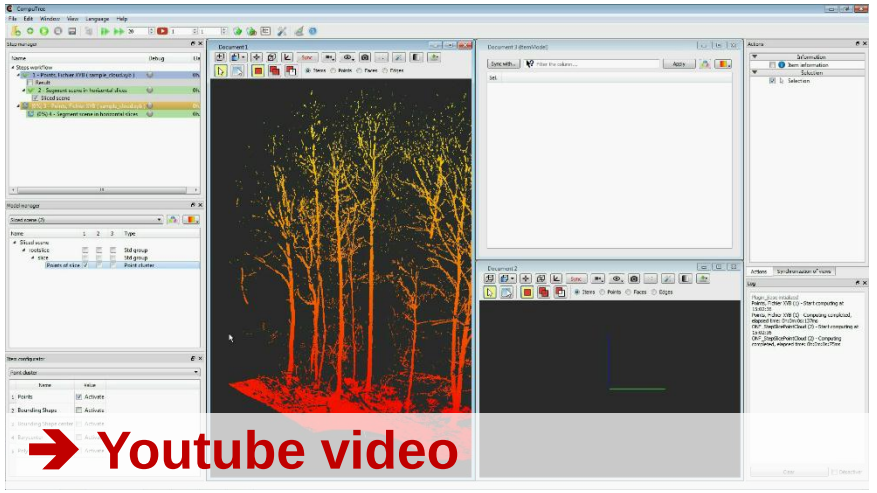
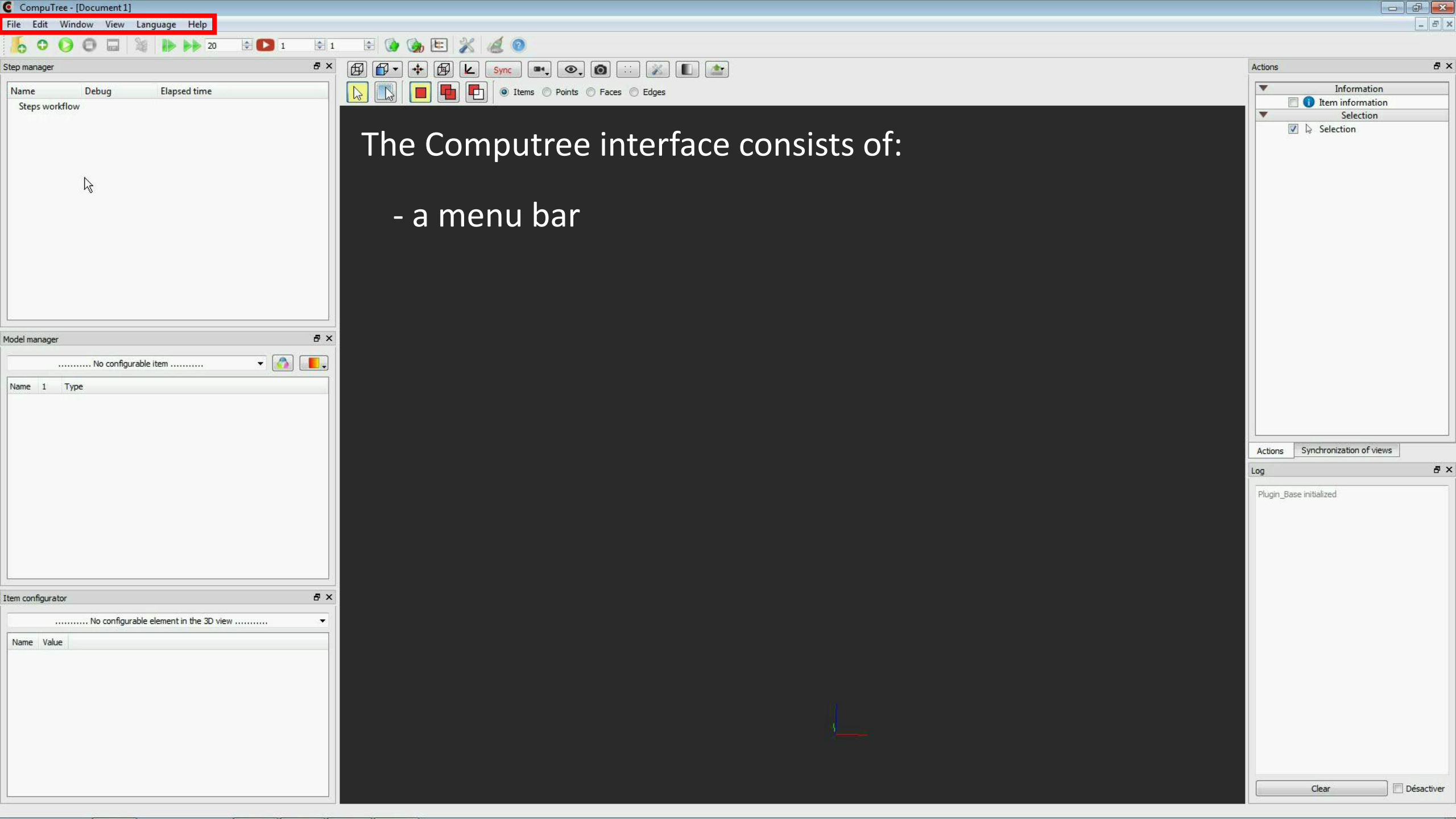
Tutorial 01

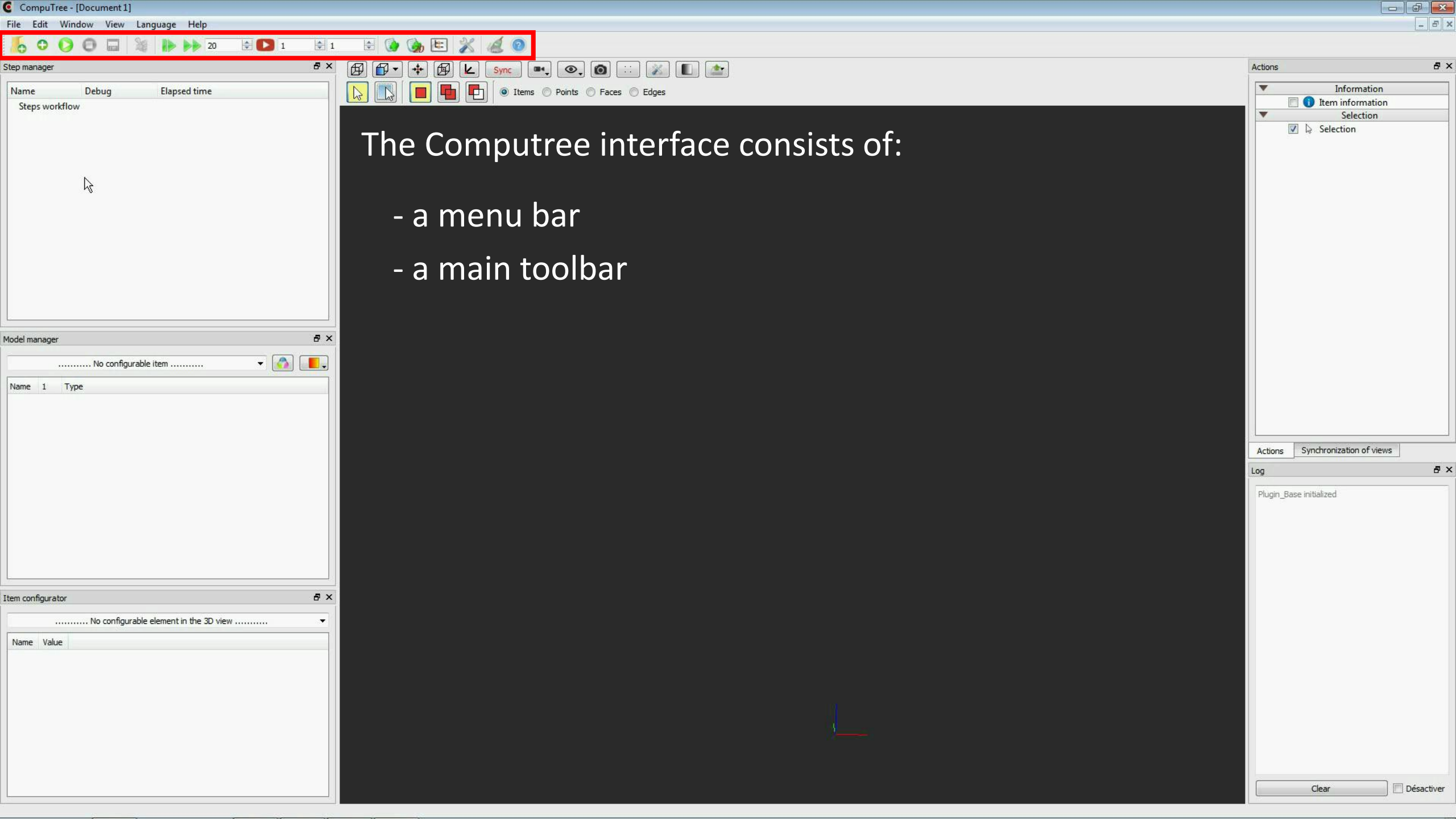
EN

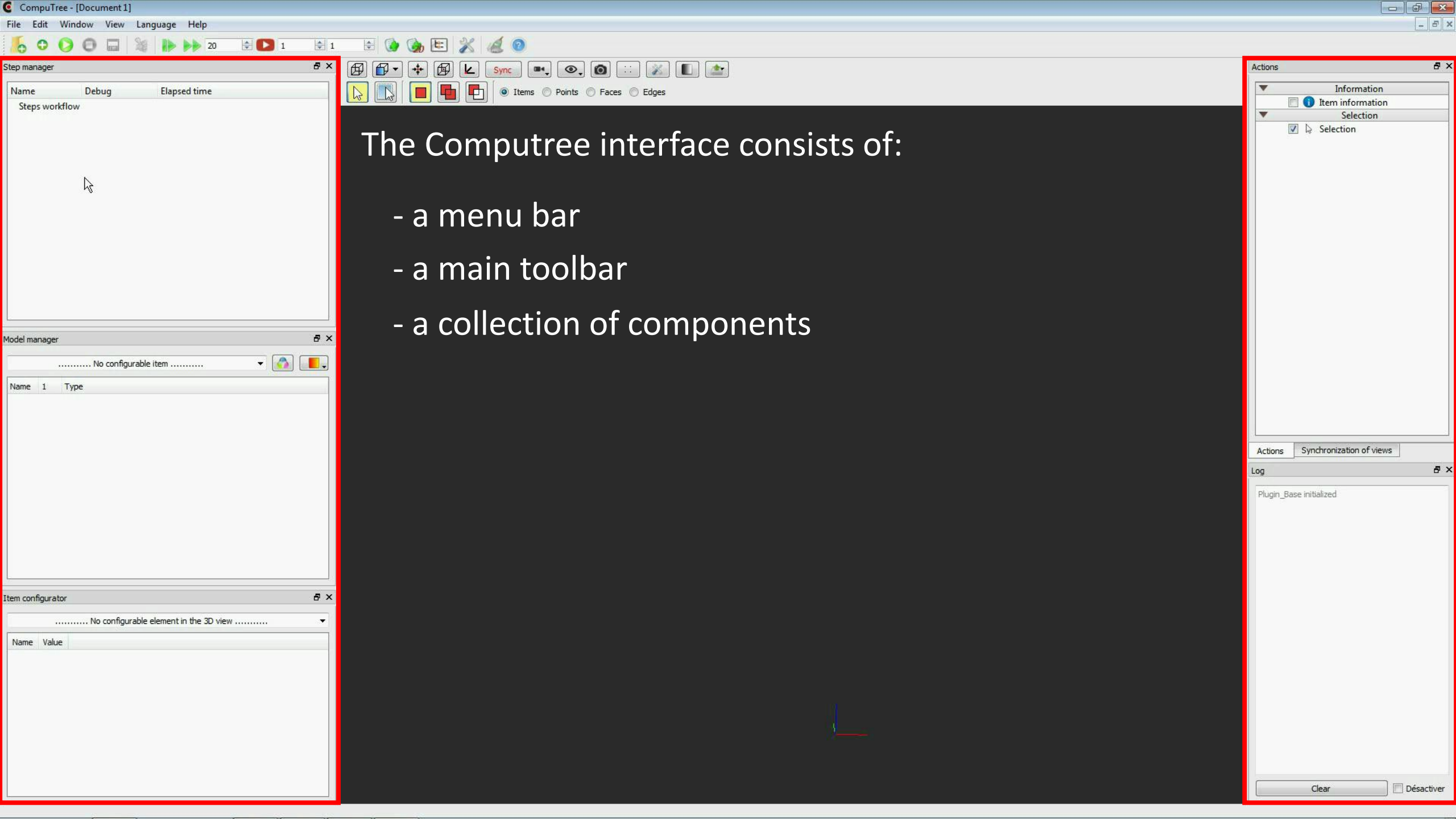


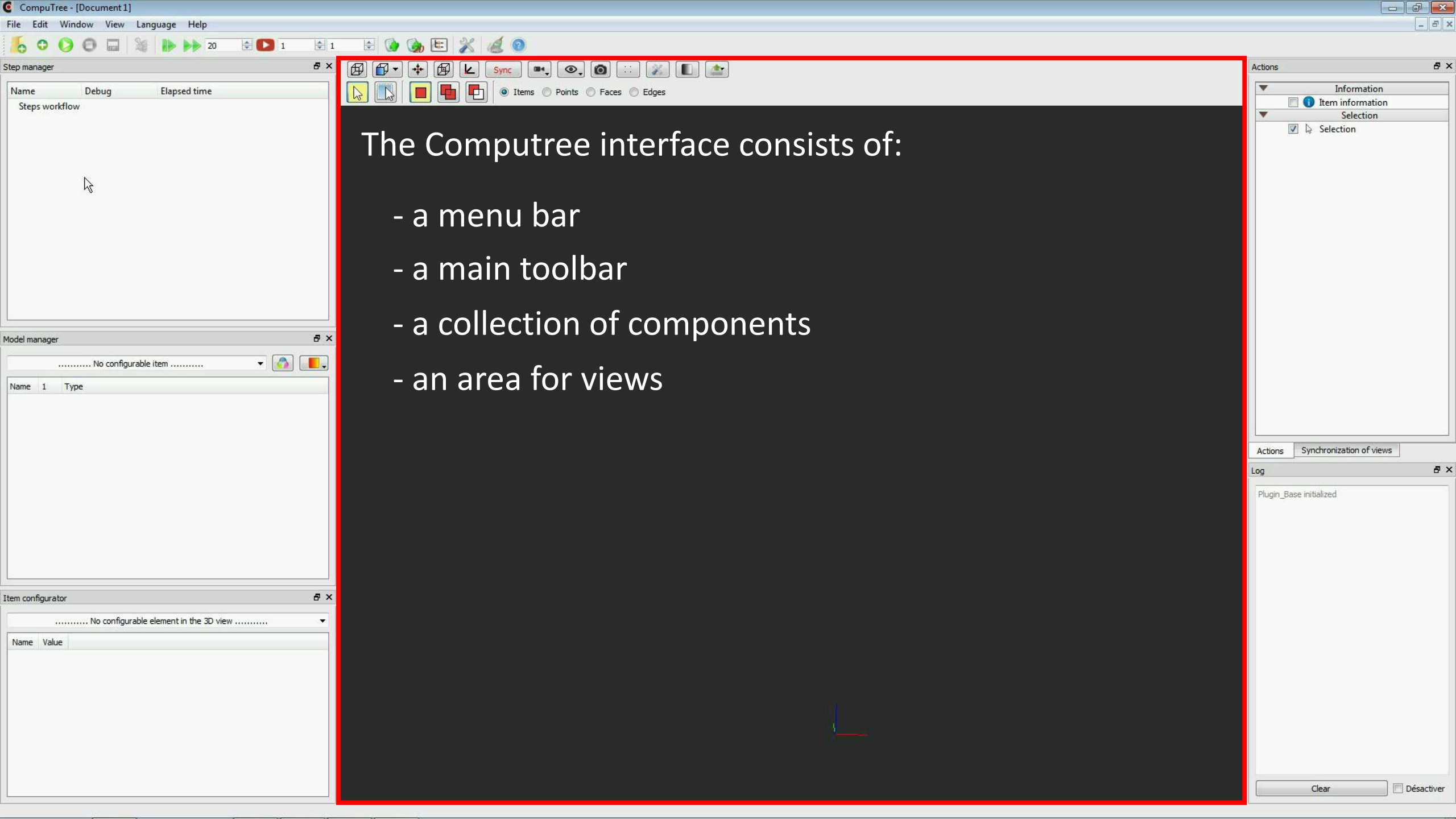
General organization of the interface,
loading and displaying a point cloud

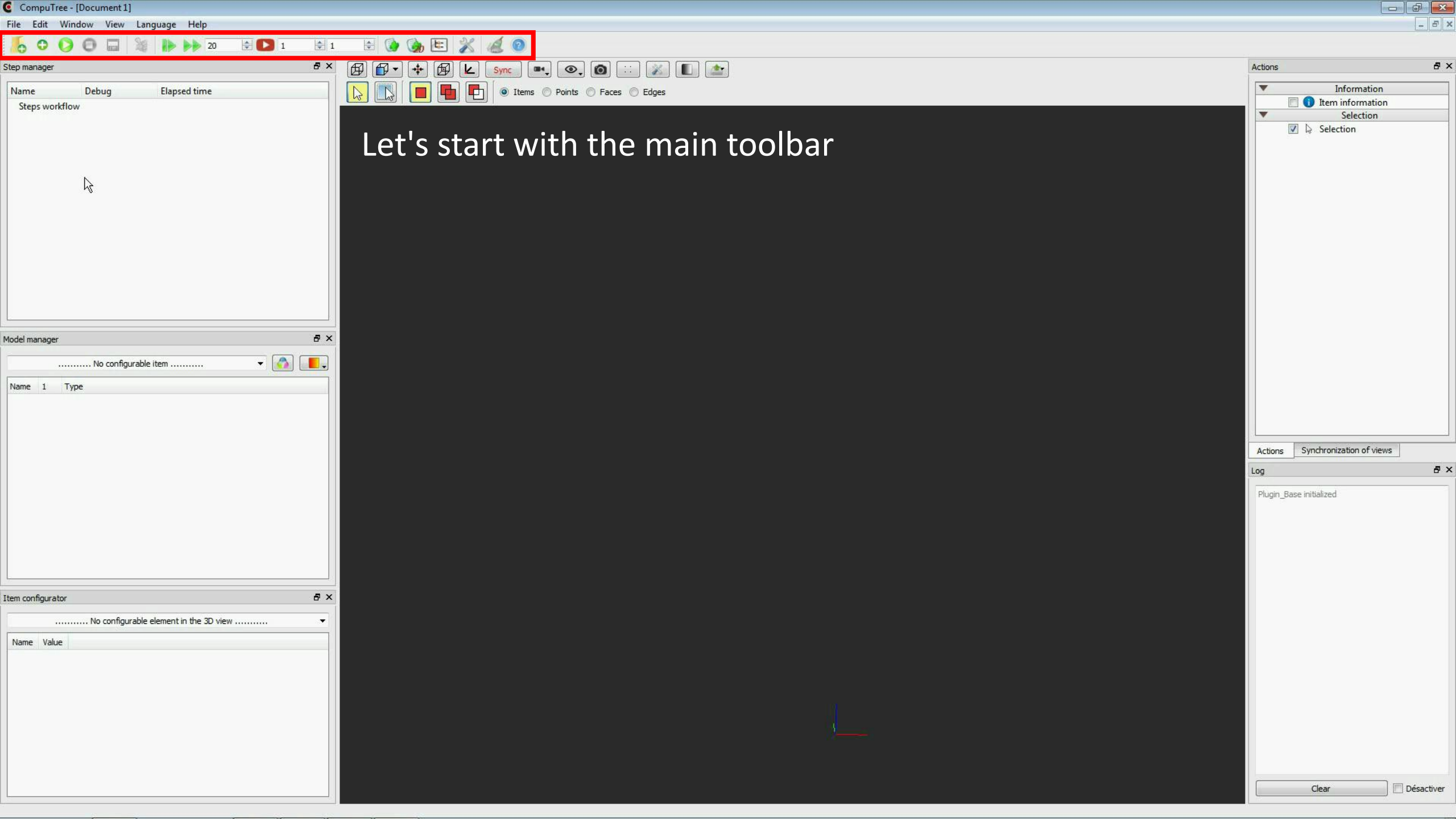
Alexandre Piboule, 09/01/2017

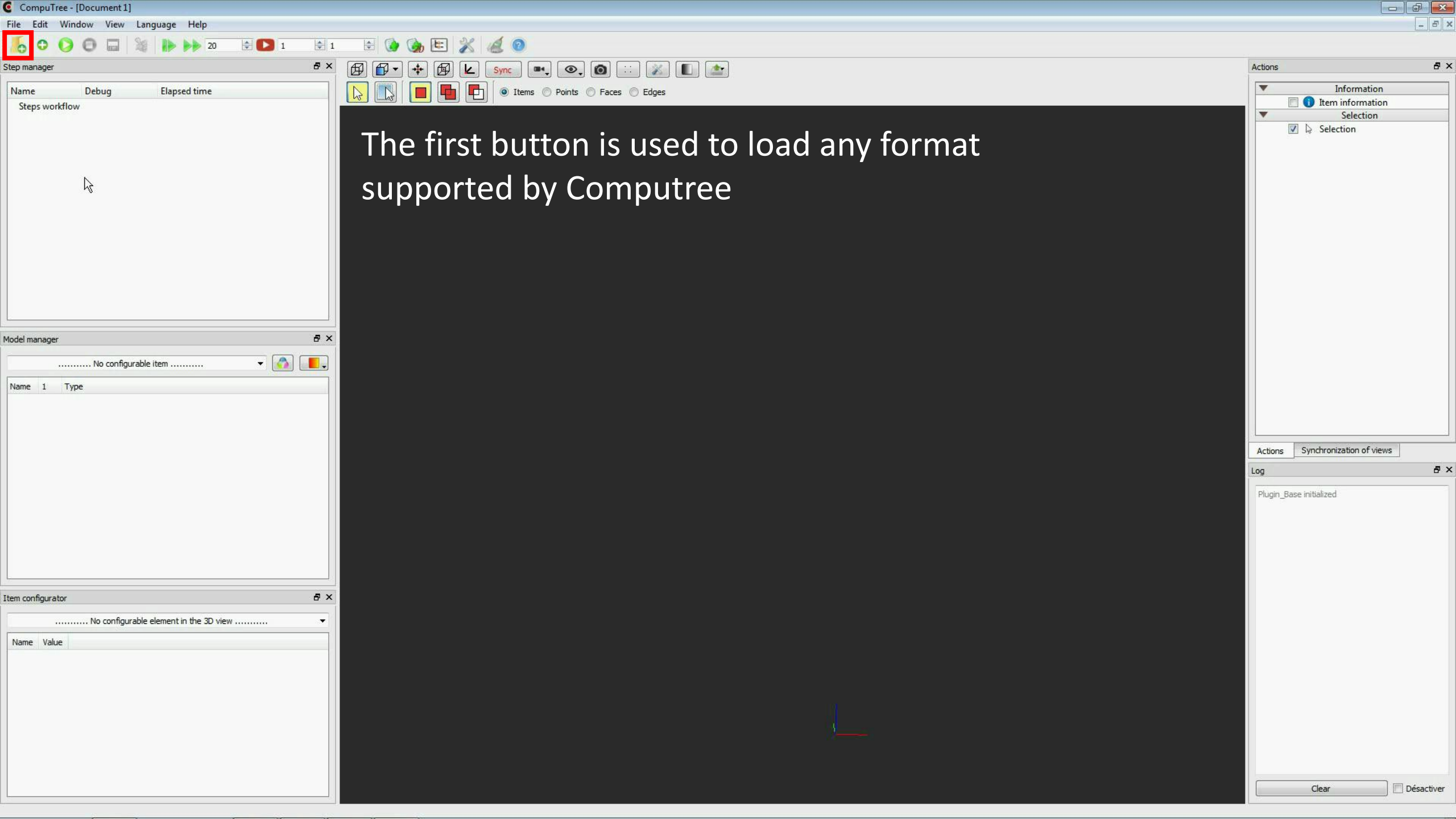

CompuTree - [Document 1]
File
Edit
Window
View
Language
Help
Step manager
Name
Debug
Elapsed time
Steps workflow
Model manager
..... No configurable item .....
Name
1
Type
Item configurator
..... No configurable element in the 3D view .....
Name
Value
Sync
Items
Points
Faces
Edges
The Computree interface consists of:
- a menu bar
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Plugin_Base initialized
Clear
Désactiver

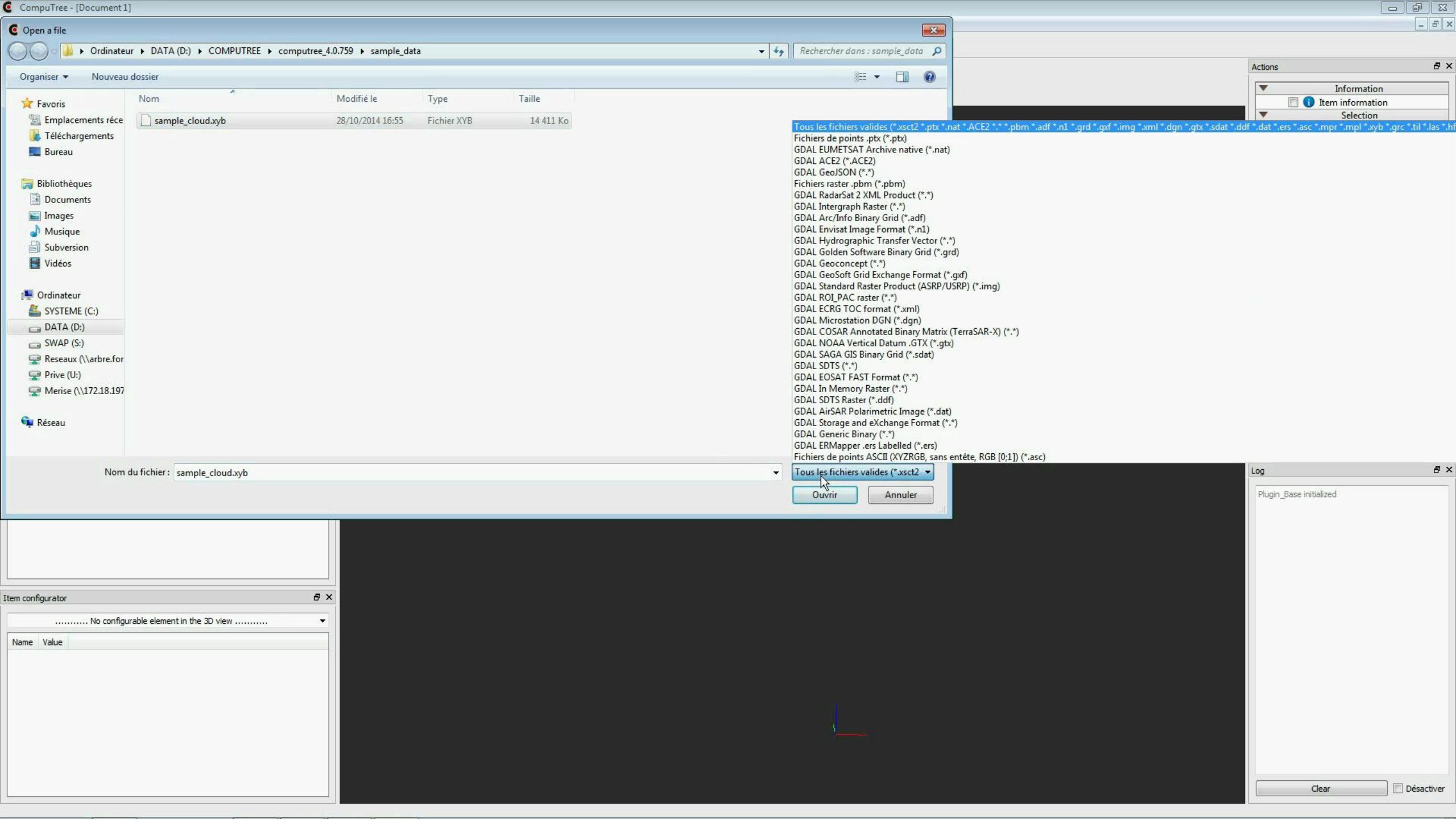

CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Elapsed time
Steps workflow
Model manager
..... No configurable item .....
Name 1 Type
Item configurator
..... No configurable element in the 3D view .....
Name Value
Sync
Items Points Faces Edges
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Plugin_Base initialized
Clear
Désactiver
The Computree interface consists of:
- a menu bar
- a main toolbar


CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Elapsed time
Steps workflow
Model manager
..... No configurable item .....
Name 1 Type
Item configurator
..... No configurable element in the 3D view .....
Name Value
Sync
Items Points Faces Edges
The Computree interface consists of:
- a menu bar
- a main toolbar
- a collection of components
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Plugin_Base initialized
Clear
Désactiver

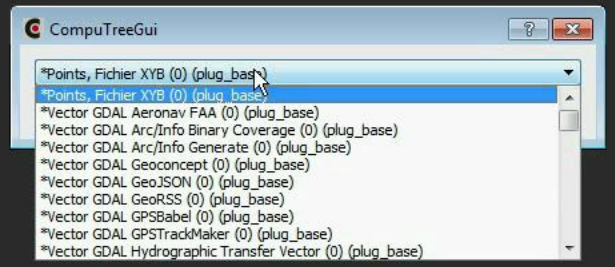

CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Elapsed time
Steps workflow
Model manager
..... No configurable item .....
Name 1 Type
Item configurator
..... No configurable element in the 3D view .....
Name Value
Sync
Items Points Faces Edges
The Computree interface consists of:
- a menu bar
- a main toolbar
- a collection of components
- an area for views
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Plugin_Base initialized
Clear
Désactiver

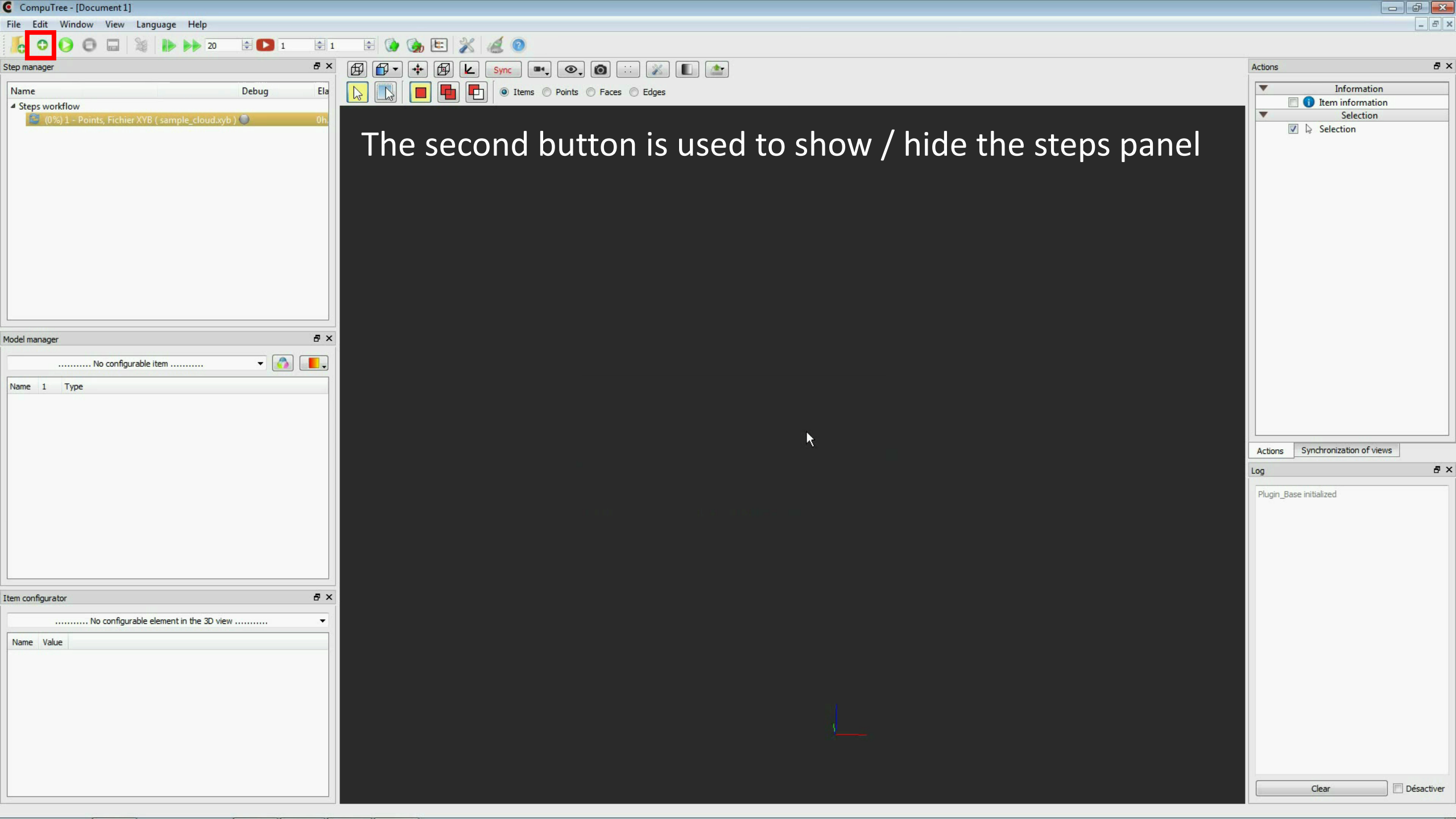

CompuTree - [Document 1]
File
Edit
Window
View
Language
Help
Step manager
Name
Debug
Elapsed time
Steps workflow
Model manager
..... No configurable item .....
Name
1
Type
Item configurator
..... No configurable element in the 3D view .....
Name
Value
Sync
Items
Points
Faces
Edges
Let's start with the main toolbar
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Plugin_Base initialized
Clear
Désactiver

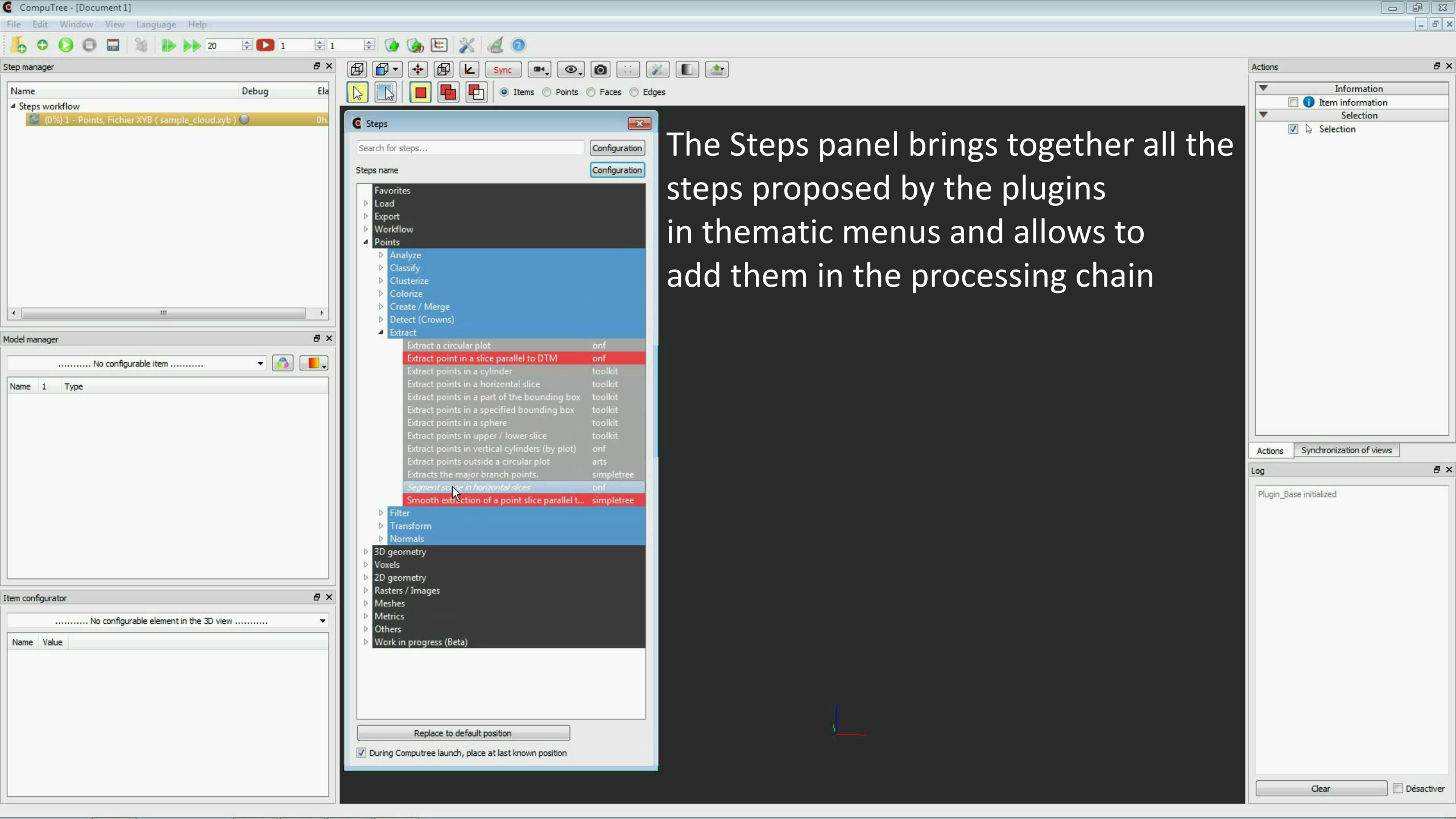

CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Elapsed time
Steps workflow
Model manager
..... No configurable item .....
Name 1 Type
Item configurator
..... No configurable element in the 3D view .....
Name Value
Sync
Items Points Faces Edges
The first button is used to load any format supported by Computree
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Plugin_Base initialized
Clear
Désactiver

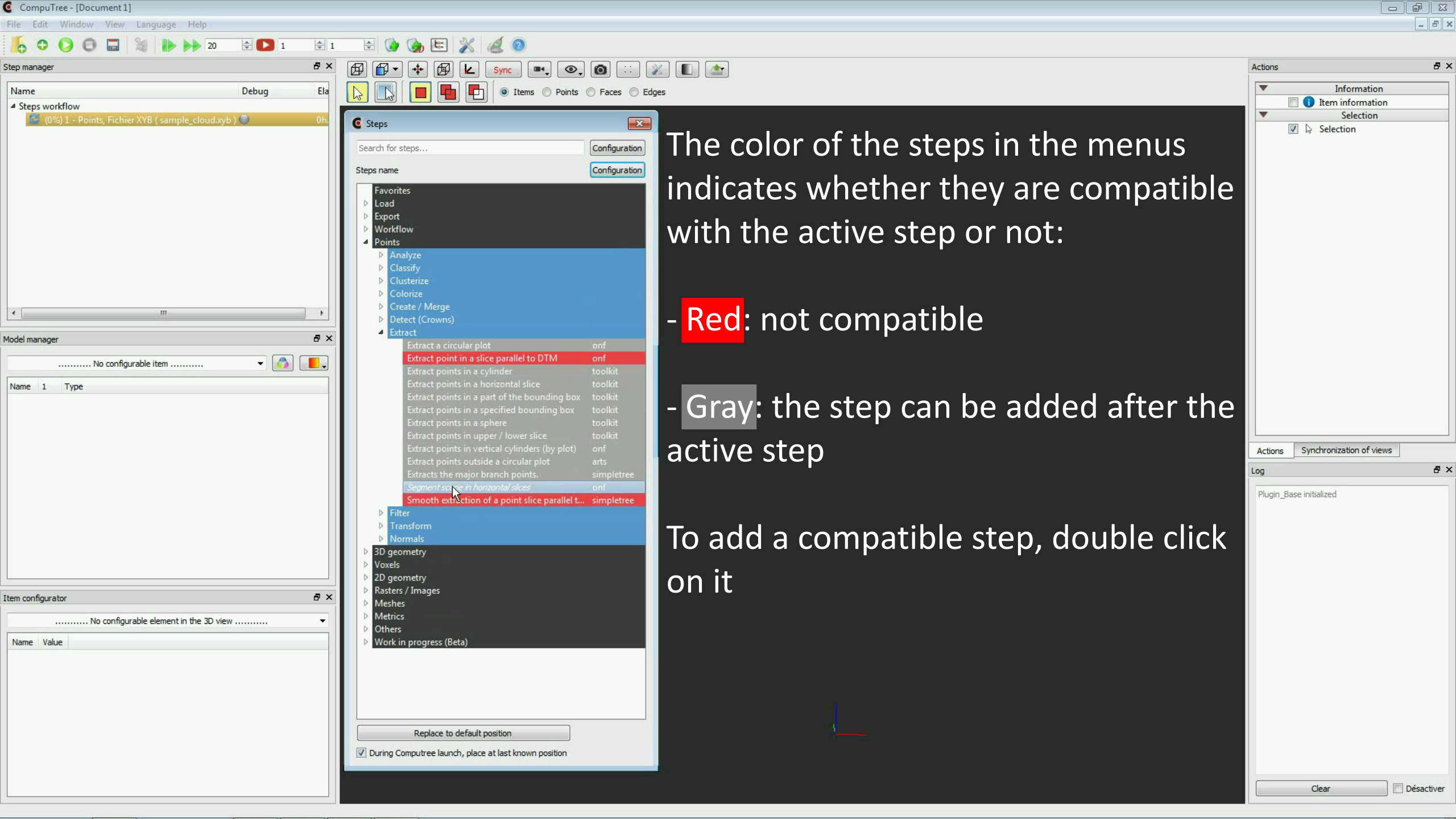

CompuTree - [Document 1]
Open a file
Ordinateur ▸ DATA (D:) ▸ COMPUTREE ▸ computree_4.0.759 ▸ sample_data
Rechercher dans : sample_data
Organiser
Nouveau dossier
Favoris
Emplacements réce
Téléchargements
Bureau
Bibliothèques
Documents
Images
Musique
Subversion
Vidéos
Ordinateur
SYSTEME (C:)
DATA (D:)
SWAP (S:)
Reseaux (\\arbre.for
Prive (U:)
Merise (\\172.18.197
Réseau
Nom
Modifié le
Type
Taille
sample_cloud.xyb
28/10/2014 16:55
Fichier XYB
14 411 Ko
Tous les fichiers valides (*.xsct2 *.ptx *.nat *.ACE2 *.* *.pbm *.adf *.n1 *.grd *.gxf *.img *.xml *.dgn *.gtx *.sdat *.ddf *.dat *.ers *.asc *.mpr *.mpl *.xyb *.grc *.til *.las *.hf
Fichiers de points .ptx (*.ptx)
GDAL EUMETSAT Archive native (*.nat)
GDAL ACE2 (*.ACE2)
GDAL GeoJSON (*.*)
Fichiers raster .pbm (*.pbm)
GDAL RadarSat 2 XML Product (*.*)
GDAL Intergraph Raster (*.*)
GDAL Arc/Info Binary Grid (*.adf)
GDAL Envisat Image Format (*.n1)
GDAL Hydrographic Transfer Vector (*.*)
GDAL Golden Software Binary Grid (*.grd)
GDAL Geoconcept (*.*)
GDAL GeoSoft Grid Exchange Format (*.gxf)
GDAL Standard Raster Product (ASRP/USRP) (*.img)
GDAL ROI_PAC raster (*.*)
GDAL ECRG TOC format (*.xml)
GDAL Microstation DGN (*.dgn)
GDAL COSAR Annotated Binary Matrix (TerraSAR-X) (*.*)
GDAL NOAA Vertical Datum .GTX (*.gtx)
GDAL SAGA GIS Binary Grid (*.sdat)
GDAL SDTS (*.*)
GDAL EOSAT FAST Format (*.*)
GDAL In Memory Raster (*.*)
GDAL SDTS Raster (*.ddf)
GDAL AirSAR Polarimetric Image (*.dat)
GDAL Storage and eXchange Format (*.*)
GDAL Generic Binary (*.*)
GDAL ERMapper .ers Labelled (*.ers)
Fichiers de points ASCII (XYZRGB, sans entête, RGB [0;1]) (*.asc)
Nom du fichier : sample_cloud.xyb
Tous les fichiers valides (*.xsct2
Ouvrir
Annuler
Actions
Information
Item information
Selection
Log
Plugin_Base initialized
Clear
Désactiver
Item configurator
..... No configurable element in the 3D view .....
Name
Value

In the case where the extension corresponds to several formats, a window allows the user to choose which one to use




CompuTree - [Document 1]
File
Edit
Window
View
Language
Help
Step manager
Name
Debug
Steps workflow
(0%) 1 - Points, Fichier XYB (sample_cloud.xyb)
Model manager
..... No configurable item .....
Name
1
Type
Item configurator
..... No configurable element in the 3D view .....
Name
Value
Sync
Items
Points
Faces
Edges
The second button is used to show / hide the steps panel
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Plugin_Base initialized
Clear
Désactiver


CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Ela
Steps workflow
(0%) 1 - Points, Fichier XYB (sample_cloud.xyb)
Model manager
..... No configurable item .....
Name 1 Type
Item configurator
..... No configurable element in the 3D view .....
Name Value
Sync
Items Points Faces Edges
Steps
Search for steps...
Configuration
Steps name
Configuration
Favorites
Load
Export
Workflow
Points
Analyze
Classify
Clusterize
Colorize
Create / Merge
Detect (Crowns)
Extract
Extract a circular plot onf
Extract point in a slice parallel to DTM onf
Extract points in a cylinder toolkit
Extract points in a horizontal slice toolkit
Extract points in a part of the bounding box toolkit
Extract points in a specified bounding box toolkit
Extract points in a sphere toolkit
Extract points in upper / lower slice toolkit
Extract points in vertical cylinders (by plot) onf
Extract points outside a circular plot arts
Extracts the major branch points. simpletree
Segment scene in horizontal slices onf
Smooth extraction of a point slice parallel t... simpletree
Filter
Transform
Normals
3D geometry
Voxels
2D geometry
Rasters / Images
Meshes
Metrics
Others
Work in progress (Beta)
Replace to default position
During Computree launch, place at last known position
The Steps panel brings together all the steps proposed by the plugins in thematic menus and allows to add them in the processing chain
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Plugin_Base initialized
Clear
Désactiver

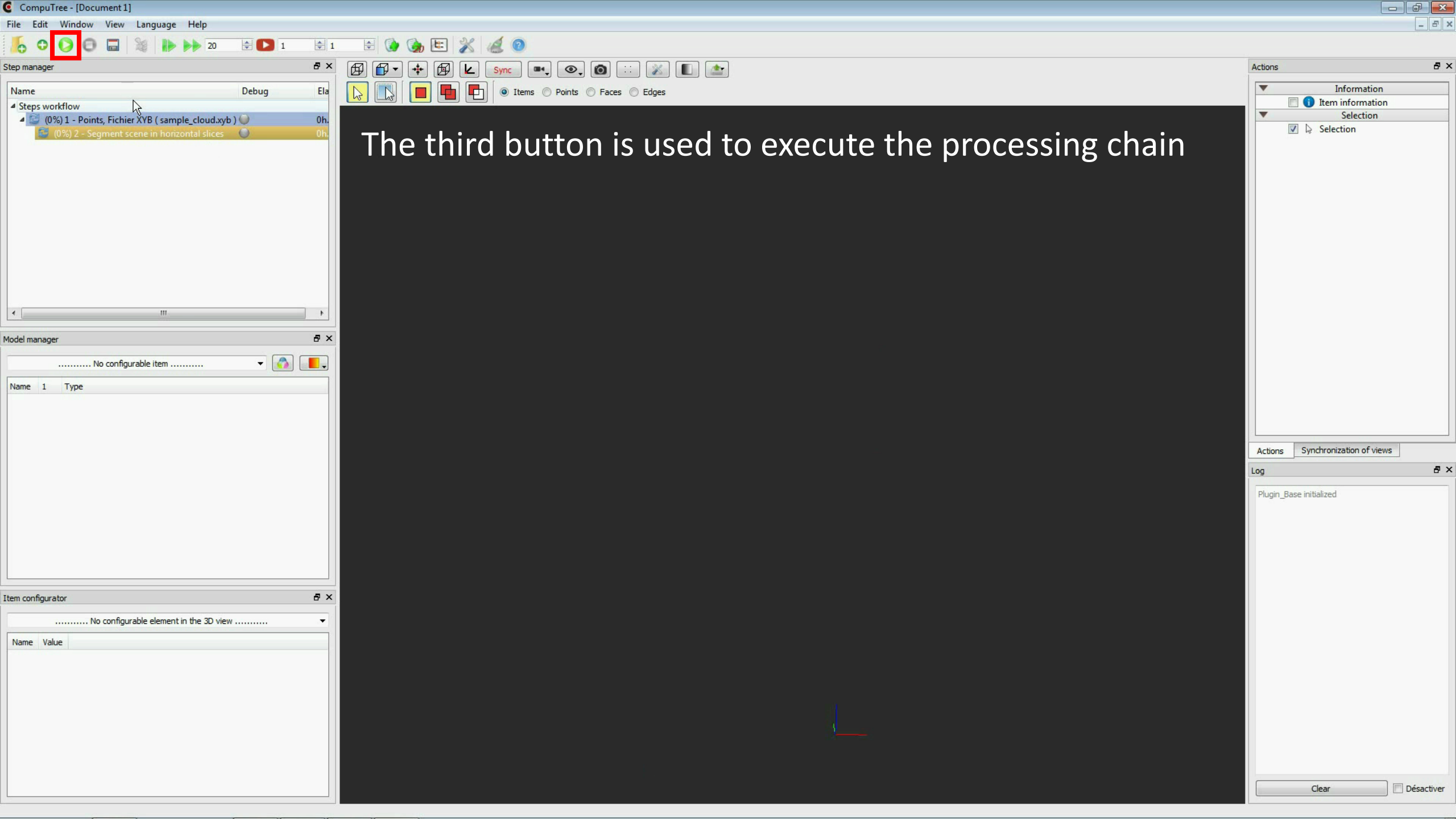


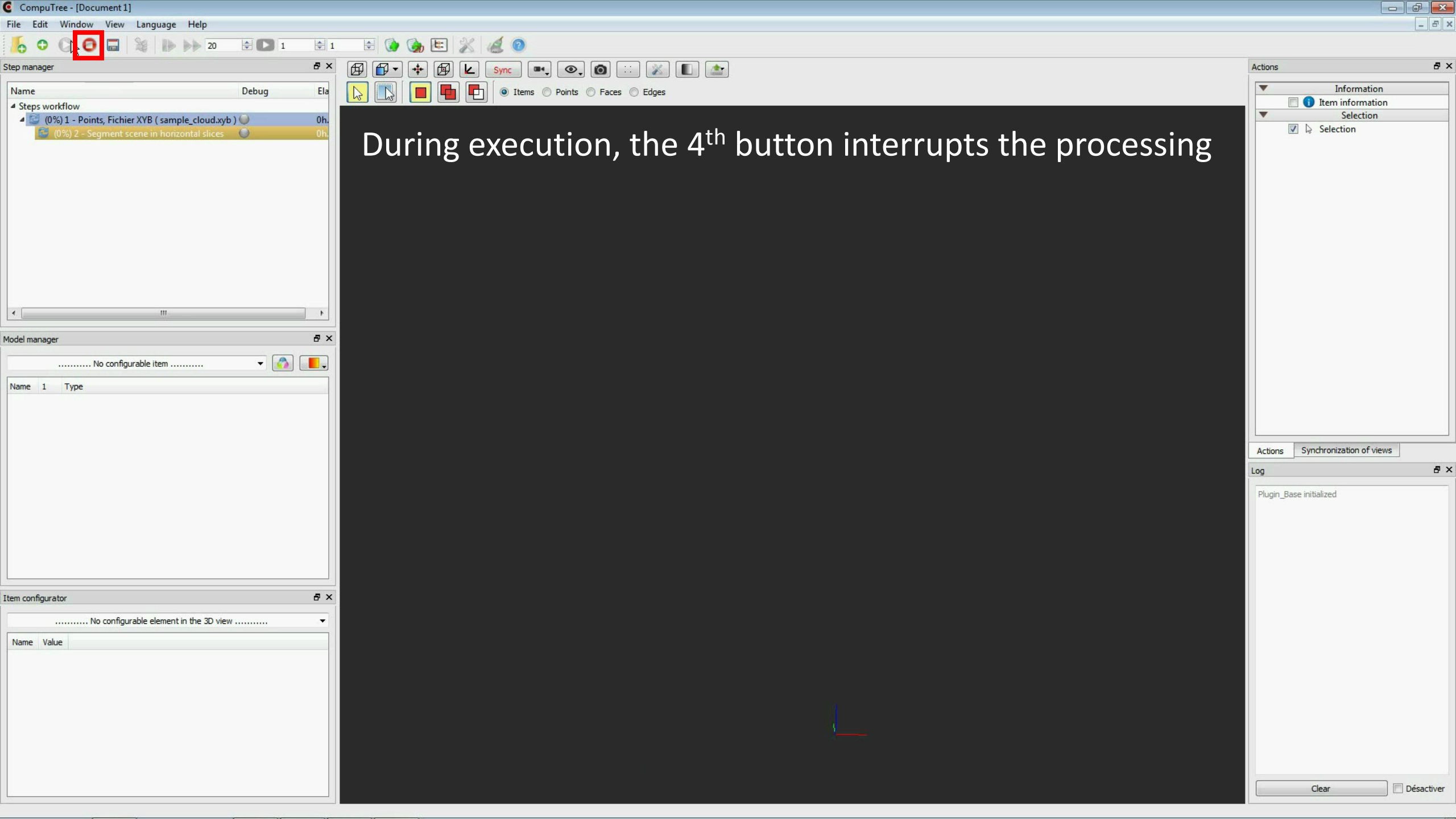
The color of the steps in the menus indicates whether they are compatible with the active step or not:

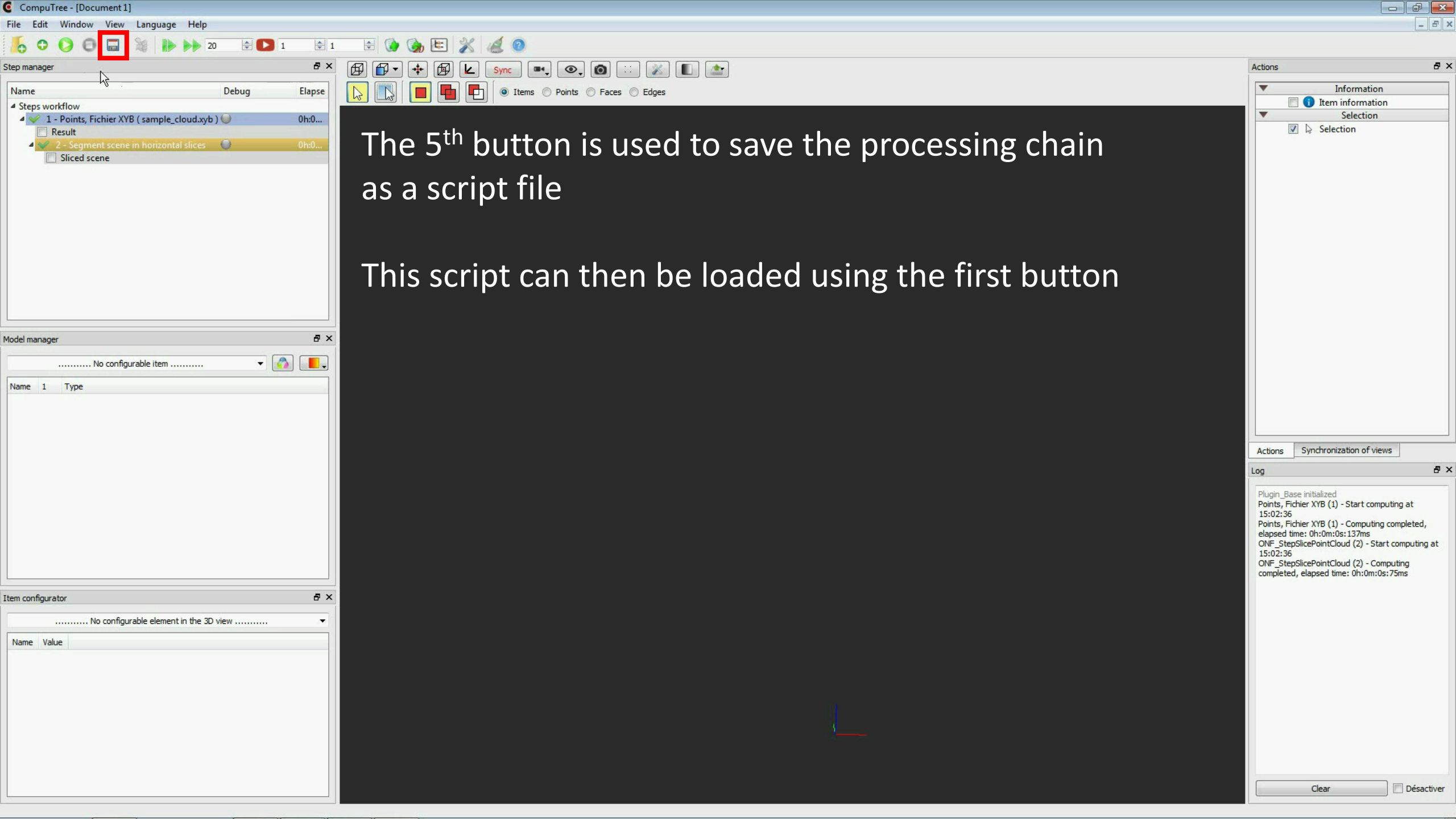
- Red: not compatible

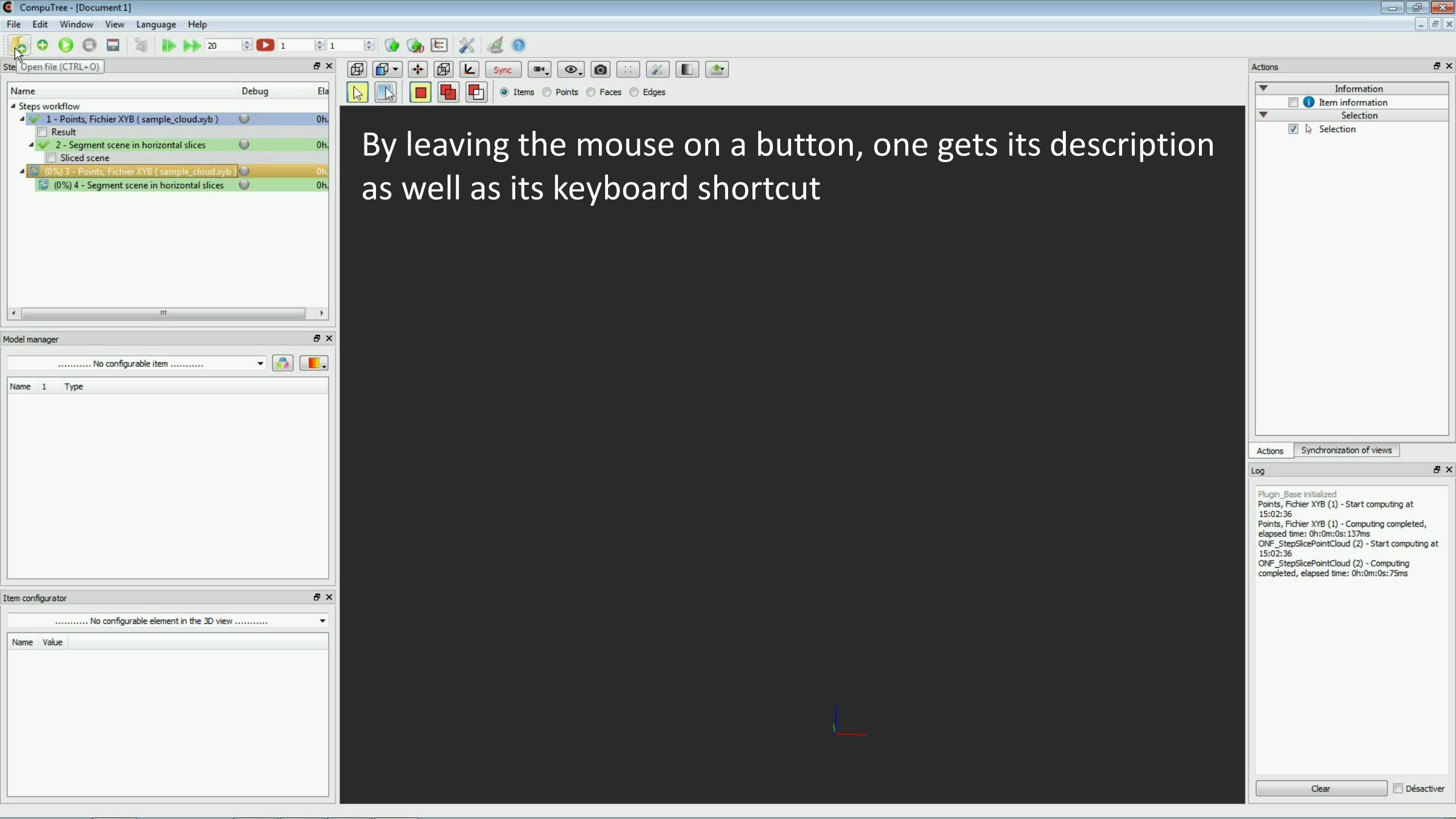
- Gray: the step can be added after the active step

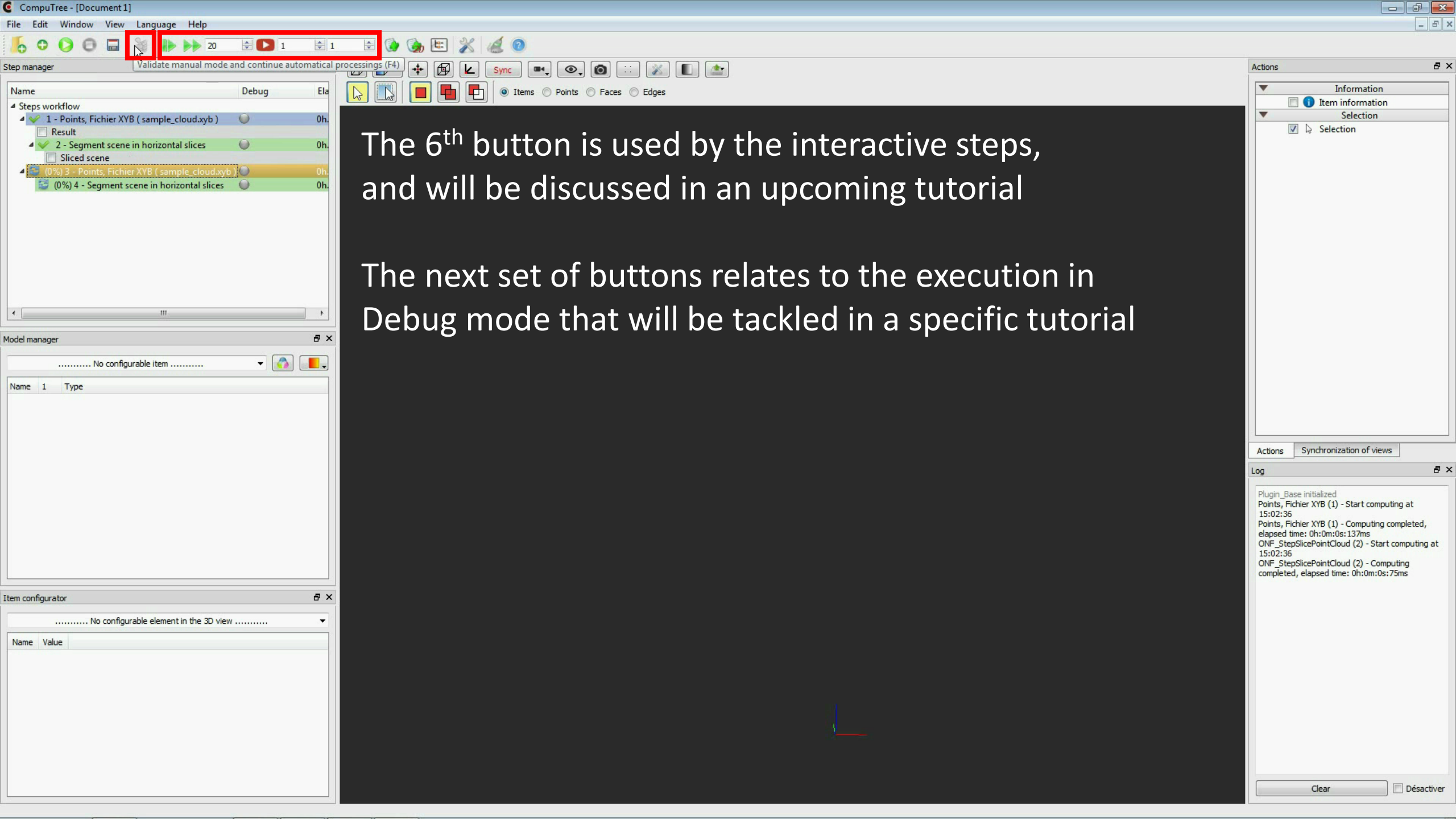
To add a compatible step, double click on it

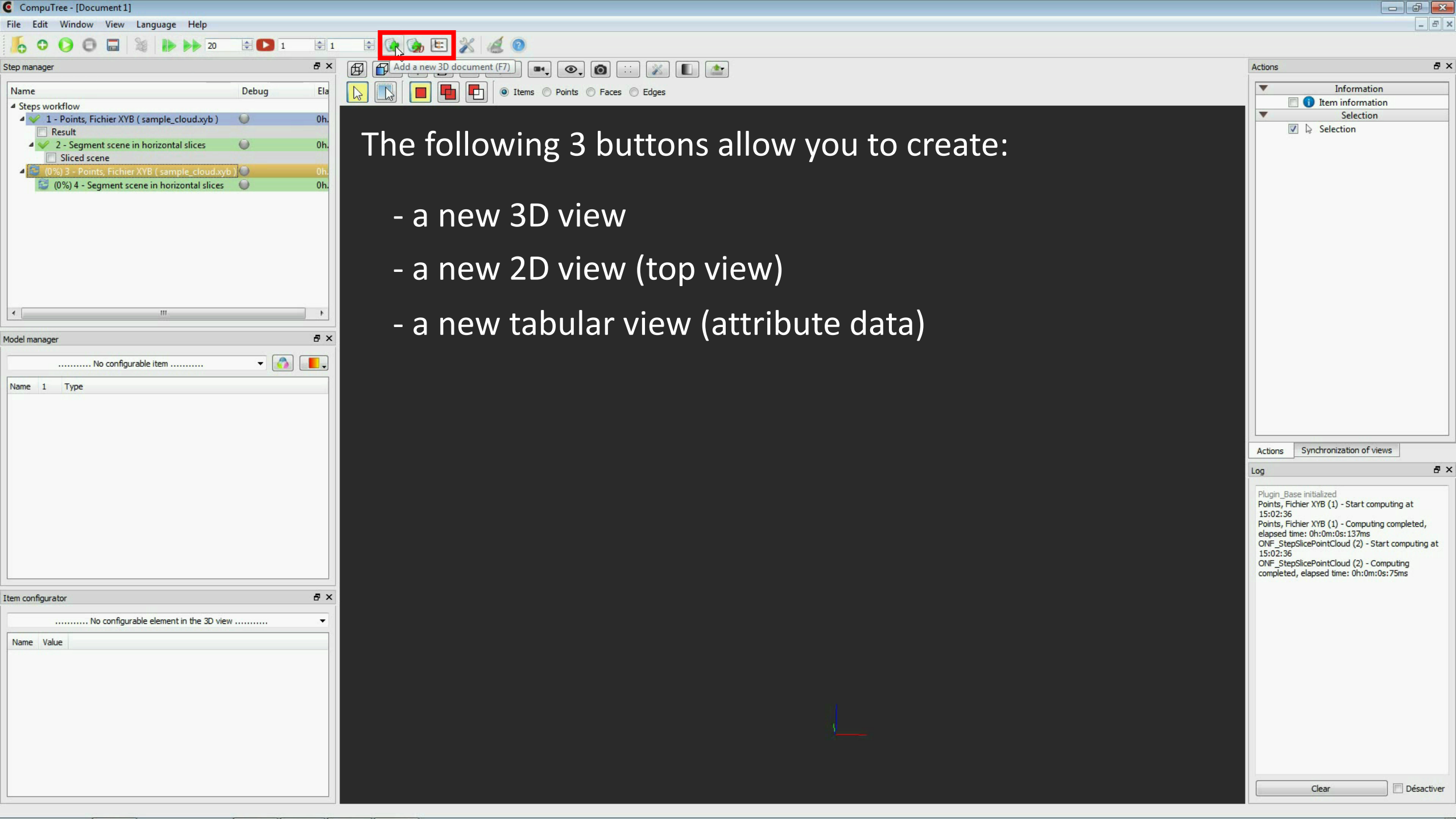

CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Ela
Steps workflow
(0%) 1 - Points, Fichier XYB (sample_cloud.xyb) 0h.
(0%) 2 - Segment scene in horizontal slices 0h.
Model manager
..... No configurable item .....
Name 1 Type
Item configurator
..... No configurable element in the 3D view .....
Name Value
Sync
Items Points Faces Edges
The third button is used to execute the processing chain
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Plugin_Base initialized
Clear
Désactiver

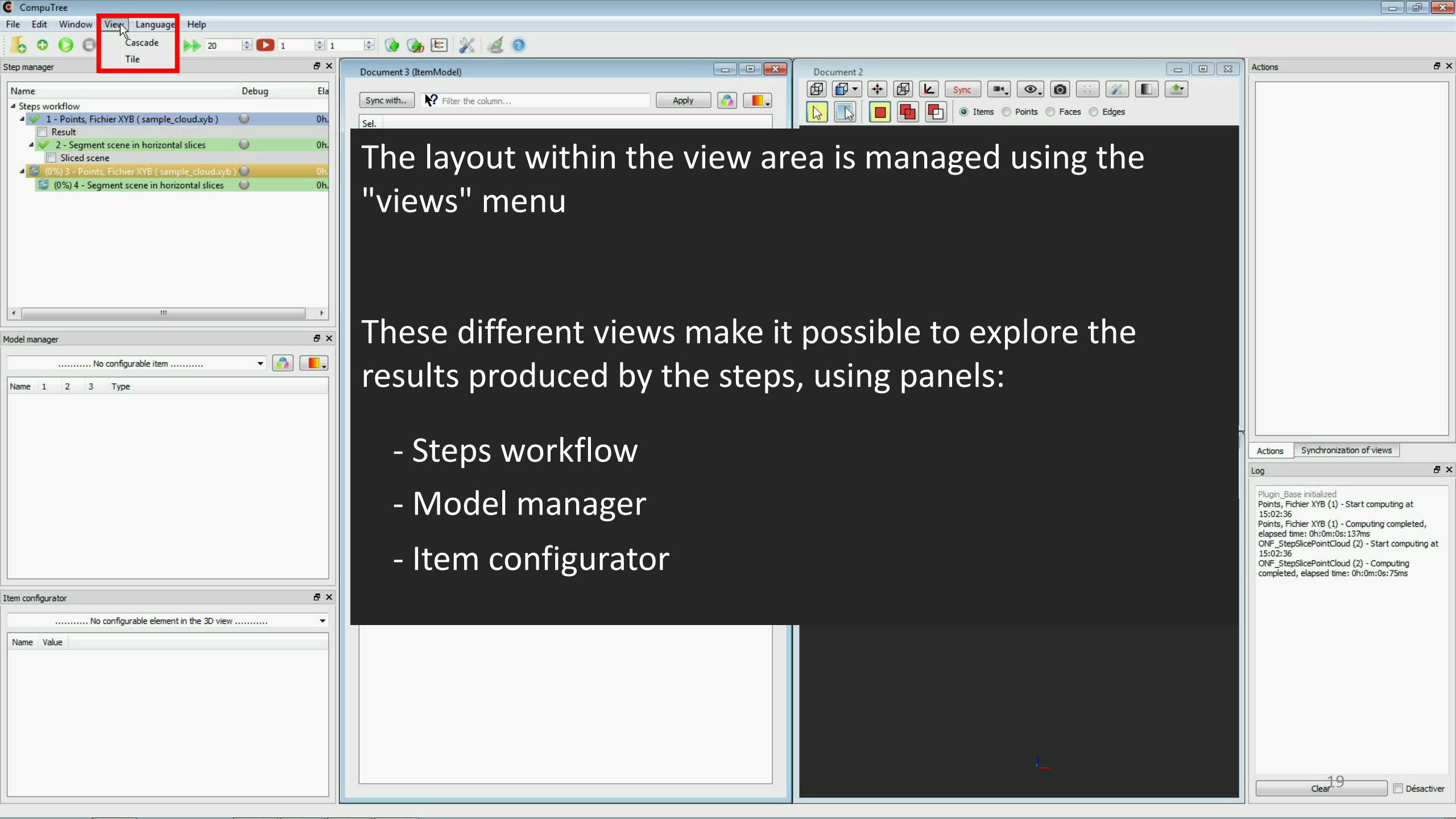

CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Ela
Steps workflow
(0%) 1 - Points, Fichier XYB (sample_cloud.xyb) 0h.
(0%) 2 - Segment scene in horizontal slices 0h.
Model manager
..... No configurable item .....
Name 1 Type
Item configurator
..... No configurable element in the 3D view .....
Name Value
Sync
Items Points Faces Edges
During execution, the 4th button interrupts the processing
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Plugin_Base initialized
Clear
Désactiver


CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Elapse
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb) 0h:0...
Result
2 - Segment scene in horizontal slices 0h:0...
Sliced scene
Model manager
..... No configurable item .....
Name 1 Type
Item configurator
..... No configurable element in the 3D view .....
Name Value
Sync
Items Points Faces Edges
The 5th button is used to save the processing chain as a script file
This script can then be loaded using the first button
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms
Clear
Désactiver


CompuTree - [Document 1]
File Edit Window View Language Help
Open file (CTRL+O)
Name Debug
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb)
Result
2 - Segment scene in horizontal slices
Sliced scene
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb)
(0%) 4 - Segment scene in horizontal slices
Model manager
..... No configurable item .....
Name 1 Type
Item configurator
..... No configurable element in the 3D view .....
Name Value
Sync
Items Points Faces Edges
By leaving the mouse on a button, one gets its description as well as its keyboard shortcut
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms
Clear
Désactiver


CompuTree - [Document 1]
File Edit Window View Language Help
Validate manual mode and continue automatical processings (F4)
Step manager
Name Debug Ela
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb)
Result
2 - Segment scene in horizontal slices
Sliced scene
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb)
(0%) 4 - Segment scene in horizontal slices
Model manager
..... No configurable item .....
Name 1 Type
Item configurator
..... No configurable element in the 3D view .....
Name Value
Sync
Items Points Faces Edges
The 6th button is used by the interactive steps,
and will be discussed in an upcoming tutorial
The next set of buttons relates to the execution in
Debug mode that will be tackled in a specific tutorial
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms
Clear
Désactiver

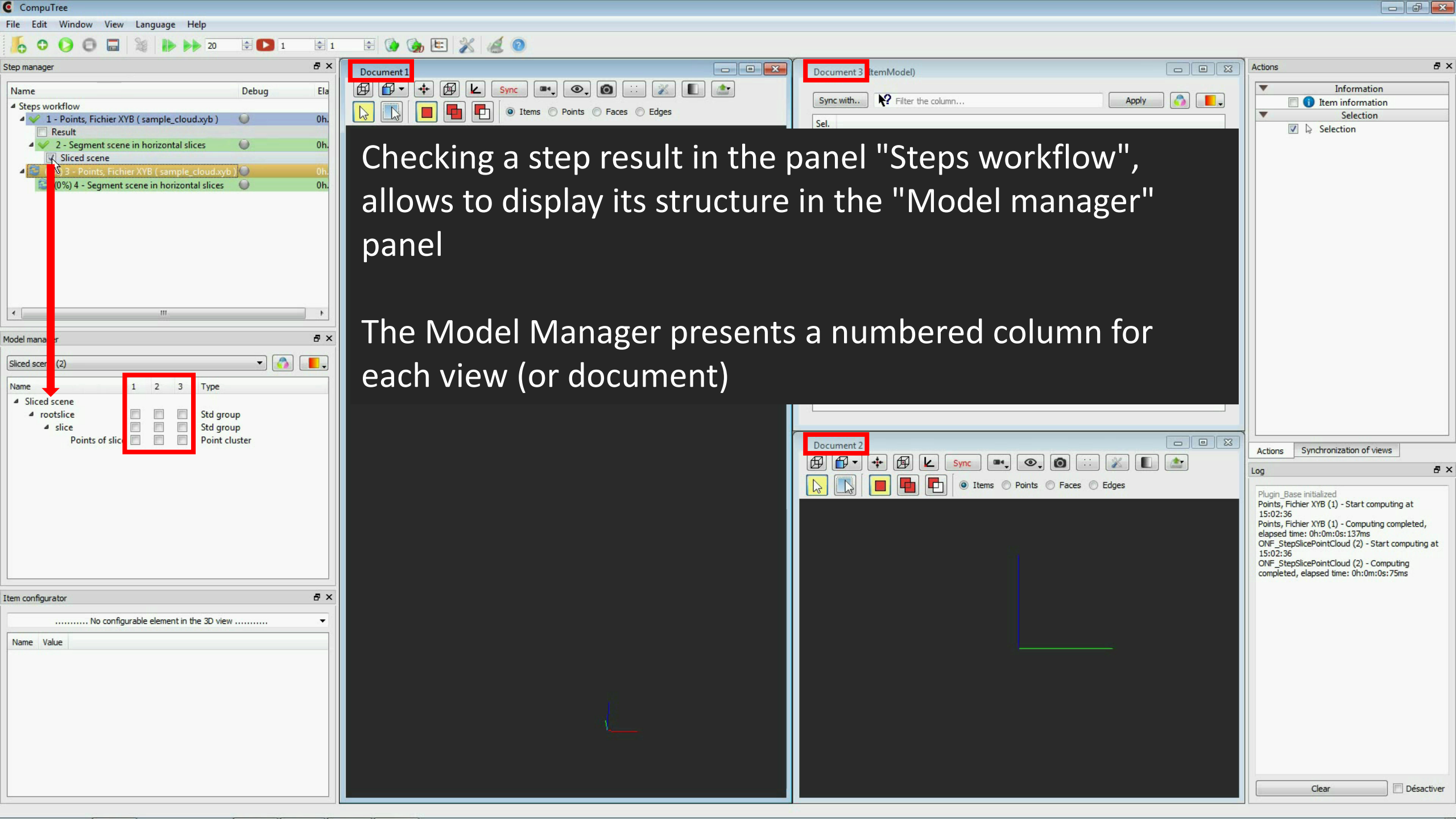

CompuTree - [Document 1]
File Edit Window View Language Help
Add a new 3D document (F7)
Step manager
Name Debug Ela
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb) 0h.
Result
2 - Segment scene in horizontal slices 0h.
Sliced scene
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb) 0h.
(0%) 4 - Segment scene in horizontal slices 0h.
Model manager
..... No configurable item .....
Name 1 Type
Item configurator
..... No configurable element in the 3D view .....
Name Value
Items Points Faces Edges
The following 3 buttons allow you to create:
- a new 3D view
- a new 2D view (top view)
- a new tabular view (attribute data)
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms
Clear
Désactiver



The layout within the view area is managed using the "views" menu

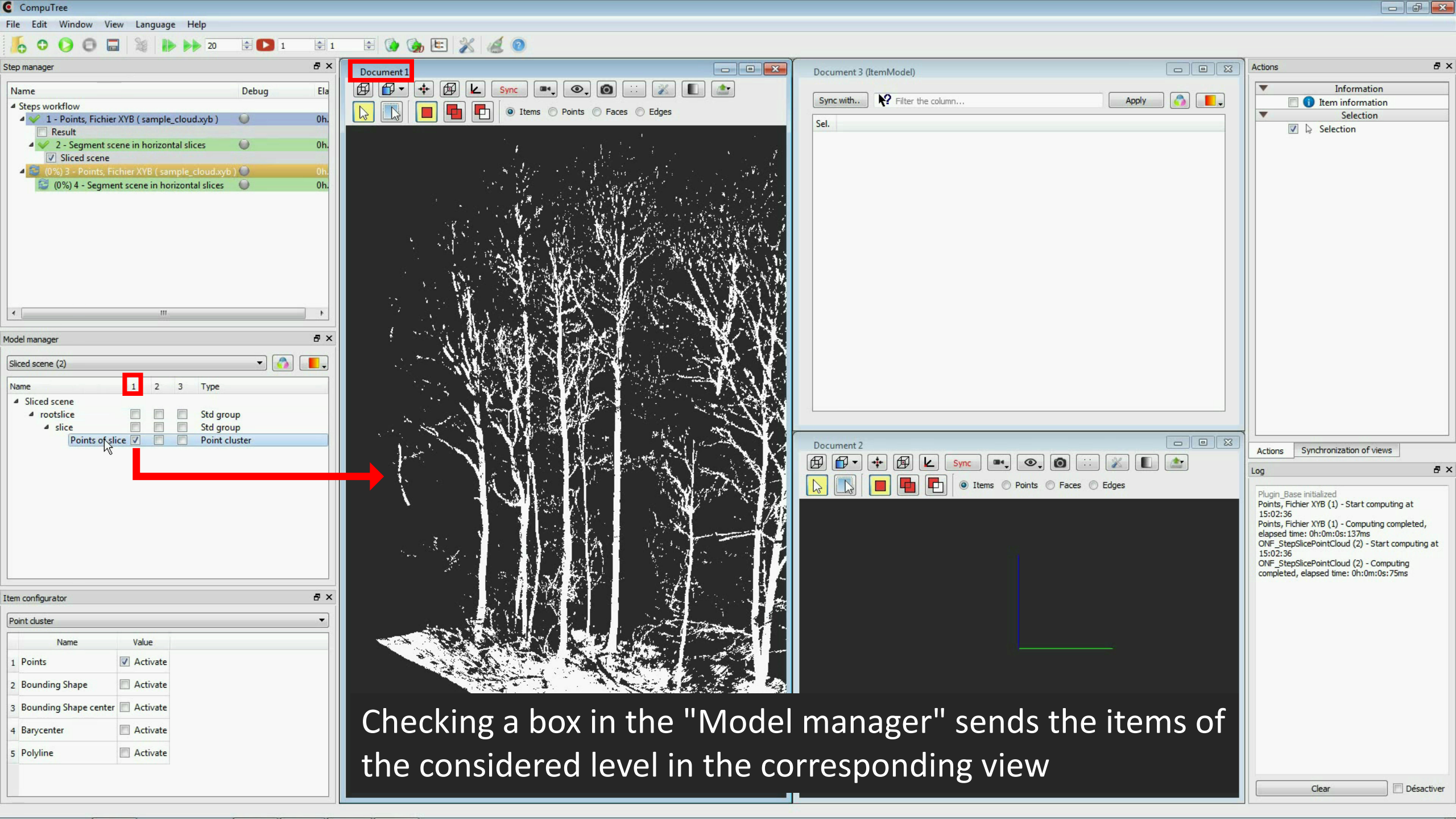
These different views make it possible to explore the results produced by the steps, using panels:

- Steps workflow
- Model manager
- Item configurator



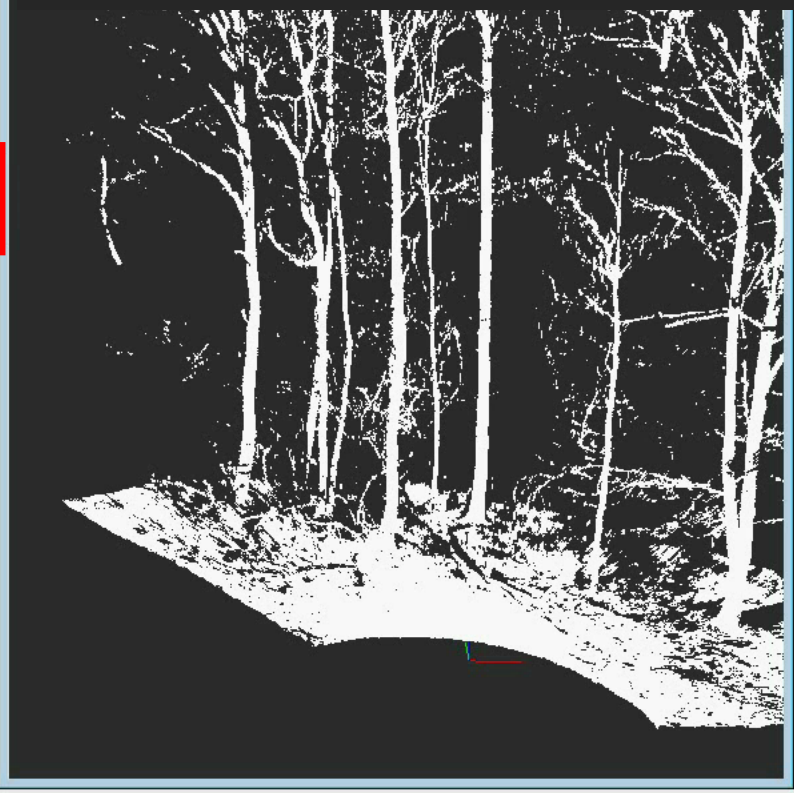
Checking a step result in the panel "Steps workflow", allows to display its structure in the "Model manager" panel

The Model Manager presents a numbered column for each view (or document)

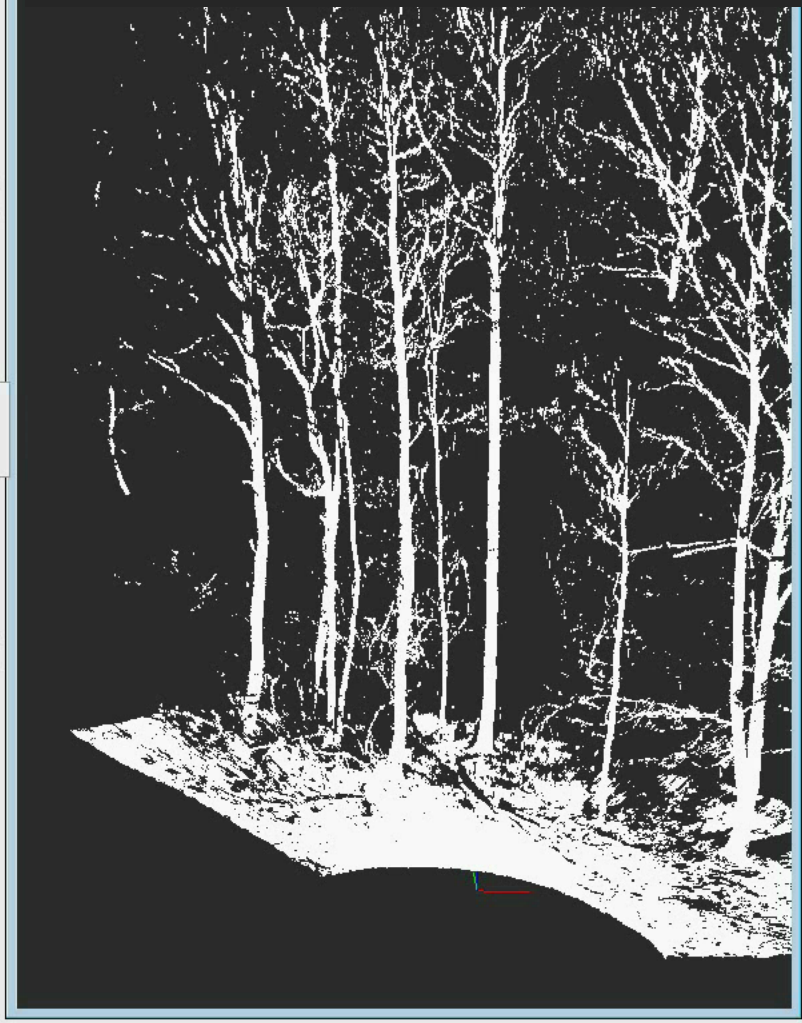

CompuTree
File Edit Window View Language Help
Step manager
Name Debug Ela
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb) 0h.
Result
2 - Segment scene in horizontal slices 0h.
Sliced scene
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb) 0h.
(0%) 4 - Segment scene in horizontal slices 0h.
Model manager
Sliced scene (2)
Name 1 2 3 Type
Sliced scene
rootslice Std group
slice Std group
Points of slice Point cluster
Item configurator
Point cluster
Name Value
1 Points Activate
2 Bounding Shape Activate
3 Bounding Shape center Activate
4 Barycenter Activate
5 Polyline Activate
Document 1
Sync
Items Points Faces Edges
Document 3 (ItemModel)
Sync with..
Filter the column...
Apply
Sel.
Document 2
Sync
Items Points Faces Edges
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms
Clear
Désactiver
Checking a box in the "Model manager" sends the items of the considered level in the corresponding view

Right clicking on a level allows access to the coloring menu of the displayed items

For each mode, a sub-menu allows to choose the view for which to apply the colorization



The first mode allows the application of a solid color to all the items of the considered level



CompuTree

File Edit Window View Language Help

Step manager

Name	Debug	Ela
Steps workflow		
1 - Points, Fichier XYB (sample_cloud.xyb)		0h.
Result		
2 - Segment scene in horizontal slices		0h.
Sliced scene		
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb)		0h.
(0%) 4 - Segment scene in horizontal slices		0h.

Model manager

Sliced scene (2)

Name	1	2	3	Type
Sliced scene				
rootslice	☐	☐	☐	Std group
slice	☐	☐	☐	Std group
Points of slice	☑	☐	☐	Point cluster

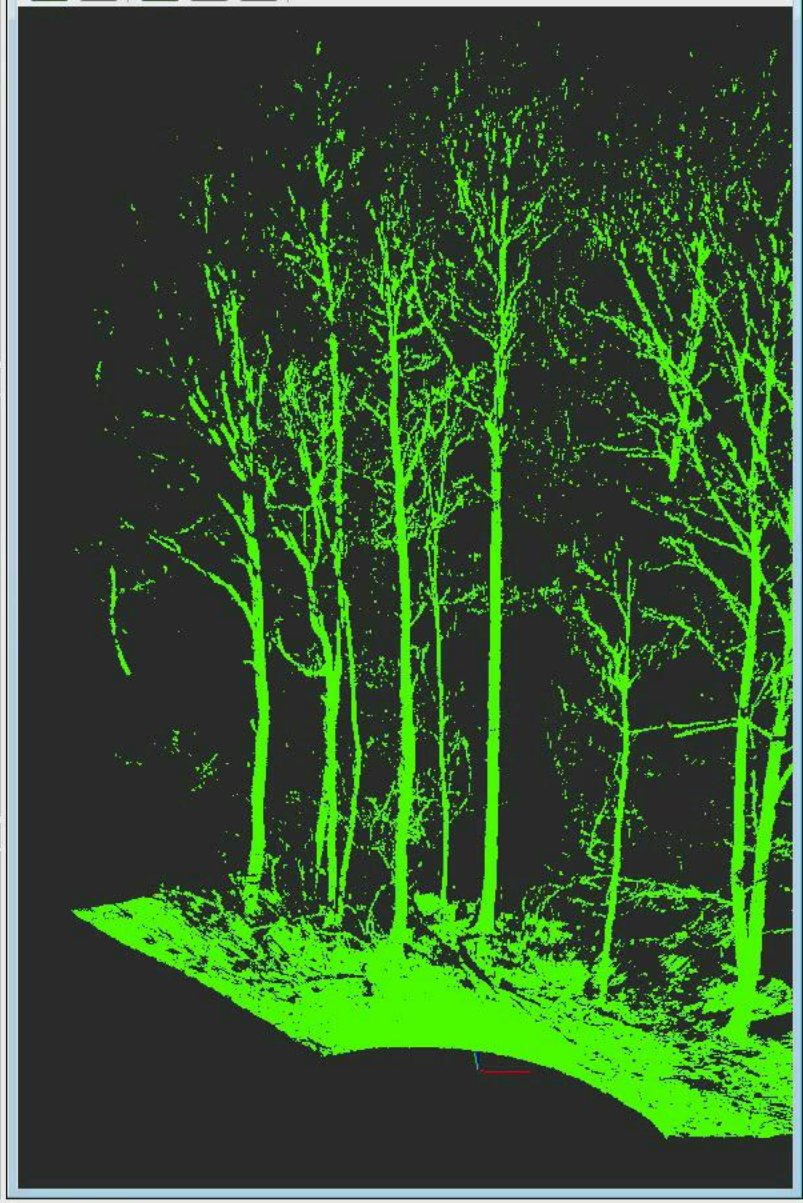
Item configurator

Point cluster

	Name	Value
1	Points	☑ Activate
2	Bounding Shape	☐ Activate
3	Bounding Shape center	☐ Activate
4	Barycenter	☐ Activate
5	Polyline	☐ Activate

Document 1

Sync | Items Points Faces Edges



Document 3 (ItemModel)

Sync with.. | Filter the column... | Apply

Sel.

Document 2

Sync | Items Points Faces Edges

Actions

Information
- Item information

Selection
- Selection

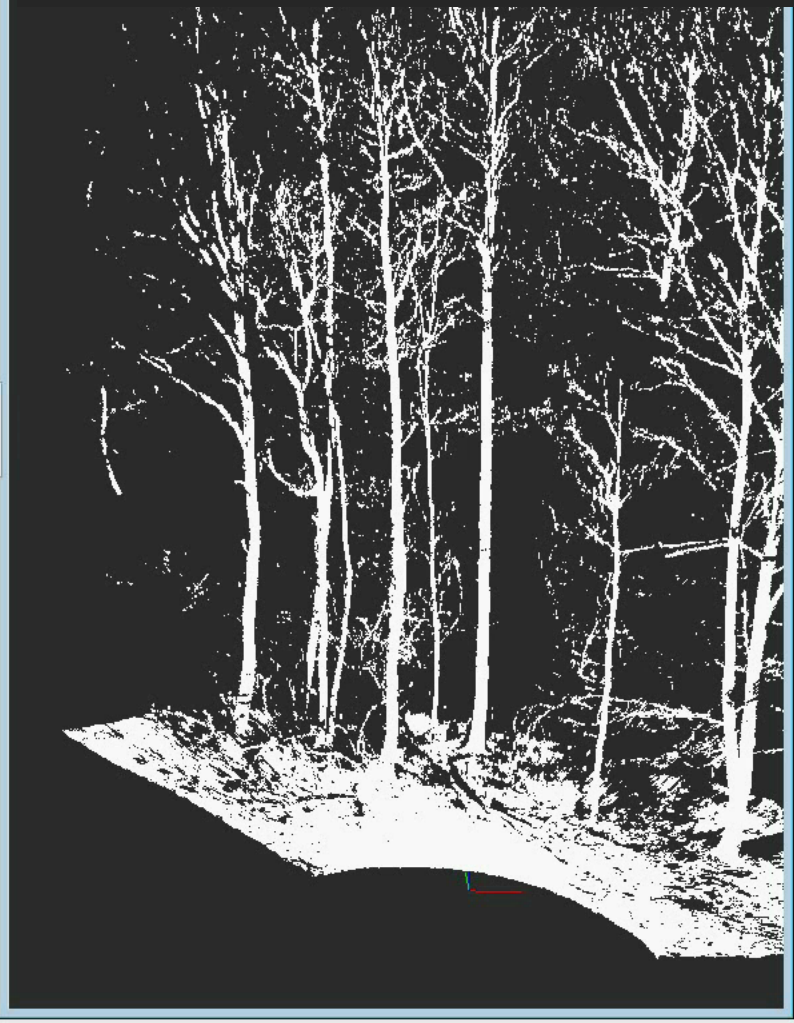
Actions | Synchronization of views

Log

Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms

Clear | ☐ Désactiver

The second mode allows a differentiated colorization of each item of the considered level



CompuTree

File Edit Window View Language Help

Step manager

Name	Debug	Ela
Steps workflow		
1 - Points, Fichier XYB (sample_cloud.xyb)		0h.
Result		
2 - Segment scene in horizontal slices		0h.
Sliced scene		
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb)		0h.
(0%) 4 - Segment scene in horizontal slices		0h.

Model manager

Sliced scene (2)

Name	1	2	3	Type
Sliced scene				
rootslice	☐	☐	☐	Std group
slice	☐	☐	☐	Std group
Points of slice	☑	☐	☐	Point cluster

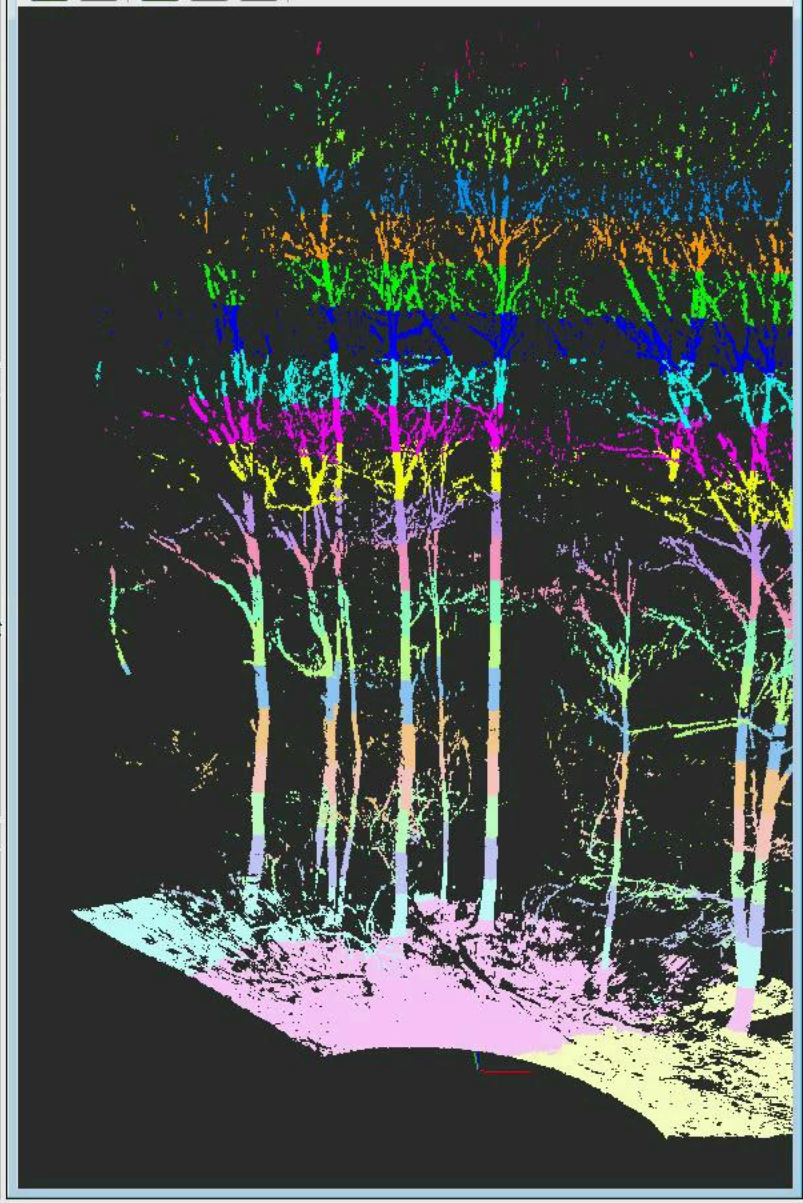
Item configurator

Point cluster

	Name	Value
1	Points	☑ Activate
2	Bounding Shape	☐ Activate
3	Bounding Shape center	☐ Activate
4	Barycenter	☐ Activate
5	Polyline	☐ Activate

Document 1

Sync | Items Points Faces Edges



Document 3 (ItemModel)

Sync with.. | Filter the column... | Apply

Sel.

Document 2

Sync | Items Points Faces Edges

Actions

Information
- Item information

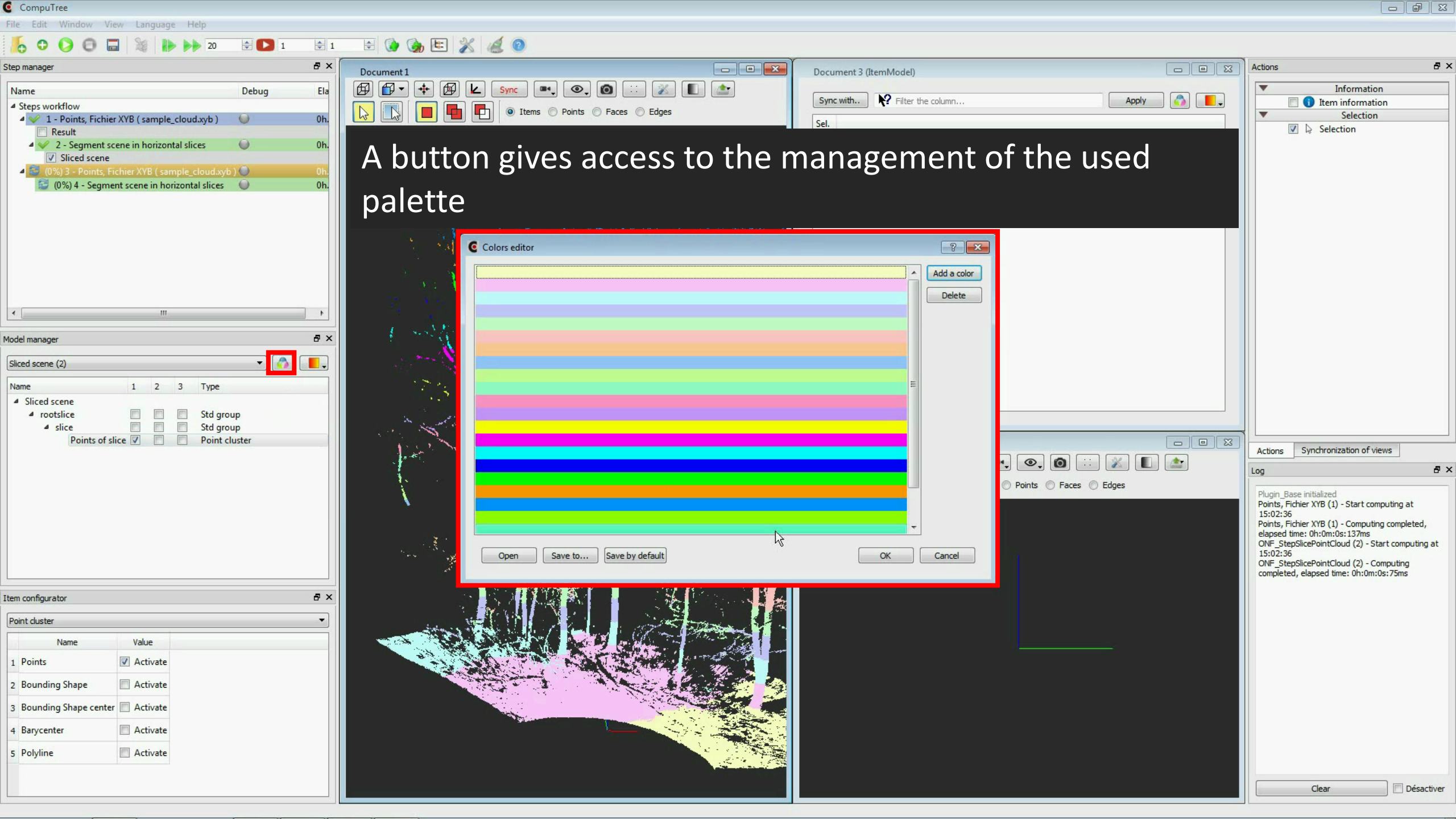
Selection
- Selection

Actions | Synchronization of views

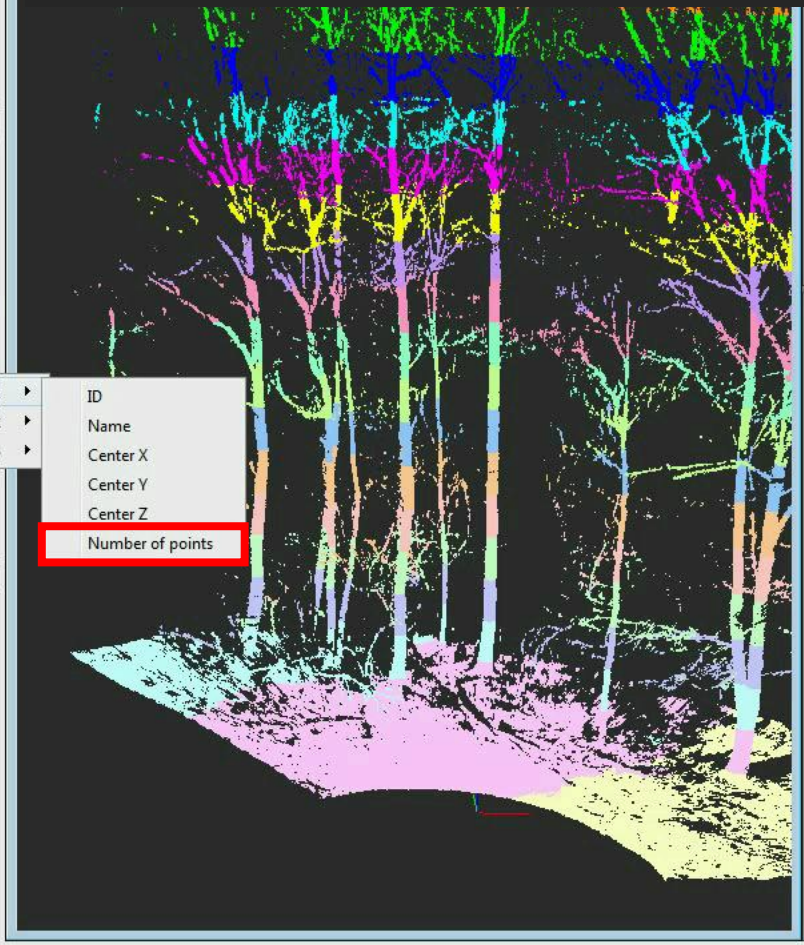
Log

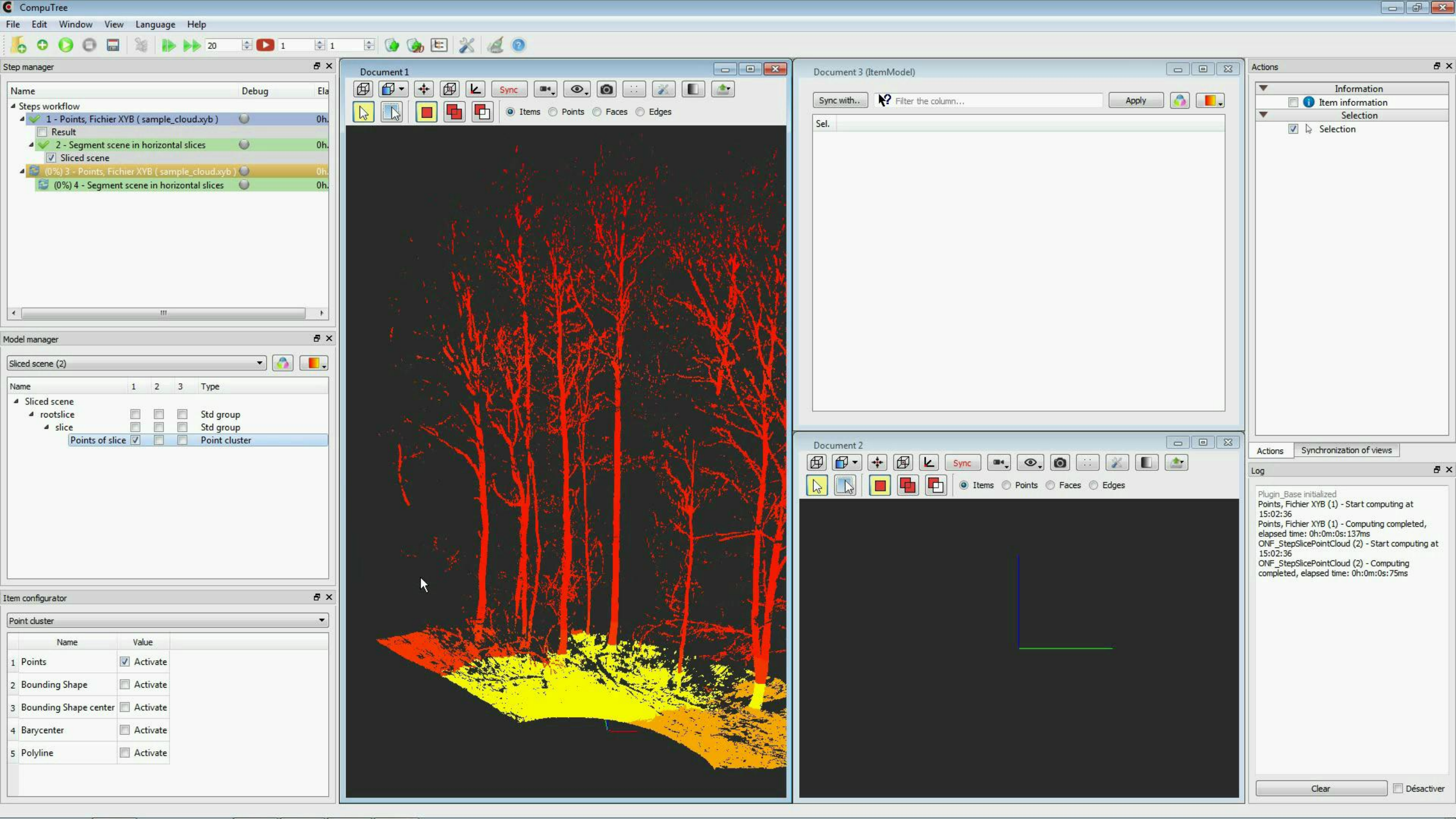
Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms

Clear | ☐ Désactiver

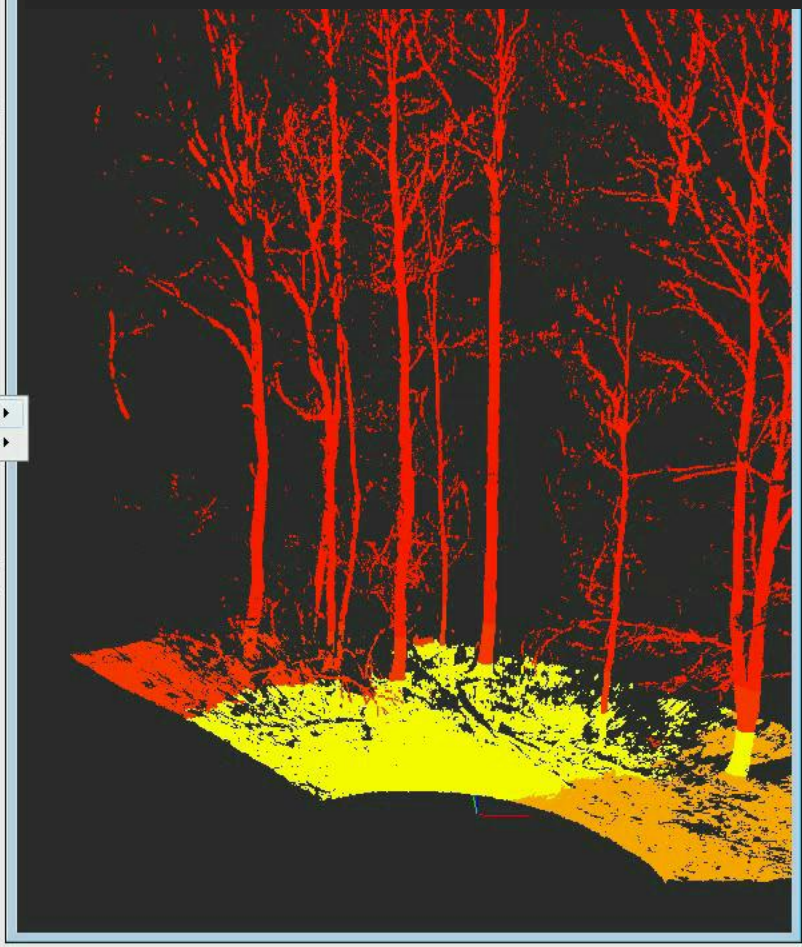

CompuTree
File Edit Window View Language Help
Step manager
Name Debug Ela
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb) 0h.
Result
2 - Segment scene in horizontal slices 0h.
Sliced scene
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb) 0h.
(0%) 4 - Segment scene in horizontal slices 0h.
Model manager
Sliced scene (2)
Name 1 2 3 Type
Sliced scene
rootslice Std group
slice Std group
Points of slice Point cluster
Item configurator
Point cluster
Name Value
1 Points Activate
2 Bounding Shape Activate
3 Bounding Shape center Activate
4 Barycenter Activate
5 Polyline Activate
Document 1
Sync
Items Points Faces Edges
Document 3 (ItemModel)
Sync with..
Filter the column...
Apply
Sel.
A button gives access to the management of the used palette
Colors editor
Add a color
Delete
Open
Save to...
Save by default
OK
Cancel
Points Faces Edges
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms
Clear
Désactiver

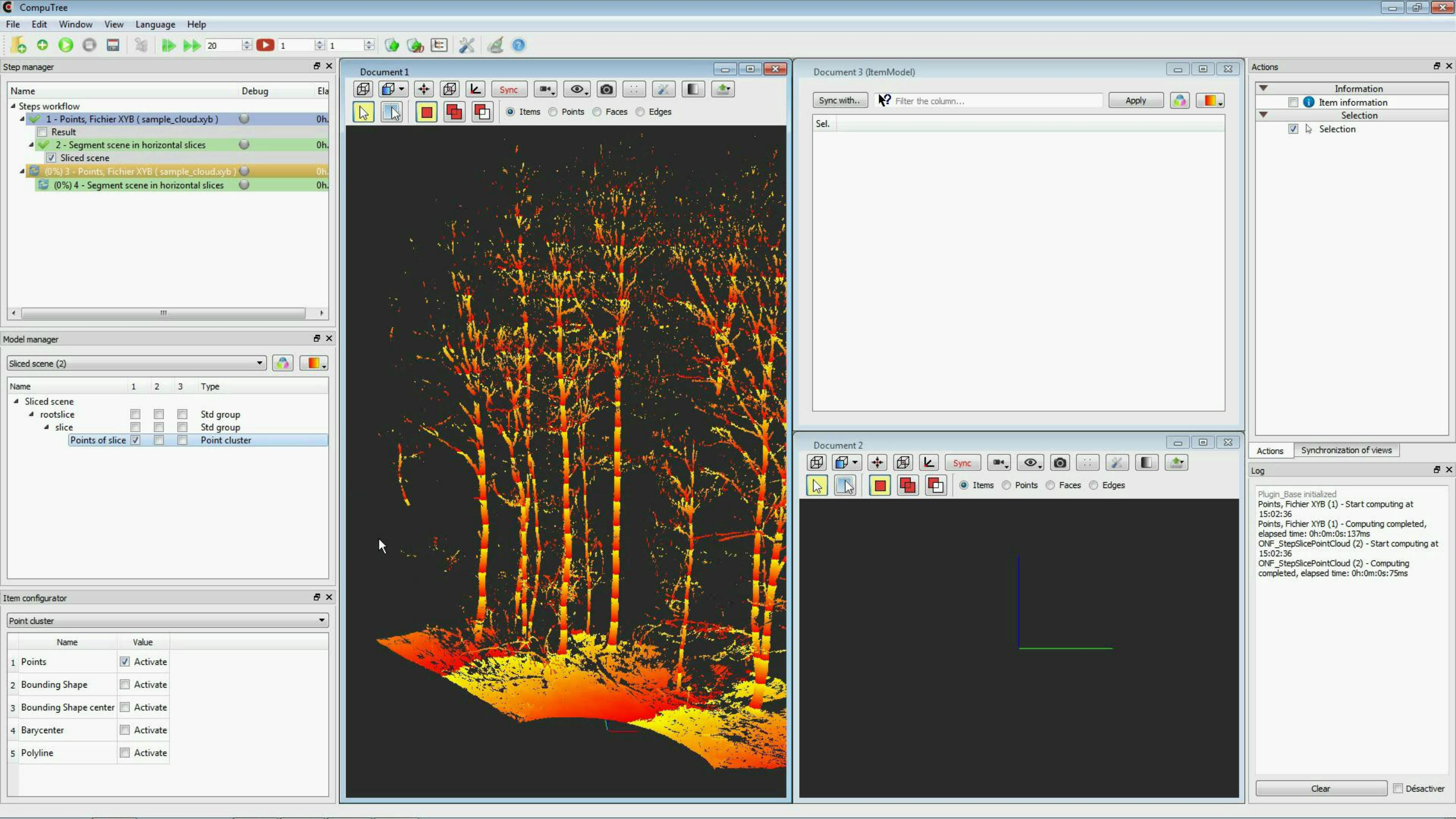
The third mode allows a colorization of the items of the considered level, according to one of their attributes (e.g. number of points in the cluster)



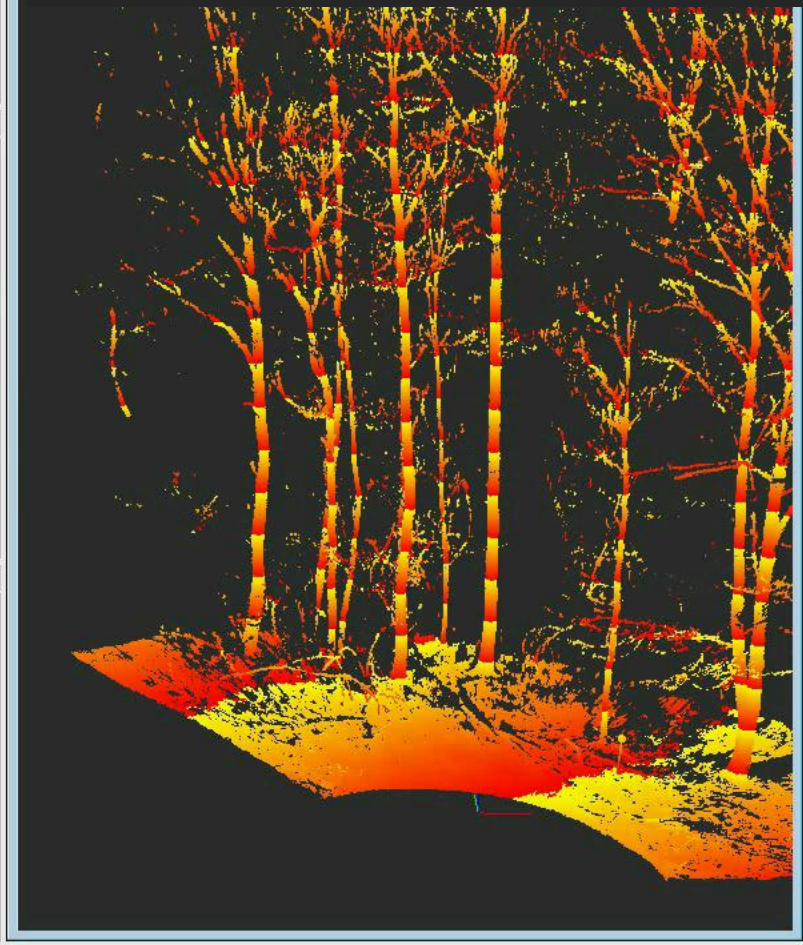

CompuTree
File Edit Window View Language Help
Step manager
Name Debug Ela
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb) 0h.
Result
2 - Segment scene in horizontal slices 0h.
Sliced scene
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb) 0h.
(0%) 4 - Segment scene in horizontal slices 0h.
Model manager
Sliced scene (2)
Name 1 2 3 Type
Sliced scene
rootslice Std group
slice Std group
Points of slice Point cluster
Item configurator
Point cluster
Name Value
1 Points Activate
2 Bounding Shape Activate
3 Bounding Shape center Activate
4 Barycenter Activate
5 Polyline Activate
Document 1
Sync
Items Points Faces Edges
Document 3 (ItemModel)
Sync with..
Filter the column...
Apply
Sel.
Document 2
Sync
Items Points Faces Edges
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms
Clear
Désactiver

The 4th mode, only applicable to items containing points, uses for each item a colorization gradient based on X, Y or Z coordinates




CompuTree
File Edit Window View Language Help
Step manager
Name Debug Ela
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb) 0h.
Result
2 - Segment scene in horizontal slices 0h.
Sliced scene
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb) 0h.
(0%) 4 - Segment scene in horizontal slices 0h.
Model manager
Sliced scene (2)
Name 1 2 3 Type
Sliced scene
rootslice Std group
slice Std group
Points of slice Point cluster
Item configurator
Point cluster
Name Value
1 Points Activate
2 Bounding Shape Activate
3 Bounding Shape center Activate
4 Barycenter Activate
5 Polyline Activate
Document 1
Sync
Items Points Faces Edges
Document 3 (ItemModel)
Sync with..
Filter the column...
Apply
Sel.
Document 2
Sync
Items Points Faces Edges
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms
Clear
Désactiver

The 5th mode, only applicable to items containing points, uses a colorization gradient based on X, Y or Z coordinates for all displayed items



CompuTree

File Edit Window View Language Help

Step manager

Name	Debug	Ela
Steps workflow		
1 - Points, Fichier XYB (sample_cloud.xyb)		0h.
Result		
2 - Segment scene in horizontal slices		0h.
Sliced scene		
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb)		0h.
(0%) 4 - Segment scene in horizontal slices		0h.

Model manager

Sliced scene (2)

Name	1	2	3	Type
Sliced scene				
rootslice				Std group
slice				Std group
Points of slice				Point cluster

Plain color
Automatic color
Colorize by...
Colorize points of each element by
Colorize points of all elements by

Item configurator

Point cluster

	Name	Value
1	Points	Activate
2	Bounding Shape	Activate
3	Bounding Shape center	Activate
4	Barycenter	Activate
5	Polyline	Activate

Document 1

Sync Items Points Faces Edges

Document 3 (ItemModel)

Sync with.. Filter the column... Apply

Sel.

Document 2

Sync Items Points Faces Edges

Actions

Information
Item information
Selection
Selection

Actions Synchronization of views

Log

Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms

Clear Désactiver

CompuTree

File Edit Window View Language Help

Step manager

Name	Debug	Ela
Steps workflow		
1 - Points, Fichier XYB (sample_cloud.xyb)		0h.
Result		
2 - Segment scene in horizontal slices		0h.
Sliced scene		
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb)		0h.
(0%) 4 - Segment scene in horizontal slices		0h.

Model manager

Sliced scene (2)

Name	1	2	3	Type
Sliced scene				
rootslice	☐	☐	☐	Std group
slice	☐	☐	☐	Std group
Points of slice	☑	☐	☐	Point cluster

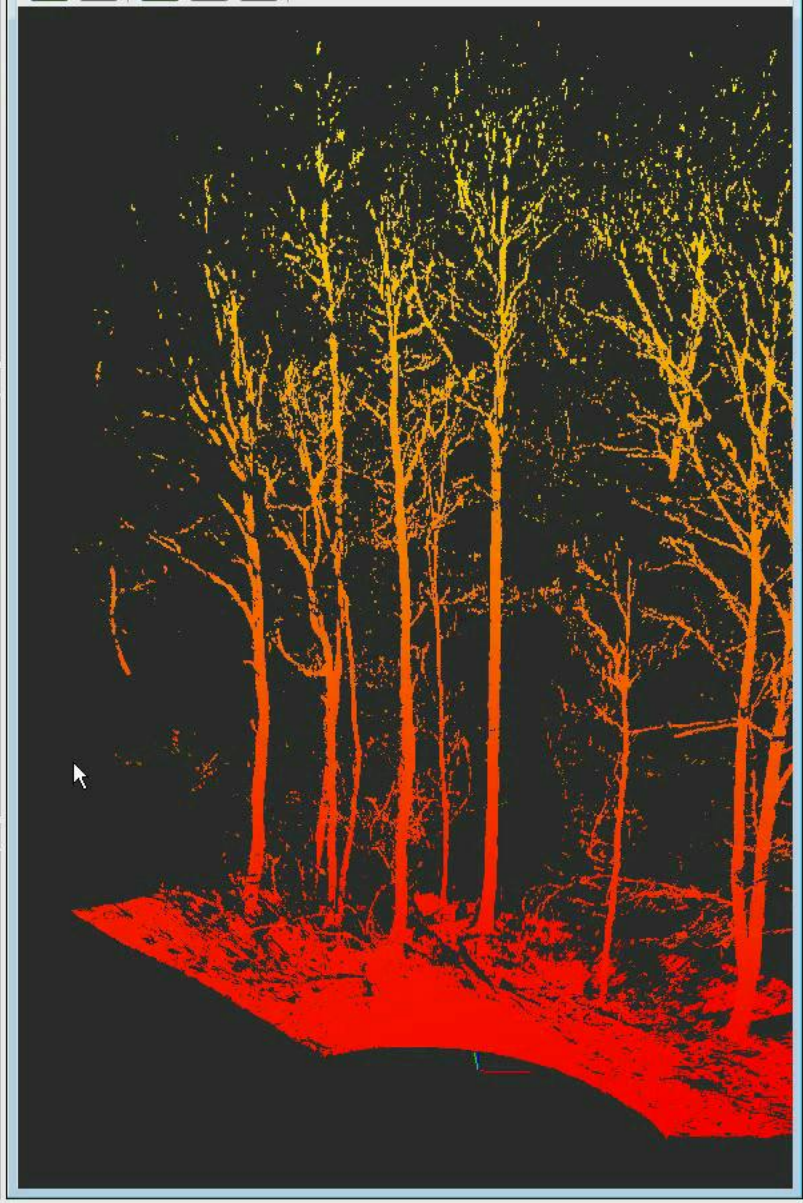
Item configurator

Point cluster

	Name	Value
1	Points	☑ Activate
2	Bounding Shape	☐ Activate
3	Bounding Shape center	☐ Activate
4	Barycenter	☐ Activate
5	Polyline	☐ Activate

Document 1

Sync | Items Points Faces Edges



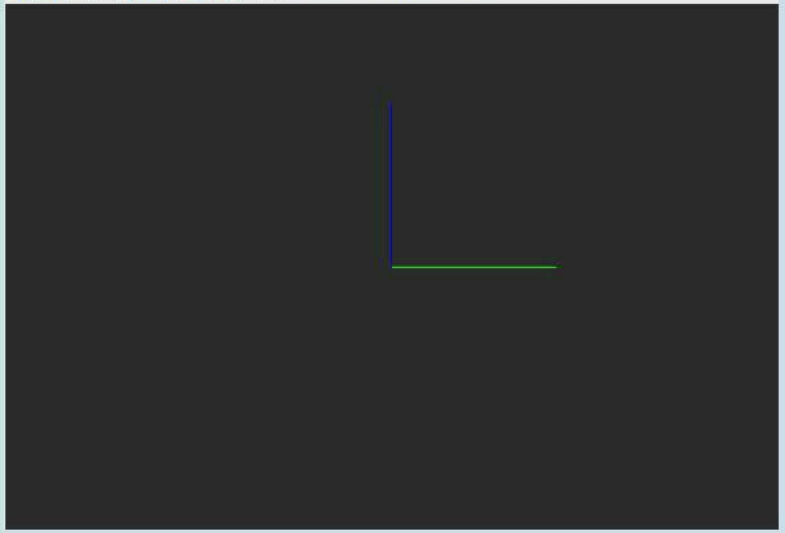
Document 3 (ItemModel)

Sync with.. | Filter the column... | Apply

Sel.

Document 2

Sync | Items Points Faces Edges



Actions

- Information
  - Item information
- Selection
  - Selection

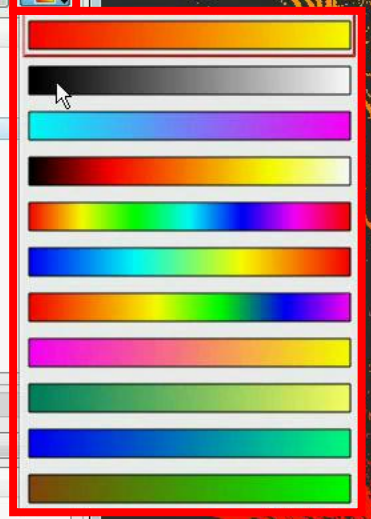
Actions | Synchronization of views

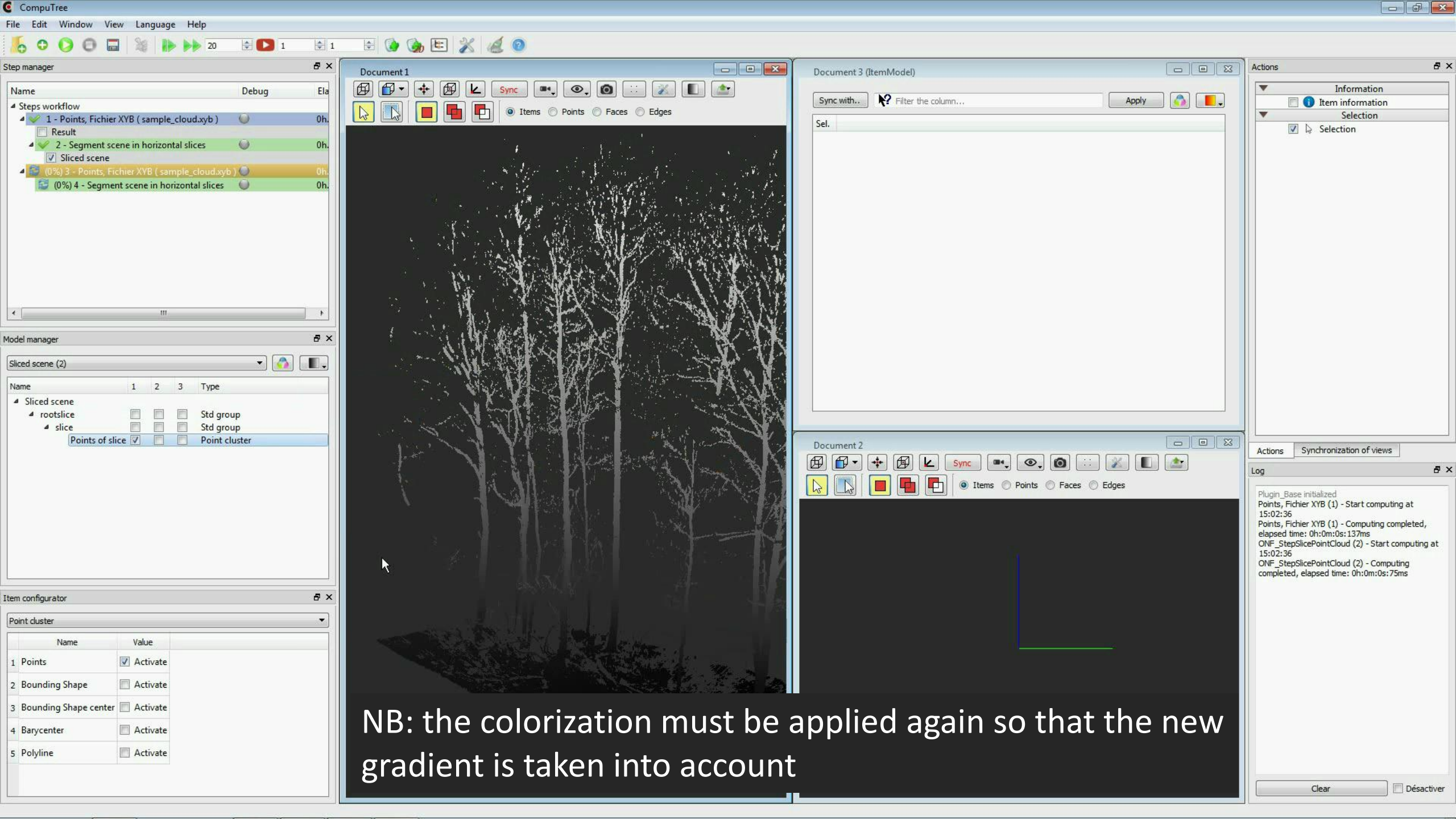
Log

```
Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms
```

Clear | Désactiver

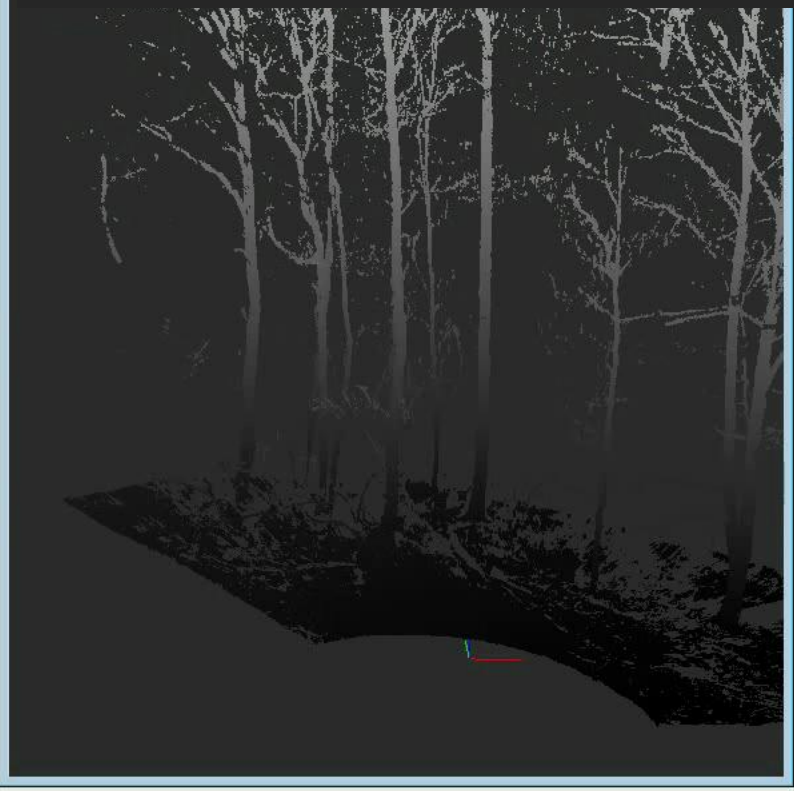
A button gives access to the management of the gradient used by the 3rd, 4th and 5th modes



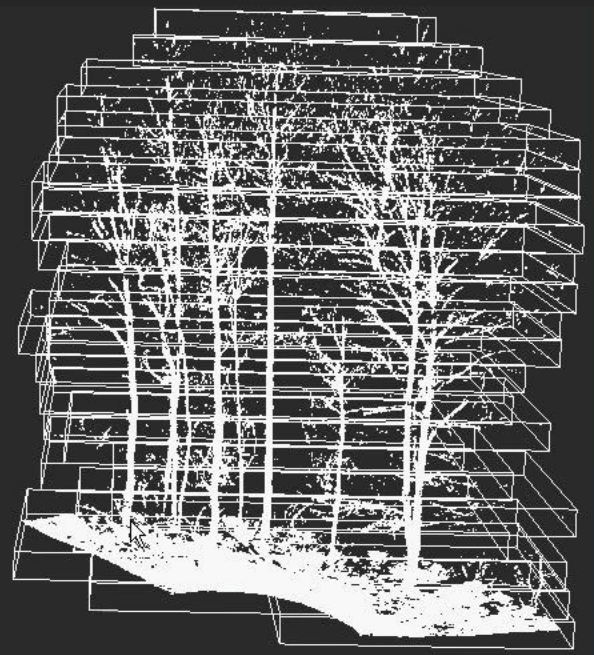

CompuTree
File Edit Window View Language Help
Step manager
Name Debug Ela
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb) 0h.
Result
2 - Segment scene in horizontal slices 0h.
Sliced scene
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb) 0h.
(0%) 4 - Segment scene in horizontal slices 0h.
Model manager
Sliced scene (2)
Name 1 2 3 Type
Sliced scene
rootslice Std group
slice Std group
Points of slice Point cluster
Item configurator
Point cluster
Name Value
1 Points Activate
2 Bounding Shape Activate
3 Bounding Shape center Activate
4 Barycenter Activate
5 Polyline Activate
Document 1
Sync
Items Points Faces Edges
Document 3 (ItemModel)
Sync with..
Filter the column...
Apply
Sel.
Document 2
Sync
Items Points Faces Edges
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Plugin_Base initialized
Points, Fichier XYB (1) - Start computing at 15:02:36
Points, Fichier XYB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms
Clear
Désactiver
NB: the colorization must be applied again so that the new gradient is taken into account

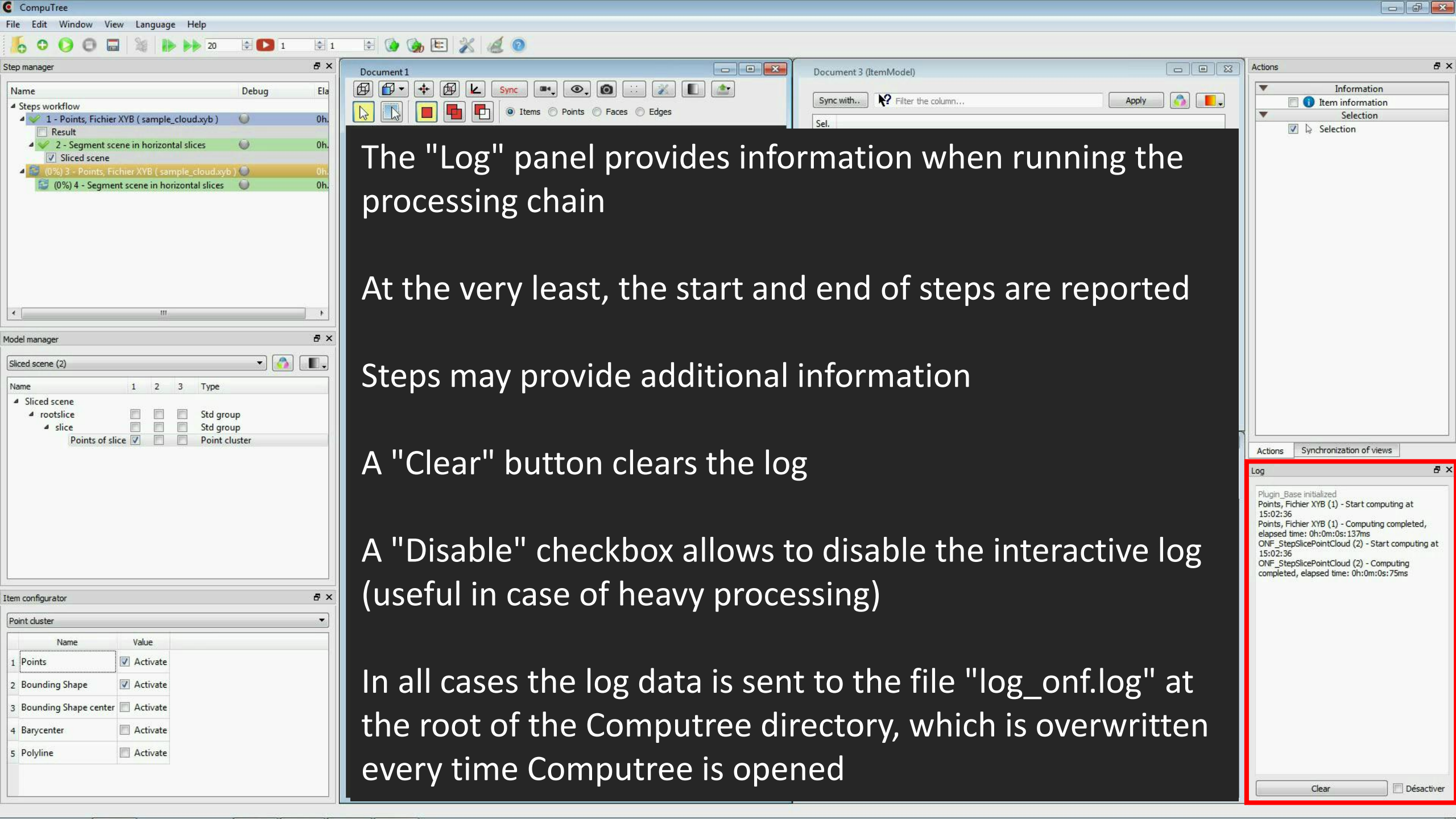
The "Item configurator" panel allows you to adjust which graphic elements are drawn for each item

A combo box allows you to select the type of item for which you want to make this setting



In the case of items of the "cluster of points" type, it is possible, for example, to activate the display of the bounding box





The "Log" panel provides information when running the processing chain

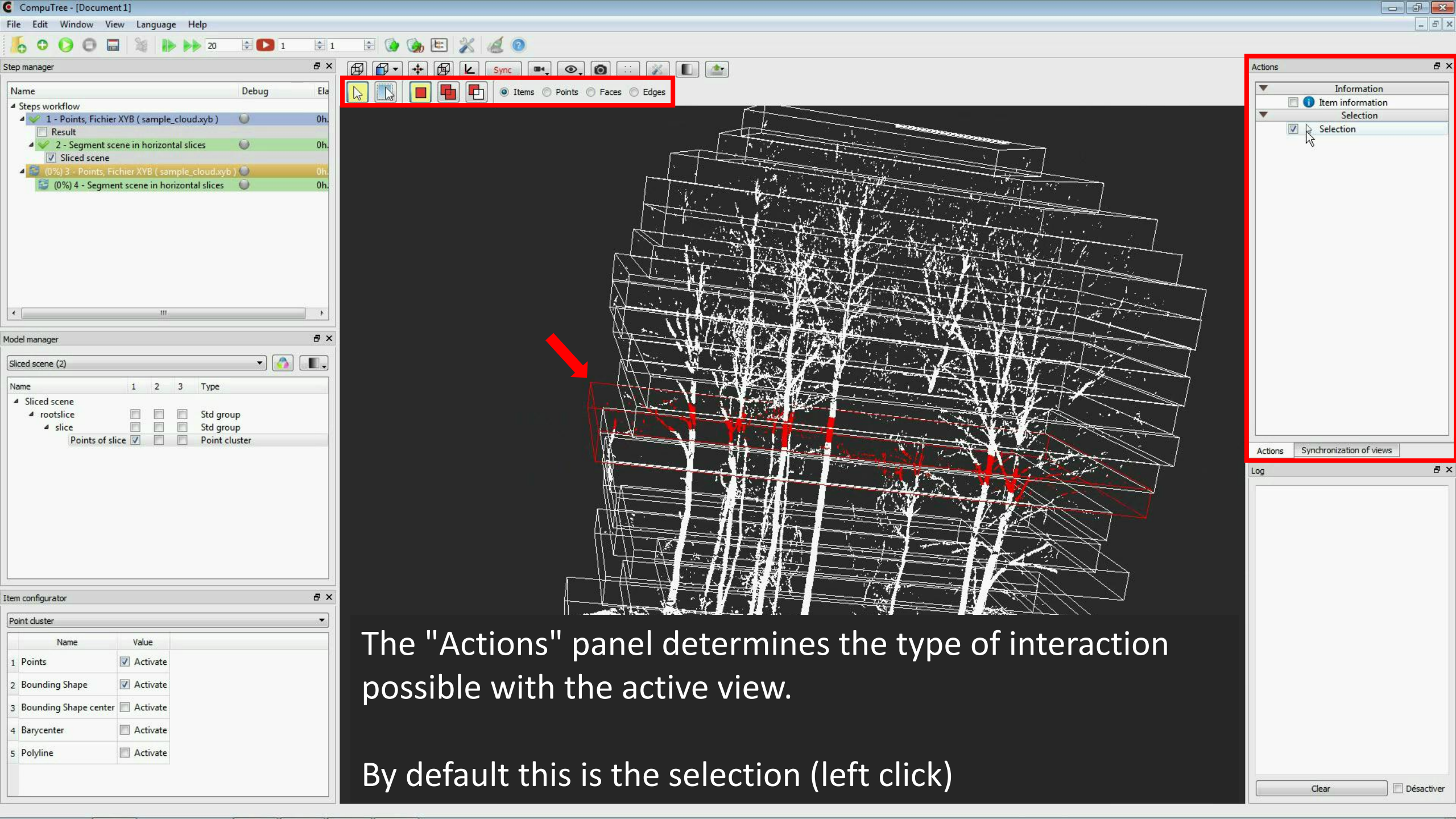
At the very least, the start and end of steps are reported

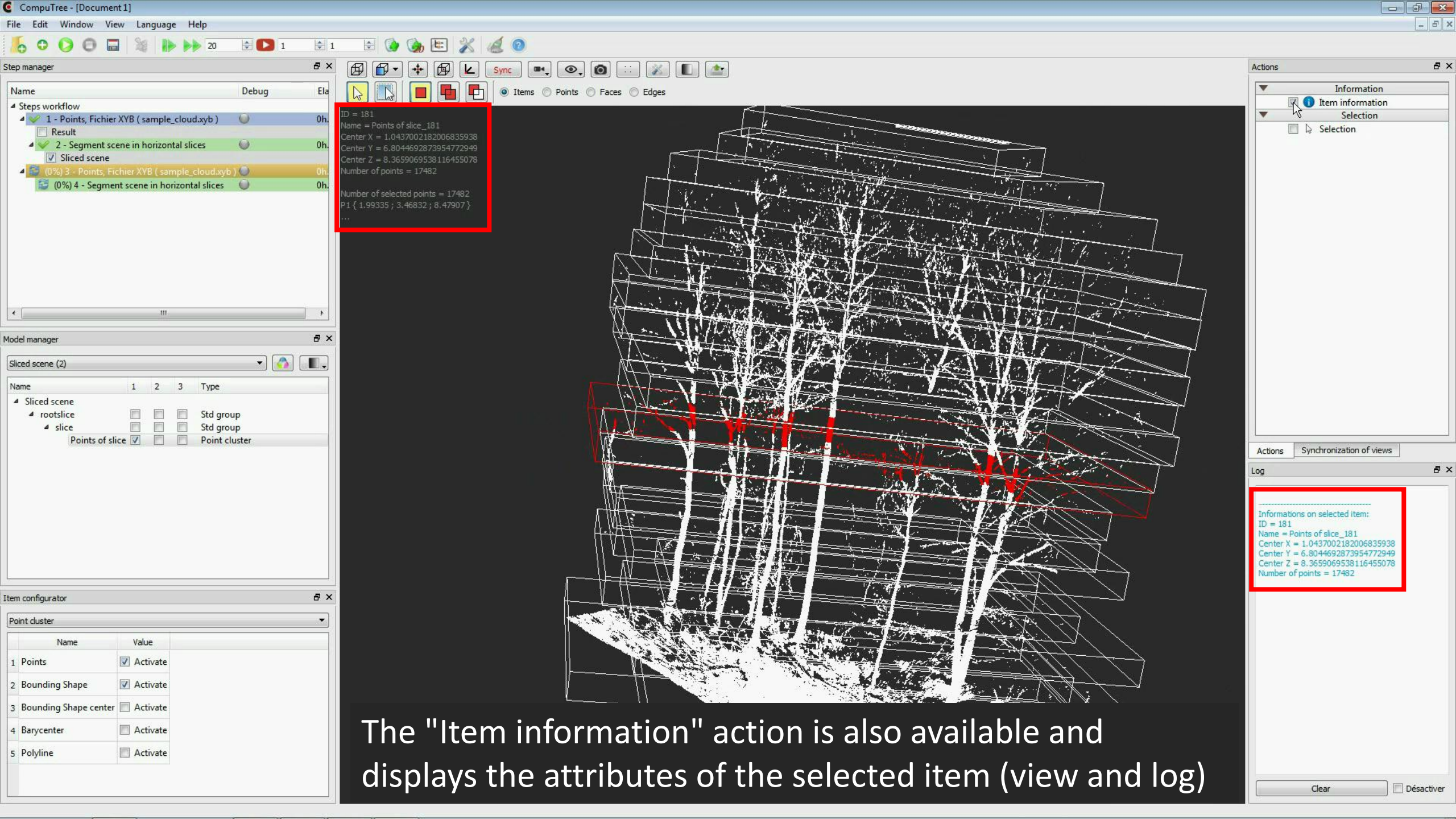
Steps may provide additional information

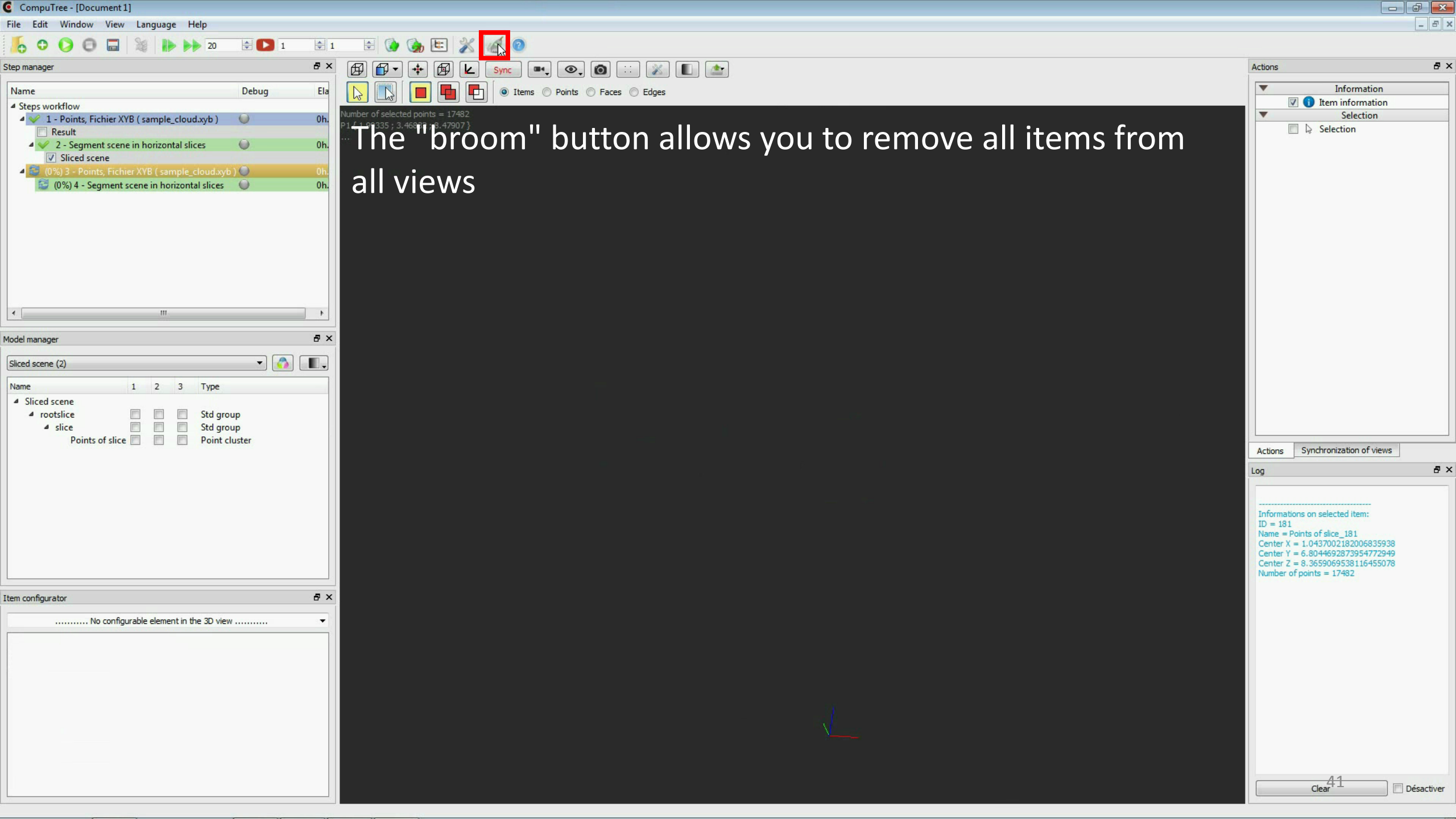
A "Clear" button clears the log

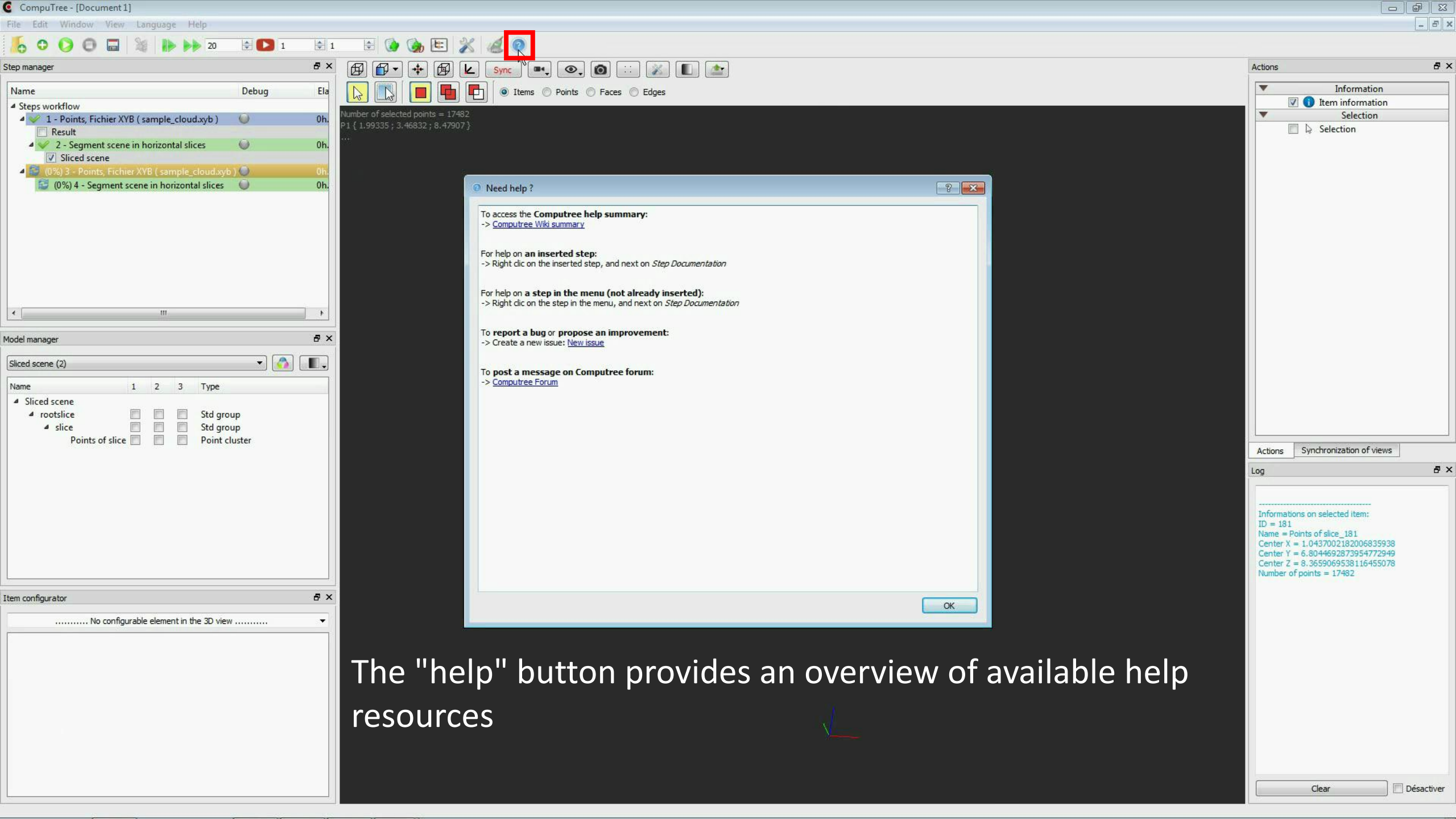
A "Disable" checkbox allows to disable the interactive log (useful in case of heavy processing)

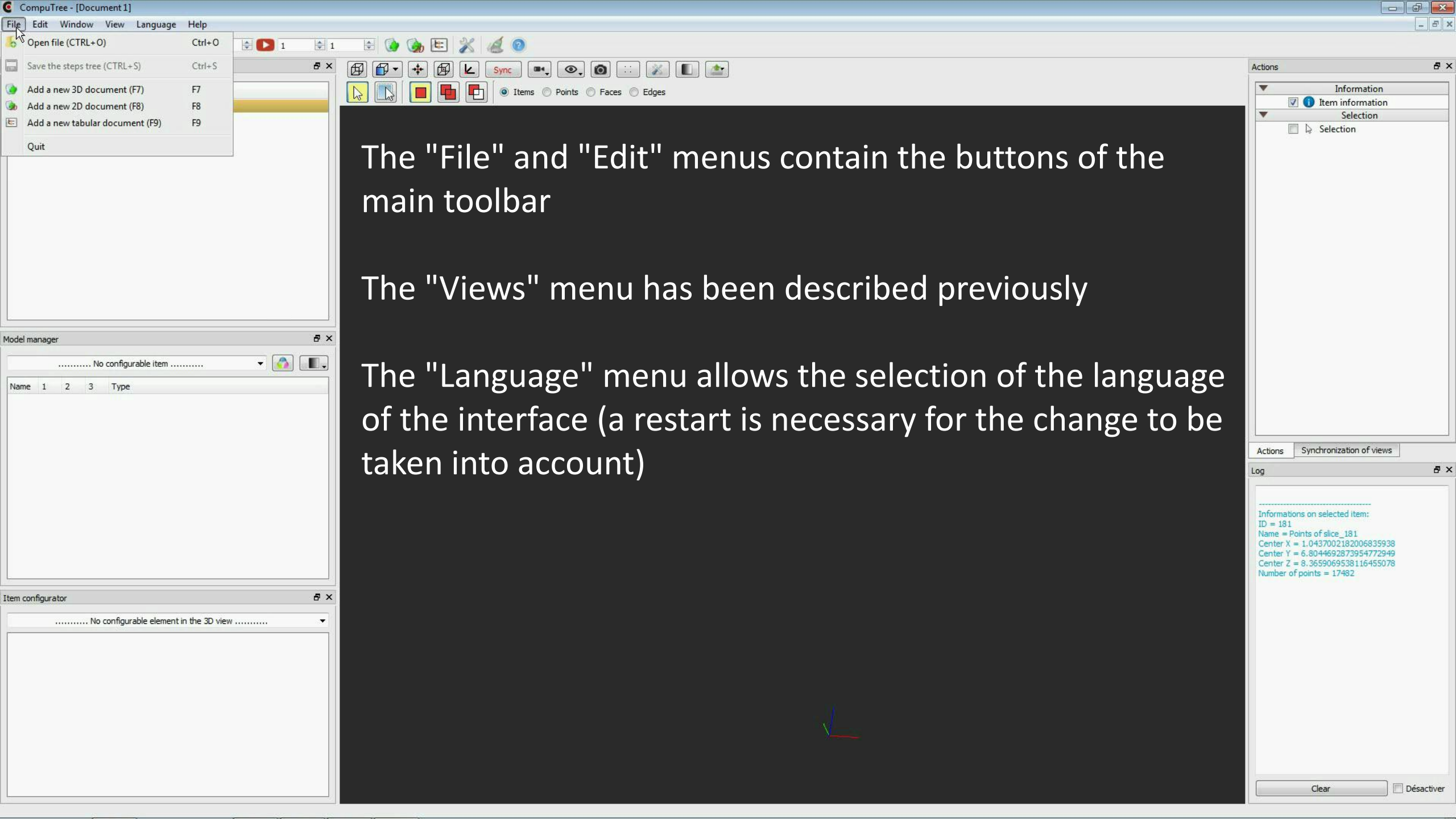
In all cases the log data is sent to the file "log_onf.log" at the root of the Computree directory, which is overwritten every time Computree is opened

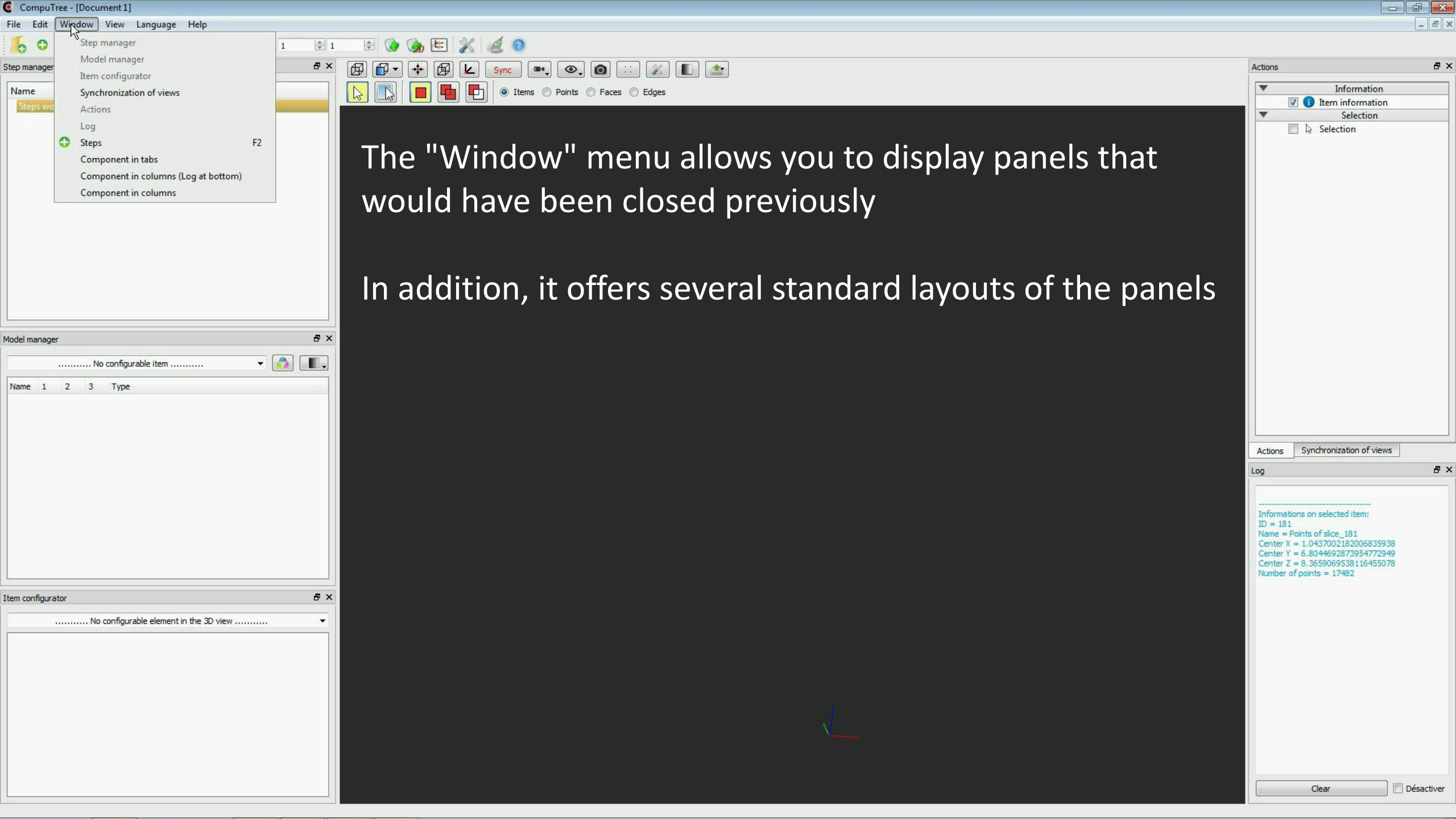

CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Ela
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb) 0h.
Result
2 - Segment scene in horizontal slices 0h.
Sliced scene
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb) 0h.
(0%) 4 - Segment scene in horizontal slices 0h.
Model manager
Sliced scene (2)
Name 1 2 3 Type
Sliced scene
rootslice Std group
slice Std group
Points of slice Point cluster
Item configurator
Point cluster
Name Value
1 Points Activate
2 Bounding Shape Activate
3 Bounding Shape center Activate
4 Barycenter Activate
5 Polyline Activate
Sync
Items Points Faces Edges
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Clear Désactiver
The "Actions" panel determines the type of interaction possible with the active view.
By default this is the selection (left click)

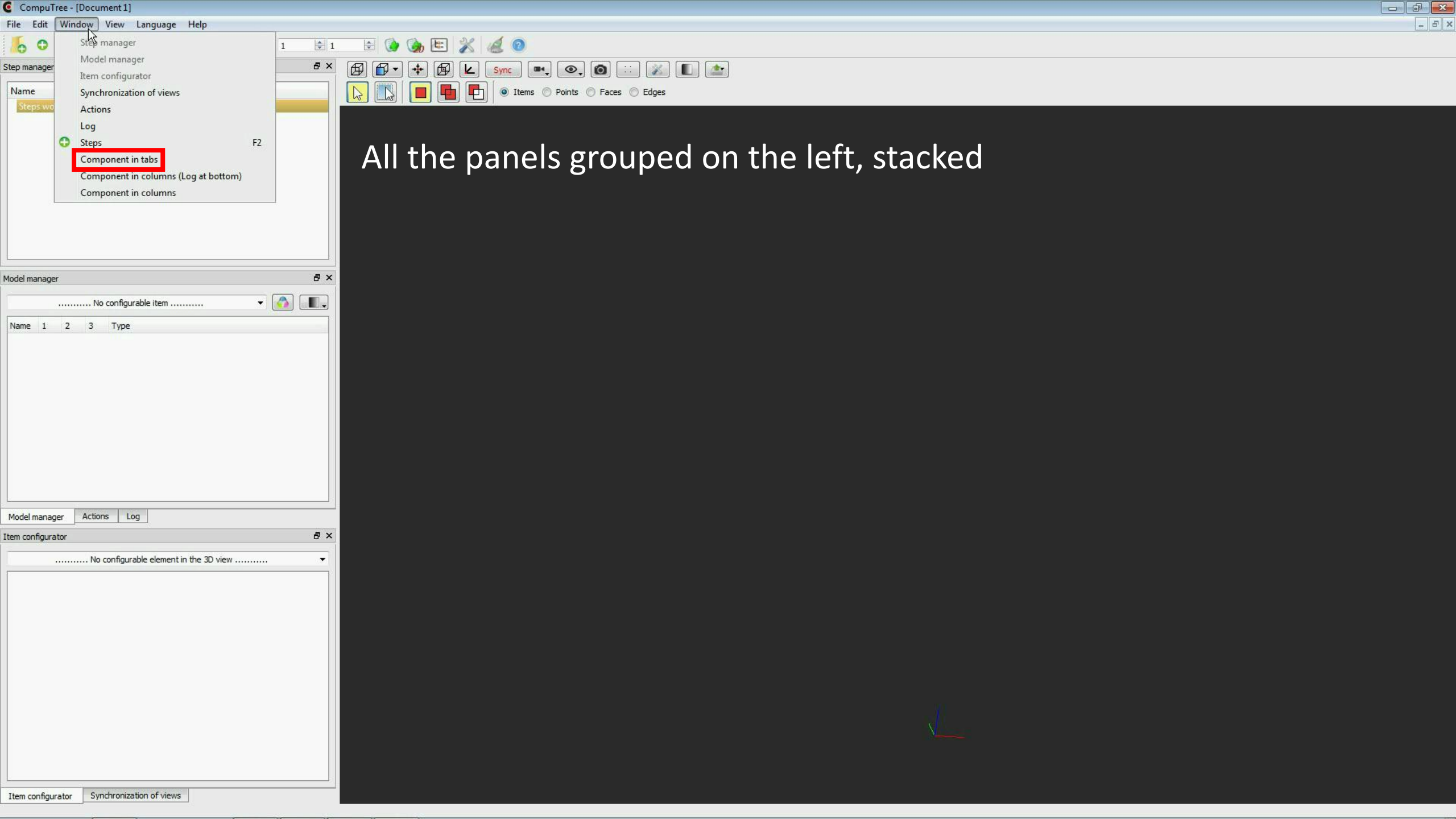

CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Ela
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb) 0h.
Result
2 - Segment scene in horizontal slices 0h.
Sliced scene
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb) 0h.
(0%) 4 - Segment scene in horizontal slices 0h.
Model manager
Sliced scene (2)
Name 1 2 3 Type
Sliced scene
rootslice Std group
slice Std group
Points of slice Point cluster
Item configurator
Point cluster
Name Value
1 Points Activate
2 Bounding Shape Activate
3 Bounding Shape center Activate
4 Barycenter Activate
5 Polyline Activate
Sync
Items Points Faces Edges
ID = 181
Name = Points of slice_181
Center X = 1.0437002182006835938
Center Y = 6.8044692873954772949
Center Z = 8.3659069538116455078
Number of points = 17482
Number of selected points = 17482
P1 { 1.99335 ; 3.46832 ; 8.47907 }
...
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Informations on selected item:
ID = 181
Name = Points of slice_181
Center X = 1.0437002182006835938
Center Y = 6.8044692873954772949
Center Z = 8.3659069538116455078
Number of points = 17482
Clear
Désactiver
The "Item information" action is also available and displays the attributes of the selected item (view and log)

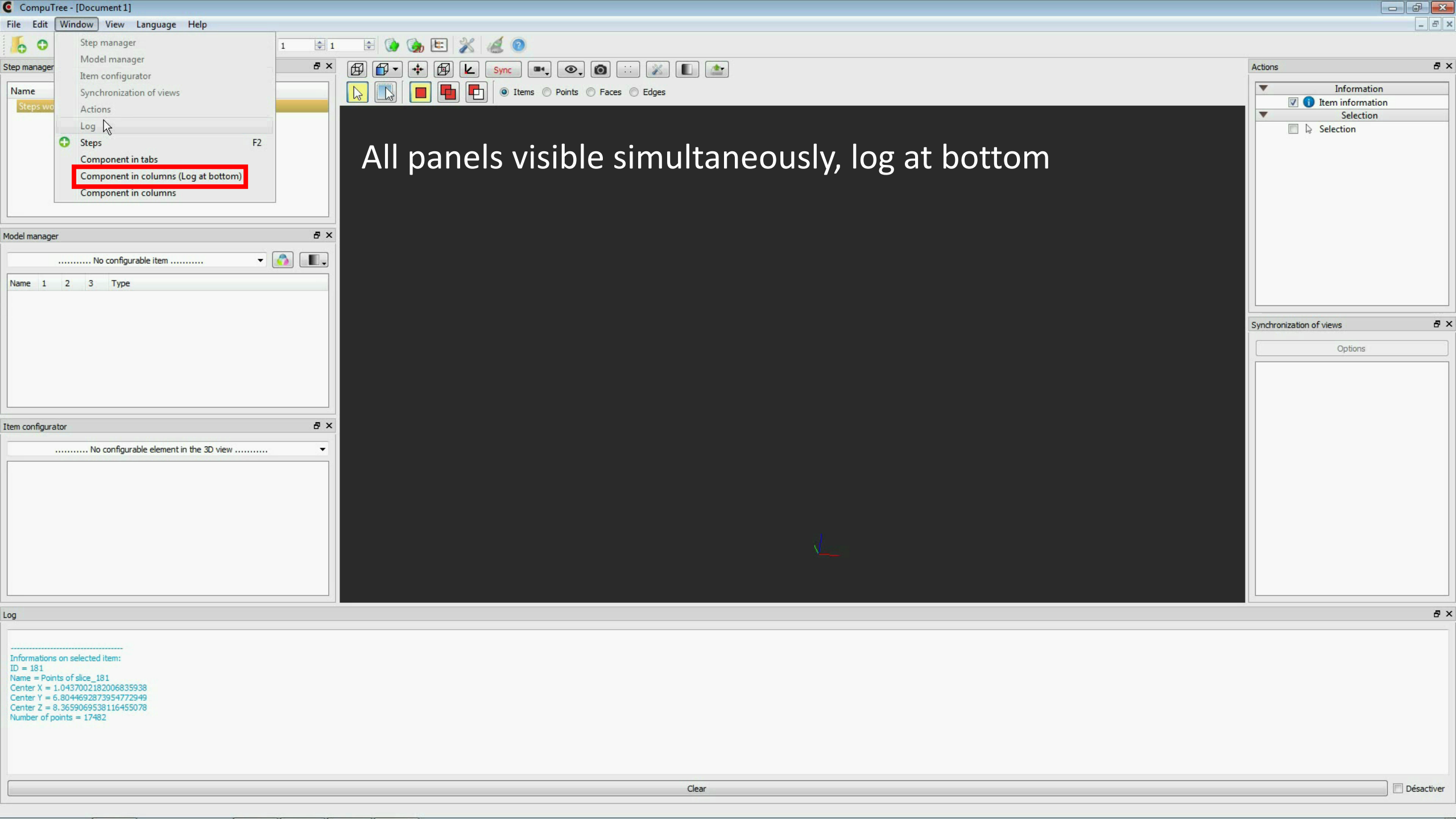

CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Ela
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb) 0h.
Result
2 - Segment scene in horizontal slices 0h.
Sliced scene
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb) 0h.
(0%) 4 - Segment scene in horizontal slices 0h.
Model manager
Sliced scene (2)
Name 1 2 3 Type
Sliced scene
rootslice Std group
slice Std group
Points of slice Point cluster
Item configurator
..... No configurable element in the 3D view .....
Sync
Items Points Faces Edges
Number of selected points = 17482
The "broom" button allows you to remove all items from all views
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Informations on selected item:
ID = 181
Name = Points of slice_181
Center X = 1.0437002182006835938
Center Y = 6.8044692873954772949
Center Z = 8.3659069538116455078
Number of points = 17482
Clear
Désactiver

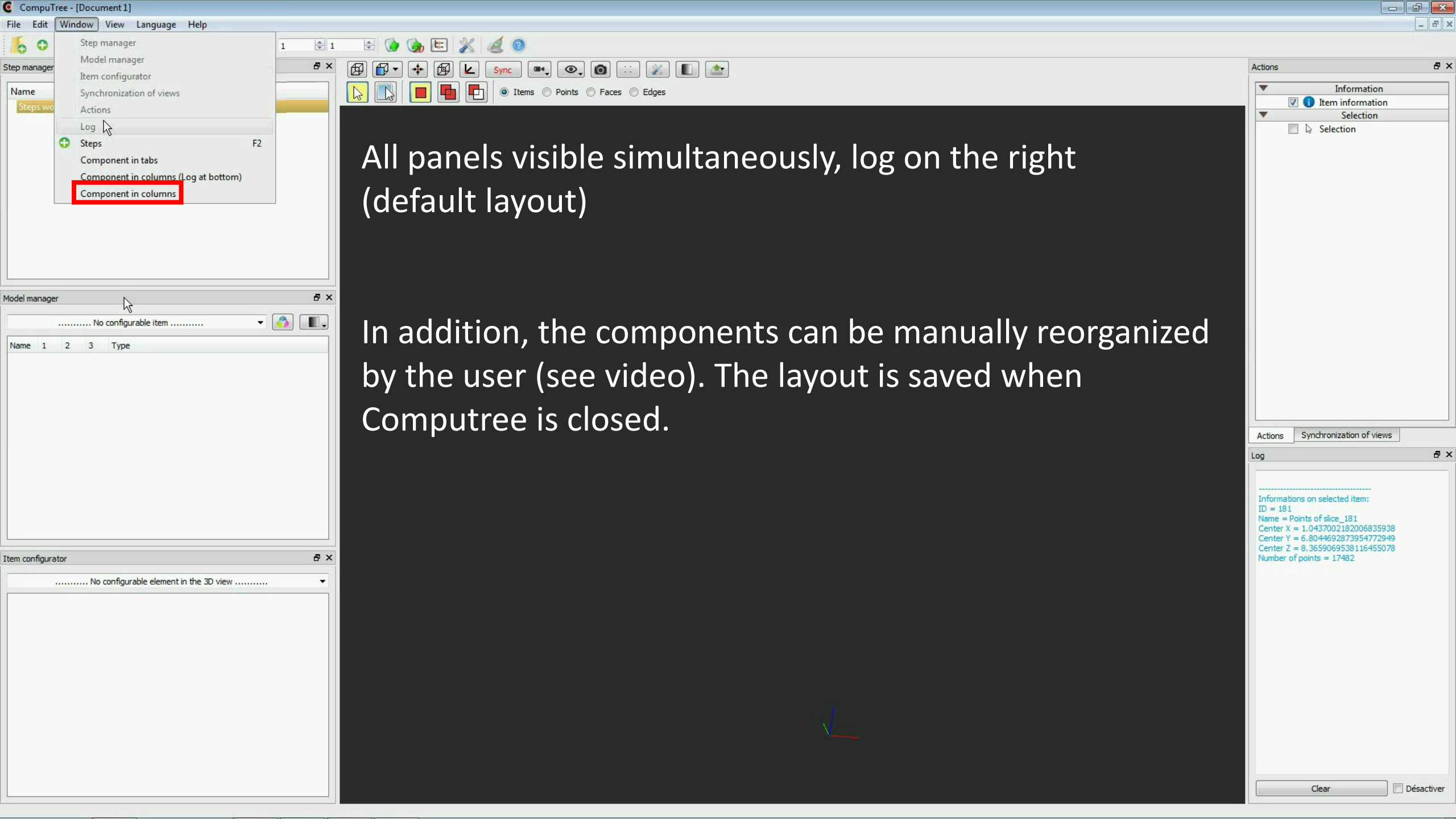

CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Ela
Steps workflow
1 - Points, Fichier XYB (sample_cloud.xyb) 0h.
Result
2 - Segment scene in horizontal slices 0h.
Sliced scene
(0%) 3 - Points, Fichier XYB (sample_cloud.xyb) 0h.
(0%) 4 - Segment scene in horizontal slices 0h.
Model manager
Sliced scene (2)
Name 1 2 3 Type
Sliced scene
rootslice Std group
slice Std group
Points of slice Point cluster
Item configurator
..... No configurable element in the 3D view .....
Sync
Items Points Faces Edges
Number of selected points = 17482
P1 { 1.99335 ; 3.46832 ; 8.47907 }
...
Need help ?
To access the Computree help summary:
-> Computree Wiki summary
For help on an inserted step:
-> Right clic on the inserted step, and next on Step Documentation
For help on a step in the menu (not already inserted):
-> Right clic on the step in the menu, and next on Step Documentation
To report a bug or propose an improvement:
-> Create a new issue: New issue
To post a message on Computree forum:
-> Computree Forum
OK
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Informations on selected item:
ID = 181
Name = Points of slice_181
Center X = 1.0437002182006835938
Center Y = 6.8044692873954772949
Center Z = 8.3659069538116455078
Number of points = 17482
Clear
Désactiver
The "help" button provides an overview of available help resources

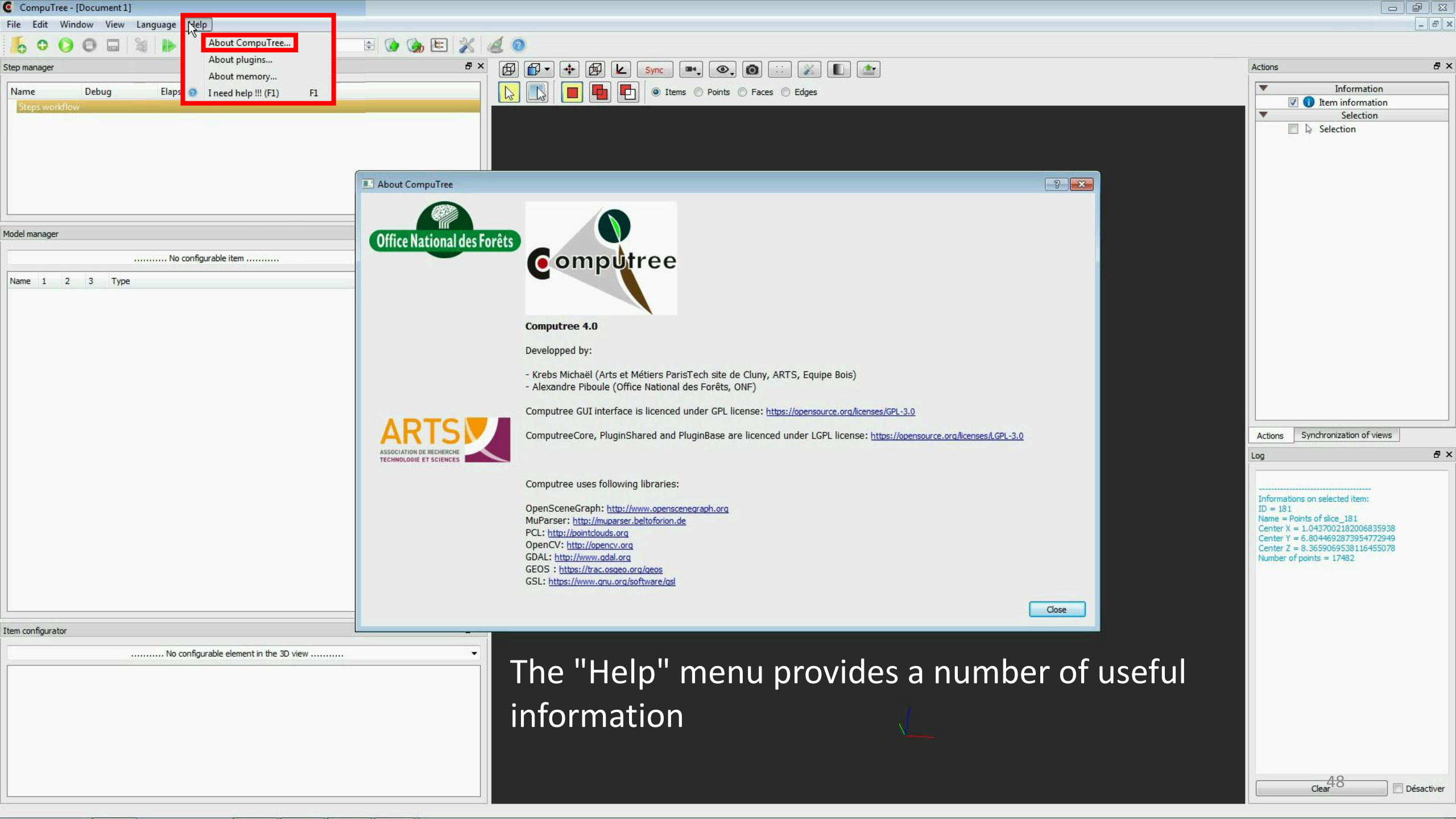

CompuTree - [Document 1]
File
Edit
Window
View
Language
Help
Open file (CTRL+O) Ctrl+O
Save the steps tree (CTRL+S) Ctrl+S
Add a new 3D document (F7) F7
Add a new 2D document (F8) F8
Add a new tabular document (F9) F9
Quit
Sync
Items
Points
Faces
Edges
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Model manager
..... No configurable item .....
Name
1
2
3
Type
Item configurator
..... No configurable element in the 3D view .....
Log
Informations on selected item:
ID = 181
Name = Points of slice_181
Center X = 1.0437002182006835938
Center Y = 6.8044692873954772949
Center Z = 8.3659069538116455078
Number of points = 17482
Clear
Désactiver
The "File" and "Edit" menus contain the buttons of the main toolbar
The "Views" menu has been described previously
The "Language" menu allows the selection of the language of the interface (a restart is necessary for the change to be taken into account)

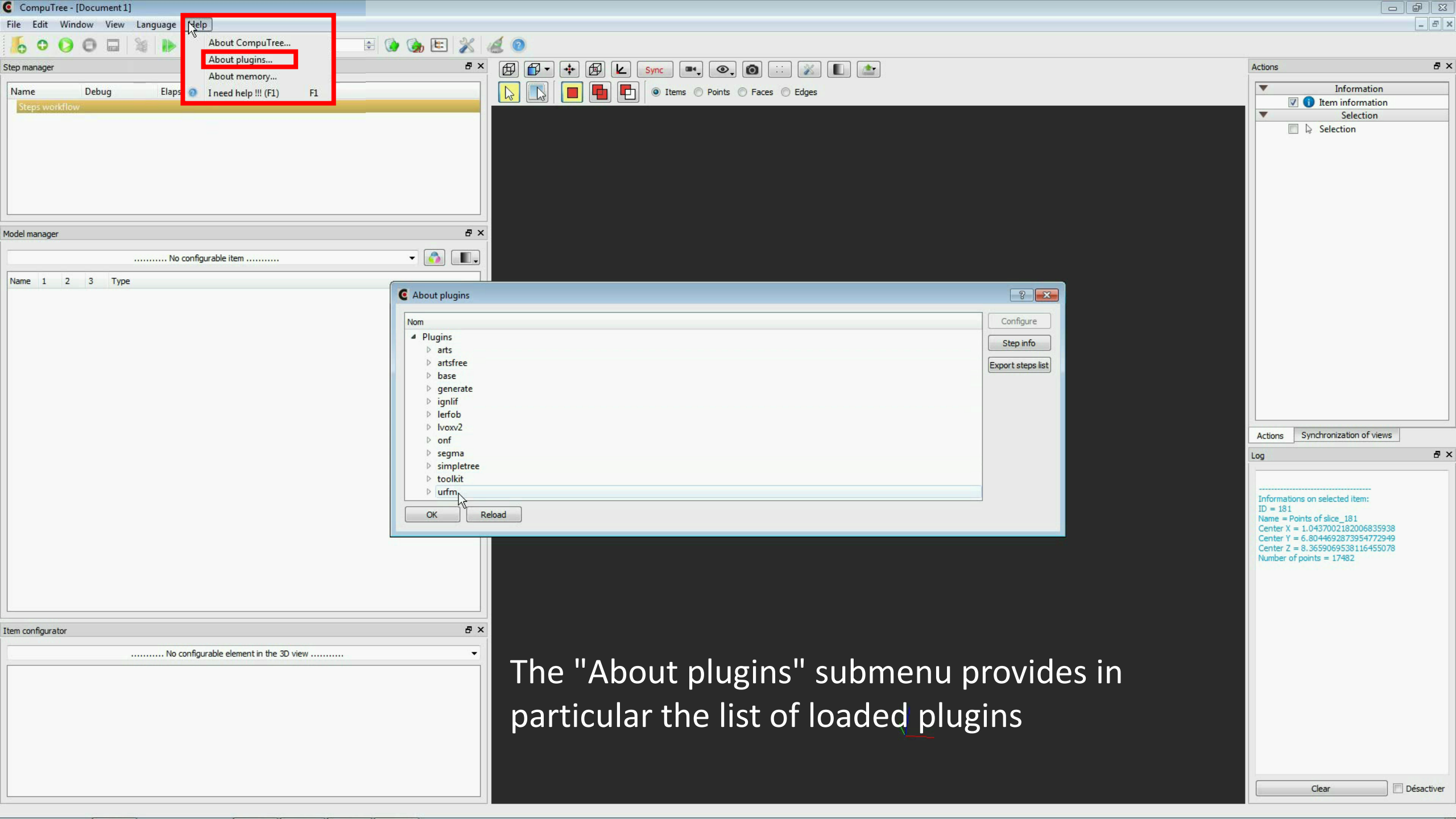

CompuTree - [Document 1]
File
Edit
Window
View
Language
Help
Step manager
Model manager
Item configurator
Synchronization of views
Actions
Log
Steps F2
Component in tabs
Component in columns (Log at bottom)
Component in columns
Sync
Items
Points
Faces
Edges
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Informations on selected item:
ID = 181
Name = Points of slice_181
Center X = 1.0437002182006835938
Center Y = 6.8044692873954772949
Center Z = 8.3659069538116455078
Number of points = 17482
Clear
Désactiver
Model manager
..... No configurable item .....
Name
1
2
3
Type
Item configurator
..... No configurable element in the 3D view .....
The "Window" menu allows you to display panels that would have been closed previously
In addition, it offers several standard layouts of the panels

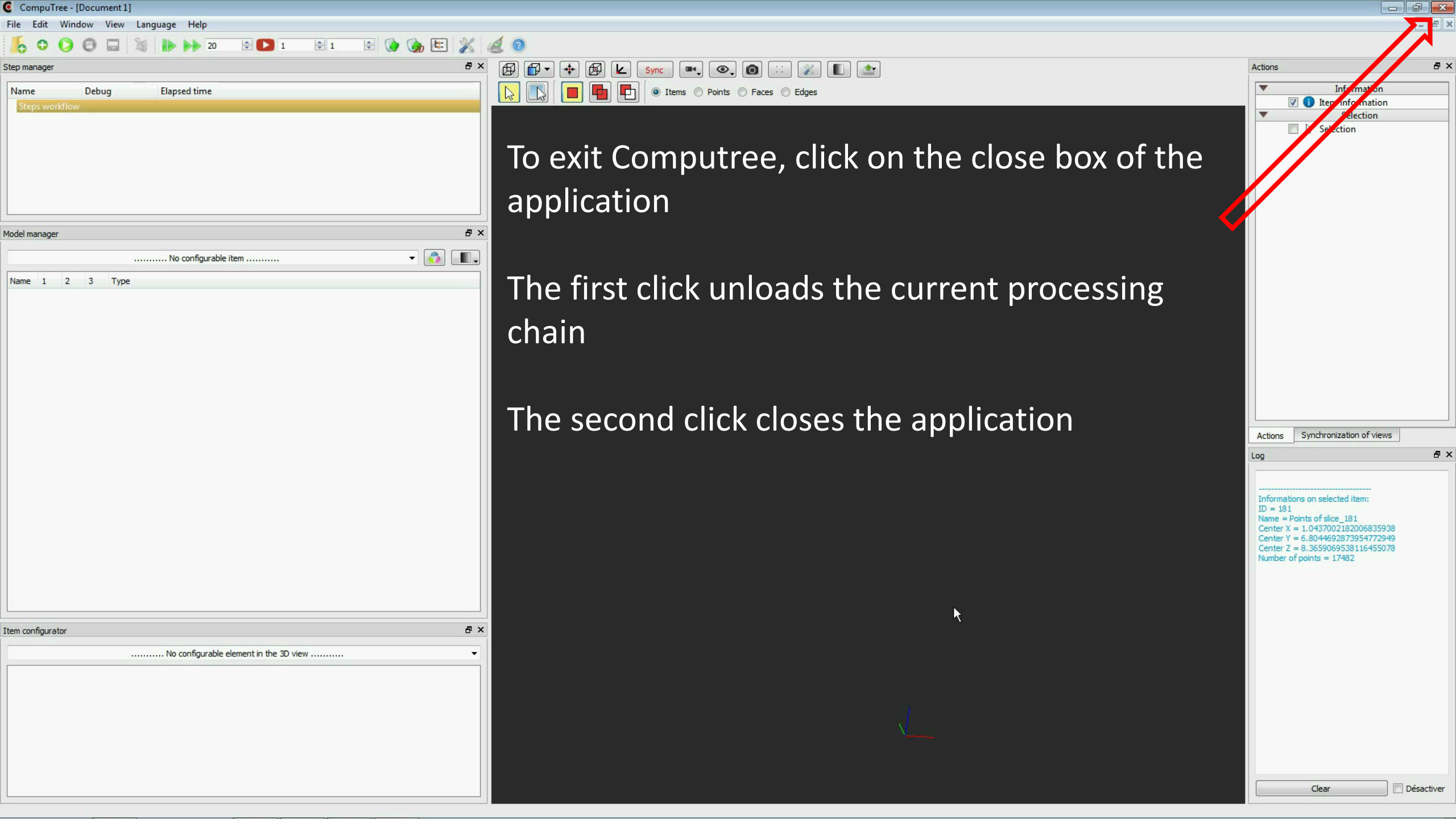

CompuTree - [Document 1]
File
Edit
Window
View
Language
Help
Step manager
Model manager
Item configurator
Synchronization of views
Actions
Log
Steps F2
Component in tabs
Component in columns (Log at bottom)
Component in columns
Sync
Items
Points
Faces
Edges
Name
Steps wo
Model manager
..... No configurable item .....
Name 1 2 3 Type
Model manager
Actions
Log
Item configurator
..... No configurable element in the 3D view .....
Item configurator
Synchronization of views
All the panels grouped on the left, stacked


CompuTree - [Document 1]
File
Edit
Window
View
Language
Help
Step manager
Model manager
Item configurator
Synchronization of views
Actions
Log
Steps F2
Component in tabs
Component in columns (Log at bottom)
Component in columns
Sync
Items
Points
Faces
Edges
All panels visible simultaneously, log at bottom
Actions
Information
Item information
Selection
Selection
Synchronization of views
Options
Model manager
..... No configurable item .....
Name
1
2
3
Type
Item configurator
..... No configurable element in the 3D view .....
Log
Informations on selected item:
ID = 181
Name = Points of slice_181
Center X = 1.0437002182006835938
Center Y = 6.8044692873954772949
Center Z = 8.3659069538116455078
Number of points = 17482
Clear
Désactiver


CompuTree - [Document 1]
File
Edit
Window
View
Language
Help
Step manager
Model manager
Item configurator
Synchronization of views
Actions
Log
Steps F2
Component in tabs
Component in columns (Log at bottom)
Component in columns
Sync
Items
Points
Faces
Edges
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Informations on selected item:
ID = 181
Name = Points of slice_181
Center X = 1.0437002182006835938
Center Y = 6.8044692873954772949
Center Z = 8.3659069538116455078
Number of points = 17482
Clear
Désactiver
Model manager
No configurable item
Name
1
2
3
Type
Item configurator
No configurable element in the 3D view
All panels visible simultaneously, log on the right (default layout)
In addition, the components can be manually reorganized by the user (see video). The layout is saved when Computree is closed.


CompuTree - [Document 1]
File
Edit
Window
View
Language
Help
About CompuTree...
About plugins...
About memory...
I need help !!! (F1)
F1
Step manager
Name
Debug
Steps workflow
Model manager
..... No configurable item .....
Name
1
2
3
Type
Item configurator
..... No configurable element in the 3D view .....
Sync
Items
Points
Faces
Edges
Actions
Information
Item information
Selection
Selection
Actions
Synchronization of views
Log
Informations on selected item:
ID = 181
Name = Points of slice_181
Center X = 1.0437002182006835938
Center Y = 6.8044692873954772949
Center Z = 8.3659069538116455078
Number of points = 17482
Clear
Désactiver
About CompuTree
Office National des Forêts
Computree
Computree 4.0
Developped by:
- Krebs Michaël (Arts et Métiers ParisTech site de Cluny, ARTS, Equipe Bois)
- Alexandre Piboule (Office National des Forêts, ONF)
Computree GUI interface is licenced under GPL license: https://opensource.org/licenses/GPL-3.0
ComputreeCore, PluginShared and PluginBase are licenced under LGPL license: https://opensource.org/licenses/LGPL-3.0
ARTS
ASSOCIATION DE RECHERCHE TECHNOLOGIE ET SCIENCES
Computree uses following libraries:
OpenSceneGraph: http://www.openscenegraph.org
MuParser: http://muparser.beltoforion.de
PCL: http://pointclouds.org
OpenCV: http://opencv.org
GDAL: http://www.gdal.org
GEOS : https://trac.osgeo.org/geos
GSL: https://www.gnu.org/software/gsl
Close
The "Help" menu provides a number of useful information


CompuTree - [Document 1]
File Edit Window View Language Help
About CompuTree...
About plugins...
About memory...
I need help !!! (F1) F1
Step manager
Name Debug Elaps
Steps workflow
Model manager
..... No configurable item .....
Name 1 2 3 Type
Item configurator
..... No configurable element in the 3D view .....
Sync
Items Points Faces Edges
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Informations on selected item:
ID = 181
Name = Points of slice_181
Center X = 1.0437002182006835938
Center Y = 6.8044692873954772949
Center Z = 8.3659069538116455078
Number of points = 17482
Clear Désactiver
About plugins
Nom
Plugins
arts
artsfree
base
generate
ignlif
lerfob
lvoxv2
onf
segma
simpletree
toolkit
urfm
Configure
Step info
Export steps list
OK Reload
The "About plugins" submenu provides in particular the list of loaded plugins


CompuTree - [Document 1]
File Edit Window View Language Help
Step manager
Name Debug Elapsed time
Steps workflow
Model manager
..... No configurable item .....
Name 1 2 3 Type
Item configurator
..... No configurable element in the 3D view .....
Sync
Items Points Faces Edges
Actions
Information
Item information
Selection
Selection
Actions Synchronization of views
Log
Informations on selected item:
ID = 181
Name = Points of slice_181
Center X = 1.0437002182006835938
Center Y = 6.8044692873954772949
Center Z = 8.3659069538116455078
Number of points = 17482
Clear
Désactiver
To exit Computree, click on the close box of the application
The first click unloads the current processing chain
The second click closes the application