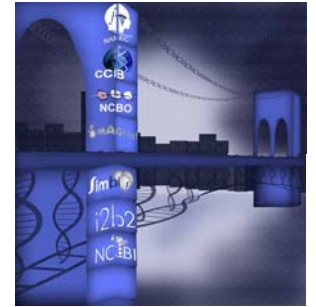




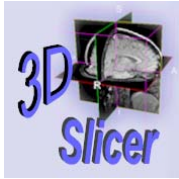
National Alliance for Medical Image Computing
3DSlicer Training Workshop
NCBC AHM



Session 2

Saving Data

Sonia Pujol, Ph.D.
Randy Gollub, M.D., Ph.D.



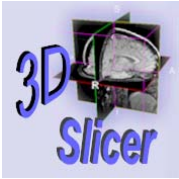
Acknowledgments



National Alliance for Medical Image Computing
NIH U54EB005149

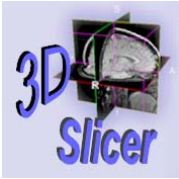


Neuroimage Analysis Center
NIH P41RR013218



Disclaimer

It is the responsibility of the user of 3DSlicer to comply with both the terms of the license and with the applicable laws, regulations and rules.



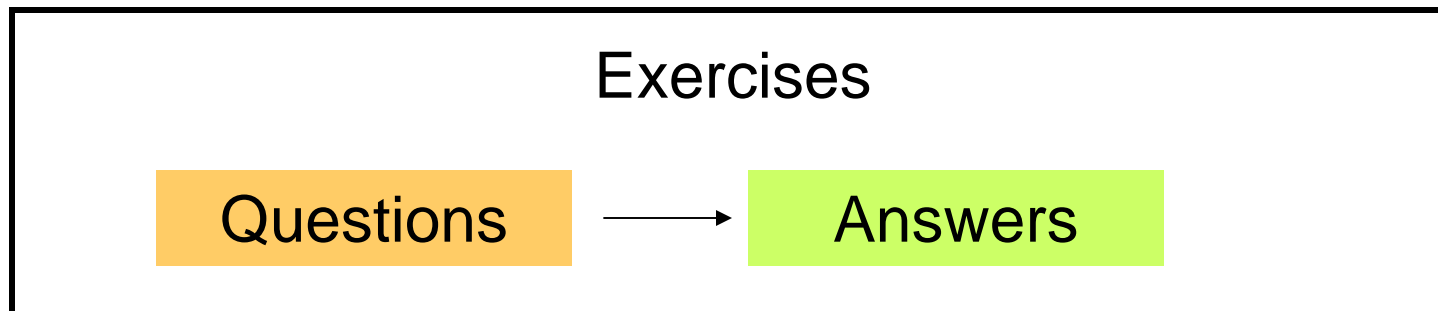
Material

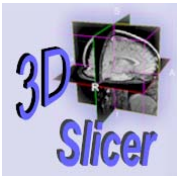
- Slicer 2.6

http://www.na-mic.org/Wiki/index.php/Slicer:Slicer2.6_Getting_Started

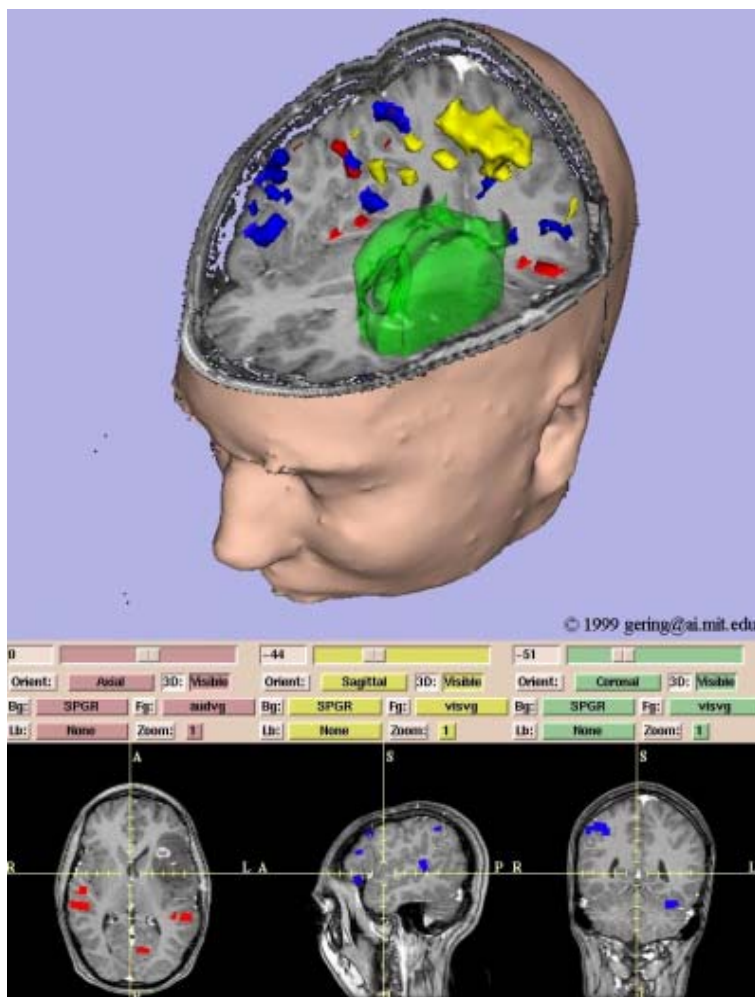
- Sample Tutorial Data: tutorial-with-dicom.zip

http://www.na-mic.org/Wiki/index.php/Slicer:Workshops:User_Training_101

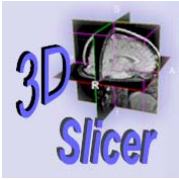




Goal of this tutorial



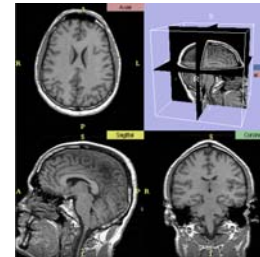
Guide you step-by-step through the process of **saving data** within Slicer.

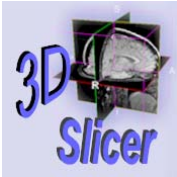


Saving Data

Slicer can save

- Volumes

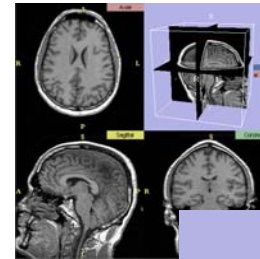


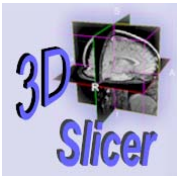


Saving Data

Slicer can save

- Volumes
- Models

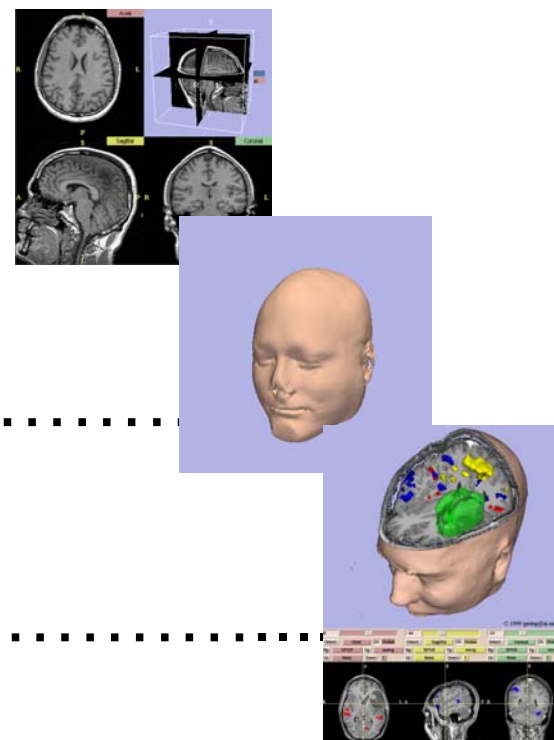


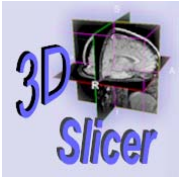


Saving Data

Slicer can save

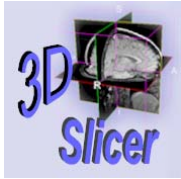
- Volumes
- Models
- Scenes





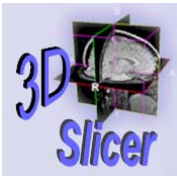
Scene

- A **Scene** in 3DSlicer can be composed of several **volumes**, **fiducials** and **3D models**.
- It is represented by an .xml file written in Medical Reality Modeling Language (MRML), that lists the elements of the Scene and their attributes.
- Several **views** of the same **Scene** can be saved in 3DSlicer.

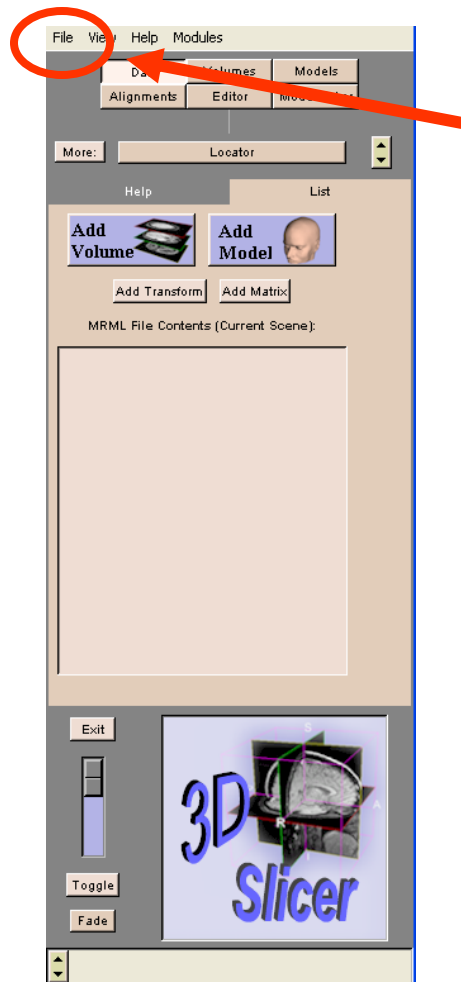


Tutorial 7: Overview

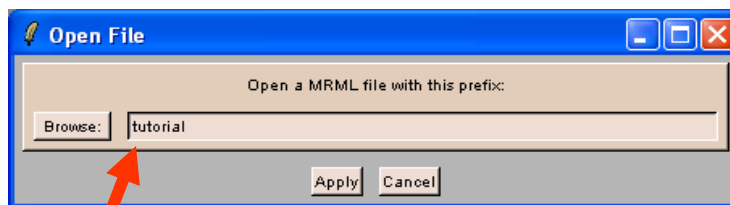
- Part 1: Loading a Scene
- Part 2: Saving Volumes
- Part 3: Saving Models
- Part 4: Saving Scenes
- Part 5: Saving Images of a Scene



Loading a Scene

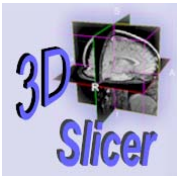


Select File → Open Scene in the Main Menu.

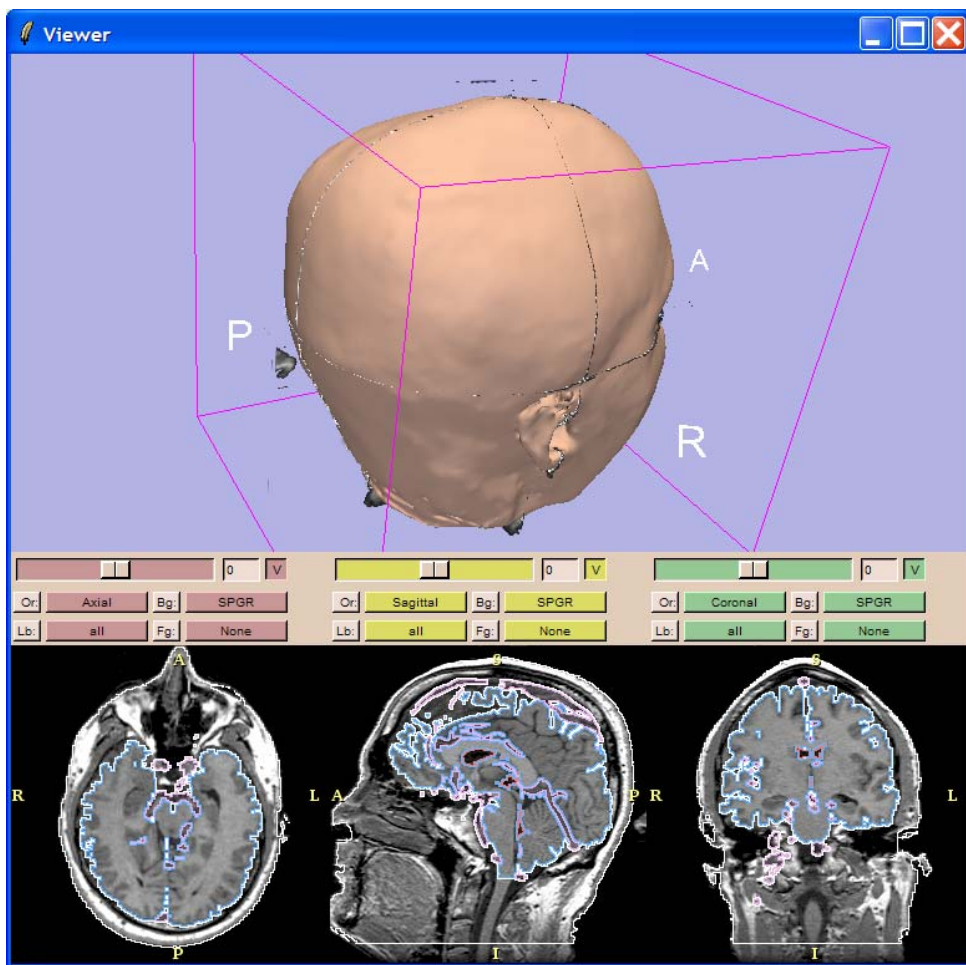


Load the file *tutorial.xml* in the directory

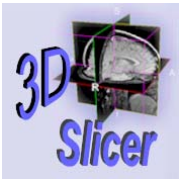
Tutorial-with-dicom/tutorial



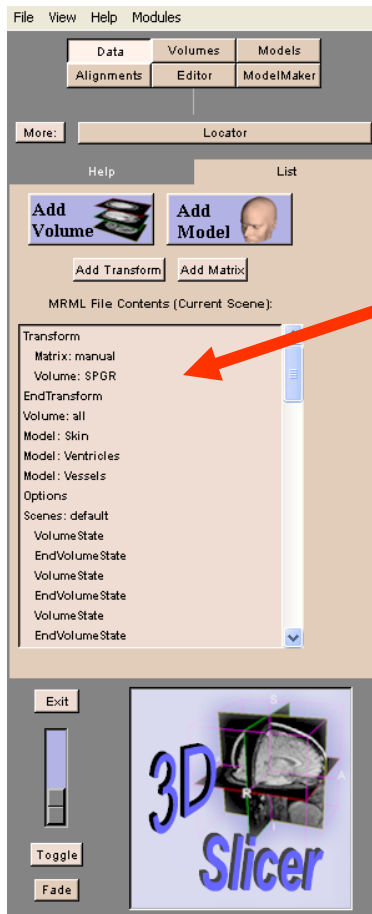
Loading a Scene



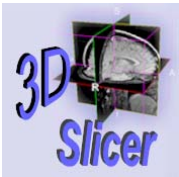
Slicer loads the scene ***tutorial*** in the Viewer.



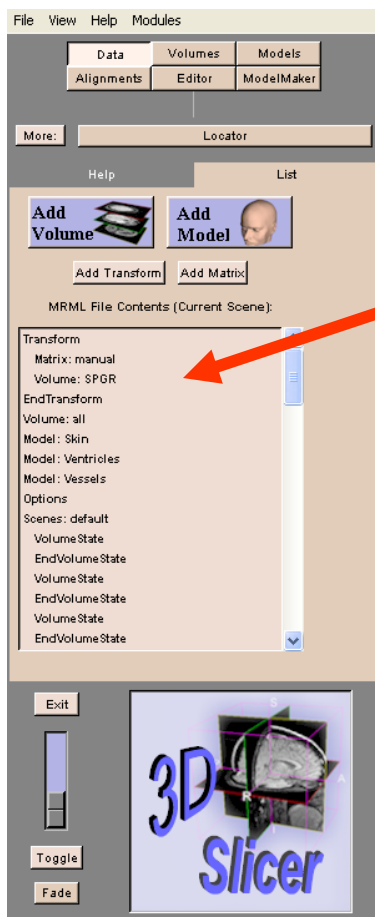
Loading a Scene



The Scene tutorial.xml is composed of
-a gray levels volume: SPGR

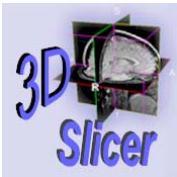


Loading a Scene

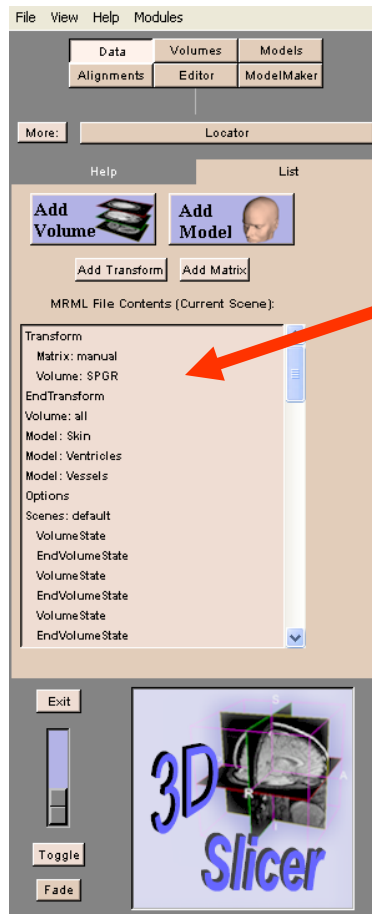


The Scene tutorial.xml is composed of

- a gray levels volume: SPGR
- a segmented volume: all

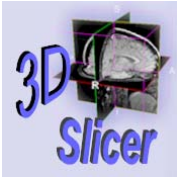


Loading a Scene



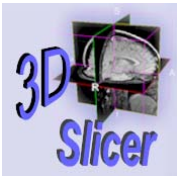
The Scene tutorial.xml is composed of

- a gray levels volume: SPGR
- a segmented volume: all
- three models: Skin, Ventricles, Vessels

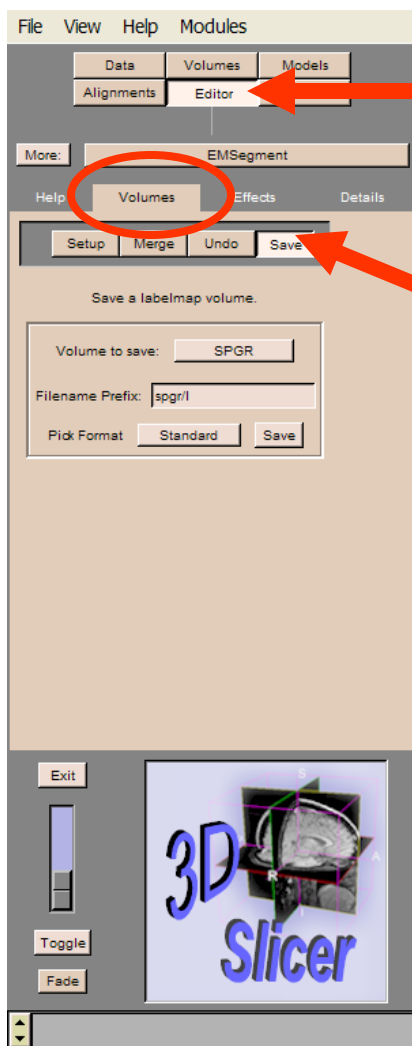


Tutorial 7: Overview

- Part 1: Loading a Scene
- Part 2: Saving Volumes
- Part 3: Saving Models
- Part 4: Saving Scenes
- Part 5: Saving Saving Images of a Scene



Saving Volumes

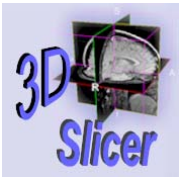


Select the module Editor in the Main Menu

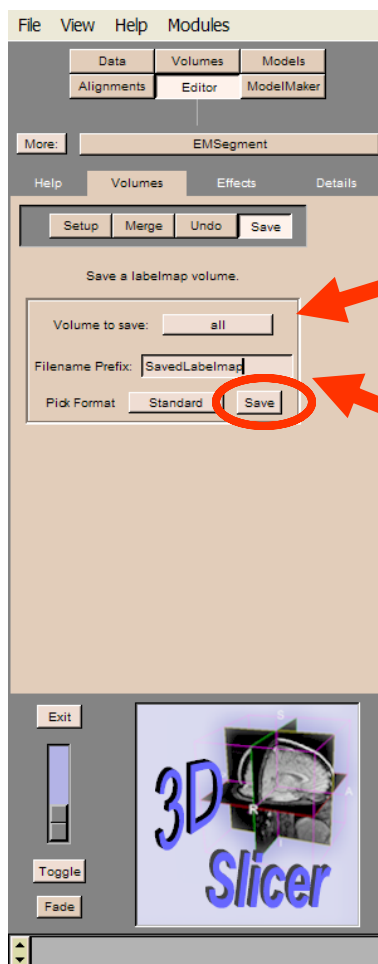
Select the Panel Volumes in the Editor Menu

Select the Standard format

Click on the button Save



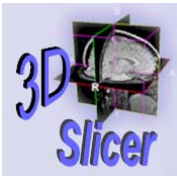
Saving Volumes



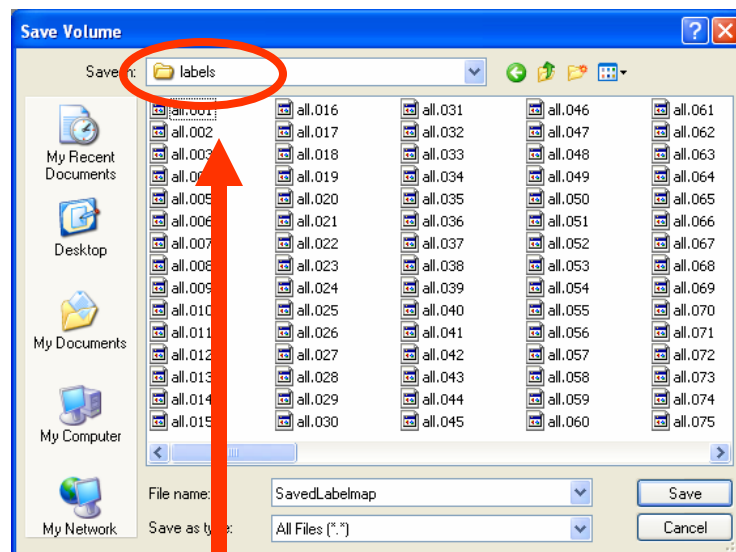
Left-click on the Volume to Save button and select the volume *all*

Enter the Filename Prefix *SavedLabelmap*

Click on the button *Save*

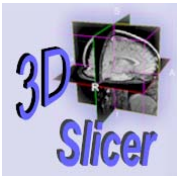


Saving Volumes



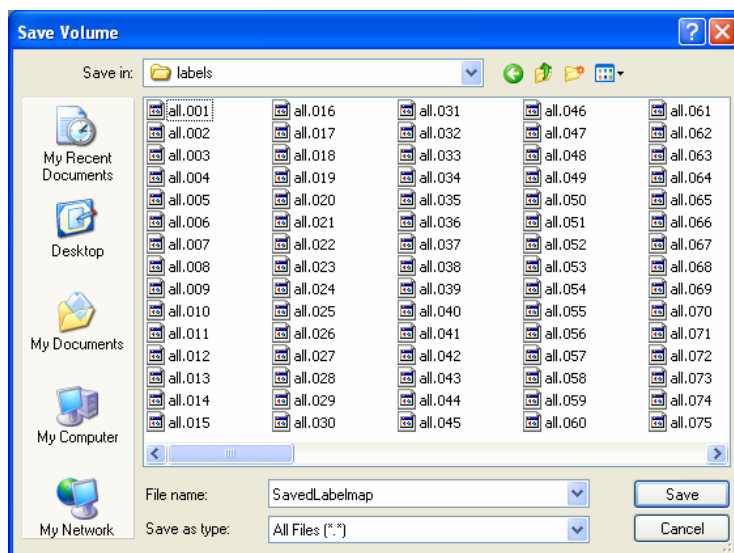
Select the directory Tutorial_with_dicom/tutorial/labels to save the existing labelmap with the new name SavedLabelMap.

Click on Save

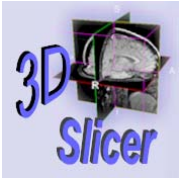


Saving Volumes

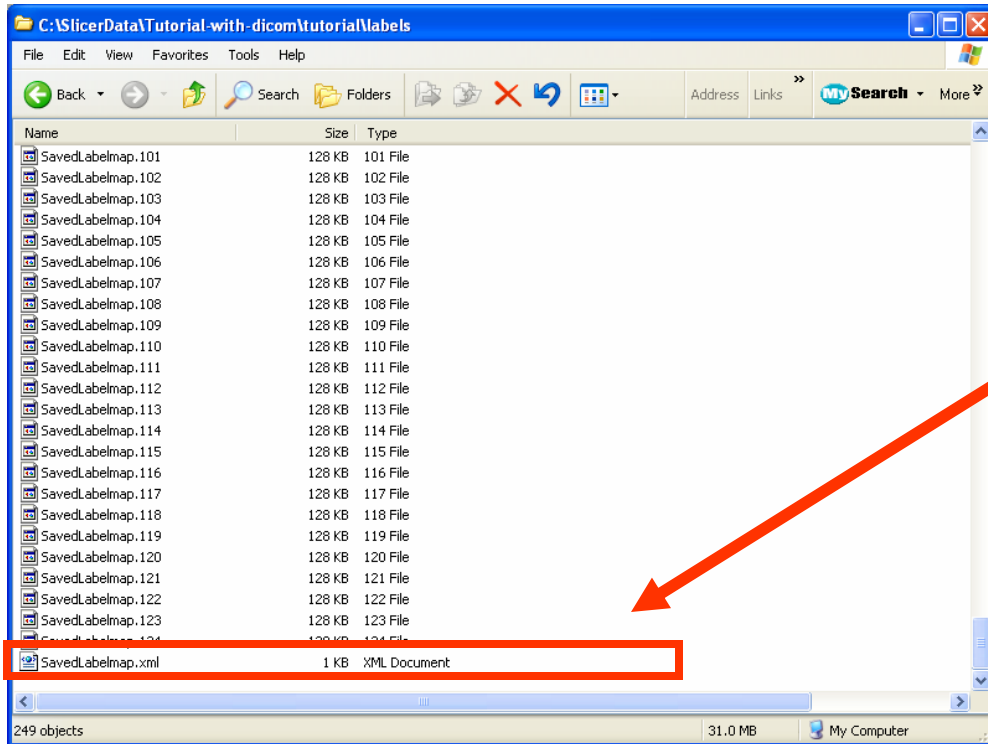
A message warns the user that the volume should not be saved, because it has not been changed since the last time it was saved.



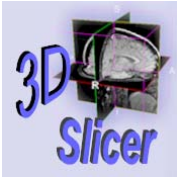
Click on Yes to save the volume with the new name



Saving Volumes

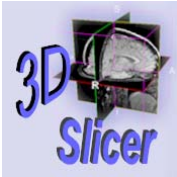


Slicer writes the labelmap volume *SavedLabelmap* on the disk, and generates a MRML file *SavedLabelmap.xml*.



Tutorial 7: Overview

- Part 1: Loading a Scene
- Part 2: Saving Volumes
- **Part 3: Saving Models**
- Part 4: Saving Scenes
- Part 5: Saving Images of the Scene

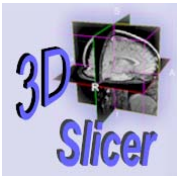


Saving Models

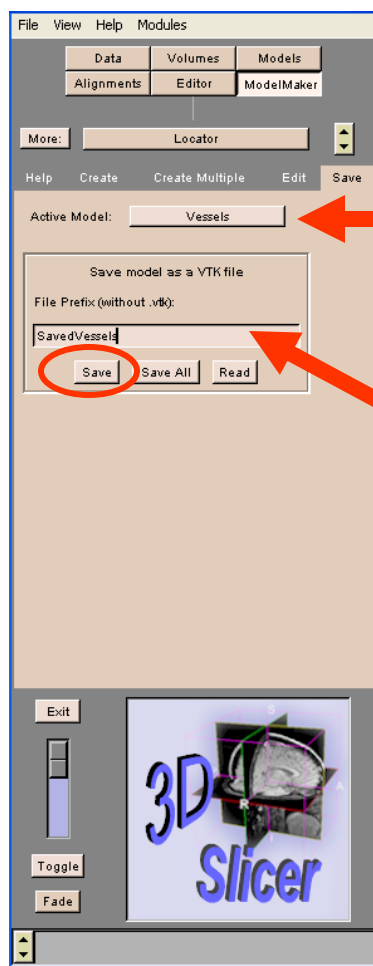


Select the module ModelMaker in the Main Menu

Select the tab Save in the module ModelMaker



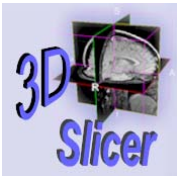
Saving Models



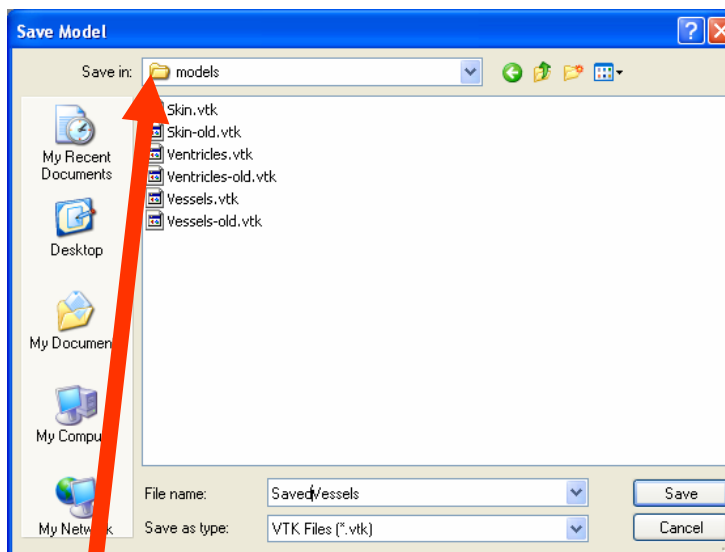
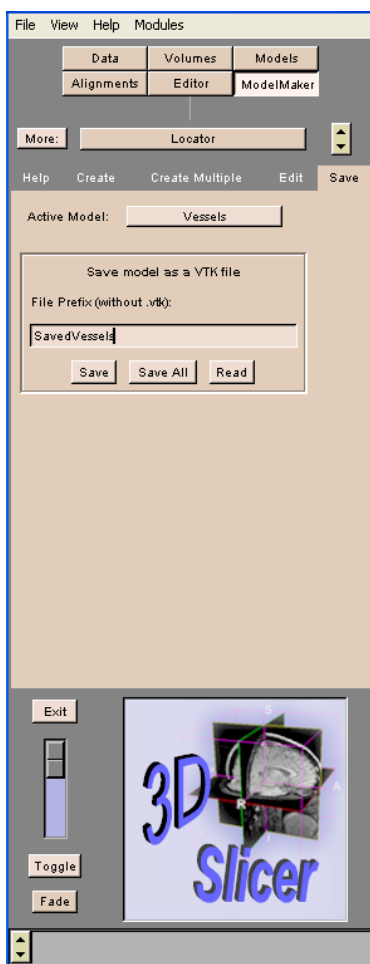
Select the model Vessels as the Active Model to be saved

Enter the new name SavedVessels

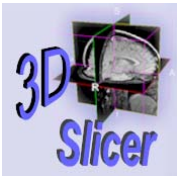
Click on the button Save



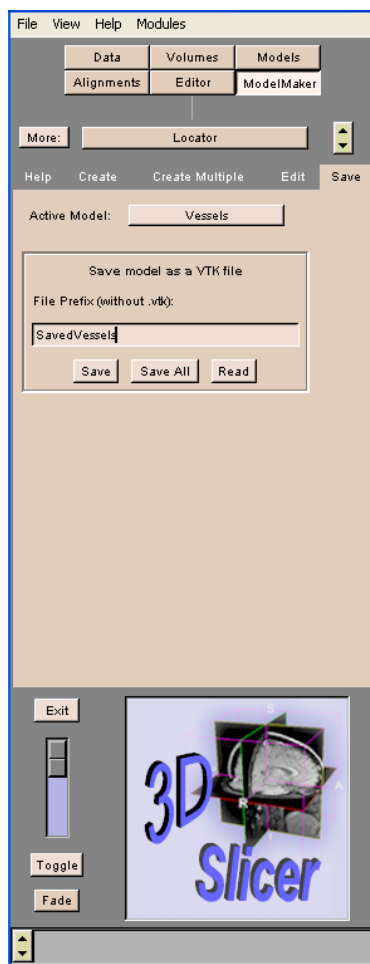
Saving Models



Save the model *SavedVessels* in the directory
`Tutorial_with_dicom/tutorial/models`

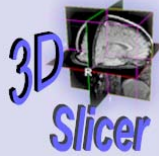


Saving Models

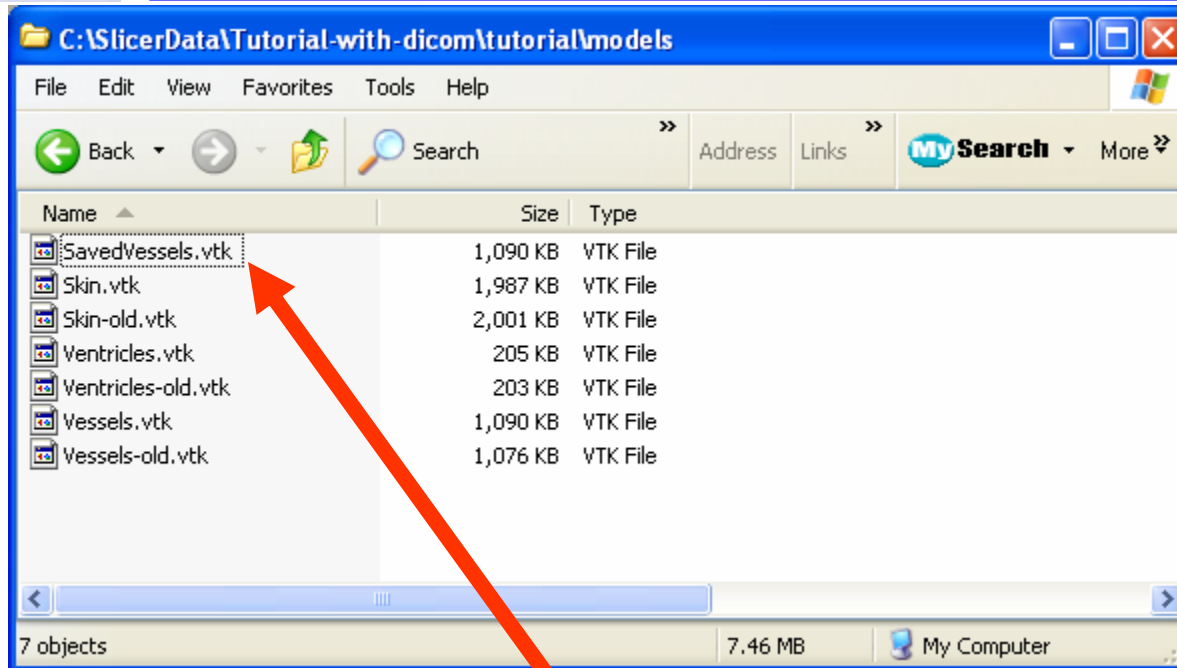


A message warns the user that the Model has not been changed since the last time it was saved.

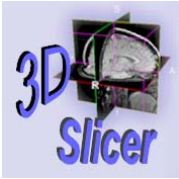
Click on OK to save the model with the new name.



Saving Models

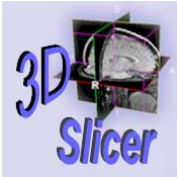


Slicer writes the file `SavedVessels.vtk` in the directory `Tutorial_with_dicom/tutorial/models`



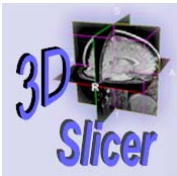
Tutorial 7: Overview

- Part 1: Loading a Scene
- Part 2: Saving Volumes
- Part 3: Saving Models
- **Part 4: Saving Scenes**
- Part 5: Saving Images of the Scene



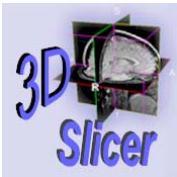
Saving a Scene

- A scene in Slicer can be composed of several volumes and several models.

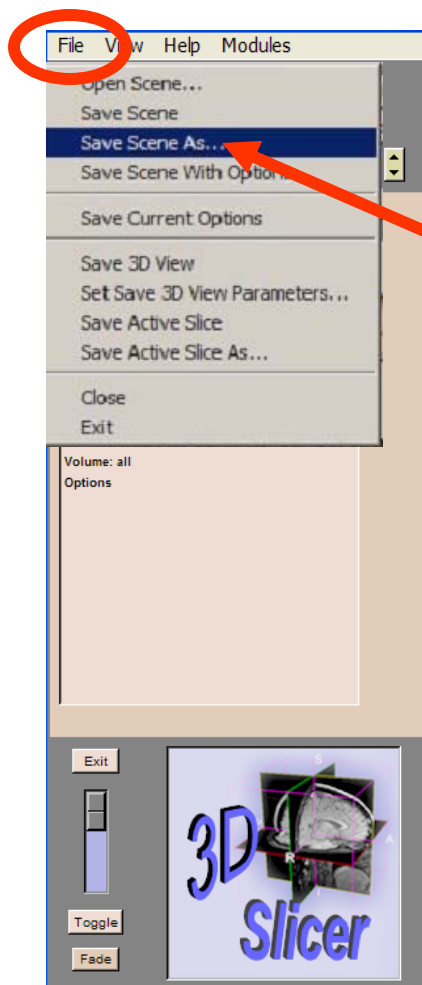


Saving a Scene

- A scene in Slicer can be composed of several volumes and several models.
- All the volumes and all the models have to be saved separately before saving a Scene.

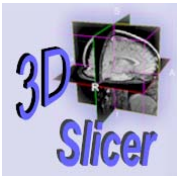


Saving a Scene

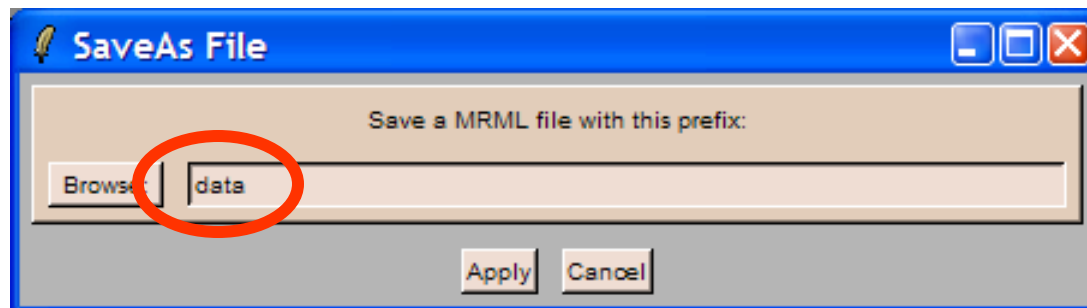
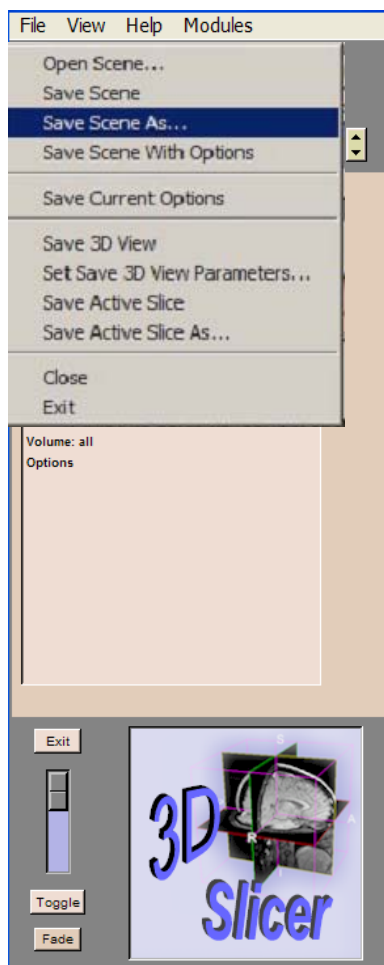


Select the section File
in the Main Menu

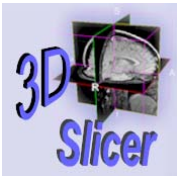
Select Save Scene As



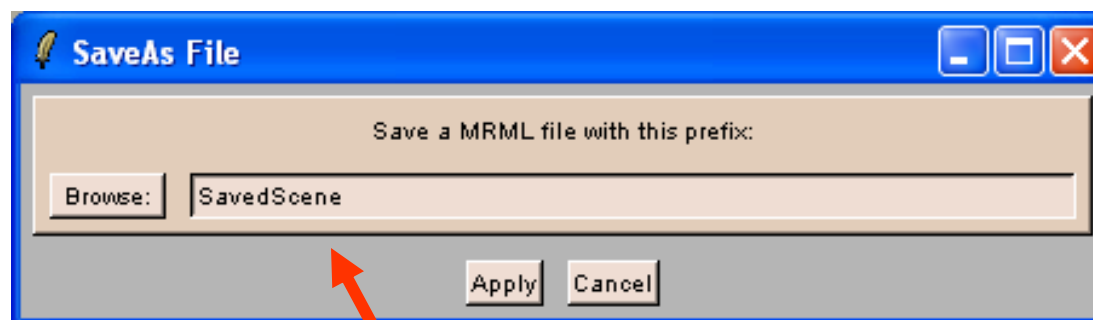
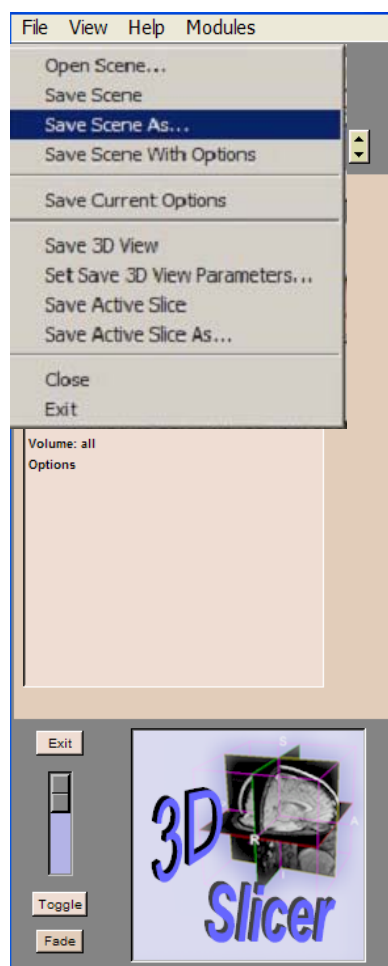
Saving a Scene



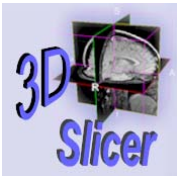
The window **Save As File** for the scene name appears. Slicer sets the default name for the scene to data.



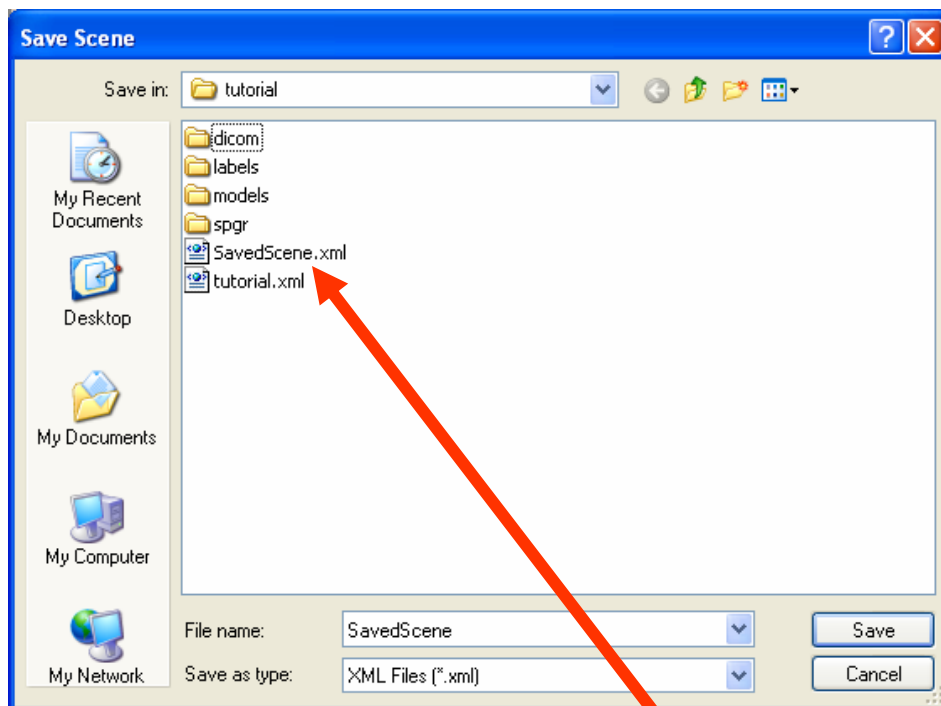
Saving a Scene



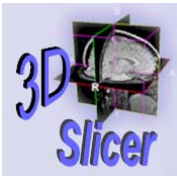
Enter the name SavedScene,
select the directory
Tutorial_with_dicom/tutorial,
and click on Apply.



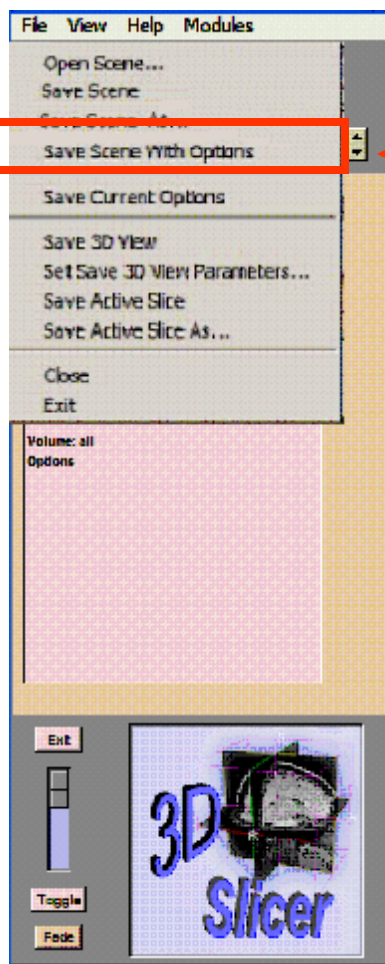
Saving a Scene



The file SavedScene.xml has been created in the directory Tutorial_with_dicom/tutorial

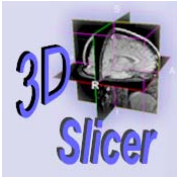


Saving a Scene



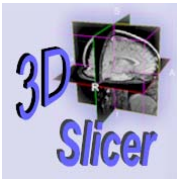
Select Save Scene With Options

The options of the Scene including the settings from the modules and the background color set are saved in the file SavedScene.xml.

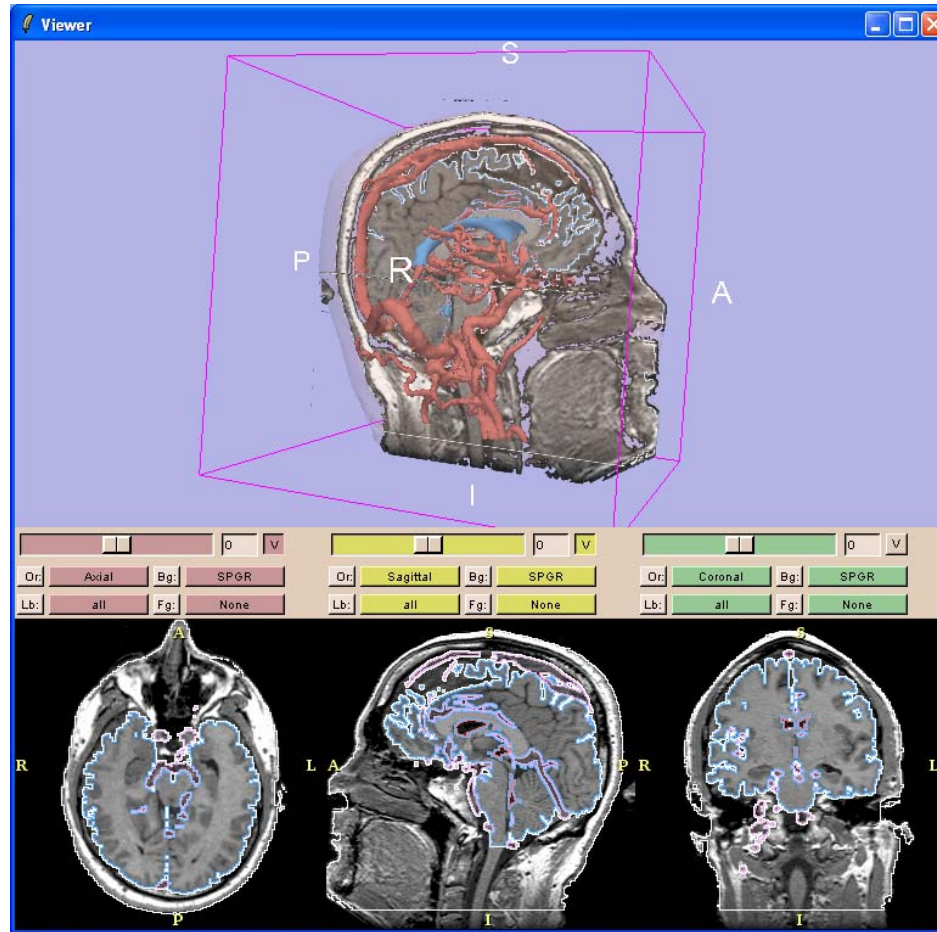
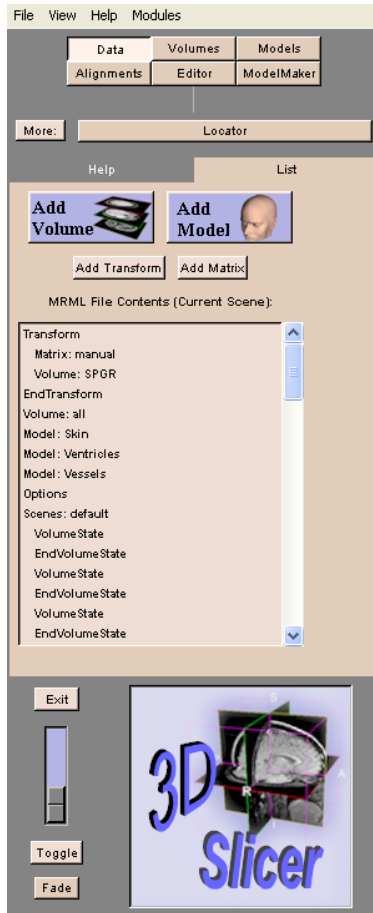


Tutorial 7: Overview

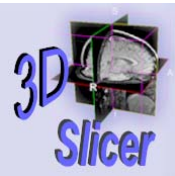
- Part 1: Loading a Scene
- Part 2: Saving Volumes
- Part 3: Saving Models
- Part 4: Saving Scenes
- Part 5: Saving Images of a Scene



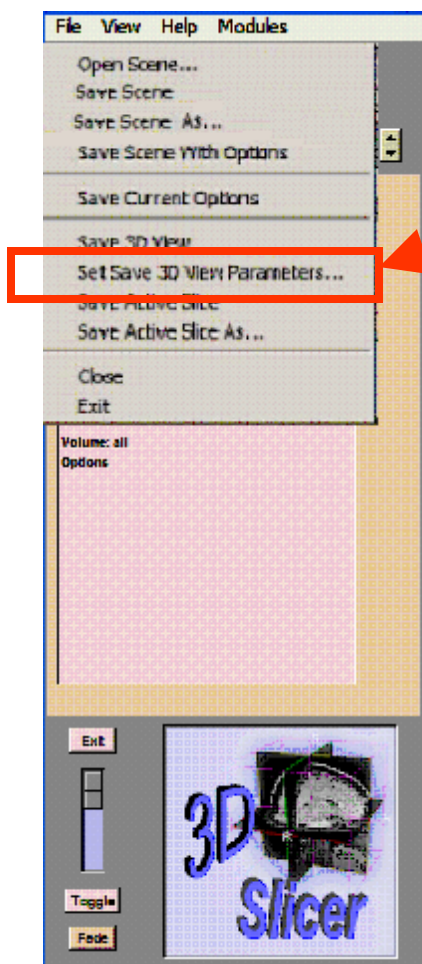
Saving Images of a Scene



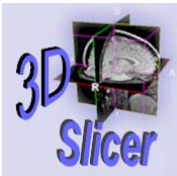
Manipulate the models and volumes within the Viewer, and choose a view of the data that you would like to save.



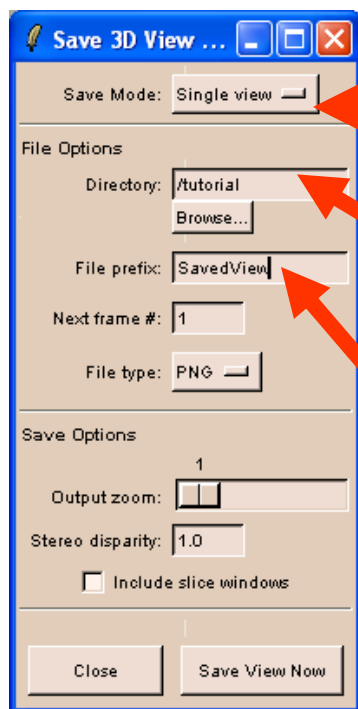
Saving Images of a Scene



Select Set Save 3D View Parameters in File



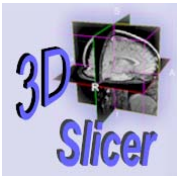
Saving Images of a Scene



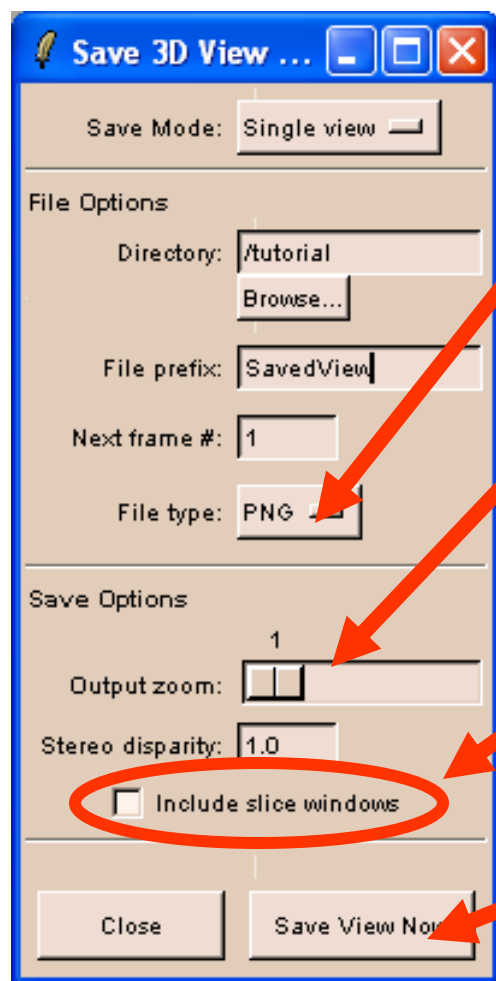
Set the Save Mode to Single view

Select the directory /tutorial to save the view

Enter the File prefix *SavedView*



Saving Images of a Scene

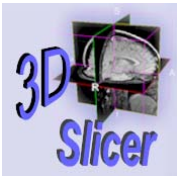


Set the File Type to PNG

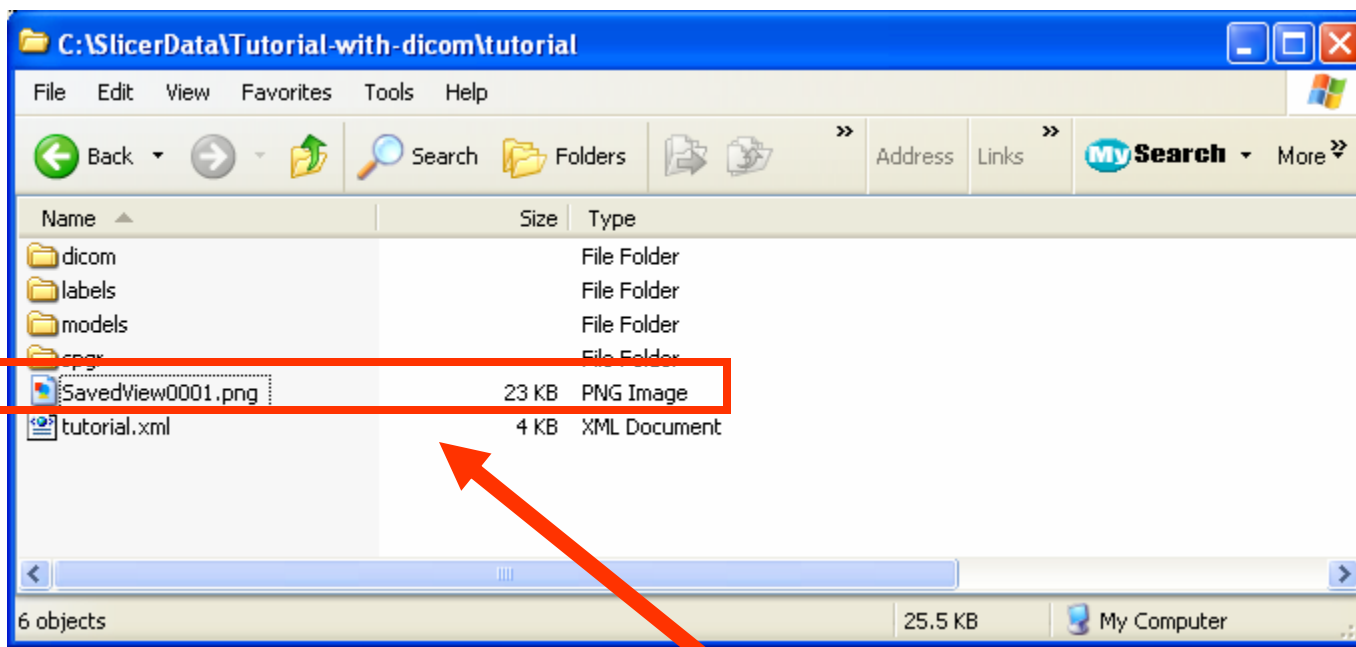
The *Output zoom* option provides a higher resolution image.

Check the option Include slice windows to save the anatomical views

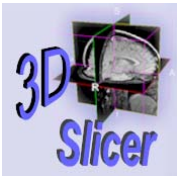
Click on Save View Now



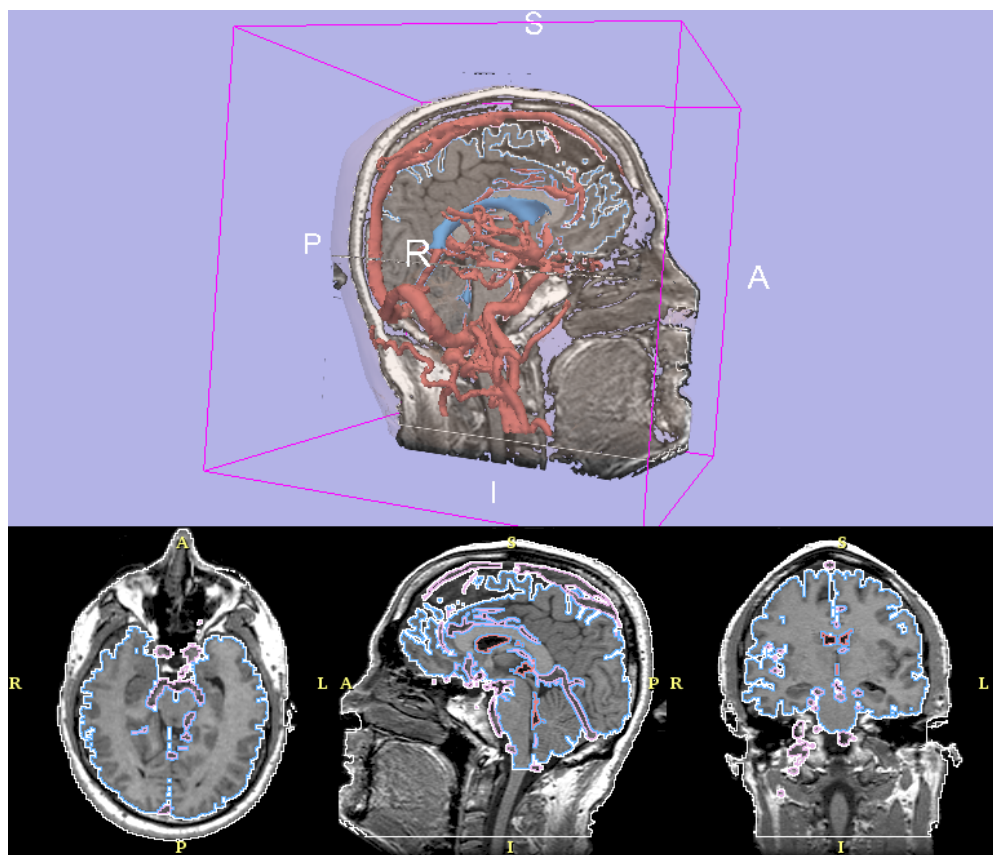
Saving Images of a Scene



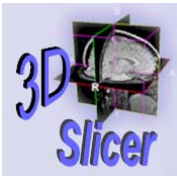
Slicer saves the image of the Viewer as the PNG file SavedView001.PNG



Saving Images of a Scene



The resulting PNG file can be included in an article or a PowerPoint presentation.



Conclusion

- Saving data processed with Slicer
- MRML description of the Scene elements location
- Open-Source environment

