

NI Summit

WIRELESS

TEST AND MEASUREMENT

SOFTWARE DEVELOPMENT

The Elegancy of OpenGDS

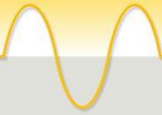
Eindhoven, Netherlands

31.10.2018



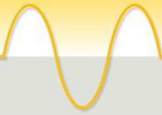
OpenGDS

THE ELEGANCY OF THIS SUITE FOR DEVELOPER AND ARCHITECT



Introduction

- Goal: Encourage starting with LabVIEW GOOP.
- From experience:
 - The “Open GDS GOOP Development Suite” (Open GDS) is an elegant tool and framework for developing LabVIEW classes. The built in scripts and tools are lowering the entry level for using classes in LabVIEW. The classes created with OpenGDS are very close to the way of working in object oriented design. It is a must have for developers looking for an easier start in object oriented design within LabVIEW.
- Starting from a UML class diagram from white board or napkin to code is relatively easy. (Goop has also an UML tool)
- No need to jump in more complicated OOP frameworks.
 - E.g. Actor framework. Nevertheless there is good out of the box scripting for creating actors and messages.



Info

- Acronyms:
 - OpenGDS : Open GOOP Development Suite
 - GOOP: Graphical Object Oriented Programming
- Showing how it is integrated in the LabVIEW IDE
- Show how it is used in a simple application example

On github:

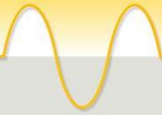
<https://opengds.github.io>

The NI version:

<http://sine.ni.com/nips/cds/view/p/lang/nl/nid/209038>

Good presentation on encapsulation:

- “Encapsulation is King” from Daniel Harryman
- Video: <https://www.youtube.com/watch?v=4J02QdegysyQ>



Overview

Overview of the OpenGDStools in the LabVIEW IDE.

Creating a class with LabVIEW out of the box.

Duplicating that class to a second class.

Creating a class with the GOOP development suite.

Duplicating that class with GOOP.

Editing a class.

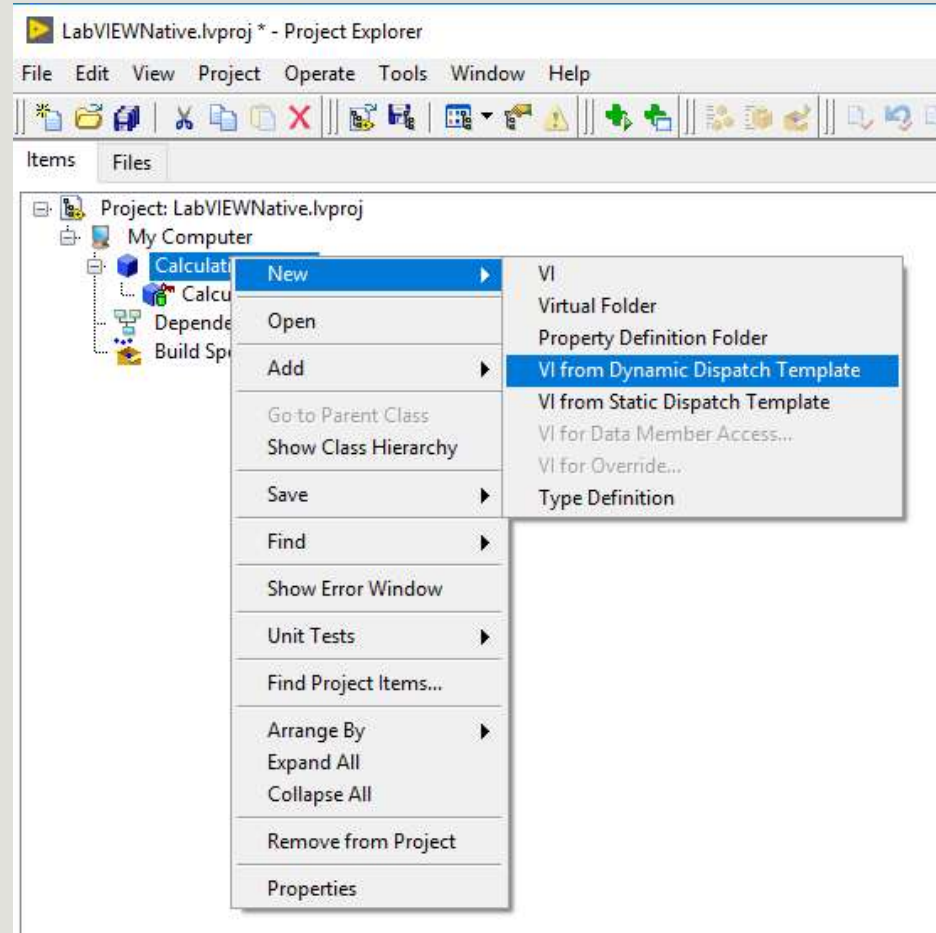
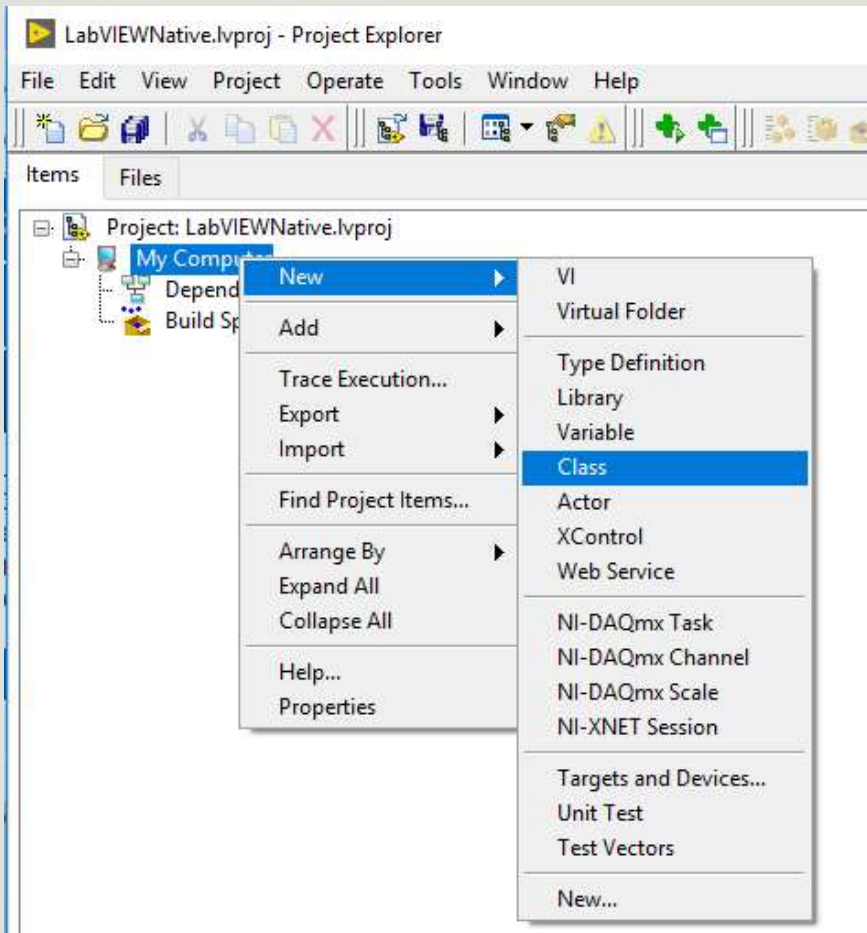
Showing the more advanced tools

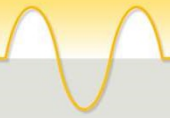
Showing the UML editor



Overview of the OpenGDS tools

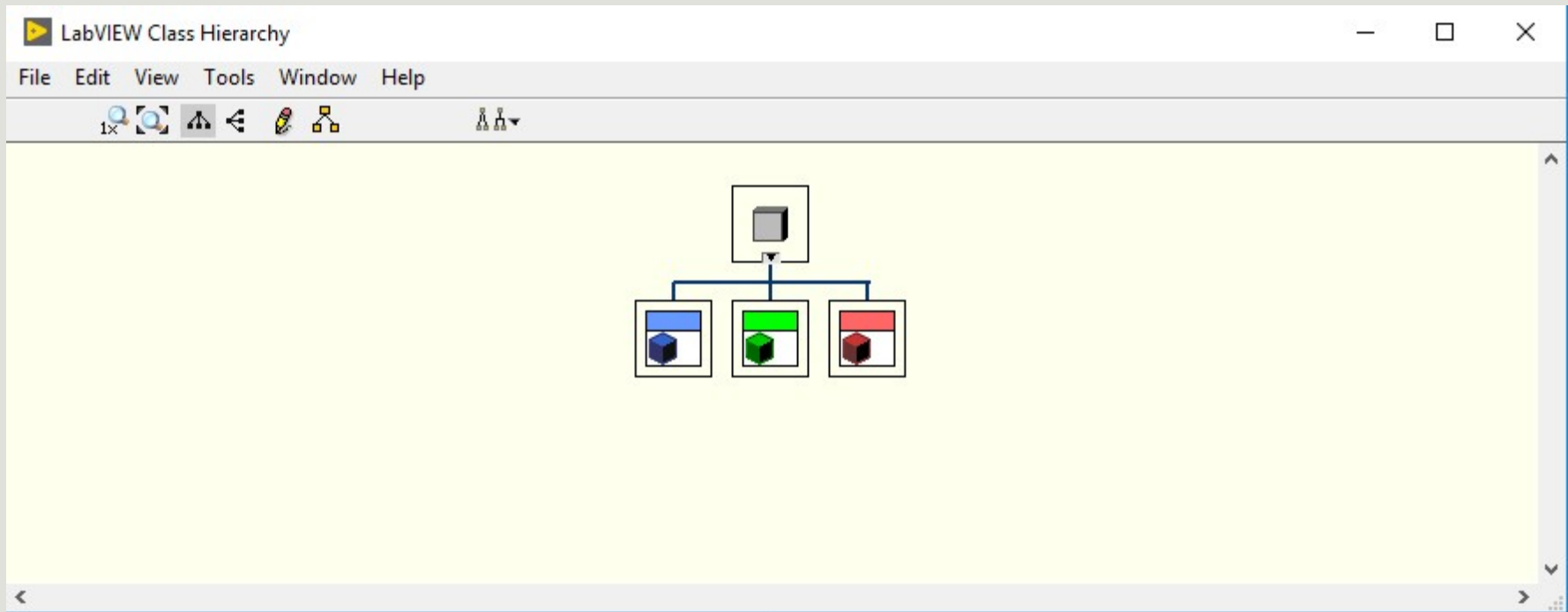
First LabVIEW Native





Overview of the OpenGDS tools

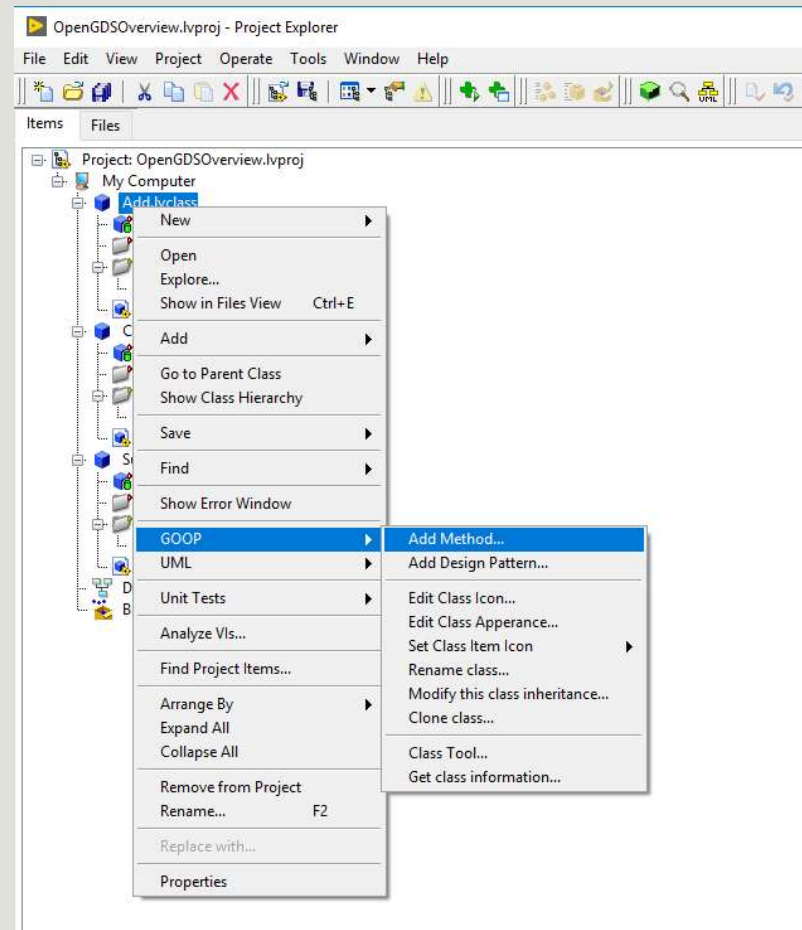
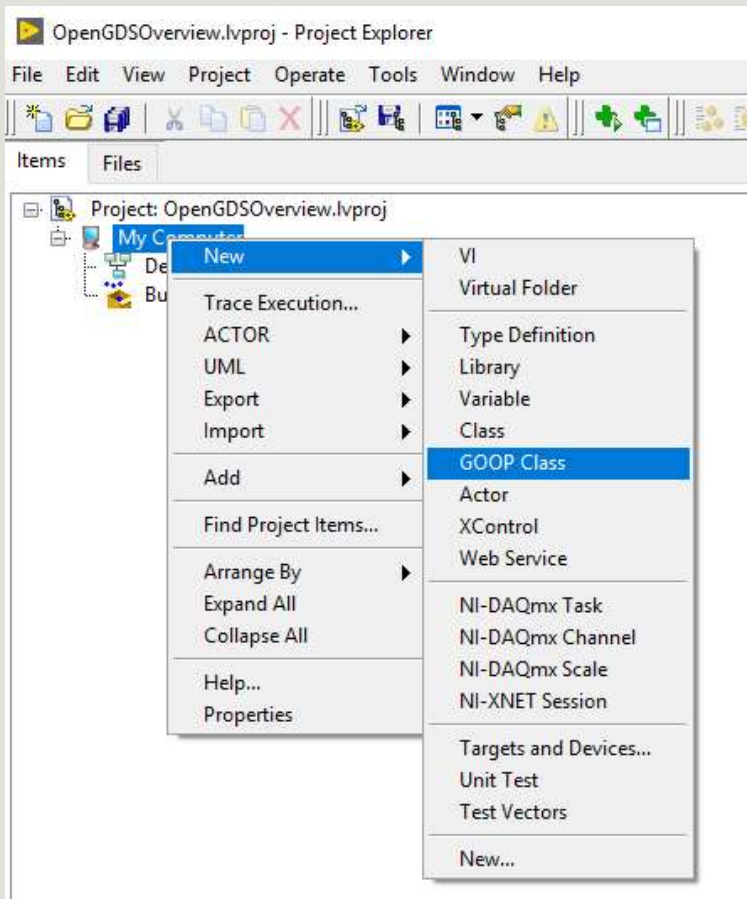
First LabVIEW Native: classHierarchy





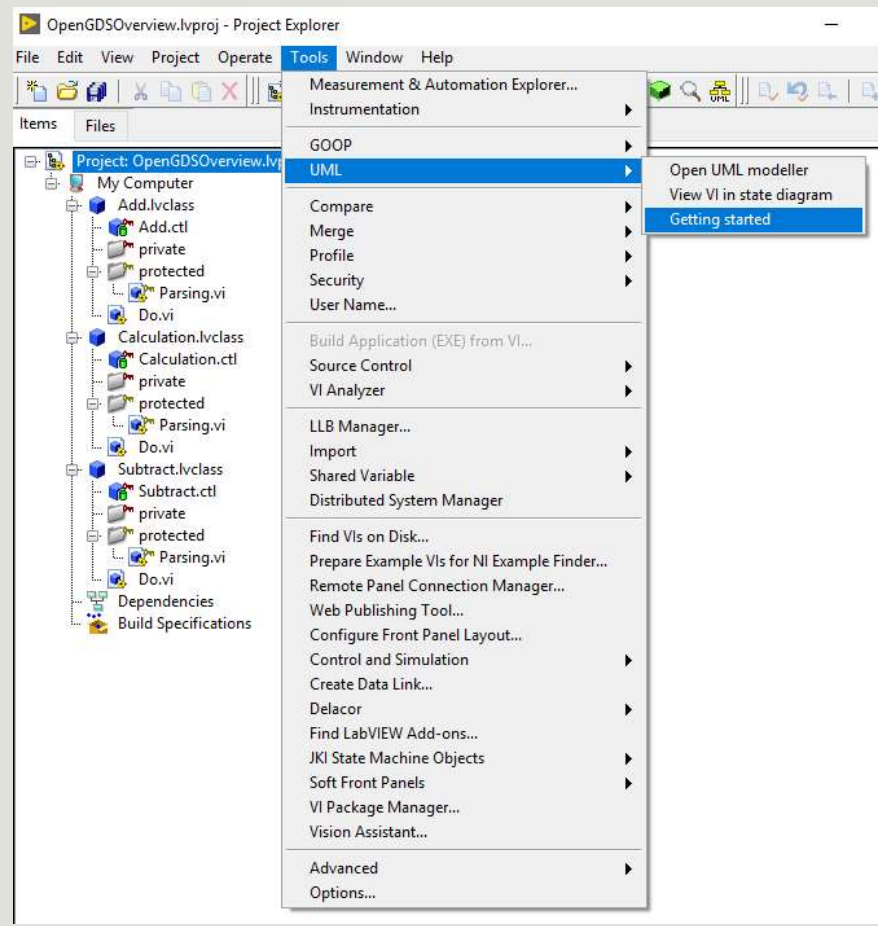
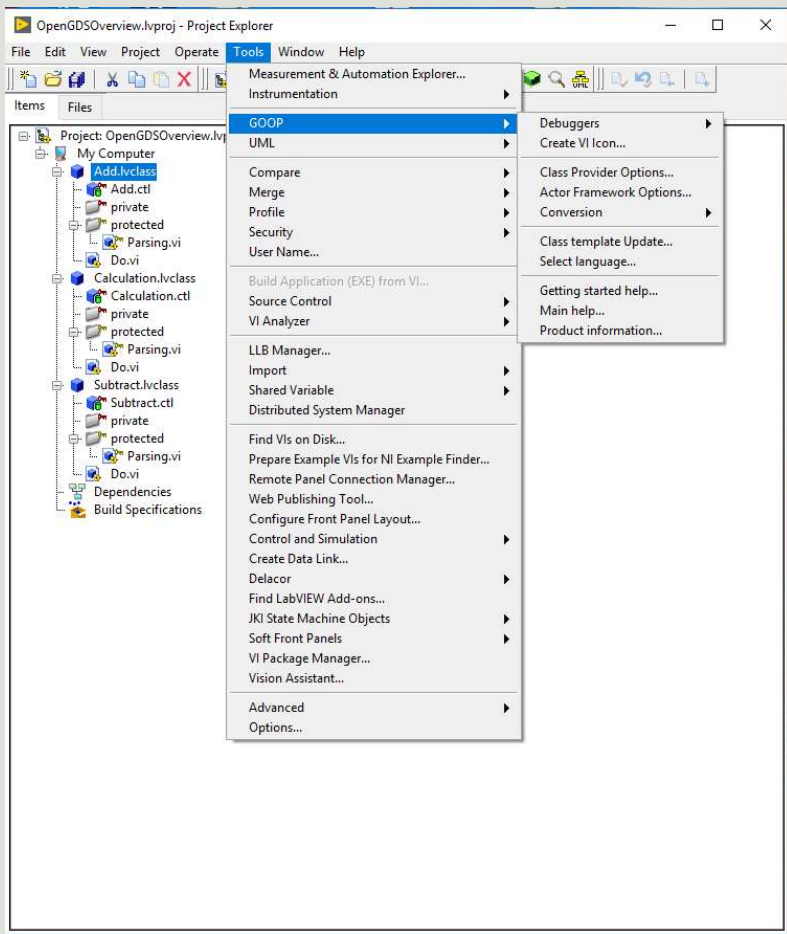
Overview of the OpenGDS tools: Creating classes

Creating a class



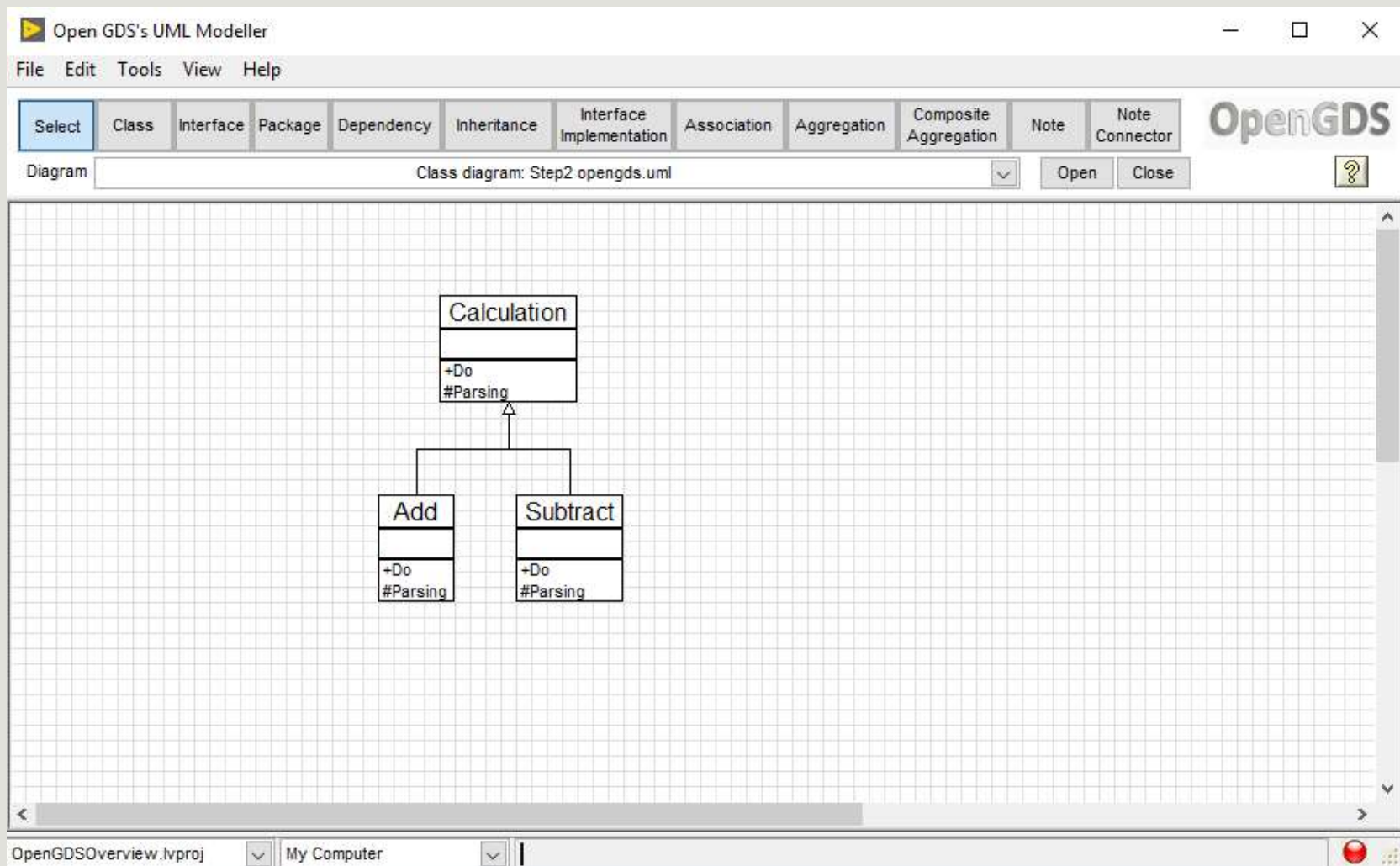


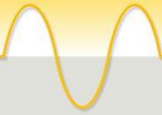
Overview of the OpenGDS tools: Tools menu





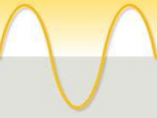
Overview of the OpenGDS: UML editor





Practical approach

1. Using Native LabVIEW.
 1. Creating.
 2. Cloning the class
 3. Cloning methods
2. Using the OpenGDS
 1. Same steps as with Native LabVIEW
3. Using the Uml editor.
 1. Reverse engineering
 2. Starting a project from UML.



Practical approach

1. Demo Screen shots:



Different types of objects

Simple DVR template

Singleton DVR template.

Making



Thanks for your attention.