

Starviewer 1.1 Quick start quide

Starviewer is an application for the visualisation and navigation of medical images using the DICOM protocol. It supports different modalities: X-ray, CT, magnetic resonance, mammography, RF, ultrasound and others. It can communicate with any PACS or obtain images from external files.

1. How to find a study in the PACS

To look for a study in the PACS, go to the **File > PACS**... menu or use the **Ctrl** + **P** shortcut. A window like the following one appears:

Derived Name	Patent Patent ID Patent ID								PACS	Institution Description			
								- 1					
Study Date			Series Mo	dality									
 Any Date 			M N										
Today	 Custom: 			ES ES	NM 🗌	RF	🗌 XA						
O Yesterday	Fro	m 12/01/2021 ~	🗆 ст	MG	🗌 OP	SC SC	XC						
🔿 Last Week	To	12/01/2021 ∨	DX	MR	🗌 PT	🗆 US	Other						
Advanced search Local Database	>> DACS nodes >>	WDIR											Clear Q Sear
Name	^	Patient ID Date		Description			Mo	dality Bi	irth Date	Age In	stitution UID	Study ID Protocol P	lame Acc. Num Ref. ^
> 11		2021-01-1	2 16:49:02				US				1.2.392.	Study 2	
> 11		2021-01-1	2 10:29:41				NM	19	944-04-14	76Y	1.2.826.	Study S	
> 11		2021-01-1					DX		982-10-24	38Y	1.2.826.	Study	
> 11		2021-01-1					MR		963-12-27	57Y	1.2.826.	Study 6	
> 11		2021-01-1					US		976-09-13	44Y	1.2.826.	Study 2	
> 1		2021-01-1					PX		010-06-04	10Y	1.3.51.0	Study	
> 11		2021-01-1					DX		978-09-17	42Y	1.2.826.	Study	
> 11 > 11		2021-01-1					MR		976-02-14 995-07-07	44Y 25Y	1.2.826.	Study 6	
2 田		2021-01-1.					US		995-07-07 001-01-01	207	1.3.46.6	Study 2 Study 381	
> E		2021-01-1					US		962-03-25	58Y	1.2.826.	Study 361 Study 2	
> 11		2021-01-1					CT		966-04-13	54Y	1.3.46.6	Study 436	
> E		2021-01-1					US		981-09-07	39Y	1.2.826.	Study 450 Study 2	
> 11		2021-01-12					DX		956-10-07	64Y	1.2.826.	Study	
> 11		2021-01-1	2 09:26:51				US	19	959-09-14	61Y	1.2.826.	Study 2	1
> 11		2021-01-1	2 13:45:06				NM	19	980-08-08	40Y	1.2.840.	Study R	
> 11		2021-01-1	2 10:29:12				US	19	957-01-09	64Y	1.2.826.	Study 2	
> 11		2021-01-1					PR/		959-05-11	61Y	1.3.46.6	Study 6	
> 11		2021-01-1					PR/		966-11-03	54Y	1.2.826.	Study 6	
> 11		2021-01-1					DX		983-01-01	38Y	1.2.826.	Study	
> 11		2021-01-1					PT/		935-01-21	85Y	1.3.46.6	Study 388	1
> 11		2021-01-1					DX		941-05-08	79Y	1.2.826.	Study	
> E > E		2021-01-1					CT CT		963-02-16 963-02-16	57Y 57Y	1.3.46.6	Study 435	
> 11 > 11		2021-01-1. 2021-01-1.					PX		963-02-16 968-01-01	5/Y 53Y	1.3.46.6	Study 434 Study	
> II > II		2021-01-1					PX		968-01-01 977-05-10	53Y 43Y	1.3.51.0	Study	
> 11		2021-01-1					DX		948-10-15	72Y	1.2.826.	Study	
> 11		2021-01-1					CT		953-02-07	67Y	1.3.46.6	Study 426	
5 E		2021.01.1					110		074.01.22	AEV	1 2 826	Study 10	. *
Retrieve & View	v 💆 Retrieve												S Cancel query
C Operation List													27 Create DICOM

Then, the following actions can be carried out:

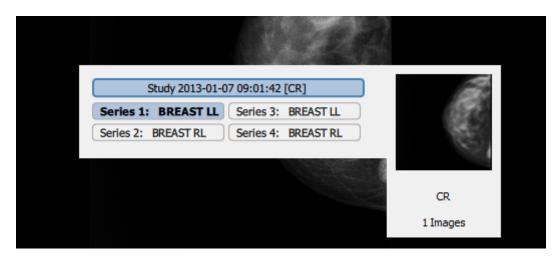
- 1. Check that **PACS Server** tab is selected.
- 2. Enter query parameters: patient name, study date, etc.
- 3. Press the Search button or the 🖃 key.
- 4. Select one or more studies from the list.
- 5. Press the **Retrieve & View** button so that the study is automatically retrieved and opened.
- 6. Alternatively, if the study only needs to be retrieved and not viewed, press the Retrieve button.
- 7. To cancel the query before it ends, press the Cancel query button.
- 8. The **Operation List** button allows checking the status of the retrievals.



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2. Choose series of the study

- 1. Right-click
 inside a viewer.
- 2. Select a series from the list.



3. Contrast and brightness (windowing)

- 1. Hold down the right mouse button 🖱 inside a viewer.
- 2. Drag the mouse horizontally (width/contrast) or vertically (level/brightness).

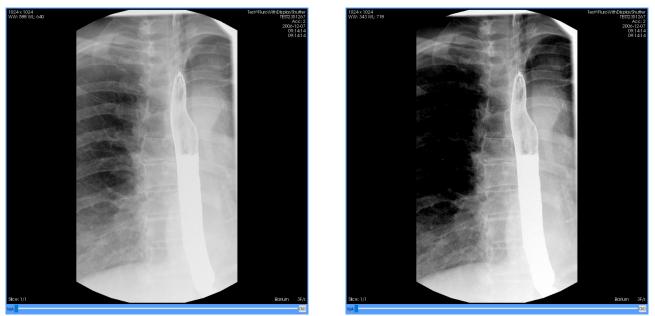


Figure 1: Left: original DICOM window. Right: modified window.



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4. The tools

- Scroll and phase change (dragging the mouse with the left button or spinning the wheel).
- Q Zoom (dragging with the left button).
- ↔ Pan (dragging with the wheel).
- WW/WL or windowing (dragging with the right button).
- Magnify: it magnifies a region of the image (dragging with the left button).
- Distance: it calculates the distance between two points.
- Ⅲ TA-GT.
- a^{∇} Angle: it measures an angle by setting three points.
- a^{∇} Cobb angle: it measures an angle by drawing two lines that do not touch each other.
- O Elliptical ROI: it draws an elliptical ROI and calculates its area, mean and other data.
- Polyline ROI: a ROI by setting the points manually.
- Magical ROI: a ROI that adapts to shapes automatically.
- Circle: it draws a circle and indicates its centre.
- Arrow.
- Erase/Erase all: they erase the drawings made with the previous tools.
- **Regular layout/Hanging protocols: they change the viewers' layout.**
 - Related studies: it directly accesses other studies of the patient.
- Axial/Sagittal/Coronal: they change the image reconstruction.
 - Rotations in 90° increments.
 - 响 🐵 Horizontal and vertical flip.
 - Invert colour scale.
 - Restore the viewer to the initial state.
 - \bigcirc Reference lines: it shows the location of the current image in the other viewers.
 - ✤ 3D cursor: it marks a point in a viewer and finds the same point in the other ones.
 - $\mathbf{\check{F}}^{3}$ Voxel information: it displays the value of the voxel under the pointer.
 - It shows or hides textual information of the image in the viewer.
 - Screenshot of an image or the entire current series in image format.
 - It creates a new series in the study with the viewer's content and sends it to the PACS.



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- Solution: When the second seco
- Auto-sync: it synchronises to the same position in space the viewers it can.
- 약 🕏 Manual synchronisation: synchronised viewers are moved the same distance.
 - Propagation: it synchronises some properties of the viewers.
 - Thick slab: it visualises a MIP with the desired thickness.