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DIGITAL DESIGN SKILLS FOR FACTORIES OF THE FUTURE

**Project Acronym:**  
DigiFoF



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**Lead Organisation:**  
ULBS

**Project Coordinator:**  
ULBS

**Contributors:**  
All Partners

**Reviewers:**  
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## 1 Introduction to ADOxx

Modelling Tools presentation and theory about models and limitations and application area.

- **Presentation of laboratory objectives**
- **Installing ADOxx Development toolkit**
- **Installing ADOxx Modelling toolkit**
- **Creating ADOxx users**
- Introduction to ADOxx; Platform demonstration and Hands-On following “Hello World” sample:
  - **Define model types**
  - **Define modelling and relation classes**
  - **Define graphical representation**
  - **Assign classes to a model type**
- Demonstration of different Scenarios of implementation of modelling
- Modelling Language Implementation on ADOxx
- Model implementation and walk through of all parts of modelling language development
- Homework: Implement 2 Models in ADOxx

ADOxx is the meta-modelling development and configuration platform for implementing modelling methods.

Implementation of full-fledged modelling methods can be realized using the platform, consisting not only of a modelling language, but also of modelling procedure and the corresponding functionality in the form of mechanisms and algorithms.

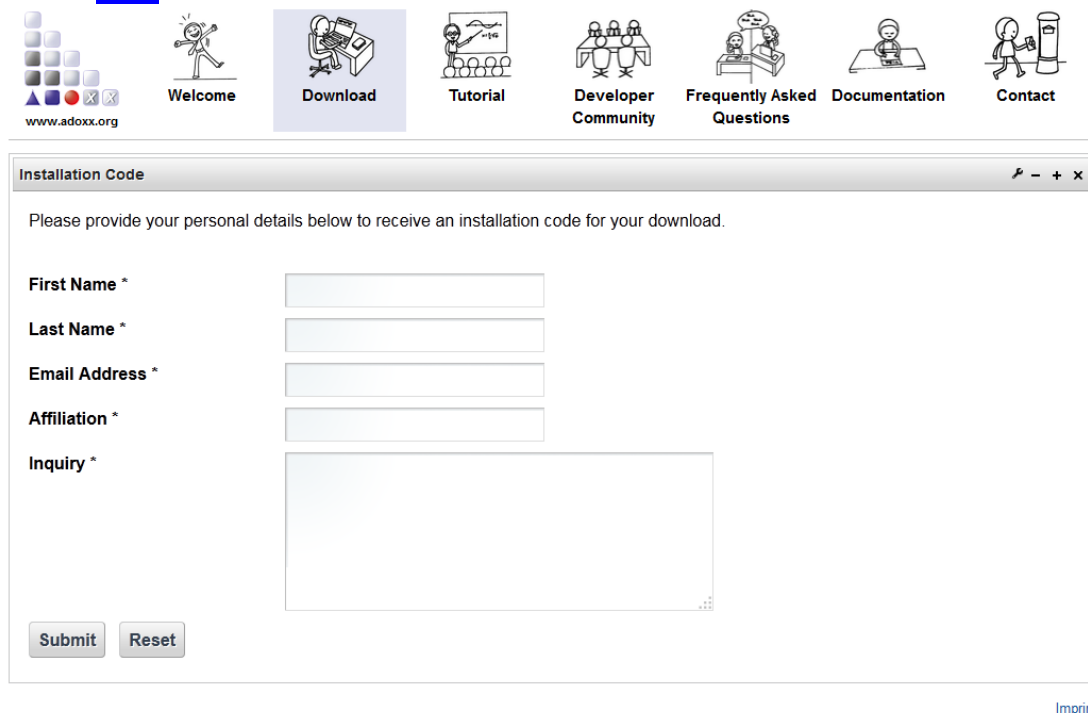
The implementation result, using ADOxx, are modelling toolkits (in contrast to model editors) following a configuration approach on the platform level (re-use of existing implementations and functionality on platform level in different scenarios) supported by an expert community on <http://www.adoxx.org/>

## 2 The installation steps are structured in two parts:

### 2.1 Installation prerequisites:

The preparation phase represents all steps that need to be taken before executing any installation procedure on your PC.

- ✚ Download the following package(s): [ADOxx 1.5](#)
- ✚ In order to request the installation code the user need to fill out a form with the personal data. In order to access that for the user need to click: [installation-code](#).



The screenshot shows the ADOxx website navigation menu with icons for Welcome, Download, Tutorial, Developer Community, Frequently Asked Questions, Documentation, and Contact. Below the menu is a form titled 'Installation Code' with the following fields:

Please provide your personal details below to receive an installation code for your download.

First Name \*

Last Name \*

Email Address \*

Affiliation \*

Inquiry \*

Submit Reset

Imprint

If the form is not working or the user is not willing to share the personal data an alternative way would be to write an email at [download@adoxx.org](mailto:download@adoxx.org) to get the code.

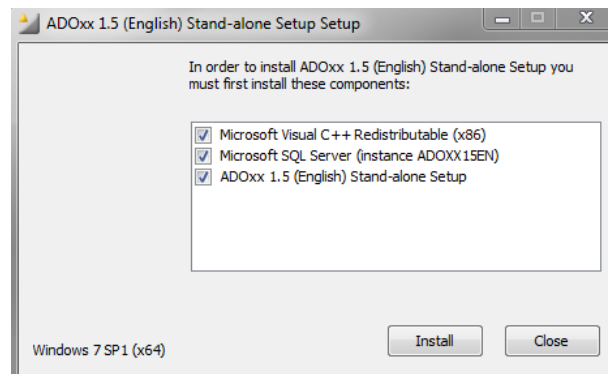
- ✚ Extract ZIP package:

Extract the ZIP file at a location of your choice. The package contains all necessary installation files to setup ADOxx on a Windows based system.

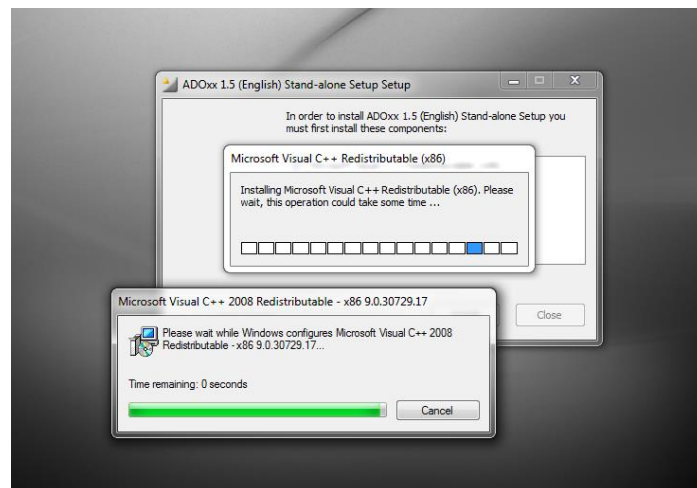
dbinfo	File folder	
readme	File folder	
setup	File folder	
SQLExpress	File folder	
tools	File folder	
autorun.ico	IrfanView ICO File	336 KB
autorun.inf	Setup Information	1 KB
readme.htm	Chrome HTML Docum...	1 KB
setup.exe	Application	1.466 KB

## 2.2 Database and ADOxx installation:

Start the tool installation by double-clicking on "setup.exe" in the extracted archive. System checks for already installed packages and dynamically determines the necessary installation steps.



Trigger the installation by clicking on "Install"



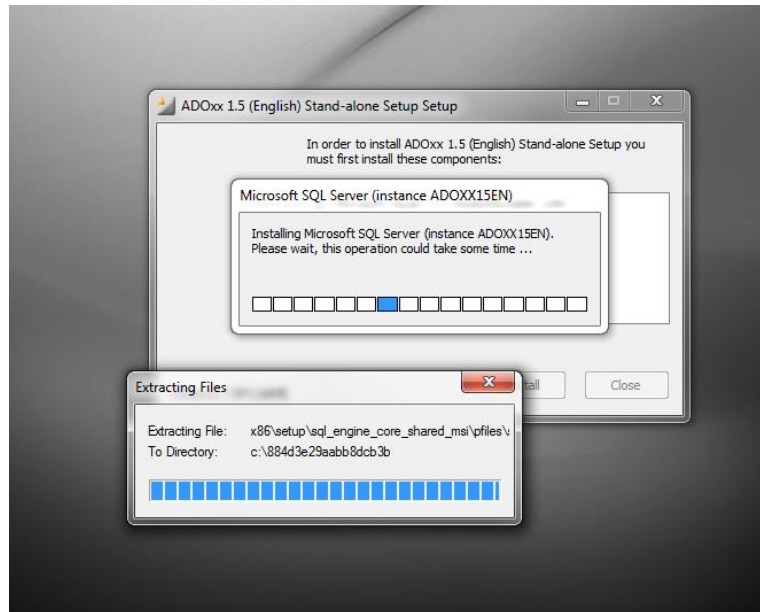
Example: Installation of C++ Redistributable Package

Silent database installation and configuration

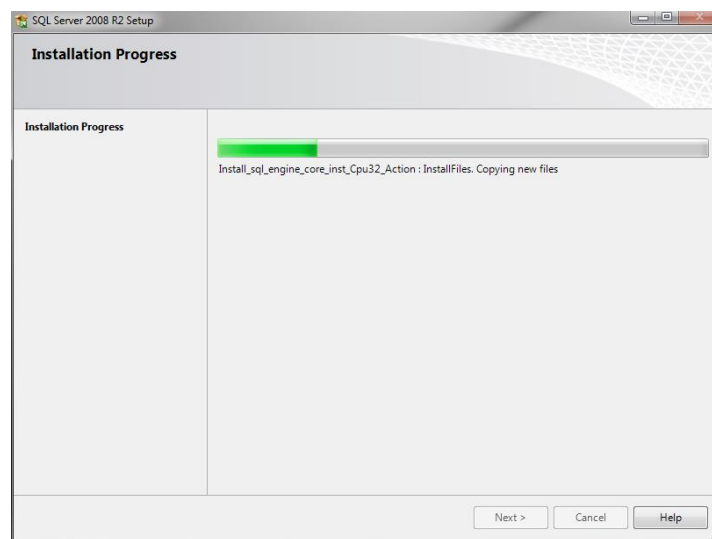
The installation of the database engine (if needed) and dedicated instance "ADOXX15EN". The database configuration used in silent mode is available below:

- Instance name: ADOXX15EN

- Collation: Latin1\_General\_CS\_AS
- Authentication: Mixed mode
- SA-Password: 12+\*ADOxx\*+34



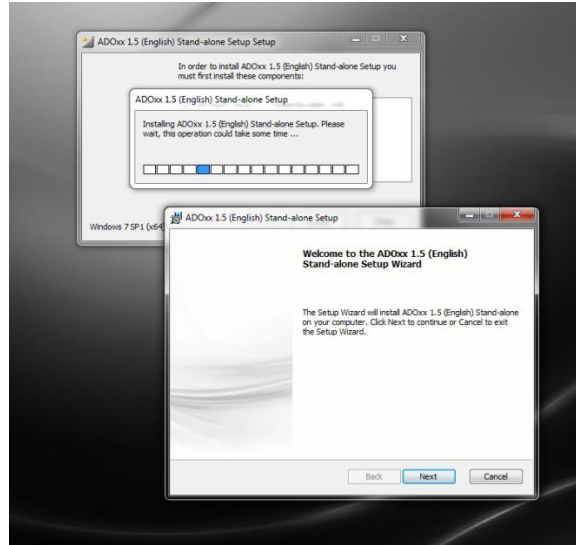
### Extraction of database installation files



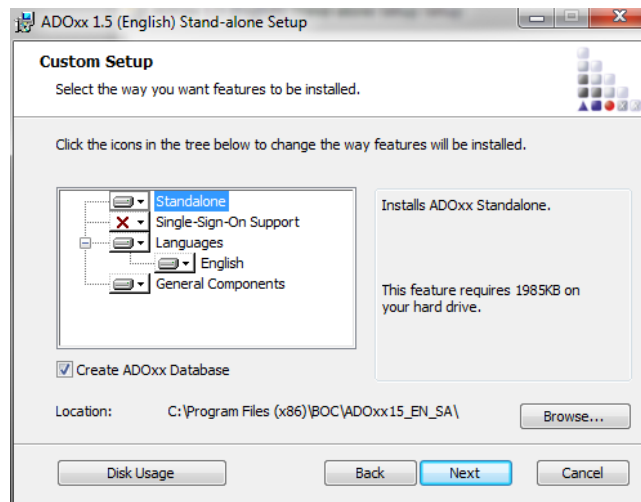
### Installation of ADOXX15EN instance with default configuration

#### Interactive ADOxx Installation

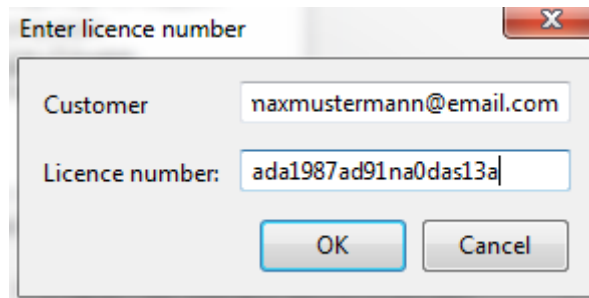
Follow the installation wizard to complete the installation of ADOxx.



Start the wizard by clicking on "Next"



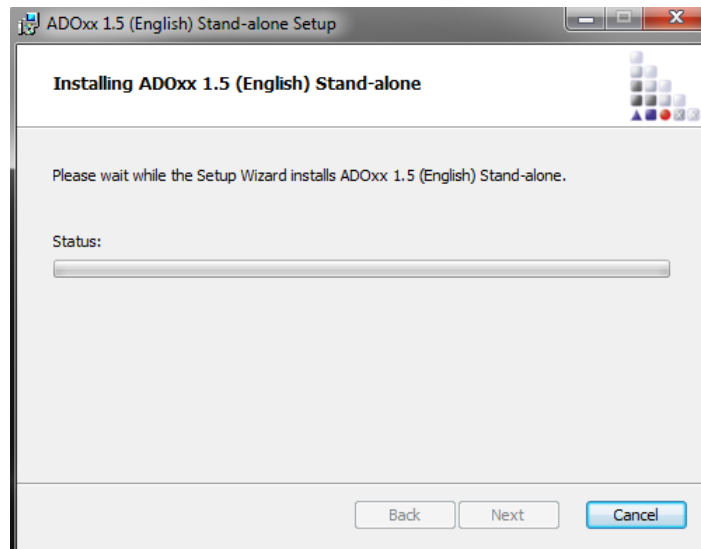
Select the features to be installed, make sure to create a new database and define the installation location.



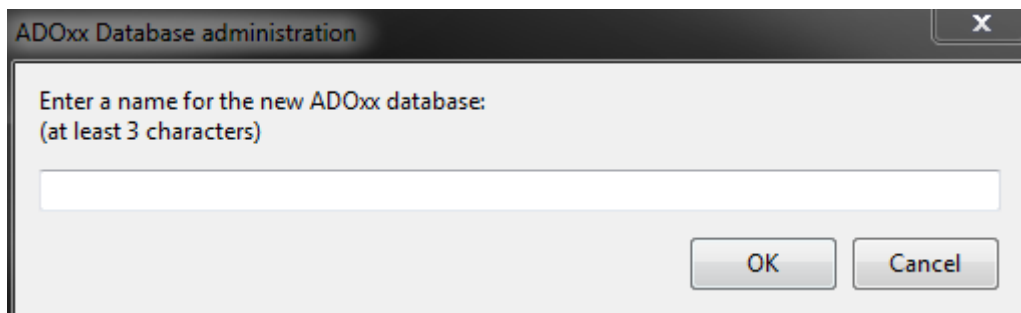
Enter your personal installation code (as requested and received in the previous step)



Start the installation by clicking on "Install". In case you want to create desktop icons during the installation, select the checkbox.

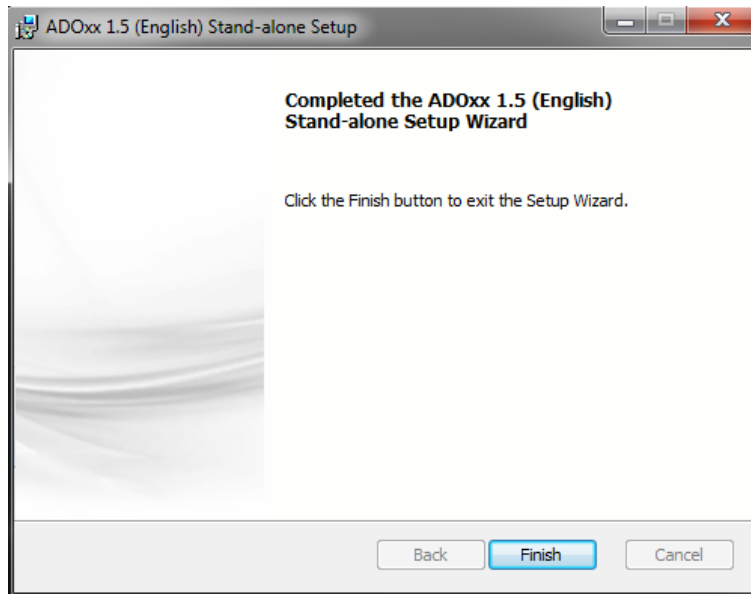


Wait for the installation to complete, this step included the initialization of the database and import of the empty library as a starting point.



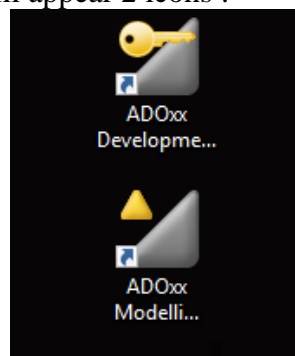
In case an installation of a previous database was found named "adoxxdb", enter a new database name.





Confirm the completion of the installation, this also closes the wizard windows shown in step 1.

After installation on Desktop will appear 2 icons :

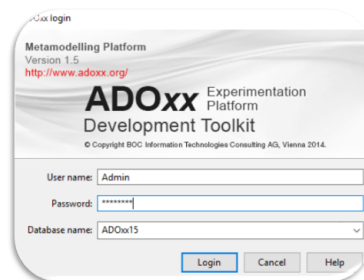


This are the two programs that are needed for using ADOxx:

- ADOxx Development Toolkit
- ADOxx Modelling Toolkit

In order to login to the ADOxx Development Toolkit, you have to use the standard username and password:

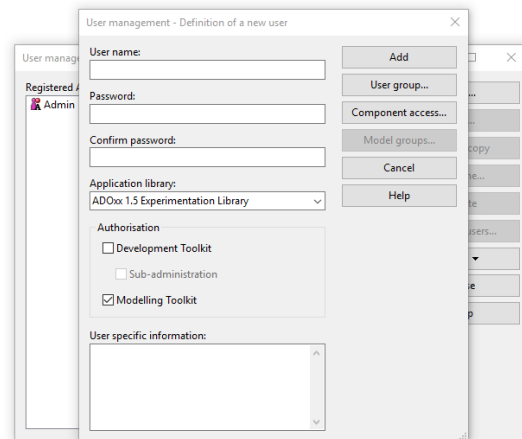
- Username: **Admin**
- Password: **password**



In case you want to login parallel in the ADOxx Development Toolkit, and ADOxx Modelling Toolkit you have to create a new user.

### 3 How to create a new user?

After opening Development Toolkit program in user tab select User List and after select Add button and fill all the fields, tap on User Group tab to assign the new user to a group and after that the user is created and you will have access in parallel on both programs.



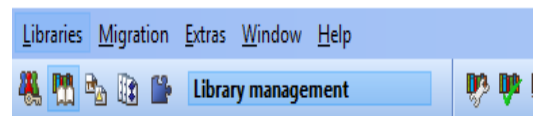
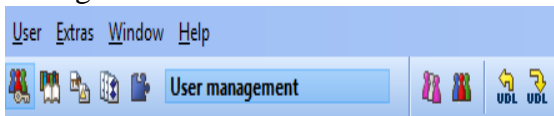
## 4 Implementing fist model: Hello world.

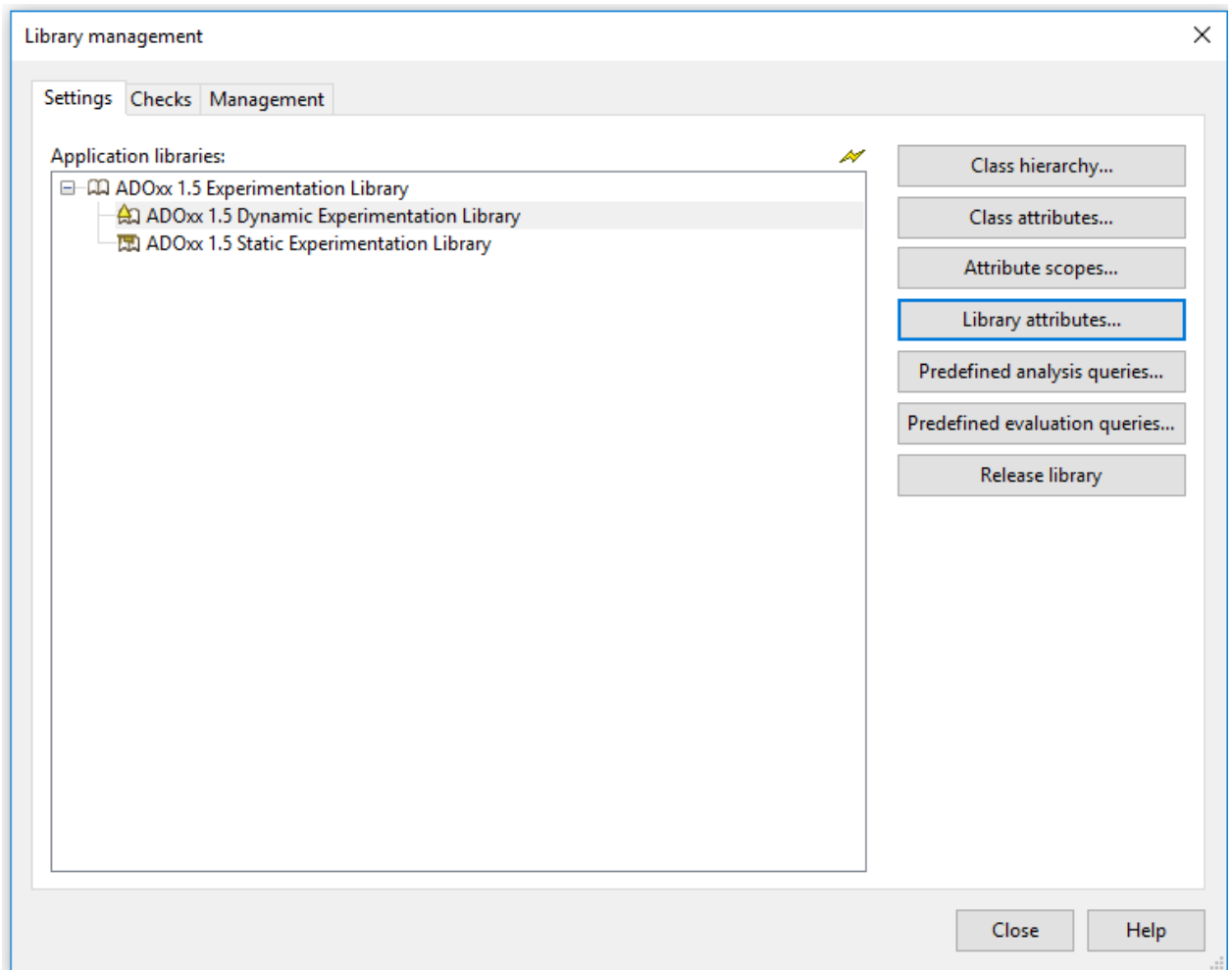
In this we will learn how to:

- Define model types
- Define modeling and relation classes
- Define graphical representation
- Assign classes to a model type

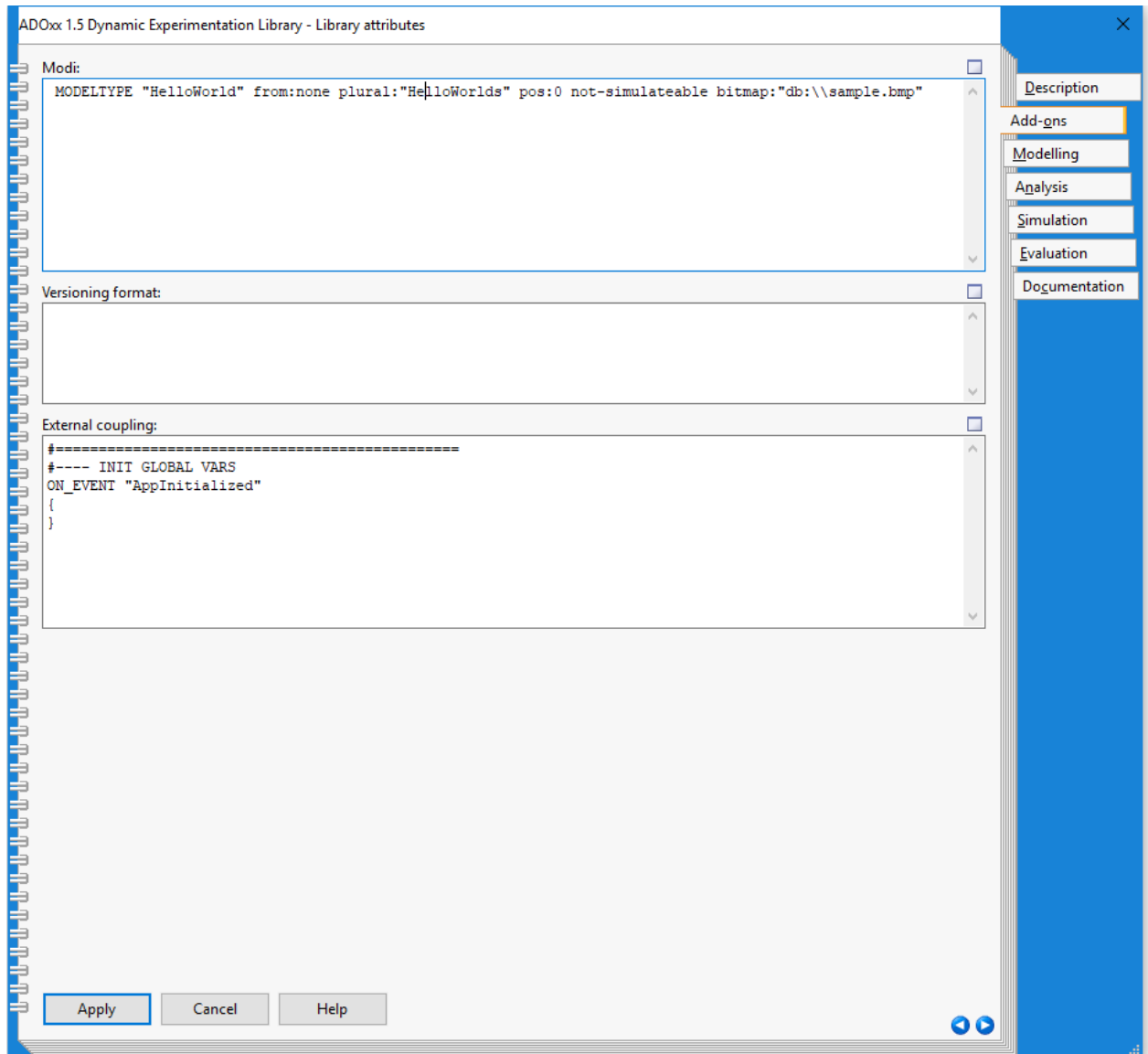
In first step we need to implement a HelloWorld Model Type by using Development Toolkit.

To implement Model type, we need to change from User management to Library management.

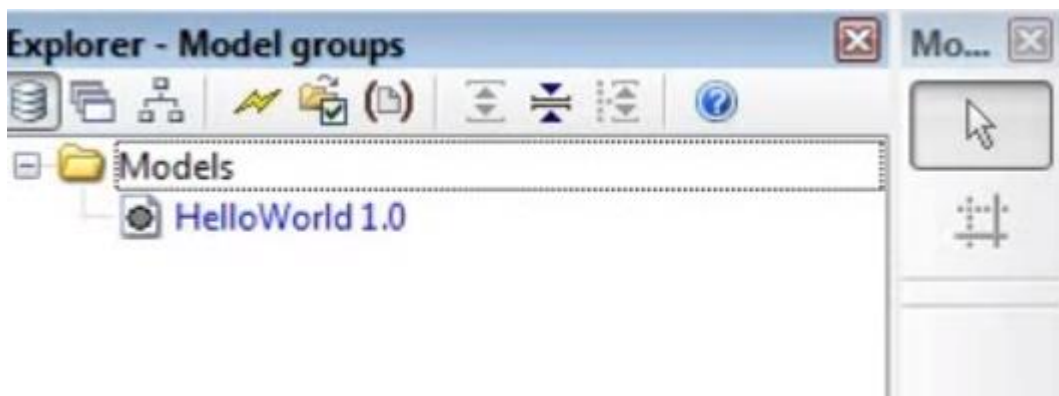
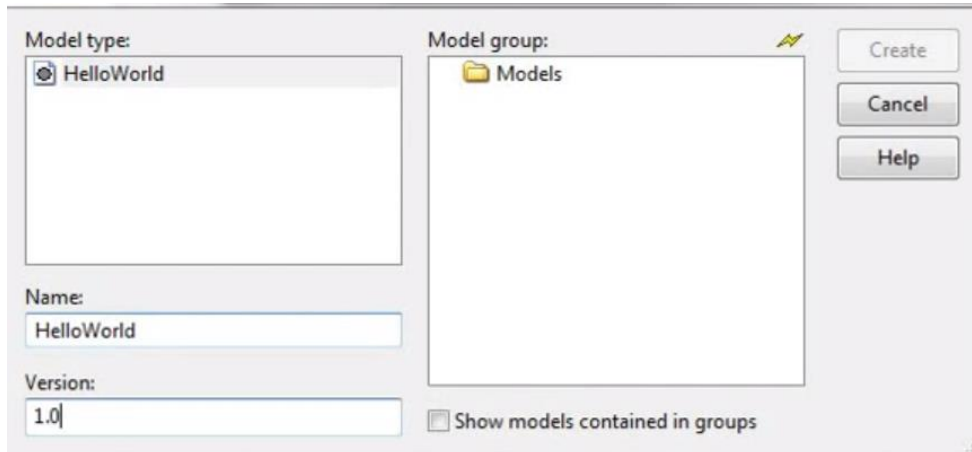




Add following into Modi : MODELTYPE "HelloWorld" from:none  
plural:"HelloWorlds" pos:0 not-simulateable

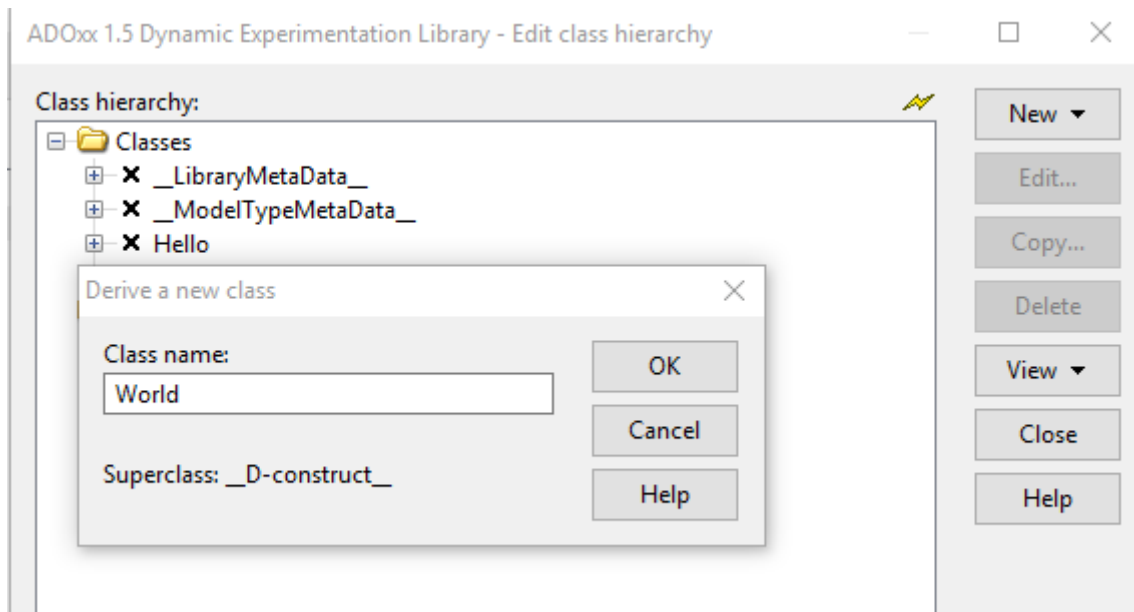


Now we go to ADOxx Modeling Toolkit and create the first HelloWorld Model.

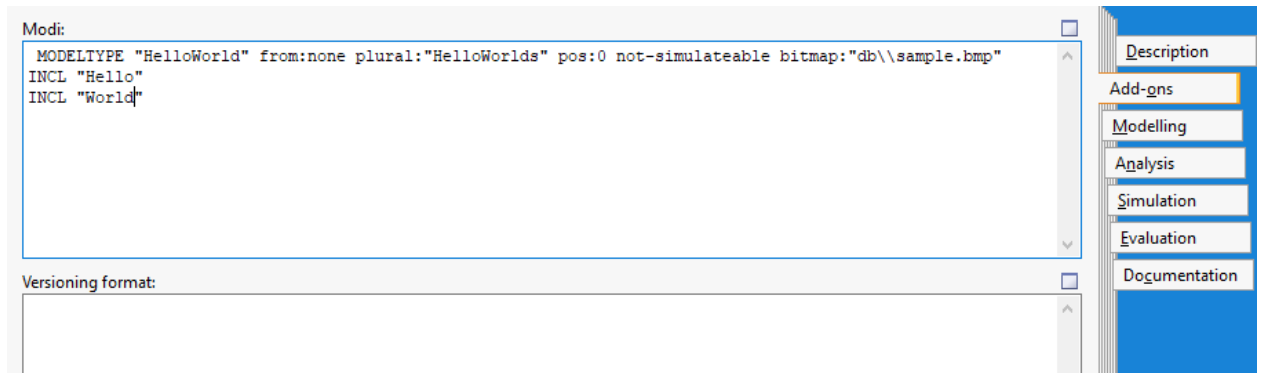


After we have model created, we need to define two modelling classes:

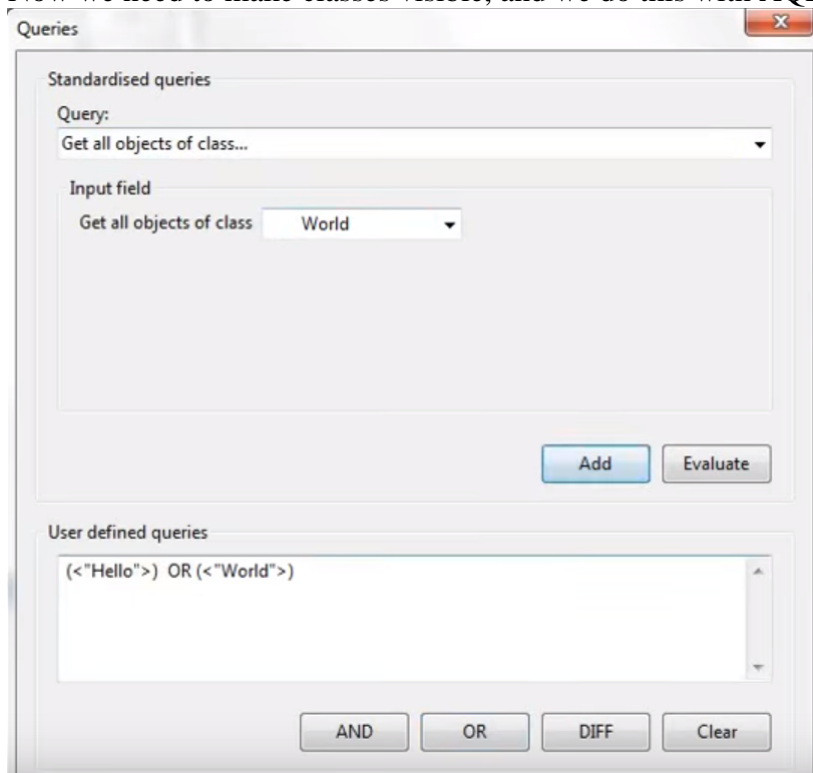
- Hello class
- World class



To make the classes visible we need to assign them to our HelloWorld Model type.

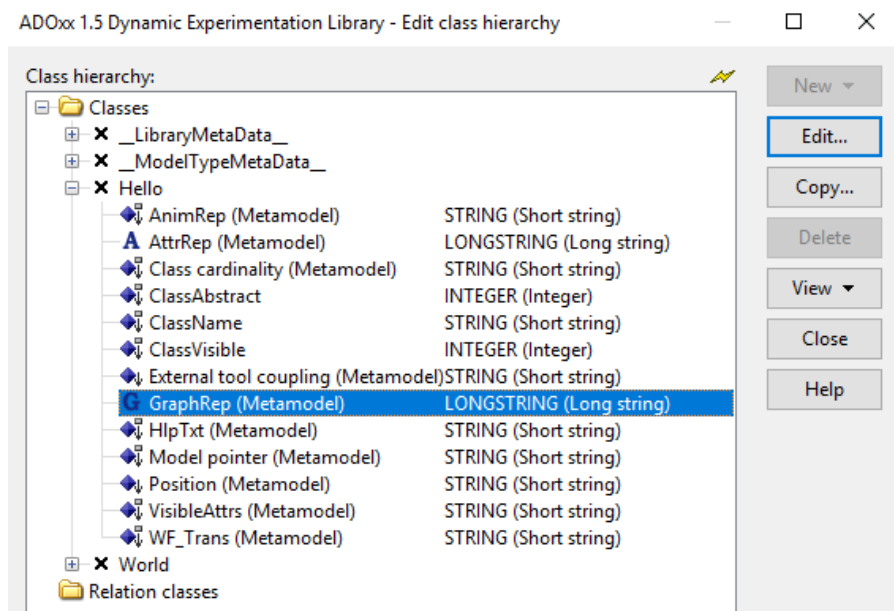


Now we need to make classes visible, and we do this with AQL queries.



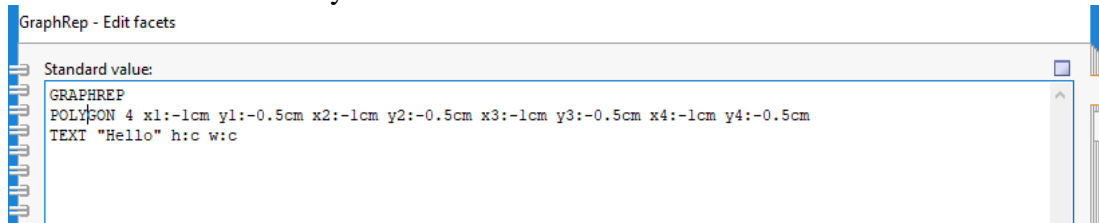


In order to make it visible we need also to define graphical representation for them.

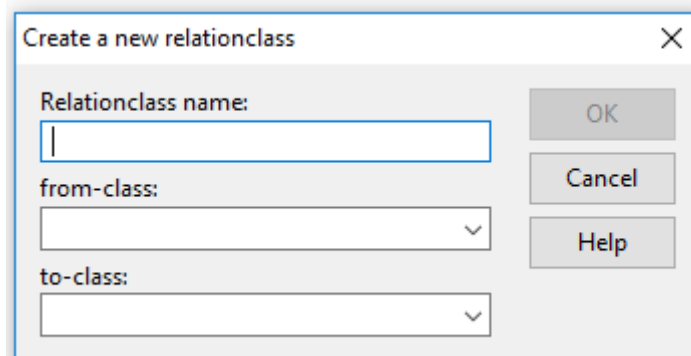


Add following into Standard value field from GraphRep:  
GRAPHREP

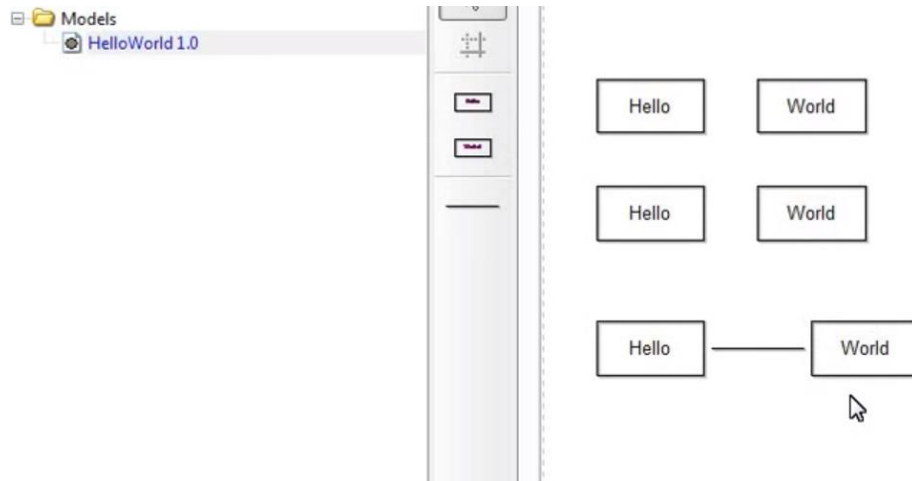
TEXT "HELLO" w:c h:c  
RECTANGLE x:-1.5cm y:-0.5cm w:3cm h:1cm



After this step we need to define a relation class to connect Hello and World classes.  
We will do this by right click on Relation classes.



Don't forget to include the relation into HelloWorld ModelType.  
Here are the hello world models with we can work and connect them using the relation class.



After Hello world implementation we will speak about the advantages that ADOxx have and will show a more complex program (Smart city) and walk through very briefly into it just to have an idea about next session.

## 5 References

Adoxx - <http://www.adoxx.org/>

Graph Repository - <https://www.adoxx.org/live/adoxx-graphrep-repository-wiki/-/wiki/GRAPHREP+Repository/FrontPage>