

Opal – RAD Mini Manual

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Chapter One

Basic Workflow of Opal – RAD

This chapter offers a walkthrough for typical usage of the Webserver. The walkthrough includes locating a study in the Study List screen, viewing and basic manipulation of the study's images in the Image Viewer screen, and returning to the Study List.

Introduction

Opal-RAD Webserver Viewer (a.k.a. “Viewer” for brevity) is a web application that allows users to view and manipulate vast amounts of DICOM and patient information.

The basic functionality of the Webserver alternates between finding a study and viewing the images it contains. Thus, the Webserver have been divided into two different screens, the **Study List** and the **Image Viewer**. The Study List is used for searching and managing your studies, while the Image Viewer is used for viewing and manipulating the images contained in the study.

In this chapter we will look at a sample user session of the Viewer. This session includes the following steps:

- ❖ Logging In
- ❖ Study List screen
- ❖ Searching and Sorting your studies
- ❖ Opening a study to view
- ❖ Image Viewing screen
- ❖ Manipulating study images

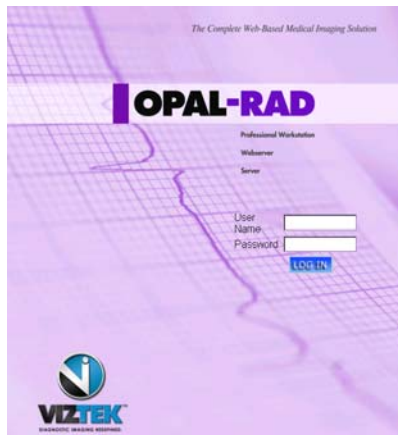
Logging On

In order to begin using either the Professional Workstation or Webserver applications you must first log on to the system. Logging in will allow you access to the database of patient studies.

To log on to the Webserver:

1. Open Internet Explorer.
2. Type the web address to the Opal-RAD web server into the address bar and press Enter.
3. Now, you will see the Log-In Screen. (Shown on next page).

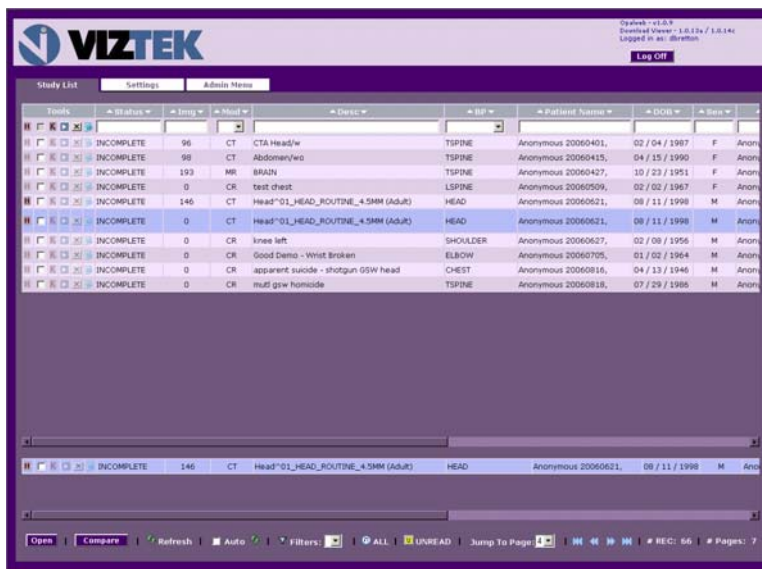
Type in your user name and password in the provided fields and Left-Click on the “LOG IN” button. Remember that they are both user name and password are case sensitive.



The Log-In Screen

The Study List screen

As stated earlier, Opal-RAD Professional Workstation and Webserver consists of two interfaces (screens), each with a separate function. The first interface you will see after logging on to Professional Workstation or the Webserver will be the Study List screen. This interface is used for searching and selecting patient studies and sending studies to other users.



The Webserver Study List Screen

Above the study list, are tabs separating the study list from the settings and admin sections. Below the list is the Patient Studies window, which shows a patient's previous studies. At the very bottom of the screen you will find your toolbar and page navigation controls.

Searching and Sorting Your Studies

This study list window is divided into columns such as Status, Modality, Patient Name, etc. The data contained under these columns can be both sorted and searched.

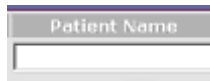
To sort the listing by one of your columns:

1. Left-Click on either the up or down arrows next to the column name.



To search by any field in this study listing:

1. Type in the white space directly below the column heading. For example, you might enter “Smith” under the column header labeled “Patient Name.”



Whenever a search is performed on one, or more, columns, the Patient listing is updated to display only the patients that match the search criteria.

To open a study in the Image Viewer:

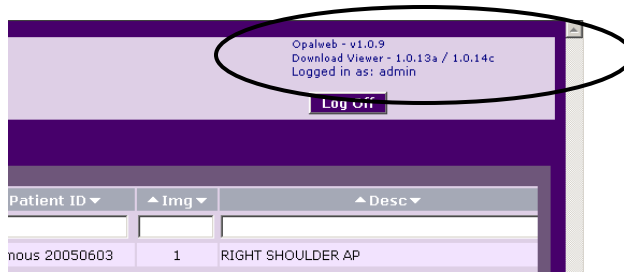
1. Double-click on a study in the study list.

Installing and Updating the Image Viewer

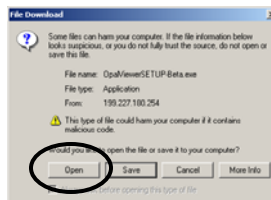
The Opal-RAD Image Viewer is continually being modified to add or enhance the features of the software, such as adding a new annotation. In order for you to take advantage of these modifications, it will be necessary for you to install the latest version of the Opal-RAD Image Viewer.

To Install or Update your Image Viewer:

1. Left-Click on the “Download Viewer” link (see below).



2. Click the “Open” button to begin the Image Viewer installer (see below).

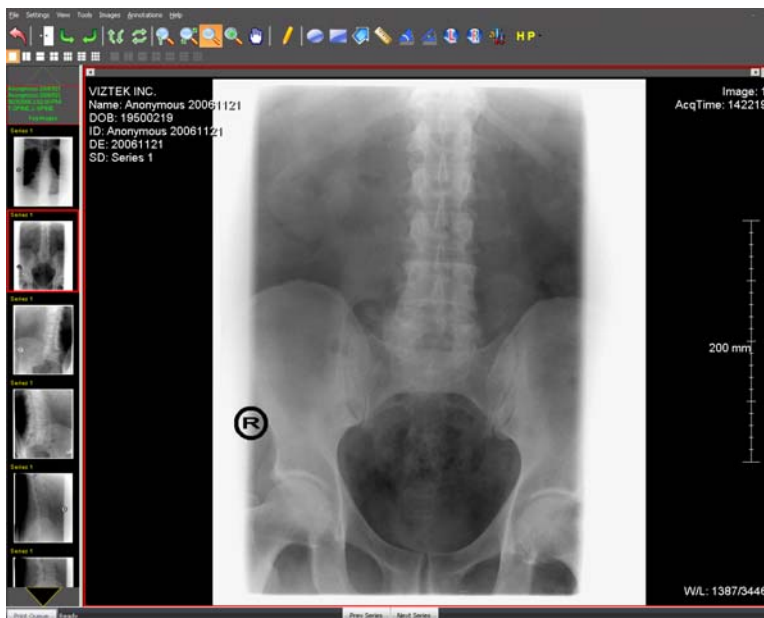


3. When it's completed, simply click the “Ok” to return to the Study List

The Image Viewer screen

After opening the selected study you are whisked away to the Image Viewer screen. Leftmost is the Series Window, which displays thumbnails of each series in the study.

The largest window in the workspace is the actual viewing window, where the image(s) are displayed. To display an image in the viewing window, double click on the thumbnail or drag and drop thumbnail to the viewing window.

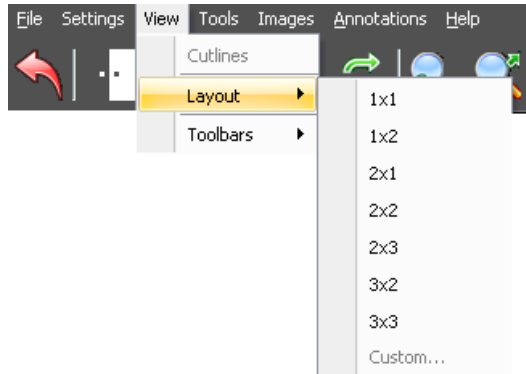


Changing Your Layout

The images are displayed in rows and columns according to your selected layout.

To change your viewers layout:

1. Left Click on the View men and select layout.
2. From the pop-out menu select a layout (i.e. 1x1 or 2x2).



Closing a Study

When viewing is complete, there are two methods of closing the study to return to the Study List screen.

1. Go to the File menu and Left-Click on the Exit option or Left-Click on the X in the upper right corner of the Image Viewing Screen.

Chapter Two

Image Viewing Tools

Opal-RAD Professional Workstation features a vast array of image manipulation tools to assist in diagnostic interpretation of medical images.

Most of the tools available within the Image Viewer have an easy, one-click toolbar button to activate them. These tools are also available from the menu bar.



From left to right our tools are as follows:

- Reset
- Invert Contrast
- Rotate Left
- Rotate Right
- Flip Vertically
- Flip Horizontally
- 1:1 View
- Fit Image to Window
- Magnify
- Zoom
- Pan

Width & Center

Width & Center tool


This is the most basic and yet most important tool available, as it adjusts the width and center (also known as “window and level”, or simply brightness and contrast) of an image.

Adjusting the width and center of an image allows for viewing different “levels” of an image, e.g., moving from bone to soft tissue. Any changes to the Width & Center will apply to all images in the series.

To perform the Width & Center:

1. Place the mouse cursor over the image.
2. Hold down the right mouse button.
3. Move the mouse horizontally and/or vertically; the image is adjusted as you do so.
4. When satisfied with the image, release the right mouse button.

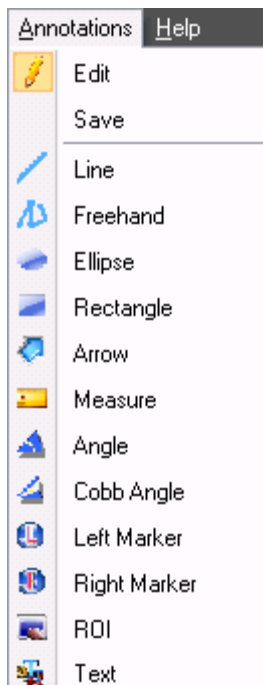
Horizontal movement of the mouse adjusts “center”; vertical movement adjusts “width.”

 The Width & Center tool is not available from the menus or toolbars, and can only be accessed using the method described above.

Annotations: Introduction



Annotation buttons



Annotating in Opal-RAD Image Viewer consists of adding text and graphical objects to enhance or isolate regions of interest within an image. Annotations do not permanently alter the image, but are stored separately from the image data, and are held in a transparent layer atop the image. (Think of a transparency sheet with writing that is placed over a picture.) It is not possible for annotations to damage the original image data, and they can be hidden at any time to allow full analysis of the image. Most of the annotation tools described over the next several pages have easy, one-click toolbar buttons to activate them and are also available from the Annotation menu in the menu bar. Each topic below names an image annotation tool, lists the

ways to activate it (toolbar button, menu entry, etc.), and explores its usage.

Annotations: Editing and Deleting



Annotation Edit Mode button

The Professional Workstation and Webserver include the ability to edit and delete previously created annotations. When in Annotation Edit Mode, you can select, edit, and delete annotations.

To perform either of these operations, you must be in “Annotation Edit Mode,” accomplished by clicking the Annotations Edit Mode button on the toolbar or by choosing Edit from the Annotation menu. Click this button again to exit Annotation mode.

Selecting Annotations

You must first select an annotation before you can edit or delete it.

1. Enter Annotation Mode (explained above)
2. Move the mouse over an annotation. Also observe the annotation will light up.
3. Left-Click the annotation to select it. It will change colors and several little filled boxes (called “handles”) will appear on the annotation.

The annotation is now selected.

Editing Annotations

To edit an annotation, you must first select the annotation. Once selected, the editing process depends on the type of annotation. There are two types of editing cursors. When the cursor has four arrows pointing in all directions, the user can move the annotation. When the cursor is an upward pointing arrow, the user can resize the annotation.


Deleting Annotations

To delete an annotation, you must first select the annotation. Once selected, Right-Click anywhere on the image and choose “Delete Current Annotation” from the context menu or press the “Delete” key.

Deleting All Annotations

This function provides a quick method of removing all annotations from an image. To use this function:


1. Right-Click on the image.
2. Select “Delete All Annotations” from the context menu.

 The Delete All Annotations option is available from the context menu only after annotations have been drawn.

Annotations: Saving

In order to save any additions, deletions, or alterations to your image's annotations, you must "Save" them to the database. There are two options for accomplishing this.

You can use the auto-save feature of the viewer (see the "Viewer Settings" section of this manual for more details) or you can manually save your changes by Left-Clicking the "Save" option from the Annotations menu.

 If the auto-save feature is disabled, and you do not manually save your annotations, all of your changes will be lost upon closing the study.

Chapter Three

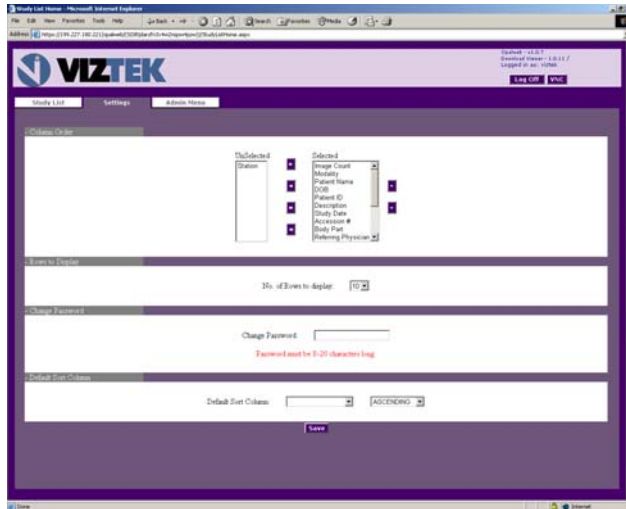
Webserver and Image Viewer Settings

This chapter will explain how to modify your Webserver Study List settings. These settings include adjusting the column order and visibility, number of displayed rows, default sort column. Additionally, through the Settings tab we can also change the user's password.

We will also discuss your Image Viewer's Settings window and how to access it.

Webserver Settings Overview

The Webserver Settings tab contains a number a editable options.



- **Column Order:** This control panel will allow you to enable, disable, and sort the columns on your study list.
- **Rows to Display:** This is the number of records that will be displayed per page on your study list.
- **Change Password:** The user may change his or her password using
- **Default Sort Column:** This is the column that will be used to sort the study list by.

☀ After any of these options have been changed, it is important to remember to Left-Click on the Save button.

Image Viewer Settings Overview

The Opal-RAD Image Viewer (OpalViewer) contains a special section for the configuring your image viewer's settings. Through the Image Viewer's Settings window the end-user can:

- Add and edit presets.
- Modify the default screen layout.
- Configure the workstations display settings.
- Modify the magnifier's window size and zoom factor.
- Modify your auto-save options
- Configure any external tools for integration with OpalViewer

To modify the Image Viewer's Settings:

1. Left-Click on the Settings menu and select "Edit."
2. Make your changes as needed.
3. Left Click on the "OK" button to exit.

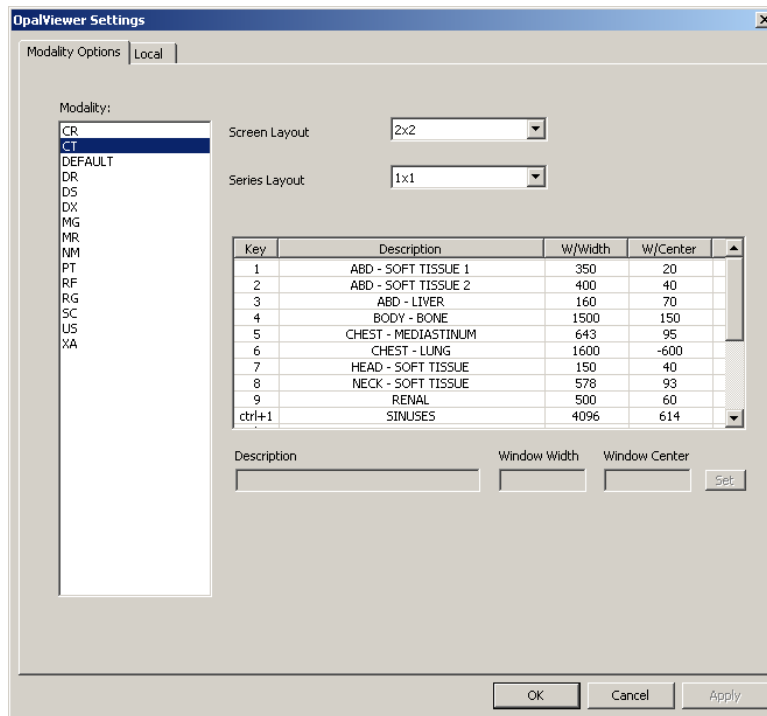
Unless they are saved, any changes you make to your Image Viewer's settings will only be temporary.

To permanently save your Image Viewer settings:

1. Left-Click on the Settings menu and select "Save."

Settings: Modality Options Tab

On the Modality Option Tab you will find the fields for adjusting you Modality Presets, Screen Layout, and Series Layout defaults. Both the presets and layout options are modality dependent, which means that you can configure different settings for each modality in your Modality list.



Settings: Local Tab

On the Locals Tab you will find the fields for adjusting your Display, Auto-Save, Interface, and External Tools Integration options.

