

Basic Hands-on Usage of VisTrails

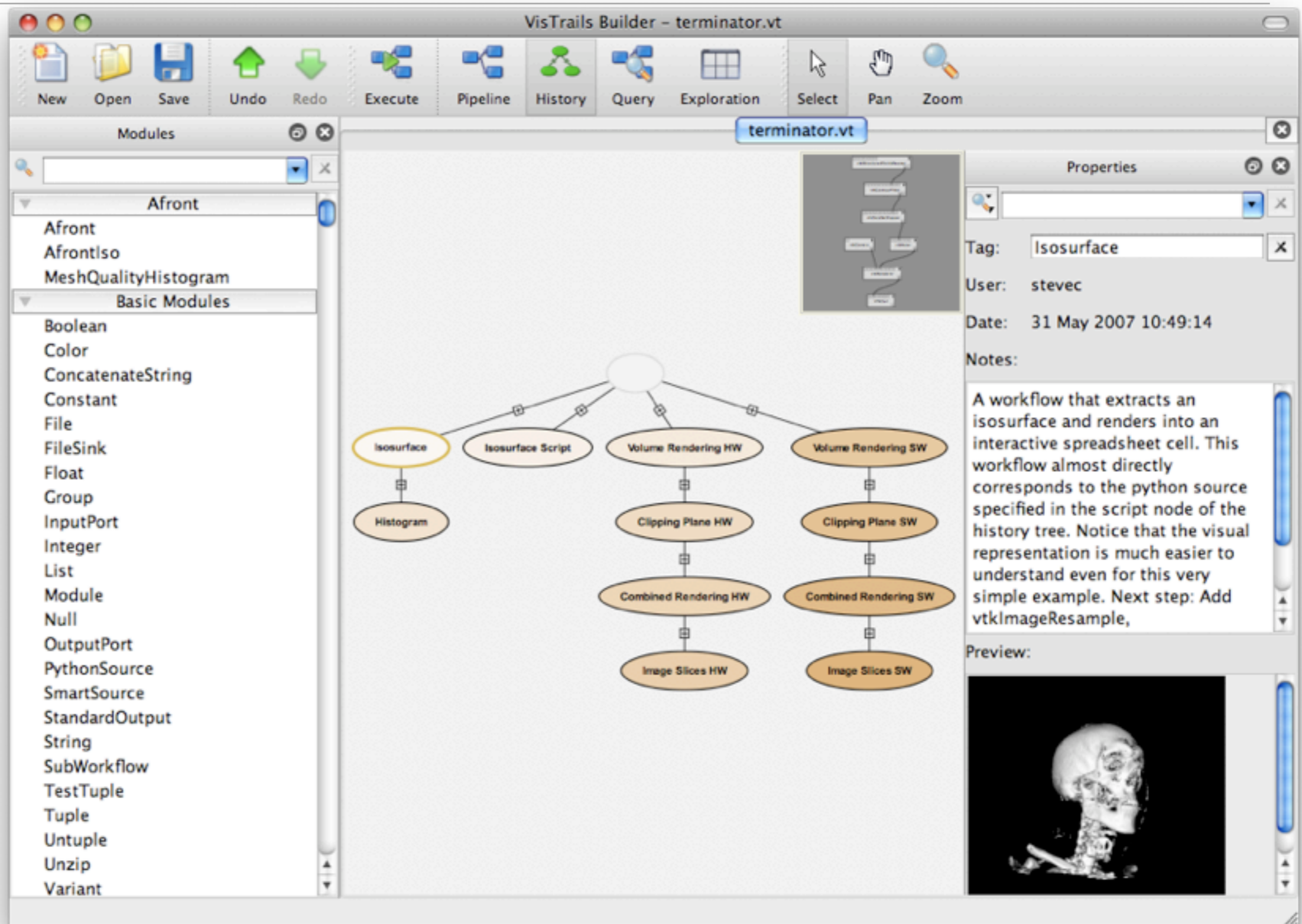
Agenda

- Building simple pipelines
- Using the spreadsheet
- Using PythonSource
- Connecting to databases
- VisTrails as a server

Building simple pipelines

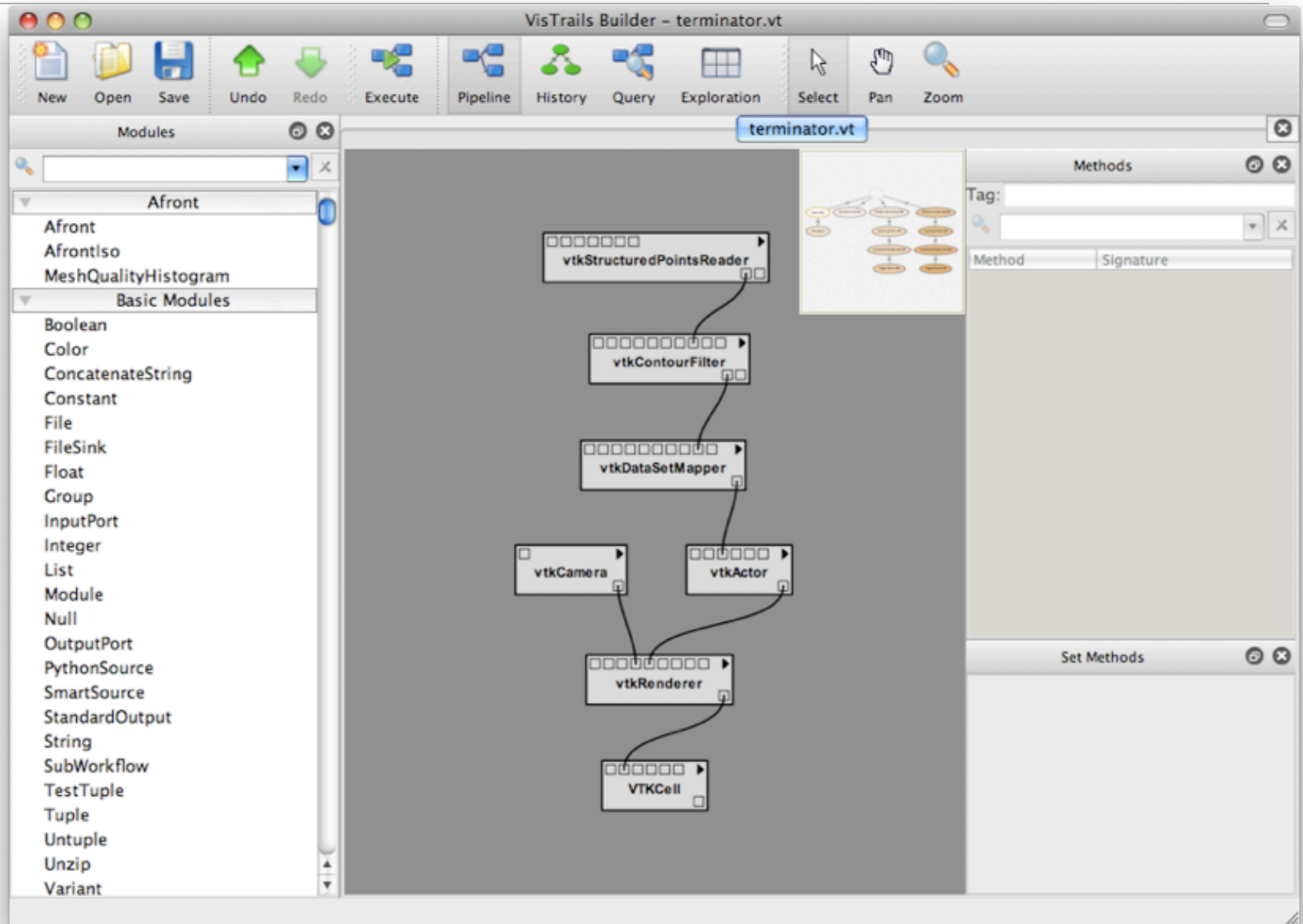
VisTrails Builder overview

History View



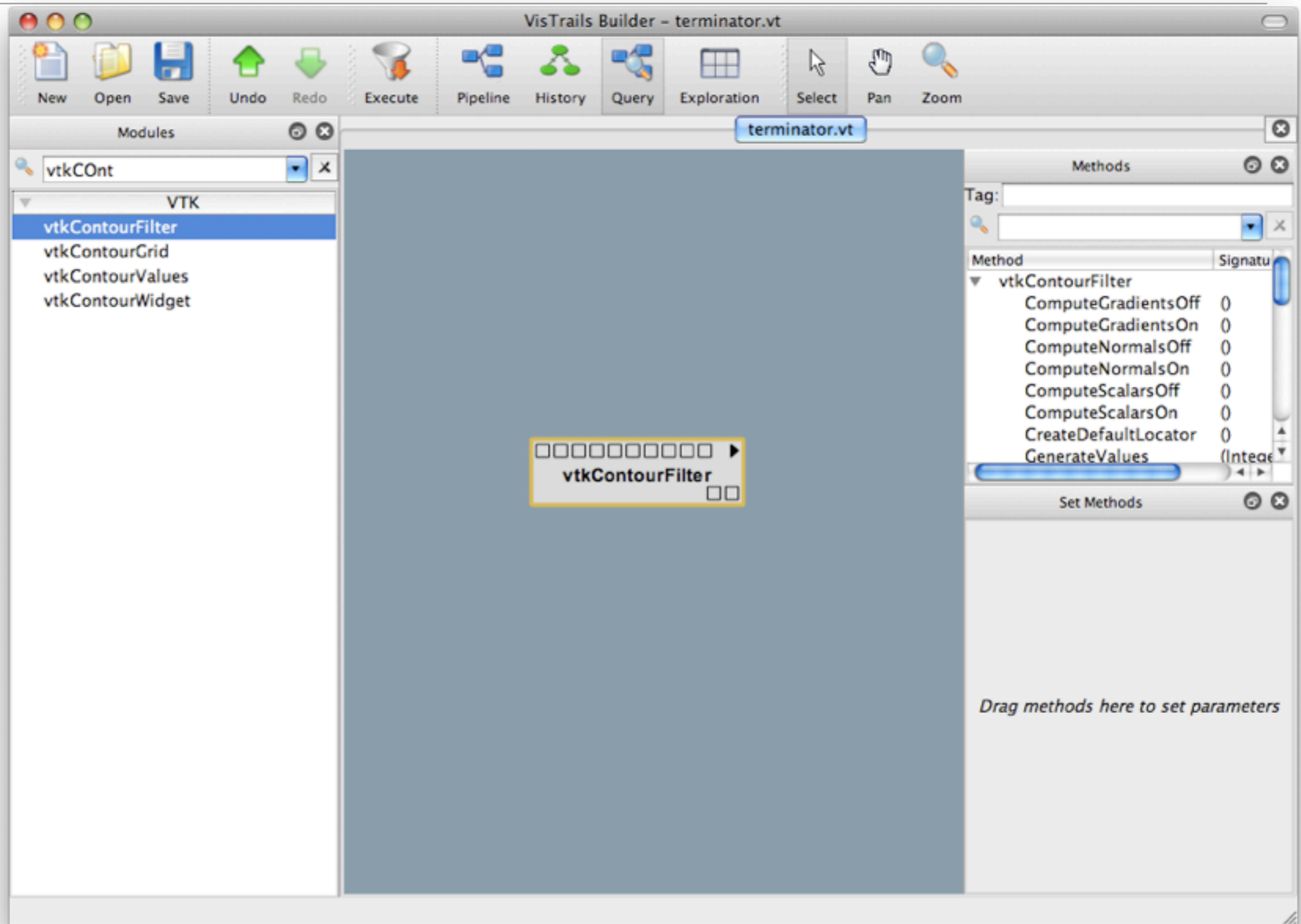
VisTrails Builder overview

Pipeline View



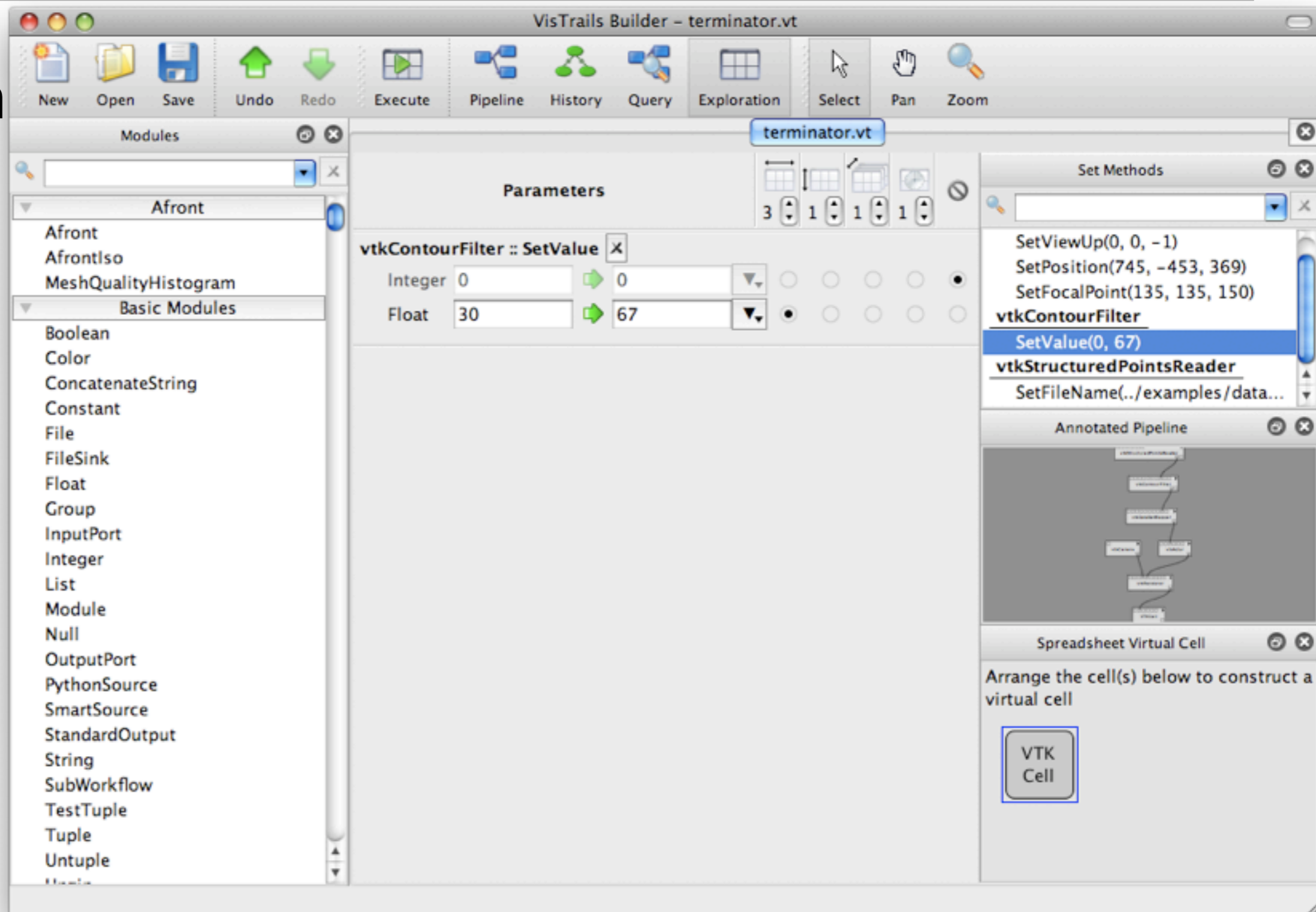
VisTrails Builder overview

Query View



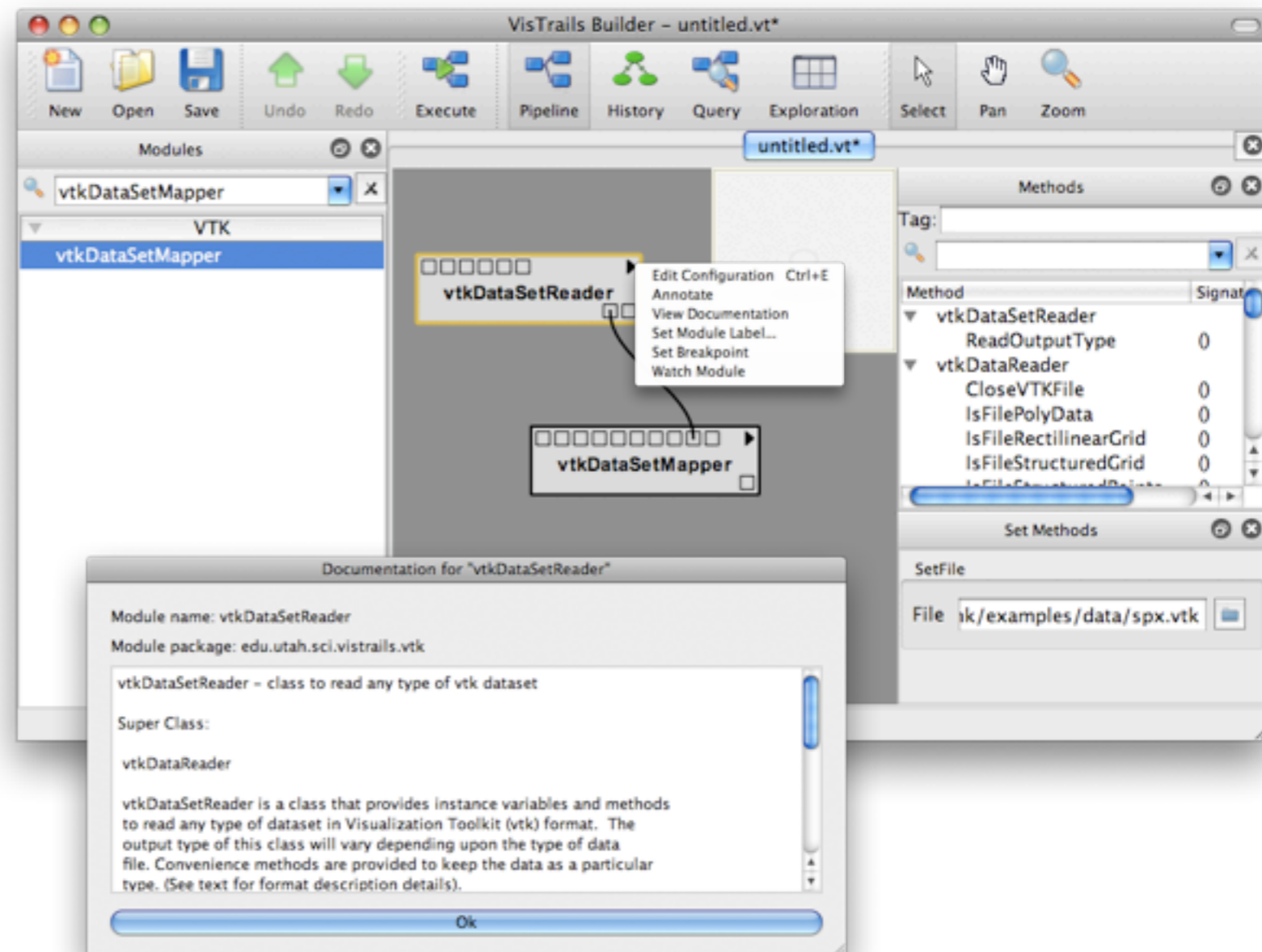
VisTrails Builder overview

Exploration View



Manipulating modules and connections

- Adding/removing modules
- Adding/removing connections
 - Input and Output ports
 - The “snap” feature
- Setting parameters
- Setting module labels
- Accessing module documentation
- Modules for displaying results in the spreadsheet



Using the spreadsheet

Spreadsheet overview

- Types of cells
- Controls

VisTrails - Spreadsheet - Untitled

2 3 Export

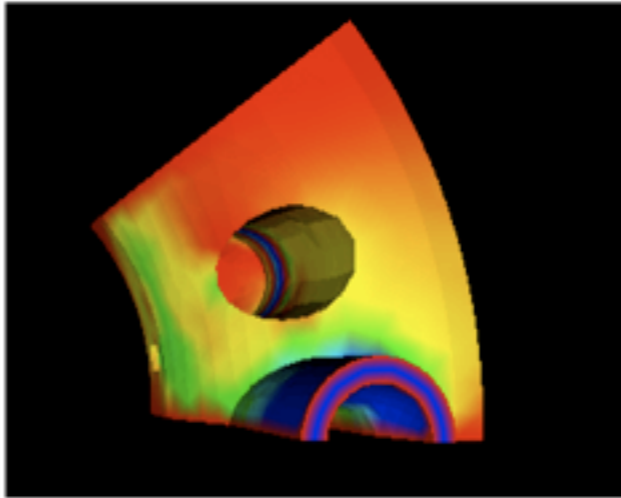
A

getOntologyChildren
Query

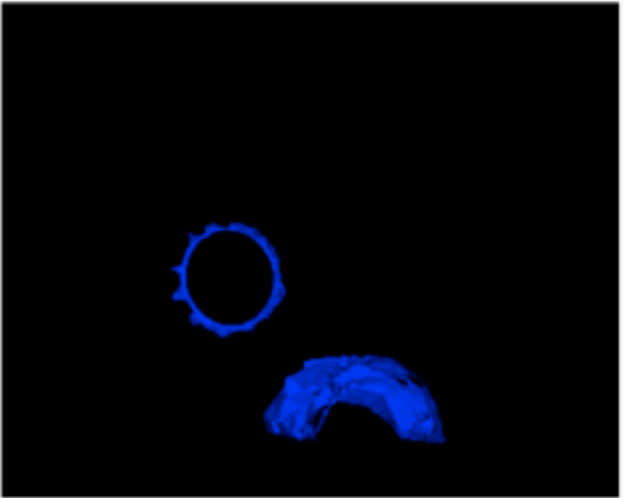
1

Chebi Id	Chebi Name	Comments	Type	Status	Cyclic Relationship
CHEBI:30782	acetylenedicarboxylic acid		is conjugate acid	CHECKED	True

B



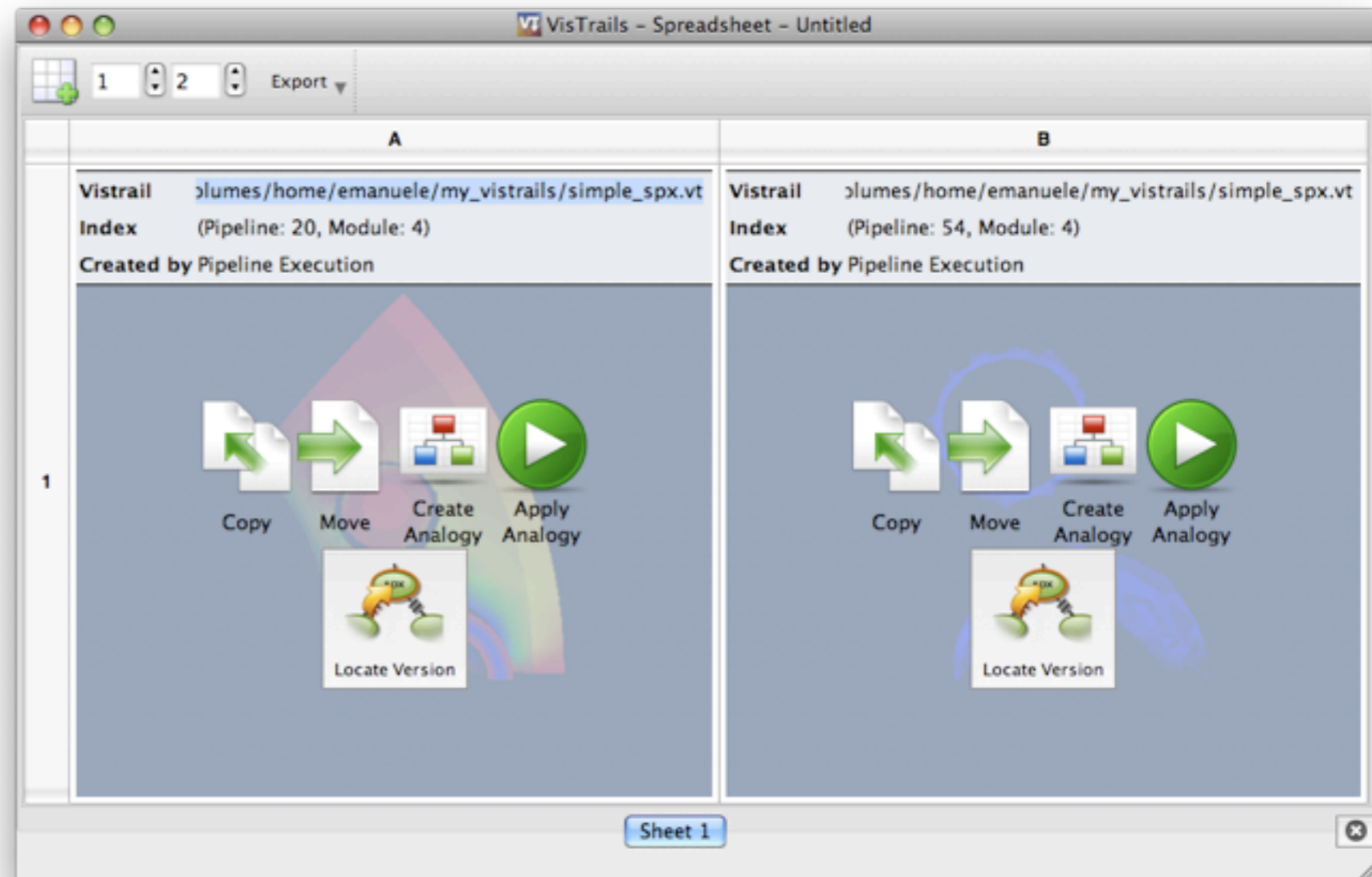
C



Sheet 1

Interacting with cells

- Syncing cells
- Moving cells
- Saving camera
- Using the Edit mode functionality



Using PythonSource

PythonSource configuration

The screenshot shows the VisTrails Builder interface for a workflow named 'MaunaLoaPlot.vt'. The workflow consists of three modules: 'File', 'PythonSource', and 'MplPlot'. The 'File' module is connected to the 'PythonSource' module, which is in turn connected to the 'MplPlot' module. The 'PythonSource' module has four output ports connected to the 'MplPlot' module's input ports. A 'PythonSource Configuration' dialog is open, showing the configuration for the 'PythonSource' module.

PythonSource Configuration

	Input Port Name	Type
1	input_file	File (edu.utah.sci.vistrails.basic)
2		

	Output Port Name	Type
1	years	List (edu.utah.sci.vistrails.basic)
2	data	List (edu.utah.sci.vistrails.basic)
3	annuals	List (edu.utah.sci.vistrails.basic)
4	annual_fits	List (edu.utah.sci.vistrails.basic)
5		

```
import string

years = []
data = []
annuals = []
annual_fits = []

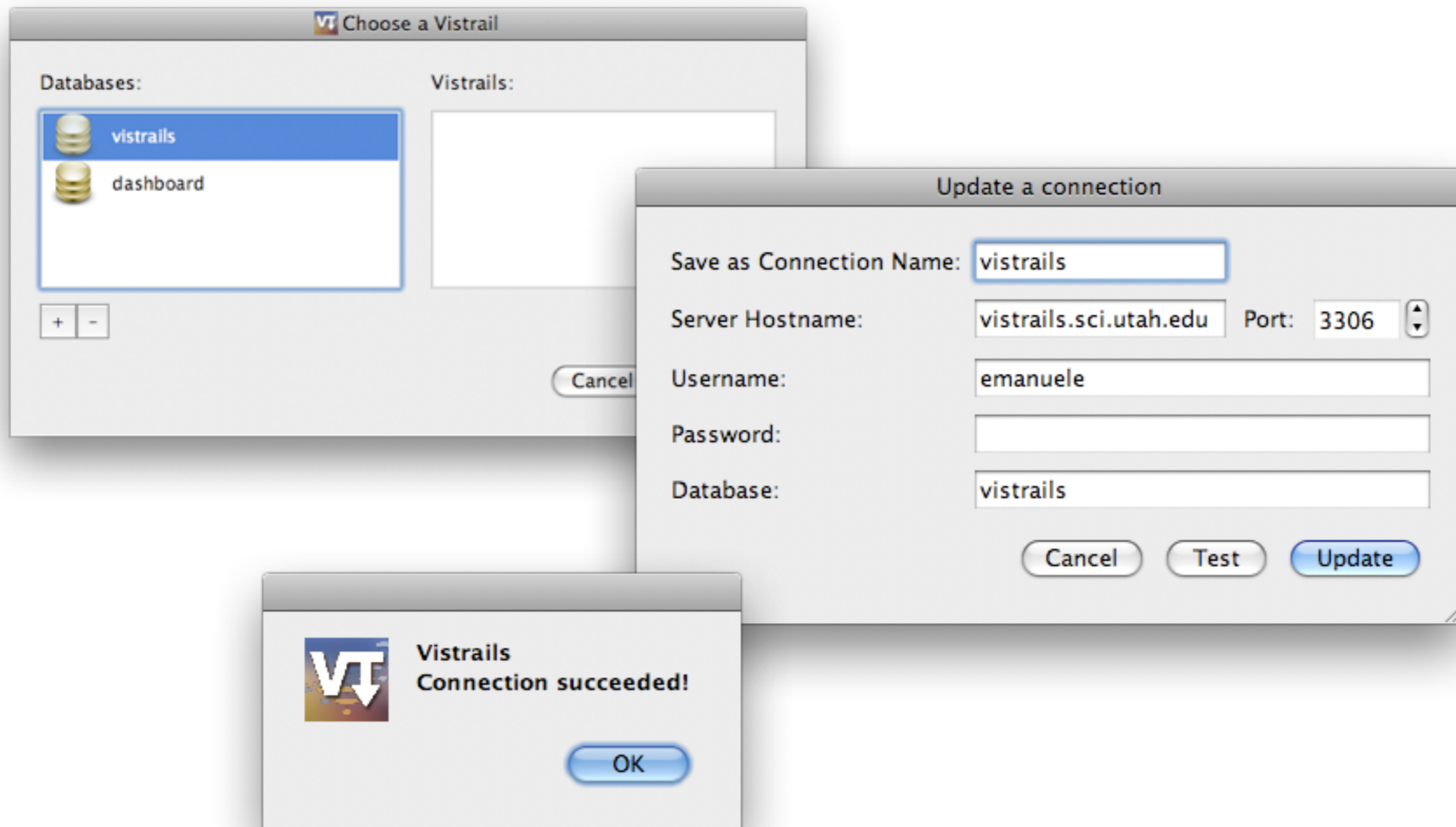
infile = open(input_file.name, "r")
while infile:
    line = infile.readline()
    if len(line) == 0:
        break
    data_list = string.split(line, " ")
    years.append(string.atof(data_list[0]))
```

Line: 1 / Col: 1

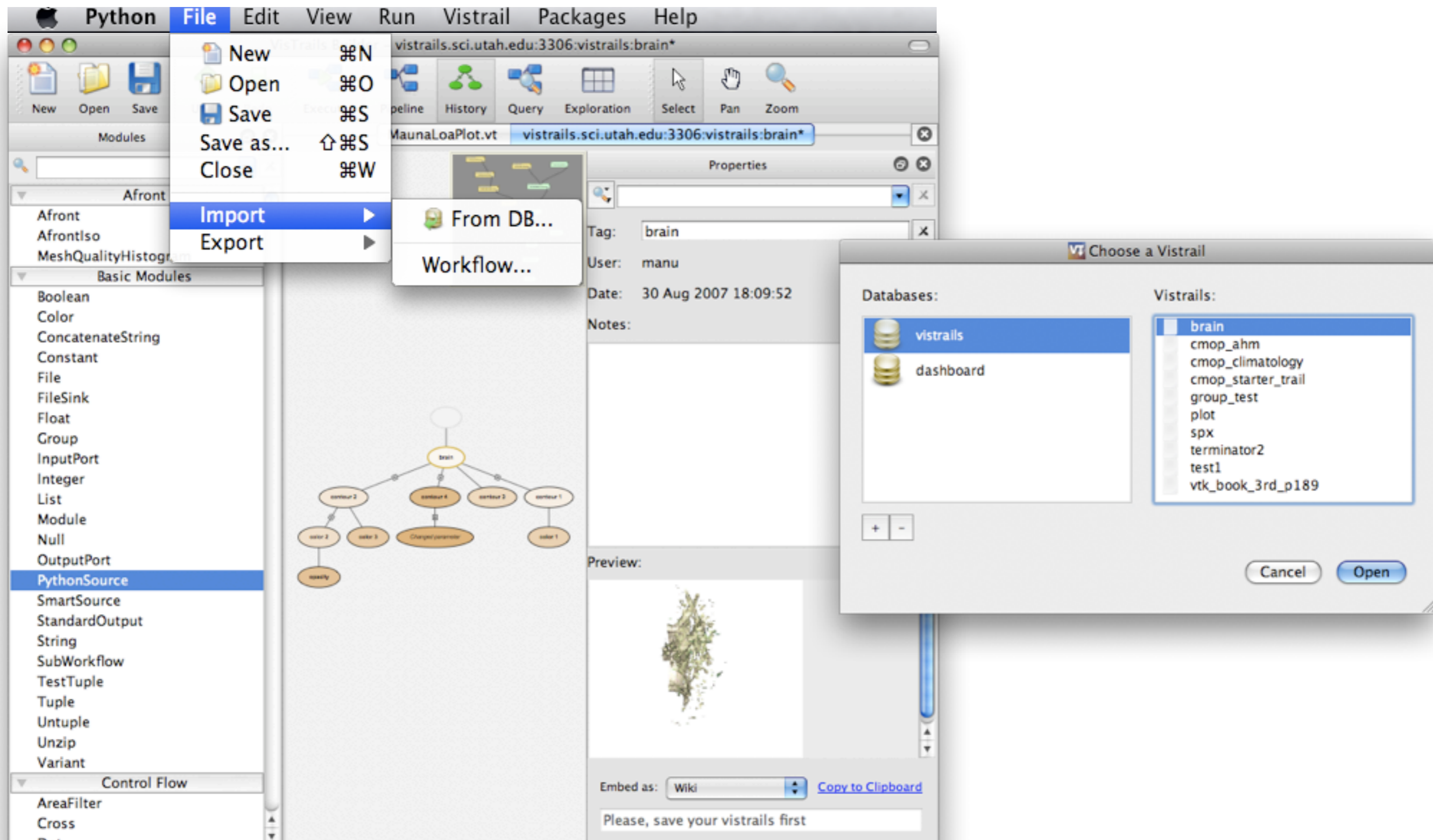
OK Cancel

Connecting to databases

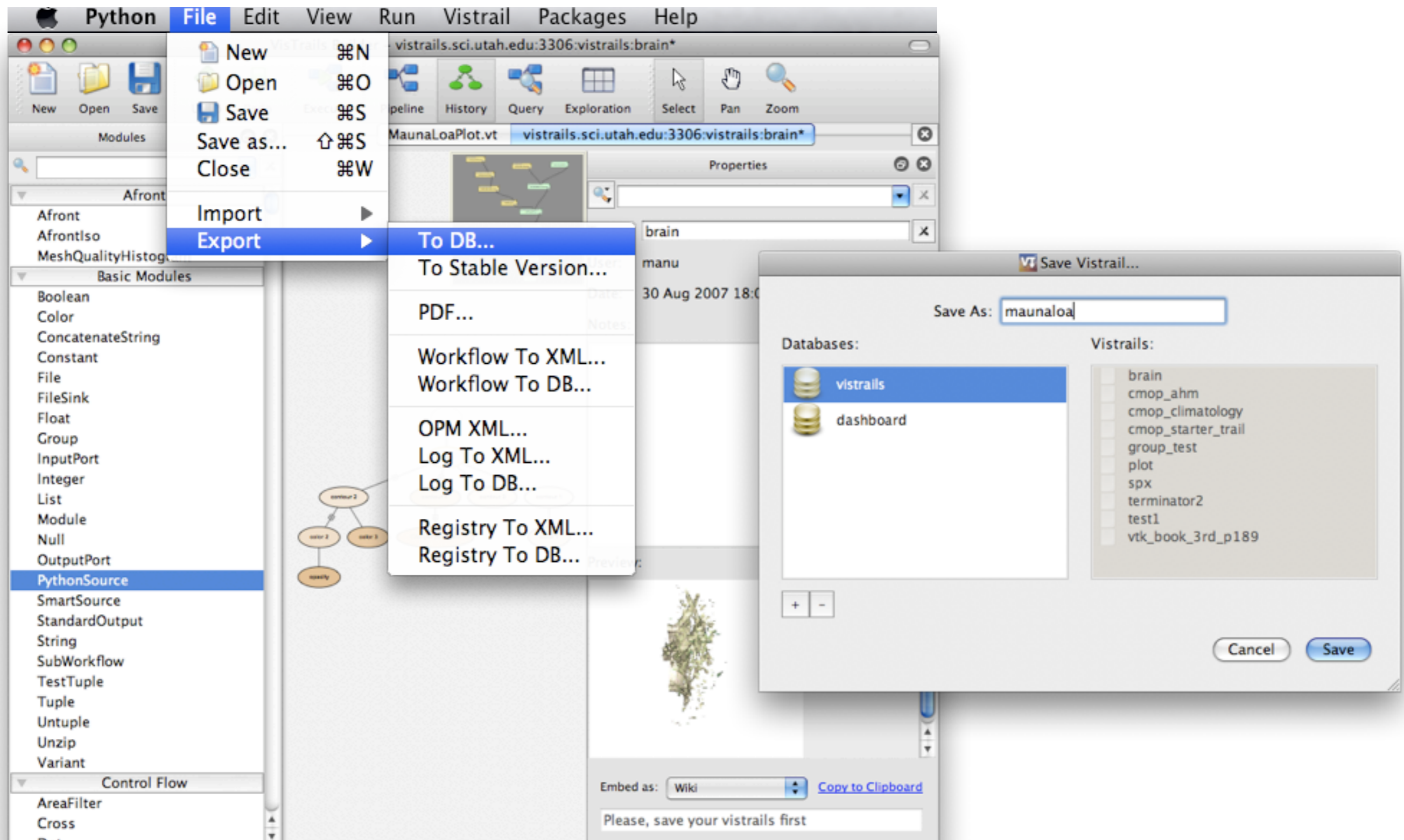
Defining custom database connections



Loading a vistrail from the database



Saving a vistrail to the database



Saving to db vs. saving to file

- What is included in a .vt file
 - vistrail
 - log
 - thumbnails
 - submodules
- What is supported when saving to the database

VisTrails as a server

Environment setup

- Defining list of allowed clients
- Defining host and port

Running VisTrails in server mode

- Types of requests
 - Getting the list of available vistrails in the database
 - Getting a vistrail in XML format
 - Getting a specific pipeline in a vistrail in XML format
 - Executing a pipeline and getting the result images
- Examples of scripts
 - PHP
 - Python