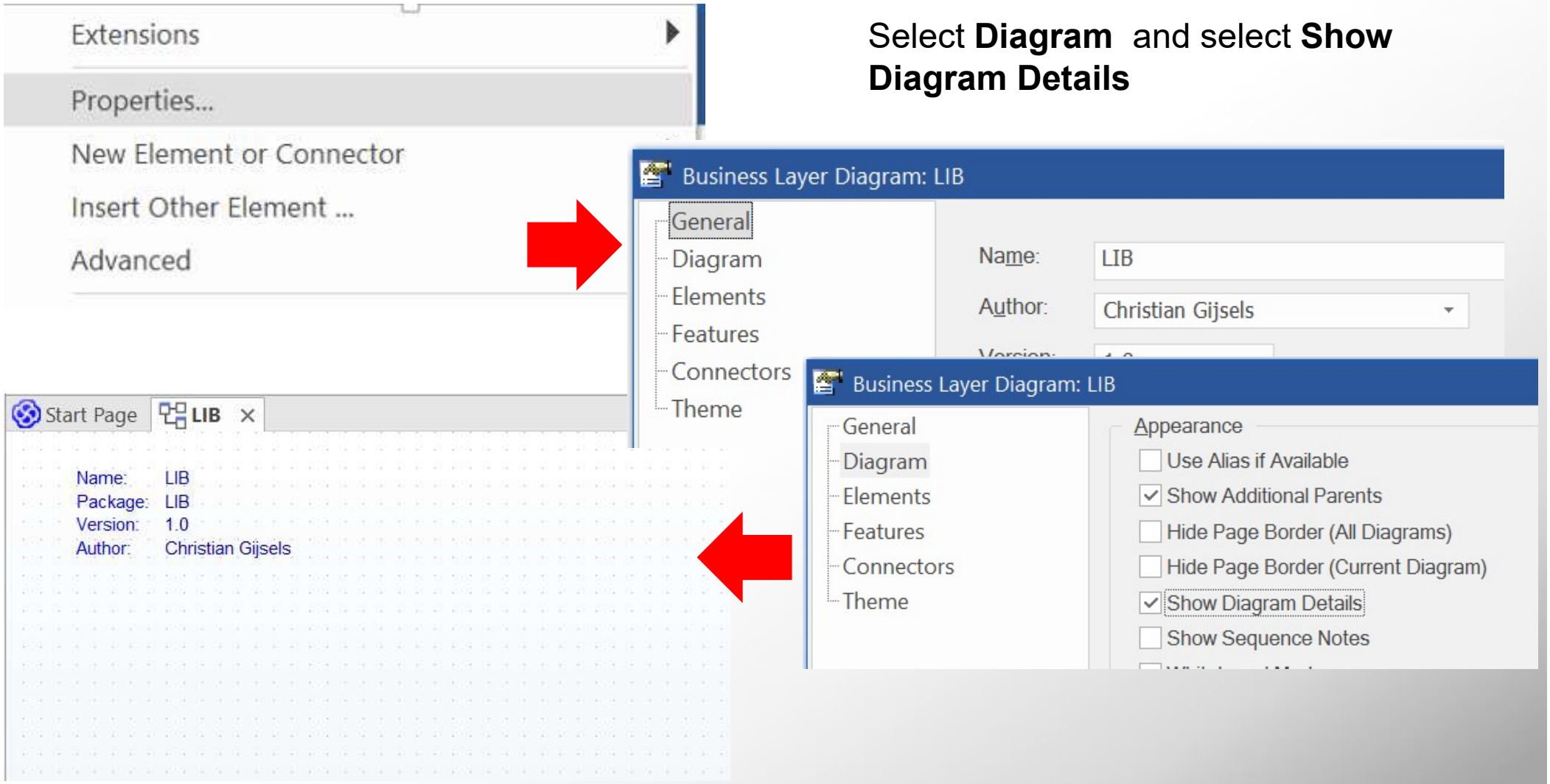
Add a diagram by selecting from the Project Browser Menu:

New Diagram



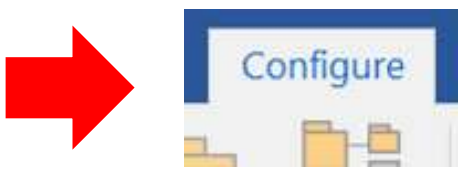
Add Diagram details To Your Model: General

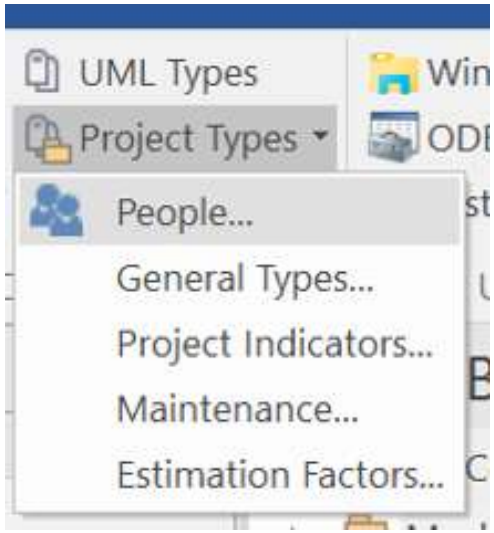
Click right mouse button on your diagram and select for properties.

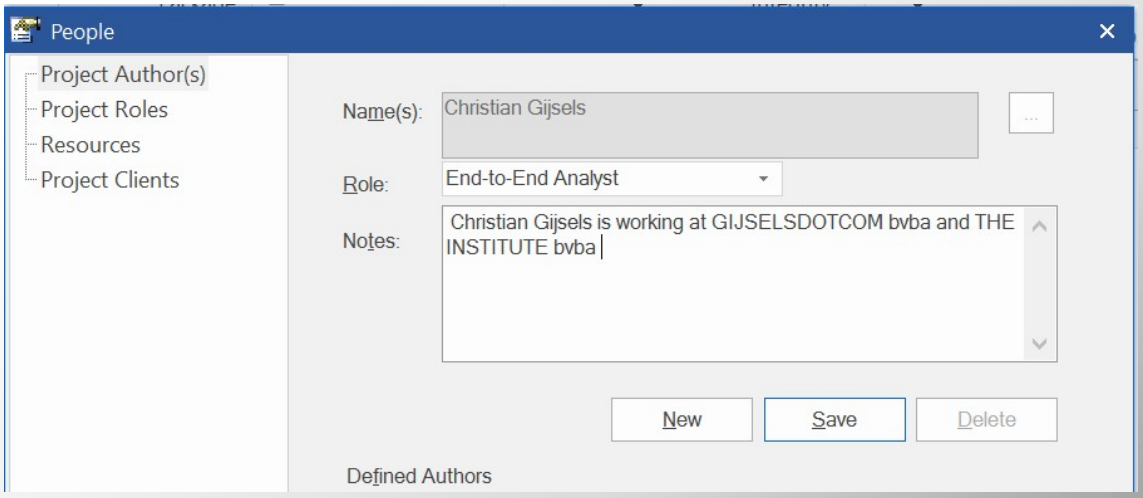


Add Authors details To Your Model

Select **Configure | Resources | Project Types | People** and select **Project Author(s)** to add a new Author of diagrams to your team.





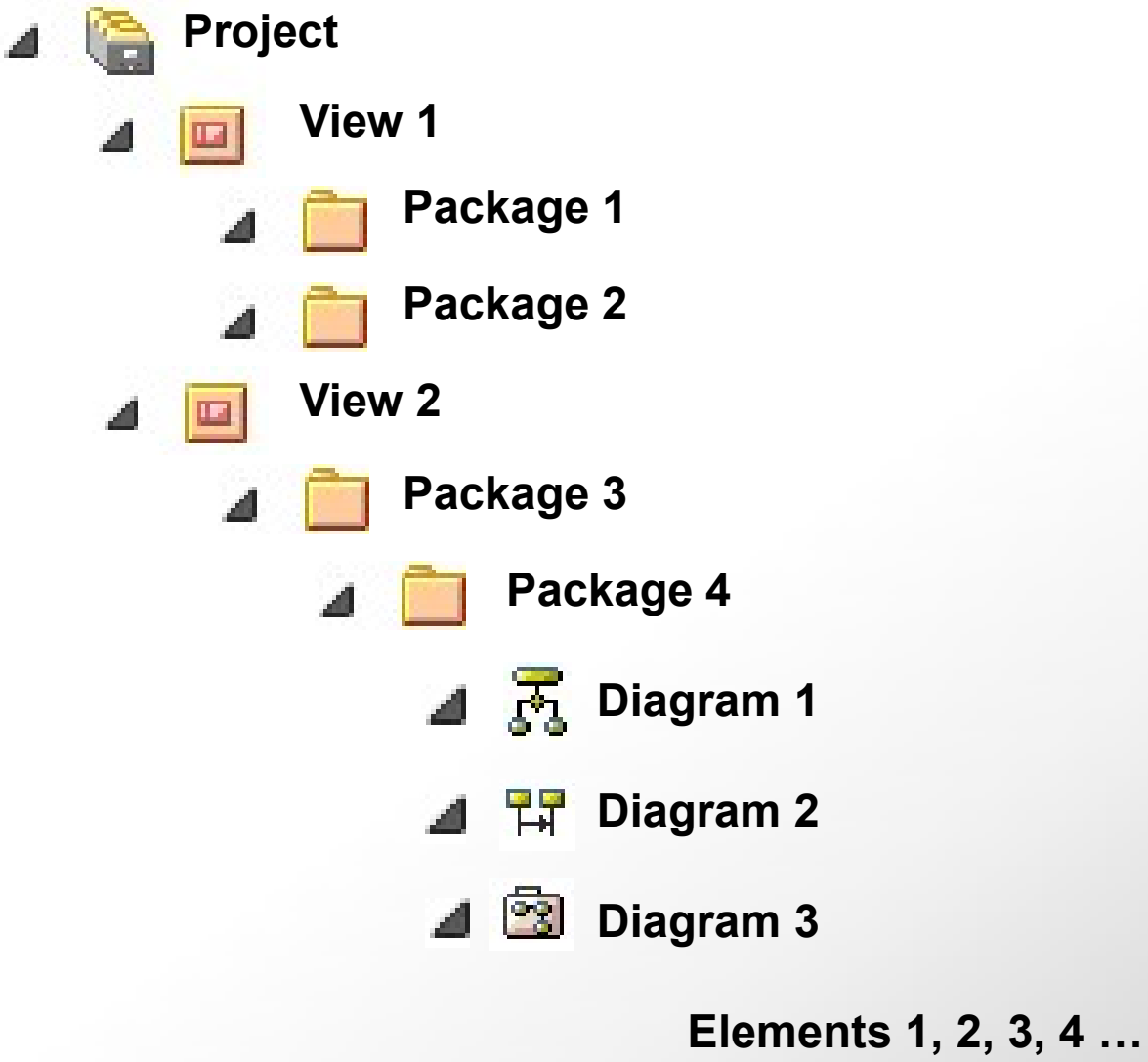


Enterprise Architect Model Structure Checklist:

1. Start-up Enterprise Architect and arrange **work environment**:
2. Start-up a new **project** and choose file-name
3. Add **views** (ArchiMate, UML , BPMN, …) to the project
4. Add **packages** to your model
5. Add **diagrams** to your packages
6. Add **elements** to your diagram

Enterprise Architect Model Structure Icons:

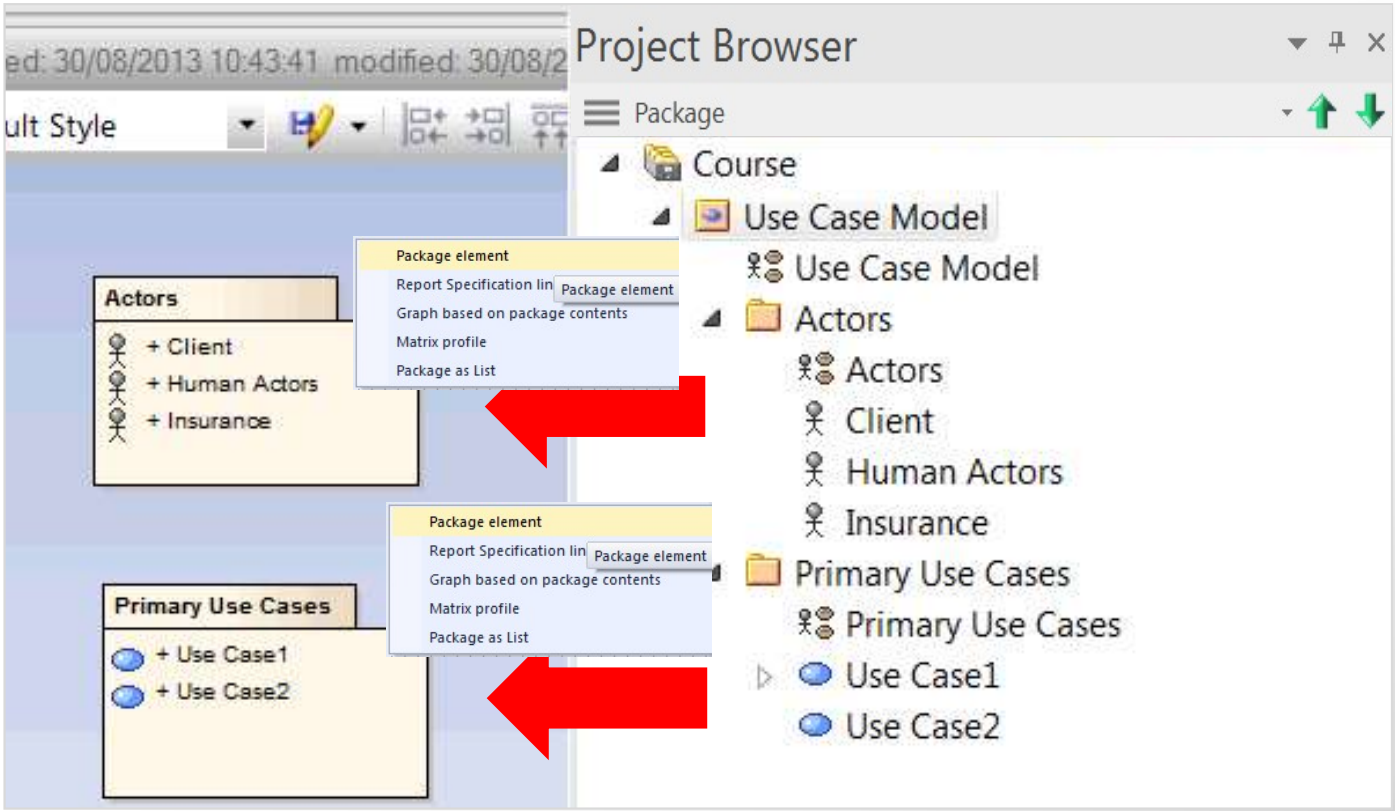
A possible structure of your Project.



Generation of the content of packages into a Diagram

Throw the Package onto your diagram

The diagram generates the content of its two packages (Actors, Primary Use Cases).

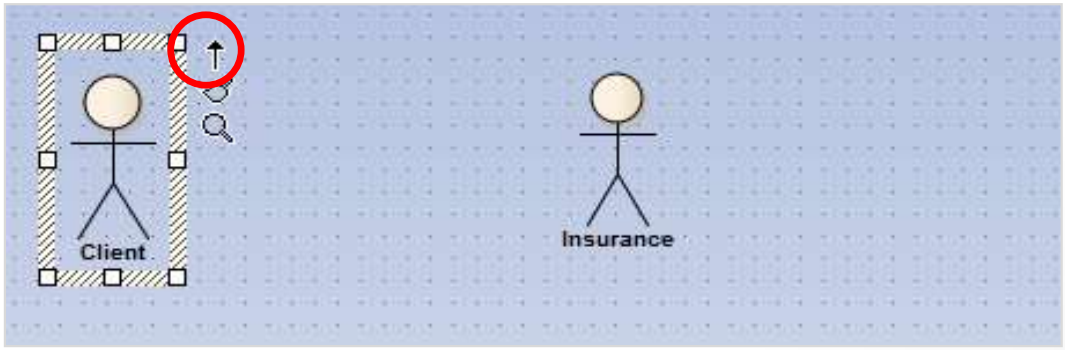


Creating connectors in Diagrams: Flow between 2 existing objects

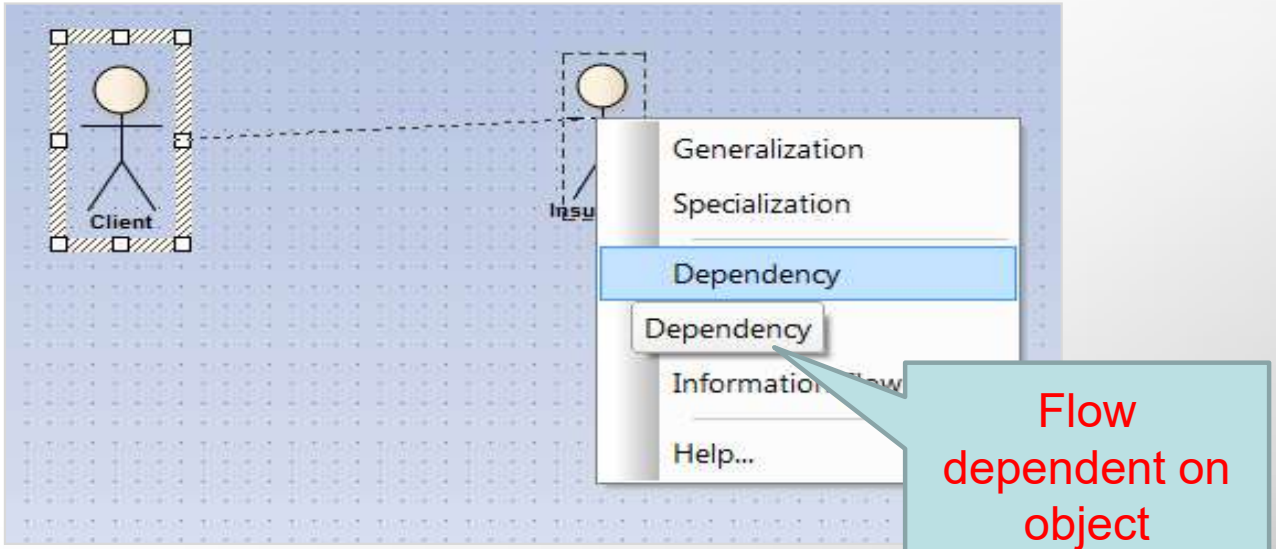
Creation of a flow can enhance your model.

Step 1: a. Select the Object and click on the arrow
b. Connect it with the other object
c. Select the sort of connection

a.



b.

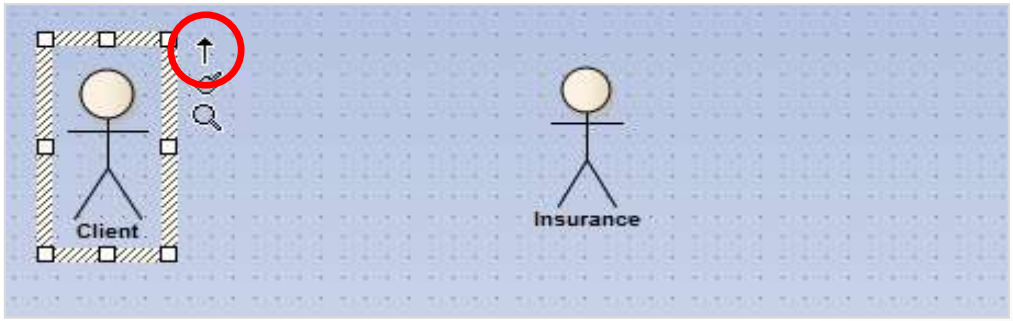


Creating connectors in Diagrams: Flow between 1 existing and 1 new object

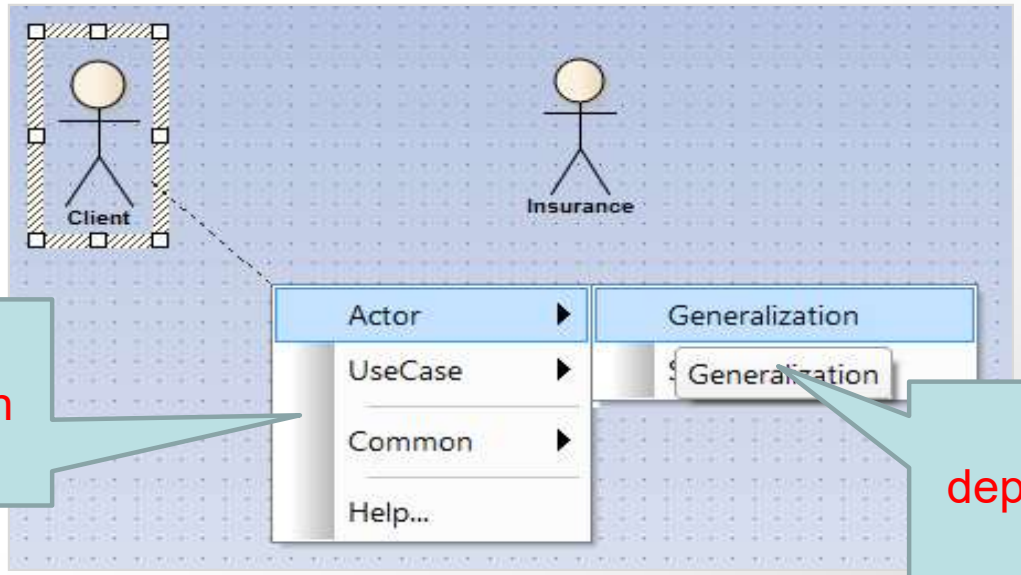
Creation of a flow can enhance your model.

Step 1: a. Select the Object and click on the arrow
b. Pull the arrow for 2 centimeter, but do not connect
c. Select which (New) object to connect to and how to connect

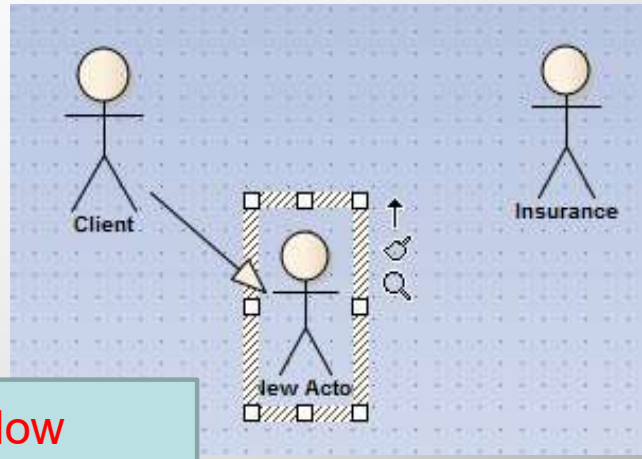
a.



b.



c.

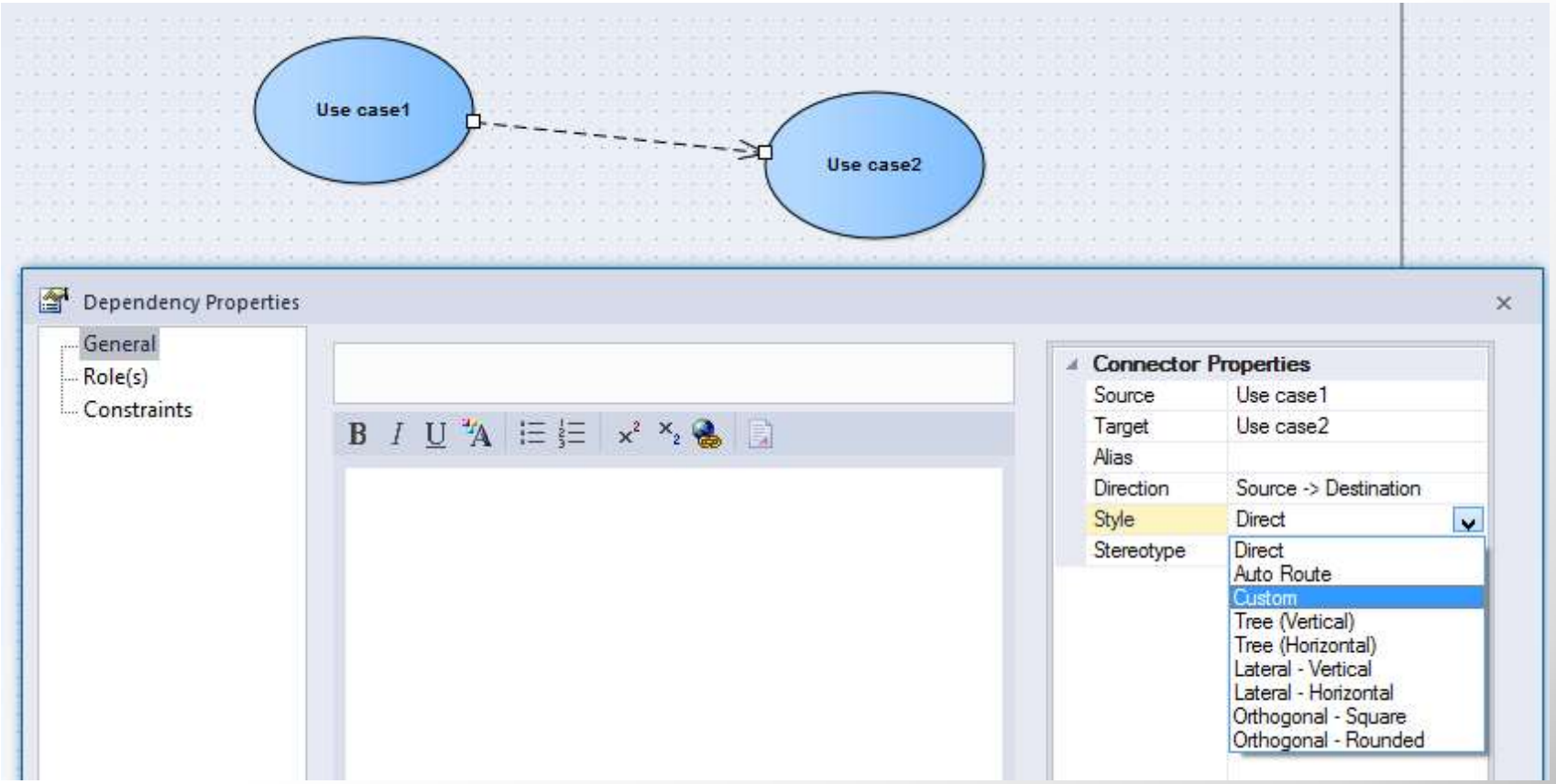


Symbol dependent on object

Flow dependent on object

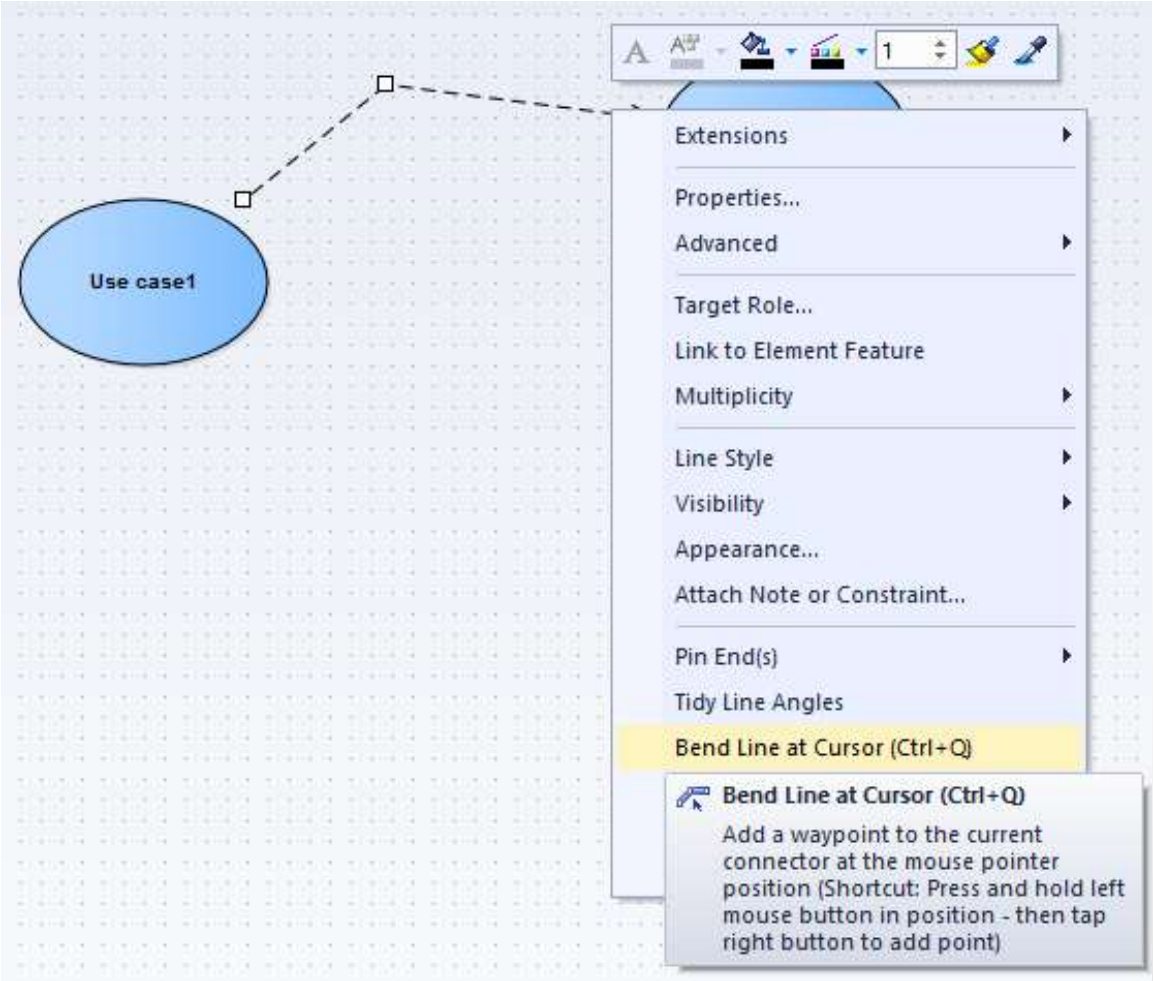
Change connectors (direction, arrows, names, ..) in Diagrams

Change properties of the flow, by double clicking the line



Change connectors (bend line at Cursor, ..) in Diagrams

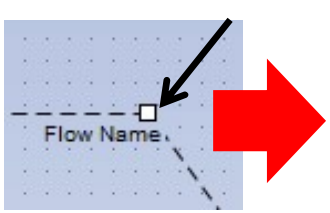
Change properties of the flow, by clicking right mouse button

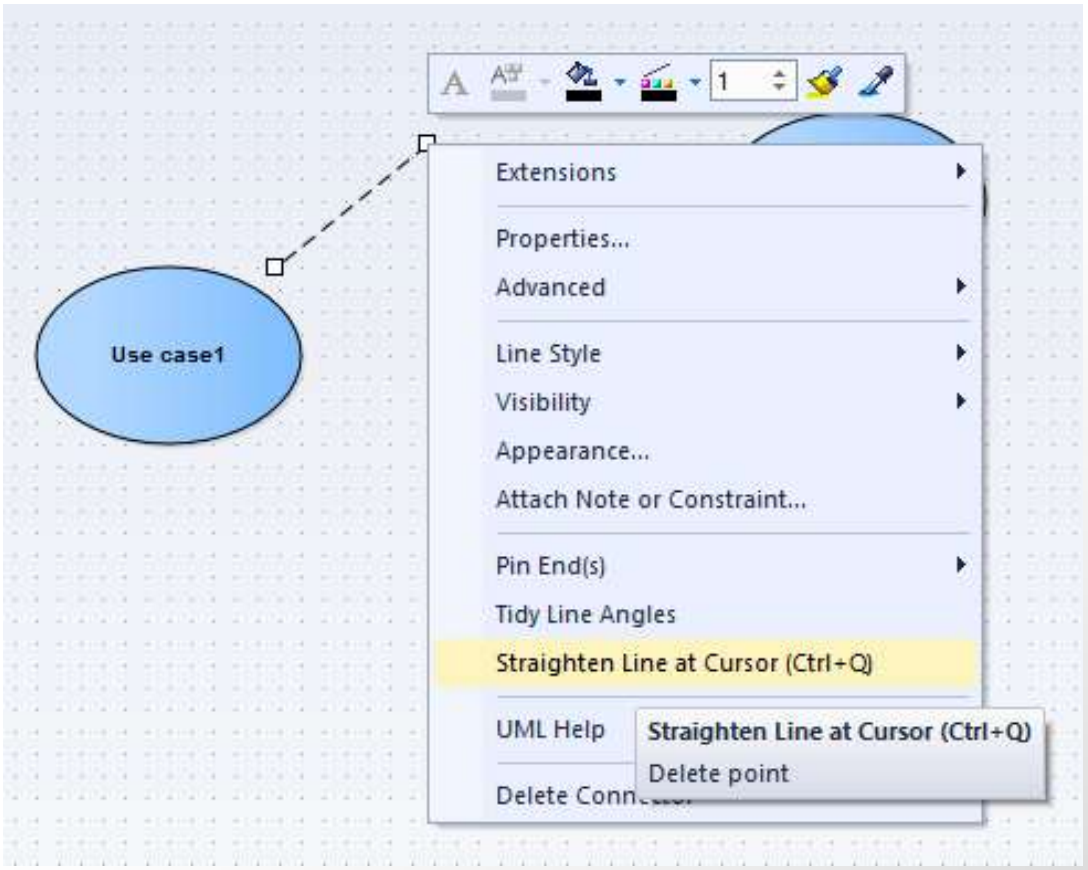


REMARK: In the line custom mode, you can also bend a line by selecting a point on the line and clicking the left mouse button.

Change connectors (straighten Line at Cursor, ..) in Diagrams

Change properties of the flow, Right-clicking at a Line point displays the Straighten Line at Cursor context menu option, which you can use to remove the line point.

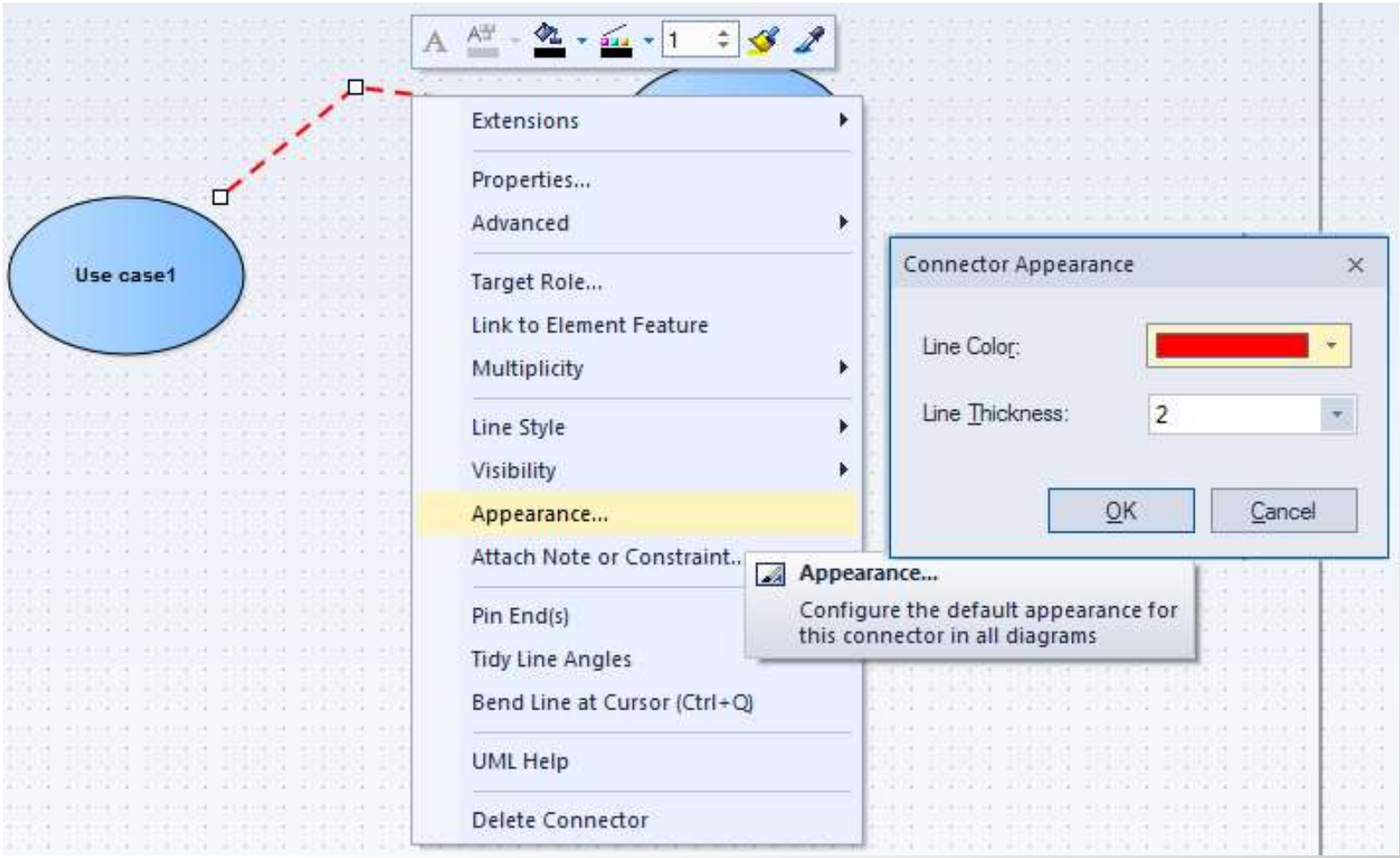




REMARK: In the line custom mode, you can also straighten a line by selecting a point on the line and clicking the left mouse button.

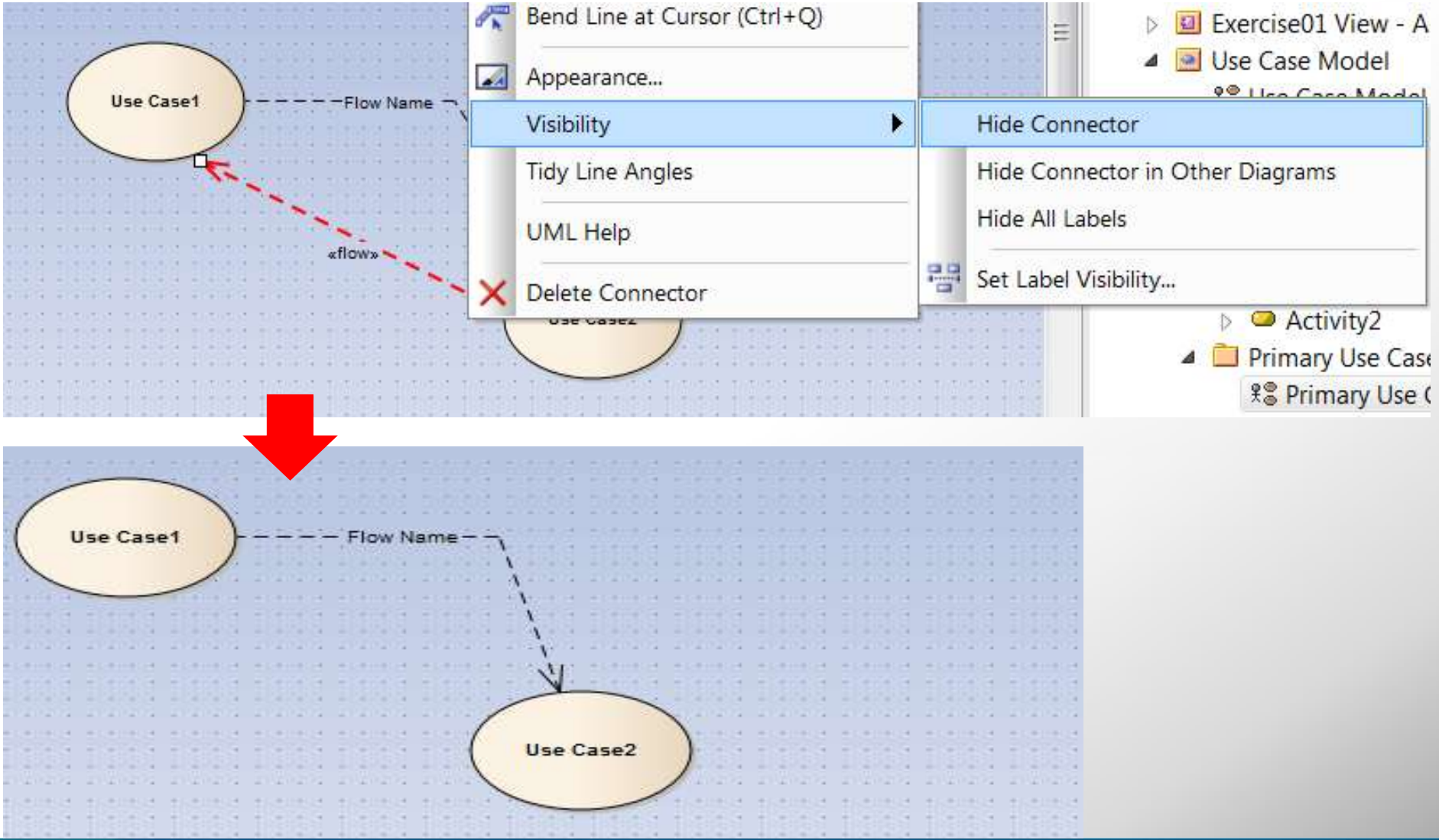
Change Colors and thickness of connectors in Diagrams

Change properties of the flow, by clicking right mouse button



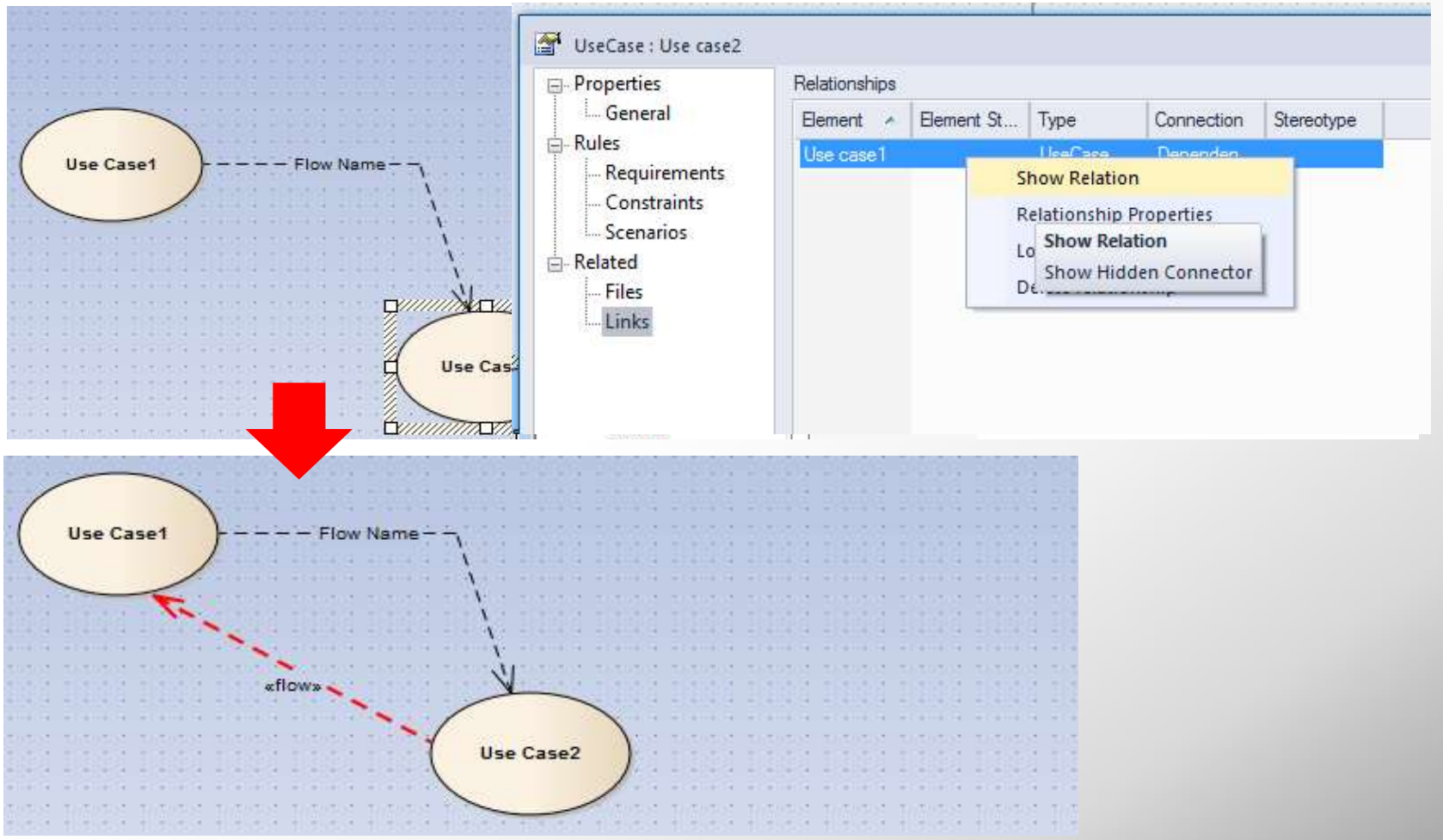
Change Visibility (Hide) of connectors in Diagrams

Change properties of the flow, by clicking right mouse button



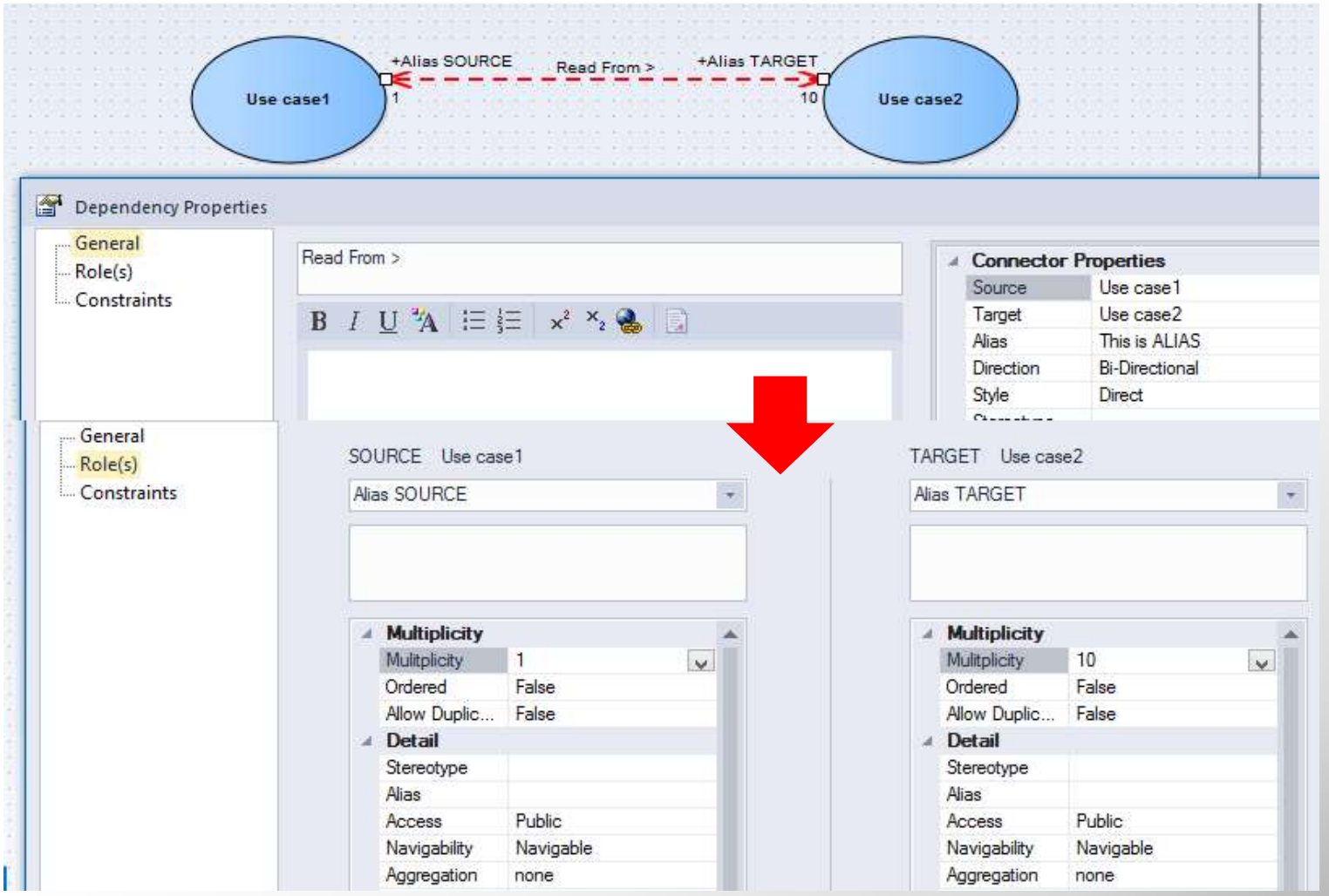
Change Visibility (Show) of connectors in Diagrams

Double-click on the required diagram element in the Diagram view.
The element Properties dialog displays, Select the Links tab.
This lists the connectors linked to the element, whether or not they are hidden on the diagram. Right-click on the connector to hide or show



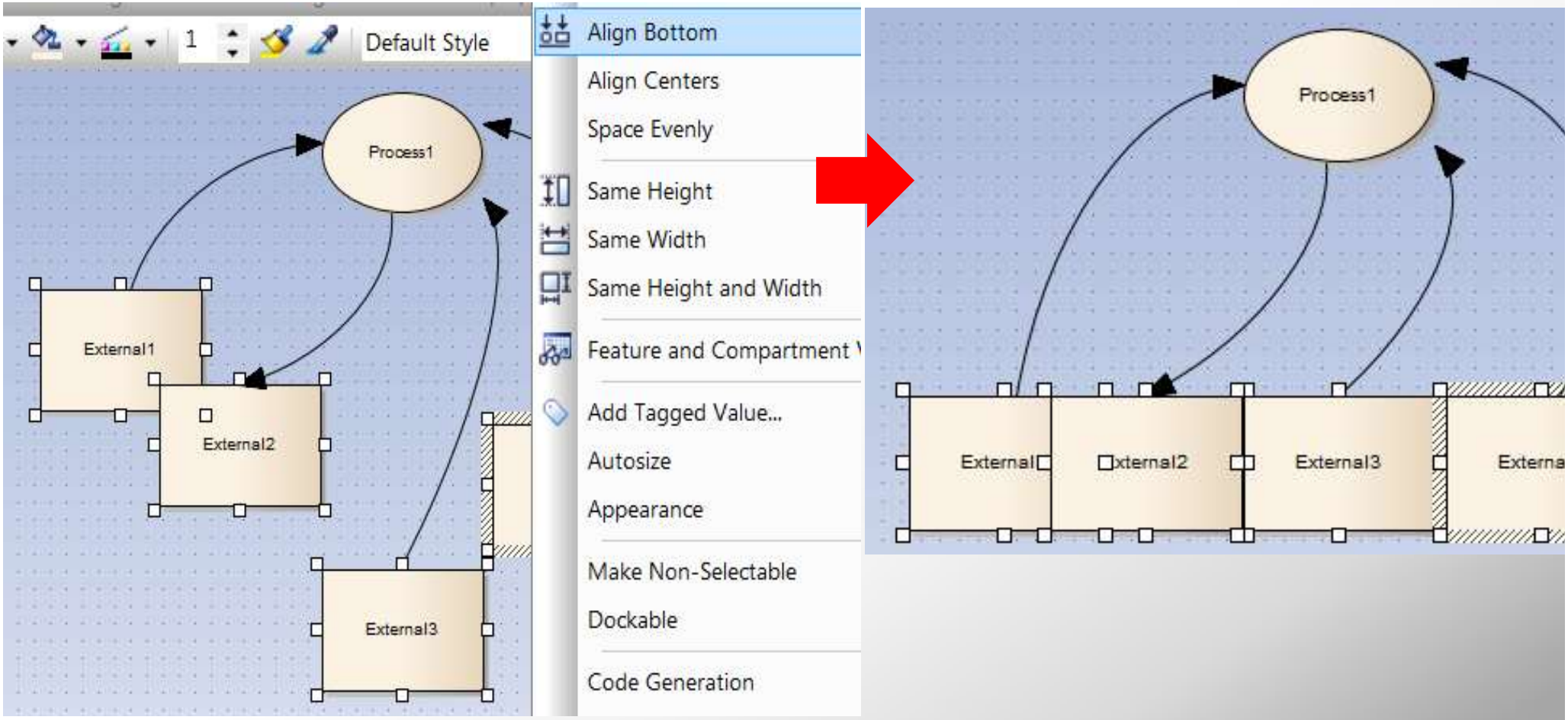
Change Multiplicity of connectors in Diagrams

Double-click on a connector to open the Connector Properties dialog.
Select the General and Role(s) page.
Enter the required details and click on the **OK** button.

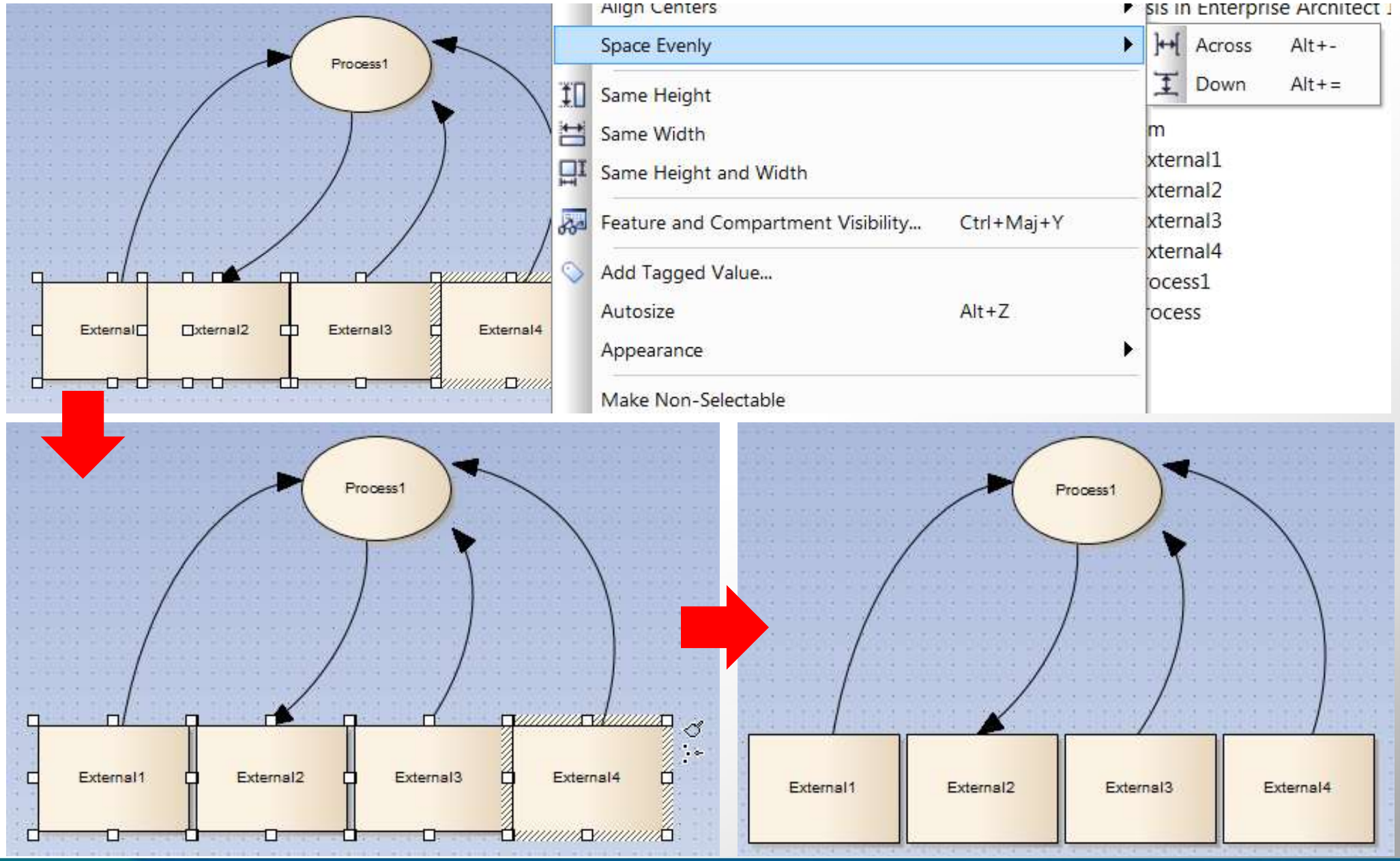


Organise a number of elements in a Diagrams (1)

Select the elements of the Diagram you want to organise.
(method 1: Select by Pressing the SHIFT key and the elements)
(method 2: Select by Left mouse button and select the elements)
Select the Organise option, here ‘ Align bottom ‘.

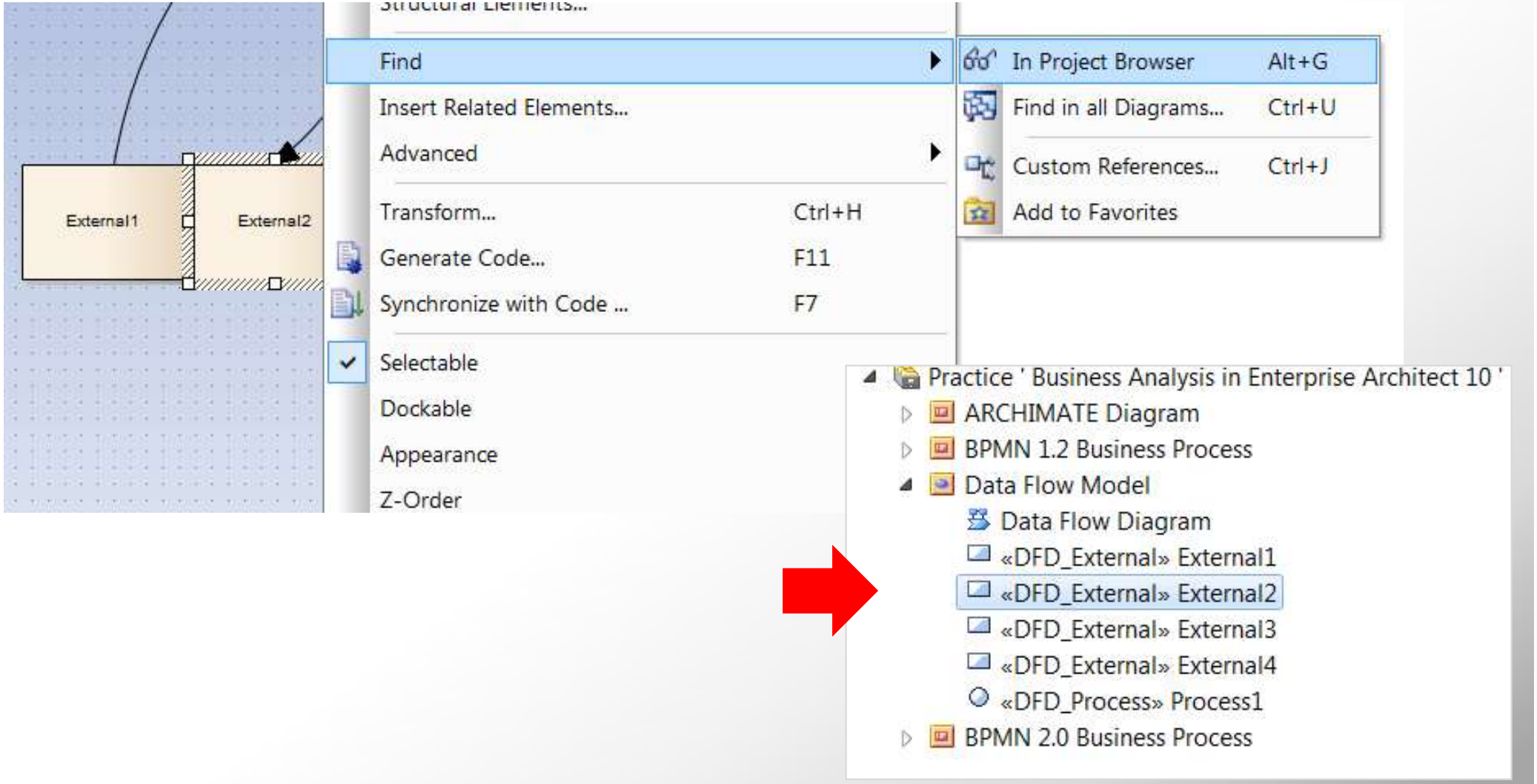


Organise a number of elements in a Diagrams (2)



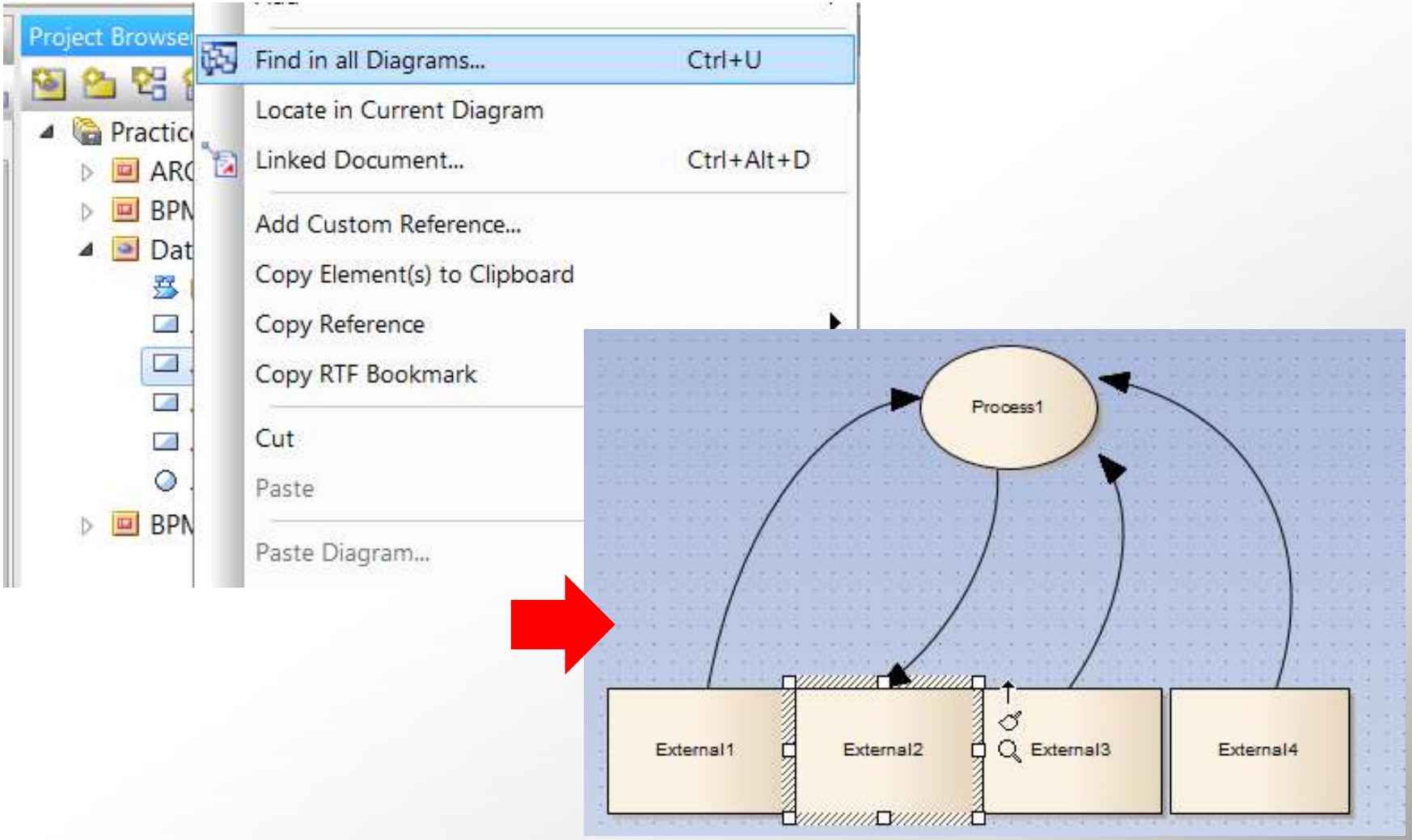
Find an element in a The Project Browser

Select the elements of the Diagram, Click right mouse button.
Choose for **Find** and then **In Project Browser**



Find an element in All Diagrams

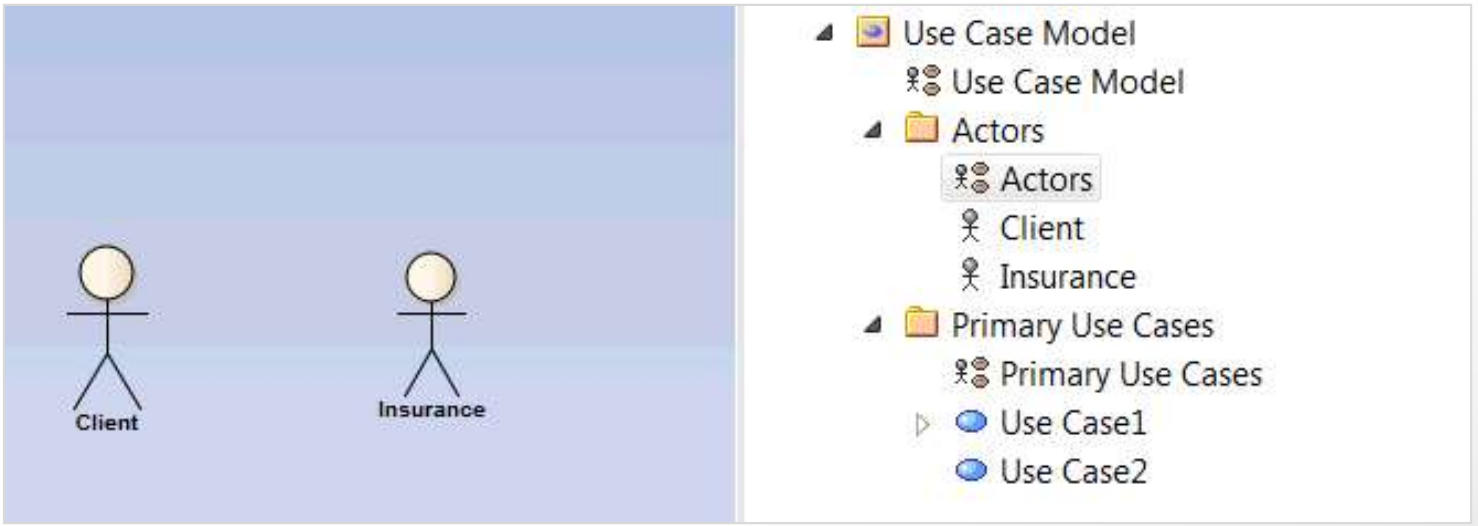
Select the element in The Project Browser, Click right mouse button.
Choose for **Find in All Diagrams.**



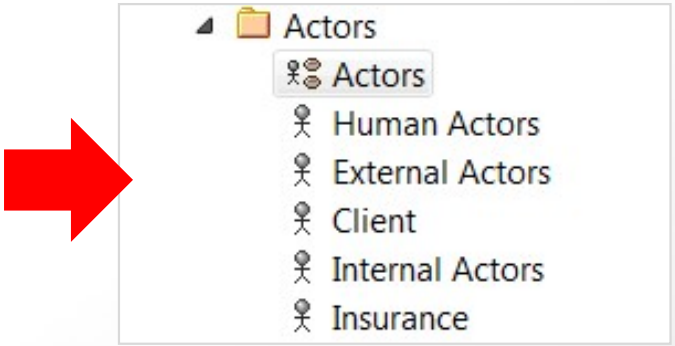
Creating Real and Virtual Actors in Diagrams (1)

Creation of Virtual Actors can enhance your model.

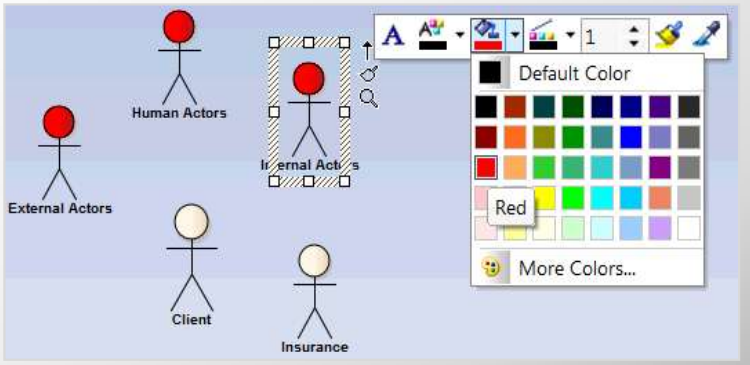
Step 1: Create your Real Actors



Step 2: Add your Virtual Actors



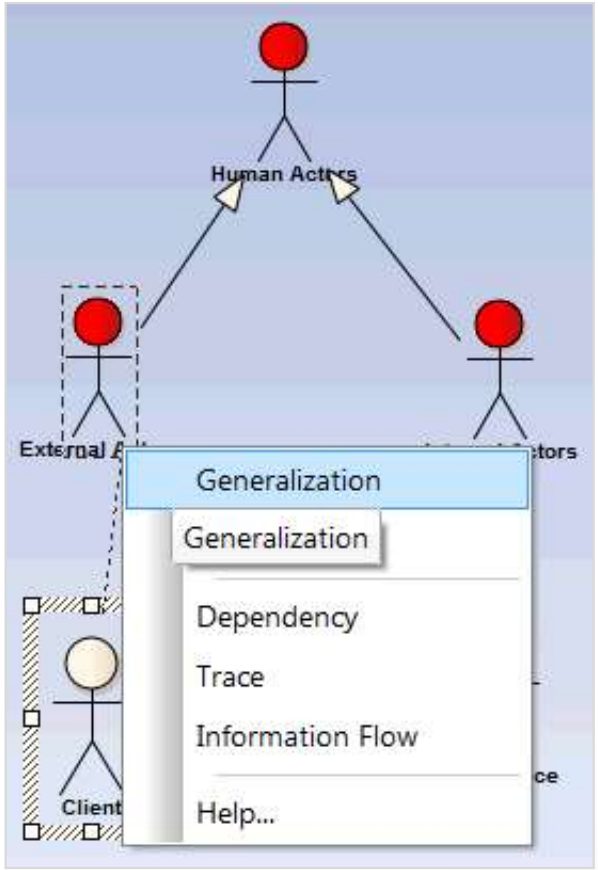
Step 3: Color your Actors (optional)

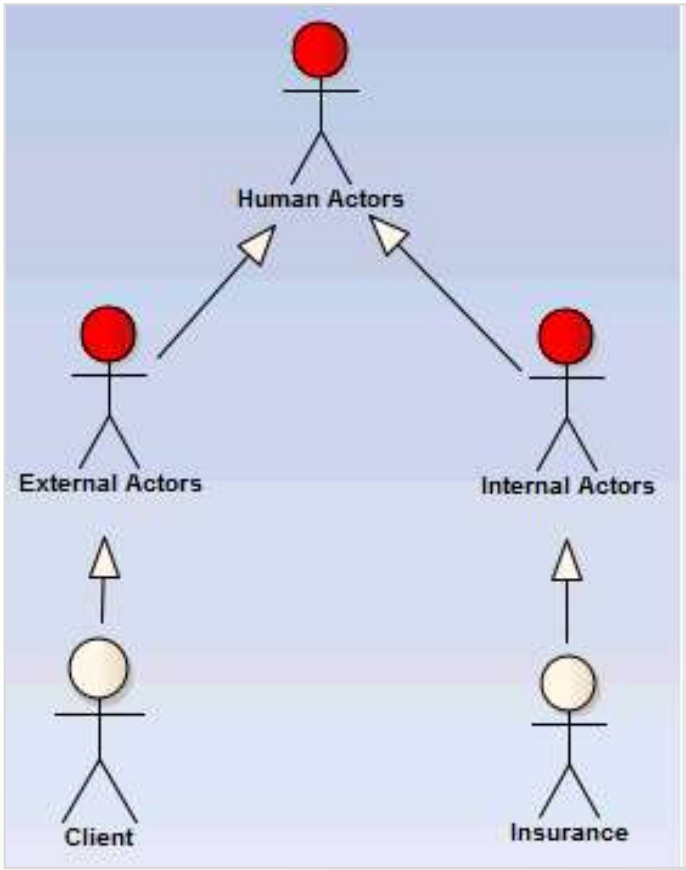


Creating Real and Virtual Actors in Diagrams (2)

Creation of Virtual Actors can enhance your model.

Step 3: Draw your Real and Virtual Actors Hierarchically (Generalization)

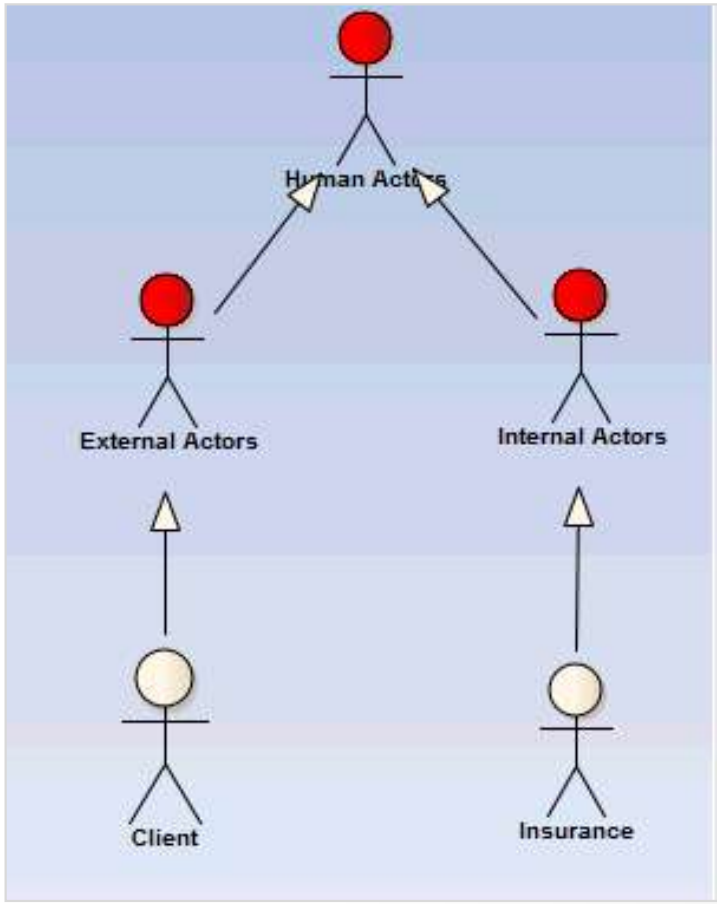


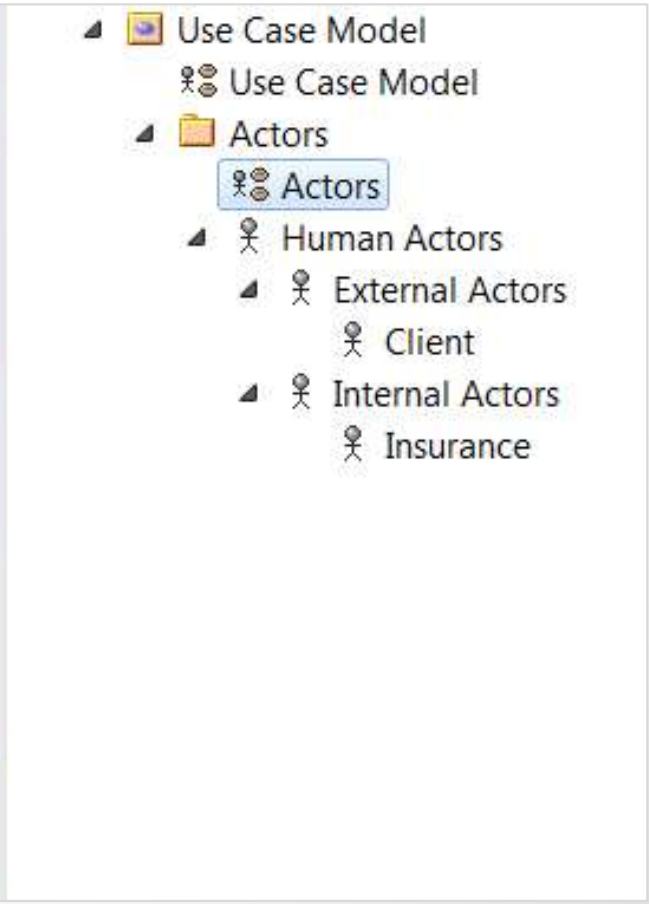


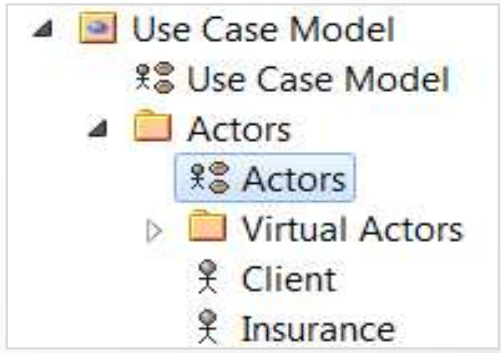
Creating Real and Virtual Actors in Diagrams (3)

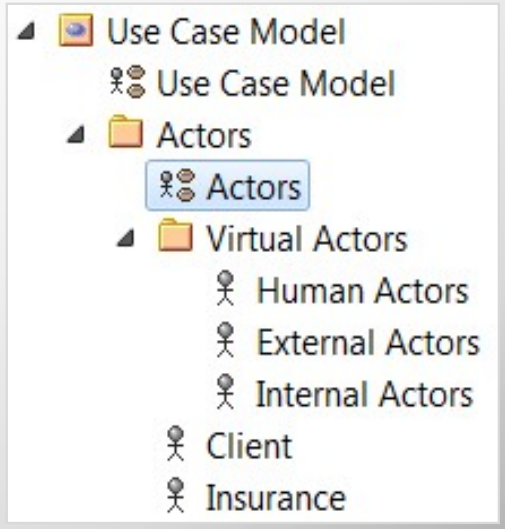
Creation of Virtual Actors can enhance your model.

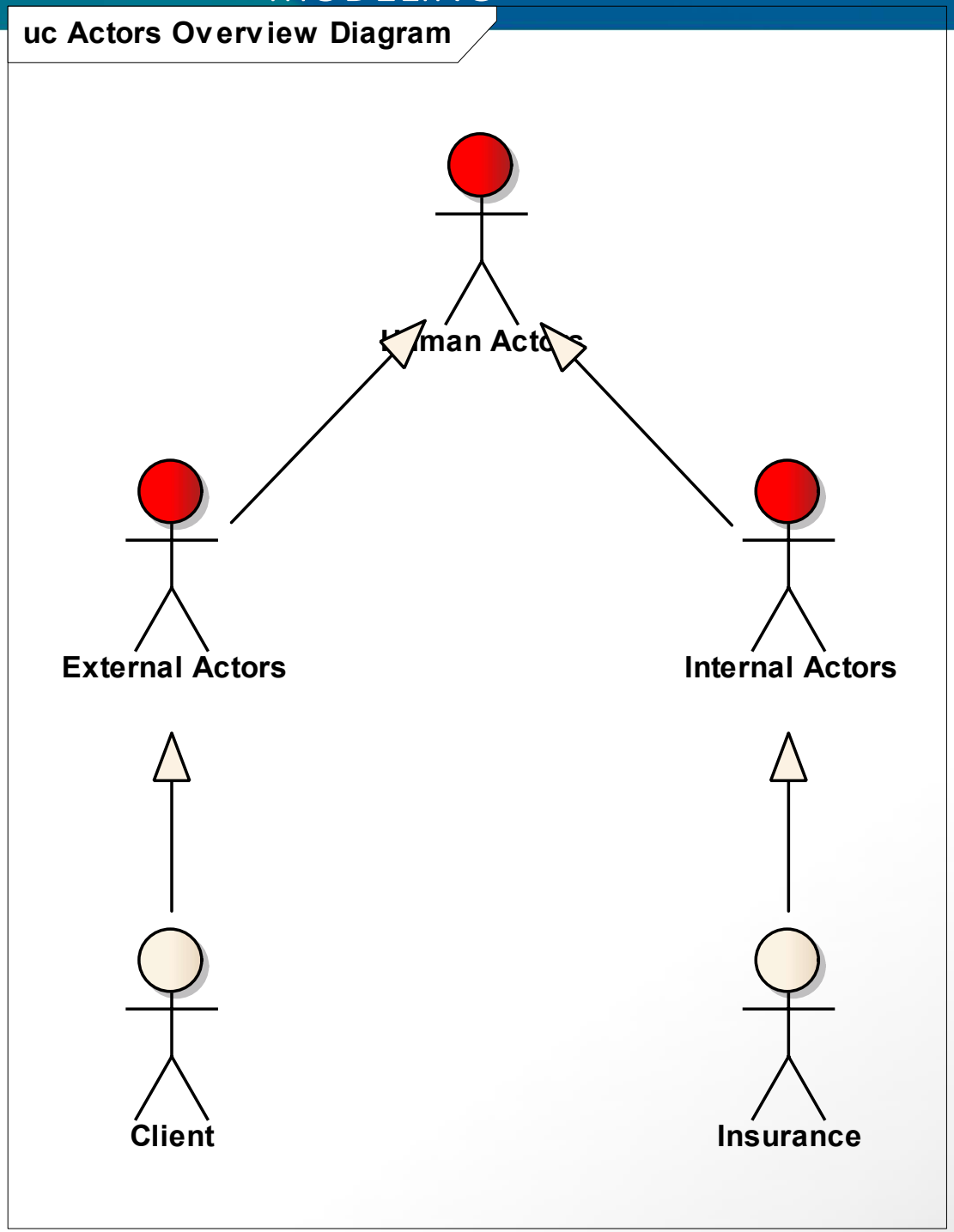
Step 4: Organize your Real and Virtual Actors



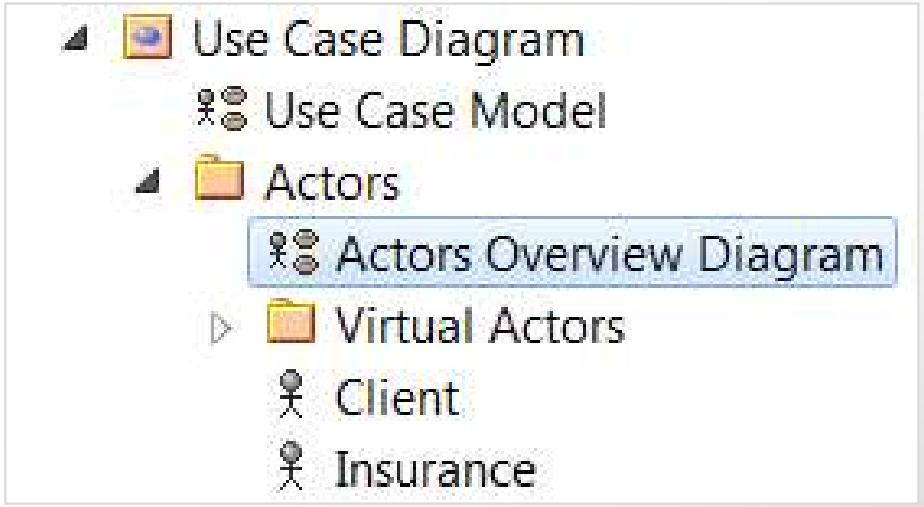








THEORY INTO PRACTICE

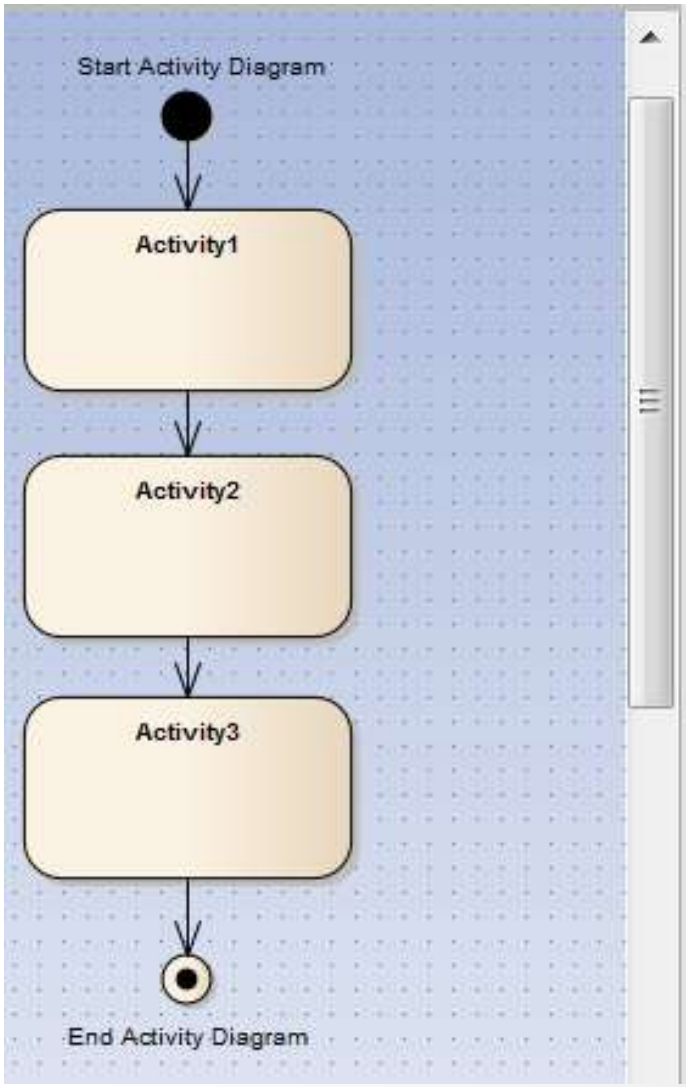


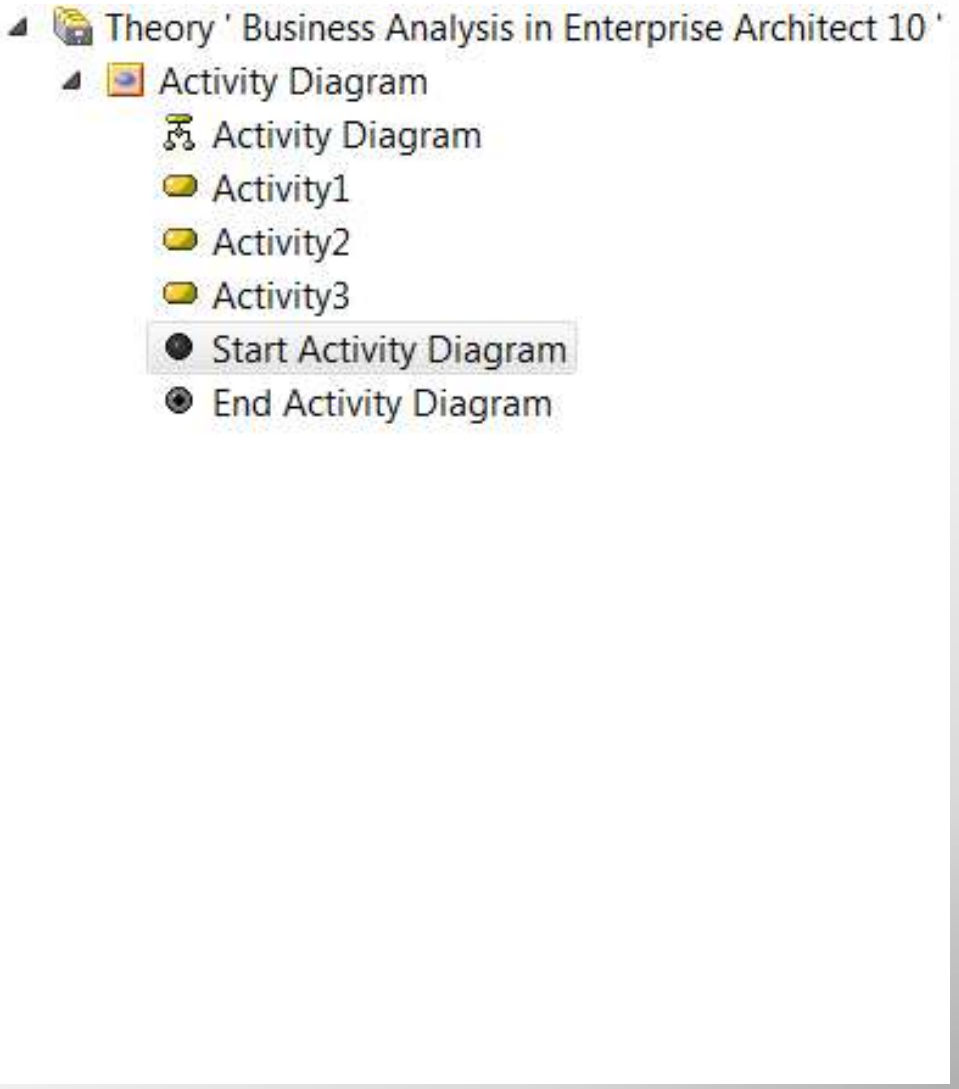
Part IV: Extended modeling

- Creating deeper (composite) levels in Diagrams
- Creating deeper (composite) levels in Data
- Turn On Level Numbering - (Turn Off Level Numbering)
- Apply auto naming of elements
- Adding hyperlinks in Diagrams
- Adding documents in Diagrams
- Re-use of Real and Virtual Actors in Diagrams (method 1)
- Re-use of Real and Virtual Actors in Diagrams (method 2)
- Working with instance Classifiers
- Re-use gives use the possibility of generating an impact analysis
- Glossary
- Working with an Alias

Creating deeper (composite) levels in Diagrams (1)

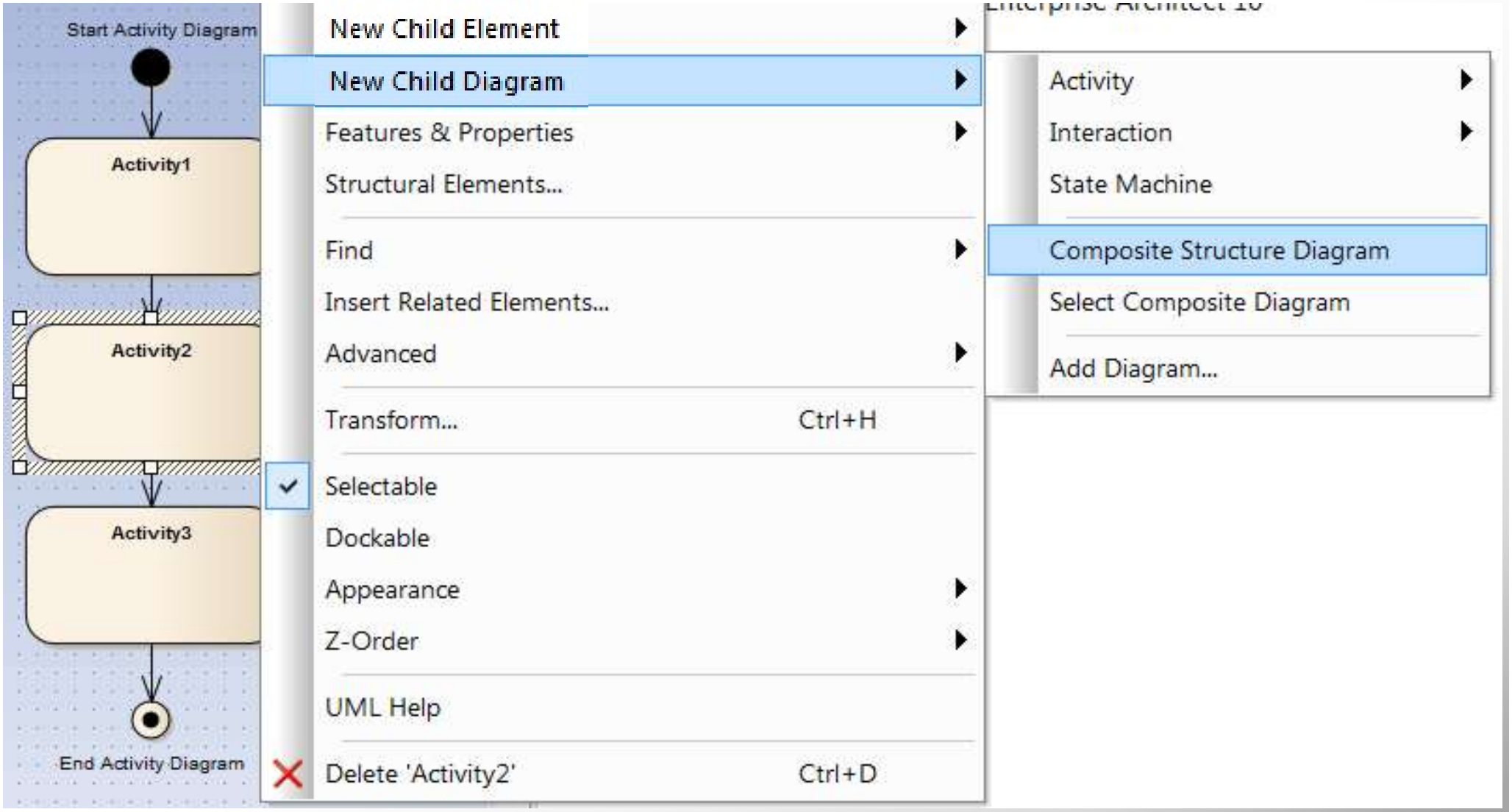
Step 1: Create normal flow.





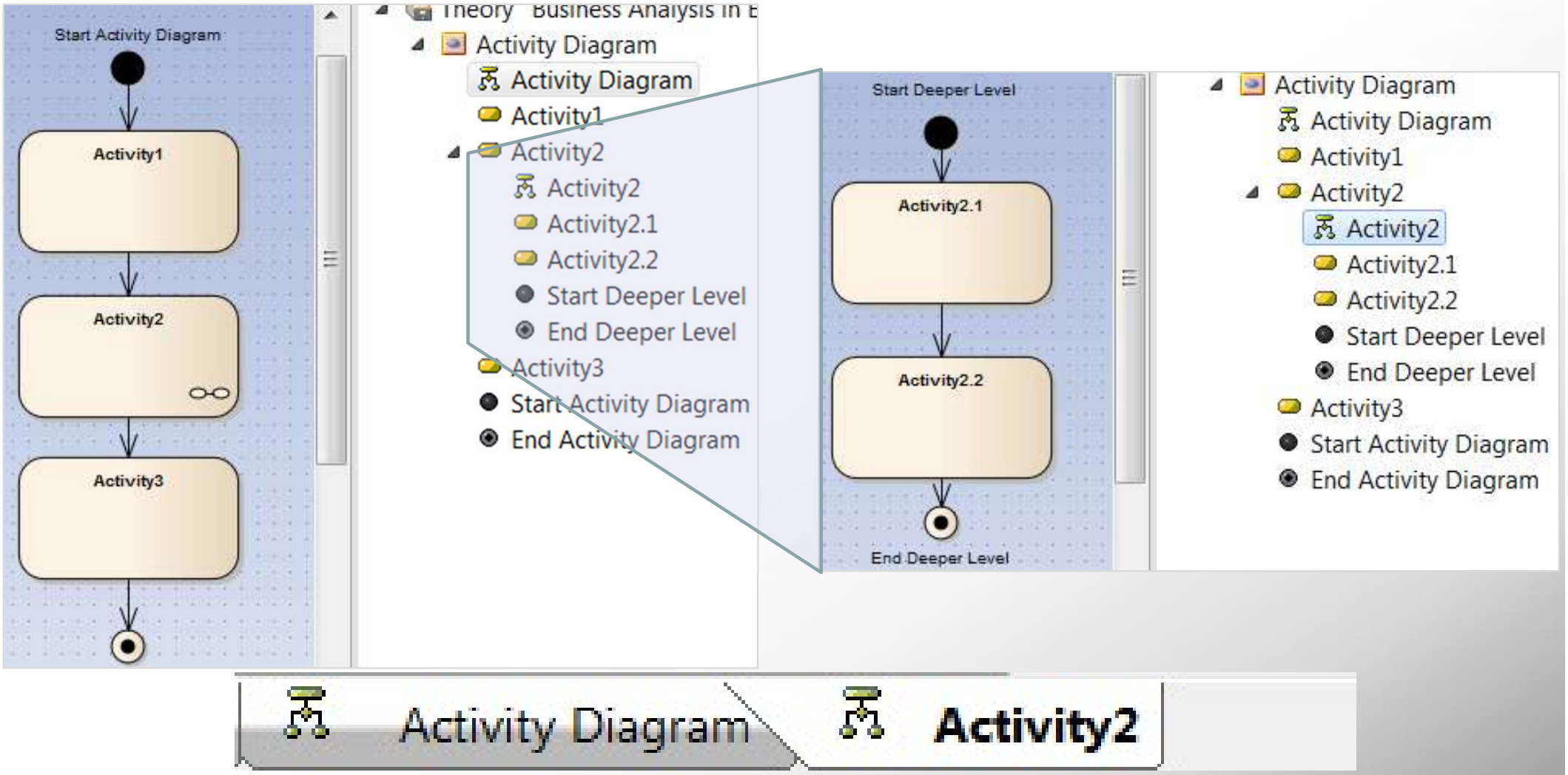
Creating deeper (composite) levels in Diagrams (2)

Step 2: Select the element and make a composite structure of it.



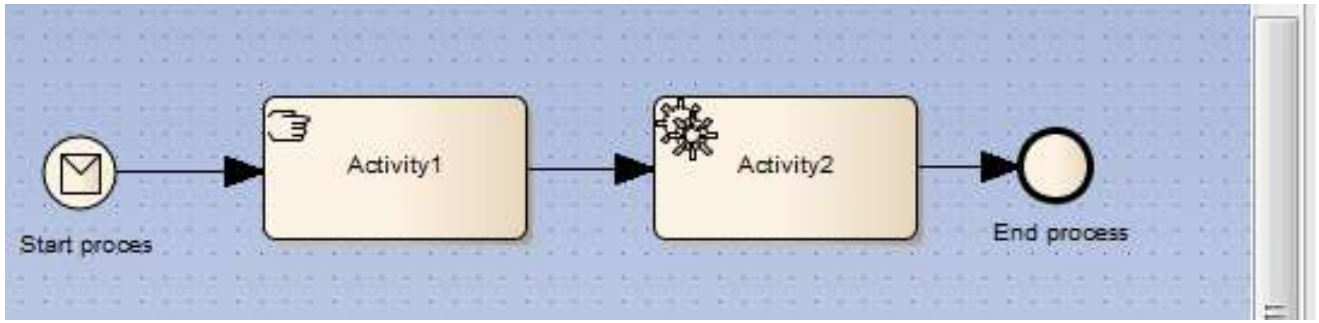
Creating deeper (composite) levels in Diagrams (3)

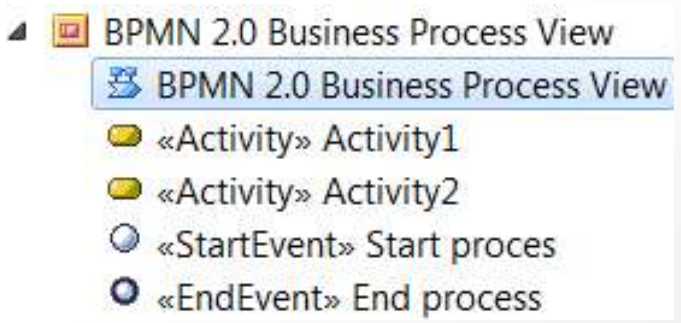
Step 3: Model the deeper level



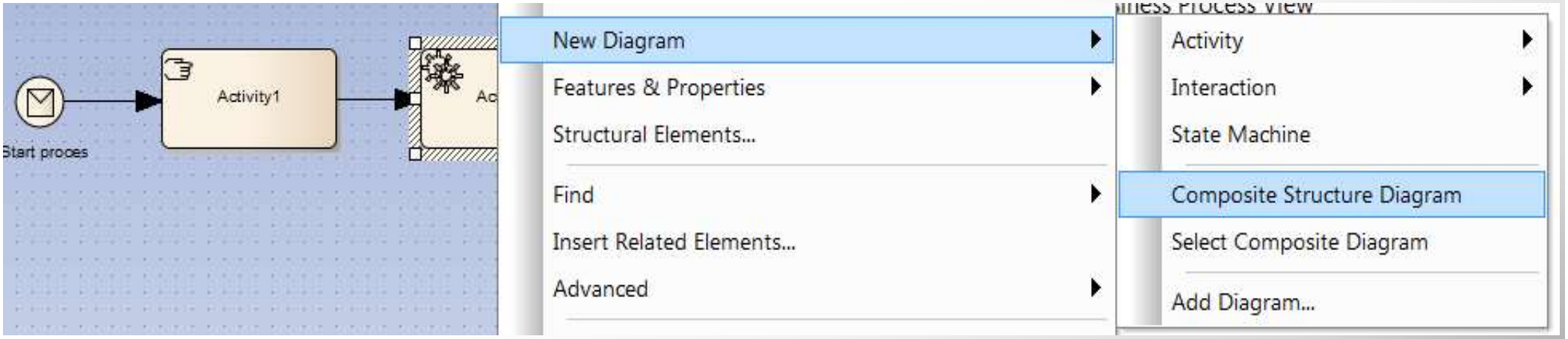
Creating deeper (composite) levels in Diagrams (4)

Step 1: Create normal flow.



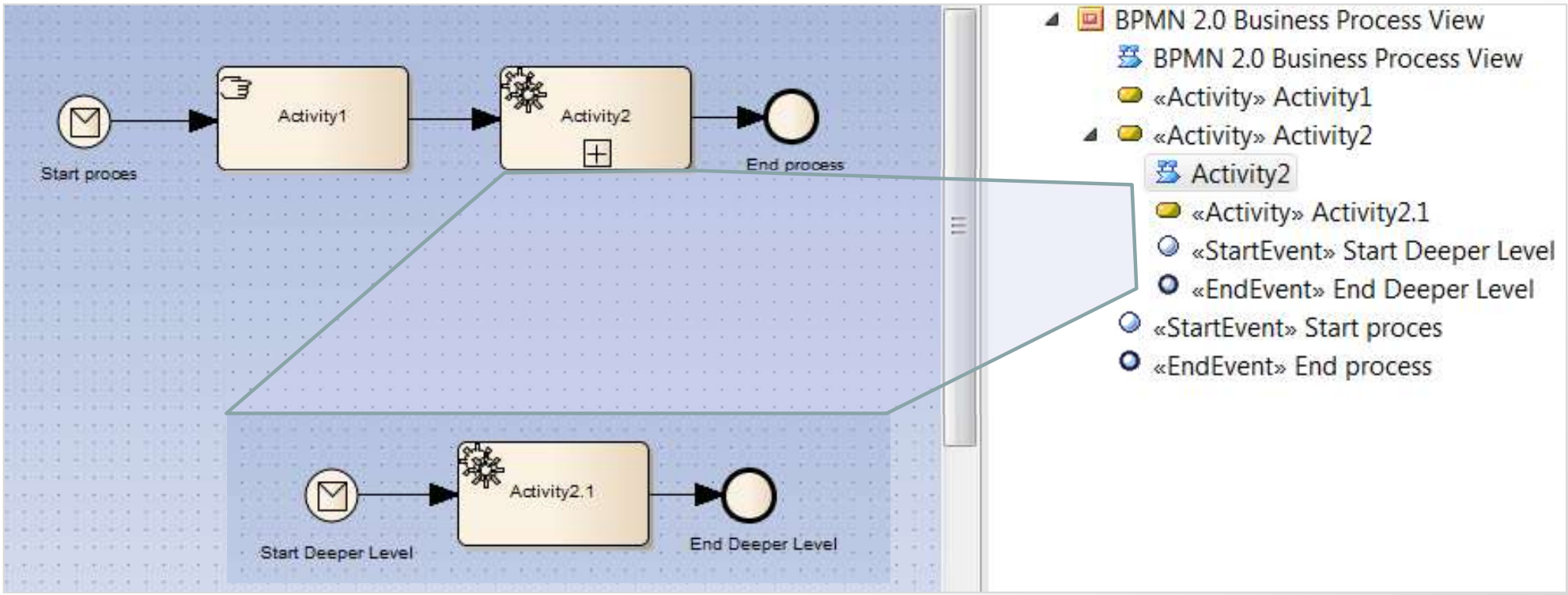


Step 2: Select the element and make a composite structure of it.



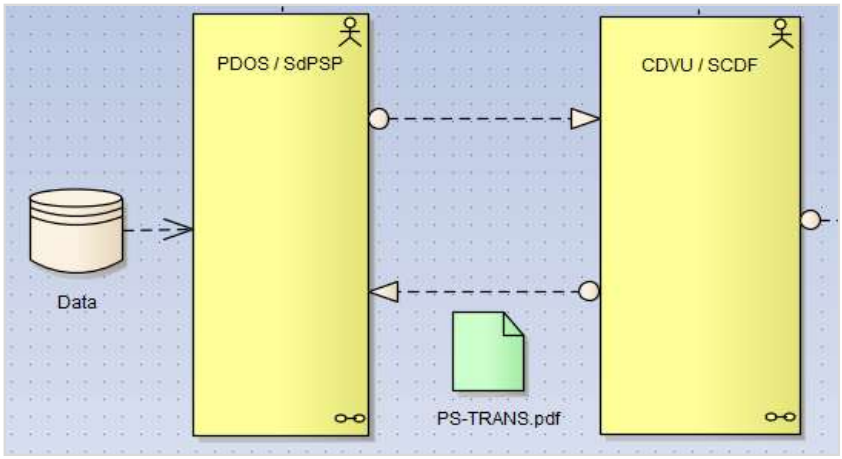
Creating deeper (composite) levels in Diagrams (5)

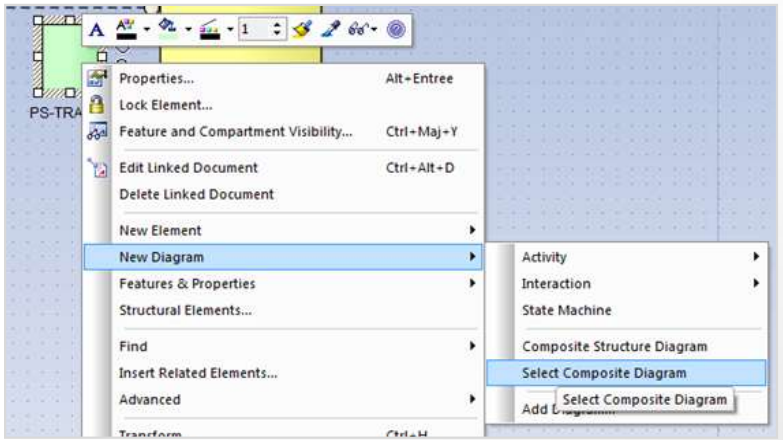
Step 3: Model the deeper level

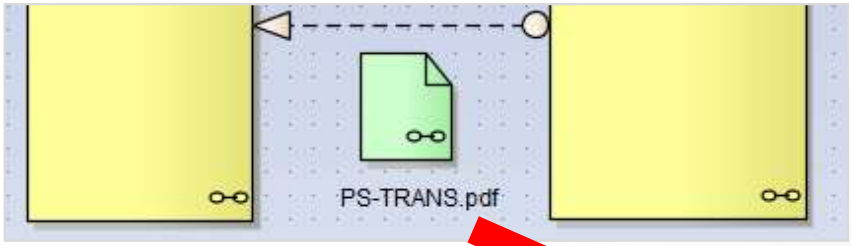


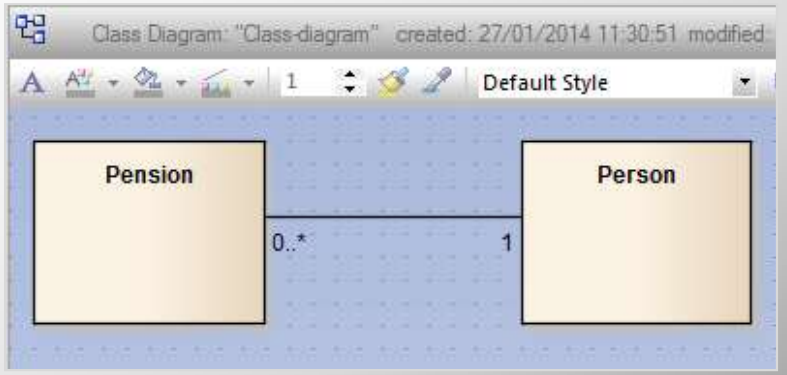
Creating deeper (composite) levels in Data (1)

Model the Data in an Business Analysis and the data in the Functional Analysis.



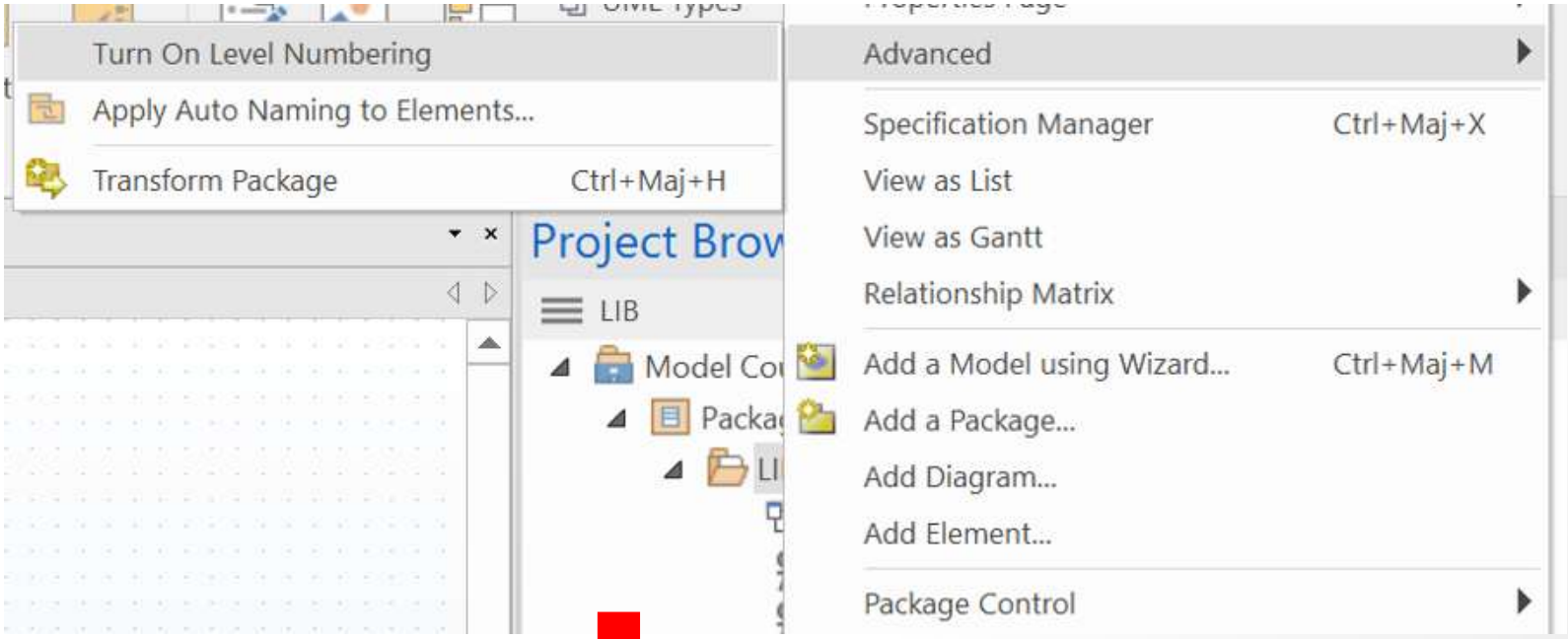






Turn On Level Numbering - (Turn Off Level Numbering)

Select a package and click the right mouse button and select **Advanced -> Turn On Level Numbering**



Add a sequence number to each element in the package, based on the element's position in the package hierarchy. For nested elements, the numbering indicates level; that is:

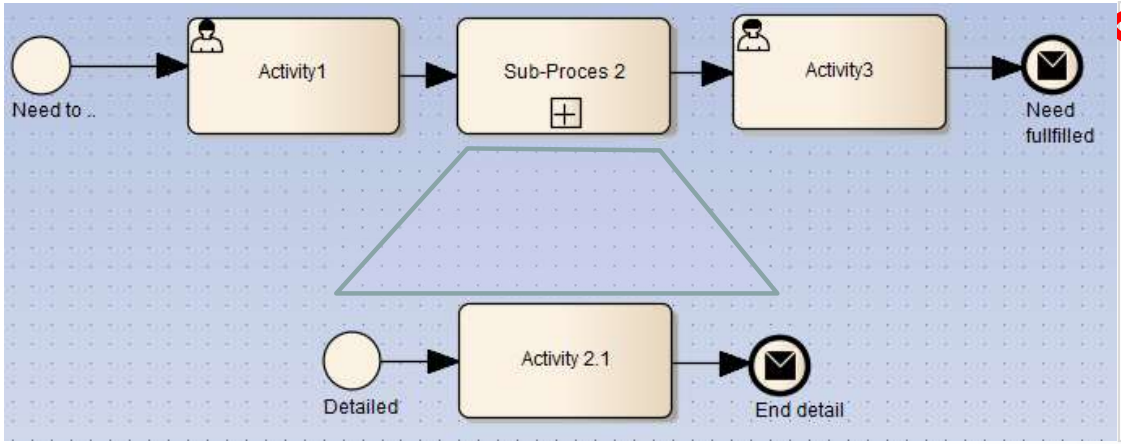
3.1
3.2
3.2.1
3.2.1.1

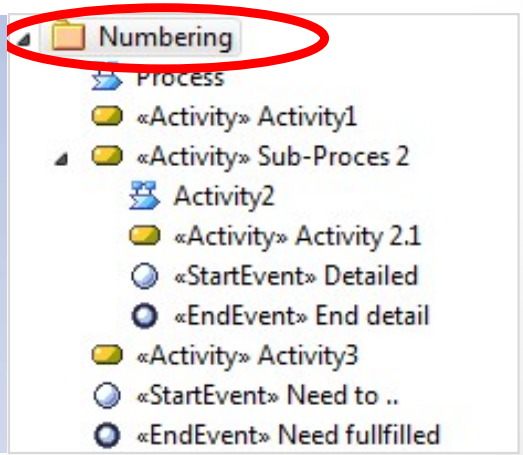
This option is only available for packages, and the numbering only applies to the elements in the package, not diagrams.

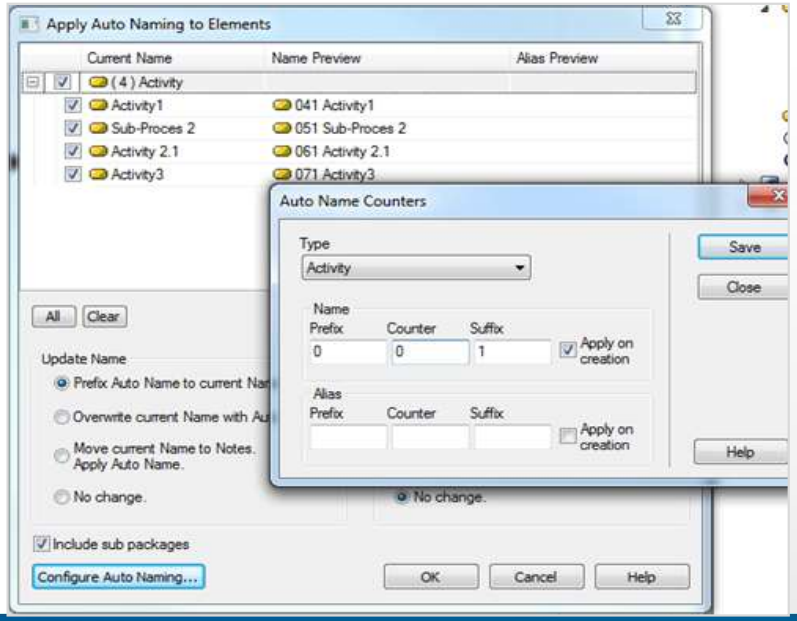
If elements are added, moved or deleted from the package, the numbering automatically adjusts.

Apply auto naming of elements (1)

Select a package and click the right mouse button and select **Advanced -> Apply auto naming to elements**



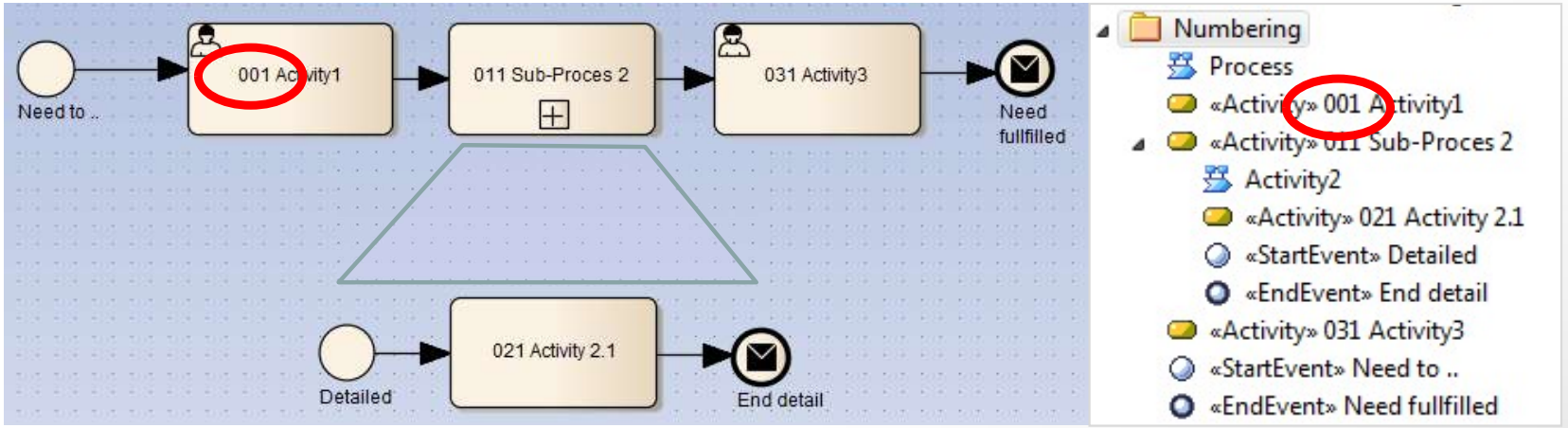




- Select **all** the Activities
- **Include** sub packages
- **Auto Name Counters** and **select** a Name
- **Save** the Name convention and **Close**
- Press **OK**

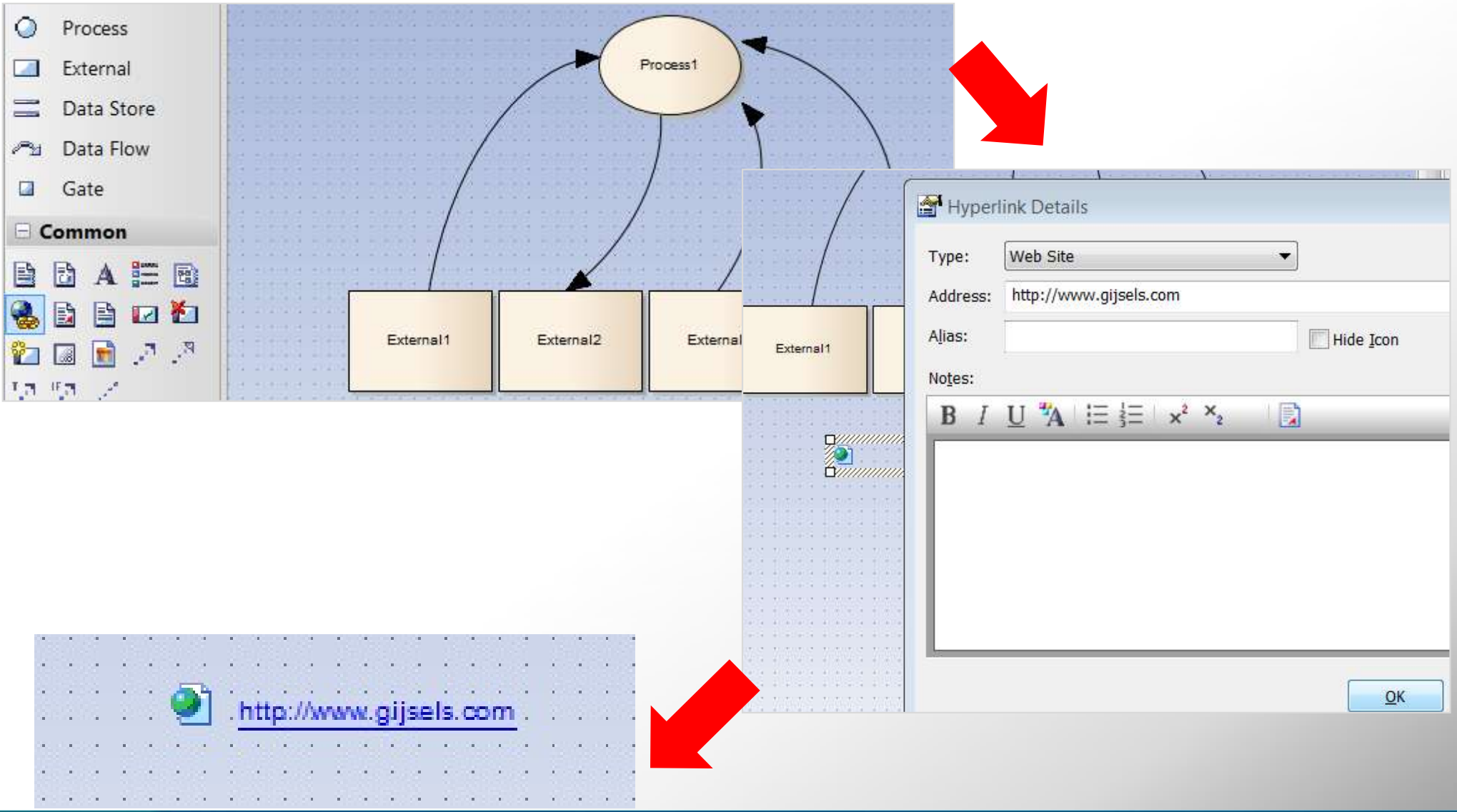
Apply auto naming of elements (2)

The result:



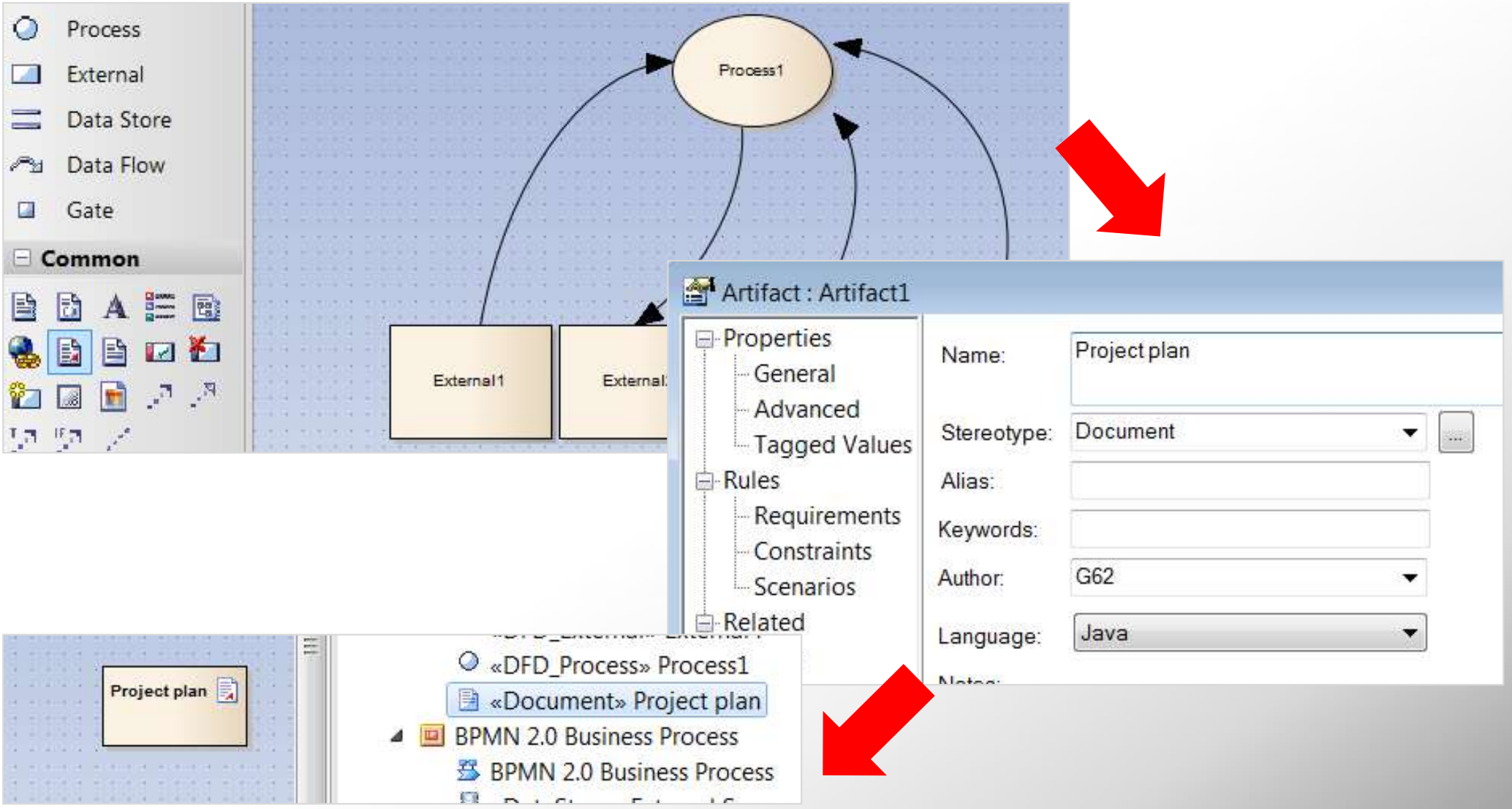
Adding hyperlinks in Diagrams

Select the Hyperlink icon and fill in the Hyperlink Details



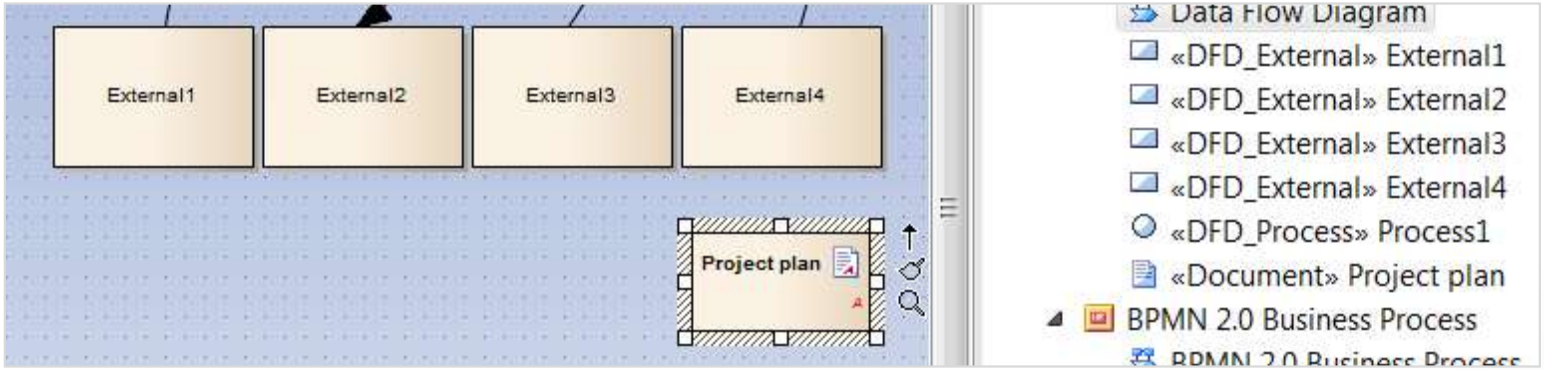
Adding documents in Diagrams (1)

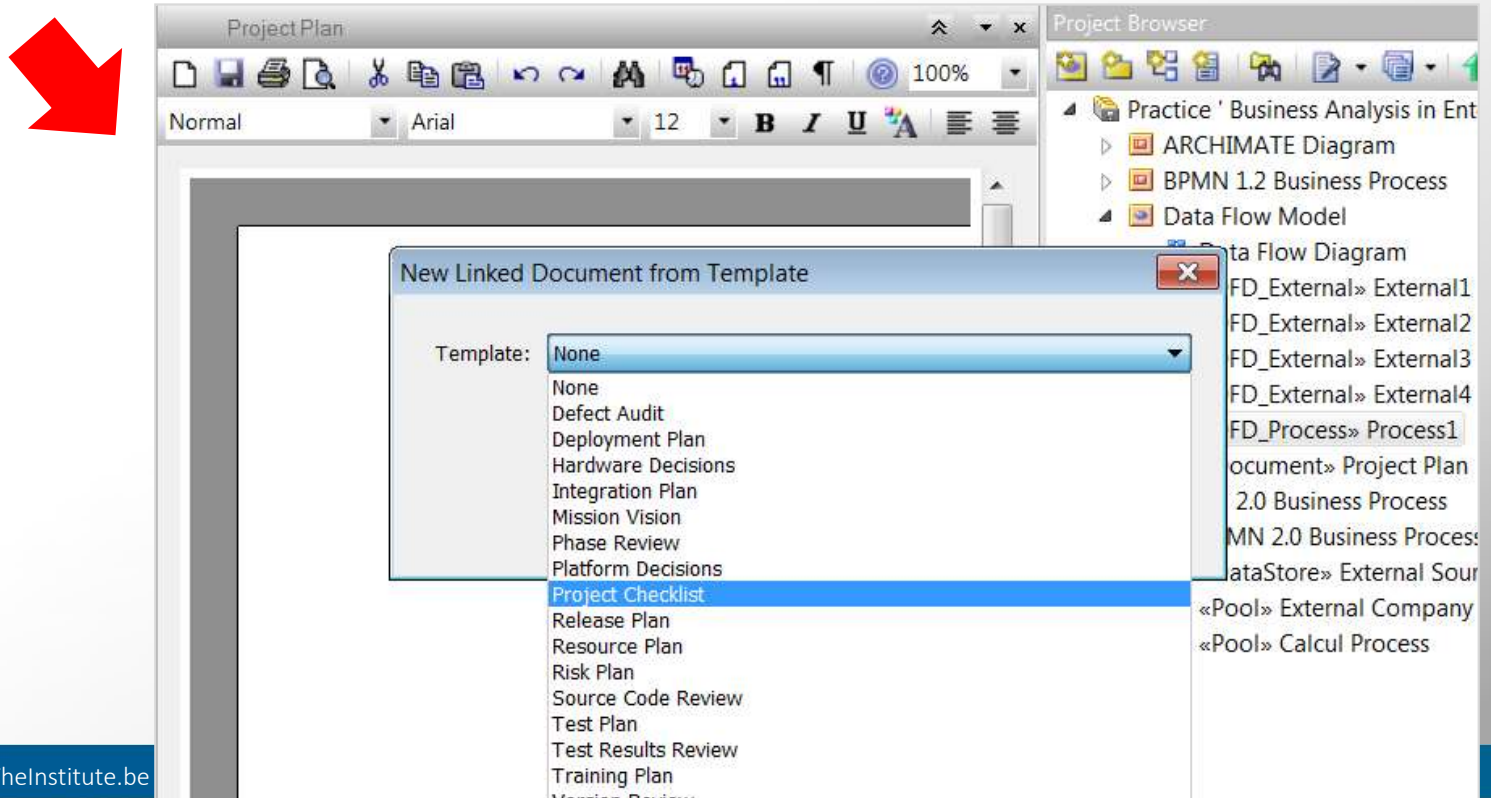
Select the **Document icon** and fill in the Document Details



Adding documents in Diagrams (2)

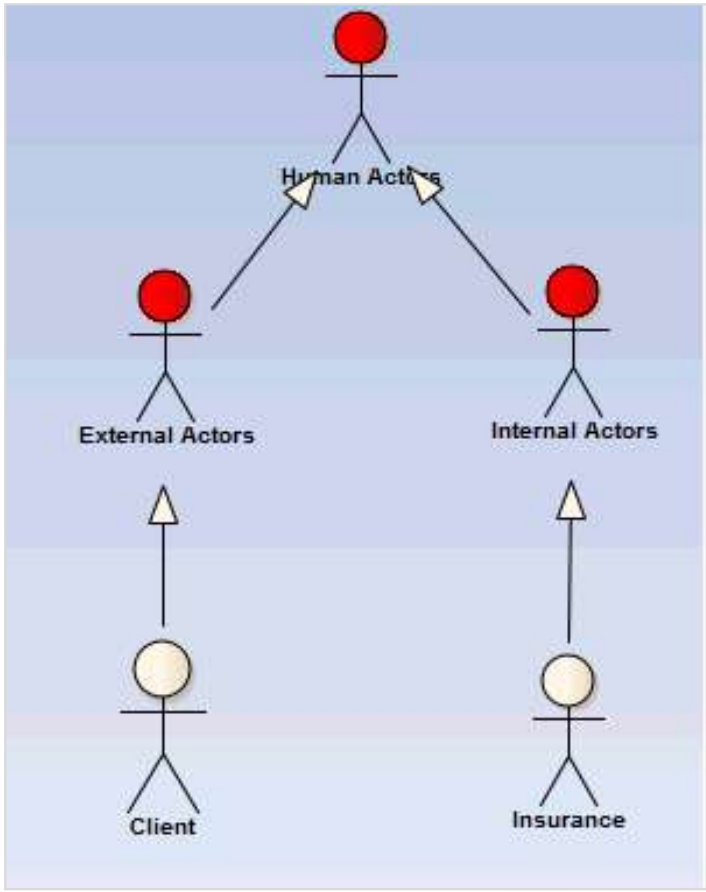
Select the Document icon and open it for the first time

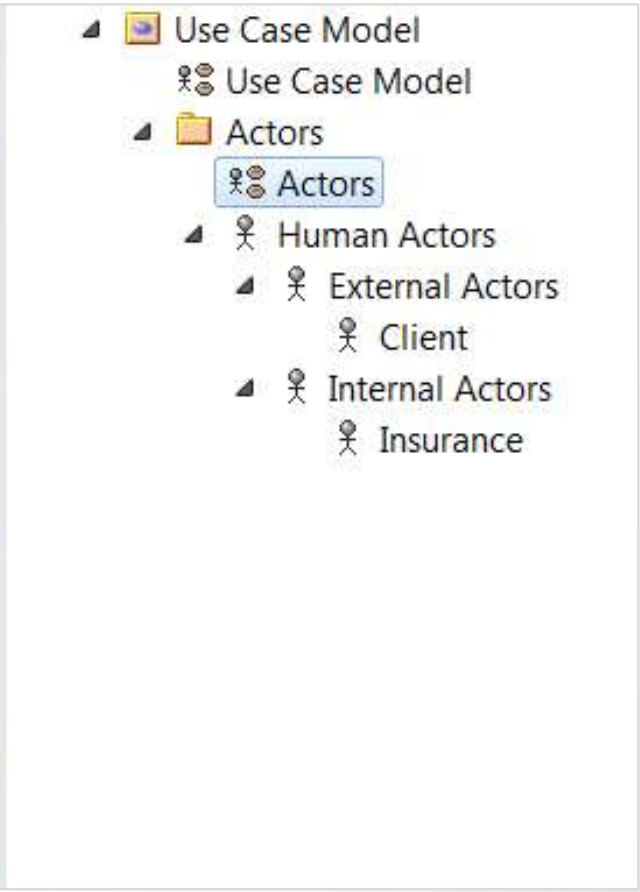


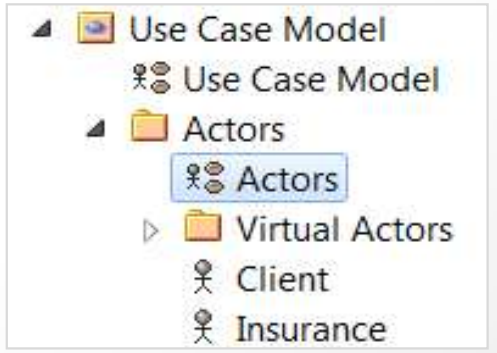


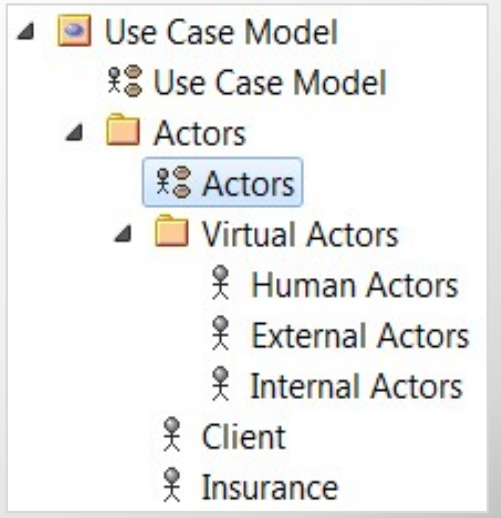
Re-use of Real and Virtual Actors in Diagrams (method 1)

Define the Actors.



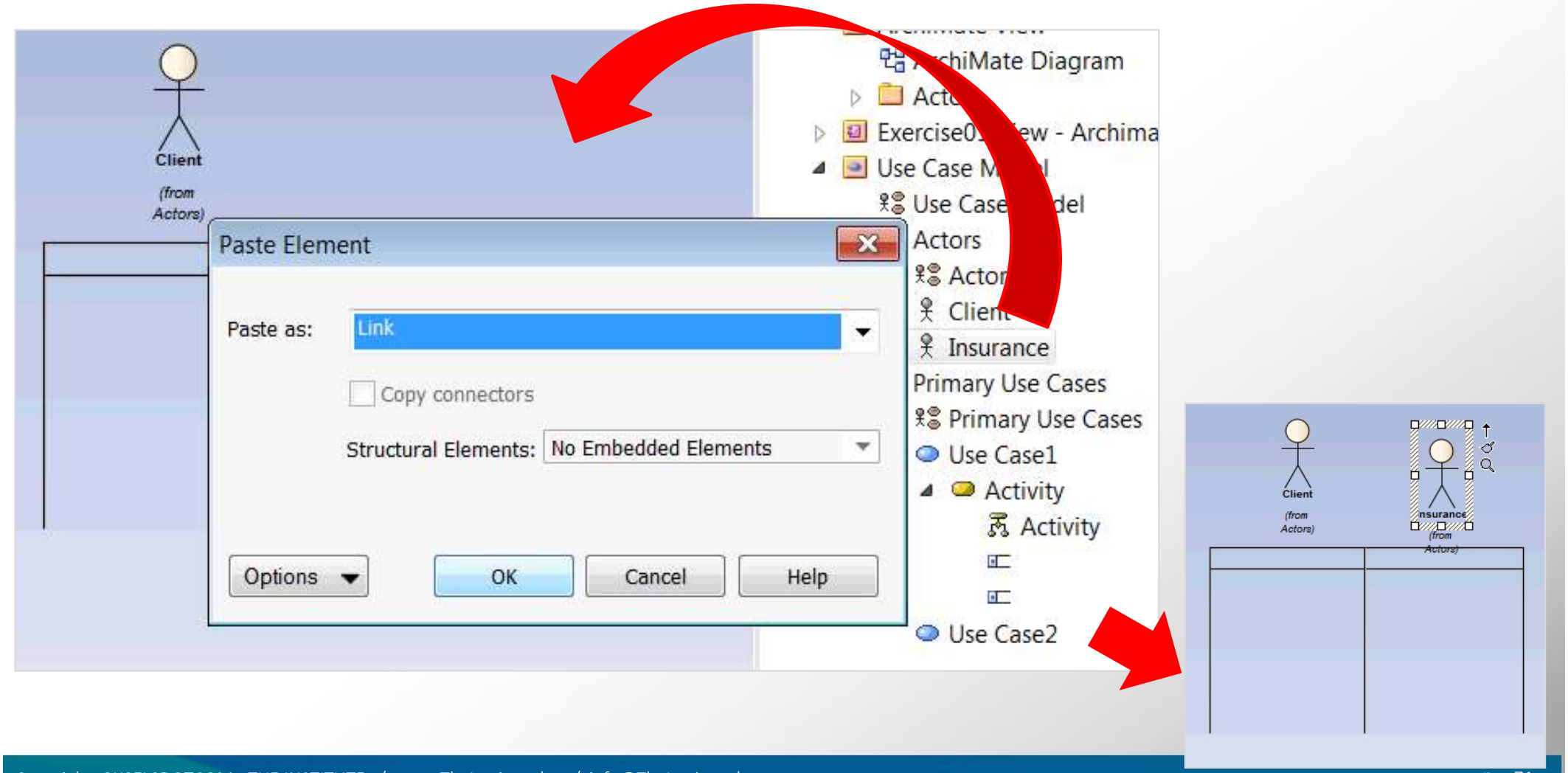






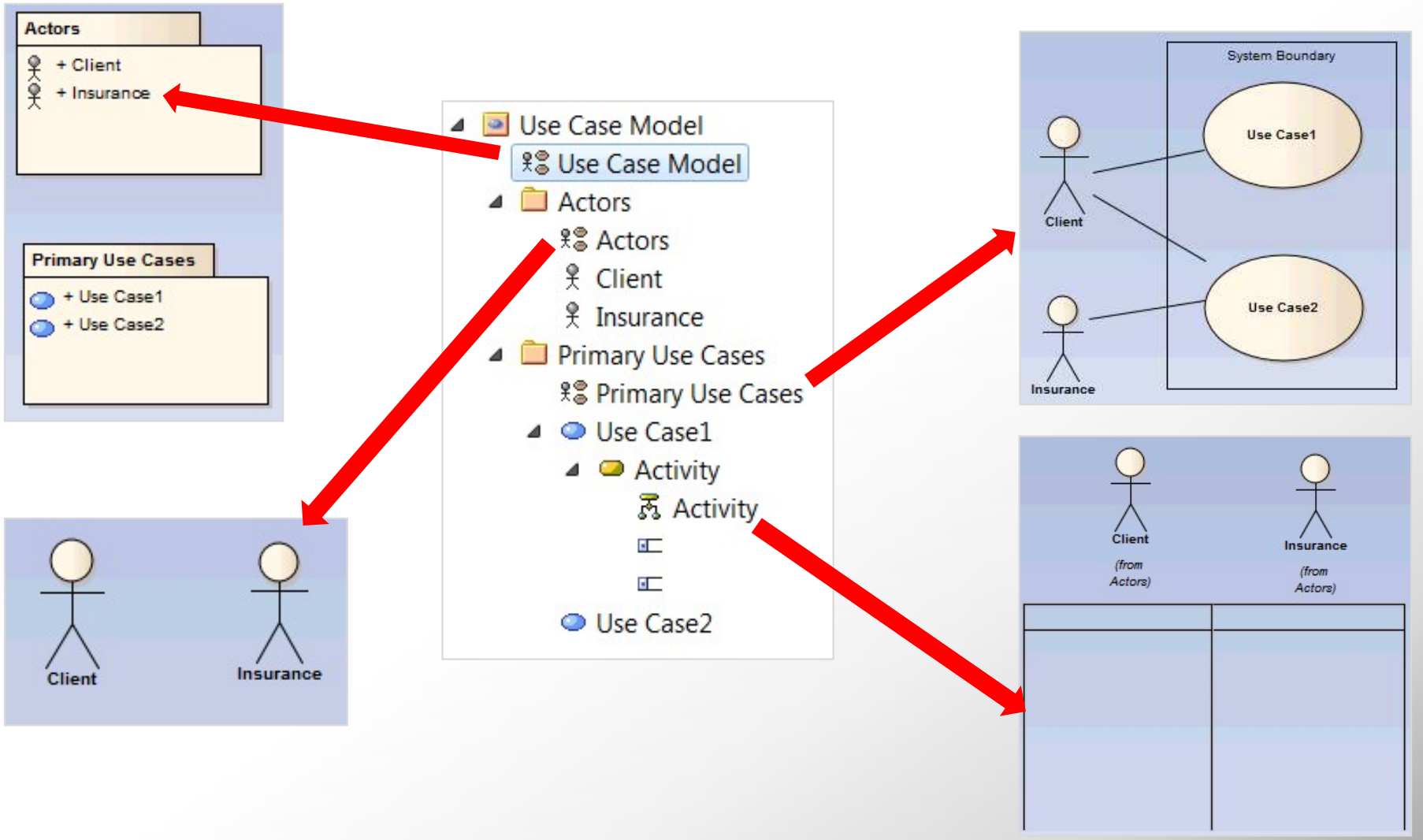
Re-use of Real and Virtual Actors in Diagrams (method 1)

- Select the Real or Virtual Actor in the Project Browser (in this case ‘Insurance’)
- Drag the Real or Virtual Actor on to the Work screen
- Choose for **Link** in the Paste Element window



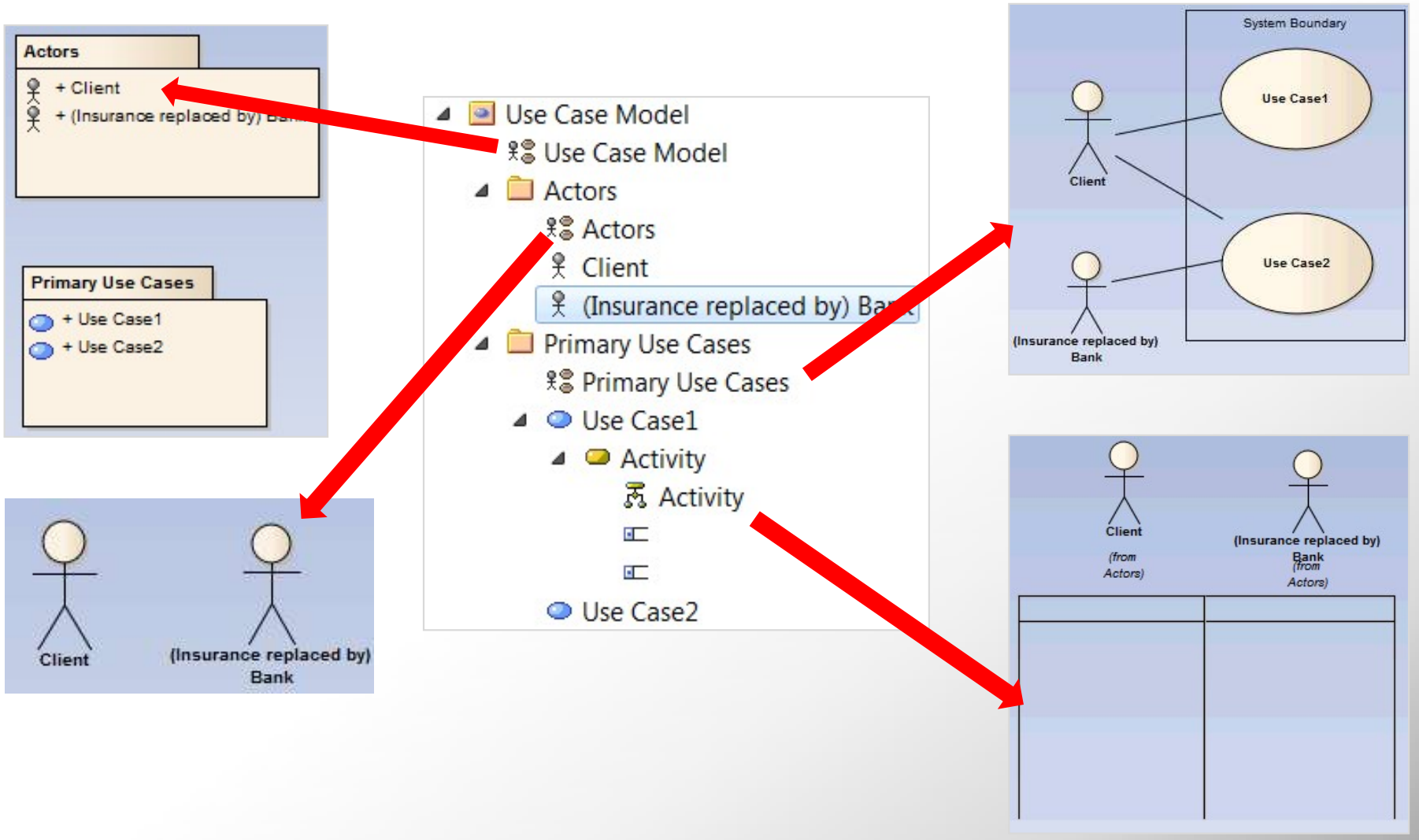
Re-use of Real and Virtual Actors in Diagrams (method 1)

- The Actor name is as defined in " ***from Actors*** "



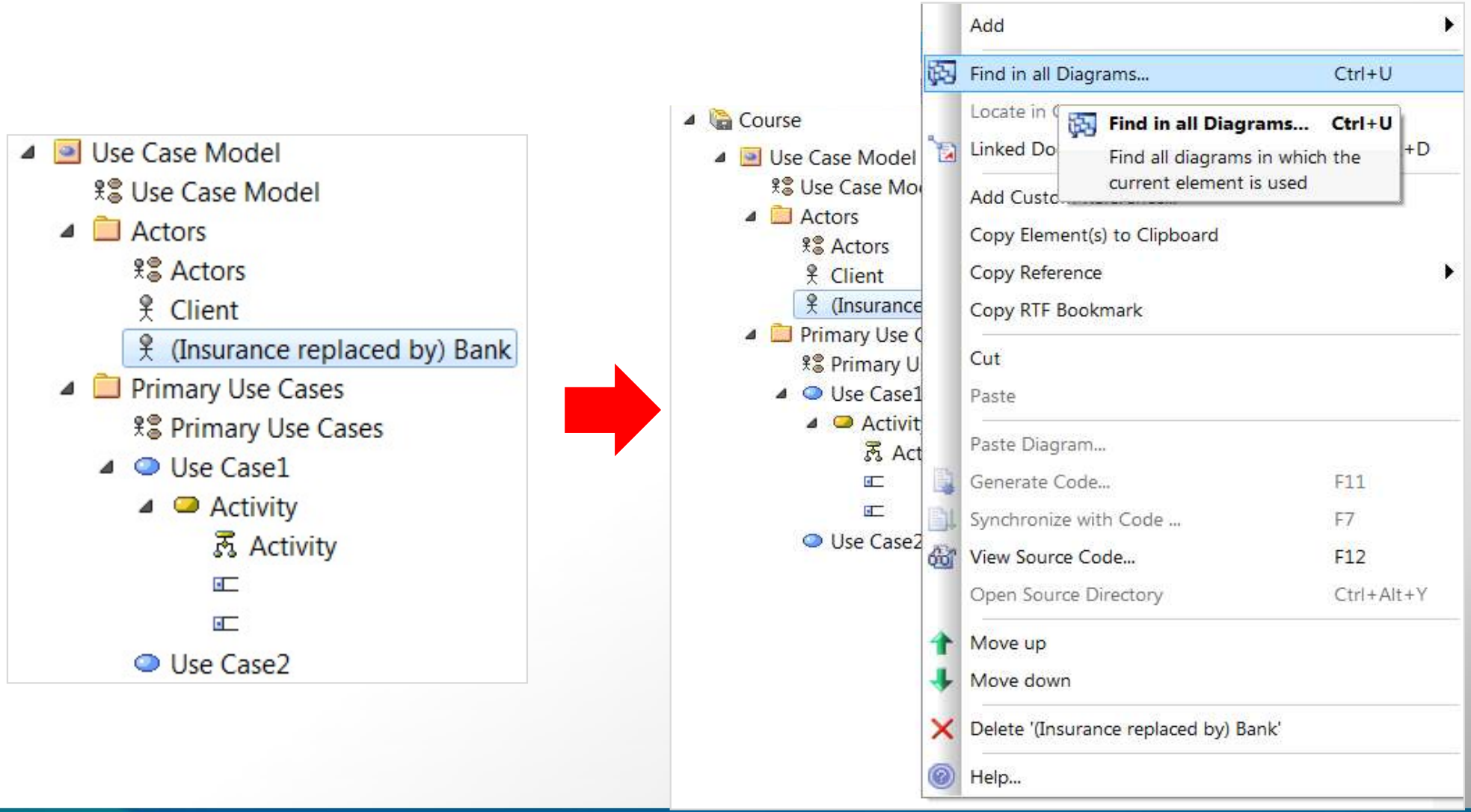
Re-use of Real and Virtual Actors in Diagrams (method 1)

- When **renaming the Actor** name all derived Actors will also change



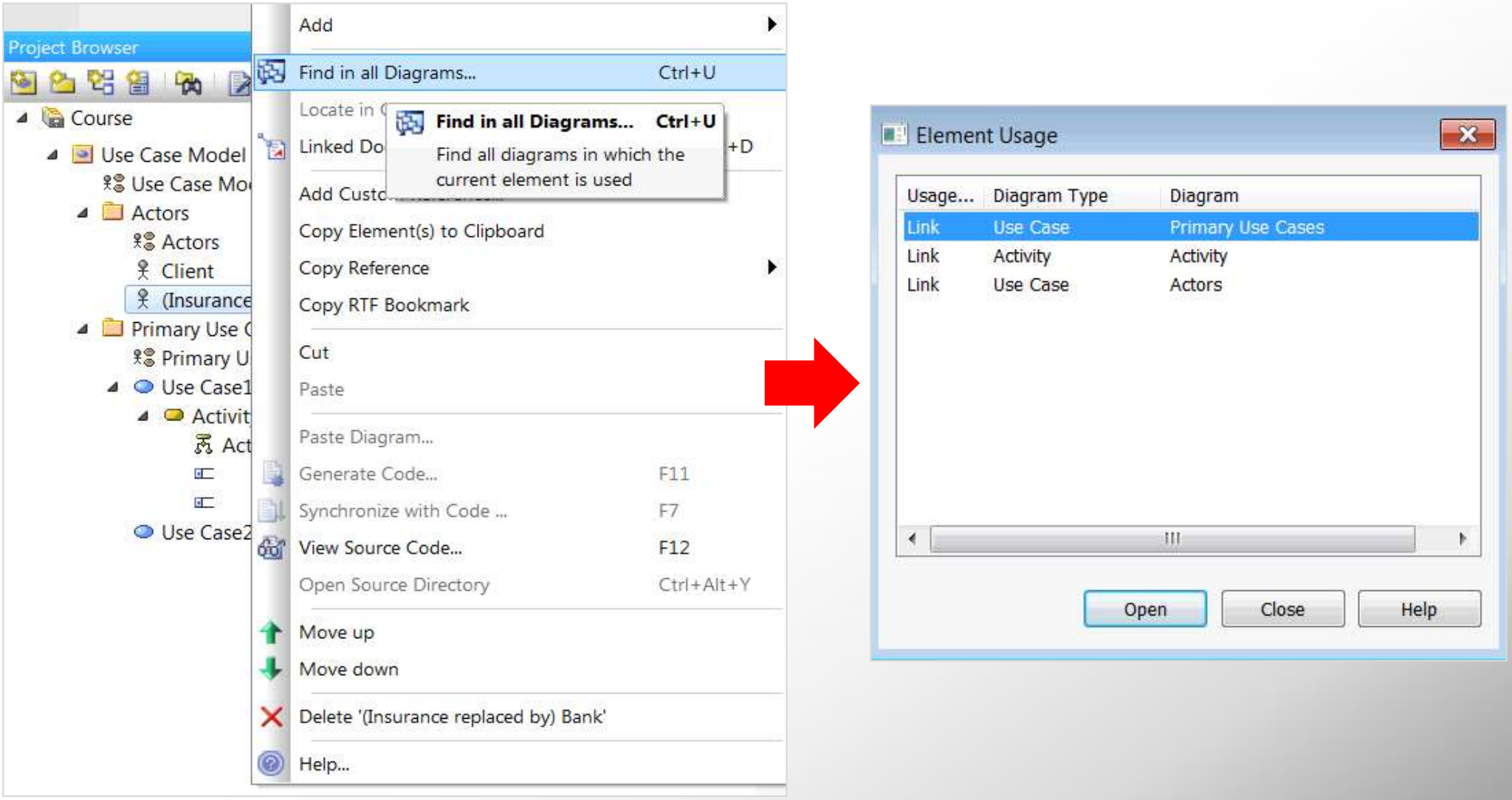
Re-use gives use the possibility of generating an impact analysis (1)

- Select the Actor you want to change/report/
- **Press right mouse button** and **select ‘ Find in all diagrams ‘**



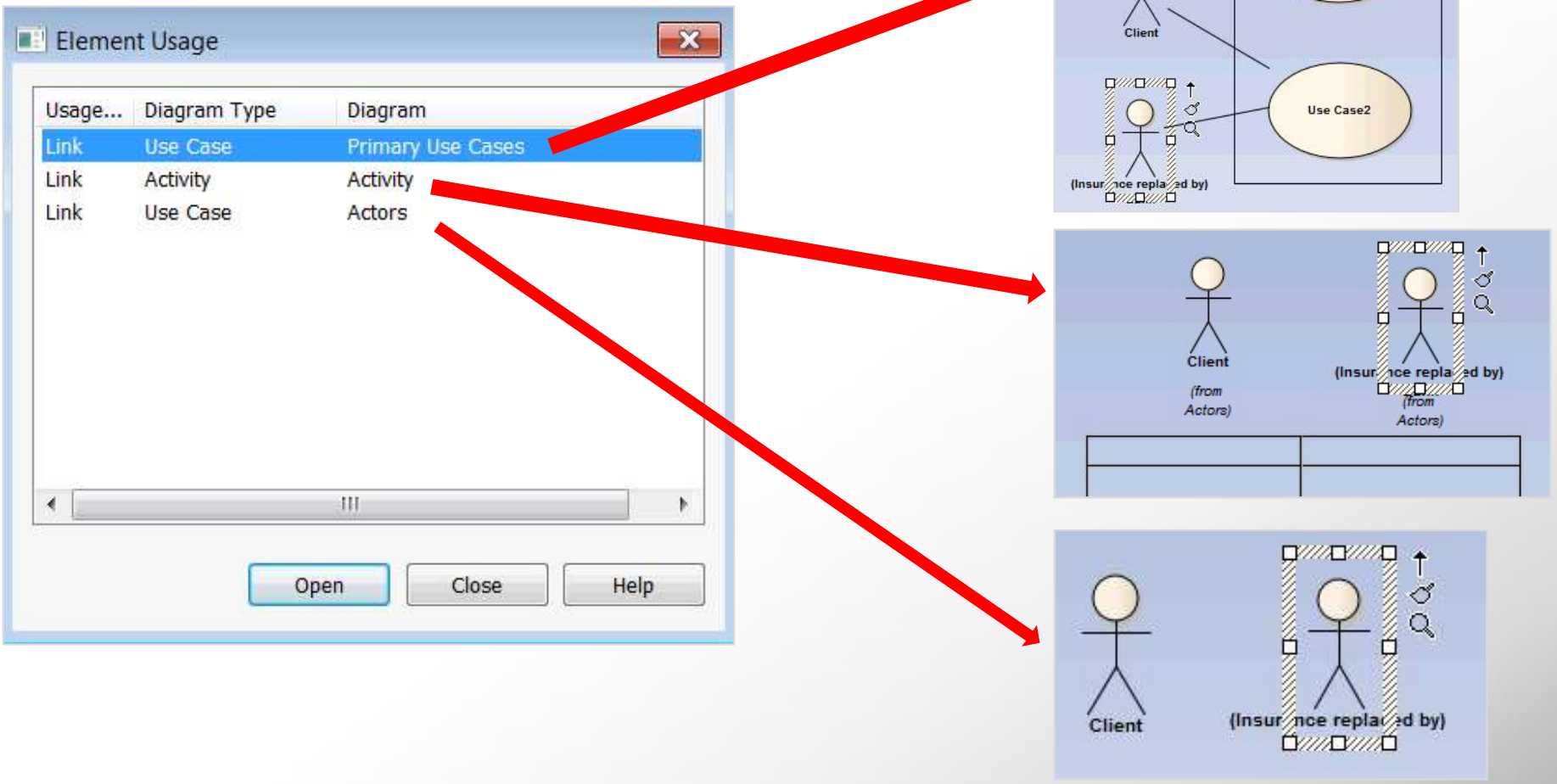
Re-use gives use the possibility of generating an impact analysis (2)

- Enterprise Architect will list where the Actor is also used …



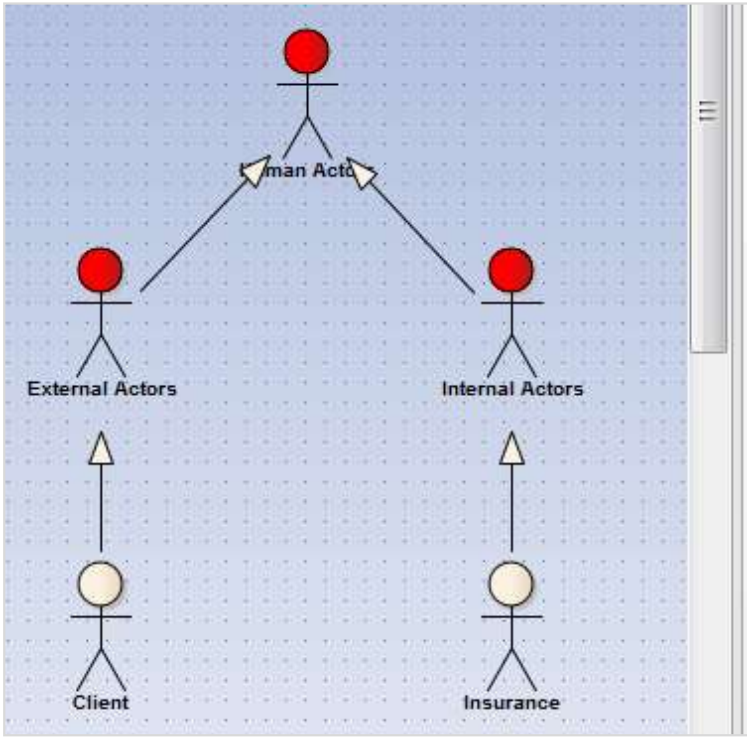
Re-use gives use the possibility of generating an impact analysis (3)

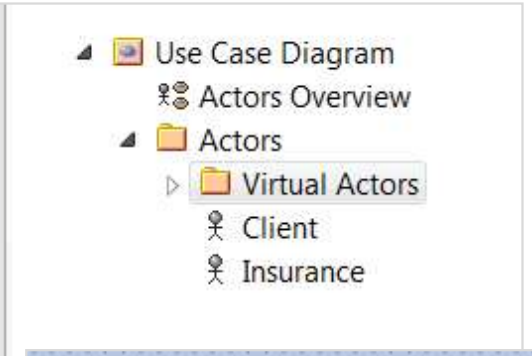
- And it is possible to click through and go to that specific diagram

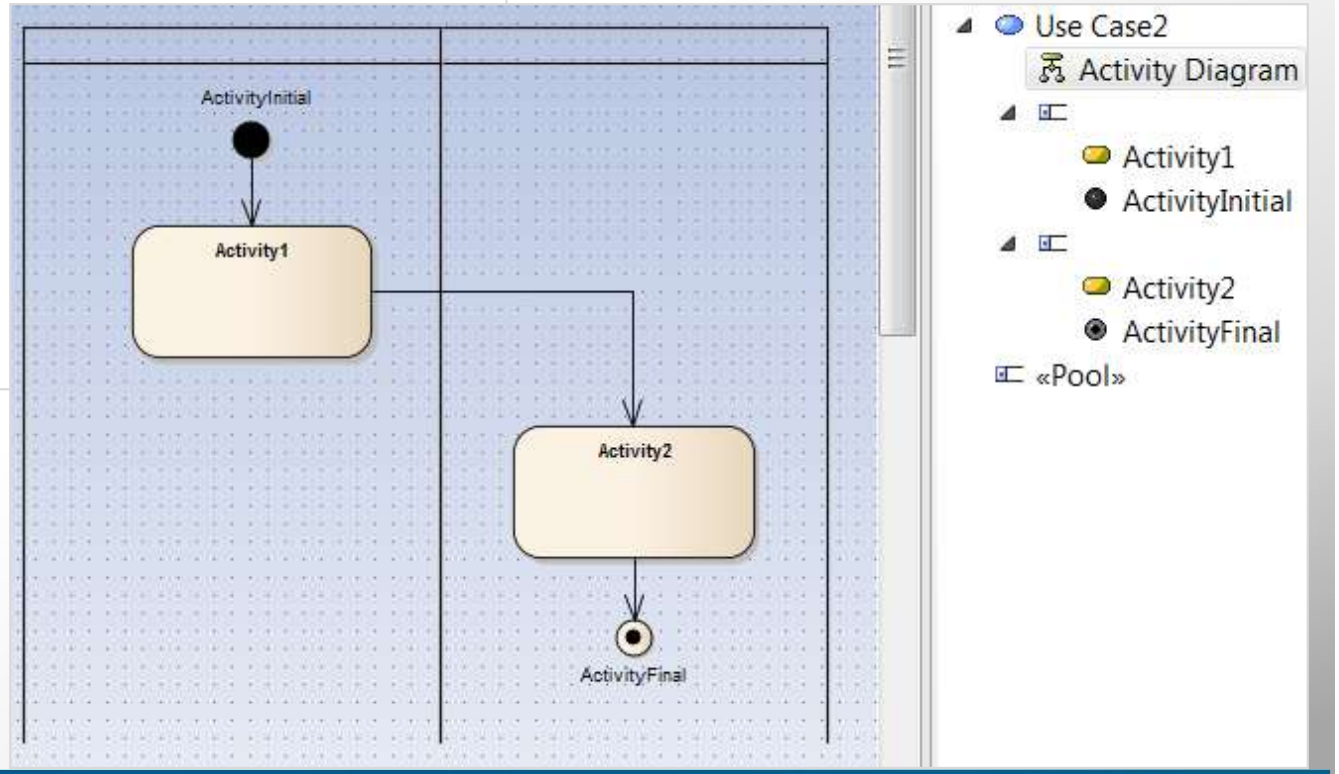


Re-use of Real and Virtual Actors in Diagrams (method 2) (1)

Define the Actors and the Lanes.

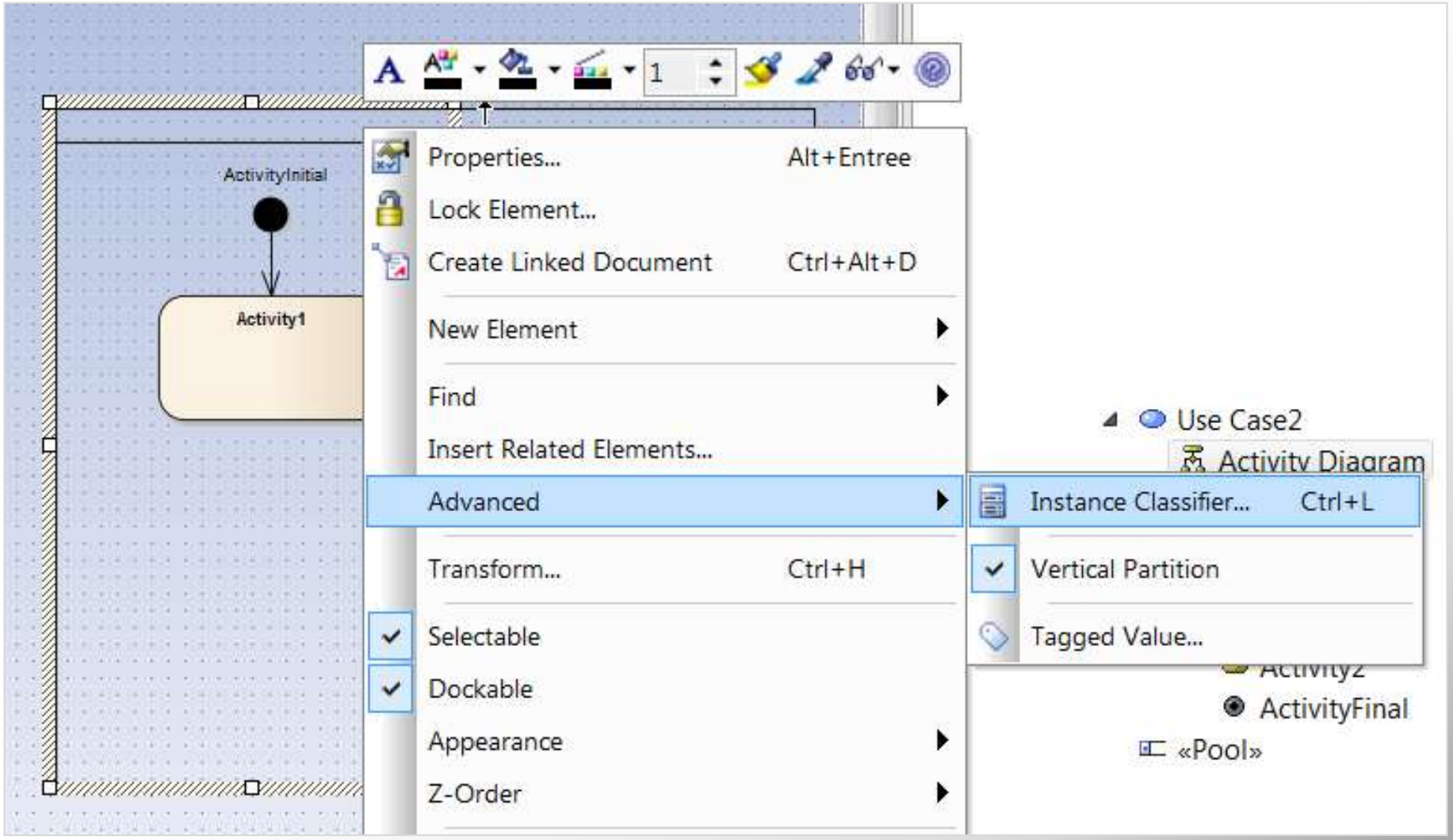






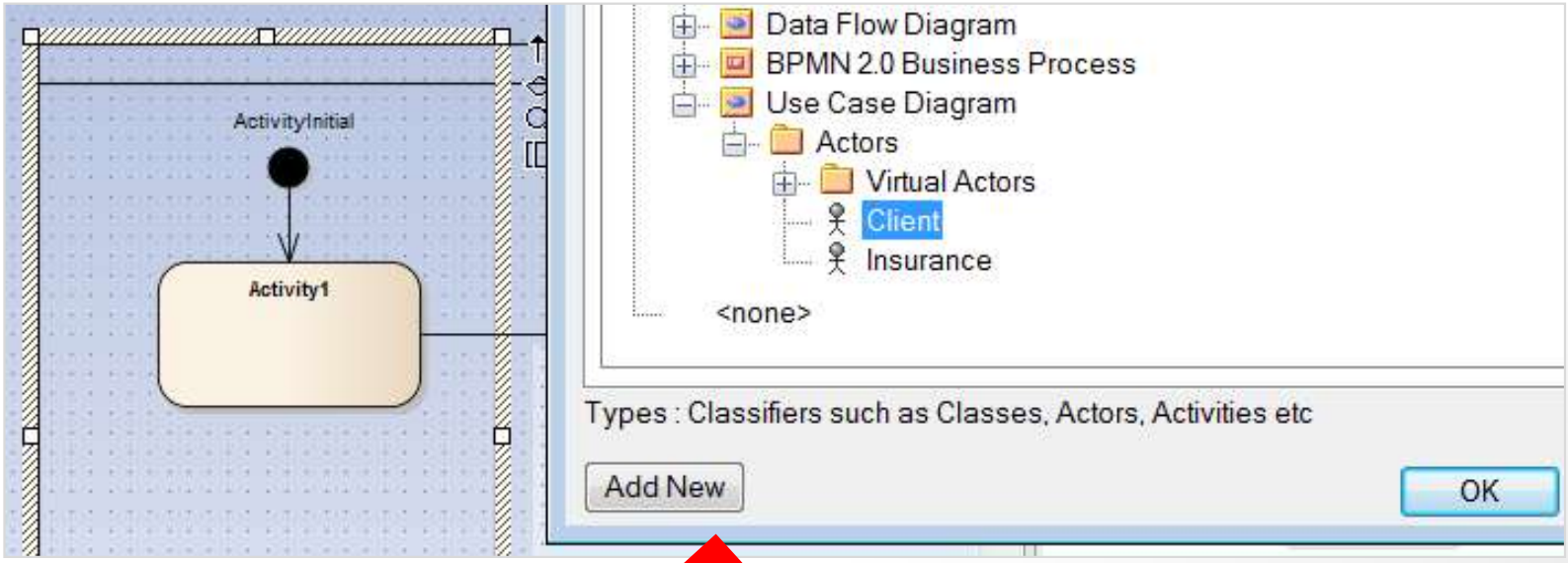
Re-use of Real and Virtual Actors in Diagrams (method 2) (2)

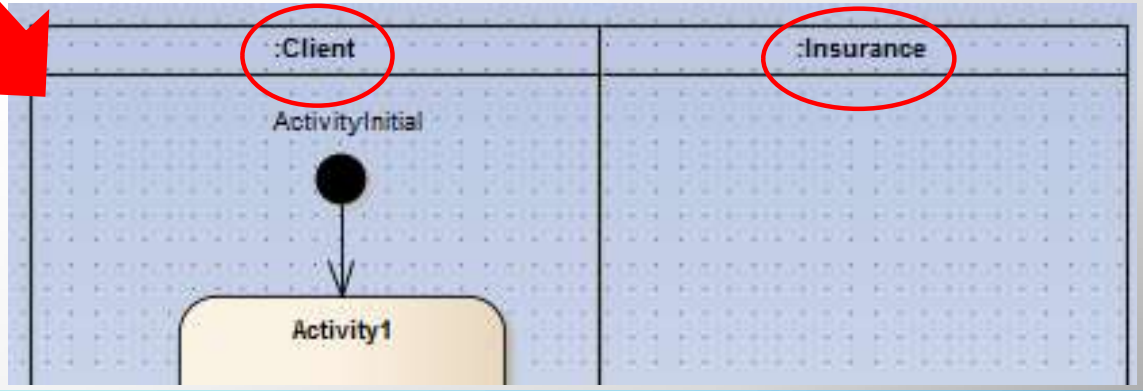
Select the Lane of the Diagram, Click right mouse button.
Choose for **Advanced** and then for **Instance Classifier**.



Re-use of Real and Virtual Actors in Diagrams (method 2) (3)

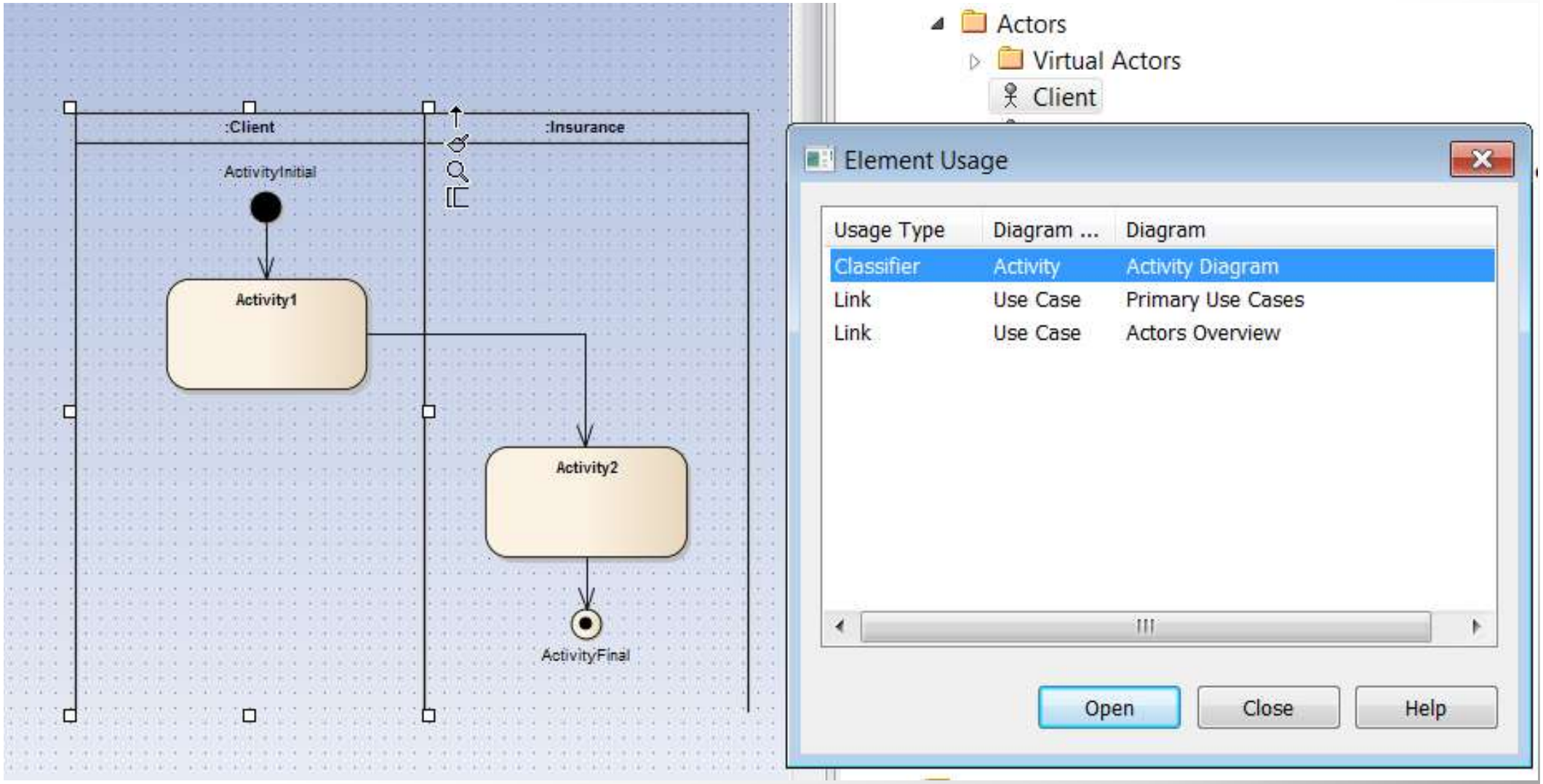
Choose the first Actor the Lane represents (*Client* in this case).
Then press **OK** .
Choose the second Actor the Lane represents (*Insurance* in this case).
Then press **OK** .





Re-use gives use the possibility of generating an impact analysis

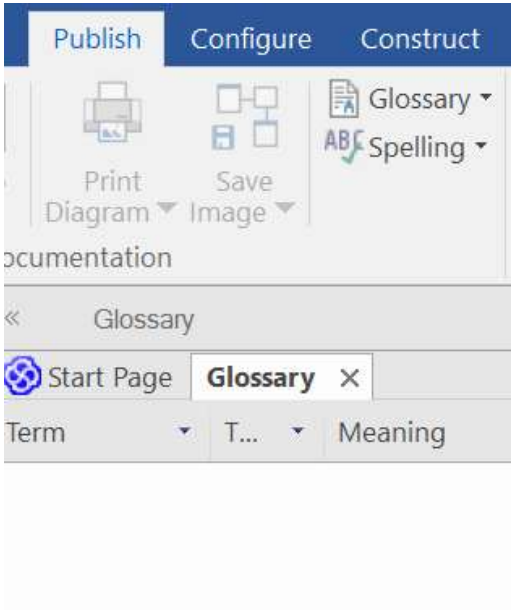
- And it is possible to click through and go to that specific diagram

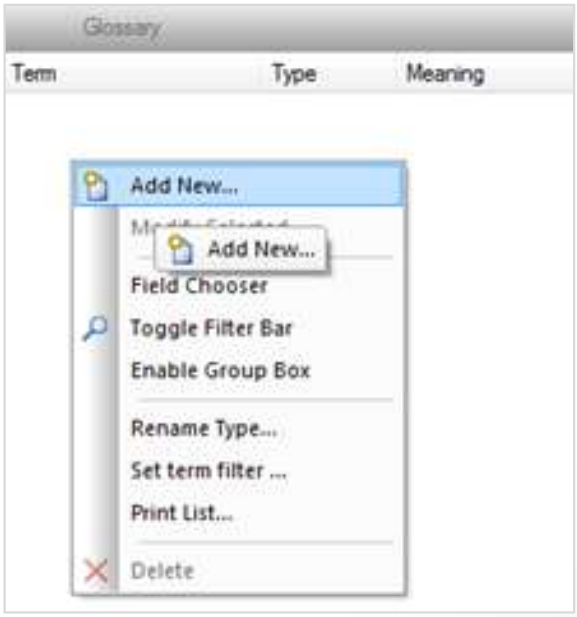


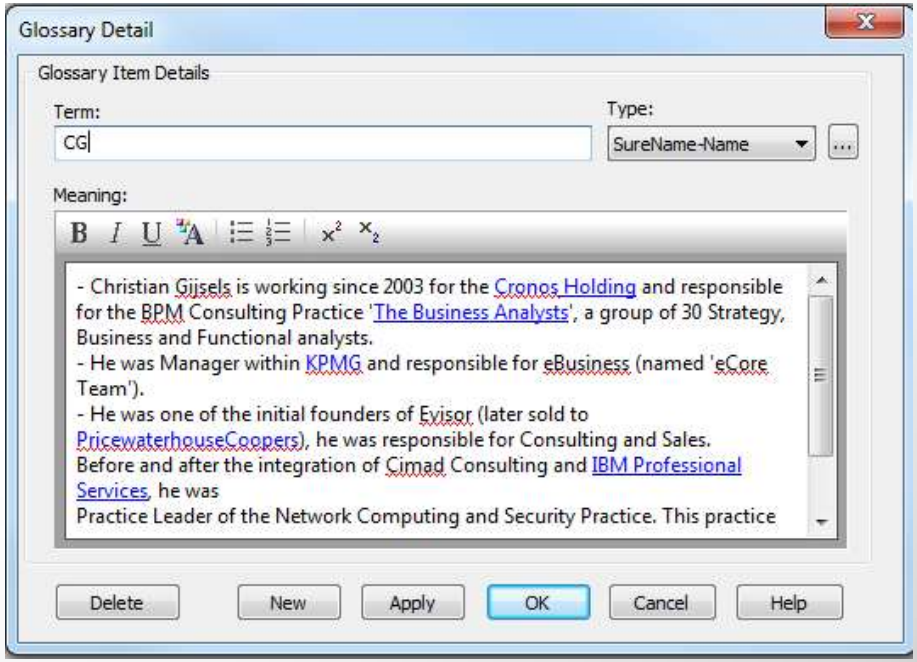
Glossary

Choose for **Publish** and then **Glossary**

- Press right mouse button and select **Add New …**

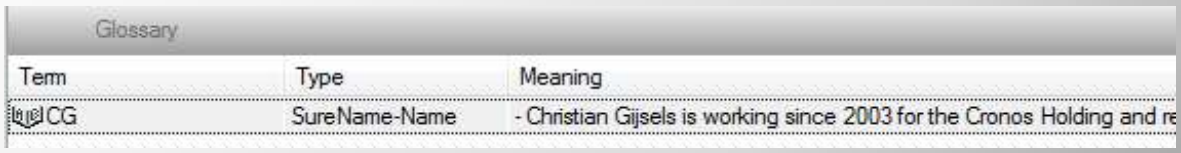






- Then fill in the **Term**, the **Type** (or create a new type), the **Meaning** and press **OK**.

- A new item is created

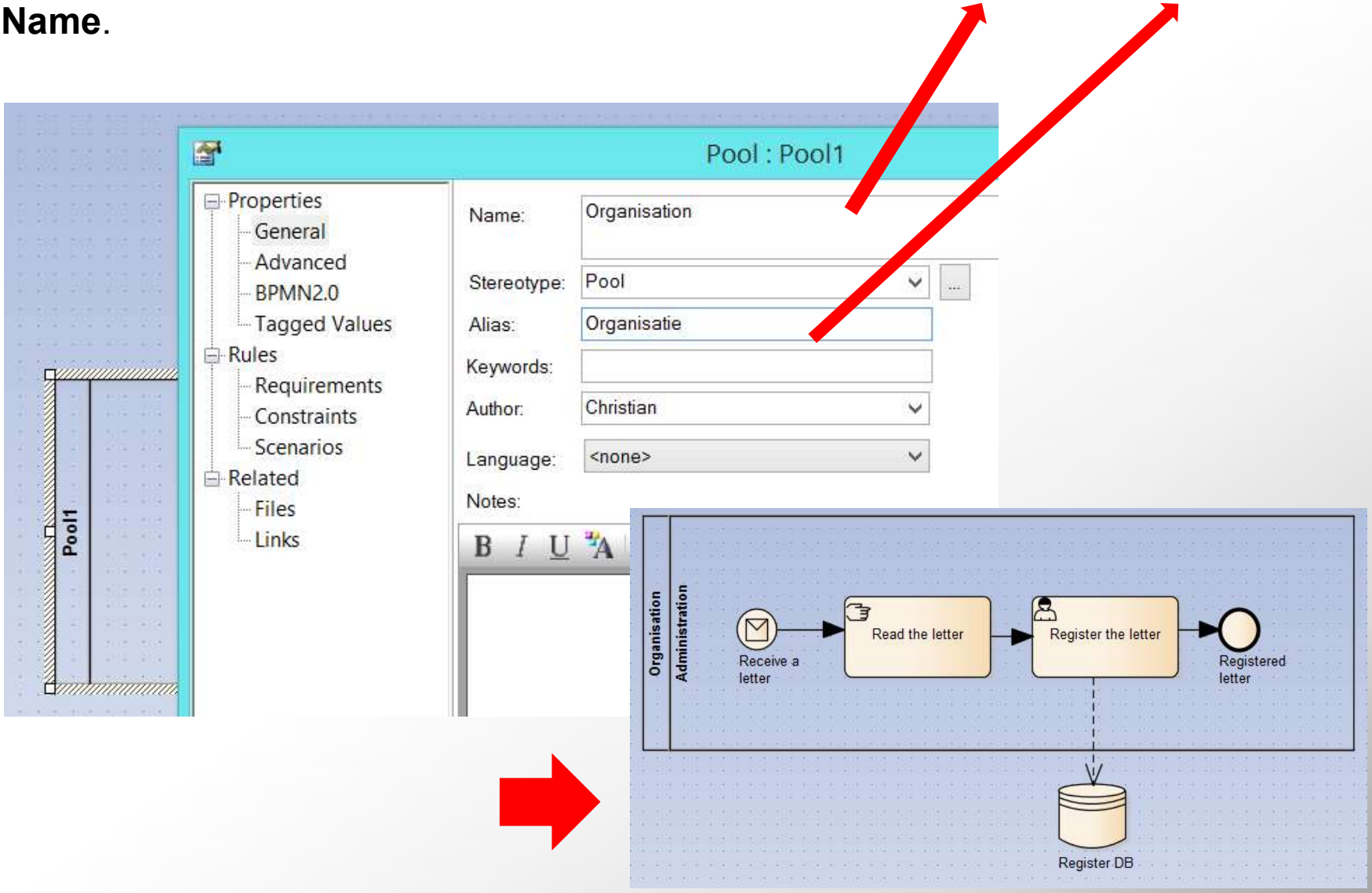


Glossary

The **Glossary** in the Notes can now be accessed from every where

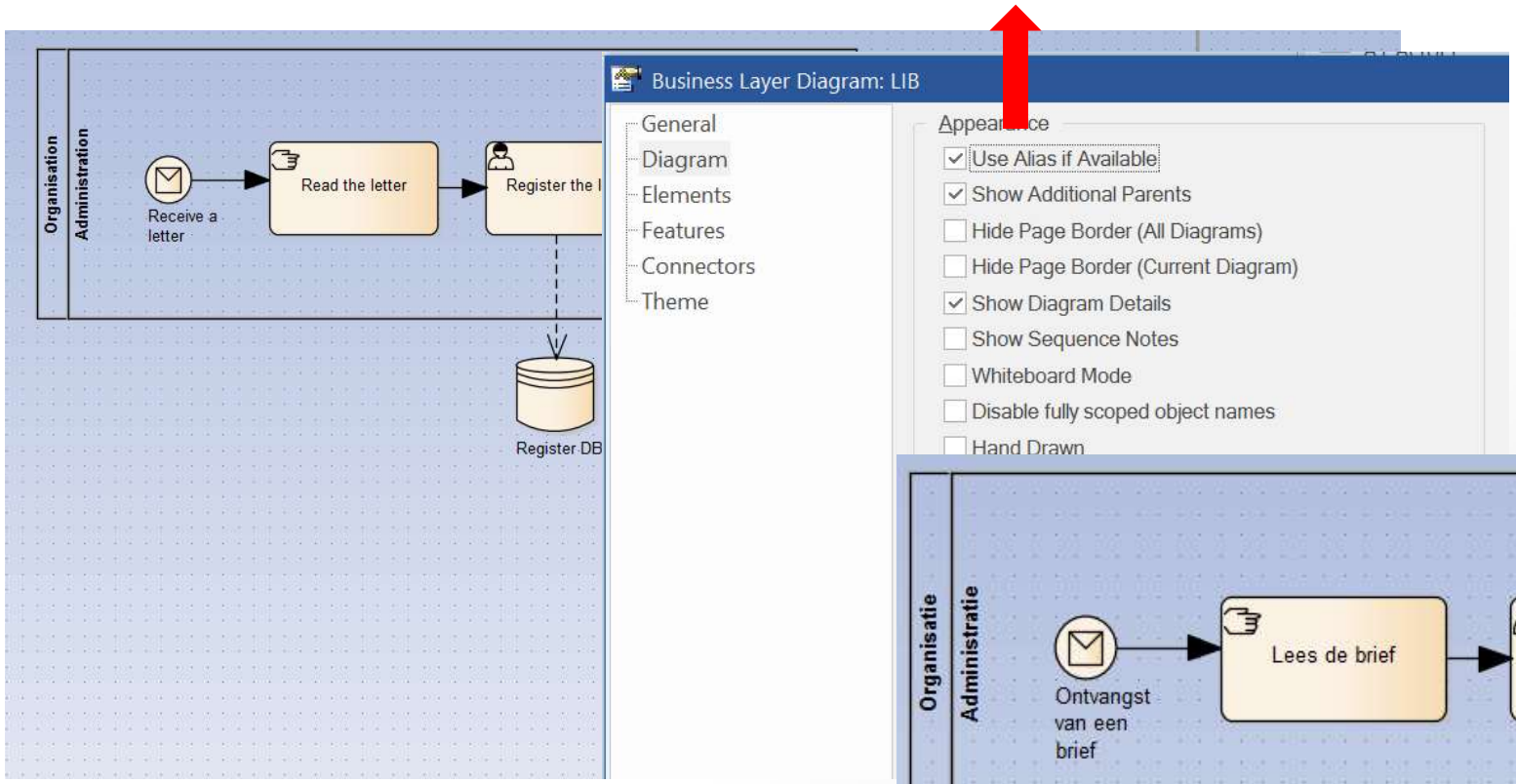
Working with an Alias

Model a diagram and give every element in this diagram a **Name** and an **Alias Name**.

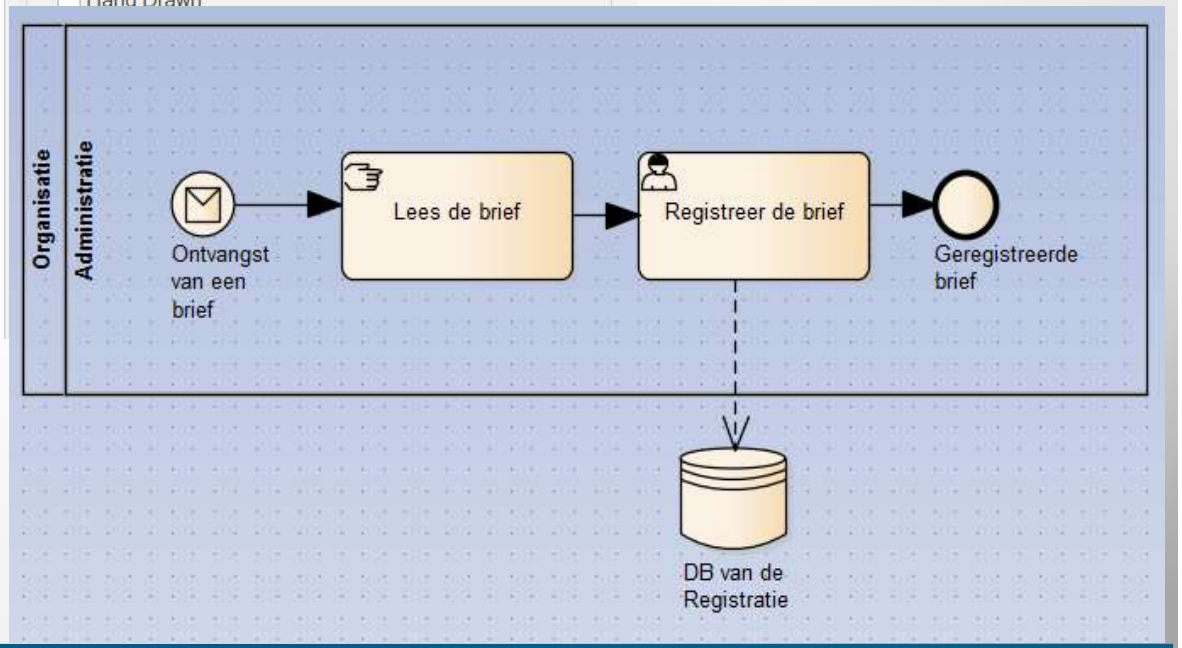


Working with an Alias

Change the diagram to Alias Names. Press on the diagram the right mouse button and select for '**Use Alias if available**'.



Your diagram is now in Dutch Pools, Lanes, Events, Activities, DataStores, .. Change language.



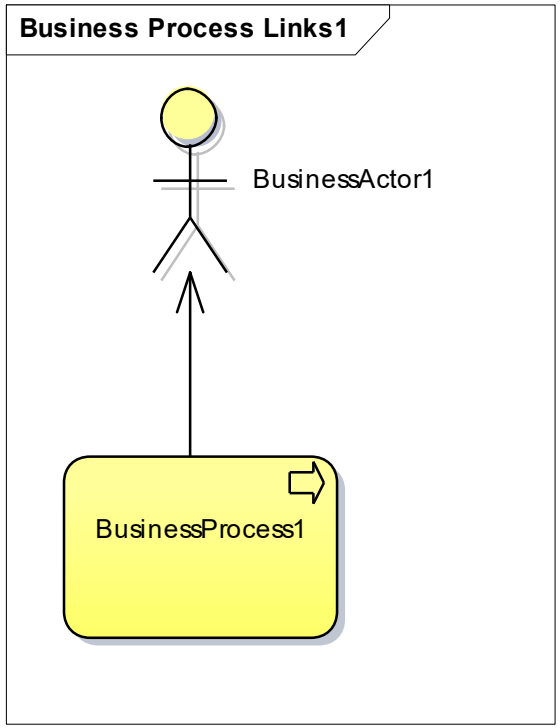
Part V: Functions

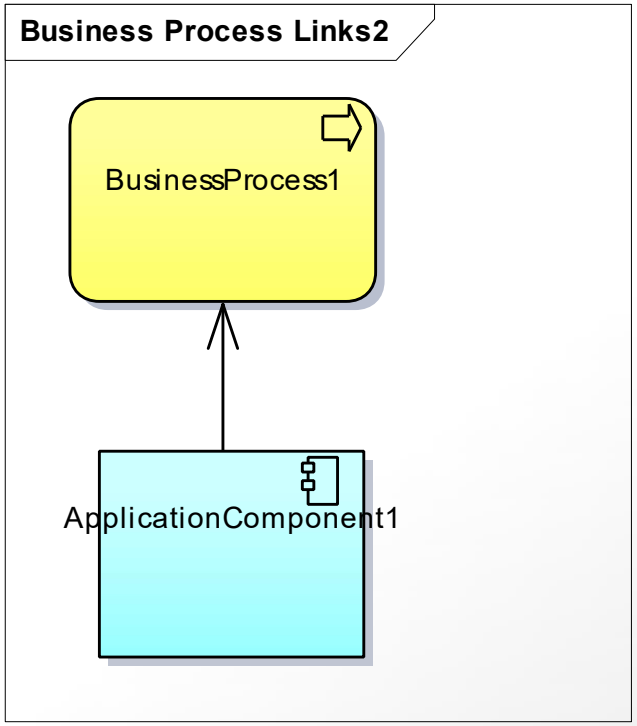
- Generate Diagram of Related elements
- Export of (part of) Diagrams
- Export format XMI (XML Metadata Interchange)
- Import of (part of) Diagrams
- Import a CSV file
- Export a CSV file
- Printing of (part of) Diagrams in RTF
- Printing of (part of) Diagrams in HTML
- Printing of (part of) Diagrams in Diagrams Only
- Simulation of diagrams
- Relationship Matrix
- Place a Relationship Matrix link on your Diagram
- Image Manager
- Creating, save, use and import a profile
- Working with Baselines
- Version Control in EA

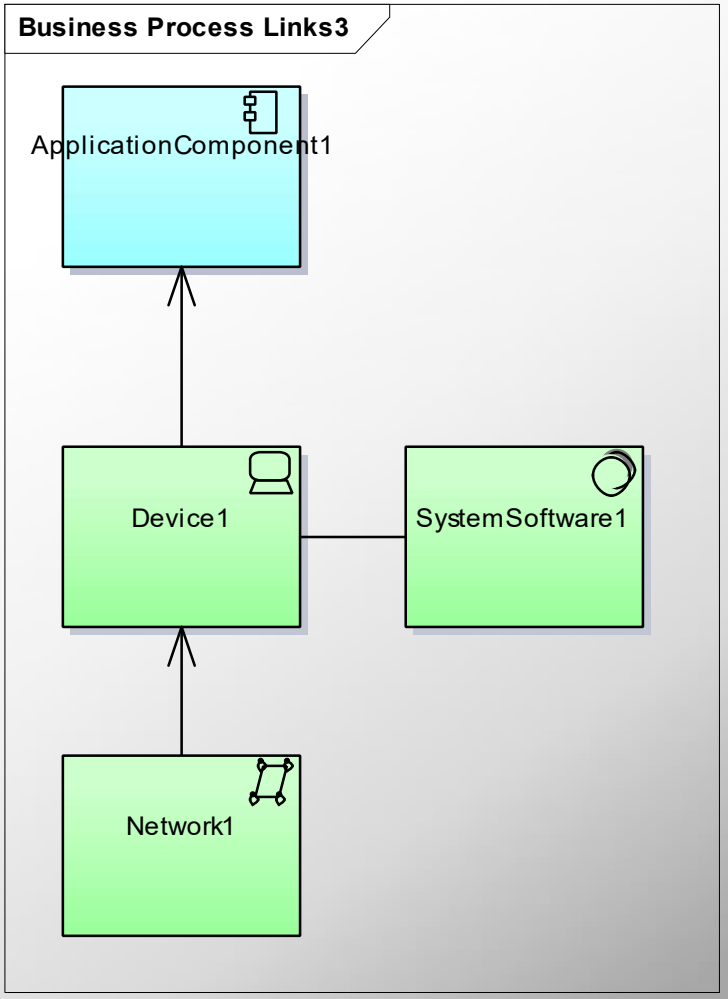
Generate Diagram of Related elements (1)

The aim is to combine related elements/diagrams to 1 complete diagram.

First create different diagrams with a related element.

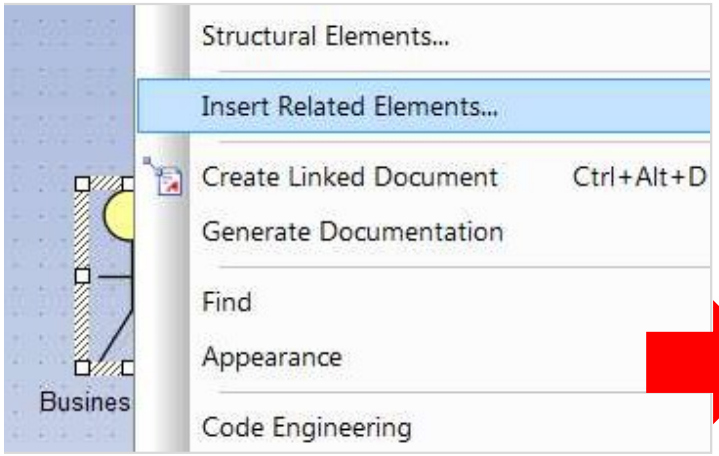


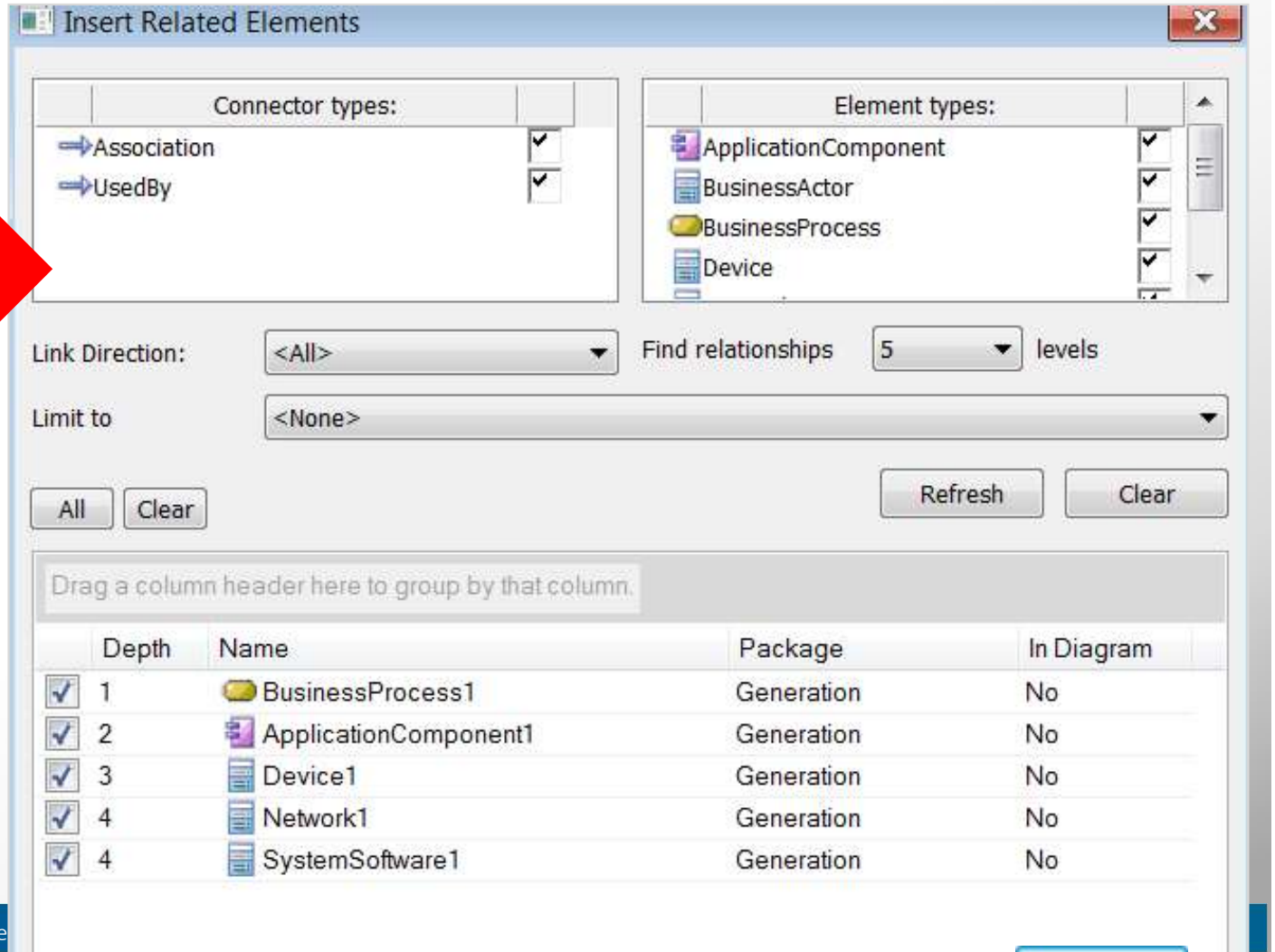




Generate Diagram of Related elements (2)

Drag an element into your work screen to start from, then Click right mouse button on this element and select **Insert Related Elements.**



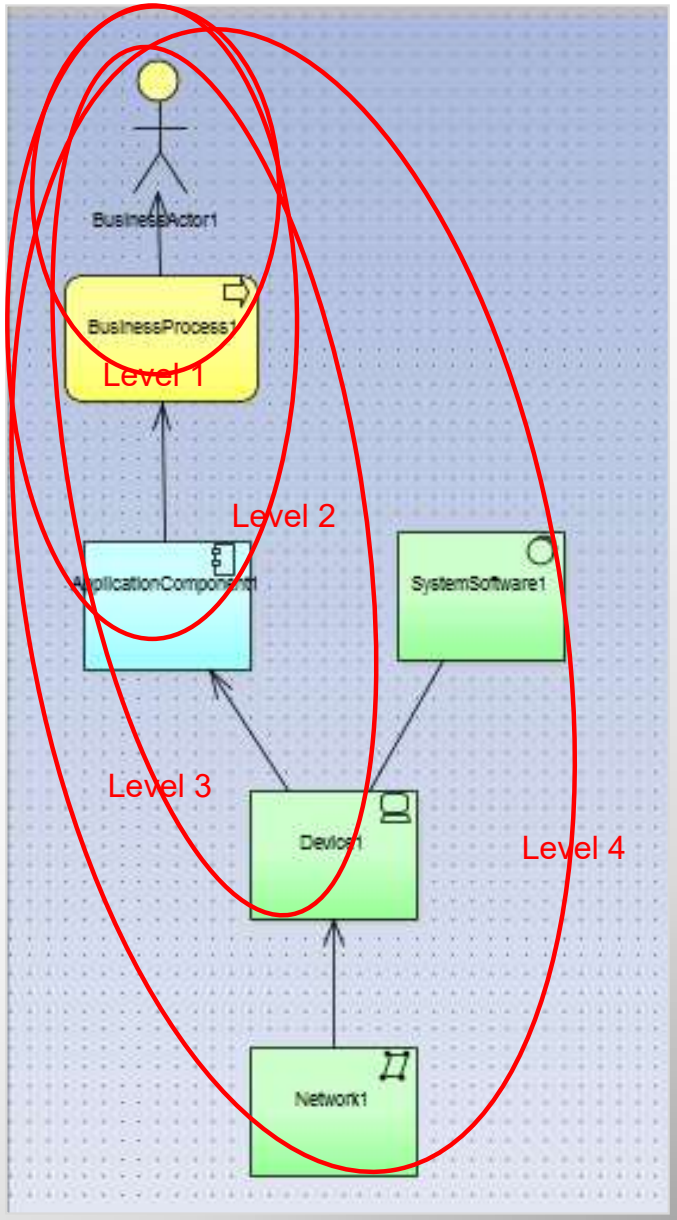


- Select **5** levels.
- Select **All**.
- Then Select **OK** and generate the Diagram.

Generate Diagram of Related elements (3)

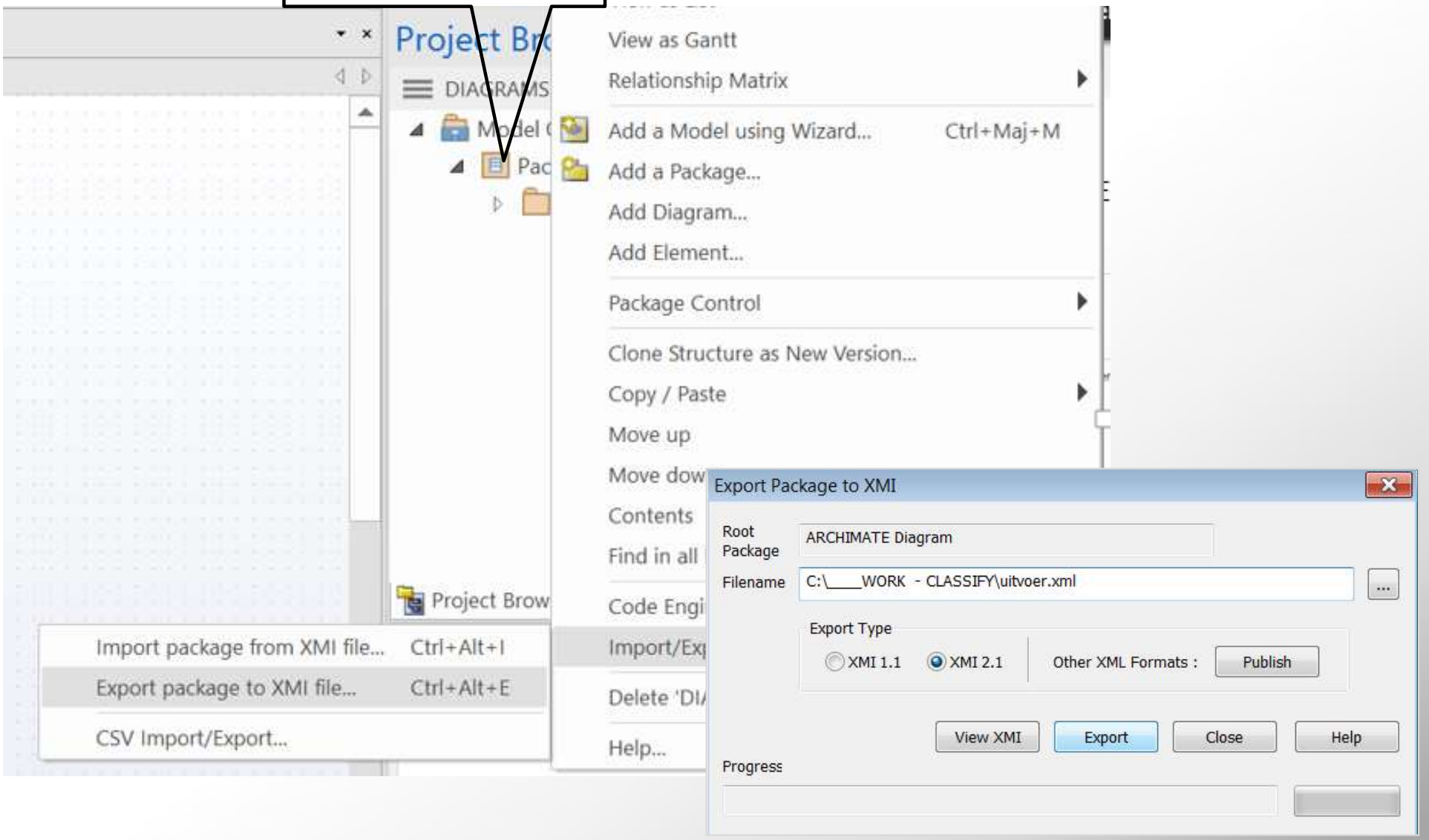
The generated diagram will look like this.

Starting from the first selected elements,
E.A. has generated 4 levels deep.



Export of (part of) Diagrams

Select the part of the diagram you want to Export to XMI (select the package).



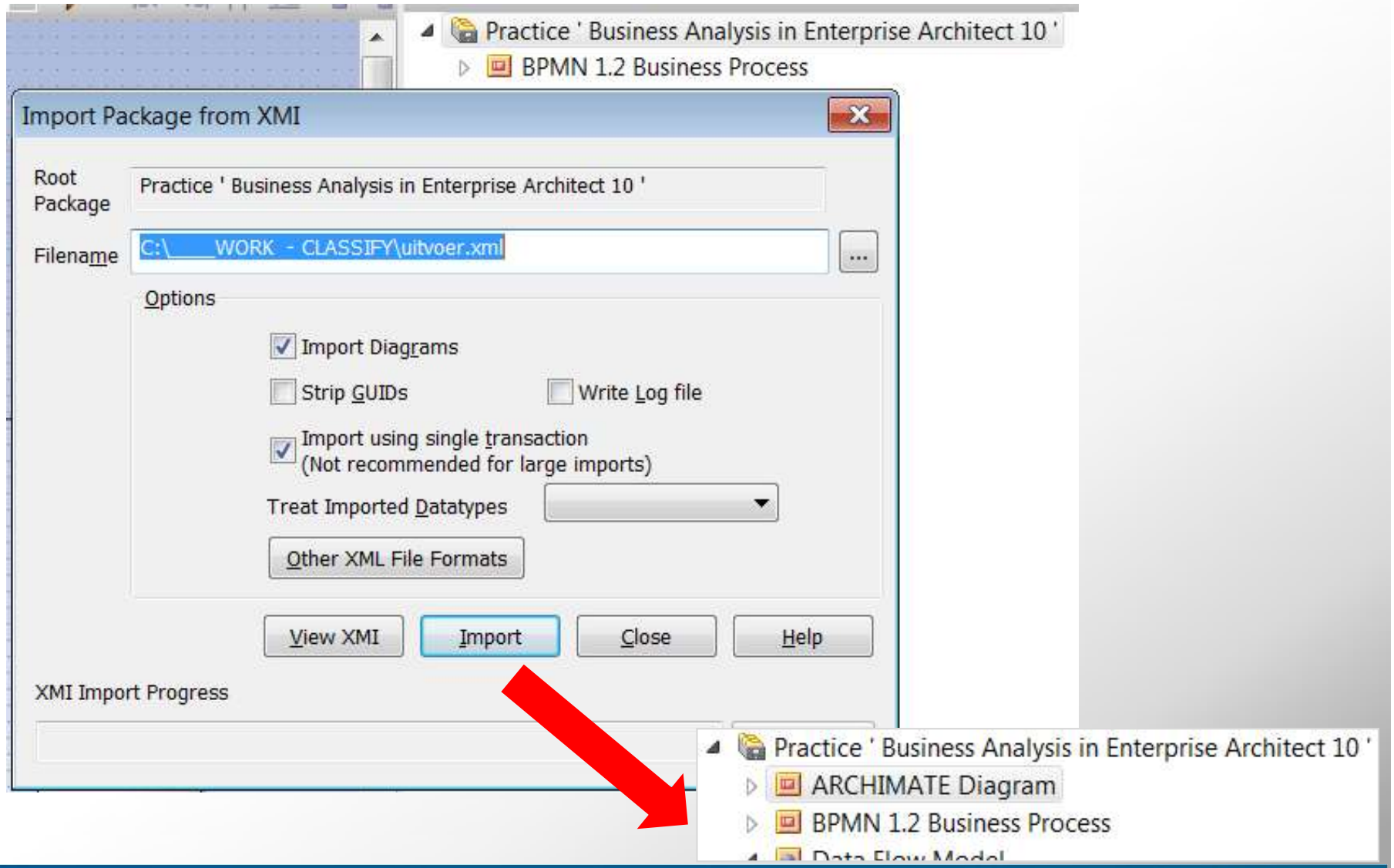
Export format XMI (XML Metadata Interchange)

XMI (XML Metadata Interchange) is a proposed use of the Extensible Markup Language (XML) that is intended to provide a standard way for programmers and other users to exchange information about metadata (essentially, information about what a set of data consists of and how it is organized). Specifically, XMI is intended to help programmers using the Unified Modeling Language (UML) with different languages and development tools to exchange their data models with each other. In addition, XMI can also be used to exchange information about data warehouses. Effectively, the XMI format standardizes how any set of metadata is described and requires users across many industries and operating environments to see data the same way.

XMI is a proposal from the **Object Management Group (OMG)** that builds on and extends these industry standards or recommendations

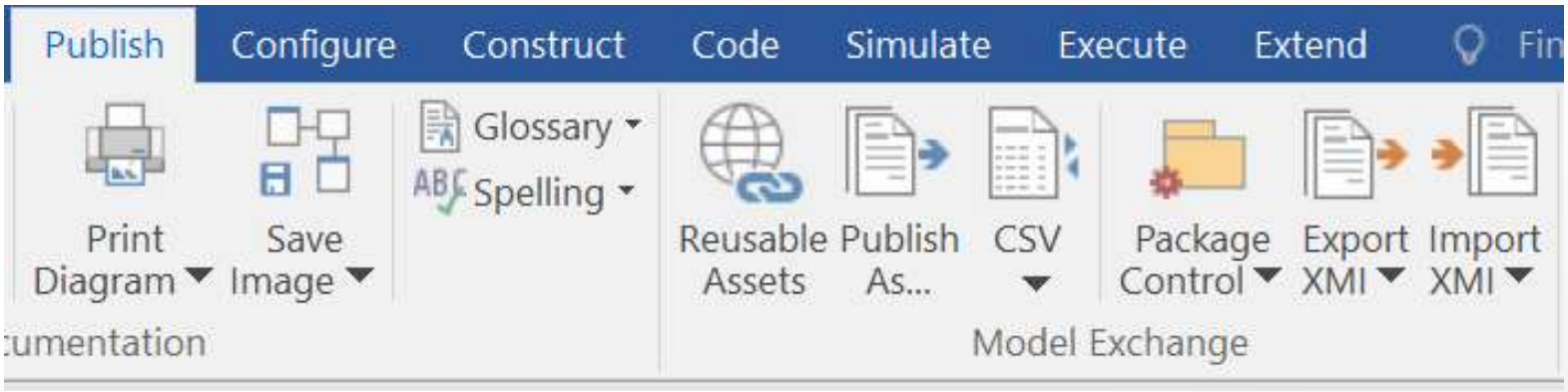
Import of (part of) Diagrams

Select the XMI file you want to Import to E.A.



Import & Export of (part of) Diagrams

Another way of navigation, select **Publish** and then **Export XMI**

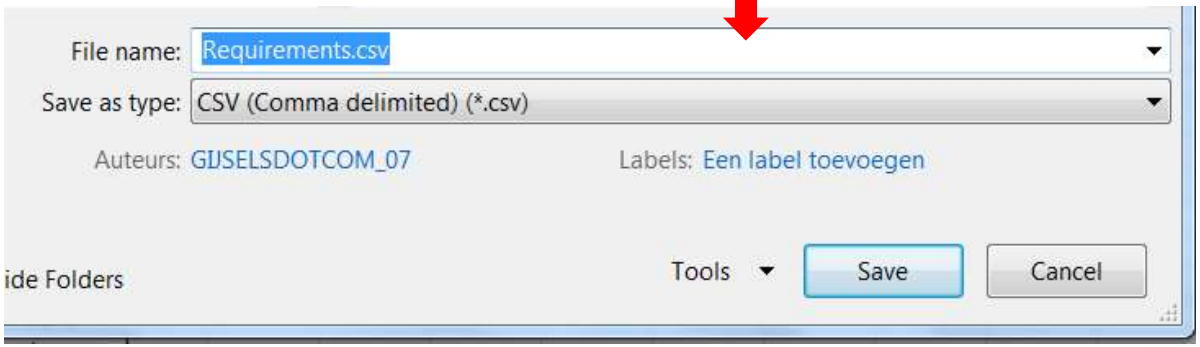


Import a CSV file : Make the CSV file

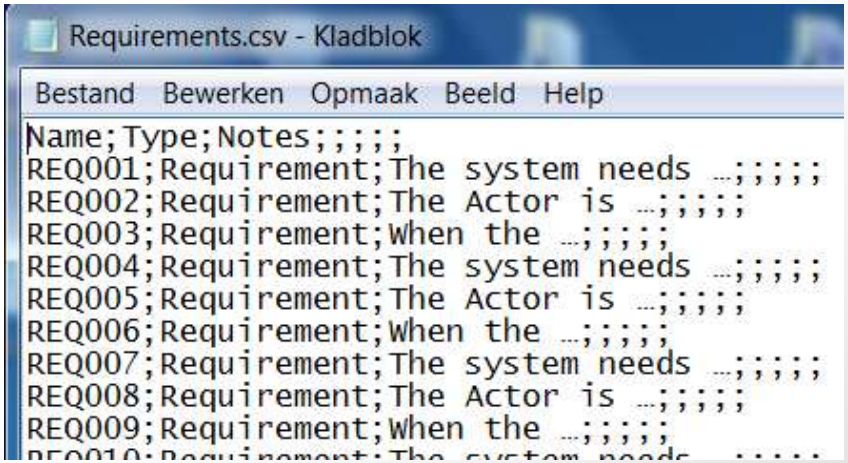
- Make a MS Excel file with your requirements

	A	B	C
1	**Name**	**Type**	**Notes**
2	REQ001	Requirement	The system needs …
3	REQ002	Requirement	The Actor is …
4	REQ003	Requirement	When the …
5	REQ004	Requirement	The system needs …
6	REQ005	Requirement	The Actor is …
7	REQ006	Requirement	When the …
8	REQ007	Requirement	The system needs …
9	REQ008	Requirement	The Actor is …
10	REQ009	Requirement	When the …
11	REQ010	Requirement	The system needs …
12	REQ011	Requirement	The Actor is …
13	REQ012	Requirement	When the …
14	REQ013	Requirement	The system needs …
15	REQ014	Requirement	The Actor is …
16	REQ015	Requirement	When the …
17	REQ016	Requirement	The system needs …
18	REQ017	Requirement	The Actor is …
19	REQ018	Requirement	When the …
20	REQ019	Requirement	The system needs …
21	REQ020	Requirement	The Actor is …

- Save this MS Excel file as a comma delimited file with extension *.csv



- The MS Excel comma delimited file then looks like

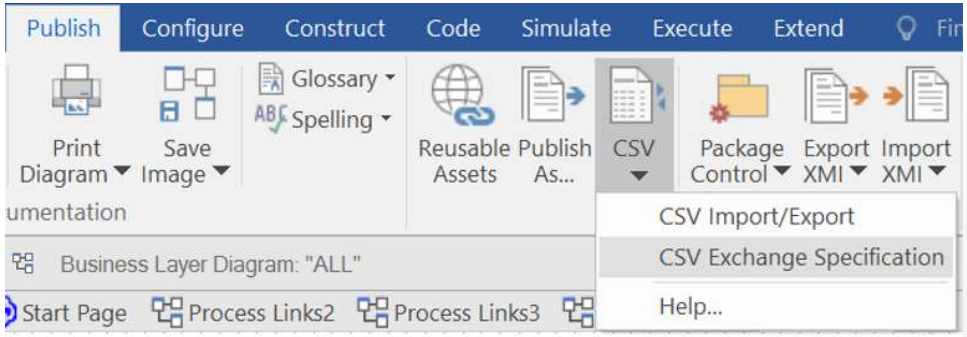


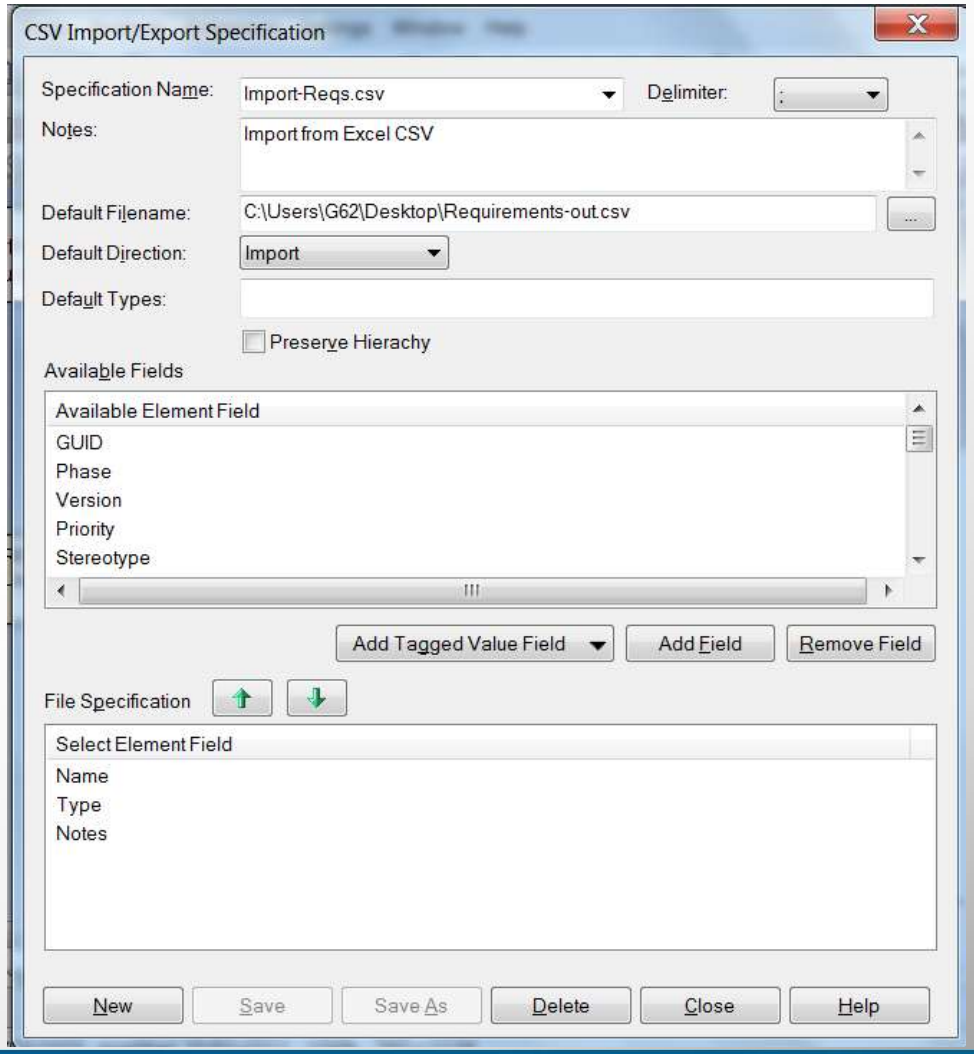
Import a CSV file : Define the CSV file

- Make To import the file into Enterprise Architect, you need to create a CSV import structure that corresponds to the columns in the CSV file. To do this, select from the main menu '**Publish > CSV Import/Export Specifications**'

- Give the structure a name
- Create the structure

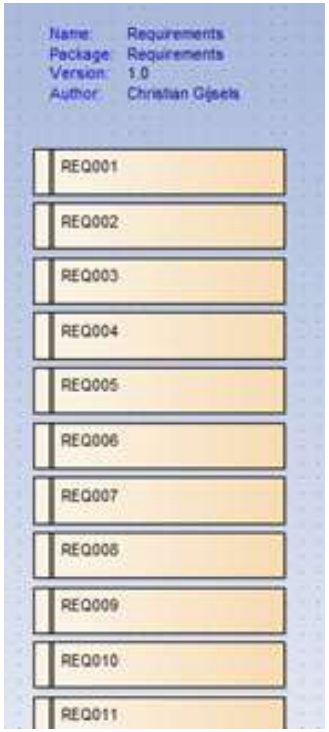
- Pay attention that the elements have the same structure and names then the Excel CSV file.

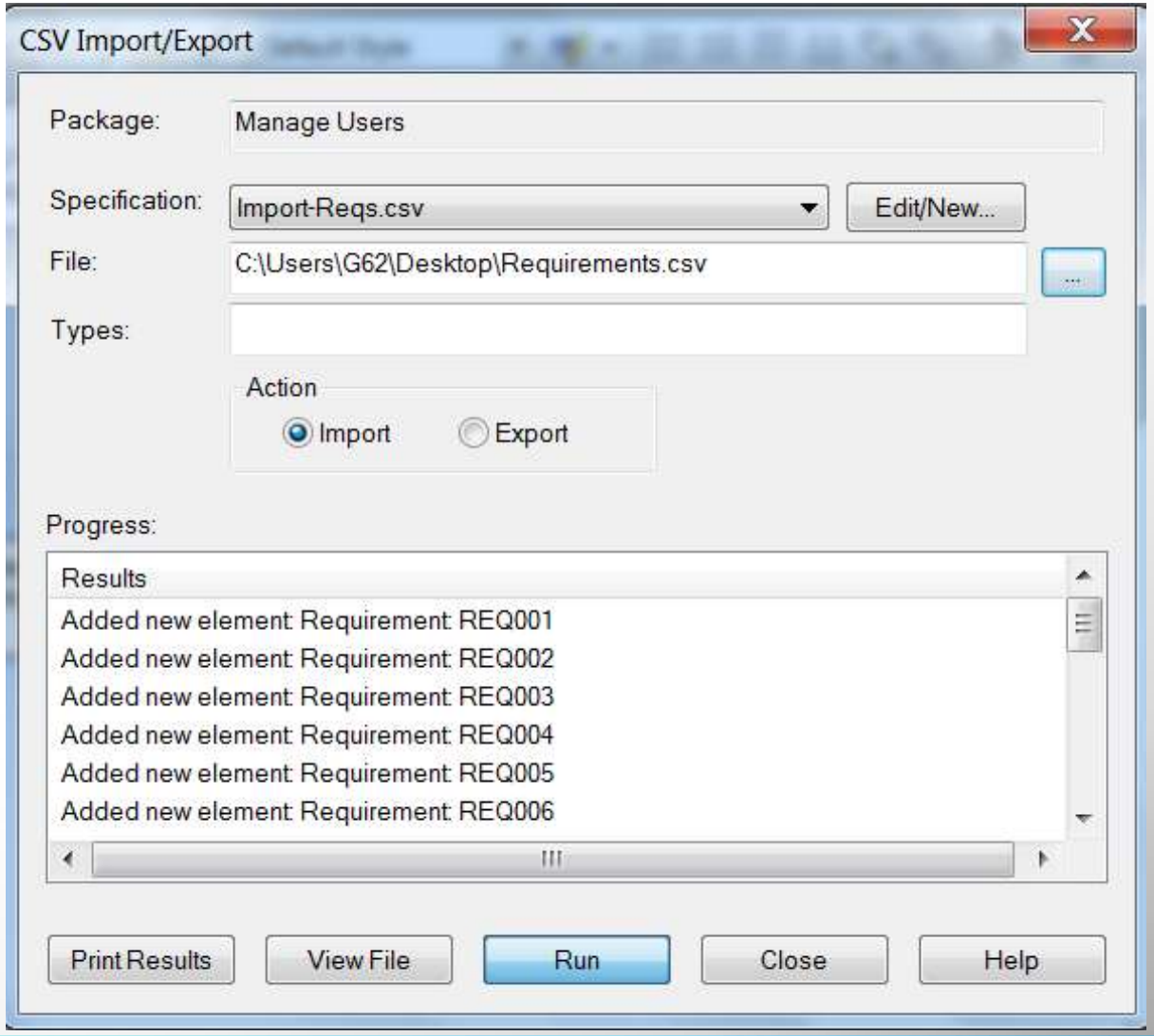




Import a CSV file : Import the CSV file

- To start the import process, select from the main menu '**Package| Model Import/Export | CSV Import/Export**'. This invokes the following window ready for you to enter information needed to perform the import.

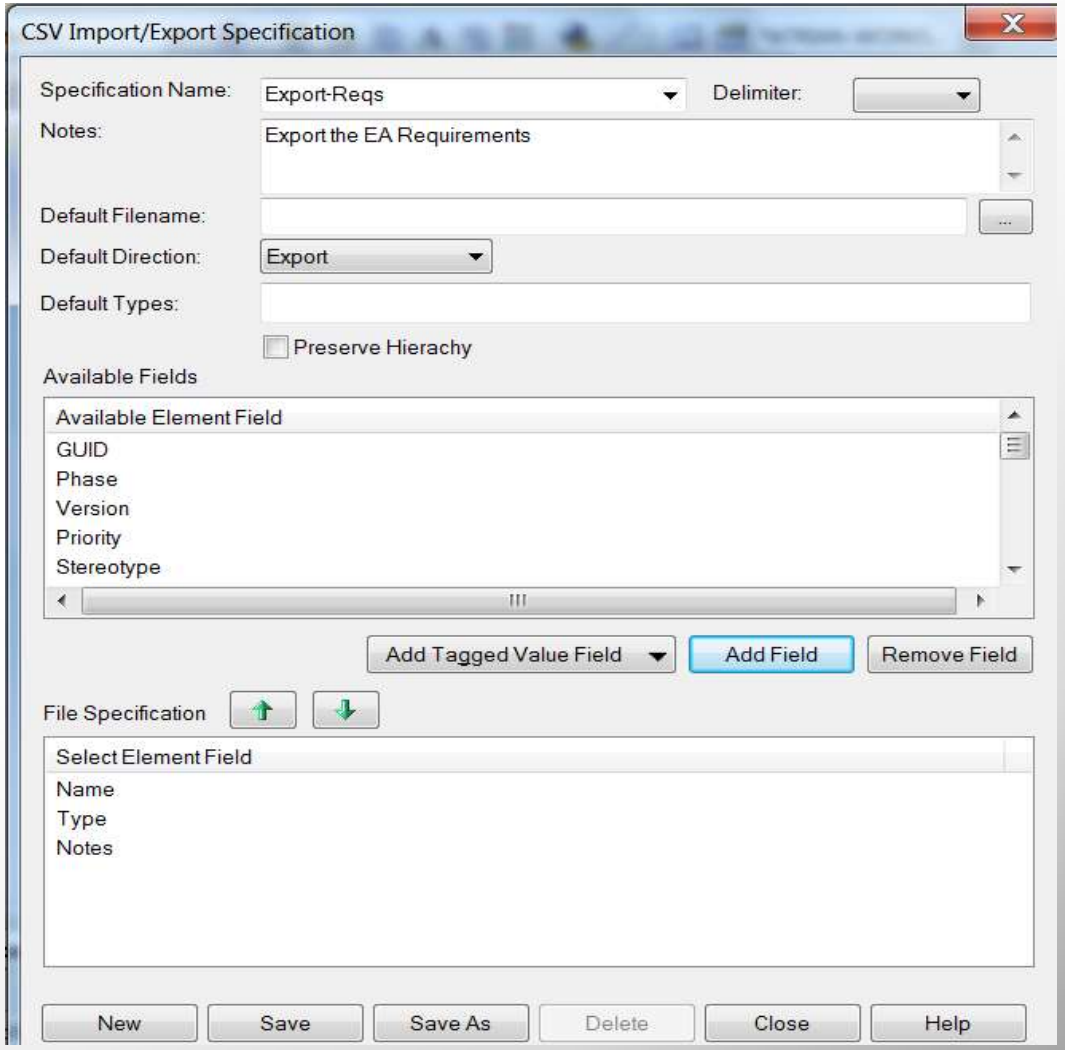




Export a CSV file : Define the CSV file

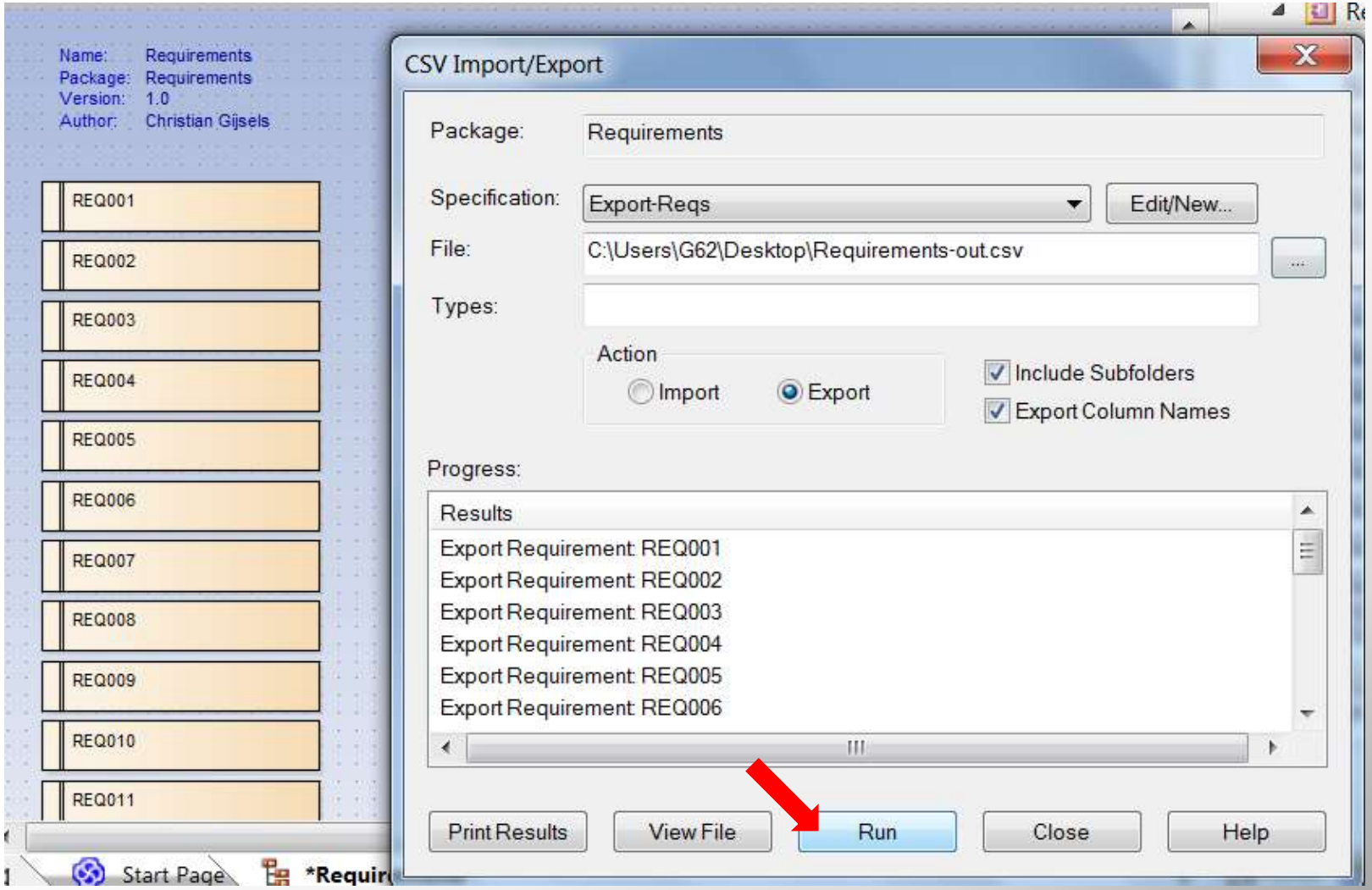
- To export the file from Enterprise Architect, you need to create a CSV export structure that corresponds to the columns in the CSV file. To do this, select from the main menu '**Package | Model Import/Export | CSV Import/Export Specifications**'

- Give the structure a name
- Create the structure



Export a CSV file : Export the CSV file

- To start the export process, select from the main menu '**Package | Model Import/Export | CSV Import/Export**'. This invokes the following window ready for you to enter information needed to perform the export.



Export a CSV file : Read the exported CSV file

- Read the export file, generated by Enterprise Architect.

	A	B	C	D
1	Name	Type	Notes	
2	REQ001	Requireme	The system needs ...	
3	REQ002	Requireme	The Actor is ...	
4	REQ003	Requireme	When the ...	
5	REQ004	Requireme	The system needs ...	
6	REQ005	Requireme	The Actor is ...	
7	REQ006	Requireme	When the ...	
8	REQ007	Requireme	The system needs ...	
9	REQ008	Requireme	The Actor is ...	
10	REQ009	Requireme	When the ...	
11	REQ010	Requireme	The system needs ...	
12	REQ011	Requireme	The Actor is ...	
13	REQ012	Requireme	When the ...	
14	REQ013	Requireme	The system needs ...	
15	REQ014	Requireme	The Actor is ...	
16	REQ015	Requireme	When the ...	
17	REQ016	Requireme	The system needs ...	
18	REQ017	Requireme	The Actor is ...	
19	REQ018	Requireme	When the ...	
20	REQ019	Requireme	The system needs ...	
21	REQ020	Requireme	The Actor is	

Printing of (part of) Diagrams (1)

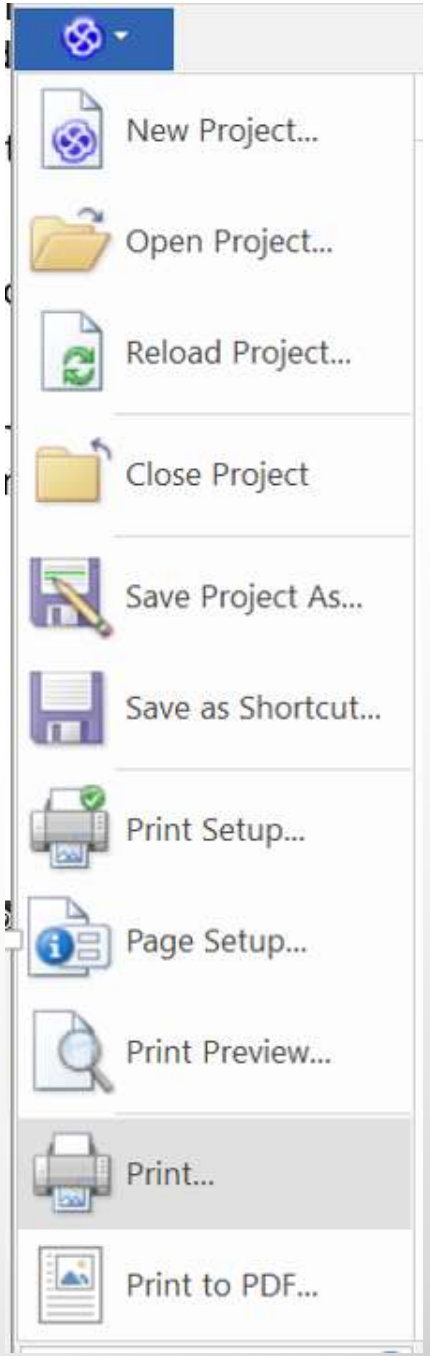
Printing a single diagram

The functions in the “File” menu are used to print the current diagram.

Use “Print Setup…” to set EA to use A4 paper.

Use “Page Setup…” per diagram to the diagram to Landscape or Portrait.

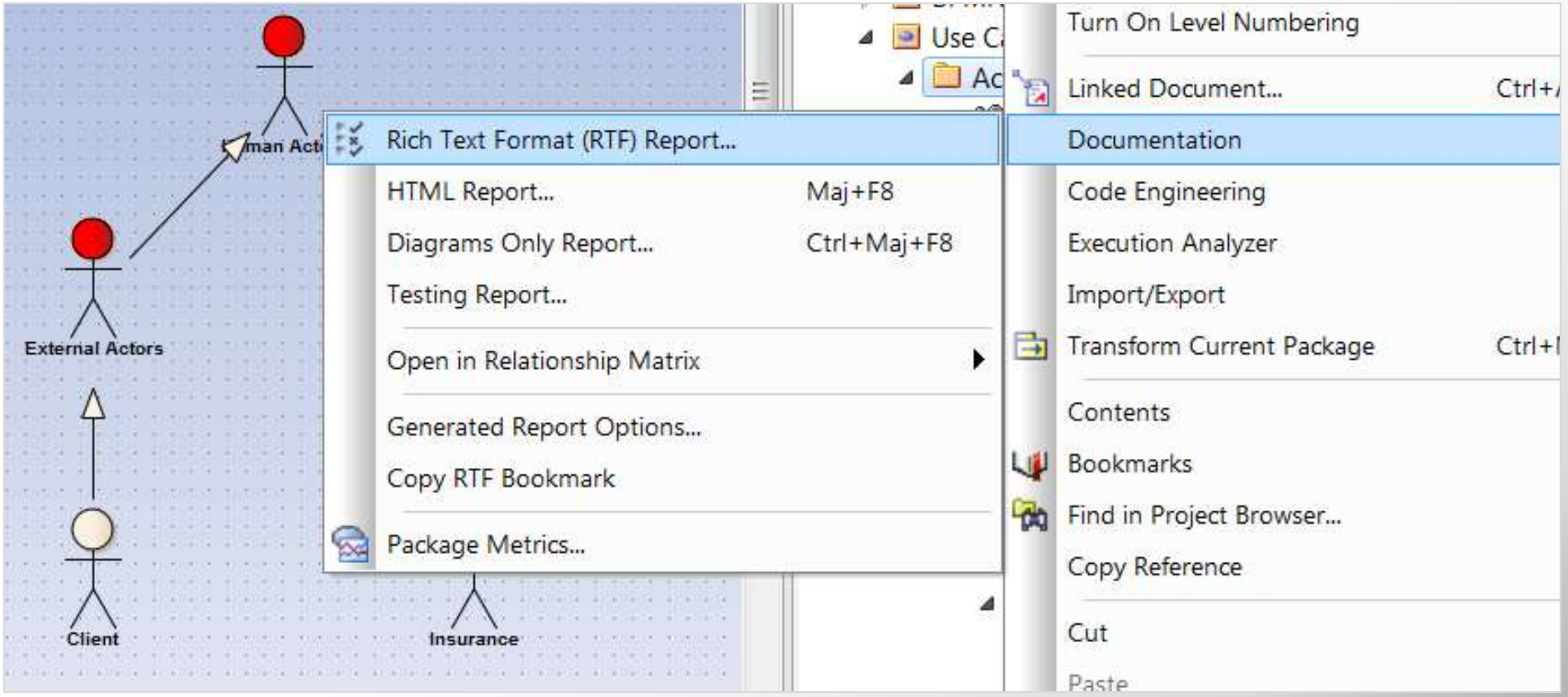
There is a Print Preview mode, and you can print directly to a printer or print to PDF.



Printing of (part of) Diagrams (2)

Generate a report of a package in RTF

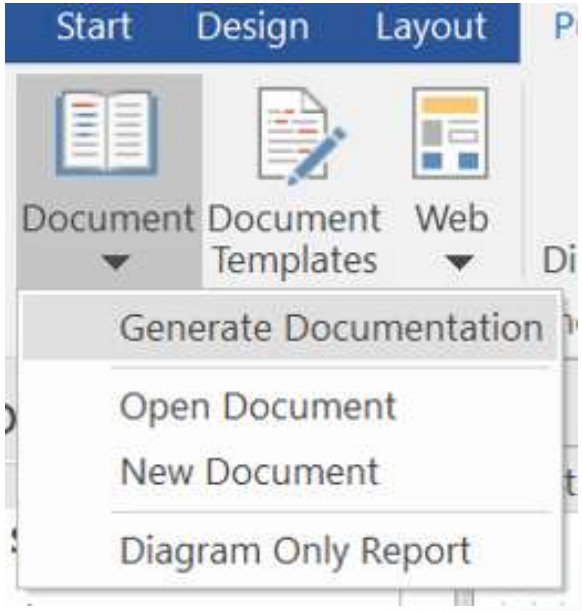
Select the **Package** of the Diagram, Click right mouse button.
Select **Documentation** and **Rich Text Format Report.**



Printing of (part of) Diagrams (2)

Generate a report of a package in RTF

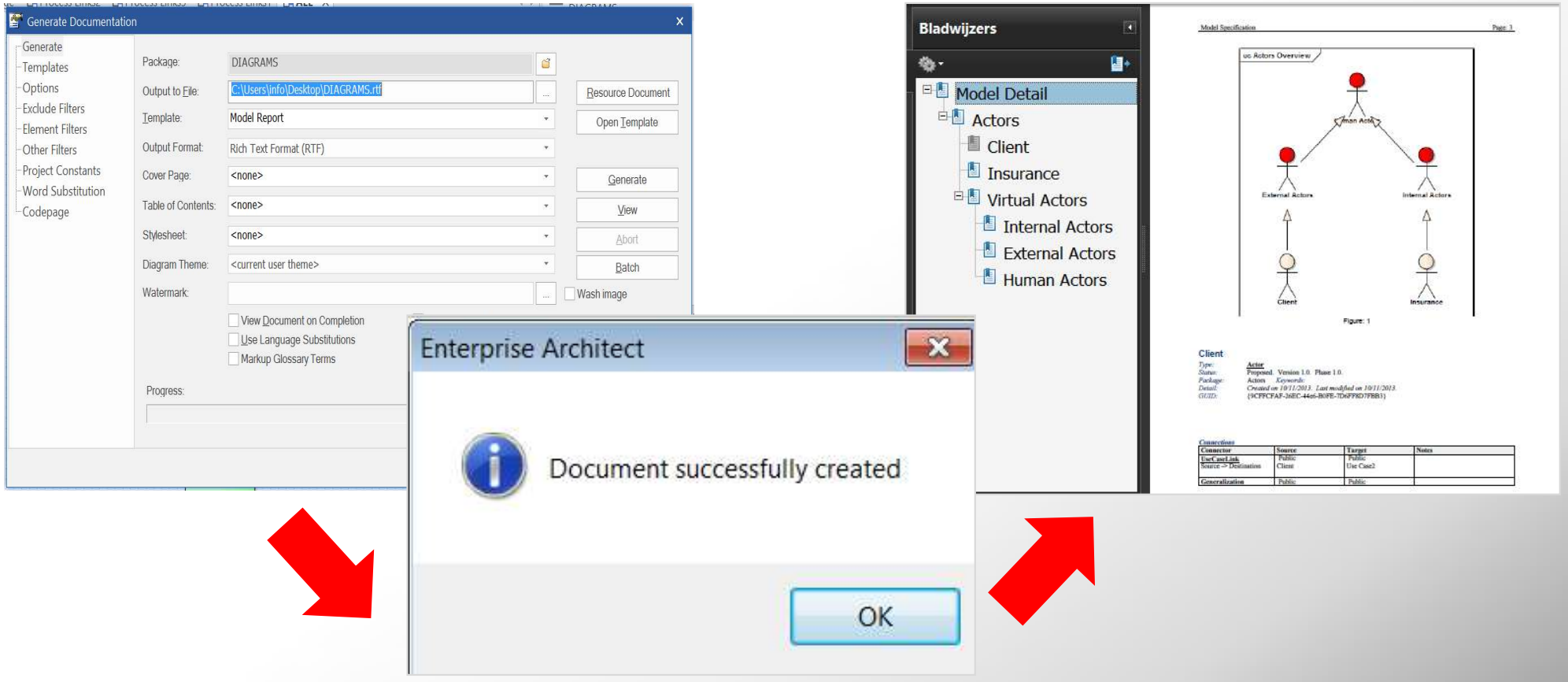
Select the **Package** of the Diagram.
Select **Document** and **Generate Documentation.**



Printing of (part of) Diagrams (3)

Generate a RTF report

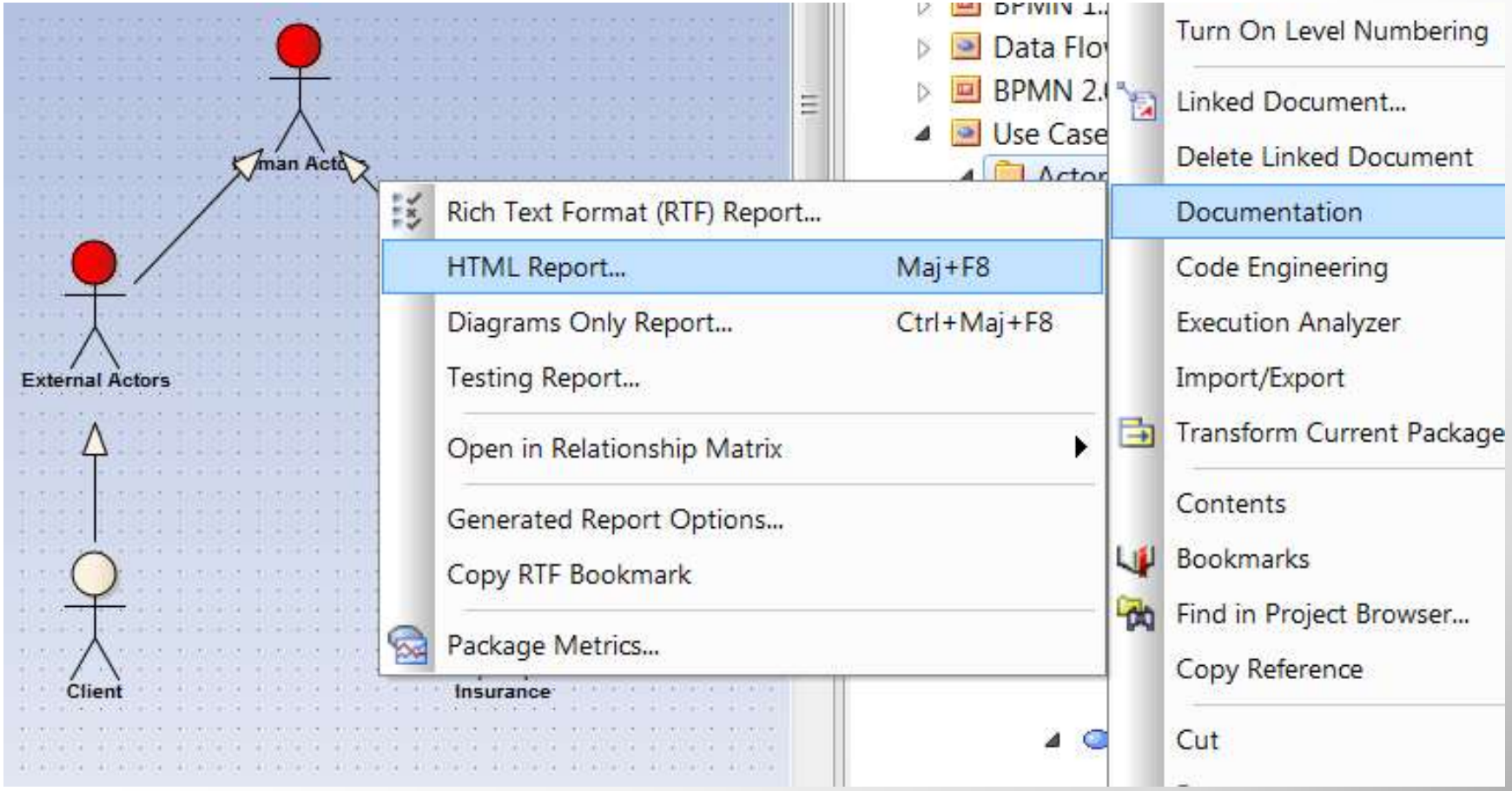
When EA generates documentation in **RTF format**, the number of settings is huge and can be changed in 'Options', a lot of testing is required.



Printing of (part of) Diagrams (4)

Generate a report of a package in HTML

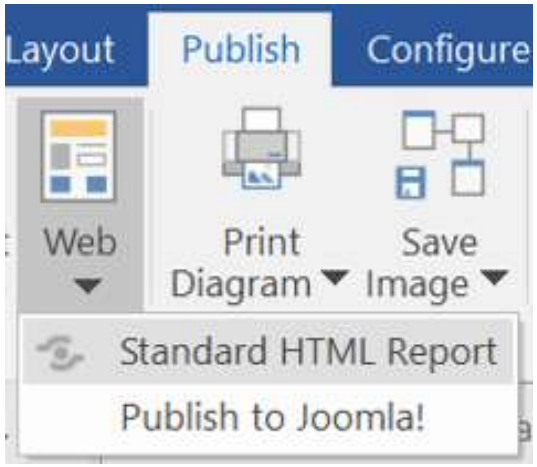
Select the Package of the Diagram, Click right mouse button.
Select **Documentation** and **HTML Report.**



Printing of (part of) Diagrams (4)

Generate a report of a package in HTML

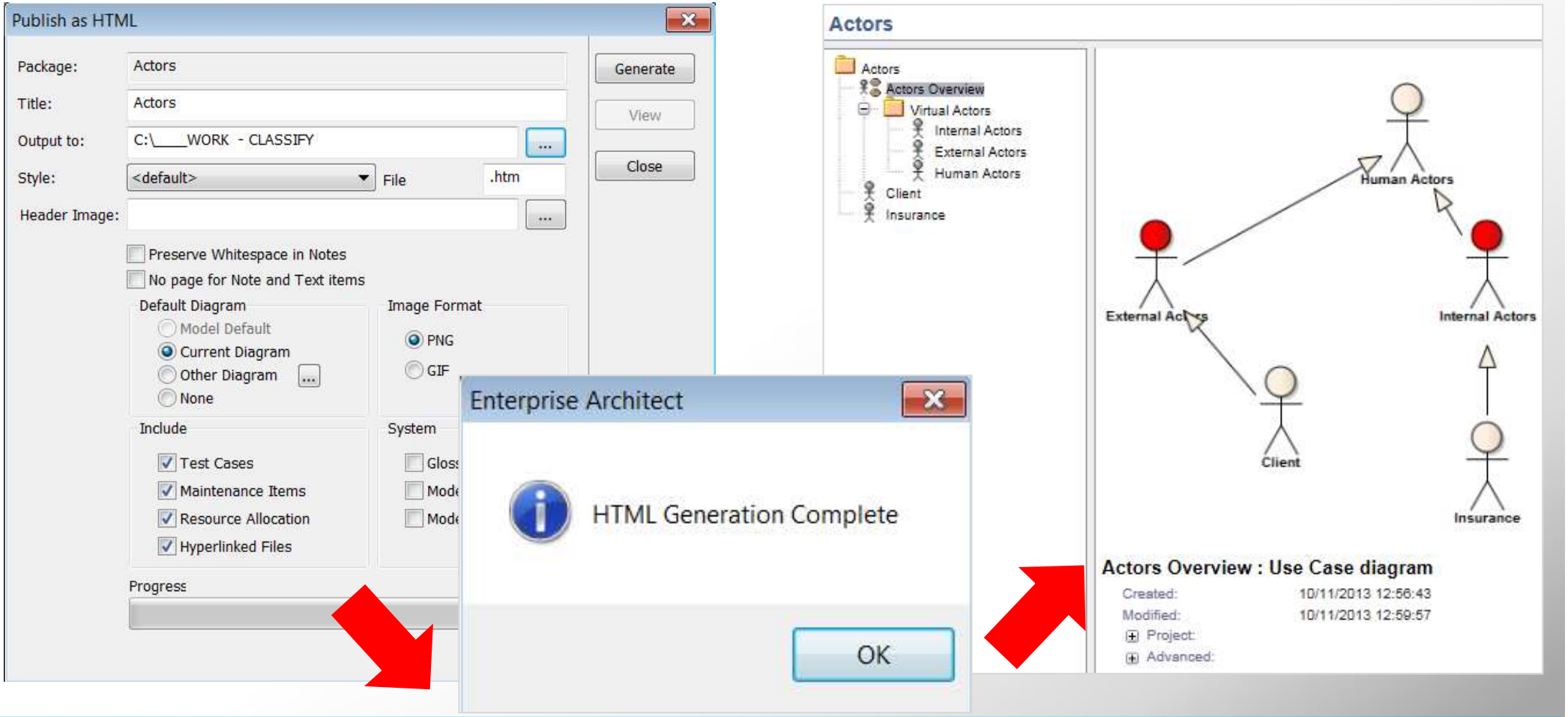
Select the Package of the Diagram, Click right mouse button.
Select **Publish** and Standard **HTML Report.**



Printing of (part of) Diagrams (5)

Generate a HTML report

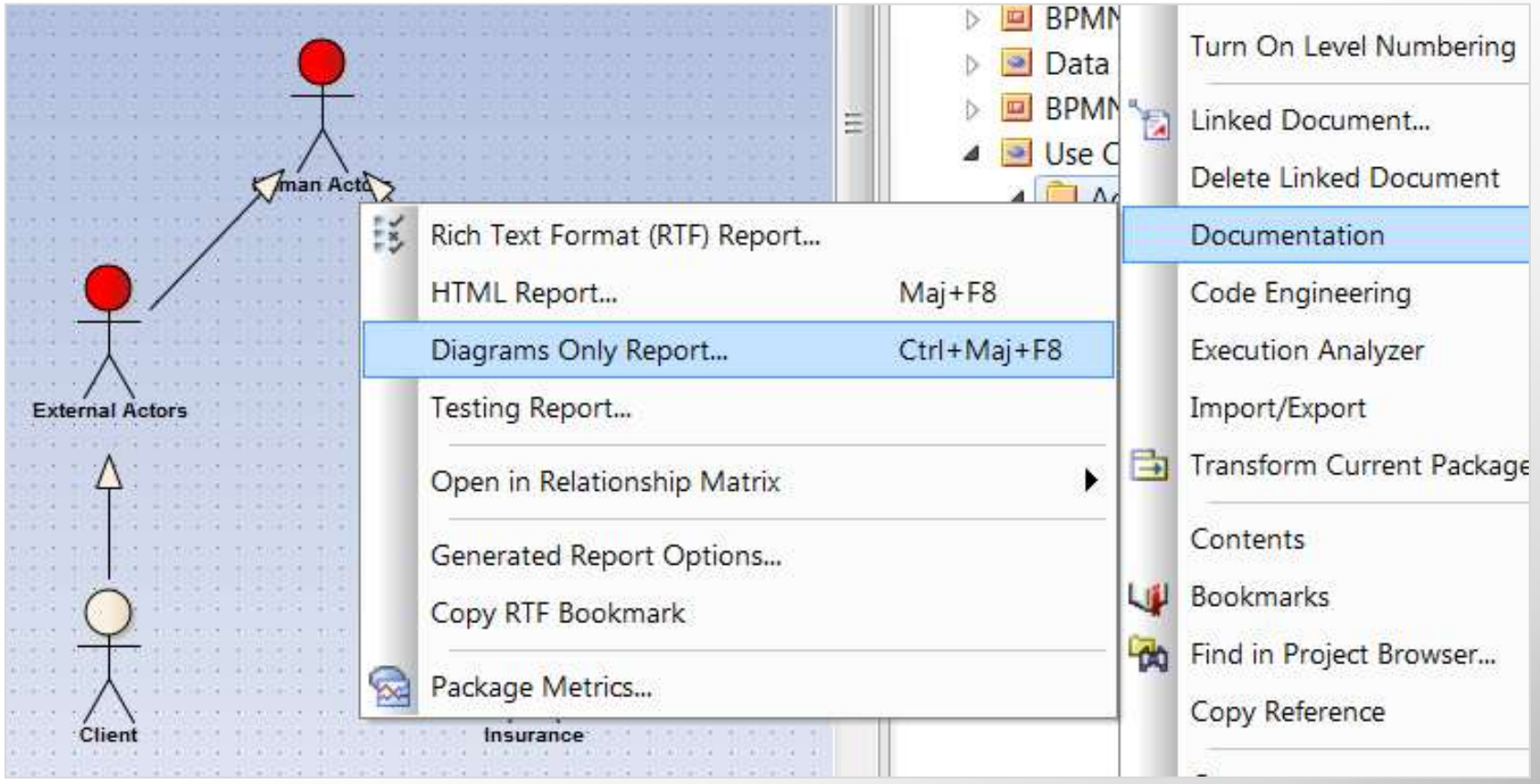
When EA generates documentation in **HTML format**, the number of settings is huge and can be changed in 'Options', a lot of testing is required.



Printing of (part of) Diagrams (6)

Generate a report (of Diagrams only)

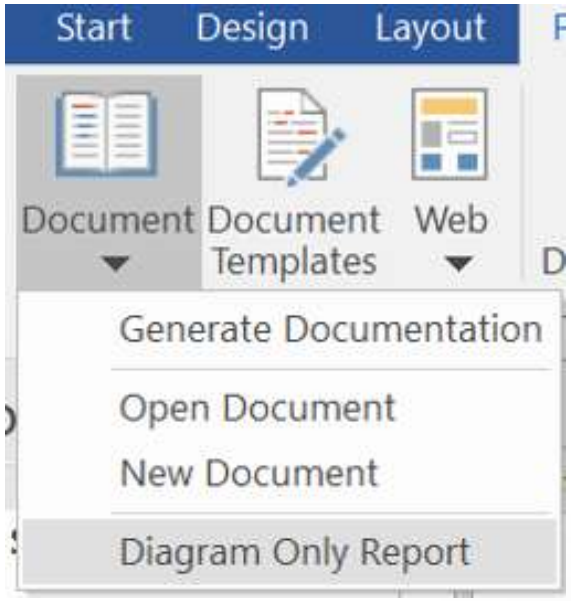
Select the Package of the Diagram, Click right mouse button.
Select **Documentation** and **Diagrams Only Report.**



Printing of (part of) Diagrams (6)

Generate a report (of Diagrams only)

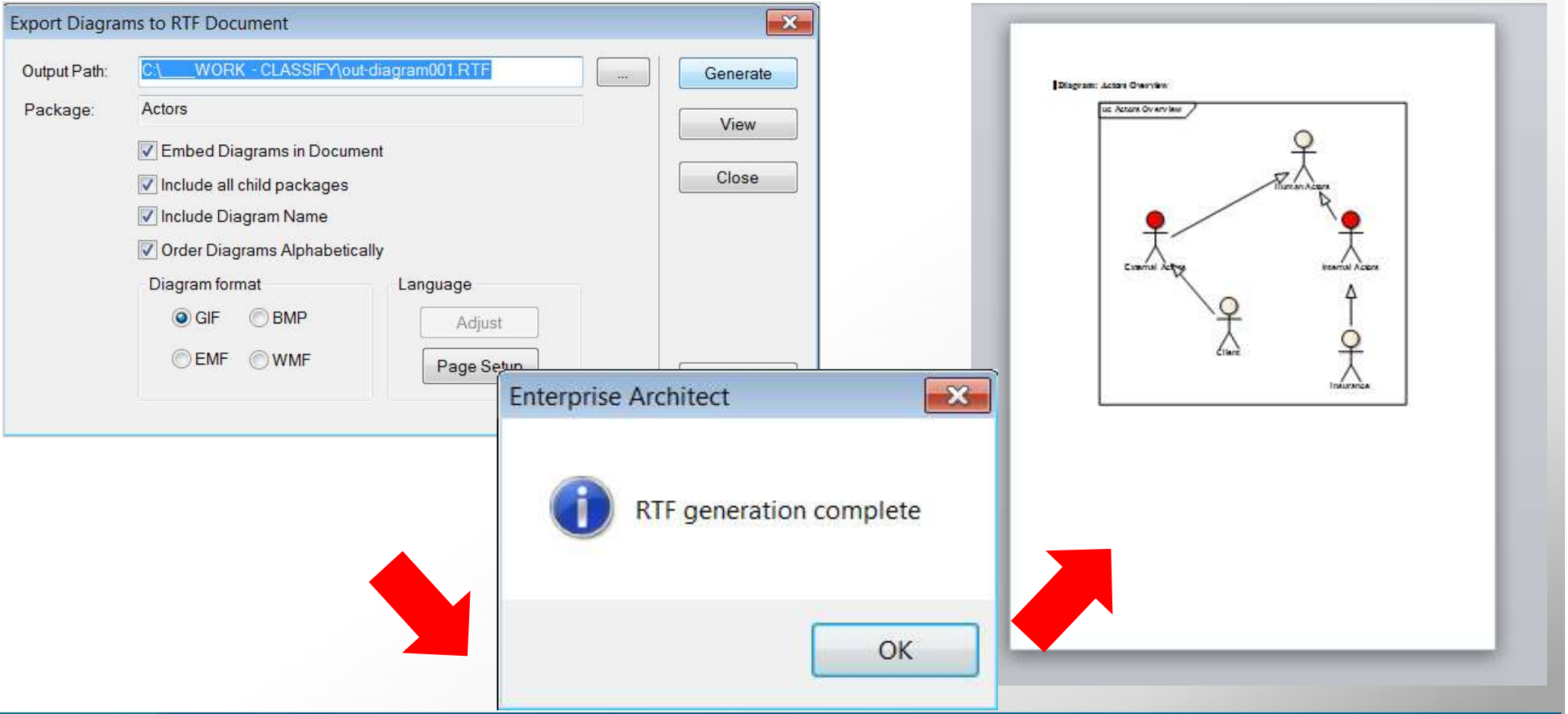
Select the Package of the Diagram, Click right mouse button.
Select **Documentation** and **Diagrams Only Report.**



Printing of (part of) Diagrams (7)

Generate a report (of Diagrams only)

When EA generates documentation in **RTF – Diagrams only format**, there are no options to change.



Simulation of Diagrams

The **Model Simulator** is a tool in **Enterprise Architect's Visual Execution Analyzer**, enabling you to simulate the execution of conceptual model designs containing behavior. It provides a quick and simple way to verify your design's behavior for logical correctness.

Platforms supported:

The Model simulator supports the following simulation platforms:

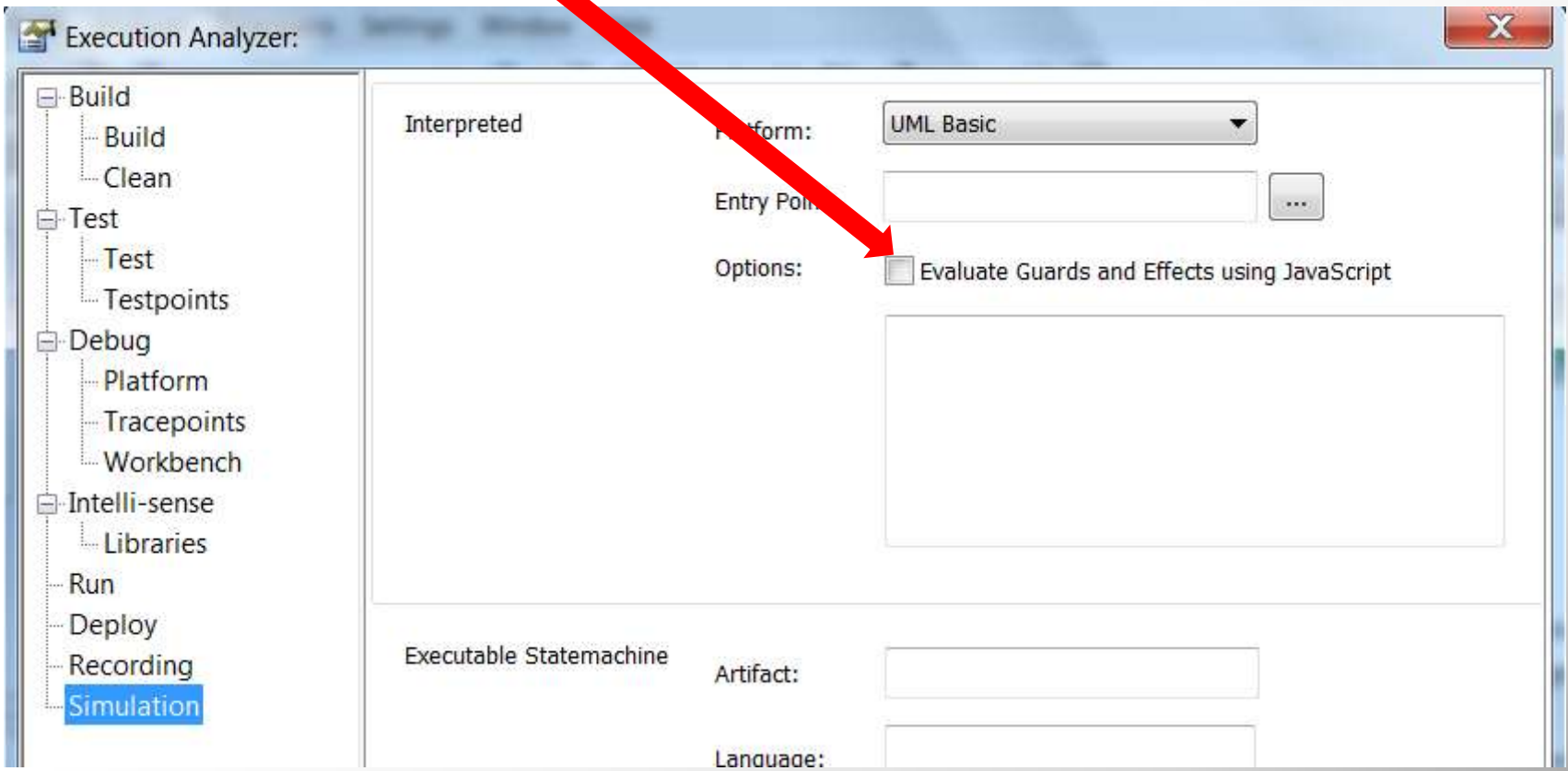
- UML
  - State
  - Activity
  - Sequence
- BPMN
  - Business Process

Simulation of Diagrams

Choose for **Analyzer** and then **Execution Analyzer**.

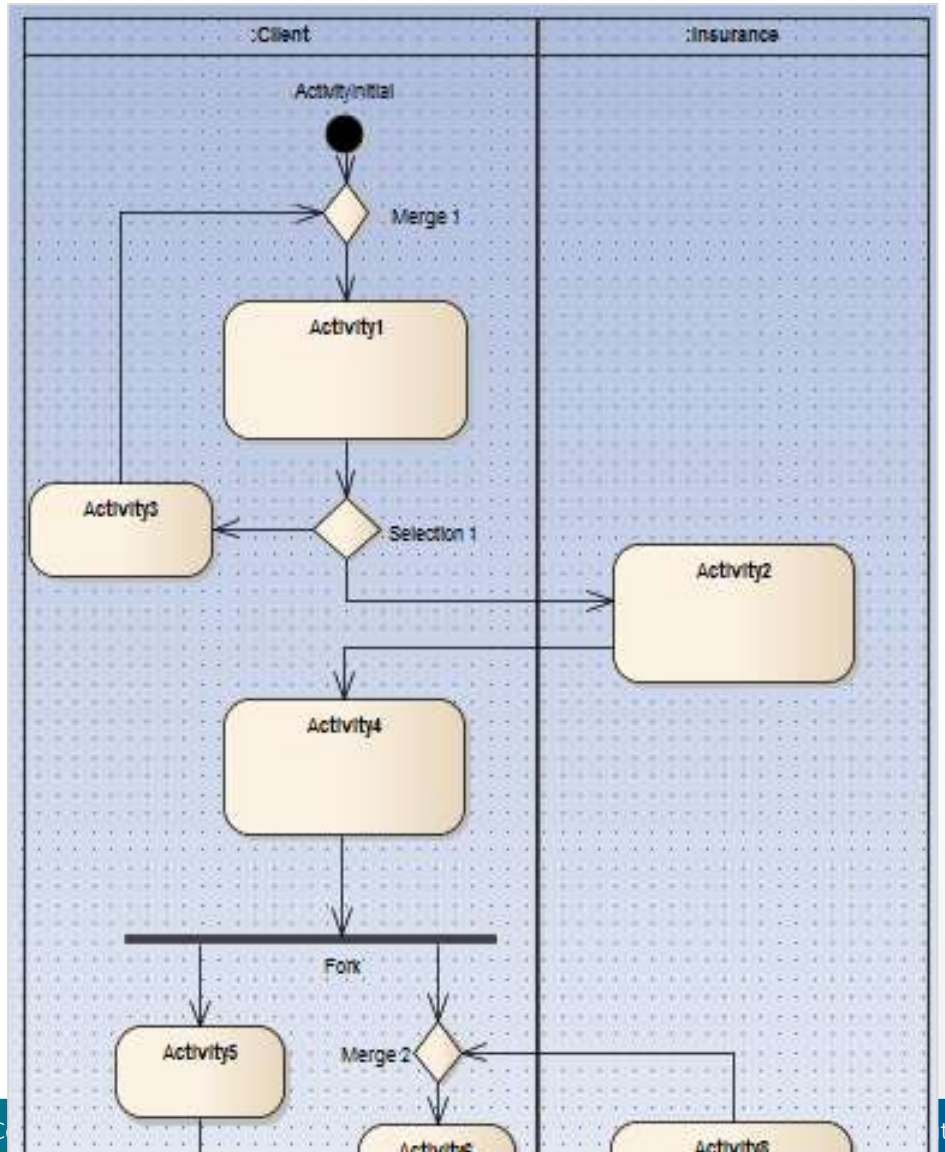
Select **New** (Add new script). 

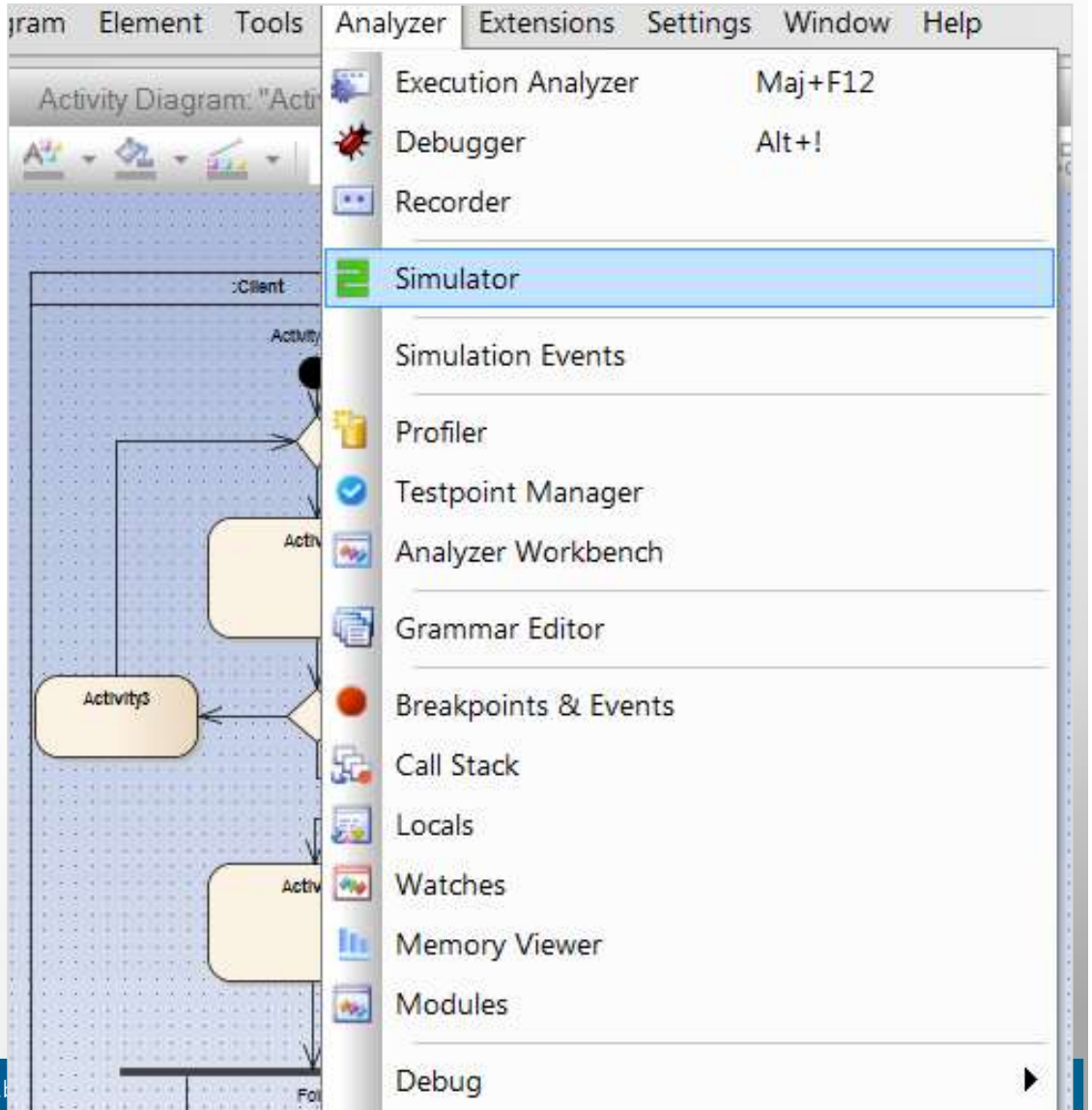
Select the **Option Evaluate Guards** 'has to be ON'



Simulation of Diagrams

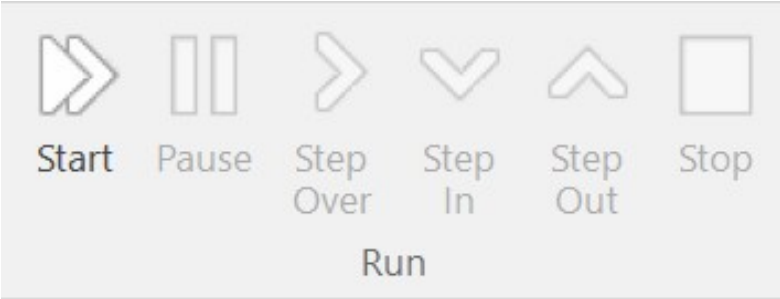
Define your diagram in UML / BPMN and choose for **Analyzer** and then **Simulator**.





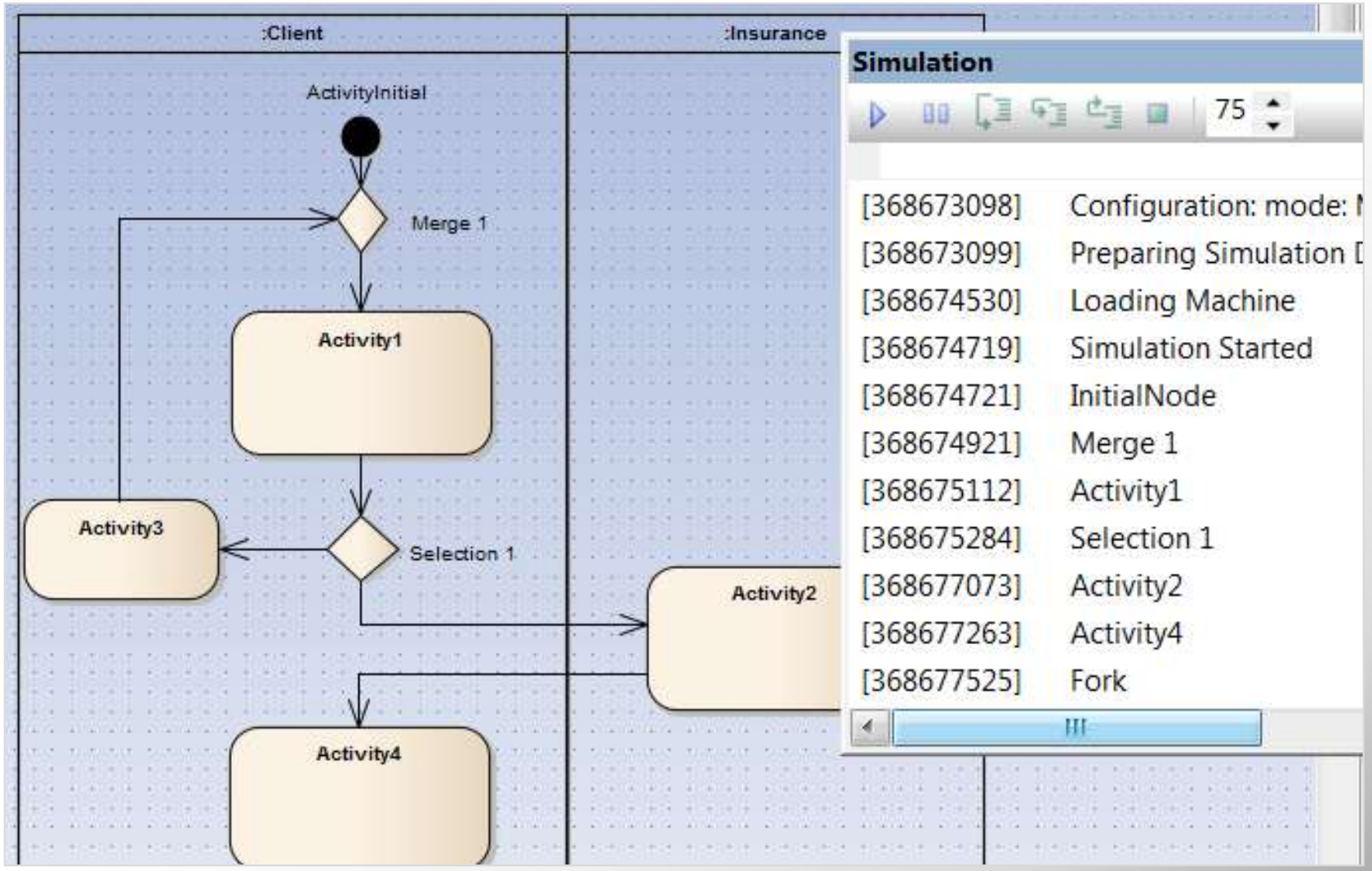
Simulation of Diagrams

Choose for **Simulate** and then **use the buttons**.



Simulation of Diagrams

The Simulator starts up.



Simulation of Diagrams

The Simulator buttons:

MANUAL Choose the Manual Mode

 Start the simulation.

 Interrupt (pauze) the simulation.

The simulation's runtime execution rate.

 Stop the simulation.

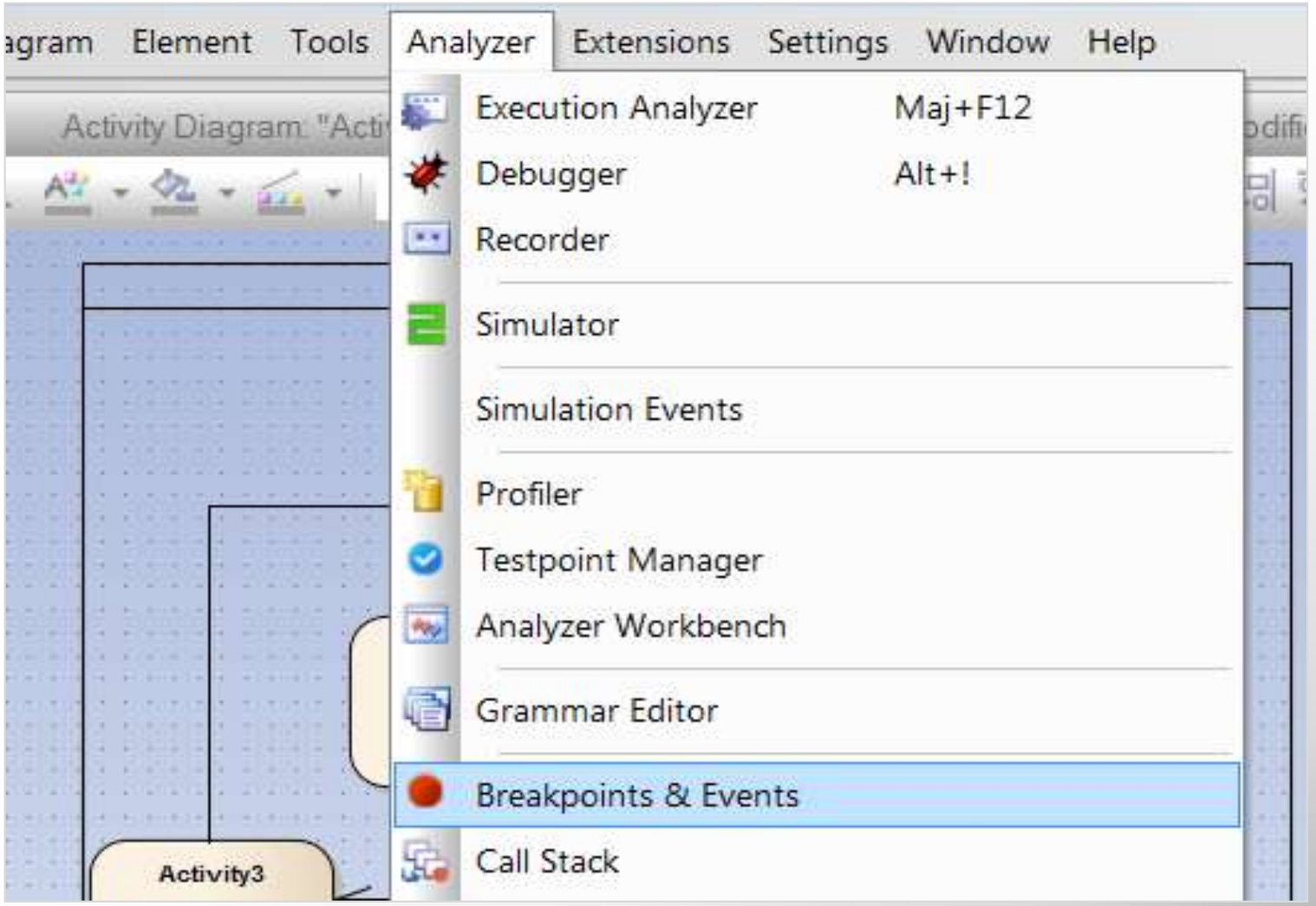
 Step over the next statement.

 Step into the next statement.

 Step out the current statement.

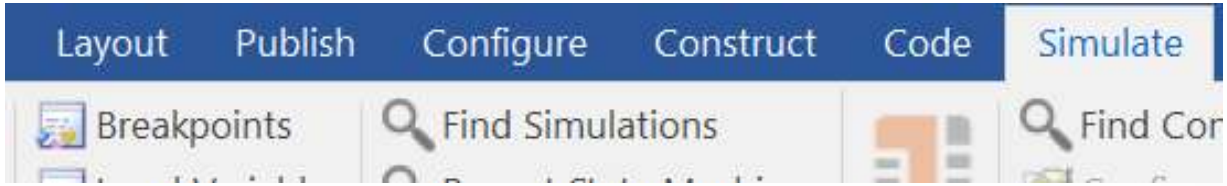
Simulation of Diagrams

Define **Breakpoints** in your Simulation.
Start-up the **Breakpoint & Events** window.



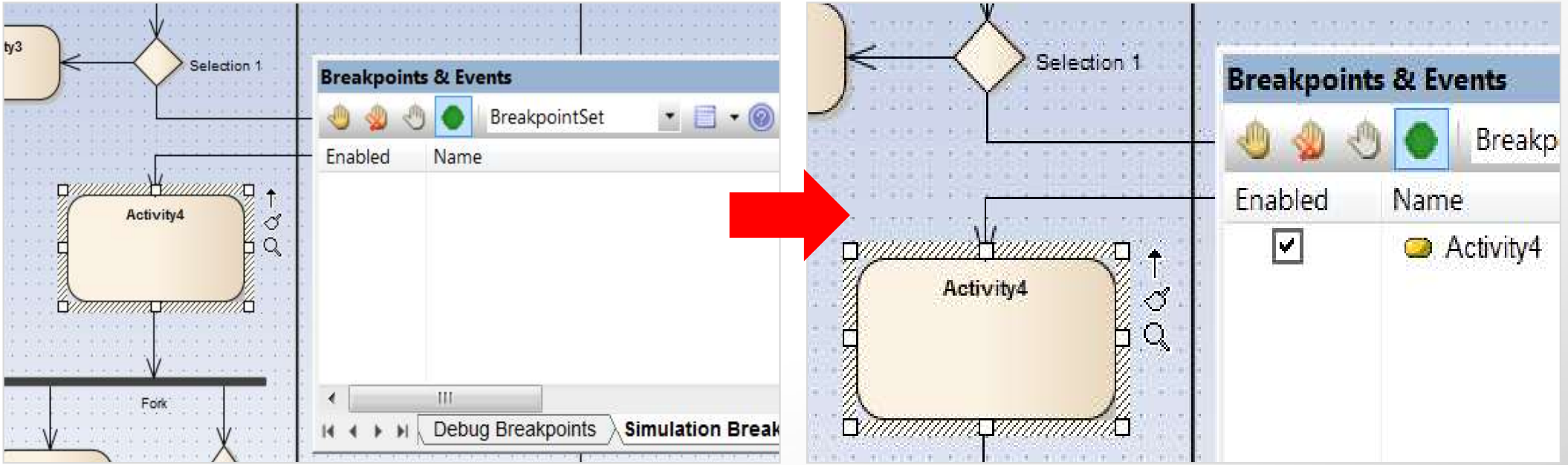
Simulation of Diagrams

Define **Breakpoints** in your Simulation.
Start-up the **Simulate & Breakpoints** window.

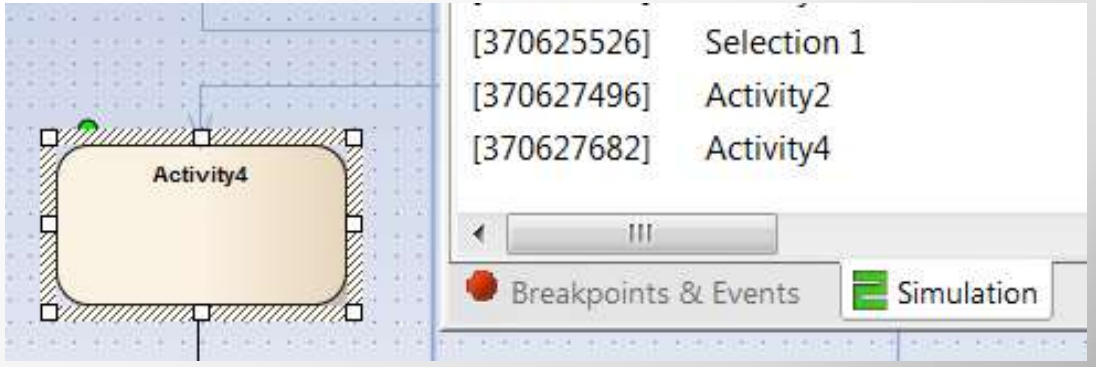


Simulation of Diagrams

Select the **Breakpoint element** on the diagram and select and enable the **green Breakpoint button.**

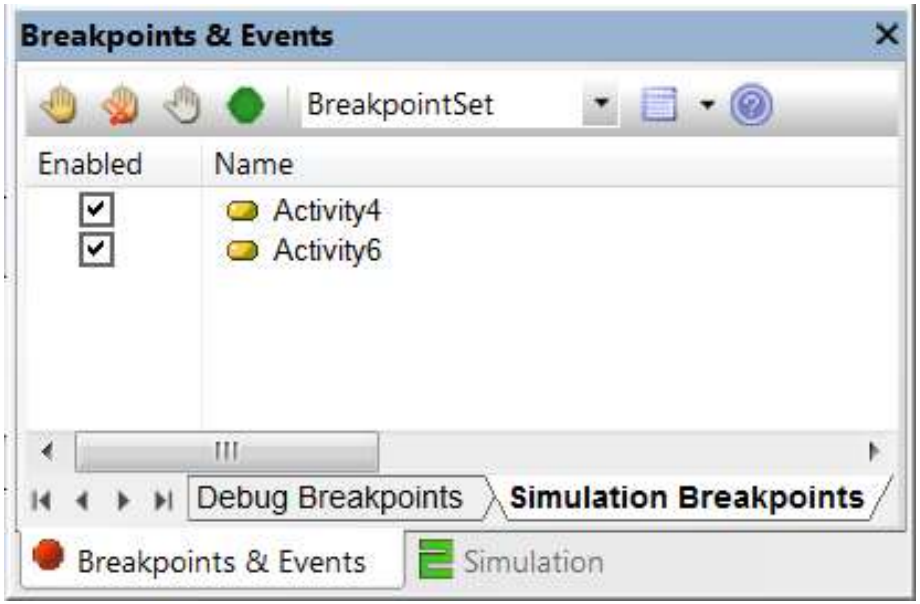


During the simulation the simulation will stop at every enabled Breakpoint.



Simulation of Diagrams

Select the **Breakpoint element** on the diagram and select and enable the **green Breakpoint button.**



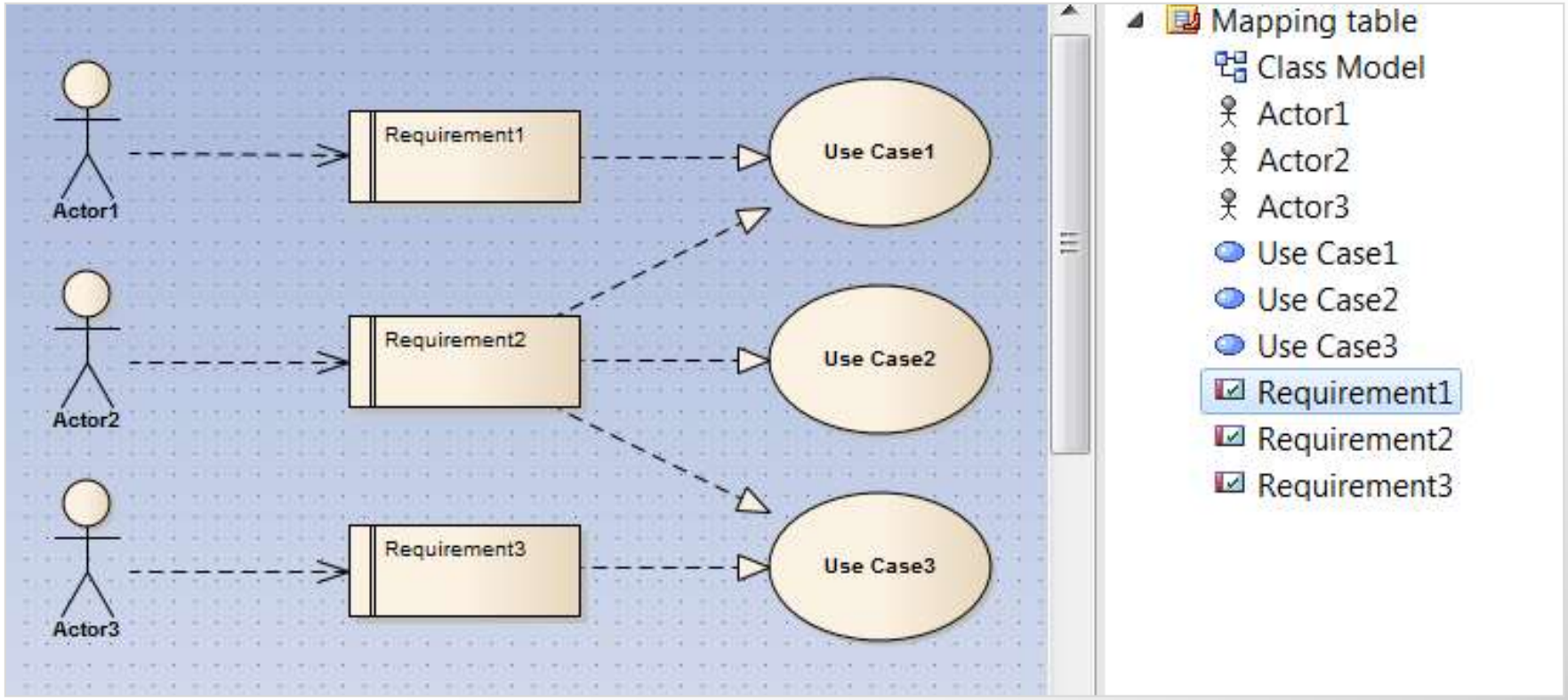
Enable all the Breakpoints in the SET.

Delete all the Breakpoints in the SET.

Disable all the Breakpoints in the SET.

Relationship Matrix (1)

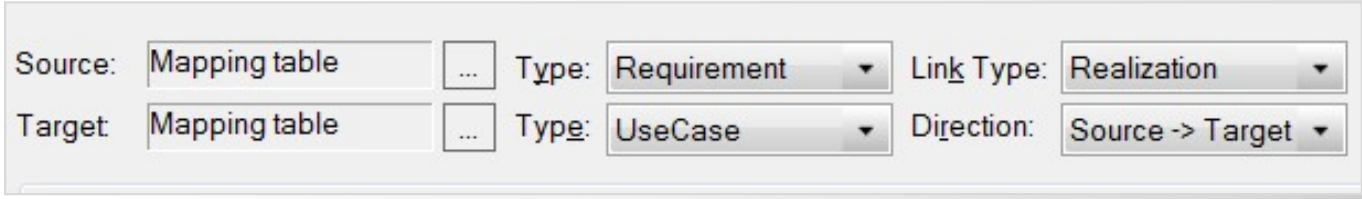
Draw the diagram



Relationship Matrix (2)

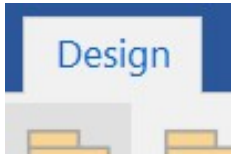
Select **Tools** and **Relationship Matrix**

Define the Source & Target code
Define the Source & Target element
Define the Link Type between the Source & Target
Define the Link Direction between the Source & Target

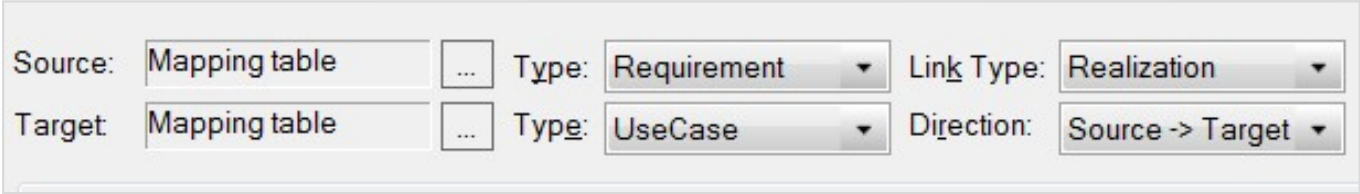


Relationship Matrix (2)

Select **Design** and **Relationship Matrix**



Define the Source & Target code
Define the Source & Target element
Define the Link Type between the Source & Target
Define the Link Direction between the Source & Target



Relationship Matrix (3)

Generation of the **Relationship Matrix**

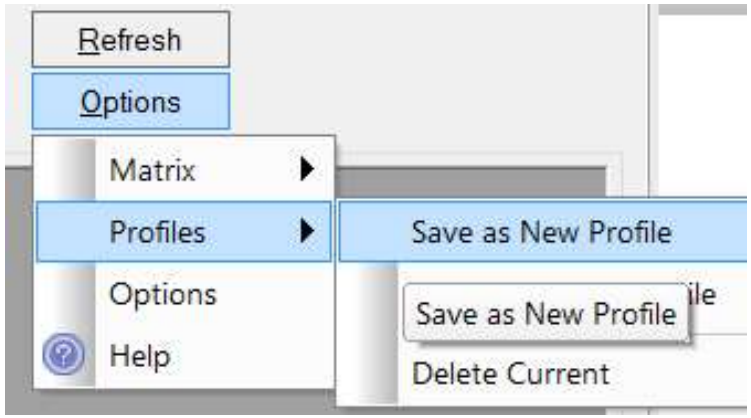
	Mapping table::Use Case1	Mapping table::Use Case2	Mapping table::Use Case3
Mapping table::Requirement1	↑		
Mapping table::Requirement2	↑	↑	↑
Mapping table::Requirement3			↑

REMARK
This works also over a combination of packages.

Place a Relationship Matrix link on your Diagram (1)

Create the **Relationship Matrix** as before

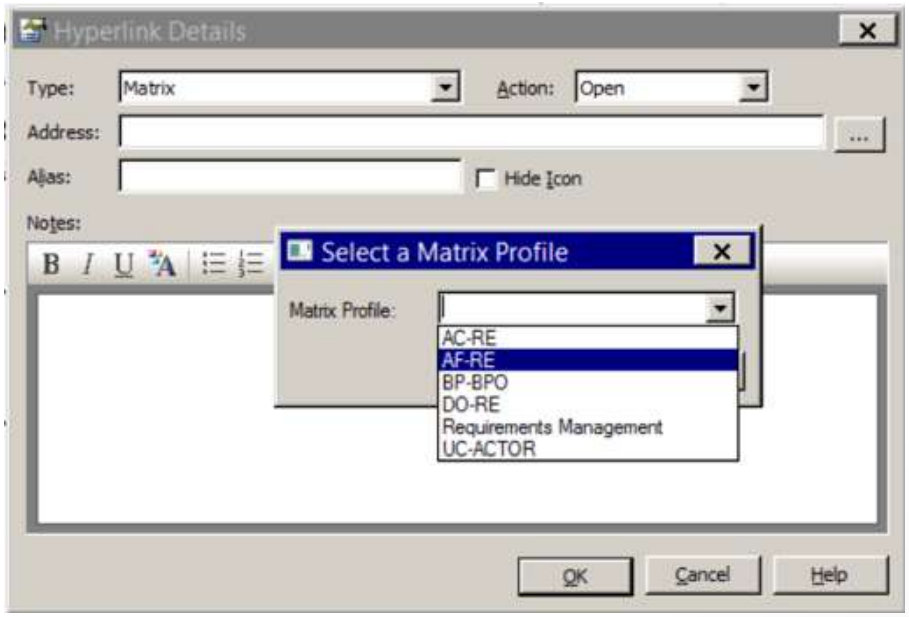
Save the **Relationship Matrix** as a New Profile, **Options** > **Profiles** > **Save As**



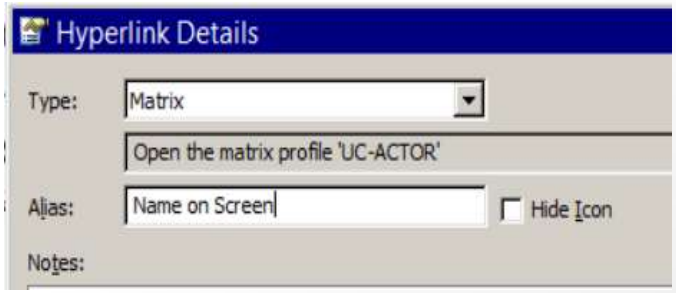
Go in the Project Browser to your specific Diagram and choose the **hyperlink** from your **Toolbox (common)**

Place a Relationship Matrix link on your Diagram (2)

Choose as **Type for Matrix** and as **Matrix Profile** the name you just saved, and press OK.



Give an **Alias name** for on the screen



It looks like this

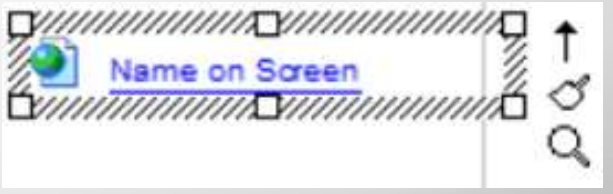


Image Manager (1)

Create diagrams with images contained in the Image Library.
Select **Project** -> **Settings** -> **Images …** for image library.

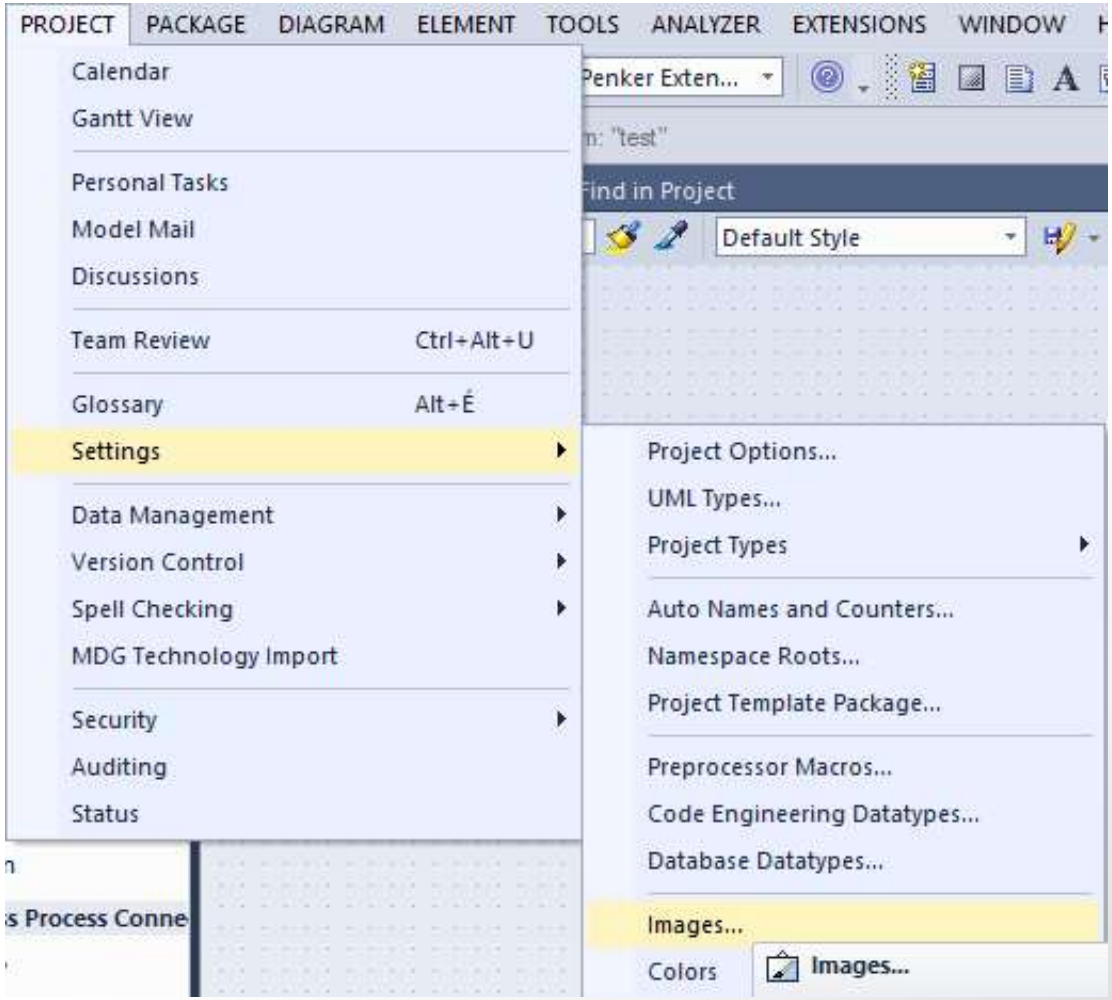


Image Manager (1)

Create diagrams with images contained in the Image Library.
Select **Configure -> Images …** for image library.

Image Manager (2)

Create diagrams with images contained in the **Image Library**.

Select **Add New** for adding a new image.

Select the new image and press **OK**.

Image Manager (3)

The new image is now loaded in the **Image Library**.

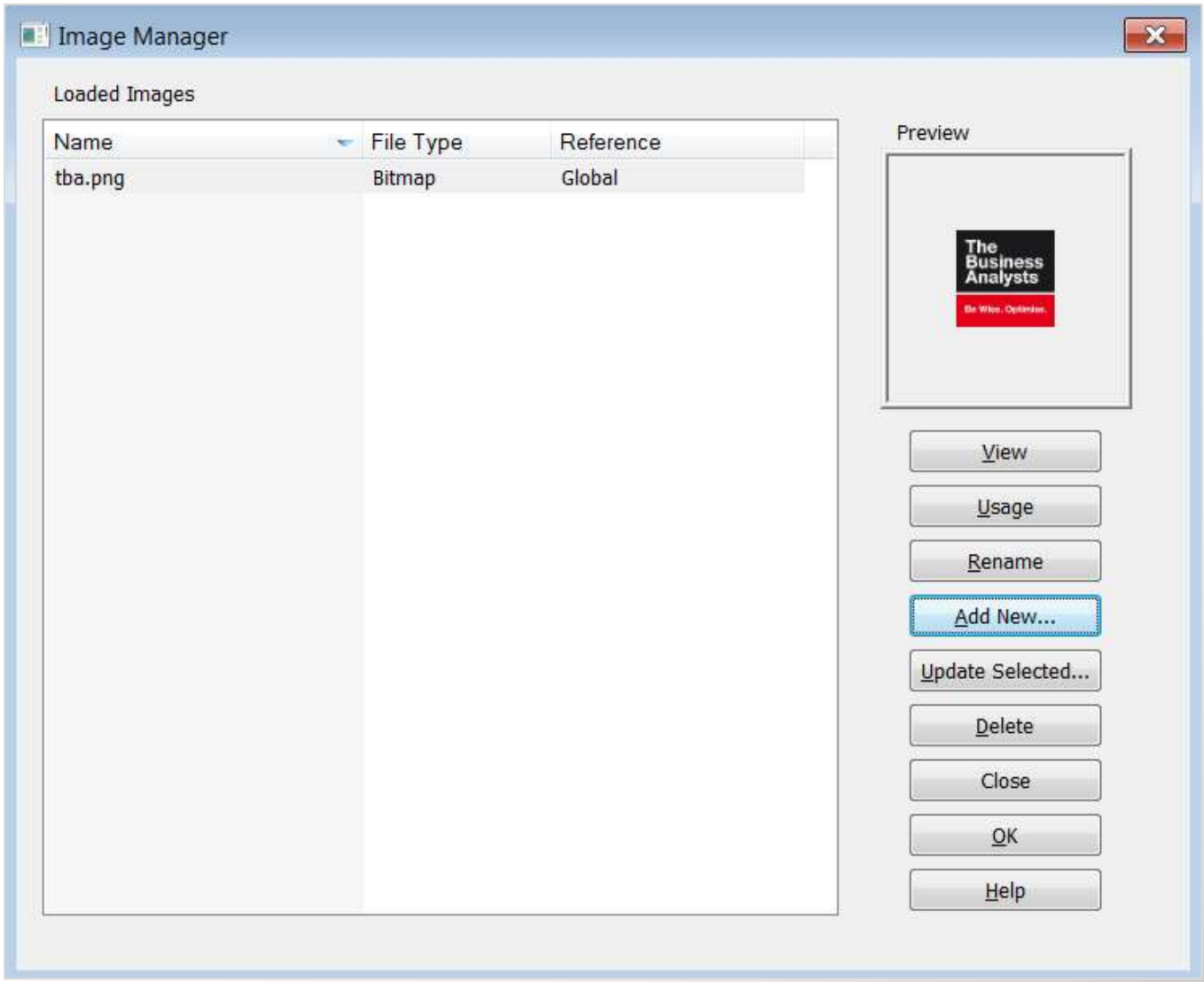


Image Manager (4)

Draw a diagram and select the element to be changed.

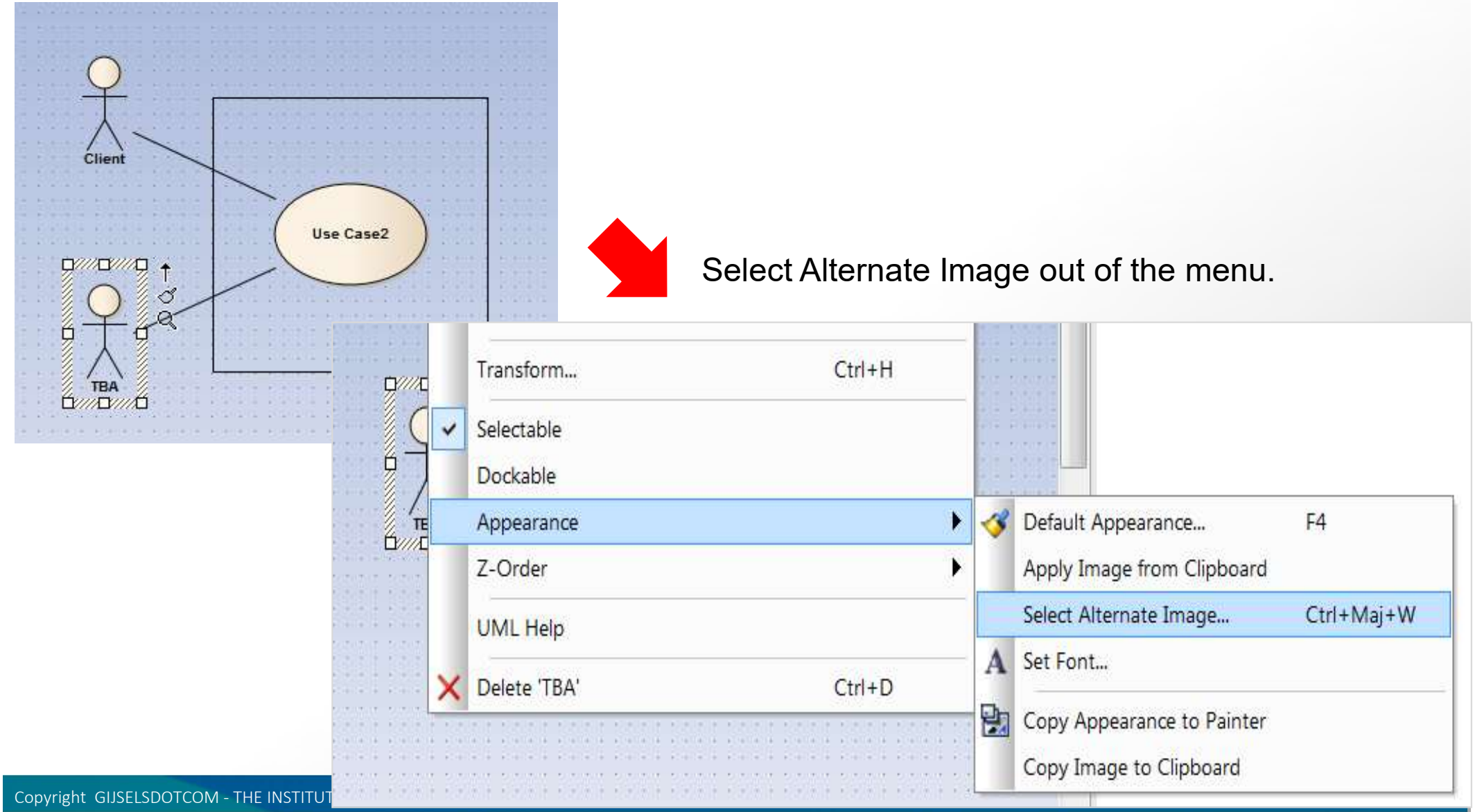
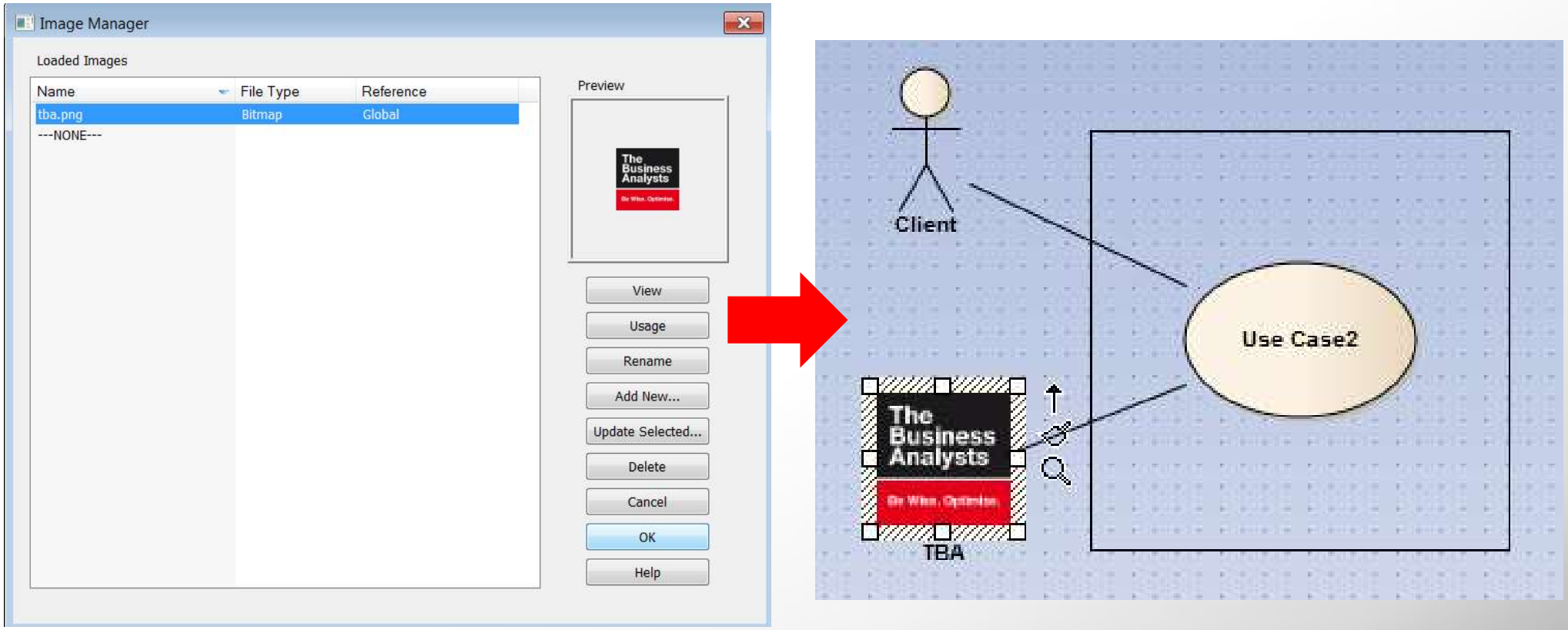


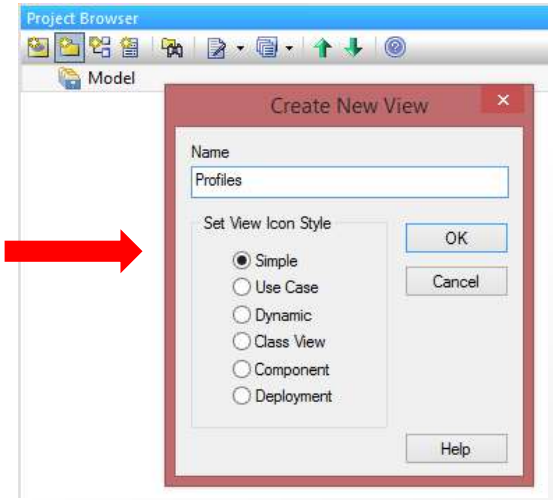
Image Manager (5)

The initial element has been changed with the selected element out of the Image Manager.

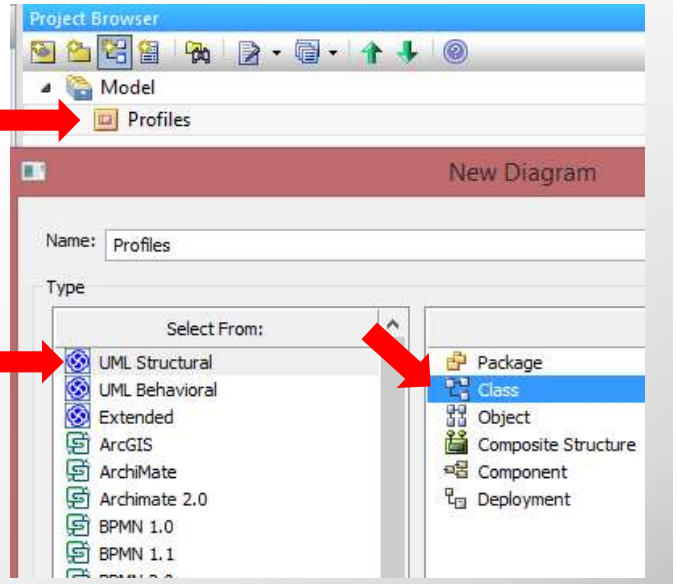


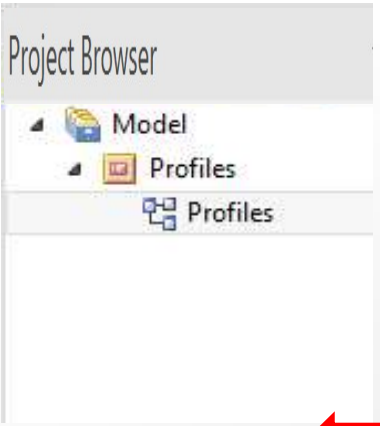
Creating a Profile (1)

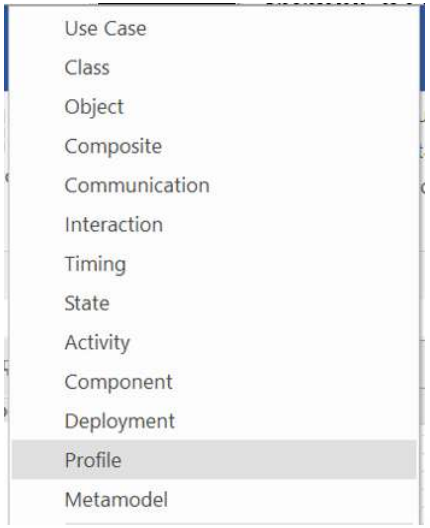
- Create a '**Simple View Package**' in your Project Browser, with the name '**Profiles**'.



- Add an '**UML Structural / Class**' diagram, with the name '**Profiles**'.



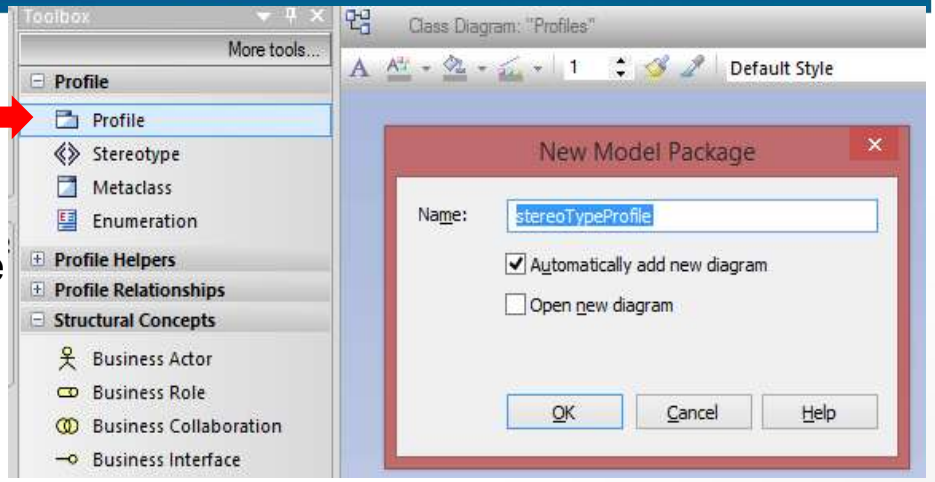




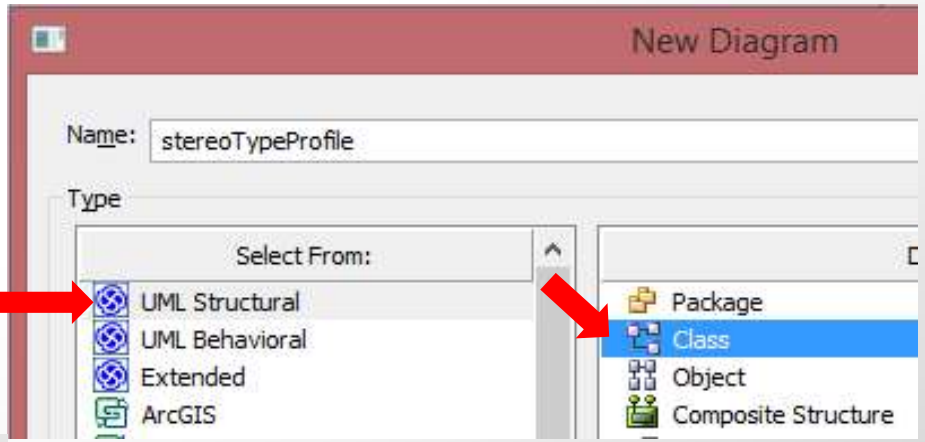
- Go to the Toolbox and select the '**Profile**' toolset.

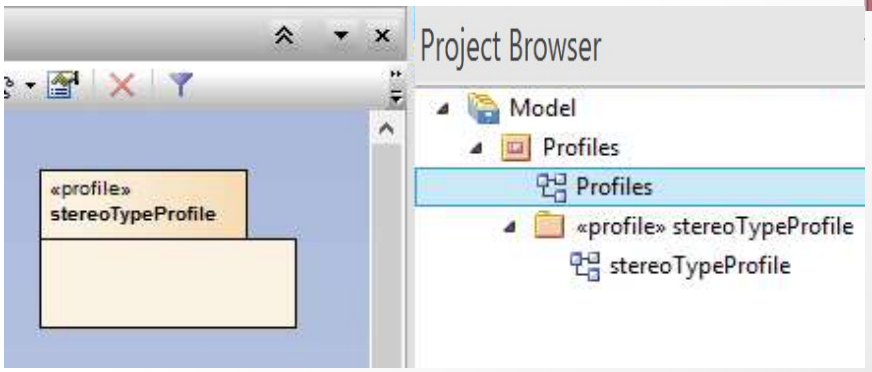
Creating a Profile (2)

- Create a Profile Package with the name '**stereoTypeProfile**'



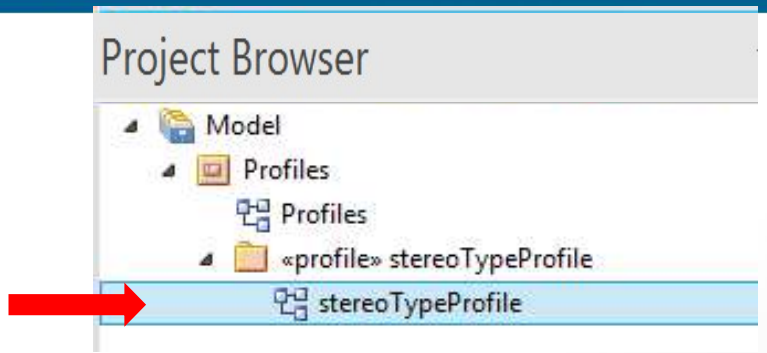
- and put in an '**UML Structural / Class**' diagram, with the name '**stereoTypeProfile**'.



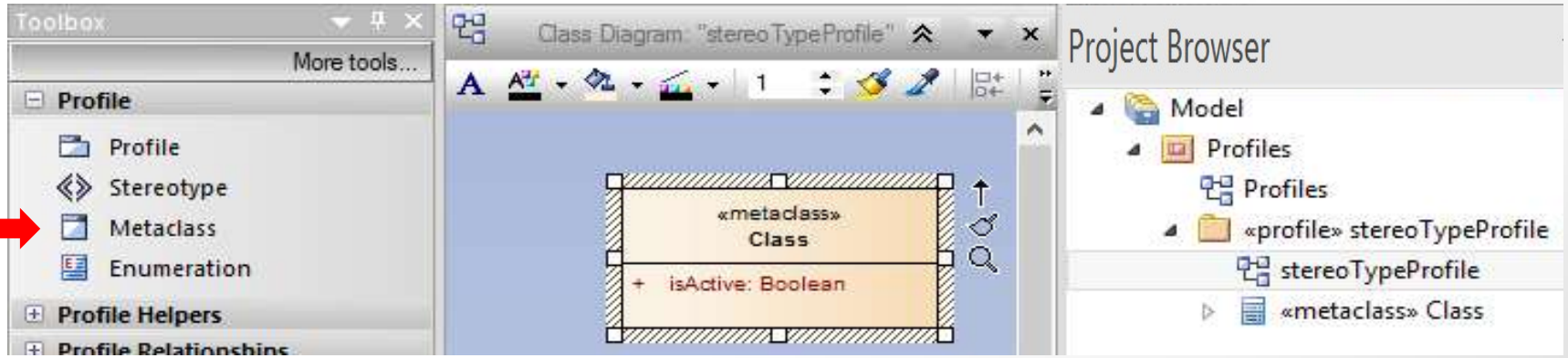


Creating a Profile (3)

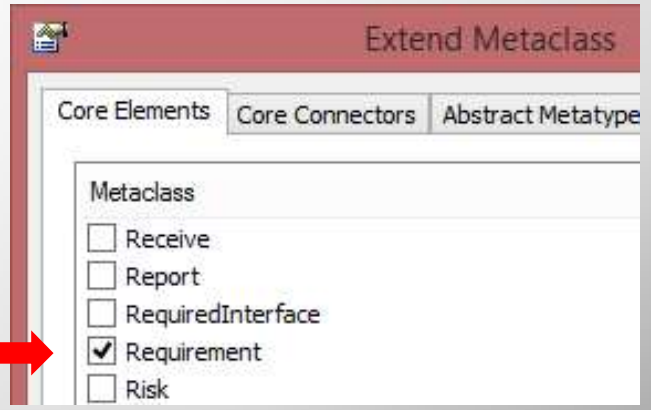
- Enter the Class Diagram '**stereoTypeProfile**'



- Use the '**MetaClass**' of the Toolbox



- and choose for '**Requirement**' in the core elements.

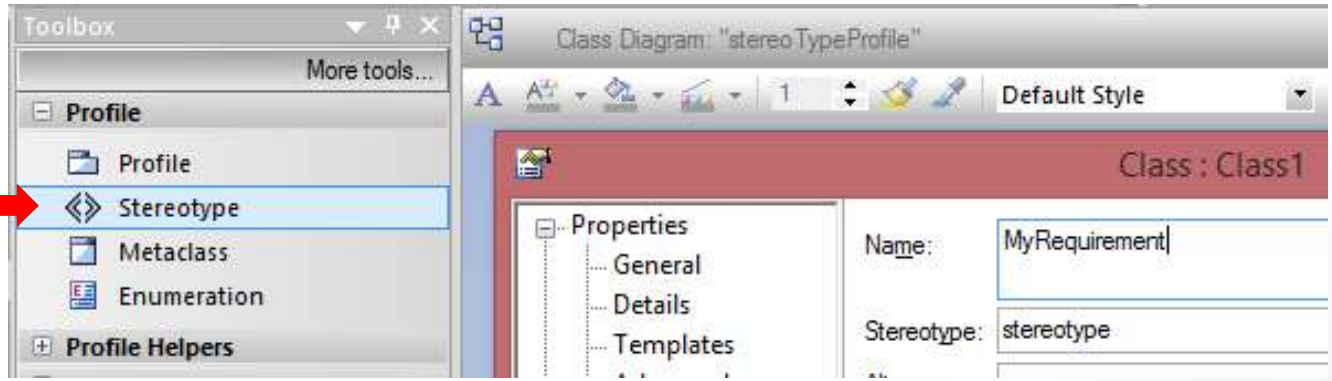


MetaClass = MASTER Blueprint

Creating a Profile (4)

- Use the '**Stereotype**' of the Toolbox and give '**MyRequirement**' as Name.

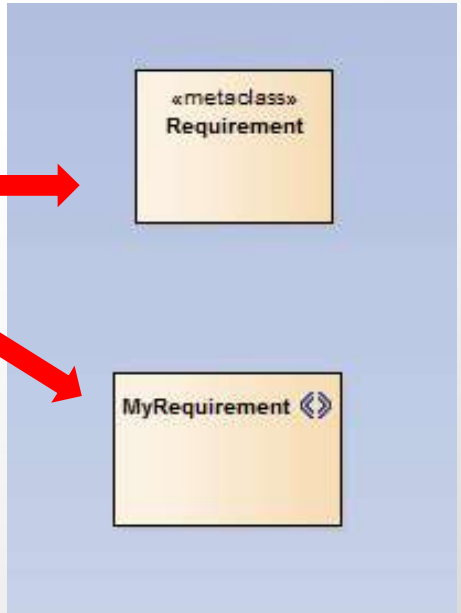
StereoType = New Blueprint for the new element



- We have now a:

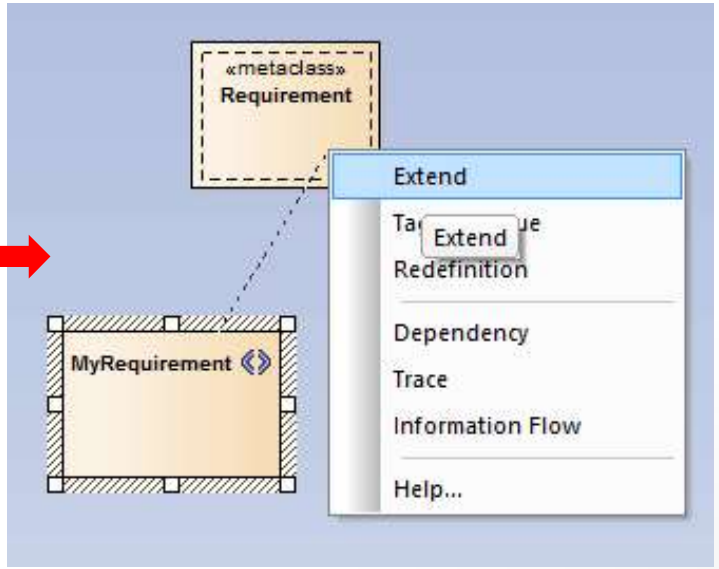
- <<metaclass>> Requirement

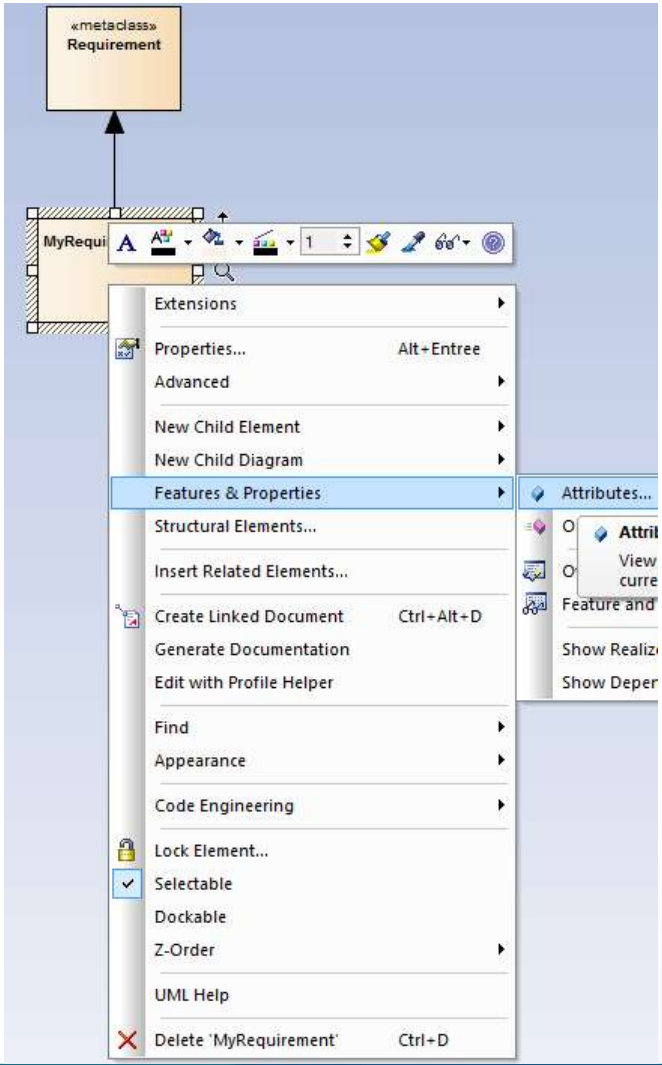
- <<stereotype>> MyRequirement



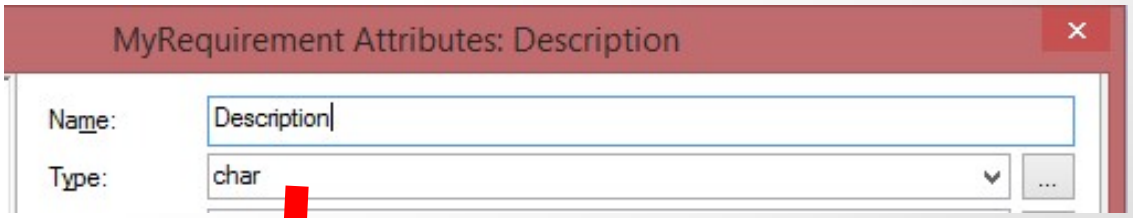
Creating a Profile (5)

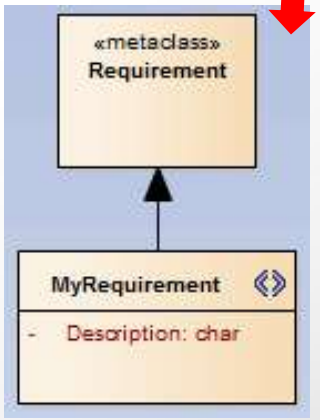
- Extend **MyRequirement**, start from MyRequirement





- Add an attribute named '**Description**' with Type '**char**' and Save this attribute .

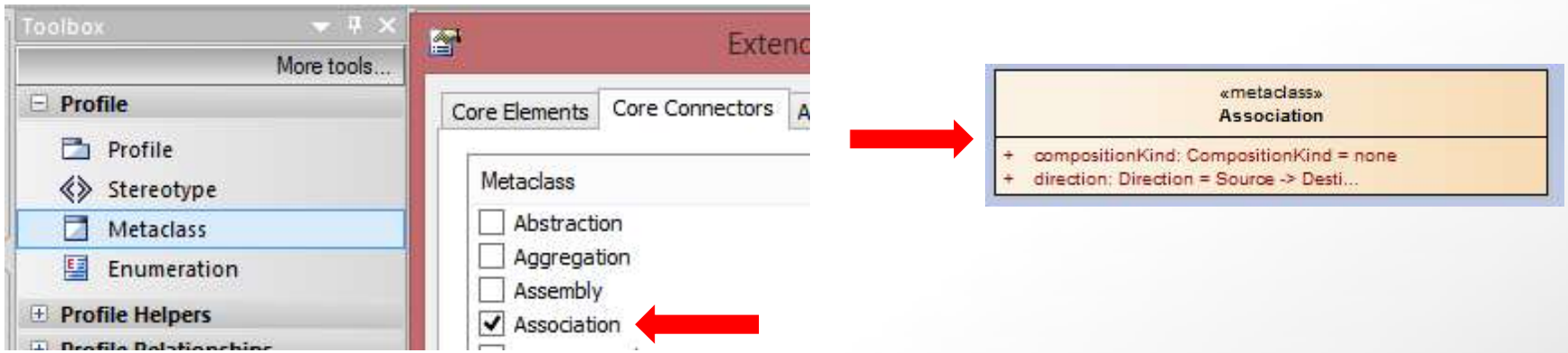




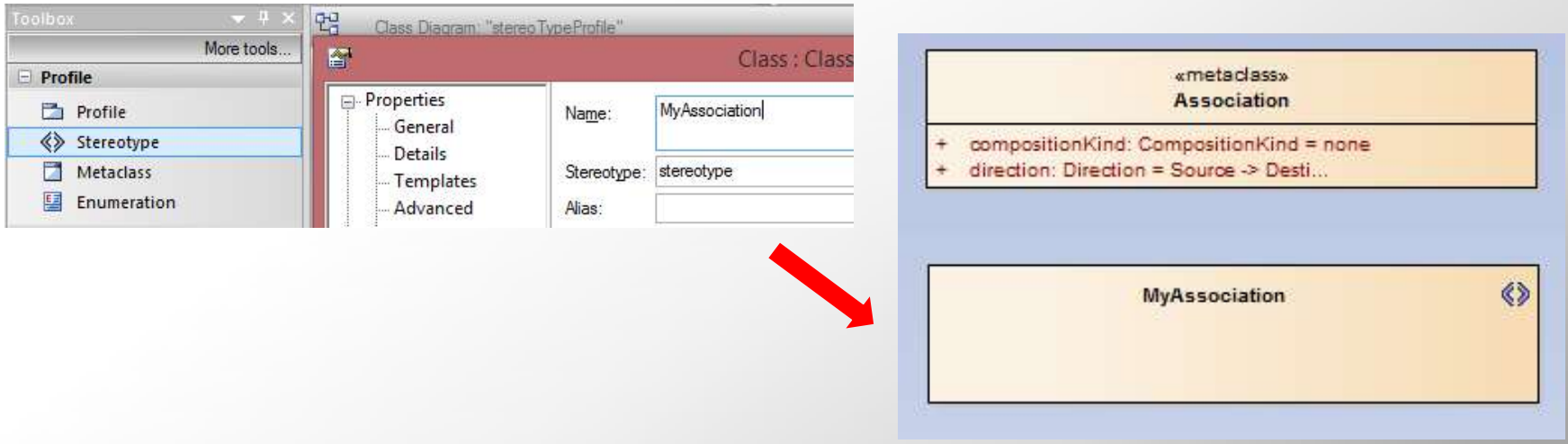
We now created a stereotype

Creating a Profile (6)

- Use the '**MetaClass**' of the Toolbox and choose for '**Association**' in the core connectors.

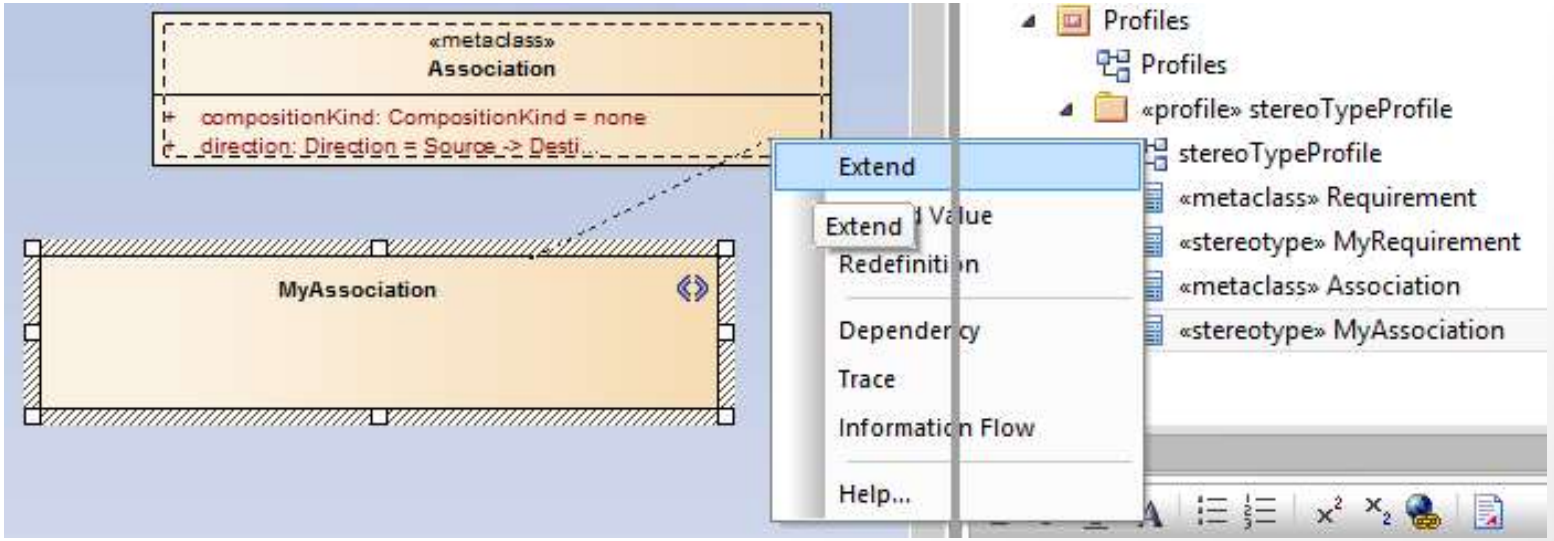


- Use the '**Stereotype**' of the Toolbox and give '**MyAssociation**' as Name.



Creating a Profile (7)

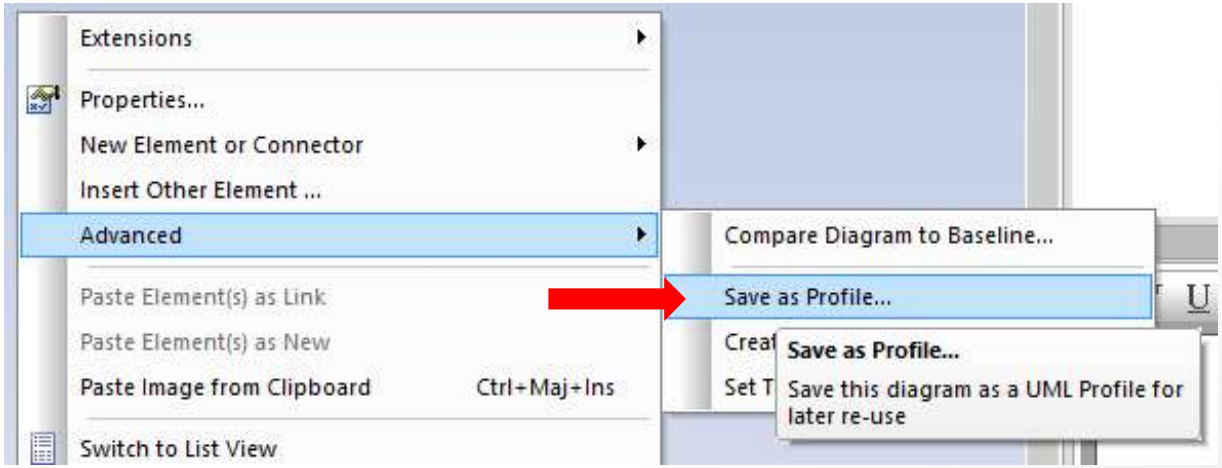
- Extend the Class (start from MyAssociation).



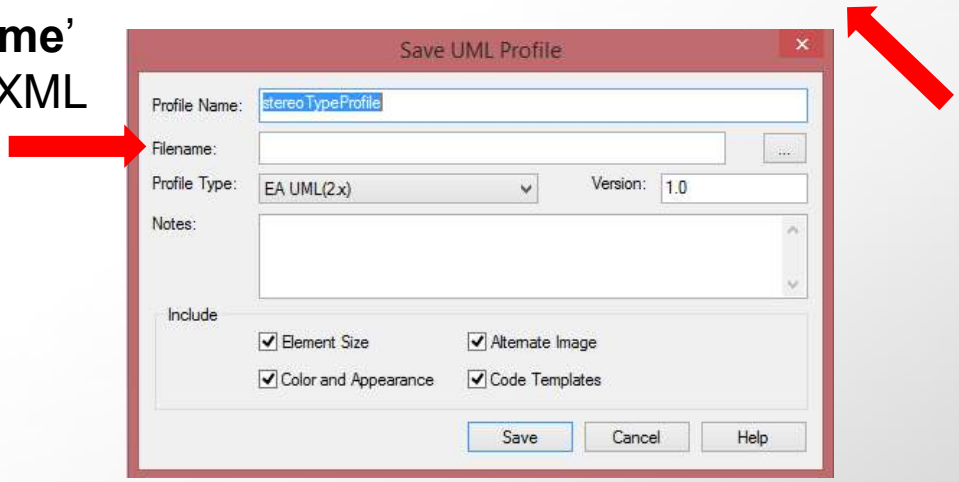
We now created a profile

Save the Profile (8)

- Save the Model
- Click right mouse button on the diagram and '**Save the Profile**'.



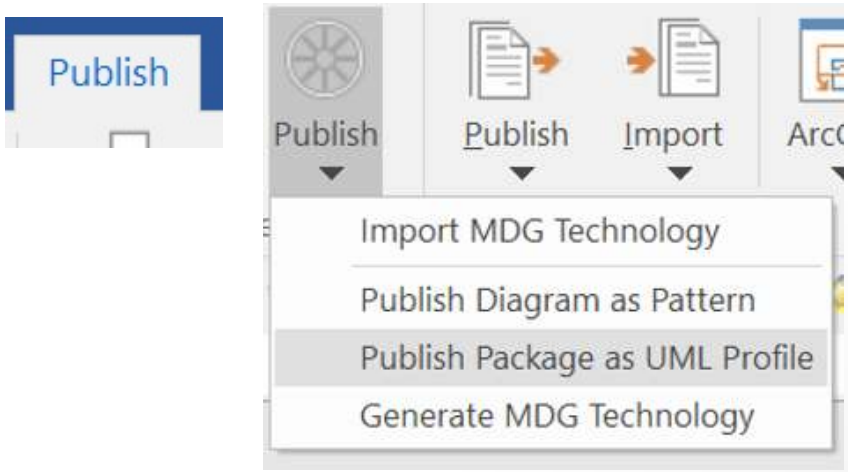
- Choose '**Profile Name**' and location of the XML file.



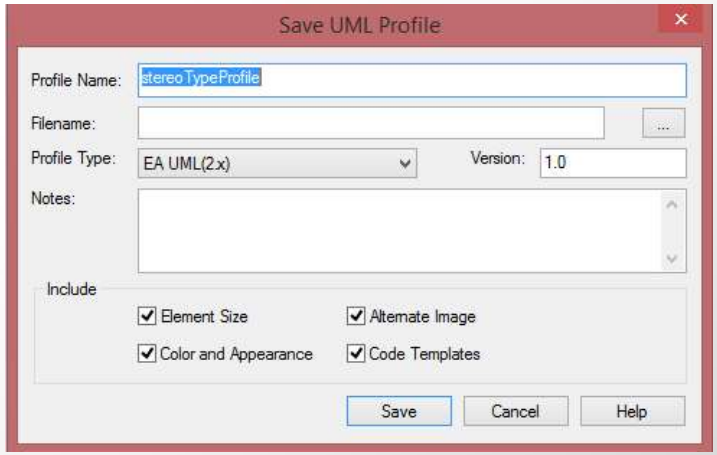
We now saved a profile

Save the Profile (8)

- Save the Model



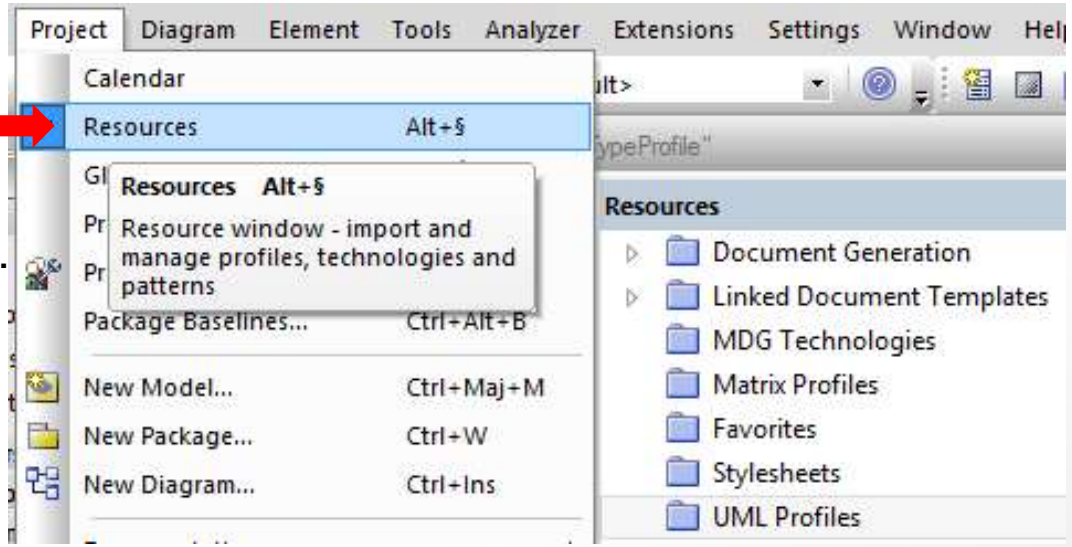
- Choose '**Profile Name**' and location of the XML file.



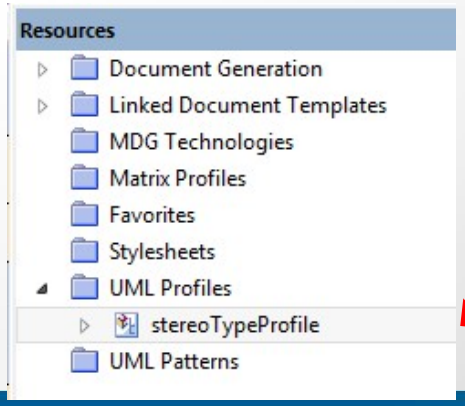
We now saved a profile

Import the Profile (9)

- Select from Project '**Resources**'.



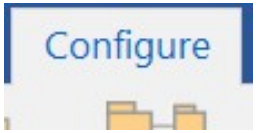
- Choose for UML Profiles and click right mouse button '**Import Profile**'.

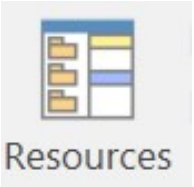


We now imported the profile

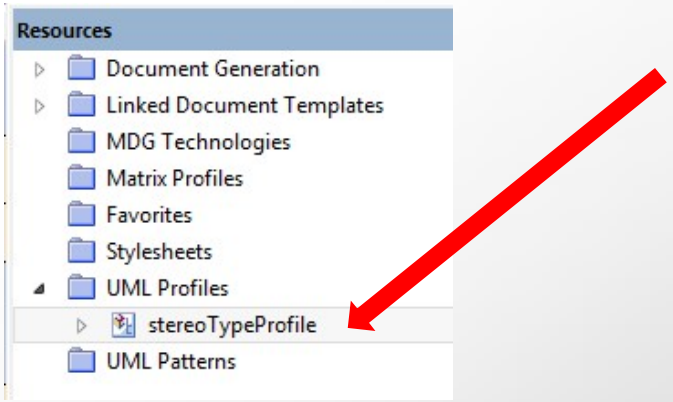
Import the Profile (9)

- Select **Configure > Resources >**





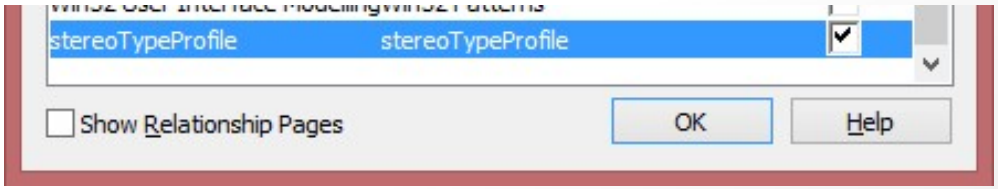
- Choose for UML Profiles and click right mouse button '**Import Profile**'.



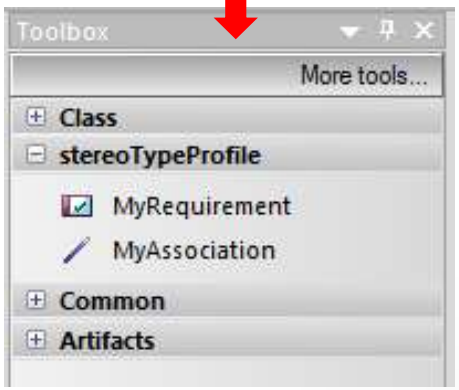
We now imported the profile

Use the Profile (10)

- Select '**More tools**' in Toolbox
- go to the bottom of the list and choose '**Set toolbox visibility**'.
- The select the new Profile.



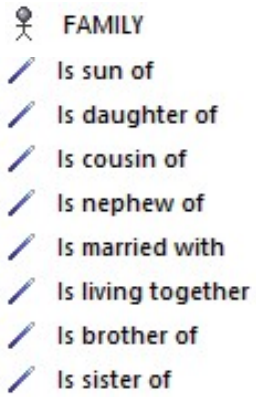
- The new Profile can now be used.



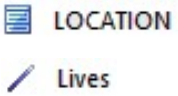
We now use the profile

Example: Create a Pedigree/Stamboom Profile

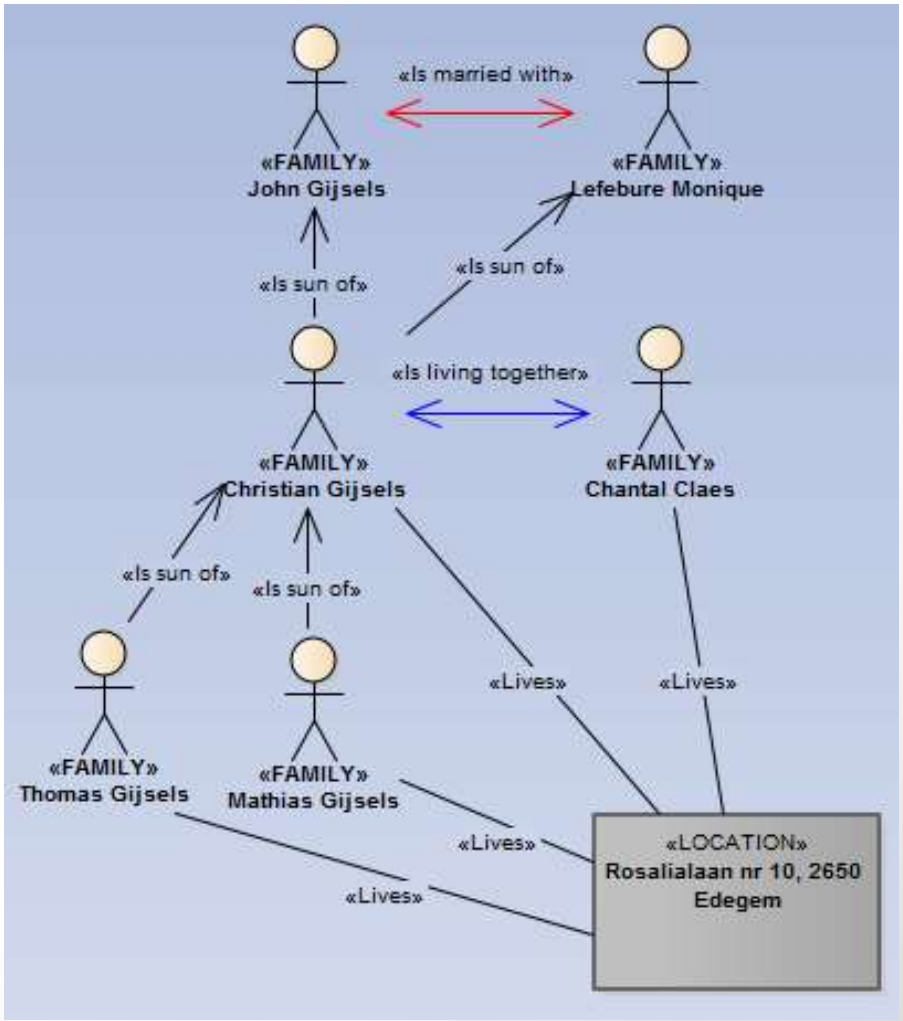
- Create the Actor ‘FAMILY’
- Create the Relations:



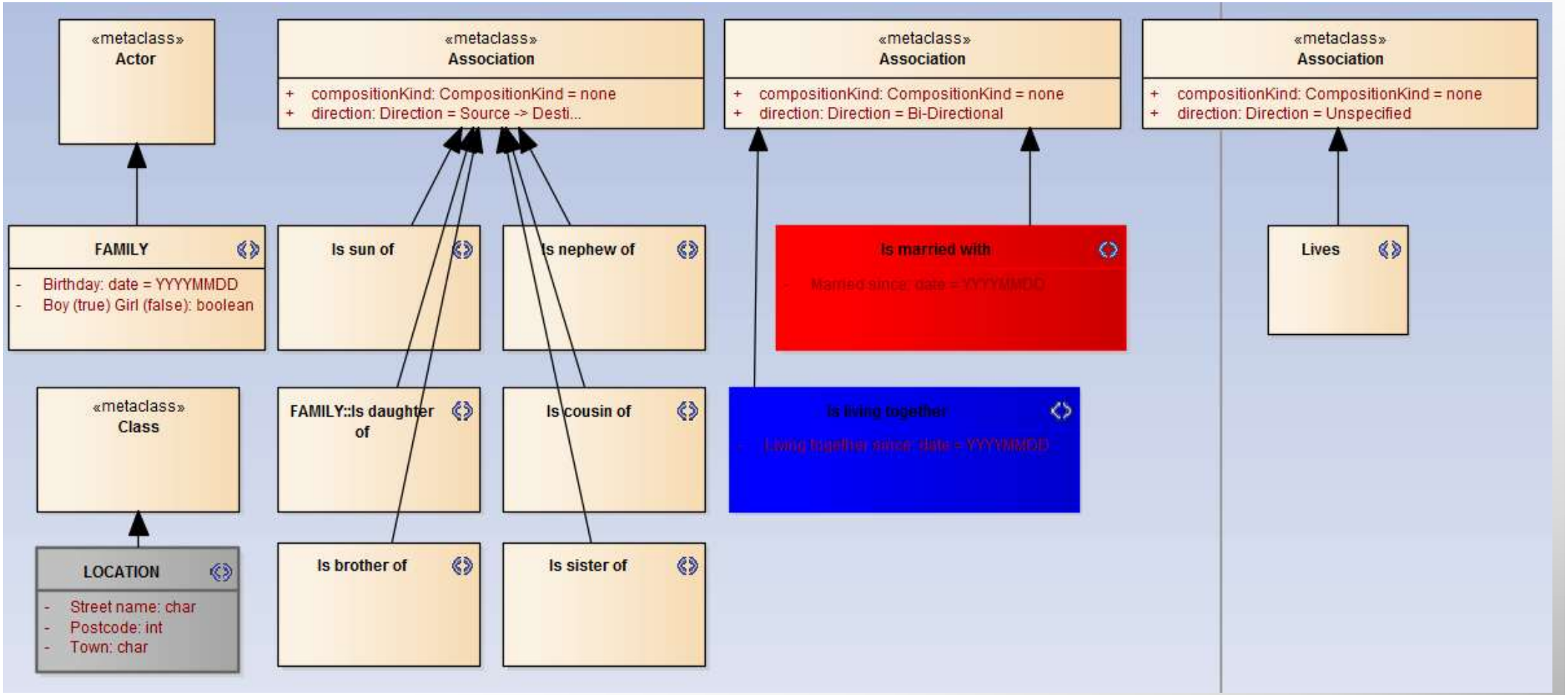
- Create a Location:
- Create a Relation:



Example: Create a Pedigree/Stamboom Profile



Example: Create a Pedigree/Stamboom Profile



Working with Baselines (1)

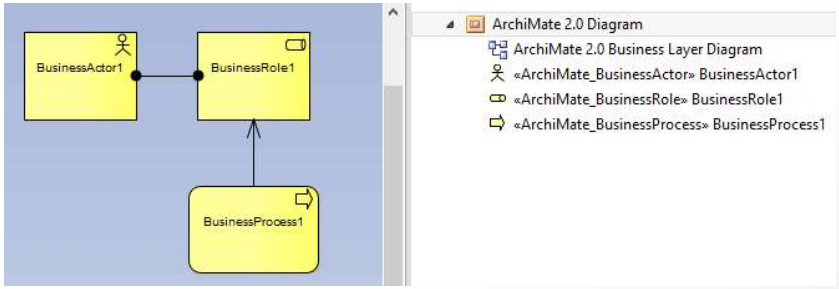
Enterprise Architect provides a facility to create a **Baseline** or 'snapshot' of the contents of a selected package and its child packages at a particular point in time; this enables you to later compare that branch of the model at that time with the current state of the branch.

Baseline comparison is most useful for determining the changes made to the model during development compared to some Baseline saved at a crucial point - for example the completion of a phase or version iteration. More than one Baseline can be stored against a single Enterprise Architect package.

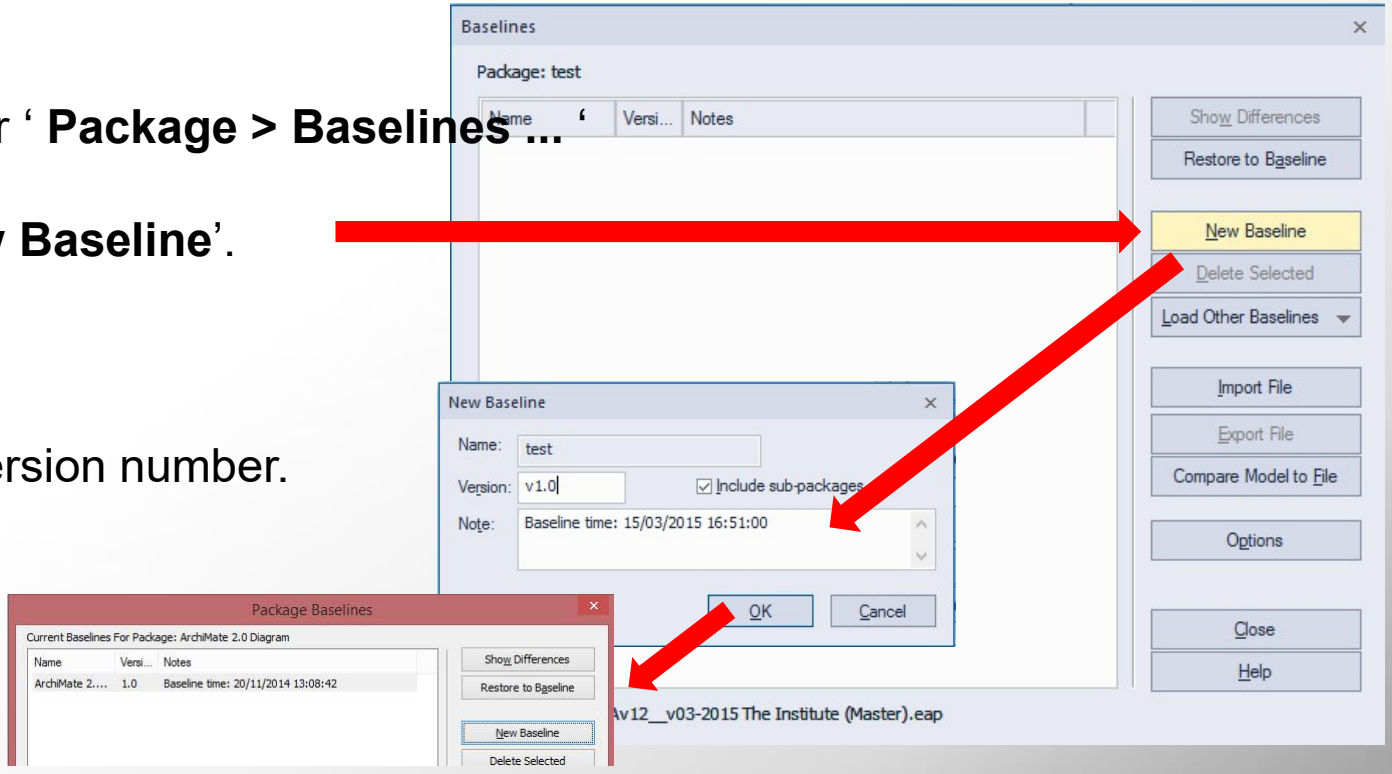
Baselines are particularly useful during requirements management to check for changes, additions and deletions that have occurred since the start of the current work phase; knowing how a model has changed is an important part of managing change and the overall development process.

Working with Baselines (2)

- Make a first version of your Diagram; example
- Then save the Diagram

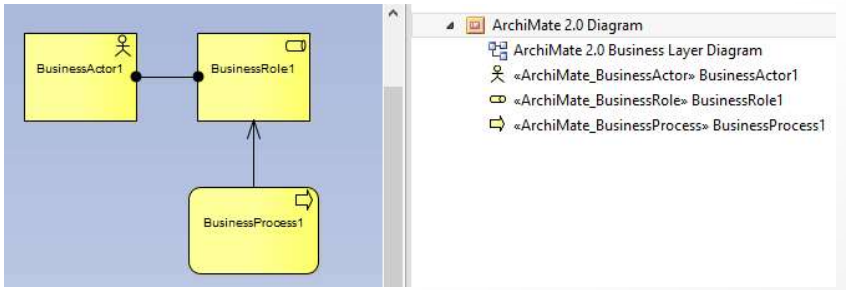


- Then choose for ' **Package > Baselines ...**'
- and select '**New Baseline**'.
- The fill in the Version number.
- The Version number is saved.

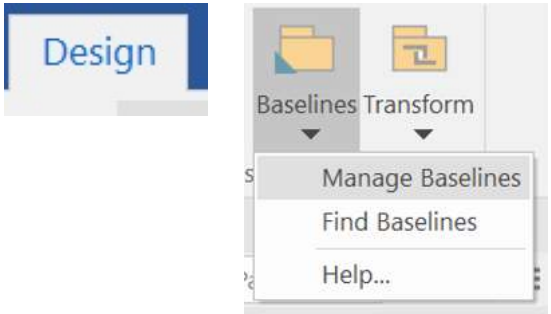


Working with Baselines (2)

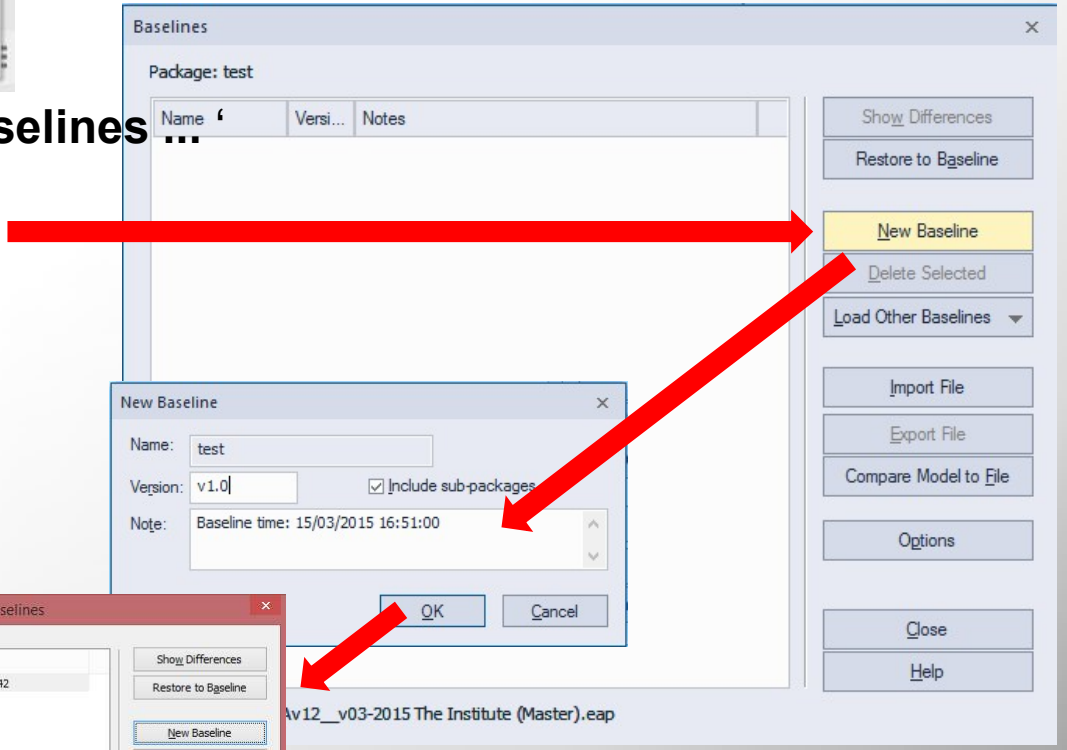
- Make a first version of your Diagram; example



- Then save the Diagram



- Then choose for ' **Design > Baselines ...**
- and select '**New Baseline**'.

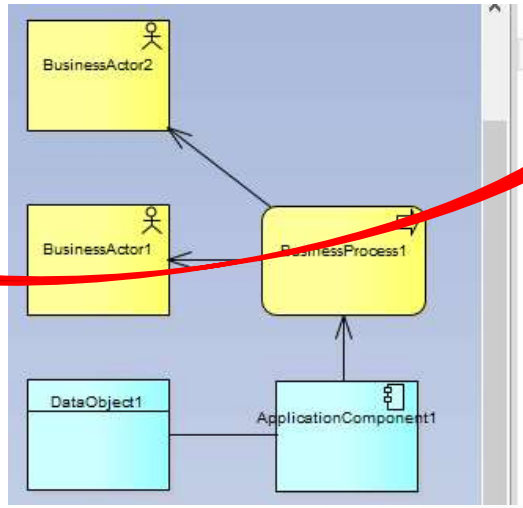


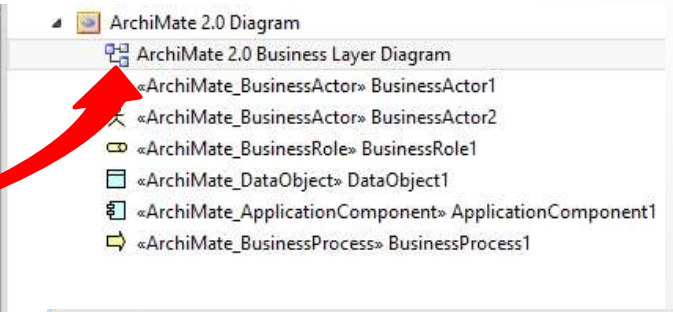
- The fill in the Version number.

- The Version number is saved.

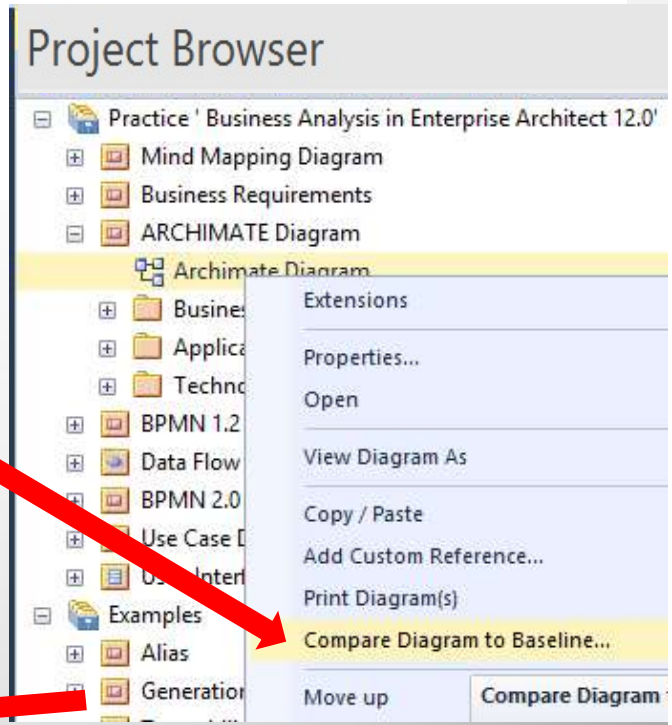
Working with Baselines (3)

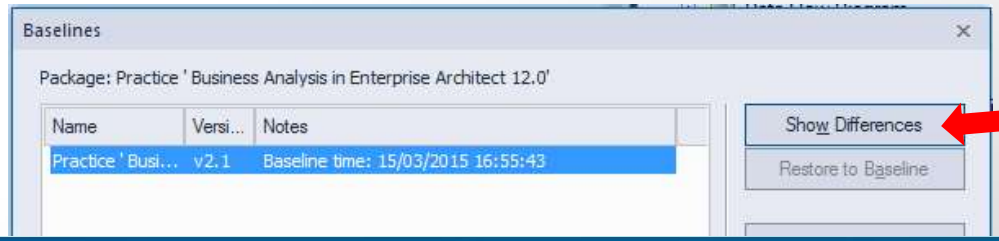
- Make a second version of your Diagram; example
- Then go with the mouse to the specific diagram





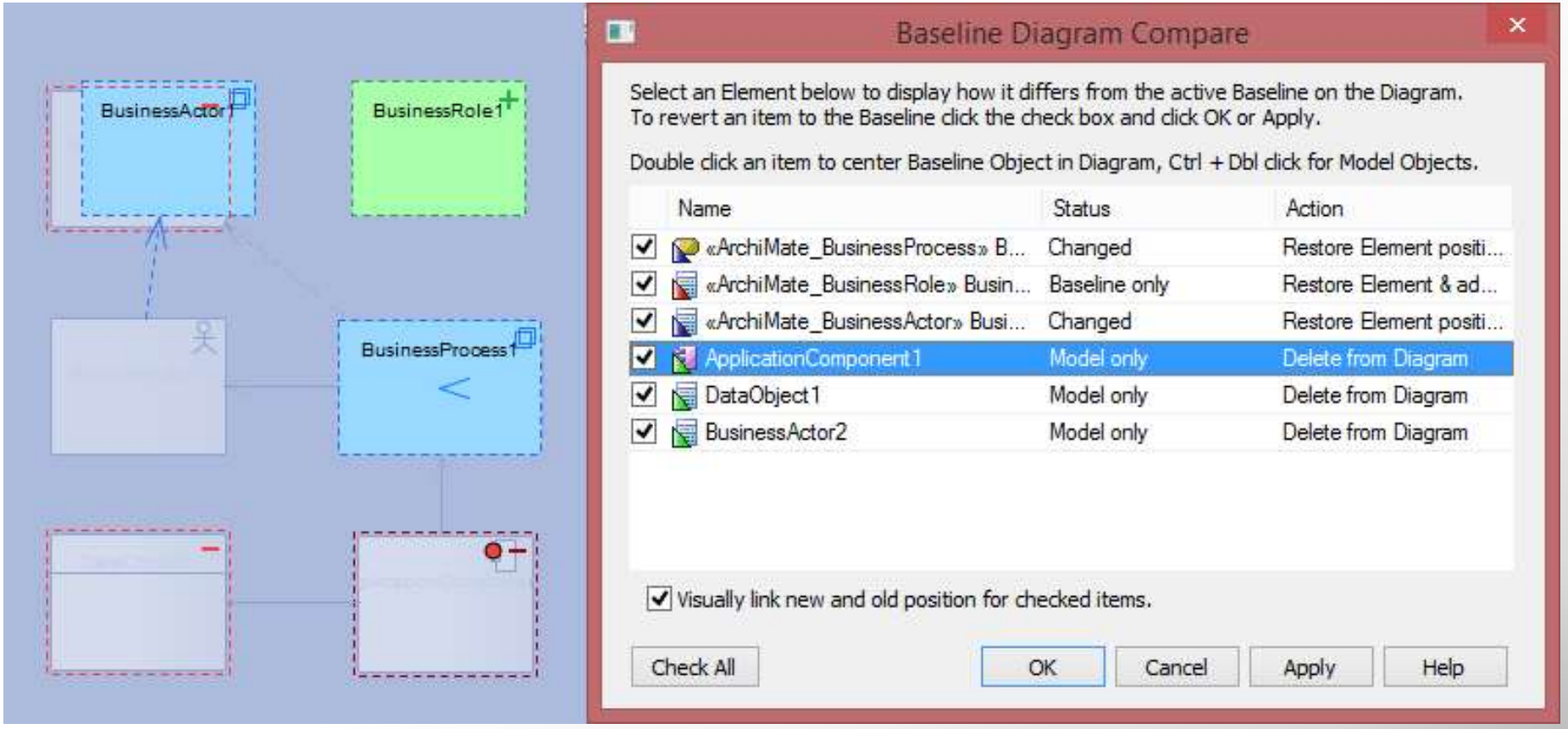
- and press right mouse button and select '**Compare diagram to Baseline …**'
- Then select '**Show differences**'





Working with Baselines (4) Comparison

- By selecting field per field or '**Check All**' you can see how each element differs from the Baseline.



- When you select ☑ a field, you can restore it to the previous Baseline position.

Version Control in EA (1)

Glossary

DBMS: Database Management System. A DBMS is commonly used when the Model Repository is accessed by several concurrent users.

Model Repository: Enterprise Architect's storage mechanism for model information. If multiple users concurrently edit the same model, the repository is usually DBMS-based. In distributed team environments where concurrent model access is not possible, local EAP files are usually deployed instead.
Enterprise Architect can use your Version Control System to transfer information between the Model Repository and a Version Control Repository to propagate changes amongst team members.

Version Control Repository: The storage mechanism used by the Version Control System to store model revisions.

Version Control in EA (2)

Glossary

Version Control System: The third-party product that manages revisions of your model data. Enterprise Architect provides the user interface needed to move data between the Model Repository and the Version Control Repository.

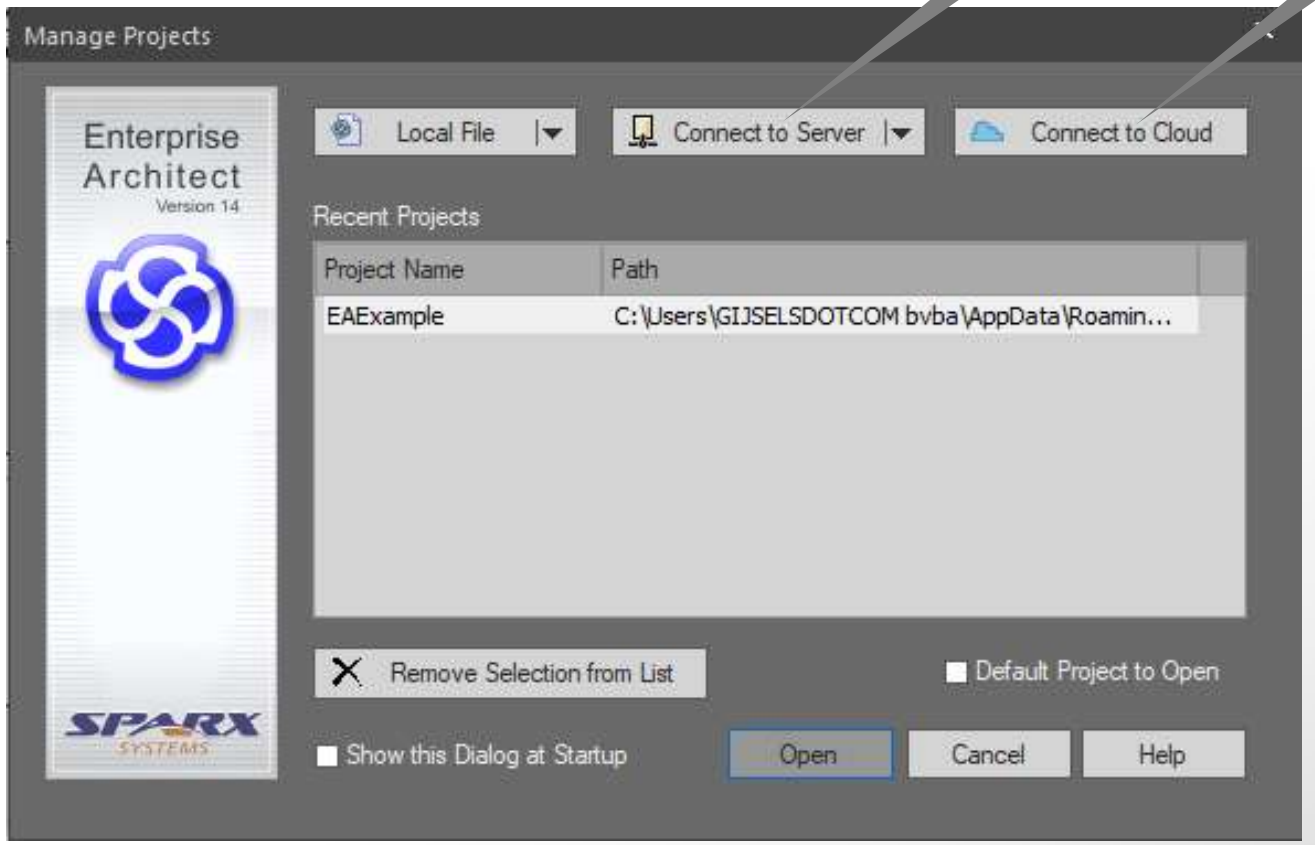
Working Copy: The set of files on your local machine that you have retrieved from the Version Control Repository. Enterprise Architect uses your working copy files to update the Model and Version Control Repositories.

Check-in: The process of submitting your changes to the Version Control Repository. In Enterprise Architect, you execute this command on a Package that you have checked out. This then updates the Version Control Repository with your changes and releases your editing lock on that Package.

Check-out: The process of retrieving the latest version of a file from the Version Control Repository. Executing this command from Enterprise Architect will overwrite the selected Package with the latest version and lock that Package for your exclusive editing.

Version Control in EA (3)

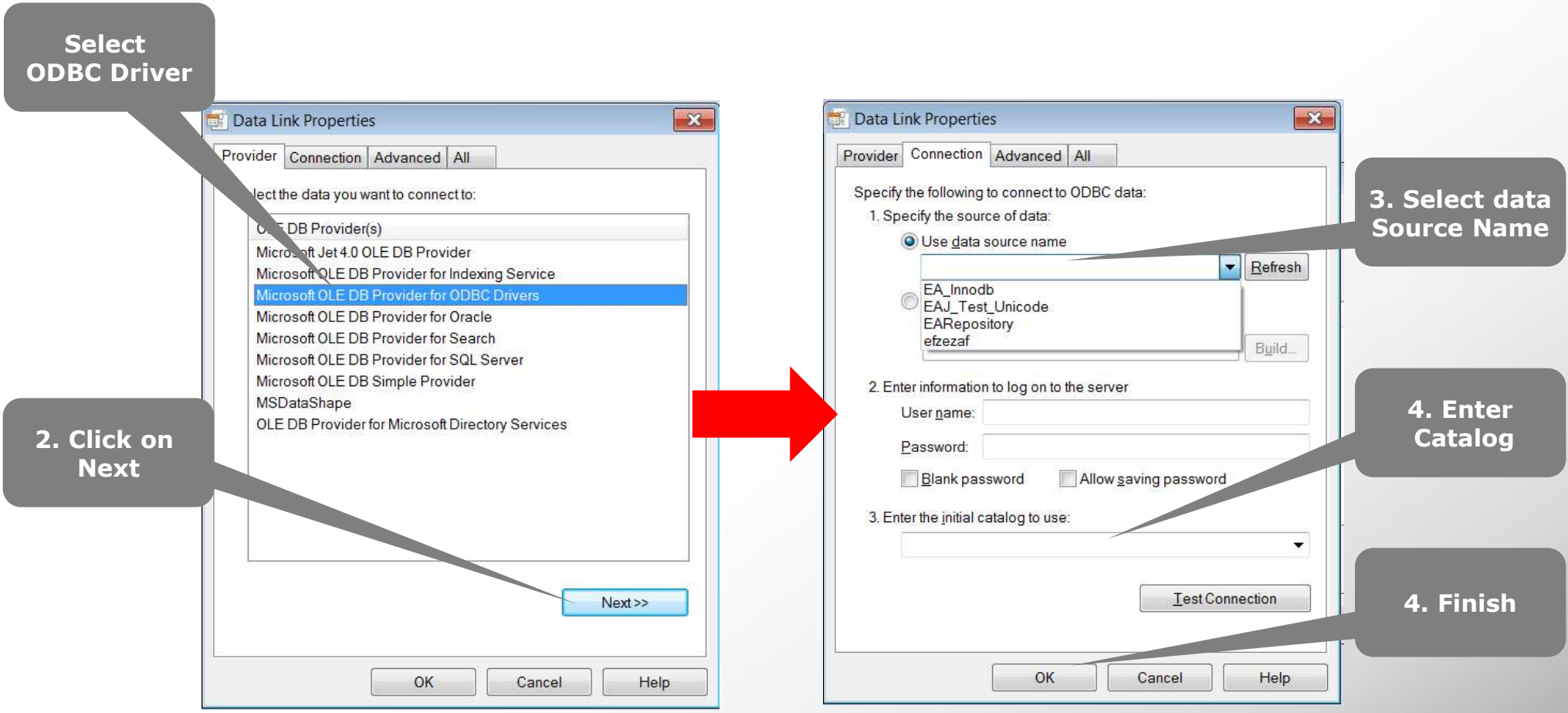
In EA: open a server based project (DBMS)
Click file > Open project



Assumption: DBMS Repository, ODBC Data source (contains information about how to connect to the DBMS Repository) are setup. See Handleiding EA Repositories how to do this

Version Control in EA (4)

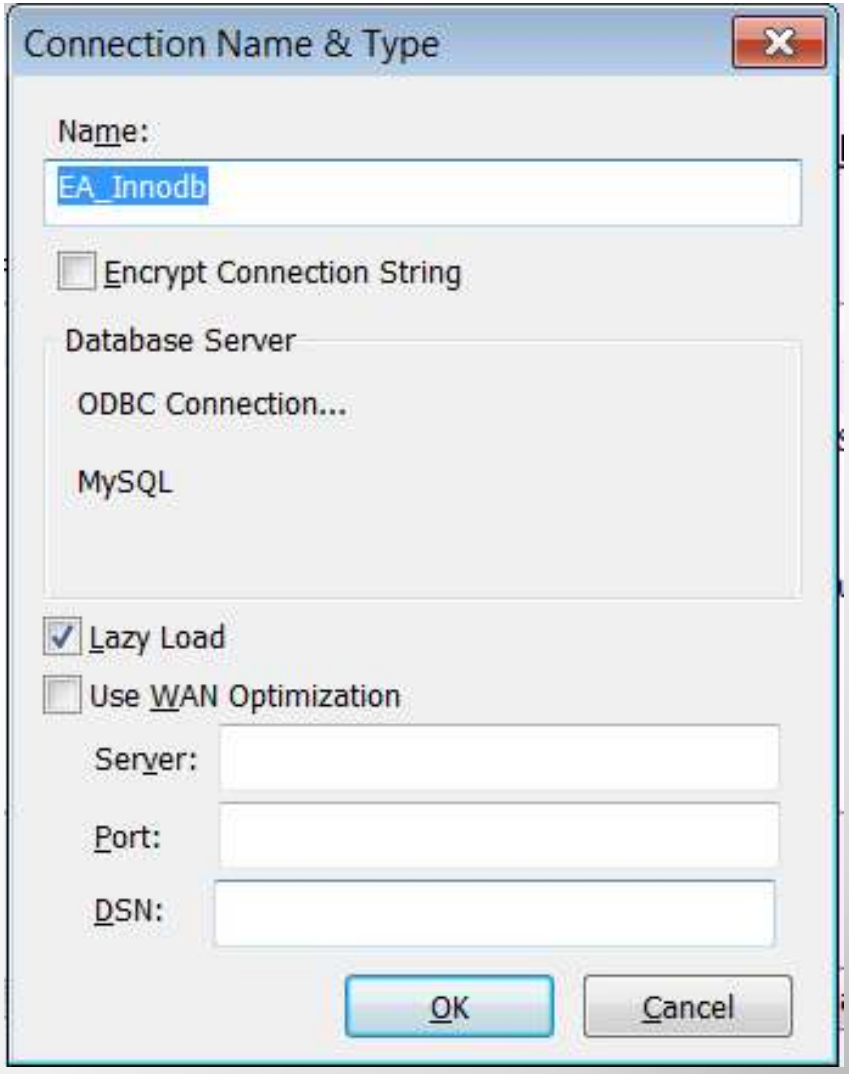
In EA: open a server based project (DBMS)



Version Control in EA (5)

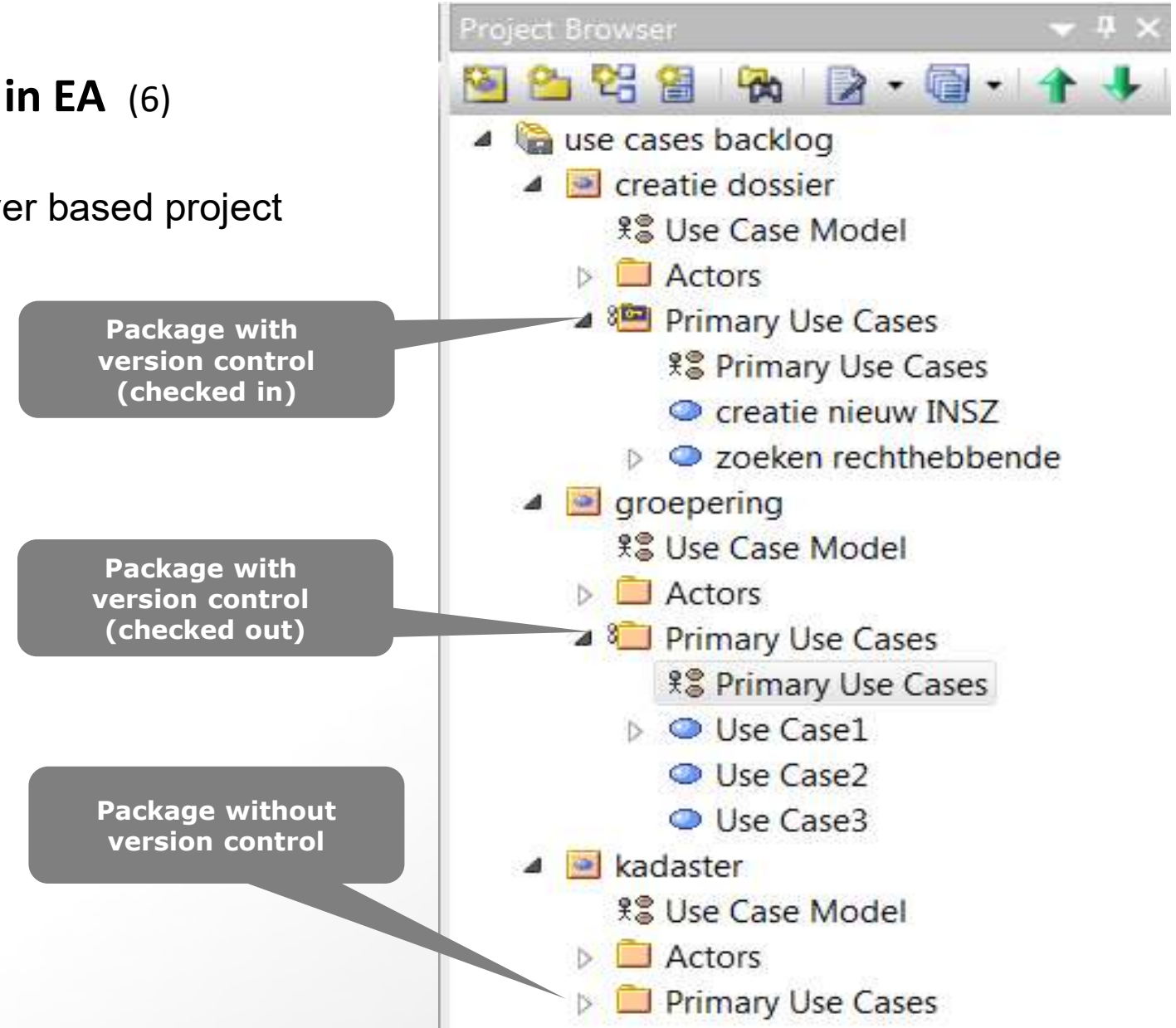
In EA: open a server based project (DBMS)

- A dialog box will open where a unique name can be given to the project
- Change proposed name (if necessary) and click on OK
- Project will be opened (visible in project browser) and ready to use



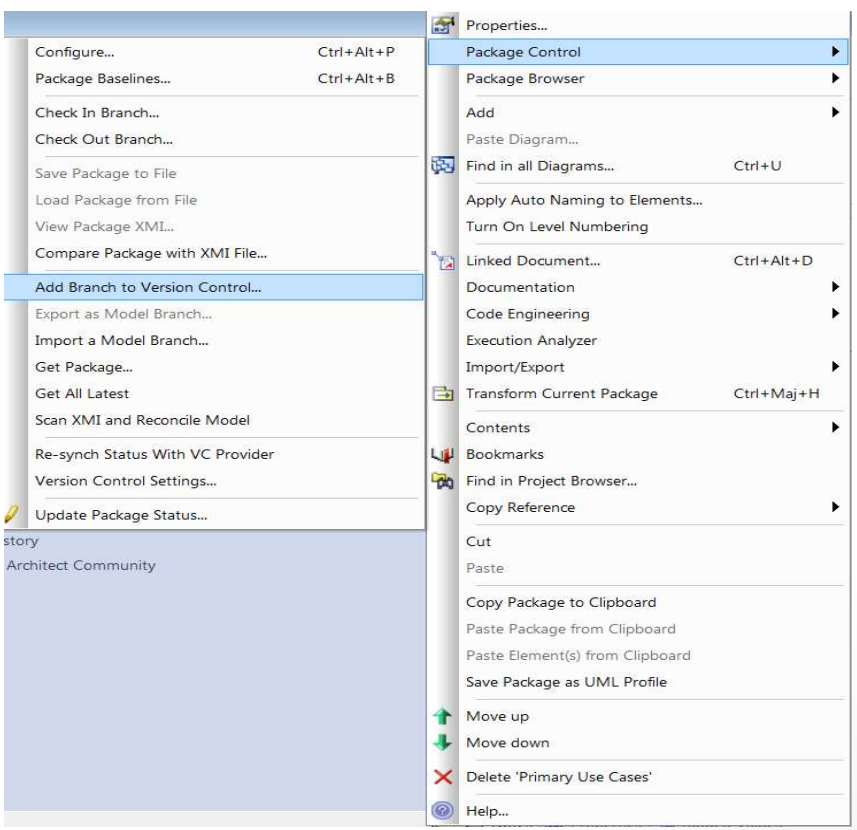
Version Control in EA (6)

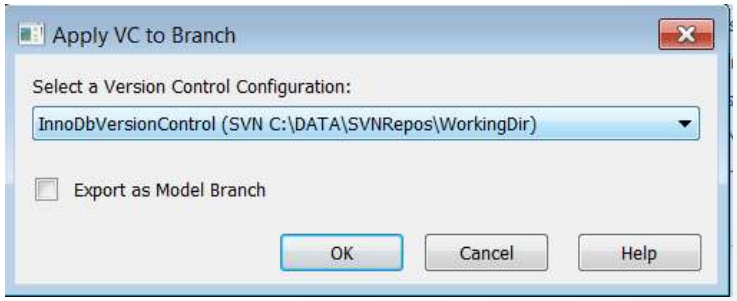
In EA: open a server based project (DBMS)

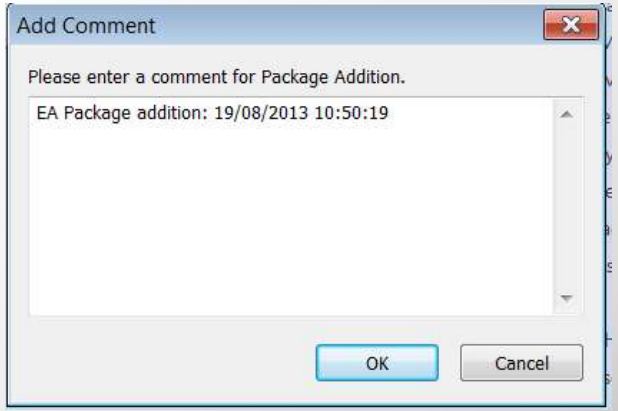


Version Control in EA (7)

In EA: Bringing a package under version control
Select package, right click en select package control > add branch to Version Control





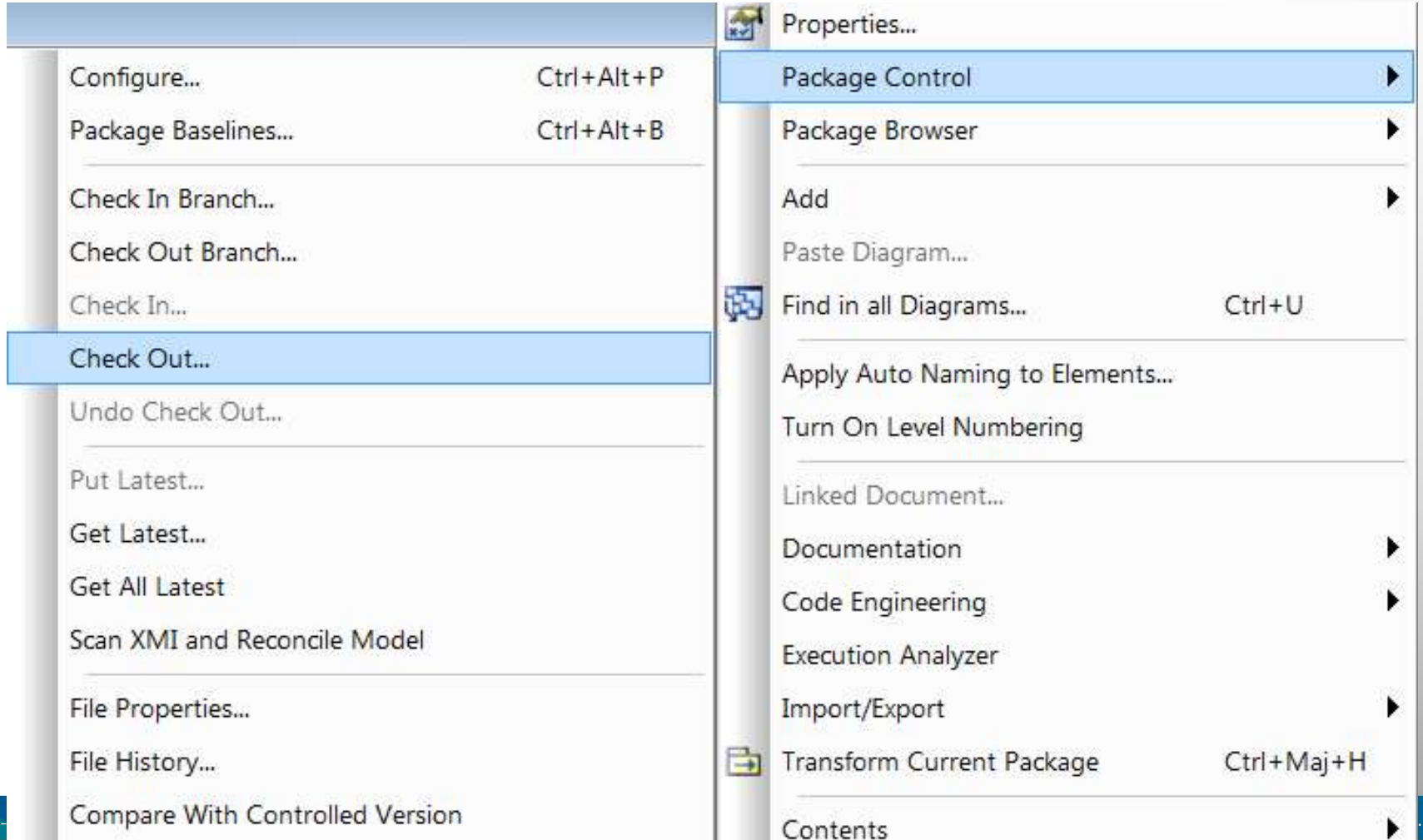


Assumption: Version control Repository, working directory are setup. See Handleiding EA Repositories how to do this.

Version Control in EA (8)

In EA: Checkout/checkin a package

- Select package, right click en select package control > checkout
- Select package, right click en select package control > checkin



URLs:

http://www.sparxsystems.com.au/resources/demos/

http://www.sparxsystems.com.au/resources/webinar/webinar-series.html

https://www.youtube.com/user/SparxSystems

URLs:

User Groups:

In 2014, user group meetings supported by Sparx have taken place in Germany, the Netherlands, Canada and the UK - bringing together the best in knowledge around Sparx EA. More meetings will be announced for 2015 at:

http://www.eausergroup.com/

The Enterprise Architect community site has grown solidly, surpassing 14,000 members in 2014. This community has been a continual, trusted source of information for its members.

http://www.community.sparxsystems.com/

GIJSELSDOTCOM CONSULTING & THE INSTITUTE
the Partner for your Digital Transformation & Education
www.gijsels.com

AdeptEvents

Maastricht UMC+

SPARX SYSTEMS
Enterprise Architect
Official Training Partner

Enterprise Architect is a trademark of Sparx Systems PTY LTD.

Contact data

+32 (0) 476 99 59 93

Christian@Gijsels.com

http://www.gijsels.com/

https://www.linkedin.com/in/christiangijsels/

https://twitter.com/gijsselsdotcom/

https://www.instagram.com/gijsselsdotcom/

https://www.pinterest.com/gijsselsdotcom/

https://www.youtube.com/c/ChristianGijsels/

ArchiMate® BPMN DMN CMMN UML SPARX SYSTEMS Enterprise Architect camunda Archi archimate modelling LeanIX bizagi

Seminar - Classroom - Hands-on Labs - e-Learning - Blended Learning - Virtual Classroom