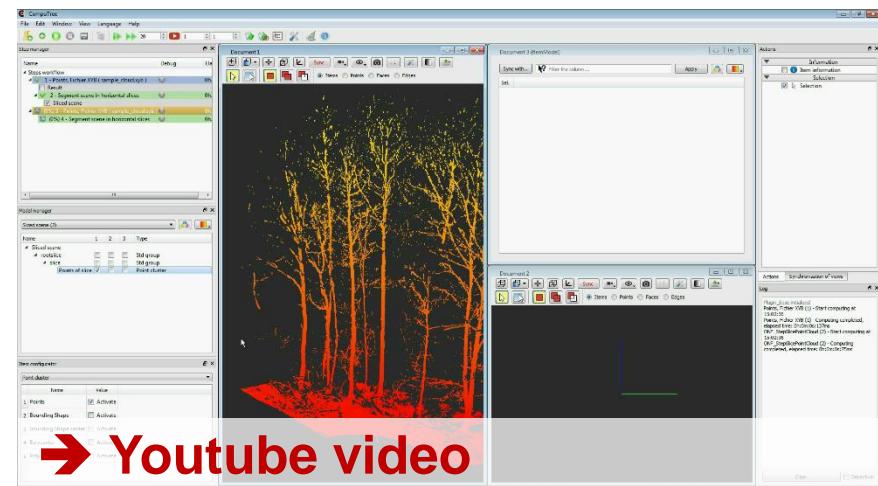


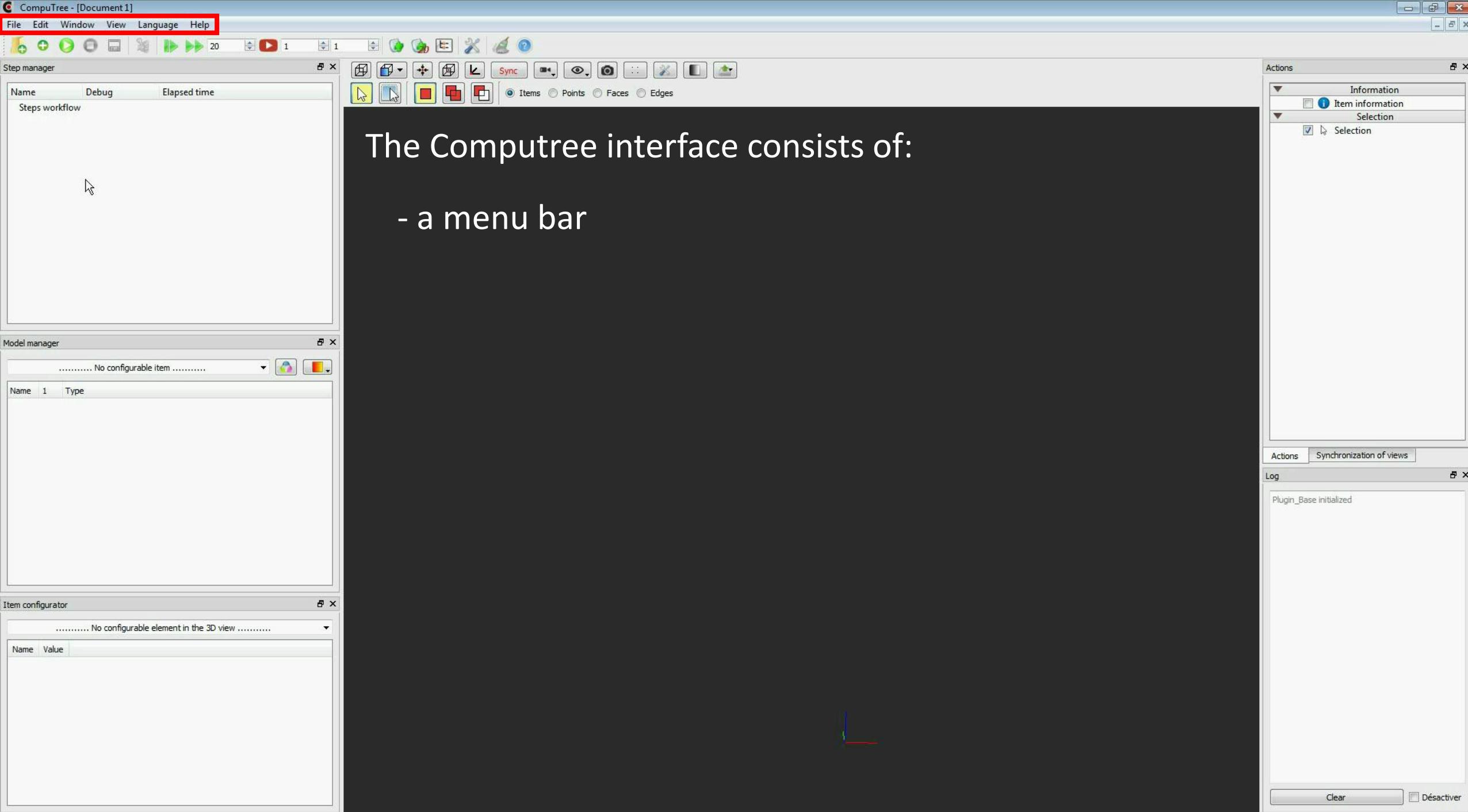
Tutorial 01

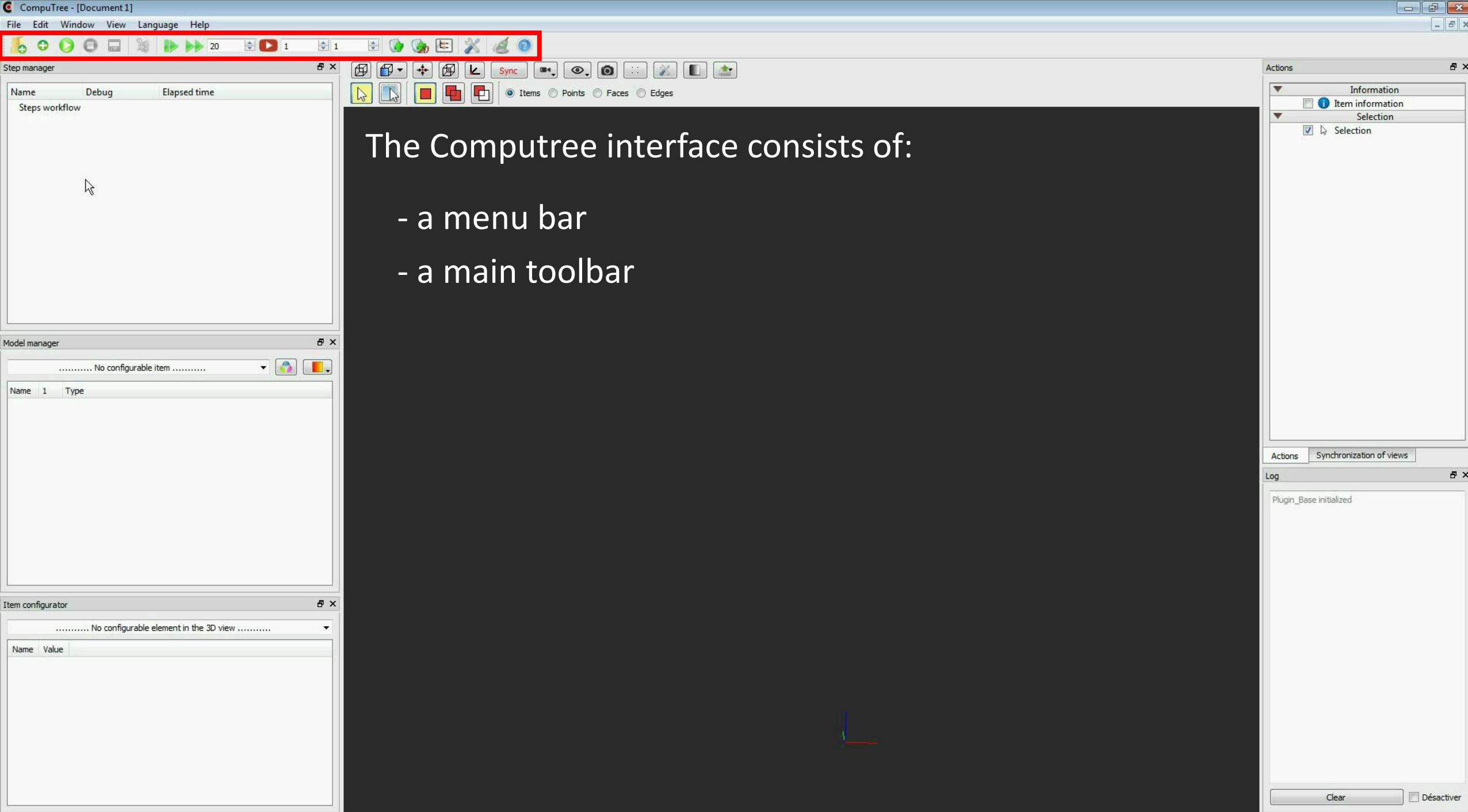
EN

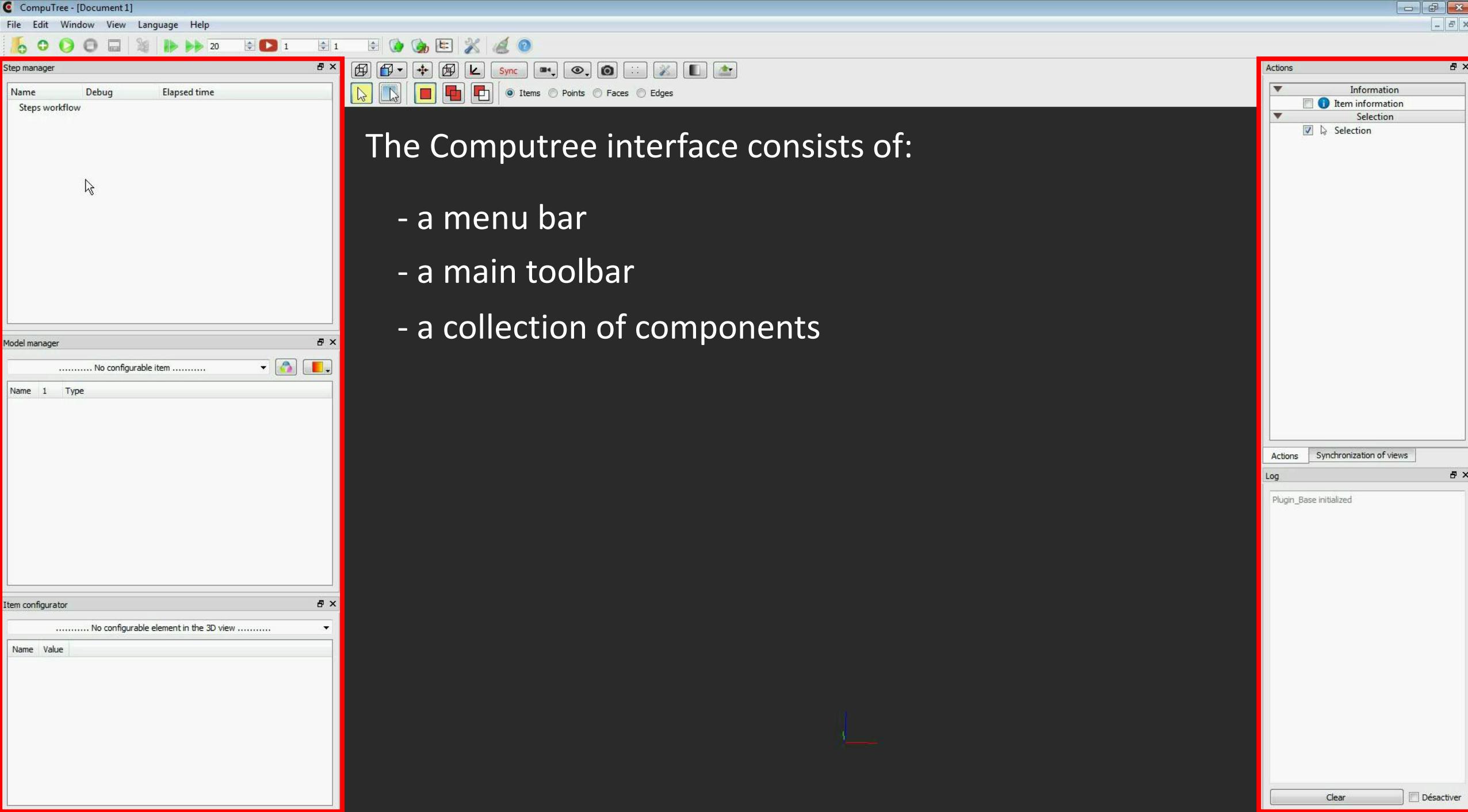
General organization of the interface,
loading and displaying a point cloud

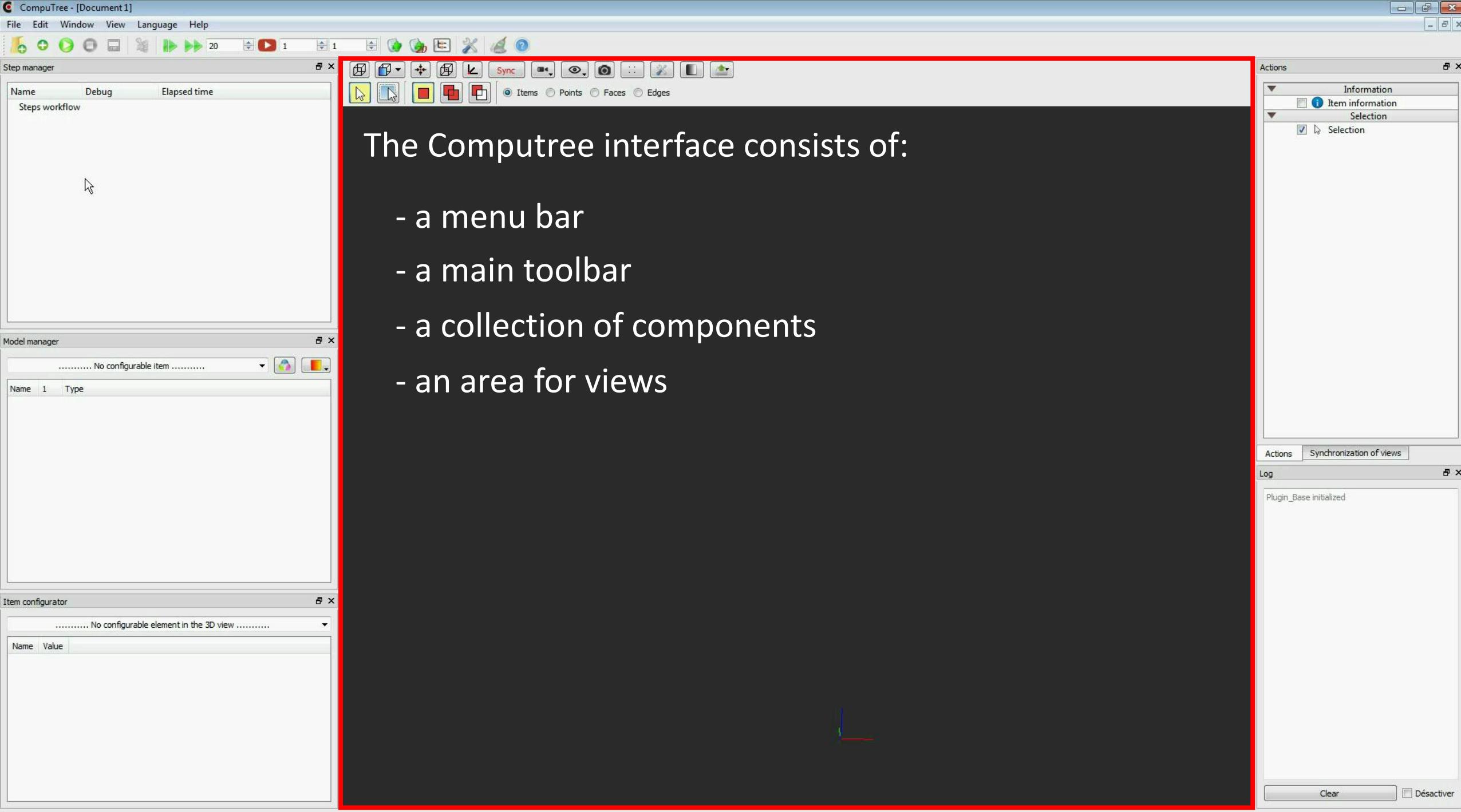


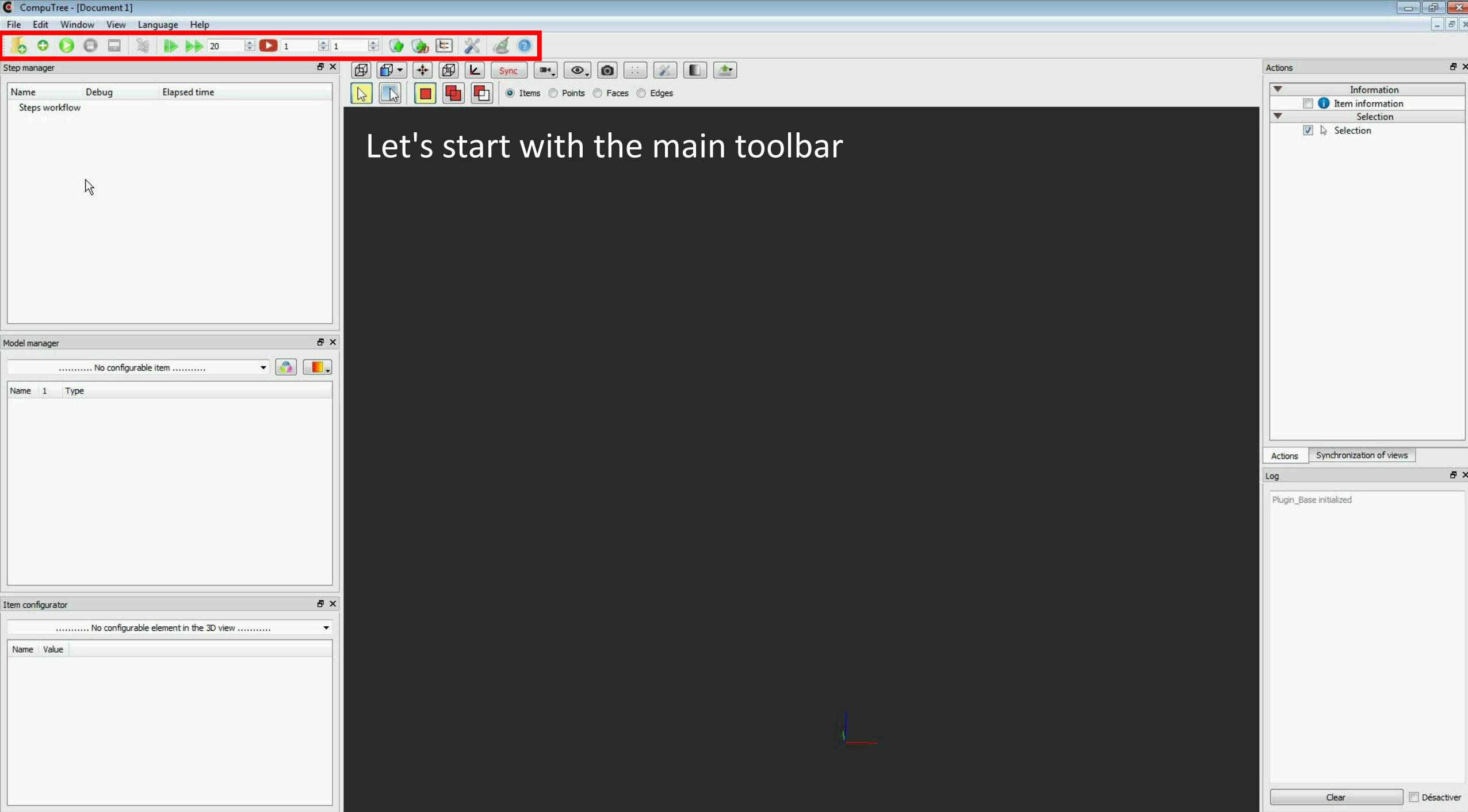
→ [Youtube video](#)

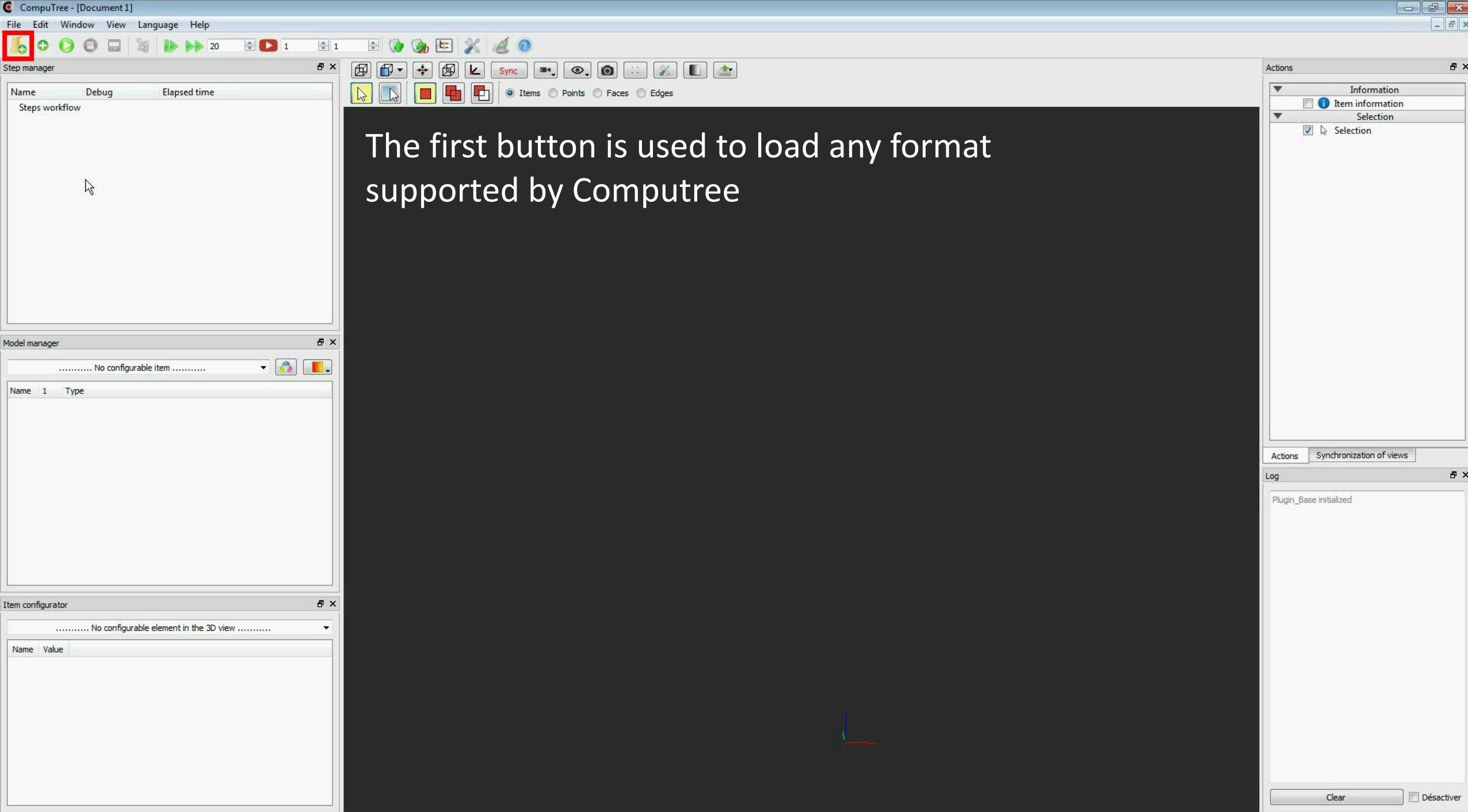












CompuTree - [Document 1]

Open file

Ordinateur > DATA (D:) > COMPUTREE > computree_4.0.759 > sample_data

Organiser ▾ Nouveau dossier

Favoris

- Emplacements récent
- Téléchargements
- Bureau

Bibliothèques

- Documents
- Images
- Musique
- Subversion
- Videos

Ordinateur

- SYSTÈME (C:)
- DATA (D:)
- SWAP (S:)
- Réseaux (\arbre.for)
- Prive (U:)
- Merise (\172.18.197)

Réseau

Nom du fichier : sample_cloud.xyb

Rechercher dans : sample_data

Tous les fichiers valides (*.xsct2)

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 (*.1)
GDAL Hydrographic Transfer Vector (*.*)
GDAL Golden Software Binary Grid (*.grd)
GDAL Geoconcept (*.*)
GDAL GeoSoft Grid Exchange Format (*.gxf)
GDAL Standard Raster Product (ASRP/USR) (*.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 (*.gbx)
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)

Ouvrir Annuler

Actions

Information

Item information

Selection

Log

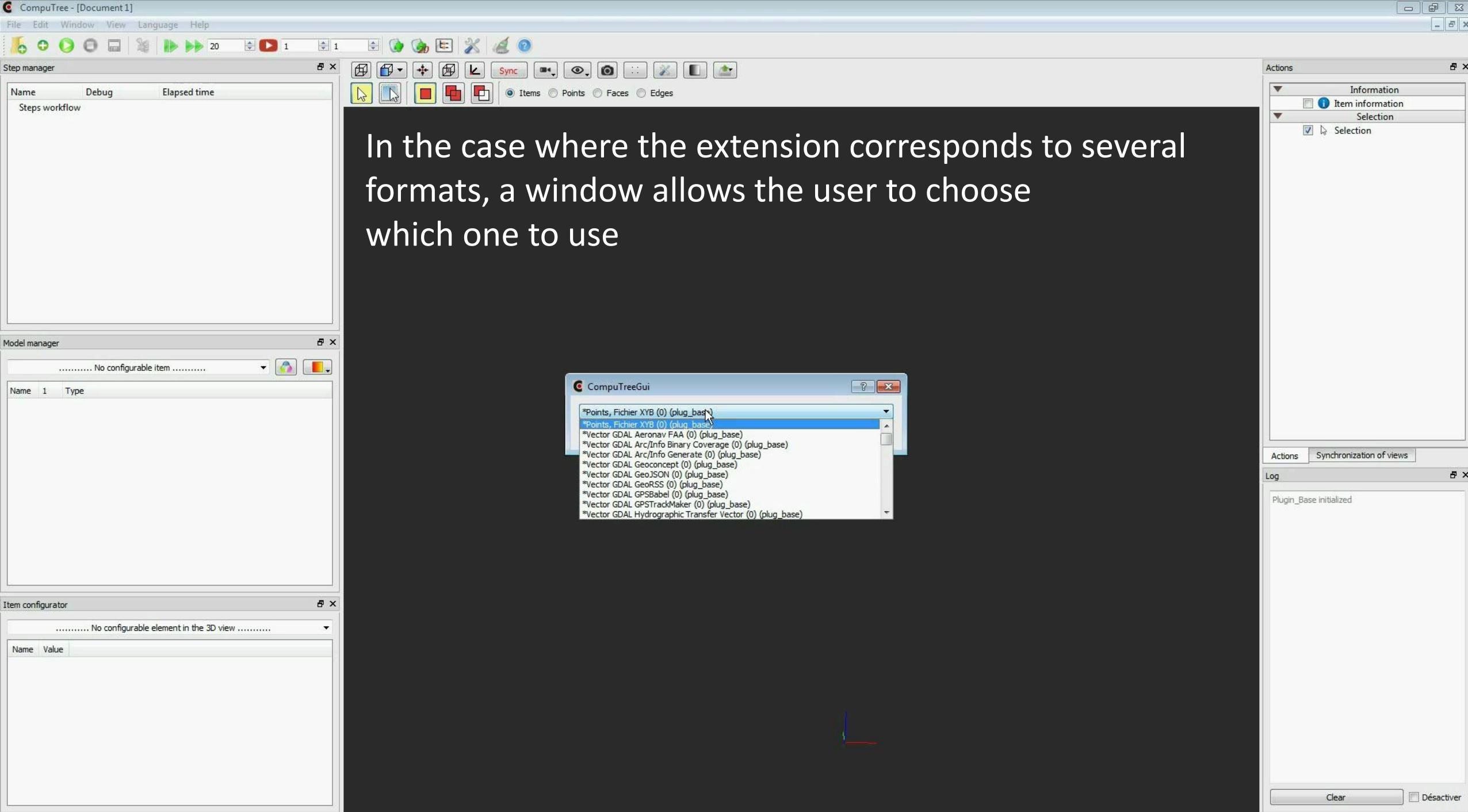
Plugin_Base initialized

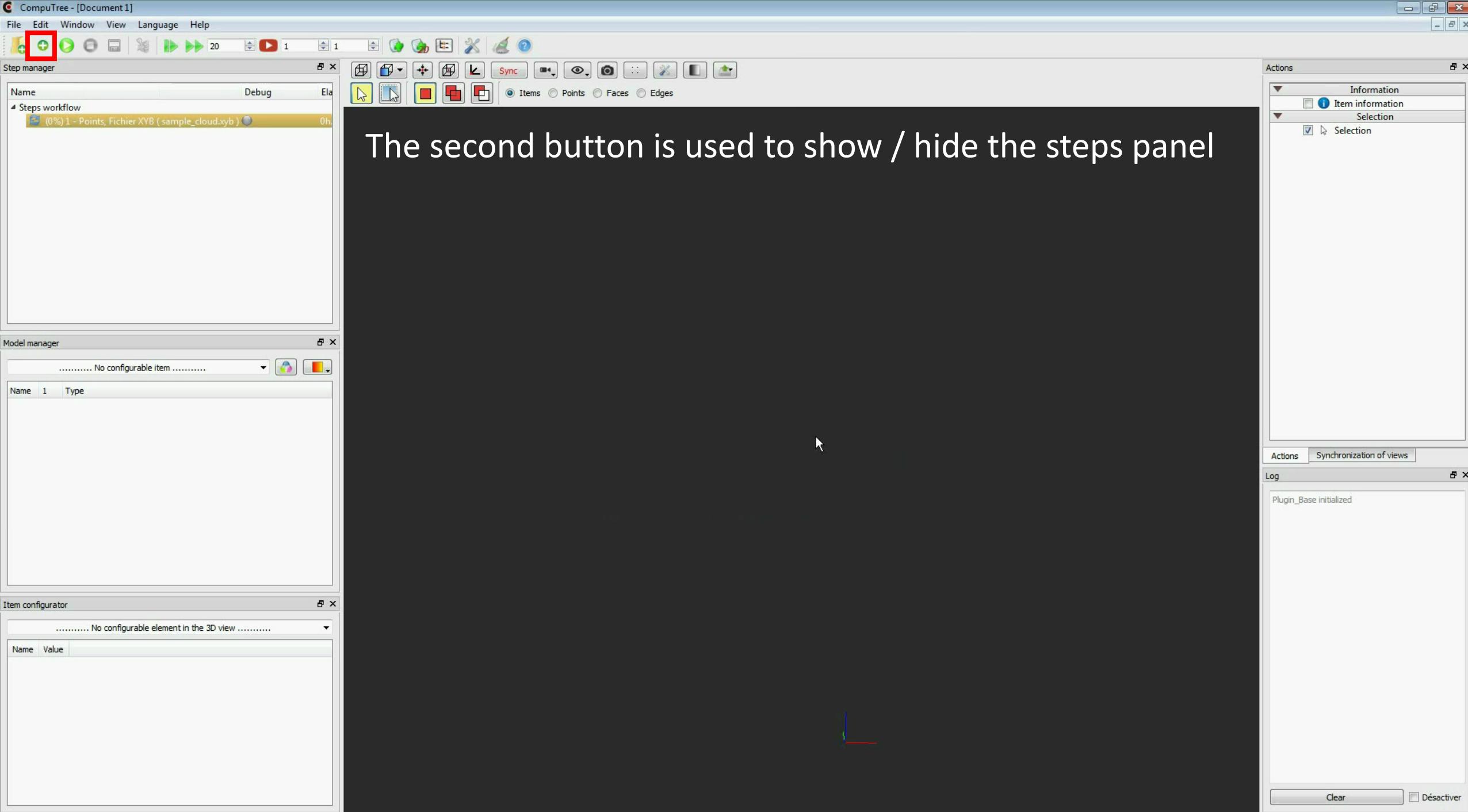
Clear Désactiver

Item configurator

No configurable element in the 3D view

Name Value





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.

Model manager No configurable item Name 1 Type

Item configurator No configurable element in the 3D view Name Value

Actions Information Item information Selection Selection

Selection

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 slice 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 Comptree 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 Synchronization of views Log

Plugin_Base initialized

Clear Désactiver

This screenshot shows the CompuTree software interface. The main window features several panels: Step manager, Model manager, Item configurator, and Actions. The central focus is the 'Steps' panel, which displays a hierarchical list of processing steps categorized by theme (e.g., Favorites, Points, Extract). A specific step, 'Segment slice in horizontal slices', is highlighted with a red border. The 'Actions' panel on the right contains sections for Information, Selection, and Log, with the Log section showing the message 'Plugin_Base initialized'. The bottom right corner includes 'Clear' and 'Désactiver' buttons.

CompuTree - [Document 1] File Edit Window View Language Help

Step manager Step manager

Name Debug Ela
Steps workflow (0%) 1 - Points, Fichier XYB (sample_cloud.xyb) 0h.

Model manager Model manager

No configurable item

Name 1 Type

Item configurator Item configurator

No configurable element in the 3D view

Name Value

Actions Actions

Information Information

Item information Item information

Selection Selection

Selection Selection

Sync Sync

Items Points Faces Edges

Steps Steps

Search for steps... Configuration

Steps name Configuration

Favorites

Load Export Workflow

Points

- Analyze
- Classify
- Clusterize
- Colorize
- Create / Merge
- Detect (Crowns)

Extract

Step Name	Toolkits
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	onf
Extract points in vertical cylinders (by plot)	arts
Extract points outside a circular plot	simplesphere
Extracts the major branch points.	onf
Segment slice in horizontal slices	onf
Smooth extraction of a point slice parallel t...	simplesphere

Filter Transform Normals

3D geometry Voxels 2D geometry Rasters / Images Meshes Metrics Others Work in progress (Beta)

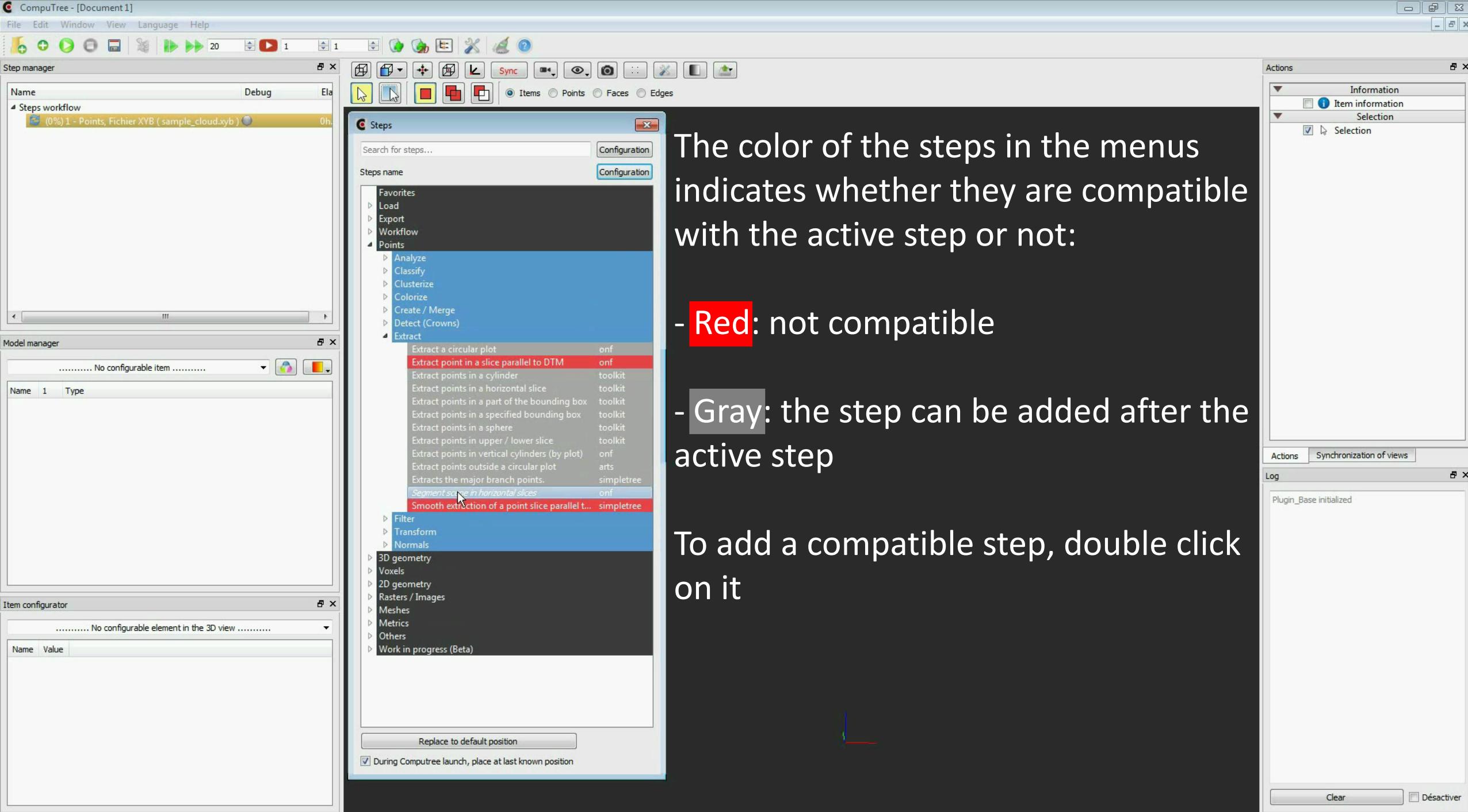
Replace to default position

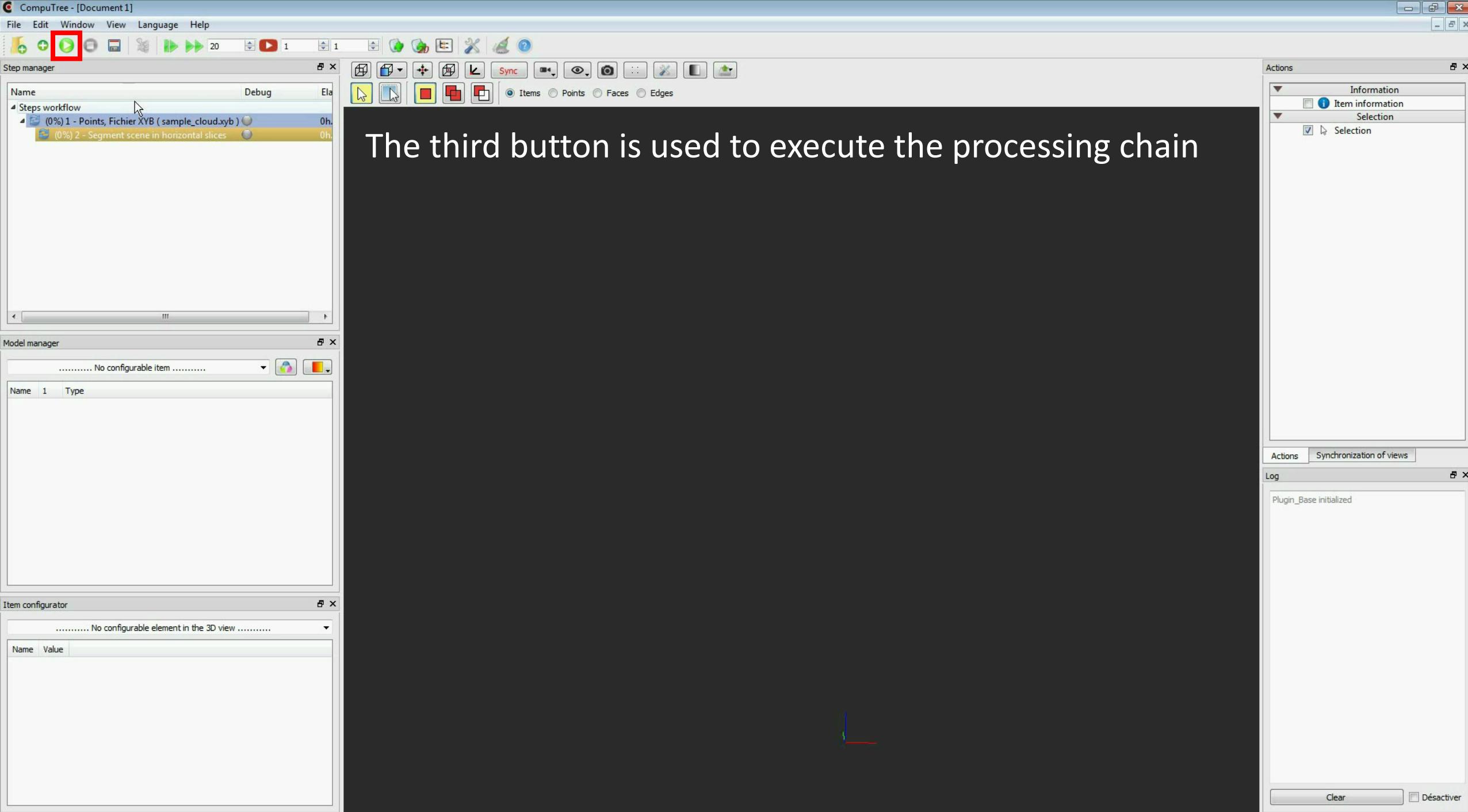
During Comptree launch, place at last known position

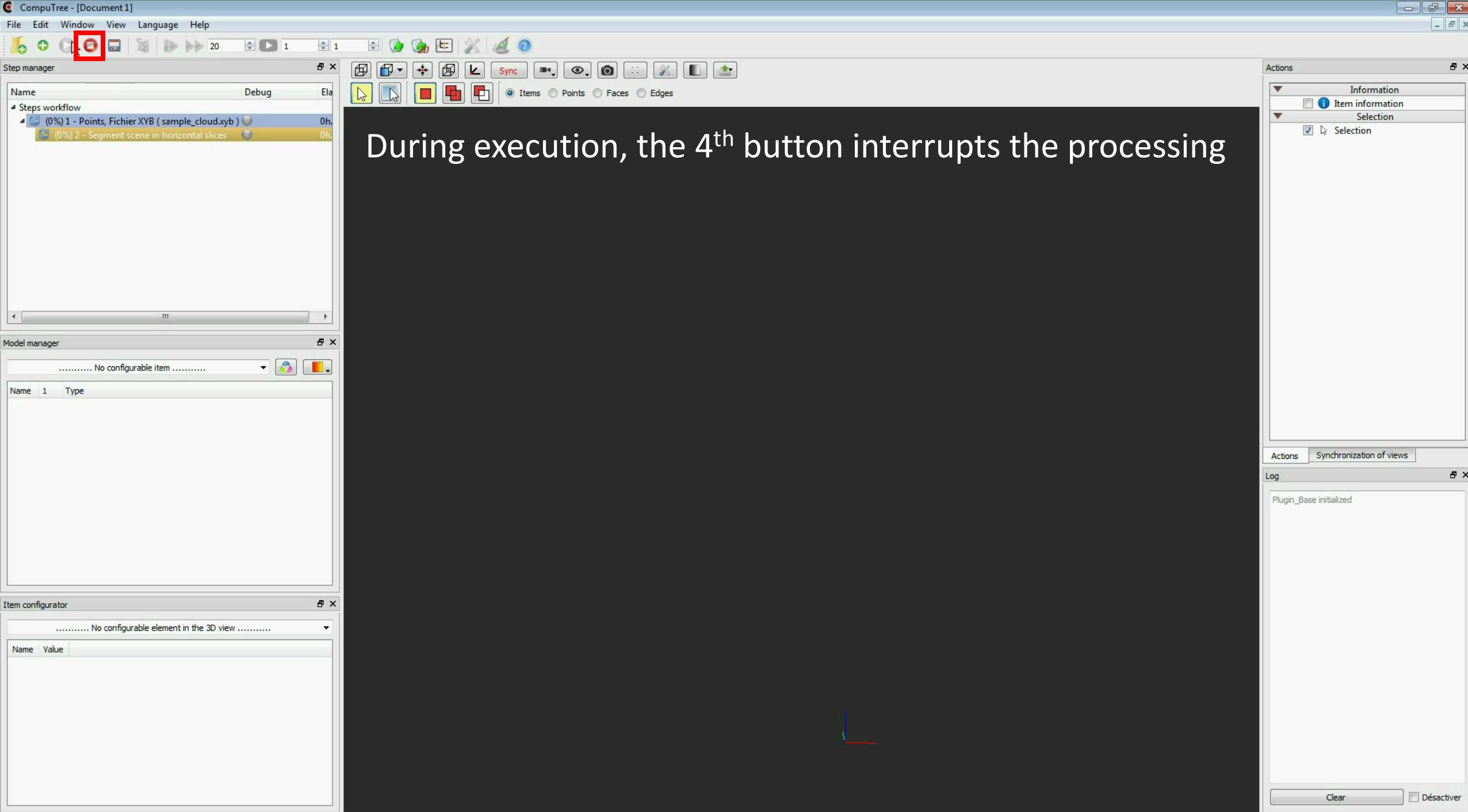
The color of the steps in the menus indicates whether they are compatible with the active step or not:

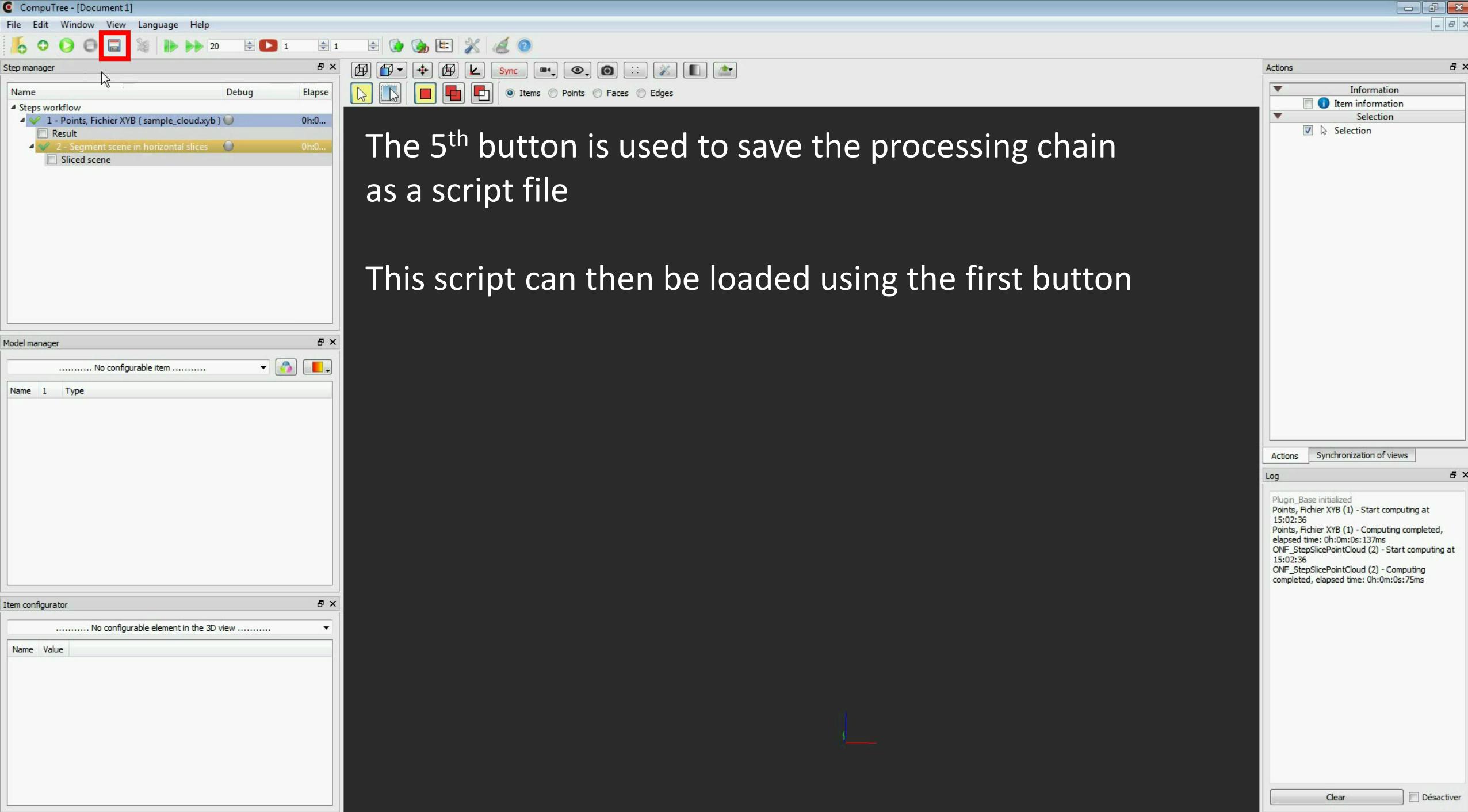
- Red: not compatible
- Gray: the step can be added after the active step

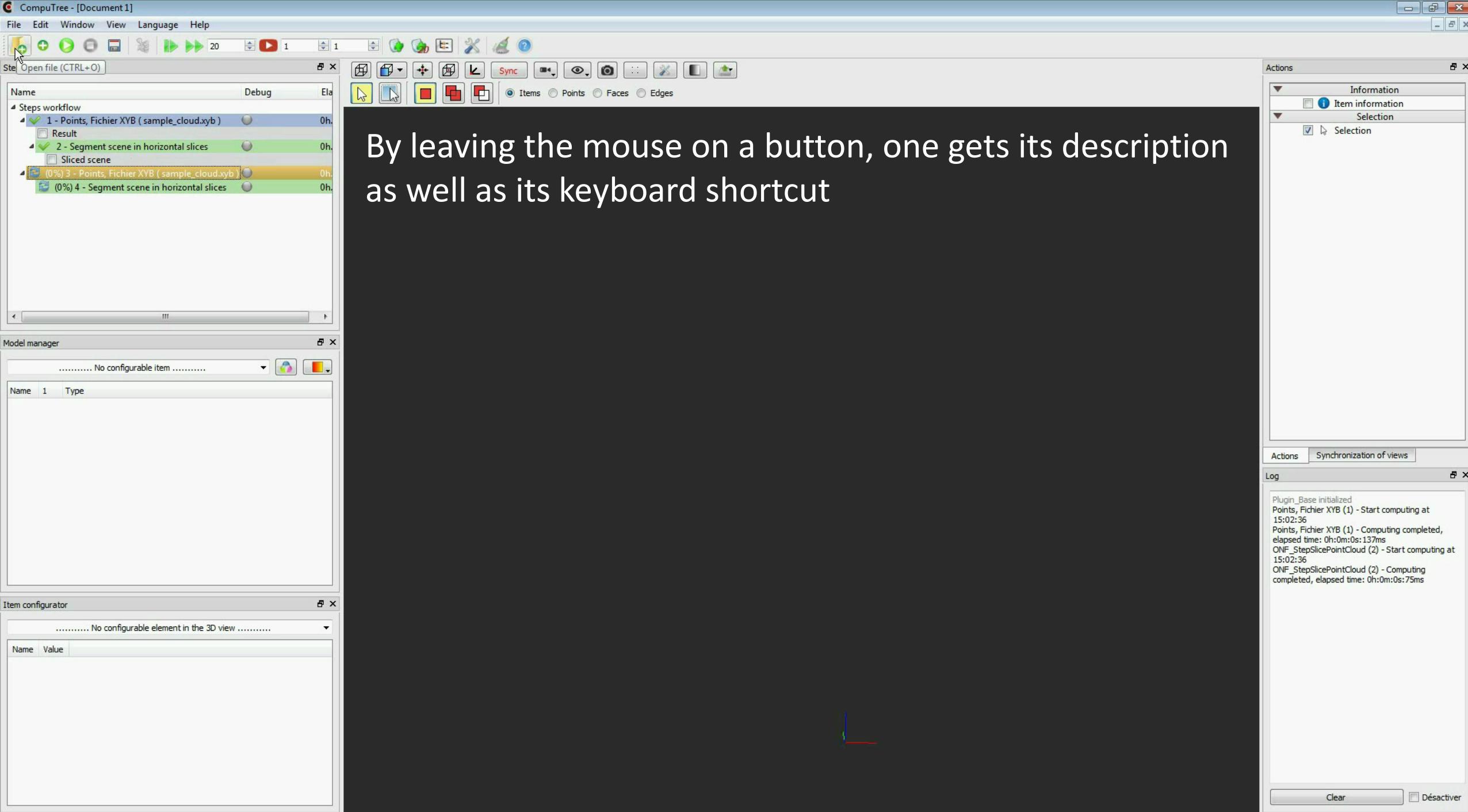
To add a compatible step, double click on it











CompuTree - [Document 1] Close

File Edit Window View Language Help

Step manager Validate manual mode and continue automatical processes (F4)

Actions

Information Item information Selection Selection

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

Model manager No configurable item

Name 1 Type

Item configurator No configurable element in the 3D view

Name Value

Log Actions Synchronization of views

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

This screenshot shows the CompuTree software interface. The top menu bar includes File, Edit, Window, View, Language, and Help. A toolbar above the main workspace contains various icons for file operations, selection tools, and synchronization. The left side features several panels: 'Step manager' showing a workflow tree with steps like '1 - Points, Fichier Xyb (sample_cloud.xyzb)' and '2 - Segment scene in horizontal slices'; 'Model manager' showing 'No configurable item, Name 1 Type'; 'Item configurator' showing 'No configurable element in the 3D view, Name Value'; and 'Actions' panel with sections for Information (Item information, Selection), Selection (Selection), and Log (listing plugin initialization and step computations). The central workspace is dark, and a small 3D model of a blue cube is visible near the bottom center. The bottom right corner has buttons for 'Clear' and 'Désactiver'.

CompuTree - [Document 1]

File Edit Window View Language Help

Step manager

Name Debug Elapsed

- Steps workflow
 - 1 - Points, Fichier XVB (sample_cloud.xvb) 0h.00s
 - Result
 - 2 - Segment scene in horizontal slices 0h.00s
 - Sliced scene
- (0%) 3 - Points, Fichier XVB (sample_cloud.xvb) 0h.00s
- (0%) 4 - Segment scene in horizontal slices 0h.00s

Add a new 3D document (F7)

Actions

Information

Item information

Selection

Selection

Model manager

No configurable item

Name 1 Type

Actions Synchronization of views

Log

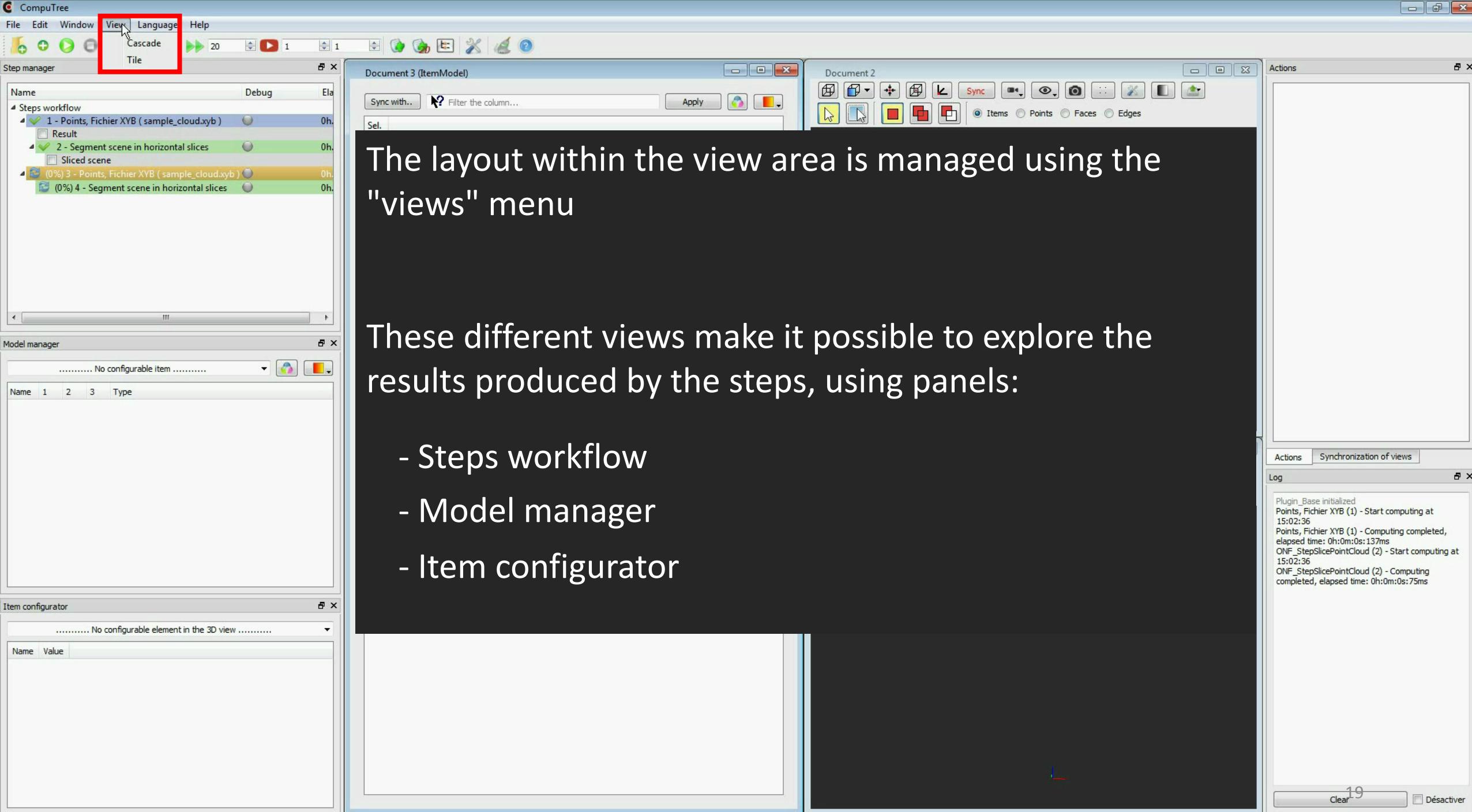
Plugin_Base initialized
Points, Fichier XVB (1) - Start computing at 15:02:36
Points, Fichier XVB (1) - Computing completed, elapsed time: 0h:0m:0s:137ms
ONF_StepSlicePointCloud (2) - Start computing at 15:02:36
ONF_StepSlicePointCloud (2) - Computing completed, elapsed time: 0h:0m:0s:75ms

Clear Désactiver

The following 3 buttons allow you to create:

- a new 3D view
- a new 2D view (top view)
- a new tabular view (attribute data)

This screenshot shows the CompuTree software interface. The main area displays a workflow tree titled 'Steps workflow' with four steps: '1 - Points, Fichier XVB (sample_cloud.xvb)', '2 - Segment scene in horizontal slices', '(0%) 3 - Points, Fichier XVB (sample_cloud.xvb)', and '(0%) 4 - Segment scene in horizontal slices'. A red box highlights the toolbar above the main workspace, which contains icons for creating new 3D, 2D, and tabular views. The central workspace is dark gray and shows a small blue and red L-shaped object. To the left are three panels: 'Model manager' (empty), 'Item configurator' (empty), and 'Step manager' (listing the workflow steps). On the right are two panels: 'Actions' (with tabs for 'Information' and 'Selection') and 'Log' (showing plugin initialization and computation logs). The top menu bar includes File, Edit, Window, View, Language, and Help.



CompuTree

File Edit Window View Language Help

Step manager Document 1 Document 3 (itemModel)

Model manager Document 2

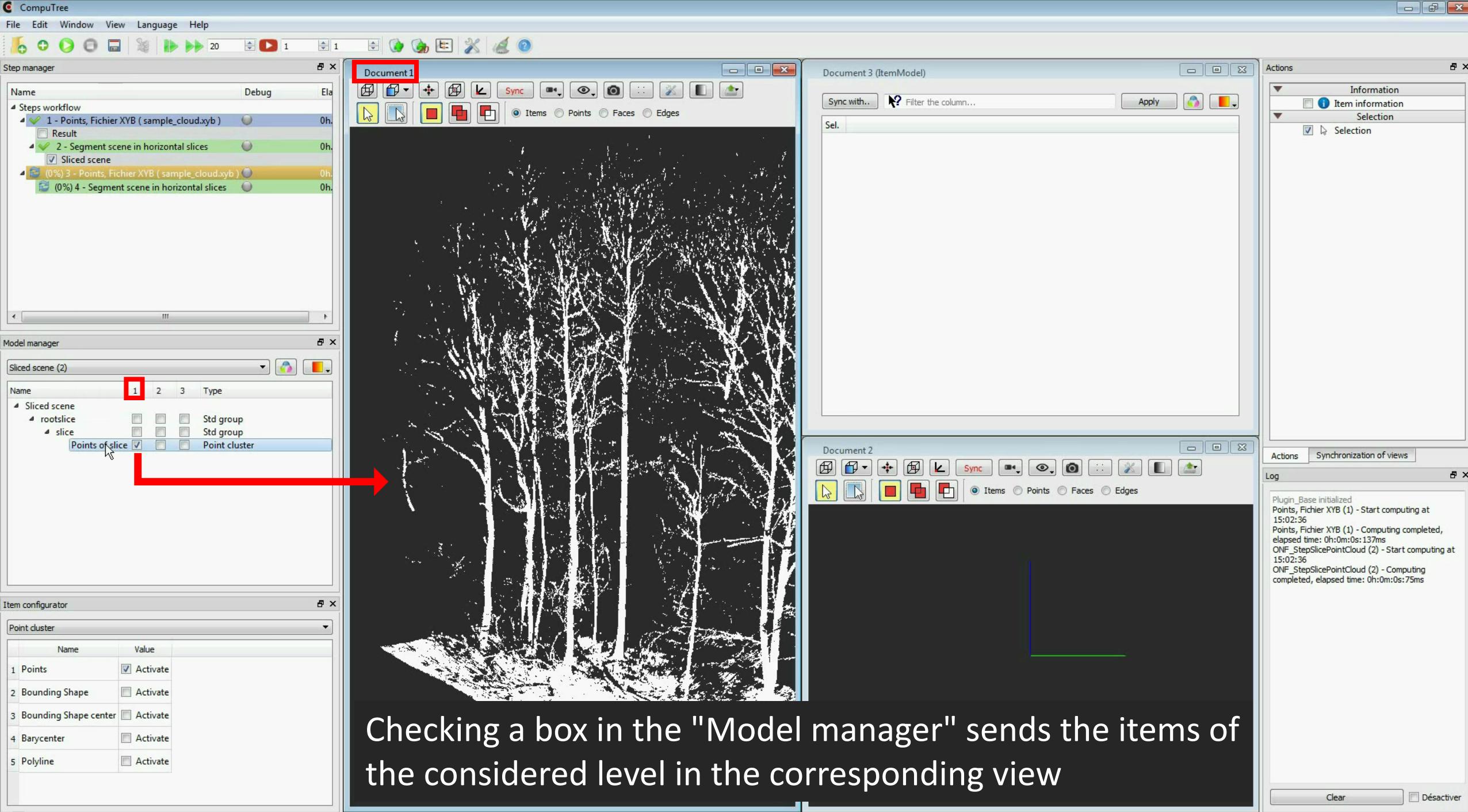
Item configurator

Actions Information Selection Selection

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)

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



CompuTree

File Edit Window View Language Help

Step manager

Document 1

Document 3 (ItemModel)

Actions

Information

Selection

Selection

Model manager

Sliced scene (2)

Document 2

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

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

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

1 2 3

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

22

Désactiver

The screenshot displays the CompuTree software interface. On the left, there are several panels: 'Step manager' showing a workflow with steps like 'Points, Fichier Xyb (sample_cloud.xyb)' and 'Segment scene in horizontal slices'; 'Model manager' showing a 'Sliced scene (2)' with a tree structure; and 'Item configurator' with a 'Point cluster' table. The central area features a 3D view of a forest scene with a grid overlay. A context menu is open over a point slice, listing five colorization options: 'Plain color', 'Automatic color', 'Colorize by...', 'Colorize points of each element by', and 'Colorize points of all elements by'. The 'Colorize by...' option is highlighted with a red box. To the right, there are three document windows ('Document 1', 'Document 3 (ItemModel)', and 'Document 2') and a 'Actions' panel with sections for 'Information' and 'Selection'. The 'Log' panel at the bottom shows plugin initialization and computation logs.

CompuTree

File Edit Window View Language Help

Step manager

Document 1

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%)
- (0%) 4 - Segment scene in horizontal slices (0%)

Document 3 (ItemModel)

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

Sel.

Actions

Information

Item information

Selection

Selection

Model manager

Sliced scene (2)

Name 1 2 3 Type

Sliced scene

- rootslice
- slice

Points Plain color (highlighted with red box)

Automatic color

Colorize by...

Colorize points of each element by

Colorize points of all elements by

Document 2

Sync

Items Points Faces Edges

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

Item configurator

Point cluster

Name	Value
1 Points	<input checked="" type="checkbox"/> Activate
2 Bounding Shape	<input type="checkbox"/> Activate
3 Bounding Shape center	<input type="checkbox"/> Activate
4 Barycenter	<input type="checkbox"/> Activate
5 Polyline	<input type="checkbox"/> Activate

Clear Désactiver

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

Document 1

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
- slice
- Points of slice Point cluster

Item configurator

Point cluster

Name	Value
1 Points	<input checked="" type="checkbox"/> Activate
2 Bounding Shape	<input type="checkbox"/> Activate
3 Bounding Shape center	<input type="checkbox"/> Activate
4 Barycenter	<input type="checkbox"/> Activate
5 Polyline	<input type="checkbox"/> Activate

Document 3 (ItemModel)

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

Sel.

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 screenshot captures the CompuTree software interface, which is used for processing 3D point clouds. The central feature is a 3D view of a forest scene, where the trees are highlighted in green, representing the 'Sliced scene' as indicated by the label in the Model manager. The Step manager panel on the left tracks the progress of four steps: '1 - Points, Fichier Xyb (sample_cloud.xyb)' (Completed), 'Result' (Incomplete), '2 - Segment scene in horizontal slices' (Completed), 'Sliced scene' (Incomplete), '(0%) 3 - Points, Fichier Xyb (sample_cloud.xyb)' (Incomplete), and '(0%) 4 - Segment scene in horizontal slices' (Incomplete). The Model manager panel provides a detailed look at the 'Sliced scene' structure, showing it is composed of a 'rootslice' and multiple 'slice' components, each containing a 'Points of slice' and a 'Point cluster'. The Item configurator panel allows users to enable or disable various features for the point cluster, such as 'Activate', 'Bounding Shape', 'Bounding Shape center', 'Barycenter', and 'Polyline'. The Log panel at the bottom right shows the software's activity, including the initialization of the plugin and the completion of the first step with a duration of 137ms. The Actions and Synchronization of views buttons are also visible in the Log panel.

CompuTree

File Edit Window View Language Help

Step manager

Document 1

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%)
- (0%) 4 - Segment scene in horizontal slices (0%)

Debug Ela

Document 3 (ItemModel)

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

Items Points Faces Edges

Sel.

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

Model manager

Sliced scene (2)

Name 1 2 3 Type

Sliced scene

- rootslice
- slice

Points of

- Plain color
- Automatic color (highlighted with a red box)
- Colorize by...
- Colorize points of each element by...
- Colorize points of all elements by...

Document 2

Sync

Items Points Faces Edges

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

Item configurator

Point cluster

Name	Value
1 Points	<input checked="" type="checkbox"/> Activate
2 Bounding Shape	<input type="checkbox"/> Activate
3 Bounding Shape center	<input type="checkbox"/> Activate
4 Barycenter	<input type="checkbox"/> Activate
5 Polyline	<input type="checkbox"/> Activate

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

CompuTree

File Edit Window View Language Help

Step manager

Document 1

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				Std group
rootslice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Std group
slice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Std group
Points of slice	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Point cluster

Item configurator

Point cluster

Name	Value
1 Points	<input checked="" type="checkbox"/> Activate
2 Bounding Shape	<input type="checkbox"/> Activate
3 Bounding Shape center	<input type="checkbox"/> Activate
4 Barycenter	<input type="checkbox"/> Activate
5 Polyline	<input type="checkbox"/> Activate

Document 3 (ItemModel)

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

Sel.

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



Step manager

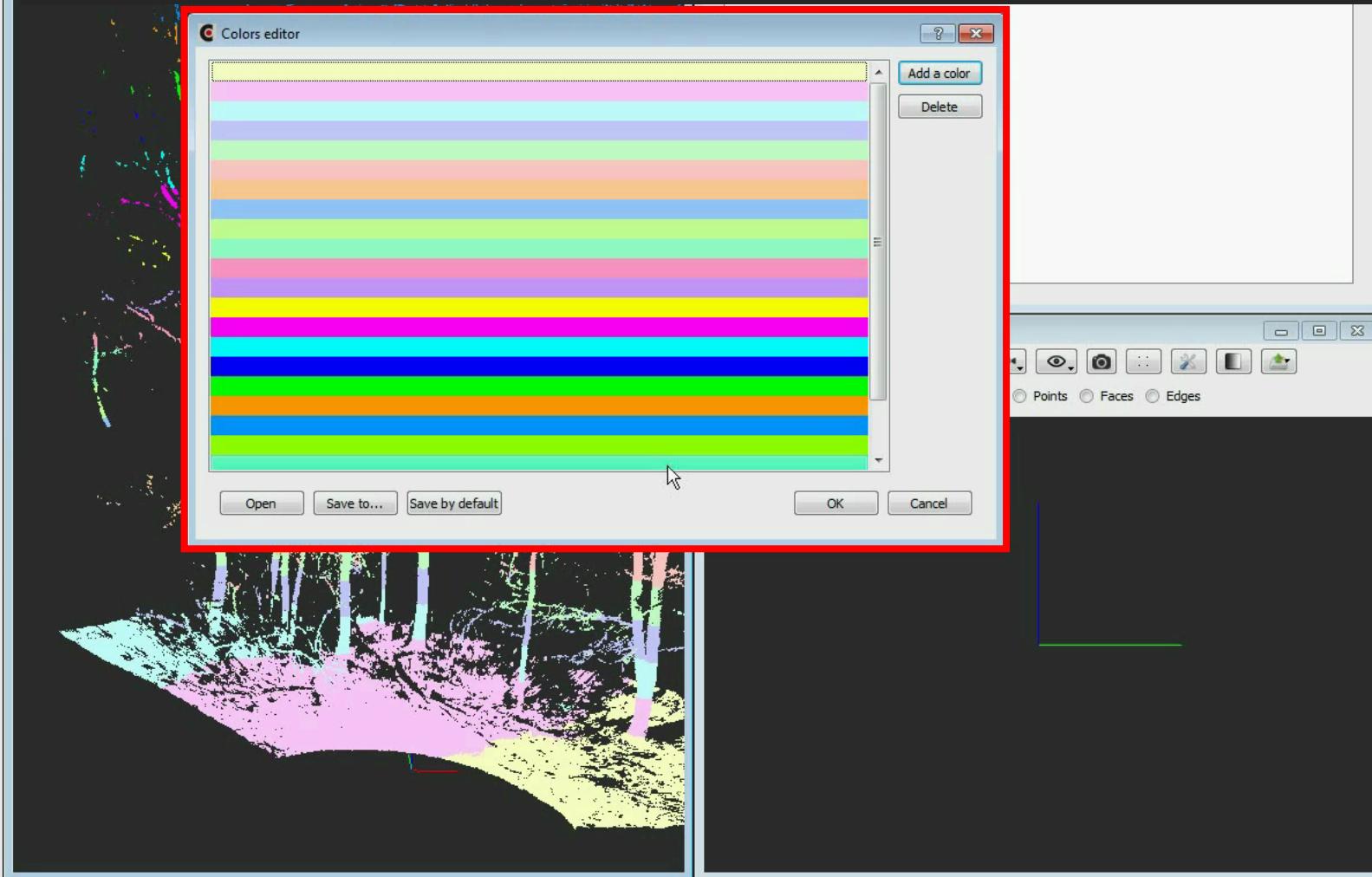
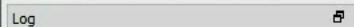
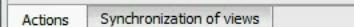
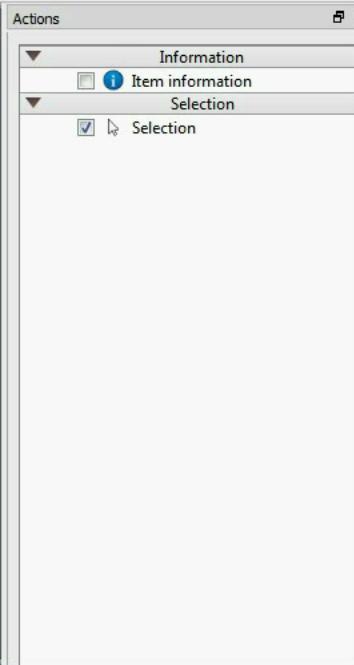
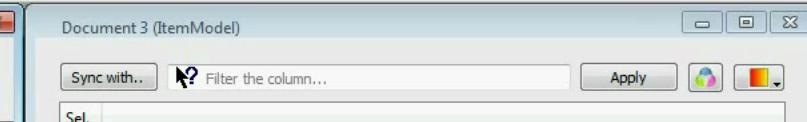
Name	Debug	Elas.
Steps workflow		
1 - Points, Fichier Xyb (sample_cloud.xyb)	<input type="checkbox"/>	0h.
Result	<input type="checkbox"/>	
2 - Segment scene in horizontal slices	<input type="checkbox"/>	0h.
Sliced scene	<input checked="" type="checkbox"/>	
(0%) 3 - Points, Fichier Xyb (sample_cloud.xyb)	<input type="checkbox"/>	0h.
(0%) 4 - Segment scene in horizontal slices	<input type="checkbox"/>	0h.

Model manager

Sliced scene (2)				
Name	1	2	3	Type
Sliced scene				
rootslice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Std group
slice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Std group
Points of slice	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Point cluster

Item configurator

Point cluster	
Name	Value
1 Points	<input checked="" type="checkbox"/> Activate
2 Bounding Shape	<input type="checkbox"/> Activate
3 Bounding Shape center	<input type="checkbox"/> Activate
4 Barycenter	<input type="checkbox"/> Activate
5 Polyline	<input type="checkbox"/> Activate



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)

This screenshot shows the CompuTree software interface with several windows open:

- Step manager**: Shows a workflow named "Steps workflow" with four steps: "1 - Points, Fichier Xyb (sample_cloud.xyb)" (Status: Done), "2 - Segment scene in horizontal slices" (Status: Done), "(0%) 3 - Points, Fichier Xyb (sample_cloud.xyb)" (Status: In Progress), and "(0%) 4 - Segment scene in horizontal slices" (Status: In Progress).
- Model manager**: Shows a "Sliced scene (2)" containing a "Points of slice" group. A context menu is open over this group, with the "Colorize by..." option highlighted.
- Document 1**: A 3D view of a point cloud segmented into vertical slices, colored according to the "Number of points" attribute.
- Document 3 (ItemModel)**: A table view showing item information, with a filter applied to the "Sel." column.
- Document 2**: A 3D view of a point cloud, currently empty.
- Actions**: A panel on the right showing "Information" and "Selection" sections.
- Log**: A log window showing plugin initialization and processing logs.

The main message in the center indicates that the third mode of colorization allows users to colorize items based on a specific attribute, such as the number of points in a cluster.

CompuTree

File Edit Window View Language Help

Step manager

Document 1

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
- slice
- Points of slice ✓ Point cluster

Item configurator

Point cluster

Name	Value
1 Points	<input checked="" type="checkbox"/> Activate
2 Bounding Shape	<input type="checkbox"/> Activate
3 Bounding Shape center	<input type="checkbox"/> Activate
4 Barycenter	<input type="checkbox"/> Activate
5 Polyline	<input type="checkbox"/> Activate

Document 3 (ItemModel)

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

Sel.

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 screenshot displays the CompuTree software interface, which is a 3D point cloud processing tool. The central feature is a 3D view of a forest scene, where tree trunks are highlighted in red. To the left, a 'Model manager' panel shows a hierarchical structure of the 'Sliced scene' (2), with 'Points of slice' selected. Below it, an 'Item configurator' panel allows configuration of a 'Point cluster' with various options like 'Activate'. At the top, a 'Step manager' panel lists a workflow with four steps: 'Points, Fichier Xyb (sample_cloud.xyb)', 'Segment scene in horizontal slices', 'Sliced scene', and two additional steps that are currently inactive. On the right, there are three other windows: 'Document 3 (ItemModel)' showing a table with a single row 'Sel.', 'Document 2' showing a dark view, and a 'Log' window displaying processing logs for the plugin and specific steps. The log entries include timestamps and duration for each step's execution.

CompuTree

File Edit Window View Language Help

Step manager

Document 1

Steps workflow

- 1 - Points, Fichier XYG (sample_cloud.xyb) (0h. 0m)
- Result
- 2 - Segment scene in horizontal slices (0h. 0m)
- Sliced scene
- (0%) 3 - Points, Fichier XYG (sample_cloud.xyb) (0h. 0m)
- (0%) 4 - Segment scene in horizontal slices (0h. 0m)

Document 3 (ItemModel)

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

Items Points Faces Edges

Document 2

Sync

Items Points Faces Edges

Actions Synchronization of views

Information Item information Selection Selection

Model manager

Sliced scene (2)

Name 1 2 3 Type

Sliced scene

- rootslice
- slice

Points of

- 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	<input checked="" type="checkbox"/> Activate
2 Bounding Shape	<input type="checkbox"/> Activate
3 Bounding Shape center	<input type="checkbox"/> Activate
4 Barycenter	<input type="checkbox"/> Activate
5 Polyline	<input type="checkbox"/> Activate

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

Log

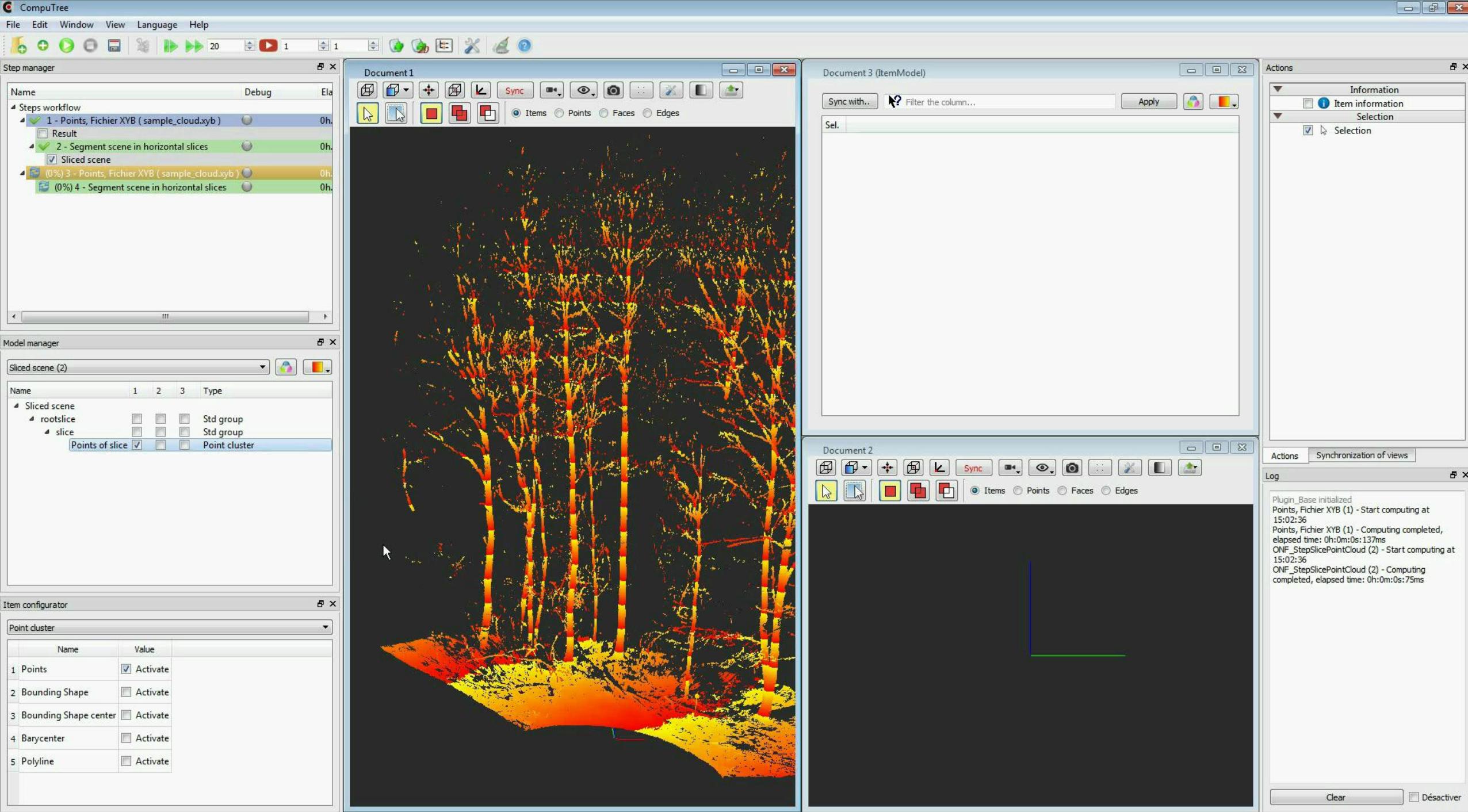
```

Plugin_Base initialized
Points, Fichier XYG (1) - Start computing at 15:02:36
Points, Fichier XYG (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

```

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Clear Désactiver



CompuTree

File Edit Window View Language Help

Step manager

Document 1

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%)
- (0%) 4 - Segment scene in horizontal slices (0%)

Debug Ela

Document 3 (ItemModel)

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

Sel.

Actions

Information

Item information

Selection

Selection

Model manager

Sliced scene (2)

Name 1 2 3 Type

Sliced scene

- rootslice
- slice

Points of slice Point cluster

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

Document 2

Sync

Items Points Faces Edges

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

Item configurator

Point cluster

Name	Value
1 Points	<input checked="" type="checkbox"/> Activate
2 Bounding Shape	<input type="checkbox"/> Activate
3 Bounding Shape center	<input type="checkbox"/> Activate
4 Barycenter	<input type="checkbox"/> Activate
5 Polyline	<input type="checkbox"/> Activate

Clear Désactiver

CompuTree

File Edit Window View Language Help

Step manager

Document 1

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	<input checked="" type="checkbox"/> Activate
2 Bounding Shape	<input type="checkbox"/> Activate
3 Bounding Shape center	<input type="checkbox"/> Activate
4 Barycenter	<input type="checkbox"/> Activate
5 Polyline	<input type="checkbox"/> Activate

Document 3 (ItemModel)

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

Sel.

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 screenshot shows the CompuTree software interface with several windows open:

- Step manager:** Shows the workflow with four steps: 1 - Points, Fichier Xyb (sample_cloud.xyb), Result, 2 - Segment scene in horizontal slices, Sliced scene, (0%) 3 - Points, Fichier Xyb (sample_cloud.xyb), and (0%) 4 - Segment scene in horizontal slices. Step 1 is completed (green), steps 2 and 3 are in progress (orange), and step 4 is not yet started (grey).
- Document 1:** Displays a 3D point cloud of a forest scene. The points are colored yellow and red, representing different segments or slices. The interface includes a toolbar with various tools like selection, zoom, and rotation, and a status bar at the bottom.
- Model manager:** Shows the "Sliced scene (2)" structure. It has three main components: "rootslice" (Std group), "slice" (Std group), and "Points of slice" (Point cluster). The "Points of slice" item is currently selected.
- Item configurator:** Shows configuration options for the "Point cluster". It has a table with columns "Name" and "Value". The "Points" row has a checked checkbox under "Value". Other rows (Bounding Shape, Bounding Shape center, Barycenter, Polyline) have unchecked checkboxes under "Value".
- Document 3 (ItemModel):** An empty table with columns "Sync with...", "Filter the column...", "Apply", and a color palette.
- Actions:** Buttons for "Actions" and "Synchronization of views".
- Log:** A text log window showing the initialization of the plugin and the start/completion of processing steps. It includes timestamps and elapsed times for each step.

CompuTree

File Edit Window View Language Help

Step manager

Document 1

Document 3 (ItemModel)

Actions

Information

Item information

Selection

Selection

Model manager

Sliced scene (2)

Name 1 2 3 Type

Sliced scene

rootslice

slice

Points of slice

Point cluster

Document 2

Sync

Items Points Faces Edges

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

Sel.

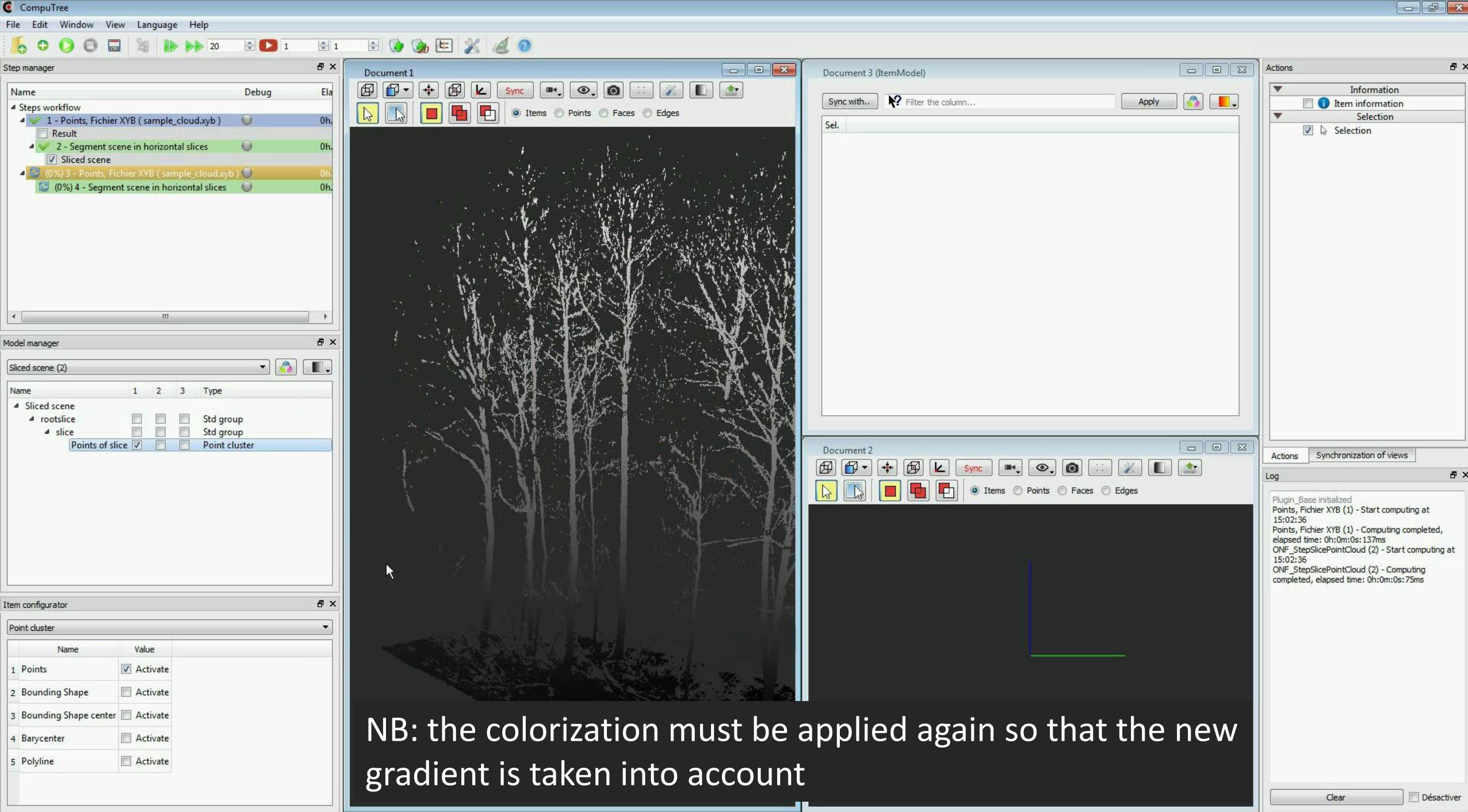
Actions Synchronization of views

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



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

The screenshot shows the CompuTree software interface with several windows open:

- Step manager**: Shows a workflow named "Steps workflow" with four steps: "1 - Points, Fichier XVB (sample_cloud.xvb)" (Active), "2 - Segment scene in horizontal slices" (Completed), "(0%) 3 - Points, Fichier XVB (sample_cloud.xvb)" (In Progress), and "(0%) 4 - Segment scene in horizontal slices" (In Progress).
- Model manager**: Shows a "Sliced scene (2)" with a table:

Name	1	2	3	Type
Sliced scene				Std group
rootslice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Std group
slice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Point cluster
Points of slice	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Point cluster

- Document 1**: A 3D view of a forest scene with point clouds.
- Document 2**: A 3D view of a forest scene with point clouds.
- Document 3 (ItemModel)**: A table view of items:

	Sync with...	Filter the column...	Apply	Color
Sel.				

- Actions**: A panel on the right showing "Information" and "Selection".
- Log**: A log window showing plugin initialization and computation logs.
- Item configurator**: A panel at the bottom left with a red border, containing a table:

Point cluster	Point cluster
1 Points	<input checked="" type="checkbox"/> Activate
2 Bounding Shape	<input type="checkbox"/> Activate
3 Bounding Shape center	<input type="checkbox"/> Activate
4 Barycenter	<input type="checkbox"/> Activate
5 Polyline	<input type="checkbox"/> Activate

CompuTree

File Edit Window View Language Help

Step manager

Document 1

Document 3 (ItemModel)

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

Model manager

Sliced scene (2)

Document 2

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

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Désactiver

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

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

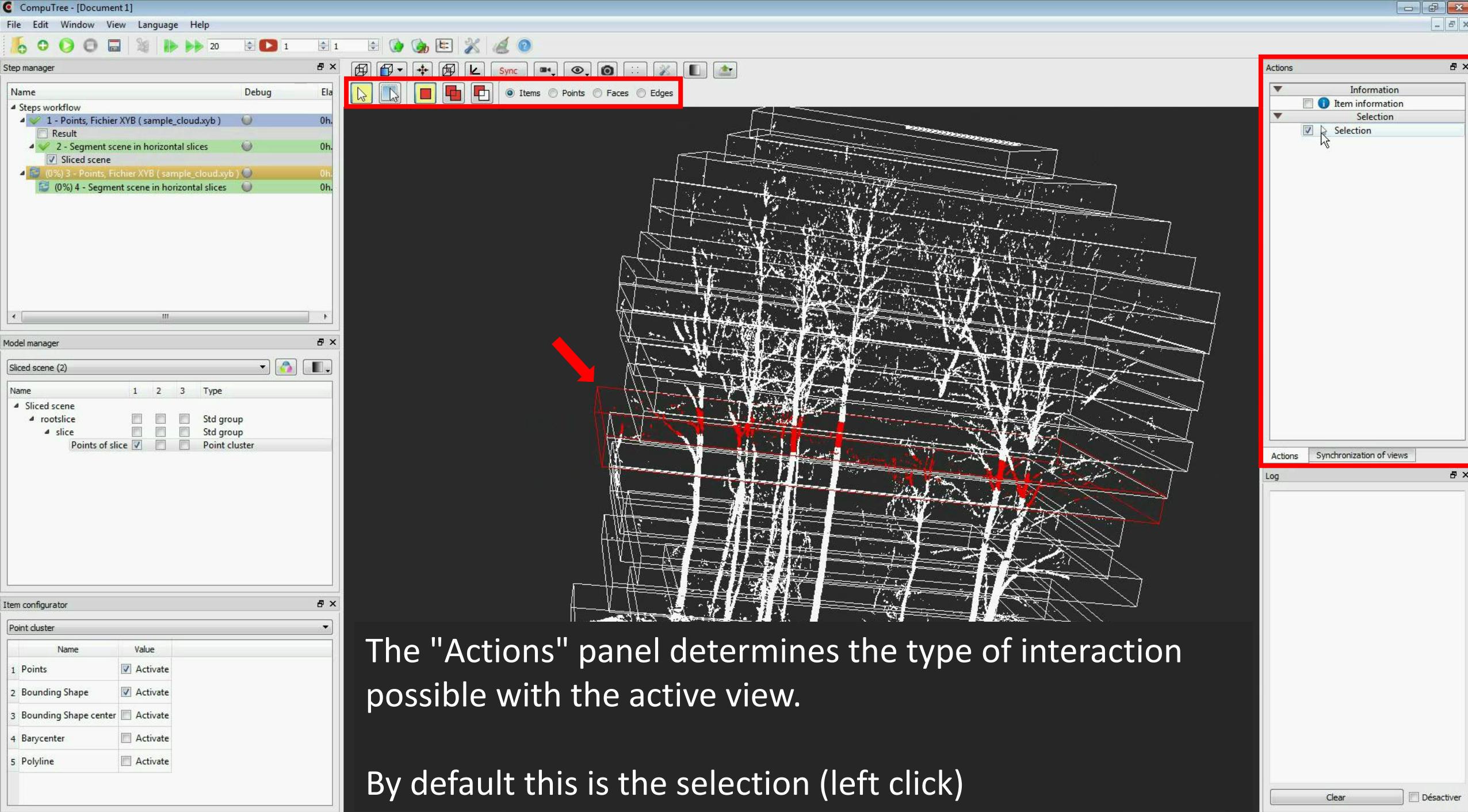
Steps may provide additional information

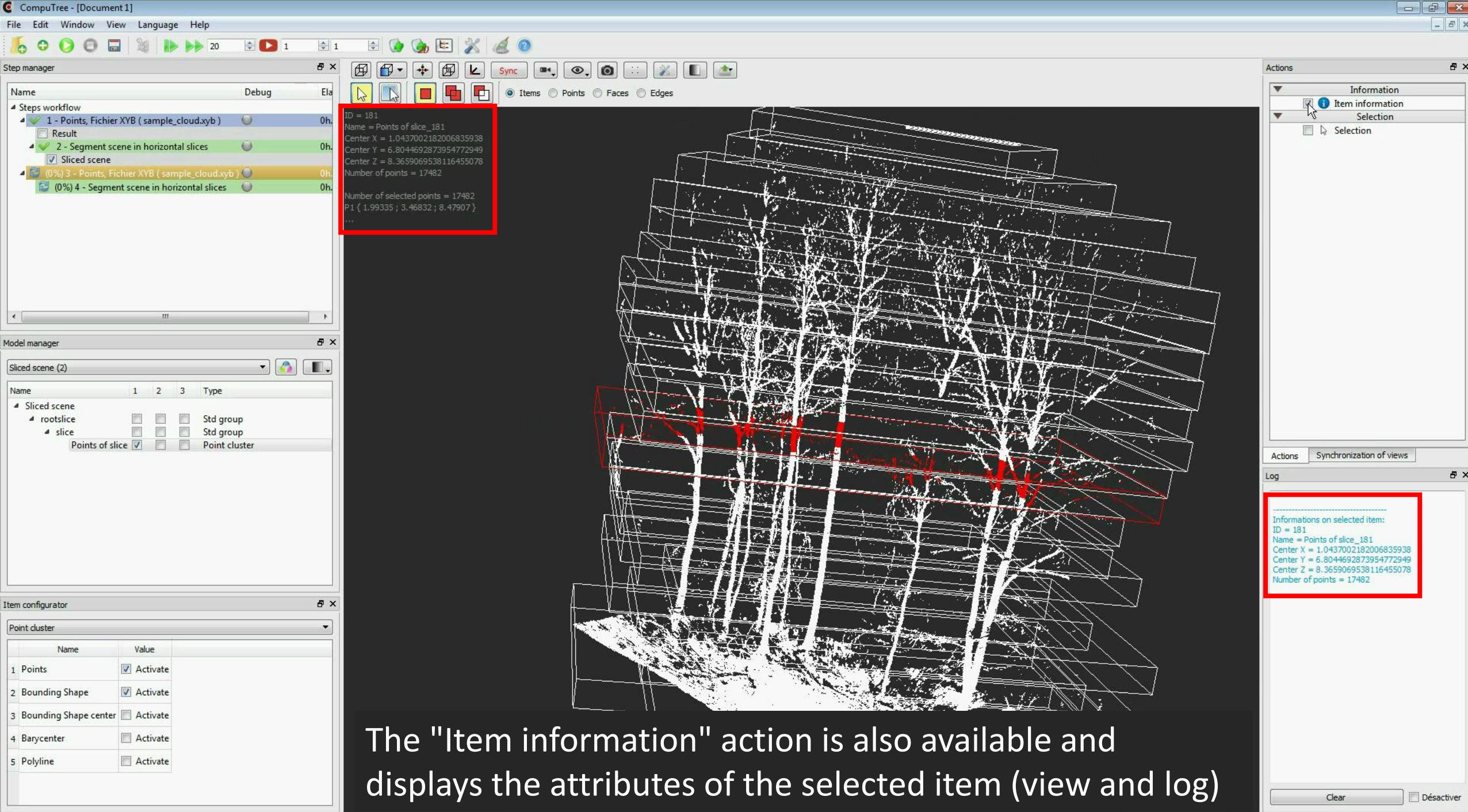
A "Clear" button clears the log

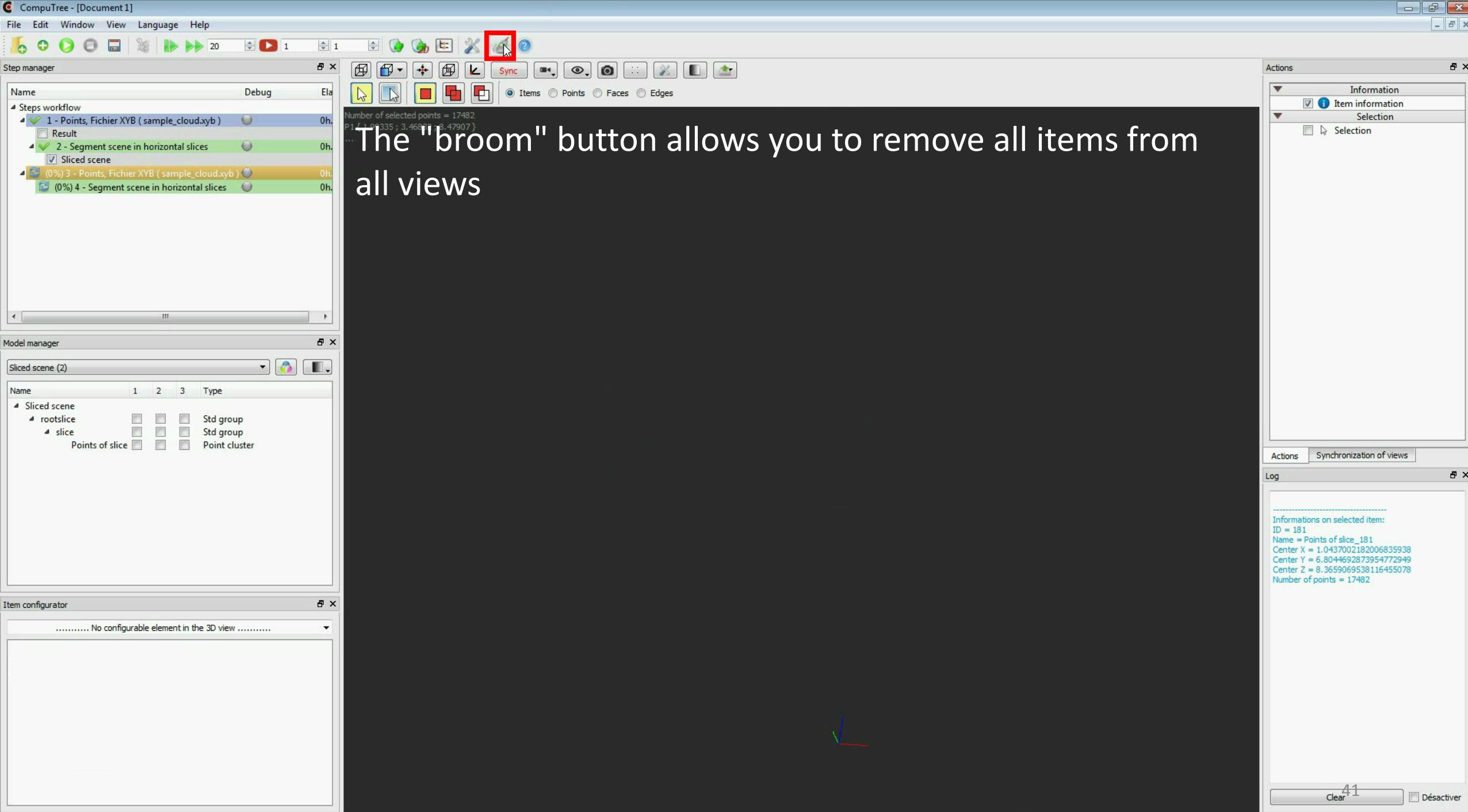
A "Disable" checkbox allows to disable the interactive log (useful in case of heavy processing)

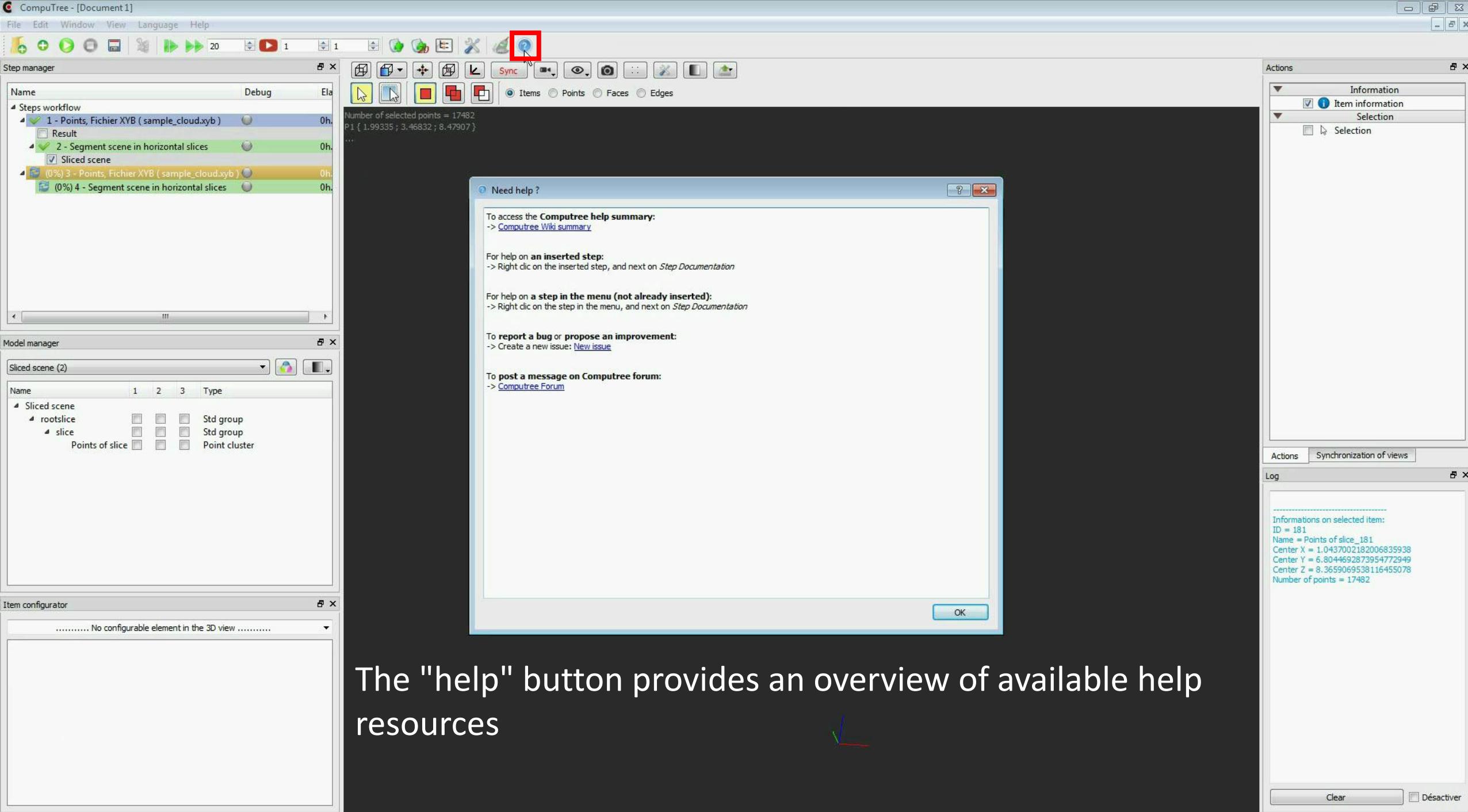
In all cases the log data is sent to the file "log_onf.log" at the root of the Computree directory, which is overwritten every time Computree is opened

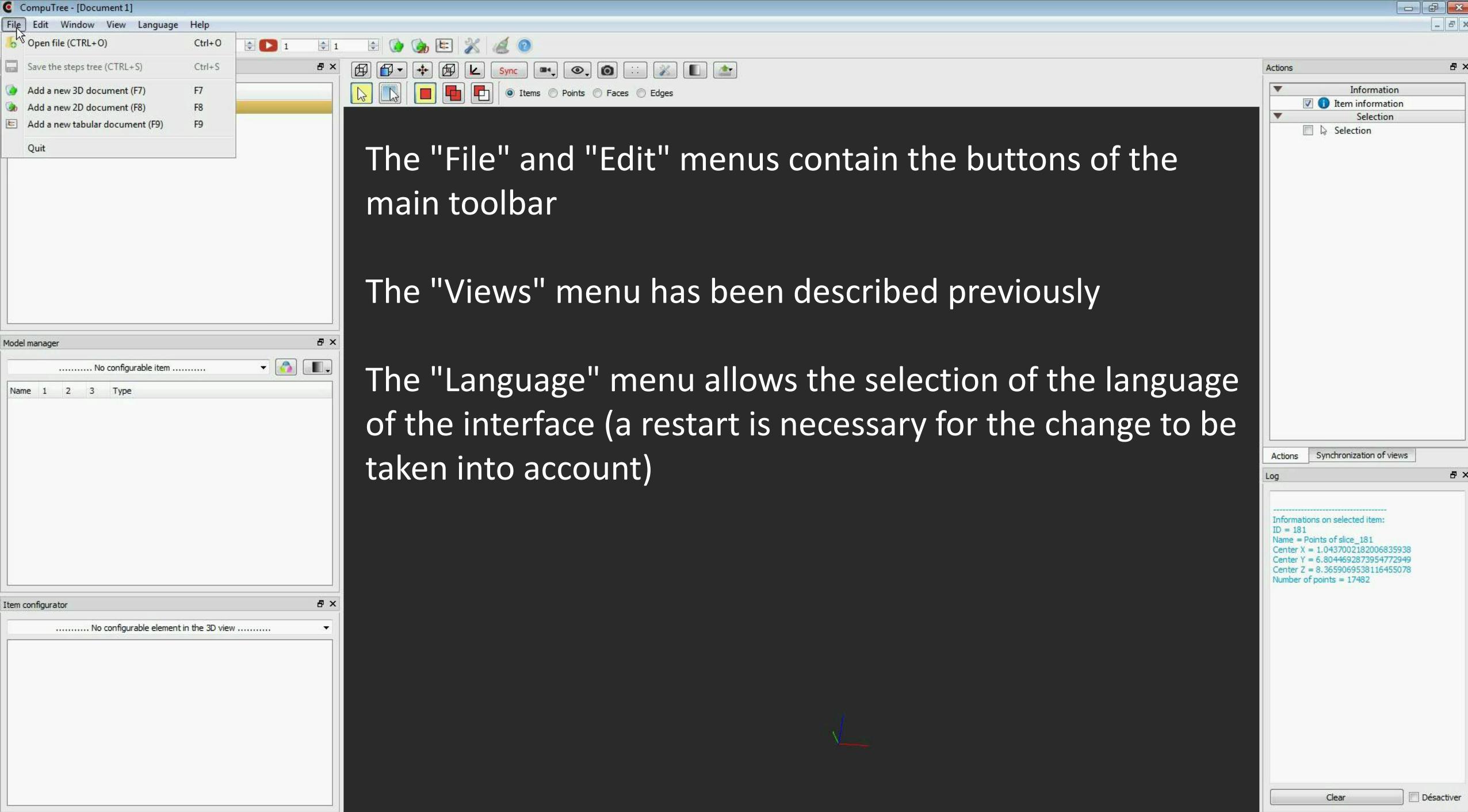
The screenshot shows the Computree application window with several panels: Step manager, Model manager, Item configurator, Document 1, Document 3 (ItemModel), and Actions. The Actions panel is expanded to show the Log section, which contains a list of log entries and two buttons at the bottom: "Clear" and "Désactiver". A red box highlights the Log panel.

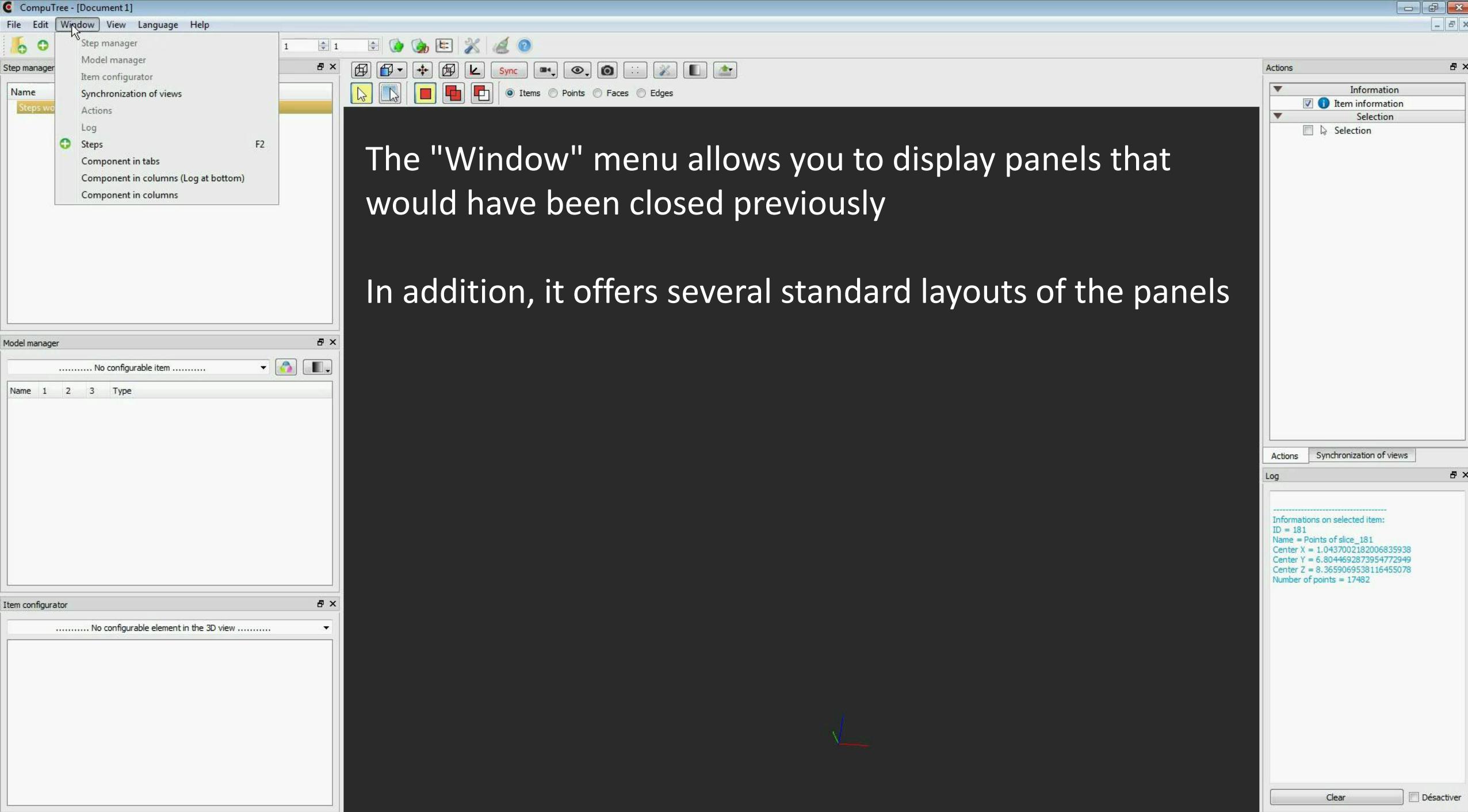


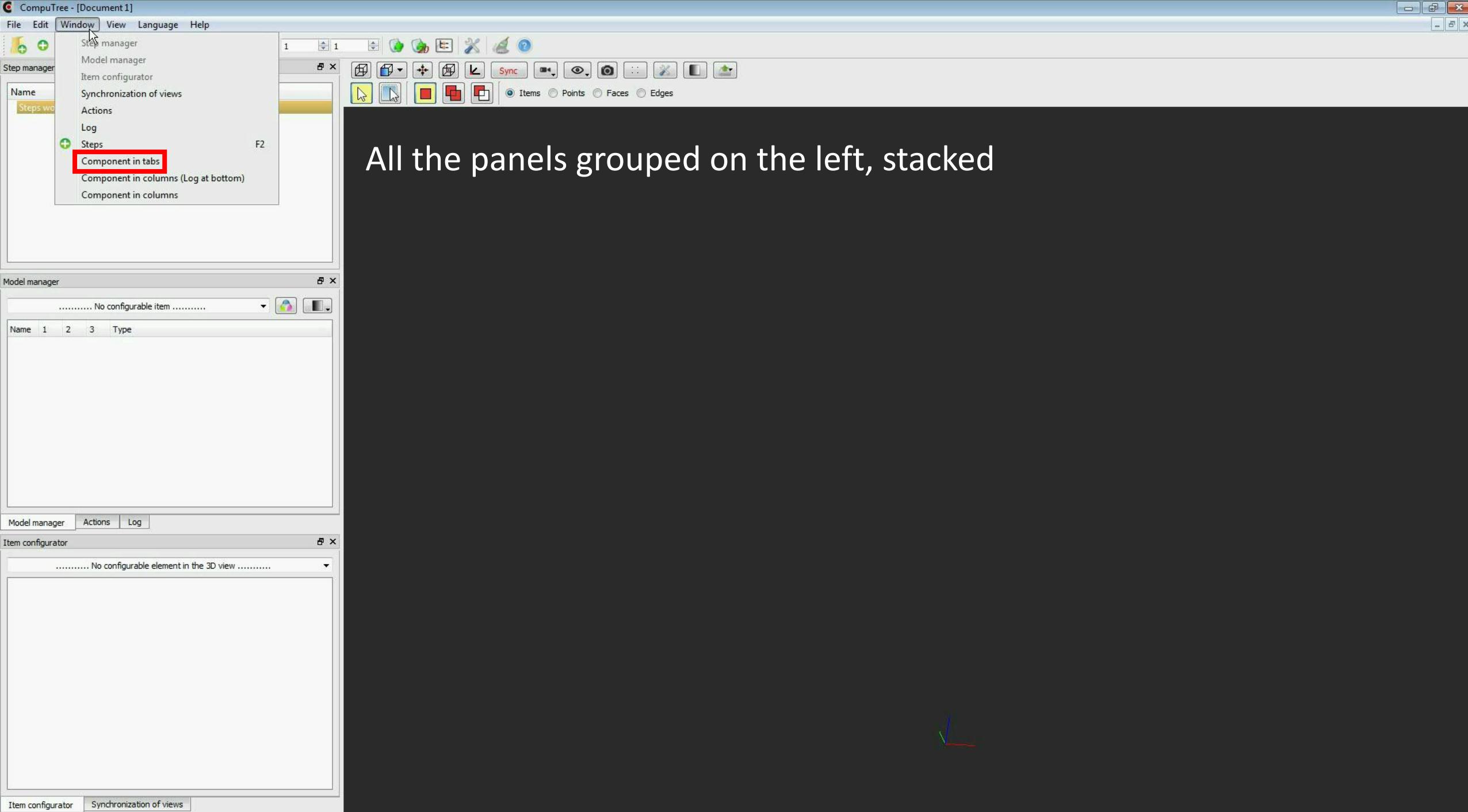


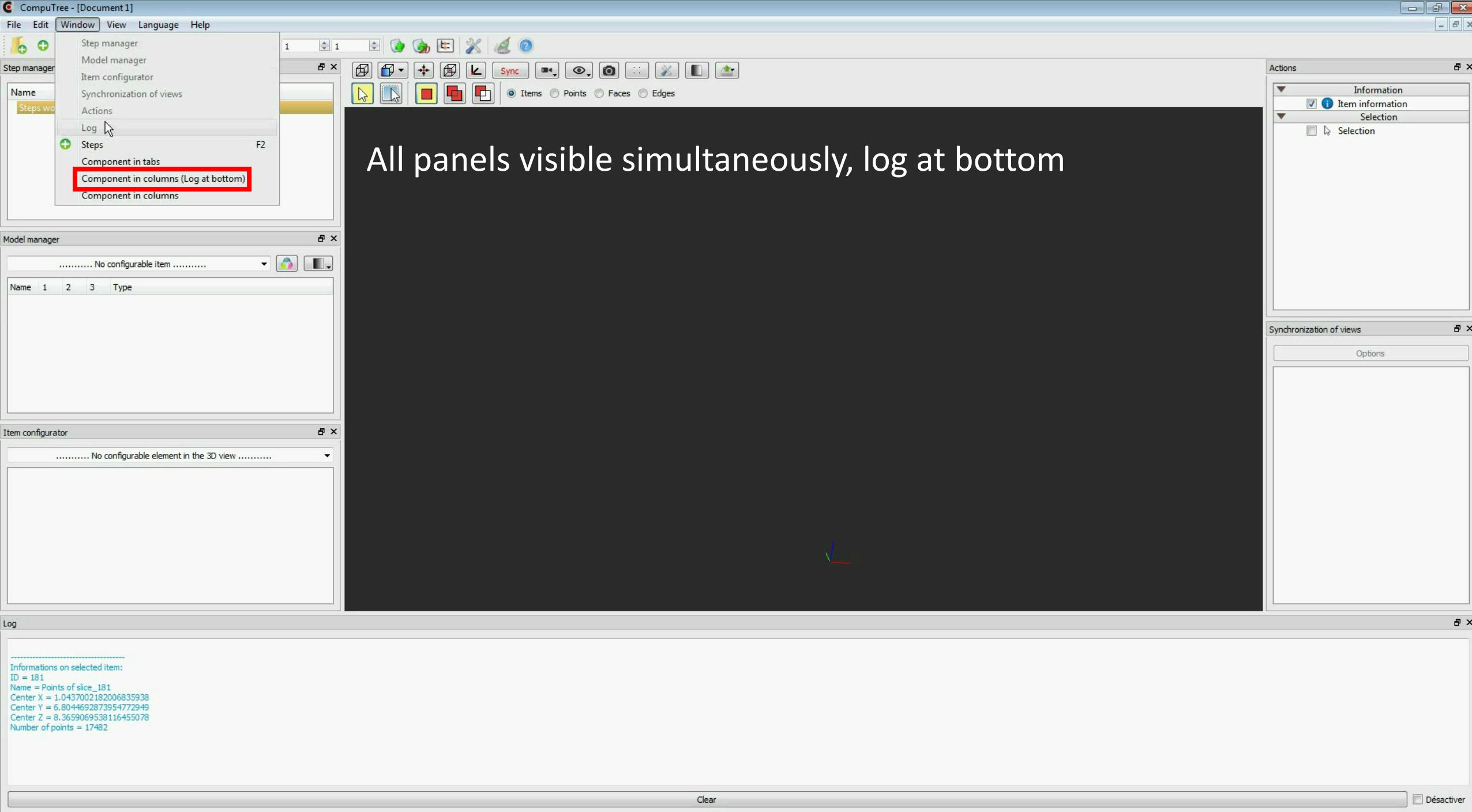


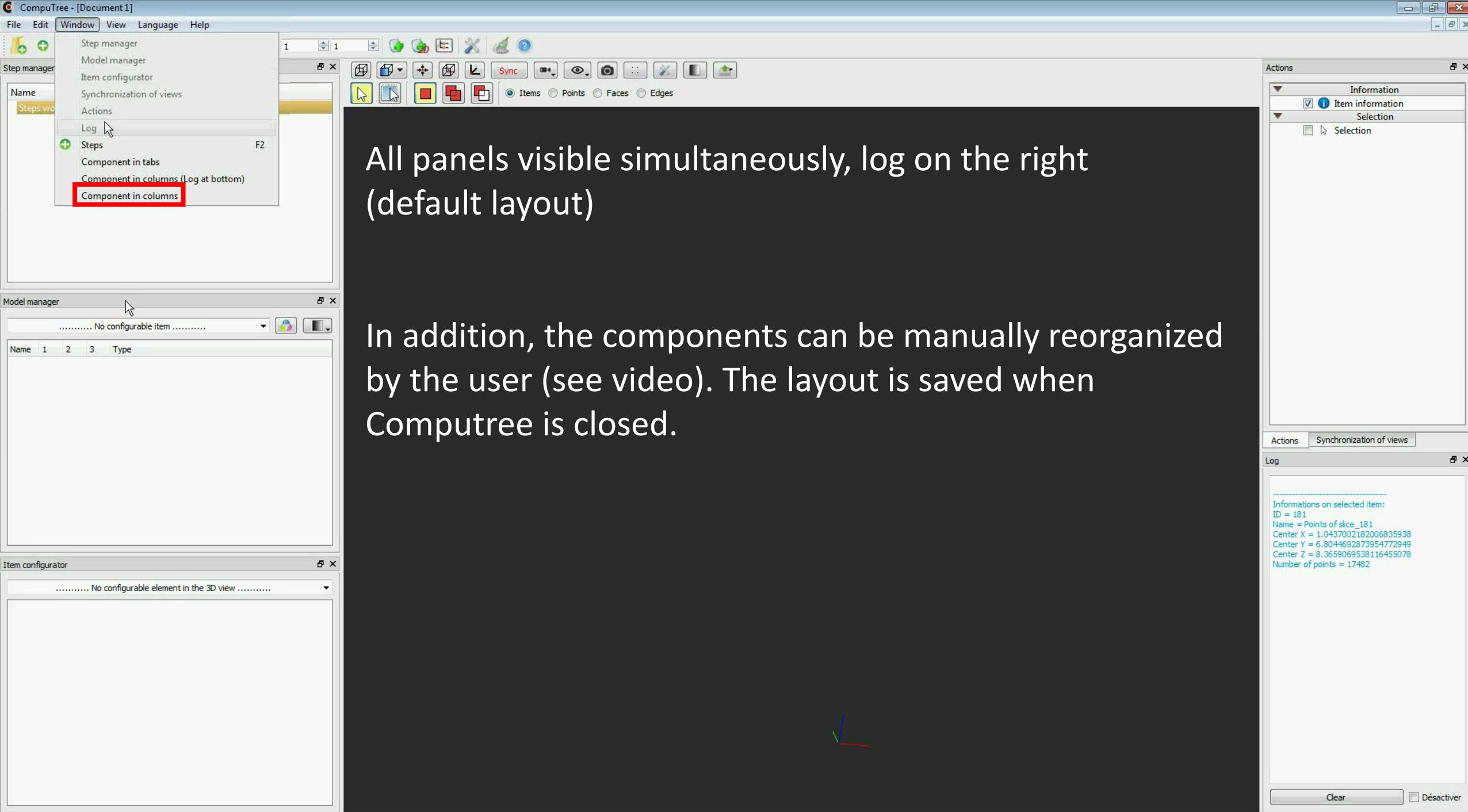












The "Help" menu provides a number of useful information

48 Clear Désactiver

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

Actions

Information
 Item information
Selection
 Selection

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

Sync

Items Points Faces Edges

Close

Office National des Forêts

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>

Computree uses following libraries:

- OpenSceneGraph: <http://www.openscenegraph.org>
- MuParser: <http://muparser.beltofion.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>

