

exa-PACS • exa-RIS

Feature Summary


Setting Up Facilities

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Introduction

This document describes how to set up your higher-level healthcare facilities in Exa PACS/RIS. It also describes how to set up other entities that are required for your facilities to function correctly within the application, including your company, modality rooms, study statuses, and schedule templates.

Add a facility

1. From the navigation (“burger”)  menu, select **SETUP**.
2. On the **OFFICE** menu, select **Office**.
3. On the **FACILITY** tab, select **ADD**.
4. Enter the settings indicated in the figure below.

Note: Required fields are indicated by an asterisk (*). Other information is not required, but try to add as much information as possible.

OFFICE-
EA Activated

COMPANY MARKET FACILITY MODALITY MODALITY ROOM GROUP CHAT ROOMS NOTIFICATION TASK: >

SAVE
SAVE & CLOSE
BACK

Code * Inactive

Name *

Market

Contact No.

Fax No.

Send Reports to Fax No.

Email

Email Report Link

Report Password

Email Attachment

Timezone *

Mammo License ID

Max TAT (in min)

Enable Alt. Acc. No.

Require SSN

Require Primary Phys.


PokitDok Response

Updbox Account ID

Send fax via Updbox

Upload Logo No file chosen
Max file size: 20MB

Current Logo



KONICA MINOLTA

Remove Logo

Address Line 1

Address Line 2

City/State/ZIP

File Store

Show Patient Alerts

Show Recent Schedules

Days

Date/Time Display:

Enable Veterinarian Registration

Mobile Rad Dispatching Address

Do Not Allow Overlapping Procedures to Be Scheduled

Import Documents into Study as DICOMs

Global Auto-Print

Abbreviated Receipt

Custom Receipt

Exclude from all Portals (All Portals & Break the Glass)

Required Fields at Scheduling

Required Fields for Creating a Preorder

Study Status when

Patient Arrives * } Patient Kiosk status options

Study Status when

Patient in Room *

Report Delay to Patient (in days)

Portal

Formal Name

Facility Notes

Important for Exa Billing customers

MRN Information Inherit

MRN Type *

Prefix Can Edit

Suffix Allow Duplicates

Prefix/Suffix Max. Length Fixed Length

Preview

Billing Setup

NPI No. Enable Insurance Eligibility

Federal Tax ID Enable Insurance Claims

ImagineSoft Provider ID

Default Billing Provider

Service Facility

POS Type Always Set POS to This Value

Fee Schedule

Rendering Provider

Description of settings

Setting	Description
Code	Type your internal code for the facility (up to eight characters).
Name	Type the name of your facility.
Market	Select the market that the facility serves.
Contact No.	Type the phone number of the primary contact person at the facility.
Fax No.	Type the fax number for receiving approved reports.
Send Reports to Fax No.	Select to automatically send reports to the fax number you entered previously.
Email	Type the email address of the primary contact at the facility.
Email Report Link	Select to automatically send an email when a report is created to the email address entered earlier that contains a link to view the reports on the ReportLink service.
Report Password	Type the password needed to view reports on ReportLink.
Email Attachment	Select to receive reports by attachment.
Timezone	Select the time zone used by your facility.
Mammo License ID	Type the facility's mammography license ID.
Max TAT	Type the maximum allowed turnaround time, in minutes, before a breach of contract occurs.
Enable Alt. Acc. No.	Select to use of more than one account number for a patient.
Required SSN	Select to require a social security number to provide treatment.
Require Primary Phys.	Select to require a primary physician's information to provide treatment.
PokitDok Response	[Unused]
Upload Logo	Select Choose File , browse for and select a logo file for the facility, and then select Open . Logos can be in JPEG or PNG format.
Remove Logo	To remove the current logo, select REMOVE LOGO .
[Address]	Type the address of the facility.
File Store	Select the default file store to use at the facility.
Show Patient Alerts	Select to show a patient alert window when scheduling in the schedule book.
Show Recent Schedules	Select to display the recent schedules dialog when: 1) scheduling a pre-order; and 2) double-clicking a patient in the Patient tab of the New Appointment screen. Days: Type the number of days in the past and future to control which exams appear in the recent schedule screen.

Setting	Description
Enable Veterinary Registration	Select to be able to register veterinarians as physicians.
Mobile Rad Dispatching Address	Type the address of the office that dispatches mobile radiology.
Do Not Allow Overlapping Procedures to Be Scheduled	Select to prevent users from scheduling more than one procedure in the same timeslot in the schedule book.
Import Documents into Study as DICOMs	Select to automatically convert documents to DICOM images before importing. If not selected, the user can select whether to convert at the time of import.
Global Auto-Print	Select to automatically send radiology reports to printer that is configured on the Exa server.
Abbreviated Receipt	Select to use an abbreviated formatting for payment receipts.
Custom Receipt	Select to use a custom receipt for payments, such as co-pays.
Exclude from all Portals (All Portals & Break the Glass)	Select to exclude all studies associated with the facility from all portals, including when "breaking the glass."
Required Fields at Scheduling	Select options to specify as mandatory when scheduling an exam.
Required Fields for Creating a Preorder	Select options to specify as mandatory when creating a pre-order.
Study Status When Patient Arrives	Select the status to assign to the study when the patient arrives at check-in. Used with Exa Patient Kisok and Patient Arrivals Worklist.
Study Status When Patient in Room	Select the status to assign to the study when the patient arrives in the exam room. Used with Exa Patient Kisok and Patient Arrivals Worklist.
Report Delay to Patient Portal	Type the number of days to wait before making reports available on the patient portal.
Formal Name	Type the formal name of the facility, if different from the commonly used name.
Facility Notes	Type additional notes for the facility if needed.
MRN Information: Inherit	Select to copy the MRN from the EMR of origin.
Other MRN settings	See "Configure the MRN formatting" in Configure your company .
The following settings become available after you save.	
NPI No.	Type the national provider identifier of the facility.
Enable Insurance Eligibility	[Unused]
Federal Tax ID	Type the tax ID of the facility.
Enable Insurance Claims	[Unused]
ImagineSoft Provider ID	Type the "facility ID" used by ImagineSoftware.

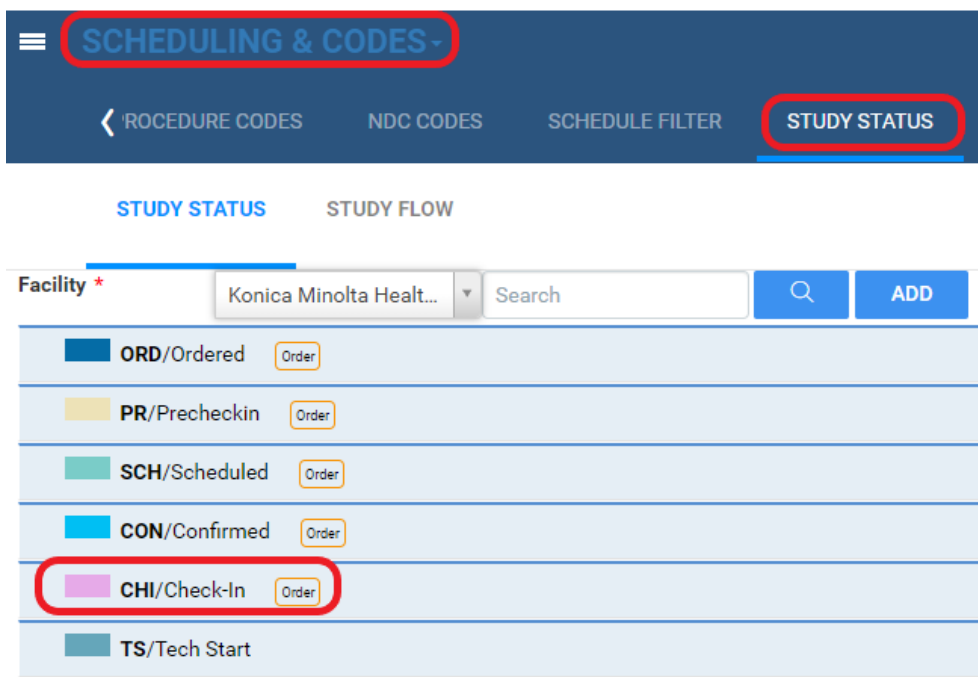
Setting	Description
Default Billing Provider	If using Exa Billing, select the default billing provider (the provider issuing invoices for treatment).
Service Facility	The facility providing treatment.
POS Type	Select the place of service code for the facility. To use this value as the default for all facilities, select the Always set POS to This Value checkbox.
Fee Schedule	Select the fee schedule for the facility.
Rendering Provider	The primary radiologist at the facility.

Configure validation rules

Validation rules define what information must be included in a study before it can advance to the next status in the study flow. You can create different validation rules for each of your facilities. Validation requirements can be set for ORDERED and SCHEDULED statuses under the Facility Tab above.

The following is an example of configuring a validation rule for the Check-In status, but the procedure is basically the same for other statuses as well:

1. From the **OFFICE** menu, select **Scheduling & Codes**.
2. On the **STUDY STATUS** tab, select a facility from the dropdown list, and double-click **CHI/Check-In**.



3. Enter the required information, and note the following:
 - **Add to Study Shortcut Menu on Worklist:** Makes the status available to select on worklist and schedule book shortcut menus.
 - **MobileRad Related:** Makes the status available only for Mobile Rad.
 - **Max Wait Time:** If the time you enter is exceeded, the “Exceeds maximum time limit” count at the bottom of the worklist increments.

STUDY STATUS STUDY FLOW

General Information

Status Code * Add to Study Shortcut Menu on Worklist

Status MobileRad Related

Description *

Color Code Order Related

Max Wait Time min (≥5)

Things to Validate Always Show Validation Window

Patient Address (Address, City, State, ZIP) CPT Code

Patient SSN Diagnosis Code

Patient Contact Number (Home or Mobile) Patient Alerts

Referring Physician Reason for Study


Primary Insurance

Configure AEs

You must configure application entities (AEs) for Modality Worklist, send, receive/store, print, query/retrieve, and other functions to make them available on Exa PACS/RIS.

Note: The default AE title for Exa PACS/RIS is EXA_SCP, or EXA_MWL when acting as a worklist source. These titles are configured elsewhere in the program by Konica Minolta staff.

CAUTION: Failure to correctly configure application entities can cause general failure of DICOM communication between Exa PACS/RIS and those entities.

1. On the burger  menu, select **SETUP**.
2. On the **OFFICE** menu, select **DICOM**.
3. On the **AE TITLE** tab, select **ADD**.
4. Enter the following settings, and then select **SAVE**.

Note: Depending on the AE type, not all the following settings are available.

Setting	Description
AE Type	Select one or more transactions that Exa PACS/RIS makes with the AE.
AE Title (Remote)	Type the title of the AE. If an AE title is pre-configured on the device hosting the AE, use the same title.
Ignore Scan Docs (Send)	Select to prevent sending of scanned documents to the AE (only DICOM studies are sent).
My AE Title	Type a title to set the identity of Exa PACS/RIS individually for each DICOM node. In most cases, leave blank to use the default (EXA_SCP for PACS/RIS functions, and EXA_MWL for modality worklist functions).
Host Name	Type the host name or IP address of the AE.
Description	Type a description for easy identification of the AE.
Disable QC2LIVE	Select to disable the automatic transfer of studies from QC to live.


Retries	Type the number of times the system attempts to reconnect with the AE after a communication failure.
Send Single Instance per Study	Select to send one image per study.
Max Concurrent	Type the maximum number of concurrent threads that the system can use for the transaction.
Facility	Select the facility to associate with the AE.
Send Annotations as	Select how to process annotations for sending. Burned in: "Flattens" the image and overlay into a single image. DICOM Overlay: Converts the annotations to a DICOM overlay and sends along with the study. GSPPS/PR Object: Converts the annotations to a presentation state and sends along with the study.
Send Unique Image UID from Viewer	Select to generate a new UID for each image (rather than just for the series or study).
DMWL Modalities	Select to which modalities to serve a modality worklist.
DMWL Facilities	Select to which facility to serve a modality worklist.
Issuer Type	Select the type of issuer of PID: None - DICOM receive and query/retrieve takes place as if no issuer was configured. Static - Select a pre-configured issuer (see "Issuer" below). Dynamic - Automatically define the issuer based on retrieved results, and allow multiple issuer/alternate ID combinations.
Issuer	When you select an issuer type of Static , select the entity that issues the patient's PID, MRN, or account number. This enables tracking and correct assignment of account numbers for sending and receiving studies when more than one are available.
AE Flag	Select one of the following services to use to send studies. DICOM: C-MOVE DICOM SSL: C-MOVE, secured HL7: Standard HL7 protocols. OPAL: The Opal Transfer service.
Institution	Type the name of the institution for easier identification.
File Store	Select a file store for storing received data.
Port	Type the port number through which the AE can connect to Exa PACS/RIS (the Exa PACS/RIS listening port).
Require SSL	Select this check box if: 1) you selected the DICOM SSL AE flag; and 2) the port number requires an SSL certificate.
Transfer Syntax (Send)	Select the transfer syntax for sending.

Transfer Syntax (Receive)	Select the transfer syntax for storing and receiving.
Vehicle	Select vehicles to which to assign received studies.
SDE Modality	Select if the AE is a dedicated echo ultrasound.
Include Approved Reports	Select to include approved reports in transactions.

Configure a file store

File stores are directories on the server that Exa PACS/RIS uses to store files received in a DICOM transaction, such as images from a modality.


CAUTION: Changing an existing file store can prevent the study from opening.

1. On the burger  menu, select **SETUP**.
2. On the **OFFICE** menu, select **DICOM**.
3. On the **FILE STORE** tab, select **ADD**.
4. Type the server name, root directory, and notes, and then select **SAVE**.

Configure routing rules

With routing rules, you can define how certain types of data flow between Exa PACS/RIS and other AEs. For example, you could create a routing rule that tells Exa PACS/RIS to automatically send all data that it receives from ultrasound modalities to another PACS. You can also add criteria to your rule for more precise control. For example, you could specify to only send ultrasound data coming from a specific facility.

Use the following procedure to configure a routing rule, and then apply the rule by following the steps in “Configure study flow.” It is not necessary to apply routing rules for manual DICOM send operations.

1. On the burger  menu, select **SETUP**.
2. On the **OFFICE** menu, select **DICOM**.
3. On the **ROUTING RULES** tab, select **ADD**.
4. Enter the following settings. Not all settings are available depending on the type you select.

Setting	Description
Rule Name	Type a name for the rule.
Type	Select the transaction to perform with the AE (for example, SEND).
Interface/Trigger Name	Select an interface and/or trigger for HL7 send actions.
AE Title	Select the AE with which to perform the transaction (for example, select Remote_Hospital to send to that AE).

Priority	Type a number to indicate which rules to evaluate first. Lower numbers take higher priority. Refer to your current list of rules on the ROUTING RULES tab to determine the priority to use for the rule you are adding.
Attempts	Type the number of attempts the program should make to apply the rule.
Priors	Type the number of priors to retrieve. Type 0(zero) to specify all priors.
Modality	Select an option to filter which priors to retrieve.
Number of Priors to Send	Type the number of priors to send along with the study.
Auto Send Priors	Select to send any priors found in the system along with the current study, and to enable functionality of the Relevant Priors check box. The system sends as many priors as it can find, up to the number you specify above. The system sends the most recent priors first.
Relevant Priors	Select to send relevant priors when auto-sending, and then enter criteria to define what is relevant. Selecting this check box enables the functionality of the Force Relevant Only check box below. If you do not specify criteria, the system considers relevant priors to be studies of the same modality and/or body part. The system sends as many relevant priors as it can find, up to the number you specify above. If the system finds fewer relevant priors than the number specified; it adds non-relevant priors up to the number specified.
Force Relevant Only	Select to prevent sending of non-relevant priors. If the system finds fewer relevant priors than the number specified above, it does not send any additional priors.


Optional. Configure a criterion for the rule:

1. In the **Field** list select an argument.
For example, **Modality**.
2. In the entry field that appears, select a logical operator and matching value for the argument.
For example, select **Is**, and in the **Modality** list, select **MG**.

3. Select **ADD TO RULES**.
Result: In this example, when Exa PACS/RIS receives an MG study, it automatically sends it to the AE named Remote_Hospital.
4. Optional. Add more criteria.
5. Select **SAVE**.

Configure AE scripts

You can write scripts that modify DICOM tags when carrying out a DICOM-related transaction such as sending, printing, or receiving.

1. On the burger  menu, select **SETUP**.
2. On the **OFFICE** menu, select **DICOM**.
3. On the **AE SCRIPTS** tab, select **ADD**.
4. Enter the following settings.

Setting	Description
AE Type AE Title	Select a transaction and node. The script runs when Exa makes the selected transaction with the selected node.
All	Select all AEs of the selected AE Type.
Script Description	Type a description of the script.
Asynchronous	Select to run the script asynchronously.

Understanding receiver rules

A receiver rule is a detailed set of criteria and instructions that tells Exa PACS/RIS where to place studies that it receives, and what status to assign them. For example, you can configure a receiver rule such that studies with unrecognized account numbers are placed on the QC tab to await reconciliation by the user before going live.

Note: Receiver rules also have an important role in accelerating the processing of incoming data. Exa PACS/RIS processes each receiver rule in order, on a given modality. Therefore, to improve speed, you can apply different rules on different modalities.

To understand how receiver rules are evaluated and applied, it is helpful to imagine a 4-step process that Exa PACS/RIS performs for each incoming study.

- Find a receiver rule that matches the study
- Validate the study against existing PACS studies and/or match it to existing RIS orders.
- Process the successes (studies that passed validation and/or matched orders).
- Process the failures (studies that failed validation or did not match an order). A detailed explanation of each of these steps follows.

Step 1 – Find a matching receiver rule

When Exa PACS/RIS receives a DICOM study, it evaluates the study against each receiver rule on the RECEIVER RULES tab in order of “Priority” (starting from the top) until it finds one that matches.

PRIORITY		RULE NAME	
✎	🗑️	↓ 1	PMT2
✎	🗑️	↑ ↓ 2	PMT
✎	🗑️	↑ ↓ 3	File Import
✎	🗑️	↑ ↓ 12	Kforwarder7
✎	🗑️	↑ ↓ 13	Kforwarder8
✎	🗑️	↑ 14	MMD Live
✎	🗑️	15	DEFAULT RULE

From top...

...to bottom

If no user-defined rule matches, Exa PACS/RIS uses a “default” rule that has a minimum number of criteria to ensure that all legitimate studies match at least one rule. (If a study did not match any rule, Exa PACS/RIS would not receive it.)

To evaluate whether a study matches a rule, Exa PACS/RIS compares the settings you enter under Rule Info and Filter (in the green box in the figure below) to the information in the study. If all relevant criteria match, the rule becomes active, and the process continues to step 2.

Rule info and Filter

Rule Name * Inactive

AE Title

Facility

Modality

Institution

Status

Interval (Sec) *

Trigger RoutingRules

Step 2 – Validate and match against PACS and/or RIS

A “rule” is actually not a single rule, but rather a combination of the “Rule Info and Filter” above, plus one of four possible preset “Applied Rules,” such as in the figure below.

Applied Rules

- Reconciliation Mode: Pacs only site
- Emit Live Update
- Precache Study
- Precache Priors
- No. of. priors: 3
- Pick study description from DICOM
- Patient
 - Account #/Dicom Patient ID
 - Last name
 - Date of Birth
 - Move Anyway (Even in exception)
 - Move to live when there is no-match
- Study
 - Study UID
 - Move to live when there is no-match

Figure: Applied rules in the PACS ONLY preset.

Exa PACS/RIS compares the items in the green boxes from the incoming study against PACS, RIS, or both, depending on the reconciliation mode (the first bullet item in the figure). The items under Patient (such as “Last name” in the figure) and Study (“Study UID”) must match a patient in PACS and/or a RIS order. Exa PACS/RIS stores the result of the match (success or failure) in this step, and then evaluation continues to step 3 or 4.

Step 3 – Process successes

If matching succeeded, Exa PACS/RIS waits the number of seconds specified in the Interval setting from step 1, moves the study from the QC tab to the ALL STUDIES tab (the study “goes live”), and assigns to the study the status selected in the Status list from step 1. At the same time, it performs the actions and applies the options in the blue box below.

Applied Rules

- Reconciliation Mode: Pacs only site
- Emit Live Update
- Precache Study
- Precache Priors
- No. of. priors: **3**
- Pick study description from DICOM
- Patient
 - Account #/Dicom Patient ID
 - Last name
 - Date of Birth
 - Move Anyway (Even in exception)
 - Move to live when there is no-match
- Study
 - Study UID
 - Move to live when there is no-match

Step 4 – Process failures

If matching failed, the study initially remains on the QC tab with a status of Conflict to await reconciliation by the user. However, there is one more set of evaluations left to make, based on the items in the orange boxes in the figure below.

Applied Rules


- Reconciliation Mode: Pacs only site
- Emit Live Update
- Precache Study
- Precache Priors
- No. of. priors: **3**
- Pick study description from DICOM
- Patient
 - Account #/Dicom Patient ID
 - Last name
 - Date of Birth
 - Move Anyway (Even in exception)
 - Move to live when there is no-match
- Study
 - Study UID
 - Move to live when there is no-match

If any of these items are present, the study status is set to Completed in the QC tab. Additionally, each item results in the following.

- Patient: Move to live when there is no-match
The study moves to the ALL STUDIES tab even if patient demographic validation fails. Generally, this is used only when no modality worklist is available.
- Study: Move to live when there is no-match
The study moves to the ALL STUDIES tab, even if no matching order is found.
- Note: If “Move to live when there is no-match” is present both under Patient and Study, Exa PACS/RIS processes the study as a success.

Configure a receiver rule

You can configure receiver rules to tell Exa PACS/RIS where to place studies that it receives, and what status to assign to them. For more information, see “Understanding receiver rules.”

1. On the burger  menu, select **SETUP**.
2. On the **OFFICE** menu, select **DICOM**.
3. On the **RECEIVER RULES** tab, select **ADD**.
4. Under **Rule Information and Filter**, enter the following settings as needed.

Setting	Description
Rule Name	Type a name for the rule.
AE Title	Use these settings as filtering criteria. For example, to evaluate the rule only against mammography studies, on the Modality list, select MG. To evaluate the rule only if the study comes from a specific AE, select one under AE Title .
Facility	
Modality	
Institution	
Status	Select the status to assign the study if it matches the rule.
Interval	Select the number of seconds to wait before moving the study from the QC tab to the ALL STUDIES tab (go live).
Trigger Routing Rules	Select to force evaluation of matching studies against routing rules.
Issuer of Alternate Account Number	Select to enable alternate account functionality. See "Use alternate account numbers."

5. Select one of the following preset buttons to assign a reconciliation mode and to add "applied rules" (matching criteria and actions to perform) to your receiver rule.

Preset Button	Reconciliation Mode	Description
PACS ONLY	PACS	Validate patient and study items against existing PACS records.
PACS/RIS	PACS + RIS	Validate patient and study items against existing PACS records and/or RIS orders.
PACS/DMWL	PACS + RIS	--same--
MIGRATION	PACS	Use when migrating data from another PACS. Allows everything to be received.

6. Select **SAVE**.

Configure study flow

A study flow is a chain of statuses through which a study progresses at a facility. When you add a new facility you must define its study flow, and the easiest way to do this is to start by copying a study flow from another facility to your new facility.

1. On the **Study Flow** sub-tab, select an existing facility.
2. In the list on the right side, select your new facility and then select **COPY**.
3. If necessary, make adjustments by dragging status bubbles and arrows.

SCHEDULING & CODES

PROCEDURE CODES NDC CODES SCHEDULE FILTER **STUDY STATUS** TRANSCRIPTION TEMPLATE REPORT TEMPLATE

STUDY STATUS **STUDY FLOW**

Copying from: Facility * Konica Minolta Healthcare Americas **SAVE** **RESET**

Copying To:

- Fred's clinic **COPY**
- Happy Mobile Site of Dreams
- Hodorville
- JonesPlace

Configure modality rooms

On the **MODALITY ROOM** tab, add a modality room for each of the modalities at the facility.

OFFICE EA Activated

COMPANY MARKET FACILITY MODALITY **MODALITY ROOM** GROUP CHAT ROOMS NOTIFICATION TASKS

SAVE **BACK**

Code * KM XRAY

Inactive

Facility * Konica Minolta Healthcare Americas

Name * KM XRAY

From Date/To Date * 05/06/2020 05/06/2040

Color Code #de78ce

Display Order * 1

Modalities *

- All Modalities
- US
- CR
- DX
- NM
- SC
- XA

DMWL

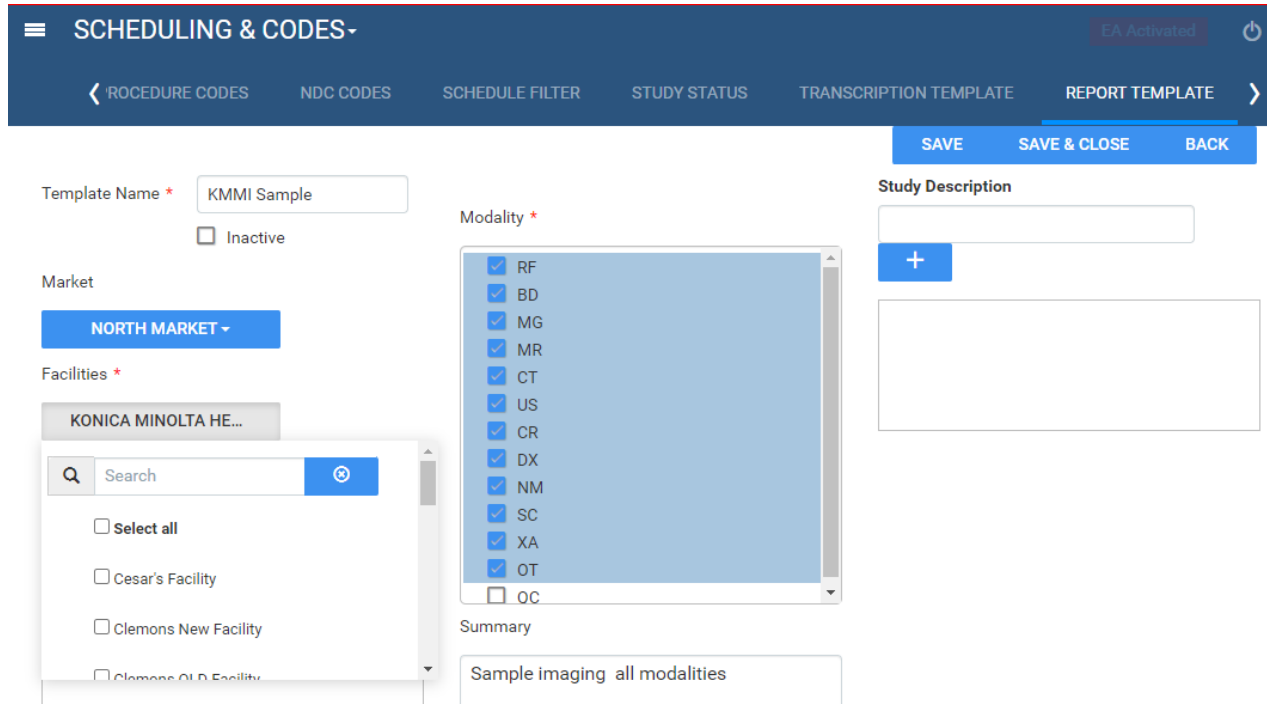
- MWLTEST

MODALITY TIMES LINKED RESOURCES

Click [here](#) to view/edit Schedule Templates applied to this room.

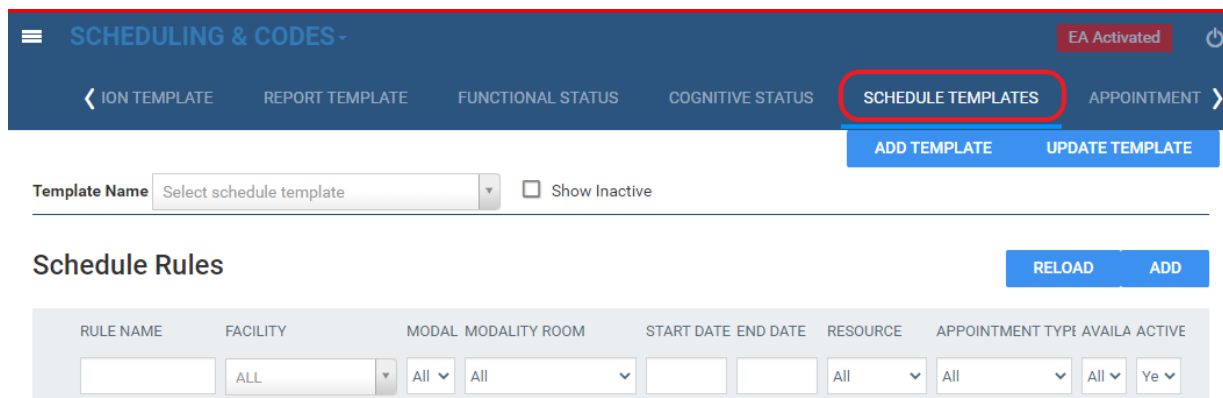
Prepare report templates

If your facility uses reports templates, you can associate your facility with existing report templates, or create new report templates.



Configure schedule templates

Add a schedule template and schedule rules for your facility's modality rooms. For details, see other feature summaries or the user's manual.



Configure appointment types

If your facility uses appointment types, you can associate your facility with existing appointment types, or create new appointment types.

The screenshot shows the 'SCHEDULING & CODES' interface with the 'APPOINTMENT TYPES' tab selected. The 'Code *' field is highlighted with a red box. The form includes the following fields and options:

- Code *: 605 Inactive
- Ref. Code: 605
- Name *: CT ABDOMEN & PELVIS W
- Description: ABDOMEN & PELVIS WITH
- Duration *: 20
- Additional Time:
- Lead Time:
- Exam Count: 1
- Grouped Appointment
- Facilities *: ALL SELECTED (19)
- Modality *: CT
- Modality Room: NONE SELECTED
- Keywords: Keyword

Buttons: SAVE, BACK, ADD, RELOAD

CODE	DESCRIPTION
74176	CT ABD & PELVIS W/O CONTRAST

Configure users and resources

Configure users and resources for your facility. Link radiologists and tech users to resource accounts. Add users to pay schedules if applicable.

USER MANAGEMENT ⌵

USERS USER ROLES USER GROUPS AD GROUPS AD USERS USERS ONLINE ASSIGNED STUDIES ASSIGN >

SAVE SAVE & CLOSE UNLOCK ACCOUNT CLEAR BACK

Group Name * Hide AD Groups

Name *

Mobile Phone

E-Mail

User Name * Inactive

Password *

Confirm Password *

Session Interval

Allow Emergency Access

Access Expires After days

One-Time Access

User Must Change Password Next Login

Assign Claims to Follow-Up Queue for Another User

User can change accounting dates

Dragon 360

Market

Facilities *

Linked Provider User Type

Hide Order Menu