



Opal-RAD Admin Guide

Table of Contents

User Administration	3
Introduction	4
User Management: Add Users.....	6
User Management: View/Edit Users	9
User Management: Add Groups	10
User Management: View/Edit Groups.....	11
DICOM Settings	13
DICOM: Send Destinations.....	14
DICOM: Query Retrieve Sources.....	14
DICOM: Routing Rules	15
DICOM: Printer Settings	18
Server Administration	20
Monitor: Active Sessions	21
Monitor: DB Totals	21
Server Settings: Image Servers	22
Server Settings: Local IP's.....	23
Server Settings: License	24
Server Settings: Study Flag	25
Server Settings: Facilities Manager	25
Server Reports.....	26
Server Logs	27
Index	29

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Opal-RAD Admin Guide 2.0
April 2011

Chapter One

User Administration

This guide will explain how to configure the Opal-RAD server’s settings through the Administration tab of the Study List (in Opal Web or client). The different administration screens will allow your Opal-RAD administrator to manage your Opal-RAD server’s settings, including: users, groups, DICOM printers, routing, sessions, and image servers.

Chapter Contents

- Introduction 4
- User Management: Add Users..... 6
- User Management: View/Edit Users 9
- User Management: Add Groups 10
- User Management: View/Edit Groups..... 11

Introduction

To access the administration settings: Left-Click on the **Admin Menu** Tab at the top of the Web's Study List screen. On the screen that appears you will find the menu pictured on the following page. Click on a menu item to expand the node.

The Settings tab includes the following sections:

- **User Management:** This section has options for creating, editing, and deleting both users and groups. It is through these tools that we will also define our user and group permissions.
- **DICOM:** This section contains options for creating our DICOM send destinations, routing rules, and printers. There is also a Send Queue and Printer Queue for managing our sent images and print jobs, as well as a Transfer log for looking at previously sent images.
- **Monitor:** This section shows all users logged into the Client and Opal Web and also provides an option for terminating such sessions.
- **Server Settings:** Through the server configuration, we can define the location of our stored images.
- **Server Logs:** This section contains windows for viewing both the Web and Image Server log files.

⚙️ only users who are members of the Admin Group will have access to the Admin Menu Tab. For information on creating Admin users consult the "Add Users" topic in this chapter.

Opal-RAD Admin Menu (expanded)

- ❑ User Management
 - ❑ Add Users
 - ❑ View/Edit Users
 - ❑ Add Groups
 - ❑ View/Edit Groups
- ❑ DICOM
 - ❑ Send Destinations
 - ❑ Query Retrieve Sources
 - ❑ Routing Rules
 - ❑ Printer Settings
- ❑ Monitor
 - ❑ **Active Sessions**
 - ❑ DB Totals
- ❑ Server Settings
 - ❑ Image Servers
 - ❑ Local IP's
 - ❑ License
 - ❑ Study Flag
 - ❑ Facilities Manager
 - ❑ Version Control
- ❑ Reports
 - ❑ Radiologist
 - ❑ Transcriptionist
 - ❑ Studies by Range
 - ❑ Peer Review Report
- ❑ Server Logs
 - ❑ Web Log
 - ❑ Image Server Log
 - ❑ Image Server Proxy Log
 - ❑ Dicom Receive Log
 - ❑ Listener Log
 - ❑ Router Log
 - ❑ Dicom Print Log
 - ❑ Login Log

User Management: Add Users

► To add a new user

1. From the **User Management** node select **Add User**.
2. Enter a **User Name** and **Password** in the provided fields. Remember that both the User Name is not case sensitive while Password is.
3. Enter values for the **First** and **Last Name**, and select a **Group** from the dropdown list box. You may also wish to adjust the **Login Timeout** value in accordance with your organization's security policy. Likewise enter values for the number of **Concurrent** logins
4. The **Has Permission** check box is to indicate if such user is allowed to use his/her account. When unchecked, StudyList will be blank for user.
5. Left-Click on the **Save** button.

Add User

Username*

Password*

Confirm Password*

Password must be 8-20 characters long.

Change Password

Login Timeout hr min

User Status

Title

First Name*

Middle Initial

Last Name*

Suffix

Group*

Concurrent*

Phone

Fax1

Fax2

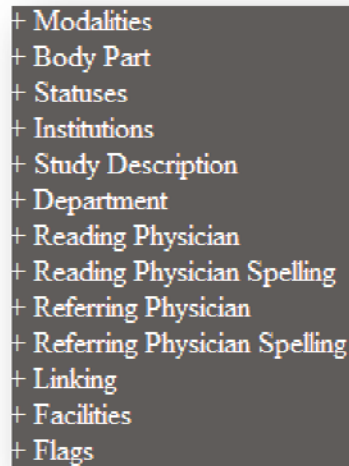
Email

Cell

Has Permission

Adding Permissions

After clicking the Save button from the previous step a new screen will appear (pictured below). Through this interface the administrator will define permissions for the new user. These permissions will in turn define the user's access to the patient studies.

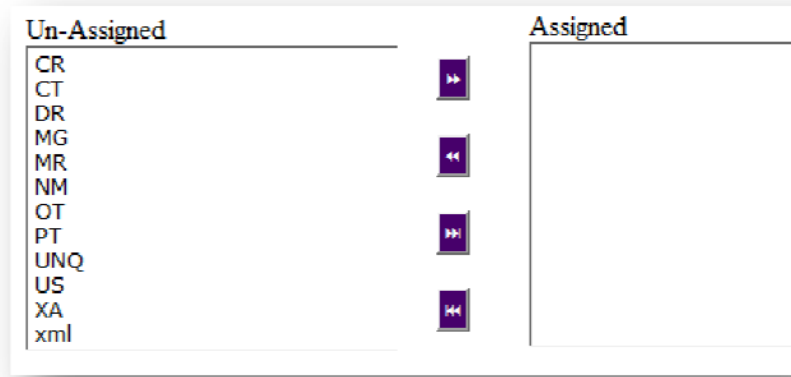


These are options for limiting user access to studies, such as by Modality, Body Part, Statuses, Institution, etc. For descriptions of each of these options, please see next page.

After you have finished modifying the user's permissions, be certain to save them by clicking on the **Save** button. To expand a node, just click on the item line from the menu.

⚠ if you do not add permissions then, by default, the user will be given access to all studies in the study list. If, for example, you do not add Body parts to a user's list, then that user will have access to studies of every body part.

Modalities: From this area, the administrator can limit this user to view only exams from certain modalities by selecting the desired modality from the **Un-Assigned** to the **Assigned** section.



Body Parts: From this area, the administrator can limit the user to view only exams dealing with certain body parts. Move body part tags from the left column to the right to make them available to the user. Similar criteria process applies for **Study Description, Institutions, Department, Facilities, Study Statuses** and **Flags**.

Reading and Referring Physicians: From this area, the administrator can limit the user to view exams tagged only by certain readings physician or referring physicians. Move the Referring Physicians from the left column to the right column to make them available to the user.

Reading and Referring Physician Spelling: From this area, administrator can help ensure that if a study comes into Opal tagged with a spelling similar (yet not equal) to an existing user with a certain spelling (i.e. correct or main spelling) will ensure that it links automatically to the correct user. The “Alternate Spellings” from the Reading Physicians or Referring Physicians lists are exclusive. Only one user can be assigned to one particular “Alternate Spelling”.

Linking: From this area, administrator can make use of User Permission Linking to expand the User Permission to include all of the User Permissions of the Linked users. Linked Permissions do not expand to the “Linked Users” Linked Permission. This can be used to when a site has a consortium of Referring Physicians. When more User Permissions are linked, the slower the Study List Screen will be retrieved as result of the increased number of calculations in the Database.

User Management: View/Edit Users

The View/Edit Users section of the Administration area will display all users who have been added to your system up to 50. If there are more users, you need to search by user name, role, etc. If the search criteria are greater than 100, you will need to specify a narrower search. From this window we can edit the user's account information (name, password, group, etc.) and delete user accounts.

Users					
	User Name	Name	Status	Role	Specialty
Edit	Delete	admin	Site Admin		ADMIN
Edit	Delete	LeadTrans	Lead Transcriptionist		Transcription
Edit	Delete	Radtest	Rad Test		RADIOLOGIST
Edit	Delete	RadTest2	rad test2		RADIOLOGIST
Edit	Delete	RefTest	Ref Test		REFERRINGPHYSICIAN
Edit	Delete	SiteAdmin	Opal Admin		ADMIN
Edit	Delete	TechTest	Tech Test		TECHNOLOGIST
Edit	Delete	test123	test 123	test	ADMIN
Edit	Delete	testRad6	test rad		RADIOLOGIST
Edit	Delete	testref	te te		REFERRINGPHYSICIAN
Edit	Delete	Transtest	Trans Test		Transcription

► To delete a user account

1. From the **User Management** node, select **View/Edit User**.
2. Left-Click on the **Delete** link next to account you wish to remove.
3. Left-Click on the **OK** button to confirm your choice. You will not be able to delete a user if:
 - the user is currently logged on, or if
 - the user is associated or has opened a study. HIPAA regulation requests to have a record of ALL users that have accessed any medical record.

► To edit a user account

1. From the **Admin** node, select **View/Edit User**.
2. Left-Click on the **Edit** link next to account you wish to modify. The window (pictured next page) will appear with all of your user's information preloaded.
3. Modify the fields as necessary.
4. Left-Click on the **Update** button to save your changes.

5. You will then be taken to the **Edit Permissions** window. Modify the user's permissions as needed and then Left-Click on the **Save** button.

Edit User

Username* Radtest

Password*

Confirm Password*

Password must be 8-20 characters long.

Change Password

Login Timeout 0 hr 20 min

User Status

Title Dr. ▾

First Name* Rad

Middle Initial

Last Name* Test

Suffix

Group* RADIOLOGIST ▾

Concurrent* 3

Phone

Fax1

Fax2

Email

Cell

Has Permission

Cancel Update

User Management: Add Groups

A group is an organizational tool that is used for managing multiple user accounts. We can assign individual users to a group and then define access permissions for the group as a whole. Remember that certain groups (Admin, Radiologist, Referring Physician, and Transcription) have unique permissions that user created groups will not have.

► To add a new group

1. From the **User Management** node, select **Add Groups**.

2. Enter a **Group Name** in the textbox and check the boxes for the permissions you wish to assign to the group.
3. Left-Click on the **Save** button to confirm your choice.

☀ assigning a user to a group is accomplished during the Add User or Edit User process.

User Management: View/Edit Groups

The View/Edit Groups section of the administration area will display all groups that have been added to your system. From this window we can edit or delete user groups.

Groups			
		Group ID	Group Name
Edit	Delete	1	ADMIN
Edit	Delete	11	RADIOLOGIST
Edit	Delete	10	REFERRINGPHYSICIAN
Edit	Delete	12	TECHNOLOGIST
Edit	Delete	9	Transcription
Edit	Delete	2	VIZTEK

► To delete a group

1. From the **User Management** node, select **View/Edit Groups**.
2. Left-Click on the **Delete** link next to group you wish to remove.
3. Left-Click on the **OK** button to confirm your choice.

⚠ a group cannot be deleted if there is a user account associated with it.

► To edit a group account

1. From the **User Management** node, select **View/Edit Groups**.
2. Left-Click on the **Edit** link next to group you wish to modify. The window (pictured below) will appear with all of your group's information preloaded.
3. Modify the fields as necessary.
4. Left-Click on the **Update** button to save your changes.

The screenshot shows a window titled "Edit Group" with a light purple header. Below the header is a form with the following elements:

- Group Name*:** A text input field containing "TECHNOLOGIST".
- Permissions:** A list of 20 permissions, each with a checkbox:
 - ADD NOTES
 - CDBURN
 - DICTATE
 - MARK APPROVE
 - MARK STAT
 - MERGE
 - MPR SAVE
 - PURGE
 - SAVE
 - STUDY LOG
 - TRANSCRIBE
 - VIEW NOTES
 - BI RAD
 - DELETE
 - EDIT REPORTS
 - MARK READ
 - MARK UNREAD
 - MODIFY
 - PRINT
 - RIS DOCS
 - SEND
 - STUDY REVIEW
 - VIEW
 - VIEW REPORTS
- Buttons:** Two buttons at the bottom: "Reset" and "Update".

Chapter Two

DICOM Settings

This Section will show you how to set up Send Destinations and help you configure the Opal-RAD server to automate sending out of studies through the use of Routing Rules. This chapter will also show you how to setup a Query Retrieve Source should your Site need to do so of another PACS Server. At the end of this Section you will be able to setup a film Dicom Printer if you have one such device in the Local Network of the Opal-RAD Server.

Chapter Contents

- DICOM: Send Destinations..... 14
- DICOM: Query Retrieve Sources..... 15
- DICOM: Routing Rules 15
- DICOM: Printer Settings 18

DICOM: Send Destinations

From within the Administrator's menu, destinations for sending exams can be set up.

The screenshot shows the 'Send Destinations' configuration window. It features a purple header and footer. On the left side, there is a list box titled 'Description' with a search icon and two entries: 'DEV Server' and 'Backup'. The 'Backup' entry is selected. On the right side, there is a form with the following fields and values: 'Type' (OPAL), 'Host Name' (192.168.0.1), 'AE Title' (OPAL_SRV), 'Remote AE Title' (OPAL_BACKUP), 'Port' (3336), 'Description' (Backup), 'Transfer Syntax' (JPEG 2000), and 'Start Time' (8:00 PM). At the bottom of the window, there are three buttons: 'Add New', 'Delete', and 'Update'.

► To add a new Send Destination

1. From the **DICOM** node, select **Send Destination**.
2. Left-Click on **Add New**.
3. Enter the following information: Type (Opal if sending to another Opal Server only, otherwise choose C-Store), Host Name (remote Server's IP address), AE Title (of sending Opal Server), Remote AE Title, Port (33336 if using Opal type), Description, Transfer Syntax (compression type) and Start Time.
4. Left-Click the **Add** button to save data.

► To edit a Send Destination

1. From the **DICOM** node, select Send Destination.
2. Left-Click on a Destination in the list to the left.
3. Left-Click on the **Edit** button.
4. Make your changes as necessary.
5. Left-Click on the **Update** button to save your changes.

► To delete a Send Destination

1. From the **DICOM** node, select **Send Destination**.
2. Left-Click on the checkbox of left side of Destination to be removed.
3. Left-Click on the **Delete** button.

☀ you will not be prompted to confirm deletion of the Send Destination.

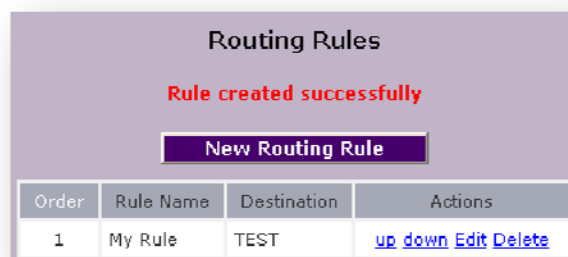
DICOM: Query Retrieve Sources

Query Retrieve (optional module) will allow you to perform a query of another PACS Server for a particular Study, as long as the other Server allows to be queried. You have to enter the AE Title details of such Server (similar to that of Send Destination above).

DICOM: Routing Rules

Studies that are validated (i.e. marked from Incomplete to Unread on the PACs server) can be automatically routed to another server by creating Routing Rules. In order for this process to work properly, you must first create a Send Destination (see previous topic for more information).

On the Routing Rules screen (pictured below) will be a button creating new routing rules. There is also a list containing all previously define rules, which can be edited, deleted, and prioritized.



The screenshot shows a web interface titled "Routing Rules". At the top, there is a red message that says "Rule created successfully". Below this message is a purple button labeled "New Routing Rule". Underneath the button is a table with the following data:

Order	Rule Name	Destination	Actions
1	My Rule	TEST	up down Edit Delete

► to add a new Routing Rule

1. From the **DICOM** node, select **Routing Rules**.
2. Left-Click on the **New Routing Rule** button.
3. The **New Routing Rule** window will appear. Enter a **Rule Name** and select a destination from the **Send To** dropdown list box.
4. Define the criteria for the rule, such as Body Part, Modality, Referring Physician, Institution, Stat condition, AE Title and Arrival/Departure Time. Only studies that meet these criteria will be sent to the destination you have selected above.
5. Alternatively to the default listed options, you can use a specific SQL rule to be applied in relation to any of Opal-RAD tables listed in the dropdown option box.
6. You can also specify the priority of and number of send attempts.
7. Left-Click the **Save** button to create your rule.

► To delete a Routing Rule

1. From the **DICOM** node, select **Routing Rules**.
4. Left-Click on the **Delete** link next to rule you wish to remove.
5. Left-Click on the **OK** button to confirm your choice.

► To edit a Routing Rule

1. From the **DICOM** node, select **Routing Rules**.
2. Left-Click on the **Edit** link next to rule you wish to modify. A window will appear with all of your rule's information preloaded.
3. Modify the fields as necessary.
4. Left-Click on the **Update** button to save your changes.

New Routing Rules

Rule Name: Active

Send To: DEV Server Priority: 1 # Attempts: 5

Use SQL Rule Text

Available Columns: study_id

Rule Text

Body Part

Available	Selected
ABDOMEN	
ANKLE	
BREAST	
C SPINE	

Modality

Available	Selected
CR	
CT	
DR	
MG	
MR	

Ref Phy

Available	Selected
.	
ABRAHAMS, BRUJO	
ABRAHAMS, BRUJO	
ABRAHAMS, BRUJO	

Institution

Available	Selected
Beaches Open MRI	
HOSPITAL DE CARDIOLOGIA	
Mayo Clinic MR-A	
VIZTEK	
VIZTEK INC.	

Stat

Is Stat Is Not Stat N/A

AE Title

Available	Selected
12.70.262.192	
OnyxServer	
OPALACQUIRE	
OPALIMPORT	
p0q0qal	

Is AE Title Is Not AE Title

Days Active

Sunday Monday Tuesday Wednesday
 Thursday Friday Saturday

Arrival Time to

Departure Time to

Cancel Save

☀ you can enable or disable a routing rule by checking or un-checking the “Active” box to the right side of the Rule Name.

DICOM: Printer Settings

The Printer Settings area allows the administrator to set up your DICOM compatible printers. These printers can be used to print studies, or individual images to film.

Before adding or editing your printer's settings you may wish to consult your DICOM printer's manufacturer for the correct settings for your specific printer.

The screenshot shows the 'DICOM PRINTERS' configuration window. It is split into two main panels. The top panel, titled 'Description', contains a list of printers on the left with checkboxes (DRYSTAR3000 Film Printer is checked) and a form on the right for entering printer details. The bottom panel, titled 'Configurations', contains a list of configurations on the left (AGFA is checked) and a form on the right for entering configuration details. Buttons for 'Add New', 'Delete', and 'Update' are visible at the bottom of each panel.

Description	
<input type="checkbox"/>	1234
<input type="checkbox"/>	Drews MSICOM Printer
<input checked="" type="checkbox"/>	DRYSTAR3000 Film Printer

Configurations	
<input checked="" type="checkbox"/>	AGFA

Printer Details	
Printer AE Title	DRYSTAR
My AE Title	DRYSTAR
Host Name	111.222.111.222
Port	104
Max PDU Length	1/1/1
Artim Timeout	fill
Read Timeout	50
Write Timeout	50
Description	DRYSTAR3000 Film Printer

Configuration Details	
Name	AGFA
Medium	HI UF FILM
Film Size	14INX17IN
Film Destination	PROCESSOR
Film Orientation	PORTRAIT
Magnification	NONE
Border Density	BLACK
Empty Density	BLACK
Memory Allocation	

► To add a DICOM Printer

1. From the **DICOM** node, select **Printer Settings**.
2. Left-Click on **Add New**.
3. Enter a Printer AE Title, Host Name, My AE Title, and Port Number in the first panel.
4. Enter you configuration values in the second panel.
5. When you are done Left-Click on the **Add New Printer** button to save your configuration.

► To delete a DICOM printer

1. From the **DICOM** node, select **Printer Settings**.
2. Left-Click on the **Delete** link next to rule you wish to remove.
3. Left-Click on the **OK** button to confirm your choice.

► To edit a DICOM Printer

1. From the **DICOM** node, select **Printer Settings**.
2. Left-Click on the printer's title to highlight the printer.
3. Left-Click on the **Edit** button.
4. Modify the data as needed and then Left-Click on the **Update** button to save your configuration.

► To edit a DICOM Printer configuration

1. From the **DICOM** node, select **Printer Settings**.
2. Left-Click on the printer's title to highlight the printer.
3. Left-Click on the Configuration to highlight it.
4. Left-Click on the **Edit** button
5. Modify the data as needed and then Left-Click on the **Update** button to save your configuration.

Chapter Three

Server Administration

In this Section you will have access to check on active connections to the Opal-RAD Server as well as have the ability to generate some productivity Reports and to check the different logs associated to the Opal-RAD Services.

Chapter Contents

- Monitor: Active Sessions..... 21
- Monitor: DB Totals 22
- Server Settings: Image Servers 22
- Server Settings: Local IP's 23
- Server Settings: License 24
- Server Settings: Study Flag 25
- Server Settings: Facilities Manager 25
- Reports: 26
- Server Logs: 27

Monitor: Active Sessions

From the Active Sessions window, users with administrator permissions can view who is logged into the system. The Active Sessions screen will display the User Name, IP Address, Login Time, Last Access time or if connected via web or opal-client. From this window the administrator can forcibly terminate a user's session.

Active Sessions						
	Users	IP Address	Login	Last Access	Location	Version
Terminate Session	RadTest2	192.168.1.128	04/18/11 15:32	04/18/11 15:32	Client	2.3.3.66
Terminate Session	viztek	:::1	04/19/11 11:56	04/19/11 12:35	Web	0.0.0.0
Terminate Session	dustin	192.168.1.252	04/19/11 12:09	04/19/11 12:09	Client	2.3.3.66

► To terminate a user's session

1. From the **Monitor** node, select **Active Sessions**.
2. Left-Click on the **Terminate Session** link next to the user's name.

Monitor: DB Totals

This DB Totals area allows an Admin user to make a quick query to the Database to obtain a count result based on specific modality.

The screenshot shows a three-part interface for querying database totals:

- 1. Select Modalities:** A grid of checkboxes for modalities: ALL, CR, CT, DR, MG, MR, NM, OT, PT, UNO, US, XA, and .xml.
- 2. Search Criteria:** Fields for Date Range (with calendar icons), radio buttons for Study Date and Study Received Date, a Description Contains text box, and an Institutions dropdown menu.
- 3. DB Totals:** A summary table with columns for Patients, Images, Studies, Unread, and Read. An Update Totals button is located below the table.

Server Settings: Image Servers

From the Server Settings window, the administrator can configure the image servers from which the study list will be generated.

The screenshot shows the 'SERVER CONFIGURATION' window with the following elements:

- SERVER CONFIGURATION** (Title)
- Table:** A table with a checkbox and a 'Description' column. The entry 'IMAGE SERVER' is checked.
- Configuration Fields:**
 - Server Name: DEFAULT
 - Server Address: 199.199.199.199
 - Port: 50000
 - Http Port: 53336
 - Description: IMAGE SERVER
- Buttons:** Add New, Delete, and Edit.

► To add an Image Server

1. From the **Server Settings** node, select **Image Server**.
2. Left-Click on **Add New**. Enter a Server Name, Server Address, Port Number, Http Port, and Description.
3. Left-Click on the **Add** button to save your configuration.

► To delete a Image Server

1. From the **Server Settings** node, select **Image Server**.
2. Left-Click on the Image Server you wish to remove.
3. Left-Click on the **Delete** button to remove the server.

► To edit an Image Server

1. From the **Server Settings** node, select **Image Server**.
2. Left-Click on the Image Server you wish to edit.
3. Left-Click on the **Edit** button.
4. Modify the data as needed and then Left-Click on the **Update** button to save your configuration.

Server Settings: Local IP's

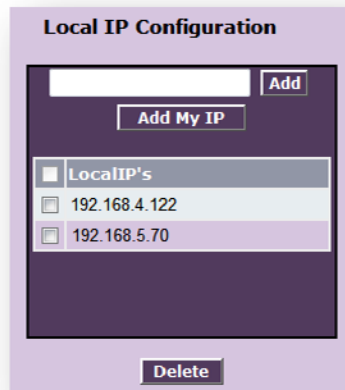
If you would like to have your studies downloaded all at once, rather than streamed to your viewing station, you can add the IP address of the viewing station to the Local IP's window.

► To add a Local IP Address

1. From the **Server Settings** node, select **Local IP's**.
2. Enter your **IP Address** in the textbox. Note that you may also enter a partial IP address if you wish to include multiple workstations. (i.e. "192.168.2")
3. Left-Click on **Add**.

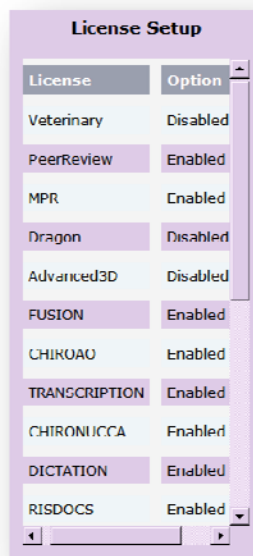
► **To delete a Local IP Address**

1. From the **Server Settings** node, select **Local IP's**.
2. Left-Click on the **IP Address** you wish to remove.
3. Left-Click on the **Delete** button to remove the IP.



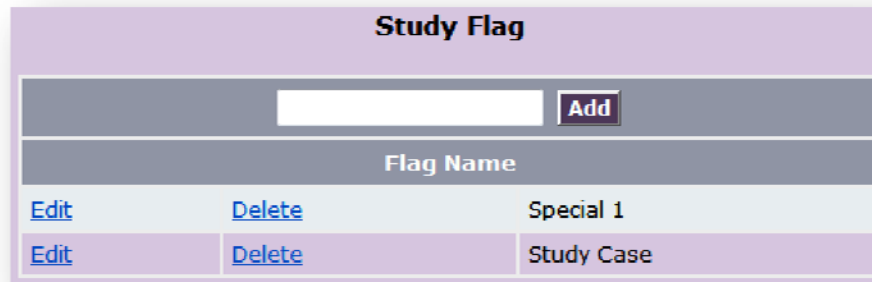
Server Settings: License

The License section of Opal Admin allows you to see and check what modules and how many logins your Server has.



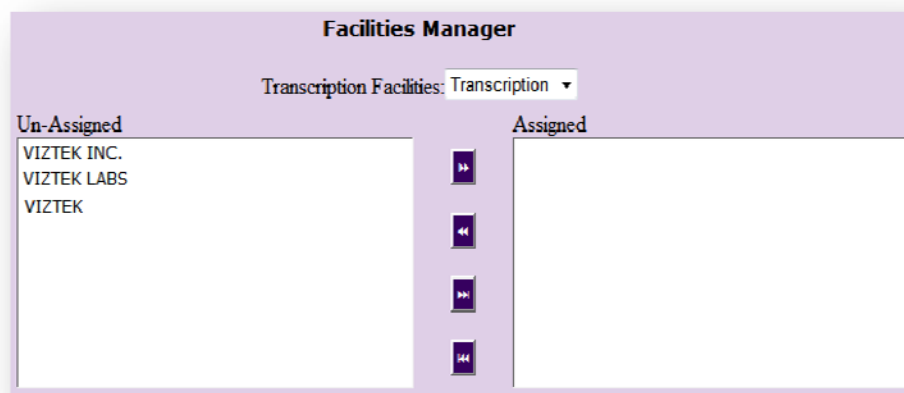
Server Settings: Study Flag

Through this option, Opal-RAD gives you the ability to mark or label studies that your facility deems necessary. The Flag option once is created; you can assign a study by a right-click of a study on the study in the Study List. Users have to have a permission to assign or see any created Flag.



Server Settings: Facilities Manager

The Facilities Manager section of Opal-RAD allows you to assign a default Facility, based on Institution Name, in the Transcription Window so that when transcribing, users are not forced to select a Facility Name in order to Save or submit the Transcription for Approval.



Server Reports

The Reports section of Opal Admin allows you to access productivity reports. The reports available include the following:

- **Radiologist** - displays the total number of studies that have been read and approved by each radiologist for the date range selected.
- **Transcriptionist** - displays the total number of studies that have been transcribed by each transcriptionist for the date range selected.
- **Studies by Range** - displays all studies that were created during the selected date range.
- **Peer Review Report** - displays the total number of Approved studies that have been reviewed by another Radiologist for the date range selected.

► To run a server report

1. From the **Reports** node, select one of your server reports (i.e. Radiologist).
2. Enter dates (mm/dd/yyyy) in the **From** and **To** text boxes. If you would rather use the date picker control to select a date, simply Left-Click on the calendar button.
3. Left-Click on the **Get Report** button. These reports export your data to a Comma-Separated Values (CSV) file which can be manipulated as a spreadsheet. To create this file, Left-Click on the **Get Report CSV** button, and then choose to open or save the generated file.

Server Logs

From time to time you may experience issues during the normal operation of your PACS. The source of which may be related to items such as network connectivity or stopped services. The Server Logs section of Opal Admin gives you, the administrator access to the log files for all of your Server's PACS services. The logs are as follows:

- **Web Log** - logs session activity from your Opal-RAD Web server, such as logins and database requests.
- **Image Server Log** - logs session activity from your PACS Image server, such as server connections and patient study requests.
- **Image Server Proxy Log** - logs session activity pertaining to the opening, closing, or modification of studies and images on the PACS.
- **DICOM Receive Log** - logs the transmission of studies to your Opal PACS from other sources.
- **Listener Log** - logs the transmission of studies to your Opal PACS from another Viztek's PACS.
- **Router Log** – logs all DICOM send activity initiated by your Opal PACS.
- **DICOM Print Log** - logs all activity generated during DICOM print functions.
- **Login Log** – logs the username, IP address, and date and time of all connections to PACS.

If you need to troubleshoot an issue with the PACS server, it is sometimes important to stop an active log. This prevents the file from growing faster than your ability to read it. With the exception of the Login Log, all logs can be both started and stopped via the Administration control panel.

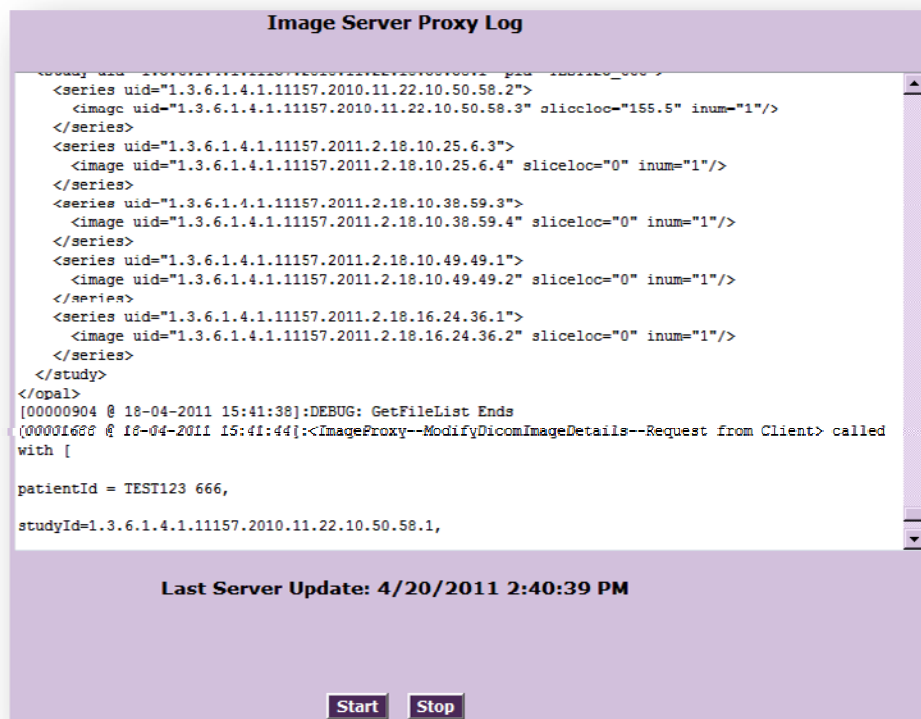
☀ the Server logs are only available to be viewed via the Opal Web and not through the client.

► **To stop logging one of your server logs**

1. From **Server Logs**, select the appropriate log file.
2. Left Click on the **Stop** button.

► **To restart a stopped server log**

1. From **Server Logs**, select the appropriate log file.
2. Left-Click on the **Start** button.



Index

- Active Sessions 21
- DB Totals 22
- DICOM**
 - Printers 18
 - Query Retrieve Sourcess..... 15
 - Routing Rules 15
 - Send Destinations..... 14
- Groups**
 - Adding 10
 - Deleting 12
 - Editing..... 12
- Image Servers 22
- Permissions**
 - Adding 6
 - Editing..... 9
- Server Logs 27
- Server Reports..... 26
- Streaming Downloads, Disabling 23
- Users**
 - Adding 6
 - Deleting 9
 - Editing..... 9